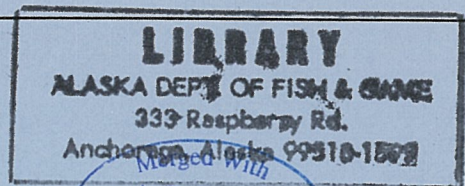


1092 -

**SUSITNA
HYDROELECTRIC PROJECT**

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114



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

**VOLUME V
DEVIL CANYON STATION
(No. 0660)**



UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

FINAL REPORT

JUNE 1984
DOCUMENT No. 1092

ALASKA POWER AUTHORITY

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no. 1092

SUSITNA HYDROELECTRIC PROJECT

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

**VOLUME 5
DEVIL CANYON STATION (No. 0660)**

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 - DEVIL CANYON 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: DEVIL CANYON YEAR: 1982-83

	October		November		December		January		February		March		
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	DAY
1	57	-5.9	63	-9.4	76	-19.9	90	-4.5	55	-7.1	90	-5.8	1
2	59	-6.3	85	-5.6	70	-22.4	90	-4.6	66	-5.9	71	-13.3	2
3	50	-8.6	88	-12.6	64	-21.5	92	-7.3	61	-7.7	67	-17.5	3
4	47	-10.2	75	-5.9	59	-23.2	81	-19.4	57	-8.7	67	-16.9	4
5	36	-13.6	79	-10.2	67	-13.0	73	-25.9	52	-10.0	62	-14.1	5
6	38	-13.9	78	-18.2	64	-10.7	61	-23.5	67	-7.4	59	-14.1	6
7	56	-9.0	70	-19.6	65	-5.6	61	-26.5	90	-5.5	57	-14.2	7
8	76	-7.2	81	-12.4	86	-3.3	60	-30.1	88	-12.0	48	-18.0	8
9	84	-3.0	92	-8.3	82	-10.7	51	-31.6	82	-17.8	45	-20.8	9
10	80	-6.0	87	-10.9	70	-15.9	46	-31.1	78	-17.7	70	-14.3	10
11	75	-6.9	91	-6.1	61	-13.0	62	-33.0	72	-20.5	70	-8.5	11
12	88	-1.7	81	-6.1	61	-10.2	**	*****	71	-23.3	64	-8.9	12
13	81	-4.6	82	-5.2	67	-7.8	**	*****	66	-24.1	57	-10.6	13
14	73	-9.3	93	-6.7	67	-9.7	**	*****	62	-21.8	57	-9.7	14
15	65	-14.1	85	-12.8	57	-9.3	**	*****	49	-22.0	61	-8.0	15
16	70	-8.7	82	-17.9	58	-9.9	**	*****	35	-23.4	69	-8.0	16
17	79	-6.2	77	-21.3	66	-10.3	**	*****	33	-25.5	58	-10.6	17
18	74	-9.8	68	-24.5	82	-15.0	**	*****	56	-19.4	65	-11.4	18
19	80	-6.2	53	-25.1	64	-15.1	94	-7.4	74	-10.5	61	-12.8	19
20	62	-12.8	69	-17.1	58	-16.5	76	-11.0	58	-12.5	54	-11.1	20
21	45	-19.4	75	-11.9	75	-19.9	48	-15.9	55	-11.8	46	-12.8	21
22	40	-19.9	70	-10.5	71	-22.7	57	-20.3	65	-10.4	49	-13.7	22
23	40	-21.1	74	-6.0	59	-20.9	31	-21.6	46	-13.0	49	-14.4	23
24	39	-22.0	86	-4.4	64	-17.2	27	-22.8	69	-8.0	54	-12.1	24
25	50	-20.7	76	-6.3	65	-16.1	36	-20.6	67	-10.8	49	-11.8	25
26	38	-27.4	66	-11.4	64	-11.2	53	-12.7	55	-10.9	44	-13.0	26
27	46	-27.6	78	-10.1	73	-5.5	74	-11.3	54	-12.7	42	-14.7	27
28	62	-19.2	85	-15.2	94	-9	92	-7.6	80	-7.5	45	-13.6	28
29	65	-19.3	90	-8.1	95	-3	91	-12.5			57	-12.1	29
30	61	-25.3	86	-12.7	88	-4.7	76	-9.6			55	-12.0	30
31	59	-23.4			85	-10.6	67	-6.0			58	-8.7	31
MONTH	56	-13.2	77	-11.8	70	-12.7	65	-17.4	61	-13.9	57	-12.5	MONTH

ADDENDUM

Revised RH and Dewpoint Data

STATION: DEVIL CANYON

YEAR: 1983

	April		May		June		* July		August		September		
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	DAY
1	51	-11.2	47	-7.2	59	4.4	94	9.8	62	9.2	83	4.5	1
2	44	-13.6	88	.8	87	6.4	82	9.1	61	5.5	34	-12.2	2
3	42	-12.6	80	-.5	93	4.1	66	9.8	57	5.2	37	-7.6	3
4	57	-5.6	61	-3.1	85	3.9	80	12.1	91	9.9	42	-9.9	4
5	69	-5.9	48	-5.7	73	5.4	78	13.3	87	9.3	40	-10.9	5
6	59	-9.2	52	-5.2	51	.1	91	10.8	79	8.7	34	-15.0	6
7	47	-12.1	45	-6.3	44	-.5	79	10.8	81	8.5	45	-7.6	7
8	52	-11.0	43	-6.3	52	.5	80	8.7	89	8.8	67	.4	8
9	61	-10.5	52	-2.1	48	-1.5	79	8.5	78	7.4	54	-1.5	9
10	43	-18.1	34	-8.0	46	-.4	69	8.7	68	5.8	60	-1.5	10
11	51	-16.9	35	-7.6	83	6.4	80	9.4	63	6.8	58	-3.0	11
12	68	-5.2	44	-3.7	58	3.7	86	9.7	88	7.9	44	-3.8	12
13	70	-4.9	46	-2.1	53	3.4	93	9.4	87	5.8	49	-4.4	13
14	75	-2.9	52	-.3	71	6.1	88	10.2	76	3.0	69	-1.0	14
15	84	-2.5	60	.6	83	7.7	72	11.0	79	3.3	49	-5.8	15
16	50	-7.5	57	-2.0	64	5.4	77	10.9	64	3.7	42	-9.9	16
17	52	-9.9	87	2.9	52	3.2	90	10.1	85	4.7	44	-8.4	17
18	48	-7.9	69	.5	42	2.7	78	7.5	59	.6	41	-10.6	18
19	46	-9.6	68	-.8	67	7.8	68	5.8	58	.6	39	-7.1	19
20	44	-9.6	48	-2.1	56	5.9	75	9.5	83	6.2	86	3.2	20
21	49	-8.3	71	2.0	57	7.4	71	8.5	89	7.2	86	5.1	21
22	63	-3.0	63	1.6	60	8.1	68	7.8	80	7.3	90	2.5	22
23	85	.4	60	-.5	59	6.7	94	8.4	82	5.4	34	-18.7	23
24	42	-7.1	47	-3.9	47	5.2	78	9.2	83	3.7	24	-23.2	24
25	32	-9.2	48	-2.3	41	4.8	69	7.1	84	4.0	18	-24.8	25
26	45	-6.5	66	.8	75	9.4	78	9.2	68	5.5	29	-20.8	26
27	48	-5.9	55	-.6	91	8.6	60	9.2	**	*****	29	-18.2	27
28	62	-3.0	48	.6	70	9.4	59	8.6	**	*****	68	-5.5	28
29	79	1.0	42	1.8	82	8.9	70	10.6	96	6.9	83	-.4	29
30	24	-18.9	50	5.2	50	8.3	94	10.9	60	3.5	94	2.4	30
31			75	4.9			86	12.2	83	5.4			31
MONTH	53	-8.2	54	-1.6	62	5.0	77	9.6	74	5.9	46	-7.1	MONTH

* NOTE: Data for July were not changed.

I. BACKGROUND

A. Purpose

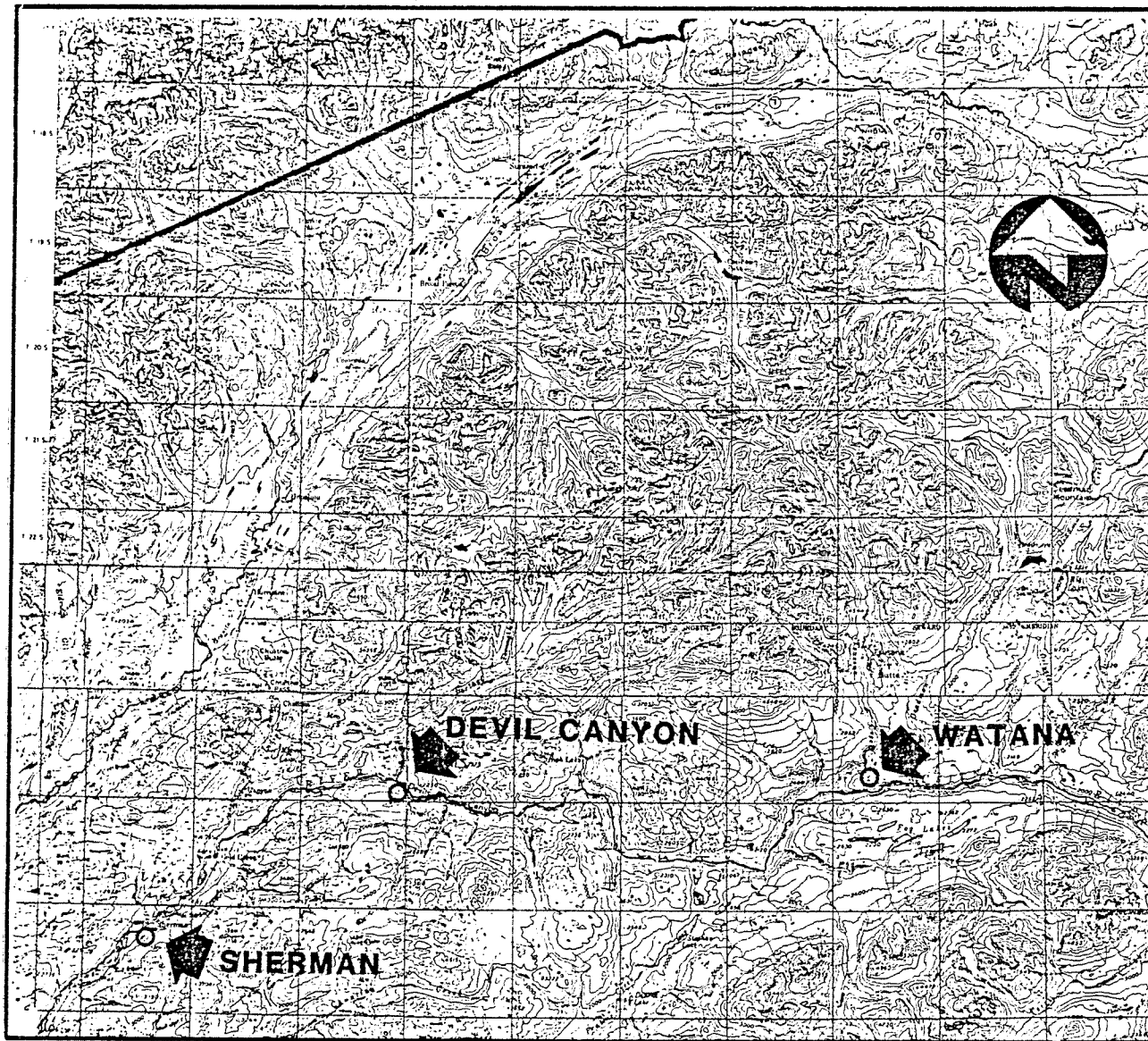
The Devil Canyon climate station was installed near the Devil Canyon damsite to obtain environmental data for reservoir, hydrology, and transmission line studies and design and planning of access roads and dam construction.

B. History of Devil Canyon Station (No. 0660)

The station was installed on July 17, 1980. It is located 1/8-mile south of the Susitna River, adjacent to the proposed Devil Canyon damsite. It lies at a 1,500-foot elevation on a ridge within the plateau region, yet is close to the actual walls of the canyon (see Figure I-1 for location). Devil Canyon Station is at Susitna River Mile 153.

Previous data reports for this station are:

Report	Period Covered
1. Processed Climatic Data Volume 6 Devil Canyon Station March 1982 (R&M Consultants)	July 1980 - Sept. 1981
2. Processed Climatic Data Volume 6 Devil Canyon Station December 1982 (R&M Consultants)	Oct. 1981 - Sept. 1982



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

CLIMATE STATIONS

UPPER SUSITNA BASIN



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

DEVIL CANYON STATION (No. 0660)

SUMMARY OF CLIMATE DATA RECORDED AT DEVIL CANYON STATION (NO. 660)
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	5.5M	-23.4M	-6.2M	M	M	M	M	M	M	M	M	M	25,252M	OCT
NOV	0.5	-22.2	-8.9	104	1.4	1.6	113	7.6	ESE	M	M	M	12,060	NOV
DEC	1.8	-21.6	-8.2	111M	1.4M	1.7M	107M	9.5M	ESE(M)	M	M	M	9,143	DEC
JAN	1.9M	-31.6M	-12.0M	M	M	M	M	M	M	M	M	M	9,735M	JAN
FEB	3.3	-24.2	-7.5	112	1.4	1.7	095	7.6	ESE	M	M	M	22,838	FEB
MAR	6.4	-17.1	-4.9	099	1.7	1.9	092	8.3	E	66M	-11.0M	M	74,842	MAR
APR	14.3	-12.3	0.8	090M	0.6M	1.5M	281M	10.2M	ESE(M)	M	M	33.2	113,821	APR
MAY	20.1M	-2.2M	6.8M	004M	0.2M	1.4M	095M	8.9M	WNW(M)	M	M	25.4	143,590M	MAY
JUN	25.7	1.9	11.2	324	0.7	1.5	024	8.9	NW	65M	5.5M	31.6	153,883	JUN
JUL	23.3	3.5	12.8	303	0.8	1.4	102	8.9	NW	77	9.6	46.4	130,781	JUL
AUG	22.9M	0.7M	9.7M	310M	0.2M	1.2M	011M	8.9M	WNW(M)	75M	4.7M	103.0	97,826M	AUG
SEP	13.0M	-9.7M	3.7M	M	M	M	M	M	M	M	M	0.0	64,543M	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 DEVIL CANYON STATION (NO. 660)
WATER YEAR 1982

Month	Temperature			Wind					P'val. Dir. (True)	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)						
OCT	5.4M	-12.4M	-0.4M	126M	0.8M	1.2M	118M	7.6M	ESE(M)	66M	-5.3M	M	31,312M	OCT
NOV	6.0	-20.0	-8.3	119M	1.3M	1.6M	107M	12.1M	ESE(M)	68M	-12.7M	M	11,313M	NOV
DEC	3.9	-28.9	-11.6	103	1.2	1.6	104	10.2	ESE	74M	-15.5M	M	8,853	DEC
JAN	-6.1	-28.7	-17.0	103	2.2	2.5	088	12.1	ESE	51M	-25.4M	M	13,923	JAN
FEB	5.4	-30.0	-12.1	104M	1.4M	1.9M	025M	13.3M	ESE(M)	M*	M*	M	26,125	FEB
MAR	4.3	-22.3	-7.1	100M	1.1M	1.6M	014M	12.7M	ESE(M)	M*	M*	M	M	MAR
APR	8.9	-21.9	-2.7	087	0.8	1.7	024	11.4	ESE	M*	M*	21.0	M	APR
MAY	17.2	-5.7	4.4	334	0.1	1.4	046	8.3	NW	M*	M*	22.0	156,845	MAY
JUN	26.4	0.0	9.9	306	0.6	1.4	242	10.2	WNW	M*	M*	85.2	136,964	JUN
JUL	28.3	1.5	11.7	298	0.8	1.3	255	7.6	WNW	M*	M*	106.4	119,205	JUL
AUG	21.6	1.2	10.8	322	0.3	1.2	318	7.0	WNW	M*	M*	35.0	119,478	AUG
SEP	15.5	-3.1	6.0	139	0.1	0.7	096	9.5	ESE	M*	M*	156.6	51,505	SEP
Annual	28.3M	-30.0M	-1.3M	101M	0.6M	1.5M	025M	13.3M	ESE(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 DEVIL CANYON STATION (NO. 660)
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	11.2M	-13.4M	0.2M	127	0.9	1.3	105	8.9	ESE	62M	-7.6M	M	M	OCT
NOV	4.2	-18.1	-5.1	115M	1.3M	1.5M	100M	10.2M	ESE(M)	75M	-9.7M	M	M	NOV
DEC	1.2	-34.4	17.9	105	1.6	1.9	093	9.5	ESE	57	-25.2	M	M	DEC
JAN	5.6	-16.5	-2.5	123	1.3	1.6	108	9.5	ESE	70M	-10.7M	M	M	JAN
FEB	4.4	-27.8	-7.3	M	M	M	M	M	M	80M	-10.8M	M	M	FEB
MAR	9.2M	-14.8M	-1.8M	112M	1.2M	1.6	074	8.9	ESE(M)	63M	-9.0M	M	63,510	MAR
APR	12.3M	-15.2M	-1.8M	098M	1.0M	1.7	M	13.9	ESE(M)	48M	-12.0M	1.2	141,149	APR
MAY	24.0	-2.8	8.7	341	0.2	1.4	027	10.8	WNW	59M	0.3M	39.0	141,937	MAY
JUN	24.1	-0.4	10.0	302	0.7	1.5	043	12.7	NW	67M	3.6M	166.4	143,143	JUN
JUL	19.9	0.0	9.3	300	0.6	1.2	252	10.2	WNW	80M	7.5M	176.6	80,423	JUL
AUG	M	M	M	M	M	M	M	M	M	M	M	M	M	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 DEVIL CANYON STATION (NO. 660)
WATER YEAR 1980

Month	Temperature			Wind					P'val. Dir. (True)	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)						
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	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

STATION INSTALLED 7/17/80

* 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 Devil Canyon 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 DEVIL CANYON Station Data

1. **General** - All data were lost from January 11-19, 1983, when the station was pulled for inspection. Also, all data except precipitation and solar radiation were lost from August 26-28, 1983, when the unit underwent 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.

The lack of any precipitation at all recorded for the period August 28-September 30 is suspicious since the gages at Watana (25 miles to the east) and Sherman (20 miles west-southwest) reported 5.0 and 20.8 millimeters, respectively, for September. The Devil Canyon gage may have been disconnected; the data are considered unreliable.

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.

Month	Adjustment to Graphical R.H. Values
October 1982	-20 R.H. Points
November	-10
December	-15
January 1983	- 5
February	-10
March	-10
April	-20
May	-15
June	- 2
August	-20 after August 28
September	-20

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 mw/cm^2 throughout the year. As explained in the General Notes (Section IV.A), this gives daily totals that are too high by 240 watt-hours per day. Inspection should be made of the night-time values in the 3-hour tables (to see whether "1" 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: Devil Canyon

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	99	100	100	75	100	100	100	99+	100	100	93	95	97
Wind Speed	99	100	90	70	100	100	99	99+	100	100	93	95±	95
Wind Direction	93	100	97	75	100	100	99	99+	100	100	93	85	95
Relative Humidity	99	100	100	75	100	100	100	99+	100	100	93	96	97
Precipitation	0	0	0	0	0	0	100	100	100	100	100?	0?	42(1)
Solar Radiation	99	100	100	75	100	100	100	99+	100	100	99	95	97
Peak Gust	99	100	90	70	100	100	99	99+	100	100	93	93±	95
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

DEVIL CANYON STATION, WATER YEAR 1983

No precipitation data for October

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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.	
					M/S	MW						M/S	MW						M/S	MW	
0300	1.3	*****	79	162	.4	127 1.9	1	0300	.7	*****	12	096	.7	140 1.9	1	0300	-1.0	*****	9	***	0.0M 076M .6M 1
0600	.7	*****	81	156	.7	244 1.9	1	0600	.2	*****	15	121	.4	134 1.3	1	0600	-.9	*****	9	124M .1M 117M .6M 1	
0900	1.4	*****	80	064	.1	138 1.9	9	0900	1.3	*****	94	077	.5	119 1.9	15	0900	0.0	*****	49	027M .2M 050M 1.3M 11	
1200	2.7	-3.2	65	319	.7	278 2.5	15	1200	4.4	2.4	87	039	.9	032 2.5	25	1200	3.4	2.2	92	352 1.0 335 2.5 27	
1500	3.3	*****	62	306	.8	300 2.5	11	1500	2.7	-6.2	52	357	1.2	324 3.8	12	1500	4.7	-1.3	65	310 1.2 290 3.2 11	
1800	1.7	*****	94	266	.5	278 2.5	1	1800	1.8	-2.0	76	259	.5	292 3.2	1	1800	3.0	-2.5	67	007 1.0 019 5.7 1	
2100	1.0	*****	92	181	.8	195 1.9	1	2100	.7	*****	79	123	.8	130 1.9	1	2100	1.8	-3.8	66	030 1.8 017 8.3 1	
2400	1.0	-29.7	8	113	.7	077 1.9	1	2400	-.6	*****	9	131M	.3M 128M 1.9M 1	2400	-.8	-3.7	81	092	.9	086 7.0 1	

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	-2.6	*****	87	169	1.0	152 1.9	1 0300	0.0	*****	69	145	.8	133 2.5	1 0300	-6.1	-10.5	71	163	1.0	151 2.5 1
0600	-3.4	-5.0	89	164	.9	168 1.9	1 0600	-2.4	-6.4	74	145	1.2	084 3.2	1 0600	-5.1	-9.0	74	139	1.2	128 2.5 1
0900	.1	*****	73	128	.6	134 2.5	23 0900	.9	-6.0	60	156	1.3	172 2.5	18 0900	-1.4	*****	68	144	.5	141 2.5 24
1200	3.4	-4.8	55	090	1.1	117 4.4	18 1200	2.6	-6.6	51	104	2.0	100 5.1	15 1200	3.8	-6.8	46	316	.7	304 3.8 19
1500	4.1	-5.7	49	105	1.9	097 4.4	10 1500	1.8	-9.0	45	048	2.4	018 8.3	14 1500	4.1	-7.2	44	108	2.0	026 4.4 13
1800	0.0	-6.4	62	124	1.8	122 4.4	1 1800	-.4	-10.1	48	017	6.0	030 10.2	1 1800	.9	-7.6	53	146	1.5	129 3.8 1
2100	-2.0	*****	73	167	1.2	158 3.2	1 2100	-1.1	-10.2	50	096	1.7	023 9.5	1 2100	.3	-7.0	58	182	1.0	203 1.9 1
2400	-1.7	*****	75	152	.6	136 1.9	1 2400	-2.8	*****	57	131	1.9	163 5.7	1 2400	-1.6	-7.3	65	173	1.0	158 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.	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	0.0	-5.6	66	146	1.2	139 3.8	1 0300	-2.4	-35.1	6	282	.7	327 3.2	1 0300	-2.3	*****	6	181M	.7M	181M 1.9M 1	
0600	.1	-5.5	66	125	1.8	123 3.8	1 0600	-2.8	*****	0	311	1.5	317 3.8	1 0600	-2.4	*****	8	***	****	***	**** 1
0900	-1.2	*****	1	116	1.0	117 3.8	3 0900	-2.5	-4.5	86	259	1.0	255 4.4	3 0900	-.9	*****	0	142M	.2M	170M 1.9M 3	
1200	-.8	*****	98	062	.5	062 3.2	6 1200	-1.0	*****	66	220	.5	223 2.5	7 1200	-.5	-46.4	0	313	.6	299 1.9 3	
1500	.5	*****	29	351	.5	030 1.9	4 1500	-1.1	-5.3	73	088	1.2	099 4.4	6 1500	-.5	-39.1	3	298	1.0	307 2.5 2	
1800	-1.0	-35.7	5	287	1.2	279 3.2	1 1800	*****	*****	**	***	***	106 3.2	*** 1800	-1.2	*****	9	295	.9	286 1.9 1	
2100	-1.3	-30.3	9	140	.5	273 1.9	1 2100	*****	*****	**	***	***	***	*** 2100	-1.6	*****	8	286	.6	283 1.3 1	
2400	-2.9	*****	2	133	.8	138 3.2	1 2400	-2.9	*****	6	122M	.4M	091M 1.3M 1	2400	-2.1	*****	8	290	.7	281 1.9 1	

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	M/S
0300	-2.3	*****	7	286	.7	293 1.9	1	0300	-4.7	*****	0	***	***	1	0300	-8	*****	4	205M	.6M
0600	-2.5	*****	8	274	.6	259 1.9	1	0600	-5.3	*****	99	167M	.2M	1	0600	-9	*****	5	125	1.1
0900	-2.2	*****	8	311	1.0	290 2.5	2	0900	-6.1	-6.8	95	100	1.2	3	0900	0.0	*****	5	189M	.4M
1200	-1.8	-2.2	97	332	1.1	323 3.8	3	1200	-2.2	*****	89	078	.8	4	1200	1.5	*****	2	235M	.4M
1500	-2.8	-2.9	99	324	1.7	316 3.8	2	1500	-1.0	-2.3	91	124	1.6	1	1500	1.2	*****	10	242	.5
1800	-3.9	*****	98	299	1.2	311 3.8	1	1800	-1.3	*****	94	118	1.3	1	1800	.6	*****	15	219	.6
2100	-4.7	*****	1	239M	.7M	215M 1.9M	1	2100	-.5	*****	94	137	1.0	1	2100	.2	-24.2	14	243	.9
2400	-5.0	*****	99	***	***	***	1	2400	-1.3	*****	5	227	.6	1	2400	-8	-25.0	14	281	.9

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.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S
						MW													
0300	-2.1	*****	0	165	.2	343 3.8	1	0300	-5.0	*****	0	***	***	1	0300	-10.9	-11.3	97	119
0600	-2.5	*****	4	214	.4	206 2.5	1	0600	-5.3	*****	1	***	***	1	0600	-13.1	-13.5	97	093
0900	-2.7	*****	95	244	.2	251 1.9	2	0900	-3.6	-5.3	88	145M	1.5M	10	0900	-11.1	-13.1	85	093
1200	-2.5	*****	94	139	.4	058 2.5	4	1200	-3.2	*****	86	125	1.2	6	1200	-5.1	*****	78	060
1500	-2.2	*****	99	184M	.8M	183M 1.3M	2	1500	-2.1	-4.6	83	101	.9	4	1500	-3.7	-7.3	76	141
1800	-3.7	*****	2	***	***	***	1	1800	-6.1	-6.5	97	151	1.0	1	1800	-7.3	-10.2	80	145
2100	-4.3	*****	3	***	***	***	1	2100	-8.1	-8.2	99	117	1.2	1	2100	-8.6	*****	80	123
2400	-5.1	*****	2	***	***	***	1	2400	-9.2	-9.5	98	093	1.3	1	2400	-8.6	-11.3	81	072

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	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	-7.6	-9.3	88	083	1.8	077	3.2	1	0300	-1.9	-44.6	1	118M	1.5M	125M	3.2M	1	0300	-9.2	-43.3	4	103	1.4	105	3.2	1	0300	-9.2	-43.3	4	103	1.4	105	3.2	1			
0600	-3.8	-6.7	80	119	1.3	078	3.8	1	0600	-2.5	*****	3	091	.5	118	3.2	1	0600	-9.9	-42.2	5	105	.9	083	2.5	1	0600	-9.9	-42.2	5	105	.9	083	2.5	1			
0900	-2.2	*****	79	134	1.2	134	3.2	2	0900	-1.8	*****	99	058	.5	099	1.9	3	0900	-7.6	-8.1	96	086	1.1	105	3.8	4	0900	-7.6	-8.1	96	086	1.1	105	3.8	4			
1200	-3.3	-3.9	96	099	1.3	107	3.8	3	1200	.8	*****	82	207	.1	204	1.9	4	1200	-2.6	*****	78	037	.9	069	3.2	8	1200	-2.6	*****	78	037	.9	069	3.2	8			
1500	-2.5	-2.9	97	074	.8	098	3.2	2	1500	.2	-1.0	92	193	.9	207	2.5	3	1500	-1.3	-4.8	77	075	.7	056	2.5	2	1500	-1.3	-4.8	77	075	.7	056	2.5	2			
1800	-2.5	-3.1	96	101	1.1	080	2.5	1	1800	-3.2	-3.3	99	159	.6	200	1.9	1	1800	-3.3	-5.0	88	155	1.3	142	3.2	1	1800	-3.3	-5.0	88	155	1.3	142	3.2	1			
2100	-2.6	-40.6	3	111	1.1	101	2.5	1	2100	-6.5	-43.3	3	136	1.1	138	3.2	1	2100	-4.2	*****	97	147	.8	118	1.9	1	2100	-4.2	*****	97	147	.8	118	1.9	1			
2400	-2.5	*****	5	***	***	***	***	1	2400	-6.4	-45.3	2	139	1.0	102	3.2	1	2400	-3.8	*****	96	072	.7	092	1.9	1	2400	-3.8	*****	96	072	.7	092	1.9	1			

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-3.6	*****	93	078	.9	110	2.5	1	0300	-6.0	-6.4	97	099	1.5	091	3.8	1	0300	-11.2	-13.0	87	131	1.0	114	3.8	1
0600	-4.2	*****	7	042	1.0	071	2.5	1	0600	-7.0	-7.1	99	092	1.6	092	3.8	1	0600	-11.0	-14.1	78	119	1.6	136	3.8	1
0900	-3.5	*****	4	027	.8	003	1.9	2	0900	-5.8	*****	83	112	1.1	098	2.5	8	0900	-10.1	-13.7	75	092	1.4	090	3.8	7
1200	-2.2	*****	2	028	.9	030	1.9	3	1200	-2.9	-8.5	65	125	1.6	116	3.8	8	1200	-6.2	-13.8	55	050	1.1	021	8.3	12
1500	-1.3	*****	2	032	.7	025	1.9	2	1500	-3.6	-9.2	65	216m	1.7m	216m	3.2m	3	1500	-6.7	-14.7	53	014	5.0	015	11.4	4
1800	-2.5	*****	5	091	.6	107	1.9	1	1800	-7.5	-11.3	74	162m	1.8m	123m	4.4m	1	1800	-8.4	-15.6	56	016	5.0	015	11.4	1
2100	-4.2	*****	6	134m	.9m	130m	1.9m	1	2100	-10.0	-13.3	77	123	2.3	119	5.1	1	2100	-8.7	-15.9	56	029	2.2	010	8.9	1
2400	-5.5	*****	1	211m	1.1m	218m	2.5m	1	2400	-10.8	-13.4	81	118	1.9	110	5.7	1	2400	-8.8	-16.0	56	091	2.5	095	6.3	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.	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	-12.6	*****	75	124	1.4	129	4.4	1	0300	-10.4	-15.5	66	151	1.2	134	2.5	1	0300	-11.7	-18.1	59
0600	-13.8	*****	77	183	1.0	164	1.9	1	0600	-11.1	-16.2	66	152	1.6	159	2.5	1	0600	-11.1	-17.5	59
0900	-11.4	-15.3	73	200	.9	186	2.5	5	0900	-9.3	-15.4	61	135	1.7	128	3.2	5	0900	-10.5	-17.0	59
1200	-4.9	-13.5	51	140	.9	105	5.7	10	1200	-7.2	-15.2	53	107	3.1	103	7.0	8	1200	-8.1	-16.3	52
1500	-5.8	-14.4	51	111	2.8	116	6.3	5	1500	-7.8	-15.5	54	107	3.2	095	7.0	4	1500	-8.5	-15.9	55
1800	-6.9	-14.4	55	125	1.2	128	3.2	1	1800	-10.3	-16.8	59	102	3.0	108	7.0	1	1800	-10.7	-16.9	60
2100	-7.3	-14.1	58	116	1.8	119	5.1	1	2100	-11.7	-17.9	60	123	2.7	132	5.1	1	2100	-11.7	-16.7	66
2400	-9.3	-15.6	60	150	1.6	115	3.8	1	2400	-11.9	-18.3	59	118	2.7	121	5.1	1	2400	-13.2	-17.5	70

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	-12.3	-16.5	71	137	2.2	122	4.4	1	0300	-19.4	-23.1	72	104	1.6	100	4.4	1	0300	-21.1	-24.2	76	101	1.4	087	3.2	1
0600	-11.8	-15.0	77	119	2.1	112	4.4	1	0600	-18.5	-22.8	69	117	1.3	113	3.8	1	0600	-22.4	-25.3	77	105	1.2	118	3.2	1
0900	-11.0	-13.0	85	136	1.9	144	3.8	7	0900	-15.1	-21.5	58	123	1.3	118	3.2	5	0900	-21.9	-25.1	75	079	1.6	070	3.8	4
1200	-7.8	-13.2	65	134	1.3	107	3.2	8	1200	-11.9	-21.2	46	099	1.0	109	3.8	7	1200	-16.6	-22.9	58	070	2.0	076	3.8	6
1500	-8.6	-15.2	59	156	1.4	155	3.2	4	1500	-12.4	*****	46	120	1.3	108	3.8	6	1500	-15.6	-22.4	56	115	2.0	118	4.4	6
1800	-13.4	-18.7	64	142	1.6	129	3.8	1	1800	-15.8	-23.0	54	128	1.4	129	3.8	1	1800	-17.6	-23.3	61	129	1.9	145	3.2	1
2100	-15.7	-20.8	65	115	1.7	101	3.8	1	2100	-16.2	-23.2	55	138	2.1	155	3.8	1	2100	-16.6	-22.3	61	120	1.5	134	3.8	1
2400	-18.1	-22.0	71	111	1.7	119	3.2	1	2400	-19.1	*****	66	147	1.8	117	4.4	1	2400	-14.8	-21.0	59	101	1.6	102	5.7	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

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	-14.4	-19.9	63	093	1.7	088	4.4	1	0300	-11.6	-12.5	93	066	1.0	117	3.2	1	0300	-21.1	-23.1	84	082	2.2	073	4.4	1
0600	-15.1	-17.1	85	090	1.8	104	5.1	1	0600	-11.3	*****	93	088	.2	058	3.2	1	0600	-22.0	-24.2	82	092	1.3	095	3.8	1
0900	-14.9	-16.6	87	098	1.8	103	4.4	2	0900	-10.4	*****	92	137	.3	150	1.3	4	0900	-22.3	-24.8	80	078	2.0	074	4.4	4
1200	-13.3	-14.9	88	095	2.0	107	5.1	5	1200	-7.4	*****	71	000	.3	025	1.3	7	1200	-17.7	-21.5	72	051	1.6	056	3.2	6
1500	-12.2	-14.2	85	103	2.4	097	5.1	2	1500	-11.4	-13.7	83	147	.8	151	2.5	3	1500	-16.0	-19.1	77	067	1.4	080	3.2	3
1800	-11.3	-12.9	88	103	2.2	105	5.1	1	1800	-14.3	-16.3	85	136	1.8	139	3.8	1	1800	-18.3	-20.8	81	095	1.6	094	3.8	1
2100	-12.3	-13.9	88	115	2.2	091	4.4	1	2100	-16.5	-18.4	85	112	1.9	137	3.8	1	2100	-19.8	-21.8	84	076	2.0	096	4.4	1
2400	-11.8	-13.3	89	117	2.4	122	4.4	1	2400	-19.2	-21.2	84	118	2.1	141	4.4	1	2400	-20.1	-22.8	79	068	2.5	076	4.4	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-21.7	-24.2	80	068	2.3	066	4.4
0600	-22.3	-24.7	81	077	2.8	077	4.4
0900	-21.9	-24.6	79	074	2.9	079	4.4
1200	-17.5	-20.7	76	069	2.7	065	4.4
1500	-14.4	-17.1	80	071	1.8	070	3.8
1800	-11.2	*****	80	096	1.0	090	2.5
2100	-10.7	-13.8	78	106	1.3	104	3.8
2400	-9.0	-12.4	76	124	1.8	117	4.4

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING October, 1982

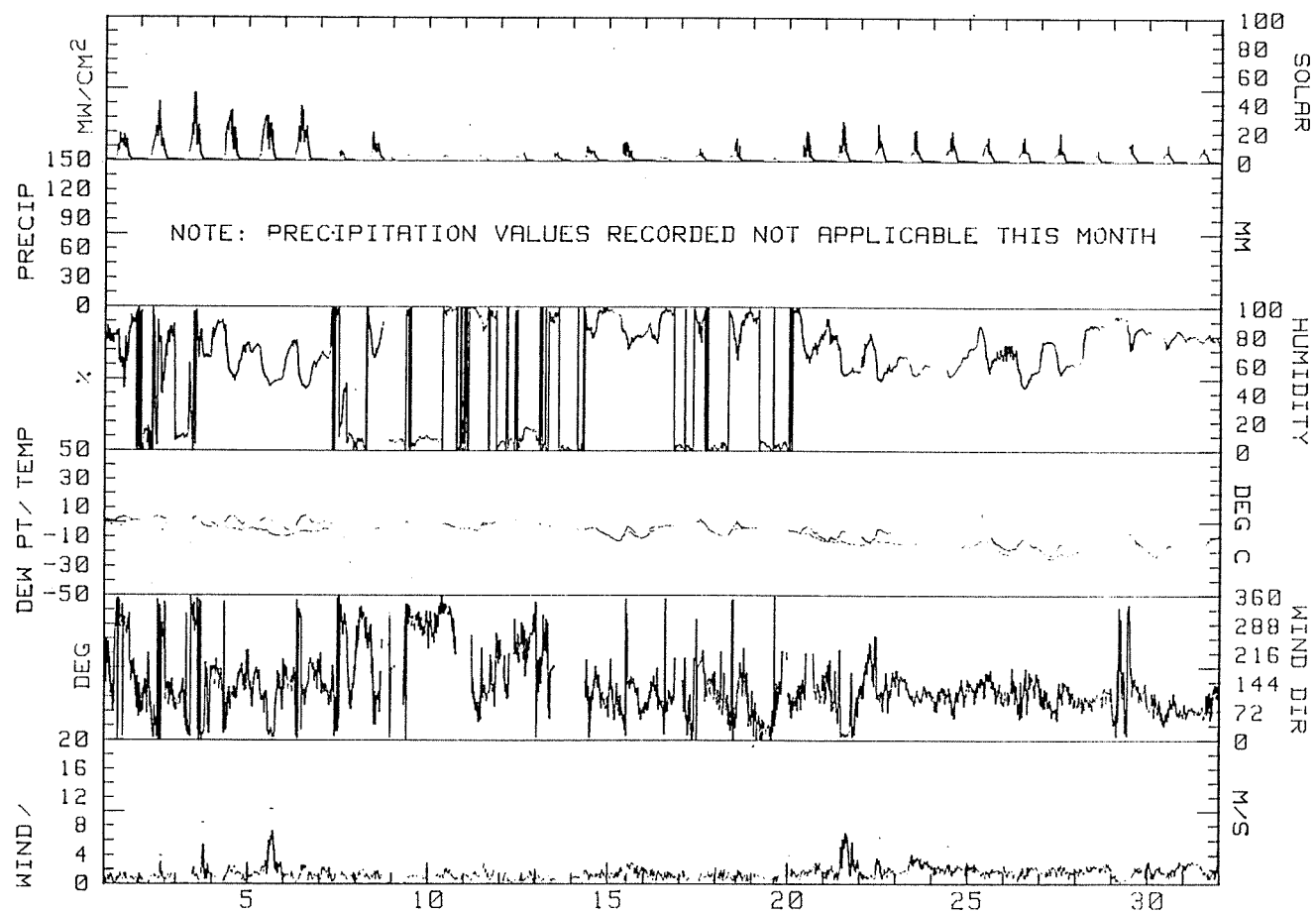
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	3.6	.6	2.1	216	.1	.7	278	2.5	WNW			****	1123	1
2	5.5	-.7	2.4	069M	.3M	.8M	324M	3.8M	SE (M)			****	1688	2
3	4.7	-1.5	1.6	013M	.6M	1.0M	017M	8.3M	NNE(M)			****	1725	3
4	4.1	-4.2	-.1	133	1.0	1.2	117	4.4	SSE	67	-5.3	****	1855	4
5	3.3	-2.8	.3	075	1.3	2.4	030	10.2	ESE	56	-7.7	****	1948	5
6	4.5	-6.1	-.8	146	.9	1.2	026	4.4	S	58	-8.2	****	1790	6
7	.9	-2.9	-1.0	127	.5	1.1	139	3.8	ESE			****	475	7
8	-5.5M	-4.2M	-2.4M	280M	.3M	1.0M	255M	4.4M	WSW(M)			****	980M	8
9	.3	-2.7	-1.2	292M	.6M	.7M	307M	2.5M	WNW(M)			****	375	9
10	-1.3	-5.0	-3.2	308M	.9M	1.0M	323M	3.8M	NW (M)			****	383	10
11	0.0	-6.3	-3.2	120M	.9M	1.1M	117M	5.1M	ESE(M)			****	378	11
12	1.8	-1.3	.3	223M	.4M	.7M	314M	3.8M	SW (M)			****	395	12
13	-.8	-5.1	-3.0	189M	.3M	.6M	343M	3.8M	S (M)			****	428	13
14	-1.3	-9.2	-5.3	117M	1.1M	1.1M	129M	3.2M	ESE(M)			****	643	14
15	-3.1	-13.2	-8.2	109	1.4	1.7	139	4.4	SE	85	-10.8	****	683	15
16	-1.8	-8.5	-5.2	103M	1.2M	1.3M	078M	3.8M	E (M)			****	345	16
17	2.5	-8.2	-2.9	137M	.6M	.9M	125M	3.2M	SSW(M)			****	478	17
18	.7	-10.6	-5.0	101	.8	1.1	105	3.8	E			****	638	18
19	-.9	-5.5	-3.2	058M	.6M	.9M	110M	2.5M	NNE(M)			****	355	19
20	-2.4	-11.4	-6.9	117M	1.6M	1.7M	110M	5.7M	ESE(M)			****	773	20
21	-5.7	-13.3	-9.5	044	1.9	2.7	015	11.4	NNE	65	-14.7	****	928	21
22	-4.5	-14.6	-9.6	134	1.3	1.5	116	6.3	ESE	60	-14.8	****	888	22
23	-7.1	-12.5	-9.8	119	2.3	2.4	103	7.0	ESE	60	-16.2	****	755	23
24	-8.0	-13.2	-10.6	109	2.0	2.1	111	5.1	ESE	59	-17.0	****	870	24
25	-7.4	-18.1	-12.8	130	1.7	1.8	122	4.4	SE	70	-16.6	****	788	25
26	-11.3	-19.4	-15.4	124	1.4	1.6	100	4.4	ESE	58	-22.5	****	720	26
27	-14.8	-23.4	-19.1	102	1.6	1.7	102	5.7	E	66	-23.4	****	663	27
28	-11.3	-15.1	-13.2	103	2.0	2.1	104	5.1	E	82	-15.8	****	438	28
29	-7.4	-19.2	-13.3	115	.9	1.2	141	4.4	SE	85	-16.2	****	630	29
30	-15.3	-22.8	-19.1	076	1.8	1.9	073	4.4	ENE	81	-22.2	****	545	30
31	-9.0	-22.7	-15.9	081	2.0	2.1	066	4.4	ENE	79	-20.1	****	585	31
MONTH	5.5M	-23.4M	-6.2M	104M	.9M	1.4M	015M	11.4M	ESE(M)	M	M	****	25252M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 11.4

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

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

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



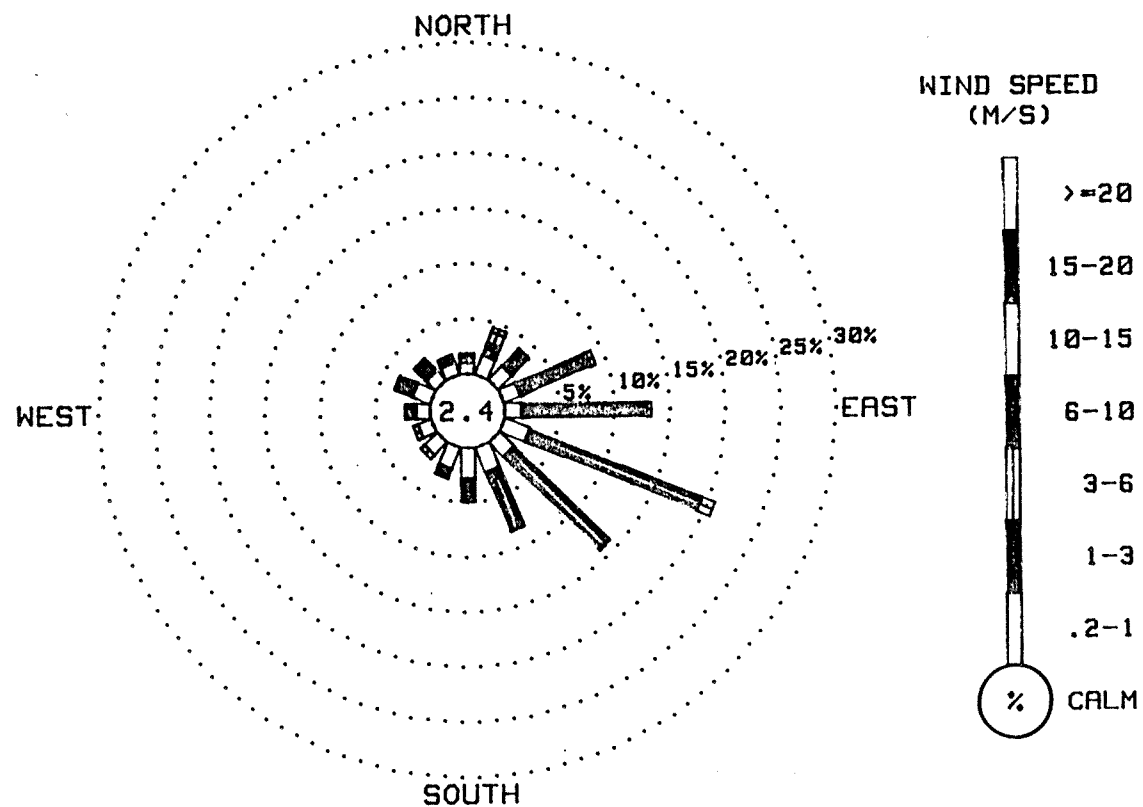
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON 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	1.02	.44	.22	.15	0.00	0.00	0.00	1.83
NNE	1.86	1.17	1.06	.44	0.00	0.00	0.00	4.53
NE	1.75	2.12	.04	0.00	0.00	0.00	0.00	3.91
ENE	1.64	6.83	.47	0.00	0.00	0.00	0.00	8.95
E	1.53	11.36	.40	0.00	0.00	0.00	0.00	13.29
ESE	2.48	16.80	1.28	0.00	0.00	0.00	0.00	20.56
SE	1.86	12.02	.22	0.00	0.00	0.00	0.00	14.10
SSE	2.41	5.88	0.00	0.00	0.00	0.00	0.00	8.29
S	2.78	2.12	0.00	0.00	0.00	0.00	0.00	4.89
SSW	2.08	.91	0.00	0.00	0.00	0.00	0.00	2.99
SW	1.61	.44	0.00	0.00	0.00	0.00	0.00	2.05
WSW	1.28	.44	0.00	0.00	0.00	0.00	0.00	1.72
W	1.31	.99	0.00	0.00	0.00	0.00	0.00	2.30
WNW	1.79	1.72	0.00	0.00	0.00	0.00	0.00	3.51
NW	1.24	1.53	0.00	0.00	0.00	0.00	0.00	2.78
NNW	1.21	.69	0.00	0.00	0.00	0.00	0.00	1.90
CALM								2.41
TOTAL	27.87	65.45	3.69	.58	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2738 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



WIND ROSE PLOT

No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-8.0	-11.5	76	108	1.6	104	3.2	1	0300	-1.7	-4.1	84	177	1.0	179	1.9	1	0300	-12.1	*****	0	108	1.0	117	3.2	1
0600	-6.5	-10.2	75	118	1.4	102	3.8	1	0600	-3.1	*****	94	172	.8	196	1.9	1	0600	-12.8	*****	99	066	1.2	070	3.8	1
0900	-3.6	-7.4	75	116	1.3	104	5.1	6	0900	-2.9	-40.8	3	170	.3	116	1.9	3	0900	-12.6	*****	95	090	.9	082	3.2	3
1200	-1.6	-6.5	69	107	2.7	106	7.0	9	1200	-.9	*****	94	044	.8	085	3.2	10	1200	-8.6	*****	96	104	1.0	099	3.2	7
1500	-.8	-5.7	69	109	2.4	113	7.6	3	1500	-1.2	*****	97	020	.5	024	1.9	2	1500	-6.7	*****	95	323	.2	346	1.9	2
1800	-.7	-5.3	71	109	1.9	108	6.3	1	1800	-1.6	-1.9	98	125	.9	132	3.2	1	1800	-6.5	*****	0	227	.3	310	1.9	1
2100	0.0	-4.4	72	167	1.0	172	4.4	1	2100	-4.6	-5.2	96	130	1.3	135	3.2	1	2100	-4.9	-5.0	99	187	.9	183	2.5	1
2400	-1.5	*****	80	198	1.1	231	2.5	1	2400	-9.2	-9.3	99	084	1.2	097	3.2	1	2400	-4.2	*****	0	191	.7	199	2.5	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	-1.8	-4.0	85	177	.7	170	6.3	1	0300	-4.1	*****	97	153	.6	151	1.9	1	0300	-15.8	-16.7	93	094	.9	066	2.5	1
0600	-3.8	-5.1	91	155	1.2	139	5.1	1	0600	-4.5	-5.9	90	142	1.0	132	2.5	1	0600	-17.2	-18.3	91	085	1.6	082	4.4	1
0900	-2.1	-4.5	84	165	.7	122	2.5	4	0900	-5.0	*****	89	144	.7	130	2.5	4	0900	-17.8	-19.2	89	080	1.4	067	3.2	3
1200	-.7	-4.6	75	111	1.2	116	4.4	7	1200	-3.2	*****	80	307	.0	071	1.9	8	1200	-14.3	-16.4	84	070	2.0	072	4.4	4
1500	-1.7	-4.4	82	091	1.8	098	4.4	2	1500	-4.5	*****	86	353	.2	354	1.3	2	1500	-11.7	-14.3	81	080	1.8	082	4.4	2
1800	-4.0	*****	94	098	1.3	097	3.8	1	1800	-9.1	-11.5	83	129	1.1	118	2.5	1	1800	-13.6	*****	86	091	1.3	084	3.2	1
2100	-4.2	-43.8	2	162	.4	157	2.5	1	2100	-11.9	-12.8	93	127	1.1	149	2.5	1	2100	-14.7	-16.4	87	089	1.7	084	4.4	1
2400	-3.5	*****	2	128	.7	144	2.5	1	2400	-14.3	*****	94	133	.7	142	2.5	1	2400	-16.8	-18.2	89	080	2.4	075	4.4	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	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	-17.4	-19.1	87	082	2.3	083	3.8	1	0300	-10.5	-14.2	74	112	2.4	109	5.1	1	0300	-7.9	*****	1	214	.4	264	1.9	1
0600	-17.7	-19.6	85	075	2.4	075	4.4	1	0600	-11.4	-12.7	90	103	2.1	090	5.7	1	0600	-7.9	*****	4	155	.2	284	1.3	1
0900	-18.5	-20.5	84	072	2.4	065	4.4	3	0900	-10.7	-12.3	88	102	1.9	109	5.1	2	0900	-7.8	*****	4	155	.4	137	1.9	1
1200	-15.7	-18.4	80	075	2.6	065	4.4	4	1200	-9.3	-10.1	94	095	1.6	098	3.8	3	1200	-5.9	*****	99	261	.4	269	1.9	2
1500	-12.1	-16.3	71	108	1.7	124	3.8	2	1500	-8.1	-8.8	95	101	1.8	097	4.4	1	1500	-5.7	-5.8	99	303	.2	266	1.3	1
1800	-13.7	-16.9	77	113	2.0	115	3.8	1	1800	-7.7	-7.8	99	104	1.5	107	4.4	1	1800	-6.2	*****	2	215	.2	120	2.5	1
2100	-14.0	-17.3	76	117	2.3	122	3.8	1	2100	-7.9	*****	99	119	1.7	115	3.8	1	2100	-6.3	*****	9	206	.1	056	1.9	1
2400	-13.8	-17.0	77	119	2.3	120	5.1	1	2400	-8.0	*****	2	062	.4	088	2.5	1	2400	-8.4	-46.7	2	052	.8	053	2.5	1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 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.	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	-10.9	*****	0	059	1.2	057	2.5	1	0300	-5.8	*****	3	101	1.3	104	3.2	1	0300	-6.8	*****	0	058	1.5	067	3.2	1
0600	-12.4	-13.1	95	055	1.5	051	3.8	1	0600	-5.2	-37.2	6	101	1.0	117	2.5	1	0600	-4.3	-5.0	95	118	1.0	119	2.5	1
0900	-13.2	-14.0	94	082	2.4	075	4.4	2	0900	-5.2	*****	1	089	1.1	117	3.8	2	0900	-3.9	-5.0	92	143	1.4	111	2.5	2
1200	-10.6	*****	96	078	1.4	094	3.2	2	1200	-3.8	-4.1	98	090	1.1	114	3.2	4	1200	-2.1	-4.1	86	138	1.3	137	4.4	7
1500	-6.7	-7.0	98	096	1.3	083	3.2	1	1500	-4.2	-43.8	2	116	1.8	116	3.8	1	1500	-2.5	-4.7	85	138	1.5	144	3.8	2
1800	-6.5	-6.6	99	104	1.8	094	4.4	1	1800	-3.9	-4.0	99	104	1.4	120	3.8	1	1800	-1.6	-2.8	92	140	1.3	113	3.8	1
2100	-6.3	-6.4	99	114	1.8	108	3.2	1	2100	-4.5	*****	1	119	1.5	132	3.8	1	2100	-1.8	*****	99	171	1.2	157	3.8	1
2400	-6.1	-45.1	2	102	1.8	102	4.4	1	2400	-6.5	*****	0	067	1.2	059	3.2	1	2400	-5	-2.9	84	131	1.2	119	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.	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	-2.3	-3.7	90	123	1.6	141	3.8	1	0300	-4.2	-35.0	7	065	.6	080	2.5	1	0300	-9.3	*****	1
0600	-3.5	*****	97	125	1.4	137	3.8	1	0600	-4.3	*****	6	065	.6	087	1.9	1	0600	-10.1	*****	2
0900	-5.8	*****	0	093	1.5	081	3.2	4	0900	-5.2	-42.4	3	080	1.0	079	3.2	2	0900	-11.2	*****	98
1200	-3.0	*****	90	117	2.1	115	4.4	8	1200	-5.8	*****	99	051	.9	089	3.8	5	1200	-9.3	-10.2	93
1500	-1.1	-2.4	91	152	1.1	126	3.2	2	1500	-5.5	*****	0	055	.8	037	2.5	1	1500	-9.0	-10.5	89
1800	-1.6	*****	96	128	1.1	107	3.2	1	1800	-5.9	*****	3	080	.9	113	3.2	1	1800	-11.8	-12.5	95
2100	-2.4	*****	6	150	.6	138	2.5	1	2100	-7.8	-46.2	2	109	1.2	118	2.5	1	2100	-13.4	-14.2	94
2400	-3.1	*****	7	052	.4	075	1.9	1	2400	-9.2	*****	2	191	.1	105	2.5	1	2400	-15.3	-15.9	95

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.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	
0300	-16.2	-17.0	94	086	2.1	074	3.8	1	0300	-18.0	-19.1	91	088	2.8	097	5.1	1	0300	-21.0	-23.1	83
0600	-16.7	-17.5	94	091	2.2	087	3.8	1	0600	-18.4	-19.8	89	092	1.8	093	5.1	1	0600	-21.5	-23.8	82
0900	-16.3	-17.3	92	082	2.5	088	4.4	2	0900	-19.7	-20.9	90	090	2.1	084	3.8	2	0900	-22.2	-24.3	83
1200	-14.8	-16.1	90	076	2.3	072	3.8	3	1200	-17.3	-19.1	86	086	2.2	092	3.8	3	1200	-19.2	-22.3	76
1500	-13.6	-14.9	90	085	2.1	084	3.8	1	1500	-15.8	-17.6	86	094	2.0	093	4.4	1	1500	-16.0	-20.0	71
1800	-15.2	-16.1	93	090	1.9	078	3.2	1	1800	-17.7	-19.9	83	079	2.1	079	3.8	1	1800	-18.5	-22.1	73
2100	-16.8	*****	93	106	1.0	103	2.5	1	2100	-19.9	-21.9	84	083	2.8	093	5.1	1	2100	-19.4	-23.3	71
2400	-16.8	-17.9	91	092	1.9	079	3.8	1	2400	-21.1	-23.2	83	094	2.8	085	4.4	1	2400	-19.4	-23.8	68

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.		DEG C	DEG C	%	DEG.	M/S	DEG.		DEG C	DEG C	%	DEG.	M/S	DEG.	
					M/S	MW						M/S	MW						M/S	MW	
0300	-20.2	-24.7	67	121	2.9	137 5.7	1	0300	-14.5	-20.3	61	120 3.3	123 6.3	1	0300	-10.5	-11.8	90	103 2.0	111 3.8	1
0600	-20.3	-25.0	66	112	2.5	124 5.1	1	0600	-13.5	-19.4	61	114 3.4	123 5.7	1	0600	-9.4	-11.3	86	080 1.5	101 3.2	1
0900	-21.1	-25.1	70	112	2.5	133 6.3	2	0900	-13.2	-18.4	65	107 3.3	115 5.7	1	0900	-9.7	-11.5	87	072 1.7	079 3.2	2
1200	-16.6	-22.2	62	105	2.2	128 5.1	5	1200	-12.6	-13.9	90	122 3.5	131 5.7	3	1200	-7.1	-9.2	85	071 1.8	064 3.2	4
1500	-16.0	-22.0	60	116	3.0	114 5.7	1	1500	-11.5	-12.7	91	117 2.8	118 5.1	1	1500	-6.2	-8.9	81	111 1.5	095 3.8	1
1800	-16.6	-22.5	60	125	2.8	121 4.4	1	1800	-10.9	-12.0	92	113 2.8	109 4.4	1	1800	-6.0	-9.4	77	123 1.8	127 3.8	1
2100	-16.5	-22.2	61	114	2.8	128 5.1	1	2100	-10.4	-11.5	92	118 2.9	112 5.1	1	2100	-7.7	-9.9	84	072 1.1	081 2.5	1
2400	-15.3	-21.1	61	111	3.4	115 7.0	1	2400	-10.4	-11.2	94	100 1.7	103 3.8	1	2400	-6.4	-9.6	78	105 1.7	125 4.4	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	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	-6.7	-9.9	78	126	2.5	119	5.1	1	0300	-4.6	*****	84	072	1.2	076	3.2	1	0300	-1.4	-1.7	98	125	1.1	138	2.5	1									
0600	-7.4	-9.2	87	090	1.5	106	3.8	1	0600	-2.1	-5.4	78	107	1.3	113	3.8	1	0600	-1.5	-1.9	97	127	1.6	130	3.2	1									
0900	-6.4	-9.3	80	094	1.6	105	4.4	1	0900	-1.7	-4.9	79	131	1.0	119	3.2	1	0900	-2.2	-2.9	95	138	1.5	130	3.2	1									
1200	-5.2	-8.6	77	089	1.6	079	3.8	6	1200	-1.1	*****	79	099	1.1	099	2.5	4	1200	-1.7	-2.7	93	138	.9	138	2.5	3									
1500	-5.0	-8.2	78	119	1.9	128	4.4	1	1500	-1.2	-4.0	81	104	1.3	090	3.2	1	1500	-2.6	-3.3	95	146	1.3	138	3.8	1									
1800	-5.8	-8.9	79	137	1.8	152	4.4	1	1800	-1.0	-2.8	88	124	1.5	129	3.2	1	1800	-3.8	-4.1	98	139	2.0	132	3.8	1									
2100	-5.9	-8.6	81	070	1.3	109	3.2	1	2100	-1.3	-2.2	94	131	1.5	110	3.2	1	2100	-4.0	-4.3	98	136	1.3	127	3.2	1									
2400	-6.1	-8.4	84	076	1.8	069	2.5	1	2400	-1.6	*****	2	125	.7	151	2.5	1	2400	-4.4	*****	98	134	1.4	161	3.8										

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	-4.0	-4.4	97	144	1.0	142	3.2	1	0300	-6.1	-9.6	76	119	1.8	110	3.8	1	0300	-4.9	-7.7	81	116	1.8	123	3.8	1
0600	-3.2	-3.8	96	135	1.4	098	3.2	1	0600	-6.5	-10.0	76	112	2.2	114	4.4	1	0600	-5.0	-7.6	82	100	1.5	114	4.4	1
0900	-2.9	-4.5	89	147	1.3	137	3.2	1	0900	-6.7	-10.2	76	116	2.4	108	4.4	2	0900	-6.0	-8.0	86	067	1.4	090	3.2	1
1200	.2	-2.7	81	142	1.6	142	3.2	4	1200	-6.7	-10.4	75	110	2.5	113	4.4	4	1200	-5.3	*****	87	072	1.5	066	3.2	4
1500	-1.6	-4.1	83	152	1.5	159	3.8	1	1500	-6.3	-9.8	76	115	3.0	110	5.7	1	1500	-5.8	-7.3	89	078	1.1	069	3.8	1
1800	-2.8	-5.9	79	131	1.4	150	2.5	1	1800	-7.2	-10.4	78	113	2.6	107	5.7	1	1800	-8.1	-8.8	95	075	1.1	076	2.5	1
2100	-2.9	-6.4	77	134	1.2	123	3.8	1	2100	-5.6	-8.8	78	129	2.6	142	4.4	1	2100	-10.5	-10.8	98	086	1.7	095	2.5	1
2400	-4.9	-8.3	77	120	1.7	110	3.8	1	2400	-5.2	-8.3	79	114	1.9	120	4.4	1	2400	-11.5	-11.9	97	085	2.2	082	3.8	1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-13.4	-13.8	97	072	2.5	070	4.4	1	0300	-9.1	*****	0	074	1.5	068	3.2	1	0300	-6.2	*****	2	192	.2	130	1.9	1
0600	-14.0	-14.6	95	080	2.9	082	4.4	1	0600	-8.2	*****	1	070	.9	075	2.5	1	0600	-9.9	*****	1	289	.6	288	3.2	1
0900	-14.0	-14.8	94	082	2.9	075	4.4	1	0900	-6.5	*****	3	058	.7	057	1.9	1	0900	-10.6	*****	98	283	.8	276	3.8	1
1200	-13.4	-14.4	92	078	2.9	078	4.4	4	1200	-5.6	-5.9	98	115	1.0	122	2.5	2	1200	-11.5	-12.3	94	272	1.0	253	3.2	2
1500	-13.1	-14.0	93	080	2.7	071	3.8	1	1500	-5.9	*****	1	110	1.0	130	2.5	1	1500	-12.0	*****	97	262	.6	267	3.8	1
1800	-13.9	-14.7	94	086	2.8	090	3.8	1	1800	-5.6	*****	0	093	1.3	112	3.2	1	1800	-11.9	*****	96	244	.7	287	1.9	1
2100	-12.7	-13.2	96	082	2.4	081	3.8	1	2100	-5.8	*****	1	117	1.8	131	3.8	1	2100	-11.7	-12.2	96	108	.6	144	2.5	1
2400	-10.3	-10.4	99	078	2.1	086	3.8	1	2400	-5.8	*****	0	116	1.3	112	3.2	1	2400	-11.3	*****	96	148	.3	090	1.9	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 1982

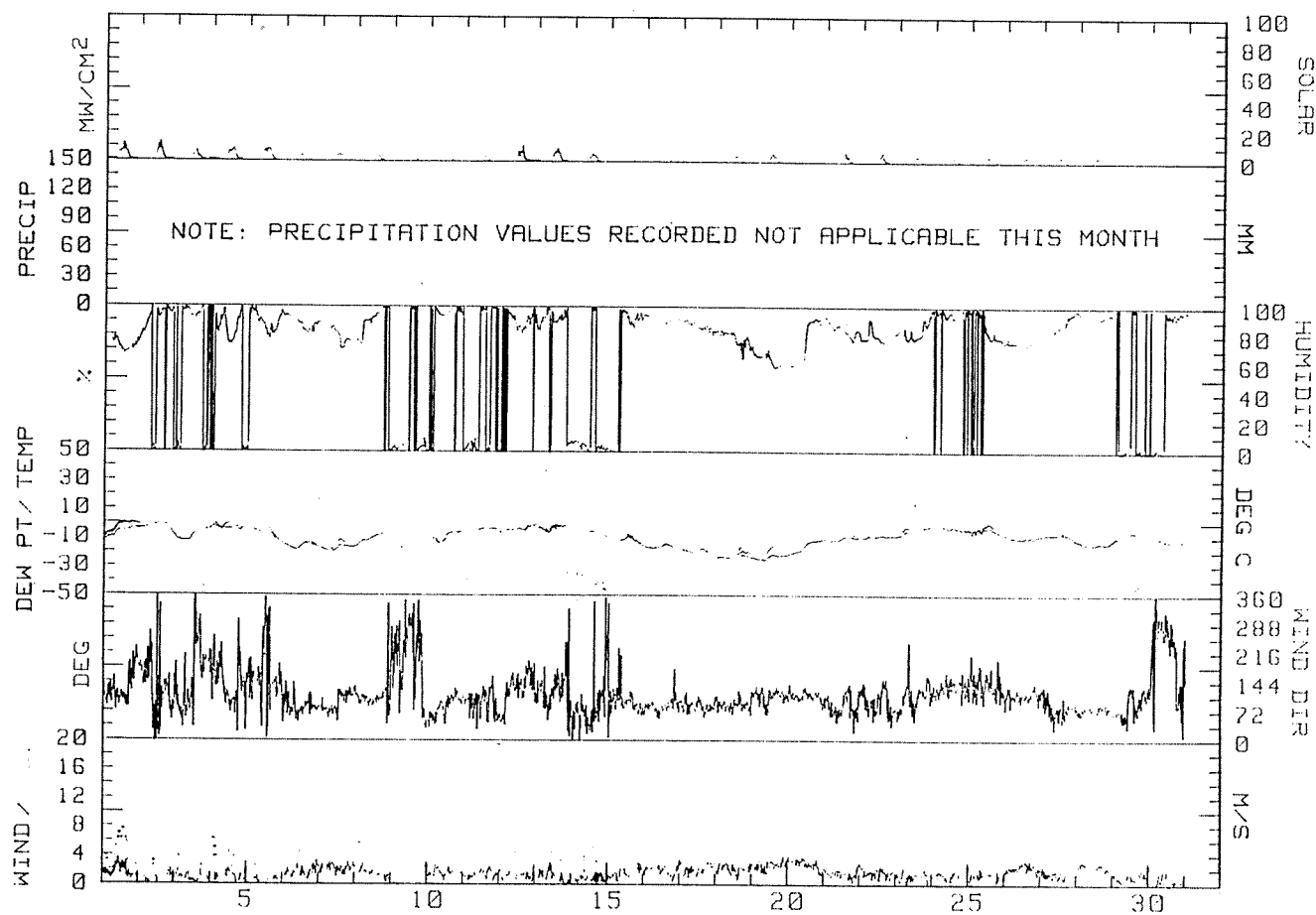
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	.2	-9.1	-4.5	120	1.5	1.8	113	7.6	ESE	73	-7.5	****	653	1
2	-.6	-9.6	-5.1	120	.6	.9	085	3.2	S			****	615	2
3	-2.7	-12.9	-7.8	116	.5	.9	070	3.8	ENE			****	440	3
4	-.3	-5.5	-2.9	125	.9	1.1	170	6.3	ESE			****	568	4
5	-2.6	-14.3	-8.5	135	.6	.8	132	2.5	SE	89	-8.7	****	605	5
6	-11.7	-18.1	-14.9	082	1.6	1.7	082	4.4	E	88	-16.8	****	423	6
7	-11.9	-18.5	-15.2	094	2.1	2.3	120	5.1	ESE	80	-18.1	****	423	7
8	-7.4	-13.6	-10.5	104	1.7	1.8	090	5.7	ESE			****	340	8
9	-5.7	-8.5	-7.1	194	.1	.5	120	2.5	WSW			****	310	9
10	-5.9	-13.7	-9.8	088	1.6	1.7	075	4.4	ESE			****	305	10
11	-3.6	-6.5	-5.1	100	1.3	1.4	117	3.8	ESE			****	318	11
12	-.5	-6.8	-3.7	130	1.1	1.4	137	4.4	SE			****	493	12
13	-.7	-6.5	-3.6	121	1.1	1.3	115	4.4	ESE			****	540	13
14	-3.2	-9.2	-6.2	076	.7	.9	089	3.8	ENE			****	400	14
15	-6.7	-15.3	-11.0	093	1.6	1.6	095	4.4	E			****	365	15
16	-13.0	-16.8	-14.9	087	2.0	2.0	088	4.4	E	92	-16.5	****	350	16
17	-15.7	-21.4	-18.6	088	2.3	2.4	097	5.1	E	87	-19.9	****	350	17
18	-15.9	-22.2	-19.1	092	2.2	2.3	090	4.4	E	78	-23.0	****	390	18
19	-15.2	-21.4	-18.3	115	2.8	2.8	115	7.0	ESE	63	-23.2	****	418	19
20	-10.1	-15.3	-12.7	115	2.9	3.0	123	6.3	ESE	79	-15.4	****	330	20
21	-5.8	-10.7	-8.3	093	1.5	1.7	125	4.4	ENE	85	-10.4	****	393	21
22	-4.6	-7.5	-6.1	103	1.6	1.8	119	5.1	ENE	80	-8.9	****	378	22
23	-.8	-6.0	-3.4	112	1.1	1.3	113	3.8	ESE			****	348	23
24	-1.0	-4.7	-2.9	136	1.4	1.4	138	3.8	SE			****	335	24
25	.5	-6.7	-3.1	138	1.4	1.5	159	3.8	SE			****	358	25
26	-4.9	-7.3	-6.1	116	2.4	2.4	110	5.7	ESE	76	-9.7	****	358	26
27	-3.8	-11.8	-7.8	086	1.5	1.6	114	4.4	E	88	-8.5	****	363	27
28	-10.3	-14.7	-12.5	080	2.7	2.7	070	4.4	E	95	-13.8	****	368	28
29	-5.4	-10.1	-7.8	097	1.1	1.2	131	3.8	ENE			****	258	29
30	-5.8	-12.0	-8.9	259	.4	.7	276	3.8	W			****	273	30
MONTH	.5	-22.2	-8.9	104	1.4	1.6	113	7.6	ESE	M	M	****	12060	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 3.8

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

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

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



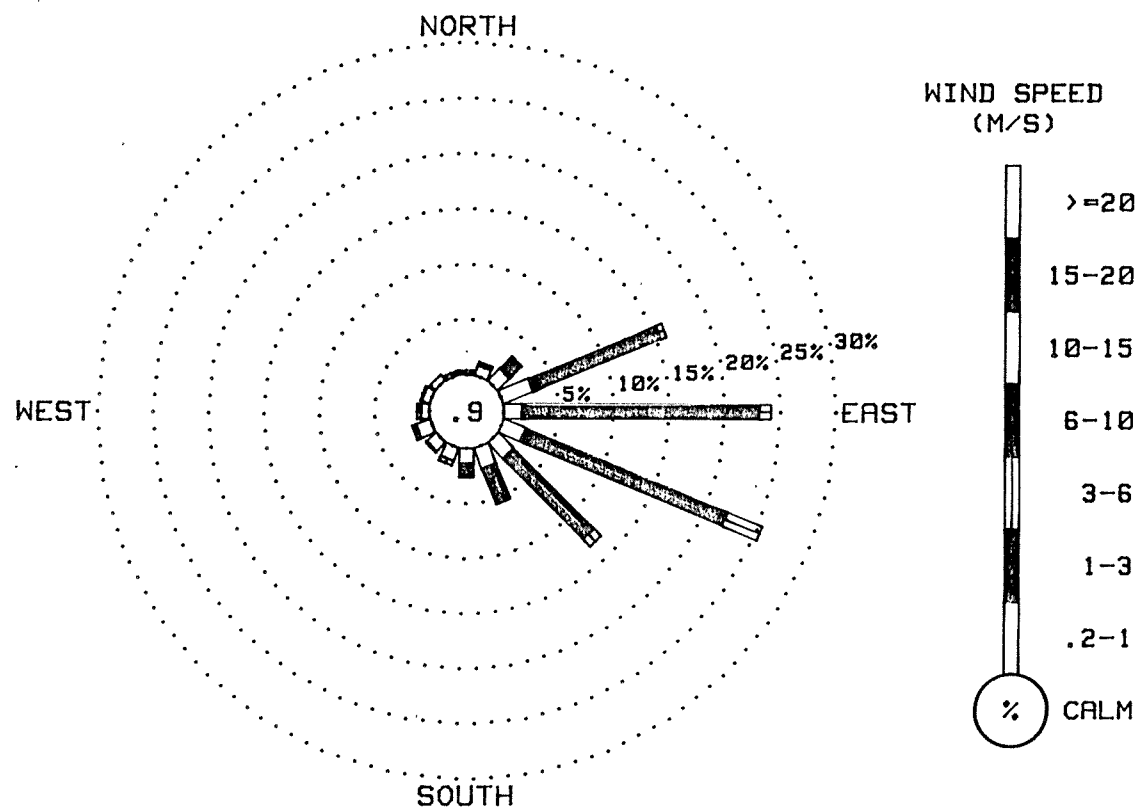
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 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	.35	.03	0.00	0.00	0.00	0.00	0.00	.38
NNE	.97	.28	0.00	0.00	0.00	0.00	0.00	1.25
NE	1.56	1.49	0.00	0.00	0.00	0.00	0.00	3.06
ENE	2.95	12.40	.56	0.00	0.00	0.00	0.00	15.90
E	1.67	21.42	1.08	0.00	0.00	0.00	0.00	24.17
ESE	2.19	19.72	3.40	0.00	0.00	0.00	0.00	25.31
SE	2.01	10.24	.97	0.00	0.00	0.00	0.00	13.23
SSE	2.01	3.44	0.00	0.00	0.00	0.00	0.00	5.45
S	1.39	1.22	0.00	0.00	0.00	0.00	0.00	2.60
SSW	1.25	.42	0.00	0.00	0.00	0.00	0.00	1.67
SW	1.15	.07	0.00	0.00	0.00	0.00	0.00	1.22
WSW	1.39	.31	0.00	0.00	0.00	0.00	0.00	1.70
W	.76	.38	0.00	0.00	0.00	0.00	0.00	1.15
WNW	.83	.10	0.00	0.00	0.00	0.00	0.00	.94
NW	.69	0.00	0.00	0.00	0.00	0.00	0.00	.69
NNW	.35	.03	0.00	0.00	0.00	0.00	0.00	.38
CALM								.90
TOTAL	21.53	71.56	6.01	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2880 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



No precipitation data for December

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	
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	-12.2	-13.3	92	153	.3	095	2.5	1	0300	-21.3	*****	90	097	1.2	082	3.2	1	0300	-21.2	-22.9	86	076	2.1	077	3.8	1
0600	-13.7	*****	95	285	.7	280	3.2	1	0600	-17.2	-18.9	87	145	1.1	149	3.8	1	0600	-19.9	*****	85	054	1.6	053	3.2	1
0900	-14.7	*****	94	264	.2	287	1.9	1	0900	-18.6	*****	90	134	1.0	141	4.4	1	0900	-17.7	*****	85	143	.7	136	3.8	1
1200	-14.1	*****	92	115	.6	128	1.9	2	1200	-15.2	-17.2	85	153	1.2	158	2.5	2	1200	-16.6	*****	81	145	.8	125	4.4	2
1500	-15.4	-16.3	93	109	.6	122	2.5	1	1500	-16.0	-18.1	84	128	2.6	133	5.1	1	1500	-12.9	-16.1	77	104	1.0	126	3.8	1
1800	-16.1	*****	92	129	1.0	126	2.5	1	1800	-18.4	-20.4	84	131	2.7	129	4.4	1	1800	-12.6	-15.9	76	113	1.6	125	4.4	1
2100	-18.0	-19.1	91	118	1.0	091	2.5	1	2100	-20.0	-22.0	84	105	1.7	132	4.4	1	2100	-14.3	-17.6	76	145	1.6	153	4.4	1
2400	-19.9	-21.3	89	092	1.3	098	2.5	1	2400	-20.8	-22.7	85	066	1.4	091	4.4	1	2400	-15.1	-18.4	76	118	1.7	107	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.	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	-14.6	-19.8	76	105	1.9	104	5.1	1	0300	-11.7	-14.6	79	090	1.3	067	3.2	1	0300	-4.6	*****	84
0600	-17.2	-20.7	74	108	2.3	111	5.1	1	0600	-9.2	-12.0	80	098	1.2	092	3.2	1	0600	-5.3	-7.9	82
0900	-19.7	-21.9	76	116	2.9	105	5.7	1	0900	-8.7	-9.5	94	119	1.1	117	2.5	1	0900	-6.2	-8.9	81
1200	-17.4	-20.9	74	109	2.7	118	4.4	4	1200	-7.1	-8.3	91	110	1.1	107	3.8	3	1200	-5.2	-8.4	78
1500	-17.6	-21.1	74	109	2.8	124	5.7	1	1500	-6.5	-8.9	83	114	1.8	098	4.4	1	1500	-6.3	-9.5	78
1800	-17.7	-21.2	74	117	3.2	125	6.3	1	1800	-6.7	-9.0	84	109	1.3	117	3.2	1	1800	-4.8	-7.9	79
2100	-17.6	-20.5	78	108	1.9	138	5.7	1	2100	-6.0	-8.1	85	113	1.2	093	3.2	1	2100	-3.6	-6.9	78
2400	-13.1	-16.3	77	066	1.4	069	3.2	1	2400	-5.8	*****	86	108	1.3	056	3.2	1	2400	-1.5	-5.7	73

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	-1.8	-5.0	79	094	2.5	098	7.0	1	0300	-1.0	*****	4	119	.5	123	1.9	1	0300	-1.5	-1.6	99	283	1.4	277	5.1	1
0600	-1.1	-4.3	79	100	3.1	109	8.9	1	0600	-1.4	-37.8	4	117	.7	108	2.5	1	0600	-4.1	*****	98	248	1.0	279	2.5	1
0900	.5	-2.1	83	099	2.9	091	7.6	1	0900	-1.7	*****	6	106	1.3	108	3.2	1	0900	-7.5	*****	0	132	.8	188	2.5	1
1200	1.7	-1.2	81	108	4.1	107	9.5	3	1200	-1.6	-39.9	3	120	1.4	127	3.2	2	1200	-8.6	-8.9	98	069	1.6	073	3.8	2
1500	1.4	-1.3	82	106	2.7	106	8.3	1	1500	-1.4	-39.7	3	133	1.2	114	3.2	1	1500	-8.8	-9.1	98	067	1.6	054	3.2	1
1800	.1	-2.5	83	130	1.4	107	4.4	1	1800	-1.8	*****	2	179	.8	139	1.9	1	1800	-9.5	-10.4	93	080	1.9	065	3.8	1
2100	.5	-1.9	84	131	1.3	086	3.2	1	2100	-1.1	*****	6	171	.7	136	3.2	1	2100	-12.6	-13.0	97	060	2.2	078	3.8	1
2400	-.8	*****	5	137	.7	168	1.9	1	2400	-.7	-1.0	98	226	.4	305	5.1	1	2400	-14.4	-14.8	97	065	2.4	068	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	DEC C	DEC C	%	DEG.	M/S	DEG.		DEC C	DEC C	%	DEG.	M/S	DEC.		DEC C	DEC C	%	DEG.	M/S	DEC.	
					M/S	MW						M/S	MW						M/S	MW	
0300	-16.8	-17.1	98	071	2.3	081	4.4	1	0300	-6.6	-9.8	78	169	2.0	147	3.8	1	0300	-3.8	*****	83
0600	-18.5	-19.0	96	075	2.0	080	4.4	1	0600	-6.1	-9.8	75	126	2.8	108	6.3	1	0600	-3.2	-7.0	75
0900	-18.7	-19.3	95	084	1.6	053	3.8	1	0900	-6.6	-10.1	76	142	1.8	124	4.4	1	0900	-4.4	-7.8	77
1200	-14.0	-14.4	97	130	.7	112	3.2	2	1200	-4.9	-9.0	73	108	2.1	127	5.1	2	1200	-3.9	-7.5	76
1500	-8.4	-9.6	91	174	1.3	168	2.5	1	1500	-6.1	-9.8	75	109	2.0	115	5.1	1	1500	-3.3	-6.9	76
1800	-5.0	-9.6	70	134	2.4	141	6.3	1	1800	-7.2	-10.4	78	126	2.3	131	3.8	1	1800	-2.3	-6.1	75
2100	-5.0	-9.2	72	112	2.6	111	6.3	1	2100	-7.2	-10.5	77	117	2.3	127	5.1	1	2100	-4.1	-7.5	77
2400	-8.4	-10.8	83	135	1.9	105	5.7	1	2400	-5.9	-8.8	80	149	1.5	135	3.2	1	2400	-4.8	-7.0	85

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
	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	-2.5	*****	83	182	1.4	181	3.2	1	0300	-3.2	-6.0	81	149	1.4	156	2.5	1	0300	-3	-6.5	63	107	1.9	102	5.7	1
0600	-2.8	-4.5	88	134	1.1	114	3.8	1	0600	-4.9	-6.8	87	138	1.2	139	2.5	1	0600	-1.0	-6.5	66	119	1.8	111	5.7	1
0900	-4.3	-6.2	87	142	1.7	157	3.8	1	0900	-9.0	-10.2	91	153	1.3	158	3.8	1	0900	-1.2	-6.5	67	127	1.7	147	3.8	1
1200	-3.1	-5.9	81	162	1.3	157	3.2	4	1200	-3.3	-6.3	80	140	1.0	116	3.2	4	1200	-8	-5.6	70	109	1.6	117	3.8	3
1500	-3.0	*****	83	154	1.4	154	4.4	1	1500	-2.8	-6.3	77	137	1.3	116	3.2	1	1500	-2.4	-5.5	79	137	1.3	136	3.2	1
1800	-2.0	-4.7	82	166	1.1	106	3.8	1	1800	-6.3	*****	87	127	.8	100	2.5	1	1800	-2.9	-5.4	83	155	1.7	162	3.8	1
2100	-1.0	-4.2	79	119	1.9	109	6.3	1	2100	-8.2	*****	88	158	.8	148	2.5	1	2100	-2.7	-5.2	83	148	1.4	125	2.5	1
2400	-2.4	-5.2	81	119	1.6	116	4.4	1	2400	-1.1	-7.4	62	133	1.0	124	4.4	1	2400	-1.9	-5.2	78	150	1.5	155	4.4	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	-1.0	-4.9	75	124	1.3	087	3.8	1	0300	-2.9	-6.7	75	120	1.7	120	3.8	1	0300	-11.6	*****	1
0600	-2.7	-6.3	76	147	1.6	122	3.8	1	0600	-3.7	-7.1	77	123	1.9	119	3.8	1	0600	-13.4	*****	1
0900	-3.1	-6.9	75	142	1.3	157	3.2	1	0900	-4.0	-7.4	77	114	1.6	116	3.8	1	0900	-13.5	-13.6	99
1200	-1.8	-6.3	71	153	1.3	149	2.5	3	1200	-3.9	-7.2	78	110	1.9	117	4.4	3	1200	-12.9	-13.4	96
1500	-2.5	-7.0	71	130	1.8	115	4.4	1	1500	-4.2	-7.3	79	118	2.3	123	4.4	1	1500	-12.3	-12.7	97
1800	-3.3	-7.6	72	129	1.5	128	3.2	1	1800	-5.3	-7.3	86	105	2.1	114	3.8	1	1800	-12.1	-12.5	97
2100	-3.8	-7.9	73	126	1.5	120	3.2	1	2100	-7.4	-8.1	95	089	1.6	108	3.2	1	2100	-12.7	-12.8	99
2400	-3.8	-7.6	75	118	1.2	109	3.2	1	2400	-10.5	-10.6	99	075	2.0	074	3.8	1	2400	-12.5	*****	99

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-9.4	-10.8	90	130	.9	105	3.2	1	0300	-9.4	-13.8	70	164	1.3	133	3.2	1	0300	-15.5	-16.3	94	086	2.4	086	4.4	1
0600	-12.6	-13.4	94	100	1.0	133	3.2	1	0600	-6.6	-12.5	63	165	1.3	177	2.5	1	0600	-16.6	-17.5	93	088	2.4	089	3.8	1
0900	-12.8	-13.7	93	063	1.2	063	3.2	1	0900	-7.3	-12.2	68	111	1.9	123	5.1	1	0900	-16.6	-17.6	92	086	2.5	082	4.4	1
1200	-9.9	-12.0	85	065	1.4	087	3.2	3	1200	-7.7	-11.8	72	120	1.8	129	4.4	3	1200	-16.9	-18.0	91	081	2.8	083	4.4	3
1500	-8.7	-12.3	75	122	1.8	122	4.4	1	1500	-9.0	-12.9	73	139	2.3	130	4.4	1	1500	-15.8	-17.1	90	082	2.6	078	4.4	1
1800	-8.0	-12.3	71	126	1.4	119	3.2	1	1800	-12.0	*****	82	126	1.4	152	3.8	1	1800	-16.6	-17.9	90	083	2.7	085	4.4	1
2100	-6.6	-11.7	67	137	1.2	148	2.5	1	2100	-14.3	-15.9	88	100	1.6	109	3.2	1	2100	-17.5	-19.0	88	082	2.5	079	3.8	1
2400	-6.9	-12.3	65	145	1.5	159	3.2	1	2400	-15.3	-16.3	92	093	2.2	090	3.8	1	2400	-18.7	-20.2	88	077	2.5	071	5.1	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.	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	-19.5	-21.1	87	074	3.4	067	5.1	1	0300	-16.5	-18.6	84	062	1.5	075	3.2	1	0300	-15.2	-17.6	82
0600	-20.3	-21.9	87	074	3.4	072	5.7	1	0600	-13.6	-16.9	76	083	1.4	101	4.4	1	0600	-12.9	-15.2	83
0900	-19.9	-21.4	88	077	3.6	079	5.7	1	0900	-12.9	-16.7	73	107	1.9	098	3.8	1	0900	-11.5	-13.4	86
1200	-18.8	-20.6	86	079	3.2	081	5.1	3	1200	-12.0	-16.5	69	114	2.3	109	4.4	4	1200	-8.9	-12.0	78
1500	-17.8	-19.6	86	075	2.6	073	3.8	1	1500	-13.4	-17.9	69	127	2.1	127	3.8	1	1500	-9.6	-13.2	75
1800	-17.9	-19.6	87	068	1.6	075	3.8	1	1800	-14.7	-18.8	71	120	2.1	125	4.4	1	1800	-11.5	-14.9	76
2100	-17.7	-19.5	86	078	2.0	075	3.2	1	2100	-16.7	-19.6	78	081	1.7	136	3.8	1	2100	-11.3	-14.5	77
2400	-16.5	-18.4	85	065	1.4	071	3.2	1	2400	-16.5	-18.9	82	074	2.1	095	3.8	1	2400	-11.1	-13.9	80

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.						
					M/S	MW						M/S	MW						M/S	MW						
0300	-11.1	-13.7	81	113	3.2	124	5.7	1	0300	-8.4	-11.9	76	102	1.8	101	4.4	1	0300	-1.2	-3.6	84	178	1.1	183	1.9	1
0600	-11.1	-13.6	82	079	2.0	107	5.1	1	0600	-7.6	-11.1	76	117	1.0	116	3.2	1	0600	-1.1	-3.8	82	152	1.6	149	2.5	1
0900	-11.8	-14.4	81	087	2.1	076	4.4	1	0900	-6.2	-9.4	78	147	1.3	141	2.5	1	0900	-2.5	*****	97	113	1.3	098	3.2	1
1200	-11.1	-13.7	81	100	2.6	116	6.3	3	1200	-4.1	-7.5	77	121	1.2	095	3.2	3	1200	.2	-2.5	82	092	.8	107	3.2	2
1500	-11.1	-13.6	82	112	2.7	114	5.7	1	1500	-4.2	-7.3	79	111	1.8	102	3.8	1	1500	-8	-32.5	7	133	.8	067	2.5	1
1800	-10.8	-13.4	81	115	2.6	123	5.7	1	1800	-4.0	*****	85	132	1.5	131	4.4	1	1800	-9	*****	8	182	.5	148	1.9	1
2100	-11.8	*****	84	081	.8	121	3.8	1	2100	-3.7	-5.7	86	169	1.2	171	2.5	1	2100	-6	*****	7	180	.6	215	1.9	1
2400	-8.0	-11.2	78	106	1.2	094	4.4	1	2400	-2.7	*****	87	172	1.1	181	1.9	1	2400	-4	-29.6	9	093m	.2m	095m	1.9m	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	0.0	-28.1	10	***	***	***	1 0300	1.1	-28.4	9	153	.6	086	1.9	1 0300	-.3	-43.6	1
0600	-.1	-28.2	10	***	***	***	1 0600	.9	-28.6	9	205	1.4	252	3.2	1 0600	-.8	-35.6	5
0900	.1	-29.2	9	***	***	***	1 0900	.5	***	12	237	.9	230	2.5	1 0900	-1.3	-34.3	6
1200	.1	-28.0	10	***	***	***	1 1200	1.7	-45.0	0	126	1.0	146	3.2	2 1200	-1.8	-34.7	6
1500	.1	-29.2	9	***	***	***	1 1500	.1	***	13	137	.5	128	3.2	1 1500	-2.7	-40.6	3
1800	.1	-29.2	9	***	***	***	1 1800	.2	-25.9	12	012M	.2M	244M	1.3M	1 1800	-4.1	-46.1	1
2100	.1	***	10	137M	.1M	112M	1.3M	1 2100	-.1	-25.3	13	***	***	***	1 2100	-7.7	-42.2	4
2400	.5	-28.9	9	146	.5	087	1.9	1 2400	-.2	-25.4	13	***	***	***	1 2400	-9.2	***	2

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.
DEG C	DEG C	%	DEG.	M/S	DEG.
0300	-10.1	***	1	***	***
0600	-10.1	***	2	***	***
0900	-7.7	***	0	***	***
1200	-7.9	***	1	***	***
1500	-7.1	***	1	***	***
1800	-7.3	***	1	***	***
2100	-7.1	***	1	***	***
2400	-6.6	***	1	***	***

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING December, 1982

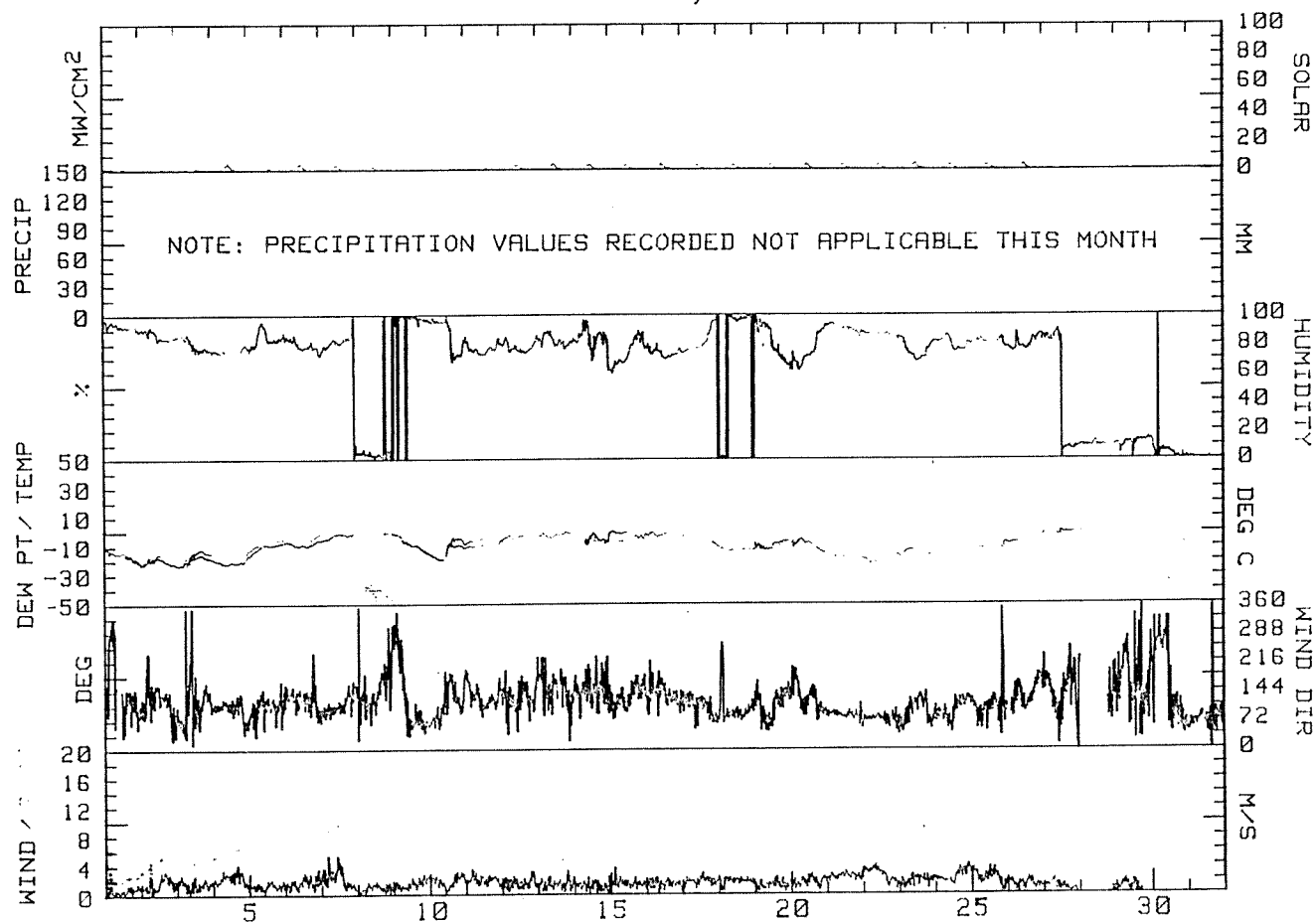
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-11.1	-19.9	-15.5	117	.5	.8	280	3.2	SE	92	-17.7	****	268	1
2	-15.1	-21.6	-18.4	121	1.5	1.7	133	5.1	SE	86	-20.1	****	283	2
3	-11.9	-21.4	-16.7	107	1.2	1.6	125	4.4	ESE	80	-18.9	****	293	3
4	-13.1	-18.7	-15.9	108	2.3	2.5	125	6.3	ESE	75	-20.5	****	343	4
5	-4.7	-13.1	-8.9	108	1.3	1.3	098	4.4	ESE	83	-10.3	****	305	5
6	-1.5	-7.5	-4.5	122	1.7	1.9	110	7.0	SE	80	-7.9	****	333	6
7	1.8	-1.9	-.1	107	2.3	2.4	107	9.5	ESE			****	300	7
8	0.0	-1.8	-.9	134	.7	1.0	305	5.1	SE			****	258	8
9	-.6	-14.4	-7.5	067	1.0	1.7	277	5.1	ENE			****	270	9
10	-4.3	-19.1	-11.7	110	1.6	1.9	141	6.3	ESE	86	-13.3	****	273	10
11	-4.8	-8.7	-6.8	129	2.0	2.1	108	6.3	ESE	77	-10.1	****	295	11
12	-2.3	-6.8	-4.6	130	1.5	1.6	124	5.1	ESE	77	-7.2	****	310	12
13	-.1	-5.1	-2.6	145	1.3	1.5	109	6.3	SSE	83	-5.0	****	328	13
14	-.9	-9.0	-5.0	142	1.1	1.2	124	4.4	SE	93	-6.9	****	318	14
15	.3	-5.5	-2.6	130	1.5	1.7	102	5.7	ESE	73	-6.1	****	308	15
16	-.3	-5.0	-2.7	134	1.4	1.5	115	4.4	SE	74	-6.7	****	315	16
17	-2.6	-10.5	-6.6	107	1.8	1.9	117	4.4	ESE	82	-7.5	****	303	17
18	-10.2	-13.9	-12.1	089	1.7	1.8	077	4.4	E			****	308	18
19	-6.6	-13.0	-9.8	113	1.1	1.3	122	4.4	SE			****	300	19
20	-5.6	-15.3	-10.5	124	1.6	1.8	123	5.1	ESE	74	-13.5	****	315	20
21	-15.0	-18.8	-16.9	083	2.6	2.6	071	5.1	E	91	-17.7	****	310	21
22	-16.0	-20.6	-18.3	075	2.6	2.7	072	5.7	ENE	87	-20.5	****	305	22
23	-11.8	-17.8	-14.8	099	1.8	2.0	101	4.4	ESE	75	-18.1	****	328	23
24	-8.0	-16.8	-12.4	105	2.3	2.5	119	5.7	ESE	80	-14.6	****	308	24
25	-7.8	-12.7	-10.3	102	2.1	2.3	116	6.3	ESE	81	-13.5	****	310	25
26	-.8	-8.7	-4.8	130	1.2	1.4	101	4.4	ESE	80	-8.4	****	300	26
27	.4	-2.9	-1.3	143	.8	1.0	098	3.2	SSE			****	253	27
28	.9	-.4	.3	145	.3	.4	087	1.9	SE			****	240	28
29	1.7	-.3	.7	179M	.6M	1.0M	252M	3.2M	SE(M)			****	268	29
30	-.1	-9.3	-4.7	***	****	****	***	****	***			****	253	30
31	-6.6	-10.4	-8.5	***	****	****	***	****	***			****	250	31
MONTH	1.8	-21.6	-8.2	111M	1.4M	1.7M	107M	9.5M	ESE(M)	M	M	****	9143	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.9

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

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

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



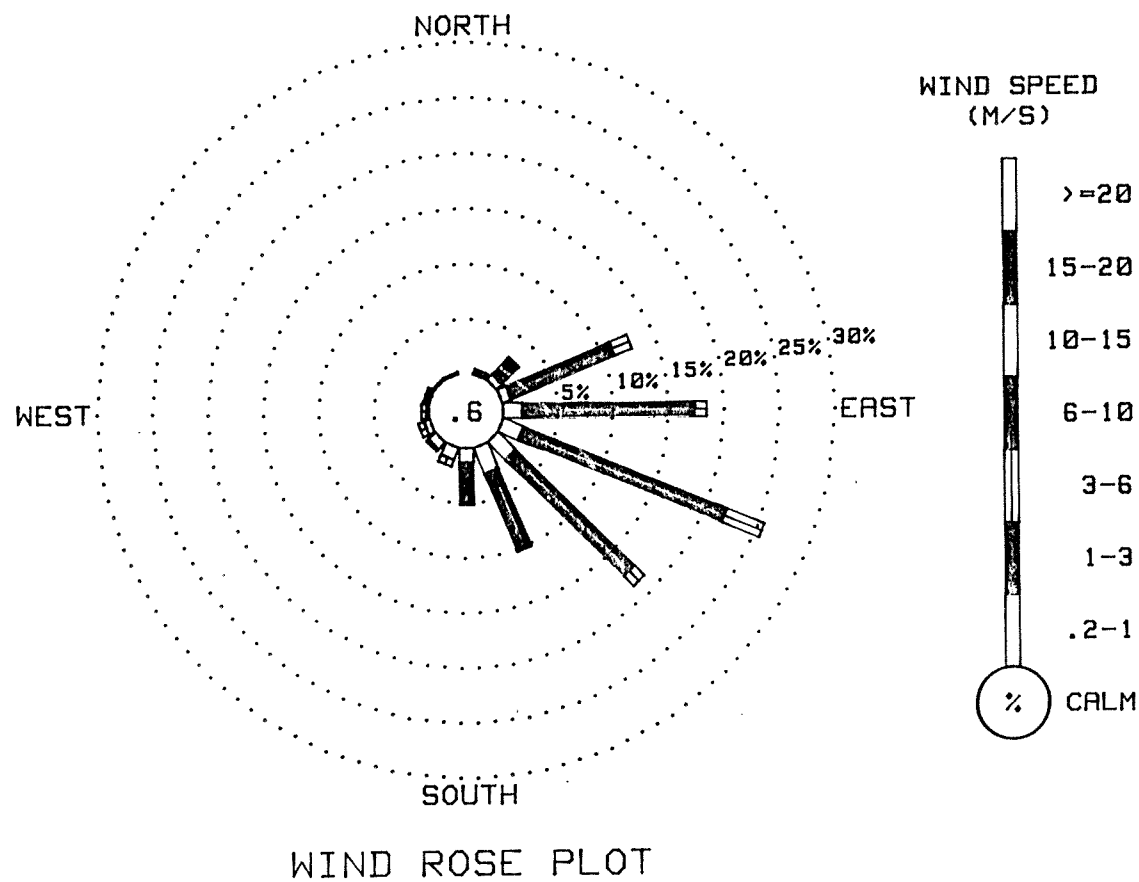
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	.19	.26	0.00	0.00	0.00	0.00	0.00	.45
NE	.68	2.10	.04	0.00	0.00	0.00	0.00	2.82
ENE	.86	10.10	1.69	0.00	0.00	0.00	0.00	12.65
E	1.73	15.62	1.09	0.00	0.00	0.00	0.00	18.44
ESE	1.99	19.83	3.68	0.00	0.00	0.00	0.00	25.50
SE	2.29	15.02	1.28	0.00	0.00	0.00	0.00	18.59
SSE	2.55	7.66	0.00	0.00	0.00	0.00	0.00	10.21
S	1.31	3.79	0.00	0.00	0.00	0.00	0.00	5.11
SSW	1.16	.64	0.00	0.00	0.00	0.00	0.00	1.80
SW	.86	.23	0.00	0.00	0.00	0.00	0.00	1.09
WSW	.56	.53	0.00	0.00	0.00	0.00	0.00	1.09
W	.23	.49	0.00	0.00	0.00	0.00	0.00	.71
WNW	.38	.23	0.00	0.00	0.00	0.00	0.00	.60
NW	.15	.04	0.00	0.00	0.00	0.00	0.00	.19
NNW	.15	.04	0.00	0.00	0.00	0.00	0.00	.19
CALM								.56
TOTAL	15.10	76.57	7.77	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2663 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



No precipitation data for January

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOOR	DEW							WIND	WIND	GUST	MAX.	HOOR	DEW							WIND	WIND	GUST	MAX.	HOOR	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
	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	-4.2	-4.3	99	***	***	***	***	1	0300	-2.0	-2.6	96	***	***	***	***	1	0300	-4.9	-42.2	3	103	1.8	107	4.4	1									
0600	-4.0	-4.6	96	***	***	***	***	1	0600	-2.7	-2.8	99	***	***	***	***	1	0600	-5.0	*****	4	087	.6	089	2.5	1									
0900	-3.3	-4.2	94	***	***	***	***	1	0900	-3.3	-45.6	1	***	***	***	***	1	0900	-5.7	-5.8	99	122	.5	030	1.9	1									
1200	-2.3	-2.9	96	***	***	***	***	2	1200	-3.2	-3.9	95	***	***	***	***	2	1200	-5.9	-6.3	97	121	1.2	110	3.2	2									
1500	-2.0	-2.4	97	***	***	***	***	1	1500	-3.2	-4.1	94	***	***	***	***	1	1500	-7.0	*****	99	115	1.0	112	3.2	1									
1800	-2.0	-2.6	96	***	***	***	***	1	1800	-3.6	-4.5	94	112	1.8	112	3.8	1	1800	-8.1	*****	98	104	.8	079	2.5	1									
2100	-1.7	-2.4	95	***	***	***	***	1	2100	-3.9	-4.7	94	115	2.2	112	4.4	1	2100	-10.0	*****	99	115	.7	058	2.5	1									
2400	-1.6	-2.5	94	***	***	***	***	1	2400	-4.2	-4.9	95	113	2.1	101	5.1	1	2400	-11.4	-12.3	93	166	.8	206	1.9	1									

DAY 04

DAY 05

DAY 06

HOOR	DEW	WIND	WIND	GUST	MAX.		HOOR	DEW	WIND	WIND	GUST	MAX.		HOOR	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	-13.4	-13.8	97	129	1.1	115	2.5	1	0300	-22.7	-24.7	84	094	1.5	092	4.4	1	0300	-18.2	-23.3	64	130	1.8	145	3.8	1
0600	-15.6	-16.4	94	138	1.4	138	3.8	1	0600	-23.8	-25.6	85	090	2.0	080	4.4	1	0600	-20.9	-24.7	71	126	2.1	129	5.1	1
0900	-17.6	-19.4	86	115	1.7	092	4.4	1	0900	-24.0	-26.1	83	093	1.9	093	4.4	1	0900	-18.3	-22.6	69	152	1.1	158	2.5	1
1200	-17.6	*****	85	102	1.2	120	3.2	2	1200	-23.7	-25.9	82	090	1.7	110	3.8	2	1200	-16.9	-21.9	65	098	1.8	116	5.7	2
1500	-15.6	-18.4	79	090	1.2	077	3.8	1	1500	-23.7	-25.9	82	088	1.5	080	3.8	1	1500	-16.8	-21.0	70	106	3.0	105	7.6	1
1800	-18.8	-20.8	84	071	1.2	065	3.2	1	1800	-21.7	-24.1	81	100	1.0	071	3.2	1	1800	-16.8	-21.6	66	098	3.3	106	8.9	1
2100	-19.4	-21.4	84	073	1.6	081	3.2	1	2100	-18.7	-23.8	84	136	1.7	145	3.8	1	2100	-16.8	-21.5	67	114	3.3	114	7.6	1
2400	-21.0	-22.9	85	075	1.9	082	3.8	1	2400	-19.4	-24.5	84	128	1.5	153	3.8	1	2400	-17.1	-22.1	65	107	3.4	112	8.3	1

DAY 07

DAY 08

DAY 09

HOURLY	DEW	WIND	WIND	GUST	MAX.		HOURLY	DEW	WIND	WIND	GUST	MAX.		HOURLY	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	-17.7	-23.6	60	104	3.7	100	8.3	1	0300	-25.3	*****	75	234	.7	245	3.2	1	0300	-24.9	-29.9	63	133	1.3	119	3.8	1
0600	-19.4	-22.7	75	100	3.4	094	8.9	1	0600	-22.7	-26.6	70	134	.6	122	3.8	1	0600	-25.1	-30.4	61	148	2.1	147	4.4	1
0900	-20.3	-24.5	69	095	3.1	073	7.6	1	0900	-23.4	-28.1	65	114	1.9	114	4.4	1	0900	-24.8	-30.3	60	147	2.7	148	4.4	1
1200	-19.9	-24.9	64	122	2.0	124	4.4	4	1200	-23.7	-28.6	64	119	1.9	098	3.8	5	1200	-23.7	-29.8	57	130	2.0	156	3.8	4
1500	-21.6	-26.2	66	103	2.2	108	5.1	1	1500	-24.4	-29.4	63	102	1.6	119	3.8	1	1500	-23.5	-30.2	54	119	2.8	109	5.7	1
1800	-22.8	-27.0	68	131	1.6	123	3.8	1	1800	-25.6	-30.0	66	117	1.3	111	3.8	1	1800	-24.0	-30.7	54	121	2.7	126	5.1	1
2100	-24.1	-28.3	68	125	2.5	114	4.4	1	2100	-24.8	-29.8	63	131	1.8	088	5.1	1	2100	-24.3	-31.0	54	125	2.3	098	4.4	1
2400	-25.4	*****	71	127	2.1	133	4.4	1	2400	-25.9	-30.8	63	133	1.2	151	3.2	1	2400	-23.2	-30.3	52	141	2.6	140	5.1	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-23.2	-30.3	52	128	2.9	121	0300	-28.7	-33.2	65	094	2.4	091	0300	*****	*****	**	***	*****
0600	-23.8	-30.9	52	134	2.5	128	0600	-30.3	-33.7	72	100	2.3	095	0600	*****	*****	**	***	*****
0900	-23.1	-30.4	51	132	2.6	140	0900	-24.6	-28.9	67	153	1.2	123	0900	*****	*****	**	***	*****
1200	-21.8	-29.2	51	124	2.2	120	1200	*****	*****	**	***	*****	140	1200	*****	*****	**	***	*****
1500	-21.0	-28.3	52	130	1.5	126	1500	*****	*****	**	***	*****	*****	1500	*****	*****	**	***	*****
1800	-20.4	-28.4	49	120	2.7	108	1800	*****	*****	**	***	*****	*****	1800	*****	*****	**	***	*****
2100	-22.4	-29.6	52	103	1.8	107	2100	*****	*****	**	***	*****	*****	2100	*****	*****	**	***	*****
2400	-26.2	-30.9	64	102	1.5	128	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.
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.
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 DEVIL CANYON WEATHER STATION
DATA TAKEN DURING January, 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	****	****	**	***	****	***	****	***	0300	-6.7	-8.0	91	119	1.2	129	2.5	1
0600	****	****	**	***	****	***	****	***	0600	-8.8	-10.0	91	120	1.4	131	3.8	1
0900	****	****	**	***	****	***	****	***	0900	-11.8	-12.3	96	099	1.4	154	3.2	1
1200	****	****	**	***	****	***	****	***	1200	-6.7	-9.1	83	111	1.4	129	3.8	4
1500	-6.1	-43.0	3	280M	.4M	274M	2.5M	1	1500	-6.3	-9.7	77	120	1.4	135	3.2	1
1800	-6.9	****	0	074	.7	073	2.5	1	1800	-6.2	-10.2	73	136	1.7	128	3.2	1
2100	-7.1	****	2	078	.7	069	1.9	1	2100	-6.0	-10.7	67	129	1.6	160	3.8	1
2400	-6.7	-7.3	96	126	.9	136	2.5	1	2400	-6.2	-11.3	67	118	2.3	111	5.1	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	-13.6	-19.3	62	077	2.7	087	4.4	1	0300	-13.4	-19.1	62	077	2.4	103	5.7	1
0600	-15.3	-20.4	65	085	2.8	089	7.0	1	0600	-14.0	-19.9	61	090	2.6	127	6.3	1
0900	-17.3	-21.1	72	085	2.5	082	5.1	1	0900	-2.7	-15.5	37	114	1.9	118	5.7	2
1200	-14.6	-19.7	65	079	2.5	074	4.4	5	1200	1.3	-16.2	26	134	2.1	135	5.7	6
1500	-10.0	-16.7	58	089	2.5	093	5.1	2	1500	-5	-19.7	22	123	3.4	131	8.3	3
1800	-11.3	-17.3	61	085	2.3	091	5.1	1	1800	-2.9	-21.7	22	116	3.0	112	6.3	2
2100	-14.5	-19.6	65	091	2.7	105	6.3	1	2100	-3.5	-21.7	23	152	3.4	144	7.0	2
2400	-15.1	-20.0	66	079	3.0	086	5.7	1	2400	-3.8	-22.0	23	152	1.8	131	7.0	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
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	-20.2	36	105	2.3	109	6.3	2	0300	-6.2	-14.7	51	119	1.4	103	5.1	1
0600	-9.1	-20.9	38	107	2.2	117	5.1	2	0600	-2.2	-11.5	49	117	2.3	123	7.6	1
0900	-8.8	-19.8	41	091	1.9	103	4.4	2	0900	-5.1	-13.0	54	119	2.4	140	6.3	2
1200	-8.4	-19.4	41	097	3.2	102	8.3	6	1200	-2.8	-10.4	56	119	1.6	159	5.1	7
1500	-7.2	-18.0	42	101	2.9	102	6.3	3	1500	-2.3	-9.2	59	112	2.5	109	5.7	2
1800	-9.1	-18.7	46	108	2.0	092	5.1	1	1800	-4.5	-10.1	65	122	2.1	122	4.4	1
2100	-6.1	-15.7	47	126	1.4	078	4.4	1	2100	-5.0	-9.1	73	096	1.1	119	3.8	1
2400	-6.1	-15.4	48	108	1.7	075	4.4	1	2400	-4.8	-8.2	77	105	1.1	076	3.8	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING January, 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	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	-5.6	-5.7	99	114	1.9	133	3.8	1	0300	-8.9	*****	1	093	1.3	103	4.4	1	0300	-7.3	-9.3	86	153	1.6	164	5.1	1
0600	-5.0	-5.4	97	128	2.5	137	4.4	1	0600	-11.3	-11.4	99	113	2.5	124	5.1	1	0600	-7.7	-9.7	88	139	1.2	135	3.2	1
0900	-5.8	-6.1	98	116	1.9	125	3.8	2	0900	-13.1	-13.2	99	073	2.4	064	4.4	2	0900	-6.2	-8.6	83	134	1.2	146	3.2	2
1200	-5.3	-6.1	94	117	1.8	141	3.8	7	1200	-12.1	-13.0	93	072	2.7	076	4.4	6	1200	-4.2	-7.8	76	131	1.8	121	3.8	7
1500	-4.6	-5.6	93	123	2.0	117	4.4	3	1500	-11.1	-12.0	93	076	2.8	075	4.4	3	1500	-4.9	-8.5	76	104	2.9	104	6.3	3
1800	-7.4	*****	1	099	1.8	071	3.8	1	1800	-12.0	-12.4	97	090	2.4	081	3.8	1	1800	-6.0	-8.9	80	103	2.2	100	4.4	1
2100	-9.9	*****	1	085	2.1	073	3.8	1	2100	-13.0	-13.3	98	090	2.0	088	4.4	1	2100	-5.4	-8.1	81	118	2.1	129	3.8	1
2400	-12.2	*****	0	085	2.2	071	3.8	1	2400	-7.0	-8.4	90	146	1.7	121	4.4	1	2400	-5.3	*****	86	117	1.7	112	4.4	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-4.4	-6.4	86	134	1.0	086	3.8	1
0600	-2.0	*****	86	196	.3	016	2.5	1
0900	.7	*****	73	160	1.3	161	3.2	2
1200	1.7	-3.5	68	127	1.3	115	4.4	10
1500	.2	-5.4	66	118	1.4	116	3.8	3
1800	-.6	-5.7	68	124	1.5	128	4.4	1
2100	-.9	*****	72	130	1.5	143	3.8	1
2400	.4	-3.8	73	163	1.2	165	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING January, 1983

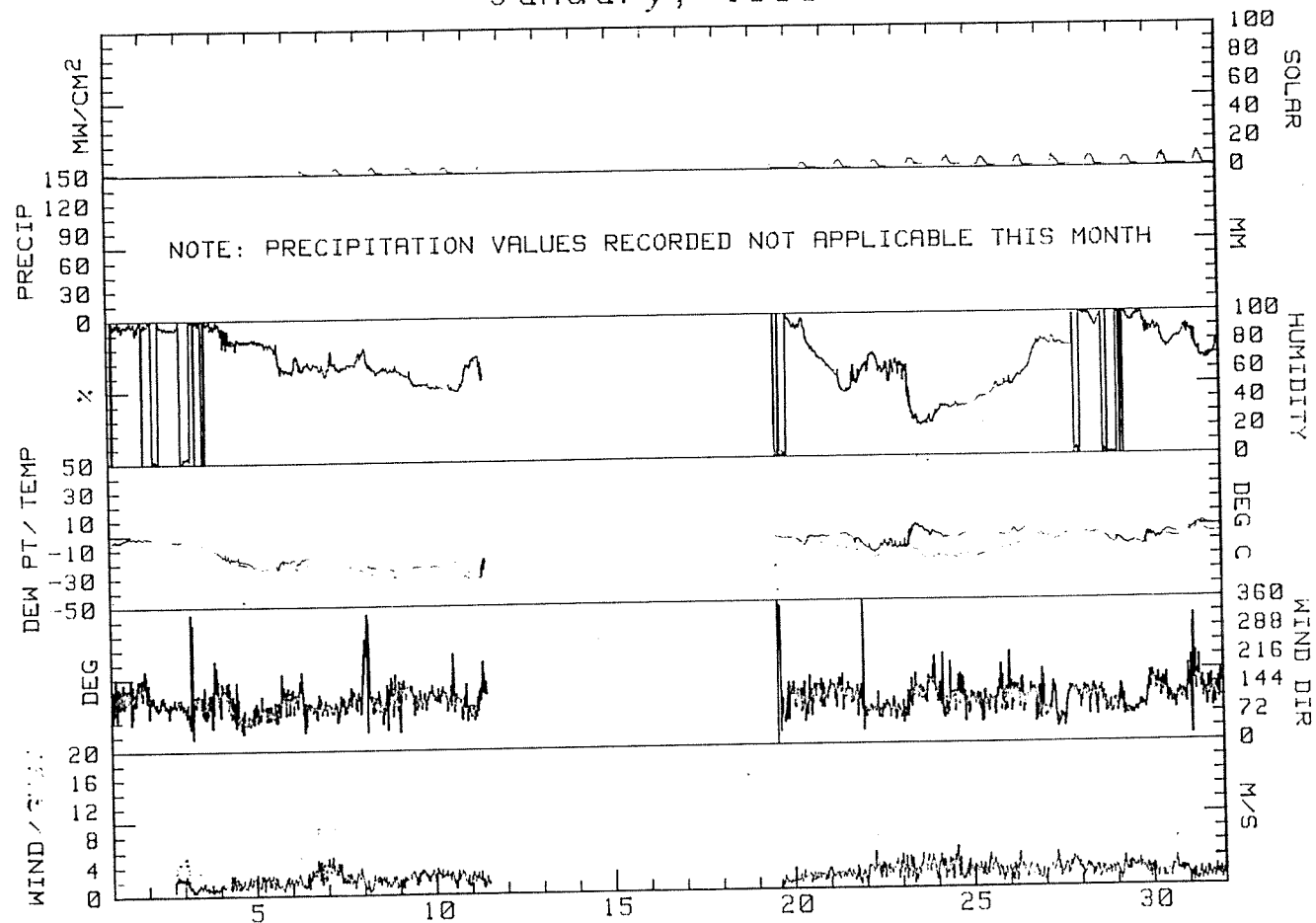
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	-1.1	-7.2	-4.2	***	***	***	***	***	***			***	265	1
2	-1.4	-4.2	-2.8	114M	2.1M	2.1M	101M	5.1M	ESE(M)			***	268	2
3	-4.2	-11.7	-8.0	115	.9	1.0	107	4.4	ESE			***	253	3
4	-11.3	-21.0	-16.2	097	1.3	1.5	092	4.4	ENE	87	-18.6	***	278	4
5	-17.9	-24.9	-21.4	102	1.5	1.7	092	4.4	E	79	-25.0	***	278	5
6	-16.3	-21.1	-18.7	112	2.4	2.5	106	8.9	ESE	67	-22.5	***	290	6
7	-17.2	-25.4	-21.3	110	2.5	2.6	094	8.9	ESE	67	-25.4	***	340	7
8	-22.4	-27.0	-24.7	124	1.2	1.5	088	5.1	ESE	66	-29.1	***	363	8
9	-23.2	-26.4	-24.8	133	2.3	2.4	109	5.7	SE	57	-30.4	***	363	9
10	-20.2	-26.2	-23.2	123	2.2	2.3	121	5.7	SE	52	-29.7	***	365	10
11	-18.2M	-31.6M	-24.9M	115M	1.7M	2.0M	140M	6.3M	E(M)	68M	-32.1M	***	311M	11
12	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	12
13	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	13
14	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	14
15	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	15
16	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	16
17	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	17
18	*****	*****	*****	***	***	***	***	***	***	**	*****	***	*****	18
19	-5.8M	-7.4M	-6.6M	102M	.6M	.9M	274M	2.5M	SE(M)			***	269M	19
20	-5.8	-12.3	-9.1	119	1.5	1.6	111	5.1	ESE	82	-10.1	***	358	20
21	-4.4	-11.3	-7.9	128	1.6	1.7	124	4.4	SE	54	-14.4	***	428	21
22	-8.8	-18.0	-13.4	084	2.6	2.6	089	7.0	E	63	-19.2	***	418	22
23	1.6	-15.0	-6.7	120	2.3	2.7	131	8.3	ESE	37	-19.2	***	583	23
24	-3.8	-9.9	-6.9	103	2.3	2.6	100	9.5	ESE	33	-20.5	***	663	24
25	-5.8	-9.9	-7.9	104	2.2	2.3	102	8.3	ESE	42	-18.8	***	550	25
26	-1.9	-7.3	-4.6	115	1.8	2.0	123	7.6	ESE	59	-11.3	***	503	26
27	-5.5	-10.6	-8.1	099	2.2	2.6	113	6.3	ENE			***	470	27
28	-3.9	-12.2	-8.1	109	1.9	2.1	137	4.4	ESE			***	530	28
29	-5.4	-13.9	-9.7	091	2.1	2.3	124	5.1	E			***	490	29
30	-4.0	-9.7	-6.9	121	1.7	1.9	104	6.3	ESE	82	-8.7	***	533	30
31	1.9	-5.3	-1.7	137	1.1	1.3	115	4.4	SE	73	-4.9	***	573	31
MONTH	1.9M	-31.6M	-12.0M	112M	1.8M	1.5M	100M	9.5M	ESE(M)	M	M	***	9735M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.1

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
DEVIL CANYON WEATHER STATION
January, 1983



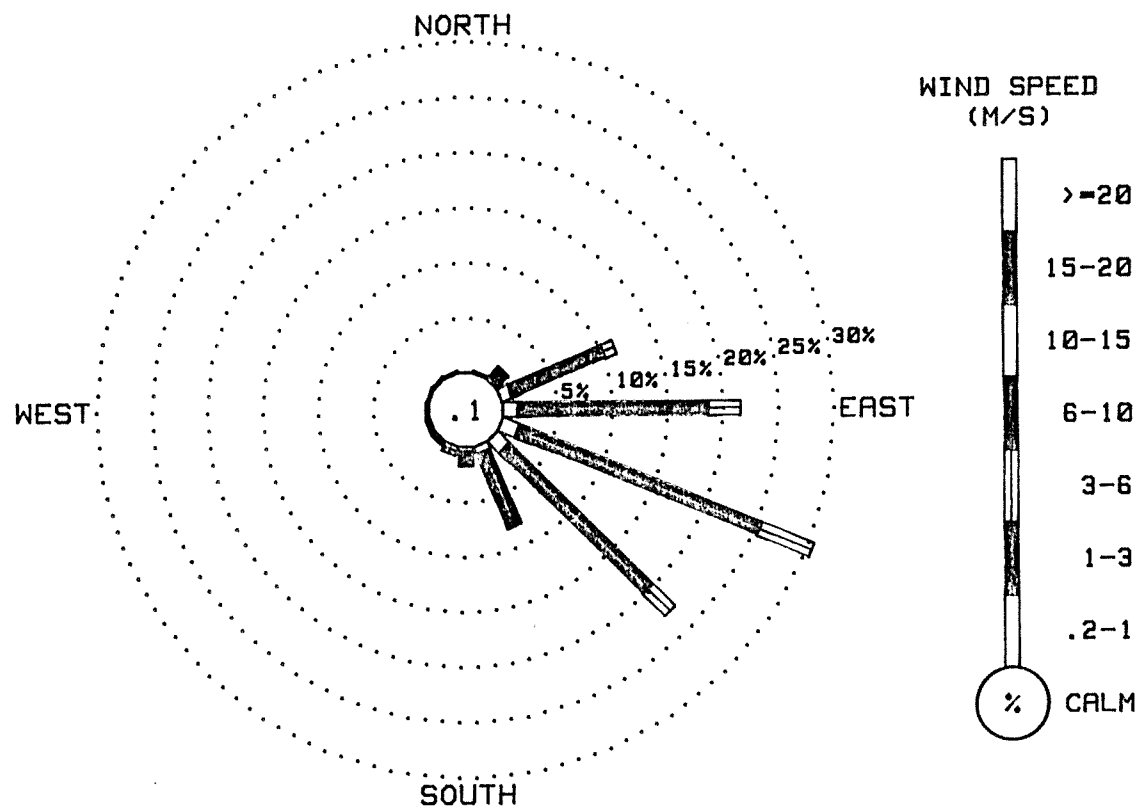
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING January, 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	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
NNE	.15	.05	0.00	0.00	0.00	0.00	0.00	.20
NE	.29	1.18	.05	0.00	0.00	0.00	0.00	1.52
ENE	1.03	9.09	1.08	0.00	0.00	0.00	0.00	11.20
E	1.38	17.24	2.90	0.00	0.00	0.00	0.00	21.51
ESE	1.67	23.62	5.11	0.00	0.00	0.00	0.00	30.40
SE	1.52	18.17	2.95	0.00	0.00	0.00	0.00	22.64
SSE	.74	6.88	.44	0.00	0.00	0.00	0.00	8.06
S	.44	1.28	0.00	0.00	0.00	0.00	0.00	1.72
SSW	.44	.39	0.00	0.00	0.00	0.00	0.00	.83
SW	.34	.10	0.00	0.00	0.00	0.00	0.00	.44
WSW	.29	.05	0.00	0.00	0.00	0.00	0.00	.34
W	.15	.15	0.00	0.00	0.00	0.00	0.00	.29
WNW	.25	0.00	0.00	0.00	0.00	0.00	0.00	.25
NW	.25	0.00	0.00	0.00	0.00	0.00	0.00	.25
NNW	.20	0.00	0.00	0.00	0.00	0.00	0.00	.20
CALM								.10
TOTAL	9.18	78.19	12.52	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2036 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



WIND ROSE PLOT

No precipitation data for February

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	1.0	-4.2	68	119	1.2	098	5.1	1	0300	-3	-3.7	78	161	1.7	142	4.4	1	0300	-1.2	-4.7	77	124	1.5	118	3.2	1
0600	3.2	-5.0	55	119	2.3	112	5.7	1	0600	.3	-3.6	75	164	1.5	162	4.4	1	0600	-1.2	-4.9	76	152	1.6	152	3.2	1
0900	1.8	-6.3	55	142	2.2	130	5.7	3	0900	-2.9	-5.1	85	146	1.5	147	3.2	3	0900	-1.6	-5.3	76	137	1.2	145	3.2	2
1200	2.1	-5.3	58	118	1.7	128	5.1	7	1200	.9	-3.0	75	145	1.1	149	3.2	8	1200	-.5	-5.5	69	126	1.9	113	4.4	8
1500	.7	-4.9	66	115	1.6	117	3.8	3	1500	.4	-3.1	77	112	1.3	138	3.8	3	1500	-1.0	*****	68	120	1.2	120	3.2	3
1800	-1.5	-4.7	79	147	1.1	141	2.5	1	1800	0.0	-3.7	76	125	1.8	120	4.4	1	1800	-2.5	-6.5	74	149	1.4	131	3.2	1
2100	.1	-3.3	78	149	1.4	145	3.8	1	2100	-1.1	-4.6	77	120	1.6	133	3.8	1	2100	-.8	-5.2	72	151	1.3	160	3.2	1
2400	-.3	-2.4	86	171	1.4	154	3.8	1	2400	-.8	-4.3	77	131	1.6	115	3.2	1	2400	.1	-5.3	67	128	2.0	115	7.0	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	0.0	-5.4	67	094	2.3	099	6.3	1	0300	-9.0	*****	0	131	1.3	140	3.8	1			
0600	-1.4	-7.1	65	128	1.5	095	6.3	1	0600	-7.2	*****	0	200	.6	127	2.5	1			
0900	-1.7	-6.8	68	129	2.5	125	6.3	2	0900	-1.5	-4.5	80	155	1.0	134	3.2	3			
1200	-.9	-6.2	67	119	2.0	127	3.8	11	1200	.9	-3.4	73	082	.8	098	5.7	10			
1500	-1.7	-6.1	72	112	2.1	114	5.1	4	1500	.9	*****	70	107	.8	013	3.8	3			
1800	-3.2	-6.6	77	143	1.2	153	3.2	1	1800	-1.3	*****	78	166	.8	149	3.2	1			
2100	-1.8	-5.3	77	150	1.1	134	2.5	1	2100	-1.4	-5.2	75	137	1.4	130	3.2	1			
2400	-.1	-5.3	68	138	1.1	122	3.8	1	2400	-2.7	-3.3	96	233	.8	302	4.4	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.	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	-3.3	-30.7	10	279	1.3	304	3.8	1	0300	-6.0	*****	1	261	.3	253	1.9	1	0300	-16.1	*****	98
0600	-3.4	*****	8	259	.9	265	1.9	1	0600	-6.7	*****	0	117	.3	107	1.9	1	0600	-16.6	-17.1	96
0900	-3.9	*****	8	224	.4	262	1.9	2	0900	-6.3	*****	0	204	.4	212	1.9	2	0900	-16.9	-17.4	96
1200	-2.6	*****	98	346	.2	211	1.3	6	1200	-3.8	*****	95	308	.2	289	1.3	6	1200	-14.3	*****	95
1500	-3.2	-4.8	89	032	.5	096	2.5	3	1500	-4.9	*****	96	285	.5	300	1.9	3	1500	-10.9	*****	93
1800	-7.5	-42.1	4	131	.8	067	2.5	1	1800	-7.5	*****	1	132	.6	121	2.5	1	1800	-12.9	-14.1	91
2100	-6.7	*****	1	193	.4	176	1.9	1	2100	-9.2	-9.3	99	092	.6	130	1.9	1	2100	-16.2	-17.2	92
2400	-6.7	*****	0	242	.5	278	1.9	1	2400	-12.8	-12.9	99	104	1.5	093	3.8	1	2400	-18.5	-19.4	93

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING February, 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	-17.1	-18.2	91	105	1.6	108	3.8	1	0300	-16.3	-17.5	91	097	1.1	078	3.8	1
0600	-18.4	*****	93	140	.7	126	5.1	1	0600	-19.4	-20.4	92	096	2.4	107	4.4	1
0900	-15.5	-16.4	93	168	.5	103	3.2	3	0900	-19.7	-20.9	90	079	1.9	078	4.4	2
1200	-13.2	*****	84	111	.2	085	3.8	7	1200	-15.8	-18.3	81	076	2.3	063	4.4	6
1500	-8.7	*****	76	070	.2	349	2.5	3	1500	-11.1	-15.1	72	080	1.5	110	3.8	3
1800	-11.4	-13.0	88	141	1.0	151	2.5	1	1800	-15.1	-17.8	80	126	1.9	125	4.4	1
2100	-15.0	-16.2	91	120	1.5	137	3.8	1	2100	-16.5	-18.7	83	105	1.5	086	3.8	1
2400	-16.4	*****	93	102	1.4	085	3.8	1	2400	-19.5	-21.1	87	080	2.3	065	4.4	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	-22.5	-24.2	86	072	2.3	077	3.8	1	0300	-16.8	-19.7	78	051	1.9	051	3.8	1
0600	-23.4	-25.2	85	071	2.6	073	4.4	1	0600	-17.1	-20.0	78	059	2.1	058	4.4	1
0900	-23.8	-25.7	84	067	2.5	065	4.4	4	0900	-19.0	-21.7	79	060	1.9	060	3.8	5
1200	-16.9	-20.9	71	062	2.2	070	3.8	6	1200	-15.7	-20.1	69	060	2.4	065	4.4	8
1500	-14.9	-19.6	67	113	2.1	109	3.8	3	1500	-12.5	-17.9	64	053	1.5	064	3.8	4
1800	-15.2	-19.3	71	129	2.7	116	5.1	1	1800	-15.0	-18.7	73	121	1.5	122	3.8	1
2100	-16.3	-20.0	73	119	2.8	127	5.1	1	2100	-16.7	-19.5	79	076	1.0	062	3.2	1
2400	-18.0	-21.0	77	058	2.1	049	5.1	1	2400	-17.5	*****	79	095	1.0	093	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	-11.2	-19.9	49	100	2.5	099	5.1	1	0300	-14.1	-22.8	48	130	2.8	142	5.1	1
0600	-13.0	*****	54	102	1.5	092	4.4	1	0600	-14.3	-23.0	48	103	2.5	112	5.1	1
0900	-12.4	-20.5	51	110	1.4	105	3.8	4	0900	-13.2	-22.2	47	138	2.4	122	5.7	5
1200	-8.2	-18.4	44	103	2.5	123	5.1	11	1200	-9.2	-20.1	41	131	2.9	128	6.3	12
1500	-7.3	-18.1	42	100	2.6	096	5.1	6	1500	-8.2	-19.2	41	131	2.8	134	5.7	6
1800	-10.3	-20.3	44	119	2.9	112	5.1	1	1800	-12.3	-22.1	44	134	2.6	126	4.4	2
2100	-12.6	-21.6	47	142	2.6	143	5.1	1	2100	-13.4	-22.9	45	134	2.6	135	5.1	1
2400	-13.7	-22.4	48	133	2.7	118	5.1	1	2400	-15.1	*****	47	113	1.4	126	4.4	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-7.2	-7.3	99	116	.9	112	3.2	1	0300	-11.9	-13.0	92	096	1.7	091	3.8	1
0600	-6.3	-7.4	92	122	1.3	124	3.2	1	0600	-5.0	*****	87	144	.8	153	2.5	1
0900	-5.7	-7.5	87	112	1.7	117	3.8	6	0900	-4.0	-8.6	70	126	1.4	154	3.8	6
1200	-3.3	-7.6	72	108	1.9	111	3.8	12	1200	-1.9	-9.3	57	098	2.0	108	5.1	26
1500	-2.5	-7.4	69	108	2.1	113	4.4	5	1500	-2.6	-9.5	59	097	2.7	089	5.7	7
1800	-7.2	-8.6	90	126	1.4	096	3.2	1	1800	-5.2	-10.2	68	124	2.1	107	3.8	1
2100	-9.4	-10.8	90	110	1.7	099	3.8	1	2100	-5.2	*****	68	133	1.1	117	3.2	1
2400	-12.9	-13.3	97	081	2.3	069	4.4	1	2400	-6.9	*****	73	156	1.1	171	2.5	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	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	-9.1	-10.6	89	085	2.0	088	3.2	1	0300	-4.6	-9.0	71	156	1.3	142	2.5	1
0600	-10.5	-10.8	98	092	2.1	086	3.8	1	0600	-8.3	*****	80	171	1.1	180	2.5	1
0900	-10.5	-10.8	98	106	1.7	093	3.8	6	0900	-3.0	-9.7	60	122	1.3	118	3.8	6
1200	1.0	-5.4	62	128	.8	114	3.2	26	1200	.7	-9.4	47	113	2.1	098	7.0	24
1500	2.5	-5.6	55	148	2.0	122	4.4	7	1500	1.1	-10.2	43	112	2.6	127	5.7	11
1800	-1.0	-6.7	65	140	1.6	114	5.1	1	1800	-2.0	-10.6	52	107	2.2	120	5.1	1
2100	-3.1	-6.9	75	179	1.4	186	2.5	1	2100	-3.4	-10.0	60	113	1.9	125	3.8	1
2400	-2.9	-7.6	70	156	1.6	131	3.2	1	2400	-3.8	-10.4	60	108	1.9	107	5.1	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
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-9.9	-36.9	9	118	1.1	093	3.2	1	0300	-4.7	*****	80	136	1.1	147	2.5	1
0600	-12.1	*****	0	091	1.3	083	3.2	1	0600	-4.2	-7.5	78	151	1.4	134	2.5	1
0900	-10.5	*****	2	132	.7	093	3.2	7	0900	-2.5	-7.4	69	152	1.6	136	5.1	10
1200	.3	-6.3	61	217	.4	269	3.8	32	1200	0.0	-7.7	56	110	2.0	111	6.3	26
1500	.9	-7.6	53	107	2.9	093	7.6	10	1500	-.1	-8.3	54	115	2.6	109	5.7	11
1800	-2.6	-8.6	63	101	2.5	106	7.6	1	1800	-3.5	-9.5	63	115	2.2	115	5.1	1
2100	-5.8	-8.7	80	170	1.6	136	3.8	1	2100	-4.5	-9.5	68	128	1.4	129	3.8	1
2400	-5.5	-8.4	80	160	1.2	175	2.5	1	2400	-4.8	-9.8	68	119	1.9	133	3.8	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

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

0300	-5.5	-9.4	74	066	1.6	111	3.2 1
0600	-6.8	-36.9	7	060	1.1	115	3.2 1
0900	-5.9	-42.9	3	044	1.2	045	2.5 11
1200	-2.2	-3.8	89	069	1.5	091	3.8 25
1500	-1.7	-3.2	90	109	2.5	109	5.1 6
1800	-3.1	*****	2	118	1.3	111	3.2 1
2100	-4.0	*****	8	032	.4	032	1.3 1
2400	-4.2	*****	8	048	.5	081	1.9 1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING February, 1983

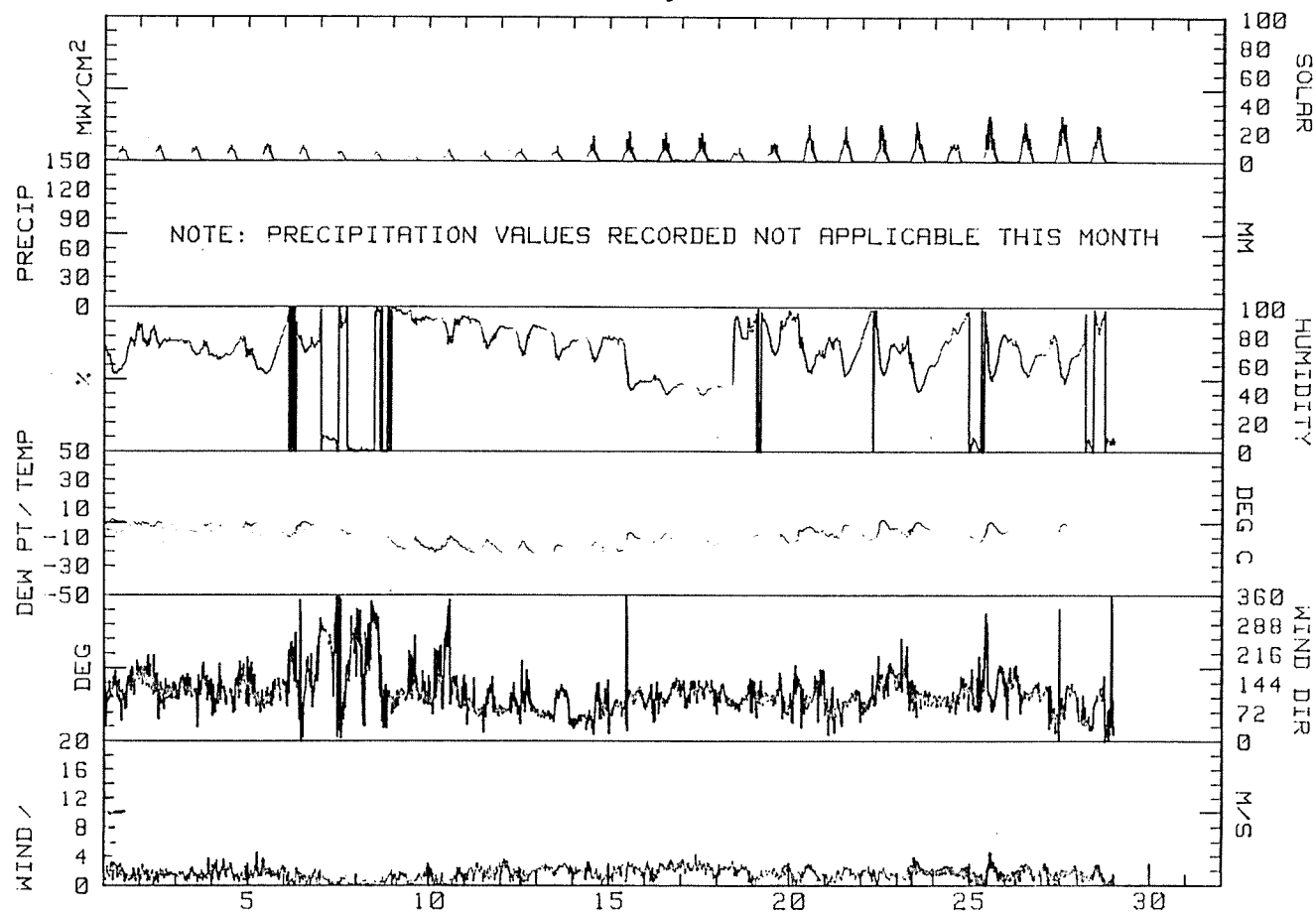
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGM	DAY
1	3.3	-1.5	.9	133	1.6	1.7	112	5.7	ESE	67	-4.4	****	595	1
2	1.5	-2.9	-.7	138	1.4	1.6	142	4.4	SE	78	-3.7	****	613	2
3	.3	-3.2	-1.5	135	1.5	1.6	115	7.0	ESE	73	-5.3	****	615	3
4	1.1	-4.0	-1.5	123	1.7	1.8	099	6.3	SE	69	-6.2	****	620	4
5	1.1	-6.7	-2.8	119	1.8	2.0	095	7.6	ESE	64	-7.3	****	703	5
6	1.3	-9.4	-4.1	145	.7	1.2	098	5.7	SSE			****	625	6
7	-2.4	-7.5	-5.0	251	.3	.8	304	3.8	WSW			****	495	7
8	-3.8	-12.8	-8.3	122	.2	.6	093	3.8	ESE			****	448	8
9	-8.9	-18.5	-13.7	117	1.1	1.2	113	4.4	ESE	94	-16.2	****	435	9
10	-8.4	-20.0	-14.2	120	.8	1.1	126	5.1	E	90	-16.0	****	500	10
11	-10.9	-20.2	-15.6	091	1.8	1.9	107	4.4	E	84	-18.7	****	465	11
12	-11.9	-22.8	-17.4	089	1.7	1.8	082	5.1	E	83	-21.5	****	558	12
13	-14.5	-24.2	-19.4	087	2.1	2.4	116	5.1	ENE	78	-22.2	****	583	13
14	-12.5	-19.0	-15.8	068	1.5	1.7	058	4.4	ENE	74	-19.8	****	720	14
15	-5.8	-19.3	-12.6	103	1.9	2.0	123	5.1	ESE	61	-19.2	****	805	15
16	-6.2	-13.7	-10.0	115	2.3	2.4	099	5.1	ESE	47	-20.0	****	843	16
17	-7.4	-15.1	-11.3	128	2.5	2.6	128	6.3	SE	45	-21.9	****	898	17
18	-8.5	-14.7	-11.6	108	2.1	2.2	090	6.3	ESE	68	-16.8	****	628	18
19	-2.2	-13.0	-7.6	108	1.6	1.7	113	4.4	ESE			****	743	19
20	-1.6	-13.2	-7.4	115	1.5	1.7	089	5.7	SE	70	-10.0	****	1083	20
21	.1	-9.6	-4.8	095	1.5	1.6	096	5.1	E	67	-9.3	****	1040	21
22	3.1	-10.7	-3.8	126	1.4	1.7	114	5.1	SSE			****	1085	22
23	1.7	-8.8	-3.6	120	1.7	1.9	098	7.0	ESE	58	-10.0	****	1158	23
24	-.8	-7.3	-4.1	109	1.9	1.9	088	5.1	ESE			****	950	24
25	1.7	-12.7	-5.5	122	1.2	1.6	093	7.6	E			****	1388	25
26	.5	-4.9	-2.2	125	1.7	1.8	111	6.3	ESE	67	-8.3	****	1363	26
27	1.1	-9.8	-4.4	107	1.5	1.7	118	5.1	ESE	66	-10.0	****	1598	27
28	-1.1	-7.1	-4.1	078	1.1	1.3	109	5.1	NE			****	1288	28
MONTH	3.3	-24.2	-7.5	112	1.4	1.7	095	7.6	ESE	M	M	****	22838	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.7

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

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

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



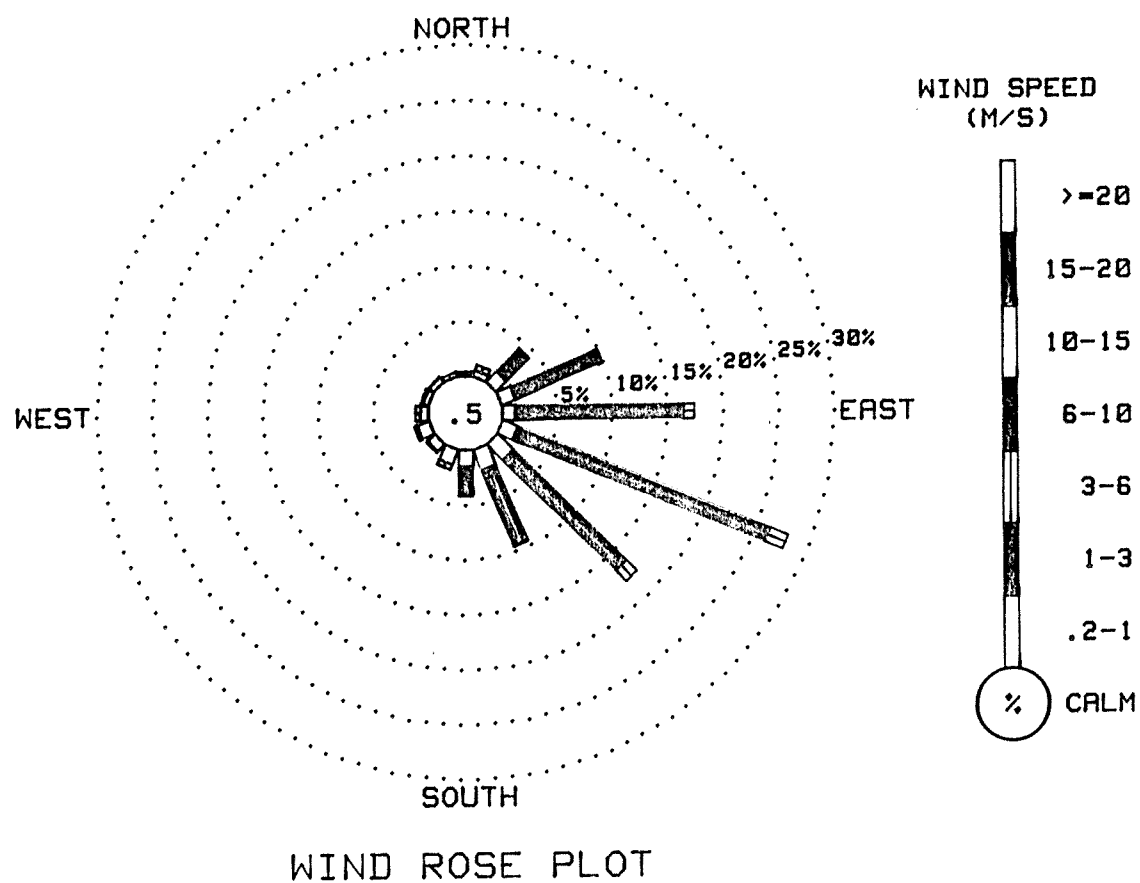
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON 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	.34	.04	0.00	0.00	0.00	0.00	0.00	.37
NNE	.56	.52	0.00	0.00	0.00	0.00	0.00	1.08
NE	1.34	2.87	0.00	0.00	0.00	0.00	0.00	4.21
ENE	1.34	8.17	.30	0.00	0.00	0.00	0.00	9.81
E	1.16	15.22	1.01	0.00	0.00	0.00	0.00	17.38
ESE	1.49	24.58	1.79	0.00	0.00	0.00	0.00	27.86
SE	2.05	14.32	1.42	0.00	0.00	0.00	0.00	17.79
SSE	2.01	7.42	.07	0.00	0.00	0.00	0.00	9.51
S	1.53	2.61	0.00	0.00	0.00	0.00	0.00	4.14
SSW	1.45	.45	0.00	0.00	0.00	0.00	0.00	1.90
SW	.93	.07	0.00	0.00	0.00	0.00	0.00	1.01
WSW	1.19	.19	0.00	0.00	0.00	0.00	0.00	1.38
W	.75	.45	0.00	0.00	0.00	0.00	0.00	1.19
WNW	.56	.22	0.00	0.00	0.00	0.00	0.00	.78
NW	.60	.04	0.00	0.00	0.00	0.00	0.00	.63
NNW	.45	0.00	0.00	0.00	0.00	0.00	0.00	.45
CALM								.48
TOTAL	17.75	77.17	4.59	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2681 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



No precipitation data for March

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-4.2	-38.0	5	068	.4	127	1.9	1	0300	-7.5	*****	99	124	1.0	126	2.5	1
0600	-4.9	*****	9	081	.6	066	1.9	1	0600	-9.7	*****	0	086	1.1	121	3.2	1
0900	-4.9	-36.9	6	064	.8	069	2.5	5	0900	-10.7	-11.8	92	110	2.4	113	5.7	7
1200	-2.6	-3.5	94	033	1.2	029	2.5	10	1200	-6.3	-11.0	69	109	3.0	116	5.7	30
1500	-2.2	*****	92	019	.8	050	2.5	6	1500	-4.5	-11.5	58	099	2.2	105	4.4	12
1800	-3.4	*****	3	360	.3	030	1.9	1	1800	-8.8	-12.7	73	117	1.7	109	4.4	1
2100	-6.7	-38.3	6	200	.3	189	1.9	1	2100	-11.7	-14.6	79	137	2.3	153	3.8	1
2400	-5.8	*****	99	118	.6	102	1.9	1	2400	-14.1	-16.4	83	116	1.8	138	5.1	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	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	-16.1	-18.1	85	147	3.1	152	5.1	1	0300	-11.8	-15.3	75	115	2.7	121	5.1	1
0600	-14.1	-16.4	83	130	2.5	119	5.1	1	0600	-10.8	-14.4	75	119	2.4	120	5.1	1
0900	-12.1	-15.3	77	118	3.1	097	7.0	10	0900	-8.5	-12.6	72	105	2.0	079	4.4	8
1200	-10.5	-14.7	71	086	3.2	094	7.0	17	1200	-5.9	-10.8	68	080	2.1	107	4.4	12
1500	-9.0	-13.8	68	081	2.6	086	5.7	12	1500	-4.7	-9.5	69	067	2.2	054	4.4	10
1800	-9.4	-13.3	73	095	2.5	082	5.1	1	1800	-4.9	-9.7	69	086	1.8	080	4.4	1
2100	-10.1	-13.7	75	099	2.8	091	5.1	1	2100	-6.8	-11.5	69	099	2.4	100	5.1	1
2400	-12.1	-15.3	77	107	2.9	105	5.7	1	2400	-9.5	-13.4	73	114	2.5	108	4.4	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.	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	-9.5	-12.3	80	092	1.2	125	4.4	1	0300	-12.4	-16.6	71	085	2.2	084	5.1	1
0600	-9.0	-12.0	79	071	1.6	068	3.2	1	0600	-13.7	-17.5	73	091	2.1	078	4.4	1
0900	-9.2	-13.1	73	064	1.6	068	3.8	15	0900	-10.1	-16.2	61	079	2.3	069	5.1	17
1200	-2.8	-10.4	56	059	1.6	066	3.8	30	1200	-3.6	-13.4	47	084	2.3	085	5.1	33
1500	-1.2	-10.9	48	082	1.9	087	5.1	17	1500	-.1	-13.2	37	068	1.9	097	4.4	21
1800	-5.1	-11.9	59	091	1.7	066	4.4	1	1800	-5.3	-14.9	47	110	1.9	092	4.4	1
2100	-8.6	-13.4	68	131	2.2	116	4.4	1	2100	-9.1	-16.5	55	123	2.0	151	3.8	1
2400	-10.5	-15.2	68	132	3.2	131	5.7	1	2400	-12.8	-17.8	66	071	2.8	072	4.4	1

R & M CONSULTANTS, INC.

SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING March, 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	-16.0	-20.5	68	084	1.6	075	0300	-6.8	-8.9	85	119	2.2	119	0300	-6.5	-7.9	90	107	1.6	117
0600	-14.6	-18.8	70	089	1.8	077	0600	-7.3	-8.5	91	115	2.3	107	0600	-7.5	-8.7	91	092	1.8	097
0900	-11.1	-14.0	79	079	1.6	074	0900	-6.6	-8.9	84	090	1.6	123	0900	-2.7	*****	80	123	.8	089
1200	-7.5	-10.1	82	047	1.4	027	1200	-.7	-5.6	69	065	1.2	096	1200	3.4	*****	61	327	.5	328
1500	-7.0	-7.7	95	072	1.6	066	1500	.9	-4.1	69	083	2.3	092	1500	5.7	-5.4	45	053	1.1	077
1800	-6.7	-8.5	87	097	1.8	080	1800	-1.4	-5.1	76	100	1.8	097	1800	1.4	-6.4	56	125	1.8	130
2100	-6.5	-8.6	85	104	2.2	105	2100	-4.4	*****	83	124	1.2	116	2100	-3.4	-6.7	78	159	1.2	142
2400	-6.7	-8.8	85	119	2.1	107	2400	-4.7	*****	83	128	1.1	132	2400	-5.3	-8.1	81	107	.9	089

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.
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	-7.2	-9.2	86	077	1.2	072	0300	-6.7	*****	83	128	.6	150	0300	-3.6	-7.7	73	106	1.5	129
0600	-8.9	-10.5	88	073	2.5	066	0600	-7.6	-10.0	83	084	1.4	079	0600	-5.0	*****	78	074	1.5	055
0900	-6.7	-10.4	75	060	2.0	065	0900	-5.3	-9.2	74	078	2.0	088	0900	-3.2	-7.2	74	059	1.5	083
1200	2.6	-6.8	50	052	2.0	059	1200	1.1	-6.9	55	075	1.7	097	1200	2.6	-4.6	59	061	1.6	059
1500	4.4	-6.9	44	104	2.2	110	1500	2.4	-6.0	54	078	2.0	074	1500	3.4	-3.8	59	090	2.3	099
1800	.9	-7.1	55	111	2.1	113	1800	.6	-6.0	61	102	1.6	105	1800	.9	-4.3	68	099	1.8	092
2100	-2.0	*****	64	148	1.5	141	2100	-1.0	-6.1	68	111	2.1	103	2100	-2.1	-5.2	79	148	1.8	145
2400	-4.0	*****	80	121	.9	101	2400	-2.2	-6.9	70	119	2.0	130	2400	-3.6	-5.6	86	122	1.5	137

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.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	-5.5	-6.3	94	089	1.6	073	0300	-8.3	-9.0	95	113	1.1	084	0300	-10.1	-11.3	91	083	1.8	070
0600	-7.9	*****	1	080	2.3	084	0600	-10.9	*****	1	176	.5	156	0600	-11.8	-12.6	94	088	2.2	088
0900	-5.7	-7.5	87	086	2.4	087	0900	-7.9	-10.3	83	062	.3	061	0900	-7.8	-11.1	77	090	2.0	093
1200	2.0	-4.5	62	075	1.6	110	1200	.8	-7.2	55	055	1.6	096	1200	.9	-7.1	55	056	1.6	063
1500	3.4	-4.8	55	109	2.5	097	1500	2.7	-7.6	47	105	2.0	099	1500	2.4	-6.7	51	122	2.6	114
1800	-.8	*****	70	106	1.4	102	1800	-1.3	-8.0	60	133	1.7	119	1800	-1.2	-7.1	64	134	1.8	122
2100	-3.0	-5.6	82	140	1.2	106	2100	-4.4	-8.3	74	136	1.4	149	2100	-4.7	-8.1	77	148	1.1	157
2400	-7.0	-8.4	90	120	1.5	129	2400	-7.5	-10.2	81	110	1.5	132	2400	-8.4	-10.5	85	095	1.3	099

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-10.9	-12.4	89	086	2.2	090	3.8	1	0300	-5.6	-9.6	73	105	1.6	093	3.2	1
0600	-13.1	-13.9	94	088	2.5	094	3.8	1	0600	-6.7	*****	77	089	1.2	096	3.2	1
0900	-9.0	-12.8	74	079	2.4	089	3.8	25	0900	-1.9	-8.2	62	072	1.2	096	3.2	26
1200	.3	-8.4	52	056	1.6	072	5.1	40	1200	.5	-8.0	53	083	2.4	084	6.3	41
1500	1.8	-9.3	44	078	2.1	091	5.1	27	1500	1.1	-8.2	50	092	2.7	100	5.7	27
1800	-2.3	-9.2	59	088	1.7	086	3.8	2	1800	-2.0	-8.3	62	079	1.9	051	5.1	2
2100	-5.2	-9.3	73	116	2.1	129	3.8	1	2100	-3.2	-8.8	65	088	2.1	078	4.4	1
2400	-5.3	-9.4	73	103	1.4	111	3.2	1	2400	-5.0	-9.8	69	109	2.1	108	3.8	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
0300	-9.4	-12.5	78	076	1.5	084	3.2	1	0300	-9.3	-12.9	75	089	1.4	086	2.5	1
0600	-10.5	-13.1	81	075	1.5	081	3.2	1	0600	-11.2	-14.3	78	088	2.0	095	3.8	2
0900	-5.9	-11.8	63	081	2.4	073	3.8	26	0900	-6.1	-12.6	60	058	1.3	076	3.2	26
1200	1.5	-9.8	43	062	1.8	093	4.4	43	1200	.1	-10.8	44	068	2.0	075	5.1	43
1500	3.0	-9.1	41	094	2.6	106	5.7	29	1500	1.3	-10.3	42	096	2.4	112	5.1	29
1800	-3	-10.9	45	117	1.9	108	4.4	2	1800	-2.3	-10.6	53	100	1.7	076	3.8	3
2100	-3.8	-11.3	56	119	1.4	131	3.2	1	2100	-5.2	-11.5	61	148	2.3	152	3.8	1
2400	-6.8	-12.4	64	136	1.4	158	2.5	1	2400	-7.6	-12.8	66	128	2.0	137	3.8	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.	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	-3.8	-6.6	81	134	1.0	142	1.9	1	0300	-5.0	-10.0	68	150	1.3	153	2.5	1
0600	-5.6	-9.6	73	144	1.3	102	2.5	2	0600	-5.7	-10.6	68	163	1.5	158	2.5	2
0900	-1.8	-9.9	54	096	.8	094	3.8	28	0900	-.8	-9.7	51	100	1.0	114	4.4	29
1200	.9	-9.5	46	117	2.2	106	4.4	47	1200	1.6	-9.1	45	106	3.0	120	7.0	43
1500	1.4	-9.3	45	127	2.6	117	5.7	32	1500	1.3	-9.7	44	108	3.0	105	6.3	25
1800	-1.2	-10.3	50	099	1.9	120	5.7	3	1800	-2.0	-10.8	51	096	3.6	092	8.3	3
2100	-4.1	-9.9	64	166	1.2	119	1.9	1	2100	-2.2	-11.0	51	110	2.8	104	7.6	1
2400	-5.6	*****	70	176	1.3	183	2.5	1	2400	-5.7	-12.6	58	135	2.1	109	6.3	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING March, 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	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	-6.4	-12.7	61	138	1.9	137	3.8	1	0300	-10.0	-11.9	86	079	2.1	085	4.4	1	0300	-8.8	-11.6	80	105	1.4	081	3.2	1
0600	-7.5	-13.5	62	122	1.6	132	3.2	3	0600	-11.4	-12.9	89	087	2.8	084	4.4	3	0600	-10.8	-12.6	87	088	2.2	090	3.8	3
0900	-3.6	-12.1	52	081	1.2	096	3.8	28	0900	-5.2	-10.7	65	082	2.1	090	3.8	30	0900	-5.5	-10.8	66	067	2.1	075	3.8	31
1200	.1	-10.2	46	084	2.2	068	5.7	42	1200	2.4	-7.3	49	095	2.1	112	5.7	49	1200	1.4	-7.9	50	077	2.0	100	5.7	49
1500	2.2	-9.5	42	096	2.7	089	5.7	34	1500	2.8	-8.0	45	091	2.6	071	5.1	33	1500	2.8	-8.0	45	120	2.4	135	5.7	34
1800	-3	-9.5	50	100	2.0	081	5.1	3	1800	-5	-8.7	54	101	2.2	100	6.3	3	1800	.3	-8.7	51	123	2.2	143	5.1	4
2100	-4.3	-9.9	65	137	1.2	115	2.5	1	2100	-4.3	-8.9	70	111	1.4	095	2.5	1	2100	-4.2	-9.0	69	141	1.4	124	2.5	1
2400	-7.6	-10.9	77	110	1.3	102	3.8	1	2400	-7.0	-10.2	78	120	1.3	101	3.2	1	2400	-6.4	-9.9	76	129	1.4	136	2.5	1

DAY 31

HOUR	DEW		WIND		WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-7.4	-10.4	79	093	1.4	089	2.5	1
0600	-6.5	-9.9	77	098	1.6	130	3.2	3
0900	-3.1	-7.6	60	050	1.1	064	2.5	27
1200	2.2	-4.8	57	072	2.3	083	5.1	35
1500	4.4	-4.1	54	086	2.1	087	4.4	24
1800	2.4	-5.0	58	117	1.7	083	4.4	4
2100	-1.9	-5.6	76	145	2.0	149	3.8	1
2400	-3.8	-6.4	82	131	2.4	135	3.8	1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING March, 1983

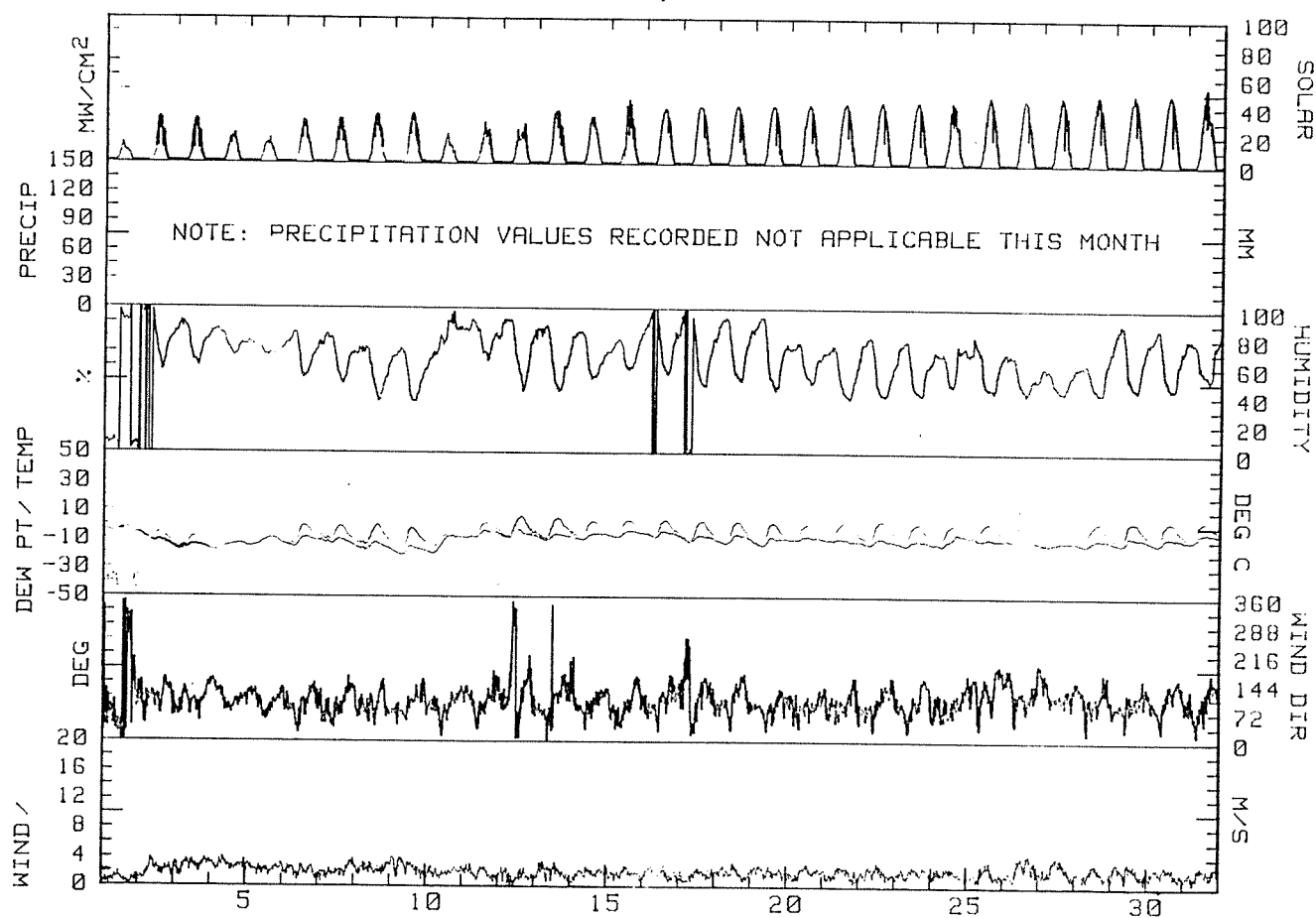
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-2.0	-6.7	-4.4	056	.5	.7	069	2.5	NE			****	813	1
2	-4.4	-14.1	-9.3	113	1.9	2.0	113	5.7	ESE			****	1605	2
3	-8.1	-16.5	-12.3	100	2.6	2.8	100	7.0	E	77	-15.8	****	1628	3
4	-9.0	-16.7	-12.9	108	2.6	2.9	097	7.0	E	77	-15.3	****	1275	4
5	-4.4	-12.1	-8.3	099	2.2	2.3	121	5.1	ESE	72	-12.2	****	1093	5
6	-.8	-13.5	-7.2	094	1.8	2.0	096	5.7	E	69	-12.1	****	1765	6
7	-1.0	-10.7	-5.9	096	1.7	2.0	131	5.7	ENE	67	-12.2	****	1828	7
8	.1	-14.3	-7.1	087	2.1	2.3	084	5.1	ENE	58	-15.6	****	2069	8
9	-2.2	-17.1	-9.7	086	2.3	2.5	098	6.3	ENE	55	-18.3	****	2095	9
10	-6.4	-16.3	-11.4	089	1.7	1.8	105	5.1	ENE	80	-12.6	****	1180	10
11	1.5	-7.3	-2.9	103	1.6	1.8	092	5.7	ESE	80	-6.7	****	1625	11
12	6.4	-7.9	-.8	108	1.0	1.3	130	5.1	E	74	-6.9	****	1658	12
13	5.0	-9.2	-2.1	089	1.6	1.9	066	5.1	ENE	67	-8.3	****	2378	13
14	2.6	-7.8	-2.6	094	1.6	1.7	074	5.1	E	67	-7.5	****	2088	14
15	3.4	-5.1	-.9	095	1.5	1.7	099	5.7	E	71	-5.9	****	2123	15
16	3.5	-8.5	-2.5	098	1.7	1.9	097	5.7	ESE			****	2675	16
17	2.8	-11.8	-4.5	111	1.1	1.4	096	4.4	ESE			****	2878	17
18	2.6	-11.9	-4.7	101	1.6	1.9	114	5.1	E	75	-9.5	****	2783	18
19	2.1	-13.4	-5.7	087	1.9	2.0	072	5.1	E	71	-10.7	****	2870	19
20	1.4	-7.0	-2.8	090	1.9	1.9	084	6.3	E	64	-8.9	****	2913	20
21	2.7	-7.5	-2.4	095	1.6	1.7	064	5.1	E	56	-10.2	****	3055	21
22	3.2	-10.6	-3.7	093	1.7	1.9	106	5.7	E	59	-11.2	****	3050	22
23	1.3	-11.2	-5.0	100	1.7	1.9	075	5.1	E	59	-11.9	****	3108	23
24	.7	-10.0	-4.7	086	1.6	1.8	060	5.1	E	64	-9.9	****	2575	24
25	2.2	-6.0	-1.9	130	1.4	1.6	117	5.7	ESE	59	-9.3	****	3280	25
26	1.8	-5.7	-2.0	115	2.1	2.4	092	8.3	ESE	54	-10.3	****	3133	26
27	.5	-7.1	-3.3	117	2.1	2.3	108	7.0	ESE	52	-12.0	****	3325	27
28	2.6	-8.0	-2.7	107	1.7	1.8	068	5.7	ESE	55	-11.0	****	3455	28
29	3.3	-11.5	-4.1	094	2.0	2.1	100	6.3	E	67	-9.9	****	3560	29
30	3.4	-11.0	-3.8	104	1.7	2.0	100	5.7	SE	65	-9.8	****	3688	30
31	5.3	-7.4	-1.1	102	1.6	1.9	083	5.1	E	68	-6.6	****	3278	31
MONTH	6.4	-17.1	-4.9	099	1.7	1.9	092	8.3	E	66M	-11.0M	****	74842	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
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 7.6

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
DEVIL CANYON WEATHER STATION
March, 1983



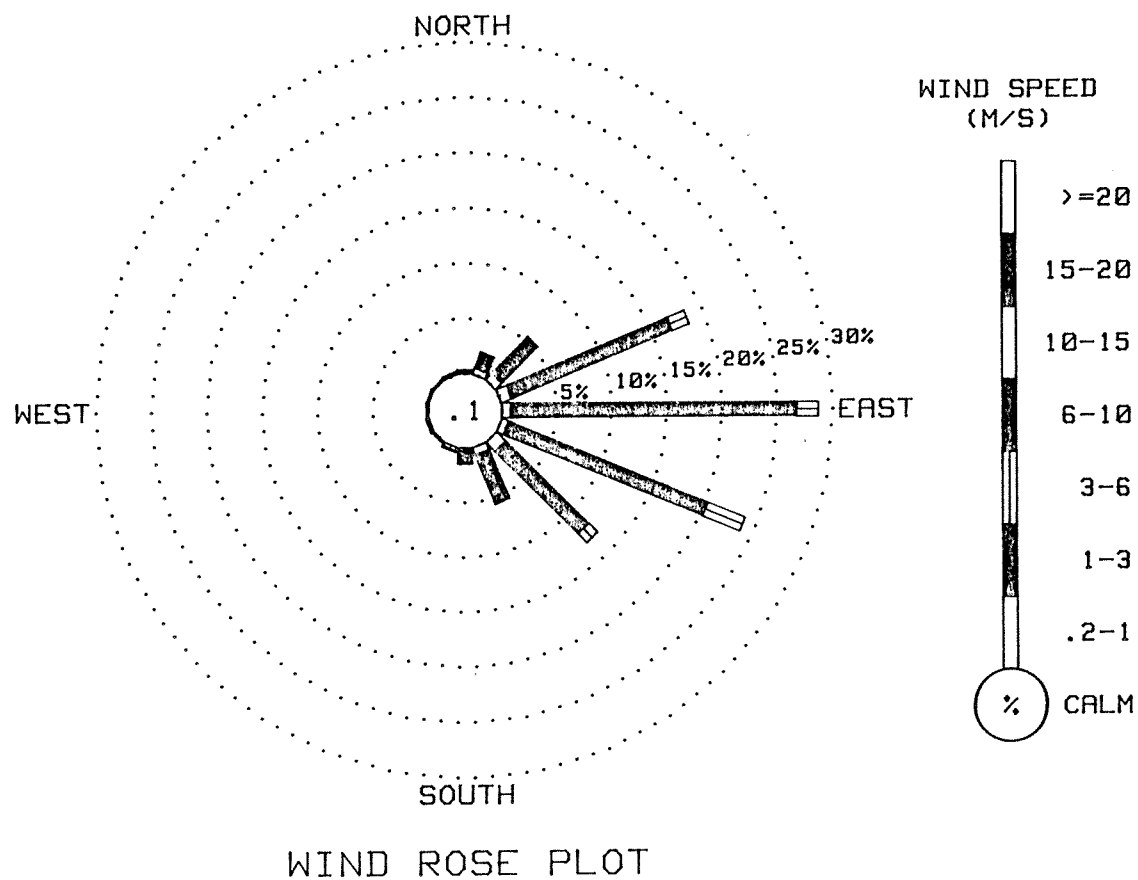
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON 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	.13	.20	0.00	0.00	0.00	0.00	0.00	.34
NNE	.61	1.48	0.00	0.00	0.00	0.00	0.00	2.08
NE	.84	4.54	0.00	0.00	0.00	0.00	0.00	5.38
ENE	1.04	15.73	1.61	0.00	0.00	0.00	0.00	18.39
E	.84	25.85	1.98	0.00	0.00	0.00	0.00	28.67
ESE	.71	19.43	3.66	0.00	0.00	0.00	0.00	23.80
SE	1.21	10.52	1.18	0.00	0.00	0.00	0.00	12.91
SSE	.74	4.50	.24	0.00	0.00	0.00	0.00	5.48
S	.27	1.14	0.00	0.00	0.00	0.00	0.00	1.41
SSW	.34	.07	0.00	0.00	0.00	0.00	0.00	.40
SW	.10	0.00	0.00	0.00	0.00	0.00	0.00	.10
WSW	.17	0.00	0.00	0.00	0.00	0.00	0.00	.17
W	.17	0.00	0.00	0.00	0.00	0.00	0.00	.17
WNW	.20	0.00	0.00	0.00	0.00	0.00	0.00	.20
NW	.17	0.00	0.00	0.00	0.00	0.00	0.00	.17
NNW	.24	.03	0.00	0.00	0.00	0.00	0.00	.27
CALM								.07
TOTAL	7.76	83.50	8.67	0.00	0.00	0.00	0.00	100.00

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

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



HOURLY PRECIPITATION SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April, 1983

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR	ENDING
0000	0000
0001	0001
0002	0002
0003	0003
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R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

DAY 02

DAY 03

HOUR	DEW								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
	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	-7.0	-8.1	92	117	2.2	136	4.4	1	0300	-7.2	-8.4	91	079	1.8	121	4.4	1	0300	-5.7	-9.6	74	118	1.9	118	3.2	1	0300	-5.7	-9.6	74	118	1.9	118	3.2	1
0600	-9.0	-9.7	95	087	1.9	099	3.8	3	0600	-9.1	-10.2	92	079	2.4	079	3.8	4	0600	-7.5	-10.2	81	073	2.2	073	4.4	4	0600	-7.5	-10.2	81	073	2.2	073	4.4	4
0900	-4.0	-8.3	72	070	2.1	091	3.8	33	0900	-3.2	-8.8	65	058	1.8	060	3.8	33	0900	-3.3	-9.5	62	065	2.4	063	3.8	34	0900	-3.3	-9.5	62	065	2.4	063	3.8	34
1200	4.4	-4.4	53	075	1.8	113	5.7	50	1200	5.9	-7.5	38	051	1.7	055	3.2	51	1200	4.0	-5.5	50	094	1.9	098	5.7	52	1200	4.0	-5.5	50	094	1.9	098	5.7	52
1500	5.3	-4.6	49	126	2.6	127	5.1	35	1500	6.0	-7.4	38	076	2.5	070	6.3	36	1500	4.3	-6.7	45	114	2.9	109	6.3	37	1500	4.3	-6.7	45	114	2.9	109	6.3	37
1800	3.4	-5.3	53	099	1.4	109	3.8	4	1800	4.1	-7.8	42	058	2.2	076	5.7	5	1800	2.7	-6.5	51	107	2.8	113	6.3	5	1800	2.7	-6.5	51	107	2.8	113	6.3	5
2100	-2.5	-5.8	78	143	1.4	135	3.2	1	2100	-2.3	-7.4	68	151	1.6	143	3.8	1	2100	.2	-5.0	68	159	1.2	110	3.2	1	2100	.2	-5.0	68	159	1.2	110	3.2	1
2400	-3.9	-6.5	82	107	1.5	117	3.8	1	2400	-3.6	-8.1	71	123	2.0	118	3.8	1	2400	2.1	-3.0	69	130	1.4	089	6.3	1	2400	2.1	-3.0	69	130	1.4	089	6.3	1

DAY 04

DAY 05

DAY 06

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	3.2	-3.1	63	123	3.6	118	8.9	1	0300	-2.2	*****	98	114	.9	117	2.5	1	0300	-5.3	-46.9	1	135	1.4	140	3.2	1
0600	3.2	-2.7	65	128	2.8	126	6.3	3	0600	-3.1	*****	92	119	1.2	119	3.2	4	0600	-4.0	*****	0	133	1.6	147	3.2	4
0900	4.3	-1.5	66	109	2.5	099	6.3	15	0900	0.0	-5.2	68	069	1.1	096	3.8	18	0900	-1.4	-4.4	74	092	1.5	056	3.8	26
1200	4.3	-.1	73	108	3.0	097	7.0	20	1200	.1	-1.5	89	070	1.6	061	3.8	29	1200	1.9	-6.4	54	107	1.9	127	5.1	38
1500	4.2	-.2	73	097	2.5	105	6.3	12	1500	.8	.1	95	075	1.7	071	3.8	22	1500	2.6	-7.4	48	124	.7	030	4.4	27
1800	0.0	-.9	94	278	1.6	281	10.2	3	1800	.7	*****	86	026	.9	016	2.5	2	1800	.7	-6.2	60	223	1.0	203	3.2	7
2100	.1	*****	91	280	2.0	286	8.9	1	2100	-1.4	*****	12	256	.7	259	1.9	1	2100	-2.2	*****	0	141	.6	158	3.2	1
2400	-2.2	-28.8	11	238	.8	266	3.2	1	2400	-3.1	*****	5	134	.6	104	2.5	1	2400	-3.0	-4.7	88	132	1.3	138	2.5	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	-4.0	-6.8	81	136	1.8	135	3.8	1	0300	-5.7	*****	80	107	1.4	134	3.2	1	0300	-3.6	*****	96	246	.8	293	3.8	1
0600	-5.1	-7.7	82	126	1.9	123	3.8	6	0600	-5.3	-8.4	79	058	1.0	061	2.5	4	0600	-4.3	*****	2	175	.6	113	1.3	2
0900	-1.6	-6.9	67	102	2.2	110	4.4	25	0900	-2.5	-8.0	66	035	1.4	028	3.2	24	0900	-2.8	-3.5	95	036	.7	036	2.5	20
1200	2.1	-7.3	50	062	1.7	038	3.8	54	1200	2.0	-6.3	54	019	1.3	027	3.2	31	1200	-1.6	-4.1	83	322	1.7	324	4.4	39
1500	3.0	-7.3	47	144	1.1	044	4.4	37	1500	1.6	-5.8	58	284	1.3	291	3.8	23	1500	-1.3	-5.9	71	317	2.2	323	5.1	24
1800	0.0	*****	57	171	1.2	203	3.8	4	1800	-.4	-3.9	77	310	1.9	328	4.4	3	1800	-2.3	-9.4	58	284	1.2	316	3.8	6
2100	-3.7	-8.5	69	123	1.4	156	3.2	1	2100	-1.8	*****	89	234	.6	274	3.2	1	2100	-8.8	-10.6	87	149	1.0	070	2.5	1
2400	-5.0	-8.1	79	128	1.8	137	4.4	1	2400	-3.3	-43.2	2	296	.9	312	3.8	1	2400	-10.8	*****	93	109	1.0	126	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-10.9	-11.0	99	109	1.1	086	3.2	1	0300	-10.9	*****	68	123	1.5	126	3.2	1
0600	-10.1	*****	0	120	.7	110	2.5	6	0600	-11.7	-16.4	68	103	1.5	111	3.2	6
0900	-4.4	-8.5	73	050	1.5	055	3.8	30	0900	-6.7	-13.8	57	066	1.2	102	4.4	27
1200	-2.5	-13.5	43	087	1.6	045	5.1	64	1200	-5.8	-10.7	68	090	2.7	061	6.3	24
1500	-1.8	-13.7	40	016	3.1	011	6.3	40	1500	-6.0	-7.5	89	098	2.2	100	5.7	15
1800	-3.3	-14.8	41	051	1.6	016	4.4	10	1800	-6.0	*****	2	072	1.1	087	3.8	3
2100	-8.6	-14.6	62	142	1.7	135	3.8	1	2100	-6.3	*****	8	153	.1	088	1.3	1
2400	-9.9	-14.8	67	127	1.2	140	3.8	1	2400	-5.7	*****	10	208	.4	205	1.3	1

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									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																		-2.8 ***** 12 111 .8 113 1.9 1																		0300																		-2.3 ***** 12 116 .8 129 2.5 1																		0300																		-9 -28.8 10 265M .6M 283M 2.5M 1																	
0600																		-2.4 ***** 6 119 .8 143 2.5 5																		0600																		-9 ***** 8 092 .7 075 2.5 4																		0600																		-8 -31.1 8 *** **** * 2																	
0900																		.6 -1.2 88 076 1.4 075 3.8 24																		0900																		2.3 -.5 82 081 1.6 090 5.1 38																		0900																		1.7 1.1 96 012M .8M 035M 1.9M 16																	
1200																		2.8 -2.1 70 095 1.4 048 3.8 40																		1200																		3.3 1.5 88 356 1.4 332 5.1 45																		1200																		3.4 .8 83 357 .6 005 3.2 29																	
1500																		2.5 -.9 78 122 1.7 102 4.4 22																		1500																		2.2 1.5 95 318 2.9 329 6.3 17																		1500																		1.4 ***** 2 007 .7 339 2.5 15																	
1800																		1.1 ***** 89 058 .9 047 3.2 5																		1800																		.7 ***** 12 302 1.1 321 3.2 3																		1800																		.2 ***** 13 023 .5 030 2.5 2																	
2100																		-1.6 ***** 1 167 .7 173 1.9 1																		2100																		-1.1 ***** 13 255 .6 252 1.9 1																		2100																		-5 ***** 19 100 .7 100 2.5 1																	
2400																		-1.6 -33.1 7 124 .7 076 2.5 1																		2400																		-8 ***** 8 273 1.0 281 3.2 1																		2400																		-8 ***** 9 101 .3 123 1.3 1																	

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.									
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-1.3	-34.3	6	131	.7	150	2.5	1	0300	-4.5	-7.6	79	131	1.5	110	3.2	1	0300	-2.5	*****	10	268	.5	269	1.9	1
0600	-1.5	*****	8	113	.3	156	1.9	4	0600	-3.6	-6.9	78	118	1.8	125	3.8	10	0600	-1.9	*****	9	296	.0	300	.6	2
0900	.7	*****	99	019	.5	014	1.9	14	0900	1.8	-6.3	55	055	1.5	034	3.8	44	0900	.8	-4	92	056	.7	055	2.5	17
1200	4.1	-1.0	69	019	.9	012	2.5	44	1200	3.2	-5.7	52	052	.3	251	5.7	34	1200	2.6	-1.7	73	044	1.1	037	2.5	37
1500	4.7	-3.8	54	033	1.3	013	5.7	30	1500	2.2	-4.1	63	280	1.8	302	5.7	21	1500	5.0	-2.8	57	348	1.1	006	3.2	30
1800	3.4	-2.7	64	061	1.7	029	7.6	9	1800	-1.0	*****	3	277	1.0	271	3.2	6	1800	2.8	-3.5	63	056	1.8	054	7.0	8
2100	2.0	-4.1	64	118	1.1	139	5.1	1	2100	-2.0	*****	12	284	.9	278	2.5	1	2100	1.8	-4.3	64	105	2.3	114	6.3	1
2400	-1.5	-5.0	77	143	1.2	127	4.4	1	2400	-2.3	*****	10	277	.6	260	1.9	1	2400	1.1	-4.5	66	104	2.5	111	5.7	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April, 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	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	*****	3	067	1.0	074	3.2	1	0300	1.5	*****	9	186	.3	183	.6	1												
0600	.4	-.2	96	072	1.4	058	3.8	12	0600	1.8	*****	6	151M	.2M	142M	.6M	4												
0900	7.2	1.1	65	037	1.5	044	3.2	30	0900	3.8	*****	93	016	.4	007	1.3	20												
1200	9.4	.8	55	035	1.1	008	3.8	39	1200	5.2	*****	94	343	.6	349	1.9	36												
1500	6.4	2.5	76	320	2.2	323	5.1	29	1500	6.3	5.1	92	294	1.1	295	2.5	31												
1800	5.3	3.3	87	306	1.7	327	3.8	8	1800	6.4	*****	93	300	1.0	277	2.5	10												
2100	3.1	*****	3	259	.9	262	1.9	1	2100	2.6	-31.4	6	218	.8	266	1.9	1												
2400	2.1	*****	7	209	.6	212	1.3	1	2400	.8	-28.6	9	163	1.0	118	3.2	1												
0300	-1.3	*****	9	171	.4	153	1.9	1	0300	-1.3	*****	9	171	.4	153	1.9	1												
0600	.4	*****	99	157	.1	219	1.9	20	0600	.4	*****	99	157	.1	219	1.9	20												
0900	7.5	-2.3	50	032	1.1	017	5.7	48	0900	7.5	-2.3	50	032	1.1	017	5.7	48												
1200	9.2	-8.5	28	019	3.5	021	6.3	68	1200	9.2	-8.5	28	019	3.5	021	6.3	68												
1500	9.8	-11.0	22	018	3.5	012	6.3	52	1500	9.8	-11.0	22	018	3.5	012	6.3	52												
1800	9.8	-11.0	22	014	2.8	018	5.7	17	1800	9.8	-11.0	22	014	2.8	018	5.7	17												
2100	3.3	-5.1	54	116	1.0	034	2.5	1	2100	3.3	-5.1	54	116	1.0	034	2.5	1												
2400	.7	-4.7	67	120	1.6	126	3.2	1	2400	.7	-4.7	67	120	1.6	126	3.2	1												

R & M CONSULTANTS, INC.,
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April, 1983

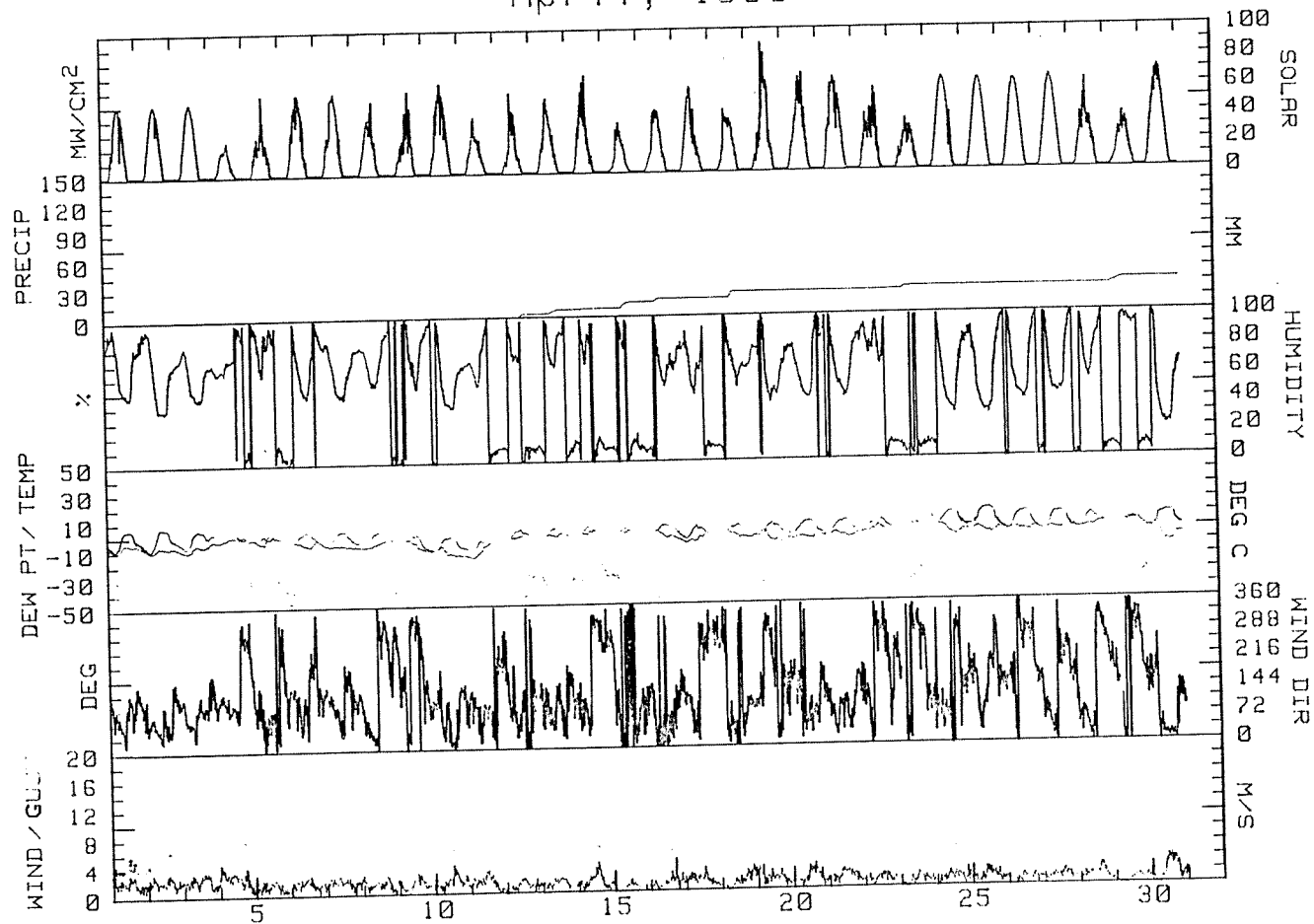
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ M	DAY
1	5.9	-9.0	-1.6	103	1.7	2.0	113	5.7	SE	71	-6.5	0.0	3710	1
2	6.7	-9.2	-1.3	081	1.7	2.1	070	6.3	ENE	64	-8.0	0.0	3963	2
3	5.1	-8.0	-1.5	103	1.9	2.2	109	6.3	ESE	62	-7.3	0.0	4068	3
4	4.6	-2.5	1.1	123	1.3	2.5	281	10.2	ESE			0.0	1690	4
5	1.6	-3.1	-.8	084	.8	1.2	096	3.8	E			.2	2505	5
6	3.5	-5.4	-1.0	128	1.0	1.6	127	5.1	SE			.2	4010	6
7	3.6	-5.4	-.9	121	1.4	1.8	110	4.4	ESE	67	-7.3	0.0	4040	7
8	2.6	-5.9	-1.7	352	.5	1.4	328	4.4	NE			0.0	2923	8
9	.5	-10.8	-5.2	304	.4	1.3	323	5.1	NW			.2	2888	9
10	-1.2	-12.3	-6.8	075	1.1	1.7	011	6.3	ESE			0.0	4403	10
11	-4.5	-12.3	-8.4	096	1.2	1.5	061	6.3	E			0.0	2380	11
12	3.4	-5.9	-1.3	088	.6	1.0	062	4.4	ESE			3.4	2445	12
13	3.8	-3.1	.4	105	.9	1.2	102	4.4	ESE			4.0	3228	13
14	4.4	-2.3	1.1	338	.5	1.4	329	6.3	NW			.8	3470	14
15	3.4	-1.3	1.1	027M	.4M	.7M	005M	3.2M	N(M)			6.0	1970	15
16	5.1	-1.8	1.7	077	.7	1.2	029	7.6	NNE			3.2	3108	16
17	4.6	-5.2	-.3	115	.0	1.5	251	5.7	W			0.0	3660	17
18	5.0	-2.7	1.2	073	.9	1.3	054	7.0	ESE			6.2	3018	18
19	6.1	-1.7	2.2	103	.2	1.6	097	7.0	ESE			0.0	4625	19
20	6.8	-3.1	1.9	097	1.2	1.6	054	7.6	E			0.0	4563	20
21	7.6	-3.3	2.2	094	1.4	1.7	100	5.1	ESE			0.0	5300	21
22	7.2	-.6	3.3	282	.3	1.2	287	3.8	WNW			.4	3653	22
23	4.3	0.0	2.2	306M	.4M	.9M	323M	4.4M	WNW(M)			3.0	2600	23
24	12.1	.9	6.5	083	.5	1.3	047	5.7	ENE			0.0	5655	24
25	14.3	.5	7.4	152	.7	1.4	099	5.7	S	52	-1.1	0.0	5638	25
26	12.2	-1.6	5.3	245	.4	1.1	317	3.8	SSE			0.0	5618	26
27	11.1	-2.3	4.4	175	.2	1.3	188	5.1	E			0.0	5708	27
28	9.4	-1.4	4.0	358	.6	1.4	323	5.1	ENE			0.0	3845	28
29	6.9	.6	3.8	271M	.3M	.7M	118M	3.2M	S(M)			5.6	2908	29
30	10.5	-1.6	4.5	034	1.3	1.8	021	6.3	NNE			0.0	4200	30
MONTH	14.3	-12.3	.8	090M	.6M	1.5M	281M	10.2M	ESE(M)	M	M	33.2	113821	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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

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

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



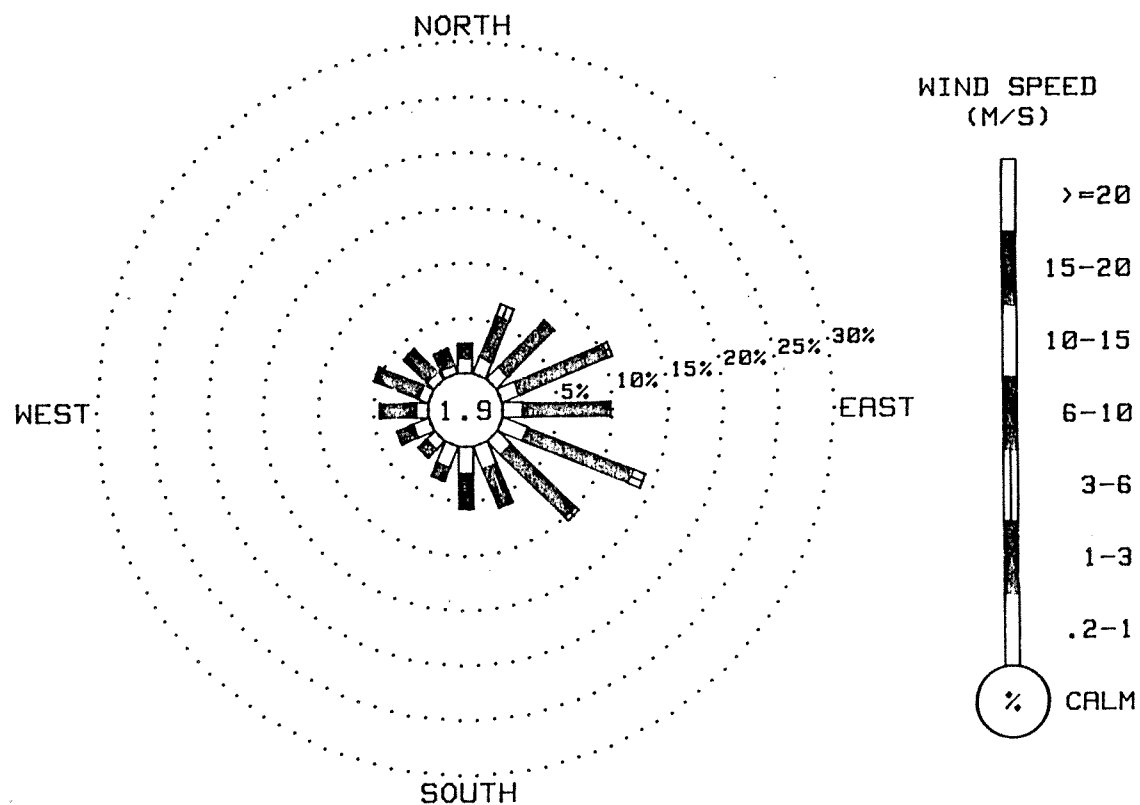
R & M CONSULTANTS, INC.
SUSTINA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April, 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	1.37	1.16	.14	0.00	0.00	0.00	0.00	2.68
NNE	1.62	3.95	1.16	0.00	0.00	0.00	0.00	6.73
NE	1.55	5.81	.04	0.00	0.00	0.00	0.00	7.40
ENE	1.76	8.56	.46	0.00	0.00	0.00	0.00	10.78
E	1.87	7.58	.35	0.00	0.00	0.00	0.00	9.80
ESE	2.50	10.22	1.23	0.00	0.00	0.00	0.00	13.95
SE	1.80	8.14	.46	0.00	0.00	0.00	0.00	10.39
SSE	2.26	3.81	0.00	0.00	0.00	0.00	0.00	6.06
S	2.47	3.2	0.00	0.00	0.00	0.00	0.00	5.67
SSW	2.11	1.23	0.00	0.00	0.00	0.00	0.00	3.35
SW	1.09	.99	0.00	0.00	0.00	0.00	0.00	2.08
WSW	1.62	1.48	0.00	0.00	0.00	0.00	0.00	3.10
W	1.13	3.24	.04	0.00	0.00	0.00	0.00	4.41
WNW	1.02	4.12	.21	0.00	0.00	0.00	0.00	5.36
NW	.92	2.78	.18	0.00	0.00	0.00	0.00	3.88
NNW	.85	1.44	.14	0.00	0.00	0.00	0.00	2.43
CALM	-----	-----	-----	-----	-----	-----	-----	1.94
TOTAL	25.93	67.72	4.40	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2838 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



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R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	-1.9	-4.3	84	081	1.5	078	3.2	1	0300	1.0	*****	9	140	.6	112	1.9	1
0600	-.2	-3.9	76	070	1.4	069	2.5	17	0600	1.6	*****	6	082	.2	120	1.3	8
0900	7.0	-3.0	49	043	1.3	090	4.4	48	0900	2.6	*****	2	359	.4	332	1.3	15
1200	10.2	-3.6	38	112	2.3	091	5.1	62	1200	3.5	-34.3	4	317	.6	026	2.5	29
1500	10.4	-4.5	35	085	1.9	052	5.1	41	1500	5.1	4.0	93	324	.9	300	3.2	21
1800	8.7	-3.9	41	074	.7	060	3.2	8	1800	3.4	*****	97	284	.6	324	2.5	6
2100	4.3	2.1	86	262	.9	238	2.5	1	2100	.5	*****	9	300	1.5	288	3.8	1
2400	2.1	*****	8	257	1.0	292	3.2	1	2400	.3	*****	7	272	.8	291	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.	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	-.5	*****	2	099	.7	103	2.5	1	0300	.2	*****	8	210	.6	208	1.9	1
0600	.6	*****	99	066	.9	084	1.9	15	0600	2.5	*****	96	193	.6	208	1.9	11
0900	5.1	.5	72	053	1.2	103	5.7	33	0900	6.5	-1.4	57	075	1.6	089	6.3	67
1200	6.4	-.5	61	061	1.8	044	5.1	32	1200	6.7	-2.2	53	078	2.3	092	5.7	33
1500	7.2	-1.0	56	047	2.9	023	6.3	55	1500	8.4	-3.9	42	027	2.3	016	6.3	26
1800	6.0	-.0	65	056	2.4	051	5.7	15	1800	6.3	-2.6	53	027	1.1	051	5.1	12
2100	2.2	.2	87	092	1.2	043	4.4	1	2100	2.3	-1.1	78	204	1.1	160	2.5	1
2400	1.1	*****	98	186	1.1	189	1.9	1	2400	.6	-1.3	87	139	1.1	132	2.5	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	*****	0	122	.8	127	2.5	1	0300	-.8	*****	93	133	.9	132	3.2	1
0600	1.1	-.4	90	075	.9	104	3.8	18	0600	1.0	-1.1	86	090	1.3	086	3.2	17
0900	8.3	-1.0	52	036	1.3	048	3.2	52	0900	9.2	-1.0	49	043	1.6	044	3.2	54
1200	10.7	-2.1	41	018	2.2	018	5.7	75	1200	11.9	-2.1	38	182	.5	174	3.8	70
1500	11.1	-2.8	38	017	4.0	016	6.3	55	1500	13.5	-2.2	34	212	1.9	227	4.4	57
1800	10.5	-3.3	38	017	3.3	009	6.3	16	1800	11.9	-2.8	36	279	1.8	295	3.8	20
2100	4.0	-1.3	68	110	.7	027	4.4	1	2100	4.5	-.3	71	233	.8	231	3.8	1
2400	.3	*****	92	137	.9	098	2.5	1	2400	1.5	*****	98	176	1.1	184	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	2.0	*****	2	185	.5	144	1.9	1	0300	-1.5	*****	94	158	.7	173	1.9	1	0300	3.1	*****	80
0600	4.3	*****	90	188	.1	140	1.3	22	0600	1.5	-1.2	82	066	.9	087	2.5	20	0600	4.2	.7	78
0900	8.8	1.3	59	348	.9	345	2.5	57	0900	9.5	*****	44	038	.9	035	2.5	53	0900	9.8	.1	51
1200	9.8	-1.6	45	229	1.5	215	4.4	68	1200	11.1	-2.5	39	271	.2	201	3.8	71	1200	10.2	-1.1	49
1500	10.4	-4.5	35	251	1.8	273	5.7	36	1500	12.8	-4.0	31	214	1.7	210	3.8	52	1500	9.9	.2	51
1800	10.8	-5.4	32	265	1.2	241	3.8	18	1800	11.1	-3.2	37	262	1.3	307	4.4	13	1800	10.2	.8	52
2100	3.8	-3.7	58	195	.4	275	1.9	1	2100	6.7	-1.4	56	235	1.0	295	3.2	1	2100	7.7	1.6	65
2400	1.5	*****	76	162	1.0	151	1.9	1	2400	5.4	-.8	64	207	1.1	193	2.5	1	2400	6.0	2.1	76

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	5.2	2.7	84	122	1.2	144	2.5	1	0300	4.1	2.0	86	174	.6	170	1.9	1	0300	4.7	*****	2	186	.8	143	1.9	1
0600	5.4	*****	84	072	.6	060	2.5	15	0600	5.1	*****	88	192	.4	185	1.9	11	0600	4.8	*****	0	187	.4	179	1.9	4
0900	10.8	2.4	56	029	1.2	024	2.5	55	0900	9.6	3.8	67	344	.7	341	2.5	27	0900	6.8	5.3	90	299	.8	339	3.2	14
1200	12.5	2.1	49	296	1.5	286	3.8	48	1200	11.2	3.8	60	323	1.7	294	3.8	50	1200	9.4	4.8	73	320	1.4	299	3.8	58
1500	12.7	1.0	45	282	1.5	265	3.8	29	1500	11.9	2.1	51	264	1.1	296	3.8	32	1500	11.7	4.7	62	307	1.8	300	5.1	59
1800	11.6	*****	49	295	1.4	287	3.2	7	1800	10.9	3.7	61	242	1.5	202	3.8	20	1800	11.0	2.6	56	287	1.5	286	5.1	15
2100	7.7	1.6	65	184	.7	259	2.5	1	2100	7.4	3.5	76	275	1.2	303	4.4	1	2100	6.6	3.4	80	222	1.0	244	2.5	1
2400	5.1	*****	79	160	.9	167	1.9	1	2400	4.6	*****	99	184	1.1	237	1.9	1	2400	2.6	-44.4	0	154	1.1	175	1.9	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	
	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	*****	7	123	.7	138	2.5	1	0300	2.8	-28.4	8	116	2.0	113	4.4	1	0300	3.4	-43.9	0
0600	2.7	*****	98	085	.9	091	3.2	12	0600	3.1	*****	10	077	.7	120	3.2	7	0600	3.6	*****	7
0900	9.9	-.1	50	099	1.6	113	4.4	54	0900	5.7	-32.7	4	330	.6	297	2.5	31	0900	5.8	2.5	79
1200	12.4	.1	43	050	1.8	024	5.7	57	1200	6.6	6.3	98	314	1.4	305	3.8	34	1200	7.5	1.6	66
1500	9.6	*****	61	349	1.1	056	6.3	8	1500	7.3	6.4	94	310	1.9	325	5.1	26	1500	7.0	2.9	75
1800	6.9	*****	87	267	.8	329	3.8	6	1800	3.7	-30.6	6	293	.8	294	4.4	4	1800	6.5	4.3	86
2100	4.3	*****	9	266	.9	258	2.5	1	2100	3.3	*****	8	226	.5	311	2.5	1	2100	4.2	3.7	97
2400	3.4	-26.7	9	142	.6	093	2.5	1	2400	3.5	*****	4	138	.8	092	2.5	1	2400	2.7	*****	5

R. & M. CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	1.7	*****	7	109	.9	120	2.5	1	0300	4.3	-35.8	3	172	.5	112	2.5	1
0600	2.5	-31.5	6	064	.6	045	2.5	10	0600	5.5	3.5	87	271	1.2	308	3.8	22
0900	8.0	5.1	82	010	.9	038	2.5	22	0900	8.6	4.3	74	329	2.1	347	5.1	59
1200	9.5	-.4	50	309	1.1	323	3.8	53	1200	11.5	3.8	59	298	2.3	287	6.3	35
1500	10.5	1.1	52	255	1.6	283	5.1	60	1500	13.8	-.0	39	317	3.2	309	7.0	58
1800	10.8	1.6	53	243	2.0	225	5.7	24	1800	13.0	-1.1	38	295	2.7	306	7.0	19
2100	6.6	4.7	88	205	.7	238	3.8	1	2100	8.8	*****	55	248	.7	311	5.7	1
2400	5.4	5.1	98	124	1.3	146	3.2	1	2400	8.0	1.4	63	196	.5	084	3.8	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	3.9	*****	10	192	.3	263	1.3	1	0300	3.4	3.3	99	216	.7	262	2.5	1
0600	5.1	*****	3	324	.1	096	1.3	11	0600	4.3	3.7	96	218	.4	221	1.9	15
0900	*****	*****	**	***	****	351	4.4	***	0900	7.3	2.0	69	355	1.1	348	3.2	60
1200	10.3	4.5	67	328	1.1	011	3.8	52	1200	8.4	1.6	62	231	.2	203	3.8	35
1500	11.0	4.5	64	309	2.3	325	5.7	34	1500	9.4	2.3	61	334	1.2	046	3.8	19
1800	7.6	5.2	85	001	1.4	315	5.7	7	1800	5.8	4.7	93	013	.6	013	5.1	8
2100	4.3	*****	98	197	.3	314	3.8	1	2100	4.5	4.0	97	204	.5	271	2.5	1
2400	3.9	*****	1	158	.8	162	2.5	1	2400	3.6	*****	97	192	.7	215	1.9	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	-1.8	-2.0	92	133	.9	127	2.5	2	0300	5.1	*****	95	295	.9	306	3.8	1
0600	2.6	.5	86	061	.5	041	2.5	21	0600	5.1	*****	97	289	.5	282	1.9	8
0900	10.1	3.0	61	349	1.1	314	3.8	59	0900	6.5	5.1	91	315	1.3	318	4.4	25
1200	13.4	.3	41	319	1.9	354	5.1	77	1200	8.2	3.9	74	315	1.8	275	4.4	47
1500	13.8	1.4	43	255	1.9	262	6.3	38	1500	11.6	1.5	50	324	1.0	268	4.4	48
1800	10.1	3.0	61	280	2.5	296	7.6	10	1800	7.7	4.7	81	088	.4	237	5.7	6
2100	8.0	4.4	78	303	1.4	306	5.7	1	2100	4.3	*****	93	333	.7	295	6.3	2
2400	6.7	4.3	85	285	1.6	262	4.4	1	2400	2.2	1.9	98	137	.9	093	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING May, 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		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S			
0300	3.6	*****	97	169	1.2	181	2.5	2	0300	6.0	*****	93	176	1.0	179	1.9	2	0300	8.9	*****	90	154	.7	133	2.5	2
0600	9.3	5.9	79	243	.2	182	1.9	25	0600	11.7	*****	80	213	.3	276	1.9	10	0600	11.9	8.9	82	065	.8	040	3.2	25
0900	12.8	5.8	62	076	1.9	100	5.7	20	0900	15.4	7.5	59	079	1.8	075	5.1	43	0900	18.4	9.0	54	066	1.6	114	4.4	39
1200	13.4	5.1	57	039	1.7	357	5.7	33	1200	18.5	7.3	48	080	2.5	063	6.3	40	1200	18.6	8.0	50	089	2.5	113	6.3	15
1500	15.7	5.0	49	330	1.5	359	5.7	35	1500	19.2	5.9	42	079	2.3	085	7.0	34	1500	19.5	10.6	56	097	1.4	095	8.9	38
1800	15.3	*****	47	325	1.6	304	5.1	11	1800	18.0	6.8	48	085	1.7	086	4.4	14	1800	18.1	9.2	56	268	1.5	255	4.4	12
2100	12.2	5.2	62	019	.9	026	5.1	2	2100	14.8	7.9	63	108	.9	074	3.8	1	2100	14.6	8.8	68	235	1.1	250	4.4	1
2400	6.8	4.3	84	165	1.3	144	2.5	1	2400	10.5	*****	88	240	.6	256	3.2	1	2400	11.9	7.3	73	256	1.2	264	4.4	1

DAY 31

HOUR	DEW	WIND		WIND		GUST MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S
0300	9.4	7.0	85	249	1.3	239	3.8
0600	9.2	*****	85	227	.6	223	3.2
0900	7.0	*****	98	296	1.0	303	3.2
1200	9.1	8.2	94	057	.6	048	1.9
1500	9.3	*****	95	001	.7	355	2.5
1800	10.1	*****	90	265	.9	252	4.4
2100	8.9	*****	95	175	.5	157	1.9
2400	6.5	5.7	95	150	1.0	136	3.2

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING May, 1983

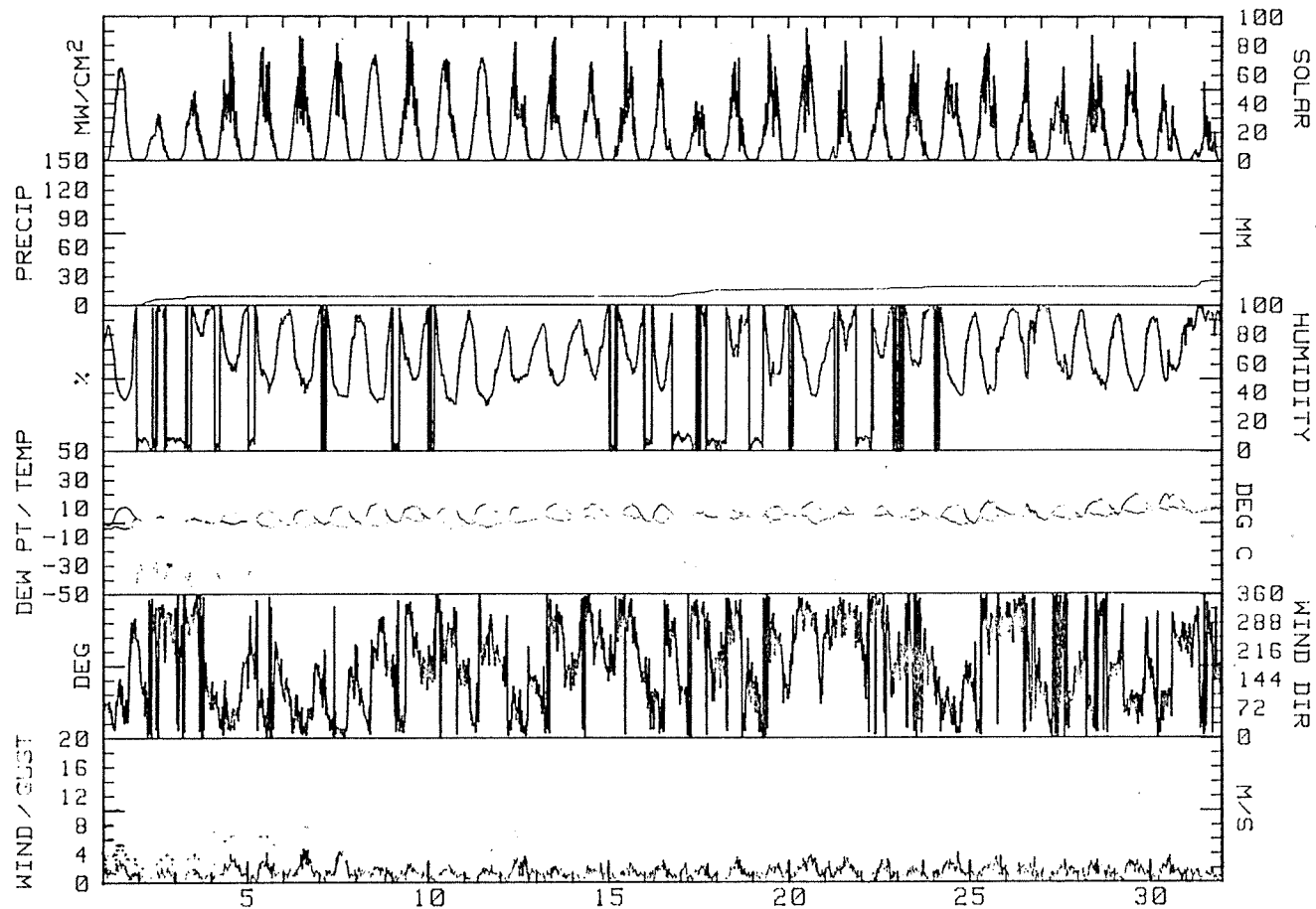
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50W	DAY
1	11.0	-2.2	4.4	083	.8	1.5	091	5.1	ENE			.2	5318	1
2	5.1	.3	2.7	304	.5	.9	288	3.8	NW			6.6	2300	2
3	4.9	-.2	2.4	305	.4	.9	335	3.8	WNW			2.2	3490	3
4	7.7	-.8	3.5	066	1.3	1.7	023	6.3	ENE			0.0	4658	4
5	9.4	-.8	4.3	080	.6	1.6	089	6.3	SSW			0.0	4993	5
6	9.7	-1.5	4.1	057	1.4	2.0	020	7.6	NNE	67	-1.4	0.0	5523	6
7	11.3	-2.1	4.6	035	1.4	1.9	016	6.3	NNE			0.0	6228	7
8	13.5	-.8	6.4	185	.4	1.5	227	4.4	S	58	-1.4	0.0	6590	8
9	11.9	0.0	6.0	276	.3	1.3	314	5.7	SSW			0.0	5373	9
10	11.1	1.5	6.3	236	.6	1.1	273	5.7	WSW			0.0	6000	10
11	12.8	-1.2	5.8	219	.4	1.3	307	4.4	SSW	50	-2.1	0.0	6328	11
12	10.7	2.5	6.6	076	1.0	1.6	127	7.0	NNE	59	.6	0.0	4688	12
13	13.2	4.5	8.9	291	.2	1.2	286	3.8	WNW	61	2.1	0.0	4570	13
14	12.9	4.1	8.5	261	.6	1.2	303	4.4	S	67	3.5	0.0	4460	14
15	13.7	2.2	8.0	272	.6	1.2	300	5.1	WNW			0.0	4480	15
16	12.7	.3	6.5	070	.4	1.3	056	6.3	E			2.2	3993	16
17	8.1	2.6	5.4	326	.2	1.3	325	5.1	NW			4.4	2798	17
18	8.6	2.6	5.6	283	.5	1.4	320	5.7	NW			.2	4253	18
19	11.4	1.2	6.3	236	.3	1.4	225	5.7	ESE			.6	5040	19
20	14.5	4.3	9.4	299	1.4	1.9	309	7.0	NW			0.0	6095	20
21	10.7	4.3	7.5	294	1.5	1.7	330	6.3	NW			0.0	3325	21
22	11.3M	3.8M	7.6M	322M	.6M	1.2M	325M	5.7M	NW(M)			1.4	4111M	22
23	10.5	3.0	6.8	286	.2	1.1	013	5.1	SW			1.2	4000	23
24	12.4	.9	6.7	077	1.2	1.8	084	6.3	ENE			.2	5280	24
25	15.4	-.9	7.3	294	1.0	1.7	296	7.6	WNW	63	1.9	0.0	5815	25
26	12.7	2.2	7.5	316	.6	1.4	295	6.3	WNW	81	3.8	.2	4088	26
27	12.7	1.1	6.9	049	.6	1.4	002	6.3	ESE	70	3.0	0.0	4323	27
28	16.3	3.4	9.9	036	.4	1.6	100	5.7	S	63	4.8	0.0	5090	28
29	20.1	5.1	12.6	094	1.1	1.6	085	7.0	ENE	57	6.6	0.0	4790	29
30	19.7	8.5	14.1	105	.3	1.5	095	8.9	WSW	65	9.2	0.0	3503	30
31	11.9	6.5	9.2	251	.3	1.0	252	4.4	WNW	90	7.5	6.0	2165	31
MONTH	20.1M	-2.2M	6.8M	004M	.2M	1.4M	095M	8.9M	WNW(M)	M	M	25.4	143590M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 2.5

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

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

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



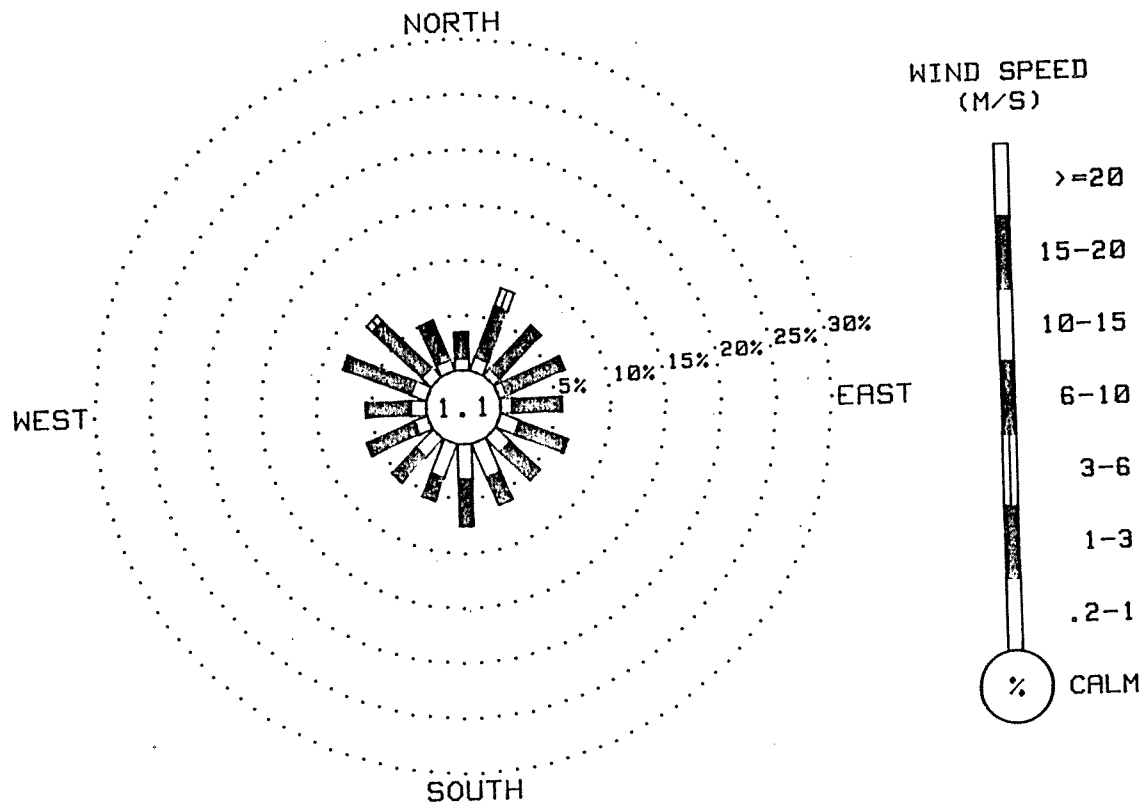
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING May, 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	1.08	2.15	.24	0.00	0.00	0.00	0.00	3.46
NNE	1.31	4.88	1.75	0.00	0.00	0.00	0.00	7.94
NE	.84	5.11	.27	0.00	0.00	0.00	0.00	6.22
ENE	.77	5.38	.27	0.00	0.00	0.00	0.00	6.42
E	1.08	4.24	.27	0.00	0.00	0.00	0.00	5.58
ESE	1.88	4.54	.13	0.00	0.00	0.00	0.00	6.56
SE	1.88	3.63	.07	0.00	0.00	0.00	0.00	5.58
SSE	3.36	2.72	0.00	0.00	0.00	0.00	0.00	6.09
S	3.20	4.27	0.00	0.00	0.00	0.00	0.00	7.47
SSW	3.30	2.22	0.00	0.00	0.00	0.00	0.00	5.52
SW	2.29	3.13	0.00	0.00	0.00	0.00	0.00	5.42
WSW	1.28	4.68	0.00	0.00	0.00	0.00	0.00	5.95
W	1.45	4.04	.03	0.00	0.00	0.00	0.00	5.52
WNW	1.55	6.26	.30	0.00	0.00	0.00	0.00	8.11
NW	1.24	6.05	.77	0.00	0.00	0.00	0.00	8.07
NNW	1.11	3.57	.30	0.00	0.00	0.00	0.00	4.98
CALM								1.11
TOTAL	27.62	66.87	4.41	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2973 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



R & M CONSULTANTS, INC.,
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	*****	94	134	.7	117	1.9	2	0300	4.3	*****	97	202	.7	204	1.9	1	0300	5.6	5.0	96	302	1.7	309	4.4	1
0600	6.8	*****	96	061	.4	057	2.5	12	0600	6.6	*****	93	275	.5	258	1.9	14	0600	5.0	4.2	95	288	1.3	304	4.4	3
0900	11.5	7.1	74	327	1.5	335	4.4	39	0900	8.3	6.1	86	297	1.1	280	3.2	22	0900	4.8	4.0	95	291	1.7	288	4.4	15
1200	12.7	6.1	64	309	2.5	308	6.3	83	1200	11.7	8.2	79	303	1.7	304	5.1	11	1200	5.4	4.9	97	298	1.5	302	4.4	13
1500	15.7	5.3	50	310	2.4	325	5.7	62	1500	10.2	7.4	83	300	2.4	303	5.1	20	1500	5.1	4.5	96	303	1.9	321	5.7	4
1800	16.5	4.5	45	294	1.9	296	4.4	26	1800	7.5	7.2	98	289	2.2	298	5.7	9	1800	5.3	*****	95	291	.8	318	3.2	4
2100	13.0	*****	50	274	1.6	283	3.8	2	2100	6.0	5.8	99	290	1.7	290	3.8	1	2100	5.0	*****	96	283	.8	298	2.5	1
2400	6.8	4.3	84	187	1.0	209	1.9	1	2400	6.0	5.4	96	309	1.5	307	3.8	1	2400	4.0	*****	97	254	.6	282	2.5	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.	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	3.5	*****	96	281	.4	287	1.9	1	0300	4.4	*****	96	136	.5	130	1.3	2	0300	6.7	*****	95	136	.9	088	3.2	1
0600	3.8	*****	95	246	.5	274	1.9	7	0600	6.2	*****	95	029	.4	070	1.9	15	0600	6.6	5.4	92	121	.9	141	2.5	8
0900	5.1	3.7	91	291	.9	286	2.5	13	0900	8.4	6.0	85	315	.8	354	1.9	23	0900	11.6	4.2	60	082	1.7	067	4.4	61
1200	6.2	4.0	86	306	1.6	305	3.8	18	1200	11.1	6.7	74	306	1.4	327	3.2	40	1200	14.6	.3	38	026	1.5	355	5.1	41
1500	7.4	5.0	85	317	1.8	316	4.4	22	1500	12.1	6.4	68	317	2.1	330	5.1	39	1500	13.6	-1.3	36	346	1.8	013	6.3	32
1800	7.0	5.0	87	316	1.7	305	3.8	9	1800	12.1	5.3	63	323	2.1	318	5.1	14	1800	13.9	-1.8	34	016	2.5	012	7.0	27
2100	5.7	*****	94	279	.3	320	1.9	1	2100	8.6	*****	93	214	.5	337	2.5	1	2100	9.8	-1.6	45	026	1.8	021	5.7	3
2400	4.8	*****	96	194	.5	165	1.3	1	2400	6.8	6.0	95	139	.9	113	2.5	1	2400	6.7	.2	63	142	1.2	150	2.5	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	2.3	.8	90	139	1.4	158	3.2	3	0300	5.7	.3	68	146	1.3	166	2.5	2	0300	4.3	*****
0600	7.2	3.5	77	048	.7	026	2.5	31	0600	7.6	3.3	74	071	1.1	096	2.5	30	0600	6.0	*****
0900	12.5	.5	44	074	1.7	058	4.4	59	0900	13.6	.2	40	041	1.4	031	3.8	60	0900	9.8	-1.2
1200	14.6	.7	39	343	1.2	011	4.4	66	1200	15.1	*****	36	342	1.5	049	3.8	27	1200	11.4	-1.5
1500	15.4	-1.5	34	300	1.7	278	4.4	24	1500	14.2	-.4	37	312	1.4	301	3.8	14	1500	11.2	-1.7
1800	15.3	-1.2	35	316	1.8	320	4.4	20	1800	12.9	.5	43	007	1.4	013	5.1	8	1800	11.1	-2.8
2100	12.7	-1.7	37	321	.8	322	3.2	3	2100	9.9	2.8	61	049	2.1	020	7.0	1	2100	9.5	-2.5
2400	8.8	1.5	60	137	1.3	136	3.2	1	2400	5.8	4.4	91	110	.6	010	3.2	1	2400	8.7	-2.0

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	7.2	-7	57	127	1.3	078	6.3	3	0300	5.2	*****	96	114	1.0	136	2.5	2
0600	9.6	*****	65	144	.9	125	3.8	30	0600	6.6	*****	96	034	.6	066	1.9	12
0900	11.7	-1.2	41	014	3.5	021	7.0	51	0900	7.1	6.6	97	307	1.4	300	4.4	10
1200	13.7	-1.2	36	042	2.6	004	7.0	31	1200	8.3	6.9	91	313	1.5	304	3.2	20
1500	15.2	-.7	34	035	1.2	353	5.7	36	1500	11.6	8.5	81	320	1.3	296	3.2	26
1800	13.6	.8	42	024	1.9	084	6.3	9	1800	11.3	7.3	76	318	2.7	323	7.6	12
2100	9.9	3.7	65	104	2.1	137	4.4	2	2100	9.4	*****	85	296	1.1	318	5.1	3
2400	7.1	5.7	91	132	1.2	115	3.2	1	2400	7.4	*****	91	175	.8	174	1.9	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	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW			
0300	5.0	*****	92	200	.5	194	1.9	2	0300	6.5	*****	95	198	.6	175	1.9	2	0300	5.5	*****	97	192	.7	224	2.5	2
0600	8.6	5.9	83	004	.6	010	1.9	26	0600	7.6	*****	93	208	.1	172	1.9	16	0600	8.1	*****	94	014	.0	207	.6	14
0900	13.3	4.2	54	323	1.3	326	3.2	61	0900	12.7	6.4	65	026	1.3	062	3.8	66	0900	9.0	*****	89	341	.8	002	1.9	16
1200	15.3	2.7	43	304	1.7	257	5.7	34	1200	13.9	6.1	59	006	1.2	008	4.4	21	1200	10.0	8.4	90	328	1.1	304	3.2	42
1500	14.6	4.3	50	302	1.1	287	4.4	25	1500	12.1	8.4	78	288	.6	284	5.7	73	1500	12.0	*****	91	291	1.2	291	3.2	44
1800	15.9	2.9	42	319	1.5	336	4.4	14	1800	13.5	5.7	59	009	1.0	345	3.8	13	1800	12.6	8.5	76	318	1.7	297	5.1	17
2100	11.2	5.8	69	264	1.3	290	4.4	2	2100	8.8	*****	96	060	.3	007	5.7	2	2100	10.0	*****	88	290	.7	324	4.4	3
2400	7.7	5.7	87	209	1.1	235	2.5	1	2400	7.6	*****	99	173	.8	150	2.5	1	2400	7.8	*****	96	214	.7	237	2.5	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	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	6.5	93	221	.7	204	2.5	2	0300	3.2	*****	97	128	.8	138	2.5	3
0600	8.8	*****	91	244	.4	237	1.9	20	0600	6.7	5.5	92	048	.8	188	2.5	15
0900	10.9	7.6	80	298	1.4	289	4.4	21	0900	14.4	7.3	62	343	1.0	316	3.2	32
1200	13.2	6.4	63	314	2.0	316	5.1	47	1200	16.1	3.8	44	304	1.8	338	5.1	24
1500	15.0	5.2	52	320	3.2	328	7.0	63	1500	17.2	2.7	38	313	1.4	319	5.7	20
1800	14.7	*****	52	307	2.2	319	6.3	10	1800	19.1	1.9	32	254	.6	263	4.4	32
2100	11.2	5.8	69	282	1.0	311	4.4	3	2100	15.5	*****	42	304	1.2	311	3.8	3
2400	5.3	*****	94	161	1.0	184	1.9	1	2400	7.7	*****	77	162	.8	136	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	8.5	*****	90	148	.9	160	2.5	3	0300	4.8	*****	97	132	1.1	151	2.5	3	0300	7.0	*****	94	217	1.2	231	3.2	3
0600	13.0	*****	74	049	.8	121	2.5	26	0600	10.2	*****	90	006	.2	152	1.9	25	0600	11.1	7.3	77	004	.4	006	1.9	26
0900	14.1	9.2	72	324	2.9	326	5.7	34	0900	14.9	8.2	64	334	1.5	297	3.8	61	0900	15.0	8.1	63	335	1.6	334	4.4	60
1200	15.0	8.3	64	322	3.3	310	7.0	51	1200	17.2	7.3	52	321	1.6	349	4.4	80	1200	19.6	8.9	50	317	2.4	313	5.1	96
1500	16.9	7.8	55	329	3.0	333	6.3	29	1500	19.5	5.8	41	303	2.0	290	5.1	63	1500	21.1	8.0	43	303	2.5	310	5.7	63
1800	13.2	11.1	87	005	1.4	330	4.4	11	1800	19.8	6.1	41	307	2.4	318	5.7	32	1800	20.3	7.3	43	318	2.6	311	5.1	13
2100	12.5	*****	90	073	.8	049	4.4	3	2100	16.2	4.5	46	298	1.5	318	5.1	3	2100	16.1	*****	67	276	1.4	238	5.1	2
2400	6.0	5.7	98	164	.8	146	2.5	1	2400	11.3	7.8	79	210	.9	259	4.4	1	2400	12.3	9.7	84	220	.9	257	2.5	1

DAY 22

DAY 23

DAY 24

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	MM		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MM		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MM
0300	10.2	7.8	85	209	1.1	244	1.9	4	0300	9.7	*****	93	197	.7	163	1.9	2	0300	7.7	6.3	91	170	1.0	177	1.9	3
0600	13.0	8.7	75	321	.5	351	3.2	27	0600	12.2	8.9	80	261	.7	317	3.2	18	0600	11.2	8.1	81	044	.5	134	2.5	22
0900	15.7	8.0	60	322	2.5	327	5.1	60	0900	12.3	*****	80	307	1.6	311	4.4	19	0900	16.1	8.9	62	320	.9	321	2.5	50
1200	18.5	8.5	52	328	3.1	322	6.3	73	1200	17.0	10.9	67	313	1.1	350	3.2	47	1200	21.5	4.0	32	319	1.7	341	4.4	77
1500	19.5	8.8	50	320	3.1	302	5.7	43	1500	17.9	6.1	46	328	1.9	339	5.1	34	1500	23.2	3.6	28	026	.8	176	5.1	78
1800	18.5	8.5	52	314	3.3	319	7.0	12	1800	19.3	4.1	37	315	2.4	321	5.1	36	1800	23.2	7.6	37	300	2.7	306	5.7	29
2100	17.1	*****	59	312	.9	302	3.8	3	2100	15.7	*****	50	279	1.2	321	4.4	3	2100	19.1	5.1	40	283	1.7	296	5.1	3
2400	13.3	9.9	80	174	.8	182	1.9	1	2400	11.8	*****	75	176	.8	170	1.9	1	2400	11.1	*****	79	180	1.1	210	1.9	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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.						
					M/S	MW						M/S	MW						M/S	MW						
0300	7.7	*****	96	159	.7	144	2.5	3	0300	10.6	*****	82	249	.9	277	3.2	1	0300	5.6	*****	99	132	.9	139	2.5	2
0600	12.0	9.4	84	354	.4	337	1.9	26	0600	10.4	9.0	91	267	.7	241	2.5	10	0600	10.2	8.6	90	071	.8	137	3.2	16
0900	19.6	9.8	53	009	1.2	029	2.5	61	0900	11.6	*****	92	301	.7	318	2.5	11	0900	11.3	9.9	91	027	1.0	035	2.5	13
1200	24.6	5.8	30	356	1.2	026	3.8	75	1200	14.7	10.9	78	317	1.3	323	3.8	39	1200	11.5	*****	99	033	.8	039	1.9	8
1500	24.9	3.5	25	300	2.7	298	6.3	63	1500	16.8	10.9	68	311	2.3	310	5.1	62	1500	12.4	*****	93	291	.8	284	2.5	18
1800	23.8	4.6	29	285	2.6	290	6.3	30	1800	17.4	11.1	66	304	3.0	299	5.7	23	1800	11.9	*****	95	301	1.0	301	3.2	6
2100	18.7	6.5	45	298	1.6	280	4.4	2	2100	12.9	*****	82	289	1.5	287	5.1	3	2100	11.3	*****	97	207	.2	141	1.3	1
2400	12.9	6.1	63	255	1.5	242	5.1	1	2400	8.1	7.5	96	168	.9	133	2.5	1	2400	10.1	*****	97	208	.6	233	1.9	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING June, 1983

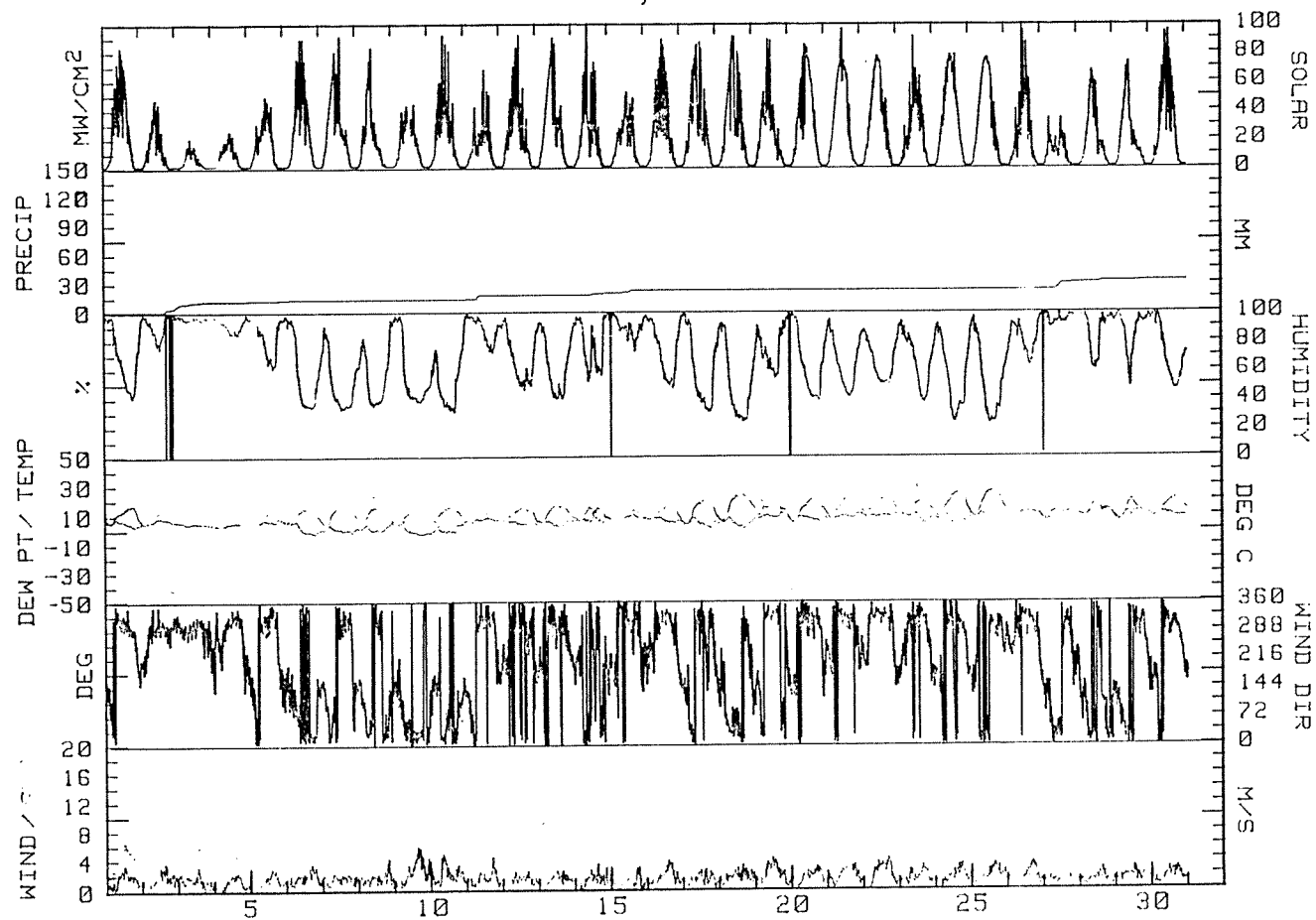
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	16.7	5.1	10.9	299	1.0	1.6	308	6.3	NW	62	5.2	0.0	6070	1
2	12.8	4.3	8.6	293	1.4	1.5	298	5.7	WNW	82M	2.8M	5.0	2848	2
3	6.0	4.0	5.0	293	1.3	1.4	321	5.7	WNW	96	4.6	5.8	1265	3
4	7.5	3.4	5.5	299	.8	1.1	316	4.4	NW	88	4.3	.4	1958	4
5	12.5	4.4	8.5	314	.6	1.2	330	5.1	WNW	76	6.0	.8	3818	5
6	14.7	5.6	10.2	046	.9	1.7	012	7.0	NNE	54	1.0	.4	5978	6
7	16.8	1.9	9.4	007	.4	1.5	058	4.4	NW	47	.5	0.0	5940	7
8	15.3	4.6	10.0	034	.8	1.6	020	7.0	NNE	55	1.4	.2	4165	8
9	11.9	4.3	8.1	029	2.1	2.4	024	8.9	NNE	51	-1.6	0.0	3890	9
10	16.3	5.4	10.9	058	1.3	2.1	021	7.0	SE	49	.5	0.0	5248	10
11	12.1	5.1	8.6	316	.8	1.4	323	7.6	NW	86	7.0	4.4	3425	11
12	15.6	5.4	10.5	307	.6	1.2	310	4.4	NW	61	4.5	0.0	5088	12
13	17.3	4.6	11.0	295	.8	1.3	257	5.7	NW	56	4.2	0.0	6085	13
14	15.3	5.9	10.6	011	.3	1.2	284	5.7	NNE	74	6.7	2.2	4948	14
15	13.1	5.5	9.3	299	.6	1.0	297	5.1	WNW	86M	8.2M	2.8	3863	15
16	15.8	5.3	10.6	299	1.1	1.6	328	7.0	NW	67	6.1	0.0	5548	16
17	19.5	3.2	11.4	313	.5	1.3	319	5.7	NW	55	4.1	0.0	6453	17
18	23.4	4.8	14.1	047	.7	1.6	088	6.3	NNE	45	3.8	0.0	6983	18
19	17.3	6.0	11.7	339	1.1	1.9	310	7.0	NW	70	8.4	0.0	5090	19
20	20.2	4.3	12.3	307	1.0	1.6	318	5.7	NW	53M	4.2M	0.0	7385	20
21	22.1	7.0	14.6	302	1.3	1.8	310	5.7	NW	60	8.2	0.0	7313	21
22	20.3	10.1	15.2	313	1.5	2.0	319	7.0	NW	63	8.8	0.0	7160	22
23	19.4	9.4	14.4	298	1.0	1.4	339	5.1	NW	62	7.5	0.0	5038	23
24	24.3	7.6	16.0	299	.7	1.6	306	5.7	WNW	50	6.2	0.0	7568	24
25	25.7	7.7	16.7	301	1.1	1.6	298	6.3	WNW	44	6.1	0.0	7593	25
26	18.3	7.9	13.1	294	1.1	1.5	299	5.7	NW	78	10.0	.2	4985	26
27	12.9	5.3	9.1	013	.2	.9	137	3.2	NNE	91M	8.0M	7.2	2255	27
28	17.8	8.1	13.0	063	.5	1.1	086	5.1	NNE	81	10.0	1.6	4448	28
29	19.8	5.6	12.7	352	.6	1.4	340	5.7	NW	85	9.5	.6	4693	29
30	20.7	7.4	14.1	291	.9	1.4	325	5.1	WNW	61	9.1	0.0	6788	30
MONTH	25.7	1.9	11.2	324	.7	1.5	024	8.9	NW	65M	5.5M	31.6	153893	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 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
DEVIL CANYON WEATHER STATION
June, 1983



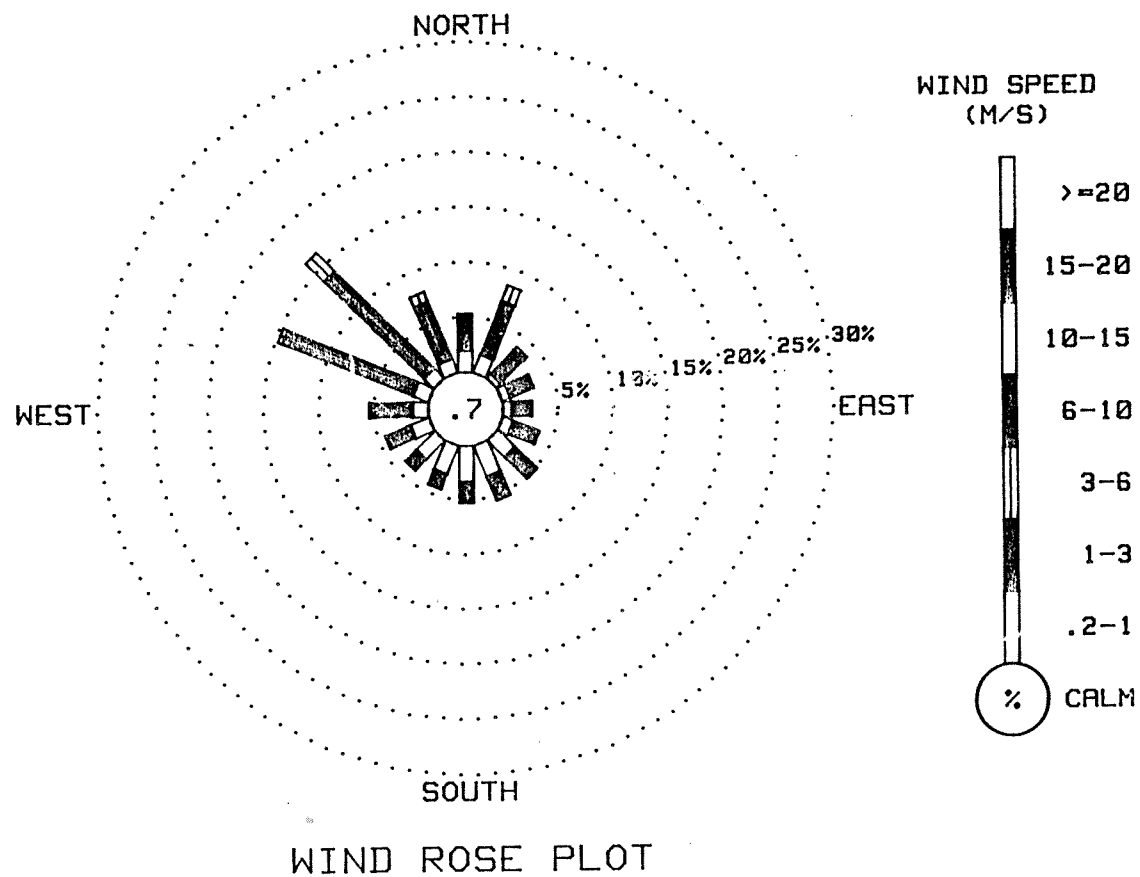
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON 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	1.98	3.13	.21	0.00	0.00	0.00	0.00	5.31
NNE	1.77	5.17	1.53	0.00	0.00	0.00	0.00	8.47
NE	.56	2.95	.38	0.00	0.00	0.00	0.00	3.89
ENE	.83	2.22	0.00	0.00	0.00	0.00	0.00	3.06
E	.83	1.77	.03	0.00	0.00	0.00	0.00	2.64
ESE	1.04	2.53	0.00	0.00	0.00	0.00	0.00	3.58
SE	2.22	2.85	0.00	0.00	0.00	0.00	0.00	5.07
SSE	3.09	2.33	0.00	0.00	0.00	0.00	0.00	5.42
S	3.30	1.88	0.00	0.00	0.00	0.00	0.00	5.17
SSW	2.81	1.42	0.00	0.00	0.00	0.00	0.00	4.24
SW	2.43	1.39	0.00	0.00	0.00	0.00	0.00	3.82
WSW	1.84	2.43	0.00	0.00	0.00	0.00	0.00	4.27
W	1.46	3.85	.10	0.00	0.00	0.00	0.00	5.42
WNW	1.56	12.67	.49	0.00	0.00	0.00	0.00	14.72
NW	1.28	12.60	2.36	0.00	0.00	0.00	0.00	16.25
NNW	1.39	5.59	.97	0.00	0.00	0.00	0.00	7.95
CALM	-----	-----	-----	-----	-----	-----	-----	.73
TOTAL	28.40	64.79	6.08	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2880 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



HOURLY PRECIPITATION SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING July, 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	.2	.6	1.2	.4	.4	.2	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	1.4	1
2	2.2	.2	.6	.8	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	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	.4	0.0	0.0	.4	.8	.6	.2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	13
14	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	1.0	0.0	0.0	0.0	0.0	.4	.2	0.0	.2	0.0	0.0	.4	14	
15	1.6	1.8	.6	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	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.6	.4	.4	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	17
18	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	.6	1.0	2.2	2.2	.8	.6	.4	1.0	.2	0.0	.4	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	29
30	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	.4	.6	.4	0.0	.6	.4	.2	0.0	0.0	.2	.2	.2	1.4	.2	.2	.2	30
31	.2	.2	.8	.6	.2	0.0	.2	0.0	.2	0.0	.4	0.0	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	31

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.							
	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	11.8	*****	86	125	.7	119	3.2	1	0300	8.8	8.2	96	285	1.6	314	4.4	1	0300	9.1	*****	95	176	.7	164	1.9	2
0600	10.5	9.9	96	147	.1	096	2.5	4	0600	9.1	*****	95	265	1.0	302	3.2	4	0600	11.1	9.3	89	270	.5	258	1.9	17
0900	10.0	9.5	97	300	1.3	307	3.8	5	0900	10.2	8.9	92	312	1.0	296	2.5	22	0900	12.9	9.4	79	310	1.4	294	3.2	32
1200	10.3	9.5	95	315	1.7	314	3.2	11	1200	13.5	*****	82	298	.9	309	2.5	31	1200	17.2	10.6	65	318	2.0	318	3.8	43
1500	11.7	10.6	93	316	1.6	321	3.8	20	1500	15.3	9.1	66	316	2.2	321	5.1	47	1500	19.5	10.6	56	307	2.0	329	4.4	38
1800	12.2	*****	92	255	.5	256	1.9	11	1800	15.6	9.6	67	308	2.1	307	5.1	13	1800	20.6	10.1	51	316	2.3	315	5.1	25
2100	11.3	10.0	92	275	.9	296	2.5	2	2100	13.4	*****	81	266	.8	302	3.2	3	2100	17.9	*****	62	292	1.6	319	4.4	3
2400	10.5	9.9	96	272	.7	251	2.5	1	2400	10.8	*****	91	201	.9	190	1.9	1	2400	14.4	*****	78	199	.8	213	2.5	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.	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	12.7	10.4	86	142	.7	184	2.5	2	0300	11.2	*****	92	222	.5	241	1.3	1	0300	12.7	11.1	90	292	1.4	311	3.8	2
0600	15.1	12.6	85	078	.9	116	3.2	25	0600	11.8	*****	92	270	.5	267	1.9	6	0600	12.7	11.1	90	278	1.2	265	3.2	8
0900	18.8	*****	70	039	1.1	040	3.2	38	0900	13.6	11.0	84	328	.8	335	2.5	23	0900	12.8	11.2	90	302	.9	283	2.5	8
1200	22.2	12.5	54	355	1.7	034	7.0	29	1200	17.3	12.7	74	330	1.3	347	3.2	71	1200	12.6	10.8	89	314	1.7	314	3.8	13
1500	16.3	13.1	81	279	1.1	314	5.7	19	1500	21.7	15.4	67	317	1.9	305	3.8	57	1500	11.9	10.5	91	308	2.2	303	5.1	8
1800	14.6	13.1	91	303	2.2	320	5.7	15	1800	19.5	14.4	72	308	2.7	318	5.7	7	1800	10.9	*****	93	309	1.6	317	3.8	4
2100	12.7	11.1	90	253	.9	298	3.2	2	2100	16.1	13.6	85	292	1.7	303	3.8	3	2100	10.2	*****	94	259	.8	292	2.5	1
2400	11.8	*****	93	244	.8	258	2.5	1	2400	13.8	12.2	90	288	1.3	291	4.4	1	2400	9.3	*****	98	171	.6	197	1.3	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	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	8.9	*****	96	132	.7	139	1.9	1	0300	10.3	*****	96	184	.6	204	1.3	2	0300	7.7	6.5	92	108	1.0	107	2.5	1
0600	9.5	*****	96	069	.3	073	1.9	9	0600	10.1	8.8	92	302	1.3	311	3.8	5	0600	10.2	*****	88	127	.6	123	2.5	11
0900	12.7	10.4	86	336	.7	284	3.2	24	0900	11.9	10.0	88	317	1.8	324	3.8	35	0900	11.7	*****	86	128	1.1	122	3.2	15
1200	14.6	11.2	80	307	1.3	296	3.2	27	1200	13.3	9.8	79	305	2.1	303	4.4	38	1200	13.9	8.6	70	069	1.6	060	5.1	33
1500	16.3	10.9	70	317	1.8	310	4.4	59	1500	14.5	8.1	65	309	3.0	318	5.7	35	1500	17.0	7.9	55	012	1.0	056	3.2	35
1800	16.2	11.0	71	302	2.0	311	3.8	13	1800	13.3	6.7	64	308	2.9	293	6.3	10	1800	12.3	10.4	88	251	.9	196	3.8	8
2100	14.1	*****	80	257	1.1	280	3.2	2	2100	11.3	*****	78	260	.8	290	3.2	2	2100	11.2	9.1	87	206	.1	274	3.8	1
2400	11.4	*****	94	250	.8	256	2.5	1	2400	8.8	*****	91	160	.9	187	1.9	1	2400	8.8	*****	98	146	1.1	150	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	*****	96	233	.5	218	1.9	1	0300	9.4	8.1	92	223	1.1	224	1.9	2	0300	9.1	8.2	94
0600	9.6	*****	98	227	.5	237	1.9	8	0600	10.6	8.7	88	193	.5	282	3.2	16	0600	9.1	8.2	94
0900	11.9	10.0	88	290	.9	296	2.5	45	0900	11.9	8.9	82	301	2.9	305	5.7	26	0900	11.6	9.8	89
1200	14.8	9.0	68	315	2.0	327	4.4	43	1200	13.8	8.9	72	300	3.4	306	7.0	37	1200	14.2	10.5	78
1500	17.1	7.8	54	314	2.6	320	6.3	61	1500	15.8	10.4	70	306	3.1	319	7.0	34	1500	15.0	10.7	75
1800	17.8	7.5	51	311	2.8	312	6.3	32	1800	15.0	10.7	75	308	3.3	326	7.0	15	1800	14.2	10.8	80
2100	14.5	9.0	69	277	1.3	318	4.4	2	2100	11.9	10.0	88	297	3.4	299	6.3	3	2100	11.6	10.2	91
2400	11.7	9.1	84	252	1.2	278	4.4	1	2400	10.2	8.9	92	282	1.9	292	5.1	1	2400	10.0	9.7	98

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.						
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	9.1	8.6	97	314	1.3	317	3.2	1	0300	7.9	*****	97	152	.6	087	2.5	1	0300	9.7	*****	98	117	.8	142	2.5	1
0600	9.1	*****	96	289	.7	319	2.5	3	0600	9.4	*****	95	079	.6	115	1.9	11	0600	10.7	*****	94	112	.5	117	1.9	8
0900	10.3	*****	94	297	.4	284	1.3	13	0900	12.5	10.6	88	357	.9	038	2.5	25	0900	13.0	*****	91	351	.4	317	1.3	21
1200	11.6	10.3	92	290	1.3	316	4.4	25	1200	12.7	10.1	84	319	1.6	325	4.4	13	1200	16.2	12.4	78	308	.7	317	1.9	45
1500	11.1	*****	92	261	.7	317	3.8	11	1500	15.3	*****	77	301	.6	251	3.2	39	1500	19.0	11.1	60	314	2.2	322	5.7	63
1800	12.9	*****	88	021	.8	033	3.8	14	1800	13.5	11.2	86	039	.7	022	3.8	6	1800	18.6	10.5	59	308	2.0	346	5.1	9
2100	9.5	*****	94	220	.3	110	3.2	1	2100	11.7	*****	95	114	.6	119	2.5	1	2100	13.4	*****	84	240	.9	271	3.8	2
2400	8.4	7.8	96	150	.6	136	2.5	1	2400	10.2	9.4	95	141	.7	215	2.5	1	2400	10.2	*****	93	166	.8	151	2.5	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	9.3	8.4	94	149	.8	153	1.9	2	0300	11.1	*****	92	251	1.3	260	3.8	1	0300	7.6	*****	95	103	.4	116	1.9	1
0600	11.2	*****	89	112	.3	137	1.9	30	0600	10.7	9.6	93	252	.8	283	2.5	11	0600	8.3	*****	93	065	.2	000	1.9	11
0900	14.4	9.7	73	323	.9	001	2.5	35	0900	12.7	10.2	85	298	2.0	305	5.7	21	0900	10.7	8.1	84	076	1.3	075	4.4	23
1200	16.0	10.8	71	326	2.2	314	5.1	34	1200	11.3	10.0	92	280	2.4	299	5.7	15	1200	12.5	8.2	75	076	1.7	089	4.4	41
1500	17.1	11.4	69	323	2.9	338	6.3	32	1500	11.6	*****	93	299	.9	264	3.2	16	1500	14.4	7.3	62	085	1.5	119	4.4	48
1800	15.6	11.8	78	317	2.5	322	5.7	6	1800	12.1	10.7	91	012	.6	039	2.5	9	1800	14.3	*****	61	084	.7	034	2.5	12
2100	14.2	11.4	83	291	1.7	310	4.4	1	2100	10.9	*****	95	223	.4	275	1.3	2	2100	11.1	7.3	77	127	.8	099	1.9	1
2400	13.4	10.6	83	255	1.1	287	3.8	1	2400	9.2	8.6	96	150	.5	137	1.9	1	2400	7.1	5.4	89	153	.8	134	2.5	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	4.7	3.9	95	110	1.1	089	3.8	2	0300	8.1	*****	96	200	.7	223	1.9	2
0600	5.6	4.8	95	082	1.6	085	3.8	13	0600	9.4	*****	98	202	.1	176	1.3	6
0900	14.4	7.5	63	029	1.4	048	3.2	17	0900	12.6	9.4	81	316	1.3	323	3.8	25
1200	17.2	4.4	43	032	1.8	063	5.1	36	1200	15.1	9.9	71	320	2.2	332	5.1	25
1500	18.9	4.6	39	353	.6	034	3.8	38	1500	16.3	9.3	63	314	2.6	336	7.0	26
1800	19.0	3.5	36	353	.8	341	3.8	20	1800	16.1	8.9	62	295	1.7	287	5.7	13
2100	12.5	10.2	86	120	1.1	102	8.9	2	2100	12.3	9.3	82	295	1.8	311	5.7	1
2400	10.8	9.0	89	179	1.2	193	2.5	1	2400	10.1	*****	92	237	.7	310	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.	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	5.4	4.8	97	084	1.2	122	2.5	1	0300	9.3	*****	96	227	.9	248	3.2	1
0600	6.4	5.7	94	074	1.2	082	3.2	18	0600	8.5	*****	96	249	.8	252	3.2	4
0900	15.1	10.7	75	023	1.3	049	3.2	56	0900	9.1	*****	95	236	.2	257	1.9	11
1200	18.8	7.9	49	324	2.2	343	4.4	72	1200	9.8	8.7	93	322	.3	315	3.2	24
1500	21.1	8.0	43	313	2.6	323	6.3	59	1500	10.0	*****	91	301	.8	273	2.5	13
1800	20.5	6.7	41	296	2.7	310	6.3	26	1800	10.4	*****	91	272	.6	270	1.9	7
2100	16.7	10.2	65	292	1.5	290	5.1	1	2100	9.2	*****	96	217	.6	234	1.3	1
2400	12.8	9.8	82	254	1.3	311	3.2	1	2400	7.5	6.6	94	150	.9	138	2.5	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	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	*****	96	138	1.1	113	2.5	1	0300	6.1	*****	98	149	.6	159	1.9	1
0600	8.3	6.6	89	061	.8	078	2.5	21	0600	8.5	6.9	90	047	.9	067	2.5	25
0900	14.1	7.9	66	005	1.1	351	3.2	57	0900	12.5	9.5	82	338	1.2	336	3.8	20
1200	16.2	8.2	59	302	2.1	317	5.1	54	1200	14.6	10.1	74	324	1.8	310	5.7	29
1500	16.1	6.8	54	315	3.3	325	6.3	68	1500	15.0	9.2	68	326	3.6	314	7.6	24
1800	15.7	*****	58	301	2.0	328	6.3	12	1800	13.8	9.7	76	312	2.8	321	6.3	10
2100	11.7	*****	81	224	.8	248	3.2	2	2100	12.6	9.6	82	270	1.5	293	3.8	1
2400	7.6	*****	93	146	1.0	187	1.9	1	2400	11.0	9.6	91	185	.5	249	2.5	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	*****	95	145	.3	134	2.5	1	0300	9.8	8.7	93	225	1.0	263	3.2	1	0300	10.7	*****	95	185	.5	190	1.9	1
0600	9.2	7.8	91	058	.8	078	3.8	14	0600	11.6	*****	89	161	.5	172	1.3	17	0600	11.0	*****	95	196	.3	143	1.3	3
0900	16.9	11.5	70	016	1.1	052	2.5	49	0900	16.9	11.3	69	354	1.0	004	2.5	47	0900	11.8	*****	93	318	.1	263	.6	10
1200	20.3	10.7	54	293	1.8	297	3.8	18	1200	19.1	11.0	59	319	2.2	330	5.1	55	1200	11.9	10.9	94	311	1.0	328	3.2	17
1500	21.8	5.1	34	311	3.3	333	7.0	50	1500	20.3	11.6	57	319	3.0	301	7.0	49	1500	12.4	11.6	95	303	1.2	308	2.5	19
1800	21.4	6.0	37	287	2.5	310	6.3	25	1800	15.8	9.5	66	276	2.0	288	5.7	5	1800	11.9	*****	93	279	1.1	293	2.5	3
2100	17.2	*****	56	283	.9	289	5.1	1	2100	12.2	11.2	94	274	.6	316	4.4	1	2100	10.8	*****	95	252	.5	277	1.9	1
2400	14.2	9.5	73	258	1.3	288	4.4	1	2400	11.2	*****	94	197	.5	211	1.9	1	2400	9.9	*****	96	229	.6	262	1.9	1

DAY 31

HOUR	DEW	WIND	WIND	GUST	MAX.			
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	9.6	*****	96	136	.4	195	1.3	1
0600	10.4	*****	94	163	.1	193	.6	4
0900	11.8	*****	90	029	.8	043	1.9	21
1200	13.3	*****	88	331	.8	331	1.9	23
1500	15.1	12.6	85	285	1.4	296	3.2	34
1800	15.3	12.8	85	300	1.5	299	4.4	12
2100	13.7	*****	89	264	.7	305	1.9	1
2400	12.2	11.2	94	239	.7	238	1.9	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING July, 1983

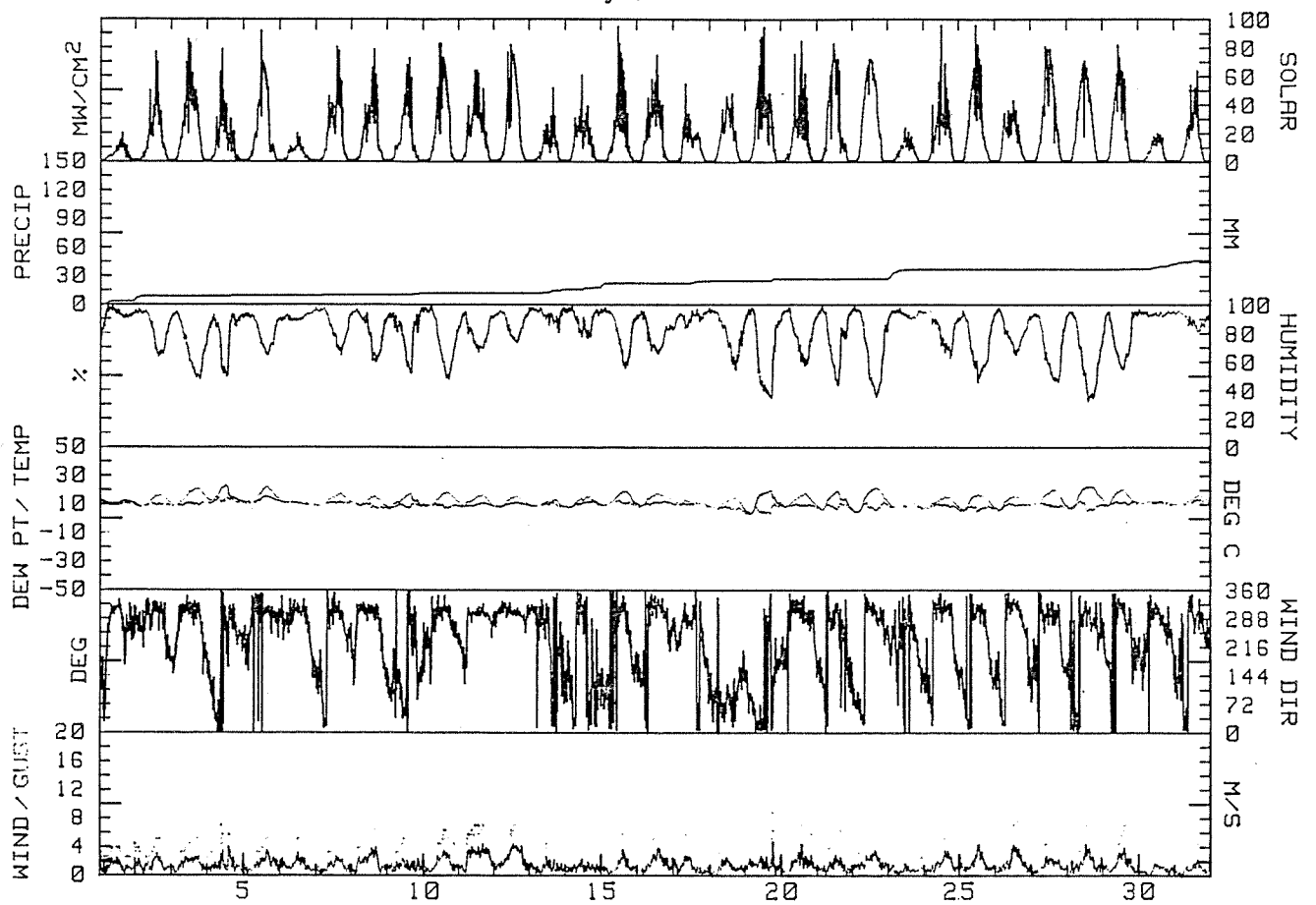
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	13.3	10.0	11.7	297	.7	1.1	307	3.8	NW	94	9.8	4.6	1253	1
2	16.9	8.5	12.7	292	1.1	1.4	321	5.1	NW	82	9.1	4.0	3733	2
3	20.8	9.1	15.0	300	1.1	1.5	315	5.1	NW	66	9.8	0.0	5875	3
4	23.3	11.6	17.5	318	.5	1.3	034	7.0	WSW	80	12.1	.8	3428	4
5	22.1	11.1	16.6	304	1.2	1.4	318	5.7	NW	78	13.3	0.0	5278	5
6	13.8	9.3	11.6	296	1.1	1.4	303	5.1	WNW	91	10.8	0.0	1318	6
7	17.9	8.9	13.4	299	.8	1.2	310	4.4	NW	79	10.8	.6	4540	7
8	15.3	8.6	12.0	300	1.3	1.7	293	6.3	NW	80	8.7	0.0	4220	8
9	17.7	7.4	12.6	106	.5	1.2	060	5.1	ESE	79	8.5	1.8	3783	9
10	18.4	8.9	13.7	296	1.3	1.5	320	6.3	NW	69	8.7	0.0	5578	10
11	16.1	7.7	11.9	295	2.3	2.5	306	7.0	WNW	80	9.4	0.0	4705	11
12	15.7	8.8	12.3	304	2.3	2.4	298	7.0	NW	86	9.7	0.0	5648	12
13	13.1	8.4	10.8	295	.5	1.0	316	4.4	NW	93	9.4	3.8	2208	13
14	15.4	7.8	11.6	025	.2	1.1	325	4.4	NNE	88	10.2	2.6	3180	14
15	19.7	9.5	14.6	300	.4	1.2	322	5.7	NW	72	11.0	4.2	4255	15
16	17.6	8.6	13.1	311	1.2	1.7	338	6.3	NW	77	10.9	0.0	4558	16
17	13.2	9.0	11.1	279	.9	1.2	305	5.7	W	90	10.1	2.2	2730	17
18	14.7	7.1	10.9	093	.9	1.1	075	4.4	E	78	7.5	.4	3735	18
19	20.2	3.5	11.9	065	.7	1.5	102	8.9	NNE	68	5.8	1.8	5723	19
20	18.0	8.1	13.1	300	1.2	1.5	336	7.0	NW	75	9.5	0.0	3873	20
21	19.4	6.4	12.9	277	.4	1.2	313	6.3	WNW	71	8.5	.2	6023	21
22	21.6	4.8	13.2	320	1.1	1.8	323	6.3	NW	68	7.8	0.0	7018	22
23	12.2	6.9	9.6	243	.4	.8	248	3.2	WSW	94	8.4	10.0	1715	23
24	15.8	7.2	11.5	319	.8	1.5	316	5.7	NW	78	9.2	0.0	4468	24
25	17.0	5.8	11.4	310	.7	1.6	325	6.3	NW	69	7.1	0.0	5803	25
26	15.7	5.8	10.8	319	1.2	1.8	314	7.6	NW	78	9.2	0.0	3493	26
27	20.3	9.4	14.9	293	.8	1.3	301	4.4	WNW	60	9.2	0.0	5958	27
28	22.7	7.5	15.1	302	1.1	1.7	333	7.0	WNW	59	8.6	0.0	6365	28
29	20.3	9.0	14.7	297	.9	1.5	301	7.0	S	70	10.6	.2	5215	29
30	12.8	9.9	11.4	272	.5	.7	328	3.2	NW	94	10.9	5.4	1605	30
31	16.8	9.6	13.2	295	.5	.8	299	4.4	WNW	86	12.2	3.8	3505	31
MONTH	23.3	3.5	12.8	303	.8	1.4	102	8.9	NW	77	9.6	46.4	130781	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 3.2

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
DEVIL CANYON WEATHER STATION
July, 1983



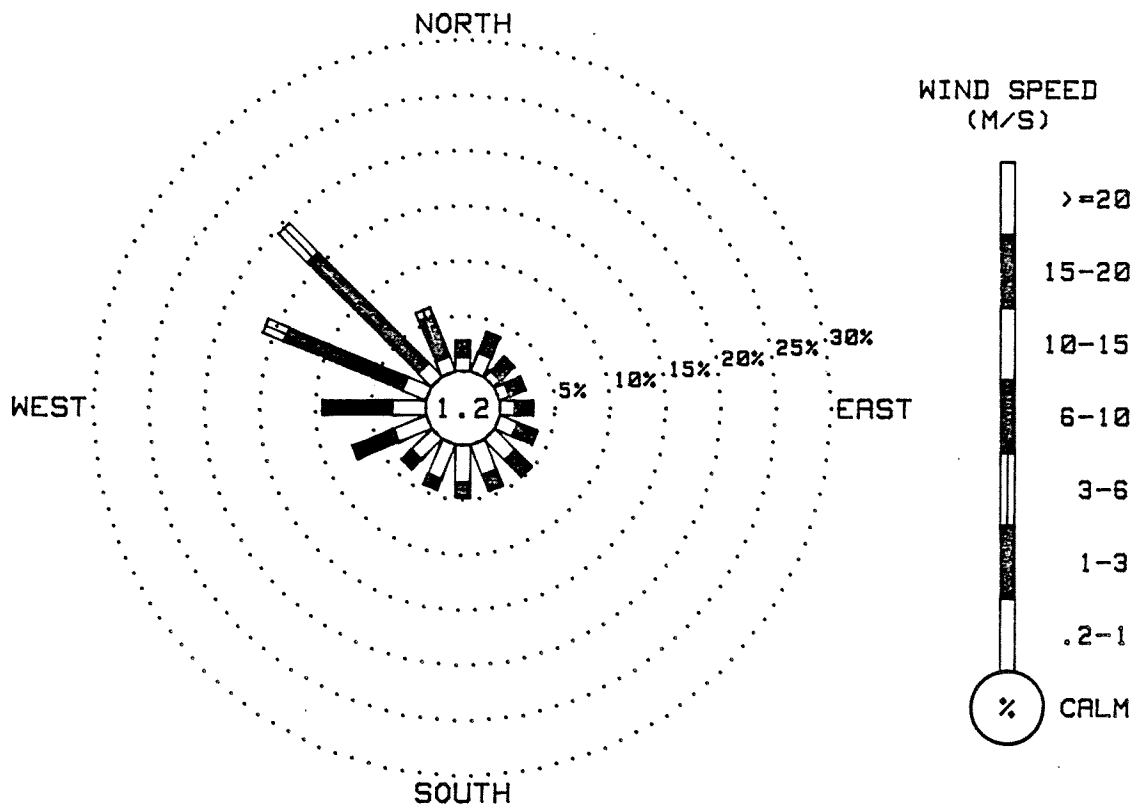
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING July, 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	1.31	1.44	0.00	0.00	0.00	0.00	0.00	2.76
NNE	1.85	1.95	.03	0.00	0.00	0.00	0.00	3.83
NE	.84	1.75	0.00	0.00	0.00	0.00	0.00	2.59
ENE	1.01	1.51	0.00	0.00	0.00	0.00	0.00	2.52
E	1.38	1.61	0.00	0.00	0.00	0.00	0.00	2.99
ESE	1.78	1.85	.03	0.00	0.00	0.00	0.00	3.66
SE	2.69	2.08	0.00	0.00	0.00	0.00	0.00	4.77
SSE	2.96	1.51	0.00	0.00	0.00	0.00	0.00	4.47
S	3.43	1.31	0.00	0.00	0.00	0.00	0.00	4.74
SSW	3.39	1.01	0.00	0.00	0.00	0.00	0.00	4.40
SW	2.62	1.24	0.00	0.00	0.00	0.00	0.00	3.86
WSW	3.19	4.00	0.00	0.00	0.00	0.00	0.00	7.19
W	3.02	6.25	.03	0.00	0.00	0.00	0.00	9.31
WNW	2.35	11.49	2.08	0.00	0.00	0.00	0.00	15.93
NW	1.78	14.05	3.73	0.00	0.00	0.00	0.00	19.56
NNW	1.51	3.90	.81	0.00	0.00	0.00	0.00	6.22
CALM								1.21
TOTAL	35.11	56.96	6.72	0.00	0.00	0.00	0.00	100.00

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

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



SUSITNA HYDROELECTRIC PROJECT

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	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3	
4	0.0	0.0	.2	0.0	0.0	0.0	.8	.6	.6	.4	.6	1.6	2.4	.2	.2	0.0	0.0	0.0	0.0	.2	.2	.4	1.0	.2	4	
5	0.0	.2	.2	.6	.8	.2	.8	.6	.2	0.0	.4	.4	.4	0.0	.2	.4	.4	.2	.4	.4	.6	.2	.2	.2	5	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	6	
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.6	.8	1.2	1.6	1.4	1.2	7	
8	1.6	1.8	1.4	1.6	2.0	3.8	3.4	3.0	2.0	1.4	.4	.8	.4	0.0	0.0	0.0	.2	0.0	.2	1.4	.4	.4	.6	.6	8	
9	.8	.4	.4	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9	
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10	
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	11
12	0.0	.2	.4	.2	0.0	0.0	.2	.4	.2	.2	0.0	0.0	0.0	.4	.2	.4	.4	1.2	0.0	0.0	.2	.2	0.0	.4	12	
13	.4	.2	.2	.4	.6	0.0	0.0	.2	0.0	0.0	0.0	1.0	.2	.6	.8	0.0	.2	.6	0.0	0.0	.2	.4	.8	0.0	13	
14	.4	.8	1.4	.2	.2	.2	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	14	
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.6	0.0	0.0	0.0	15	
16	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	16	
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	6.8	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	.2	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.2	0.0	20	
21	0.0	0.0	0.0	.2	1.0	.8	.2	0.0	0.0	0.0	0.0	0.0	.2	.6	.2	.2	.2	0.0	.2	.4	.2	.2	0.0	0.0	21	
22	.2	0.0	0.0	0.0	0.0	0.0	.2	.2	.6	0.0	0.0	.2	0.0	.2	0.0	0.0	0.0	0.0	1.6	0.0	0.0	.2	0.0	0.0	22	
23	.2	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	.6	0.0	.2	0.0	0.0	.4	1.4	2.0	1.4	23	
24	.6	.8	.4	.6	.2	0.0	.2	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	24	
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	.6	0.0	.2	0.0	0.0	0.0	0.0	25	
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26	
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27	
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28	
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29	
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30	
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31	

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	
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	11.3	*****	94	249	.8	239	1.9	1	0300	6.4	5.9	97	127	1.0	128	2.5	1	0300	7.5	6.1	91	103	1.3	122	3.2	1
0600	11.1	*****	93	311	.2	284	1.9	6	0600	7.5	6.6	94	065	1.4	073	3.8	17	0600	8.2	6.6	90	090	1.5	096	3.8	18
0900	14.4	*****	85	287	.7	273	1.9	26	0900	15.7	9.9	68	035	1.5	037	2.5	51	0900	16.9	7.6	54	035	1.3	040	3.2	52
1200	18.1	9.5	57	319	1.6	276	3.8	63	1200	19.2	5.9	42	017	1.2	097	3.8	21	1200	20.3	5.8	39	046	1.3	048	3.8	70
1500	16.7	*****	70	272	.5	308	3.2	18	1500	19.5	4.7	38	004	1.4	015	5.7	24	1500	22.9	5.7	33	308	1.6	321	4.4	56
1800	18.8	9.6	55	310	1.1	301	3.8	24	1800	18.6	4.7	40	018	4.1	020	7.6	23	1800	21.2	3.7	32	293	2.4	278	5.7	15
2100	14.3	*****	72	265	1.3	273	3.2	1	2100	15.3	6.1	54	024	3.8	011	8.9	1	2100	14.6	9.0	69	206	.6	270	3.2	1
2400	10.8	*****	87	182	1.0	180	1.9	1	2400	8.6	6.7	88	152	1.2	146	5.1	1	2400	14.4	*****	74	192	.7	157	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
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	11.8	*****	90	218	.8	222	2.5	1	0300	10.2	*****	96	201	.1	140	1.3	1
0600	11.0	*****	94	223	.4	243	1.9	2	0600	10.3	*****	95	113	.4	093	1.9	4
0900	11.1	*****	94	237	.6	268	2.5	6	0900	11.6	10.0	90	028	.7	028	1.9	26
1200	11.4	*****	95	030	.8	356	1.9	7	1200	12.1	10.2	88	039	.8	056	2.5	20
1500	11.6	10.6	94	305	1.5	322	4.4	4	1500	12.0	*****	92	077	.6	111	1.9	13
1800	11.7	*****	94	308	1.6	316	3.8	7	1800	11.1	*****	91	008	.3	083	2.5	5
2100	11.1	*****	95	261	.8	271	1.9	1	2100	9.7	*****	93	270	1.1	291	2.5	1
2400	10.5	*****	94	265	.7	272	1.9	1	2400	8.8	*****	95	190	.5	201	1.3	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	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	9.4	8.3	93	144	.7	116	1.9	1	0300	8.9	*****	98	078	.7	106	2.5	1
0600	8.5	7.4	93	081	.8	119	1.9	10	0600	9.1	*****	99	095	.3	057	3.2	2
0900	12.7	9.9	83	014	1.0	052	2.5	18	0900	9.8	*****	97	052	.6	066	1.9	8
1200	14.1	9.2	72	315	1.5	303	3.2	44	1200	11.3	*****	92	355	.6	006	1.9	19
1500	12.4	9.2	81	311	1.4	334	3.2	11	1500	11.5	10.5	94	294	1.0	281	3.2	14
1800	10.5	9.2	92	285	1.1	293	3.2	3	1800	10.7	9.1	90	277	1.6	267	3.8	4
2100	9.7	*****	94	215	.5	244	1.9	1	2100	9.7	8.6	93	278	1.5	299	3.2	1
2400	9.0	*****	94	116	.5	120	1.9	1	2400	9.4	*****	94	269	1.1	254	3.2	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	5.4	*****	94	168	.8	162	1.9	1	0300	6.5	*****	95	154	.4	169	1.9	1	0300	8.7	*****	94	132	.2	103	2.5	1
0600	8.2	6.0	86	155	.7	137	2.5	20	0600	6.6	*****	90	135	.7	167	1.9	14	0600	8.9	*****	94	191	.4	222	1.9	2
0900	11.2	7.4	77	008	.8	007	3.2	22	0900	13.0	7.5	69	349	.6	277	2.5	49	0900	9.5	*****	93	261	.4	286	2.5	10
1200	13.3	6.7	64	316	1.3	317	4.4	33	1200	14.1	7.9	66	301	1.8	316	4.4	35	1200	10.5	*****	87	267	1.1	267	2.5	12
1500	14.4	6.0	57	321	2.4	304	5.7	55	1500	15.4	7.0	57	316	2.7	309	5.1	56	1500	10.7	9.1	90	286	1.5	267	4.4	10
1800	14.7	6.6	58	311	2.5	331	5.1	20	1800	14.0	8.0	67	304	2.4	305	6.3	11	1800	9.5	7.8	89	255	.8	280	3.2	3
2100	8.7	*****	89	235	.7	301	3.8	1	2100	11.0	*****	84	200	.7	251	1.9	1	2100	8.2	*****	93	166	.7	105	2.5	1
2400	6.2	5.3	94	148	.9	130	2.5	1	2400	8.5	*****	94	236	.8	265	4.4	1	2400	7.8	*****	92	130	.6	076	2.5	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	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	6.3	*****	93	167	.6	279	3.2	1	0300	5.0	*****	94	225	.7	250	1.9	1	0300	.9	*****	97	143	.8	160	1.9	1
0600	6.0	*****	95	122	.6	111	1.9	4	0600	4.5	*****	94	131	.9	092	3.8	4	0600	1.9	*****	96	086	.9	121	2.5	7
0900	7.7	5.8	88	063	.8	073	3.2	15	0900	6.0	4.6	91	016	.5	059	1.9	18	0900	6.2	*****	89	030	.7	082	1.9	18
1200	8.2	7.0	92	038	1.0	066	3.2	31	1200	10.7	6.3	74	320	.9	309	3.8	83	1200	9.7	4.5	70	301	1.5	305	3.8	30
1500	9.9	8.1	94	350	.6	316	2.5	24	1500	9.0	5.9	81	315	1.0	318	3.8	25	1500	9.8	*****	73	302	1.6	303	3.8	18
1800	7.7	6.6	93	290	.5	237	3.2	8	1800	11.4	3.5	58	329	.6	009	3.2	17	1800	8.3	4.3	76	259	1.5	256	3.8	6
2100	7.6	6.2	91	132	.6	094	3.2	1	2100	4.9	*****	87	198	.8	280	1.9	1	2100	5.8	*****	94	233	1.3	232	3.2	1
2400	5.5	4.6	94	127	1.0	174	3.8	1	2400	1.4	*****	95	156	1.1	166	1.9	1	2400	4.3	*****	94	169	.8	130	1.9	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.		HOUR	DEW	WIND	WIND	GUST	MAX.							
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	*****	96	158	.8	175	1.9	1	0300	3.4	2.7	95	085	.9	095	3.2	1	0300	2.0	1.4	96	112	1.1	133	3.2	1
0600	3.0	*****	94	152	.6	161	1.9	12	0600	3.4	2.7	95	089	.5	074	2.5	7	0600	3.3	2.2	93	085	1.8	084	3.8	10
0900	8.4	5.7	83	341	.6	301	2.5	45	0900	7.8	5.6	86	047	1.3	062	3.2	21	0900	11.1	*****	79	042	1.3	061	3.8	45
1200	13.2	3.8	53	311	1.5	298	3.8	63	1200	13.0	7.5	69	312	1.6	303	4.4	72	1200	15.6	1.2	38	046	2.0	030	6.3	67
1500	15.2	4.8	50	312	2.0	310	3.8	48	1500	9.2	7.5	89	359	.7	346	5.1	27	1500	17.1	-3	31	035	1.9	039	5.7	48
1800	15.4	2.5	42	304	2.2	316	4.4	18	1800	11.9	*****	77	009	.3	164	1.9	8	1800	16.6	-2.6	27	347	1.2	341	3.8	16
2100	7.5	*****	88	204	.8	288	2.5	1	2100	5.9	*****	94	146	1.3	131	3.2	1	2100	7.9	3.4	73	078	.8	018	4.4	1
2400	4.3	*****	94	137	.9	139	2.5	1	2400	4.0	3.2	95	124	1.3	138	3.8	1	2400	3.4	*****	93	131	1.3	120	4.4	1

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	1.6	.9	95	124	.9	121	3.2	1	0300	6.7	*****	89	209	.5	216	1.9	1
0600	2.3	1.6	95	083	1.3	093	3.8	12	0600	6.4	*****	92	148	.5	136	2.5	4
0900	10.2	5.0	70	047	1.8	047	3.2	43	0900	8.8	*****	89	252	.5	315	3.2	8
1200	16.6	-.3	32	022	1.0	039	3.2	61	1200	9.4	7.2	86	265	1.0	295	5.7	12
1500	17.8	.8	32	301	1.7	299	4.4	43	1500	9.5	6.4	81	273	2.3	277	7.0	13
1800	16.5	*****	30	296	2.2	316	6.3	14	1800	9.8	6.5	80	283	2.3	285	8.3	4
2100	10.2	*****	66	208	.7	189	1.9	1	2100	7.7	*****	94	266	1.6	291	5.7	1
2400	7.7	*****	85	190	.8	191	2.5	1	2400	8.0	*****	88	105	.7	101	3.8	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	7.4	*****	93	117	.6	132	1.9	1	0300	6.0	*****	94	224	.7	255	3.2	1
0600	7.4	7.1	98	078	.8	085	1.9	3	0600	5.9	*****	94	192	.5	270	2.5	4
0900	9.1	*****	92	040	.9	035	1.9	14	0900	7.9	6.3	90	007	.5	016	1.9	16
1200	10.0	8.4	90	338	.6	057	1.9	17	1200	10.1	*****	75	028	.5	295	2.5	22
1500	11.1	*****	84	301	1.1	337	2.5	18	1500	9.0	6.8	86	280	1.0	292	3.2	11
1800	11.1	8.3	83	312	.6	336	3.2	2	1800	8.0	*****	91	113	.3	104	1.9	3
2100	8.3	*****	92	265	.8	274	3.8	1	2100	6.5	*****	92	121	.5	136	1.9	1
2400	7.1	*****	93	252	.6	245	2.5	1	2400	4.5	3.4	93	139	.7	089	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
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	2.6	*****	95	112	1.2	147	2.5	1	0300	6.4	5.5	94	151	.8	117	2.5	1
0600	3.4	2.5	94	088	1.0	092	2.5	3	0600	6.5	5.7	95	130	1.0	116	2.5	6
0900	7.3	4.3	81	058	1.0	047	2.5	25	0900	12.2	7.0	70	043	.7	067	3.2	53
1200	9.2	6.3	82	061	1.4	078	3.8	26	1200	16.1	5.4	49	085	2.1	106	5.7	25
1500	10.2	6.0	75	084	1.6	093	4.4	11	1500	11.9	*****	86	002	.7	320	7.6	16
1800	7.6	*****	93	285	.6	054	1.9	3	1800	*****	*****	**	***	****	345M	1.3M	*****
2100	7.1	*****	94	214	.3	271	1.9	1	2100	*****	*****	**	345M	.4M	****	****	1
2400	6.2	*****	95	135	.7	149	1.9	1	2400	*****	*****	**	***	****	***	****	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	0300	6.4	*****	1	100	.7	090	3.2	1
0600	*****	*****	**	***	****	***	****	9	0600	7.2	-36.1	2	059	1.2	075	3.8	6
0900	*****	*****	**	***	****	***	****	22	0900	9.1	*****	96	034	.9	056	2.5	16
1200	*****	*****	**	***	****	***	****	41	1200	9.1	*****	4	285	.6	246	2.5	7
1500	*****	*****	**	***	****	***	****	22	1500	9.4	*****	2	256	.7	236	3.2	4
1800	15.8	*****	52	***	****	313	4.4	6	1800	10.1	9.8	98	070	.4	072	3.2	2
2100	9.5	*****	76	***	****	249	2.5	1	2100	8.6	-19.3	12	146	.4	100	5.1	1
2400	6.2	*****	92	***	****	141	1.9	1	2400	8.8	*****	17	080	1.0	063	3.2	1

DAY 31

HOUR	DEW	WIND	WIND	GUST MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW	
0300	6.3	*****	18	101	.3	354	2.5	1
0600	6.5	*****	20	007	.4	156	2.5	3
0900	7.0	*****	16	021	.7	012	1.9	7
1200	9.1	*****	6	332	.5	018	1.9	16
1500	9.7	*****	97	274	.8	318	1.9	15
1800	9.5	*****	98	250	.9	257	2.5	5
2100	7.3	-28.0	6	172	.9	158	2.5	1
2400	6.7	*****	13	114	.8	126	2.5	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING August, 1983

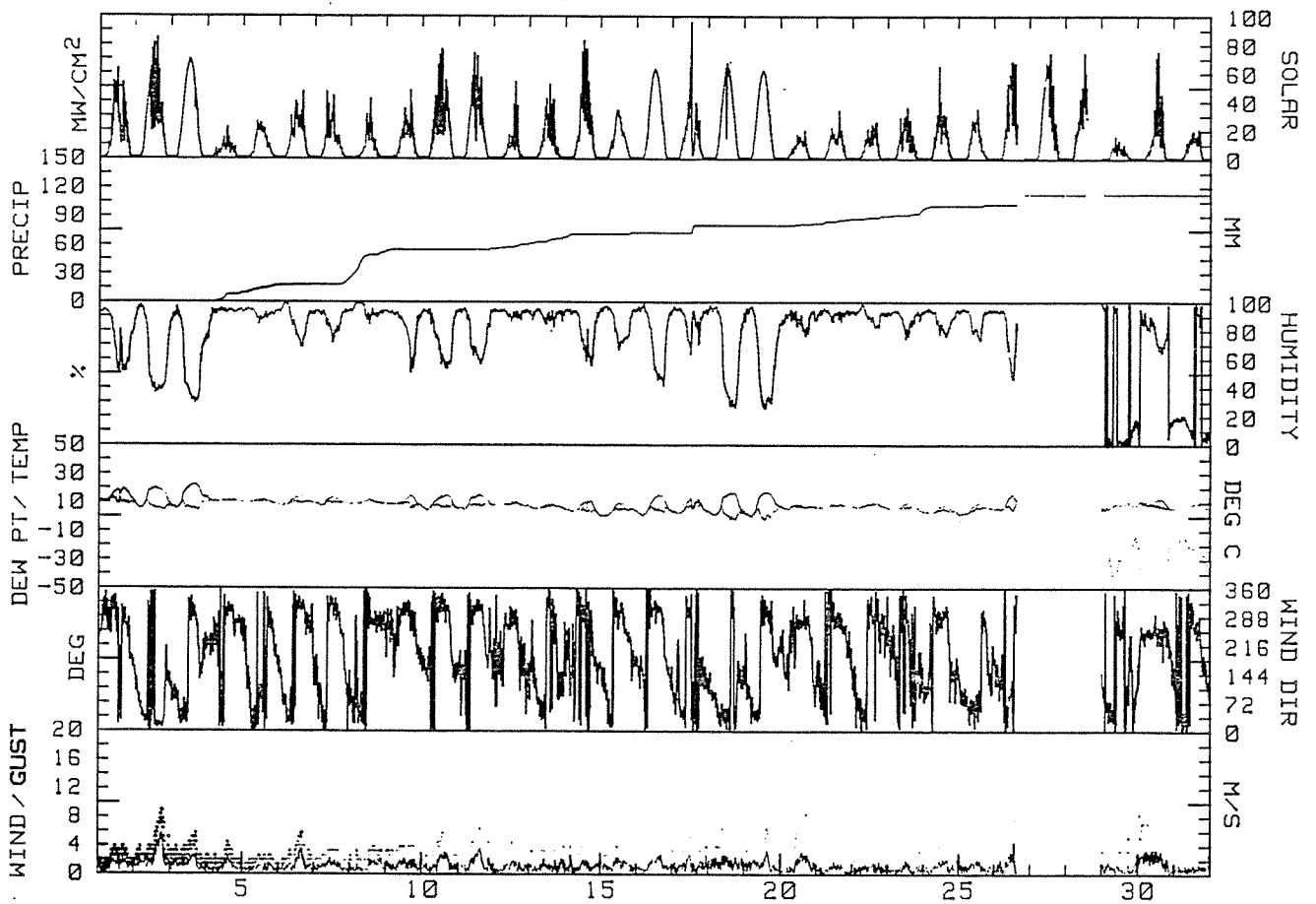
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQH	DAY
1	19.6	10.8	15.2	280	.7	1.1	276	3.8	NW	65	9.9	.2	3935	1
2	20.9	6.0	13.5	034	1.5	2.1	011	8.9	NNE	64	6.3	0.0	5600	2
3	22.9	5.8	14.4	013	.3	1.4	278	5.7	E	60	6.1	0.0	6370	3
4	14.2	10.5	12.4	282	.6	.9	322	4.4	WNW	94	10.4	9.6	1180	4
5	12.5	8.8	10.7	034	.1	.7	056	2.5	NNE	90	9.8	8.0	2023	5
6	14.6	7.7	11.2	325	.6	1.3	306	5.7	NW	82	9.2	.6	2988	6
7	14.1	8.0	11.1	324	.4	1.0	303	3.2	ESE	84	9.0	7.2	2475	7
8	12.9	8.7	10.8	297	.5	1.0	267	3.8	W	92	9.3	27.4	1715	8
9	15.5	7.1	11.3	276	.8	1.2	298	3.8	NW	81	8.0	2.0	2488	9
10	15.7	4.7	10.2	304	.6	1.4	304	5.7	NW	71	6.4	0.0	4295	10
11	15.9	4.9	10.4	296	.8	1.4	305	6.3	NW	71	7.5	1.2	4558	11
12	11.0	7.7	9.4	244	.4	.9	267	4.4	W	91	8.4	5.2	1428	12
13	9.8	5.5	7.7	090	.3	1.0	174	3.8	E	90	6.3	6.8	2498	13
14	11.8	1.4	6.6	245	.1	1.1	092	3.8	WNW	79	3.5	3.4	4085	14
15	10.1	.7	5.4	268	.4	1.2	305	3.8	WNW	82	3.9	1.2	2463	15
16	16.1	.8	8.5	291	.5	1.3	316	4.4	NW	67	4.4	.2	5530	16
17	13.8	2.7	8.3	067	.4	1.2	346	5.1	NE	88	5.2	7.8	3318	17
18	17.5	1.8	9.7	060	1.1	1.6	030	6.3	NE	62	1.5	0.0	5585	18
19	17.8	.7	9.3	356	.3	1.4	316	6.3	NE	61	1.5	0.0	5305	19
20	10.2	6.0	8.1	263	.9	1.3	285	8.3	W	86	6.7	2.0	1385	20
21	10.0	6.6	8.3	279	.3	.8	262	3.2	W	92	7.7	4.6	1918	21
22	12.0	7.1	9.6	329	.3	.9	274	3.8	WNW	91	7.8	3.4	1748	22
23	10.7	4.3	7.5	186	.1	.8	255	3.2	SSW	85	5.9	7.6	2075	23
24	8.8	2.6	5.7	277	.3	1.1	265	3.8	WNW	86	4.2	3.0	2583	24
25	10.2	2.2	6.2	086	.7	1.1	093	4.4	E	87	4.5	1.6	2063	25
26	16.1M	5.7M	10.9M	088M	.7M	1.4M	320M	7.6M	ESE(M)	71M	6.2M	0.0	4657M	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	0.0	4986	27
28	17.0M	6.2M	11.6M	***	****	1.2M	313M	4.4M	***	72M	*****	0.0	3385M	28
29	10.1	5.1	7.6	065	.4	.9	100	5.1	ENE	M	M	0.0	975	29
30	13.6	6.5	10.1	243	1.8	2.0	206	8.3	WSW	M	M	0.0	2615	30
31	11.5	6.0	8.8	278	.1	.8	354	2.5	NNE	M	M	0.0	1603	31
MONTH	22.9M	.7M	9.7M	310M	.2M	1.2M	011M	8.9M	WNW(M)	75M	4.7M	103.0	97826M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.9

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

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

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



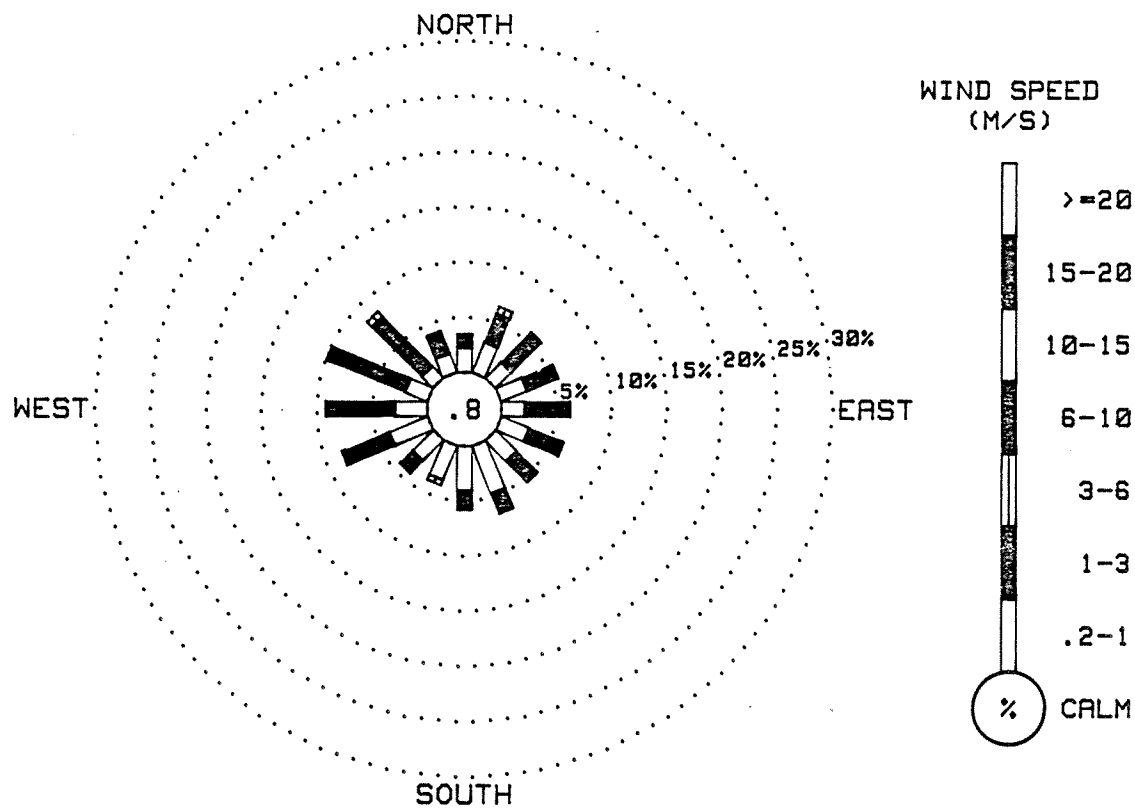
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING August, 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	2.22	1.13	.07	0.00	0.00	0.00	0.00	3.42
NNE	2.95	2.77	.69	0.00	0.00	0.00	0.00	6.41
NE	2.00	3.79	.04	0.00	0.00	0.00	0.00	5.83
ENE	2.51	3.06	0.00	0.00	0.00	0.00	0.00	5.57
E	2.08	4.12	.04	0.00	0.00	0.00	0.00	6.23
ESE	2.73	3.32	.07	0.00	0.00	0.00	0.00	6.12
SE	2.66	2.70	0.00	0.00	0.00	0.00	0.00	5.36
SSE	4.66	1.93	0.00	0.00	0.00	0.00	0.00	6.59
S	4.04	1.71	0.00	0.00	0.00	0.00	0.00	5.76
SSW	3.35	.47	0.00	0.00	0.00	0.00	0.00	3.83
SW	2.62	1.53	.07	0.00	0.00	0.00	0.00	4.23
WSW	3.75	4.30	.29	0.00	0.00	0.00	0.00	8.34
W	2.91	6.19	.07	0.00	0.00	0.00	0.00	9.18
WNW	2.22	7.61	.04	0.00	0.00	0.00	0.00	9.87
NW	1.46	6.34	.66	0.00	0.00	0.00	0.00	8.45
NNW	1.86	2.15	0.00	0.00	0.00	0.00	0.00	4.01
CALM								.80
TOTAL	44.04	53.11	2.04	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2745 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

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



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	6.8	-20.7	12	097	.8	085	2.5	1	0300	4.3	*****	7	129	.6	081	2.5	1	0300	2.5	-1.6	74	086	1.4	064	3.2	1
0600	6.3	-18.5	15	078	.8	070	2.5	2	0600	3.1	-34.6	4	123	1.3	118	3.2	4	0600	1.6	*****	81	087	1.6	075	3.0	5
0900	6.6	*****	16	093	.4	063	1.9	4	0900	7.4	1.9	68	070	.6	126	2.5	39	0900	5.3	*****	77	081	.8	114	2.5	16
1200	8.4	*****	10	041	.5	055	1.9	10	1200	11.1	*****	41	074	.9	116	3.8	55	1200	9.6	2.7	62	033	1.2	027	2.5	27
1500	10.2	8.6	90	297	.6	284	2.5	15	1500	11.9	-3.6	34	281	1.1	069	3.2	39	1500	12.1	2.3	51	074	1.2	029	3.2	39
1800	7.7	*****	11	264	1.0	274	5.1	2	1800	10.9	-4.1	35	258	1.4	277	3.8	10	1800	11.7	2.4	53	045	.3	056	3.2	9
2100	6.8	*****	18	204	.4	235	2.5	1	2100	2.8	-3.9	61	152	1.2	138	3.8	1	2100	3.4	*****	72	163	.8	297	4.4	1
2400	5.6	*****	9	229	.8	237	2.5	1	2400	2.5	*****	73	134	.5	129	1.9	1	2400	.9	-2.7	77	130	1.2	122	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	-3	-3.0	82	108	1.5	093	3.2	1	0300	-1.7	-2.4	95	097	1.4	087	3.2	1
0600	-3	*****	92	094	1.4	103	3.8	4	0600	-2.3	-42.5	2	103	1.1	093	3.2	5
0900	*****	*****	**	075m	.6m	032m	4.9m	***	0900	2.9	*****	75	036	.5	073	2.5	30
1200	7.7	-2.7	48	359m	1.6m	019m	5.7m	41	1200	9.6	-3.5	40	337	.7	266	2.5	55
1500	8.3	-3.0	45	029m	1.5m	009m	5.1m	15	1500	10.4	-3.1	39	264	1.1	231	4.4	32
1800	7.7	*****	47	024	.8	028	3.2	7	1800	6.4	-1.5	57	230	1.2	222	3.8	4
2100	2.9	-2.2	69	137	1.3	105	3.2	1	2100	3.3	-2.4	66	132	1.6	138	3.8	1
2400	.3	-3.1	78	128	1.2	098	2.5	1	2400	-3	-1.2	94	106	1.7	111	3.2	1

DAY 07

DAY 08

DAY 09

HOUR									HOUR									HOUR								
DEW									DEW									DEW								
WIND WIND GUST MAX.									WIND WIND GUST MAX.									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 -3.9 79 087 1.3 077 3.2 1									0300 4.7 ***** 87 150 .6 122 2.5 1									0300 4.5 ***** 11 059 .5 348 1.9 1								
0600 -7 -3.1 84 079 1.1 081 3.2 3									0600 4.3 -28.7 7 126 .9 111 2.5 2									0600 4.4 ***** 13 060 .8 063 1.9 2								
0900 1.8 -2.0 76 038 1.2 066 3.2 6									0900 5.2 ***** 8 052 .6 088 1.9 12									0900 6.1 -32.5 4 027 .9 036 1.9 11								
1200 -6.9 .2 62 024M 1.4M 020M 3.2M 29									1200 8.0 6.1 88 328 .7 290 2.5 24									1200 9.4 5.2 75 306 .8 286 2.5 30								
1500 9.6 1.8 58 330 .7 032 2.5 22									1500 9.3 ***** 74 280 .6 294 2.5 13									1500 10.2 4.0 65 293 1.4 283 3.2 8								
1800 10.0 ***** 56 062 .8 115 2.5 3									1800 8.3 4.9 79 301 .6 248 3.2 3									1800 9.8 3.4 64 305 1.2 300 3.8 3								
2100 6.4 2.1 74 173 .8 182 1.9 1									2100 5.6 ***** 99 103 .3 066 2.5 1									2100 3.8 ***** 88 175 .9 261 3.2 1								
2400 5.1 2.3 82 122 .7 082 2.5 1									2400 4.9 ***** 11 085 .8 083 2.5 1									2400 3.7 ***** 2 067 .2 109 1.9 1								

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING September, 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
						MW											MW
0300	3.8	*****	12	098	.8	157	2.5	1	0300	4.3	*****	98	106	.7	089	2.5	1
0600	4.2	*****	14	119	.3	118	2.5	2	0600	3.4	-30.8	6	084	1.3	091	4.4	3
0900	5.4	*****	14	070	.4	027	1.9	8	0900	7.1	4.2	82	052	1.2	076	3.2	21
1200	9.5	*****	76	320	.5	012	1.3	32	1200	11.0	5.2	67	028	1.5	034	3.2	27
1500	10.4	*****	64	280	.8	289	1.9	14	1500	12.9	*****	50	042	1.1	046	3.2	13
1800	8.2	3.5	72	233	.4	207	1.9	3	1800	10.6	*****	61	030	.3	044	1.9	2
2100	4.9	2.4	84	152	1.0	127	2.5	1	2100	6.0	*****	80	166	.8	185	1.9	1
2400	3.8	*****	93	139	.6	100	2.5	1	2400	5.5	*****	82	116	.6	105	2.5	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	3.6	*****	10	128	.7	103	2.5	1	0300	3.9	*****	80	146	.9	159	1.9	1
0600	3.3	-23.5	12	075	1.2	071	3.2	2	0600	3.6	*****	84	140	.8	105	2.5	3
0900	4.9	*****	98	069	.7	083	2.5	11	0900	5.2	1.7	78	230	.5	276	3.8	16
1200	8.6	2.2	64	048	1.0	041	3.2	21	1200	5.1	-23.1	11	290	1.3	283	3.2	9
1500	10.9	1.7	53	066	1.5	055	4.4	16	1500	4.2	-31.9	5	288	1.7	282	5.1	20
1800	9.1	*****	61	078	1.0	013	5.7	2	1800	3.7	-27.7	8	257	1.1	287	3.2	2
2100	6.3	1.1	69	130	1.1	125	2.5	1	2100	2.8	*****	15	223	.7	229	2.5	1
2400	3.3	*****	81	161	1.3	132	3.2	1	2400	2.6	*****	18	154	.3	175	1.3	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	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	-2.1	*****	4	089	1.2	084	3.8	1	0300	-1.5	-2.8	91	113M	1.2M	122M	2.5M	1
0600	-2.6	-31.3	9	096M	1.0M	087M	3.2M	3	0600	-2.2	-2.5	98	100	1.0	094	3.2	3
0900	*****	*****	**	064M	1.2M	071M	2.5M	***	0900	2.1	-2.2	73	049M	1.3M	077M	3.2M	30
1200	9.8	-.7	48	033M	.9M	039M	3.2M	44	1200	8.9	.6	56	302	.7	256	3.2	44
1500	12.2	*****	41	145	.5	112	3.2	29	1500	9.9	.2	51	279	1.7	276	4.4	28
1800	9.0	-2.7	44	216	1.4	219	3.2	2	1800	6.7	-1.4	56	258	1.4	303	4.4	2
2100	2.5	*****	68	140	1.0	141	2.5	1	2100	.8	*****	82	160	1.1	174	1.9	1
2400	0.0	-2.1	86	098	1.2	105	3.2	1	2400	-1.0	*****	88	103	.7	162	2.5	1

R & M CONSULTANTS, INC.

SUSTITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON 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.	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	1.5	-3.2	71	123	1.4	125	3.2	1	0300	3.6	*****	17	134	.7	141	1.9	1
0600	1.8	*****	75	153	.7	137	2.5	2	0600	4.2	*****	17	176	.4	154	1.3	1
0900	6.0	*****	65	103M	.3M	058M	1.9M	12	0900	5.6	*****	15	089	.3	053	1.9	4
1200	8.4	.4	57	092	1.7	094	5.1	17	1200	8.1	*****	10	342	.4	049	1.3	11
1500	9.4	1.6	58	107	2.1	108	5.1	16	1500	7.7	*****	13	278	.3	018	1.9	4
1800	8.5	1.2	60	100	2.0	108	5.1	1	1800	7.7	*****	16	035	.3	041	1.9	1
2100	5.9	3.4	84	097	1.9	109	5.1	1	2100	7.1	*****	17	145	.3	103	1.9	1
2400	4.0	*****	8	134	1.1	103	3.2	1	2400	6.4	*****	16	112	.5	139	1.3	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
0300	5.4	*****	16	125	1.0	135	2.5	1	0300	-1.9	*****	7	184	.6	162	3.2	1
0600	3.7	*****	16	135	.8	139	1.9	1	0600	*****	*****	25	101M	.6M	115M	2.5M	*****
0900	6.1	*****	17	159	.1	153	1.3	12	0900	*****	*****	87	093M	1.0M	121M	3.2M	7
1200	7.0	-21.6	11	268	1.0	258	3.8	24	1200	*****	*****	87	117M	1.4M	145M	5.1M	18
1500	5.2	-17.9	17	273	1.3	298	4.4	14	1500	*****	*****	87	101	3.3	098	7.0	8
1800	3.0	-19.1	18	256	1.6	247	4.4	1	1800	*****	*****	87	065M	3.3M	041M	8.9M	2
2100	.3	-20.7	19	232	.9	263	4.4	1	2100	*****	*****	87	052M	2.7M	060M	7.6M	1
2400	-8	*****	15	103	.9	033	5.1	1	2400	*****	*****	87	058M	2.9M	043M	7.6M	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.	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	-5.6	-15.2	47	064	1.8	008	8.9	1	0300	-9.7	*****	**	0300	*****	*****	**	*****
0600	*****	*****	48	052M	1.5M	015M	10.2M	2	0600	*****	*****	**	0600	*****	*****	**	*****
0900	-4.3	-14.5	45	055M	2.9M	019M	10.2M	27	0900	*****	*****	**	0900	*****	*****	**	*****
1200	-2.2	-13.2	43	057	2.8	049	7.6	39	1200	-2.1	-12.0	47	110M	2.2M	108M	6.3M	38
1500	-.8	-12.5	41	113	2.3	104	6.3	10	1500	0.0	-10.9	44	131	2.2	110	5.1	8
1800	-3.6	-13.9	45	107	1.7	101	5.1	1	1800	-3.3	-12.5	49	125	1.6	120	3.8	1
2100	-6.5	-15.3	50	121M	2.3M	108M	5.1M	1	2100	-5.7	-12.9	57	157M	1.4M	157M	2.5M	1
2400	*****	*****	53	***	***	***	***	1	2400	-7.3	-13.1	63	***	***	***	***	1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING September, 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.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	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	-2.2	-3.4	92	086	1.5	081	5.1	1	1	0300	1.8	-32.0	6	123	2.0	116	3.2	1	1	0300	3.5	-16.3	22	098	1.0	118	3.2	1		
0600	-1.6	-2.5	94	080	1.4	080	3.2	1	1	0600	2.1	1.7	97	135	1.9	112	3.2	1	1	0600	3.1	****	24	108	.9	105	3.2	1		
0900	-.3	-1.0	95	102	1.3	108	3.8	10	10	0900	.1	****	14	104	.7	122	1.9	3	3	0900	3.8	****	19	126	.8	118	3.2	7		
1200	1.1	-.5	89	077	1.6	075	3.8	13	13	1200	1.8	****	18	136	.5	145	1.9	7	7	1200	6.0	****	18	053	.4	113	2.5	5		
1500	1.2	****	95	072	1.1	073	3.8	6	6	1500	2.9	****	19	124	.1	192	1.3	6	6	1500	7.0	6.7	98	101	.9	121	3.8	6		
1800	.5	****	15	098	.8	071	1.9	1	1	1800	3.4	-19.4	17	115	.4	184	2.5	1	1	1800	6.0	-34.6	3	231	.6	198	3.8	1		
2100	.7	-22.3	16	106	1.1	114	2.5	1	1	2100	3.4	-17.5	20	090	.9	122	3.2	1	1	2100	5.1	-33.2	4	278	.9	318	3.8	1		
2400	1.4	-26.0	11	121	1.4	125	3.2	1	1	2400	2.9	-19.1	18	113	.8	117	2.5	1	1	2400	5.2	-35.2	3	077	.4	004	3.2	1		

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

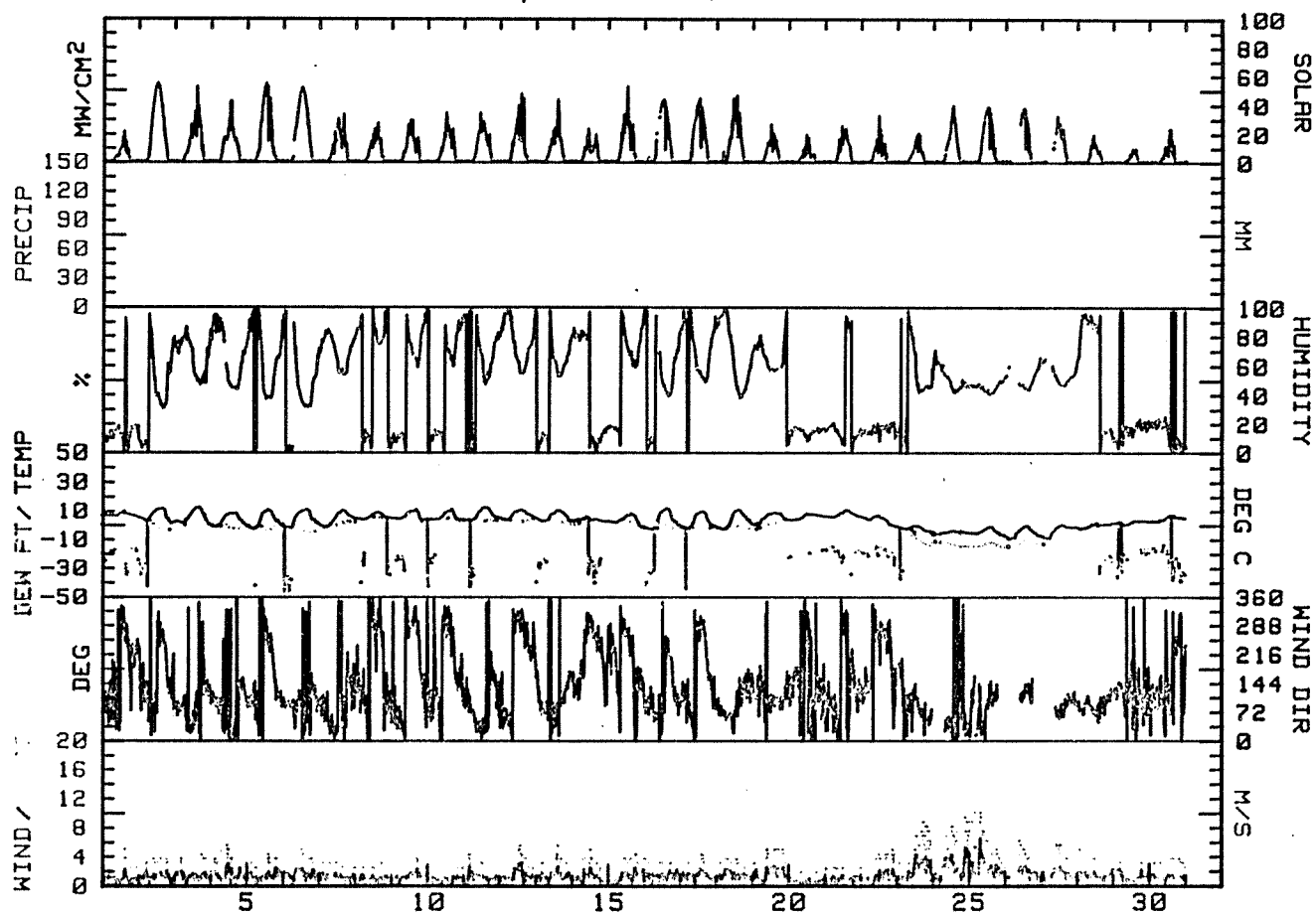
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING September, 1983

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/SQW	DAY
1	10.2	5.6	7.9	173	.0	.8	274	5.1	ENE			0.0	1080	1
2	12.1	1.0	6.6	146	.3	1.1	116	3.8	SE			0.0	4495	2
3	13.0	.6	6.8	088	.9	1.3	297	4.4	E	66	.0	0.0	2748	3
4	8.9M	-1.1M	3.9M	079M	.8M	1.3M	019M	5.7M	ESE(M)	69M	-2.4M	0.0	2264M	4
5	11.6	-3.0	4.3	119M	.5	1.3	231	4.4	E			0.0	3498	5
6	11.4	-2.1	4.7	087M	1.0M	1.5M	088M	5.1M	E (M)			0.0	4280	6
7	11.1	-1.4	4.9	065M	.6M	1.1M	077M	3.2M	NE (M)	72	-1.1	0.0	2001	7
8	9.6	3.8	6.7	070	.1	.8	248	3.2	ESE			0.0	1668	8
9	11.8	3.5	7.7	333	.3	.9	300	3.8	WNW			0.0	1895	9
10	11.7	3.7	7.7	144	.2	.7	157	2.5	SE			0.0	1895	10
11	13.0	3.2	8.1	069	.7	1.0	091	4.4	ENE	56	-4.7	0.0	2143	11
12	11.5	3.7	7.6	306	.6	1.3	319	5.7	WNW	71	3.2	0.0	2183	12
13	11.0	2.7	6.9	093	.9	1.2	013	5.7	E			0.0	2010	13
14	6.4	2.6	4.5	245	.5	1.0	282	5.1	SSE			0.0	1403	14
15	8.9	-1.6	3.7	238	.3	1.0	009	4.4	W			0.0	2385	15
16	12.5M	-3.0M	4.8M	110M	.6M	1.2M	084M	3.8M	E (M)			0.0	3173M	16
17	10.0	-2.6	3.7	158M	.1M	1.3M	276M	4.4M	E (M)			0.0	3085	17
18	11.3	-2.7	4.3	090M	1.1M	1.4M	058M	3.8M	ENE(M)	68	-2.5	0.0	2705	18
19	9.4	-.2	4.6	109M	1.3M	1.5M	094M	5.1M	ESE(M)			0.0	1443	19
20	8.7	3.6	6.2	121	.2	.5	141	1.9	E			0.0	903	20
21	11.3	5.7	8.5	089	.3	.8	138	2.5	E			0.0	1608	21
22	7.3	-.9	3.2	223	.4	1.1	033	5.1	W			0.0	1295	22
23	-.1	-5.8	-3.0	085M	1.6M	2.0M	041M	8.9M	ENE (M)			0.0	1228	23
24	-3.7M	-6.7M	-5.2M	030M	2.2M	2.4M	028M	9.5M	NNE (M)	50M	-13.6M	0.0	2351M	24
25	-.8M	-7.5M	-4.2M	079M	2.0M	2.6M	015M	10.2M	ESE (M)	45M	-14.2M	0.0	2847M	25
26	0.0M	-9.7M	-4.9M	123M	2.0M	1.8M	108M	6.3M	ESE (M)	50M	-12.4M	0.0	3048M	26
27	.6M	-9.4M	-4.4M	087M	1.7M	1.7M	061M	5.7M	E (M)	53M	-10.5M	0.0	2183M	27
28	2.1	-2.8	-.4	092M	1.2M	1.3M	081M	5.1M	E (M)			0.0	1015	28
29	3.7	.1	1.9	120	.9	1.1	116	3.2	ESE			0.0	638	29
30	7.3	2.4	4.9	108	.4	1.0	121	3.8	E			0.0	1090	30
MONTH	13.0M	-9.7M	3.7M	091M	.5M	1.2M	015M	10.2M	E (M)	M	M	0.0	64543M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
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.

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



R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

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	
	1.0	3.0	6.0	10.0	15.0	20.0	GREATER	
N	1.72	.94	.15	0.00	0.00	0.00	0.00	2.81
NNE	2.40	3.26	.71	.04	0.00	0.00	0.00	6.40
NE	2.70	2.88	.64	0.00	0.00	0.00	0.00	6.22
ENE	3.82	6.78	.60	0.00	0.00	0.00	0.00	11.20
E	4.16	10.75	.26	0.00	0.00	0.00	0.00	15.17
ESE	4.01	10.15	.26	0.00	0.00	0.00	0.00	14.42
SE	3.78	6.10	.04	0.00	0.00	0.00	0.00	9.93
SSE	3.30	2.85	0.00	0.00	0.00	0.00	0.00	6.14
S	2.13	1.31	0.00	0.00	0.00	0.00	0.00	3.45
SSW	2.02	.86	0.00	0.00	0.00	0.00	0.00	2.88
SW	1.57	1.39	0.00	0.00	0.00	0.00	0.00	2.96
WSW	1.50	2.17	0.00	0.00	0.00	0.00	0.00	3.67
W	1.12	3.41	0.00	0.00	0.00	0.00	0.00	4.53
WNW	1.35	3.22	.04	0.00	0.00	0.00	0.00	4.61
NW	1.80	1.09	.11	0.00	0.00	0.00	0.00	3.00
NNW	1.57	.41	.04	0.00	0.00	0.00	0.00	2.02
CALM								.60
TOTAL	38.95	57.57	2.85	.04	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2670 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
2880 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE DATA.

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

