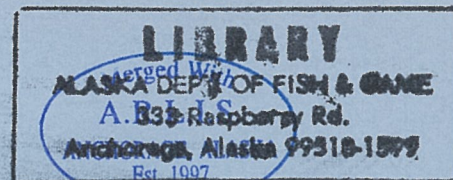


1088 -

**SUSITNA
HYDROELECTRIC PROJECT**

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114



**PROCESSED CLIMATIC DATA
OCTOBER 1982 - SEPTEMBER 1983**

VOLUME I

**SUSITNA GLACIER STATION
(No. 0610)**



UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

FINAL REPORT

**JUNE 1984
DOCUMENT No. 1088**

ALASKA POWER AUTHORITY

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SUSITNA HYDROELECTRIC PROJECT

**PROCESSED CLIMATIC DATA
OCTOBER 1982 - SEPTEMBER 1983**

**VOLUME 1
SUSITNA GLACIER STATION (No. 0610)**

Report by
R&M Consultants, Inc.

Under Contract to
Harza-Ebasco Susitna Joint Venture

Prepared for
Alaska Power Authority

Final Report
June 1984

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ARLIS
Alaska Resources
Library & Information Services
Anchorage, Alaska

NOTICE

**ANY QUESTIONS OR COMMENTS CONCERNING
THIS REPORT SHOULD BE DIRECTED TO
THE ALASKA POWER AUTHORITY
SUSITNA PROJECT OFFICE**

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 4 - HYDROLOGY

PROCESSED CLIMATIC DATA (1983)
OCTOBER 1982 - SEPTEMBER 1983

VOLUME INDEX

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VOLUME 2: 0620 - DENALI STATION
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ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA - SUSITNA GLACIER STATION
OCTOBER 1982 - SEPTEMBER 1983

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Acknowledgments

These climatic data were collected under contract to Acres American, Incorporated (through February 1983) and under contract to Harza-Ebasco Joint Venture (after February) for the Alaska Power Authority's Susitna Hydroelectric Feasibility Study. The data recorders are Model 5100 Weather Wizards manufactured by Meteorology Research, Incorporated (MRI), now part of Belfort Instrument Company. All sensors were supplied by MRI or were replacements obtained from MRI's suppliers. Field maintenance and data collection were performed by the hydrology staff of R&M Consultants, Incorporated. Data reduction and processing were performed by Lisa Fotherby, Len Story, Bob Butera, Carl Schoch, and Jeff Coffin, using computer programs developed by Mark Holmstrand. The computer hardware used was a Hewlett-Packard 9845B system. Review comments were provided by Khalid Jawed of Harza-Ebasco.

ADDENDUM

Subsequent to preparation of the final report and prior to publication, adjustments were made to some of this station's humidity data. Data were adjusted for the months where the RH sensor was seriously out of calibration. The revised mean daily values for both relative humidity and dewpoint are presented in the following table.

June 1984

ADDENDUM

Revised RH and Dewpoint Data

STATION: GLACIER

YEAR: 1982-83

* October			November		December		January		February		March		DAY
DAY	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	
1	**	*****	56	-12.8	70	-24.3	68	-9.8	43	-11.9	68	-15.7	1
2	**	*****	64	-11.1	41	-25.4	93	-8.6	52	-10.9	53	-20.1	2
3	**	*****	55	-14.4	46	-25.5	78	-16.5	48	-14.1	30	-27.3	3
4	**	*****	60	-11.1	43	-24.1	33	-29.8	48	-14.0	34	-25.6	4
5	**	*****	50	-17.2	56	-16.7	36	-32.7	45	-15.6	53	-17.6	5
6	**	*****	48	-22.6	56	-12.9	54	-30.1	64	-9.7	43	-18.9	6
7	**	*****	49	-23.0	71	-7.6	48	-29.9	78	-9.0	17	-26.1	7
8	**	*****	68	-15.8	75	-8.7	58	-34.1	71	-14.0	6	-37.4	8
9	**	*****	76	-15.7	57	-16.2	43	-36.6	52	-20.3	12	-35.2	9
10	**	*****	68	-15.4	17	-30.0	36	-35.4	62	-20.7	55	-17.6	10
11	**	*****	76	-18.6	50	-18.1	36	-33.2	50	-22.1	63	-10.0	11
12	**	*****	64	-11.1	63	-9.6	54	-31.3	51	-23.9	42	-14.4	12
13	**	*****	73	-9.2	56	-12.4	45	-26.7	58	-23.8	28	-19.0	13
14	**	*****	64	-13.7	32	-20.0	48	-24.2	38	-26.9	38	-17.4	14
15	**	*****	53	-17.8	45	-15.2	51	-15.6	12	-35.6	65	-10.7	15
16	**	*****	44	-20.9	41	-14.6	74	-9.7	6	-37.9	51	-14.4	16
17	**	*****	21	-30.7	58	-12.7	62	-15.7	12	-33.5	39	-18.2	17
18	**	*****	22	-31.9	47	-16.8	66	-7.8	47	-22.4	32	-21.0	18
19	**	*****	20	-31.4	46	-17.7	81	-11.0	54	-15.8	20	-26.5	19
20	50	-19.9	57	-16.2	54	-15.5	43	-19.4	57	-12.7	31	-21.1	20
21	54	-21.3	68	-10.8	27	-24.8	4	-40.2	58	-11.3	46	-14.5	21
22	56	-21.0	51	-14.9	19	-30.0	4	-36.5	39	-17.3	42	-16.6	22
23	64	-21.5	74	-9.3	31	-26.2	7	-32.0	17	-26.5	41	-18.9	23
24	72	-20.3	75	-8.2	49	-18.1	15	-29.5	78	-8.5	49	-17.7	24
25	68	-22.1	42	-15.9	64	-16.4	35	-18.7	45	-16.0	53	-16.1	25
26	58	-29.5	50	-12.2	64	-12.8	42	-12.5	43	-14.6	43	-18.1	26
27	53	-28.6	63	-10.9	75	-7.7	46	-13.1	47	-14.1	50	-15.7	27
28	74	-17.4	61	-12.6	84	-5.3	76	-10.3	76	-12.5	35	-19.8	28
29	73	-17.9	82	-10.4	80	-6.0	45	-16.6			29	-22.8	29
30	44	-25.6	85	-12.2	69	-12.8	66	-12.1			31	-21.3	30
31	38	-24.1			38	-18.4	55	-9.5			47	-15.3	31
MONTH	58	-22.4	57	-15.7	52	-16.8	46	-22.2	47	-18.4	39	-19.7	MONTH

* NOTE: Data for October were not changed.

ADDENDUM

Revised RH and Dewpoint Data

STATION: GLACIER

YEAR: 1983

April			May		* June		* July		* August		September		DAY
DAY	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	MEAN RH %	MEAN DP DEG C	
1	31	-10.7	32	-15.6	**	*****	**	*****	**	*****	**	*****	1
2	23	-22.7	58	-8.6	**	*****	**	*****	**	*****	33	-14.3	2
3	35	-17.6	67	-10.1	**	*****	**	*****	**	*****	32	-13.1	3
4	59	-10.4	39	-16.5	**	*****	**	*****	**	*****	43	-12.6	4
5	59	-13.4	36	-17.2	**	*****	**	*****	**	*****	57	-9.7	5
6	47	-18.2	34	-15.9	**	*****	**	*****	**	*****	43	-13.1	6
7	60	-15.7	24	-18.2	**	*****	**	*****	**	*****	56	-7.9	7
8	45	-19.9	26	-17.1	**	*****	**	*****	**	*****	66	-4.8	8
9	59	-17.7	24	-17.4	**	*****	**	*****	**	*****	68	-3.9	9
10	48	-23.1	29	-15.7	**	*****	**	*****	**	*****	45	-8.0	10
11	48	-21.5	**	*****	**	*****	**	*****	**	*****	36	-10.7	11
12	67	-11.4	**	*****	**	*****	**	*****	**	*****	51	-6.9	12
13	63	-10.3	**	*****	**	*****	**	*****	**	*****	52	-7.2	13
14	59	-10.3	**	*****	**	*****	**	*****	**	*****	75	-4.3	14
15	67	-10.7	**	*****	**	*****	**	*****	**	*****	63	-7.8	15
16	51	-14.6	**	*****	**	*****	**	*****	**	*****	43	-11.3	16
17	48	-16.3	**	*****	**	*****	**	*****	**	*****	40	-11.5	17
18	58	-13.4	**	*****	**	*****	**	*****	**	*****	32	-14.5	18
19	46	-15.9	**	*****	**	*****	**	*****	**	*****	55	-7.9	19
20	46	-14.5	**	*****	**	*****	**	*****	**	*****	79	-5	20
21	50	-13.3	**	*****	**	*****	**	*****	**	*****	82	-4	21
22	44	-12.5	**	*****	**	*****	**	*****	**	*****	81	-4.1	22
23	39	-13.0	**	*****	**	*****	**	*****	**	*****	62	-15.0	23
24	34	-12.6	**	*****	**	*****	**	*****	**	*****	45	-22.0	24
25	21	-18.3	**	*****	**	*****	**	*****	**	*****	39	-24.2	25
26	25	-17.1	**	*****	**	*****	**	*****	**	*****	43	-22.3	26
27	36	-14.2	**	*****	**	*****	**	*****	**	*****	42	-19.8	27
28	36	-14.3	**	*****	**	*****	**	*****	**	*****	73	-7.1	28
29	57	-7.6	**	*****	**	*****	**	*****	**	*****	81	-2.2	29
30	40	-13.1	**	*****	**	*****	**	*****	**	*****	83	-2.0	30
31			**	*****	**	*****	**	*****	**	*****			31
MONTH	46	-15.1	36	-15.2	**	*****	**	*****	**	*****	54	-10.0	MONTH

* NOTE: Data for June, July, and August were not changed.

I. BACKGROUND

A. Purpose

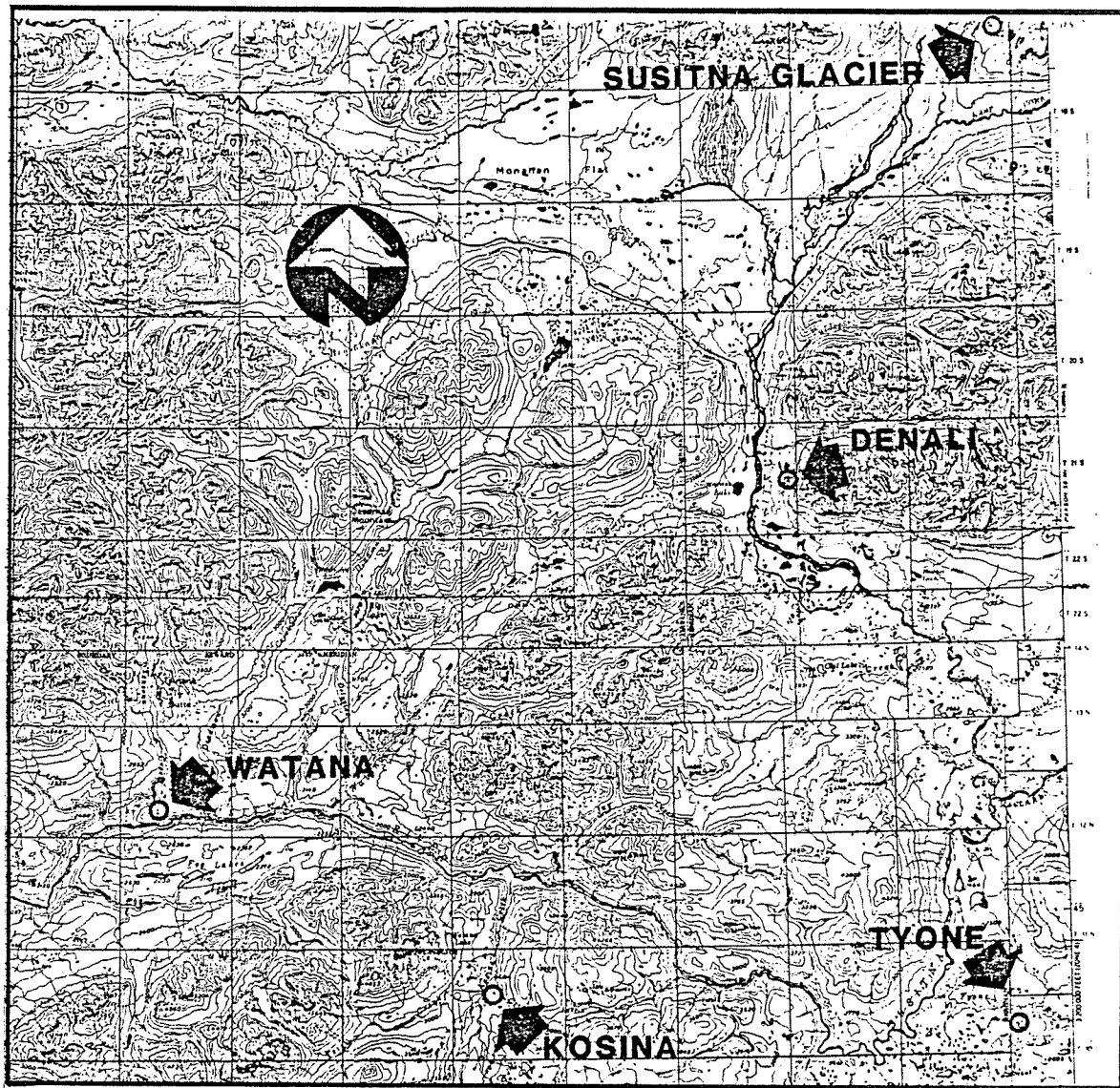
The Glacier climatic station was installed adjacent to Susitna Glacier in the Eastern Alaska Range to obtain data representative of the high elevations of the basin.

B. History of Susitna Glacier Station (No. 0610)

The station lies near the confluence of four major glaciers feeding the mainstem of the Susitna River. An extrapolated Susitna River Mile for Glacier Station is approximately 331. The climate station is situated on a ridge at approximately 4,700 feet elevation (see Figure I-1 for location). The station began recording on July 20, 1980.

Previous data for this station are published in:

Report	Period Covered
1. Processed Climatic Data Volume 1 Susitna Glacier Station March 1982 (R&M Consultants)	7/80 - 9/81
2. Processed Climatic Data Volume 1 Susitna Glacier Station December 1982 (R&M Consultants)	10/81 - 9/82



TALKEETNA MTS. AND HEALY QUADRANGLES APPROX. SCALE 1" = 11 MILES

CLIMATE STATIONS UPPER SUSITNA BASIN



Station Location

Figure I-1

PREPARED BY:

R&M

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE

II. ANNUAL DATA SUMMARIES

SUSITNA GLACIER STATION (No. 0610)

SUMMARY OF CLIMATE DATA RECORDED AT GLACIER STATION (NO. 610)
WATER YEAR 1983

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m2)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT	M	M	M	M	M	M	M	M	M	M	M	M	M	OCT
NOV	0.7	-17.9	-8.5	062M	1.5M	1.8M	105M	14.0M	ENE(M)	66M	-13.7M	M	13,168M	NOV
DEC	-0.5	-25.6	-7.9	071	1.9	2.4	131	18.4	ENE	M	M	M	7,448	DEC
JAN	2.8	-33.7	-11.5	058	1.4	2.1	123	19.0	ENE	51M	-21.1M	M	12,273	JAN
FEB	10.0	-19.9	-7.3	063M	1.5M	1.5M	112M	14.0M	ENE(M)	M	M	M	28,793	FEB
MAR	4.3	-14.8	-5.2	063M	1.1M	1.4M	128M	10.8M	ENE(M)	54M	-15.3M	M	84,595	MAR
APR	11.5	-15.7	-2.0	080	1.2	1.9	184	24.1	ENE	M	M	13.0	135,372	APR
MAY	M	M	M	M	M	M	M	M	M	M	M	M	M	MAY
JUN	M	M	M	M	M	M	M	M	M	M	M	M	M	JUN
JUL	18.5	1.5	8.5	130	0.4	1.6	083	15.2	SE	M	M	50.8	159,252	JUL
AUG	13.5M	-1.7M	5.0M	110M	0.7M	1.7M	124M	15.9M	E(M)	M	M	242.0	110,859M	AUG
SEP	6.0M	-15.1M	-1.3M	102M	0.7M	1.7M	151M	17.8M	NNE(M)	M	M	108.0	73,147M	SEP
Annual	M	M	M	M	M	M	M	M	M	M	M	M	M	Annual

Note: Refer to Section III of report for explanation of symbols used.

SUMMARY OF CLIMATE DATA RECORDED AT GLACIER STATION (NO. 610)
WATER YEAR 1982

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m2)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT	7.5M	-12.6M	-3.6M	061M	1.0M	0.9M	186M	16.5M	NE(M)	M	M	M	42,691M	OCT
NOV	6.1	-21.5	-9.1	077	1.6	2.1	128	21.6	ENE	M	M	M	12,592	NOV
DEC	2.3	-22.8	-10.7	083	1.7	2.0	131	22.9	ENE	M	M	M	5,706	DEC
JAN	-4.6M	-33.1M	-15.2M	066	1.4	1.8	077	20.3	ENE	M	M	M	6,313	JAN
FEB	5.8	-32.7	-12.7	063M	1.6M	2.5M	336M	26.0M	ENE(M)	M	M	M	31,599	FEB
MAR	M	M	M	M	M	M	M	M	M	M	M	M	M	MAR
APR	M	M	M	M	M	M	M	M	M	M	M	M	M	APR
MAY	13.0	-8.2	1.4	083M	0.5M	1.3M	212M	10.8M	ENE(M)	M	M	26.0	201,312	MAY
JUN	18.0	-2.1	6.2	113	1.1	2.1	135	20.3	SE	M*	M*	103.8	175,490	JUN
JUL	18.7	-0.2	7.8	129	0.4	1.4	001	12.1	SSW	M	M	194.2	136,467	JUL
AUG	14.6	-0.5	6.6	096	0.3	1.6	087	10.8	NNE	M	M	78.6	122,685	AUG
SEP	M	M	M	M	M	M	M	M	M	M	M	M	M	SEP
Annual	M	M	M	M	M	M	M	M	M	M	M	M	M	Annual

* Months when RH values were reported in the annual report but where subsequent review indicated the data were unusable.

Note: Refer to Section III of report for explanation of symbols used.

SUMMARY OF CLIMATE DATA RECORDED AT GLACIER STATION (NO. 610)
WATER YEAR 1981

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m2)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT	6.9M	-9.7M	-2.0M	080M	1.7M	2.3	146	24.1	ENE(M)	M	M	M	37,415M	OCT
NOV	2.2M	-16.4M	-6.4M	074M	1.6M	1.9	048	17.8	ENE(M)	M	M	M	13,538	NOV
DEC	1.1	-33.5	-14.4	070	1.4	1.8	156	30.5	ENE	39M	-27.0M	M	12,417	DEC
JAN	4.4	-13.7	-2.9	102M	3.3M	3.8	154	32.4	E(M)	51M	-13.0M	M	10,060	JAN
FEB	0.4M	-25.7M	-9.1M	M	M	2.1	M	25.4	M	56M	-17.7M	M	25,698M	FEB
MAR	M	M	M	091M	2.2M	2.9M	159M	26.0M	ENE	48M	-16.8M	M	73,041M	MAR
APR	M	M	M	M	M	M	M	M	M	M	M	M	M	APR
MAY	15.4M	-5.3M	4.7M	116M	0.7M	2.0M	151M	14.0M	ENE(M)	M*	M*	34.0M	174,283M	MAY
JUN	15.2	-2.5	6.6	102	0.3	1.9	028	13.3	NNE	M*	M*	141.4	182,185	JUN
JUL	11.0	-0.3	5.7	119	0.4	1.6	188	17.8	NNE	M*	M*	324.2	108,046	JUL
AUG	17.7	-4.7	6.2	084M	0.8M	1.9	136	15.2	ENE(M)	M*	M*	300.2	105,803	AUG
SEP	10.0	-9.6	1.1	079	0.8	1.7	215	14.6	NE	M*	M*	66.4	78,858	SEP
Annual	M	M	M	M	M	M	M	M	M	M	M	M	M	Annual

* Months when RH values were reported in the annual report but where subsequent review indicated the data were unusable.

Note: Refer to Section III of report for explanation of symbols used.

SUMMARY OF CLIMATE DATA RECORDED AT GLACIER STATION (NO. 610)
WATER YEAR 1980

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m ²)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT														OCT
NOV														NOV
DEC														DEC
JAN														JAN
FEB														FEB
MAR														MAR
APR														APR
MAY														MAY
JUN														JUN
JUL	M	M	M	M	M	M	M	M	M	M	M	M	M	JUL
AUG	M	M	M	M	M	M	M	M	M	M	M	M	M	AUG
SEP	8.5	-10.5	1.1	085	0.7	1.6	093	15.2	ENE	M	M	89.2	77,065	SEP
Annual	M	M	M	M	M	M	M	M	M	M	M	M	M	Annual

* Months when RH values were reported in the annual report but where subsequent review indicated the data were unusable.

Note: Refer to Section III of report for explanation of symbols used.

III. REPORT PREPARATION

A. DESCRIPTION OF SYMBOLS USED IN ANNUAL AND MONTHLY SUMMARIES

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.

Monthly Summaries

Blank entries for three-hourly, daily, or monthly values (generally just for relative humidity or dewpoint) indicate the R.H. and D.P. data have been deleted for the period. For further explanation, refer to the section "Interpretation of Data."

M Insufficient or partial data. M follows average and/or total values if any readings for the period were missing and would have been required for determination of the table value. M follows the summary values for the month if 1-9 daily values had M's appended to them or had asterisks in their place. M appears alone in place of the monthly values if all daily values had blank entries or asterisks. Parentheses surround the M where other letters may cause confusion (i.e in prevailing direction).

**** Erroneous or missing data (may be from 2 to 6 asterisks, depending on number of digits possible in the value). Appears 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.

B. DATA COMPUTATION STANDARDS (CLIMATE)

Graphical Data Plot

Graphical representation of valid recorded and/or computed data.

Hourly Precipitation Summary Table

Hourly precipitation values are calculated as the difference between valid (current and preceding) consecutive hourly readings. When either of these hourly precipitation readings is invalid, no value is reported for the current hour.

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 month wind speeds are determined for all valid readings (arithmetic mean).

6. Maximum daily and monthly gust speeds are determined from all valid readings. Associated directions are the resultant directions from the recording interval in which the peak interval gust was observed.
7. Prevailing daily and monthly directions are determined from all valid readings. The reported value is the most frequent direction observed.
8. Mean daily and monthly relative humidities are determined from all valid readings (arithmetic mean).
9. Mean daily and monthly dewpoint temperatures are determined from all valid readings (arithmetic mean). Dewpoints are omitted when the wind speed is less than 1 m/s, when the dewpoint calculates to a value greater than the recorded temperature, or when the dewpoint calculates to less than minus 47 degrees or more than 27 degrees 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 is determined by averaging the recorded solar intensity and converting the units. The monthly value is the sum of the daily values.

Three-Hour Summary Tables

1. The temperature reported is the temperature recorded at the specified time.

2. The dewpoint temperature reported is the dewpoint calculated at the specified time. Dewpoints are omitted when the wind speed is less than 1 m/s, when the dewpoint is calculated to a value greater than the recorded temperature, or when the dewpoint calculates to less than minus 47 degrees or more than 27 degrees 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.

Wind Frequency Summary Table

1. Reported data are determined from all valid readings.

Wind Rose Graphical Plot

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

General Notes

1. The following are the 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/cm²

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

Relative Humidity: ±6%

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

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

Tape Recorder Error Rate: 1 bit in 10^7

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

DIRECTION	COMPASS HEADING
North	350 through 11
North-Northeast	12 through 34
Northeast	35 through 56
East-Northeast	57 through 79
East	80 through 101
East-Southeast	102 through 124
Southeast	125 through 146
South-Southeast	147 through 169
South	170 through 191
South-Southwest	192 through 214
Southwest	215 through 236
West-Southwest	237 through 259
West	260 through 281
West-Northwest	282 through 304
Northwest	305 through 326
North-Northwest	327 through 349

IV. INTERPRETATION OF DATA

A. GENERAL - Notes on Interpreting Data

1. General

- a. 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 the section "Data Computation Standards."
- b. The estimates of usable data for the current year in Table IV.1 at the end of this section were prepared by reviewing the published summary tables for each month. Precipitation estimates came from the hourly table; estimates for usable percentages of temperature, relative humidity, and solar radiation data were based on the 3-hour summaries; wind estimates came from comparison with the other parameters and a cursory review of the raw-data printout; and usable longwave radiation estimates were from the raw data.
- c. An enhancement that has been added to this year's series of reports is use of symbols to indicate where data are missing from parameter totals or averages in the summary tables. This is intended to assist the data user in evaluating the quality of the data.

Estimates that are below 90% are reported to the nearest 5%, estimates above 90% are to the nearest 1%. If the data are nearly all good, except for infrequent "bugs," this is

indicated by a "99 + " value. If the estimate is quite rough, this is denoted by a "±" after the value.

2. **Precipitation** - Precipitation data for most stations are 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 user should exercise caution and make note of the concurrent temperatures in interpreting the precipitation records.

An exception to the normal system of recording winter precipitation is at the Watana Station (No. 0650). That site is equipped with a Wyoming wind gage to eliminate the effects of the wind on the snow, and it also has an AC-powered heater on the precipitation bucket to melt snow that falls into it. The Watana data are thus published for the whole year. Details on the Watana data are included in "Notes on Interpreting Watana Station Data," in the Watana report.

3. **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. Though the data are generally of poor quality throughout the 1983 year, they are believed to be useful as **indicators** of the true humidity and have for that reason been left in the report.

When the calibration of the R.H. sensor is too high, readings near the top end (i.e. approaching 100%) may go "over the top" and be read as, say, 110% (if the calibration is high by 10 points). Having only two digits in which to record the R.H., the Weather Wizard will report this as "10," which will drastically affect the computation of instantaneous dewpoint, average R.H., and average dewpoint values. The graphical plot of R.H. will also be misleading, with periodic "spikes" down to very low values. Each plot may be interpreted, however, by mentally adjusting the entire plot downward an appropriate amount to keep the maximum values at 100%. The approximate amount of such adjustment for each month is noted in the following section, "Notes on Interpreting Susitna Glacier Station Data". Because the R.H. and dewpoint values in the monthly summary tables are numerical averages, they are not easily interpreted and have been deleted for the days when RH was "overtopped". Values in the three-hour summaries have been retained since they are instantaneous readings; they should, however, be adjusted by the same amount indicated for the plots.

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. However, to avoid undue congestion in the table, daily values have not been individually noted as containing missing records; only the monthly average has been so designated. The same applies to R.H.

4. **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 "Usable Data" table and of the graphical plot to get a feel for the frequency and timing of lost solar radiation data. Caution should be used when a significant amount of data is missing.

Another frequent concern in the processing of solar data is the presence of non-zero minimum values. Since the sensors have a stated accuracy of $\pm 1\%$ of the full-scale value of 140 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. This type of error in the data is difficult to adjust automatically, but the user can compensate for it in his interpretation by reviewing the instantaneous radiation readings printed in the 3-hour summary tables. If the 3-hour values never drop below 1, even in the winter time, the sensor is very likely reading high. An error of $+1 \text{ mW/cm}^2$ on every reading will cause the computed daily total energy to be high by $240 \text{ watt-hr./cm}^2$. The user can adjust the numbers used accordingly.

5. **Wind Speed and Direction** - The wind frequency summary table in each month's report notes the number of wind observations used in preparing the table. Since data for this year have all been recorded at 15-minute intervals, there were 4 readings recorded per hour and 96 readings per day. This gives a maximum possible number of observations for each month as follows (dependent on the number of days in the month):

Month	Max. Possible # of Observations
October, December, January, March May, July, August (31 days)	2976
November, April, June, September (30 days)	2880
February (28 days)	2688
February in leap years (29 days)	2784

B. Notes on Interpreting SUSITNA GLACIER Station Data

1. **General** - The station was not installed from September 2 to October 20, 1982, while factory maintenance was performed. The station was inoperable for unknown reasons from May 10 to June 15, 1983, and no data at all were recovered for the period. All data except precipitation and solar were also lost from August 28 until September 2, 1983, when the unit was pulled for annual maintenance.
2. **Precipitation** - Data are presented for April, despite the occurrence of sub-freezing temperatures on several days. This may give errors in the reporting of the timing or the amount of precipitation, and the user should be aware of this in interpreting and applying the data.
3. **Relative Humidity** - As discussed in the preceding section of general notes, many of the R.H. data for the year were considered unreliable or required some "judgment" in their use. Due to calibration problems with the R.H. sensors, some of the data should be adjusted prior to application. The amount of adjustment for each month applicable is listed below, and an example of the interpretation is explained afterward. Data for November are considered poor, but were retained in the report as indicators of RH. Data for June, July, and August have been deleted.

Month	Adjustment to Graphical R.H. Values
December 1982	-10 R.H. Points
January 1983	-10
February	-10
March	-10
April	-15
May	-15
September	-15

Example: In March, the readings peak over the top at about "110 percent" in the graphical plot (The plot does not go to 110, but readings of "10" are equivalent to 110 percent). This value is assumed to correspond to a true R.H. of 100 percent. Therefore, 10 points should be subtracted from all the plotted R.H. values. Values from 0-10 should be read as 100-110 (and therefore adjusted to 90-100). The graphical plot may thus be interpreted semi-quantitatively. The numerical values (daily averages), however, are more difficult to interpret and have been deleted from the tables.

4. **Solar Radiation** - The minimum (nightly) value for solar radiation intensity is generally 1 and frequently 2 mw/cm^2 from December through September. As explained in the General Notes (Section IV.A), this gives daily totals that are too high by 240 (for high by 1) or 480 (for high by 2) watt-hours per day. Inspection should be made of the night-time values in the 3-hour tables (to see whether "1" or "2" appears in place of "0") and then the daily and monthly totals should be adjusted accordingly.

TABLE IV.1
SUSITNA HYDROELECTRIC PROJECT - CLIMATE DATA PROCESSING
APPROXIMATE PERCENTAGES OF USABLE DATA

Station: Glacier

Water Year: 1983

	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>YEAR</u>
Temperature	35	100	100	100	100	100	100	30	50	100	65	95	81
Wind Speed	35	99	100	100	100	100	100	30	50	100	55	90	80
Wind Direction	35	99	100	100	98	99	100	30	50	100	55	85	79
Relative Humidity	35	100	100	100	100	100	100	30	0	0	0	95	63
Precipitation	0	0	0	0	0	0	100	30	50	100	100	99+	40(1)
Solar Radiation	35	100	100	100	100	100	100	30	50	100	99+	99+	84
Peak Gust	35	99	100	100	100	100	100	30	50	100	55	90	80
Longwave	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) Maximum possible recovery percentage is 50% for the year since precipitation bucket is not heated and measurement of sub-freezing precipitation (generally during Oct. - Mar.) is not possible.

V. MONTHLY CLIMATIC DATA SUMMARIES

SUSITNA GLACIER STATION, WATER YEAR 1983

No precipitation data for October

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

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

DAY 04

DAY 05

DAY 06

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

DAY 07

DAY 08

DAY 09

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

R & M CONSULTANTS, INC.

SUSTITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

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

DAY 13

DAY 14

DAY 15

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

DAY 16

DAY 17

DAY 18

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

R & M CONSULTANTS, INC.

SUSTITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	
	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S	
0300	*****	*****	**	***	*****	***	0300	*****	*****	**	***	*****	0300	-13.4	-20.5	55	061	4.4
0600	*****	*****	**	***	*****	***	0600	*****	*****	**	***	*****	0600	-13.4	-20.7	54	063	4.2
0900	*****	*****	**	***	*****	***	0900	*****	*****	**	***	*****	0900	-14.4	-21.9	53	041	3.4
1200	*****	*****	**	***	*****	***	1200	*****	*****	**	***	*****	1200	*****	*****	**	052	2.4
1500	*****	*****	**	***	*****	***	1500	-10.1	-18.8	49	088	1.2	1500	-12.7	-20.5	52	064	4.9
1800	*****	*****	**	***	*****	***	1800	-12.5	-19.3	57	081	4.5	1800	-15.3	-22.1	56	054	4.1
2100	*****	*****	**	***	*****	***	2100	*****	*****	**	***	*****	2100	-15.3	-22.1	56	008	1.7
2400	*****	*****	**	***	*****	***	2400	-13.4	-20.3	56	060	4.0	2400	-15.1	-22.1	55	030	2.2

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-14.6	-21.4	56	020	2.3	359	0300	-14.6	-20.1	63	030	1.1	0300	-17.8	-21.6	72	045
0600	-14.5	-21.4	56	004	2.3	351	0600	-13.8	-19.3	63	070	1.2	0600	-18.3	-21.9	73	051
0900	-13.3	-20.0	57	039	1.6	024	0900	-15.1	-20.5	63	060	.8	0900	-17.5	-21.3	72	071
1200	-11.6	-19.5	52	342	1.7	021	1200	-14.9	-21.5	57	073	1.3	1200	-13.8	-19.7	61	068
1500	-10.5	*****	46	050	1.1	014	1500	-13.9	-21.4	53	347	1.9	1500	-15.4	-20.3	66	113
1800	-16.2	-21.2	65	036	1.3	039	1800	-17.7	-21.3	73	346	.8	1800	-16.0	*****	76	074
2100	-16.5	*****	65	018	1.2	351	2100	-19.0	*****	75	345	2.3	2100	-15.5	-18.5	78	033
2400	-15.7	-20.8	65	020	1.3	000	2400	-19.1	-22.5	74	358	1.7	2400	-15.9	-18.6	80	056

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-13.8	-16.8	78	062	1.1	067	0300	-22.8	-28.4	60	018	1.8	0300	-23.3	-29.6	56	047
0600	-19.4	-22.0	80	354	.7	342	0600	-23.8	-29.0	62	012	1.9	0600	-23.1	-29.4	56	054
0900	-16.8	*****	**	075	.6	354	0900	-23.2	-29.1	58	017	2.3	0900	-22.4	-28.8	56	060
1200	-15.9	*****	66	084	1.3	106	1200	-22.8	-30.2	51	024	2.4	1200	-19.7	-28.4	46	048
1500	-17.4	*****	58	080	1.2	121	1500	-23.3	-30.8	50	026	2.3	1500	-20.2	*****	40	095
1800	-19.5	-24.2	66	088	3.4	109	1800	-24.5	-30.2	59	025	2.6	1800	-21.1	-27.6	56	063
2100	-20.6	-25.8	63	065	1.7	087	2100	-25.3	-30.9	59	045	2.0	2100	-21.6	*****	57	048
2400	-20.7	-26.2	61	045	1.4	045	2400	-24.5	-30.6	57	045	1.7	2400	-21.1	-27.8	55	085

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-15.1	-21.1	60	070	1.5	353	4.4	1	0300	-10.6	*****	89	116	.3	117	2.5	1
0600	-16.6	-20.0	75	049	.9	115	3.2	1	0600	-12.1	-13.7	88	320	1.1	303	3.2	1
0900	-16.0	-18.8	79	016	.9	005	4.4	2	0900	-13.7	*****	88	347	.4	344	3.8	1
1200	-13.4	-16.9	75	032	1.2	037	4.4	9	1200	-13.7	*****	74	111	.1	047	1.9	7
1500	-10.0	-13.9	73	063	2.4	053	6.3	6	1500	-13.2	-19.9	57	055	1.1	030	3.2	10
1800	-10.5	-12.8	83	047	1.9	056	6.3	0	1800	-15.5	-18.3	79	046	1.3	037	3.2	1
2100	-10.4	-12.0	88	027	.9	008	3.2	1	2100	-14.9	-19.5	68	055	1.1	054	2.5	1
2400	-8.9	-11.1	84	070	1.2	075	3.8	0	2400	-15.1	-20.7	62	053	1.5	040	3.2	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD
DEG C DEG C % DEG. M/S DEG. M/S MW	DEG C DEG C % DEG. M/S DEG. M/S MW	DEG C DEG C % DEG. M/S DEG. M/S MW	DEG C DEG C % DEG. M/S DEG. M/S MW	DEG C DEG C % DEG. M/S DEG. M/S MW	DEG C DEG C % DEG. M/S DEG. M/S MW
0300 -15.9 -27.1 38 068 1.2 033 3.8 1	0600 -15.1 -26.6 37 055 1.1 069 3.2 1	0900 -14.3 -26.2 36 059 1.3 092 2.5 3	1200 -12.8 -26.2 30 071 1.5 066 3.8 11	1500 -10.3 -24.7 30 053 1.6 038 5.7 9	1800 -10.9 -24.2 33 077 1.0 060 2.5 2
2100 -9.2 -17.8 50 063 2.1 067 7.6 1	2400 -9.2 -16.6 55 094 4.2 120 10.8 1				

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

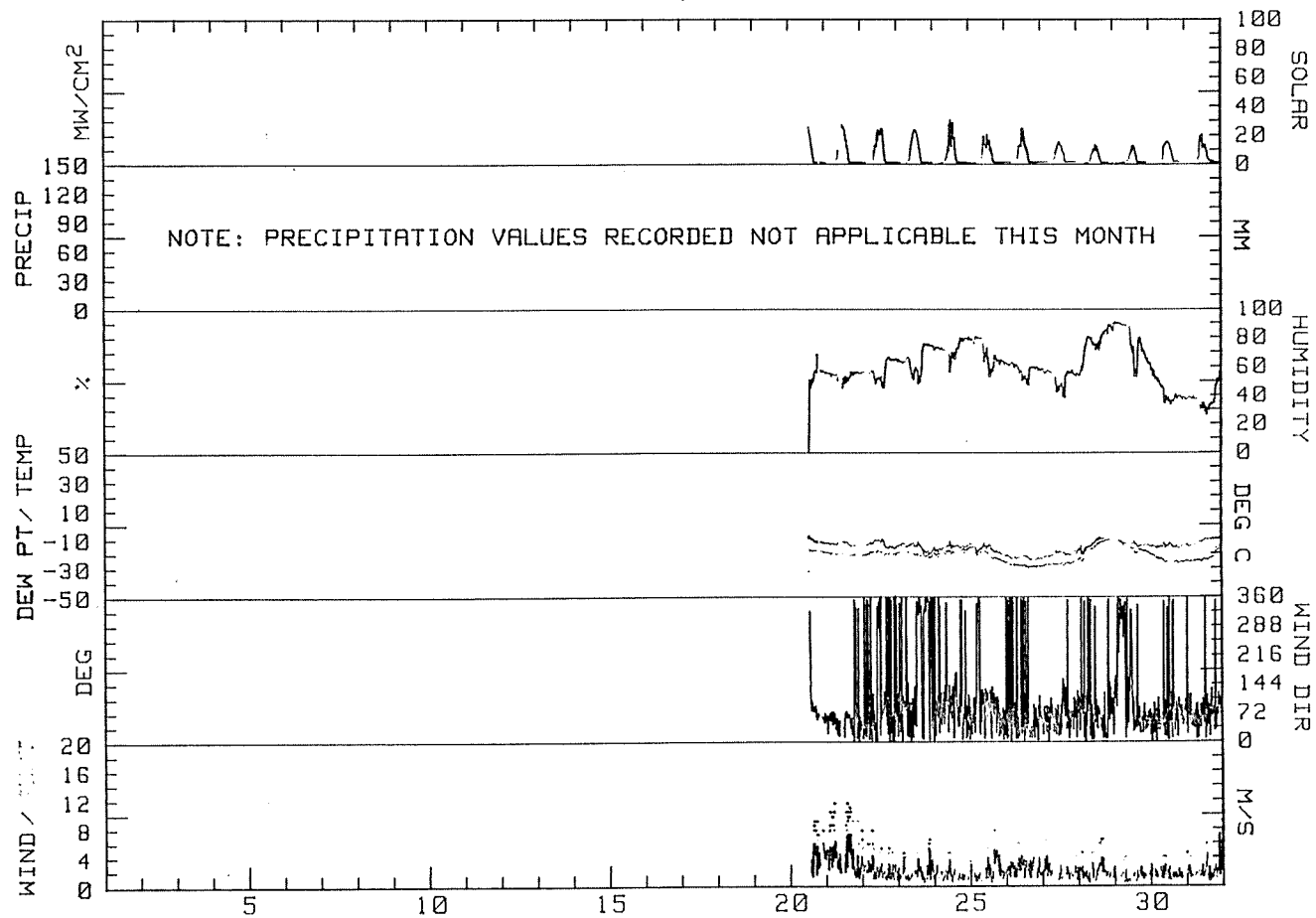
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	1
2	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	2
3	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	3
4	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	4
5	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	5
6	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	6
7	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	7
8	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	8
9	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	9
10	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	10
11	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	11
12	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	12
13	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	13
14	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	14
15	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	15
16	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	16
17	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	17
18	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	18
19	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	19
20	-8.2m	-13.6m	-10.9m	071m	3.5m	3.9m	081m	8.9m	ENE(m)	50m	-19.9m	****	1727m	20
21	-11.9m	-15.6m	-13.8m	052m	3.4m	3.6m	071m	11.4m	ENE(m)	54m	-21.3m	****	1256	21
22	-10.5	-17.3	-13.9	019	1.5	1.9	024	7.6	N	56	-21.0	****	1395	22
23	-12.6	-21.1	-16.9	015	1.1	1.6	352	6.3	NNW	64	-21.5	****	1350	23
24	-12.3	-19.9	-16.1	063	.9	1.4	091	4.4	ESE	72	-20.3	****	1183	24
25	-13.4	-21.9	-17.7	070	1.3	1.7	109	7.6	NNE	68m	-22.1m	****	1029	25
26	-21.3	-25.3	-23.3	026	2.1	2.3	007	5.7	NNE	58	-29.5	****	1125	26
27	-18.5	-24.5	-21.5	060	1.4	1.7	071	6.3	ENE	53	-28.6	****	875	27
28	-8.9	-21.0	-15.0	051	1.3	1.6	053	6.3	ENE	74	-17.4	****	640	28
29	-9.2	-16.2	-12.7	040	.7	1.1	344	3.8	NE	73	-17.9	****	590	29
30	-13.4	-17.4	-15.4	050	1.2	1.4	089	4.4	NE	44	-25.6	****	978	30
31	-8.8	-16.0	-12.4	072	1.7	2.0	120	10.8	ENE	38	-24.1	****	993	31
MONTH	-8.2m	-25.3m	-15.8m	049m	1.5m	1.9m	071m	11.4m	ENE(m)	58m	-22.4m	****	13139m	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
 GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
 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 NOTES AT THE BACK OF THIS REPORT ****

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



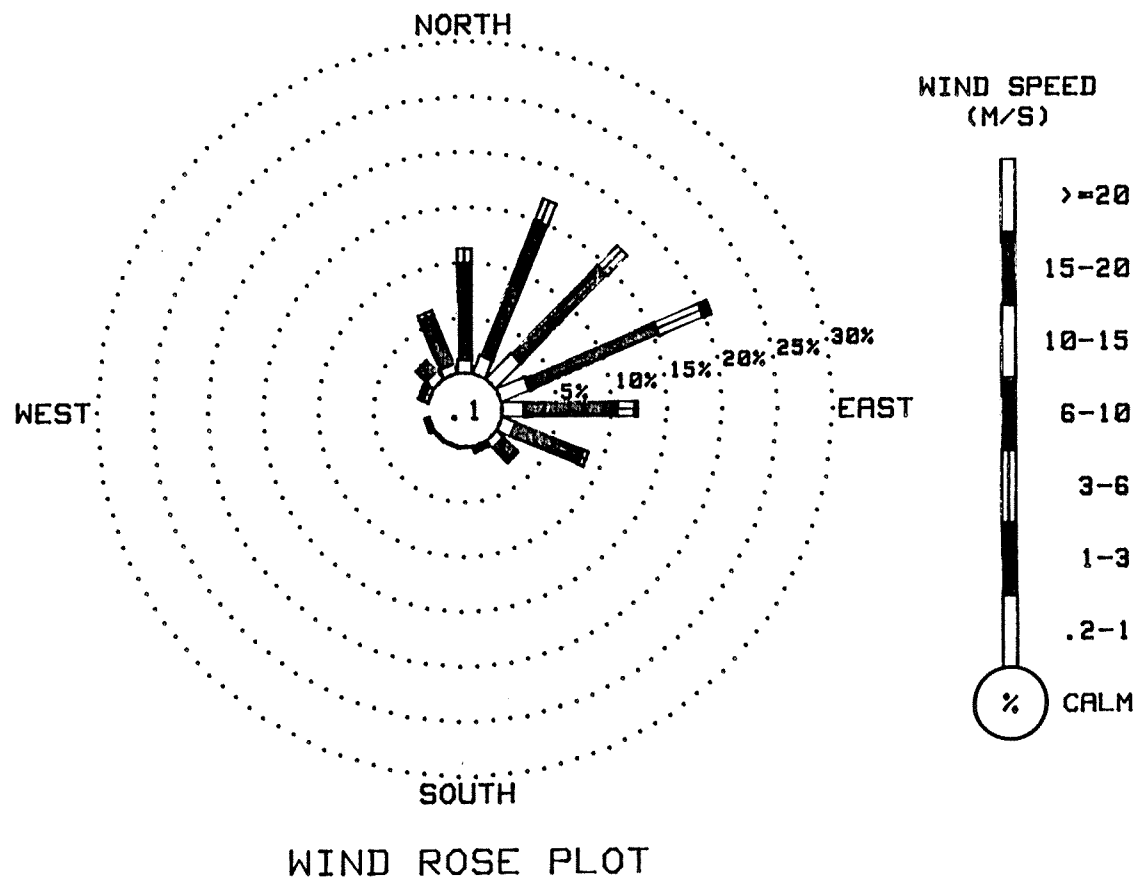
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.20	8.71	1.30	0.00	0.00	0.00	0.00	11.21
NNE	1.76	13.07	2.13	0.00	0.00	0.00	0.00	16.96
NE	3.24	11.12	2.50	0.00	0.00	0.00	0.00	16.87
ENE	2.78	12.70	4.36	.74	0.00	0.00	0.00	20.57
E	2.04	8.43	1.58	.28	0.00	0.00	0.00	12.33
ESE	1.39	6.58	.56	0.00	0.00	0.00	0.00	8.53
SE	.93	1.85	0.00	0.00	0.00	0.00	0.00	2.78
SSE	.28	.28	0.00	0.00	0.00	0.00	0.00	.56
S	.09	0.00	0.00	0.00	0.00	0.00	0.00	.09
SSW	.09	0.00	0.00	0.00	0.00	0.00	0.00	.09
SW	.09	0.00	0.00	0.00	0.00	0.00	0.00	.09
WSW	.28	.09	0.00	0.00	0.00	0.00	0.00	.37
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	.56	.46	0.00	0.00	0.00	0.00	0.00	1.02
NW	1.02	1.20	.09	0.00	0.00	0.00	0.00	2.32
NNW	.93	4.73	.46	0.00	0.00	0.00	0.00	6.12
CALM								.09
TOTAL	16.68	69.23	12.98	1.02	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1079 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	-9.3	-15.6	60	094	4.9	079 11.4	1	0300	-2.0	-8.3	62	066	3.8	070 8.9	0	0300	-6.5	-16.8	44	058	1.5
0600	-8.6	-14.2	64	097	2.8	087 10.8	1	0600	-2.5	-7.8	67	082	3.5	078 8.3	1	0600	-7.5	*****	53	044	1.5
0900	-5.8	-10.2	71	077	4.8	079 12.7	1	0900	-5.3	*****	94	101	1.7	070 8.9	1	0900	-5.7	-13.8	53	019	1.5
1200	-4.8	-10.0	67	077	5.6	073 10.8	8	1200	-6.3	-6.7	97	213	1.1	236 10.2	8	1200	-4.5	-10.5	63	020	1.5
1500	-5.1	-9.3	72	089	4.9	098 9.5	5	1500	-6.8	-8.2	90	238	2.6	248 10.2	3	1500	-8.8	-12.1	77	029	1.3
1800	-2.8	-8.4	65	058	3.4	063 9.5	1	1800	-6.7	*****	88	072	.9	129 2.5	1	1800	-4.2	-7.8	76	035	2.0
2100	-2.1	-8.4	62	052	3.0	047 7.0	1	2100	-8.1	-13.1	67	057	2.0	029 4.4	1	2100	-1.6	-6.3	70	067	1.1
2400	-1.8	-7.9	63	055	3.4	068 8.3	1	2400	-6.5	-16.6	45	064	1.9	058 4.4	1	2400	-8.5	-9.5	93	041	1.0

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	-5.8	-6.2	97	032	1.0	009 4.4	1	0300	-7.3	-12.5	66	073	2.5	081 5.1	1	0300	-9.0	-19.1	44	050	1.6
0600	-4.3	-7.4	79	081	1.5	077 6.3	0	0600	-7.5	-13.3	63	063	3.2	052 6.3	0	0600	-10.4	-20.1	45	070	1.5
0900	-5.8	-10.2	71	086	4.4	102 11.4	2	0900	-9.2	-15.1	62	062	2.3	063 4.4	1	0900	-11.7	-20.6	48	056	.8
1200	-6.2	-9.4	78	075	2.4	075 6.3	12	1200	-7.4	-15.6	52	057	1.5	085 4.4	15	1200	-14.2	-20.7	58	009	1.5
1500	-5.3	-10.3	73	074	3.2	088 6.3	6	1500	-8.4	*****	50	047	1.3	026 3.8	7	1500	-15.1	-21.5	58	346	2.1
1800	-7.5	*****	84	065	1.3	049 4.4	0	1800	-9.7	*****	58	052	1.3	059 3.2	1	1800	-15.7	-20.1	69	354	1.3
2100	-7.8	-10.6	80	358	.7	334 3.8	1	2100	-9.5	-16.2	58	051	1.8	043 4.4	1	2100	-17.5	-21.5	71	359	1.6
2400	-8.6	-11.3	81	001	.2	069 4.4	1	2400	-9.4	-17.5	52	060	1.9	041 4.4	1	2400	-16.8	-21.0	70	357	2.0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	
0300	-15.0	*****	66	027	1.0	011 3.2	1	0300	-11.0	-18.5	54	059	1.4	022 5.1	1	0300	-12.0	-12.9	93	359	1.3
0600	-16.1	-21.0	66	063	.7	054 2.5	1	0600	-12.6	-17.8	65	032	1.4	078 4.4	1	0600	-11.8	-12.7	93	344	1.3
0900	-14.4	*****	61	064	1.0	098 3.2	1	0900	-12.0	*****	87	065	1.0	087 5.1	1	0900	-13.4	*****	93	359	1.3
1200	-13.4	*****	48	056	.7	034 2.5	13	1200	-10.5	-13.0	82	061	1.3	052 3.2	7	1200	-11.8	-15.0	77	005	1.0
1500	-13.0	*****	44	070	.8	090 2.5	4	1500	-8.7	-10.8	85	026	1.6	017 3.8	3	1500	-12.7	*****	83	040	.8
1800	-13.9	-20.8	56	064	1.4	090 3.8	1	1800	-8.3	-9.4	92	063	1.4	079 4.4	0	1800	-13.4	*****	84	059	1.1
2100	-13.6	-20.3	57	044	1.1	056 2.5	0	2100	-8.4	*****	96	012	.8	011 3.2	0	2100	-13.2	-16.1	79	053	1.5
2400	-12.8	-19.8	56	045	1.7	095 4.4	1	2400	-11.1	-11.8	95	052	1.0	081 4.4	1	2400	-12.0	-14.9	79	053	1.2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-11.5	-13.7	84	028	1.0	033	3.2	0	0300	-7.7	-8.9	91	018	1.0	022	3.2	0
0600	-11.3	-14.2	79	044	1.5	085	3.8	1	0600	-7.5	*****	96	031	.7	031	2.5	0
0900	-11.7	-15.7	72	056	1.5	043	3.8	1	0900	-7.2	*****	96	043	.7	037	1.9	1
1200	-9.4	-15.3	62	054	2.5	093	6.3	6	1200	-7.4	-8.6	91	022	.8	108	3.2	3
1500	-10.1	-14.2	72	093	1.0	092	3.2	2	1500	-6.5	-8.8	84	029	1.0	124	3.2	2
1800	-9.6	-12.0	83	048	1.6	025	4.4	1	1800	-7.3	-9.4	85	061	1.1	049	4.4	1
2100	-9.6	*****	90	010	.6	046	3.8	0	2100	-6.7	-9.4	81	089	1.4	076	3.8	1
2400	-8.4	-9.9	89	050	1.3	066	4.4	0	2400	-6.5	-11.4	68	068	2.4	029	4.4	0

DAY 13

DAY 14

DAY 15

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-5.0	-46.7	1	107	2.9	095	11.4	0	0300	-6.7	-10.2	76	069	1.2	077	2.5	1
0600	-5.3	-34.5	8	161	2.3	129	10.8	0	0600	-8.1	-11.3	78	065	1.5	035	3.8	1
0900	-4.6	-6.6	86	109	.4	242	3.8	2	0900	-8.8	-11.9	78	046	1.3	041	3.2	3
1200	-3.8	-7.7	74	101	3.4	069	8.3	12	1200	-7.5	-11.7	72	042	1.1	020	3.2	11
1500	-3.0	-9.1	73	077	4.3	066	8.3	1	1500	-9.2	-13.3	72	061	.9	040	1.9	1
1800	-5.6	*****	74	057	1.7	069	5.1	0	1800	-8.6	-12.7	72	065	1.3	092	3.2	0
2100	-5.9	-9.4	76	050	1.8	051	3.8	1	2100	-8.8	*****	75	052	1.2	091	3.8	1
2400	-5.8	-9.3	76	040	1.6	030	3.2	0	2400	-9.2	-13.5	71	023	1.4	355	3.8	1

DAY 16

DAY 17

DAY 18

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-10.3	-17.6	55	049	1.4	088	2.5	1	0300	-11.2	-22.8	38	073	2.7	055	5.7	1
0600	-9.5	-17.3	53	056	1.8	043	3.8	1	0600	-11.4	-24.6	33	064	2.5	098	5.7	1
0900	-10.9	-18.4	54	049	1.5	052	3.2	3	0900	-11.8	-24.9	33	082	2.4	089	5.7	3
1200	-10.1	-17.9	53	047	1.0	036	3.8	10	1200	-11.7	-27.4	26	070	1.8	085	6.3	9
1500	-11.4	-18.7	55	046	1.6	046	3.8	1	1500	-11.8	-34.7	13	078	1.9	086	6.3	2
1800	-11.5	-19.0	54	057	1.3	092	3.8	1	1800	-13.0	-27.4	29	061	1.5	098	3.8	2
2100	-12.1	-19.8	53	054	1.6	053	4.4	1	2100	-13.4	-27.4	30	052	1.6	033	4.4	2
2400	-12.2	-20.8	49	054	2.2	052	7.0	1	2400	-13.2	-27.6	29	055	1.3	080	3.8	2

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S						
0300	-15.0	-27.8	33	072	1.4	041	3.2	2	0300	-13.6	-23.9	42	086	1.5	119	4.4	1	0300	-7.4	-7.5	99	069	.5	126	1.9	0
0600	-13.4	-27.0	31	063	1.4	057	3.8	2	0600	-6.4	-12.9	60	051	1.3	056	7.0	0	0600	-6.8	-7.1	98	055	.5	083	1.3	0
0900	-14.8	-27.6	33	044	1.2	012	3.8	2	0900	-6.3	-11.2	68	049	1.5	003	5.7	1	0900	-6.5	-7.8	91	046	.7	018	1.9	1
1200	-11.6	-27.3	26	068	1.5	050	3.8	6	1200	-6.4	-10.6	72	091	2.4	101	4.4	6	1200	-5.2	*****	77	068	1.6	100	3.2	2
1500	-11.2	-26.6	27	049	1.1	344	3.2	2	1500	-8.2	-11.2	79	076	1.3	098	3.8	1	1500	-4.5	-8.8	72	058	1.2	027	3.2	1
1800	-11.3	-26.7	27	075	1.1	122	3.2	1	1800	-10.5	-10.9	97	039	.3	334	3.8	0	1800	-6.0	-9.4	77	059	1.4	010	5.7	0
2100	-11.5	-25.7	30	063	1.5	060	4.4	2	2100	-7.5	*****	94	068	.7	018	3.8	1	2100	-5.4	-9.8	71	071	1.6	063	4.4	0
2400	-9.0	-23.5	30	072	1.0	071	3.8	2	2400	-7.8	*****	99	036	.6	117	2.5	0	2400	-5.0	-13.6	51	064	1.5	067	5.1	0

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S						
0300	-5.4	-13.3	54	060	1.7	034	4.4	1	0300	-5.8	-7.3	89	065	1.1	052	3.8	0	0300	-5.5	-6.8	91	068	1.4	025	3.2	1
0600	-5.3	-12.9	55	016	2.1	009	7.0	1	0600	-5.8	-7.9	85	059	.9	059	3.8	0	0600	-4.9	*****	89	086	1.1	041	3.2	0
0900	-5.9	-13.5	55	066	1.7	087	5.1	1	0900	-6.3	-7.8	89	079	1.4	095	3.8	2	0900	-4.6	*****	90	075	1.1	016	3.2	1
1200	-5.7	-13.5	54	063	2.2	030	7.0	4	1200	-4.7	-7.9	78	056	1.1	032	3.2	6	1200	-4.4	-5.8	90	056	1.1	036	3.2	4
1500	-6.0	*****	56	043	.9	017	2.5	1	1500	-5.0	-8.4	77	051	1.6	047	3.8	0	1500	-4.2	-5.6	90	067	.8	054	1.9	0
1800	-5.3	-12.5	57	063	1.6	057	5.1	0	1800	-4.7	*****	79	050	1.5	024	3.2	1	1800	-3.7	-5.6	87	046	.8	034	3.2	0
2100	-6.9	-10.9	73	029	.9	055	3.8	1	2100	-5.5	-6.6	92	034	1.1	060	3.8	1	2100	-4.6	-7.7	79	055	1.5	040	3.8	1
2400	-6.7	*****	88	037	.9	048	6.3	0	2400	-4.5	-6.2	88	046	1.0	350	3.2	0	2400	-4.4	-8.5	73	051	2.6	043	5.7	0

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S						
0300	-3.4	-8.8	66	061	1.3	045	4.4	0	0300	-6.0	-17.5	40	049	1.4	018	3.2	1	0300	-4.5	*****	88	055	.6	028	2.5	0
0600	-4.9	-10.1	67	060	2.1	051	5.7	1	0600	-.5	-10.2	48	065	1.8	038	4.4	1	0600	-4.3	-6.8	83	043	1.1	008	3.2	0
0900	-3.5	-11.3	55	059	2.1	061	5.1	1	0900	0.0	-7.3	58	098	3.2	076	7.0	1	0900	-4.4	-7.5	79	061	1.5	041	3.8	1
1200	-3.8	-13.0	49	035	2.7	022	7.0	6	1200	-.2	-7.5	58	099	3.8	098	9.5	7	1200	-4.5	*****	71	055	1.4	051	3.8	4
1500	-3.7	-14.9	42	050	1.6	063	3.8	1	1500	-2.1	-7.0	69	094	1.3	108	8.9	0	1500	-5.0	-9.4	71	054	1.3	063	3.2	1
1800	-5.8	*****	40	048	1.2	047	2.5	1	1800	-2.5	-6.5	74	073	1.0	104	3.2	1	1800	-5.8	-10.7	68	056	1.6	057	4.4	1
2100	-6.1	-18.2	38	058	1.3	019	3.8	1	2100	-2.8	-6.1	78	050	1.3	093	3.2	1	2100	-4.7	-9.9	67	057	1.5	056	3.8	1
2400	-8.6	-18.5	45	053	.9	099	3.2	1	2400	-3.5	-6.9	77	072	1.4	088	4.4	0	2400	-5.9	-11.8	63	058	2.0	050	4.4	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

DAY 28										DAY 29										DAY 30											
HR	DEW	WIND	WIND	GUST	MAX.		HR	DEW	WIND	WIND	GUST	MAX.		HR	DEW	WIND	WIND	GUST	MAX.												
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD					
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-6.1	-12.2	62	074	1.4	089	2.5	1	0300	-7.9	*****	99	009	.5	357	1.9	0	0300	-8.1	-8.5	97	001	1.2	069	3.2	0					
0600	-4.5	-10.5	63	056	1.6	073	4.4	0	0600	-8.1	*****	0	338	.3	337	1.9	1	0600	-7.6	-8.7	92	001	1.6	340	5.7	1					
0900	-5.2	*****	67	049	1.0	096	2.5	1	0900	-8.3	*****	1	044m	.4m	001m	1.9m	1	0900	-7.5	-8.7	91	036	1.9	058	6.3	1					
1200	-5.9	-10.5	70	062	.9	080	3.2	4	1200	-7.6	*****	91	***	***	***	***	2	1200	-9.4	-10.3	93	054	1.3	063	5.1	2					
1500	-7.5	*****	90	052	.7	105	2.5	0	1500	-8.1	*****	98	048	.7	066	2.5	0	1500	-16.3	-17.2	93	072	1.3	068	5.1	1					
1800	-6.9	-8.4	89	081	.9	101	3.2	0	1800	-7.6	-9.0	90	088	2.2	101	6.3	1	1800	-9.0	-9.3	98	052	1.2	035	5.1	1					
2100	-7.5	*****	94	068	.6	012	3.2	1	2100	-8.3	*****	91	089	2.3	089	5.7	1	2100	-12.6	-13.3	95	036	1.4	032	4.4	1					
2400	-8.2	*****	97	053	.7	069	3.2	0	2400	-8.4	-8.8	97	049	1.0	036	3.8	0	2400	-13.4	-14.2	94	046	1.4	051	6.3	0					

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

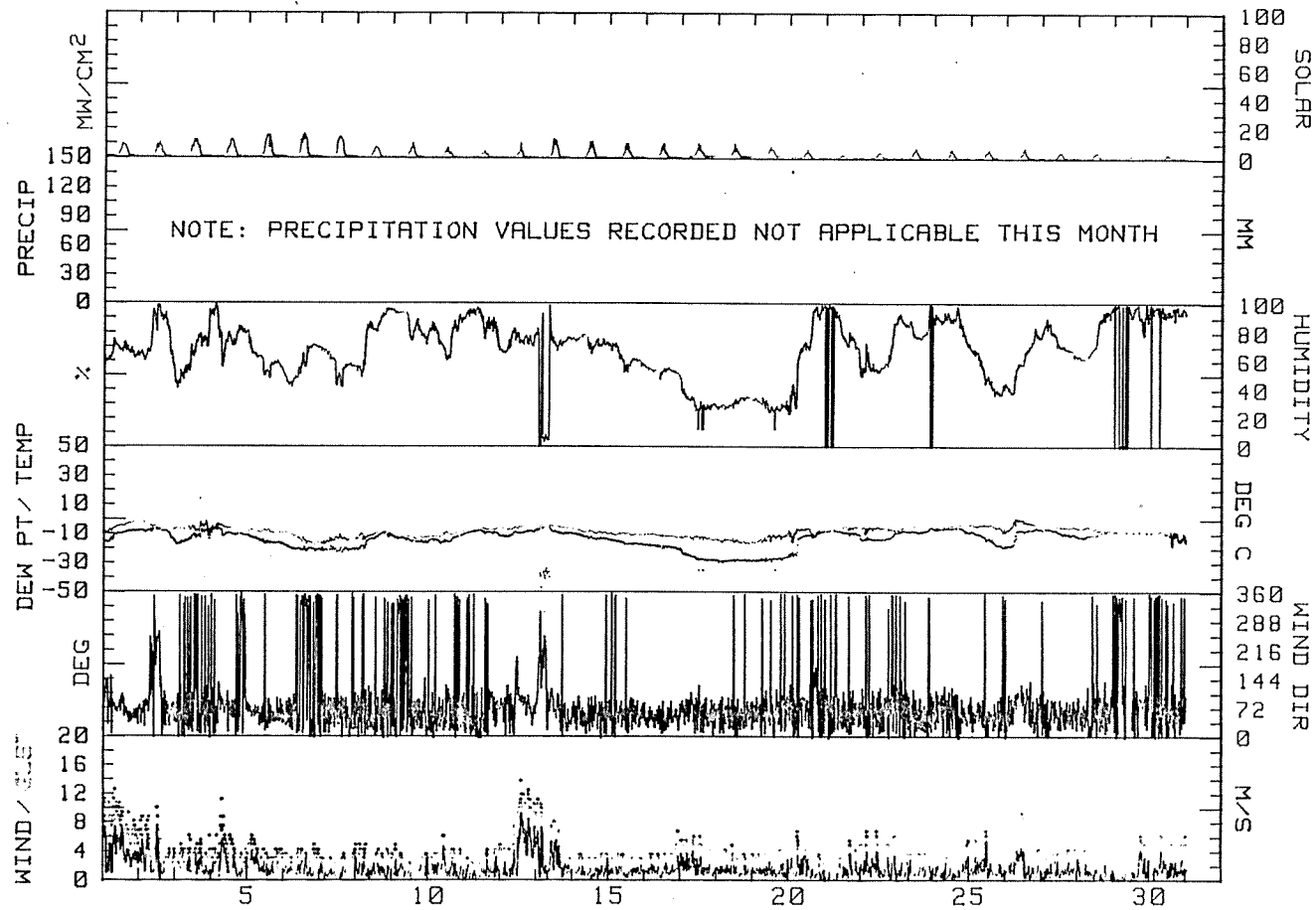
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50W	DAY
1	-1.8	-9.9	-5.9	077	3.9	4.3	079	12.7	ENE	66	-10.7	****	533	1
2	-1.7	-8.2	-5.0	081	1.3	2.6	236	10.2	ENE	74	-9.2	****	518	2
3	-1.6	-11.5	-6.6	038	1.4	1.8	049	6.3	N	65	-12.2	****	695	3
4	-3.3	-8.6	-6.0	071	1.7	2.2	102	11.4	E	78	-9.4	****	655	4
5	-7.1	-10.0	-8.6	060	2.0	2.0	052	6.3	ENE	60	-14.9	****	785	5
6	-8.7	-17.9	-13.3	014	1.3	1.7	001	5.1	N	58	-20.2	****	820	6
7	-10.5	-17.3	-13.9	053	1.0	1.2	095	4.4	NE	59	-20.7	****	763	7
8	-7.9	-14.2	-11.1	047	1.2	1.6	022	5.1	NE	78	-14.1	****	418	8
9	-10.9	-13.8	-12.4	023	1.0	1.4	006	5.1	NNE	86	-14.2	****	375	9
10	-8.4	-12.5	-10.5	050	1.3	1.6	093	6.3	NNE	78	-13.7	****	310	10
11	-5.8	-8.5	-7.2	052	1.0	1.4	049	4.4	NNE	86	-9.1	****	250	11
12	-3.4	-7.6	-5.5	086	3.7	4.1	105	14.0	E	74	-9.2	****	295	12
13	-3.4	-6.2	-4.8	088	1.9	2.8	095	11.4	ENE			****	525	13
14	-5.8	-10.0	-7.9	053	1.2	1.4	035	3.8	NE	74	-11.9	****	480	14
15	-8.8	-10.9	-9.9	056	1.3	1.4	039	3.8	ENE	63	-15.7	****	443	15
16	-9.5	-12.3	-10.9	052	1.5	1.6	052	7.0	NE	54	-18.4	****	468	16
17	-10.8	-14.6	-12.7	068	1.9	2.1	085	6.3	ENE	31	-26.3	****	613	17
18	-12.3	-16.5	-14.4	053	1.4	1.6	096	5.1	ENE	32	-28.0	****	608	18
19	-9.0	-15.7	-12.4	064	1.2	1.5	060	4.4	ENE	30	-27.0	****	640	19
20	-5.7	-15.1	-10.4	069	1.1	1.6	056	7.0	E	67	-13.9	****	335	20
21	-4.4	-8.0	-6.2	063	1.1	1.3	010	5.7	ENE			****	205	21
22	-5.0	-9.6	-7.3	049	1.4	1.8	009	7.0	NNE	61	-12.6	****	290	22
23	-4.4	-7.5	-6.0	055	1.2	1.5	052	3.8	NE			****	318	23
24	-3.6	-5.6	-4.6	062	1.3	1.4	043	5.7	NE	85	-6.6	****	273	24
25	-2.8	-8.7	-5.8	052	1.6	1.8	022	7.0	NE	52	-13.1	****	343	25
26	.7	-8.6	-4.0	081	1.8	2.0	098	9.5	E	60	-9.8	****	343	26
27	-3.7	-5.9	-4.8	056	1.4	1.5	057	4.4	NE	73	-9.1	****	243	27
28	-4.5	-8.6	-6.6	062	1.0	1.1	073	4.4	ENE	71	-10.6	****	265	28
29	-7.1	-8.7	-7.9	069M	.9M	1.1M	101M	6.3M	E(M)			****	163	29
30	-7.1	-17.6	-12.4	037	1.3	1.7	058	6.3	NE			****	203	30
MONTH	.7	-17.9	-8.5	062M	1.5M	1.8M	105M	14.0M	ENE(M)	66M	-13.7M	****	13168	

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 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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

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

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



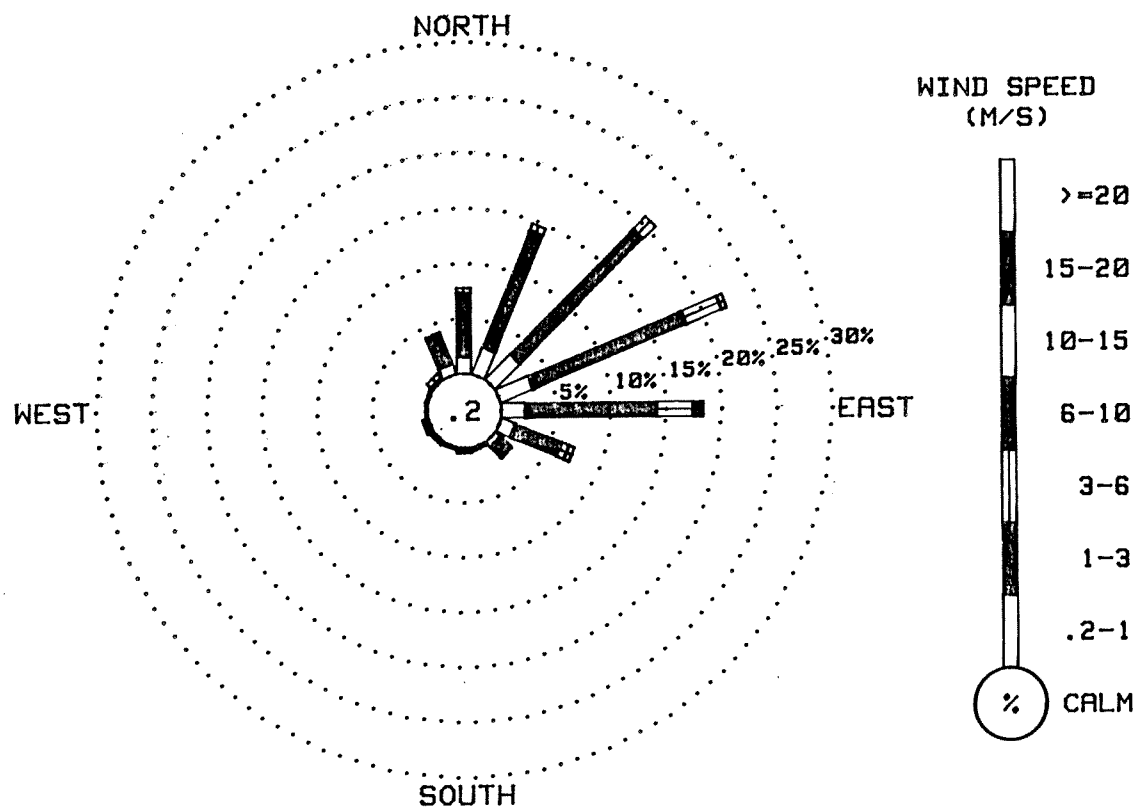
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2	1.0	3.0	6.0	10.0	15.0	20.0	
	TO	TO	TO	TO	TO	TO	OR GREATER	
	1.0	3.0	6.0	10.0	15.0	20.0		
N	1.50	5.80	.45	0.00	0.00	0.00	0.00	7.75
NNE	2.62	11.35	.66	0.00	0.00	0.00	0.00	14.63
NE	3.21	15.85	1.57	0.00	0.00	0.00	0.00	20.64
ENE	3.18	15.05	3.46	.45	0.00	0.00	0.00	22.14
E	2.16	11.94	3.25	.94	0.00	0.00	0.00	18.30
ESE	1.40	4.50	.73	.56	0.00	0.00	0.00	7.19
SE	.63	1.22	.10	.10	0.00	0.00	0.00	2.05
SSE	.14	.14	.03	0.00	0.00	0.00	0.00	.31
S	.07	.31	.07	0.00	0.00	0.00	0.00	.45
SSW	.10	.10	0.00	0.00	0.00	0.00	0.00	.21
SW	0.00	.24	.03	.03	0.00	0.00	0.00	.31
WSW	.10	.17	.14	.07	0.00	0.00	0.00	.49
W	.07	.10	0.00	0.00	0.00	0.00	0.00	.17
WNW	.14	.10	0.00	0.00	0.00	0.00	0.00	.24
NW	.24	.52	0.00	0.00	0.00	0.00	0.00	.77
NNW	1.01	2.90	.17	0.00	0.00	0.00	0.00	4.09
CALM								.24
TOTAL	16.59	70.32	10.68	2.16	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2864 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



WIND ROSE PLOT

No precipitation data for December

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-15.4	-16.3	93	051	1.3	324	5.1	1	0300	-16.9	*****	77	039	.9	051	3.2	0
0600	-20.6	*****	87	024	1.1	340	5.1	0	0600	-14.9	-20.9	60	057	1.2	072	3.8	0
0900	-23.7	-25.4	86	350	1.4	333	6.3	1	0900	-14.6	-21.2	57	049	1.1	088	3.2	1
1200	-23.1	-24.9	85	063	1.4	143	5.7	3	1200	-13.4	-21.9	49	057	1.0	011	2.5	3
1500	-24.4	-26.3	84	076	.7	063	4.4	1	1500	-14.3	-22.5	50	068	1.0	043	3.2	1
1800	-25.6	-27.6	83	002	.4	232	3.2	1	1800	-15.1	-21.7	57	045	1.2	009	3.8	1
2100	-23.6	*****	84	023	.8	112	3.8	0	2100	-14.8	-21.4	57	036	1.3	029	3.2	1
2400	-22.9	*****	85	025	.7	083	3.2	0	2400	-14.8	-21.0	59	033	1.5	025	3.8	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-17.0	-21.5	68	056	.9	010	3.2	1	0300	-11.6	-18.6	56	067	2.0	044	4.4	1
0600	-15.9	*****	67	054	1.3	058	3.8	0	0600	-10.9	*****	68	042	1.6	045	3.8	1
0900	-16.0	-21.2	64	061	1.1	045	2.5	1	0900	-10.2	*****	88	052	.9	031	3.8	1
1200	-13.2	*****	58	037	1.0	036	2.5	4	1200	-9.0	-11.2	84	052	1.1	042	2.5	3
1500	-13.2	*****	56	070	1.6	035	5.1	1	1500	-8.6	-11.4	80	084	1.6	099	3.8	1
1800	-13.4	-20.1	57	046	1.8	033	4.4	1	1800	-8.5	*****	79	053	1.1	031	3.2	1
2100	-12.9	-19.4	58	057	2.1	046	5.7	1	2100	-6.7	*****	73	073	1.5	079	3.2	1
2400	-11.5	-18.3	57	050	2.0	040	6.3	1	2400	-6.7	-10.4	75	017	1.4	021	3.8	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-1.8	-6.2	72	092	5.3	111	12.7	1	0300	-5.8	-36.2	7	078	.5	010	3.2	0
0600	-1.8	-6.0	73	108	5.7	124	14.0	1	0600	-6.1	*****	8	085	.8	095	4.4	0
0900	-3.2	-3.3	99	054	2.7	066	9.5	1	0900	-6.4	*****	8	013	.8	358	3.2	1
1200	-3.3	-3.6	98	052	1.4	014	4.4	2	1200	-4.4	-5.7	91	006	1.2	009	3.2	2
1500	-2.1	-3.8	88	088	2.4	096	10.2	1	1500	-3.6	-6.7	79	093	3.4	099	8.3	0
1800	-4.1	-30.3	11	131	2.5	102	10.8	0	1800	-5.0	-6.6	89	084	4.5	076	8.9	0
2100	-4.5	-5.9	90	137	2.6	117	14.6	1	2100	-4.5	-5.6	92	080	4.5	087	11.4	1
2400	-5.6	*****	11	113	2.7	131	9.5	0	2400	-4.8	-5.4	96	099	6.2	091	11.4	1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-9.9	-19.2	47	055	2.1	066	4.4	1	0300	-6.8	-19.8	35	055	2.1	094	4.4	1
0600	-8.3	-19.9	39	059	1.9	046	5.1	1	0600	-7.0	*****	46	078	.9	085	3.8	1
0900	-7.4	-19.7	37	048	2.5	056	5.1	1	0900	-9.1	-18.9	45	094	.4	004	2.5	1
1200	-7.4	-21.1	33	056	2.7	046	5.7	4	1200	-10.4	*****	2	058	.5	315	3.8	1
1500	-7.2	-23.1	27	050	2.3	051	6.3	2	1500	-6.6	*****	1	052	.6	110	3.2	0
1800	-9.7	*****	26	050	2.0	049	4.4	2	1800	-6.2	-34.0	9	042	.8	023	3.8	0
2100	-9.4	-25.4	26	048	1.9	042	5.7	2	2100	-4.5	-7.0	83	063	1.4	046	3.8	0
2400	-9.2	-23.7	30	035	2.4	029	5.7	2	2400	-2.9	-8.5	65	066	1.4	078	3.8	1
0300	-8.6	-46.8	2	049	1.8	029	5.7	0	0300	-8.6	-46.8	2	049	1.8	029	5.7	0
0600	-3.2	-4.3	92	006	1.2	342	5.1	1	0600	-3.2	-4.3	92	006	1.2	342	5.1	1
0900	-3.3	-6.1	81	093	1.2	094	4.4	1	0900	-3.3	-6.1	81	093	1.2	094	4.4	1
1200	-2.6	-7.5	69	079	3.3	078	8.3	3	1200	-2.6	-7.5	69	079	3.3	078	8.3	3
1500	-1.9	-6.3	72	079	5.2	084	10.8	1	1500	-1.9	-6.3	72	079	5.2	084	10.8	1
1800	-3.6	-5.5	87	092	6.4	093	12.7	0	1800	-3.6	-5.5	87	092	6.4	093	12.7	0
2100	-4.4	*****	90	097	3.9	105	11.4	0	2100	-4.4	*****	90	097	3.9	105	11.4	0
2400	-2.8	-7.3	71	056	2.4	063	6.3	0	2400	-2.8	-7.3	71	056	2.4	063	6.3	0

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-3.8	-5.5	88	071	3.3	079	7.0	1	0300	-5.1	-9.3	72	074	3.7	098	7.6	1
0600	-4.2	-7.6	77	115	5.0	100	15.2	0	0600	-6.7	-11.6	68	055	2.3	073	5.1	1
0900	-6.6	-9.2	82	108	6.6	095	12.7	1	0900	-5.7	-11.6	63	056	2.1	035	5.1	1
1200	-4.7	-9.7	68	057	2.0	059	5.7	3	1200	-2.5	-15.7	36	053	2.4	055	7.0	4
1500	-4.4	-11.9	56	075	3.2	101	5.7	1	1500	-2.2	-16.5	33	043	2.9	055	7.0	1
1800	-5.7	-9.7	73	037	2.5	077	7.0	0	1800	-1.3	-16.4	31	046	2.5	066	6.3	1
2100	-5.1	-9.9	69	071	2.1	076	5.1	0	2100	-2.9	-16.7	34	049	1.9	037	5.1	1
2400	-5.3	-9.5	72	081	4.6	082	8.3	1	2400	-2.9	-16.7	34	032	1.8	024	4.4	1
0300	-5.9	-17.1	41	053	1.4	003	4.4	1	0300	-5.9	-17.1	41	053	1.4	003	4.4	1
0600	-5.6	-15.5	46	030	1.6	060	5.7	1	0600	-5.6	-15.5	46	030	1.6	060	5.7	1
0900	-7.0	-8.4	90	058	1.4	075	3.8	1	0900	-7.0	-8.4	90	058	1.4	075	3.8	1
1200	-6.1	-7.1	93	069	1.3	082	4.4	3	1200	-6.1	-7.1	93	069	1.3	082	4.4	3
1500	-3.4	-5.7	84	044	1.7	073	4.4	0	1500	-3.4	-5.7	84	044	1.7	073	4.4	0
1800	-2.3	-8.4	63	063	2.8	056	6.3	1	1800	-2.3	-8.4	63	063	2.8	056	6.3	1
2100	-2.5	-9.9	57	060	2.7	062	5.7	1	2100	-2.5	-9.9	57	060	2.7	062	5.7	1
2400	-2.0	-12.7	44	065	2.3	070	7.6	1	2400	-2.0	-12.7	44	065	2.3	070	7.6	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-1.0	-12.7	41	048	2.5	054	5.1	1	0300	-4.3	-8.4	73	081	3.0	072	6.3	1
0600	-1.5	-11.1	48	073	3.2	087	8.3	1	0600	-5.0	-9.6	70	065	1.8	083	3.8	0
0900	-2.1	-10.7	52	071	4.5	073	8.9	0	0900	-4.8	-9.2	71	049	1.3	046	4.4	1
1200	-3.0	-8.6	65	074	3.8	085	8.3	3	1200	-4.6	-8.2	76	065	1.0	105	3.8	4
1500	-3.4	-8.4	68	068	3.1	092	7.0	0	1500	-6.1	-9.1	79	061	1.4	047	3.8	1
1800	-3.2	-8.8	65	084	4.5	106	11.4	0	1800	-6.9	-10.6	75	053	1.2	068	3.2	1
2100	-3.6	-8.4	69	068	4.2	067	8.3	1	2100	-6.8	-10.8	73	068	1.4	054	3.8	1
2400	-3.5	-8.5	68	073	3.5	087	7.0	1	2400	-7.9	-11.7	74	029	1.3	006	3.2	0
0300	-6.7	-12.0	66	047	1.2	013	3.2	1	0300	-6.7	-12.0	66	047	1.2	013	3.2	1
0600	-7.5	-12.5	67	039	1.7	049	3.8	1	0600	-7.5	-12.5	67	039	1.7	049	3.8	1
0900	-8.0	-13.0	67	044	1.6	034	4.4	1	0900	-8.0	-13.0	67	044	1.6	034	4.4	1
1200	-7.6	-13.2	64	053	1.3	037	3.8	3	1200	-7.6	-13.2	64	053	1.3	037	3.8	3
1500	-7.8	-13.6	63	047	1.3	005	3.8	1	1500	-7.8	-13.6	63	047	1.3	005	3.8	1
1800	-7.8	-13.8	62	036	1.0	353	3.2	1	1800	-7.8	-13.8	62	036	1.0	353	3.2	1
2100	-7.1	-13.3	61	057	1.1	049	2.5	1	2100	-7.1	-13.3	61	057	1.1	049	2.5	1
2400	-7.0	-14.1	57	054	1.4	043	4.4	1	2400	-7.0	-14.1	57	054	1.4	043	4.4	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-8.4	-15.2	58	051	1.6	078	0300	-6.5	-10.9	71	060	1.6	0300	-7.8	-15.3	55	061
0600	-8.0	-15.7	54	057	1.6	069	0600	-7.7	****	91	064	1.4	0600	-8.4	-16.5	52	054
0900	-8.6	-15.6	57	042	1.3	010	0900	-8.0	-9.2	91	017	1.2	0900	-8.9	-17.7	49	063
1200	-9.1	-15.8	58	047	1.1	070	1200	-7.9	-10.6	81	086	2.2	1200	-8.8	-18.9	44	051
1500	-7.9	-14.9	57	039	1.6	034	1500	-7.1	-12.5	65	059	2.1	1500	-9.1	-19.8	42	062
1800	-7.9	-12.4	70	050	1.5	047	1800	-7.7	-14.5	58	062	1.8	1800	-9.3	-21.7	36	064
2100	-6.9	-9.0	85	036	1.5	053	2100	-9.0	-16.0	57	060	1.5	2100	-8.9	-22.4	33	057
2400	-6.7	-9.6	80	065	1.8	055	2400	-8.2	-15.4	56	059	1.6	2400	-9.1	-22.6	33	056

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-9.6	-23.0	33	051	1.5	075	0300	-14.4	-24.3	43	050	1.4	0300	-9.5	-17.8	51	054
0600	-10.2	-23.2	34	046	1.3	033	0600	-13.1	-22.9	44	025	1.3	0600	-8.4	-15.8	55	058
0900	-10.3	-23.3	34	063	1.6	051	0900	-12.9	-22.7	44	035	.9	0900	-8.6	*****	64	053
1200	-10.9	-23.5	35	052	1.5	039	1200	-10.2	-19.9	45	058	1.2	1200	-8.9	*****	73	072
1500	-11.2	-23.1	37	058	1.3	062	1500	-13.6	*****	53	076	1.4	1500	-7.9	-11.5	75	058
1800	-12.8	-23.1	42	037	1.6	032	1800	-11.1	-18.6	54	057	1.3	1800	-9.2	-12.5	77	061
2100	-12.4	-23.3	40	067	1.3	072	2100	-11.0	-18.5	54	040	1.3	2100	-9.4	-13.0	75	059
2400	-14.1	-24.3	42	062	1.1	057	2400	-11.0	-19.2	51	053	1.4	2400	-8.1	-11.9	74	068

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-10.3	-12.1	87	009	1.1	349	0300	-9.0	-13.1	72	091	3.1	0300	-3.3	-6.3	80	058
0600	-10.3	-12.1	87	008	.7	006	0600	-8.7	-12.6	73	086	5.1	0600	-3.5	-6.0	83	073
0900	-10.8	-12.8	85	046	1.5	053	0900	-7.6	-11.6	73	092	6.4	0900	-4.6	-4.9	98	091
1200	-11.0	-14.2	77	068	1.8	045	1200	-7.3	-10.3	79	092	6.7	1200	-5.0	-32.0	10	281
1500	-11.5	*****	77	054	.9	071	1500	-7.6	-8.0	97	070	2.9	1500	-3.8	-3.9	99	079
1800	-10.6	-13.7	78	039	1.5	036	1800	-5.2	-6.6	90	021	2.5	1800	-2.6	-4.9	94	117
2100	-10.6	-13.4	80	062	1.2	020	2100	-4.7	-6.3	89	036	2.7	2100	-4.6	-28.1	14	106
2400	-10.9	-14.1	77	058	1.0	015	2400	-3.8	-6.6	81	059	3.3	2400	-4.3	-29.5	12	130

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-3.8	-36.1	6	215	3.4	171	10.8	0	0300	-1.6	-2.8	92	085	4.8	088	13.3	0
0600	-4.2	-29.4	12	222	1.7	163	8.3	0	0600	-2.5	-4.8	84	093	8.2	081	17.1	1
0900	-4.2	-27.8	14	025	1.4	046	5.1	0	0900	-3.1	-34.2	7	118	9.7	122	19.4	0
1200	-2.8	-3.1	98	072	2.9	076	8.3	2	1200	-3.1	-3.7	96	112	8.8	121	15.2	2
1500	-2.2	-3.1	94	072	5.8	075	9.5	1	1500	-4.2	-29.4	12	118	5.3	118	15.2	1
1800	-1.2	-3.1	87	075	8.0	079	14.0	1	1800	-4.4	*****	11	249	1.2	249	3.8	0
2100	-1.4	-3.2	88	075	6.1	067	12.1	0	2100	-4.8	-31.8	10	331	.8	001	2.5	1
2400	-2.4	*****	9	063	.8	091	6.3	1	2400	-5.0	-31.0	11	205	1.9	208	5.7	0

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.
0300	-7.1	-16.3	48	048	1.4
0600	-6.5	-16.3	46	057	1.7
0900	-6.3	*****	55	049	2.0
1200	-5.9	-13.5	55	043	1.9
1500	-6.0	-13.1	57	045	1.7
1800	-6.5	-13.2	59	063	1.5
2100	-5.5	-11.0	65	063	1.5
2400	-5.2	-10.5	66	057	1.3

R & M CONSULTANTS, INC.
SUSTINA HYDROELECTRIC PROJECT

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

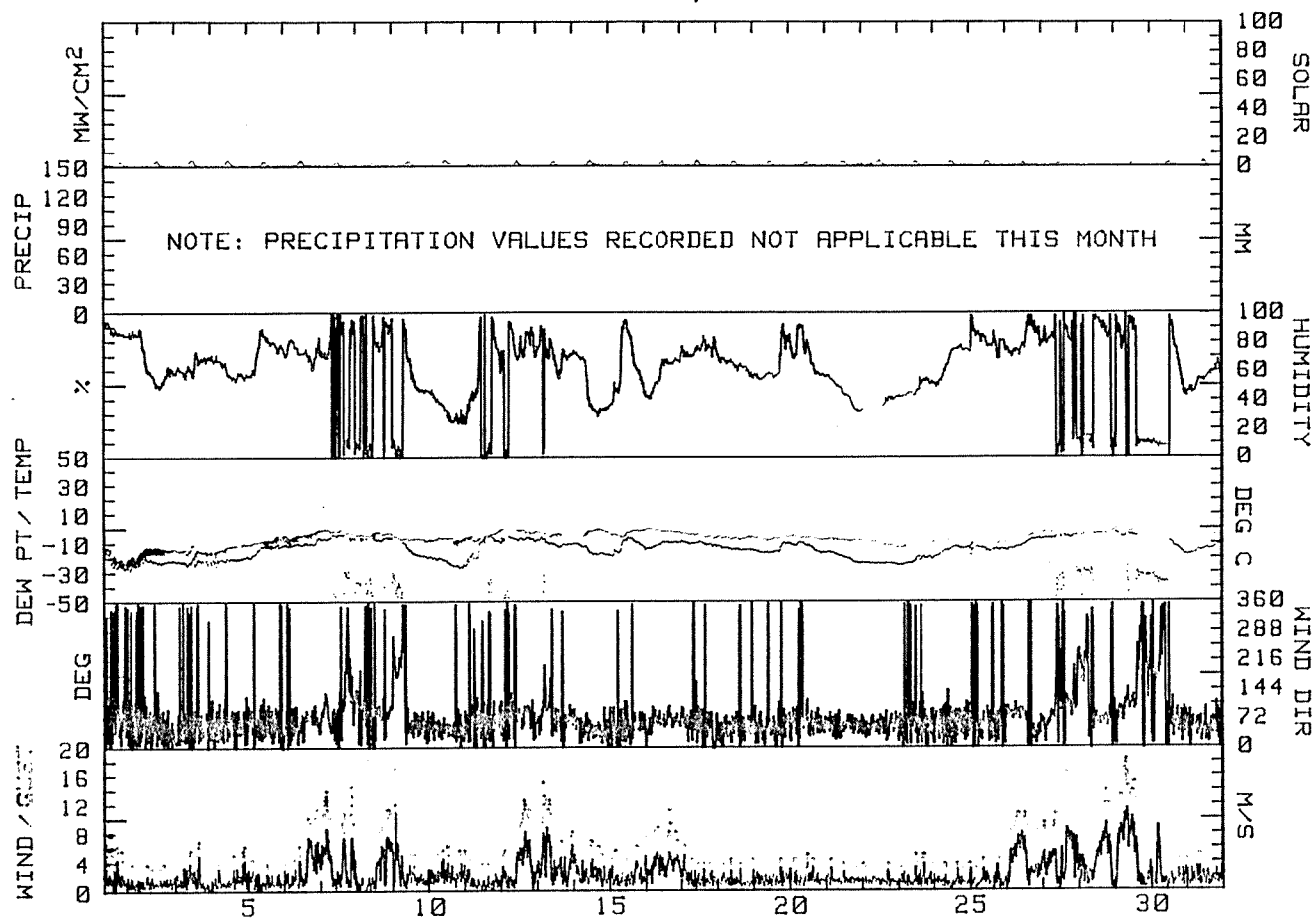
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQK	DAY
1	-10.0	-25.6	-17.8	033	.9	1.6	333	6.3	NE	87	-21.9	****	195	1
2	-13.4	-22.9	-18.2	047	1.1	1.3	072	3.8	NNE	58	-21.4	****	299	2
3	-11.5	-21.6	-16.6	033	1.4	1.7	035	7.0	NNE	63	-21.8	****	303	3
4	-10.9	-20.8	-15.9	054	1.5	1.7	040	6.3	NE	60	-20.2	****	290	4
5	-5.9	-12.3	-9.1	056	1.3	1.5	044	4.4	NE	73	-13.4	****	223	5
6	-2.3	-8.6	-5.5	071	2.9	3.2	079	11.4	ENE	73	-9.6	****	245	6
7	-1.3	-5.8	-3.6	100	2.9	3.7	117	14.6	E			****	158	7
8	-2.9	-6.4	-4.7	084	2.5	3.0	087	11.4	E			****	158	8
9	-5.1	-9.6	-7.4	126	.6	2.6	203	17.1	NE			****	245	9
10	-6.9	-10.4	-8.7	050	2.2	2.4	051	6.3	NE	34	-21.8	****	438	10
11	-2.7	-11.2	-7.0	062	1.0	1.4	094	4.4	ENE			****	205	11
12	-1.2	-9.4	-5.3	077	3.0	3.4	083	12.7	E			****	205	12
13	-3.0	-6.6	-4.8	085	3.3	3.9	100	15.2	ENE			****	230	13
14	-1.0	-7.1	-4.1	053	2.4	2.6	098	7.6	ENE	49	-13.9	****	303	14
15	-1.5	-7.6	-4.6	056	1.9	2.1	070	7.6	ENE	62	-10.8	****	263	15
16	-1.0	-3.8	-2.4	071	3.6	3.7	106	11.4	ENE	58	-10.0	****	253	16
17	-3.7	-8.1	-5.9	062	1.5	1.8	072	6.3	E	75	-9.5	****	213	17
18	-6.1	-9.0	-7.6	047	1.3	1.4	034	4.4	NE	64	-13.0	****	253	18
19	-6.1	-9.4	-7.8	049	1.5	1.6	047	4.4	NE	63	-13.8	****	233	19
20	-5.5	-9.2	-7.4	061	1.6	1.8	107	5.1	ENE	71	-12.0	****	210	20
21	-7.7	-9.6	-8.7	058	1.6	1.6	052	4.4	ENE	44	-19.0	****	310	21
22	-8.9	-14.1	-11.5	054	1.4	1.4	075	3.8	ENE	36	-23.1	****	378	22
23	-9.2	-14.6	-11.9	050	1.2	1.5	041	5.1	NE	48	-21.2	****	293	23
24	-7.8	-11.2	-9.5	060	1.1	1.3	026	3.8	NE	66	-14.3	****	250	24
25	-8.0	-15.0	-11.5	046	1.1	1.4	053	4.4	NNE	81	-13.5	****	200	25
26	-3.3	-10.8	-7.1	077	3.8	4.2	092	10.8	E	81	-9.8	****	168	26
27	-2.5	-5.1	-3.8	098	3.6	4.6	131	18.4	ESE			****	158	27
28	-.5	-4.3	-2.4	079	2.6	4.1	079	14.0	ENE			****	145	28
29	-.9	-5.0	-3.0	110	4.3	5.3	122	18.4	ESE			****	145	29
30	-5.0	-8.6	-6.8	105	.6	2.0	188	10.8	E			****	213	30
31	-2.5	-7.9	-5.2	053	1.6	1.8	040	5.1	NE	55	-13.8	****	275	31
MONTH	-.5	-25.6	-7.9	071	1.9	2.4	131	18.4	ENE	M	M	****	7448	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 16.5

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

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

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



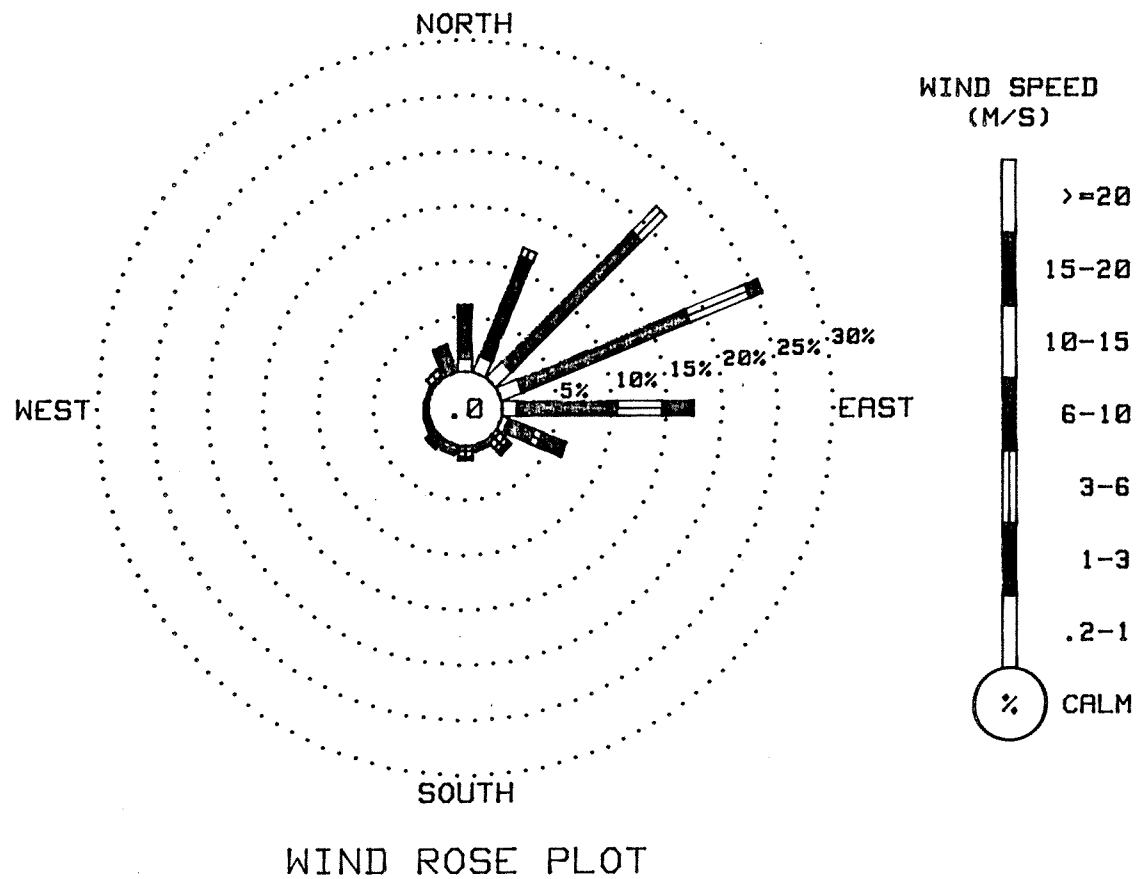
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.18	4.57	.30	0.00	0.00	0.00	0.00	6.05
NNE	1.58	9.68	.84	0.00	0.00	0.00	0.00	12.10
NE	2.05	16.60	3.16	0.00	0.00	0.00	0.00	21.81
ENE	2.05	16.40	5.91	1.14	0.00	0.00	0.00	25.50
E	1.38	9.07	4.10	2.76	.07	0.00	0.00	17.37
ESE	.71	2.45	.84	2.15	.20	0.00	0.00	6.35
SE	.40	.64	.44	.37	.03	0.00	0.00	1.88
SSE	.20	.27	.10	.03	0.00	0.00	0.00	.60
S	.13	.37	.50	.30	0.00	0.00	0.00	1.31
SSW	.10	.44	.30	.03	.03	0.00	0.00	.91
SW	.07	.67	.34	.03	0.00	0.00	0.00	1.11
WSW	.03	.30	.13	0.00	0.00	0.00	0.00	.47
W	.07	.34	.03	0.00	0.00	0.00	0.00	.44
WNW	.20	.17	0.00	0.00	0.00	0.00	0.00	.37
NW	.30	.64	.07	0.00	0.00	0.00	0.00	1.01
NNW	.37	2.18	.13	0.00	0.00	0.00	0.00	2.69
CALM								.03
TOTAL	10.82	64.78	17.20	6.82	.34	0.00	0.00	100.00

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

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



No precipitation data for January

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-5.0	-10.5	65	025	1.1	044	3.8	1	0300	-5.6	*****	9	082	.4	131	2.5	0
0600	-4.9	-10.1	67	072	1.3	104	3.8	0	0600	-7.1	*****	9	095	.1	124	1.9	1
0900	-5.0	-6.3	91	066	1.3	097	3.8	1	0900	-6.8	*****	7	072	.5	060	1.9	0
1200	-3.7	*****	89	065	.8	044	2.5	3	1200	-6.5	*****	99	082	.4	095	2.5	2
1500	-3.4	-6.7	78	064	1.2	095	3.2	1	1500	-6.7	*****	7	041	.4	000	2.5	0
1800	-6.7	-7.7	93	051	1.0	086	3.8	1	1800	-7.4	*****	7	097	.2	118	1.9	0
2100	-6.8	-34.5	9	024	.8	039	3.2	0	2100	-6.4	*****	9	104	.5	126	2.5	0
2400	-5.4	-44.6	2	050	.6	046	2.5	1	2400	-10.0	*****	4	173	.2	174	3.2	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD									
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW			
0300	-15.6	-23.7	50	333	1.3	339	4.4	1	0300	-19.0	-27.8	46	068	1.4	037	4.4	1	0300	-23.7	-30.8	52	052	2.1	046	5.1	1
0600	-16.2	-25.0	47	022	1.2	327	3.8	1	0600	-20.4	-28.8	47	057	1.4	038	3.8	1	0600	-24.3	-31.2	53	051	1.5	040	5.1	1
0900	-18.0	-27.1	45	032	1.0	087	3.8	1	0900	-20.4	-28.8	47	038	1.4	009	3.2	1	0900	-21.6	-28.2	55	044	1.7	018	4.4	1
1200	-17.6	-27.5	42	053	1.1	049	3.8	3	1200	-21.8	-29.9	48	060	1.3	046	3.2	4	1200	-24.5	-28.2	71	031	1.7	349	5.7	4
1500	-17.8	*****	42	336	1.3	314	4.4	1	1500	-21.8	-29.7	49	053	1.5	020	3.8	1	1500	-21.6	-24.7	76	002	2.1	017	6.3	1
1800	-17.7	-27.9	41	046	1.5	028	3.8	1	1800	-22.9	-30.5	50	039	1.4	101	3.8	1	1800	-22.3	-25.2	77	355	3.5	002	7.0	1
2100	-18.0	-28.1	41	045	1.8	039	4.4	1	2100	-22.8	-30.4	50	063	1.6	083	3.2	1	2100	-22.3	-25.2	77	357	3.8	016	7.0	1
2400	-18.7	-27.7	45	049	1.3	032	3.8	1	2400	-24.0	-31.3	51	061	1.3	060	3.8	1	2400	-26.9	-29.6	78	347	3.0	016	5.7	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD									
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW			
0300	-27.3	-30.1	77	001	3.3	002	7.0	0	0300	-31.2	-34.5	72	009	1.4	004	4.4	1	0300	-29.4	-34.3	62	118	2.7	142	8.3	1
0600	-30.5	-33.6	74	012	1.9	359	8.3	1	0600	-28.1	-31.0	76	002	1.4	335	4.4	0	0600	-27.7	-33.8	56	085	3.3	094	10.2	1
0900	-16.8	-25.0	49	068	3.5	067	10.8	1	0900	-32.9	-36.2	72	022	1.5	063	5.1	1	0900	-27.1	-33.4	55	084	2.7	096	9.5	1
1200	-16.5	-25.0	48	069	4.4	063	8.3	4	1200	-33.3	-36.7	71	007	2.5	004	6.3	6	1200	-27.2	-34.1	52	039	2.3	019	5.7	4
1500	-18.7	-26.6	50	045	1.7	063	4.4	1	1500	-30.2	-33.3	74	017	1.2	038	5.1	1	1500	-29.1	-35.6	53	051	1.4	049	4.4	1
1800	-19.4	-26.8	52	053	1.5	054	4.4	1	1800	-26.6	-30.8	67	015	1.9	356	5.7	1	1800	-26.6	-33.3	53	061	1.7	065	6.3	1
2100	-18.5	-25.5	54	035	1.4	030	4.4	1	2100	-28.6	-33.6	62	085	2.4	112	10.2	1	2100	-25.7	-32.9	51	045	1.7	046	5.1	1
2400	-30.3	*****	69	069	.8	075	3.2	1	2400	-26.2	-32.3	56	141	2.7	129	10.8	1	2400	-28.7	*****	56	021	1.0	023	5.7	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG.	M/S	MW
0300	-27.1	-33.8	53	056	1.2	040	3.8	1	0300	-19.2	-28.2	45	070	2.1	094	5.7	1
0600	-30.3	-36.0	57	055	1.3	026	4.4	1	0600	-21.8	-29.0	52	357	3.7	308	16.5	1
0900	-27.4	-34.9	49	045	1.0	331	3.8	1	0900	-22.7	-30.7	48	007	1.2	326	15.2	2
1200	-24.7	-32.1	50	018	1.1	327	3.8	4	1200	-21.9	-31.2	43	164	3.0	155	8.9	4
1500	-22.9	*****	44	065	1.2	066	4.4	2	1500	-23.5	-31.5	48	183	3.0	172	12.7	1
1800	-21.0	-30.3	43	040	1.4	007	3.8	1	1800	-23.6	-31.1	50	173	2.4	143	9.5	1
2100	-21.1	-30.7	42	038	1.7	052	3.8	2	2100	-22.2	-29.8	50	355	1.7	350	5.1	1
2400	-22.2	-31.0	45	055	1.8	073	5.1	1	2400	-23.4	-30.3	53	015	2.2	022	6.3	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG.	M/S	MW
0300	-22.1	*****	64	033	1.0	021	2.5	0	0300	-11.2	-24.1	34	065	3.7	071	8.9	2
0600	-21.2	*****	65	039	.8	345	3.2	1	0600	-13.1	-25.1	36	052	2.3	040	7.0	2
0900	-19.9	-25.7	60	026	.9	021	3.8	1	0900	-12.4	*****	34	052	2.2	063	5.1	2
1200	-15.1	-23.5	49	081	1.3	059	3.8	8	1200	-12.1	-22.2	43	051	1.0	006	3.8	4
1500	-16.4	-22.7	58	091	1.4	115	4.4	1	1500	-15.5	-17.9	82	018	.7	139	3.8	1
1800	-15.1	-21.3	59	069	2.3	077	7.0	1	1800	-18.9	*****	91	127	1.4	076	5.1	0
2100	-12.8	-20.6	52	061	1.9	051	7.0	1	2100	-16.5	-17.4	93	099	1.2	071	5.1	1
2400	-11.8	-24.0	36	062	4.8	056	10.2	2	2400	-13.7	-14.9	91	097	1.4	102	5.7	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG.	M/S	MW
0300	-4.6	-8.5	74	085	4.0	094	10.2	1	0300	-7.6	-38.9	6	068	.9	063	3.8	1
0600	-6.6	-8.0	90	121	1.1	109	10.2	1	0600	-8.9	*****	0	017	.4	320	2.5	0
0900	-4.8	-8.0	78	032	.9	082	7.0	0	0900	-10.3	-42.4	5	089	.8	118	3.8	1
1200	-5.0	-7.3	84	086	4.8	100	8.3	3	1200	-10.6	-11.5	93	037	.9	109	3.8	3
1500	-6.7	*****	7	132	1.1	100	8.3	0	1500	-9.8	-13.7	73	030	1.6	049	5.1	1
1800	-6.5	-6.8	98	082	.8	025	5.1	1	1800	-12.2	-15.7	75	056	1.7	039	5.1	1
2100	-6.7	-7.0	98	357	1.2	034	5.7	0	2100	-7.2	-19.2	38	047	2.4	025	5.7	1
2400	-6.5	-7.9	90	071	1.2	127	5.7	0	2400	-5.0	-9.4	71	044	2.1	048	4.4	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-2.9	-6.5	76	099	7.1	103	16.5	0	0300	-9.0	-12.1	78	077	1.6	096	5.1	1
0600	-4.6	-6.8	85	177	.4	121	14.6	1	0600	-7.5	-11.3	74	080	1.4	038	3.8	1
0900	-6.2	-8.3	85	071	.5	033	3.2	1	0900	-8.5	-14.1	64	081	2.1	059	4.4	1
1200	-10.4	-42.5	5	237	3.7	243	11.4	4	1200	-7.7	-15.9	52	046	1.9	034	5.1	7
1500	-11.4	-41.8	6	238	6.3	226	12.7	1	1500	-7.1	-19.8	36	063	2.0	089	5.1	2
1800	-12.0	*****	3	256	1.0	217	5.7	1	1800	-8.8	-17.6	49	046	1.3	085	3.8	1
2100	-10.9	-12.5	88	062	1.4	127	8.9	1	2100	-6.7	-20.4	33	066	2.2	085	5.1	2
2400	-10.3	-12.8	82	086	1.7	046	3.8	0	2400	-5.3	-21.9	26	072	2.7	065	7.6	2

DAY 22

DAY 23

DAY 24

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-1.5	-25.6	14	050	2.0	051	4.4	2	0300	1.4	-19.8	19	044	2.4	042	4.4	2
0600	-1.5	-25.6	14	050	1.8	043	3.8	2	0600	.8	-19.7	20	055	1.8	054	4.4	2
0900	-.5	-25.6	13	059	1.7	042	3.8	3	0900	.4	-20.6	19	059	1.9	043	4.4	3
1200	1.0	-20.7	18	054	1.5	045	3.8	8	1200	-1.0	-21.2	20	057	1.5	082	3.2	7
1500	1.8	-20.0	18	047	1.3	053	3.2	3	1500	-.9	-21.7	19	053	1.5	038	3.8	3
1800	2.7	-19.3	18	045	1.4	082	2.5	2	1800	-.4	-23.2	16	073	2.1	049	5.7	2
2100	2.3	-19.0	19	054	1.5	036	3.2	2	2100	-3.9	-23.6	20	053	1.7	064	6.3	1
2400	.5	-18.8	22	053	1.9	042	5.1	2	2400	-5.0	-25.7	18	036	1.5	009	4.4	2

DAY 25

DAY 26

DAY 27

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-10.4	*****	50	073	.8	079	2.5	1	0300	-3.7	-11.7	54	057	1.7	090	6.3	1
0600	-8.9	-16.8	53	056	.9	091	3.2	1	0600	-7.2	-13.4	61	048	1.3	036	4.4	0
0900	-11.1	-18.2	56	062	1.0	067	2.5	1	0900	-.1	-7.1	59	044	2.0	026	7.0	1
1200	-11.5	-19.4	52	070	.9	116	3.2	6	1200	1.1	-6.9	55	105	3.6	112	14.0	6
1500	-4.1	-14.6	44	067	1.6	098	4.4	2	1500	.9	-7.6	53	079	3.9	093	10.2	2
1800	-3.4	-13.7	45	063	1.7	027	3.8	1	1800	-.1	-8.3	54	064	2.6	063	6.3	1
2100	-1.5	-13.5	40	064	1.8	041	5.1	1	2100	-.1	-8.1	55	066	2.5	031	5.1	1
2400	.5	-11.0	42	055	1.6	011	3.8	1	2400	-.5	-8.7	54	072	2.3	071	5.1	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

DAY 28										DAY 29										DAY 30									
HOUR	DEW	WIND			GUST MAX.			NDNG	HOUR	DEW	WIND			GUST MAX.			NDNG	HOUR	DEW	WIND			GUST MAX.			NDNG			
TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	TEMP.		POINT	RH	DIR.	SPD.	DIR.	GUST	TEMP.	POINT		RH	DIR.	SPD.	DIR.	GUST							
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW						
0300	-5.1	*****	5	055	.5	048	2.5	1	0300	-6.7	-10.7	73	070	1.6	087	3.2	1	0300	-7.5	-14.8	56	057	1.8	043	5.1	1			
0600	-6.0	-33.9	9	093	.7	019	2.5	0	0600	-6.3	-12.2	63	055	1.7	047	3.8	1	0600	-6.4	-13.5	57	036	1.0	023	3.8	1			
0900	-5.8	-33.7	9	029	.4	129	2.5	1	0900	-5.7	-12.2	60	057	1.6	062	3.8	2	0900	-5.2	-10.7	65	060	1.0	048	5.1	2			
1200	-2.8	*****	78	086	.8	114	2.5	11	1200	-5.0	-13.1	53	052	1.5	035	3.8	6	1200	-6.5	*****	0	129	.8	060	5.1	6			
1500	-7.3	*****	8	050	.5	037	3.8	1	1500	-5.7	-14.5	50	049	1.1	033	3.2	2	1500	-6.0	*****	1	113	.4	148	3.2	1			
1800	-6.7	-9.0	84	056	1.3	059	3.2	0	1800	-6.6	-15.6	49	050	1.1	047	3.2	1	1800	-6.3	*****	5	068	.7	001	2.5	0			
2100	-6.8	-11.0	72	054	1.2	042	2.5	0	2100	-7.4	-16.9	47	060	1.3	041	3.2	1	2100	-5.3	-5.7	97	035	1.5	023	3.2	0			
2400	-7.0	-10.5	76	053	1.5	076	3.2	1	2400	-7.8	-16.5	50	039	2.0	019	4.4	1	2400	-3.1	-5.3	85	008	1.9	017	5.1	1			

DAY 31

HOUR	DEW	WIND			GUST MAX.			
TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-2.3	-5.8	77	081	3.6	094	10.8	0
0600	-2.1	-6.3	73	077	3.7	080	8.3	1
0900	-2.0	-7.3	67	081	3.2	083	7.0	2
1200	-.3	-7.6	58	076	4.1	095	9.5	12
1500	-1.4	-6.5	68	087	4.0	110	11.4	2
1800	-1.1	-7.4	62	072	4.3	101	8.3	1
2100	-1.2	-8.2	59	052	2.7	070	6.3	1
2400	-.8	-8.7	55	066	2.5	088	4.4	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

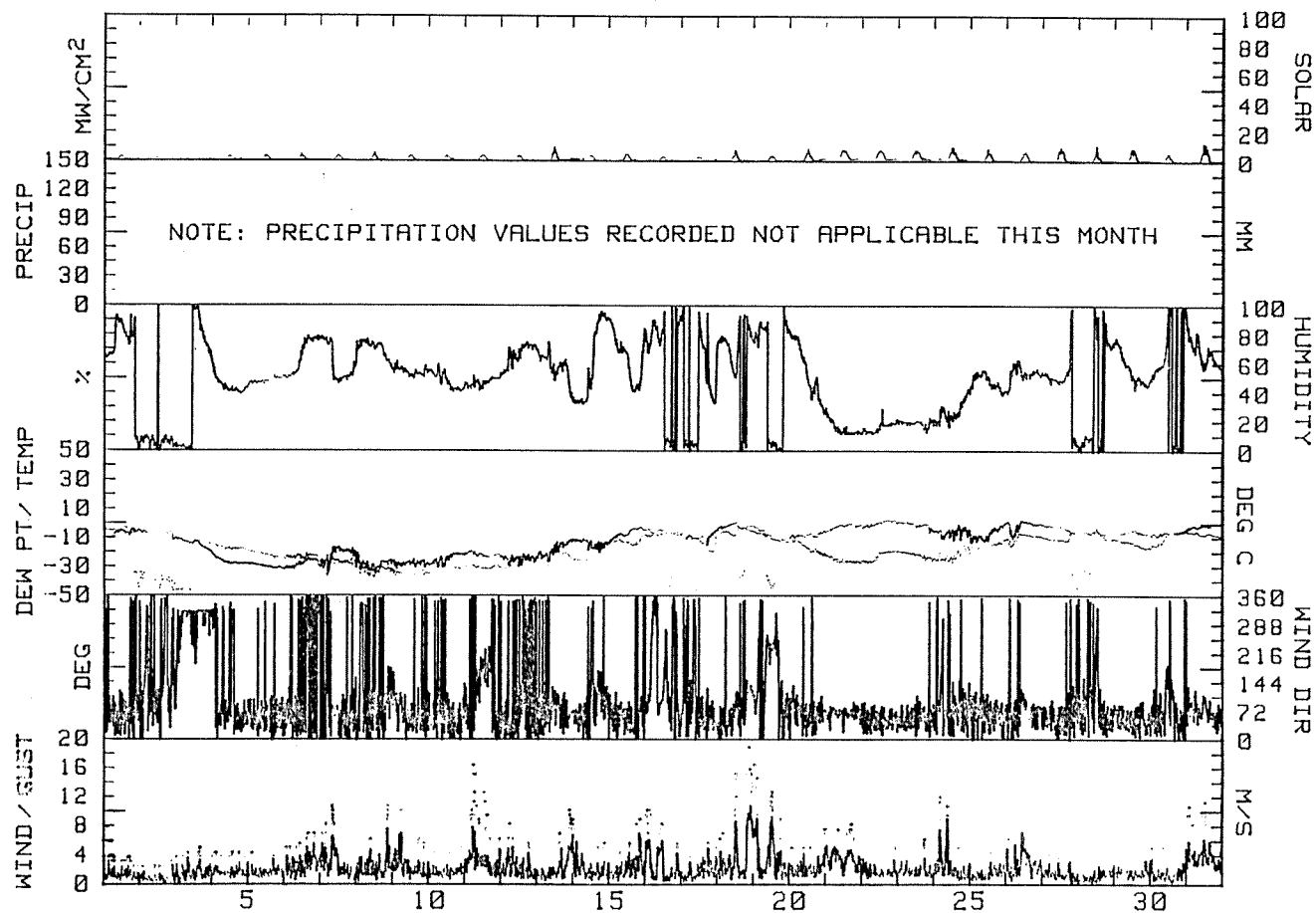
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	-2.6	-6.8	-4.7	054	1.0	1.3	044	3.8	NE			****	218	1
2	-5.4	-11.7	-8.6	086	.3	.7	174	3.2	ESE			****	140	2
3	-10.3	-14.6	-12.5	313	1.4	1.5	323	5.1	NW	52	-19.7	****	203	3
4	-14.3	-18.8	-16.6	027	1.1	1.6	339	4.4	NE	45	-26.4	****	318	4
5	-19.0	-24.4	-21.7	055	1.4	1.6	037	4.4	ENE	48	-29.6	****	330	5
6	-20.8	-26.9	-23.9	012	2.2	2.7	002	7.0	N	66	-27.9	****	298	6
7	-16.4	-32.7	-24.6	045	2.1	2.7	067	10.8	ENE	60	-27.3	****	303	7
8	-20.6	-33.7	-27.2	038	1.2	2.2	129	10.8	N	70	-32.1	****	300	8
9	-24.7	-31.1	-27.9	071	1.9	2.3	094	10.2	ENE	55	-34.0	****	335	9
10	-20.7	-30.4	-25.6	047	1.3	1.6	073	5.1	ENE	48	-32.4	****	340	10
11	-18.6	-23.9	-21.3	069	.4	3.0	308	16.3	N	48	-30.1	****	358	11
12	-21.5	-29.5	-25.5	016	1.7	2.1	043	8.3	NE	66	-29.1	****	305	12
13	-11.5	-26.4	-19.0	062	1.7	2.0	056	10.2	ENE	57	-24.0	****	433	13
14	-10.8	-19.7	-15.3	069	1.5	2.0	071	8.9	NE	60	-21.0	****	378	14
15	-2.7	-13.6	-8.2	054	1.9	2.2	077	8.9	NE	63	-12.8	****	328	15
16	-3.8	-7.2	-5.5	081	1.6	2.5	094	10.2	E			****	240	16
17	-4.7	-14.5	-9.6	051	1.3	1.7	025	5.7	NE			****	285	17
18	1.2	-4.5	-1.7	090	2.7	3.6	123	19.0	NE			****	340	18
19	-1.6	-12.5	-7.1	171	.8	3.6	103	16.5	WSW			****	255	19
20	-4.6	-10.5	-7.6	067	1.9	2.1	065	7.6	ENE	55	-16.1	****	455	20
21	.3	-5.9	-2.8	068	3.5	3.6	077	8.3	ENE	16	-25.0	****	753	21
22	2.8	-3.1	-.2	052	1.6	1.7	042	5.1	NE	16	-22.4	****	738	22
23	1.7	-5.9	-2.1	054	1.8	1.9	064	6.3	NE	19	-21.3	****	733	23
24	-.8	-11.2	-6.0	066	1.7	2.3	073	12.1	ENE	27	-22.4	****	685	24
25	.7	-12.9	-6.1	063	1.3	1.5	041	5.1	ENE	47	-15.0	****	458	25
26	2.3	-9.9	-3.8	072	2.4	2.7	112	14.0	ENE	54	-9.2	****	440	26
27	-.4	-6.7	-3.6	052	1.1	1.3	046	4.4	NE			****	510	27
28	-2.8	-7.5	-5.2	059	.8	1.1	037	3.8	NE			****	345	28
29	-3.5	-7.8	-5.7	054	1.5	1.6	019	4.4	NE	57	-13.5	****	520	29
30	-3.1	-9.7	-6.4	049	.9	1.4	043	5.1	NNE			****	348	30
31	.1	-3.6	-1.8	075	3.5	3.7	110	11.4	ENE	67	-6.9	****	588	31
MONTH	2.8	-33.7	-11.5	058	1.4	2.1	123	19.0	ENE	51M	-21.1M	****	12273	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 15.2

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

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
January, 1983



R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2	1.0	3.0	6.0	10.0	15.0	20.0	
	TO 1.0	TO 3.0	TO 6.0	TO 10.0	TO 15.0	TO 20.0	OR GREATER	
N	.61	5.28	1.92	0.00	0.00	0.00	0.00	8.00
NNE	1.04	10.25	1.28	0.00	0.00	0.00	0.00	12.57
NE	2.32	14.68	1.92	.03	0.00	0.00	0.00	18.95
ENE	2.02	14.52	5.75	.40	0.00	0.00	0.00	22.69
E	1.41	8.84	2.08	.50	0.00	0.00	0.00	12.84
ESE	1.71	3.63	1.04	.91	0.00	0.00	0.00	7.29
SE	.57	1.48	.57	.17	.03	0.00	0.00	2.62
SSE	.40	.67	.27	0.00	0.00	0.00	0.00	1.34
S	.13	.50	.24	0.00	0.00	0.00	0.00	.87
SSW	.20	.24	.27	0.00	0.00	0.00	0.00	.71
SW	.20	.17	.17	.10	0.00	0.00	0.00	.64
WSW	.13	.24	.34	.17	0.00	0.00	0.00	.87
W	.30	.40	0.00	0.00	0.00	0.00	0.00	.71
WNW	.30	.37	0.00	0.00	0.00	0.00	0.00	.67
NW	.54	3.19	.17	.07	0.00	0.00	0.00	3.97
NNW	1.14	2.79	.97	.03	0.00	0.00	0.00	4.94
CALM								.13
TOTAL	13.24	67.24	16.97	2.39	.03	0.00	0.00	100.00

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

WIND ROSE PLOT

No precipitation data for February

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	.9	-10.7	42	055	2.8	053	7.0	1	0300	-.3	-5.5	68	099	4.7	109	11.4	1
0600	2.4	-10.3	39	064	5.1	064	9.5	1	0600	-2.8	-27.4	13	073	.8	128	4.4	0
0900	-.3	-6.7	62	087	5.1	112	14.0	2	0900	-1.6	-8.8	58	062	3.3	058	6.3	2
1200	.1	-6.3	62	090	6.5	107	12.1	9	1200	-1.4	-8.8	57	080	3.0	123	7.6	12
1500	-1.7	-8.2	61	081	2.6	093	9.5	2	1500	-2.4	-8.3	64	104	4.9	118	12.7	3
1800	-.8	-7.8	59	052	2.3	058	7.0	1	1800	-3.3	-8.3	68	111	5.2	113	10.8	1
2100	-.2	-3.9	76	063	2.5	112	8.9	1	2100	-4.8	-7.4	82	112	4.9	133	11.4	1
2400	-.3	-5.5	68	051	3.1	084	8.3	1	2400	-4.2	-8.5	72	101	4.3	110	11.4	1
0300	-4.2	-9.0	69	103	5.6	100	11.4	0	0300	-4.2	-11.0	59	069	1.9	089	10.8	3
0600	-5.7	-8.1	83	065	3.3	097	8.3	1	0600	-4.9	-11.9	58	063	2.1	073	5.1	1
0900	-5.0	-9.6	70	060	3.2	063	7.0	2	0900	-3.9	-12.6	51	056	2.6	054	5.1	0
1200	-3.7	-10.8	58	056	2.2	050	5.7	14									
1500	-4.2	-11.0	59	069	1.9	089	10.8	3									
1800	-5.2	*****	61	076	1.4	085	3.2	0									
2100	-4.9	-11.9	58	063	2.1	073	5.1	1									
2400	-3.9	-12.6	51	056	2.6	054	5.1	0									

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-3.4	-9.6	62	069	3.0	061	7.6	0	0300	-3.2	-13.0	47	039	2.5	053	7.0	1
0600	-3.6	-9.4	64	086	4.5	108	12.1	1	0600	-3.1	-14.0	43	041	2.1	074	6.3	1
0900	-4.4	-8.5	73	101	5.3	101	10.8	2	0900	-2.7	-13.7	43	065	3.1	075	7.6	3
1200	-3.0	*****	85	092	2.4	107	5.7	10	1200	-3.5	*****	48	069	1.8	034	4.4	15
1500	-4.5	-8.9	71	081	2.4	083	7.0	2	1500	-4.7	-8.3	76	158	.5	253	8.9	2
1800	-5.1	-10.8	64	056	2.4	065	5.7	0	1800	-7.0	*****	10	250	2.3	250	8.3	0
2100	-5.0	-13.6	51	066	2.3	053	5.7	1	2100	-6.5	*****	6	051	.3	116	2.5	0
2400	-2.4	-12.0	48	069	2.4	056	5.1	1	2400	-6.7	-8.0	91	065	1.2	050	3.8	1

DAY 07

DAY 08

DAY 09

HOUR	DEW								WIND	WIND	GUST	MAX.	HOUR	DEW								WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-1.6	-4.9	78	082	3.1	091	8.9	1	0300	-7.5	-8.9	90	079	1.8	082	5.7	0	0300	-12.2	-16.7	69	036	1.3	026	3.2	0
0600	-7.5	*****	12	138	.1	112	5.7	0	0600	-7.8	-9.2	90	061	1.7	076	5.1	0	0600	-11.7	-17.5	62	034	1.5	017	4.4	1
0900	-7.1	*****	5	076	.2	120	2.5	2	0900	-6.9	-10.4	76	041	1.5	055	3.2	4	0900	-11.8	-17.2	64	018	1.4	050	3.2	3
1200	-7.6	-46.1	2	287	.6	206	5.7	7	1200	-9.2	-13.5	71	059	1.1	069	3.8	11	1200	-11.9	-17.5	63	015	2.0	035	3.8	13
1500	-7.0	-8.1	92	032	1.2	016	3.2	4	1500	-10.4	*****	3	074	.7	087	3.8	5	1500	-12.5	-18.1	63	022	1.4	032	3.2	4
1800	-6.4	-7.2	94	024	1.6	020	3.8	0	1800	-12.6	-13.4	94	040	1.1	083	4.4	0	1800	-12.8	*****	66	044	1.7	057	6.3	1
2100	-5.8	-34.9	8	026	1.8	057	8.9	1	2100	-12.3	-14.6	83	040	1.4	005	3.8	1	2100	-13.4	*****	75	034	1.2	043	3.8	0
2400	-5.8	-7.9	85	078	4.6	067	8.3	1	2400	-12.5	-15.4	79	045	1.6	040	3.2	1	2400	-13.4	-16.1	80	002	1.1	350	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-14.5	-17.3	79	016	1.0	344	2.5	0	0300	-14.3	-17.1	79	068	1.2	077	3.8	0
0600	-16.0	-18.7	80	050	.9	026	3.2	0	0600	-15.0	-17.5	81	051	1.0	081	3.8	0
0900	-15.0	-18.3	76	016	1.3	039	3.8	4	0900	-11.6	-16.7	66	022	1.4	359	4.4	4
1200	-14.9	*****	72	005	1.1	018	3.2	13	1200	-12.0	-20.1	51	051	1.2	018	3.8	17
1500	-14.7	*****	73	025	.7	012	3.2	4	1500	-12.6	-19.6	56	015	1.8	082	4.4	8
1800	-17.4	-18.0	95	042	.8	099	2.5	0	1800	-13.4	-18.9	63	065	2.3	063	6.3	1
2100	-14.4	-17.7	76	056	.8	357	2.5	1	2100	-14.5	-20.0	63	078	2.7	101	8.9	1
2400	-14.9	-17.4	81	053	.7	326	2.5	1	2400	-14.3	-20.0	62	054	1.1	049	3.8	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-19.0	-20.3	90	068	.5	092	2.5	1	0300	-17.2	-20.6	75	067	1.3	085	2.5	1
0600	-19.1	*****	88	055	.7	062	1.9	1	0600	-17.4	*****	74	054	1.1	057	2.5	1
0900	-13.3	-20.9	80	070	1.2	031	3.2	5	0900	-16.5	-21.9	63	058	1.1	090	2.5	5
1200	-16.0	*****	56	061	1.2	063	3.8	22	1200	-13.2	*****	40	057	.9	068	1.9	22
1500	-16.0	-22.4	58	062	.8	022	1.9	10	1500	-12.3	*****	35	040	.6	116	2.5	10
1800	-17.4	-20.6	76	056	.8	091	2.5	0	1800	-14.4	-24.3	43	047	1.1	015	3.2	1
2100	-16.7	-20.2	74	059	1.3	037	3.2	1	2100	-13.9	-24.7	40	045	1.2	010	3.2	1
2400	-17.0	-20.5	74	056	1.4	096	3.2	1	2400	-13.0	-24.8	37	052	1.3	034	3.8	2

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-7.6	*****	19	060	1.3	033	3.2	2	0300	-6.8	-24.1	24	068	1.3	037	2.5	2
0600	-6.7	-26.0	20	056	1.2	062	3.2	2	0600	-7.3	-22.8	28	054	1.4	036	3.8	1
0900	-5.8	-24.2	22	074	1.4	096	3.2	8	0900	-7.6	-23.5	27	050	1.5	027	4.4	8
1200	-5.6	*****	22	040	.9	081	3.2	22	1200	-6.9	*****	11	070	1.3	039	4.4	22
1500	-4.4	*****	23	067	.7	115	2.5	11	1500	-9.0	-25.1	26	030	1.1	024	3.2	11
1800	-6.3	-23.6	24	055	1.2	048	3.8	2	1800	-11.5	-24.7	33	047	1.2	078	3.2	2
2100	-6.4	-23.7	24	074	1.5	102	3.2	2	2100	-10.6	-24.6	31	055	1.5	048	4.4	2
2400	-7.0	-23.4	26	047	1.6	008	3.8	2	2400	-10.9	-25.2	30	067	1.5	039	3.8	2

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.								
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.								
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.								
					M/S	MW						MW					MW								
0300	-8.7	-38.4	7	023	.9	032 4.4	1	0300	-5.9	-13.0	57	067	2.2	078	5.1	1	0300	-3.3	-8.5	67	044	1.7	030	5.7	1
0600	-8.4	*****	5	028	1.0	043 3.8	0	0600	-7.1	-7.4	98	064	1.9	086	5.7	0	0600	-3.6	-9.0	66	076	2.3	100	5.1	0
0900	-7.0	*****	93	020	1.0	003 3.2	2	0900	-6.1	-6.8	95	038	1.0	073	3.2	2	0900	-3.3	-8.5	67	075	2.9	095	6.3	7
1200	-6.0	-12.3	61	032	1.6	029 3.8	15	1200	-4.3	-8.7	71	007	1.0	005	3.8	11	1200	-2.9	-7.8	69	082	4.1	096	8.9	22
1500	-5.5	-14.8	48	052	1.5	050 5.7	10	1500	-3.7	-10.1	61	068	1.4	071	5.1	7	1500	-4.5	-6.7	85	094	1.8	092	8.3	7
1800	-7.9	-15.6	54	068	1.2	059 3.2	1	1800	-4.1	-9.7	65	082	2.0	103	8.3	1	1800	-4.3	-7.4	79	079	1.9	075	3.8	1
2100	-6.9	-15.1	52	***	***	***	1	2100	-5.5	-7.1	89	125	2.6	135	8.9	0	2100	-4.9	-7.8	80	088	2.0	084	3.8	0
2400	-6.7	-15.0	52	***	***	***	1	2400	-5.1	-7.4	84	043	1.5	014	4.4	1	2400	-5.1	-7.7	82	071	1.5	092	3.2	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.			
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S			
						MW											MW			
0300	-5.1	-8.8	75	064	2.0	062 5.1	1	0300	-5.5	-17.4	39	037 1.4	353 3.2	1	0300	-3.3	-4.9	89 072 1.2	096 5.1	1
0600	-5.3	-9.7	71	053	1.5	052 4.4	0	0600	-6.0	-18.8	36	060 1.5	031 3.2	1	0600	-3.9	*****	8 068 1.0	087 3.2	0
0900	-4.2	-11.0	59	064	1.7	069 3.2	10	0900	-4.2	-19.3	30	063 1.5	046 4.4	11	0900	-4.4	*****	9 082 .3	307 2.5	7
1200	-2.1	-14.0	40	057	1.5	044 3.8	25	1200	-3.7	-21.0	25	028 1.5	020 5.1	26	1200	-3.9	-6.1	85 102 .5	035 1.9	13
1500	-1.1	*****	35	064	.8	036 2.5	13	1500	-5.3	-21.1	28	024 .7	014 2.5	14	1500	-5.0	*****	94 094 .1	028 2.5	7
1800	-4.7	-14.9	45	040	1.1	021 3.2	1	1800	-5.9	-19.7	33	058 1.2	344 2.5	2	1800	-6.3	*****	8 352 .4	351 2.5	1
2100	-4.2	-15.0	43	051	1.4	059 3.2	1	2100	-5.9	-19.7	33	052 1.5	018 3.8	1	2100	-6.7	-38.3	6 071 .7	044 2.5	1
2400	-4.8	-16.5	40	056	1.9	092 4.4	1	2400	-3.2	-13.0	47	045 1.3	019 4.4	1	2400	-6.7	-9.7	79 062 1.6	089 3.2	0

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.								
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.								
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S								
						MW											MW								
0300	-7.2	-10.2	79	049	1.6	052 3.2	1	0300	-7.2	*****	66	033	.9	044	4.4	1	0300	-4.2	-11.2	58	075	2.9	079	6.3	0
0600	-6.7	-11.2	70	056	1.4	089 3.2	0	0600	-5.3	*****	64	052	1.3	025	3.2	1	0600	-3.9	-11.4	56	076	2.2	066	4.4	1
0900	-5.5	-12.2	59	059	1.8	072 5.1	13	0900	-3.4	*****	65	058	.9	034	3.2	11	0900	-4.0	-12.0	54	072	2.1	071	4.4	11
1200	-4.3	-13.7	48	036	1.2	327 3.2	29	1200	-.2	*****	45	096	1.1	124	3.8	49	1200	-1.9	-11.5	48	057	1.2	033	3.8	38
1500	-3.2	-13.0	47	045	2.0	053 6.3	14	1500	-.4	-10.4	47	084	2.4	087	6.3	24	1500	-2.0	-11.1	50	051	.9	068	2.5	17
1800	-6.0	-12.9	58	043	1.7	071 5.1	1	1800	-3.6	-9.8	62	073	4.1	071	7.0	1	1800	-4.3	-6.6	84	051	1.1	066	2.5	1
2100	-5.3	-13.2	54	053	2.6	057 7.0	1	2100	-4.2	-9.8	65	072	4.3	073	6.3	1	2100	-3.9	-6.2	84	045	1.4	039	3.2	1
2400	-5.5	-12.5	58	047	1.6	053 6.3	1	2400	-4.2	-10.6	61	066	3.8	066	6.3	1	2400	-9.5	*****	96	042	.4	064	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

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

0300	-9.1	-37.4	8	001	.4	073	1.9	0
0600	-8.9	*****	9	205	.0	148	1.9	1
0900	-8.3	-8.8	96	013	.2	346	1.3	6
1200	-7.2	-9.9	81	087	.2	124	2.5	11
1500	-6.1	*****	60	051	.1	331	1.9	13
1800	-9.7	-10.2	96	049M	.6M	100M	1.9M	1
2100	-10.0	*****	91	***	***	***	***	0
2400	-10.3	-10.8	96	***	***	***	***	0

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

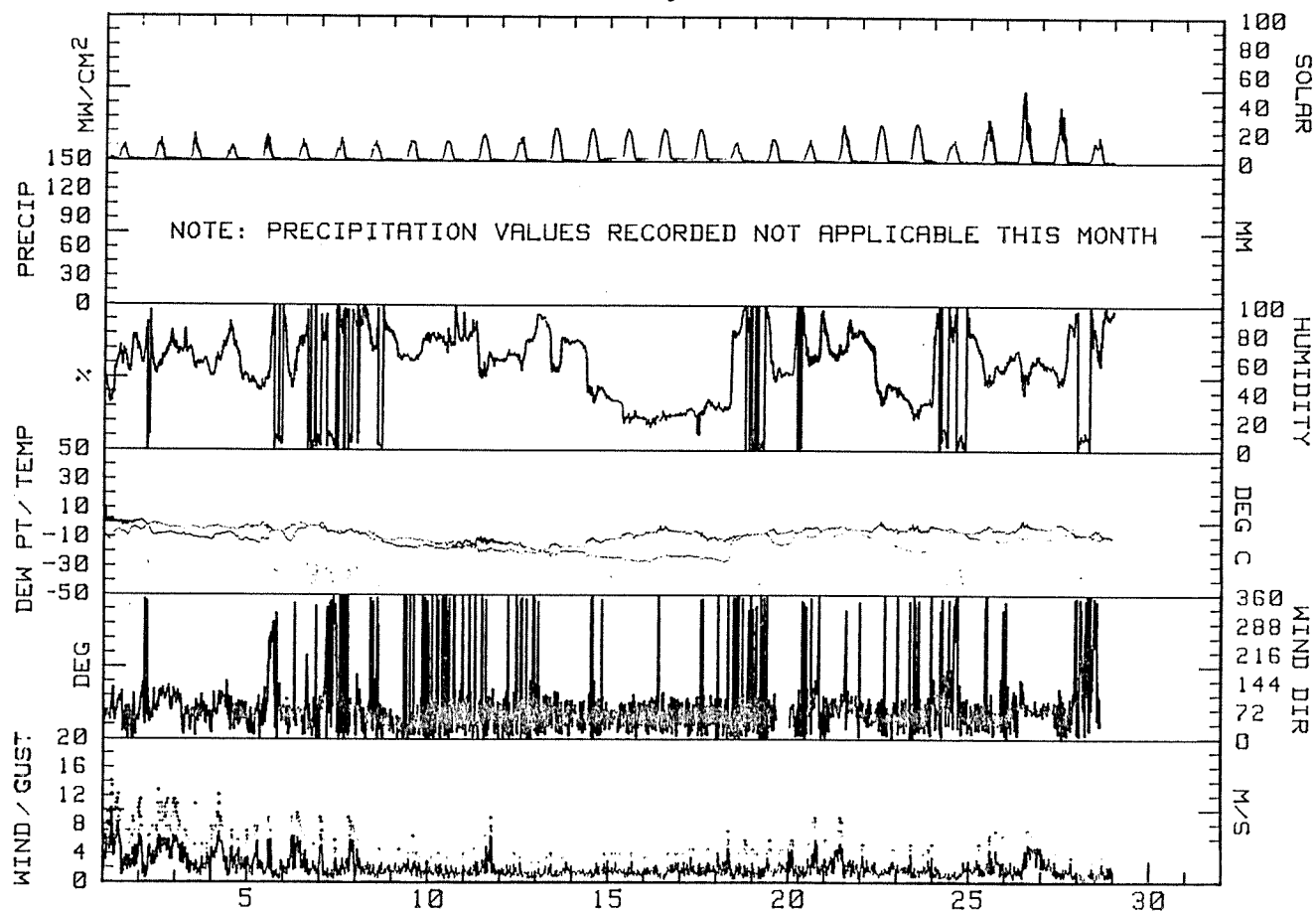
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQK	DAY
1	10.0	-2.6	3.7	072	3.6	4.0	112	14.0	ENE			****	550	1
2	.9	-4.8	-2.0	098	3.7	4.1	118	12.7	ESE	65	-8.2	****	670	2
3	-3.5	-5.7	-4.6	073	2.6	3.0	100	11.4	ENE	64	-10.4	****	667	3
4	-2.4	-6.0	-4.2	081	3.0	3.2	108	12.1	E	64	-10.2	****	535	4
5	-.8	-7.0	-3.9	054	1.0	2.1	253	8.9	ENE			****	693	5
6	-.8	-7.3	-4.1	059	2.3	2.6	076	9.5	ENE			****	620	6
7	-1.2	-8.2	-4.7	059	1.4	2.1	091	8.9	E			****	598	7
8	-5.8	-13.2	-9.5	055	1.3	1.6	082	5.7	NE			****	625	8
9	-11.2	-13.4	-12.3	026	1.4	1.5	057	6.3	NNE	68	-17.1	****	760	9
10	-13.1	-17.9	-15.5	030	.9	1.2	039	3.8	N	78	-18.0	****	745	10
11	-10.3	-17.7	-14.0	054	1.5	1.8	101	8.9	E	66	-18.7	****	988	11
12	-13.9	-19.9	-16.9	041	.8	1.1	075	3.8	NNE	67	-20.7	****	851	12
13	-14.8	-19.9	-17.4	061	1.0	1.2	063	3.8	NNE	74	-21.0	****	1245	13
14	-10.6	-17.5	-14.1	053	1.1	1.2	034	3.8	NE	54	-22.5	****	1283	14
15	-7.1	-12.4	-9.8	056	1.2	1.3	046	3.8	ENE	28	-25.6	****	1438	15
16	-2.7	-8.7	-5.7	059	1.2	1.4	048	3.8	ENE	22	-24.7	****	1490	16
17	-6.0	-12.9	-9.5	056	1.3	1.5	027	4.4	NE	28	-24.3	****	1475	17
18	-7.6	-13.6	-10.6	035	1.3	1.6	027	7.0	N			****	775	18
19	-4.3	-8.9	-6.6	036M	1.2M	1.5M	050M	5.7M	NNE(M)			****	868	19
20	-3.3	-7.5	-5.4	070M	1.4M	1.9M	135M	8.9M	ENE(M)			****	710	20
21	-2.5	-5.5	-4.0	078	2.2	2.5	096	8.9	E	74	-8.1	****	1173	21
22	.9	-6.6	-2.9	057	1.5	1.6	062	5.1	NE	55	-12.7	****	1498	22
23	-.9	-7.2	-4.1	047	1.3	1.5	020	5.1	ENE	33	-18.9	****	1640	23
24	-2.1	-7.5	-4.8	068	.7	1.0	096	5.1	E			****	835	24
25	-2.0	-7.8	-4.9	049	1.7	1.9	057	7.0	NE	61	-12.1	****	1513	25
26	1.1	-7.3	-3.1	070	2.3	2.5	071	7.0	ENE	59	-10.6	****	2040	26
27	-1.1	-9.5	-5.3	064	1.5	1.7	079	6.3	ENE	63	-10.2	****	1595	27
28	-5.3	-10.5	-7.9	030M	.2M	.8M	124M	2.5M	N(M)			****	918	28
MONTH	10.0	-19.9	-7.3	063M	1.5M	1.5M	112M	14.0M	ENE(M)	M	M	****	28793	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
February, 1983



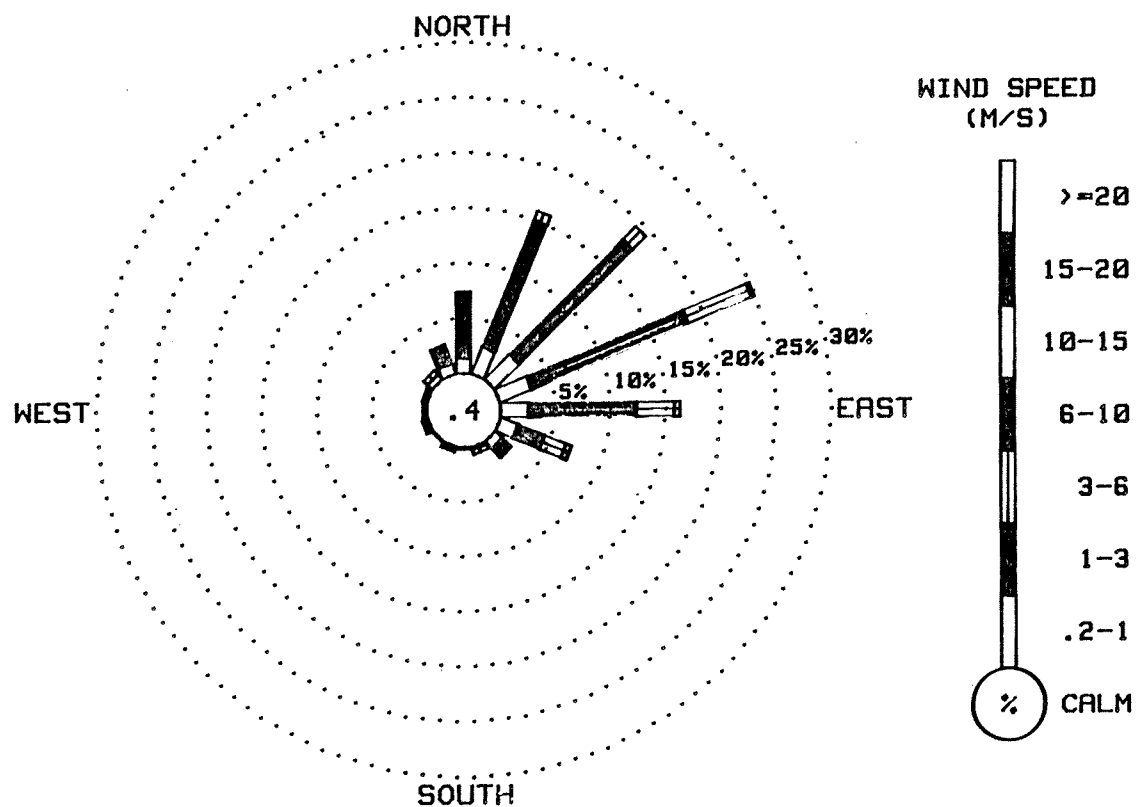
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2	1.0	3.0	6.0	10.0	15.0	20.0	
	TO 1.0	TO 3.0	TO 6.0	TO 10.0	TO 15.0	TO 20.0	OR GREATER	
N	1.38	5.96	.08	0.00	0.00	0.00	0.00	7.41
NNE	2.64	12.34	.88	0.00	0.00	0.00	0.00	15.85
NE	3.17	14.55	1.64	0.00	0.00	0.00	0.00	19.37
ENE	3.09	15.36	6.19	.23	0.00	0.00	0.00	24.87
E	2.52	9.82	3.40	.53	0.00	0.00	0.00	16.27
ESE	1.72	2.60	2.10	.50	.04	0.00	0.00	6.95
SE	.92	.80	.31	.04	0.00	0.00	0.00	2.06
SSE	.31	.42	0.00	0.00	0.00	0.00	0.00	.73
S	.11	.08	0.00	0.00	0.00	0.00	0.00	.19
SSW	.15	.31	0.00	0.00	0.00	0.00	0.00	.46
SW	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04
WSW	.23	.11	.15	0.00	0.00	0.00	0.00	.50
W	.19	.15	.04	0.00	0.00	0.00	0.00	.38
WNW	.31	.15	.04	0.00	0.00	0.00	0.00	.50
NW	.61	.53	0.00	0.00	0.00	0.00	0.00	1.15
NNW	1.03	1.80	.04	0.00	0.00	0.00	0.00	2.86
CALM								.42
TOTAL	18.41	64.97	14.86	1.30	.04	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2618 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
February, 1983



No precipitation data for March

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-11.2	-12.5	90	***	****	***	0300	-12.2	-14.8	81	070	1.3	068	0300	-12.7	-19.7	56	062	1.4	041
0600	-10.9	-13.1	84	***	****	***	0600	-13.1	-15.7	81	038	1.6	028	0600	-13.6	-20.7	55	055	1.2	041
0900	-8.3	-14.5	61	***	****	***	0900	-10.2	-15.7	64	032	1.4	016	0900	-11.0	*****	37	043	1.2	035
1200	-8.4	-14.8	60	065	M	8M	1200	-9.2	*****	47	048	1.4	040	1200	-10.2	*****	29	061	.9	045
1500	-10.1	-13.2	78	071	.5	013	1500	-10.1	*****	45	050	.7	037	1500	-9.4	*****	26	058	.6	088
1800	-10.8	*****	2	050	.2	354	1800	-12.2	-17.2	66	048	1.0	043	1800	-13.9	-23.6	44	046	.7	001
2100	-11.7	-13.0	90	055	1.1	028	2100	-11.8	-18.4	58	050	1.6	020	2100	-13.9	-24.4	41	059	1.0	065
2400	-11.9	-14.2	83	032	1.8	039	2400	-13.4	-19.5	60	055	1.3	060	2400	-14.0	*****	40	058	1.0	082

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-14.3	-25.0	40	047	1.1	061	0300	-11.1	-15.5	70	033	2.9	031	0300	-10.0	-12.2	84	051	1.5	026
0600	-14.2	-24.7	41	042	1.4	009	0600	-10.5	-14.7	71	055	1.8	034	0600	-8.6	-12.4	74	057	1.0	043
0900	-11.6	*****	36	054	1.1	025	0900	-9.2	-15.3	61	056	1.4	037	0900	-5.9	-13.5	55	057	1.2	055
1200	-11.5	-23.7	36	056	.9	022	1200	-8.1	-15.3	56	077	.7	064	1200	-2.7	*****	29	062	.8	071
1500	-11.0	-19.4	50	028	1.0	122	1500	-8.7	-14.8	61	062	1.4	033	1500	-3.4	*****	30	044	.5	351
1800	-10.8	-15.5	68	070	1.5	039	1800	-8.4	-12.7	71	060	1.4	046	1800	-6.1	*****	42	064	.8	018
2100	-10.3	-14.2	73	043	1.1	024	2100	-9.5	-12.9	76	052	1.3	046	2100	-4.4	-16.1	40	071	1.3	055
2400	-10.3	-15.0	68	040	1.8	042	2400	-9.8	-11.7	86	056	1.3	058	2400	-4.2	-15.9	40	069	1.3	086

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-3.9	-15.6	40	052	1.3	051	0300	-6.2	-23.6	24	065	1.6	046	0300	-6.0	-24.8	21	059	1.9	068
0600	-4.2	-16.2	39	053	1.4	054	0600	-6.0	-23.8	23	062	1.4	058	0600	-6.5	-25.3	21	057	1.7	075
0900	-2.7	-16.5	34	061	1.2	072	0900	-3.3	-23.1	20	049	2.2	042	0900	-6.9	-25.6	21	032	1.5	015
1200	.4	*****	24	053	.9	048	1200	-.9	-21.7	19	064	1.5	062	1200	-7.3	*****	22	038	.7	077
1500	-1.9	-18.1	28	039	.6	072	1500	-.3	*****	19	028	.6	014	1500	-6.9	*****	22	123	.3	317
1800	-4.6	-19.7	30	050	.8	079	1800	-5.4	-23.8	22	049	1.0	044	1800	-12.3	*****	44	074	.5	063
2100	-4.7	-21.4	26	054	1.3	042	2100	-5.4	-24.3	21	057	1.5	045	2100	-13.1	-22.9	44	072	1.4	096
2400	-5.2	-22.2	25	064	1.5	058	2400	-5.4	-24.3	21	063	1.6	033	2400	-11.5	-22.8	39	058	1.4	031

R & M CONSULTANTS, INC.
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THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
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DAY 10

DAY 11

DAY 12

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-12.9	-22.4	45	082	1.5	098	5.1	1	0300	-5.9	*****	2	090	.5	111	2.5	0
0600	-9.5	-15.6	61	037	1.4	357	5.1	1	0600	-5.9	*****	99	117	.9	088	3.2	0
0900	-8.8	*****	67	030	.3	099	2.5	12	0900	-4.2	*****	79	108	.3	187	1.9	12
1200	-7.7	-12.4	69	077	.7	145	2.5	21	1200	-1.8	*****	57	112	.7	119	3.2	24
1500	-8.2	*****	76	352	1.0	329	2.5	11	1500	-3.7	-6.8	79	107	2.7	117	10.2	12
1800	-8.3	*****	1	084	.7	095	3.2	0	1800	-3.4	-7.0	76	097	5.5	109	9.5	1
2100	-7.4	*****	4	040	.7	006	2.5	0	2100	-3.9	-6.2	84	101	5.1	098	10.2	1
2400	-6.4	*****	1	097	.8	105	2.5	0	2400	-4.2	-5.5	91	114	4.4	128	10.8	1

DAY 13

DAY 14

DAY 15

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-2.2	-11.8	48	058	1.5	051	3.8	1	0300	-5.9	*****	54	045	1.4	004	3.8	1
0600	-2.6	-12.7	46	050	1.8	040	3.8	1	0600	-6.1	-13.2	57	056	1.5	043	3.8	1
0900	-1.0	-13.3	39	063	1.4	047	3.2	19	0900	-4.0	-14.8	43	059	1.4	040	3.2	22
1200	1.9	*****	25	036	.7	040	3.2	40	1200	-1.9	-13.5	41	061	1.1	036	2.5	40
1500	-2.0	-15.2	36	038	.9	078	2.5	24	1500	-3.3	*****	43	112	.7	153	2.5	19
1800	-3.7	-14.0	45	049	1.2	079	3.8	1	1800	-5.5	*****	62	044	.9	062	2.5	1
2100	-5.5	-14.3	50	043	1.5	045	3.2	1	2100	-4.9	-10.6	64	069	1.3	093	3.2	0
2400	-5.2	-13.8	51	065	1.3	081	2.5	0	2400	-5.0	-10.7	64	057	1.2	035	2.5	1

DAY 16

DAY 17

DAY 18

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-5.8	-7.3	89	065	1.7	099	3.8	0	0300	-6.4	-13.7	56	089	1.2	048	3.2	1
0600	-5.6	-9.1	76	032	1.2	035	3.2	1	0600	-7.2	-13.8	59	072	1.5	049	3.2	1
0900	-4.7	-9.9	67	052	1.2	048	3.2	24	0900	-5.0	-14.6	47	057	1.6	060	3.8	25
1200	-2.2	*****	43	075	1.3	090	2.5	41	1200	-5.0	-13.9	50	054	1.3	085	4.4	43
1500	-3.5	*****	44	042	.7	059	3.2	21	1500	-5.2	-15.4	45	059	.5	097	2.5	27
1800	-6.1	-12.4	61	053	.8	069	1.9	1	1800	-7.5	-13.1	64	014	.7	012	3.2	1
2100	-5.4	-13.3	54	054	1.1	038	2.5	0	2100	-6.9	-13.3	60	063	1.4	082	3.2	1
2400	-5.5	-13.6	53	066	1.3	069	2.5	1	2400	-7.7	-14.3	59	069	1.5	088	3.2	1

R & M CONSULTANTS, INC.

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THREE HOUR SUMMARY FOR GLACIER WEATHER STATION

DATA TAKEN DURING March, 1983

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-7.5	-19.2	39	061	1.2	041	1.9	1	0300	-8.0	-20.3	37	049	1.6	046	3.8	1	0300	-4.3	-10.7	61	077	1.8	093	3.8	1
0600	-7.8	-20.1	37	059	1.5	045	3.2	1	0600	-6.7	-16.7	45	066	2.0	028	5.7	1	0600	-4.4	-10.6	62	059	1.4	046	3.8	1
0900	-5.1	-20.1	30	053	1.3	063	2.5	27	0900	-5.4	-15.8	44	074	1.2	116	3.8	18	0900	-3.0	*****	54	077	1.2	057	3.2	23
1200	-5.4	-19.6	32	077	.9	074	2.5	45	1200	-1.0	*****	39	063	.9	034	3.2	33	1200	.2	*****	41	049	.6	070	1.9	44
1500	-5.1	-19.7	31	099	.3	125	2.5	29	1500	-5.7	-14.8	49	102	1.0	048	2.5	21	1500	-.1	*****	41	137	1.0	140	2.5	24
1800	-7.6	-19.0	40	065	.7	110	3.2	1	1800	-6.2	-13.6	56	065	.7	011	2.5	1	1800	-4.8	-8.9	73	069	.4	048	1.9	1
2100	-9.2	-20.4	40	057	1.3	023	3.8	1	2100	-6.0	-12.9	58	057	1.2	047	2.5	1	2100	-5.4	-9.5	73	033	.9	007	2.5	0
2400	-7.4	-20.4	35	073	1.5	057	3.8	1	2400	-5.5	-12.0	60	061	1.2	066	3.2	0	2400	-5.5	-10.4	68	043	1.0	058	1.9	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-5.8	-11.3	65	047	1.1	050	1.9	1	0300	-8.0	-14.2	61	041	1.0	001	3.2	0	0300	-9.3	-15.0	63	059	1.0	041	2.5	1
0600	-6.7	*****	67	056	.9	020	2.5	1	0600	-8.2	-14.8	59	045	1.3	026	3.2	1	0600	-8.7	-14.6	62	063	1.1	064	1.9	2
0900	-3.2	-13.5	45	065	1.1	105	2.5	27	0900	-5.8	-16.2	44	051	1.1	029	2.5	30	0900	-6.3	*****	47	050	1.1	021	3.2	27
1200	-2.9	*****	34	037	.6	072	1.9	48	1200	-2.2	*****	30	079	.6	121	2.5	48	1200	-5.2	-16.5	41	075	.7	127	2.5	53
1500	-2.5	*****	32	325	.2	352	1.3	31	1500	-6.2	-16.6	44	142	.4	130	2.5	31	1500	-4.4	*****	39	208	.3	145	1.9	32
1800	-5.8	-12.5	59	105	.9	118	2.5	1	1800	-9.2	*****	65	064	.3	345	2.5	1	1800	-8.4	*****	67	069	.4	215	1.9	1
2100	-6.8	*****	63	048	.8	049	1.9	1	2100	-8.2	-13.6	65	046	1.2	047	3.2	1	2100	-8.1	-10.9	80	064	1.2	064	3.2	0
2400	-6.0	-13.1	57	045	1.2	041	3.2	1	2400	-8.9	-14.4	64	043	1.2	035	2.5	1	2400	-8.9	*****	87	058	1.2	046	3.2	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-9.6	-11.4	87	064	1.1	039	3.2	0	0300	-8.8	*****	64	065	1.3	036	3.8	1	0300	-7.9	-12.0	72	065	1.0	129	3.8	0
0600	-9.2	-11.7	82	074	1.5	091	3.2	2	0600	-7.7	-13.9	61	068	1.9	047	6.3	2	0600	-9.4	-13.2	74	066	.7	043	3.2	2
0900	-5.8	-14.4	51	064	1.2	066	2.5	31	0900	-5.0	-15.2	45	056	1.9	055	4.4	32	0900	-6.0	-13.8	54	064	1.0	032	4.4	33
1200	-6.6	*****	46	090	.8	084	3.2	49	1200	-4.2	-13.6	48	081	1.8	082	5.7	50	1200	-5.6	-14.7	49	071	.4	075	2.5	36
1500	-3.7	*****	42	146	.6	340	3.2	33	1500	-4.2	-12.6	52	063	1.7	066	5.7	32	1500	-3.5	-10.8	57	113	1.0	137	4.4	26
1800	-7.7	-12.4	69	095	.6	071	1.9	2	1800	-6.7	-12.7	62	051	1.0	040	4.4	2	1800	-6.2	-10.1	74	062	.3	020	3.8	2
2100	-8.2	-13.2	67	061	1.5	036	3.8	0	2100	-10.2	-13.1	79	031	1.2	357	3.8	1	2100	-6.1	-10.8	69	083	1.3	035	3.8	1
2400	-7.6	-13.4	63	062	1.5	042	3.8	1	2400	-9.4	*****	76	030	.8	030	2.5	1	2400	-5.3	-10.1	69	086	1.3	110	3.2	0

R & M CONSULTANTS, INC.
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THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
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DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.									
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S									
0300	-6.8	-12.3	65	049	1.5	052	3.8	1	0300	-6.7	-17.9	41	067	1.4	076	2.5	1	0300	-7.4	-13.8	60	038	1.4	349	3.2	1
0600	-8.4	-14.0	64	071	1.3	058	3.2	2	0600	-6.2	-17.4	41	059	1.2	060	3.2	3	0600	-6.1	-15.4	48	058	1.7	042	3.8	3
0900	-5.0	-15.5	44	068	1.3	045	3.2	34	0900	-4.9	-18.5	34	044	1.0	031	1.9	34	0900	-3.9	-17.3	35	041	1.6	066	3.2	32
1200	-4.2	-15.0	43	071	1.3	042	3.2	52	1200	-3.9	-17.6	34	098	.7	137	2.5	53	1200	-3.3	-17.4	33	096	1.0	095	3.2	54
1500	-2.1	*****	31	145	1.0	149	2.5	35	1500	-3.7	*****	33	157	.7	131	2.5	34	1500	-3.4	-17.5	33	150	1.1	147	3.2	29
1800	-5.6	*****	45	089	.5	142	1.9	3	1800	-6.7	-15.7	49	100	.6	001	2.5	3	1800	-4.6	-16.6	39	114	.7	125	1.9	4
2100	-6.3	-16.7	44	053	1.1	035	3.8	1	2100	-7.6	-13.4	63	049	1.2	052	2.5	0	2100	-6.5	-15.3	50	047	1.0	043	2.5	1
2400	-6.4	-17.6	41	062	1.6	054	3.2	1	2400	-8.4	-14.2	63	057	1.2	067	3.8	1	2400	-6.8	-16.0	48	063	1.6	091	3.8	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.
0300	-6.7	-14.7	53	065	1.6
0600	-5.4	-10.9	65	066	1.6
0900	-1.9	*****	48	050	1.2
1200	-2.2	*****	46	112	.8
1500	.2	*****	38	131	.4
1800	-4.9	*****	78	129	.4
2100	-4.5	-8.1	76	057	1.2
2400	-5.5	-10.6	67	070	1.4

R & M CONSULTANTS, INC.
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MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING March, 1983

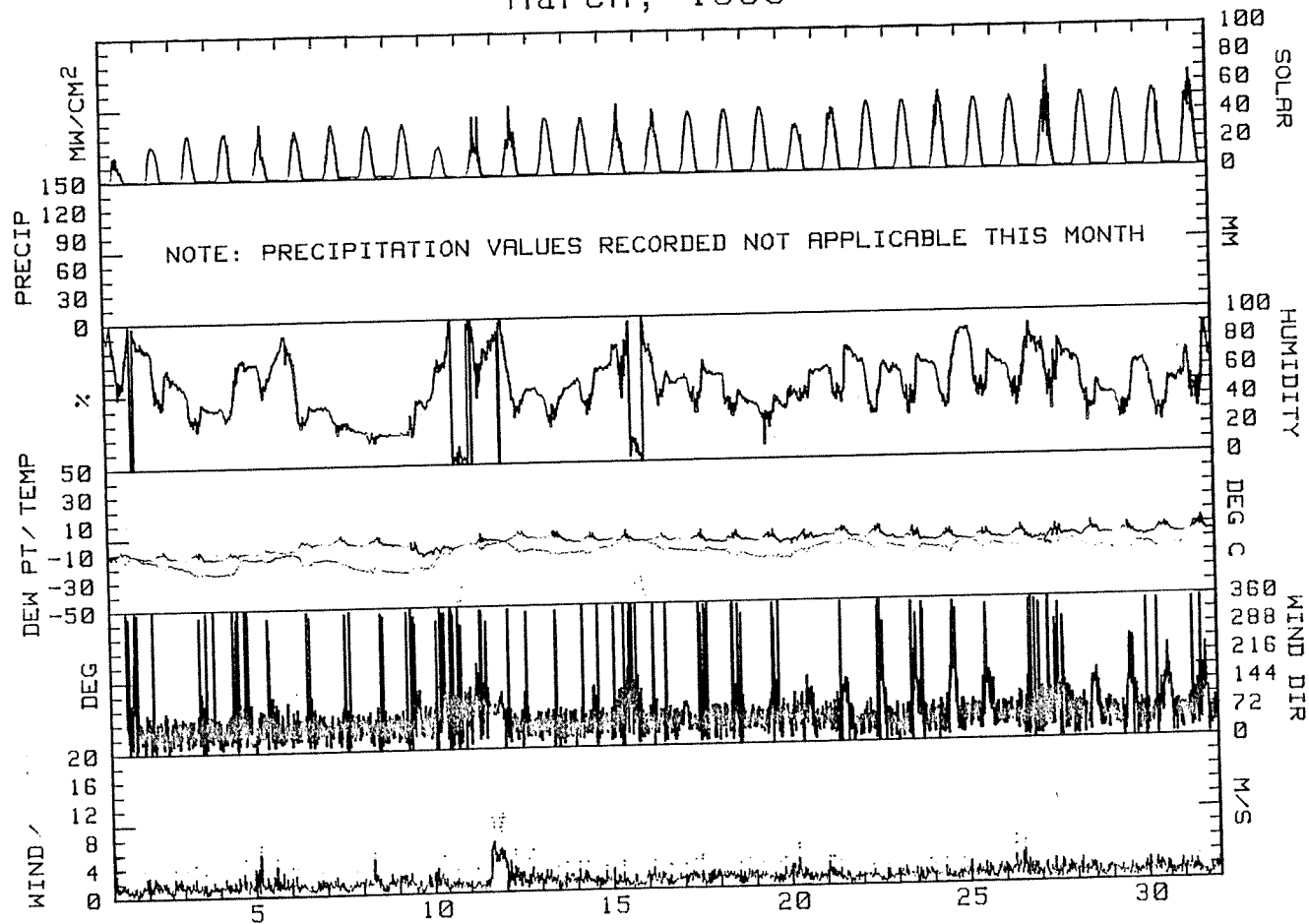
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-6.9	-12.3	-9.6	048M	.9M	1.2M	028M	3.8M	NNE(M)			****	908	1
2	-7.3	-13.4	-10.4	049	1.3	1.4	068	3.8	NE	69	-16.8	****	1728	2
3	-8.2	-14.8	-11.5	055	1.0	1.1	035	4.4	ENE	46	-22.3	****	1988	3
4	-9.0	-14.7	-11.9	048	1.2	1.5	039	5.1	NE	50	-20.8	****	2073	4
5	-6.6	-11.4	-9.0	052	1.5	1.7	031	7.0	NE	69	-14.3	****	1713	5
6	-2.3	-10.5	-6.4	060	1.0	1.2	026	3.8	ENE	59	-14.4	****	2048	6
7	1.3	-5.8	-2.3	055	1.1	1.2	054	3.8	ENE	33	-18.2	****	2368	7
8	.6	-6.7	-3.1	057	1.4	1.5	042	5.7	ENE	22	-23.6	****	2603	8
9	-4.0	-14.3	-9.2	057	1.1	1.4	015	4.4	ENE	28	-24.1	****	2570	9
10	-6.2	-12.9	-9.6	057	.7	1.2	098	5.1	E			****	1415	10
11	1.2	-6.4	-2.6	105	2.5	2.8	128	10.8	ESE			****	1618	11
12	2.8	-5.0	-1.1	064	1.7	1.9	099	7.6	ENE	56	-10.8	****	2215	12
13	2.5	-5.5	-1.5	051	1.3	1.4	051	3.8	NE	44	-13.5	****	2733	13
14	.6	-6.5	-3.0	060	1.2	1.3	004	3.8	NE	54	-12.9	****	2538	14
15	1.5	-6.3	-2.4	065	.6	.9	021	3.8	E			****	2198	15
16	-1.0	-6.5	-3.8	056	1.1	1.3	099	3.8	ENE			****	2585	16
17	.8	-7.9	-3.6	063	1.2	1.4	085	4.4	NE	55	-13.9	****	2955	17
18	-1.1	-8.5	-4.3	061	1.2	1.4	052	3.8	ENE	48	-16.0	****	3098	18
19	-2	-9.9	-5.1	064	1.1	1.3	023	3.8	ENE	36	-19.8	****	3213	19
20	-1.0	-10.6	-5.8	066	1.2	1.4	028	5.7	ENE	47	-15.9	****	2455	20
21	1.2	-6.4	-2.6	069	.9	1.1	093	3.8	NE	62	-10.7	****	3005	21
22	1.8	-7.1	-2.7	055	.8	1.0	041	3.2	ENE	58	-12.5	****	3353	22
23	.2	-9.4	-4.6	052	.8	1.1	001	3.2	NNE	57	-14.8	****	3443	23
24	-1.5	-9.5	-5.5	062	.8	1.1	021	3.2	E	65	-14.0	****	3395	24
25	-2.1	-9.7	-5.9	073	1.0	1.3	036	3.8	ENE	69	-12.7	****	3570	25
26	.4	-10.6	-5.1	059	1.4	1.7	047	6.3	NE	59	-14.0	****	3588	26
27	.4	-10.9	-5.3	079	.8	1.4	032	4.4	ESE	66	-12.2	****	3220	27
28	2.3	-8.8	-3.3	070	1.1	1.3	052	3.8	ENE	51	-14.9	****	3843	28
29	.9	-8.4	-3.8	069	.9	1.2	067	3.8	NE	45	-16.5	****	3950	29
30	.4	-9.0	-4.3	067	1.1	1.4	042	3.8	ENE	47	-15.8	****	4058	30
31	4.3	-7.1	-1.4	072	1.0	1.2	038	4.4	ENE	63	-11.4	****	4158	31
MONTH	4.3	-14.8	-5.2	063M	1.1M	1.4M	128M	10.8M	ENE(M)	54M	-15.3M	****	84595	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
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 NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
March, 1983



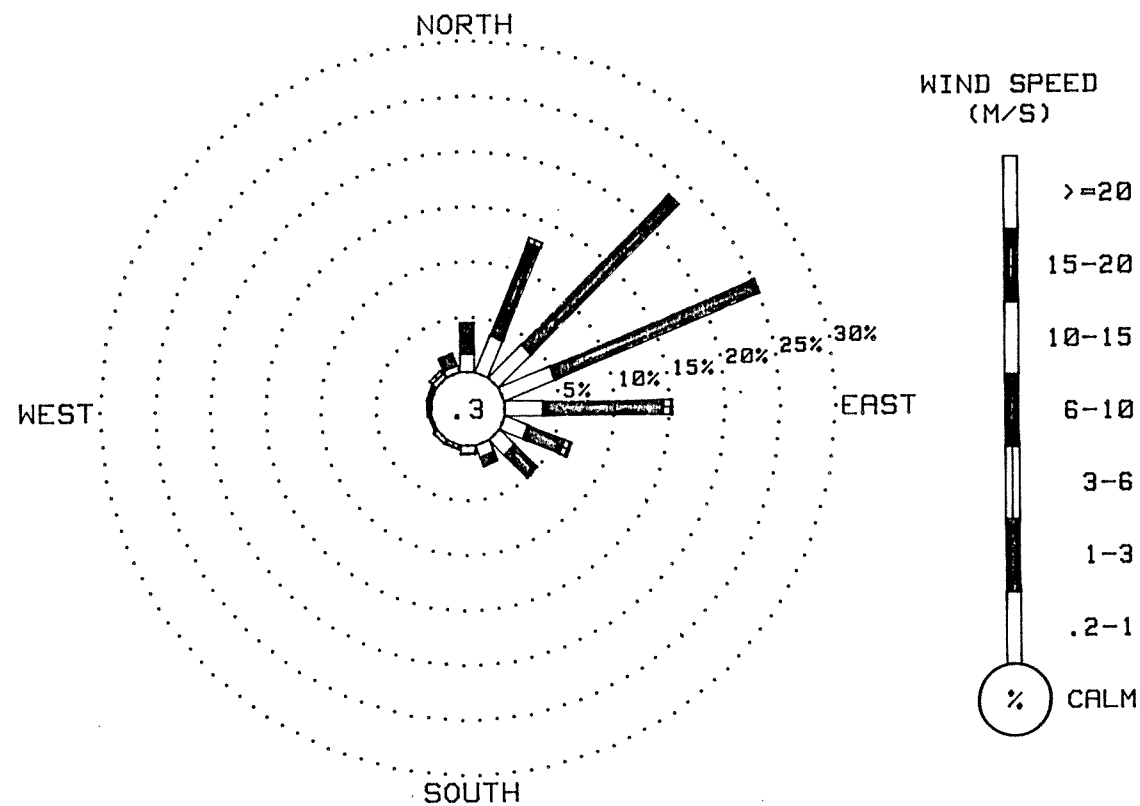
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.67	2.80	0.00	0.00	0.00	0.00	0.00	4.47
NNE	3.61	9.00	.48	0.00	0.00	0.00	0.00	13.09
NE	4.23	18.75	.24	0.00	0.00	0.00	0.00	23.22
ENE	5.01	19.78	.24	0.00	0.00	0.00	0.00	25.03
E	3.48	10.91	.68	.14	0.00	0.00	0.00	15.21
ESE	2.32	3.51	.61	.14	0.00	0.00	0.00	6.58
SE	1.98	2.80	.10	0.00	0.00	0.00	0.00	4.88
SSE	1.19	.82	0.00	0.00	0.00	0.00	0.00	2.01
S	.72	.07	0.00	0.00	0.00	0.00	0.00	.78
SSW	.34	.03	0.00	0.00	0.00	0.00	0.00	.38
SW	.41	0.00	0.00	0.00	0.00	0.00	0.00	.41
WSW	.17	0.00	0.00	0.00	0.00	0.00	0.00	.17
W	.24	.10	0.00	0.00	0.00	0.00	0.00	.34
WNW	.38	.07	0.00	0.00	0.00	0.00	0.00	.44
NW	.51	.38	0.00	0.00	0.00	0.00	0.00	.89
NNW	.68	1.16	0.00	0.00	0.00	0.00	0.00	1.84
CALM								.27
TOTAL	26.93	70.17	2.35	.27	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2933 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
March, 1983



SECRET

PRECIPITATION VALUES ARE IN MILLIMETERS

[illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-4.6	-12.1	56	058	1.6	041	3.8	1	0300	-4.7	-15.2	44	055	1.8	052	5.7	1
0600	-4.7	-12.1	56	047	1.6	042	3.8	3	0600	-5.7	-16.1	44	063	1.4	048	3.8	3
0900	-1.6	*****	43	076	1.1	095	3.2	28	0900	-2.8	-16.6	34	067	1.2	060	2.5	38
1200	3.2	*****	30	074	1.1	085	3.8	55	1200	-1.6	-16.7	31	072	1.4	051	3.2	56
1500	2.3	*****	31	109	1.0	123	3.2	38	1500	-1.0	-15.4	33	154	.7	146	2.5	39
1800	-3.3	-11.3	54	097	.8	114	3.2	4	1800	-3.6	*****	46	090	.7	086	3.8	5
2100	-4.3	-12.0	55	056	1.3	047	3.2	1	2100	-5.0	-12.7	55	058	1.5	053	3.8	1
2400	-4.1	-14.4	45	062	1.6	056	4.4	1	2400	-5.6	-13.9	52	058	1.8	041	4.4	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-4	-8.8	53	061	4.2	072	10.8	1	0300	-7.0	-30.0	14	186	.1	217	3.8	0
0600	-8	-8.3	57	067	3.0	060	10.2	4	0600	-5.9	-8.3	83	127	2.2	136	7.0	6
0900	-1.9	-5.4	77	084	2.6	100	6.3	24	0900	-3.3	-12.8	48	115	3.0	131	7.0	45
1200	-2	-5.2	69	062	3.5	073	8.9	26	1200	-5.9	-11.4	65	092	4.2	089	7.6	40
1500	.3	-5.9	63	079	3.1	103	9.5	21	1500	-4.6	*****	67	072	1.1	089	5.7	29
1800	-4.7	-26.7	16	161	2.9	139	14.0	3	1800	-5.4	-9.1	75	082	1.0	098	3.2	4
2100	-7.1	-32.6	11	184	9.2	184	24.1	1	2100	-6.5	*****	93	134	1.0	106	5.1	0
2400	-7.3	-33.8	10	186	4.5	181	16.5	1	2400	-7.4	*****	98	116	1.8	114	5.1	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-9.3	-10.1	94	056	1.2	059	3.8	0	0300	-10.1	-14.5	70	059	1.2	076	2.5	0
0600	-8.7	*****	82	057	1.1	040	3.8	7	0600	-10.1	-16.6	59	057	1.4	025	3.8	5
0900	-6.5	*****	56	063	1.0	029	3.2	30	0900	-8.1	-18.3	44	045	1.2	063	3.8	43
1200	.4	*****	33	017	.4	343	2.5	61	1200	-1.5	*****	25	027	.5	017	2.5	60
1500	-4.0	*****	38	338	.4	198	1.9	43	1500	-5.8	*****	32	197	.4	167	1.9	40
1800	-8.4	-12.7	71	080	.3	043	2.5	6	1800	-8.8	*****	76	079	.3	356	1.3	4
2100	-10.2	-11.6	90	069	1.3	058	2.5	1	2100	-9.7	-11.6	86	082	.7	024	3.8	0
2400	-10.1	-13.5	76	058	1.2	037	2.5	0	2400	-9.0	-13.1	72	040	1.5	043	4.4	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S						
0300	-14.4	-16.7	83	057	1.2	040	3.8	1	0300	-15.1	-19.8	67	069	1.4	096	3.8	0	0300	-7.3	-8.5	91	064	3.2	072	7.0	1
0600	-14.5	-17.0	81	049	1.7	041	3.8	6	0600	-14.6	-19.7	65	051	1.4	012	3.2	5	0600	-7.5	-7.6	99	006	1.7	004	3.2	8
0900	-13.5	-20.0	58	033	1.8	016	3.8	48	0900	-11.8	-22.2	42	053	1.8	049	4.4	44	0900	-5.0	-10.2	67	010	1.3	012	3.2	28
1200	-9.7	-21.8	37	058	1.3	107	5.7	54	1200	-11.1	-23.4	36	093	.7	116	3.8	40	1200	-4.9	-9.3	71	003	1.1	002	3.2	30
1500	-11.5	-22.8	39	175	.8	189	3.2	44	1500	-11.4	-15.6	71	214	.2	229	3.2	24	1500	-1.5	-8.5	59	029	.9	027	2.5	16
1800	-14.3	-18.5	70	014	.4	066	5.1	7	1800	-9.9	-12.9	79	041	1.5	079	6.3	4	1800	-4.2	-7.1	80	051	1.7	068	5.7	3
2100	-15.1	-17.9	79	044	1.7	033	3.8	0	2100	-9.4	-11.5	85	068	3.6	080	7.0	0	2100	-5.7	-33.6	9	031	1.7	044	3.8	0
2400	-15.1	-19.0	72	066	1.4	073	3.8	1	2400	-8.4	-8.7	98	062	3.1	077	7.0	0	2400	-6.1	-41.1	4	088	.5	097	2.5	0

DAY 13

DAY 14

DAY 15

HOUR	DEW								WIND	WIND	GUST	MAX.	HOUR	DEW								WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-6.6	-9.5	80	062	1.6	067	4.4	1	0300	-3.9	*****	12	194	1.1	201	3.8	1	0300	-6.0	*****	13	206	1.7	164	6.3	1
0600	-5.4	-10.2	69	050	1.7	043	3.8	5	0600	-3.6	*****	5	228	.3	268	3.2	7	0600	-4.7	-6.1	90	103	3.4	091	7.6	11
0900	-2.1	-9.7	56	041	1.5	085	3.2	23	0900	-1.7	-5.5	75	167	.7	135	2.5	27	0900	-3.2	-9.4	62	084	3.5	107	7.0	41
1200	-2.5	*****	52	062	.7	053	3.2	41	1200	-1.7	-6.1	72	155	3.3	136	9.5	48	1200	-2.6	-9.5	59	112	2.4	094	7.0	41
1500	-2.5	-7.4	69	013	1.5	001	2.5	30	1500	1.2	-10.7	41	191	2.8	156	7.6	72	1500	-2.5	*****	53	306	.7	297	1.9	32
1800	-3.1	*****	6	334	1.2	326	4.4	4	1800	-2.5	-6.0	77	169	2.3	147	11.4	6	1800	-5.6	-6.3	95	034	.5	013	3.2	7
2100	-2.1	-3.0	94	163	4.2	140	12.7	0	2100	-3.3	-6.3	80	133	5.7	142	10.8	1	2100	-6.0	*****	7	020	1.0	021	3.2	0
2400	-3.4	-30.8	10	172	2.7	163	10.8	0	2400	-5.0	-31.0	11	133	4.7	143	9.5	0	2400	-6.4	-39.6	5	069	.8	039	2.5	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	-6.6	*****	1	036	1.2	096	2.5	0	0300	-6.6	-12.7	62	057	2.3	057	5.1	1	0300	-7.0	-31.7	12
0600	-6.3	-8.6	84	073	1.2	050	3.8	7	0600	-6.3	-13.9	55	053	2.1	049	5.1	7	0600	-7.0	*****	14
0900	-4.9	-12.6	55	031	1.4	036	3.8	44	0900	-1.4	*****	31	057	1.5	052	3.2	41	0900	-2.5	*****	59
1200	-2.2	*****	39	065	.6	021	1.9	58	1200	-2.2	-19.2	26	096	.6	039	3.2	57	1200	-4.3	-9.3	68
1500	-3	*****	35	127	.3	357	1.9	48	1500	-2.8	*****	43	256	.6	250	2.5	26	1500	-1.6	-11.0	49
1800	-3.8	-10.4	60	123	1.0	153	3.2	11	1800	-4.8	-8.2	77	122	2.7	091	5.7	6	1800	-5.0	-13.4	52
2100	-6.1	-9.8	75	069	1.1	033	4.4	1	2100	-6.3	-30.2	13	116	4.6	122	10.8	0	2100	-5.8	-11.7	63
2400	-6.0	-11.5	65	072	1.5	045	3.8	0	2400	-6.5	-31.3	12	181	.9	168	4.4	1	2400	-6.0	*****	83

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.
					M/S	MW					M/S	MW					M/S
0300	-6.6	-39.8	5	008	1.4	076	0300	-5.4	-7.1	88	089	3.5	098	8.3	0	0300	-4.0
0600	-6.2	-37.9	6	223	.5	248	0600	-4.4	-8.5	73	060	1.9	077	5.1	10	0600	-3.7
0900	-2.6	-8.6	63	183	1.4	196	0900	-2.3	-11.1	51	070	2.8	087	5.7	45	0900	-1.3
1200	-2.5	-12.9	45	132	3.3	172	1200	-1.6	-12.1	45	076	3.9	071	7.0	50	1200	.8
1500	-3.4	-14.9	41	141	3.6	157	1500	-.9	-12.9	40	072	3.7	080	6.3	37	1500	-1.2
1800	-5.0	-12.4	56	093	3.1	122	1800	-3.1	-9.8	60	074	4.5	072	8.3	7	1800	-3.4
2100	-5.7	-10.1	71	075	3.9	060	2100	-3.6	-7.4	75	069	5.1	063	8.3	0	2100	-3.1
2400	-5.5	-9.7	72	079	4.8	081	2400	-4.8	*****	0	055	2.1	029	5.7	0	2400	-2.5

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	MAX.					
	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW					
0300	-2.9	*****	86	049	1.5	032	5.1	0	0300	-1.5	-8.5	59	093	1.6	105	4.4	1	0300	-.5	-4.4	75	059	1.3	021	3.8	1
0600	-2.1	-6.3	73	073	2.1	064	5.7	9	0600	-.9	*****	55	081	1.1	087	2.5	10	0600	.2	-4.6	70	031	.8	345	2.5	6
0900	-1.3	-7.4	63	090	4.6	099	8.9	34	0900	2.2	*****	41	063	.6	031	2.5	48	0900	5.0	*****	39	065	.9	022	2.5	53
1200	1.1	-9.3	46	159	2.1	111	7.0	50	1200	2.7	*****	30	000	.1	285	1.9	69	1200	6.0	-10.0	31	054	.6	046	1.9	69
1500	5.7	-8.0	37	222	1.7	238	5.1	75	1500	3.0	*****	37	101	.7	123	2.5	33	1500	6.2	-9.4	32	071	.7	142	2.5	54
1800	-1.1	-8.3	58	079	.4	078	5.7	8	1800	-.1	-7.4	58	046	.7	028	3.2	8	1800	4.2	-7.4	43	034	1.1	044	3.8	11
2100	-1.7	-8.2	61	105	3.8	114	8.3	1	2100	.9	-4.7	66	044	1.9	118	4.4	0	2100	4.4	-5.2	50	009	1.7	011	4.4	1
2400	-1.4	-8.6	58	089	3.5	097	7.0	0	2400	-1.0	-4.5	77	067	1.4	034	3.2	0	2400	4.7	-3.6	55	050	1.3	084	4.4	1

DAY 25

DAY 26

DAY 27

HOUR	DEW								WIND	WIND	GUST	MAX.	HOUR	DEW								WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	5.7	-4.2	49	060	1.7	045	3.8	1	0300	1.4	-7.2	53	044	1.7	029	4.4	1	0300	.1	-8.1	54	057	1.3	051	3.2	1
0600	6.5	-5.6	42	059	1.9	061	4.4	6	0600	1.2	-8.1	50	069	1.4	035	3.8	8	0600	.8	-8.8	49	043	1.7	040	3.8	10
0900	8.5	*****	29	070	1.5	095	4.4	54	0900	5.1	*****	32	065	1.3	057	3.8	53	0900	2.6	-10.1	39	047	1.6	024	3.8	54
1200	11.5	*****	22	065	1.1	105	3.2	68	1200	3.6	-11.3	33	024	.7	352	2.5	68	1200	4.6	*****	29	023	1.5	012	3.2	49
1500	8.5	*****	20	062	.7	049	3.2	53	1500	4.6	-12.1	29	068	1.0	067	3.2	53	1500	3.5	*****	39	346	.5	022	1.9	50
1800	6.3	-13.4	23	052	1.3	094	3.8	14	1800	3.1	-10.0	38	085	1.1	091	2.5	14	1800	2.1	*****	47	271	.2	133	1.9	15
2100	2.2	-4.1	63	052	1.3	074	3.8	1	2100	.6	*****	66	064	.7	007	1.9	1	2100	-1.4	*****	91	050	.6	022	1.9	1
2400	2.1	-5.5	57	048	1.1	011	3.2	1	2400	1.4	-8.5	48	058	1.2	083	3.2	1	2400	-1.7	-3.6	87	070	1.2	031	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	-2.1	-6.3	73	063	1.5	043	4.4	0	0300	1.7	-4.3	64	060	1.2	032	3.8	1
0600	-1.3	-8.7	57	087	1.3	103	3.2	13	0600	-1.7	*****	0	222	.1	273	3.2	12
0900	3.9	*****	31	046	1.5	040	4.4	45	0900	2.9	*****	65	129	.2	130	1.3	31
1200	6.1	*****	31	116	.5	131	3.8	58	1200	6.5	*****	53	223	.4	240	1.9	55
1500	2.6	-12.2	33	042	.6	059	3.2	61	1500	4.0	*****	60	276	.3	328	1.9	38
1800	.1	-4.7	70	035	.5	034	2.5	7	1800	-.6	-39.2	3	134	.7	145	4.4	10
2100	-.3	*****	65	099	.6	042	2.5	1	2100	.5	-3.2	76	110	2.0	113	6.3	0
2400	.8	-6.5	58	073	1.2	083	3.2	1	2400	-1.0	-3.4	84	126	1.6	193	5.1	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

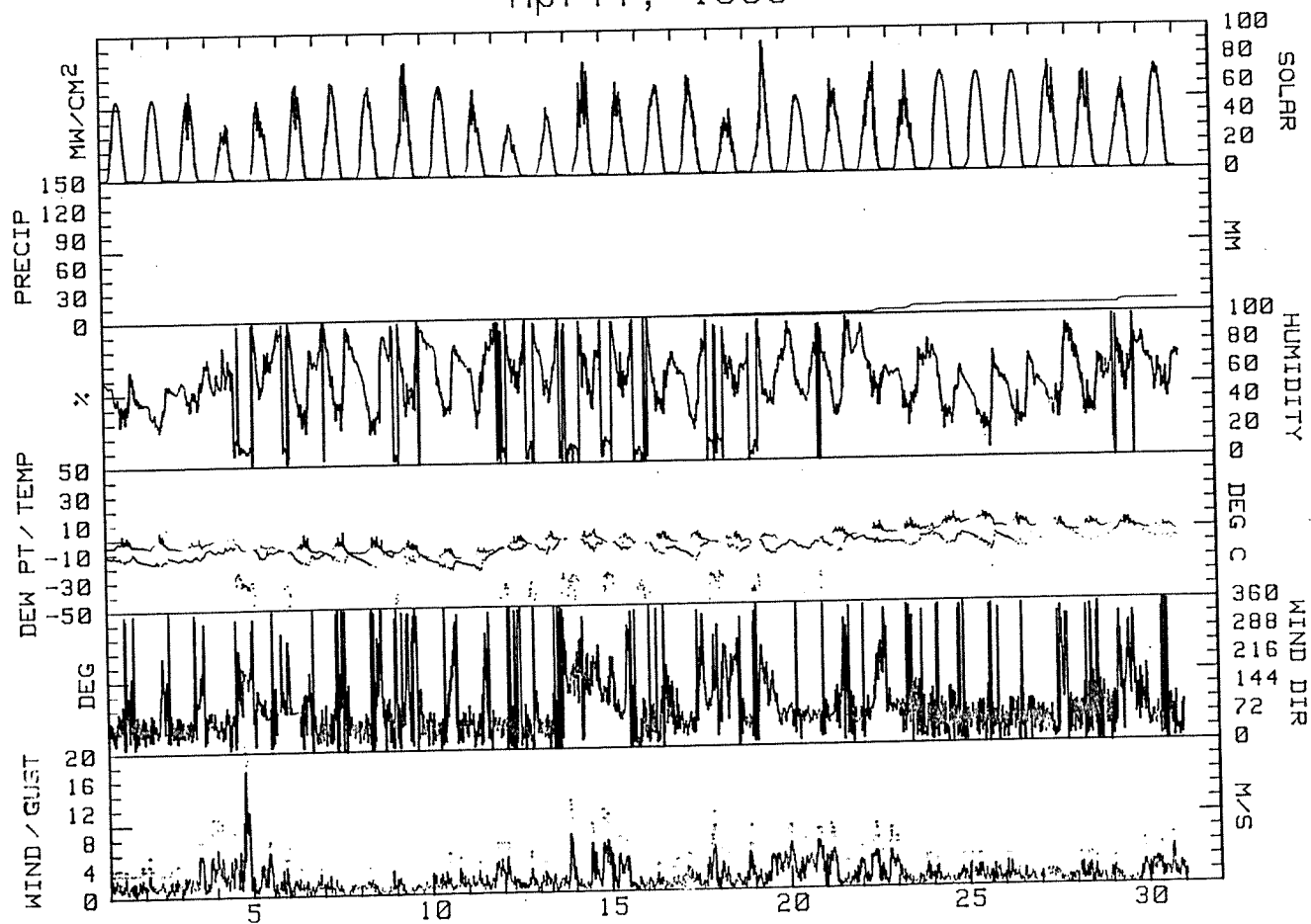
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ/H	DAY
1	3.4	-5.0	-0.8	068	1.2	1.4	056	4.4	NE	51	-12.4	0.0	4155	1
2	5.1	-5.9	-0.4	067	1.2	1.5	052	5.7	NE	43	-14.9	0.0	4310	2
3	.9	-6.5	-2.8	087	2.1	2.7	070	10.8	ENE	55	-11.8	0.0	3943	3
4	1.4	-7.3	-3.0	126	2.3	4.6	184	24.1	ENE			0.0	2635	4
5	-3.3	-7.6	-5.5	106	1.8	2.1	089	7.6	ESE	65	-13.0	0.0	3738	5
6	2.5	-9.5	-3.5	085	.8	1.3	037	3.8	E	59	-16.0	.2	4443	6
7	3.9	-10.2	-3.2	055	.8	1.1	059	3.8	ENE	80	-12.0	0.0	4595	7
8	.8	-10.6	-4.9	055	.8	1.1	043	4.4	ENE	65	-15.1	0.0	4628	8
9	-2.1	-14.1	-8.1	040	.5	1.0	280	3.8	E			0.0	4725	9
10	-8.0	-15.5	-11.8	053	1.1	1.6	107	5.7	ENE	68	-18.7	0.0	5063	10
11	-7.6	-15.7	-11.7	061	1.6	2.1	080	7.0	ENE	67	-17.0	0.0	3658	11
12	0.0	-9.2	-4.6	037	1.4	1.6	072	7.0	NNE			0.0	2483	12
13	2.6	-6.9	-2.2	099	.7	2.0	140	12.7	NE			0.0	3030	13
14	3.6	-5.4	-.9	153	2.4	2.9	147	11.4	SE			.2	4545	14
15	.4	-6.5	-3.1	095	1.1	2.0	091	7.6	E			0.0	4255	15
16	1.1	-7.0	-3.0	067	.9	1.2	033	4.4	ENE			.4	4913	16
17	1.3	-7.1	-2.9	096	1.4	2.1	122	10.8	NE			.8	4575	17
18	.2	-7.5	-3.7	092	.6	1.8	066	8.9	ENE			.6	2998	18
19	-1.4	-7.1	-4.3	102	2.1	3.0	081	8.9	E			0.0	4810	19
20	-.9	-6.3	-3.6	072	3.4	3.5	098	8.3	ENE			0.0	4488	20
21	2.0	-4.9	-1.5	072	1.7	2.1	093	8.9	ENE	68	-8.5	.4	4575	21
22	5.7	-3.3	1.2	099	1.9	2.8	099	8.9	E	64	-7.4	2.2	4735	22
23	7.4	-2.0	2.7	069	.9	1.3	105	4.4	E	59	-7.4	3.8	4250	23
24	11.5	-1.3	5.1	043	1.0	1.3	011	4.4	NNE	54	-5.6	1.0	5943	24
25	11.5	1.3	6.4	059	1.3	1.6	061	4.4	NE	41	-7.5	0.0	5968	25
26	9.5	.2	4.9	060	1.1	1.3	029	4.4	ENE	45	-8.6	0.0	6000	26
27	6.2	-2.0	2.1	043	1.0	1.3	040	3.8	NNE	56	-7.8	0.0	5755	27
28	6.1	-2.4	1.9	067	.9	1.3	043	4.4	E	56	-7.9	0.0	5198	28
29	6.8	-2.9	2.0	114	.6	1.1	113	6.3	SE			3.4	4593	29
30	2.6	-3.1	-.3	050	1.9	2.3	113	7.0	NE	60	-7.7	0.0	6370	30
MONTH	11.5	-15.7	-2.0	080	1.2	1.9	184	24.1	ENE	M	M	13.0	135372	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 21.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 20.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 18.4

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

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
April, 1983



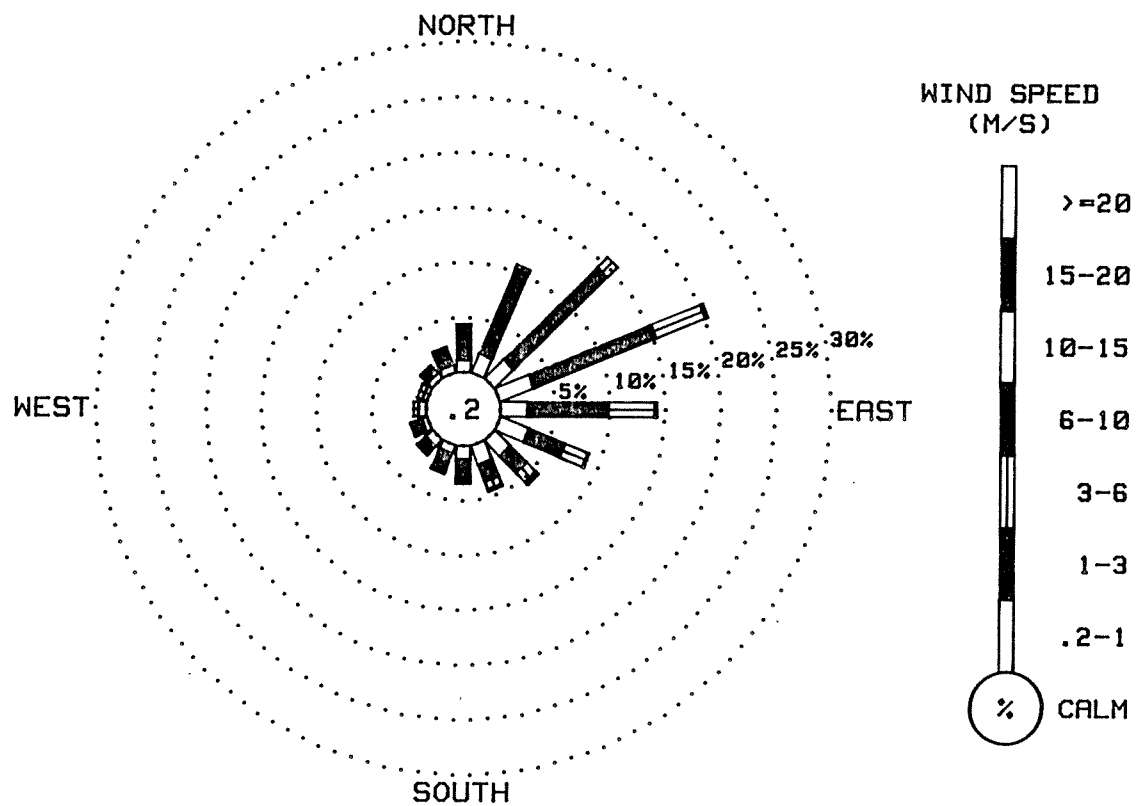
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.12	3.22	.04	0.00	0.00	0.00	0.00	4.38
NNE	1.89	8.37	.35	0.00	0.00	0.00	0.00	10.61
NE	2.42	11.87	1.30	0.00	0.00	0.00	0.00	15.58
ENE	3.33	11.90	4.83	.21	0.00	0.00	0.00	20.27
E	2.45	7.35	4.20	.21	0.00	0.00	0.00	14.21
ESE	2.84	3.54	2.28	.11	0.00	0.00	0.00	8.75
SE	2.03	2.07	1.19	.32	.04	0.00	0.00	5.64
SSE	1.86	1.61	.77	.21	0.00	0.00	0.00	4.45
S	1.23	1.58	.35	.04	.18	.04	0.00	3.40
SSW	.81	1.65	.11	.11	.07	0.00	0.00	2.73
SW	.88	.95	.11	0.00	0.00	0.00	0.00	1.93
WSW	.53	.95	.14	0.00	0.00	0.00	0.00	1.61
W	.74	.46	0.00	0.00	0.00	0.00	0.00	1.19
WNW	.46	.53	0.00	0.00	0.00	0.00	0.00	.98
NW	.63	.95	0.00	0.00	0.00	0.00	0.00	1.58
NNW	.77	1.72	0.00	0.00	0.00	0.00	0.00	2.49
CALM								.25
TOTAL	23.94	58.66	15.65	1.19	.28	.04	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2857 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
April, 1983



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R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-2.5	-9.2	60	061	1.2	053	3.2	1	0300	-2.0	-2.7	95	093	2.4	089	7.0	1
0600	-2.2	-11.5	49	079	1.2	095	2.5	9	0600	1.0	*****	79	067	.6	024	3.2	16
0900	.1	-14.1	34	073	1.3	044	3.8	53	0900	.5	*****	69	348	.3	097	1.3	33
1200	4.8	*****	20	119	.6	139	3.2	64	1200	1.1	-7.4	53	246	.5	209	2.5	58
1500	1.4	-14.8	29	098	.1	146	2.5	54	1500	1.2	-8.1	50	105	2.0	113	7.0	38
1800	.8	-13.1	35	092	1.1	043	4.4	13	1800	-.4	*****	60	128	2.4	112	8.9	13
2100	.8	-10.5	43	064	1.1	089	3.2	1	2100	-3.2	-32.9	8	031	.7	005	3.2	1
2400	1.4	-7.4	52	069	3.4	079	6.3	1	2400	-3.6	*****	8	090	.5	031	3.2	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-4.9	-10.4	65	063	1.1	040	3.2	1	0300	-4.6	*****	57	057	1.1	003	3.2	1
0600	-4.3	-11.3	58	070	1.2	078	2.5	12	0600	-3.4	-13.2	47	063	1.0	035	2.5	16
0900	2.1	*****	22	097	1.1	112	3.2	60	0900	1.0	*****	27	083	.7	058	1.9	52
1200	.9	*****	20	160	.8	142	2.5	53	1200	1.3	*****	20	335	.3	022	1.9	61
1500	1.4	*****	19	285	.5	210	1.9	45	1500	2.4	*****	21	359	.6	279	1.9	50
1800	-.3	*****	30	232	.1	139	2.5	18	1800	-2.0	-7.1	68	106	.4	025	3.8	12
2100	-3.9	-11.6	55	068	1.0	073	3.8	1	2100	-2.5	*****	80	063	.6	358	2.5	1
2400	-3.9	-12.6	51	035	1.0	032	3.8	1	2400	-2.9	*****	78	051	.7	005	1.9	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-2.1	*****	45	055	1.3	066	4.4	1	0300	.2	-11.3	42	068	2.2	074	5.1	1
0600	-1.3	-13.9	38	067	1.3	042	3.8	10	0600	.9	*****	40	079	.9	045	2.5	15
0900	3.4	-13.5	28	085	1.0	122	3.2	57	0900	3.1	-12.1	32	108	1.3	102	3.8	50
1200	3.5	-16.3	22	116	2.0	122	5.7	63	1200	4.5	-15.5	22	009	.9	011	1.9	75
1500	2.4	-12.8	32	111	3.8	120	7.0	51	1500	9.6	*****	16	013	.8	333	1.9	59
1800	2.0	-13.1	32	103	4.1	099	7.0	16	1800	4.1	*****	23	090	.5	133	1.9	20
2100	.9	-9.8	45	061	3.2	062	5.1	1	2100	.5	-8.2	52	065	.8	098	1.9	1
2400	.7	-9.7	46	058	2.9	050	5.1	1	2400	.3	-9.8	47	068	1.2	055	3.2	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.	M/S
0300	1.0	-10.3	43	064	1.2	053	3.2	1	0300	*****	*****	**	0300	*****	*****	**	*****
0600	-1.1	-11.6	42	041	1.0	002	3.8	9	0600	*****	*****	**	0600	*****	*****	**	*****
0900	4.1	*****	29	061	.7	020	2.5	39	0900	*****	*****	**	0900	*****	*****	**	*****
1200	*****	*****	**	*****	*****	*****	*****	*****	1200	*****	*****	**	1200	*****	*****	**	*****
1500	*****	*****	**	*****	*****	*****	*****	*****	1500	*****	*****	**	1500	*****	*****	**	*****
1800	*****	*****	**	*****	*****	*****	*****	*****	1800	*****	*****	**	1800	*****	*****	**	*****
2100	*****	*****	**	*****	*****	*****	*****	*****	2100	*****	*****	**	2100	*****	*****	**	*****
2400	*****	*****	**	*****	*****	*****	*****	*****	2400	*****	*****	**	2400	*****	*****	**	*****

DAY 13

DAY 14

DAY 15

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

DAY 16

DAY 17

DAY 18

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

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

DAY 22

DAY 23

DAY 24

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

DAY 25

DAY 26

DAY 27

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

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

DAY 31

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

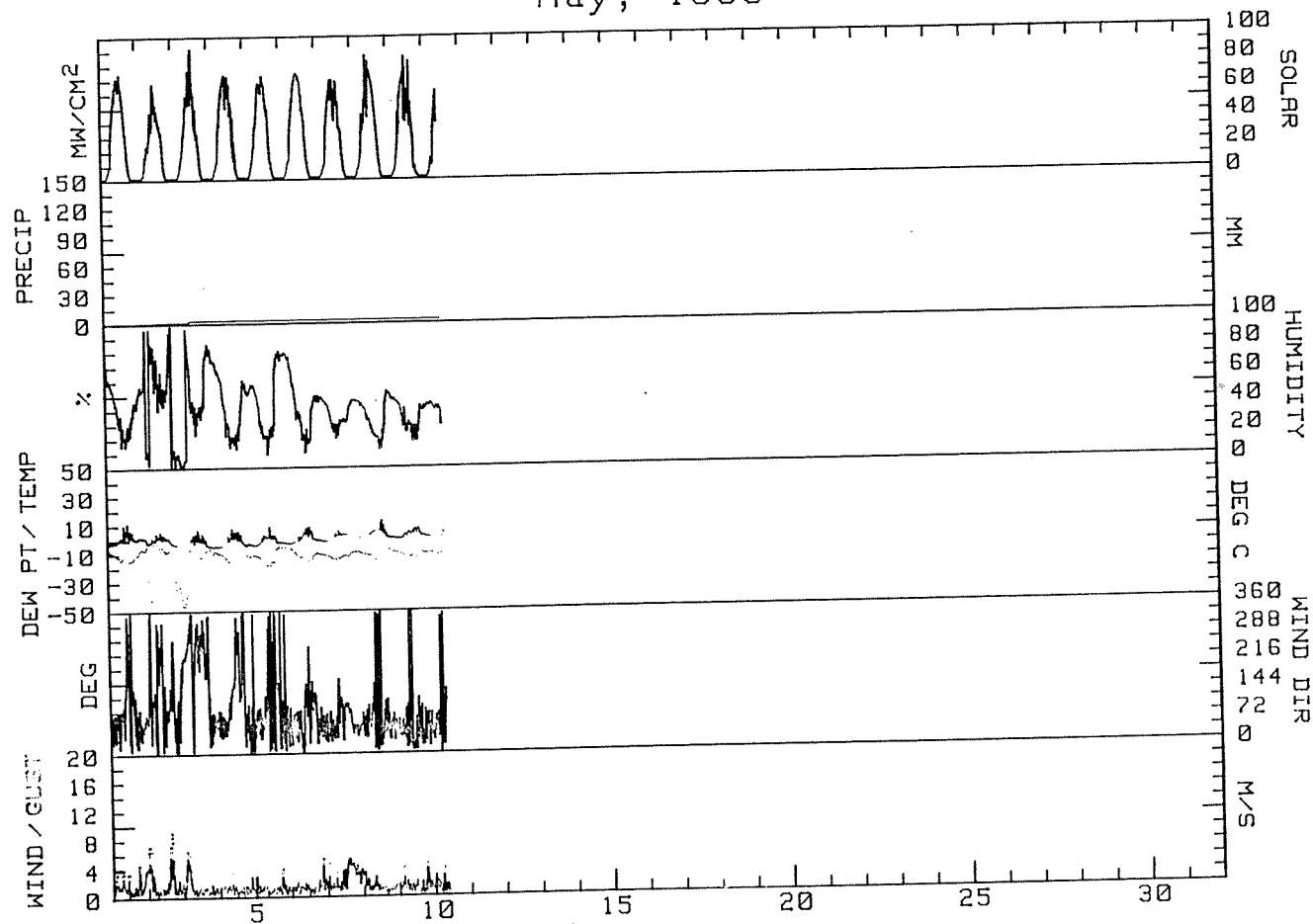
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DTR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	11.0	-3.1	4.0	075	1.2	1.6	079	6.3	E	45	-11.0	0.0	6168	1
2	5.3	-3.8	.8	100	.9	1.6	112	8.9	ESE			.8	4630	2
3	6.1	-5.3	.4	261	.7	1.3	239	6.3	WSW			1.8	5740	3
4	7.0	-5.2	.9	073	.6	1.0	073	3.8	ENE	52	-12.4	0.0	6363	4
5	8.0	-4.6	1.7	056	.6	1.0	025	3.8	ENE	49	-12.3	0.0	6120	5
6	7.9	-3.3	2.3	071	.9	1.2	058	5.1	NE	47	-11.3	0.0	6630	6
7	5.0	-2.2	1.4	086	2.3	2.6	120	7.0	ENE	37	-12.6	0.0	5995	7
8	11.6	-.2	5.7	066	.9	1.2	074	5.1	ENE	39	-11.4	0.0	6658	8
9	6.9	-.4	3.3	051	1.0	1.3	047	4.4	NE	37	-11.8	0.0	6203	9
10	4.1	-.5	1.8	055	.9	1.2	002	3.8	NE	42	-11.1	0.0M	3827	10
11	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	11
12	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	12
13	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	13
14	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	14
15	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	15
16	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	16
17	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	17
18	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	18
19	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	19
20	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	20
21	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	21
22	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	22
23	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	23
24	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	24
25	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	25
26	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	26
27	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	27
28	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	28
29	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	29
30	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	30
31	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	31
MONTH	11.6M	-5.3M	2.2M	073M	.8M	1.4M	112M	8.9M	ENE(M)	43M	-13.1M	2.6M	58332 M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.3
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 NOTES AT THE BACK OF THIS REPORT ***

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
May, 1983



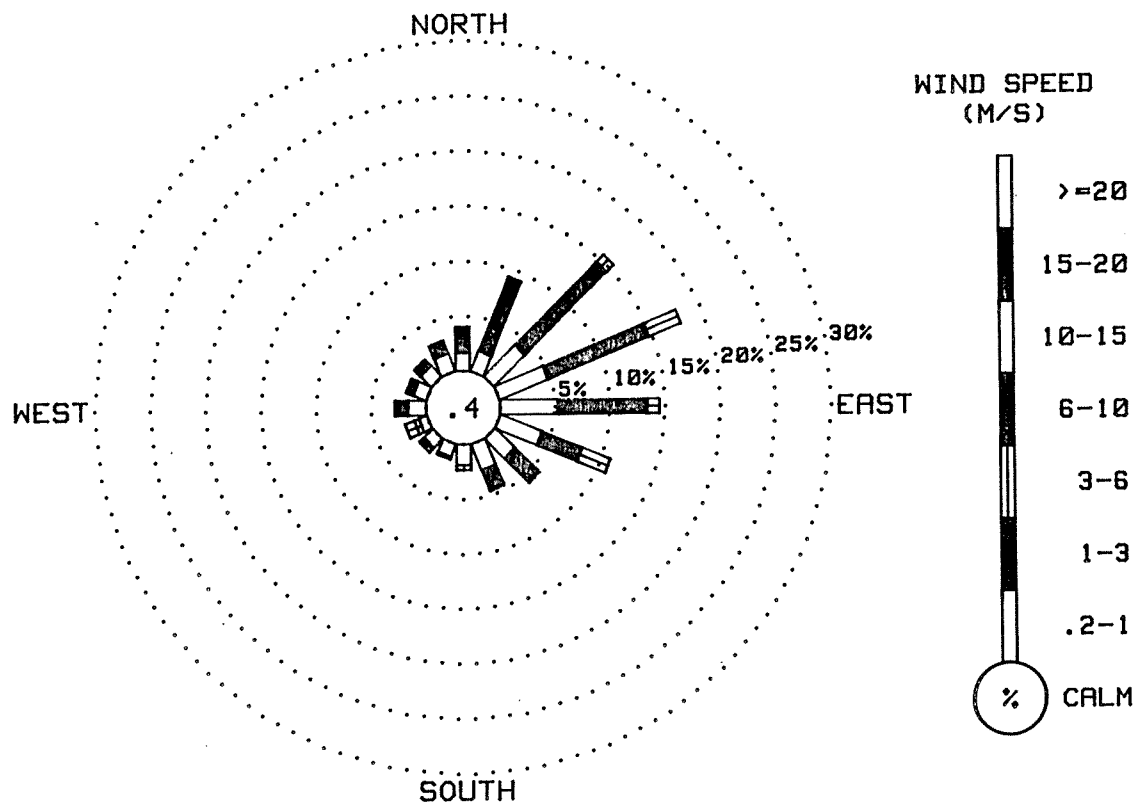
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2	1.0	3.0	6.0	10.0	15.0	20.0	
	TO 1.0	TO 3.0	TO 6.0	TO 10.0	TO 15.0	TO 20.0	OR GREATER	
N	1.67	2.33	0.00	0.00	0.00	0.00	0.00	4.00
NNE	2.00	7.22	0.00	0.00	0.00	0.00	0.00	9.22
NE	4.00	10.56	.89	0.00	0.00	0.00	0.00	15.44
ENE	4.78	9.89	3.11	0.00	0.00	0.00	0.00	17.78
E	5.22	8.11	1.11	0.00	0.00	0.00	0.00	14.44
ESE	4.11	3.89	2.78	0.00	0.00	0.00	0.00	10.78
SE	2.56	2.78	.33	0.00	0.00	0.00	0.00	5.67
SSE	2.56	1.89	.11	0.00	0.00	0.00	0.00	4.56
S	1.89	.44	0.00	0.00-0.00	0.00	0.00	2.33	→
SSW	1.22	.22	0.00	0.00	0.00	0.00	0.00	1.44
SW	1.11	.22	.33	0.00	0.00	0.00	0.00	1.67
WSW	.78	.44	.89	0.00	0.00	0.00	0.00	2.11
W	1.67	1.11	.11	0.00	0.00	0.00	0.00	2.89
WNW	1.33	.67	0.00	0.00	0.00	0.00	0.00	2.00
NW	1.44	.78	0.00	0.00	0.00	0.00	0.00	2.22
NNW	1.78	1.22	0.00	0.00	0.00	0.00	0.00	3.00
CALM	-----	-----	-----	-----	-----	-----	-----	.44
TOTAL	38.11	51.78	9.67	0.00	0.00	0.00	0.00	100.00

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
May, 1983



HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1983

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

[illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

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

DAY 04

DAY 05

DAY 06

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

DAY 07

DAY 08

DAY 09

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

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

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG.	M/S	MW
0300	*****	*****	**	***	****	***	*****	***	*****	***	*****	0300	*****	*****	**	***	****
0600	*****	*****	**	***	****	***	*****	***	*****	***	*****	0600	*****	*****	**	***	****
0900	*****	*****	**	***	****	***	*****	***	*****	***	*****	0900	*****	*****	**	***	****
1200	*****	*****	**	***	****	***	*****	***	*****	***	*****	1200	6.6	*****	**	007	.3
1500	*****	*****	**	***	****	***	*****	***	*****	***	*****	1500	6.7	*****	**	230	.6
1800	*****	*****	**	***	****	***	*****	***	*****	***	*****	1800	6.3	*****	**	123	.5
2100	*****	*****	**	***	****	***	*****	***	*****	***	*****	2100	2.1	*****	**	208	.1
2400	*****	*****	**	***	****	***	*****	***	*****	***	*****	2400	.9	*****	**	052	.5

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG.	M/S	MW
0300	1.2	*****	**	101	.5	354	1.9	4	0300	4.1	*****	**	031	.8	024	2.5	4
0600	2.1	*****	**	028	.4	070	2.5	29	0600	4.4	*****	**	052	1.1	046	2.5	32
0900	4.4	*****	**	215	.0	185	3.2	47	0900	6.9	*****	**	144	1.2	183	5.1	66
1200	6.8	*****	**	248	1.3	268	5.1	85	1200	7.7	*****	**	139	3.4	145	5.1	85
1500	7.2	*****	**	210	1.8	185	5.1	64	1500	10.6	*****	**	137	3.1	126	5.7	80
1800	7.6	*****	**	193	2.0	172	4.4	27	1800	9.1	*****	**	138	3.2	143	6.3	28
2100	6.0	*****	**	019	.6	234	2.5	4	2100	6.6	*****	**	140	.4	239	3.2	4
2400	4.5	*****	**	060	1.0	058	3.2	2	2400	6.2	*****	**	046	.9	032	3.2	2

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	9.2	*****	**	064	2.1	052	5.7	4	0300	5.9	*****	**	064	.9	093	2.5	3	0300	7.5	*****	**	034	1.1	026	2.5	3
0600	9.8	*****	**	054	1.3	044	3.2	32	0600	5.0	*****	**	069	.9	029	2.5	24	0600	7.7	*****	**	102	.9	132	2.5	16
0900	10.7	*****	**	179	.9	155	3.2	41	0900	10.2	*****	**	203	1.1	239	4.4	66	0900	11.7	*****	**	106	1.2	174	4.4	84
1200	11.5	*****	**	194	1.8	182	3.8	34	1200	11.1	*****	**	192	1.6	172	3.8	79	1200	12.7	*****	**	192	2.2	183	5.1	82
1500	10.2	*****	**	227	.4	148	4.4	38	1500	12.7	*****	**	192	2.7	200	5.1	66	1500	11.8	*****	**	077	.7	027	7.6	25
1800	5.6	*****	**	255	2.8	241	7.6	4	1800	11.2	*****	**	194	2.1	165	5.1	29	1800	12.2	*****	**	131	2.0	117	5.7	28
2100	7.5	*****	**	057	1.8	040	4.4	3	2100	9.3	*****	**	032	.5	306	3.8	2	2100	11.1	*****	**	101	1.6	114	5.1	4
2400	6.0	*****	**	050	1.2	039	3.8	1	2400	8.4	*****	**	036	1.4	019	3.8	2	2400	10.4	*****	**	037	1.6	353	5.1	2

DAY 22

DAY 23

DAY 24

HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	8.2	*****	**	016	1.3	350	3.8	3	0300	8.9	*****	**	043	1.1	084	3.2	4	0300	12.0	*****	**	056	3.5	057	5.7	4
0600	8.5	*****	**	039	.9	043	1.9	31	0600	11.8	*****	**	051	.8	002	2.5	31	0600	11.9	*****	**	067	1.6	065	4.4	33
0900	10.9	*****	**	192	.6	171	2.5	66	0900	13.8	*****	**	138	2.2	134	7.0	60	0900	14.1	*****	**	128	.8	142	4.4	68
1200	13.6	*****	**	191	2.1	193	5.1	78	1200	14.4	*****	**	137	4.7	132	8.3	64	1200	15.8	*****	**	179	2.2	152	5.1	80
1500	13.1	*****	**	210	2.1	200	5.1	32	1500	15.3	*****	**	133	4.7	134	7.6	61	1500	16.5	*****	**	213	1.6	139	5.1	64
1800	12.1	*****	**	181	1.1	150	3.8	18	1800	13.1	*****	**	117	3.6	128	6.3	17	1800	16.0	*****	**	148	2.5	133	5.7	30
2100	11.2	*****	**	002	.1	188	1.9	4	2100	12.7	*****	**	071	2.1	059	5.1	4	2100	13.9	*****	**	006	.2	061	3.2	4
2400	10.9	*****	**	065	1.2	075	3.8	2	2400	12.0	*****	**	062	3.3	059	5.7	2	2400	14.7	*****	**	066	1.4	062	3.2	2

DAY 25

DAY 26

DAY 27

HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.		HOUR	DEW		WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	13.6	*****	**	070	1.6	059	3.8	4	0300	9.0	*****	**	014	.9	310	4.4	3	0300	8.8	*****	**	082	1.4	066	4.4	3
0600	12.9	*****	**	056	1.6	019	4.4	31	0600	8.6	*****	**	082	.6	156	2.5	34	0600	8.5	*****	**	001	.5	062	3.8	11
0900	15.0	*****	**	173	1.0	149	4.4	66	0900	11.5	*****	**	175	1.1	149	4.4	64	0900	6.2	*****	**	042	.8	021	3.2	8
1200	16.4	*****	**	201	1.9	200	4.4	80	1200	15.1	*****	**	199	1.6	173	5.1	77	1200	6.3	*****	**	158	.6	137	3.2	24
1500	19.1	*****	**	159	2.7	139	6.3	64	1500	14.2	*****	**	215	1.7	175	4.4	29	1500	7.1	*****	**	116	1.0	014	3.8	10
1800	16.4	*****	**	230	1.5	146	5.7	16	1800	13.9	*****	**	278	.4	028	3.8	21	1800	6.0	*****	**	173	.8	134	3.2	3
2100	15.4	*****	**	060	1.1	064	3.8	3	2100	12.4	*****	**	021	.8	253	3.8	3	2100	6.0	*****	**	104	.7	132	2.5	1
2400	11.9	*****	**	021	1.0	298	5.1	2	2400	8.4	*****	**	041	.8	344	4.4	2	2400	6.0	*****	**	046	.6	055	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

DAY 28								DAY 29								DAY 30										
HOUR	DEW	WIND	WIND	GUST	MAX.			HOUR	DEW	WIND	WIND	GUST	MAX.			HOUR	DEW	WIND	WIND	GUST	MAX.					
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST			
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW			
0300	5.2	*****	**	082	.6	068	1.9	2	0300	6.8	*****	**	045	1.0	025	2.5	3	0300	6.9	*****	**	084	.4	063	2.5	2
0600	5.5	*****	**	149	1.0	124	1.9	12	0600	7.3	*****	**	053	1.1	009	2.5	31	0600	7.3	*****	**	126	1.0	122	2.5	16
0900	6.9	*****	**	229	.7	147	3.2	37	0900	9.9	*****	**	189	.1	143	4.4	61	0900	9.2	*****	**	126	.8	072	4.4	49
1200	7.7	*****	**	158	1.0	171	3.2	30	1200	12.2	*****	**	166	2.3	138	5.7	54	1200	11.4	*****	**	178	2.6	163	5.1	67
1500	7.2	*****	**	186	1.6	169	3.2	20	1500	9.1	*****	**	127	2.5	118	6.3	22	1500	12.9	*****	**	177	2.5	150	5.7	63
1800	8.2	*****	**	355	.5	025	3.8	15	1800	8.3	*****	**	249	.5	231	5.1	10	1800	10.6	*****	**	221	1.7	252	5.1	14
2100	6.1	*****	**	116	.2	337	4.4	2	2100	8.4	*****	**	096	.9	120	3.8	3	2100	10.4	*****	**	045	1.6	090	5.1	3
2400	6.5	*****	**	021	.9	072	3.2	1	2400	7.2	*****	**	063	.9	076	2.5	1	2400	10.7	*****	**	048	.9	055	3.2	2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

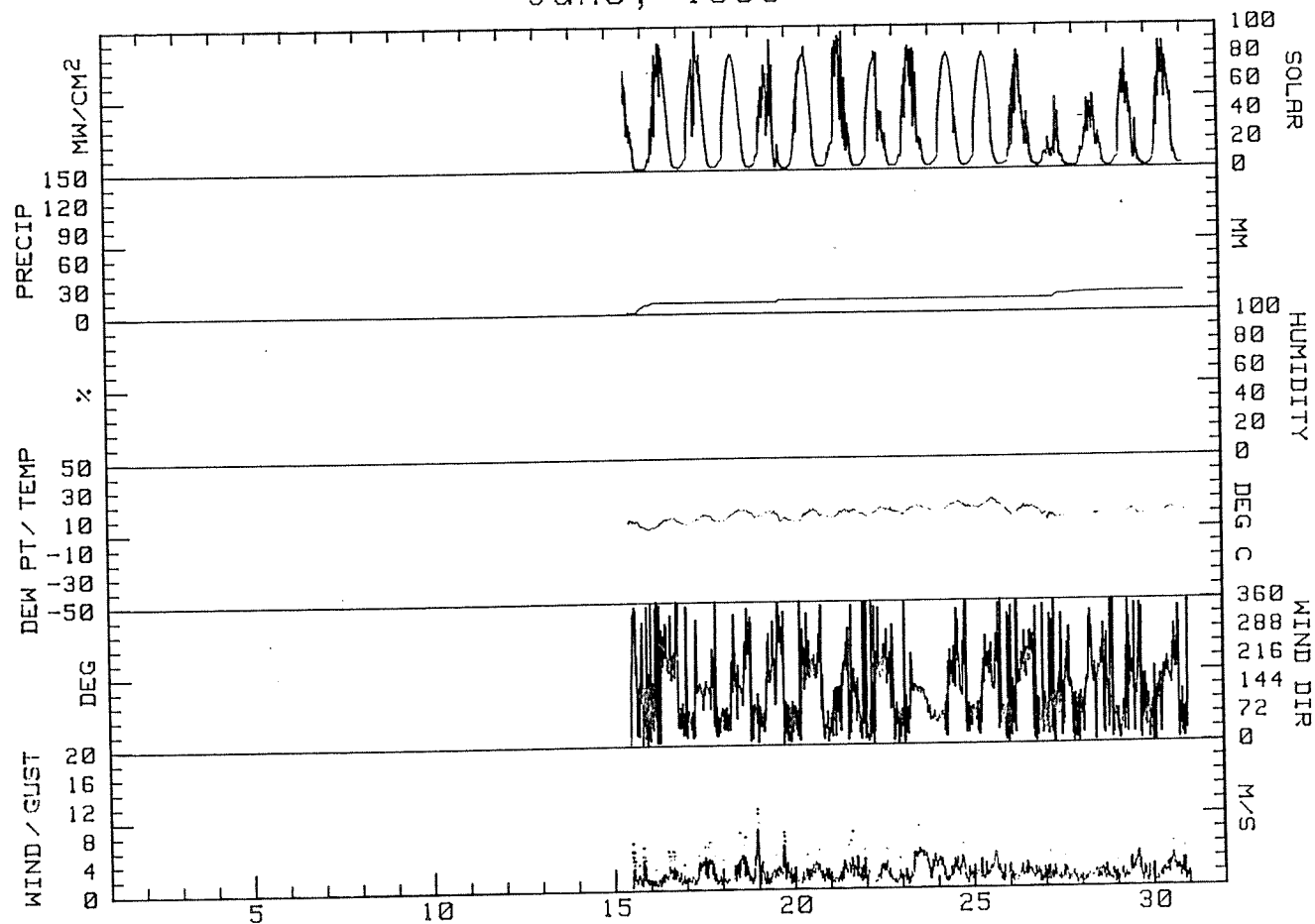
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	1
2	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	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	7.0	.9	4.0	145	.1	1.5	010	6.3	SE	**	*****	7.4M	4430	15
16	8.7	.3	4.5	197	.3	1.4	268	5.1	SSW	**	*****	3.0	7568	16
17	10.6	3.6	7.1	124	1.4	2.0	143	6.3	SE	**	*****	0.0	7653	17
18	13.9	5.6	9.8	118	1.2	2.3	072	10.8	ENE	**	*****	0.0	8300	18
19	12.6	5.4	9.0	099	.2	2.0	241	7.6	NE	**	*****	2.0	5505	19
20	13.9	5.0	9.5	169	.6	1.8	200	5.1	SSW	**	*****	0.0	8038	20
21	13.2	7.5	10.4	106	.9	1.9	027	7.6	ENE	**	*****	0.0	6728	21
22	14.5	7.5	11.0	173	.4	1.5	193	5.1	SSW	**	*****	0.0	6830	22
23	15.4	8.9	12.2	110	2.3	2.9	132	8.3	SE	**	*****	0.0	7293	23
24	17.7	10.8	14.3	113	.9	2.1	057	5.7	ENE	**	*****	0.0	8145	24
25	20.0	11.9	16.0	136	.6	1.9	139	6.3	ENE	**	*****	0.0	7958	25
26	15.1	7.7	11.4	185	.2	1.5	173	5.1	ENE	**	*****	0.0	6173	26
27	9.6	5.0	7.3	092	.5	1.2	066	4.4	ESE	**	*****	5.0	2030	27
28	9.2	5.2	7.2	155	.4	1.2	337	4.4	SSE	**	*****	1.2	3790	28
29	12.2	6.4	9.3	114	.7	1.7	118	6.3	NNE	**	*****	.2	5413	29
30	13.0	6.5	9.8	153	.8	1.8	150	5.7	S	**	*****	0.0	7523	30
MONTH	20.0M	.3M	9.5M	126M	.7M	1.8M	072M	10.8M	ENE(M)	**	*****	18.8M	103373M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.3

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

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
June, 1983



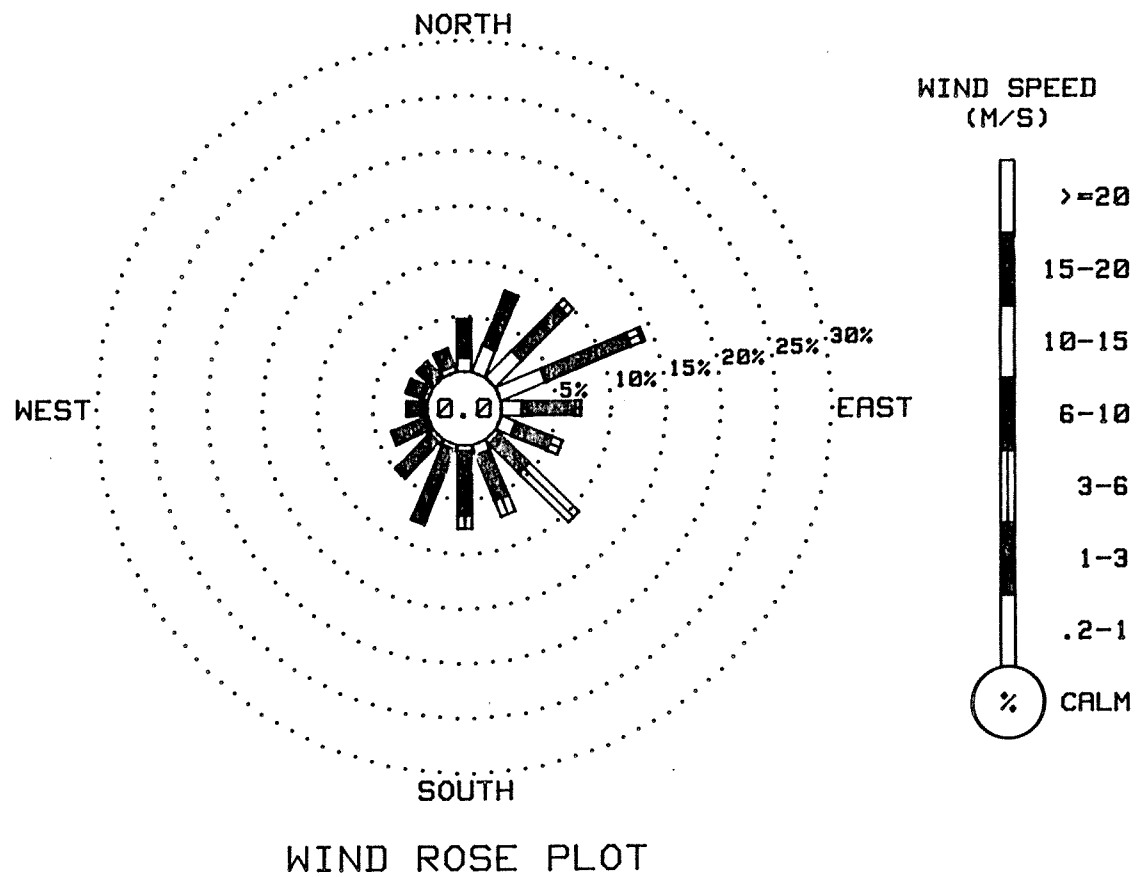
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.28	3.42	.07	0.00	0.00	0.00	0.00	4.77
NNE	2.62	4.97	.34	0.00	0.00	0.00	0.00	7.92
NE	3.42	5.77	.81	0.00	0.00	0.00	0.00	10.00
ENE	4.43	8.32	1.14	.20	0.00	0.00	0.00	14.09
E	1.88	4.83	.47	.07	0.00	0.00	0.00	7.25
ESE	1.48	3.49	1.07	0.00	0.00	0.00	0.00	6.04
SE	.54	3.76	6.38	0.00	0.00	0.00	0.00	10.67
SSE	1.01	4.43	1.61	0.00	0.00	0.00	0.00	7.05
S	.54	5.84	1.21	0.00	0.00	0.00	0.00	7.58
SSW	.47	6.98	.34	0.00	0.00	0.00	0.00	7.79
SW	.47	4.09	.34	0.00	0.00	0.00	0.00	4.90
WSW	.34	2.95	.27	0.00	0.00	0.00	0.00	3.56
W	.27	1.61	0.00	0.00	0.00	0.00	0.00	1.88
WNW	.47	1.68	0.00	0.00	0.00	0.00	0.00	2.15
NW	.40	1.68	0.00	0.00	0.00	0.00	0.00	2.08
NNW	.60	1.68	0.00	0.00	0.00	0.00	0.00	2.28
CALM	-----	-----	-----	-----	-----	-----	-----	0.00
TOTAL	20.20	65.50	14.03	.27	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1490 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
June, 1983



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R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	MAX.				
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW				
0300	11.5	*****	**	056	1.5	082	4.4	3	0300	5.9	*****	**	338	.6	073	3.8	1	0300	7.0	*****	**	071	.5	120	1.9	2
0600	10.4	*****	**	041	1.8	054	7.0	17	0600	5.1	*****	**	305	1.1	335	3.2	5	0600	6.0	*****	**	027	.5	100	3.8	7
0900	12.6	*****	**	346	1.8	355	5.1	26	0900	6.4	*****	**	158	1.1	156	3.2	26	0900	8.0	*****	**	164	.8	131	3.2	38
1200	12.1	*****	**	198	.2	003	3.2	26	1200	7.4	*****	**	167	1.2	097	3.2	23	1200	7.9	*****	**	205	1.2	231	3.2	8
1500	13.1	*****	**	183	1.8	178	4.4	38	1500	8.5	*****	**	173	1.6	150	3.2	22	1500	9.9	*****	**	147	.8	001	3.2	47
1800	14.0	*****	**	179	1.1	175	3.8	33	1800	8.4	*****	**	184	1.0	176	2.5	13	1800	11.3	*****	**	138	1.1	120	5.1	18
2100	8.5	*****	**	267	.6	254	5.1	1	2100	8.5	*****	**	276	.2	149	2.5	1	2100	9.6	*****	**	345	1.0	346	2.5	3
2400	7.3	*****	**	035	1.1	006	5.7	1	2400	7.0	*****	**	061	.4	091	1.9	1	2400	9.5	*****	**	041	2.0	073	7.0	2

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD				
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW				
0300	9.8	*****	**	055	2.0	033	4.4	3	0300	11.2	*****	**	060	1.8	060	8.9	2	0300	11.0	*****	**	052	2.3	037	6.3	3
0600	10.7	*****	**	049	1.4	059	4.4	15	0600	8.0	*****	**	064	1.1	044	5.1	21	0600	9.8	*****	**	359	.8	033	4.4	29
0900	12.1	*****	**	013	1.2	071	4.4	29	0900	10.6	*****	**	131	1.4	148	4.4	61	0900	11.3	*****	**	176	.9	177	3.8	62
1200	13.1	*****	**	354	1.0	043	4.4	34	1200	15.5	*****	**	143	2.8	123	6.3	77	1200	14.1	*****	**	185	1.8	167	4.4	75
1500	15.4	*****	**	255	1.4	258	3.8	38	1500	16.7	*****	**	072	1.2	064	8.3	69	1500	14.4	*****	**	167	.6	094	8.9	27
1800	14.8	*****	**	261	1.3	234	3.8	18	1800	14.8	*****	**	259	1.2	265	5.1	13	1800	11.0	*****	**	137	.9	103	8.3	15
2100	10.7	*****	**	024	1.3	005	5.7	2	2100	13.9	*****	**	076	1.1	089	4.4	3	2100	7.0	*****	**	019	.6	299	3.2	3
2400	11.4	*****	**	063	1.3	045	3.8	2	2400	11.2	*****	**	070	4.4	083	15.2	2	2400	6.3	*****	**	031	.5	023	3.2	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD				
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW				
0300	5.3	*****	**	025	.9	014	3	0300	9.5	*****	**	075	.9	093	2.5	4	0300	5.7	*****	**	352	1.3	328	5.1	3	
0600	6.9	*****	**	115	.3	344	2.5	15	0600	8.6	*****	**	080	.5	094	1.9	16	0600	4.7	*****	**	038	.6	009	3.2	8
0900	7.7	*****	**	162	.6	143	3.8	34	0900	9.0	*****	**	245	.9	243	3.2	35	0900	3.9	*****	**	274	.6	239	3.2	8
1200	10.0	*****	**	197	1.5	188	3.8	66	1200	11.1	*****	**	207	1.4	176	3.8	62	1200	4.5	*****	**	269	.8	307	2.5	39
1500	11.9	*****	**	202	2.2	212	3.8	72	1500	12.9	*****	**	213	1.6	224	3.8	71	1500	7.0	*****	**	203	1.2	168	3.2	29
1800	12.0	*****	**	198	1.9	191	3.8	24	1800	10.7	*****	**	157	2.3	147	5.1	13	1800	8.1	*****	**	170	.7	148	3.8	21
2100	10.0	*****	**	179	.5	172	3.2	3	2100	8.9	*****	**	289	.8	220	3.8	3	2100	7.5	*****	**	099	.1	210	2.5	3
2400	9.8	*****	**	063	1.0	016	2.5	2	2400	6.7	*****	**	280	1.1	256	5.1	2	2400	4.7	*****	**	087	2.4	087	8.3	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S		DEG C	DEG C	%	DEG.
					M/S	MW					M/S	DEG.					M/S
0300	5.5	*****	**	032	1.2	018	3.2	4	0300	4.8	*****	**	083	.5	131	3.8	3
0600	4.7	*****	**	034	.6	034	2.5	12	0600	4.6	*****	**	203	1.1	283	6.3	5
0900	7.5	*****	**	232	.6	185	3.8	69	0900	6.4	*****	**	109	.8	034	4.4	10
1200	9.3	*****	**	197	1.9	193	3.8	54	1200	7.7	*****	**	255	.9	325	3.8	30
1500	10.9	*****	**	194	2.2	194	4.4	31	1500	7.7	*****	**	200	.5	172	3.2	22
1800	8.8	*****	**	189	1.5	237	5.1	11	1800	8.4	*****	**	059	.7	021	3.8	12
2100	7.7	*****	**	146	1.1	284	5.1	2	2100	7.2	*****	**	076	1.3	071	4.4	2
2400	6.1	*****	**	319	1.8	308	8.3	1	2400	6.4	*****	**	050	.6	011	3.2	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S		DEG C	DEG C	%	DEG.
					M/S	MW					M/S	DEG.					M/S
0300	6.8	*****	**	034	.9	350	2.5	3	0300	3.7	*****	**	084	.9	080	2.5	3
0600	5.3	*****	**	317	.3	314	2.5	16	0600	3.6	*****	**	355	1.1	358	3.2	12
0900	4.5	*****	**	353	.7	013	3.8	15	0900	4.8	*****	**	251	.8	243	3.2	34
1200	6.5	*****	**	011	.8	166	4.4	85	1200	4.8	*****	**	356	2.1	005	4.4	25
1500	8.5	*****	**	214	1.2	229	3.8	77	1500	6.8	*****	**	047	1.1	016	3.8	31
1800	6.0	*****	**	102	.6	075	6.3	13	1800	7.9	*****	**	132	.8	139	3.2	12
2100	4.9	*****	**	043	1.0	010	3.8	2	2100	6.5	*****	**	028	.2	291	5.1	2
2400	4.3	*****	**	075	.7	329	3.8	2	2400	6.0	*****	**	059	1.1	058	3.8	2

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S		DEG C	DEG C	%	DEG.
					M/S	MW					M/S	DEG.					M/S
0300	8.1	*****	**	068	1.2	097	2.5	3	0300	5.6	*****	**	025	.9	355	3.8	1
0600	8.3	*****	**	049	.9	031	3.2	10	0600	6.3	*****	**	062	1.3	111	3.8	11
0900	9.5	*****	**	179	1.2	137	2.5	64	0900	6.8	*****	**	035	1.1	054	4.4	16
1200	10.0	*****	**	217	1.1	249	3.2	40	1200	8.2	*****	**	300	.4	022	3.8	41
1500	11.9	*****	**	308	.6	358	3.2	31	1500	7.5	*****	**	221	1.3	156	5.1	24
1800	10.2	*****	**	257	.2	110	3.2	8	1800	6.8	*****	**	173	1.8	128	6.3	17
2100	9.1	*****	**	036	.8	028	2.5	3	2100	4.3	*****	**	168	1.3	198	4.4	2
2400	7.7	*****	**	079	1.1	109	3.8	2	2400	2.6	*****	**	327	1.1	324	3.8	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.							
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S							
						MW							MW													
0300	3.9	*****	**	021	1.2	037	3.9	3	0300	5.5	*****	**	078	.3	176	3.2	2	0300	5.2	*****	**	096	.4	347	1.3	2
0600	4.3	*****	**	047	.9	122	3.2	16	0600	6.1	*****	**	142	.1	271	1.9	15	0600	4.9	*****	**	107	.3	033	1.9	10
0900	7.6	*****	**	098	1.2	120	6.3	57	0900	6.2	*****	**	232	1.1	214	3.2	31	0900	7.3	*****	**	171	.7	189	2.5	48
1200	9.3	*****	**	134	4.8	127	7.0	70	1200	8.2	*****	**	194	1.6	203	4.4	46	1200	10.2	*****	**	150	1.7	071	5.7	79
1500	10.7	*****	**	146	3.1	135	6.3	66	1500	9.5	*****	**	214	1.8	225	4.4	69	1500	10.7	*****	**	241	1.0	250	5.7	65
1800	9.2	*****	**	158	2.6	144	5.7	24	1800	8.6	*****	**	198	.6	191	3.8	11	1800	10.6	*****	**	189	1.6	346	5.1	27
2100	6.8	*****	**	209	.2	141	4.4	3	2100	6.0	*****	**	328	.5	278	4.4	2	2100	9.3	*****	**	087	.4	122	5.1	2
2400	6.2	*****	**	062	.7	106	3.8	2	2400	6.0	*****	**	020	.6	002	2.5	1	2400	7.7	*****	**	074	.6	071	1.9	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.							
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.							
						MW							MW													
0300	7.6	*****	**	063	.9	059	2.5	3	0300	6.0	*****	**	355	.7	291	3.2	2	0300	4.4	*****	**	104	.3	036	2.5	2
0600	8.2	*****	**	056	.9	039	1.9	7	0600	2.9	*****	**	272	1.8	243	6.3	8	0600	4.8	*****	**	096	.7	052	3.8	16
0900	10.0	*****	**	092	.9	126	3.2	60	0900	3.5	*****	**	253	1.6	285	3.2	32	0900	7.9	*****	**	177	.9	147	4.4	64
1200	13.8	*****	**	158	2.7	155	5.1	81	1200	5.6	*****	**	218	1.5	194	3.8	91	1200	11.0	*****	**	214	1.5	203	3.8	87
1500	12.8	*****	**	121	.5	134	5.1	66	1500	7.1	*****	**	225	1.9	240	4.4	49	1500	10.2	*****	**	145	3.5	138	5.7	26
1800	10.2	*****	**	152	1.5	136	6.3	11	1800	8.1	*****	**	191	1.3	203	3.2	28	1800	9.5	*****	**	176	1.4	190	3.8	9
2100	9.1	*****	**	085	1.2	017	4.4	2	2100	6.7	*****	**	131	1.0	151	3.8	2	2100	8.4	*****	**	079	.5	147	1.9	2
2400	7.9	*****	**	050	.2	205	4.4	2	2400	6.4	*****	**	062	.9	076	3.8	1	2400	7.9	*****	**	066	.9	080	3.8	2

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.							
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S							
						MW							MW													
0300	6.1	*****	**	036	.9	037	2.5	2	0300	6.6	*****	**	069	1.1	024	2.5	2	0300	6.3	*****	**	059	1.0	115	2.5	2
0600	7.8	*****	**	064	1.1	078	3.8	7	0600	6.8	*****	**	080	.6	106	2.5	11	0600	7.1	*****	**	050	.8	046	2.5	7
0900	10.6	*****	**	137	2.3	133	5.1	58	0900	8.2	*****	**	219	.7	217	2.5	59	0900	9.4	*****	**	054	.1	111	5.1	58
1200	10.2	*****	**	208	2.0	207	4.4	76	1200	9.8	*****	**	197	1.9	203	3.8	22	1200	12.0	*****	**	146	1.0	132	5.7	32
1500	11.0	*****	**	141	2.2	150	5.1	19	1500	10.4	*****	**	089	1.4	110	6.3	19	1500	14.3	*****	**	141	3.2	142	6.3	63
1800	12.1	*****	**	153	1.4	165	3.8	24	1800	11.9	*****	**	115	1.2	161	5.7	26	1800	13.6	*****	**	130	4.0	139	5.7	23
2100	9.5	*****	**	114	.7	145	3.2	2	2100	8.3	*****	**	281	1.3	242	5.1	2	2100	10.7	*****	**	213	.4	108	3.2	2
2400	6.8	*****	**	010	.8	344	3.2	1	2400	6.6	*****	**	025	1.0	005	3.2	1	2400	11.4	*****	**	046	.9	033	2.5	2

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S						
0300	11.0	*****	**	040	1.1	047	2.5	2	0300	9.0	*****	**	062	.7	066	1.9	2	0300	6.9	*****	**	102	.6	103	1.9	1
0600	11.9	*****	**	076	1.0	087	2.5	12	0600	8.0	*****	**	045	.7	340	1.9	8	0600	6.4	*****	**	102	.4	048	2.5	10
0900	14.0	*****	**	192	.5	200	3.8	58	0900	10.2	*****	**	146	1.2	158	3.2	57	0900	6.4	*****	**	190	.6	168	1.9	8
1200	14.2	*****	**	172	1.6	157	5.1	28	1200	12.4	*****	**	192	1.8	162	3.8	50	1200	7.2	*****	**	057	.3	135	2.5	25
1500	14.6	*****	**	157	1.4	126	6.3	28	1500	10.8	*****	**	156	1.5	122	5.7	22	1500	7.3	*****	**	153	.5	143	3.2	28
1800	13.6	*****	**	177	.7	093	6.3	10	1800	9.2	*****	**	148	.2	297	3.2	4	1800	6.8	*****	**	163	1.5	165	2.5	10
2100	12.4	*****	**	039	2.2	021	6.3	2	2100	8.3	*****	**	092	.4	117	1.3	2	2100	5.8	*****	**	161	.9	150	3.2	2
2400	10.0	*****	**	003	1.0	014	3.2	2	2400	6.6	*****	**	078	.4	010	2.5	2	2400	5.2	*****	**	104	.2	357	1.9	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	5.2	*****	**	088	.5	123
0600	5.6	*****	**	324	.4	001
0900	7.7	*****	**	179	.9	161
1200	9.4	*****	**	189	1.6	184
1500	11.0	*****	**	180	2.3	173
1800	10.1	*****	**	206	1.8	261
2100	8.1	*****	**	100	.8	151
2400	6.1	*****	**	048	.8	005

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

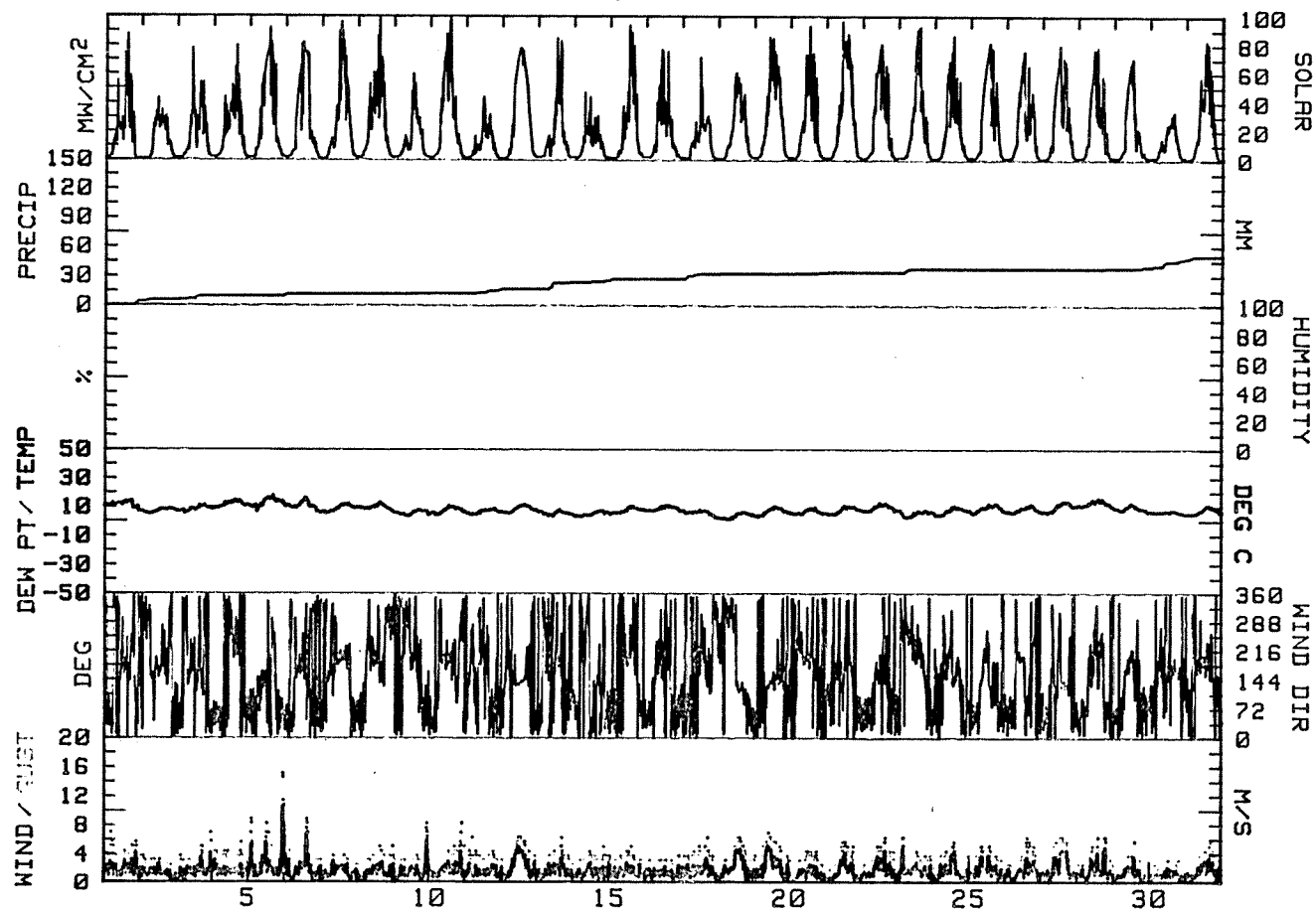
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1983

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	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	14.6	6.8	10.7	048	.3	1.9	054	7.0	N	**	*****	4.2	4835	1
2	9.2	5.0	7.1	183	.4	1.3	073	3.8	SSE	**	*****	1.4	3148	2
3	11.9	5.3	8.6	094	.3	1.5	073	7.0	N	**	*****	3.8	4223	3
4	15.4	8.8	12.1	018	.7	1.7	005	5.7	NE	**	*****	0.0	4768	4
5	18.5	6.8	12.7	089	1.3	2.3	083	15.2	ESE	**	*****	1.4	7195	5
6	16.9	5.7	11.3	106	.4	1.9	094	8.9	NNE	**	*****	.6	6450	6
7	12.7	5.3	9.0	182	.7	1.5	143	3.8	SSW	**	*****	0.0	6260	7
8	13.5	6.7	10.1	203	.6	1.4	147	5.1	WSW	**	*****	0.0	6063	8
9	8.2	3.5	5.9	082	.1	1.5	087	8.3	N	**	*****	.8	3420	9
10	11.5	4.3	7.9	200	.5	1.8	308	8.3	SSW	**	*****	.2	6635	10
11	9.5	4.5	7.0	113	.3	1.4	283	6.3	N	**	*****	4.6	2713	11
12	12.2	5.4	8.8	138	1.6	2.3	137	6.3	SE	**	*****	.2	7578	12
13	8.5	3.4	6.0	035	.3	1.6	075	6.3	N	**	*****	7.0	4165	13
14	7.9	3.2	5.6	030	.6	1.4	291	5.1	N	**	*****	1.8	2865	14
15	11.3	4.9	8.1	022	.1	1.4	220	5.1	N	**	*****	1.6	5205	15
16	11.9	7.1	9.5	085	.3	1.3	109	3.8	NNE	**	*****	.2	4685	16
17	8.5	2.6	5.6	125	.1	1.7	128	6.3	N	**	*****	5.0	3305	17
18	6.8	1.5	4.2	102	.6	2.1	130	6.3	ESE	**	*****	.4	4655	18
19	11.1	3.5	7.3	126	1.4	2.3	127	7.0	SE	**	*****	0.0	6960	19
20	10.4	5.0	7.7	214	.5	1.3	203	4.4	SSW	**	*****	1.0	5192	20
21	11.6	4.9	8.3	161	.6	1.5	071	5.7	SE	**	*****	.2	7075	21
22	13.8	7.1	10.5	116	.8	1.7	136	6.3	NE	**	*****	0.0	6068	22
23	8.1	2.9	5.5	229	.7	1.7	243	6.3	SSW	**	*****	3.6	5325	23
24	11.5	4.3	7.9	150	.9	1.6	138	5.7	SSE	**	*****	0.0	5048	24
25	13.0	5.4	9.2	134	.8	1.7	133	5.1	SE	**	*****	0.0	6050	25
26	12.6	6.0	9.3	117	.3	1.5	110	6.3	E	**	*****	0.0	5408	26
27	14.4	6.0	10.2	120	1.1	2.0	142	6.3	SE	**	*****	0.0	6005	27
28	16.6	10.0	13.3	094	.5	1.7	126	6.3	E	**	*****	.6	5245	28
29	13.2	6.5	9.9	140	.5	1.2	122	5.7	ENE	**	*****	1.4	4493	29
30	7.7	5.1	6.4	146	.5	1.0	143	3.2	SSE	**	*****	8.4	2630	30
31	11.8	5.0	8.4	173	.7	1.5	261	5.7	S	**	*****	2.4	5588	31
MONTH	18.5	1.5	8.5	130	.4	1.6	083	15.2	SE	**	*****	50.8	159252	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 11.4

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
July, 1983



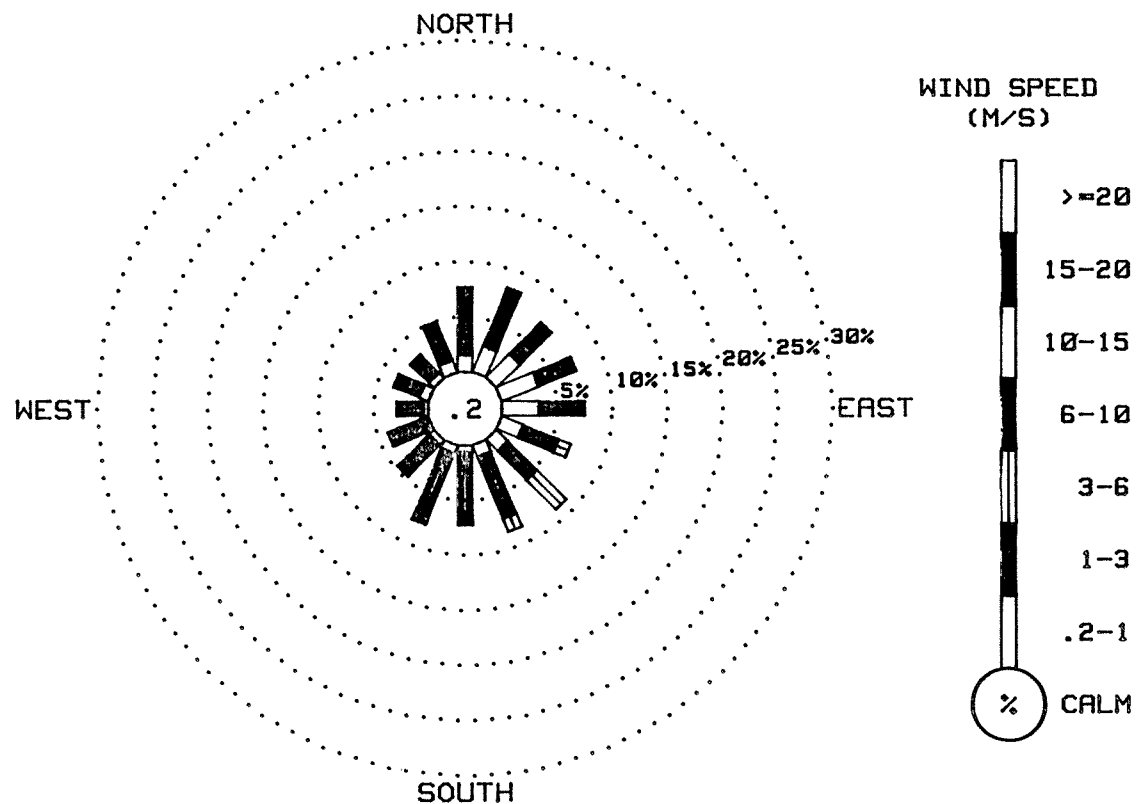
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.51	6.05	.10	0.00	0.00	0.00	0.00	7.67
NNE	2.56	5.48	.27	0.00	0.00	0.00	0.00	8.31
NE	3.03	3.77	.24	.03	0.00	0.00	0.00	7.06
ENE	3.60	3.36	.27	.03	.03	0.00	0.00	7.30
E	3.36	3.73	.30	.10	0.00	0.00	0.00	7.50
ESE	2.09	3.46	1.18	0.00	0.00	0.00	0.00	6.73
SE	1.48	3.70	3.73	0.00	0.00	0.00	0.00	8.91
SSE	1.14	6.05	1.28	0.00	0.00	0.00	0.00	8.48
S	.64	6.46	.13	0.00	0.00	0.00	0.00	7.23
SSW	.81	6.83	.13	0.00	0.00	0.00	0.00	7.77
SW	.61	4.04	.03	0.00	0.00	0.00	0.00	4.68
WSW	.37	3.26	.34	0.00	0.00	0.00	0.00	3.97
W	.40	2.42	.03	0.00	0.00	0.00	0.00	2.86
WNW	.91	2.49	0.00	0.00	0.00	0.00	0.00	3.40
NW	.67	2.22	.13	0.00	0.00	0.00	0.00	3.03
NNW	1.21	3.73	0.00	0.00	0.00	0.00	0.00	4.94
CALM								.17
TOTAL	24.39	67.07	8.17	.17	.03	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2973 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
2976 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE DATA.

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
July, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1983

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	
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	
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	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	1.6	1.4	1.8	1.6	1.0	.4	.2	0.0	.2	0.0	.2	.6	.2	0.0	.2	
5	.4	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.4	.2	.2	.4	.4	.4	.8	.8	1.2	.8	.8	1.0	1.0	.2	.2	
6	0.0	.2	.6	.4	.2	0.0	0.0	.2	0.0	.2	0.0	0.0	.2	.2	.4	.6	0.0	2.4	.8	.8	0.0	0.0	0.0	.4	
7	.6	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.8	1.8	3.4	2.2	2.6	
8	2.2	2.2	1.4	1.0	.4	.6	1.6	1.6	1.6	1.8	2.0	2.6	1.6	.4	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	0.0	0.0	.2	.4	.4	.6	1.8	3.6	1.4	.4	0.0	.4	.2	0.0	.2	1.2	0.0	.2	.4	.2	0.0	0.0	0.0	0.0	
10	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	1
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	.2	0.0	1
12	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.4	.4	0.0	0.0	.2	0.0	1.4	1.2	.2	0.0	0.0	0.0	0.0	.6	3.2	2.2	1
13	0.0	.2	0.0	2.6	1.0	.2	0.0	0.0	0.0	.2	.4	0.0	.4	1.0	.6	.6	.4	2.6	.4	0.0	0.0	0.0	.8	0.0	1
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	1
15	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	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	1
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	2.6	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	1
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	1
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	1
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	1
20	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	.2	.6	.6	.8	0.0	.2	.8	2.2	.8	.2	0.0	0.0	0.0	1.0	1.0	0.0	2
21	0.0	0.0	0.0	.4	.6	1.6	1.8	2.6	3.2	3.0	1.4	.8	.2	0.0	0.0	.2	.2	0.0	.6	.4	.6	.4	.2	0.0	2
22	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	0.0	.2	0.0	.2	.4	0.0	.6	.6	.2	1.8	2.4	1.0	.8	.6	1.2	1.0	2
23	.4	.2	0.0	0.0	0.0	0.0	0.0	.2	0.0	2.0	2.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
24	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	3.2	2.4	1.2	.8	.4	.2	.2	0.0	0.0	0.0	0.0	2
25	0.0	0.0	0.0	0.0	.2	.2	1.0	3.4	4.2	3.8	3.4	4.0	2.8	2.8	3.4	2.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
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	2
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	2
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	2
29	.6	.6	.8	.2	0.0	.8	0.0	0.0	0.0	0.0	0.0	.2	.2	.2	.4	1.4	1.0	.2	.2	.8	.8	1.2	1.0	2.2	2
30	2.0	1.0	2.0	.2	0.0	0.0	.2	3.0	3.8	.8	2.4	3.4	4.2	3.8	3.6	2.2	1.0	.8	.2	.6	.4	.4	.2	.2	3
31	0.0	0.0	.2	.2	.4	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	1.0	.4	.2	1.2	.2	0.0	0.0	0.0	0.0	3

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	6.5	*****	**	052	1.0	072	3.2	2	0300	6.7	*****	**	089	1.8	100	3.8	2	0300	6.4	*****	**	044	1.2	049	5.1	2
0600	7.2	*****	**	031	.8	011	3.2	17	0600	7.8	*****	**	075	1.3	101	3.8	14	0600	6.9	*****	**	040	1.1	068	3.2	7
0900	7.9	*****	**	135	2.0	109	4.4	48	0900	8.5	*****	**	133	2.0	123	7.0	57	0900	9.1	*****	**	045	.8	162	4.4	57
1200	10.9	*****	**	164	2.4	184	5.1	75	1200	10.7	*****	**	120	3.5	045	7.0	71	1200	11.8	*****	**	163	1.1	185	5.1	71
1500	11.1	*****	**	169	3.0	157	5.7	60	1500	10.0	*****	**	137	3.3	155	7.0	59	1500	12.9	*****	**	190	2.3	198	4.4	58
1800	8.5	*****	**	167	2.2	163	5.1	9	1800	9.2	*****	**	149	2.7	297	9.5	21	1800	13.0	*****	**	242	1.0	237	3.8	20
2100	7.7	*****	**	108	1.4	096	5.7	1	2100	7.6	*****	**	122	.9	196	7.0	1	2100	10.6	*****	**	105	.5	103	3.2	1
2400	7.1	*****	**	082	1.8	077	4.4	1	2400	7.7	*****	**	059	1.6	080	6.3	1	2400	10.3	*****	**	063	.8	091	1.9	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	9.8	*****	**	037	1.0	011	2.5	1	0300	5.7	*****	**	094	.9	081	3.2	1	0300	3.5	*****	**	040	.2	265	1.9	1
0600	8.5	*****	**	358	.9	335	3.2	2	0600	5.2	*****	**	082	.5	028	1.9	8	0600	3.7	*****	**	044	.7	003	1.9	11
0900	7.7	*****	**	359	.9	005	2.5	7	0900	5.1	*****	**	171	.9	143	1.9	17	0900	4.5	*****	**	101	.3	148	3.2	21
1200	5.2	*****	**	188	1.8	209	7.0	10	1200	6.0	*****	**	196	1.0	263	2.5	27	1200	6.3	*****	**	186	1.2	136	3.8	41
1500	5.3	*****	**	051	1.1	013	3.8	14	1500	5.2	*****	**	196	.6	281	1.9	16	1500	5.2	*****	**	096	1.2	119	4.4	18
1800	5.0	*****	**	083	.9	125	3.2	5	1800	4.7	*****	**	149	.4	179	1.9	4	1800	5.2	*****	**	037	.9	028	5.1	4
2100	5.6	*****	**	060	.9	026	3.8	1	2100	3.8	*****	**	352	.7	229	1.9	1	2100	6.1	*****	**	092	1.0	099	4.4	2
2400	6.0	*****	**	080	.8	099	3.2	1	2400	3.7	*****	**	017	.7	021	1.9	1	2400	5.4	*****	**	050	.8	016	3.2	2

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR.	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	5.3	*****	**	072	1.2	090	5.1	1	0300	4.8	*****	**	140	2.4	135	11.4	1	0300	6.4	*****	**	127	3.6	131	10.2	2
0600	5.5	*****	**	091	1.0	093	3.8	7	0600	4.0	*****	**	129	2.8	124	10.8	4	0600	4.4	*****	**	104	1.0	105	4.4	-3
0900	7.6	*****	**	114	1.9	112	5.7	25	0900	2.5	*****	**	076	.6	106	4.4	8	0900	4.6	*****	**	041	1.2	186	5.1	24
1200	8.0	*****	**	120	4.8	120	7.0	25	1200	5.0	*****	**	037	1.4	088	5.7	9	1200	5.1	*****	**	298	.4	102	2.5	25
1500	9.2	*****	**	116	5.1	117	10.2	30	1500	7.1	*****	**	071	2.8	079	10.8	7	1500	5.3	*****	**	183	.8	153	3.2	16
1800	8.7	*****	**	123	6.1	117	11.4	5	1800	7.7	*****	**	098	5.3	103	10.8	4	1800	4.8	*****	**	093	.6	030	3.2	4
2100	6.7	*****	**	131	7.4	124	15.9	1	2100	7.7	*****	**	093	3.8	111	10.2	1	2100	5.1	*****	**	067	.7	001	3.2	1
2400	4.8	*****	**	152	3.1	137	10.8	1	2400	6.8	*****	**	127	3.6	128	9.5	2	2400	5.0	*****	**	048	1.0	029	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.	DIR.	TEMP.	POINT	RH	DIR.	SPD.
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	DEG C	DEG C	%	DEG.
					M/S	MW						MW					M/S
0300	3.4	*****	**	007	.6	337	0300	4.5	*****	**	049	1.0	0300	4.3	*****	**	066
0600	3.4	*****	**	032	1.1	041	0600	5.2	*****	**	064	.9	0600	3.7	*****	**	187
0900	5.4	*****	**	194	.6	186	0900	7.4	*****	**	165	.8	0900	4.1	*****	**	134
1200	7.7	*****	**	226	1.2	284	1200	7.8	*****	**	193	1.9	1200	5.1	*****	**	308
1500	8.4	*****	**	209	1.6	225	1500	9.5	*****	**	180	1.6	1500	4.0	*****	**	165
1800	9.4	*****	**	205	1.7	177	1800	9.7	*****	**	195	1.6	1800	4.8	*****	**	078
2100	7.2	*****	**	175	.2	213	2100	6.9	*****	**	176	.6	2100	3.7	*****	**	120
2400	4.7	*****	**	079	.7	029	2400	5.1	*****	**	355	1.0	2400	2.0	*****	**	001

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.
0300	3.8	*****	**	064	.9	043	0300	2.6	*****	**	039	.9	016	0300	-1.6	*****	**
0600	2.9	*****	**	065	.5	218	0600	2.4	*****	**	095	.7	243	0600	-1.6	*****	**
0900	1.8	*****	**	288	.6	275	0900	1.8	*****	**	339	.6	058	0900	-2	*****	**
1200	3.2	*****	**	182	.8	232	1200	3.0	*****	**	277	1.1	342	1200	2.8	*****	**
1500	2.6	*****	**	320	.9	256	1500	2.4	*****	**	210	1.8	169	1500	2.8	*****	**
1800	2.5	*****	**	261	.5	225	1800	1.3	*****	**	249	1.8	241	1800	.1	*****	**
2100	2.5	*****	**	029	.8	025	2100	.3	*****	**	224	.4	244	2100	-2	*****	**
2400	1.9	*****	**	082	.5	025	2400	-8	*****	**	046m	.2m	293m	2400	-2	*****	**

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%
				DEG.	M/S	MW					DEG.	M/S	DEG.				DEG.
0300	-5	*****	**	***	***	***	0300	3.2	*****	**	062	1.5	036	0300	3.2	*****	**
0600	-6	*****	**	***	***	***	0600	3.8	*****	**	069	.8	084	0600	3.7	*****	**
0900	.2	*****	**	195M	.9M	195M	0900	5.2	*****	**	185	.2	053	0900	4.4	*****	**
1200	3.3	*****	**	194	1.8	174	1200	7.0	*****	**	179	1.9	158	1200	6.6	*****	**
1500	6.8	*****	**	192	1.9	193	1500	7.2	*****	**	150	3.4	158	1500	7.5	*****	**
1800	7.1	*****	**	188	1.8	167	1800	5.8	*****	**	317	1.4	316	1800	6.3	*****	**
2100	4.3	*****	**	066	.9	105	2100	3.9	*****	**	116	1.8	117	2100	4.3	*****	**
2400	3.3	*****	**	047	.7	051	2400	3.5	*****	**	071	1.6	093	2400	3.7	*****	**

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	2.6	*****	**	080	1.1	105	2.5	1	0300	5.1	*****	**	056	.9	032	3.8	1	0300	.8	*****	**
0600	3.3	*****	**	075	1.1	097	1.9	7	0600	3.9	*****	**	052	.8	154	5.7	3	0600	1.8	*****	**
0900	5.0	*****	**	092	.5	144	4.4	50	0900	2.6	*****	**	069	1.6	011	5.7	6	0900	3.4	*****	**
1200	7.5	*****	**	174	1.7	131	5.1	62	1200	.3	*****	**	220	3.5	209	8.3	11	1200	3.8	*****	**
1500	8.4	*****	**	209	1.7	202	4.4	51	1500	1.3	*****	**	003	1.7	355	4.4	11	1500	4.9	*****	**
1800	7.8	*****	**	323	.5	175	4.4	6	1800	.2	*****	**	096	.6	107	2.5	4	1800	3.4	*****	**
2100	7.5	*****	**	091	.7	105	3.2	1	2100	1.7	*****	**	080	1.1	102	3.8	1	2100	2.7	*****	**
2400	5.2	*****	**	346	.5	164	3.2	1	2400	.7	*****	**	048	.9	034	4.4	1	2400	3.4	*****	**

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	3.1	*****	**	052	.9	071	1.9	1	0300	0.0	*****	**	182M	.7M	172M	2.5M	1	0300	.1	*****	**
0600	3.3	*****	**	067	.5	007	1.9	7	0600	.1	*****	**	088M	.1M	088M	1.9M	3	0600	.2	*****	**
0900	4.2	*****	**	164	.9	127	2.5	18	0900	.9	*****	**	029	.8	074	3.2	10	0900	0.0	*****	**
1200	4.5	*****	**	200	1.0	200	2.5	25	1200	2.5	*****	**	035	.5	350	2.5	39	1200	.4	*****	**
1500	3.4	*****	**	260	.9	216	3.8	11	1500	3.0	*****	**	148	1.6	152	4.4	20	1500	1.8	*****	**
1800	2.8	*****	**	019	.7	013	3.2	3	1800	2.7	*****	**	202	.5	115	3.8	4	1800	.9	*****	**
2100	2.5	*****	**	010	1.0	358	3.2	1	2100	.1	*****	**	135M	.8M	215M	7.0M	1	2100	.1	*****	**
2400	.9	*****	**	023	1.0	024	3.2	1	2400	-.1	*****	**	***	***	***	***	1	2400	-.3	*****	**

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
0300	.6	*****	**	031	.7	066	3.8	1	0300	4.9	*****	**	044	1.1	016	3.2	1	0300	4.2	*****	**
0600	1.7	*****	**	033	1.2	040	2.5	3	0600	4.8	*****	**	046	.9	032	2.5	9	0600	3.6	*****	**
0900	3.2	*****	**	045	1.8	105	5.7	21	0900	8.6	*****	**	081	1.3	091	3.2	48	0900	4.9	*****	**
1200	4.7	*****	**	040	1.8	040	3.8	40	1200	6.7	*****	**	074	1.0	024	2.5	45	1200	6.8	*****	**
1500	5.8	*****	**	062	2.6	073	8.9	32	1500	6.7	*****	**	065	.9	089	1.9	25	1500	8.2	*****	**
1800	5.7	*****	**	081	2.0	098	7.6	13	1800	4.7	*****	**	089	1.9	100	5.1	6	1800	7.4	*****	**
2100	3.1	*****	**	077	1.0	122	3.2	1	2100	3.4	*****	**	065	.8	065	2.5	1	2100	5.2	*****	**
2400	4.3	*****	**	042	1.6	096	3.8	1	2400	2.6	*****	**	054	1.2	054	3.2	1	2400	4.0	*****	**

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.		
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S		
0300	4.6	*****	**	059	1.5	051 3.8	1	0300	*****	*****	**	***	****	***	0300	*****	*****	**	***	****	***	
0600	5.8	*****	**	044	1.6	040 3.8	9	0600	*****	*****	**	***	****	***	0600	*****	*****	**	***	****	***	
0900	*****	*****	**	070	1.0	046 3.8	40	0900	*****	*****	**	***	****	***	29	0900	*****	*****	**	***	****	***
1200	*****	*****	**	***	****	***	26	1200	*****	*****	**	***	****	***	7	1200	*****	*****	**	***	****	***
1500	*****	*****	**	***	****	***	39	1500	*****	*****	**	***	****	***	4	1500	*****	*****	**	***	****	***
1800	*****	*****	**	***	****	***	5	1800	*****	*****	**	***	****	***	1	1800	*****	*****	**	***	****	***
2100	*****	*****	**	***	****	***	0	2100	*****	*****	**	***	****	***	0	2100	*****	*****	**	***	****	***
2400	*****	*****	**	***	****	***	2	2400	*****	*****	**	***	****	***	0	2400	*****	*****	**	***	****	***

DAY 31

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

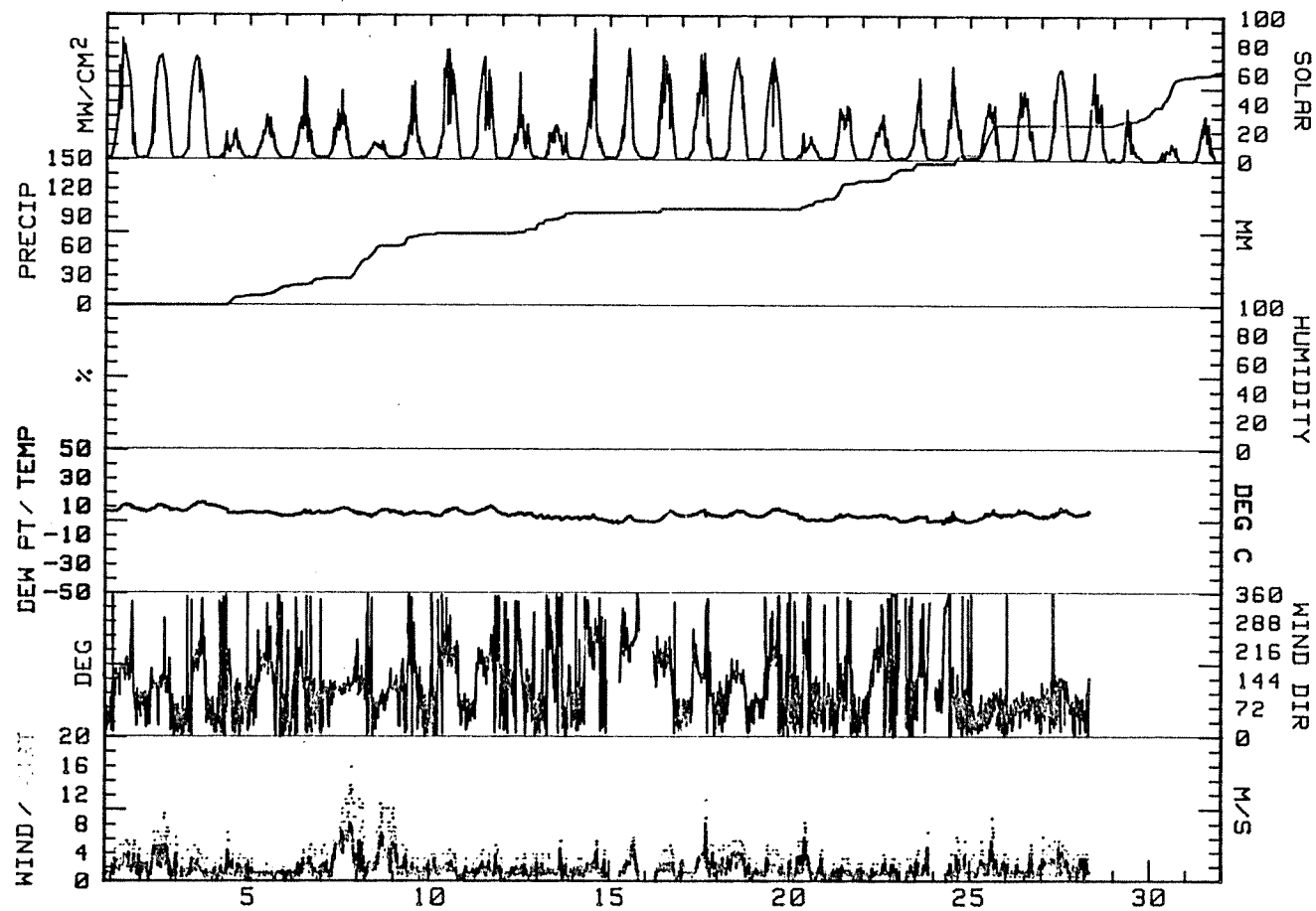
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1983

	MAX.	MIN.	MEAN	RES.	RES.	AVG.	MAX.	MAX.	P'VAL	MEAN	MEAN		DAY'S		
DAY	TEMP.	TEMP.	TEMP.	WIND	WIND	WIND	GUST	GUST	DIR.	RH	DP	PRECIP	SOLAR		
	DEG C	DEG C	DEG C	DIR.	SPD.	SPD.	DIR.	SPD.	DIR.	%	DEG C	MM	ENERGY DAY		
				DEG	M/S	M/S	DEG	M/S					WH/SGH		
1	11.5	6.0	8.8	136	1.3	2.1	157	5.7	S	**	*****	0.0	6520	1	
2	11.5	5.6	8.6	118	1.9	2.5	297	9.5	SE	**	*****	0.0	6823	2	
3	13.5	6.2	9.9	117	.3	1.5	049	5.1	NNE	**	*****	0.0	6565	3	
4	10.7	4.6	7.7	059	.5	1.4	209	7.0	NNE	**	*****	9.6	1475	4	
5	6.5	2.8	4.7	135	.3	1.0	081	3.2	S	**	*****	9.6	2305	5	
6	7.9	3.2	5.6	083	.5	1.4	028	5.1	NNE	**	*****	7.6	2895	6	
7	9.4	4.8	7.1	123	3.7	4.0	124	15.9	ESE	**	*****	13.0	2890	7	
8	8.3	2.5	5.4	103	2.5	3.2	135	11.4	ESE	**	*****	21.4	1250	8	
9	7.3	3.5	5.4	101	.8	1.7	131	10.2	NNE	**	*****	11.6	2585	9	
10	9.4	3.1	6.3	197	.4	1.4	225	4.4	SSW	**	*****	1.2	5625	10	
11	11.0	4.4	7.7	168	.5	1.4	163	5.1	S	**	*****	.2	5358	11	
12	6.0	2.0	4.0	110	.2	1.2	006	3.8	SSE	**	*****	10.2	2628	12	
13	4.3	.5	2.4	019	.2	1.2	225	5.7	NNE	**	*****	11.4	2095	13	
14	4.8	-8	2.0	248M	.4M	1.6M	241M	5.7M	WSW(M)	**	*****	.2	4023	14	
15	3.8	-1.6	1.1	242M	2.0M	2.3M	234M	6.3M	SW	M	**	*****	.8	4018	15
16	7.5	-8	3.4	180M	.9M	1.5M	167M	5.1M	SSW(M)	**	*****	3.4	5248	16	
17	8.0	3.1	5.6	119	.8	2.1	316	11.4	E	**	*****	0.0	4833	17	
18	8.0	2.3	5.2	125	1.7	2.3	170	5.7	SSE	**	*****	0.0	5863	18	
19	9.3	2.6	6.0	129	.4	1.4	131	5.1	E	**	*****	0.0	5565	19	
20	5.6	.1	2.9	068	.4	1.7	209	8.3	NNE	**	*****	10.8	1315	20	
21	5.3	.1	2.7	070	.3	.9	149	3.2	ESE	**	*****	18.2	3203	21	
22	5.1	.9	3.0	034	.2	1.1	216	3.8	SSW	**	*****	11.4	2210	22	
23	4.1	-6	1.8	131M	.4M	1.4M	215M	7.0M	SSE(M)	**	*****	6.4	2658	23	
24	7.0	-1.7	2.7	049M	.9M	1.4M	037M	6.3M	N (M)	**	*****	8.6	3213	24	
25	8.6	-7	4.0	054	1.5	1.8	073	8.9	NNE	**	*****	31.4	3208	25	
26	8.6	2.3	5.5	067	1.1	1.2	100	5.1	E	**	*****	0.0	3745	26	
27	9.9	2.2	6.1	094	1.4	1.8	097	6.3	E	**	*****	0.0	5288	27	
28	7.1M	3.9M	5.5M	055M	1.4M	1.6M	051M	3.8M	NE(M)	**	*****	1.0	3603M	28	
29	*****	*****	*****	***	****	****	***	****	***	**	*****	12.8	1310	29	
30	*****	*****	*****	***	****	****	***	****	***	**	*****	36.4	753	30	
31	*****	*****	*****	***	****	****	***	****	***	**	*****	4.8	1795	31	
MONTH	13.5M	-1.7M	5.0M	110M	.7M	1.7M	124M	15.9M	E(M)	**	*****	242.0	110859M		

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 13.3
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 11.4

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
August, 1983



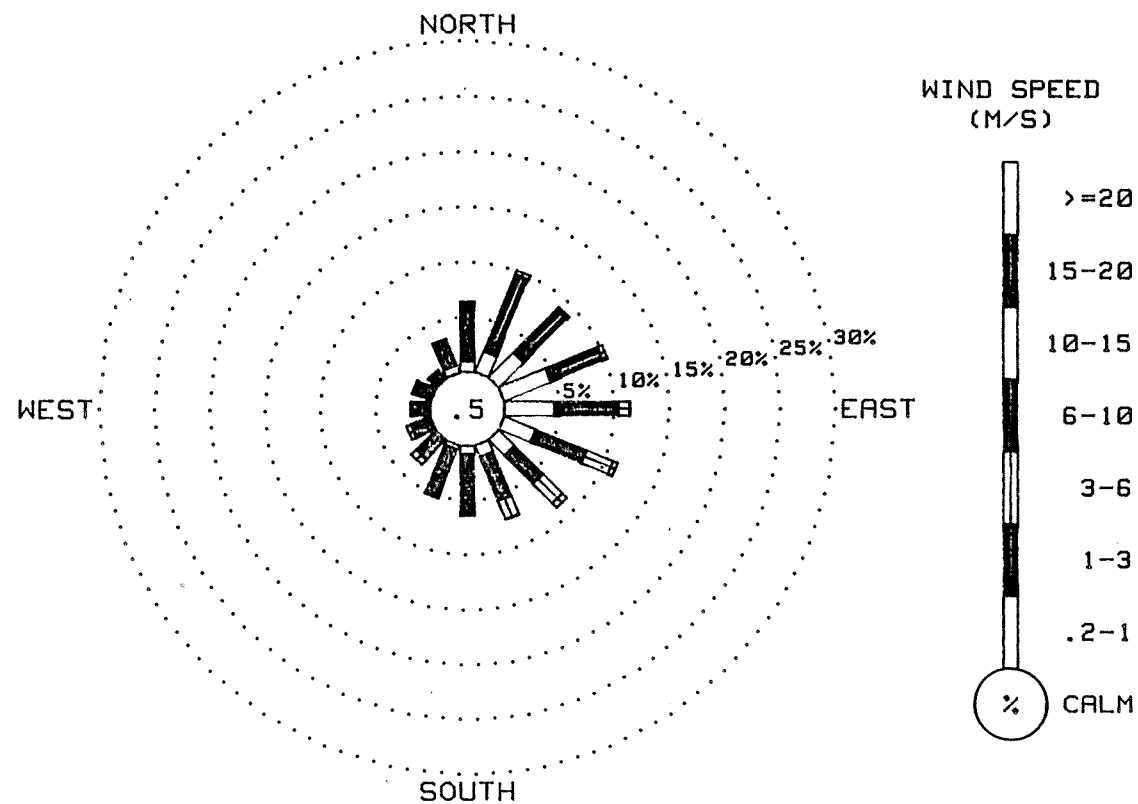
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	.97	5.27	.16	0.00	0.00	0.00	0.00	6.40
NNE	2.05	7.52	.44	0.00	0.00	0.00	0.00	10.02
NE	3.22	5.59	.28	0.00	0.00	0.00	0.00	9.09
ENE	4.59	5.11	.48	0.00	0.00	0.00	0.00	10.18
E	4.55	5.83	1.01	.04	0.00	0.00	0.00	11.42
ESE	3.10	4.99	2.61	.44	0.00	0.00	0.00	11.14
SE	2.01	3.66	2.49	.56	0.00	0.00	0.00	8.73
SSE	1.13	4.30	1.81	.04	0.00	0.00	0.00	7.28
S	.76	5.31	.32	0.00	0.00	0.00	0.00	6.40
SSW	.40	4.51	.24	.04	0.00	0.00	0.00	5.19
SW	.24	2.33	.64	0.00	0.00	0.00	0.00	3.22
WSW	.12	1.81	.44	0.00	0.00	0.00	0.00	2.37
W	.32	1.45	.04	0.00	0.00	0.00	0.00	1.81
WNW	.24	1.53	.08	0.00	0.00	0.00	0.00	1.85
NW	.20	.80	0.00	.08	0.00	0.00	0.00	1.09
NNW	.72	2.53	.04	0.00	0.00	0.00	0.00	3.30
CALM								.52
TOTAL	24.62	62.55	11.10	1.21	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2486 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
2976 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE DATA.

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
August, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

[illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	
0300	*****	*****	**	***	****	***	0	0300	*****	*****	**	***	****	***	0	0300	1.4	-9.3	45	081	1.2
0600	*****	*****	**	***	****	***	4	0600	*****	*****	**	***	****	***	2	0600	.8	-7.2	55	029	1.2
0900	*****	*****	**	***	****	***	9	0900	*****	*****	**	***	****	***	0900	3.4	-7.8	44	098	.7	
1200	*****	*****	**	***	****	***	11	1200	*****	*****	**	***	****	***	1200	4.1	-5.4	50	173	1.8	
1500	*****	*****	**	***	****	***	13	1500	*****	*****	**	***	****	***	1500	4.5	-5.6	48	309	.8	
1800	*****	*****	**	***	****	***	1	1800	*****	*****	**	***	****	***	1800	2.1	-6.0	55	149	2.8	
2100	*****	*****	**	***	****	***	0	2100	*****	*****	**	***	****	***	2100	.2	*****	58	101	.4	
2400	*****	*****	**	***	****	***	0	2400	*****	*****	**	***	****	***	2400	-1.0	-7.8	60	026	1.5	

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-1.6	-8.1	61	040	1.8	077	0	0300	-3.7	-7.1	77	051	1.1	020	0300	-3.6	-9.2	65	107	1.9
0600	-1.5	-8.5	59	076	2.7	093	7	0600	-3.4	-7.0	76	078	.9	050	0600	-4.2	-8.8	70	069	1.4
0900	-1.1	-8.3	58	094	2.7	091	30	0900	-3.4	-6.7	78	208	.7	164	0900	-2.3	-7.8	66	054	1.7
1200	.3	-6.8	59	123	4.7	117	40	1200	-1.8	-4.3	83	155	.6	006	1200	-1.4	-7.7	62	150	4.2
1500	.1	-7.2	58	156	3.4	149	30	1500	-1.1	-4.6	77	222	1.1	179	1500	.7	-7.3	55	158	3.9
1800	-1.7	-7.8	63	138	2.6	147	3	1800	-1.0	*****	68	300	.7	346	1800	-1.6	-9.0	53	149	3.6
2100	-2.5	-8.3	64	124	1.7	207	0	2100	-1.8	*****	70	115	.7	107	2100	-2.0	*****	58	084	1.4
2400	-4.0	-7.3	78	014	.9	346	1	2400	-2.7	-7.9	67	112	1.3	110	2400	-2.0	*****	58	059	1.2

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-3.1	*****	73	010	.9	331	0	0300	-1.5	*****	95	107	.6	094	0300	-1.3	*****	97	036	.5
0600	-2.5	*****	89	077	.7	116	3	0600	.1	-1.5	89	054	1.0	034	0600	.7	-1.9	89	039	.7
0900	-1.7	-3.7	80	064	.2	171	20	0900	.5	-2.1	83	007	.7	014	0900	1.4	-1.4	88	087	.1
1200	1.3	-3.0	73	217	.4	169	35	1200	1.3	-1.8	80	324	.9	336	1200	2.2	*****	82	233	1.2
1500	1.4	-4.2	66	334	1.3	357	14	1500	2.0	-1.6	77	224	.4	253	1500	2.6	-1.7	79	208	1.2
1800	1.1	*****	70	360	.1	042	2	1800	1.3	-1.1	84	175	.7	169	1800	1.5	-1.9	78	316	.3
2100	1.0	-3.8	70	028	.5	016	0	2100	.1	*****	93	016	.5	335	2100	1.7	*****	76	***	***
2400	.1	*****	89	068	1.1	077	1	2400	0.0	*****	93	052	1.3	020	2400	1.4	*****	80	***	***

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

DAY 11

DAY 12

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	.7	*****	88	***	****	***	****	0	0300	2.2	-6.2	54	089	.9	060	2.5	1
0600	.5	-1.4	87	073	M	.8	M150	M	0600	1.6	-6.7	54	071	1.0	066	2.5	3
0900	2.1	-1.7	76	209	.4	223	2.5	26	0900	4.0	-4.2	55	073	.9	066	3.2	32
1200	4.1	-2.1	64	241	.7	214	3.8	56	1200	5.2	-4.7	49	202	1.6	154	3.8	34
1500	4.8	-4.8	50	175	2.5	164	5.7	34	1500	4.5	-5.1	50	193	1.5	192	3.2	12
1800	2.6	*****	56	176	1.4	262	5.7	2	1800	3.7	-5.0	53	142	1.4	112	3.2	1
2100	2.6	*****	55	267	.3	259	1.9	1	2100	2.9	*****	55	073	1.3	076	2.5	0
2400	2.3	-5.8	55	036	.5	062	3.2	1	2400	2.2	*****	66	035	2.2	029	7.0	0

DAY 13

DAY 14

DAY 15

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	2.1	-4.0	64	120	1.8	122	4.4	0	0300	.8	*****	85	042	.9	071	3.2	0
0600	0.0	-3.2	79	126	1.0	128	3.8	5	0600	.3	*****	85	069	.6	102	1.9	3
0900	1.9	-3.2	69	149	1.2	166	5.1	32	0900	.1	*****	93	111	.4	191	1.9	12
1200	3.1	-2.4	67	191	2.1	263	7.0	37	1200	1.4	-2	89	200	1.1	175	3.2	30
1500	2.7	-3.2	65	133	2.8	150	6.3	11	1500	2.6	-3.1	66	233	1.3	167	5.1	19
1800	1.8	-3.2	69	130	3.1	136	5.7	1	1800	-1.3	-30.3	9	178	1.2	258	6.3	1
2100	.6	-3.0	77	181	1.4	200	5.1	0	2100	-2.1	-29.8	10	273	1.6	247	4.4	0
2400	.1	-1.5	89	193	.4	172	2.5	0	2400	-2.1	-34.9	6	001	1.0	265	2.5	0

DAY 16

DAY 17

DAY 18

HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.	HR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-1.3	-6.8	66	051	1.2	037	3.2	1	0300	-2.5	-8.8	62	061	.9	050	3.2	1
0600	-1.7	-6.8	68	043	1.3	043	3.2	3	0600	-2.3	*****	61	094	.7	112	1.9	3
0900	-.1	-7.6	57	055	1.2	050	3.2	36	0900	-1.1	-8.3	58	107	.6	125	3.2	34
1200	1.2	-5.7	60	031	.5	211	5.1	50	1200	2.6	*****	54	200	1.5	175	3.8	49
1500	2.6	-5.5	55	156	3.5	142	6.3	29	1500	2.1	-6.0	55	250	1.2	228	3.8	28
1800	-.5	*****	59	353	.6	029	3.8	1	1800	.9	-5.7	61	191	.8	183	3.8	1
2100	-.5	*****	61	069	.8	076	2.5	0	2100	.4	-6.2	61	097	1.3	085	3.2	0
2400	-1.3	*****	62	073	.8	071	2.5	1	2400	-.4	-6.8	62	088	.8	058	3.2	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-1.4	-5.1	76	115	3.1	105	6.3	0	0300	1.4	-32.3	6	006	1.0	026	1.9	0
0600	-1.2	****	75	043	1.1	027	3.2	2	0600	1.8	-37.5	3	035	1.4	026	3.2	1
0900	.7	-4.9	66	146	1.4	163	5.1	16	0900	2.6	1.9	95	018	1.6	026	3.2	12
1200	1.2	-4.6	65	171	.8	143	5.1	30	1200	4.8	2.2	83	040	1.4	039	3.8	14
1500	1.5	-4.3	65	310	.7	338	4.4	20	1500	3.4	3.1	98	071	1.2	034	5.1	4
1800	.5	****	70	058	.9	043	3.2	1	1800	4.0	2.8	92	061	1.7	061	5.7	1
2100	.7	****	1	049	1.2	056	3.8	0	2100	2.6	****	97	044	1.3	023	3.8	0
2400	1.1	-32.5	6	066	1.4	034	3.8	0	2400	1.2	****	10	087	.6	099	1.9	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	.6	-31.4	7	047	.3	150	2.5	0	0300	-7.1	-8.2	92	***	***	***	***	0
0600	-1.2	-23.0	16	019M	.1M	019M	.6M	1	0600	-8.5	-9.3	94	***	***	***	***	2
0900	.7	*****	2	104	.3	050	1.9	10	0900	-8.5	-11.0	82	***	***	***	***	19
1200	.6	-6.92	127	1.2	130	4.4	20	1200	-8.7	-12.2	76	***	***	***	***	32	
1500	-1.1	-1.1	93	036	1.2	067	4.4	6	1500	-6.6	-13.3	59	***	***	***	***	17
1800	-2.3	-3.5	92	358M	1.0M	007M	3.2M	0	1800	-10.6	-14.0	76	***	***	***	***	0
2100	-3.4	-5.1	88	***	***	***	***	0	2100	-11.2	-15.7	69	***	***	***	***	0
2400	-5.4	-6.2	94	***	***	***	***	0	2400	-11.9	-16.4	69	***	***	***	***	0

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-13.4	-20.1	57	094	3.0	098	7.6	1	0300	-14.3	-19.6	64	045	1.5	040	4.4	1
0600	-13.4	-20.1	57	127	3.5	115	7.6	2	0600	-14.1	-19.6	63	059	1.1	036	2.5	2
0900	-12.5	-19.7	55	109	2.9	107	7.6	17	0900	-12.7	-19.4	57	066	1.1	025	3.2	30
1200	-10.5	-19.0	50	118	3.2	097	7.0	44	1200	-11.2	-18.5	55	206	.8	167	2.5	43
1500	-10.5	-18.3	53	116	2.2	125	5.7	23	1500	-9.2	-16.4	56	213	1.3	228	3.2	22
1800	-13.6	-19.1	63	044	1.9	077	4.4	1	1800	-11.8	****	68	179	.6	247	1.9	0
2100	-14.4	-19.7	64	036	2.0	051	4.4	0	2100	-11.4	-16.8	64	079	.8	106	1.9	0
2400	-15.1	-20.2	65	031	1.5	038	4.4	0	2400	-11.1	-17.5	59	090	1.5	104	3.8	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28									DAY 29									DAY 30								
HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-4.8	-6.2	90	046	1.3	026	3.2	0	0300	-5	-46.4	0	118	.3	109	2.5	0	0300	2.2	1.5	95	168	4.5	151	17.8	1
0600	-5.0	*****	91	091	.7	059	3.2	1	0600	-4	-7	98	053	.4	025	3.2	1	0600	.1	-23.5	15	214	1.5	247	7.0	1
0900	-3.3	-6.1	81	055	.5	022	1.9	15	0900	.7	-1.1	88	108	.9	089	5.7	5	0900	1.1	-26.2	11	260	.5	224	5.1	11
1200	-.7	*****	64	061	.6	004	2.5	22	1200	1.1	-.8	87	110	2.4	096	8.9	8	1200	.8	-.7	90	054	.5	103	3.2	19
1500	-.9	*****	77	091	.8	144	3.2	11	1500	2.4	.7	89	091	6.2	099	11.4	8	1500	1.6	*****	77	020	1.4	340	3.8	15
1800	-2.6	*****	6	052	.3	112	1.9	0	1800	.5	-24.8	13	070	2.2	108	10.8	0	1800	-.3	-37.0	4	058	1.1	045	2.5	0
2100	-1.4	-36.0	5	041	.8	020	3.2	0	2100	.2	-25.1	13	323	.3	134	5.1	1	2100	-.7	-26.7	12	285	.7	244	5.1	0
2400	-1.4	*****	9	108	.7	079	3.2	0	2400	0.0	-28.1	10	201	.7	151	9.5	0	2400	-.9	-27.8	11	249	3.0	246	6.3	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

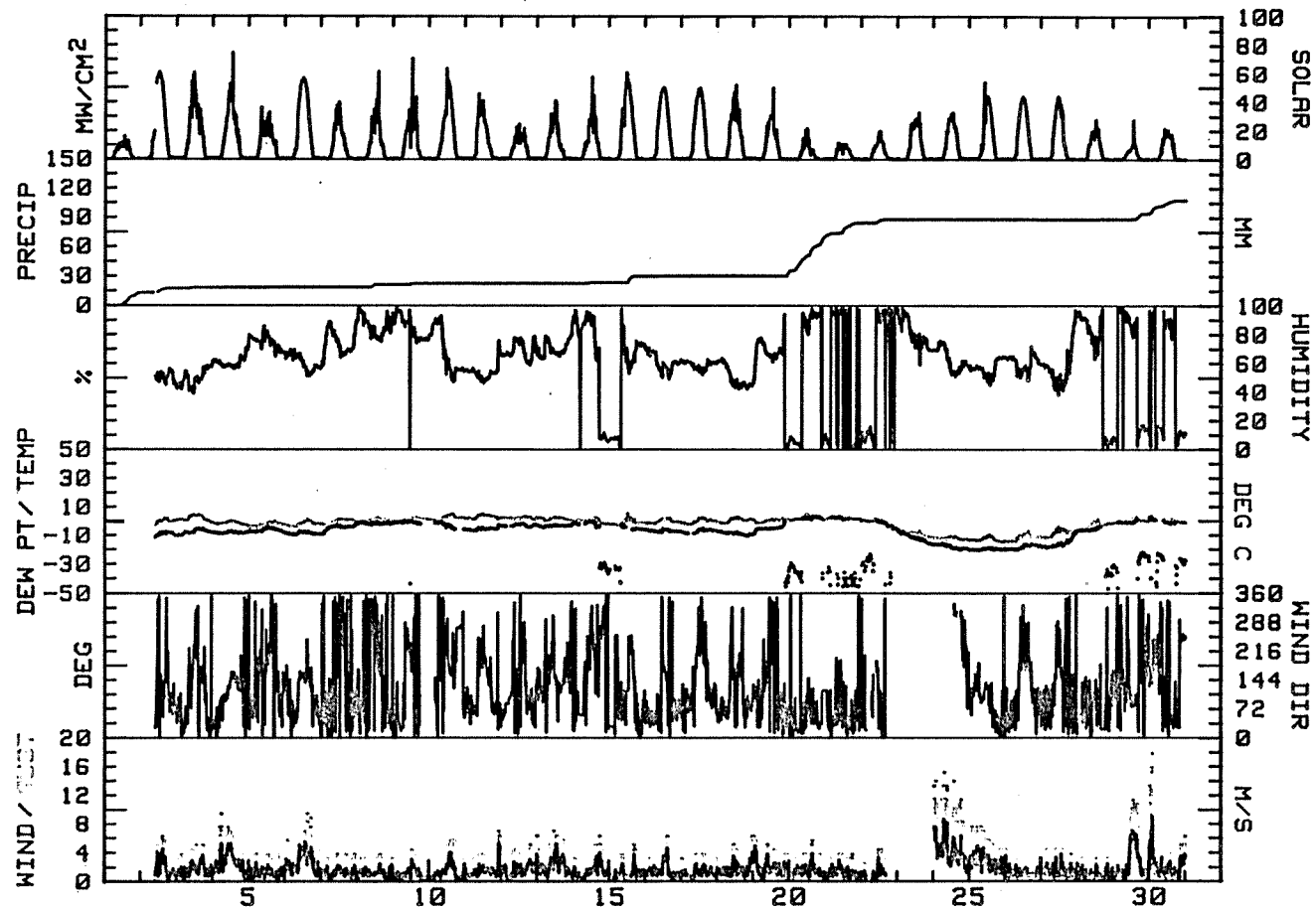
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. %	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	****	****	****	***	****	****	***	****	***	**	****	13.2	1003	1
2	2.6M	-2.5M	.1M	119M	1.1M	1.9M	138M	6.3M	E(M)	51M	-8.8M	4.4	4114M	2
3	5.1	-1.5	1.8	105	.6	1.7	320	5.1	NNE	50	-7.2	.8	3638	3
4	.6	-4.1	-1.8	111	2.0	2.7	093	9.5	E	61	-8.0	0.0	3435	4
5	.4	-4.2	-1.9	124	.3	1.3	050	3.8	ESE	75	-6.1	.4	2353	5
6	1.6	-4.6	-1.5	125	1.9	2.6	246	9.5	SSE	61	-8.5	0.0	4315	6
7	1.7	-3.3	-.8	027	.4	1.2	169	3.8	N	74	-4.2	0.0	2183	7
8	2.9	-.6	1.2	039	.4	1.2	169	3.8	NNE	84	-1.6	2.8	2450	8
9	3.1	-.7	1.2	235M	.2M	1.0M	164M	4.4M	N(M)			1.0	2545	9
10	5.4	.1	2.8	179M	.6M	1.3M	164M	5.7M	W(M)	63	-3.3	0.0	3428	10
11	5.5	1.0	3.3	105	.7	1.5	029	7.0	ENE	54	-5.3	0.0	2595	11
12	3.6	.9	2.3	085	.8	1.6	131	6.3	E	69	-2.8	0.0	1598	12
13	3.4	-.3	1.6	146	1.6	2.1	263	7.0	SE	70	-3.2	0.0	2203	13
14	3.0	-2.2	.4	233	.2	1.4	258	6.3	ENE			1.0	2155	14
15	6.0	-3.3	1.4	076	.5	1.1	147	5.1	NNE			6.6	3708	15
16	2.6	-2.4	.1	082	.7	1.5	142	6.3	NE	61	-6.7	.2	3595	16
17	3.1	-2.5	.3	137	.4	1.2	175	3.8	E	58	-6.7	0.0	3418	17
18	3.4	-2.1	.7	094	1.0	1.7	067	6.3	ENE	50	-8.7	0.0	2943	18
19	2.4	-1.5	.5	093	.9	1.8	105	6.3	NNE			5.2	2110	19
20	5.4	.5	3.0	043	1.2	1.4	061	5.7	NNE			35.6	988	20
21	4.2	0.0	2.1	064	.8	1.2	102	3.8	NE			13.6	853	21
22	2.1	-5.4	-1.7	056M	.6M	1.1M	130M	4.4M	N(M)			3.6	1085	22
23	-5.8	-12.0	-8.9	***	****	****	***	****	***			0.0	2063	23
24	-10.1	-13.4	-11.8	279M	1.5M	4.2M	315M	11.4M	NW(M)	63	-18.0	0.0	2180	24
25	-9.1	-15.1	-12.1	095	2.1	2.7	098	7.6	ESE	57	-19.7	0.0	2820	25
26	-6.8	-14.7	-10.8	091	.5	1.3	040	4.4	E	61	-18.1	0.0	2945	26
27	-3.5	-12.5	-8.0	101	.7	1.4	024	4.4	NNE	60	-15.2	0.0	2713	27
28	1.5	-5.9	-2.2	067	.7	1.0	026	3.2	NNE			.2	1550	28
29	3.3	-1.3	1.0	094	1.5	2.4	099	11.4	E			6.4	743	29
30	4.1	-.9	1.6	205	.6	2.1	151	17.8	WSW			13.0	1425	30
MONTH	6.0M	-15.1M	-1.3M	102M	.7M	1.7M	151M	17.8M	NNE(M)	62M	-9.9M	108.0	73147M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.1
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 NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1983



R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
N	1.12	3.57	.04	0.00	0.00	0.00	0.00	4.74
NNE	3.53	8.03	.16	0.00	0.00	0.00	0.00	11.72
NE	2.65	7.43	.40	0.00	0.00	0.00	0.00	10.48
ENE	3.09	7.83	.52	.04	0.00	0.00	0.00	11.48
E	3.61	5.38	1.04	.36	0.00	0.00	0.00	10.40
ESE	3.85	5.38	1.49	.12	0.00	0.00	0.00	10.84
SE	1.12	3.21	2.45	.04	0.00	0.00	0.00	6.82
SSE	1.16	4.09	2.69	.04	0.00	0.00	0.00	7.99
S	1.08	3.05	.68	.04	0.00	0.00	0.00	4.86
SSW	.96	2.85	.16	0.00	0.00	0.00	0.00	3.97
SW	1.04	2.77	.12	0.00	0.00	0.00	0.00	3.93
WSW	.72	2.21	.64	0.00	0.00	0.00	0.00	3.57
W	.92	1.24	.08	0.00	0.00	0.00	0.00	2.25
WNW	.28	1.32	.12	0.00	0.00	0.00	0.00	1.73
NW	.56	1.41	.12	.04	0.00	0.00	0.00	2.13
NNW	.52	2.01	.08	.04	0.00	0.00	0.00	2.65
CALM								.44
TOTAL	26.25	61.78	10.80	.72	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2491 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1983

