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**SUSITNA
HYDROELECTRIC PROJECT**

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114



**SUSITNA BASIN
HYDROLOGICAL-METEOROLOGICAL
DATA SUMMARY,
OCTOBER 1982-DECEMBER 1984**

PREPARED BY

R&M
R & M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

FINAL REPORT

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Final Report
July 1985

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**

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Alaska Resources
Library & Information Services
Anchorage, Alaska

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Data identified in this report as "R&M data" were collected, reduced, and analyzed by R&M Consultants, Inc. for the Alaska Power Authority under contract to Acres American, Inc. through February 1983 and under contract to Harza-Ebasco Susitna Joint Venture after February 1983. Assistance and additional data provided by the organizations and individuals named below are gratefully acknowledged.

Alaska Department of Fish and Game Su Hydro provided additional stream and slough discharge data and made periodic staff gage readings at the various gaging sites. The Water Resources Division of the U.S. Geological Survey provided continuous gage height records from the streamgaging stations. Snow surveys were performed cooperatively with the Soil Conservation Service of the U.S. Department of Agriculture. Evaporation data were collected at Watana Camp by Granville Couey and Vinnie Volpe of Frank Moolin and Associates, Inc., who were also very supportive as the project field logistics coordinators. Pilots of Air Logistics, Inc. provided helicopter access to remotely-located data-collection sites.

SECTION 1.0

1.0 EXECUTIVE SUMMARY

The hydrological and meteorological data collected in and near the Susitna River Basin from October 1982 through December 1984 are summarized in this report. The report is primarily a summary of field data collected by R&M Consultants for the Susitna Hydroelectric Project but it also provides a compilation of similar data collected in the area by other organizations. The other organizations include the Alaska Department of Fish and Game Susitna Hydro study team, the U.S. Geological Survey, the National Oceanic and Atmospheric Administration, and the U.S. Soil Conservation Service.

Data summaries are provided for streamflow, water quality, climate, snow survey, and evaporation data collected during the report period. Water quality data include chemical parameters, water temperature records, and sampling of suspended sediment. The R&M data are presented in the main report, while data collected by the other organizations are summarized in the appendices. Text sections describe data collection sites and methods.

SECTION 2.0

2.0 INTRODUCTION

2.1 Purpose and Scope

This report summarizes the hydrological and meteorological data which were collected within and around the Susitna River Basin in southcentral Alaska. The period covered by the report is from October 1982 through December 1984. Previous data of the same type were reported in Field Data Collection and Processing (R&M 1982a) and Field Data Collection and Processing Supplement 1 (R&M 1982b). The reader is referred to these reports for more information on the data collection sites and the data.

Most of the data summarized herein were collected specifically for the Susitna Hydroelectric Project in support of engineering and environmental investigations during the feasibility study and Federal Energy Regulatory Commission (FERC) licensing processes. Additional field measurements that were not project-oriented were made by government agencies in the course of their own operations at sites within and around the Susitna Basin. Data for sites near but outside the basin are also summarized here in order to make the regional information more available. A complete listing of data collection sites and periods of record is contained in the current version of the Hydrology Field Data Index (R&M 1985a).

This report is intended to have reported or to have made reference to all hydrological and meteorological data collected within the Susitna River Basin during the report period. If the authors are made aware of errors or omissions in the current report, these will be corrected in the next summary report, to be published in 1986 (for the year 1985).

2.2 Report Format

The report is organized by type of data: streamflow (Section 3), water quality, including water temperature and sediment (Section 4); climate (Section 5); snow surveys (Section 6); evaporation (Section 7); glacier

observations (Section 8); and river ice observations (Section 9). Each section describes data-collection site locations and methods used for measurement and recording of data. An executive summary is provided in Section 1, and references cited are listed in Section 10. Data collected by R&M Consultants are summarized in the main report, including the tables and figures. In most cases, the data contained in this report are presented more completely in other reports, which are referenced. The appendices present related data collected by other organizations.

SECTION 3.0

3.0 STREAMFLOW

This presentation of streamflow data is limited to sites where continuous records were made of water level or stage, from which daily values of flow could be determined. Numerous other measurements of stage were made at irregular intervals at numerous locations on the Susitna River mainstem, in tributaries, and in side channels and sloughs by recording staff gage readings. A list of the sites where staff gages were installed is contained in the Hydrology Field Data Index (R&M 1985a).

3.1 R&M Data

Continuous streamflow measurements were made by R&M Consultants during 1983-1984 at seven locations: the Susitna River near Watana Damsite, Deadman Creek near Watana Camp, Slough 11 near Gold Creek, Slough 9 near Sherman, two sites (upper and lower) on Tributary B of Slough 9 near Sherman, and Slough 8A near Sherman. Locations of the Susitna River and Deadman Creek streamgages are shown in Figure 3.1. Locations of the sloughs and the streamgaging sites on the individual sloughs are shown in Figures 3.2-3.5. Stage recorders at each site were of one of three types:

1. A combination of a Scientific Instruments manometer (bubbler) gage and a Stevens A-71 spring-driven strip-chart recorder;
2. A Stevens F-1 water level recorder with a float and stilling well; and
3. An Omnidata Datapod magnetic chip recorder with a pressure transducer.

Discharge measurements were made over a range of flows to redefine each site's stage-discharge relationship. Price type, pygmy, and Marsh-McBirney velocity meters were used in the measurements, which were done by wading or by boat, depending on velocity and depth conditions.

The Susitna River near Watana Damsite has a gage of the first type. The site is at River Mile 182.1, about two miles downstream of the proposed Watana Damsite. Collection of stage records began in July 1980 and has continued to the present during open-water periods. Estimates were made for ice-covered periods and other periods of no gage height record, based on the flows reported by the USGS for gages upstream and downstream of the Watana gage. The USGS flows, which were also estimated for the winter, were prorated from the Susitna River near Cantwell (Vee Canyon) and Gold Creek sites, based on drainage areas at Vee Canyon, Watana, and Gold Creek of 4140, 5180, and 6060 square miles, respectively.

Data for the Susitna River near Watana for Water Year 1983 are tabulated in Table 3.1. Table 3.2 lists Water Year 1984 data, and 1985 Water Year discharges are presented in Table 3.3 through September 1984. USGS values for October through December 1984 were not available for the Vee Canyon gage at time of publication of this report, so estimates for Watana were likewise not available. Those data will be reported in the next hydrological and meteorological data summary report (1986).

The discharge measurements made at the Watana streamgage are tabulated in Table 3.4. The rating curve and rating table developed from the measurements are shown in Figure 3.6 and Table 3.5.

The streamgage at Deadman Creek in 1983 was a datapod chip which recorded water stage and temperature at 2-hour intervals. The creek was being investigated as a potential site for discharge of wastewater from Watana Camp facilities during project construction and operation. Daily gage height and discharge data for the period of record are shown in Table 3.6. No measurements were made in 1984.

Flow data were collected in 1983 and 1984 at Sloughs 11, 9, and 8A, between Gold Creek and Talkeetna. Site descriptions are presented in Tables 3.7-3.9. Two additional locations were gaged in 1984: an upper and a lower site on Tributary B which flows into Slough 9. Data for all

five sites for 1983 and 1984 are tabulated in Tables 3.10-3.17. Table 3.18 lists several notes which pertain to the tables of 1984 slough discharge data. Further information on the data collected in the sloughs may be found in an R&M memo report (Bredthauer 1984) for the 1983 data and in the report "Water Balance Studies of Middle Susitna Sloughs (R&M 1985f) for 1984. Other data collected at several slough locations include groundwater level observations and seepage meter measurements.

3.2 U.S.G.S. Data

The U.S. Geological Survey maintained water-level recorders at twelve sites within the Susitna River Basin, five on the mainstem Susitna River and seven on tributaries. Gages were either manometers or floats and stilling wells with strip chart recorders. Station locations are shown in Figure 3.1. The twelve sites are listed below in downstream order with their USGS station numbers:

° Susitna River near Denali	15291000
° Maclaren River near Paxson	15291200
° Susitna River near Cantwell	15291500
° Susitna River at Gold Creek	15292000
° Chulitna River near Talkeetna	15292400
° Talkeetna River near Talkeetna	15292700
° Susitna River at Sunshine	15292780
° Willow Creek near Willow	15294005
° Deception Creek near Willow	15294010
° Deshka River near Willow	15294100
° Yentna River near Susitna Station	15294345
° Susitna River at Susitna Station	15294350

Mean daily discharge data for the U.S.G.S stations are reproduced in Appendix A, Tables A.1-A.24. The 1983 data have been published (USGS 1984) but the 1984 data are still provisional and are subject to revision.

3.3 ADF&G Data

Continuous streamflow data were collected by the Alaska Department of Fish and Game at three Susitna Basin sites in 1983. The three are tributaries to the Middle Susitna River between Devil Canyon and Gold Creek: Portage Creek, Indian River, and Gold Creek. The stream locations are shown in Figure 3.2. The Portage Creek gage was located at tributary river mile (TRM) 0.1 (i.e., 0.1 mile upstream of the mouth), the Indian River gage was at TRM 1.0, and the Gold Creek gage was at TRM 0.2. Datapods were used at all three sites to obtain the records. Data are tabulated in Appendix A, Tables A.25-A.27.

Table 3.1 Mean Daily Discharge, Susitna River
near Watana Damsite (Water Year 1983)

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1	36.19	9400	34.67	4100	e	1900	e	2100	e	1600	e	1600
2	36.10	9000	34.84	4600	e	1900	e	2100	e	1600	e	1600
3	36.00	8600	35.03	5200	e	1900	e	2000	e	1600	e	1600
4	35.89	8200	35.08	5400	e	1900	e	2000	e	1600	e	1600
5	35.76	7700	35.07	5300	e	1900	e	2000	e	1600	e	1500
6	35.58	7000	35.12	5500	e	1900	e	2000	e	1600	e	1500
7	35.47	6700	35.10	5400	e	1900	e	1900	e	1600	e	1500
8	35.41	6400	35.09	5400	e	1900	e	1900	e	1600	e	1500
9	35.46	6600	35.16	5600	e	1900	e	1900	e	1600	e	1500
10	35.47	6700	35.03	5200	e	1900	e	1900	e	1600	e	1500
11	35.38	6300	35.21	5800	e	1900	e	1900	e	1600	e	1500
12	35.28	6000	e	2200	e	1900	e	1800	e	1600	e	1500
13	35.37	6300	e	2200	e	1900	e	1800	e	1600	e	1500
14	35.21	5800	e	2200	e	1900	e	1800	e	1700	e	1500
15	34.88	4700	e	2100	e	1900	e	1800	e	1700	e	1500
16	34.92	4900	e	2100	e	1900	e	1800	e	1700	e	1400
17	34.91	4800	e	2100	e	1900	e	1700	e	1700	e	1400
18	34.99	5100	e	2100	e	1900	e	1700	e	1700	e	1400
19	34.99	5100	e	2000	e	1900	e	1700	e	1700	e	1400
20	34.98	5100	e	2000	e	1900	e	1700	e	1700	e	1400
21	34.80	4500	e	2000	e	1900	e	1700	e	1700	e	1400
22	34.63	4000	e	2000	e	1900	e	1700	e	1700	e	1400
23	34.26	3100	e	2000	e	1900	e	1700	e	1700	e	1400
24	34.16	2800	e	2000	e	1900	e	1700	e	1600	e	1400
25	34.18	2900	e	2000	e	1900	e	1700	e	1600	e	1400
26	34.47	3600	e	2000	e	1900	e	1700	e	1600	e	1300
27	34.48	3600	e	2000	e	1900	e	1700	e	1600	e	1300
28	34.25	3000	e	2000	e	1900	e	1700	e	1600	e	1300
29	34.39	3400	e	2000	e	2000	e	1700			e	1300
30	34.34	3300	e	2000	e	2100	e	1700			e	1300
31	34.54	3800			e	2200	e	1700			e	1300
TOTAL		168400		96500		59500		57900		45800		44700
Mean		5430		3220 (e)		1900 (e)		1900 (e)		1600 (e)		1400 (e)
Maximum		9400		5800 (e)		2200 (e)		2100 (e)		1700 (e)		1600 (e)
Minimum		2800		2000 (e)		1900 (e)		1700 (e)		1600 (e)		1300 (e)
Cfsm		1.04		0.62 (e)		0.37 (e)		0.37 (e)		0.31 (e)		0.27 (e)
Runoff in in.		1.21		0.69 (e)		0.42 (e)		0.42 (e)		0.32 (e)		0.31 (e)

Note: "e" indicates estimated value. Estimates made from USGS data at Cantwell (Vee Canyon) and Gold Creek gages.

Table 3.1 (cont.)

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1	e	1300	e	3000	39.89	31000	38.48	21800	38.61	22500	38.46	21600
2	e	1300	e	3400	39.00	25000	38.74	23300	38.53	21800	38.31	20600
3	e	1300	e	3700	40.40	34500	38.98	24900	38.43	21200	38.05	19100
4	e	1300	e	4200	40.70	34600	38.65	22600	38.30	20500	37.53	16100
5	e	1300	e	4800	39.40	27600	38.80	23500	38.38	21100	37.13	14000
6	e	1300	e	5400	38.85	24200	39.03	25000	38.71	23200	36.87	13000
7	e	1300	e	6100	38.38	21000	39.55	28000	38.86	24300	36.69	11900
8	e	1300	e	6800	38.00	18700	39.41	27300	38.70	23200	36.57	11400
9	e	1300	e	8000	37.65	16900	38.77	23400	39.62	29200	36.47	10900
10	e	1300	e	8800	37.46	16000	38.42	21200	39.86	31000	36.35	10400
11	e	1300	e	10200	37.53	16100	38.04	19100	39.08	25500	36.24	9800
12	e	1300	e	11800	37.78	17500	38.07	19200	38.52	21700	36.17	9600
13	e	1400	e	12800	37.80	17600	37.96	18600	38.68	23100	36.08	9100
14	e	1400	e	13700	37.67	17100	38.14	19300	38.91	24300	36.05	9100
15	e	1400	e	14600	37.78	17500	37.81	17600	38.84	24200	36.06	9100
16	e	1400	e	15200	38.19	19900	37.45	16000	38.56	22000	36.00	8800
17	e	1400	e	16200	38.59	22300	37.56	16300	38.23	20100	35.87	8400
18	e	1500	e	16100	38.42	21000	38.10	19200	38.04	19100	35.75	7800
19	e	1500	e	15400	38.38	21100	38.21	20000	37.70	17200	35.75	7800
20	e	1600	e	14900	38.90	24300	37.80	17700	37.50	16100	36.01	8800
21	e	1600	e	14400	38.80	23500	37.88	18500	37.59	16400	36.80	13000
22	e	1600	e	13400	38.76	23400	37.94	18700	38.15	19700	37.57	16000
23	e	1700	e	13200	39.00	24950	38.12	19200	38.23	20100	37.25	14600
24	e	1800	e	13200	38.85	24200	38.66	23000	38.62	22500	36.60	11500
25	e	1900	36.85	12900	38.75	23400	38.31	20500	39.19	25800	36.23	9900
26	e	2000	36.95	13300	38.71	23200	38.00	18900	40.10	32500	36.20	9800
27	e	2100	37.32	15100	38.87	24300	37.90	18200	39.80	30500	e	7800
28	e	2300	37.00	13600	39.13	25600	37.75	17500	38.90	24300	e	7300
29	e	2400	37.19	14400	39.02	25000	37.81	17800	38.42	21000	e	7700
30	e	2600	38.38	20700	38.70	23200	38.20	19900	38.25	20200	e	10600
31			39.51	28000			38.66	23000	38.45	21500		
TOTAL		47200		367300		687100		639200		705800		345500
Mean		1600 (e)		11800 (e)		22900		20600		22800		11500
Maximum		2600 (e)		28000		34600		28000		32500		21600
Minimum		1300 (e)		3000 (e)		16000		16000		16100		7300 (e)
Cfsm		0.31 (e)		2.28 (e)		4.42		3.98		4.40		2.22
Runoff in in.		0.34 (e)		2.63 (e)		4.93		4.58		5.08		2.48

Note: "e" indicates estimated value. Estimates made from USGS data at Cantwell (Vee Canyon) and Gold Creek gages.

Table 3.2 Mean Daily Discharge, Susitna River near Watana Damsite (Water Year 1984)

DAY	OCTOBER 83		NOVEMBER 83		DECEMBER 83		JANUARY 84		FEBRUARY 84		MARCH 84	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1	e	11200	34.40	3450	e	2100	e	1800	e	1800	e	1700
2	e	11500	34.29	3100	e	2100	e	1800	e	1800	e	1700
3	e	10700	34.16	2800	e	2000	e	1800	e	1800	e	1700
4	e	9500	34.12	2750	e	2000	e	1800	e	1800	e	1700
5	e	8500	34.00	2500	e	2000	e	1800	e	1800	e	1700
6	e	7900	33.78	2000	e	2000	e	1800	e	1800	e	1700
7	e	7200	33.63	1700	e	2000	e	1800	e	1800	e	1700
8	e	6400	33.87	2150	e	2000	e	1800	e	1800	e	1700
9	e	6300	34.05	2600	e	2000	e	1800	e	1800	e	1700
10	e	6700	34.15	2800	e	2000	e	1800	e	1800	e	1700
11	e	7600	e	2600	e	2000	e	1800	e	1800	e	1700
12	35.77	7900	e	2600	e	2000	e	1800	e	1800	e	1700
13	35.94	8600	e	2600	e	2000	e	1800	e	1800	e	1700
14	35.65	7500	e	2500	e	2000	e	1800	e	1800	e	1700
15	35.34	6400	e	2500	e	2000	e	1800	e	1800	e	1700
16	35.16	5750	e	2400	e	1900	e	1800	e	1800	e	1700
17	34.92	5000	e	2400	e	1900	e	1800	e	1800	e	1700
18	34.96	5100	e	2400	e	1900	e	1800	e	1800	e	1700
19	35.03	5300	e	2400	e	1900	e	1800	e	1800	e	1700
20	34.91	4950	e	2400	e	1900	e	1800	e	1800	e	1700
21	34.78	4550	e	2300	e	1900	e	1800	e	1700	e	1700
22	34.74	4500	e	2300	e	1900	e	1800	e	1700	e	1700
23	34.65	4150	e	2300	e	1900	e	1800	e	1700	e	1700
24	34.51	3750	e	2200	e	1900	e	1800	e	1700	e	1700
25	34.40	3450	e	2200	e	1900	e	1800	e	1700	e	1700
26	34.29	3100	e	2200	e	1900	e	1800	e	1700	e	1700
27	34.27	3100	e	2200	e	1900	e	1800	e	1700	e	1700
28	34.26	3100	e	2100	e	1900	e	1800	e	1700	e	1700
29	34.34	3300	e	2100	e	1900	e	1800	e	1700	e	1700
30	34.37	3350	e	2100	e	1900	e	1800			e	1700
31	34.43	3600			e	1900	e	1800			e	1700
TOTAL		189950		72650		59600 (e)		55800 (e)		51300		52700
Mean		6100(e)		2400 (e)		1900 (e)		1800 (e)		1800 (e)		1700 (e)
Maximum		11500(e)		3450		2100 (e)		1800 (e)		1800 (e)		1700 (e)
Minimum		3100		2100 (e)		1900 (e)		1800 (e)		1700 (e)		1700 (e)
CFSM		1.18(e)		0.46 (e)		0.37 (e)		0.35 (e)		0.35 (e)		0.33 (e)
Inches		1.36(e)		0.52 (e)		0.42 (e)		0.40 (e)		0.38 (e)		0.38 (e)

Note: "e" indicates estimated value. Estimates made from USGS data at Cantwell (Vee Canyon) and Gold Creek gages.

Table 3.2 (cont.)

Day	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1	e	1600	e	1900	36.17	9600	38.78	23500	38.58	22500	36.36	10700
2	e	1600	e	2000	36.38	10000	38.78	23500	38.31	20500	36.22	9600
3	e	1600	e	2200	36.70	12000	38.83	23600	38.08	19500	36.14	9500
4	e	1600	e	2300	37.00	13500	38.50	22000	38.10	19500	36.08	9200
5	e	1600	e	2600	37.06	14000	38.37	21000	38.35	21000	36.01	8800
6	e	1600	e	3000	37.18	14000	38.38	21000	38.70	23000	36.03	8900
7	e	1600	e	3300	37.53	16000	38.30	20500	38.68	23000	36.13	9500
8	e	1600	e	3900	37.63	17000	38.29	20500	38.63	22500	36.18	9600
9	e	1600	e	4500	37.74	17500	38.27	20500	38.65	22500	36.17	9400
10	e	1600	e	5200	37.94	19000	38.32	20500	38.68	23000	35.97	8800
11	e	1600	e	6300	37.84	18500	38.54	22000	38.05	19300	35.88	8200
12	e	1600	e	7400	37.75	17500	38.31	20500	37.90	18500	35.83	8000
13	e	1600	e	8700	38.68	17000	38.21	20000	37.78	17800	35.77	7900
14	e	1600	e	10300	39.88	31500	38.15	19500	37.49	16000	35.72	7700
15	e	1600	e	11800	39.73	29500	37.82	17600	37.35	15300	35.71	7600
16	e	1600	e	13300	41.98	48000	37.80	17600	e	15000	35.63	7500
17	e	1600	e	14300	42.02	49000	38.20	20000	e	16000	35.60	7300
18	e	1600	e	16100	40.50	35500	38.35	21000	e	17000	35.62	7400
19	e	1600	e	18100	39.72	29500	38.15	19500	e	18000	35.78	8000
20	e	1600	e	18200	39.52	28000	37.90	18500	37.90	18500	36.16	9600
21	e	1600	e	19000	39.58	29000	37.88	18500	37.95	19000	36.31	10000
22	e	1600	e	20200	39.48	28000	38.23	20000	37.80	17800	36.00	8800
23	e	1600	e	20300	39.56	29000	38.57	22500	37.34	15300	35.73	7700
24	e	1600	e	21000	39.48	28000	38.28	20500	37.80	17800	35.60	7300
25	e	1600	38.87	24000	39.20	26000	38.60	22500	38.68	23000	35.50	6950
26	e	1600	38.37	21000	38.98	25000	39.72	29500	39.58	28700	35.40	6600
27	e	1600	37.40	15000	39.38	27500	40.12	32500	38.67	23000	35.40	6600
28	e	1600	37.12	14000	39.88	31000	39.61	29000	37.57	16700	35.35	6400
29	e	1700	36.82	12500	39.44	28000	39.36	27500	37.08	13800	35.35	6400
30	e	1800	36.58	11500	39.20	26000	39.15	25500	36.78	12300	35.45	6800
31			36.32	10000			38.81	23600	36.55	11200		
TOTAL		48300		343900		667100		684400		587000		233750
Mean		1600 (e)		11100 (e)		22200		22100		18900 (e)		7800
Maximum		1800 (e)		24000		49000		32500		28700		10700
Minimum		1600 (e)		1900 (e)		9600		17600		11200		6400
CFSM		0.31 (e)		2.14 (e)		4.29		4.27		3.65 (e)		1.51
Runoff (in.)		0.34 (e)		2.47 (e)		4.78		4.92		4.21 (e)		1.68

Note: "e" indicates estimated value. Estimates made from USGS data at Cantwell (Vee Canyon) and Gold Creek gages.

Table 3.3 Mean Daily Discharge, Susitna River near Watana Damsite (Water Year 1985)

YEAR	DAY	OCTOBER 84		NOVEMBER 84		DECEMBER 84		JANUARY		FEBRUARY		MARCH		DAY
		Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	
	1	35.62	7300	Ice effects										1
	2	35.63	7300	"	"									2
	3	35.52	7000	"	"									3
	4	35.45	6800	"	"									4
	5	35.35	6400	"	"									5
	6	35.28	6100	"	"									6
	7	35.25	6000	"	"									7
	8	35.25	6000	"	"									8
	9	35.25	6000	"	"									9
	10	35.32	6300	"	"									10
	11	35.25	6000	"	"									11
	12	35.20	5800	"	"									12
	13	35.17	5680	"	"									13
	14	34.92	5000	"	"									14
	15	34.85	4750	"	"									15
	16	34.80	4600	Ice effects										16
	17	Ice effects												17
	18	Ice effects												18
	19	34.40	3450											19
	20	34.50	3650											20
	21	34.50	3650											21
	22	34.55	3900											22
	23	34.80	4600											23
	24	34.70	4300											24
	25	34.40	3450											25
	26	Ice effects												26
	27	"	"											27
	28	"	"											28
	29	"	"											29
	30	"	"											30
	31	Ice effects												31
TOTAL														
Mean														
Maximum														
Minimum														
Cfsm														
Runoff in inches														
Acres-feet														

Note: Estimates are not available for periods of no gage height record (during ice effects and after November 16).

TABLE 3.4 DISCHARGE MEASUREMENTS,
SUSITNA RIVER NEAR WATANA DAMSITE

<u>Meas.</u> <u>No.</u>	<u>Date</u>	<u>Gage</u> <u>Height</u> <u>(ft)</u>	<u>Discharge</u> <u>(cfs)</u>	<u>Comments</u>
1	8/20/80	N/A	17,400	Tagline was moved after measurement-no good for rating curve
2	8/21/80	38.12	18,900	
3	9/03/80	36.22	10,000	
4	9/18/80	37.57	16,200	
5	10/20/80	35.22	5,820	Frazil ice in river
6	1/14/81	N/A	1,100	Through ice cover
7	4/01/81	N/A	1,020	Through ice cover
8	5/24/81	36.20	9,700	
9	6/02/81	38.36	21,800	
10	7/11/81	41.32	39,700	
11	7/28/81	39.73	28,000	
12	6/17/82	38.03	21,500	
13	9/18/82	38.51	17,300	Bad measurement-no good for rating curve
14	7/19/83	38.13	19,900	
15	8/31/83	38.45	21,200	
16	2/24/84	37.25	1,510	Through ice cover
17	4/10/84	N/A	1,440	Through ice cover
18	6/16/84	42.93	52,800	
19	7/21/84	38.55	16,900	Bad Measurement-no good for rating curve
20	8/11/84	38.10	18,200	
21	8/21/84	37.99	17,700	
22	9/26/84	35.44	5,930	

Note: Water surface elevation above mean sea level=gage height + 1400.00'

TABLE 3.5

Sta. No. _____

Table No. _____

Begin _____
YR. MO. D. HR.Rating table for Susitna River near Watana Damsitefrom August 1980 to September 1984, from _____ to _____, from _____ to _____

	Gage height	Discharge	Difference	Gage height	Discharge	Difference	Gage height	Discharge	Difference	Gage height	Discharge	Difference	Gage height	Discharge	Difference	Gage height	Discharge	Difference	Gage height	Discharge	Difference
	Feet	Cfs	Cfs	Feet	Cfs	Cfs	Feet	Cfs	Cfs	Feet	Cfs	Cfs	Feet	Cfs	Cfs	Feet	Cfs	Cfs	Feet	Cfs	Cfs
1433	.00			35.00	5,100		37.00	13,300		39.00	23,500		41.00	37,000		.00			.00		
	.10			.10	5,400		.10	13,800		.10	24,000		.10	37,800		.10			.10		
	.20			.20	5,700		.20	14,300		.20	24,600		.20	38,700		.20			.20		
	.30			.30	6,000		.30	14,800		.30	25,700		.30	39,600		.30			.30		
	.40			.40	6,400		.40	15,200		.40	25,800		.40	40,400		.40			.40		
	.50			.50	6,800		.50	15,700		.50	26,400		.50	41,300		.50			.50		
	.60	1,600		.60	7,300		.60	16,200		.60	27,000		.60	42,200		.60			.60		
	.70	1,800		.70	7,700		.70	16,800		.70	27,600		.70	43,000		.70			.70		
	.80	2,000		.80	8,000		.80	17,200		.80	28,300		.80	44,000		.80			.80		
	.90	2,200		.90	8,400		.90	17,700		.90	29,000		.90	45,000		.90			.90		
	1434 .00	2,400		36.00	8,900		38.00	18,200		40.00	29,700		42.00	46,000		.00			.00		
3-11	.10	2,600		.10	9,300		.10	18,700		.10	30,300		.10	47,000		.10			.10		
	.20	2,900		.20	9,800		.20	19,200		.20	31,000		.20	48,000		.20			.20		
	.30	3,100		.30	10,200		.30	19,700		.30	31,700		.30	49,000		.30			.30		
	.40	3,400		.40	10,700		.40	20,200		.40	32,400		.40	50,000		.40			.40		
	.50	3,600		.50	11,100		.50	20,800		.50	33,000		.50	51,000		.50			.50		
	.60	3,900		.60	11,500		.60	21,300		.60	33,700		.60	52,000		.60			.60		
	.70	4,200		.70	11,900		.70	21,800		.70	34,600		.70	53,000		.70			.70		
	.80	4,500		.80	12,400		.80	22,400		.80	35,300		.80	54,000		.80			.80		
	.90	4,800		.90	12,900		.90	23,000		.90	36,200		.90	55,000		.90			.90		

This table is applicable for open-channel conditions. It is based on 15 discharge measurements made during 1980-84and is _____ well defined between 5000 cfs and 50,000 cfs.

Comp. by _____ date _____

Ckd. by _____ date _____

TABLE 3.6

MEAN DAILY DISCHARGE, DEADMAN CREEK (1983)

Day	JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER	
	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
1			1.34	330	1.43	370			1.54	420
2			1.40	360	1.23	290			1.46	390
3			1.35	340	1.16	260		750*	1.25	290
4			1.26	300	1.07	220			1.28	310
5			1.39	360	1.23	290			1.45e	380e
6			1.36	340	1.51	410				
7			1.30	320	1.40	360				
8			1.22	280	1.98	660				
9			1.14	250	2.23	810				
10			1.12	240	2.11e	740e				
11			1.14	250	1.60	450				
12			1.10	240	1.52e	420e				
13			1.06	220						
14	1.79e	550e	1.24	290						
15	1.85	590	1.18	270						
16	2.06	710	1.08	230						
17	1.96	650	1.07	220						
18	1.80	560	1.25	290						
19	1.87	600	1.29	310						
20	1.97	650	1.18e	270e						
21	1.87	600								
22	1.88	600					1.62e	470e		
23	1.84	580					1.43	370		
24	1.72	520					1.16	260		
25	1.61	460	1.15e	250e			1.45	380		
26	1.55	430	1.06	220			1.49	400		
27	1.53	420	1.03	210			1.39	350		
28	1.63	470	0.99	200			1.31	320		
29	1.48	400	0.95	180			1.24	290		
30	1.41	360	1.04	210			1.40	360		
31			1.31	320						

- Notes: 1. "e" indicates estimated value due to incomplete daily record. Asterisk (*) indicates estimate from discharge measurement made that date.
2. Blank entries indicate no data available for that date.
3. Data recorded by Omnidata datapod chip, at 2-hour intervals.
4. Gage heights are in feet and discharges are in cubic feet per second (cfs).
5. Discharge measurement made through ice cover on April 10, 1984: 26 cfs.

TABLE 3.7

DESCRIPTION OF GAGING STATION ON SLOUGH 11
SUSITNA RIVER

Location:

On left bank in Slough 11 about 400 feet upstream of mouth of slough, at cross-section 135.7S2.

Establishment:

August 9, 1982 by R&M Consultants. Reestablished on May 24, 1983.

Gage:

Stevens F-1 recorder, ratio 1:5, mounted on 10" stilling well in center of slough. Recorder is referenced to on outside staff gage on a fence post and set to gage datum.

History:

Period of record 8-9-82 to 10-21-82 and 5-24-83 to 10-27-83.

Channel and Control:

The channel is composed of cobbles and silt. The cross-section is not particularly good. It is 40' downstream of a bend in the slough and upstream of a small boulder field. Control is provided by the boulder field and a small riffle about 100' downstream of the gage.

Reference Marks:

Zero elevation on staff gage near stilling well - 670.18 feet. MSL
R&M rebar and Alcap on right bank of cross-section at stilling well,
ID number 135.752RB. Elevation 674.76 feet MSL.

TABLE 3.8

DESCRIPTION OF GAGING STATION ON SLOUGH 9 SUSITNA RIVER

Location:

On right bank of Slough 9 about 1300 feet upstream from mouth, 100 feet upstream of groundwater observation well 9-12.

Establishment:

5-21-83 by R&M Consultants, Inc.

Gage:

Stevens F-1 recorder, ratio 1:5 mounted on 10" stilling well on right bank of slough. Recorder is referenced to an outside staff gage attached to the downstream side of the stilling well.

History:

A recorder was located in this slough in 1982 at a location about 300' upstream of the present location. The recorder was relocated to take advantage of a cross-section with an improved stage-discharge relationship.

Channel and Control:

the channel is composed of cobbles and silt. The gage is located in a straight section between two riffles. Channel subject to siltation at high flow.

Discharge Measurements:

Low flow measurements can be made at a narrow section about 100' upstream of the gage. High flows can be measured at the gage.

Regulation:

Discharge will be affected by the flow in the mainstem Susitna River when it overtops the berm at the upstream end of the slough.

Reference Marks:

Zero elevation on staff gage on stilling well. Elevation 591.15 MSL. R&M rebar TBM 9-15 on left bank of slough about 100' downstream of stilling well. Elevation 597.50 MSL.

TABLE 3.9

DESCRIPTION OF GAGING STATION ON SLOUGH 8A
SUSITNA RIVER

Location:

On right bank about 3500 feet upstream of mouth of slough. 70' upstream of groundwater observation wells 8-8 and 8-9.

Establishment:

May 21, 1983 by R&M Consultants, Inc.

Gage:

Stevens F-1 recorder, ratio 1:5, mounted on 10" stilling well in right bank of slough. Recorder is referenced to an outside staff gage and set to gage datum.

History:

As recorder was located in this slough in 1982 but no usable data was collected due to beaver activity disrupting the stage-discharge relationship at the site.

Channel and Control:

The channel is composed of cobbles and silt and seems stable. It is straight for 100 feet above the gage and there is a riffle about 40' downstream of the gage. Channel is wide and does not exhibit large stage changes.

Discharge Measurements:

Low flow measurements can be made accurately about 150' upstream of the gage in a narrow but smooth flowing channel. High flow can be measured at the gage.

Regulation:

Discharge will be affected by the flow in the mainstem Susitna River when it overtops the berm at the upstream end of the slough.

Reference Marks:

O elevation on staff gage at stilling well - 567.96 MSL. R&M rebar and Alcap right bank Slough 8 near Well 9-9 ID number 125.9 S6 RB, 571.56.

TABLE 3.10
SLOUGH 11
1983 MEAN DAILY DISCHARGE (C.F.S.)

Day	May		Jun		Jul		Aug		Sep		Oct	
	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs
1			0.98	4.1	0.99	4.3	0.94	3.2	0.98	4.1	0.90	2.5
2			0.99	4.3	0.99	4.3	0.95	3.5	0.97	3.9	0.91	2.7
3			1.05	5.7	0.99	4.3	0.95	3.5	0.96	3.7	0.91	2.7
4			1.06	6.0	0.99	4.3	0.95	3.5	0.95	3.5	0.91	2.7
5			1.00	4.5	0.99	4.3	0.95	3.5	0.94	3.2	0.91	2.7
6			0.98	4.1	0.99	4.3	0.95	3.5	0.94	3.2	0.90	2.5
7			0.98	4.1	0.99	4.3	0.96	3.7	0.93	3.1	0.90	2.5
8			0.97	3.9	1.00	4.5	0.98	4.1	0.93	3.1	0.89	2.3
9			0.96	3.7	0.99	4.3	0.98	4.1	0.93	3.1	0.89	2.3
10			0.96	3.7	0.98	4.1	0.99	4.3	0.93	3.1	0.90	2.5
11			0.97	3.9	0.98	4.1	0.99	4.3	0.92	2.9	0.90	2.5
12			0.97	3.9	0.97	3.9	0.99	4.3	0.91	2.7	0.90	2.5
13			0.96	3.7	0.98	4.1	0.98	4.1	0.91	2.7	0.91	2.7
14			0.97	3.9	0.97	3.9	0.99	4.3	0.90	2.5	0.91	2.7
15			0.97	3.9	0.96	3.7	0.98	4.1	0.90	2.5	0.90	2.5
16			0.98	4.1	0.95	3.5	0.97	3.9	0.89	2.3	0.90	2.5
17			0.98	4.1	0.95	3.5	0.97	3.9	0.89	2.3	0.90	2.5
18			0.99	4.3	0.95	3.5	0.97	3.9	0.89	2.3	0.90	2.5
19			0.99	4.3	0.95	3.5	0.96	3.7	0.89	2.3	0.90	2.5
20			0.99	4.3	0.95	3.5	0.95	3.5	0.90	2.5	0.90	2.5
21			0.99	4.3	0.95	3.5	0.95	3.5	0.89	2.3	0.90	2.5
22			0.99	4.3	0.95	3.5	0.95	3.5	0.89	2.3	0.90	2.5
23			0.99	4.3	0.95	3.5	0.96	3.7	0.90	2.5	0.89	2.3
24	Gage installed		0.99	4.3	0.95	3.5	0.96	3.7	0.90	2.5	0.89	2.3
25	0.94	3.2	0.99	4.3	0.95	3.5	0.96	3.7	0.89	2.3	0.88	2.1
26	0.94	3.2	0.99	4.3	0.95	3.5	0.97	3.9	0.89	2.3	0.88	2.1
27	0.94	3.2	0.99	4.3	0.94	3.2	0.89	4.1	0.88	2.1	0.88	2.1
28	0.94	3.2	0.99	4.3	0.94	3.2	0.89	4.1	0.88	2.1	Freezeup	
29	0.94	3.2	1.00	4.5	0.94	3.2	0.98	4.1	0.90	2.5		
30	0.95	3.5	1.00	4.5	0.94	3.2	0.97	3.9	0.90	2.5		
31	0.97	3.2			0.94	3.2	0.97	3.2				
Tot				124.0		114.0		119.0		82.0		67.0
Avg				4.1		3.8		3.8		2.78		2.5
Max		3.9		6.0		4.3		4.3		4.1		2.7
Min		3.2		3.7		3.2		3.2		2.1		2.1

* Gage Height + 670.18 = Mean Sea Level Elevation.

Source: Bredthauer (1984)

TABLE 3.11
MEAN DAILY FLOW, SLOUGH 11 (1984)

Location: Gage was 2500 feet upstream of the mouth of Slough 11.
Drainage Area: 1.69 sq. mi.

Discharge, in Cubic Feet Per Second, 1984 Mean Values

Day	June	July	August	September	October
1	1.7	3.6	2.7	2.7	2.2
2	1.6	3.2	2.6	2.7	2.2
3	1.7	3.2	2.4	2.7	2.2
4	1.9	3.2	2.4	2.7	2.0
5	2.2	2.9	2.4	2.6	2.0
6	2.2	2.9	2.4	2.6	2.0
7	2.2	2.9	2.4	2.6	1.7
8	2.4	2.9	2.7	2.4	1.7
9	2.4	2.9	2.6	2.4	1.7
10	2.7	2.9	2.4	2.4	1.7
11	2.7	2.7	2.4	2.4	1.7
12	2.6	2.9	2.2	2.4	1.6
13	2.9	2.7	2.2	2.4	1.6
14	2.9	2.7	2.2	2.4	1.4
15	2.9	2.6	2.2	2.4	1.4
16	3.4(e)	2.4	2.2	2.4	1.3
17	3.9(e)	2.4	1.9	2.4	1.3
18	4.4(e)	2.4	2.4	2.4	1.2
19	4.8	2.4	2.4	2.4	1.1
20	4.4	2.4	2.2	2.6	1.1
21	4.0	2.4	2.4	2.4	1.1
22	4.0	2.6	2.6	2.4	1.1
23	4.0	2.4	2.7	2.4	1.1
24	4.0	2.4	3.2	2.4	1
25	4.0	2.7	4.4	2.4	1
26	4.0	2.9	4.4	2.4	1
27	3.6	3.2	4.4	2.2	1
28	3.6	3.6	4.0	2.2	1
29	4.0	3.2	3.6	2.2	1
30	4.0	3.2	3.2	2.2	1
31		2.9	2.9		1
TOTAL	95.1	87.7	85.1	73.2	43.4
Mean	3.17	2.82	2.75	2.44	1.45
Max	4.8	3.6	4.4	2.7	2.2
Min	1.6	2.4	1.9	2.2	1.0

(e) Slough 11 was overtopped during the period of 6-16 to 6-18. The values listed are estimated non overtopped flows.

Source: R&M (1985f)

TABLE 3.12
SLOUGH 9
1983 MEAN DAILY DISCHARGE (C.F.S.)

Day	May		Jun		Jul		Aug		Sep		Oct	
	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs
1			NA	40(e)	1.97	26.9	2.01	29.9	2.65	125	1.76	15.0
2			NA	40(e)	2.11	38.4	1.92	23.6	2.68	132	1.75	14.6
3			NA	35(e)	2.67	129.6	1.82	17.9	2.34	65.6	1.73	13.8
4			NA	35(e)	2.14	41.3	1.67	11.5	1.94	24.9	1.68	11.8
5			NA	30(e)	2.09	36.6	1.78	16.0	1.68	11.8	1.65	10.8
6			NA	30(e)	2.42	78.0	2.05	33.1	1.57	8.34	1.63	10.1
7			NA	30(e)	2.64	122	2.38	71.6	1.55	7.80	1.58	8.61
8			1.80	34.2	2.88	192	2.56	104.3	1.52	7.05	1.57	8.34
9			1.54	21.4	2.23	51.1	3.30	387.5	1.51	6.82	1.57	8.34
10			1.43	17.1	1.92	41.5	3.80	803	1.49	6.36	1.73	13.8
11			1.43	17.1	1.60	9.19	3.00	237	1.48	6.14	1.68	11.8
12			1.52	20.5	1.56	8.07	2.43	79.7	1.46	5.73	1.70	12.6
13			1.54	21.4	1.53	7.30	2.71	140	1.45	5.53	1.70	12.6
14			1.47	18.6	1.62	9.80	2.93	210	1.44	5.33	1.68	11.8
15			1.51	20.1	1.53	7.30	2.78	160	1.45	5.53	1.67	11.5
16			1.77	32.6	1.37	4.12	2.94	213	1.44	5.33	1.65	10.8
17			2.10	54.4	1.36	3.97	2.15	42.3	1.44	5.33	1.63	10.1
18			2.04	32.3	1.50	6.59	1.86	20.0	1.43	5.14	1.61	9.49
19			2.01	29.9	1.71	13.0	1.64	10.4	1.43	5.14	1.60	9.19
20	Gage Installed		2.46	84.9	1.50	6.59	1.52	7.05	1.45	5.53	1.57	8.34
21	1.54	21.4	2.42	78.0	1.43	5.14	1.59	8.90	1.46	5.73	1.55	7.80
22	1.52	20.5	2.36	68.5	1.48	6.14	1.90	22.3	1.48	6.14	1.54	7.55
23	1.49	19.3	2.54	100	1.52	7.05	2.07	34.8	1.50	6.59	1.53	7.30
24	1.47	18.6	2.42	78.0	1.97	26.9	2.37	70.0	1.53	7.30	1.52	7.05
25	NA	16(e)	2.29	58.6	1.90	22.3	2.80	165	1.48	6.14	1.52	7.05
26	NA	12(e)	2.20	47.7	1.55	7.80	3.66	662	1.47	5.93	1.51	6.82
27	NA	10(e)	2.30	60.0	1.48	6.14	3.64	643	1.46	5.73	1.50	6.59
28	NA		2.57	106.4	1.40	4.61	2.90	199	1.46	5.73	Freezeup	
29	NA		2.54	100.2	1.35	3.82	2.35	67.0	1.56	8.07		
30	NA	12(e)	2.20	47.7	1.45	5.53	2.24	52.3	1.74	14.2		
31	NA	30(e)			1.87	20.6	2.57	106				
Tot				1150.0		949.0		4650.0		516.0		274.0
Avg				50.0		30.6		150.0		17.2		10.1
Max				106.0		192.0		803.0		132.0		15.0
Min				17.1		3.82		7.05		5.14		6.59

* Gage Height + 591.15 = Mean Sea Level Elevation.

(e) Estimated

(NA) Not available

Source: Bredthauer (1984)

TABLE 3.13
MEAN DAILY FLOW, SLOUGH 9 (1984)

Location: Downstream end of Slough 9

Drainage Area: 2.26 sq. mi.

Discharge, in Cubic Feet Per Second, 1984 Mean Values

Day	June	July	August	September	October
1	9.1	190	190	18	2.1
2	11	240	130	14	2.1
3	9.7	210	66	11	2.1
4	11(a)	92	56	9.5	2.0
5	11	66	69	7.1	2.0
6	12	65	160	5.6	1.9
7	18	58	170	4.8	1.9
8	23	55	150	4.2	1.9
9	30	53	220	3.6	1.9
10	35	51	200	3.2	1.8
11	30	81	160	2.8	1.8
12	29	62	50	2.4	1.7
13	140	52	40	2.4	1.6
14	500	51	24	2.1	1.6
15	440	28	17	2.1	1.6
16	810	20	14	2.1	1.5
17	-	41	13	2.1	1.6
18	-	60	18	2.7	1.4
19	-	59	34	3.2	1.4
20	-	52	43	3.6	1.4
21	-	70	56	4.2	1.3
22	32	100	52	3.6	1.4
23	34	110	43	3.2	1.4
24	44	57	300	2.8	1.4
25	59	110	790	3.3	1.4(e)
26	140	590	750	3.3	1.4(e)
27	60	680	480	2.8	1.3(e)
28	27	500	160	2.4	1.3(e)
29	45	410	52	2.4	1.3(e)
30	65	380	35	2.1	1.3(e)
31		260	25		1.3(e)
TOTAL	-	4,853	4,567	136	50.1
Mean	-	156	147	4.53	1.62
Max	-	680	790	18	2.1
Min	9.1	20	13	2.1	1.3

(a) The berm at the upstream end of Slough 9 was overtopped continuously between June 4 through August 15 and August 19 through August 30.

(e) Estimated values.

Source: R&M (1985f)

TABLE 3.14

MEAN DAILY FLOW
UPPER SITE, TRIBUTARY B, SLOUGH 9 (1984)

Location: Gage was 150 feet uphill from the Railroad tracks on the tributary stream

Drainage Area: 0.73 sq. mi.

Discharge, in Cubic Feet Per Second, 1984 Mean Values

Day	August	September	October
1	0.92	1.89	0.80
2	1.02	1.59	0.75
3	1.03	1.48	0.75
4	1.02	1.26	0.75
5	1.08	1.15	0.71
6	1.11	1.10	0.66
7	0.95	0.99	0.66
8	0.85	0.94	0.66
9	1.14	0.90	0.66
10	1.03	0.84	0.66
11	0.92	0.75	0.66
12	0.82	0.75	0.62
13	0.73	0.78	0.62
14	0.71	0.73	0.57
15	0.71	0.69	0.53
16	0.62	0.66	0.49
17	0.57	0.66	0.49
18	0.85	0.80	0.45
19	1.89	0.88	0.45
20	2.27	1.10	0.41
21	2.20	1.07	0.38
22	2.53	1.04	0.41
23	3.07	1.02	0.38
24	8.89	0.97	0.38
25	14.7	0.97	0.34
26	9.91	0.90	0.30
27	6.23	0.90	0.27
28	4.74	0.85	0.24
29	3.42	0.85	0.20
30	2.79	0.85	0.18
31	2.33		0.18
TOTAL	81.1	29.4	15.6
Mean	2.62	0.98	0.50
Max	14.7	1.89	0.80
Min	0.57	0.66	0.18
CFSM	3.59	1.34	0.68
IN	4.13	1.50	0.80

Source: R&M (1985f)

TABLE 3.15
MEAN DAILY FLOW
LOWER SITE, TRIBUTARY B, SLOUGH 9 (1984)

Location: Gage was 400 feet upstream of the mouth of the tributary stream.

Drainage Area: 1.46 sq. mi.

Discharge, in Cubic Feet Per Second, 1984 Mean Values

Day	June	July	August	September	October
1	2.2	1.5	1.7	1.9	0.09
2	2.7	1.4	2.4	1.4	0.09
3	2.4	1.4	1.7	1.2	0.09
4	2.2	1.3	1.3	0.85	0.09
5	1.8	1.2	1.4	0.45	0.09
6	1.4	1.2	1.4	0.28	0.09
7	1.4	1.2	1.3	0.25	0.09
8	1.1	1.0	1.1	0.16	0.09
9	1.5	1.0	1.7	0.12	0.09
10	0.95	0.95	1.4	0.12	0.08
11	0.85	0.95	1.2	0.10	0.08
12	0.45	0.90	0.85	0.10	0.08
13	0.45	0.85	0.55	0.10	0.08
14	-	0.70	0.40	0.10	0.08
15	-	0.60	0.25	0.08	0.08
16	-	0.45	0.16	0.08	0.08
17	-	0.65	0.15	0.06	0.08
18	-	0.70	0.25	0.10	0.07
19	-	0.45	1.7	0.12	0.07
20	-	0.35	2.1	0.16	0.07
21	-	0.45	2.2	0.18	0.07
22	-	0.40	2.3	0.18	0.06
23	1.7	0.40	2.9	0.16	0.06
24	1.5	0.28	16.0	0.14	0.06
25	1.4	0.30	43.0	0.14	0.06
26	1.4	1.7	34.0	0.12	0.06
27	1.6	4.7	14.0	0.10	0.06
28	1.7	2.6	6.6	0.10	0.06
29	1.7	2.5	4.2	0.10	0.06
30	1.6	3.0	3.0	0.10	0.06
31		2.3	2.5		0.06
TOTAL	-	37.4	154	9.1	2.3
Mean	-	1.21	4.97	0.30	0.07
Max	-	4.7	43	1.9	0.09
Min	-	0.28	0.15	0.06	0.06
CFSM	-	0.83	3.40	0.21	0.05
IN	-	1.95	3.92	0.23	0.06

Source: R&M (1985f)

TABLE 3.16
SLOUGH 8A
1983 MEAN DAILY DISCHARGE (C.F.S.)

Day	May		Jun		Jul		Aug		Sep		Oct	
	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs	GH ft*	Q cfs
1			0.95	17.9	0.64	2.60	0.62	2.22	0.80	7.73	0.89	13.0
2			0.88	12.3	0.64	2.60	0.61	2.05	0.98	20.8	0.83	9.25
3			1.11	38.3	0.64	2.60	0.61	2.05	0.94	17.0	0.78	6.83
4			1.33	92.6	0.63	2.40	0.63	2.40	0.92	15.3	0.74	5.28
5			0.93	16.1	0.62	2.22	0.64	2.60	0.87	11.6	0.69	3.75
6			0.77	6.41	0.63	2.40	0.65	2.80	0.83	9.25	0.66	3.02
7			0.77	6.41	0.64	2.60	0.66	3.02	0.80	7.73	0.68	3.49
8			0.77	6.41	0.65	2.80	0.86	11.0	0.77	6.41	0.69	3.75
9			0.75	5.64	0.64	2.60	0.95	17.9	0.76	6.01	0.71	4.31
10			0.71	4.31	0.65	2.80	0.93	16.1	0.74	5.28	0.80	7.72
11			0.70	4.02	0.63	2.40	0.86	11.0	0.72	4.62	0.83	9.25
12			0.68	3.49	0.62	2.22	0.87	11.6	0.70	4.02	0.81	8.21
13			0.67	3.25	0.61	2.05	0.86	11.0	0.67	3.25	0.77	6.41
14			0.67	3.25	0.60	1.89	0.95	17.9	0.67	3.25	0.74	5.28
15			0.66	3.02	0.60	1.89	0.93	16.1	0.66	3.02	0.70	4.02
16			0.67	3.25	0.58	1.60	0.86	11.0	0.65	2.80	0.67	3.25
17			0.67	3.25	0.58	1.60	0.87	11.6	0.63	2.40	0.64	2.60
18			0.66	3.02	0.57	1.47	0.86	11.6	0.62	2.22	0.62	2.22
19			0.67	3.25	0.59	1.74	0.86	11.0	0.61	2.05	0.59	1.74
20	Gage Installed		0.67	3.25	0.58	1.60	0.84	9.8	0.62	2.22	0.57	1.47
21	0.95	17.9	0.66	3.02	0.57	1.47	0.79	7.3	0.65	2.80	0.54	1.13
22	0.97	19.8	0.66	3.02	0.57	1.47	0.76	6.0	0.66	3.75	0.51	0.78
23	0.95	17.9	0.66	3.02	0.58	1.60	0.74	5.3	0.68	3.49	0.50	0.78
24	0.90	13.7	0.65	2.80	0.60	1.89	0.70	4.0	0.61	2.05	Freezeup	
25	0.87	11.6	0.65	2.80	0.61	2.05	0.69	3.8	0.58	1.60		
26	0.86	11.0	0.65	2.80	0.59	1.74	0.78	6.83	0.57	1.47		
27	0.84	9.81	0.65	2.80	0.58	1.60	0.79	7.26	0.69	3.75		
28	0.82	8.72	0.66	3.02	0.57	1.47	0.78	6.83	0.97	19.8		
29	0.80	7.73	0.65	2.80	0.56	1.35	0.73	4.94	1.02	25.3		
30	0.85	10.4	0.64	2.60	0.57	1.47	0.73	4.94	0.97	19.8		
31	0.93	16.1			0.59	1.74	0.72	4.94				
Tot		145.0		268.0		61.1		246.9		221.0		106.0
Avg		13.2		8.94		1.97		7.96		7.36		4.61
Max		19.8		92.6		2.80		17.9		25.3		13.0
Min		7.73		2.60		1.47		2.05		1.47		0.78

* Gage Height + 567.96 = Mean Sea Level Elevation.

Source: Bredthauer (1984)

TABLE 3.17

MEAN DAILY FLOW, SLOUGH 8A (1984)

Location: Gage was midway along the length of slough 8A.
 Drainage Area: 1.51 sq. mi.

Discharge, in Cubic Feet Per Second, 1984 Mean Values

Day	July	August	September	October
1	-	5.9	4.1	1.4
2	-	5.6	3.2	1.4
3	2.6	5.2	2.6	1.3
4	2.6	4.8	2.4	1.3
5	2.4	4.8	2.0	1.2
6	2.2	4.4	1.7	1.1
7	2.2	4.1	1.5	1.0
8	2.0	3.8	1.4	1.0
9	2.0	4.4	1.2	1.0
10	2.2	4.1	1.2	0.9
11	2.0	3.6	1.0	0.9
12	2.2	3.2	1.0	0.8
13	2.0	2.6	1.0	0.7
14	2.0	2.4	0.9	0.6
15	1.7	2.2	0.8	0.6
16	1.5	2.0	0.9	0.5
17	1.2	1.7	0.9	0.4
18	1.5	2.6	1.2	0.4
19	1.7	4.1	1.7	0.3
20	2.2	4.8	2.2	0.3
21	2.2	5.2	2.2	0.3
22	2.2	5.9	2.2	0.3
23	2.2	8.0	2.2	0.4
24	2.2	34.0	2.0	0.3
25	2.6	65.0	2.0	0.3
26	4.4	44.0	1.7	0.3
27	5.6	17.0	1.5	0.2
28	7.1	11.0	1.5	0.1
29	6.2	8.0	1.4	0.1
30	8.4	5.9	1.4	0.1
31	7.1	4.8		0.1
TOTAL	86.4	285	51.0	19.6
Mean	2.98	9.19	1.70	0.63
Max	8.4	65	4.1	1.4
Min	1.2	1.7	0.8	0.1

Source: R&M (1985f)

TABLE 3.18

FOOTNOTES FOR 1984 SLOUGH DISCHARGE DATA

- No data available

a Overtopping of berm at upstream end of slough provides part of flow

Daily Mean - Average discharge over a 24 hour period in cubic feet per second. This value includes flow from the mainstem if the upstream berm of the slough is overtopped.

Total - Total of daily mean discharges for the month.

Max - Maximum daily mean discharge for the month.

Min - Minimum daily mean discharge, for the month.

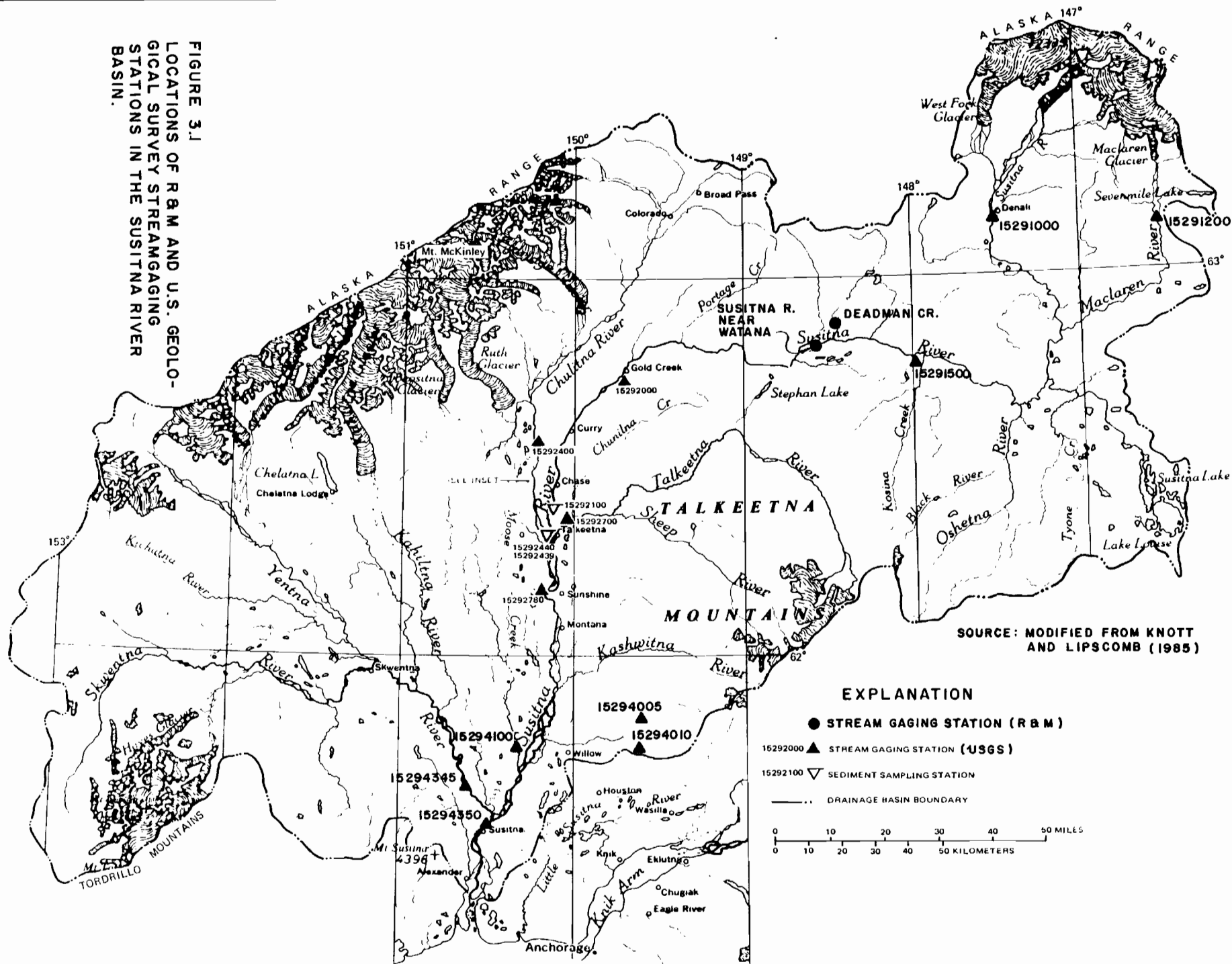
CFSM - Runoff in cubic feet per second per square mile is the average number of cubic feet of water flowing per second from each square mile of area drained. This value is reported only if the data is not affected by the mainstem, either as overtopped flow or groundwater flow. This additional flow from the mainstem does not reflect the natural yield of the drainage basin.

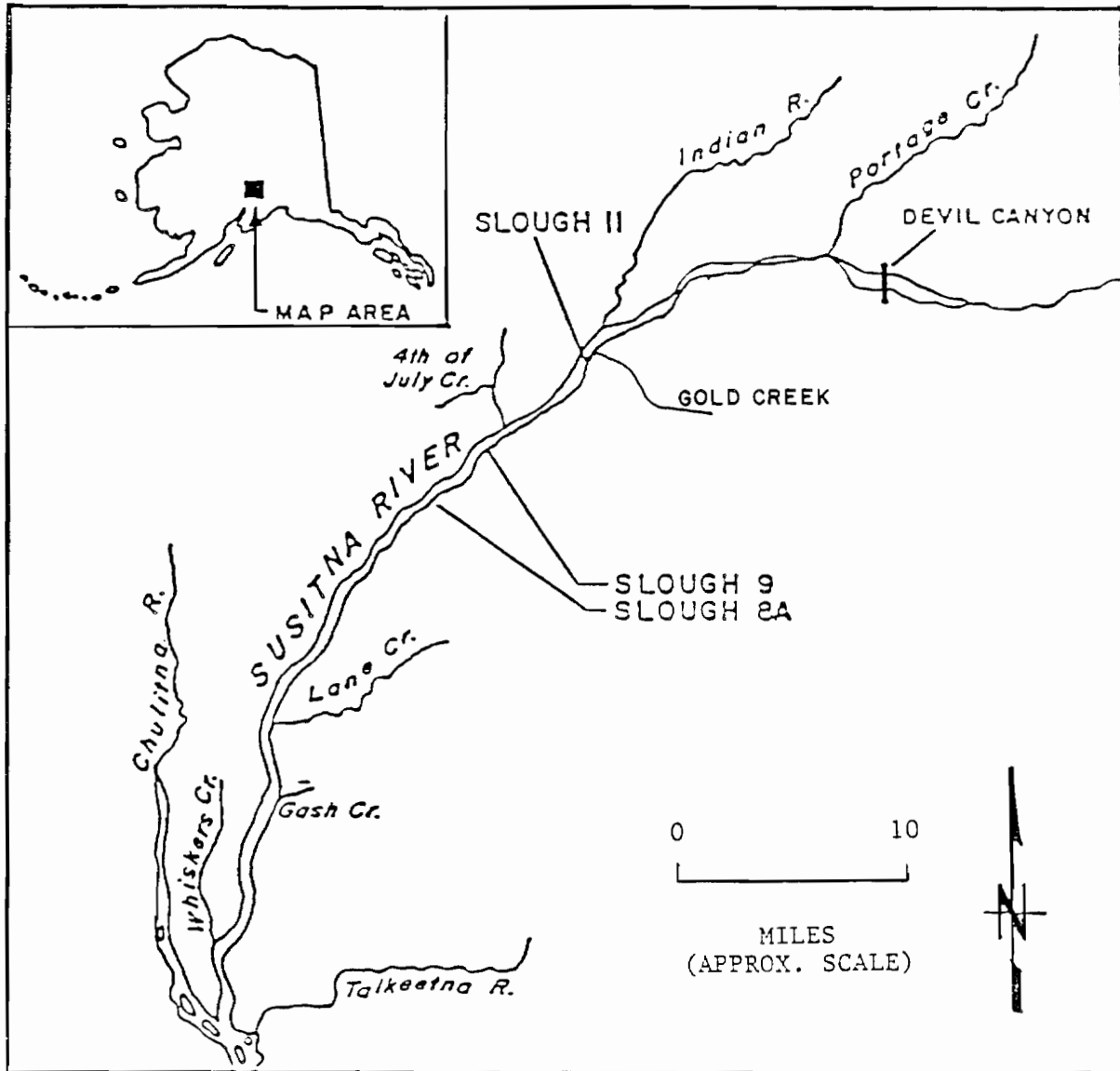
IN - Runoff in inches shows the depth of which the drainage area would be covered if all the runoff for the month were uniformly distributed on it. This value is reported only if the data is not affected by the mainstem (See CFSM above).

Source: R&M (1985f)

FIGURE 3.1

FIGURE 3.1
 LOCATIONS OF R&M AND U.S. GEOLOGICAL SURVEY STREAM GAGING STATIONS IN THE SUSITNA RIVER BASIN.





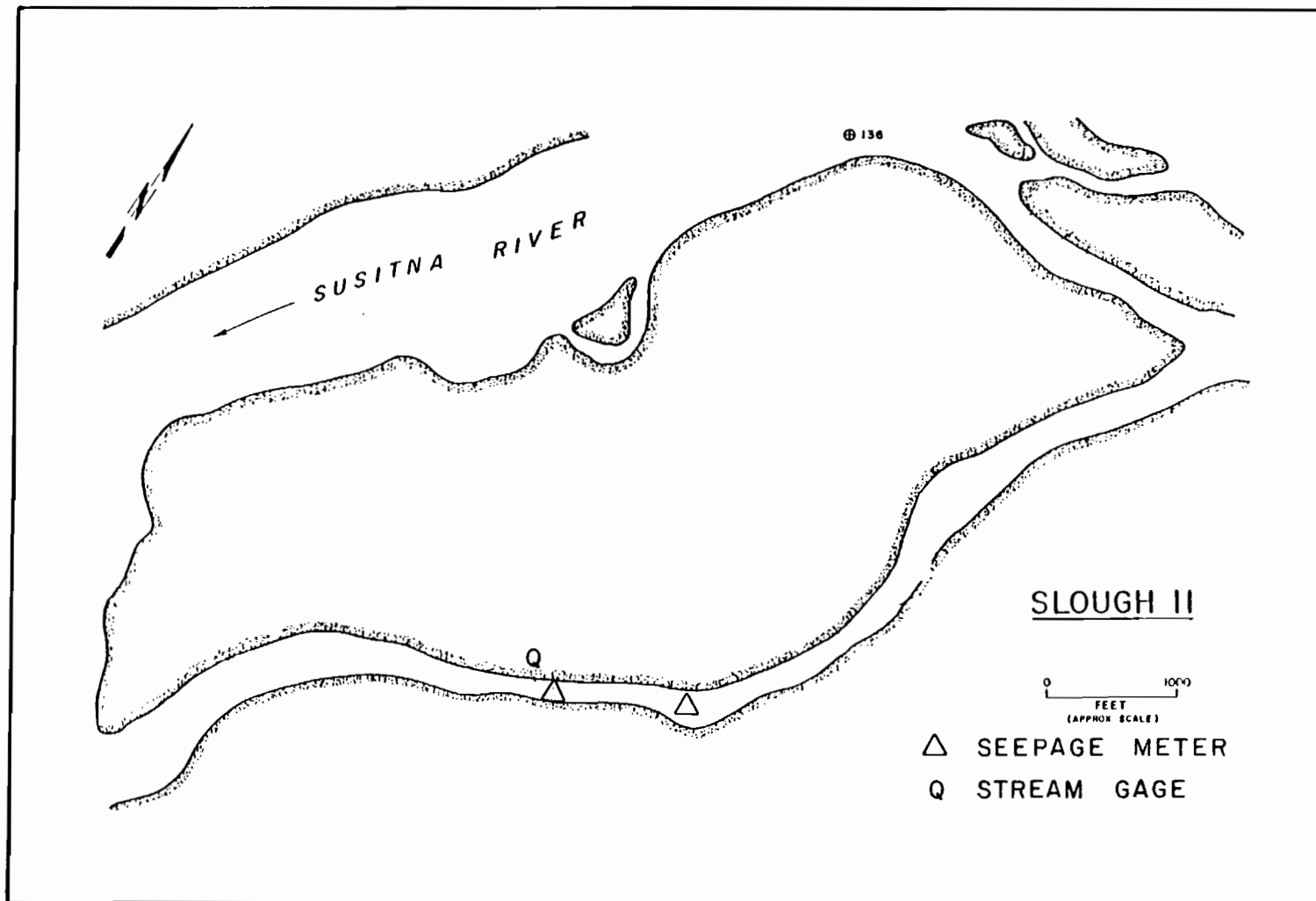
SOURCE: MODIFIED FROM R&M (1985f)

**LOCATIONS OF STUDY SLOUGHS AND TRIBUTARIES,
MIDDLE SUSITNA RIVER**

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

Figure 3.2

PREPARED FOR:
HARZA-EBASCO
SUSITNA JOINT VENTURE



SOURCE: R&M (1985f)

PREPARED BY:

R&M

R&M CONSULTANTS, INC.

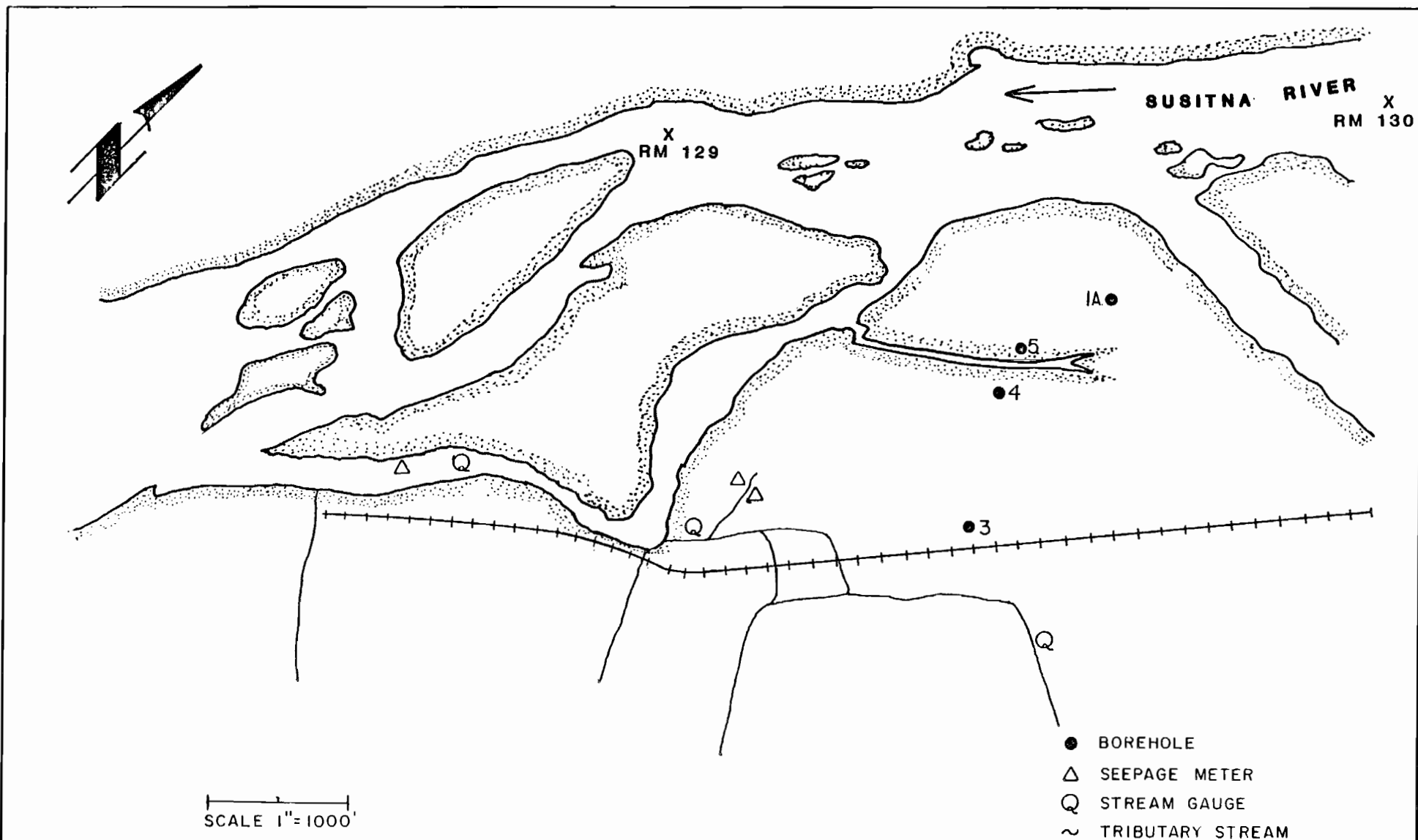
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

FIGURE 3.3 SLOUGH 11

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



SOURCE: R&M (1985f)

PREPARED BY:

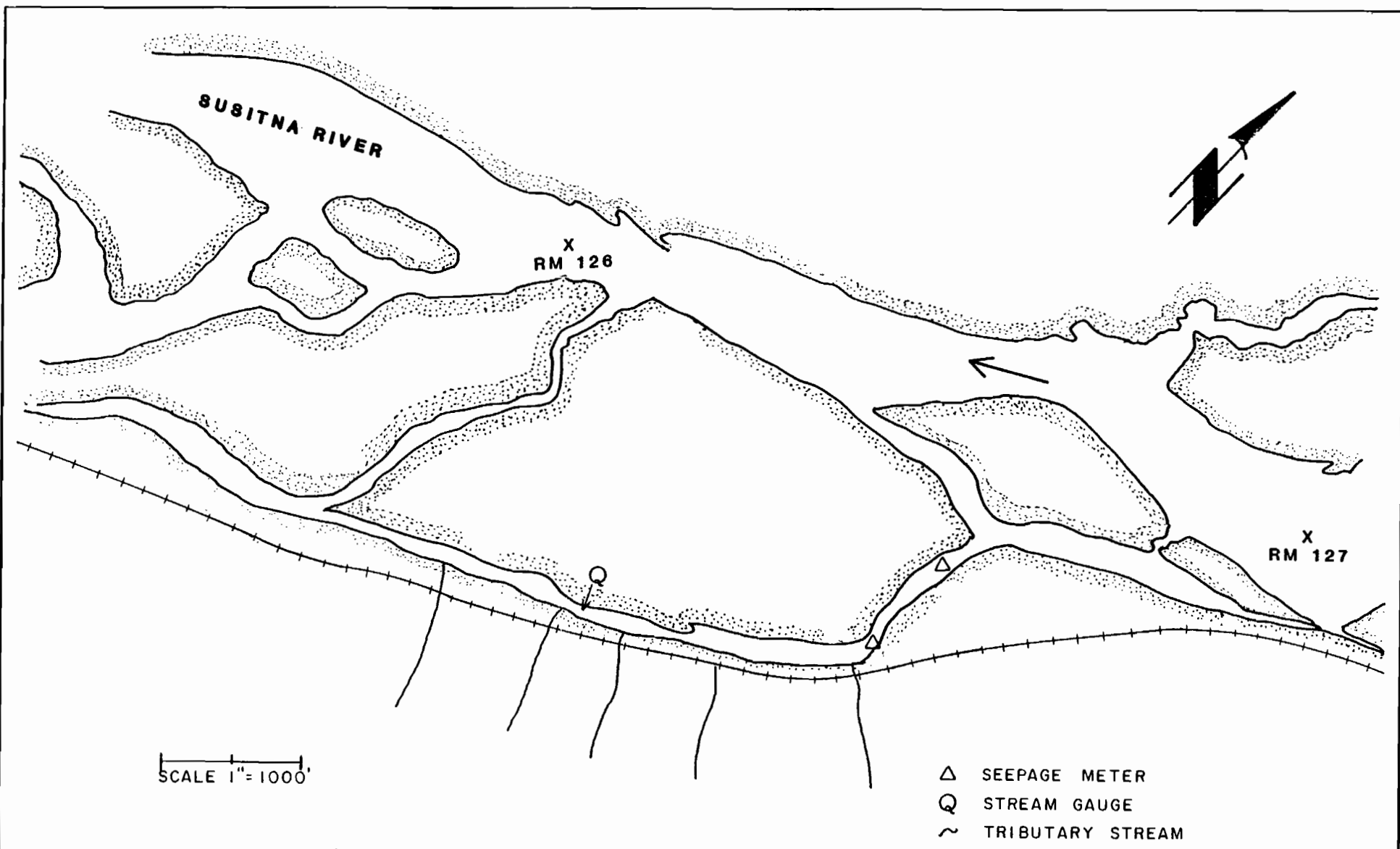
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Figure 3.4 SLOUGH 9

PREPARED FOR:

HARZA-EBASCO
 SUSITNA JOINT VENTURE

3-29



SOURCE: R&M (1985/)

PREPARED BY:

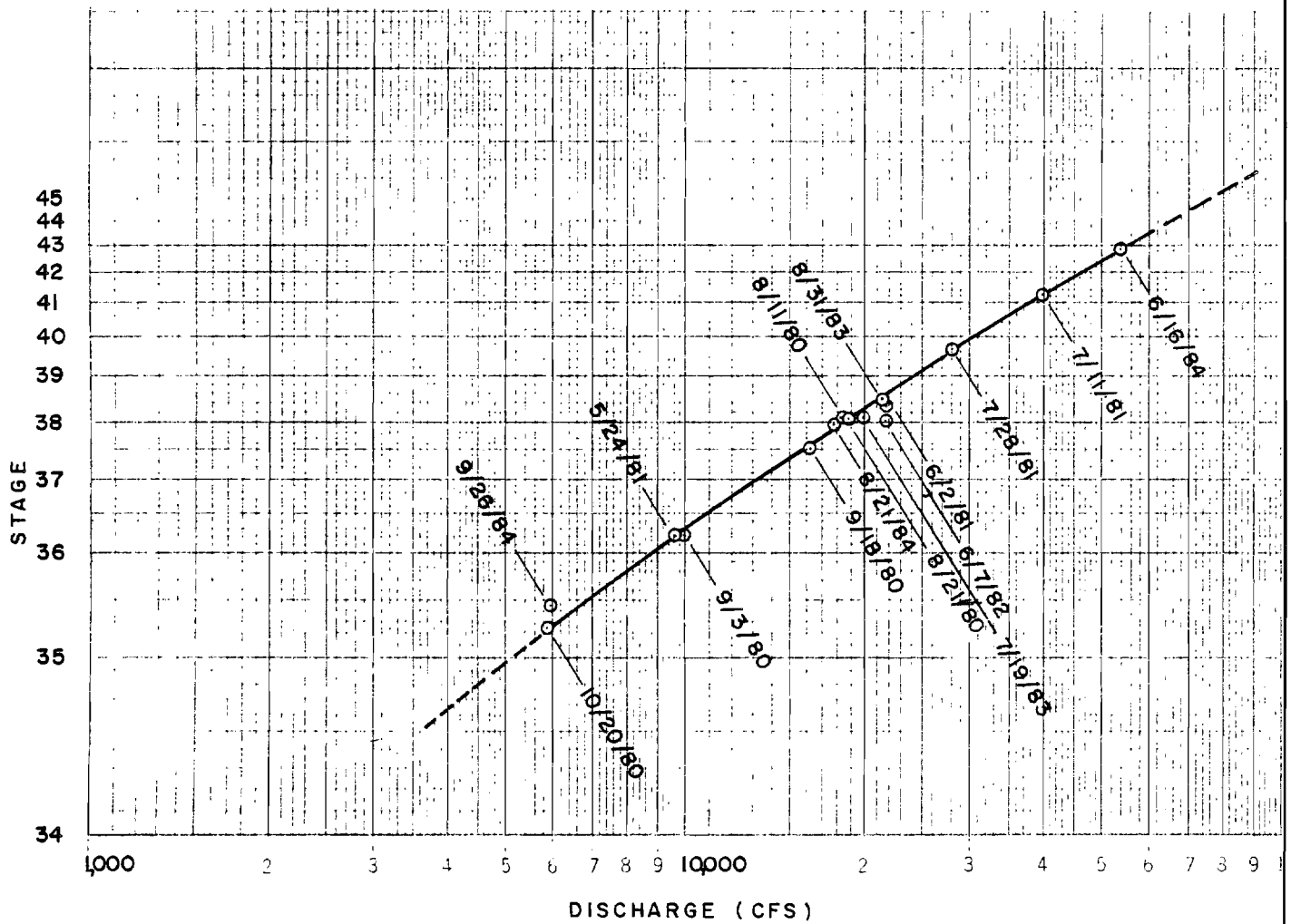
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Figure 3.5 SLOUGH 8A

PREPARED FOR:

HARZA-EBASCO
SUSITNA JOINT VENTURE

STAGE-DISCHARGE RATING CURVE, SUSITNA RIVER NEAR WATANA DAMSITE



PREPARED BY:

R&M
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

FIGURE 3.6

PREPARED FOR:

HARZA-EBASCO
 SUSITNA JOINT VENTURE

SECTION 4.0

4.0 WATER QUALITY

Water quality data, including measurements of continuous water temperature and sampling of sediment characteristics in addition to determination of the customary physical and chemical water quality parameters, were obtained at numerous locations in the Susitna River in 1983 and 1984. Due to the tremendous volume of data collected, a complete summary is not reproduced here. Rather, reference is made to the original publications.

4.1 R&M Data

Data collected by R&M Consultants included water temperature measurements at five different sites. Three mainstem Susitna sites were monitored with Ryan thermographs just prior to freeze-up in September 1983. The locations were at the Denali Highway Bridge (RM 290.7), just upstream of Jay Creek (RM 209.5), and just downstream of the Watana Damsite (RM 183). Their daily recorded minimum, maximum and mean temperatures are tabulated in Table 4.1. Daily temperature measurements were also made from October through December 1983 in the Susitna River at Gold Creek. A local observer used a mercury thermometer to collect the data, which are reported in Table 4.2. The fifth site at which temperature measurements were made was in Deadman Creek near Watana Camp. The same datapod which recorded the water level in the summer of 1983 also recorded the water temperature. Temperature data are listed in Table 4.3.

Additional water quality data included measurement of several parameters on two samples collected from the Susitna River near Watana Damsite in August 1984 for experiments on settling properties of suspended sediment. Measurements were made of temperature, conductivity, pH, turbidity, total suspended solids concentration and particle-size distribution and are presented in the report of the settling column studies (R&M 1985e).

4.2 U.S.G.S. Data

Eleven U.S. Geological Survey streamgaging sites were also sites for collection of water quality data in 1983: all the same areas listed in Section 3.2 except the Maclaren River near Paxson. Station locations are shown in Figure 3.1. Some stations had only measurements of water temperature, some had only water quality sampling, some had both types of data collection, and some had sediment data collected as well. Only four stations had data reported for 1984: Gold Creek, Chulitna River, Talkeetna River, and Susitna Station. The data are presented in Appendix B, Tables B.1 through B.15 for 1983 and 1984. The 1984 data are provisional and subject to revision.

Specialized sediment data (suspended load and bedload) have been collected by the USGS in the Susitna, Chulitna, and Talkeetna Rivers above and below the confluences near Talkeetna from 1981 to the present. The data through February 1984 were reported by Knott and Lipscomb (1985). A previous report (Knott and Lipscomb 1983) presented the earlier data.

4.3 ADF&G Data

Numerous water quality data were collected by the Alaska Department of Fish and Game at a considerable number of sites in the course of aquatic habitat (AH), resident and juvenile (RJ), and adult anadromous (AA) fisheries investigations for the Susitna Hydroelectric Project. Temperature and other physical parameters (pH, conductivity, dissolved oxygen, and turbidity) were measured. Table B.16 in Appendix B lists the sites where continuous temperature records were made from 1981-1983. The reader is referred to the original ADF&G reports to obtain the actual data. The primary reports which contain 1983 water quality data are in the Susitna Hydro Aquatic Studies Report Series, 1984 Report No. 2 (ADF&G 1984a); Report No. 3, Chapter 3 (ADF&G 1984c); Report No. 3, Chapter 4 (ADF&G 1984d); and Report No. 3, Chapter 5 (ADF&G, 1984e). The main reports available to date containing the 1984 water quality data are 1985 Report

No. 5, Volume 1 (ADF&G 1985a) and Report No. 5, Volume 2 (ASF&G, 1985b).

Measurements of gas saturation level in the Susitna River were made at several mainstem locations below the Devil Canyon Damsite (RM 150) in 1983 and 1984. The 1983 data were reported by ADF&G (1984d).

TABLE 4.1
SUSITNA RIVER
WATER TEMPERATURES °C

Date	DENALI (RM 290.7)			JAY CREEK (RM 209.5)			WATANA (RM 183)		
	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
September 1983									
1	-	-	-	3.5	7.0	5.3	-	6.1	-
2	-	4.6	-	3.9	5.8	4.9	5.5	6.5	6.0
3	1.8	4.6	3.2	3.6	5.0	4.3	5.0	5.8	5.4
4	1.3	3.0	2.2	3.7	5.2	4.5	4.3	5.5	4.9
5	1.0	3.5	2.3	4.3	5.0	4.7	3.8	5.2	4.1
6	0.8	3.7	2.3	4.6	5.6	5.1	3.2	5.0	4.1
7	1.3	3.4	2.4	4.9	7.0	6.0	3.3	4.6	4.0
8	2.0	4.0	3.0	4.7	6.2	5.5	4.0	5.2	4.6
9	2.4	4.0	3.2	3.9	5.2	4.6	4.2	5.6	4.9
10	2.4	5.0	3.7	3.8	4.6	4.2	4.8	6.2	5.5
11	1.4	4.8	3.1	3.0	5.3	4.2	4.5	5.2	4.9
12	2.1	3.8	3.0	2.5	5.0	3.8	4.5	5.3	4.9
13	1.8	3.2	2.5	0.5	6.2	3.4	4.6	5.0	4.8
14	2.0	3.3	2.7	0.0	-	-	3.4	4.1	3.8
15	1.2	3.1	2.2	3.0	6.5	4.8	3.7	4.7	4.2
16	0.2	3.2	1.7	4.0	5.5	4.8	2.8	4.3	3.6
17	0.1	2.9	1.5	4.5	4.9	4.7	2.5	3.7	3.1
18	0.3	2.3	1.3	0.0	1.9	1.0	2.0	3.2	2.6
19	0.9	2.6	1.8	0.0	1.8	0.9	2.4	3.2	2.8
20	1.5	3.0	2.3	0.0	2.5	1.3	3.0	4.0	3.5
21	2.2	2.9	2.6	0.0	2.0	1.0	3.8	4.5	4.2
22	1.8	2.2	2.0	0.0	1.8	0.9	4.2	4.6	4.4
23	Sensor In ice			0.0	0.0	0.0	1.0	3.5	2.3
24	Sensor In ice			0.0	0.0	0.0	0.0	0.0	0.0
25	Sensor In ice			0.0	0.0	0.0	0.0	0.0	0.0
26	Sensor In ice			0.0	0.0	0.0	0.0	0.0	0.0
27	Sensor In ice			0.0	0.0	0.0	0.0	0.5	0.0
28	Sensor In ice			Sensor In ice			Dewatered/Sensor		
29	Sensor In ice			Sensor In ice			Dewatered/Sensor		
30	Sensor In ice			Sensor In ice			Dewatered/Sensor		

Note: Data obtained by Ryan thermographs installed in Susitna River at locations noted.

Source: Table reproduced from (R&M 1985C)

TABLE 4.2
SUSITNA RIVER at GOLD CREEK
MEAN DAILY WATER TEMPERATURES °C

<u>Date</u>	<u>Temperature °C</u>	<u>Date</u>	<u>Temperature °C</u>	<u>Date</u>	<u>Temperature °C</u>
Oct. 1983		Nov. 1983		Dec. 1983	
1	-	1	0.2	1	0.5
2	-	2	0.3	2	0.4
3	-	3	0.3	3	0.3
4	-	4	0.2	4	0.2
5	0.8	5	0.2	5	0.3
6	0.7	6	0.1	6	0.4
7	0.5	7	0.1	7	0.2
8	0.2	8	0.1	8	0.1
9	0.2	9	0.2	9	0.1
10	0.4	10	0.1	10	0.1
11	0.7	11	0.2	11	0.1
12	0.8	12	0.1	12	0.1
13	0.5	13	0.1	13	0.1
14	0.2	14	0.1	14	0.1
15	0.6	15	0.1	15	0.1
16	0.7	16	0.1	16	0.1
17	0.8	17	0.1	17	0.1
18	0.8	18	0.1	18	0.1
19	0.4	19	0.1	19	0.2
20	0.1	20	0.1	20	0.3
21	0.4	21	0.1	21	0.1
22	0.2	22	0.3	22	0.1
23	0.4	23	0.3	23	0.1
24	0.3	24	0.1	24	0.1
25	0.3	25	0.1	25	0.1
26	0.4	26	0.4	26	0.1
27	0.2	27	0.4	27	0.0
28	0.3	28	0.4	28	0.0
29	0.2	29	0.5	29	0.0
30	0.4	30	0.5	30	0.0
31	0.3			31	0.1

Note: Data recorded by local observer from daily measurements of water temperature.

Source: Table reproduced from (R&M 1985C)

TABLE 4.3

Mean Daily Water Temperatures, Deadman Creek (1983)

Mean Daily Temperature (°C)

Day	June	July	August	September	October
1		13.9	13.1	7.5	1.0
2		12.8	13.0	7.1	1.3
3		13.0	14.1	6.6e	0.6
4		13.7	13.1	5.7	0.7
5		14.1	12.3	5.3	0.3e
6		14.5	11.8	5.5	
7		13.3	12.0	5.4	
8		13.9	11.0	6.2	
9		13.0	10.5	6.5	
10		14.3	11.2	6.7	
11		13.0	11.5	6.7	
12		14.0	11.2	6.9	
13		13.1	10.0	6.0	
14	9.0e	12.8	9.4	5.1	
15	8.4	13.7	8.8	5.0	
16	8.2	13.8	9.5	4.8	
17	8.5	12.9	10.0	4.7	
18	10.4	11.2	9.8	3.9	
19	10.9	11.6	10.3	4.1	
20	10.0	13.3	9.4	4.9	
21	11.5	13.7	8.4	5.8e	
22	12.0	14.0	9.0	5.2e	
23	12.0	12.9	8.5	1.3	
24	12.6	12.5	8.0	0.5	
25	14.0	13.7	7.2	0.6	
26	14.0	13.6	7.9	0.5	
27	12.0	14.8	8.6	0.4	
28	11.8	15.3	9.5	0.2	
29	12.4	15.3	9.2	0.3	
30	13.7	13.3	8.4	0.5	
31		12.6	7.9		

- Notes: 1. Temperatures are averages of data recorded at 2-hour intervals by Omnidata datapod chip.
 2. "e" indicates estimated values due to incomplete daily records.

SECTION 5.0

5.0 CLIMATE

5.1 R&M Data

Continuous meteorologic data were collected at six sites in the Susitna Basin from October 1982 through December 1984: Susitna Glacier, Denali, Kosina Creek, Watana, Devil Canyon and Sherman stations. Each station consisted of a digital electronic weather station ("Weather Wizard") manufactured by Meteorology Research, Inc., which is now part of Belfort Instrument Company. The Weather Wizards recorded onto magnetic cassette tapes data from 7 sensors: air temperature, wind speed, wind direction, relative humidity, precipitation, solar radiation intensity, and peak wind gust. In addition, longwave radiation intensity was measured at the Watana site. The Watana station also recorded wind sigma theta (standard deviation of the wind direction) from October through December 1984.

Data were generally instantaneous readings taken every 15 to 30 minutes, then were summarized by computer for each day and month of the record. Summary tables and graphical plots for each station are presented for each month of the report period in Tables and Figures 5.1-5.162. Sequential plots of data for the full period are shown in Figures 5.163-5.174, which permit review of the year at a site with just a glance. Summary tables for each year at a site with just a glance. Summary tables for each year at each station are presented in Tables 5.163-5.174, and summaries of the extreme values recorded at each station through December 1984 are given in Tables 5.175-5.181. Station locations are shown in Figure 5.175. The complete data reports for each month, as well as complete descriptions of the data collection program and procedures and the station locations are contained in the annual Processed Climatic Data reports for each station (R&M, 1984a and 1985b).

Additional climatic data collected by R&M included daily measurements of air temperatures at two sites during the river freeze-up period of 1984.

Weathertronics mechanical strip-chart recorders were installed at the Watana streamgage site (RM 182.1) and in the Delta Islands area (RM 48). The Watana site was near the Weather Wizard station site but at river level instead of on the plateau above the river, and the Delta Islands site was on the riverbank in a broad floodplain; both sites are shown in Figure 5.175. Data are tabulated in Tables 5.182-5.188.

Precipitation data were also collected besides what was measured with the Weather Wizards: at the Wyoming gage which is part of the Watana climate station and at selected sites in the Middle Susitna Basin. Data for the Watana Wyoming gage for the winter of 1982-83 were collected with a tipping-bucket gage and an electric heater and are reported in the monthly reports, Tables 5.82 - 5.88. The values seem low for what would be expected with the amount of snow at the site and are considered unreliable. Data for the 1983-84 and 1984-85 winters were collected with an accumulating precipitation gage and are summarized in Table 5.189. These data appear more reasonable than the earlier ones. Finally, miscellaneous measurements of precipitation, which were made at several sites in the Middle Susitna Basin in 1984, are summarized in Tables 5.190 - 5.195. Notes pertaining to the precipitation tables are listed in Table 5.196.

5.2 N.O.A.A. Data

First-order weather stations are maintained at four sites in and around the Susitna River Basin: Fairbanks, Talkeetna, Gulkana, and Anchorage. Locations of these stations are shown in Figure 5.175. Data are recorded every three hours (under most conditions) by observers at each station and are reported monthly by the National Climatic Data Center (N.C.D.C.) in Asheville, North Carolina. The N.C.D.C. is part of the National Environmental Satellite, Data, and Information Service, which is a branch of the National Oceanic and Atmospheric Administration (N.O.A.A.) in the U.S. Department of Commerce. Annual summaries are prepared for first-order stations and are presented in Appendix C for the four stations noted, Tables C.1-C.8. The complete data sets may be found in the

monthly Local Climatological Data reports for each station (N.O.A.A.
1983-84b).

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SUSTITNA HYDROELECTRIC PROJECT

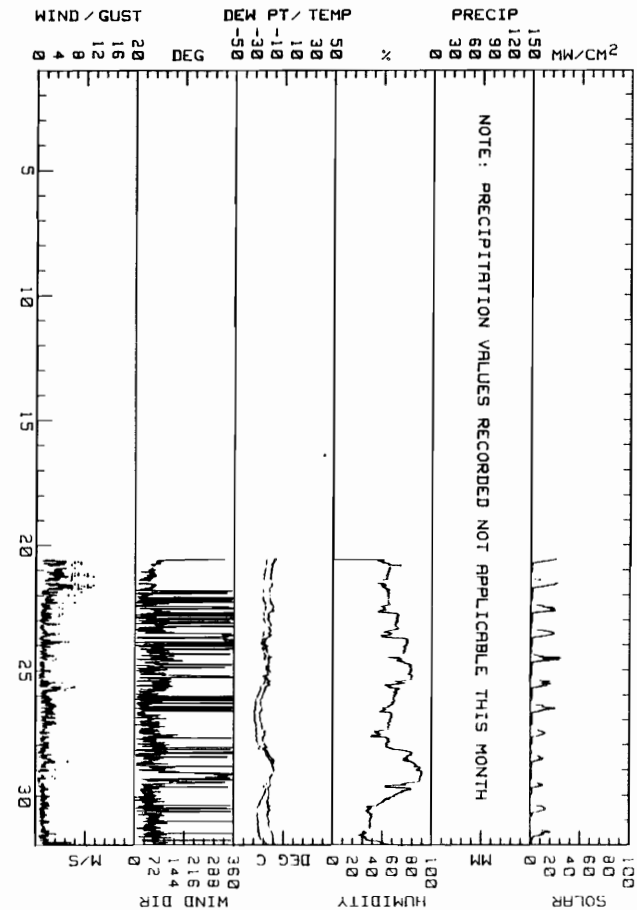
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1982

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

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

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

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



R&M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
October, 1982
FIGURE and TABLE 5.1

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P/VL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY KWH/CM
1	-1.8	-9.9	-5.9	077	3.9	4.3	079	12.7	ENE	66	-10.7	****	533
2	-1.7	-8.2	-5.0	081	1.3	2.6	236	10.2	ENE	74	-9.2	****	518
3	-1.6	-11.5	-6.6	038	1.4	1.8	049	6.3	N	65	-12.2	****	695
4	-3.3	-8.6	-6.0	071	1.7	2.2	182	11.4	E	78	-9.4	****	655
5	-7.1	-10.0	-8.6	060	2.0	2.0	052	6.3	ENE	60	-14.9	****	785
6	-8.7	-17.9	-13.3	014	1.3	1.7	001	5.1	N	50	-20.2	****	820
7	-10.5	-17.3	-13.9	053	1.0	1.2	095	4.4	NE	57	-20.7	****	763
8	-7.9	-14.2	-11.1	047	1.2	1.6	022	5.1	NE	70	-14.1	****	418
9	-10.9	-13.8	-12.4	023	1.0	1.4	086	5.1	NNE	06	-14.2	****	375
10	-8.4	-12.5	-10.5	050	1.3	1.6	093	6.3	NNE	70	-13.7	****	310
11	-5.8	-8.5	-7.2	052	1.0	1.4	049	4.4	NNE	86	-9.1	****	250
12	-3.4	-7.6	-5.5	086	3.7	4.1	185	14.0	E	74	-9.2	****	295
13	-3.4	-6.2	-4.8	088	1.9	2.8	095	11.4	ENE	****	****	****	525
14	-5.8	-10.0	-7.9	053	1.2	1.4	035	3.8	NE	74	-11.1	****	480
15	-8.8	-10.9	-9.9	056	1.3	1.4	039	3.8	ENE	63	-15.7	****	443
16	-9.5	-12.3	-10.9	052	1.5	1.6	052	7.0	NE	54	-10.4	****	468
17	-10.8	-14.6	-12.7	068	1.9	2.1	085	6.3	ENE	31	-26.3	****	613
18	-12.3	-16.5	-14.4	053	1.4	1.6	096	5.1	ENE	22	-28.0	****	608
19	-9.0	-15.7	-12.4	064	1.2	1.5	068	4.4	ENE	20	-27.0	****	640
20	-5.7	-15.1	-10.4	069	1.1	1.6	056	7.0	E	67	-13.9	****	335
21	-4.4	-8.0	-6.2	063	1.1	1.3	010	5.7	ENE	****	****	****	205
22	-5.0	-9.6	-7.3	049	1.4	1.8	089	7.0	NNE	61	-12.6	****	290
23	-4.4	-7.5	-6.0	055	1.2	1.5	052	3.8	NE	****	****	****	318
24	-3.6	-5.6	-4.6	062	1.3	1.4	043	5.7	NE	85	-6.6	****	273
25	-2.8	-8.7	-5.8	052	1.6	1.8	022	7.0	NE	52	-13.1	****	343
26	.7	-8.6	-4.0	081	1.8	2.0	098	9.5	E	60	-9.8	****	343
27	-3.7	-5.9	-4.8	056	1.4	1.5	057	4.4	NE	73	-9.1	****	243
28	-4.5	-8.6	-6.6	062	1.0	1.1	073	4.4	ENE	71	-10.6	****	265
29	-7.1	-8.7	-7.9	069M	.9M	1.1M	101M	6.3M	E(M)	****	****	****	163
30	-7.1	-17.6	-12.4	037	1.3	1.7	058	6.3	NE	****	****	****	203
MONTH	.7	-17.9	-8.5	062M	1.5M	1.8M	105M	14.0M	ENE(M)	66M	-13.7M	****	13168

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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

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

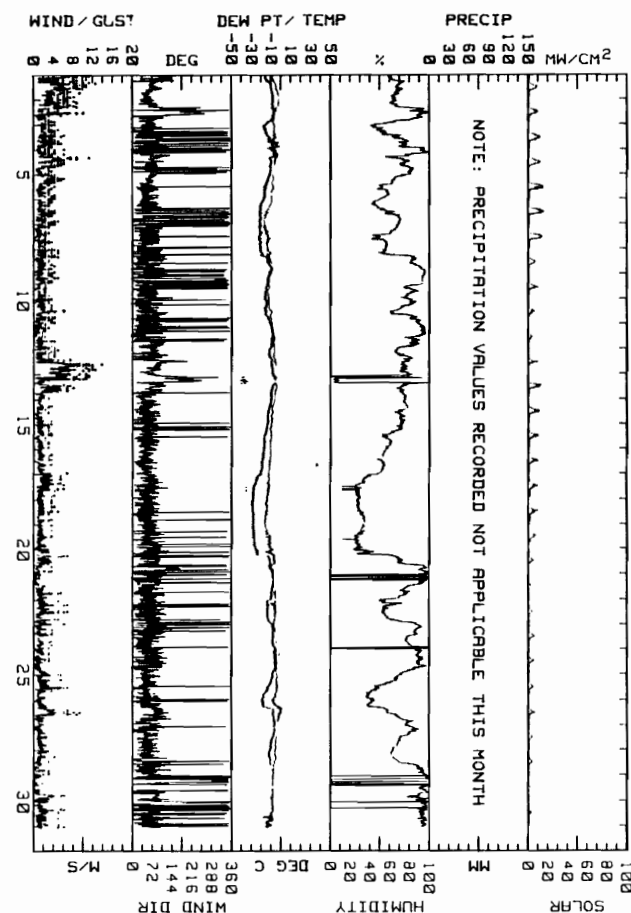


FIGURE and TABLE 5.2

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

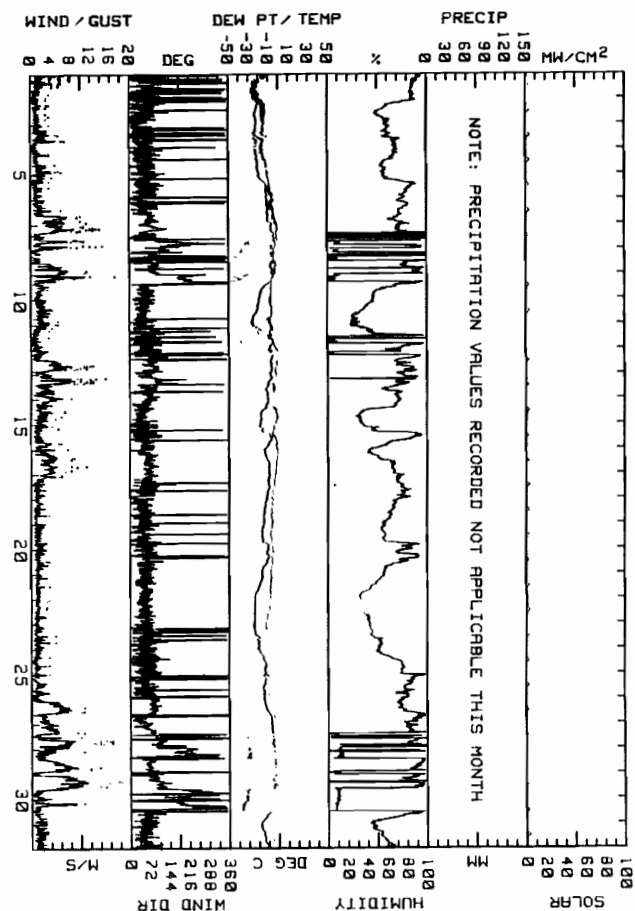
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-10.0	-25.6	-17.8	033	.9	1.6	333	6.3	NE	87	-21.9	****	195	1
2	-13.4	-22.9	-18.2	047	1.1	1.3	072	3.8	NNE	58	-21.4	****	298	2
3	-11.5	-21.6	-16.6	033	1.4	1.7	035	7.0	NNE	63	-21.8	****	303	3
4	-10.9	-20.8	-15.9	054	1.5	1.7	040	6.3	NE	60	-20.2	****	290	4
5	-5.9	-12.3	-9.1	056	1.3	1.5	044	4.4	NE	73	-13.4	****	223	5
6	-2.3	-8.6	-5.5	071	2.9	3.2	079	11.4	ENE	73	-9.6	****	245	6
7	-1.3	-5.8	-3.6	100	2.9	3.7	117	14.6	E			****	158	7
8	-2.9	-6.4	-4.7	094	2.5	3.0	087	11.4	E			****	158	8
9	-5.1	-9.6	-7.4	126	.6	2.6	203	17.1	NE			****	245	9
10	-6.9	-10.4	-8.7	050	2.2	2.4	051	6.3	NE	34	-21.8	****	438	10
11	-2.7	-11.2	-7.0	062	1.0	1.4	094	4.4	ENE			****	205	11
12	-1.2	-9.4	-5.3	077	3.0	3.4	083	12.7	E			****	205	12
13	-3.0	-6.6	-4.8	085	3.3	3.9	100	15.2	ENE			****	230	13
14	-1.0	-7.1	-4.1	053	2.4	2.6	098	7.6	ENE	49	-13.9	****	303	14
15	-1.5	-7.6	-4.6	056	1.9	2.1	070	7.6	ENE	62	-10.8	****	263	15
16	-1.0	-3.8	-2.4	071	3.6	3.7	106	11.4	ENE	58	-10.0	****	253	16
17	-3.7	-8.1	-5.9	062	1.5	1.8	072	6.3	E	75	-9.5	****	213	17
18	-6.1	-9.0	-7.6	047	1.3	1.4	034	4.4	NE	64	-13.0	****	253	18
19	-6.1	-9.4	-7.8	049	1.5	1.6	047	4.4	NE	63	-13.8	****	233	19
20	-5.5	-9.2	-7.4	061	1.6	1.8	107	5.1	ENE	71	-12.0	****	210	20
21	-7.7	-9.6	-8.7	058	1.6	1.6	052	4.4	ENE	44	-19.0	****	310	21
22	-8.9	-14.1	-11.5	054	1.4	1.4	075	3.8	ENE	36	-23.1	****	378	22
23	-9.2	-14.6	-11.9	050	1.2	1.5	041	5.1	NE	48	-21.2	****	293	23
24	-7.8	-11.2	-9.5	060	1.1	1.3	026	3.8	NE	66	-14.3	****	250	24
25	-8.0	-15.0	-11.5	046	1.1	1.4	053	4.4	NNE	81	-13.5	****	200	25
26	-3.3	-10.8	-7.1	077	3.8	4.2	092	10.8	E	81	-9.8	****	168	26
27	-2.5	-5.1	-3.8	098	3.6	4.6	131	18.4	ESE			****	158	27
28	-1.5	-4.3	-2.4	079	2.6	4.1	079	14.0	ENE			****	145	28
29	-1.9	-5.0	-3.0	110	4.3	5.3	122	18.4	ESE			****	145	29
30	-5.0	-8.6	-6.8	105	.6	2.0	189	10.8	E			****	213	30
31	-2.5	-7.9	-5.2	053	1.6	1.8	040	5.1	NE	55	-13.8	****	275	31
MONTH	-5	-25.6	-7.9	071	1.9	2.4	131	18.4	ENE	M	M	****	7448	

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

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



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

FIGURE and TABLE 5.3

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P/VL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	-2.0	-6.8	-4.7	054	1.0	1.3	044	3.8	NE			****	218	1
2	-5.4	-11.7	-8.6	086	.3	.7	174	3.2	ESE			****	140	2
3	-10.3	-14.6	-12.5	313	1.4	1.5	323	5.1	NW	52	-19.7	****	203	3
4	-14.3	-18.8	-16.6	027	1.1	1.6	339	4.4	NE	45	-26.4	****	318	4
5	-19.6	-24.4	-21.7	055	1.4	1.6	037	4.4	ENE	48	-29.6	****	330	5
6	-20.8	-26.9	-23.9	012	2.2	2.7	082	7.0	N	66	-27.9	****	298	6
7	-16.4	-32.7	-24.6	045	2.1	2.7	067	10.8	ENE	60	-27.3	****	303	7
8	-20.6	-33.7	-27.2	038	1.2	2.2	129	10.8	N	70	-32.1	****	300	8
9	-24.7	-31.1	-27.9	071	1.9	2.3	094	10.2	ENE	55	-34.0	****	335	9
10	-20.7	-30.4	-25.6	047	1.3	1.6	073	5.1	ENE	48	-32.4	****	340	10
11	-18.6	-23.9	-21.3	069	.4	3.0	308	16.5	N	48	-30.1	****	358	11
12	-21.5	-29.5	-25.5	016	1.7	2.1	043	8.3	NE	66	-29.1	****	345	12
13	-11.5	-26.4	-19.0	062	1.7	2.0	056	10.2	ENE	57	-24.0	****	433	13
14	-10.8	-19.7	-15.3	069	1.5	2.0	071	8.9	NE	60	-21.6	****	378	14
15	-2.7	-13.6	-8.2	054	1.9	2.2	077	8.9	NE	63	-12.8	****	328	15
16	-3.6	-7.2	-5.5	081	1.6	2.5	094	10.2	E			****	240	16
17	-4.7	-14.5	-9.6	051	1.3	1.7	025	5.7	NE			****	265	17
18	1.2	-4.5	-1.7	090	2.7	3.6	123	19.0	NE			****	340	18
19	-1.6	-12.5	-7.1	171	.8	3.6	103	16.5	WSW			****	255	19
20	-4.6	-10.5	-7.6	067	1.9	2.1	065	7.6	ENE	55	-16.1	****	455	20
21	.3	-5.9	-2.8	008	3.5	3.6	077	8.3	ENE	16	-25.0	****	753	21
22	2.8	-3.1	-.2	052	1.6	1.7	042	5.1	NE	16	-22.4	****	738	22
23	1.7	-5.9	-2.1	054	1.8	1.9	064	6.3	NE	19	-21.3	****	733	23
24	-1.6	-11.2	-6.0	066	1.7	2.3	073	12.1	ENE	27	-22.4	****	685	24
25	.7	-12.9	-6.1	063	1.3	1.5	041	5.1	ENE	47	-15.0	****	458	25
26	2.3	-9.9	-3.8	072	2.4	2.7	112	14.0	ENE	54	-9.2	****	440	26
27	-1.4	-6.7	-3.6	052	1.1	1.3	046	4.4	NE			****	510	27
28	-2.6	-7.5	-5.2	059	.8	1.1	037	3.8	NE			****	345	28
29	-3.5	-7.6	-5.7	054	1.5	1.6	019	4.4	NE	57	-13.5	****	526	29
30	-3.1	-9.7	-6.4	049	.9	1.4	043	5.1	NNE			****	348	30
31	.1	-3.6	-1.8	075	3.5	3.7	110	11.4	ENE	67	-6.9	****	588	31
MONTH	2.8	-33.7	-11.5	056	1.4	2.1	123	19.0	ENE	51M	-21.1M	****	12273	

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

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

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

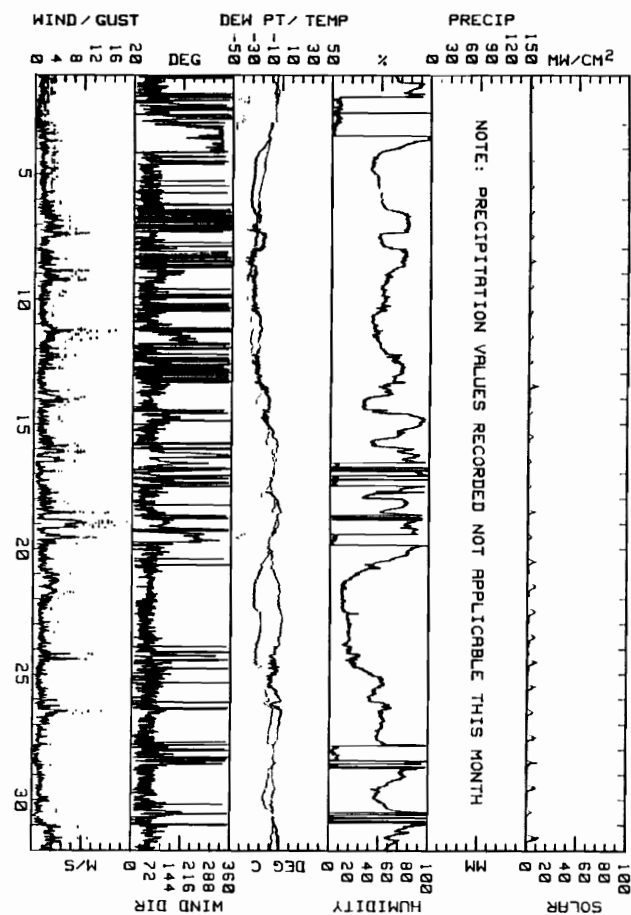


FIGURE and TABLE 5.4

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

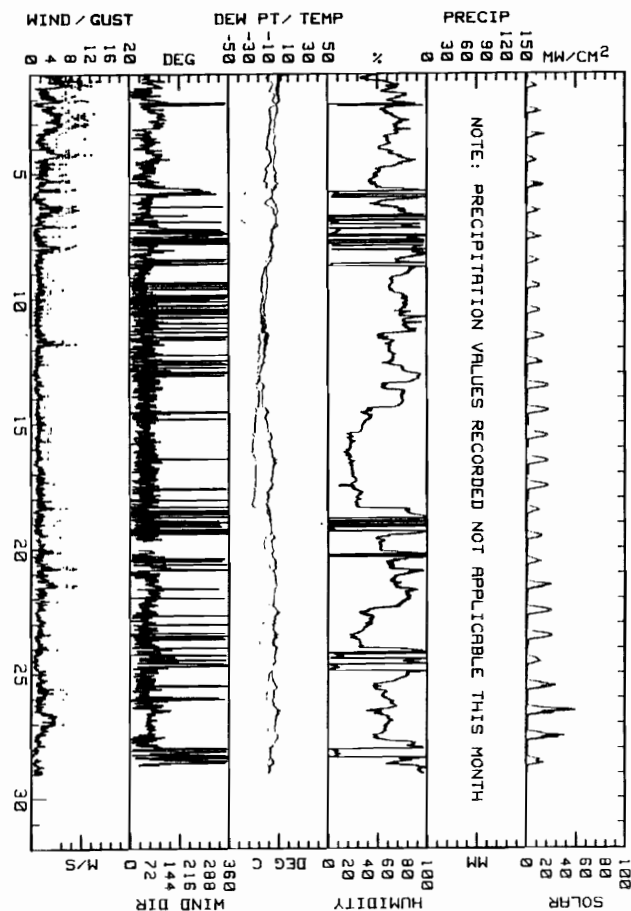
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1983

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

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

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

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



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

FIGURE and TABLE 5.5

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

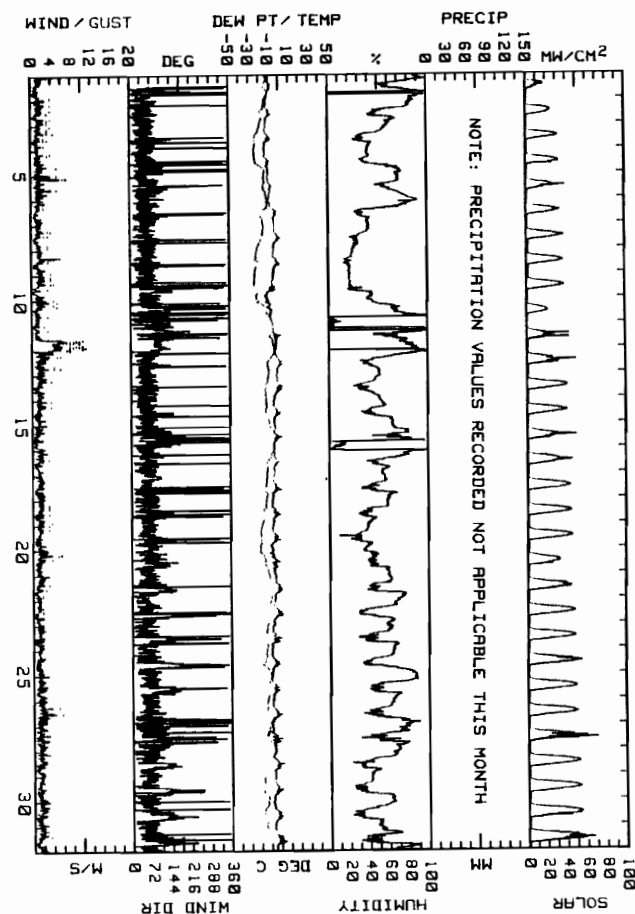
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING March, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND SPD.	MAX. GUST SPD.	MAX. GUST P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	-6.9	-12.3	-9.6	048M	.9M	1.2M	028M	3.8M	NNE(4)	69	-16.8	****	988
2	-7.3	-13.4	-10.4	049	1.3	1.4	068	3.8	NE	69	-16.8	****	1728
3	-8.2	-14.8	-11.5	055	1.0	1.1	035	4.4	ENE	46	-22.3	****	1988
4	-9.0	-14.7	-11.9	048	1.2	1.5	039	5.1	NE	50	-20.8	****	2073
5	-6.6	-11.4	-9.0	052	1.5	1.7	031	7.0	NE	69	-14.3	****	1713
6	-2.3	-10.5	-6.4	060	1.0	1.2	026	3.8	ENE	59	-14.4	****	2048
7	1.3	-5.8	-2.3	055	1.1	1.2	054	3.8	ENE	33	-18.2	****	2368
8	.6	-6.7	-3.1	057	1.4	1.5	042	5.7	ENE	22	-23.6	****	2603
9	-4.0	-14.3	-9.2	057	1.1	1.4	015	4.4	ENE	28	-24.1	****	2570
10	-6.2	-12.9	-9.6	057	.7	1.2	098	5.1	E	****	****	****	1415
11	1.2	-6.4	-2.6	105	2.5	2.8	120	10.0	ESE	****	****	****	1618
12	2.8	-5.0	-1.1	064	1.7	1.9	099	7.6	ENE	56	-10.8	****	2215
13	2.5	-5.5	-1.5	051	1.3	1.4	051	3.8	NE	44	-13.5	****	2733
14	.6	-6.5	-3.0	060	1.2	1.3	004	3.8	NE	54	-12.9	****	2538
15	1.5	-6.3	-2.4	065	.6	.9	021	3.8	E	****	****	****	2198
16	-1.0	-6.5	-3.8	056	1.1	1.3	099	3.8	ENE	****	****	****	2585
17	.8	-7.9	-3.6	063	1.2	1.4	085	4.4	NE	55	-13.9	****	2955
18	-1	-8.5	-4.3	061	1.2	1.4	052	3.8	ENE	48	-16.0	****	3098
19	-2	-9.9	-5.1	064	1.1	1.3	023	3.8	ENE	36	-19.8	****	3213
20	-1.0	-10.6	-5.8	066	1.2	1.4	028	5.7	ENE	47	-15.9	****	2455
21	1.2	-6.4	-2.6	069	.9	1.1	093	3.8	NE	62	-10.7	****	3005
22	1.8	-7.1	-2.7	055	.8	1.0	041	3.2	ENE	58	-12.5	****	3353
23	.2	-9.4	-4.6	052	.8	1.1	001	3.2	NNE	57	-14.8	****	3443
24	-1.5	-9.5	-5.5	062	.8	1.1	021	3.2	E	65	-14.0	****	3395
25	-2.1	-9.7	-5.9	073	1.0	1.3	036	3.8	ENE	69	-12.7	****	3570
26	.4	-10.6	-5.1	059	1.4	1.7	047	6.3	NE	59	-14.0	****	3588
27	.4	-10.9	-5.3	079	.8	1.4	032	4.4	ESE	66	-12.2	****	3220
28	2.3	-8.8	-3.3	070	1.1	1.3	052	3.8	ENE	51	-14.9	****	3843
29	.9	-8.4	-3.8	069	.9	1.2	067	3.8	NE	45	-16.5	****	3950
30	.4	-9.0	-4.3	067	1.1	1.4	042	3.8	ENE	47	-15.8	****	4058
31	4.3	-7.1	-1.4	072	1.0	1.2	038	4.4	ENE	63	-11.4	****	4158
MONTH	4.3	-14.8	-5.2	063M	1.1M	1.4M	128M	10.8M	ENE(4)54M	-15.3M	****	****	64595

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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

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



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

FIGURE and TABLE 5.6

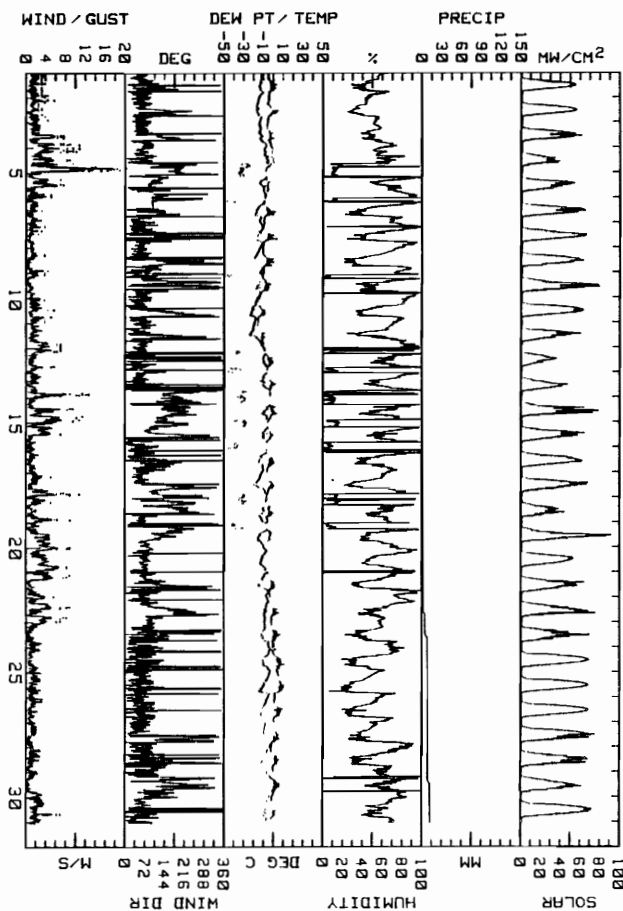
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RFS. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. 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
1	3.4	-5.0	-0.8	068	1.2	1.4	056	4.4	NE	51	-12.4	0.0	0.0	4155
2	5.1	-5.9	-0.4	067	1.2	1.5	052	5.7	NE	43	-14.9	0.0	0.0	4310
3	.9	-6.5	-2.8	087	2.1	2.7	070	10.8	ENE	55	-11.8	0.0	0.0	3943
4	1.4	-7.3	-3.0	126	2.3	4.6	184	24.1	ENE				0.0	2635
5	-3.3	-7.6	-5.5	106	1.8	2.1	089	7.6	ESE	65	-13.0	0.0	0.0	3738
6	2.5	-9.5	-3.5	085	.8	1.3	037	3.8	E	59	-16.0	.2		4443
7	3.9	-10.2	-3.2	055	.8	1.1	059	3.8	ENE	80	-12.0	0.0	0.0	4595
8	3	-10.6	-4.9	055	.8	1.1	043	4.4	ENE	65	-15.1	0.0	0.0	4628
9	-2.1	-14.1	-8.1	040	.5	1.0	280	3.8	E		0.0	0.0	0.0	4725
10	-8.0	-15.5	-11.8	053	1.1	1.6	107	5.7	ENE	68	-18.7	0.0	0.0	5063
11	-7.6	-15.7	-11.7	061	1.6	2.1	080	7.0	ENE	67	-17.0	0.0	0.0	3658
12	0.0	-9.2	-4.6	037	1.4	1.6	072	7.0	NNE			0.0	0.0	2483
13	2.6	-6.9	-2.2	099	.7	2.0	140	12.7	NE			0.0	0.0	3030
14	3.6	-5.4	-0.9	153	2.4	2.9	147	11.4	SE			.2		4545
15	.4	-6.5	-3.1	095	1.1	2.0	091	7.6	E			0.0		4255
16	1.1	-7.0	-3.0	067	.9	1.2	033	4.4	ENE			.4		4913
17	1.3	-7.1	-2.9	096	1.4	2.1	122	10.8	NE			.8		4575
18	.2	-7.5	-3.7	092	.6	1.8	066	8.9	ENE			.6		2998
19	-1.4	-7.1	-4.3	102	2.1	3.0	081	8.9	E			0.0		4810
20	-0.9	-6.3	-3.6	072	3.4	3.5	098	8.3	ENE			0.0		4488
21	2.0	-4.9	-1.5	072	1.7	2.1	093	8.9	ENE	68	-8.5	.4		4575
22	5.7	-3.3	1.2	099	1.9	2.8	099	8.9	E	64	-7.4	2.2		4735
23	7.4	-2.0	2.7	069	.9	1.3	105	4.4	E	59	-7.4	3.8		4250
24	11.5	-1.3	5.1	043	1.0	1.3	011	4.4	NNE	54	-5.6	1.0		5943
25	11.5	1.3	6.4	059	1.3	1.6	061	4.4	NE	41	-7.5	0.0		5968
26	9.5	.2	4.9	060	1.1	1.3	029	4.4	ENE	45	-8.6	0.0		6000
27	6.2	-2.0	2.1	043	1.0	1.3	040	3.8	NNE	56	-7.8	0.0		5755
28	6.1	-2.4	1.9	067	.9	1.3	043	4.4	E	56	-7.9	0.0		5198
29	6.8	-2.9	2.0	114	.6	1.1	113	6.3	SE			3.4		4593
30	2.6	-3.1	-0.3	050	1.9	2.3	113	7.0	NE	60	-7.7	0.0		6370
MONTH	11.5	-15.7	-2.0	080	1.2	1.9	184	24.1	ENE	M	M	13.0		135372

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

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



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

FIGURE and TABLE 5.7

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

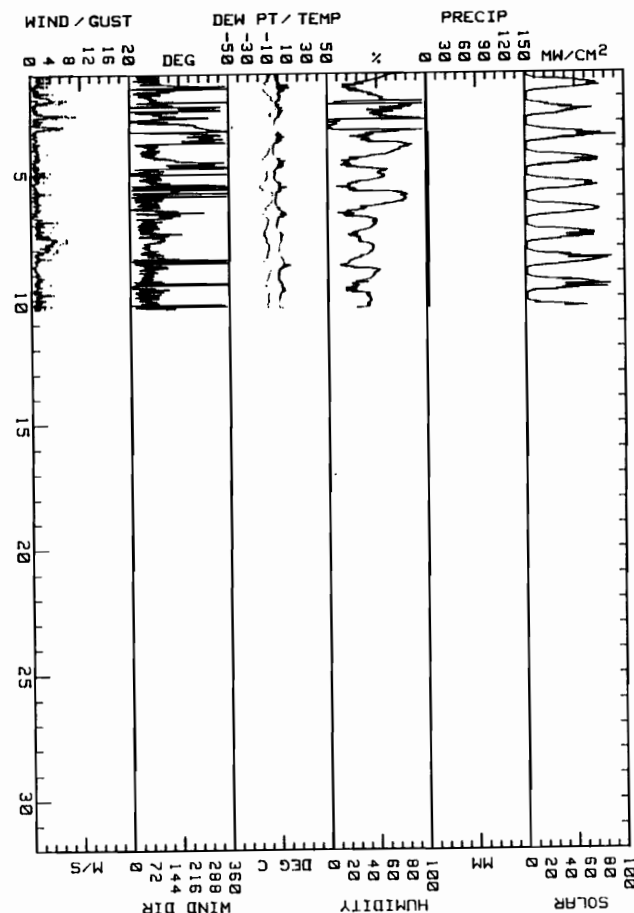
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1983

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

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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

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



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

FIGURE and TABLE 5.8

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

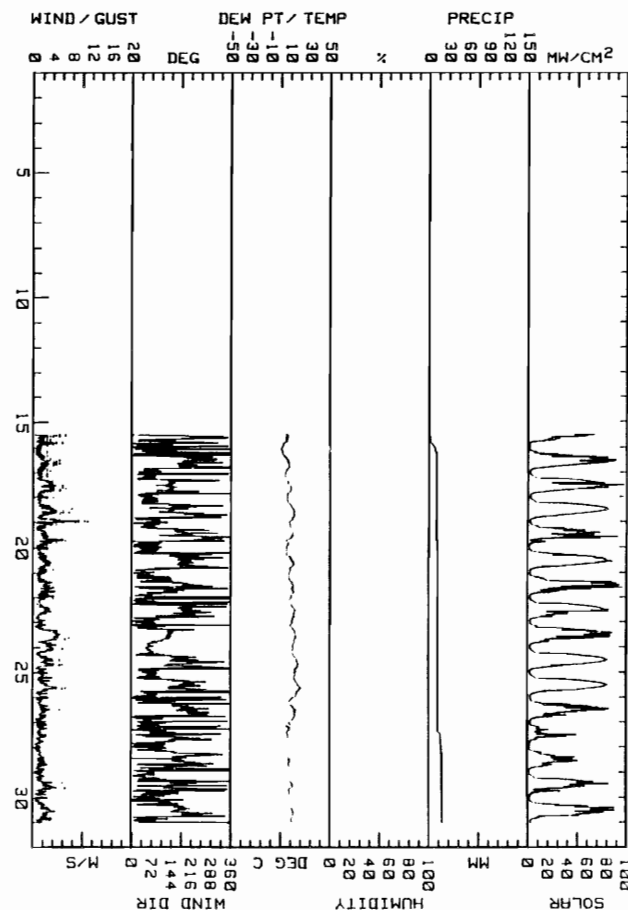
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	MAX. GUST P'VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
3	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
4	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
5	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
6	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
7	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
8	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
9	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
10	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
11	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
12	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
13	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
14	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
15	7.0	9	4.0	145	.1	1.5	010	6.3	SE	XX	XXXX	2.4M	4430
16	8.7	.3	4.5	197	.3	1.4	260	5.1	SSW	XX	XXXX	3.0	7568
17	14.6	3.6	7.1	124	1.4	2.0	143	6.3	SE	XX	XXXX	0.0	7653
18	13.9	5.6	9.8	118	1.2	2.3	072	10.8	ENE	XX	XXXX	0.0	8300
19	12.6	5.4	9.0	099	.2	2.0	241	7.6	NE	XX	XXXX	2.0	5505
20	13.9	5.0	9.5	169	.6	1.8	200	5.1	SSW	XX	XXXX	0.0	8038
21	13.2	7.5	10.4	106	.9	1.9	027	7.6	ENF	XX	XXXX	0.0	6728
22	14.5	7.5	11.0	173	.4	1.5	193	5.1	SSW	XX	XXXX	0.0	6830
23	15.4	8.9	12.2	110	2.3	2.9	132	8.3	SE	XX	XXXX	0.0	7293
24	17.7	10.8	14.3	113	.9	2.1	057	5.7	ENE	XX	XXXX	0.0	8145
25	20.0	11.9	16.0	136	.6	1.9	139	6.3	ENE	XX	XXXX	0.0	7958
26	15.1	7.7	11.4	185	.2	1.5	173	5.1	ENF	XX	XXXX	0.0	6173
27	9.6	5.0	7.3	092	.5	1.2	066	4.4	ESE	XX	XXXX	5.0	7030
28	9.2	5.2	7.2	155	.4	1.2	337	4.4	SSE	XX	XXXX	1.2	3790
29	12.2	6.4	9.3	114	.7	1.7	118	6.3	NNE	XX	XXXX	.2	5413
30	13.0	6.5	9.8	153	.8	1.8	150	5.7	S	XX	XXXX	0.0	7523
MONTH	20.0M	.3M	9.5M	126M	.7M	1.8M	072M	10.8M	ENE(4)	XX	XXXX	18.8M	103373M

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

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

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



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

FIGURE and TABLE 5.9

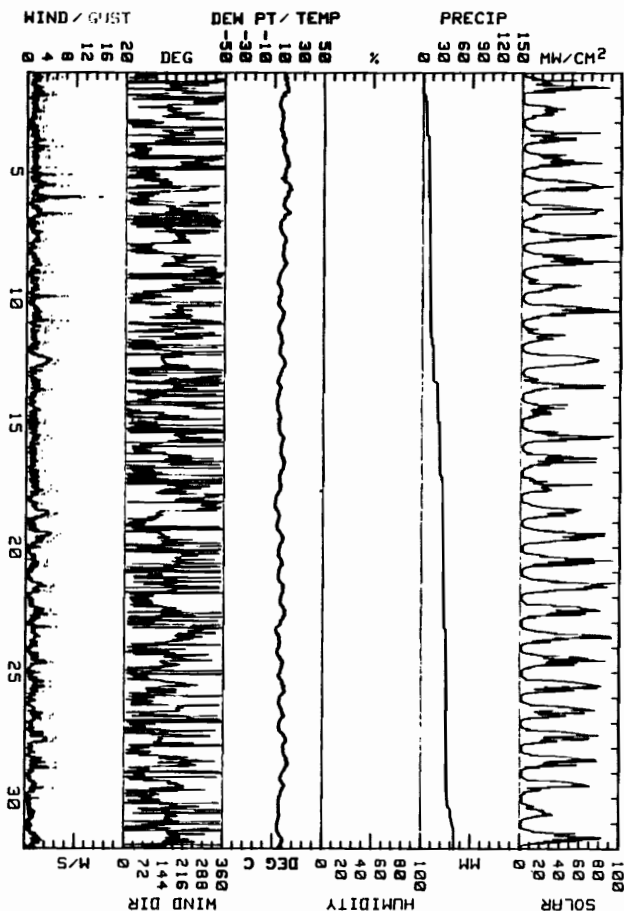
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR. Z	MEAN RH	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ
1	14.6	6.8	10.7	048	.3	1.9	054	7.0	N	88	*****	4.2	4835
2	9.2	5.0	7.1	183	.4	1.3	073	3.8	SSE	88	*****	1.4	3148
3	11.9	5.3	8.6	094	.3	1.5	073	7.0	N	88	*****	3.8	4223
4	15.4	8.8	12.1	018	.7	1.7	005	5.7	NE	88	*****	0.0	4768
5	18.5	6.8	12.7	089	1.3	2.3	083	15.2	ESE	88	*****	1.4	7195
6	16.9	5.7	11.3	106	.4	1.9	094	8.9	NNE	88	*****	.6	6458
7	12.7	5.3	9.0	182	.7	1.5	143	3.8	SSW	88	*****	0.0	6260
8	13.5	6.7	10.1	203	.6	1.4	147	5.1	WSW	88	*****	0.0	6863
9	8.2	3.5	5.9	082	.1	1.5	087	8.3	N	88	*****	.8	3420
10	11.5	4.3	7.9	200	.5	1.8	308	8.3	SSW	88	*****	.2	6635
11	9.5	4.5	7.0	113	.3	1.4	283	6.3	N	88	*****	4.6	2713
12	12.2	5.4	8.8	138	1.6	2.3	137	6.3	SE	88	*****	.2	7578
13	8.5	3.4	6.0	035	.3	1.6	075	6.3	N	88	*****	7.0	4165
14	7.9	3.2	5.6	030	.6	1.4	291	5.1	N	88	*****	1.8	2865
15	11.3	4.9	8.1	022	.1	1.4	220	5.1	N	88	*****	1.6	5205
16	11.9	7.1	9.5	085	.3	1.3	189	3.8	NNE	88	*****	.2	4685
17	8.5	2.6	5.6	125	.1	1.7	128	6.3	N	88	*****	5.0	3305
18	6.8	1.5	4.2	182	.6	2.1	130	6.3	ESE	88	*****	.4	4655
19	11.1	3.5	7.3	126	1.4	2.3	127	7.0	SE	88	*****	0.0	6968
20	10.4	5.0	7.7	214	.5	1.3	203	4.4	SSW	88	*****	1.0	5192
21	11.6	4.9	8.3	161	.6	1.5	071	5.7	SE	88	*****	.2	7075
22	13.8	7.1	10.5	116	.8	1.7	136	6.3	NE	88	*****	0.0	6868
23	8.1	2.9	5.5	229	.7	1.7	243	6.3	SSW	88	*****	3.6	5325
24	11.5	4.3	7.9	150	.9	1.6	138	5.7	SSE	88	*****	0.0	5048
25	13.0	5.4	9.2	134	.8	1.7	133	5.1	SE	88	*****	0.0	6858
26	12.6	6.0	9.3	117	.3	1.5	110	6.3	E	88	*****	0.0	5408
27	14.4	6.0	10.2	120	1.1	2.0	142	6.3	SE	88	*****	0.0	6005
28	15.6	10.0	13.3	094	.5	1.7	126	6.3	E	88	*****	.6	5245
29	13.2	6.5	9.9	140	.5	1.2	122	5.7	ENE	88	*****	1.4	4493
30	7.7	5.1	6.4	146	.5	1.0	143	3.2	SSE	88	*****	8.4	2630
31	11.8	5.0	8.4	173	.7	1.5	261	5.7	S	88	*****	2.4	5588
MONTH	18.5	1.5	8.5	130	.4	1.6	083	15.2	SE	88	*****	50.8	159252

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

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



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

FIGURE and TABLE 5.10

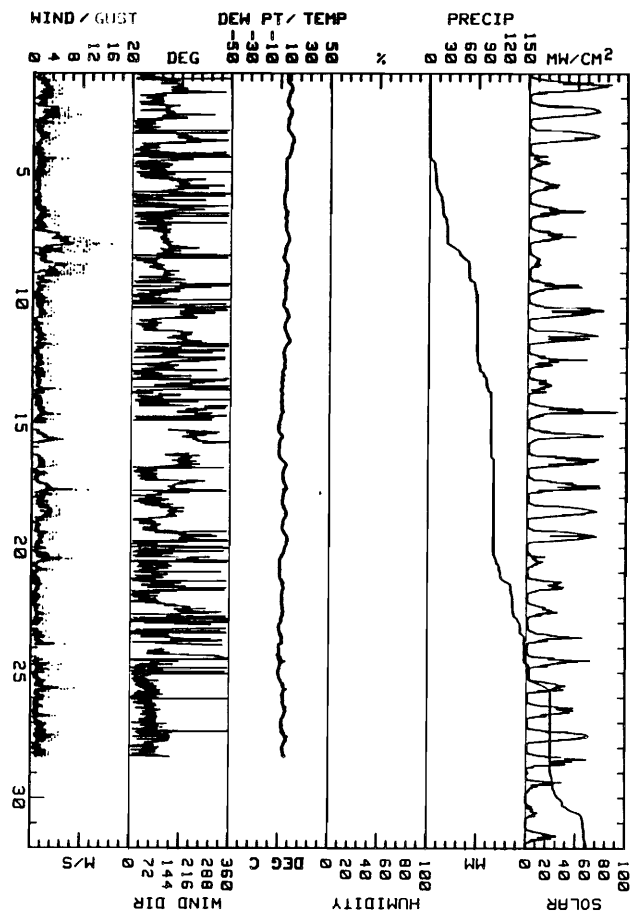
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP. MM	DAY'S SOLAR ENERGY DAY WH/SUN
1	11.5	6.0	8.8	130	1.3	2.1	157	5.7	S	**	*****	0.0	6520
2	11.5	5.6	8.6	118	1.9	2.5	297	9.5	SE	**	*****	0.0	6823
3	13.5	6.2	9.9	117	.3	1.5	049	5.1	NNE	**	*****	0.0	6565
4	10.7	4.6	7.7	059	.5	1.4	209	7.0	NNE	**	*****	9.6	1475
5	6.5	2.8	4.7	135	.3	1.0	081	3.2	S	**	*****	9.6	2305
6	7.9	3.2	5.6	083	.5	1.4	028	5.1	NNE	**	*****	7.6	2895
7	9.4	4.8	7.1	123	3.7	4.0	124	15.9	ESE	**	*****	13.0	2890
8	8.3	2.5	5.4	103	2.5	3.2	135	11.4	ESE	**	*****	21.4	1250
9	7.3	3.5	5.4	101	.8	1.7	131	10.2	NNE	**	*****	11.6	2585
10	9.4	5.1	6.3	197	.4	1.4	225	4.4	SSW	**	*****	1.2	5625
11	11.0	4.4	7.7	166	.5	1.4	163	5.1	S	**	*****	.2	5358
12	6.0	2.0	4.0	110	.2	1.2	006	3.8	SSE	**	*****	10.2	2628
13	4.3	.5	2.4	019	.2	1.2	225	5.7	NNE	**	*****	11.4	2095
14	4.8	-1.8	2.0	248M	.4M	1.6M	241M	5.7M	WSW(M)	**	*****	.2	4023
15	5.8	-1.6	1.1	242M	2.0M	2.3M	234M	6.3M	WSW(M)	**	*****	.8	4018
16	7.5	-1.8	3.4	180M	.9M	1.5M	167M	5.1M	SSW(M)	**	*****	3.4	5248
17	8.0	3.1	5.6	119	.8	2.1	316	11.4	E	**	*****	0.0	4833
18	8.0	2.3	5.2	125	1.7	2.3	170	5.7	SSE	**	*****	0.0	5863
19	9.3	2.6	6.0	129	.4	1.4	131	5.1	E	**	*****	0.8	5365
20	5.6	.1	2.9	068	.4	1.7	209	8.3	NNE	**	*****	10.8	1315
21	5.3	.1	2.7	070	.3	.9	149	3.2	ESE	**	*****	18.2	3203
22	5.1	.9	3.0	034	.2	1.1	216	3.8	SSW	**	*****	11.4	2210
23	4.1	-1.6	1.8	131M	.4M	1.4M	215M	7.0M	SSE(M)	**	*****	6.4	2658
24	7.0	-1.7	2.7	049M	.9M	1.4M	037M	6.3M	N(M)	**	*****	8.6	3213
25	8.0	-1.7	4.0	054	1.5	1.8	073	8.9	NNE	**	*****	31.4	3206
26	8.6	2.3	5.5	067	1.1	1.2	100	5.1	E	**	*****	6.0	3745
27	9.9	2.2	6.1	094	1.4	1.8	097	6.3	E	**	*****	0.0	5288
28	7.1M	3.9M	5.5M	055M	1.4M	1.6M	051M	3.8M	NNE(M)	**	*****	1.0	3603M
29	*****	*****	*****	*****	*****	*****	*****	*****	*****	**	*****	12.8	1316
30	*****	*****	*****	*****	*****	*****	*****	*****	*****	**	*****	36.4	753
31	*****	*****	*****	*****	*****	*****	*****	*****	*****	**	*****	4.8	1795
MONTH	13.5M	-1.7M	5.6M	110M	.7M	1.7M	124M	15.9M	E(M)	**	*****	242.6	110859M

GUST VFL AT MAX. GUST MINUS 2 INTERVALS 13.3
GUST VFL AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VFL AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VFL AT MAX. GUST PLUS 2 INTERVALS 11.4

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



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

TABLE and FIGURE 5.11

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM	DAY
1	*****	*****	*****	***	***	***	***	***	***	***	***	13.2	1003	1
2	2.6M	-2.5M	.1M	119M	1.1M	1.9M	138M	6.3M	E(M)	51M	-8.8M	4.4	4114M	2
3	5.1	-1.5	1.8	105	.6	1.7	320	5.1	NNE	50	-7.2	.8	3638	3
4	.6	-4.1	-1.8	111	2.0	2.7	093	9.5	E	61	-8.0	0.0	3435	4
5	.4	-4.2	-1.9	124	.3	1.3	050	3.8	ESE	75	-6.1	.4	2353	5
6	1.6	-4.6	-1.5	125	1.9	2.6	246	9.5	SSE	61	-8.5	0.0	4315	6
7	1.7	-3.3	-.8	027	.4	1.2	169	3.8	N	74	-4.2	0.0	2183	7
8	2.9	-.6	1.2	039	.4	1.2	169	3.8	NNE	84	-1.6	2.8	2450	8
9	3.1	-.7	1.2	235M	.2M	1.0M	164M	4.4M	N(M)			1.0	2545	9
10	5.4	.1	2.8	179M	.6M	1.3M	164M	5.7M	N(M)	63	-3.3	0.0	3428	10
11	5.5	1.0	3.3	105	.7	1.5	029	7.0	ENE	54	-5.3	0.0	2595	11
12	3.6	.9	2.3	085	.8	1.6	131	6.3	E	69	-2.8	0.0	1598	12
13	3.4	-.3	1.6	146	1.6	2.1	263	7.0	SE	70	-3.2	0.0	2263	13
14	3.0	-2.2	.4	233	.2	1.4	258	6.3	ENE			1.0	2155	14
15	6.0	-3.3	1.4	076	.5	1.1	147	5.1	NNE			6.6	3700	15
16	2.6	-2.4	.1	082	.7	1.5	142	6.3	NE	61	-6.7	.2	3595	16
17	3.1	-2.5	.3	137	.4	1.2	175	3.8	E	58	-6.7	0.0	3418	17
18	3.4	-2.1	.7	094	1.0	1.7	067	6.3	ENE	50	-8.7	0.0	2943	18
19	2.4	-1.5	.5	093	.9	1.8	105	6.3	NNE			5.2	2110	19
20	5.4	.5	3.0	043	1.2	1.4	061	5.7	NNE			35.6	988	20
21	4.2	0.0	2.1	064	.8	1.2	102	3.8	NE			13.6	853	21
22	2.1	-5.4	-1.7	056M	.6M	1.1M	130M	4.4M	N(M)			3.6	1085	22
23	-5.8	-12.0	-8.9	***	***	***	***	***	***			0.0	2063	23
24	-10.1	-13.4	-11.8	279M	1.5M	4.2M	315M	11.4M	NH(M)	63	-18.0	0.0	2180	24
25	-9.1	-15.1	-12.1	095	2.1	2.7	098	7.6	ESE	57	-19.7	0.0	2820	25
26	-6.8	-14.7	-10.8	091	.5	1.3	040	4.4	E	61	-18.1	0.0	2945	26
27	-3.5	-12.5	-8.0	101	.7	1.4	024	4.4	NNE	60	-15.2	0.0	2713	27
28	1.5	-5.9	-2.2	067	.7	1.0	026	3.2	NNE			.2	1550	28
29	3.3	-1.3	1.0	094	1.5	2.4	099	11.4	E			6.4	743	29
30	4.1	-.9	1.6	205	.6	2.1	151	17.8	WSW			13.0	1425	30
MONTH	6.0M	-15.1M	-1.3M	102M	.7M	1.7M	151M	17.8M	NNE(M)	62M	-9.9M	108.0	73147M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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

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

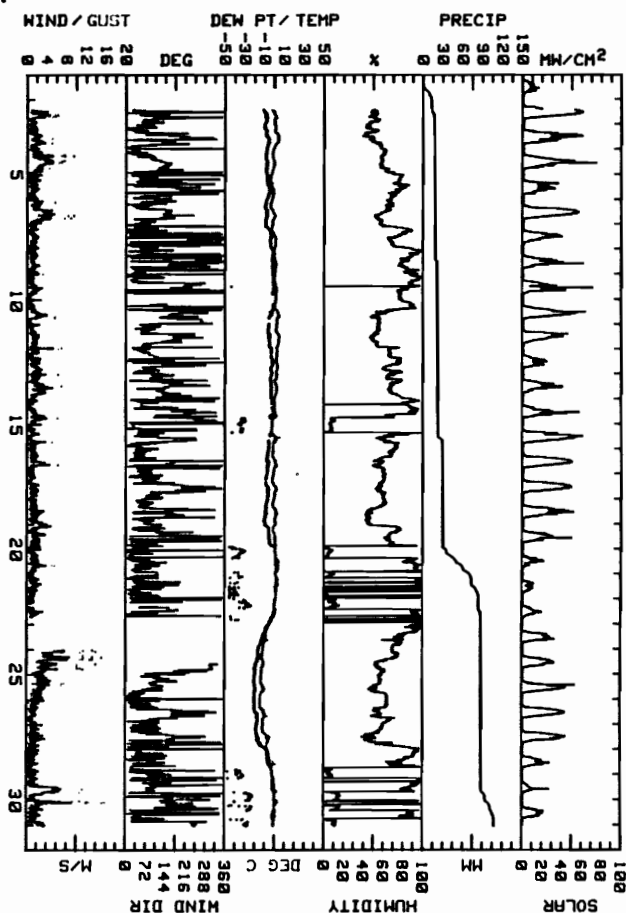


FIGURE and TABLE 5.12
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1983

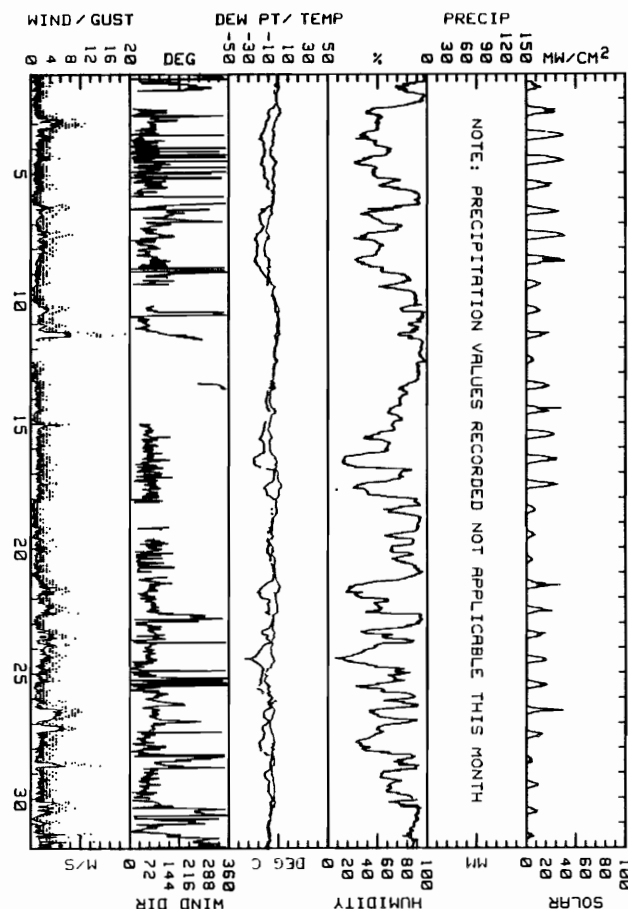
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SGM
1	1.6	-2.3	-4	243	.3	1.1	124	4.4	WNW	88	-3.1	****		788	1
2	2.6	-4.7	-1.1	081	1.9	1.9	073	10.8	ENE	56	-9.4	****		1548	2
3	-3.7	-8.5	-6.1	055	2.0	2.3	092	10.2	NE	45	-15.9	****		2276	3
4	-1.1	-8.7	-4.9	042	1.2	1.4	022	5.7	NNE	49	-15.2	****		2258	4
5	-3.2	-6.8	-5.0	056	.8	1.1	129	5.1	NE	63	-11.2	****		1135	5
6	-4.8	-10.8	-7.8	126	.9	1.7	097	7.6	SE	57	-15.5	****		1555	6
7	-8.7	-14.7	-11.7	079	1.7	2.1	119	8.3	E	52	-20.4	****		2245	7
8	-7.7	-14.7	-11.2	065	1.0	1.5	037	5.1	ENE	44	-21.6	****		1770	8
9	-3.0	-11.1	-7.1	095	1.0	.9	075	3.8	ENE	79	-11.1	****		690	9
10	.9	-3.1	-1.1	051	1.8	2.0	072	7.6	ENE	88	-2.2	****		740	10
11	1.6	-3.6	-1.0	115	2.3	3.0	124	19.0	ENE	87	-2.6	****		835	11
12	-9	-4.9	-2.9	****	****	.6	***	2.5	***	93	-4.6	****		375	12
13	-2.8	-9.0	-5.9	323	1.1	1.0	247	3.8	WNW	79	-9.8	****		1215	13
14	-2.3	-9.4	-5.9	***	***	1.2	***	5.1	***	69	-12.2	****		1110	14
15	-6.5	-10.9	-8.7	065	1.6	1.7	035	7.6	ENE	57	-16.1	****		1635	15
16	-3	-9.0	-4.7	071	1.4	1.6	020	5.1	ENE	40	-17.8	****		1525	16
17	3.6	-1.6	1.0	074	1.5	1.7	091	5.1	ENE	50	-9.6	****		1410	17
18	-1.3	-6.2	-3.8	051	.5	.6	002	3.8	NE	02	-6.7	****		495	18
19	-5.0	-10.5	-7.8	082	1.3	1.2	059	5.1	E	82	-10.4	****		370	19
20	-3.3	-8.4	-5.9	055	.9	1.2	093	3.8	NNE	77	-8.6	****		275	20
21	2.4	-5.3	-1.5	077	2.1	2.1	101	7.6	E	41	-14.4	****		995	21
22	-2	-5.9	-3.1	089	1.7	2.3	096	9.5	E	61	-9.6	****		860	22
23	-3.8	-8.2	-6.0	079	2.3	2.5	097	8.9	ENE	61	-12.7	****		745	23
24	-3.4	-14.3	-8.9	053	2.1	2.4	072	7.0	ENE	39	-20.9	****		985	24
25	-5.0	-15.3	-10.2	044	1.0	1.4	000	5.7	N	66	-16.6	****		940	25
26	-2.2	-9.2	-5.7	097	2.7	3.2	084	10.2	E	66	-11.8	****		940	26
27	-3.9	-9.0	-6.5	071	2.7	3.0	090	8.9	E	45	-16.8	****		705	27
28	-3.9	-7.7	-5.8	091	1.3	2.2	193	14.0	ENE	70	-10.7	****		270	28
29	-3.9	-7.0	-5.5	058	1.8	1.9	095	5.1	ENE	65	-10.8	****		525	29
30	-3.1	-9.2	-6.2	166	.2	2.5	102	10.2	ESE	05	-8.7	****		490	30
31	-6.7	-12.8	-9.8	014	.3	2.3	229	12.7	W	85	-11.2	****		235	31
MONTH	3.6	-15.3	-5.5	072	1.3	1.8	124	19.0	ENE	62	-11.9	****		31859	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 11.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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



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

FIGURE and TABLE 5.13

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

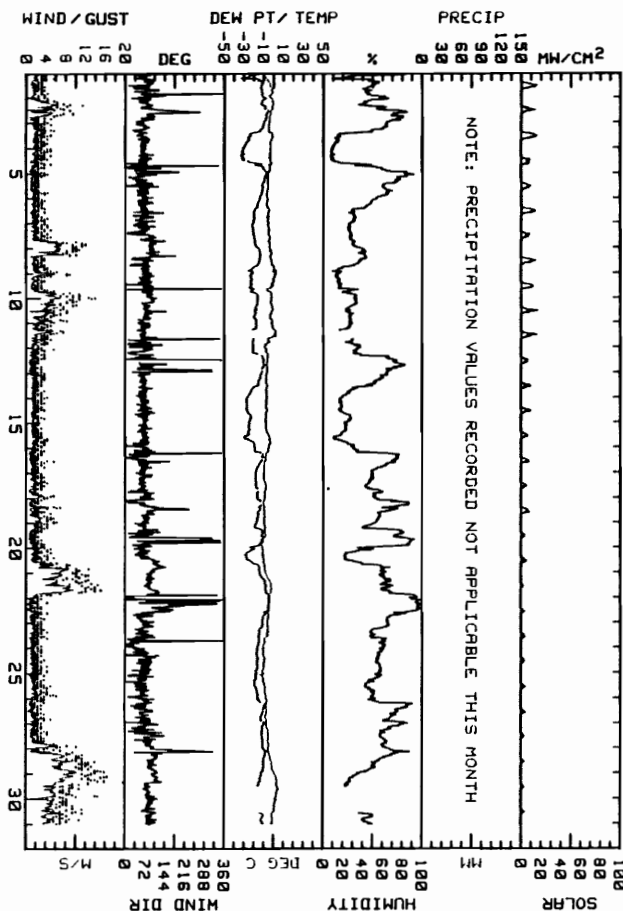
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50M	
1	-6	-12.5	-6.6	078	1.4	1.6	068	5.7	E	47	-15.1	****	615	1
2	-4	-4.6	-2.1	088	2.5	3.1	099	11.4	E	61	-9.2	****	410	2
3	-2	-5.2	-2.7	064	2.0	2.0	040	5.7	ENE	31	-20.5	****	695	3
4	-1.6	-5.3	-3.5	065	1.4	1.7	060	5.1	ENE	28	-23.4	****	425	4
5	-5.0	-7.6	-6.3	061	1.3	1.4	047	4.4	NE	68	-11.2	****	400	5
6	-4.0	-7.3	-5.7	069	1.5	1.6	063	4.4	ENE	38	-18.4	****	575	6
7	-3.2	-6.1	-4.7	089	2.8	3.1	114	12.1	E	29	-19.9	****	335	7
8	3.2	-3.9	-4	090	2.8	3.0	089	10.8	E	33	-16.5	****	510	8
9	2.9	-7.0	-2.1	084	2.6	2.7	116	14.0	E	21	-21.4	****	500	9
10	-6	-4.1	-2.4	082	3.7	3.9	096	13.3	ENE	29	-18.0	****	465	10
11	2.9	-9.2	-3.2	066	2.0	2.2	070	7.6	ENE	29	-19.7	****	460	11
12	-5.0	-8.9	-7.0	063	1.1	1.3	101	5.7	E	57	-14.5	****	280	12
13	-5.8	-7.7	-6.8	067	1.6	1.7	066	4.4	ENE	42	-18.6	****	310	13
14	-5.6	-8.3	-7.0	071	1.5	1.5	069	3.8	ENE	22	-25.8	****	305	14
15	-2.1	-7.7	-4.9	067	1.6	1.6	066	4.4	ENE	22	-24.3	****	250	15
16	-4.4	-9.7	-7.1	061	1.2	1.3	163	5.7	ENE	57	-15.3	****	265	16
17	-7.0	-10.1	-8.6	071	1.6	1.7	096	5.7	ENE	49	-17.4	****	190	17
18	-8.4	-10.3	-9.4	082	1.5	1.8	098	7.0	ENE	61	-15.4	****	335	18
19	-7.5	-12.6	-10.1	059	1.1	1.5	061	4.4	ENE	67	-15.1	****	130	19
20	-7.9	-11.8	-9.9	099	3.1	3.4	103	12.7	ESE	41	-21.5	****	105	20
21	-1.5	-7.7	-4.6	093	5.4	5.7	103	15.2	E	60	-8.9	****	65	21
22	-3.6	-6.1	-4.9	076	.8	1.3	155	4.4	ENE	82	-7.6	****	80	22
23	-4.6	-10.8	-7.7	056	1.3	1.5	051	4.4	NE	58	-14.3	****	130	23
24	-8.1	-12.3	-10.2	073	1.4	1.6	061	4.4	ENE	57	-16.8	****	125	24
25	-7.0	-13.0	-10.4	059	1.6	1.8	050	6.3	ENE	49	-17.6	****	140	25
26	-5.8	-8.7	-7.3	069	1.3	1.4	062	5.1	ENE	70	-11.9	****	125	26
27	-4.3	-7.8	-6.1	084	2.0	2.2	106	10.2	E	64	-11.3	****	100	27
28	.9	-5.9	-2.5	105	5.8	6.2	112	15.9	ESE	58	-10.0	****	80	28
29	5.5	.9	3.2	097	5.9	6.1	118	19.7	E	28	-14.0	****	85	29
30	2.9	-1.6	.7	092	4.5	4.6	081	11.4	E	45	-11.7	****	95	30
MONTH	5.5	-13.8	-5.3	083	2.2	2.5	118	19.7	ENE	46	-16.2	****	8665	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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

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



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

FIGURE and TABLE 5.14

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

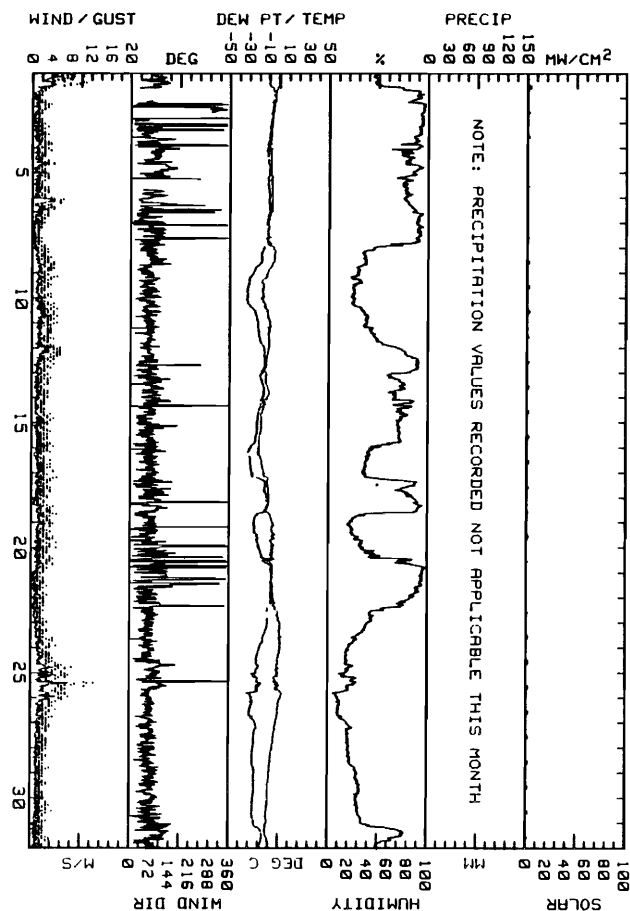
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	.5	-4.1	-1.8	096	3.3	2.5	125	10.8	E	57	-8.8	****	100	1
2	-3.5	-7.5	-5.5	360	.7	.9	016	3.8	N	92	-6.7	****	35	2
3	-7.5	-10.5	-9.0	051	.8	1.1	105	3.8	NNE	90	-10.1	****	40	3
4	-6.5	-9.9	-8.2	093	1.0	1.2	093	4.4	E	81	-10.7	****	0	4
5	-6.0	-8.4	-7.2	080	1.0	1.1	077	3.8	ESE	78	-10.4	****	15	5
6	-6.5	-11.4	-9.0	043	1.4	1.7	028	6.3	NE	85	-10.2	****	25	6
7	-4.2	-12.6	-8.4	066	.5	.6	123	2.5	ENE	63	-13.6	****	35	7
8	-3.3	-11.8	-7.6	075	1.3	1.4	099	4.4	ENE	34	-20.0	****	55	8
9	-11.8	-18.1	-15.0	068	1.3	1.4	068	5.1	E	26	-30.4	****	70	9
10	-8.4	-18.1	-13.3	066	1.8	1.9	057	5.1	ENE	33	-25.1	****	75	10
11	-7.6	-11.3	-9.5	064	1.7	1.8	036	5.7	ENE	48	-18.8	****	50	11
12	-10.4	-15.0	-12.7	063	1.6	1.7	062	5.7	ENE	83	-14.6	****	40	12
13	-9.2	-13.7	-11.5	076	1.1	1.3	028	3.8	E	68	-16.3	****	45	13
14	-11.4	-18.5	-15.0	059	1.1	1.2	037	4.4	NE	74	-20.1	****	60	14
15	-16.4	-20.3	-18.4	062	1.2	1.4	019	4.4	ENE	66	-23.6	****	65	15
16	-13.6	-21.5	-17.6	074	1.3	1.4	038	4.4	E	38	-28.3	****	70	16
17	-9.2	-15.3	-12.3	068	1.1	1.4	042	5.1	E	70	-15.8	****	50	17
18	-5.5	-12.9	-9.2	070	1.2	1.4	057	5.1	E	55	-18.7	****	30	18
19	-2.7	-8.7	-5.7	064	1.2	1.5	045	5.1	E	27	-22.2	****	45	19
20	-3.3	-11.3	-7.3	067	.9	1.3	080	4.4	N	71	-11.7	****	20	20
21	-4.3	-7.0	-5.7	069	.6	.9	139	3.2	ENE	88	-7.4	****	5	21
22	2.1	-5.5	-1.7	066	.8	.9	068	3.2	ENE	52	-9.9	****	25	22
23	3.5	.6	2.1	060	1.4	1.5	034	5.1	ENE	29	-14.5	****	50	23
24	2.2	-2.5	-2.2	085	2.0	2.3	103	8.3	ENE	19	-20.9	****	80	24
25	4.5	-4.7	-1.1	080	2.7	3.0	099	12.7	ENE	18	-22.7	****	75	25
26	2.2	-2.7	-3.3	069	1.8	1.8	076	6.3	ENE	12	-26.6	****	70	26
27	-1.9	-6.3	-4.1	067	1.4	1.4	073	3.8	ENE	21	-23.5	****	65	27
28	-5.3	-9.2	-7.3	068	1.2	1.3	070	3.8	ENE	24	-24.8	****	70	28
29	-8.5	-10.4	-9.5	074	1.3	1.4	107	3.2	E	30	-23.9	****	55	29
30	-9.7	-12.3	-11.0	069	1.2	1.3	057	4.4	NE	31	-25.0	****	70	30
31	-8.6	-13.3	-11.0	088	1.0	1.2	058	3.8	ENE	59	-17.2	****	35	31
MONTH	4.5	-21.5	-8.1	070	1.3	.8	099	12.7	ENE	48	-17.8	****	1525	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.9

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

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



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

FIGURE and TABLE 5.15

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	MAX. GUST P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	-1.2	-8.9	-5.1	052	1.6	1.8	085	6.3	NE	76	-8.3	****	20	1
2	-2.2	-5.0	-3.6	085	1.3	2.1	089	8.3	E	88	-5.4	****	50	2
3	-2.9	-5.1	-4.0	113	3.8	4.4	149	15.2	E	71	-8.7	****	30	3
4	-5.5	-23.8	-14.2	034	1.6	2.2	025	12.7	NNE	80	-19.6	****	50	4
5	-15.2	-23.2	-19.2	068	1.4	1.7	089	5.1	ENE	52	-26.8	****	80	5
6	-12.1	-17.2	-14.7	077	1.0	1.6	037	5.7	E	67	-20.6	****	20	6
7	-5.4	-12.3	-8.9	067	1.3	1.4	040	4.4	ENE	51	-17.7	****	40	7
8	-3.1	-7.2	-5.2	066	1.4	1.6	054	5.7	ENE	26	-21.8	****	80	8
9	-1.1	-7.3	-4.2	071	1.7	1.8	098	7.0	ENE	37	-18.2	****	95	9
10	-9	-6.3	-3.6	106	2.9	3.8	106	15.2	E	70	-8.3	****	90	10
11	-8	-7.1	-4.0	107	4.2	5.2	172	15.9	E	78	-8.3	****	95	11
12	1.2	-5.8	-2.3	111	8.5	8.6	118	19.7	ESE	74	-6.1	****	40	12
13	.2	-5.0	-2.4	166	2.3	3.7	100	15.9	E	89	-4.1	****	60	13
14	-3	-4.7	-2.5	059	1.0	1.6	265	4.4	ENE	71	-7.3	****	90	14
15	-2.2	-7.3	-4.8	050	1.2	1.4	355	3.8	ENE	69	-9.8	****	70	15
16	-2.0	-6.1	-4.1	065	1.5	1.7	071	6.3	ENE	39	-16.1	****	110	16
17	-3.7	-9.3	-6.5	059	1.2	1.5	094	5.1	ENE	48	-15.6	****	115	17
18	-7.0	-13.7	-10.4	058	.8	1.0	098	4.4	NE	80	-13.3	****	120	18
19	-10.3	-15.3	-12.8	051	.9	1.3	083	3.8	NE	74	-16.5	****	105	19
20	-10.4	-14.8	-12.6	066	1.4	1.5	066	4.4	ENE	62	-18.0	****	155	20
21	-14.8	-21.4	-18.1	058	1.1	1.5	316	5.7	ENE	71	-21.5	****	135	21
22	-21.2	-24.7	-23.0	106	2.2	2.4	115	9.5	ESE	46	-31.6	****	145	22
23	-23.8	-27.8	-25.8	068	1.6	1.9	109	7.6	ENE	45	-33.6	****	165	23
24	-22.0	-25.0	-23.5	060	1.1	1.2	033	3.2	ENE	36	-34.2	****	175	24
25	-15.6	-25.0	-20.3	067	1.4	1.5	061	4.4	ENE	29	-34.6	****	195	25
26	-12.6	-17.7	-15.2	071	.9	1.1	089	5.1	ENE	61	-22.3	****	225	26
27	-9.9	-16.6	-13.3	070	1.4	1.6	059	5.1	ENE	23	-31.2	****	390	27
28	-9.9	-20.1	-15.0	068	1.7	1.9	087	8.3	ENE	40	-27.5	****	300	28
29	-4.8	-9.4	-7.1	098	3.1	3.9	119	13.3	E	79	-10.0	****	170	29
30	-5.0	-7.9	-6.5	170	.4	1.6	135	15.2	SE	92	-7.7	****	115	30
31	-7.7	-15.2	-11.5	201	.9	1.3	246	4.4	NW	92	-12.2	****	120	31
MONTH	1.2	-27.8	-10.4	087	1.6	2.2	118	19.7	ENE	61	-17.3	****	3650	

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

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

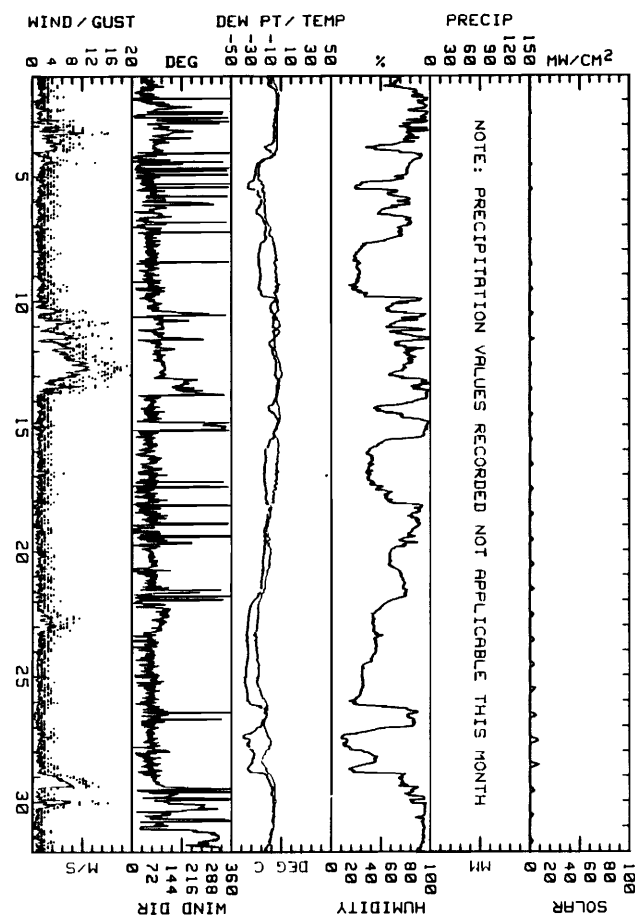


FIGURE and TABLE 5.16

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
January, 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

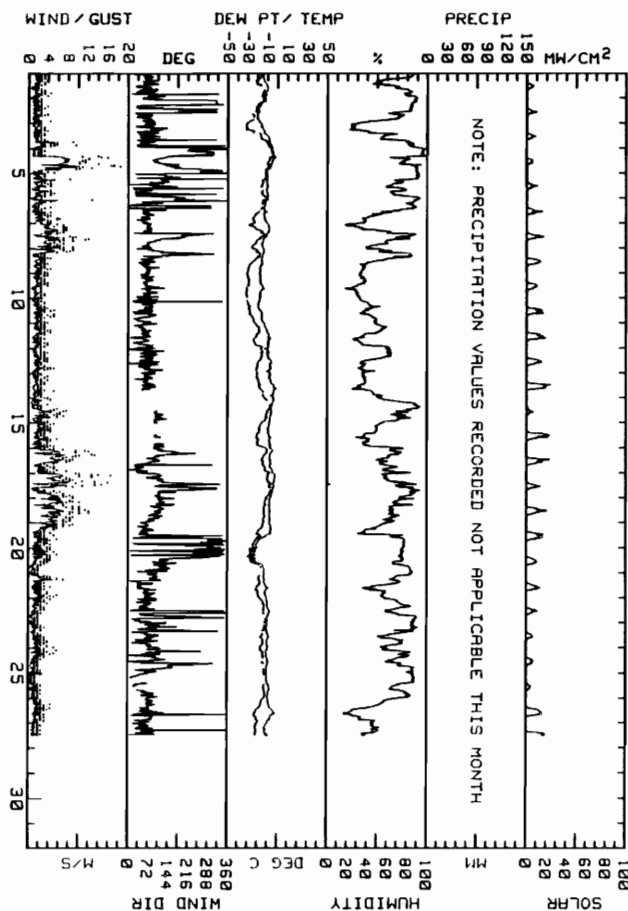
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SDH
1	-10.0	-15.6	-12.8	068	1.1	1.3	080	4.4	ENE	72	-17.6	****	245
2	-12.2	-22.0	-17.1	031	.7	1.2	050	4.4	NW	76	-21.8	****	255
3	-5.9	-17.0	-11.9	065	1.4	1.7	031	9.5	ENE	58	-18.7	****	290
4	-2.3	-11.4	-6.9	135	2.6	4.2	155	18.4	ESE	85	-9.2	****	255
5	-10.1	-12.1	-11.1	086	1.1	1.7	359	8.3	NNE	75	-14.7	****	305
6	-10.8	-14.8	-12.8	061	1.0	1.7	229	12.7	ENE	59	-20.3	****	455
7	-8.7	-16.4	-12.6	090	2.7	3.8	119	12.1	ENE	53	-20.9	****	525
8	-14.1	-18.7	-16.4	081	1.6	2.0	088	8.9	ENE	50	-24.9	****	630
9	-14.3	-18.9	-16.6	069	1.3	1.4	047	3.8	ENE	33	-30.4	****	485
10	-14.3	-20.6	-17.5	062	1.4	1.6	087	5.1	E	43	-27.3	****	720
11	-7.4	-13.6	-10.5	057	1.5	1.5	061	4.4	ENE	46	-20.5	****	790
12	-6.1	-14.0	-10.1	067	1.3	1.5	075	5.1	ENE	46	-18.6	****	640
13	-1.6	-9.9	-5.8	069	1.2	1.3	***	5.1	ENE	40	-17.8	****	970
14	-4.2	-9.2	-6.7	105	2.4	1.7	104	7.6	E	72	-11.3	****	200
15	-6.6	-10.9	-8.8	103	1.8	2.0	***	5.7	ESE	45	-18.9	****	975
16	-5.0	-8.7	-6.9	099	2.7	3.7	146	13.3	NE	63	-12.9	****	800
17	-2.5	-8.0	-5.3	113	3.6	4.3	117	16.5	ESE	73	-9.1	****	435
18	-7.7	-9.6	-8.7	109	4.4	4.7	113	12.7	ESE	67	-13.4	****	820
19	-6.7	-22.0	-14.4	037	1.4	2.2	070	8.9	NE	61	-19.7	****	880
20	-13.4	-26.7	-20.1	046	.3	1.3	350	5.7	SE	74	-25.8	****	555
21	-8.9	-14.6	-11.8	074	1.6	1.8	100	7.0	ENE	60	-19.0	****	575
22	-7.7	-11.1	-9.4	052	.8	1.0	037	4.4	ENE	72	-14.2	****	395
23	-8.5	-12.1	-10.3	078	1.1	1.3	115	5.1	ENE	71	-14.8	****	290
24	-8.9	-12.2	-10.6	092	.7	1.1	105	5.7	ESE	74	-14.8	****	365
25	-7.8	-11.3	-9.6	054	.8	.8	057	2.5	NE	74	-13.1	****	230
26	-2.6	-11.5	-7.1	068	1.3	1.5	067	4.4	ENE	41	-19.3	****	935
27	-10.1	-14.3	-12.2	058	.8	1.0	071	2.5	E	47	-21.8	****	1010
28	*****	*****	*****	***	***	***	***	***	***	***	***	*****	*****
29	*****	*****	*****	***	***	***	***	***	***	***	***	*****	*****
MONTH	-1.6	-26.7	-11.2	085	1.4	2.0	155	18.4	ENE	60	-18.2	****	15030

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 16.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 17.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
February, 1984

FIGURE and TABLE 5.17

FIGURE and TABLE 5.18

No data available for Glacier Climate Station
March 1984

FIGURE and TABLE 5.19

No data available for Glacier Climate Station
April 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

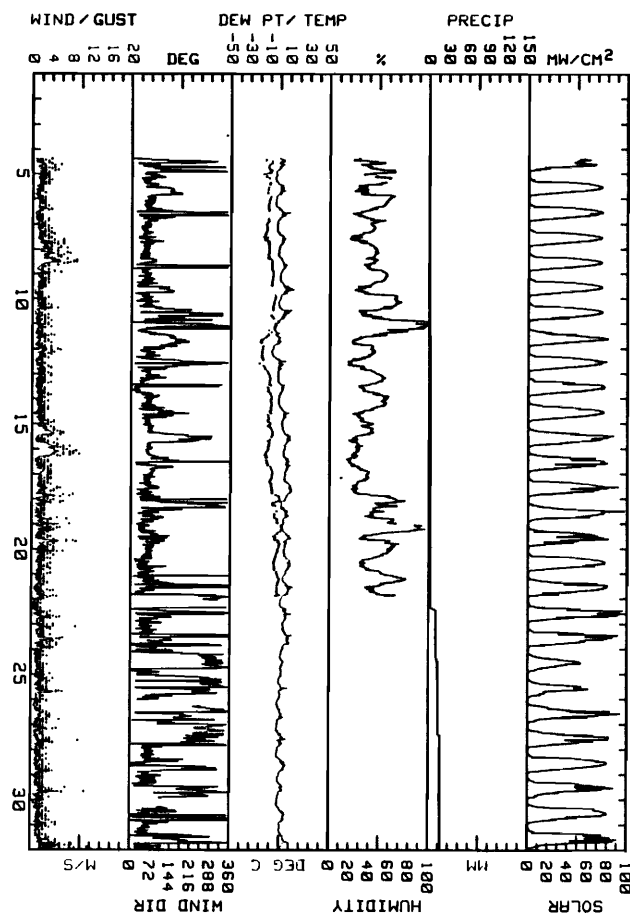
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/5000	DAY
1	*****	*****	*****	***	****	****	***	****	***	***	*****	*****	*****	1
2	*****	*****	*****	***	****	****	***	****	***	***	*****	*****	*****	2
3	*****	*****	*****	***	****	****	***	****	***	***	*****	*****	*****	3
4	3.8	-5.2	-7	071	.8	1.6	089	5.7	E	44	-12.2	0.0	7858	4
5	4.3	-6.2	-1.0	079	.9	1.2	038	3.8	ENE	51	-12.5	.4	6705	5
6	9.2	-5.4	1.9	067	.9	1.1	107	3.8	ENE	49	-12.7	0.0	6615	6
7	4.7	-4.1	.3	059	1.8	1.9	048	7.0	NE	37	-13.9	0.0	6615	7
8	5.9	-3.2	1.4	053	2.3	2.5	086	8.9	NE	45	-10.2	0.0	6650	8
9	13.2	-1.8	6.2	068	.9	1.1	052	3.2	ENE	55	-7.8	0.0	6770	9
10	11.0	-4.0	3.5	079	.5	1.1	110	5.1	NE	64	-6.9	0.0	6895	10
11	.1	-8.0	-4.0	113	.6	1.3	104	5.1	SE	53	-14.1	2.0	5965	11
12	5.0	-9.2	-2.1	064	.9	1.4	051	5.7	ENE	39	-17.2	0.0	6950	12
13	4.1	-2.9	.6	045	1.1	1.3	051	3.8	NNE	47	-10.9	0.0	6815	13
14	8.5	-2.2	3.2	069	1.1	1.3	060	4.4	ENE	41	-10.8	0.0	7075	14
15	10.4	1.5	6.0	078	1.8	2.5	058	7.6	ENE	34	-10.5	0.0	7020	15
16	10.4	2.8	6.6	070	2.0	2.2	060	9.5	ENE	28	-12.1	0.0	7080	16
17	11.8	3.7	7.8	061	1.6	1.8	021	8.3	ENE	34	-8.1	0.0	7175	17
18	8.5	.5	4.5	059	1.0	1.5	020	7.6	NE	57	-4.3	0.0	6575	18
19	10.9	1.8	6.4	069	1.8	2.1	079	8.9	ENE	63	-2.1	1.0	6520	19
20	10.9	3.4	7.2	058	1.4	1.5	077	6.3	ENE	44	-5.0	0.0	7275	20
21	12.8	1.0	6.9	034	.7	1.3	270	5.1	NE	58	-2.5	0.0	7230	21
22	11.2	-1.2	5.5	077	.7	1.1	133	5.7	NNE	**	*****	7.0	7200	22
23	11.9	2.3	7.1	064	1.2	1.9	064	8.9	NE	**	*****	0.0	7370	23
24	3.7	0.0	1.9	331	.6	1.1	027	3.8	NW	**	*****	3.0	3960	24
25	7.9	-1.5	3.2	291	.6	1.5	227	6.3	NW	**	*****	.8	3955	25
26	3.7	-3.0	.4	226	.2	1.2	223	5.7	S	**	*****	0.0	6130	26
27	6.3	-3.6	1.4	260	.5	1.3	210	9.5	NNW	**	*****	2.6	6810	27
28	6.8	-3.2	1.8	071	.6	1.2	114	4.4	ENE	**	*****	0.0	7670	28
29	3.6	-2.4	.6	317	.1	1.5	251	10.8	E	**	*****	0.0	5975	29
30	5.7	-3.3	1.2	055	.9	1.3	140	5.1	N	**	*****	.6	7610	30
31	8.4	-1.3	4.1	052	.9	2.0	027	11.4	NE	**	*****	0.0	7395	31
MONTH	13.2	-9.2	2.9	061	.9	1.5	027	11.4	ENE	46	-9.6	18.2	187763	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
May, 1984

FIGURE and TABLE 5.20

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

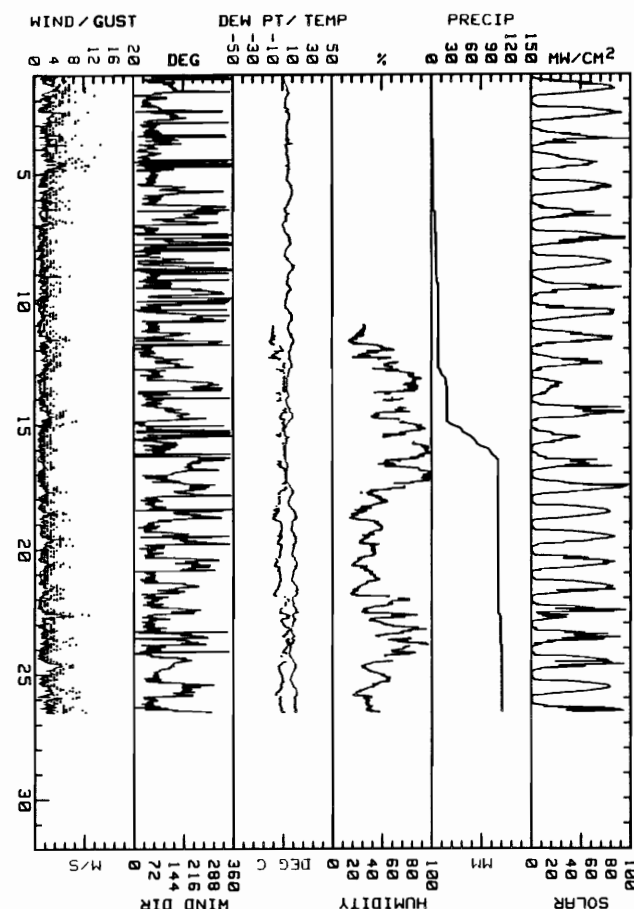
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SDH
1	6.8	.3	3.6	102	1.6	2.8	001	12.1	SE	**	*****	0.0	8065
2	7.4	1.7	4.6	081	1.6	2.7	321	10.8	NE	**	*****	0.0	7965
3	9.9	1.1	5.5	075	1.8	2.5	120	13.3	ENE	**	*****	1.6	5425
4	6.8	2.6	4.7	030	2.5	3.2	040	12.1	NE	**	*****	0.0	6160
5	10.1	3.6	6.9	099	1.2	2.0	125	5.7	ENE	**	*****	0.0	7645
6	6.8	-4	3.2	189	.4	2.1	193	7.6	W	**	*****	3.8	4335
7	8.5	-1	4.2	041	.7	1.2	127	4.4	N	**	*****	1.0	7495
8	11.7	1.5	6.6	041	.6	1.4	168	5.1	NE	**	*****	0.0	7930
9	8.4	3.1	5.8	075	.5	1.5	085	7.0	NE	**	*****	3.6	5120
10	10.2	1.9	6.1	073	.1	1.2	161	4.4	E	**	*****	0.0	7580
11	11.4	5.0	8.2	068	.9	1.7	133	7.0	NE	31	-8.8	0.0	7005
12	9.4	4.6	7.0	090	1.2	2.0	025	5.1	ENE	48	-4.0	4.4	4965
13	5.8	2.8	4.3	030	.4	1.2	015	4.4	NE	75	-3	8.6	3015
14	10.4	2.6	6.5	117	1.1	2.1	059	8.3	S	58	-1.9	5.0	7100
15	6.8	.7	3.8	047	.8	1.2	018	5.1	N	83	-5	57.8	3480
16	5.1	1.6	3.4	188	.5	1.2	083	3.8	SSW	77	-8	14.2	4830
17	10.7	2.5	6.6	171	.8	1.5	145	6.3	SSW	64	-6	0.0	7425
18	13.8	4.8	9.3	180	.5	1.7	174	7.0	ENE	35	-6.0	0.0	7885
19	13.6	8.3	11.0	104	.6	2.0	080	7.6	NE	39	-2.8	0.0	7755
20	14.4	8.6	11.5	169	.3	1.7	222	7.0	NE	33	-5.0	0.0	7525
21	15.2	7.9	11.6	186	.9	1.8	159	5.7	ENE	33	-5.1	0.0	7765
22	15.3	8.9	12.1	085	1.4	2.1	081	10.8	ENE	50	.5	3.6	5110
23	11.9	5.7	8.8	114	.5	2.0	227	8.3	ENE	70	3.6	1.8	5720
24	13.2	5.9	9.6	118	1.9	2.6	141	7.6	SE	45	-2.3	0.0	7115
25	13.8	7.0	10.4	134	1.1	2.4	169	8.9	S	40	-3.1	0.0	7845
26	13.6	10.7	12.2	073	1.7	2.7	278	10.2	NE	36	-2.8	0.0	6403
27	*****	*****	*****	***	***	***	***	***	***	**	*****	*****	*****
28	*****	*****	*****	***	***	***	***	***	***	**	*****	*****	*****
29	*****	*****	*****	***	***	***	***	***	***	**	*****	*****	*****
30	*****	*****	*****	***	***	***	***	***	***	**	*****	*****	*****
MONTH	15.3	-4	7.2	089	.8	1.9	128	13.3	ENE	49	-2.4	105.4	168663

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
June, 1984

FIGURE and TABLE 5.21

FIGURE and TABLE 5.22

No data available for Glacier Climate Station
July 1984

FIGURE and TABLE 5.23

No data available for Glacier Climate Station
August 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

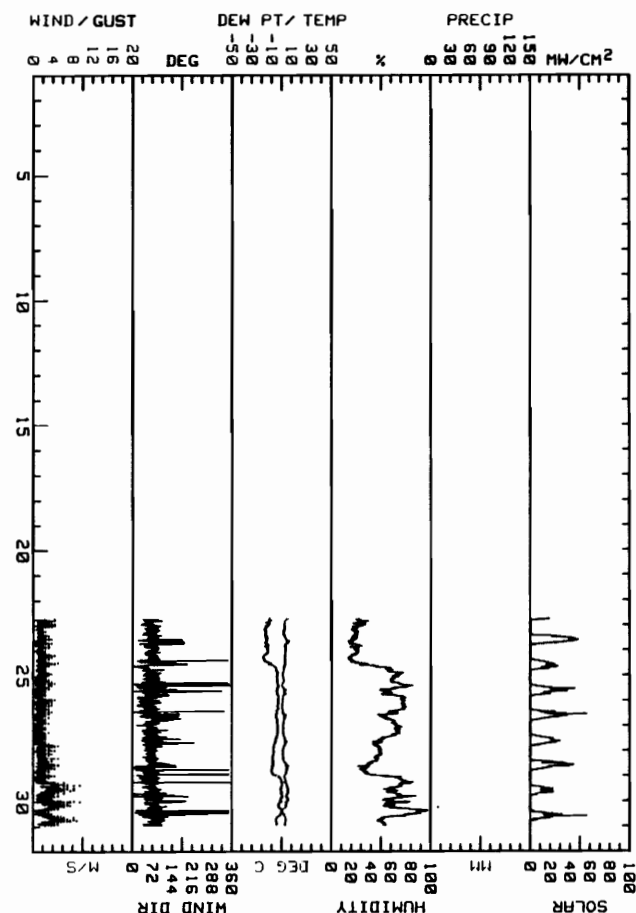
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	MAX. GUST P'VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SQM
1	####	####	####	##	###	###	###	###	###	##	####	###	####
2	####	####	####	##	###	###	###	###	###	##	####	###	####
3	####	####	####	##	###	###	###	###	###	##	####	###	####
4	####	####	####	##	###	###	###	###	###	##	####	###	####
5	####	####	####	##	###	###	###	###	###	##	####	###	####
6	####	####	####	##	###	###	###	###	###	##	####	###	####
7	####	####	####	##	###	###	###	###	###	##	####	###	####
8	####	####	####	##	###	###	###	###	###	##	####	###	####
9	####	####	####	##	###	###	###	###	###	##	####	###	####
10	####	####	####	##	###	###	###	###	###	##	####	###	####
11	####	####	####	##	###	###	###	###	###	##	####	###	####
12	####	####	####	##	###	###	###	###	###	##	####	###	####
13	####	####	####	##	###	###	###	###	###	##	####	###	####
14	####	####	####	##	###	###	###	###	###	##	####	###	####
15	####	####	####	##	###	###	###	###	###	##	####	###	####
16	####	####	####	##	###	###	###	###	###	##	####	###	####
17	####	####	####	##	###	###	###	###	###	##	####	###	####
18	####	####	####	##	###	###	###	###	###	##	####	###	####
19	####	####	####	##	###	###	###	###	###	##	####	###	####
20	####	####	####	##	###	###	###	###	###	##	####	###	####
21	####	####	####	##	###	###	###	###	###	##	####	###	####
22	7.4	1.9	4.7	063	1.6	1.7	039	4.4	NE	30	-12.8	0.0	592
23	8.5	1.4	5.0	082	1.1	1.3	059	3.8	ENE	24	-15.4	0.0	2829
24	4.3	.8	2.6	072	1.5	1.7	124	5.1	ENE	39	-11.4	0.0	1574
25	5.1	-.4	2.4	064	.9	1.3	032	5.1	NE	67	-4.0	0.0	1896
26	5.1	-.3	2.4	066	1.1	1.4	039	3.8	ENE	65	-4.4	0.0	2007
27	5.8	.4	3.1	069	1.2	1.4	062	5.1	ENE	55	-6.1	0.0	1662
28	7.7	.9	4.3	071	1.5	1.7	062	5.1	ENE	41	-9.0	0.0	2088
29	7.7	2.2	5.0	077	2.2	2.6	071	9.5	ENE	67	-.5	0.0	1151
30	5.2	.3	2.8	083	2.5	3.0	119	8.9	E	65	-3.0	0.0	1419
MONTH	8.5	-.4	3.6	074	1.5	1.8	071	9.5	ENE	51	-7.4	0.0	15219

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1984

FIGURE and TABLE 5.24

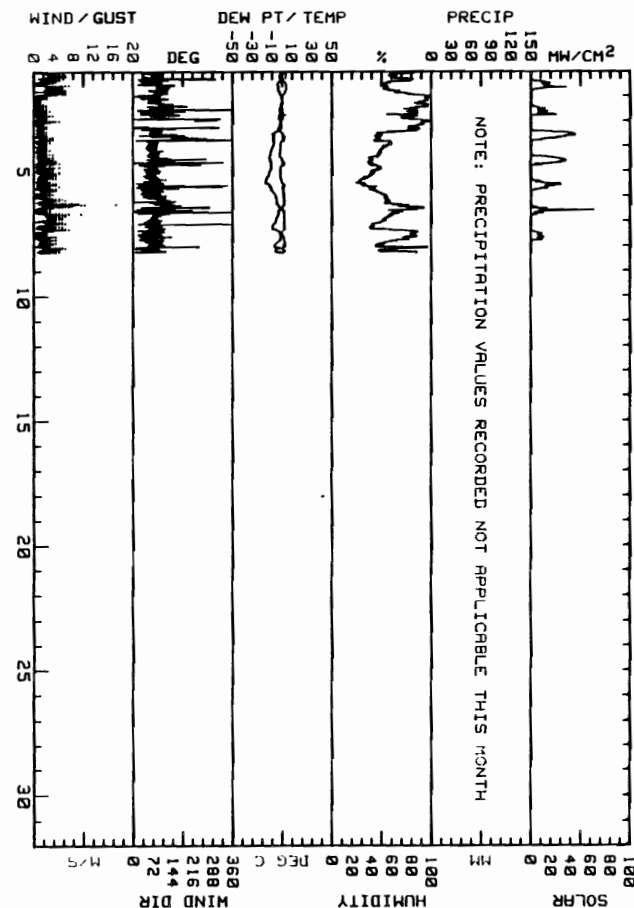
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST P'VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	5.1	-1.1	2.5	086	2.3	2.7	122	7.0	E	66	-2.9	0.00	1243	1
2	4.3	-1.4	1.5	089	.7	1.1	111	5.1	E	83	-2.2	0.00	872	2
3	3.2	-2.2	.5	094	.8	1.3	147	3.8	ENE	64	-6.8	0.00	2588	3
4	3.1	-2.7	.2	084	1.3	1.6	133	5.1	ENE	44	-11.7	0.00	2073	4
5	3.3	-2.5	.4	068	1.5	1.8	093	5.1	ENE	39	-12.4	0.00	1327	5
6	3.3	-1.8	1.3	093	2.1	2.6	139	16.5	ENE	61	-4.9	0.00	945	6
7	3.9	-1.4	1.8	065	1.8	2.0	073	7.0	ENE	58	-5.7	0.00	741	7
8	3.5	-2.9	.3	065	2.2	3.0	087	7.0	NE	65	-5.5	0.00	0	8
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	9
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	10
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	22
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	27
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	30
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	31
MONTH	5.1	-2.9	1.0	081	1.5	1.9	139	16.5	ENE	58	-6.5	0.00	9789	

CUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
CUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
CUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
CUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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



RAM CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
October, 1984

FIGURE and TABLE 5.25

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

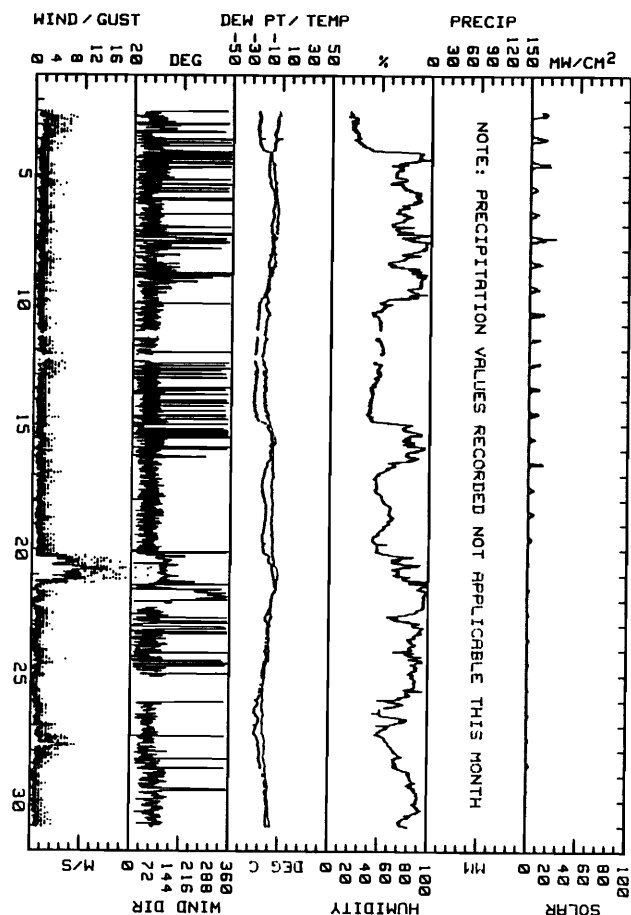
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	*****	*****	*****	***	***	***	***	***	***	***	*****	****	*****	1
2	-1.9	-6.8	-4.4	073	1.5	2.0	115	8.3	NE	22	-23.0	****	1217	2
3	-1.6	-9.4	-5.0	063	1.3	1.8	317	7.0	NE	28	-23.0	****	620	3
4	-7.3	-11.8	-9.6	048	.8	1.3	119	3.8	NNE	74	-13.4	****	565	4
5	-5.0	-8.4	-6.7	041	1.3	1.6	027	6.3	NNE	77	-9.9	****	285	5
6	-3.5	-5.6	-4.6	064	1.3	1.5	072	3.8	E	73	-8.6	****	275	6
7	-4.2	-9.8	-7.0	051	.6	1.1	079	4.4	ESE	80	-9.7	****	630	7
8	-5.6	-11.3	-8.5	065	.9	1.3	059	5.1	NE	76	-11.6	****	355	8
9	-9.6	-15.1	-12.4	067	.8	1.0	047	4.4	ENE	83	-15.8	****	323	9
10	-11.4	-16.3	-13.9	063	1.0	1.1	036	4.4	ENE	50	-22.6	****	490	10
11	-13.6	-18.0	-15.8	046	1.4	1.6	080	3.8	NE	51	-24.5	****	249	11
12	-14.3	-19.1	-16.7	045	1.5	1.9	092	6.3	NE	49	-24.8	****	297	12
13	-13.8	-17.8	-15.8	058	1.1	1.3	050	4.4	NE	44	-25.3	****	280	13
14	-10.3	-17.5	-13.9	051	.9	1.2	014	5.1	NE	42	-24.1	****	260	14
15	-4.5	-10.1	-7.3	050	.9	1.2	051	4.4	NNE	81	-9.3	****	173	15
16	-6.0	-8.9	-7.5	061	1.3	1.5	067	5.7	FNE	65	-12.8	****	188	16
17	-6.1	-9.2	-7.7	071	1.2	1.4	048	4.4	E	48	-17.1	****	198	17
18	-6.7	-9.7	-8.2	061	1.2	1.4	049	4.4	NE	60	-14.2	****	208	18
19	-6.4	-9.8	-8.1	063	1.4	1.6	036	4.4	E	48	-16.8	****	140	19
20	-9	-8.3	-4.6	117	5.9	6.5	120	26.0	ESE	68	-9.8	****	35	20
21	-1.2	-8.1	-4.7	115	1.5	2.9	148	23.5	ESE	98	-5.5	****	61	21
22	-6.4	-10.4	-8.4	061	1.0	1.3	122	4.4	E	83	-10.9	****	43	22
23	-6.5	-11.2	-9.9	038	.6	.9	095	4.3	NNE	87	-11.9	****	48	23
24	-8.9	-14.6	-11.8	036	.7	1.2	053	7.0	NNE	85	-13.9	****	33	24
25	-13.7	-16.8	-15.3	106	1.0	.7	***	2.5	ESE	75	-19.2	****	28	25
26	-14.6	-17.5	-16.1	063	1.4	1.5	060	5.1	ENE	63	-21.6	****	35	26
27	-13.3	-16.8	-15.1	054	2.5	2.7	035	8.9	NE	58	-21.2	****	38	27
28	-11.8	-15.4	-13.6	064	1.1	1.3	057	5.7	ENE	69	-18.2	****	65	28
29	-9.5	-11.9	-10.7	082	.6	.8	036	3.2	ESE	86	-12.4	****	20	29
30	-7.3	-10.0	-8.7	090	1.1	1.2	104	4.4	E	81	-11.3	****	5	30
MONTH	-1.6	-19.1	-10.0	070	1.2	1.6	120	26.0	ENE	63	-16.0	****	7159	

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
November, 1984

FIGURE and TABLE 5.26

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

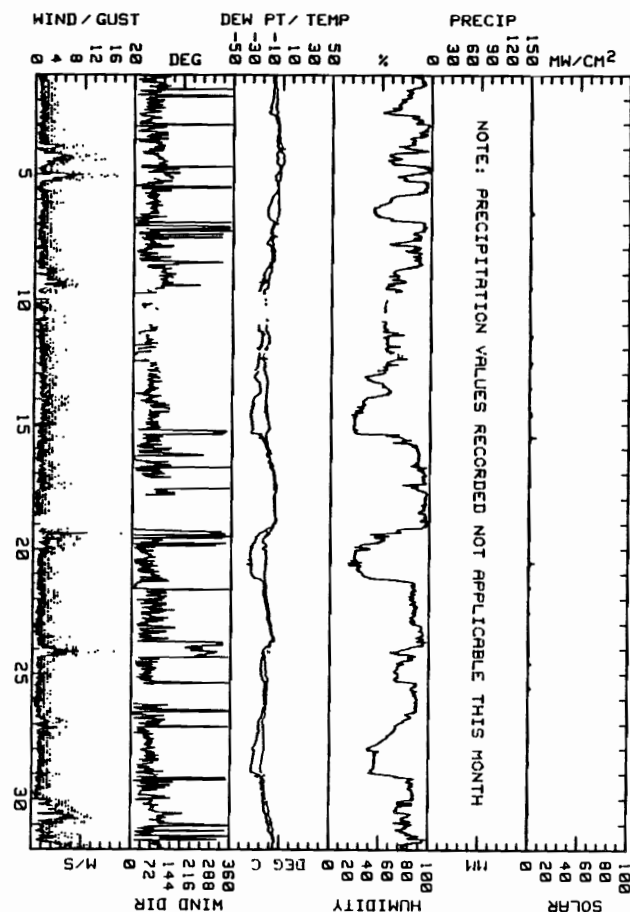
MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-5.6	-8.4	-7.0	063	.9	1.2	357	3.8	ENE	83	-9.5	****	10	1
2	-3.4	-8.4	-5.9	058	1.4	1.6	043	4.4	NE	73	-10.4	****	10	2
3	1.5	-4.6	-1.6	080	1.5	1.7	109	9.5	E	85	-5.2	****	10	3
4	1.8	-3.3	-.8	091	2.9	3.2	105	14.0	E	76	-4.9	****	35	4
5	-2.4	-5.0	-3.7	098	2.0	2.5	129	16.5	ENE	78	-7.4	****	5	5
6	-3.3	-8.3	-5.8	061	1.3	1.5	058	5.7	ENE	56	-12.8	****	85	6
7	-5.8	-11.3	-8.6	047	1.1	1.4	097	4.4	ENE	82	-12.3	****	35	7
8	-7.3	-13.4	-10.4	085	1.3	1.8	108	5.7	NE	80	-12.7	****	25	8
9	-13.1	-19.2	-16.2	113	2.7	3.1	122	8.6	ESE	64	-20.2	****	40	9
10	-15.1	-16.8	-16.0	056	1.1	1.4	***	6.2	E	54	****	****	0	10
11	-12.5	-18.8	-15.7	051	1.3	1.4	072	3.8	NE	58	-21.6	****	80	11
12	-15.6	-19.8	-17.7	058	1.4	1.7	***	6.4	E	59	-23.9	****	75	12
13	-14.6	-16.3	-15.2	066	1.9	2.0	085	7.0	ENE	48	-24.0	****	40	13
14	-12.7	-17.5	-15.1	079	1.9	2.1	117	7.0	E	28	-29.6	****	105	14
15	-11.4	-16.8	-15.1	061	1.1	1.5	090	6.0	E	57	-22.1	****	105	15
16	-6.5	-13.3	-9.9	074	.9	1.4	134	5.1	N	89	-10.9	****	0	16
17	-3.4	-7.1	-5.3	072	.9	1.3	***	7.6	NE	90	-6.8	****	0	17
18	-4.0	-7.3	-5.7	***	***	.9	***	3.2	***	95	-6.0	****	0	18
19	-7.3	-18.8	-13.1	006	1.7	2.9	338	17.8	N	56	-21.6	****	35	19
20	-14.3	-16.9	-15.6	052	1.5	1.6	064	6.1	ENE	27	-30.1	****	100	20
21	-12.1	-16.3	-14.2	072	1.3	1.6	059	5.1	NNE	73	-18.9	****	45	21
22	-8.4	-13.4	-10.9	073	1.2	1.4	049	5.7	ENE	85	-13.3	****	30	22
23	-5.5	-12.6	-9.1	020	.3	1.7	196	8.9	NNE	90	-10.1	****	0	23
24	-10.5	-16.0	-13.3	301	.9	2.7	311	16.5	ENE	72	-18.3	****	60	24
25	-11.8	-14.8	-13.3	052	1.3	1.3	031	3.8	NE	79	-16.2	****	60	25
26	-13.1	-17.9	-15.5	056	1.2	1.5	059	7.1	NNE	80	-18.4	****	5	26
27	-15.4	-17.7	-16.6	052	1.7	1.9	022	7.0	ENE	56	-23.2	****	5	27
28	-15.2	-20.0	-17.6	064	1.6	1.8	066	5.1	ENE	45	-27.1	****	40	28
29	-13.8	-19.5	-16.7	072	.9	1.3	094	5.7	NNE	79	-18.1	****	0	29
30	-6.7	-12.9	-9.8	098	4.1	4.6	101	12.1	E	74	-13.7	****	25	30
31	-1.9	-7.0	-4.5	092	2.8	3.5	110	12.1	ESE	81	-7.2	****	20	31
MONTH	1.8	-20.0	-11.1	072	1.4	1.9	338	17.8	FNE	68	-15.9	****	1085	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
December, 1984

FIGURE and TABLE 5.27

FIGURE and TABLE 5.28

No data available for Denali Climate Station

October 1982

FIGURE and TABLE 5.29

No data available for Denali Climate Station

November 1982

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

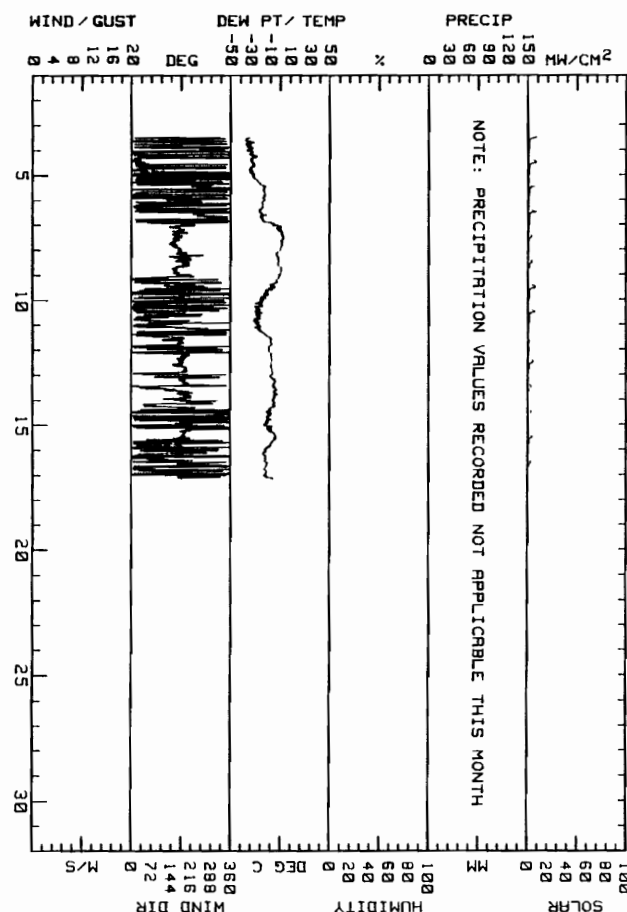
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1982

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. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	1
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	2
3	-27.2M	-35.4M	-31.3M	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	462M	3
4	-24.3	-32.0	-28.2	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	460	4
5	-15.4	-28.1	-21.8	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	315	5
6	-4.4	-21.9	-13.2	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	370	6
7	2.7	-7.7	-2.5	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	318	7
8	.6	-5.0	-2.2	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	335	8
9	-1.0	-20.7	-10.9	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	428	9
10	-18.6	-27.4	-23.0	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	378	10
11	-8.8	-25.8	-17.3	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	265	11
12	-7.6	-12.6	-10.1	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	355	12
13	-3.4	-10.9	-7.2	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	308	13
14	-5.5	-16.8	-11.2	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	303	14
15	-5.2	-16.3	-10.8	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	318	15
16	-12.9	-17.7	-15.3	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	298	16
17	-7.8M	-15.3M	-11.6M	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	248M	17
18	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	18
19	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	19
20	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	20
21	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	21
22	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	22
23	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	23
24	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	24
25	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	25
26	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	26
27	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	27
28	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	28
29	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	29
30	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	30
31	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	31
MONTH	2.7M	-35.4M	-14.1M	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	5142M	

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

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
DENALI WEATHER STATION
December, 1982

FIGURE and TABLE 5.30

K & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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	MAX. GUST P'VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SGH
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
3	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
4	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
5	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
6	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
7	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
8	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
9	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
10	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
11	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
12	-25.7M	-32.6M	-29.4M	XX	XXXX	XXXX	XXXX	XXXX	XXXX	77M	-32.4M	XXXX	XXXX
13	-28.3	-36.6	-32.2	XX	XXXX	XXXX	XXXX	XXXX	XXXX	75	-35.1	XXXX	XXXX
14	-17.6	-32.9	-25.3	XX	XXXX	XXXX	XXXX	XXXX	XXXX	80M	-32.5M	XXXX	XXXX
15	-14.7	-24.4	-19.6	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
16	-6.3	-16.2	-13.3	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
17	-7.6	-14.6	-11.2	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
18	-5.6	-14.4	-10.1	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
19	-6.7	-13.6	-10.2	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
20	-8.2	-19.1	-13.7	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
21	-12.6	-23.3	-18.0	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
22	-17.3	-24.7	-21.0	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
23	-16.5	-27.5	-22.0	XX	XXXX	XXXX	XXXX	XXXX	XXXX	83M	-24.4M	XXXX	XXXX
24	-8.6	-20.0	-14.3	XX	XXXX	XXXX	XXXX	XXXX	XXXX	59	-21.9	XXXX	XXXX
25	-13.5	-24.4	-19.0	XX	XXXX	XXXX	XXXX	XXXX	XXXX	71	-24.7	XXXX	XXXX
26	-9.5	-21.3	-15.6	XX	XXXX	XXXX	XXXX	XXXX	XXXX	83M	-16.9M	XXXX	XXXX
27	-6.3	-19.4	-13.9	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
28	-5.8	-14.2	-10.0	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
29	-12.8	-22.6	-17.8	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
30	-8.0	-23.1	-15.6	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
31	-6.5	-13.6	-10.1	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX
MEAN	-5.2M	-36.0M	-17.1M	XX	XXXX	XXXX	XXXX	XXXX	XXXX	74M	-26.8M	XXXX	XXXX

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

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.
XXXX SEE NOTES AT THE BACK OF THIS REPORT XXXX

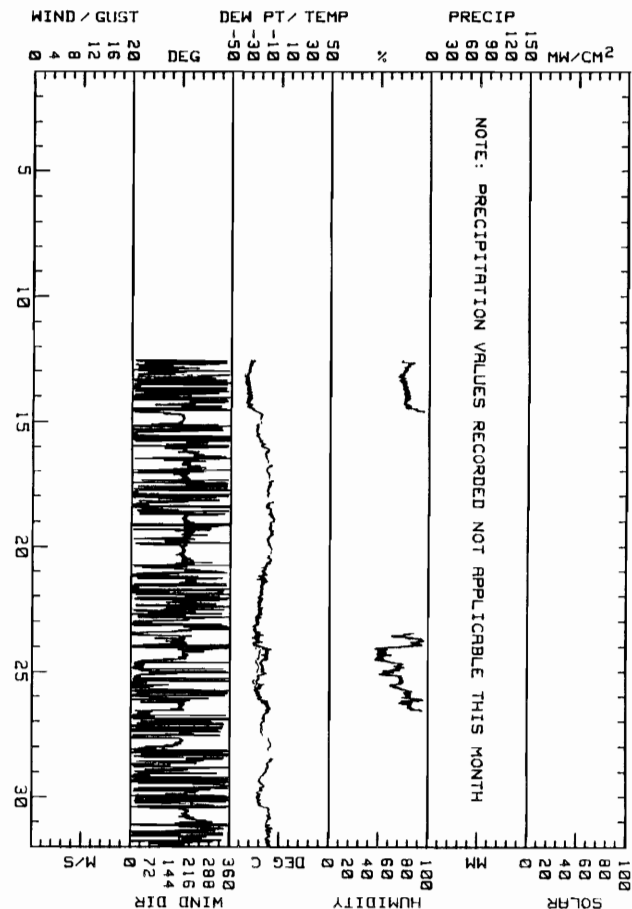


FIGURE and TABLE 5.31
K&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
January, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

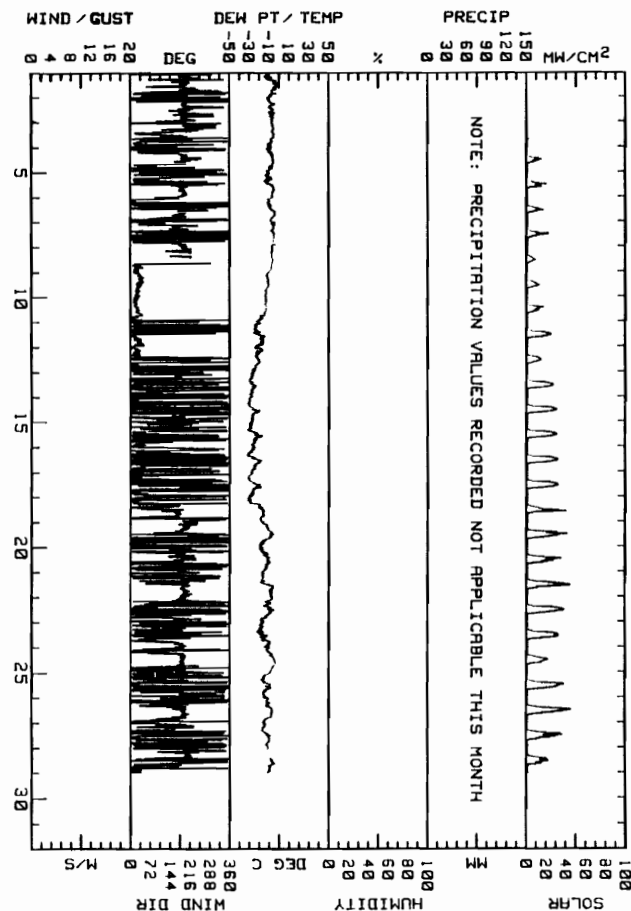
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING February, 1983

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. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ M	DAY
1	.7	-14.2	-6.8	***	***	***	***	***	***	***	***	***	*****	1
2	-4.2	-11.8	-8.0	***	***	***	***	***	***	***	***	***	*****	2
3	-3.7	-11.0	-7.4	***	***	***	***	***	***	***	***	***	248 M	3
4	-4.6	-11.9	-8.3	***	***	***	***	***	***	***	***	***	698	4
5	-4.4	-14.2	-9.3	***	***	***	***	***	***	***	***	***	803	5
6	-3.6	-11.6	-7.6	***	***	***	***	***	***	***	***	***	743	6
7	-3.2	-8.1	-5.7	***	***	***	***	***	***	***	***	***	854	7
8	-5.3	-9.9	-7.6	***	***	***	***	***	***	***	***	***	578	8
9	-9.2	-14.0	-11.6	***	***	***	***	***	***	***	***	***	770	9
10	-11.9	-22.4	-17.2	***	***	***	***	***	***	***	***	***	873	10
11	-13.7	-24.9	-19.3	***	***	***	***	***	***	***	***	***	1378	11
12	-15.7	-26.8	-21.3	***	***	***	***	***	***	***	***	***	948	12
13	-22.8	-30.0	-26.4	***	***	***	***	***	***	***	***	***	1555	13
14	-19.2	-31.6	-25.4	***	***	***	***	***	***	***	***	***	1758	14
15	-16.7	-31.2	-24.0	***	***	***	***	***	***	***	***	***	1775	15
16	-17.5	-31.4	-24.5	***	***	***	***	***	***	***	***	***	1845	16
17	-17.6	-31.4	-24.5	***	***	***	***	***	***	***	***	***	1895	17
18	-14.5	-31.0	-22.8	***	***	***	***	***	***	***	***	***	1220	18
19	-4.9	-19.1	-12.0	***	***	***	***	***	***	***	***	***	1995	19
20	-8.3	-19.1	-13.7	***	***	***	***	***	***	***	***	***	1663	20
21	-5.5	-18.6	-12.1	***	***	***	***	***	***	***	***	***	1988	21
22	-5.0	-18.1	-11.6	***	***	***	***	***	***	***	***	***	2130	22
23	-8.9	-22.1	-15.5	***	***	***	***	***	***	***	***	***	1975	23
24	-3.3	-12.5	-7.9	***	***	***	***	***	***	***	***	***	1298	24
25	-8.3	-17.6	-13.0	***	***	***	***	***	***	***	***	***	2680	25
26	-6.6	-15.8	-11.2	***	***	***	***	***	***	***	***	***	2170	26
27	-8.4	-17.2	-12.8	***	***	***	***	***	***	***	***	***	1863	27
28	-3.8	-11.4	-7.6	***	***	***	***	***	***	***	***	***	1318	28
MONTH	.7	-31.6	-14.1	***	***	***	***	***	***	***	***	***	36403 M	

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

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
DENALI WEATHER STATION
February, 1983

FIGURE and TABLE 5.32

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. WIND DIR.	MAX. WIND SPD. N/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-7.7	-18.4	-13.1	###	###	###	###	###	###	###	###	###	1320	1
2	-11.5	-23.2	-17.4	###	###	###	###	###	###	###	###	###	1515	2
3	-12.6	-26.2	-19.4	###	###	###	###	###	###	###	###	###	983	3
4	-12.5	-19.7	-16.1	###	###	###	###	###	###	###	###	###	1313	4
5	-10.1	-20.0	-15.1	###	###	###	###	###	###	###	###	###	1178	5
6	-10.1	-20.6	-15.4	###	###	###	###	###	###	###	###	###	1865	6
7	-9.4	-20.9	-15.2	###	###	###	###	###	###	###	###	###	2158	7
8	-11.7	-26.4	-19.1	###	###	###	###	###	###	###	###	###	2333	8
9	-18.7M	-26.7M	-18.7M	###	###	###	###	###	###	###	###	###	3129M	9
10	-8.8M	-14.3M	-11.6M	340M	1.5M	1.7M	257M	7.0M	NNW	###	###	###	2085M	10
11	-1.7	-13.4	-7.6	174	2.4	3.3	166	8.9	SSE	###	###	###	2713	11
12	1.8	-12.5	-5.4	126	.1	1.6	165	9.5	NNW	###	###	###	2318	12
13	-.8	-16.2	-8.5	338	.7	1.2	333	3.8	NNW	###	###	###	3193	13
14	-4.2	-17.1	-10.7	336	.4	.9	344	3.2	NNW	###	###	###	2890	14
15	-.9	-15.0	-8.0	172	.5	1.7	165	5.7	S	###	###	###	2573	15
16	-3.0	-10.6	-6.8	347	1.8	2.0	340	5.7	NNW	###	###	###	3033	16
17	-5.1	-16.0	-10.6	340	1.1	1.4	336	3.8	NNW	###	###	###	3610	17
18	-4.9	-21.6	-13.3	342	.8	1.3	350	3.8	NNW	###	###	###	3330	18
19	-6.4	-19.7	-13.1	335	.6	1.0	330	3.8	NNW	###	###	###	3388	19
20	-3.4	-16.4	-9.9	244	.1	1.5	160	7.6	N	###	###	###	3285	20
21	-.9	-15.1	-8.0	341	.7	1.1	186	3.8	N	###	###	###	3578	21
22	-5.3	-16.6	-10.0	344	.6	1.0	806	2.5	NNW	###	###	###	3703	22
23	-4.7	-18.0	-11.4	341	.8	1.0	335	3.2	NNW	###	###	###	3855	23
24	-3.9	-19.8	-11.9	343	.7	1.0	804	3.2	NNW	###	###	###	3178	24
25	.1	-14.3	-7.1	346	.9	1.3	350	4.4	NNW	###	###	###	3923	25
26	-3.7	-17.0	-10.4	170	2.2	3.0	176	10.8	S	###	###	###	3868	26
27	-3.6	-15.9	-9.8	175	1.6	3.2	172	12.7	S	###	###	###	3933	27
28	-6.3	-17.8	-12.1	348	1.3	1.7	127	5.7	NNW	###	###	###	3888	28
29	-1.6	-28.0	-10.8	341	.8	1.3	344	3.8	NNW	###	###	###	4258	29
30	-2.1	-17.8	-10.0	345	.7	1.1	340	3.2	NNW	###	###	###	4333	30
31	-1.8	-16.9	-9.4	348	1.6	1.8	218	5.1	NNW	###	###	###	3870	31
MONTH	1.8M	-26.7M	-11.8M	335M	.4M	1.6M	172M	12.7M	NNW	###	###	###	9858M	

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 11.4
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 ****

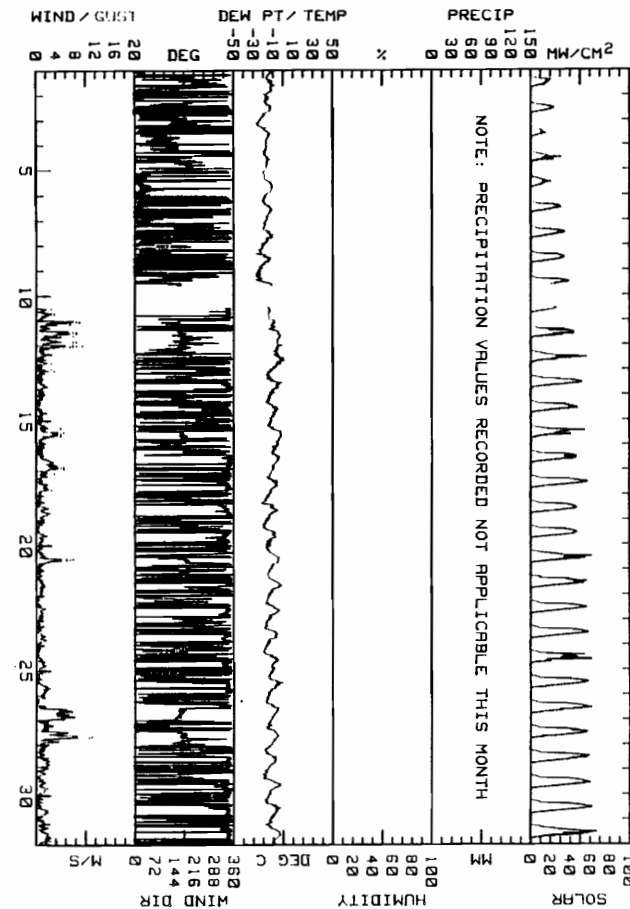


FIGURE and TABLE 5.33

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

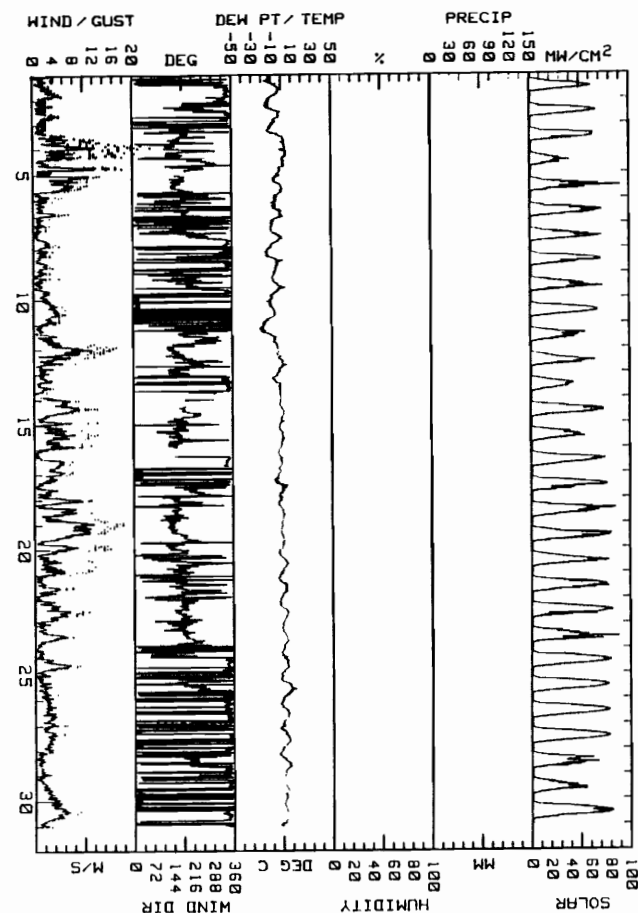
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April, 1983

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. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/ SQM
1	-1.1	-16.8	-9.0	340	1.6	1.9	342	5.7	NNW	**	*****	0.0	4305
2	-7	-16.5	-8.6	339	1.2	1.6	344	5.1	NNW	**	*****	0.0	4683
3	3.8	-14.5	-5.4	151	2.9	3.8	138	23.5	S	**	*****	0.0	4735
4	4.5	-4.4	.1	195M	2.1M	4.0M	154M	28.3M	WSW(M)	**	*****	0.0	2448
5	.8	-8.8	-4.0	166M	4.1M	4.5M	152M	13.3M	SSE(M)	**	*****	0.0	4865
6	1.3	-10.9	-4.8	186	.4	1.6	184	7.8	S	**	*****	0.0	5848
7	.8	-13.9	-6.6	335	.8	1.4	811	5.1	NNW	**	*****	0.0	4655
8	.8	-16.9	-8.1	340	1.0	1.5	346	3.8	NNW	**	*****	0.0	4878
9	2.7	-11.7	-4.5	339	.6	1.4	225	5.1	NNW	**	*****	0.0	4615
10	-6.7	-18.6	-12.7	881	3.4	3.5	886	6.3	N	**	*****	0.0	5418
11	-4.2	-22.2	-13.2	188	1.5	3.2	141	16.5	SW	**	*****	0.0	3783
12	4.3	-5.0	-4	168	3.1	3.8	146	15.2	SSE	**	*****	0.0	4235
13	-6	-9.9	-5.3	344M	1.3M	1.8M	335M	5.1M	NNW(M)	**	*****	0.0	3398
14	1.9	-2.9	-5	190M	4.1M	5.0M	177M	12.7M	S(M)	**	*****	.2	5698
15	2.1	-3.0	-5	161	3.9	4.3	155	12.7	SSE	**	*****	.2	4838
16	.1	-4.2	-2.1	358	4.0	3.1	339	7.6	NNW	**	*****	0.0	5368
17	4.6	-8.2	-1.8	241	.2	2.6	161	11.4	NNE	**	*****	0.0	5558
18	2.4	-4.1	-9	152	4.8	5.4	137	17.8	SSE	**	*****	0.0	5628
19	3.1	-2.2	.5	152	6.0	6.5	144	20.3	SE	**	*****	0.0	5988
20	5.7	-4.1	.8	176	2.2	3.0	162	14.0	S	**	*****	0.0	5815
21	4.2	-5.0	-4	181	.9	1.6	159	7.6	S	**	*****	0.0	6893
22	5.0	-4.2	.4	188	3.3	3.5	167	10.8	S	**	*****	0.0	6348
23	5.4	-1.8	1.8	191	1.7	2.0	188	7.6	S	**	*****	0.0	5878
24	5.7	-2.4	1.7	346	2.1	2.5	339	8.9	NNW	**	*****	0.0	6928
25	12.5	-2.5	5.0	329	.7	1.7	166	5.7	N	**	*****	0.0	6805
26	6.4	-3.5	1.5	348	2.8	2.9	886	6.3	NNW	**	*****	0.0	6773
27	6.5	-3.3	1.6	359	2.7	2.8	819	5.7	N	**	*****	0.0	6865
28	7.8	-4.7	1.6	326	.6	1.2	336	4.4	NNW	**	*****	0.0	5855
29	5.4	.2	2.8	358	2.2	2.3	358	6.3	N	**	*****	.4	4815
30	4.4	-2.8	.8	353	3.8	3.9	339	8.9	N	**	*****	0.0	7828
MONTH	12.5	-22.2	-2.3	166M	.4M	2.9M	138M	23.5M	NNW(M)	**	*****	.8	154391

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 20.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 19.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 19.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 17.1

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
DENALI WEATHER STATION
April, 1983

FIGURE and TABLE 5.34

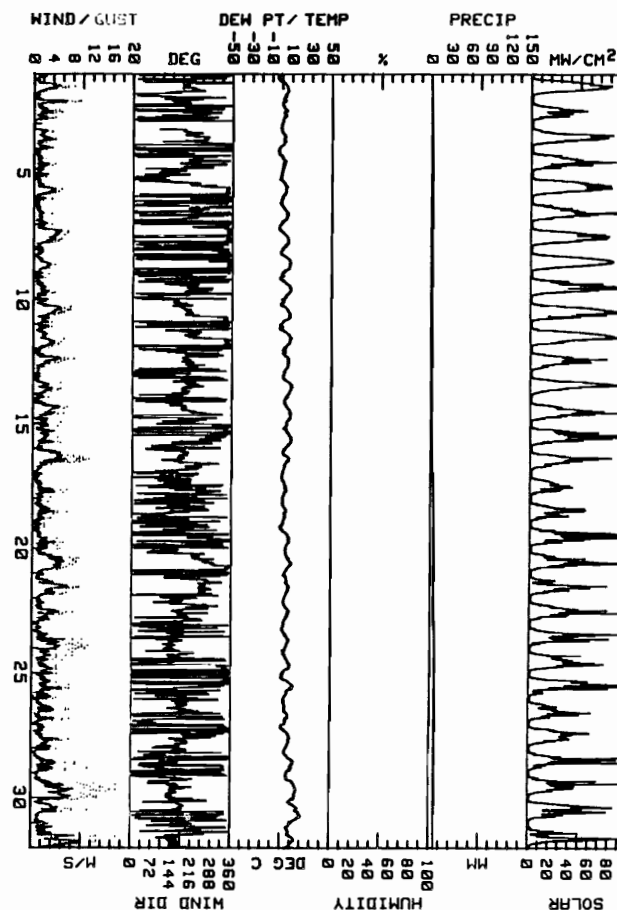
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	6.1	-5.2	.5	200	1.0	1.7	183	8.3	SSW	**	*****	0.0	6735	1
2	5.0	-1.8	2.1	218M	.5M	1.7M	138M	9.5M	W (M)	**	*****	1.2	3540	2
3	3.1	-3.7	-3.3	254M	1.0M	1.4M	266M	4.4M	W (M)	**	*****	0.0	5605	3
4	3.8	-4.5	-1.4	229	.4	1.1	170	4.4	SW	**	*****	0.0	5198	4
5	5.5	-3.0	1.3	334	.8	1.6	343	5.7	NNW	**	*****	0.0	7888	5
6	6.5	-2.4	2.1	330	.5	1.2	327	3.8	N	**	*****	0.0	5500	6
7	6.8	-3.3	1.8	348	2.5	2.8	342	7.0	NNW	**	*****	0.0	6803	7
8	8.8	-1.7	3.6	346	1.3	1.5	348	4.4	NNW	**	*****	0.0	7570	8
9	9.8	-2.8	3.5	229	.6	1.3	205	4.4	SW	**	*****	0.0	6715	9
10	9.2	-1.6	3.8	203	1.6	2.7	177	7.6	S	**	*****	0.0	7553	10
11	10.2	-2.5	3.9	312	1.1	2.2	262	6.3	NNW	**	*****	0.0	7473	11
12	7.4	.3	3.9	203	1.2	1.8	181	8.3	SSW	**	*****	0.0	4560	12
13	11.3	1.0	6.2	195	1.2	1.5	228	5.7	SSW	**	*****	0.0	5903	13
14	9.8	2.5	6.2	198	1.4	2.2	187	7.0	S	**	*****	0.0	5303	14
15	10.7	1.8	6.3	324	1.0	1.9	171	5.7	NNW	**	*****	0.0	6318	15
16	8.4	1.0	4.7	182	2.4	2.9	175	11.4	S	**	*****	2.0	4553	16
17	5.9	.4	3.2	219	.5	1.4	264	7.0	SSW	**	*****	1.8	3220	17
18	5.7	1.2	3.5	170	.3	1.6	159	7.0	W	**	*****	0.0	3905	18
19	9.0	-1.6	3.7	321	.7	1.6	264	6.3	N	**	*****	0.0	5898	19
20	11.1	3.3	7.2	283	2.0	3.5	233	9.5	NNW	**	*****	0.0	5383	20
21	8.5	1.8	5.2	263	2.4	3.0	263	10.8	WSW	**	*****	0.0	4838	21
22	8.7	2.2	5.5	186	1.5	2.0	164	8.3	SSE	**	*****	.8	4783	22
23	8.5	.6	4.6	143	1.8	2.5	143	12.7	SE	**	*****	1.6	4735	23
24	9.6	1.1	5.4	046	.4	2.5	119	8.9	NNW	**	*****	0.0	5093	24
25	13.1	.1	6.6	343	.7	2.4	298	7.6	N	**	*****	0.0	6223	25
26	7.7	2.4	5.1	185	.8	1.9	223	9.5	S	**	*****	.2	3785	26
27	9.6	0.0	4.8	207	.6	2.1	140	7.6	NNW	**	*****	0.0	4803	27
28	13.9	3.4	8.7	087	.4	1.9	122	11.4	E	**	*****	0.0	4808	28
29	16.1	5.0	10.6	145	3.5	4.0	160	17.1	SE	**	*****	0.0	4430	29
30	21.4	7.7	14.6	177	1.2	2.4	177	11.4	S	**	*****	0.0	5753	30
31	15.0	4.3	9.7	164	3.1	4.2	130	17.1	SSE	**	*****	0.0	4842	31
MONTH	21.4	-5.2	4.7	210M	.5M	2.1M	160M	17.1M	NNW (M)	**	*****	7.6	166505	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 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.



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

FIGURE and TABLE 5.35

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

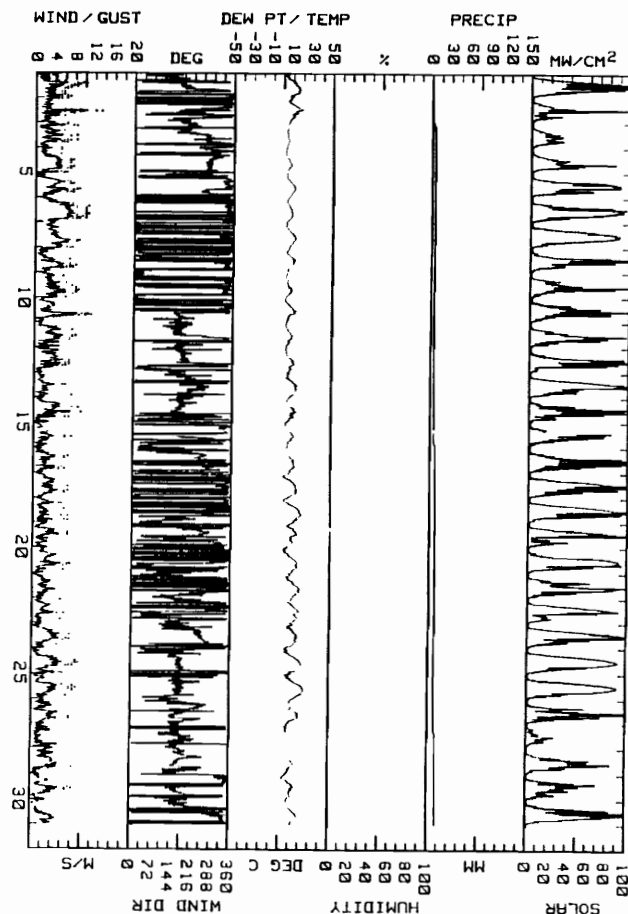
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. CUST DIR.	MAX. CUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	16.4	2.9	9.7	171	.4	2.8	172	10.2	S	**	*****	0.0	8285
2	19.1	4.8	12.0	318	.5	2.8	163	13.3	NNW	**	*****	2.4	3278
3	6.2	3.5	4.9	243	1.7	2.7	282	8.3	W	**	*****	2.6	2748
4	8.9	2.4	5.7	283	2.8	3.2	275	7.6	W	**	*****	0.0	3798
5	12.5	3.9	8.2	321	2.2	3.0	273	8.9	NNW	**	*****	0.0	7143
6	9.9	3.5	6.7	351	5.2	5.3	339	10.8	N	**	*****	0.0	8213
7	13.4	3.0	8.2	353	4.0	4.1	345	8.9	N	**	*****	0.0	8950
8	13.0	4.3	8.7	352	2.5	2.8	334	8.3	NNW	**	*****	0.0	5543
9	9.6	3.8	6.7	353	3.1	3.4	330	8.9	N	**	*****	0.0	4453
10	14.2	2.8	8.5	029	.2	2.9	161	11.4	N	**	*****	0.0	5508
11	11.2	3.9	7.6	191	1.3	3.0	227	8.3	S	**	*****	.2	5298
12	12.9	4.0	8.5	181	1.4	2.9	179	7.0	S	**	*****	.4	6358
13	16.1	4.6	10.4	216	1.2	1.8	248	7.6	SSW	**	*****	0.0	8060
14	15.4	4.1	9.8	173	1.7	2.6	144	9.5	S	**	*****	.2	5635
15	12.8	4.2	8.5	324	.6	1.8	177	7.6	NNW(N)	**	*****	2.2	4348
16	14.5	5.6	10.1	294	1.2	2.3	257	7.0	W	**	*****	.2	6280
17	17.8	2.8	10.3	349	2.7	2.8	306	7.0	NNW	**	*****	0.0	9328
18	21.3	3.1	12.2	356	1.1	2.1	169	12.1	N	**	*****	0.0	8815
19	17.0	5.9	11.5	285	1.0	2.1	282	7.0	WSW	**	*****	1.0	5670
20	19.2	3.7	11.5	001	1.8	2.5	022	7.6	N	**	*****	0.0	8060
21	20.5	7.4	14.0	340	1.1	2.1	341	5.7	N	**	*****	0.0	6845
22	19.6	8.2	13.9	359	.7	1.9	106	7.6	NNW	**	*****	0.0	6355
23	18.6	6.5	12.6	254	2.1	2.7	247	7.6	WSW	**	*****	0.0	8190
24	23.4	6.0	14.7	177	1.8	2.9	169	9.5	S	**	*****	0.0	9395
25	25.6	6.9	16.3	175	2.3	2.7	196	8.9	S	**	*****	0.0	8995
26	20.6	8.5	14.6	193	1.9	2.7	182	7.6	SSE	**	*****	.2	5738
27	11.1	6.1	8.6	172	1.1	1.9	164	8.3	SSE	**	*****	3.0	1673
28	16.1	7.1	11.6	187	2.6	3.0	172	8.3	S	**	*****	.4	5113
29	15.8	4.1	10.0	191	.4	2.3	160	8.3	NNW	**	*****	0.0	4673
30	19.6	7.7	13.7	342	1.5	2.2	338	7.6	NNW	**	*****	0.0	8418
MONTH	25.6	2.4	10.3	306	.6	2.7	163	13.3	NNW(N)	**	*****	12.8	190115

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 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
DENALI WEATHER STATION
June, 1983

FIGURE and TABLE 5.36

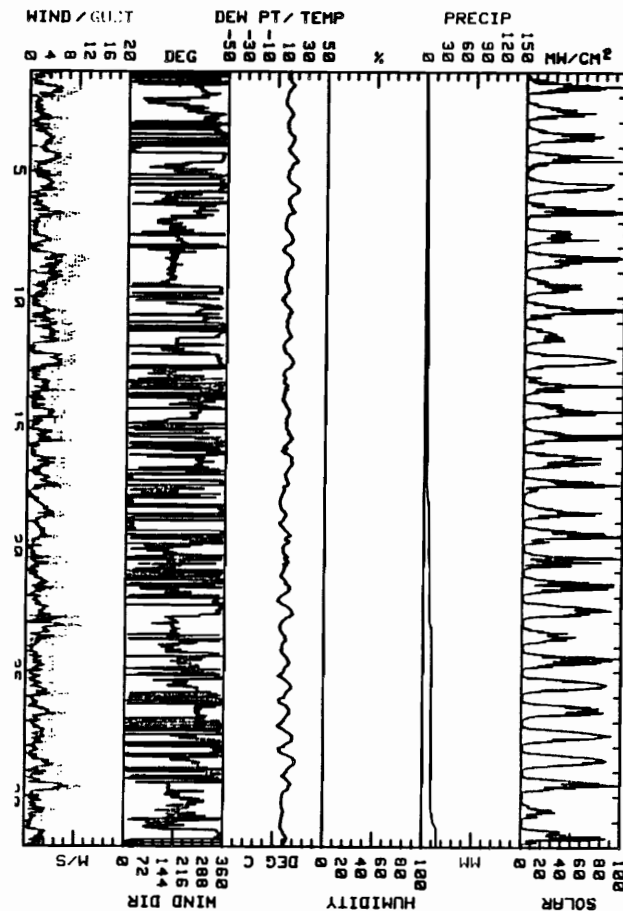
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENRGY WH/SQM	DAY
1	17.1	9.2	13.2	292	2.6	3.3	260	10.2	W	W	W	W	.2	4448	1
2	15.6	8.1	11.9	276	1.1	2.1	282	7.6	W	W	W	W	2.0	4425	2
3	17.0	9.4	13.2	349	3.0	3.1	351	7.0	N	W	W	W	.4	5120	3
4	21.0	10.5	15.8	342	2.1	3.4	345	8.3	NNW	W	W	W	.8	4735	4
5	22.3	9.8	16.1	332	2.3	3.2	351	7.6	NNW	W	W	W	0.0	6873	5
6	18.5	8.6	13.6	253	1.6	2.6	253	10.2	W	W	W	W	1.6	5335	6
7	16.6	7.6	12.1	184	1.2	1.9	186	6.3	SSW	W	W	W	0.0	4543	7
8	16.3	5.6	11.0	164	3.9	4.1	158	12.1	SSE	W	W	W	0.0	6763	8
9	13.6	6.2	9.9	152	1.5	3.4	177	10.2	SSE	W	W	W	.2	4095	9
10	17.0	5.5	11.3	279	1.7	2.6	256	7.6	W	W	W	W	0.0	5998	10
11	15.7	7.2	11.5	332	1.7	4.0	349	9.5	NNW	W	W	W	0.0	3533	11
12	18.3	7.6	13.0	334	2.9	3.6	324	9.5	NNW	W	W	W	0.0	8548	12
13	12.0	7.8	10.3	335	1.4	2.6	270	9.5	N	W	W	W	0.0	4228	13
14	14.9	6.9	10.9	257	2.0	2.7	255	8.9	W	W	W	W	0.0	5808	14
15	17.0	8.6	13.2	333	1.4	2.5	346	8.9	NNE	W	W	W	0.0	5233	15
16	18.2	6.1	12.2	279	1.7	2.4	262	7.6	W	W	W	W	0.0	6478	16
17	14.0	6.7	10.8	358	1.7	2.6	165	8.9	N	W	W	W	2.4	4365	17
18	12.2	5.3	8.8	354	3.0	3.2	316	7.6	N	W	W	W	1.8	4135	18
19	16.6	4.4	10.5	358	1.7	2.3	279	7.6	NNE	W	W	W	0.0	6780	19
20	15.3	7.8	11.6	127	3.3	1.8	161	8.3	SSE	W	W	W	2.0	4785	20
21	16.7	6.5	11.6	012	1.2	2.6	061	7.6	N	W	W	W	0.0	6275	21
22	19.9	3.7	11.8	318	1.2	3.3	174	10.8	NNW	W	W	W	.4	7310	22
23	12.0	6.1	9.5	176	2.7	3.4	176	11.4	S	W	W	W	2.6	4118	23
24	16.6	6.9	11.8	249	1.1	2.1	276	6.3	SW	W	W	W	0.0	5988	24
25	19.0	4.1	11.6	272	1.1	2.4	276	8.9	W	W	W	W	0.0	7868	25
26	17.5	5.3	11.4	292	2.0	2.6	270	8.3	W	W	W	W	0.0	7065	26
27	20.3	4.2	12.3	339	1.6	2.5	190	6.3	NNW	W	W	W	0.0	7848	27
28	22.7	5.0	13.9	289	1.5	2.6	266	8.3	W	W	W	W	0.0	7895	28
29	18.7	9.0	13.9	172	1.5	3.4	165	11.4	SSE	W	W	W	.2	6360	29
30	11.9	8.6	10.3	224	1.4	2.1	204	6.3	W	W	W	W	4.2	2050	30
31	15.8	8.2	12.0	360	1.7	2.3	343	5.7	NNW	W	W	W	5.0	4718	31
MONTH	22.7	3.7	11.9	306	1.8	2.8	158	12.1	NNW	W	W	W	23.8	173718	W

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



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

FIGURE and TABLE 5.37

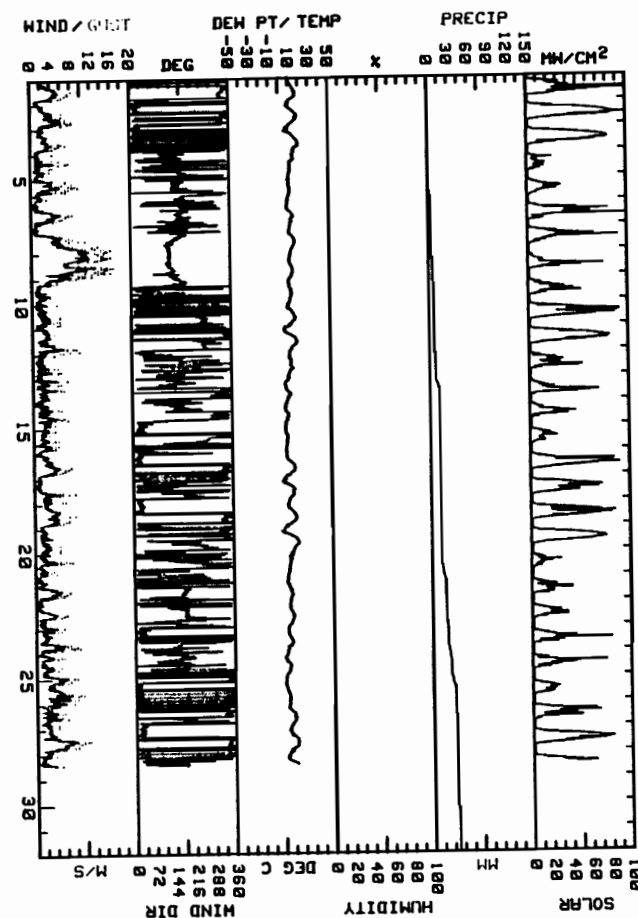
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	17.0	8.0	12.5	346	2.9	3.1	331	8.3	NNW	**	*****	0.0	5530	1
2	18.7	6.8	12.8	357	2.9	3.3	323	8.3	NNE	**	*****	0.0	7983	2
3	19.6	4.4	12.0	003	2.1	2.4	004	7.0	N	**	*****	0.0	7198	3
4	14.6	8.8	11.7	137	.3	1.4	209	7.6	SE	**	*****	1.0	1563	4
5	11.1	7.3	9.2	171	1.8	2.4	149	9.5	SSE	**	*****	2.4	2268	5
6	14.3	6.9	10.6	181	1.8	2.3	166	8.3	S	**	*****	.6	4595	6
7	14.9	8.2	11.6	146	5.0	5.3	134	15.9	SE	**	*****	.2	3705	7
8	13.1	8.7	10.9	142	8.2	8.4	155	16.5	SE	**	*****	1.6	2540	8
9	12.1	7.8	10.0	128	.2	1.8	161	6.3	NNE	**	*****	1.2	2830	9
10	15.3	5.9	10.6	309	.9	1.9	257	5.7	NNE	**	*****	0.0	6550	10
11	17.0	2.6	9.8	315	1.9	2.9	028	9.5	NNW	**	*****	0.0	6811	11
12	12.5	6.7	9.6	177	.2	1.4	238	5.7	ESE	**	*****	1.8	2890	12
13	9.8	3.3	6.6	336	.2	2.0	183	7.0	NNW	**	*****	4.6	2880	13
14	7.4	2.9	5.2	347	.7	2.4	251	7.0	NNE	**	*****	.8	2395	14
15	5.9	2.9	4.4	353	1.2	1.9	269	5.1	N	**	*****	.4	1813	15
16	13.0	3.2	8.1	002	2.4	2.7	342	7.6	NNE	**	*****	0.0	5910	16
17	13.1	-1.5	6.3	023	.2	1.8	155	8.3	NNE	**	*****	0.0	5140	17
18	14.3	2.6	8.5	359	2.9	3.2	350	8.3	NNE	**	*****	0.0	5860	18
19	16.2	-1.6	7.3	301	.7	1.9	342	5.1	NNW	**	*****	0.0	6310	19
20	10.6	4.3	7.5	026	.1	1.5	162	7.6	NNF	**	*****	3.6	1335	20
21	9.3	3.4	6.4	177	1.2	2.0	180	7.0	S	**	*****	2.6	2290	21
22	10.4	4.4	7.4	186	.8	1.8	183	6.3	S	**	*****	1.4	2245	22
23	9.4	3.0	6.2	066	.5	2.3	229	8.9	NNE	**	*****	2.6	2653	23
24	7.1	.3	3.7	286	.0	2.2	344	8.3	S	**	*****	2.8	2445	24
25	5.3	.6	3.0	356	4.0	4.1	350	9.5	N	**	*****	6.0	2438	25
26	11.5	3.2	7.4	003	1.5	2.4	006	6.3	NNE	**	*****	.4	3580	26
27	13.2	3.4	8.3	357	3.6	3.9	336	10.8	NNF	**	*****	0.0	5823	27
28	12.5	1.8	7.2	185	.1	1.4	108	5.1	S(N)	**	*****	0.0	3740	28
29	*****	*****	*****	***	***	***	***	***	***	**	*****	.2	*****	29
30	*****	*****	*****	***	***	***	***	***	***	**	*****	2.2	*****	30
31	*****	*****	*****	***	***	***	***	***	***	**	*****	0.0	*****	31
MONTH	19.6	-1.6	8.4	025	.4	2.7	155	16.5	NNE	**	*****	36.4	110843	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.0

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
DENALI WEATHER STATION
August, 1983

FIGURE and TABLE 5.38

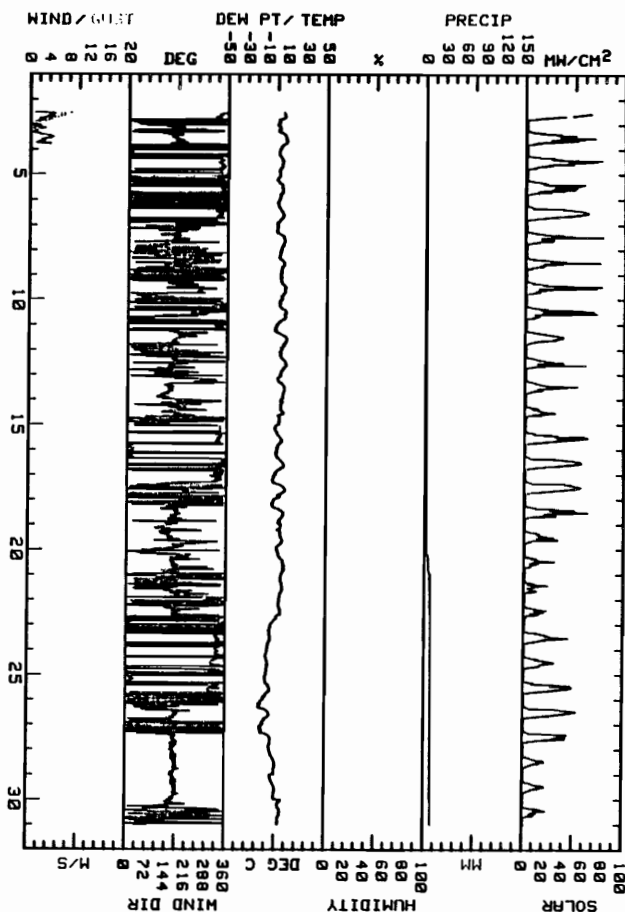
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ M	DAY
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	.8	XXXX	1
2	7.4	-9	3.3	339	2.4	2.6	355	8.3	NW	XX	XXXX	0.0	4336	2
3	9.4	-6	4.4	173	1.5	2.2	162	7.0	S	XX	XXXX	0.0	3845	3
4	5.3	.4	2.9	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3900	4
5	5.4	-1.5	2.0	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3261	5
6	6.6	-9	2.9	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	4765	6
7	8.0	-9	3.6	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2685	7
8	7.6	1.1	4.4	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	.6	2365	8
9	9.3	2.6	6.0	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2655	9
10	10.0	.1	5.1	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3163	10
11	10.3	-2.5	3.9	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2715	11
12	10.1	2.4	6.3	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	1948	12
13	8.0	.1	4.1	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2175	13
14	7.4	.6	4.0	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	1.2	1525	14
15	6.0	-2.5	1.8	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3435	15
16	8.0	-2.0	3.0	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3990	16
17	9.4	-4.5	2.5	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3968	17
18	7.9	-5.2	1.4	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3130	18
19	6.8	.1	3.5	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	.2	1825	19
20	9.3	.7	5.0	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	5.2	1245	20
21	7.3	3.3	5.3	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	.8	1080	21
22	5.2	-4.4	.4	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	1.4	1225	22
23	-4.8	-8.3	-6.6	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2293	23
24	-7.6	-10.0	-8.8	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	1935	24
25	-5.0	-12.7	-8.9	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3701	25
26	-5.5	-17.1	-11.3	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	3263	26
27	-3.7	-15.7	-9.7	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	2720	27
28	.7	-4.8	-2.1	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	0.0	1293	28
29	7.4	-1.8	3.3	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	1.0	1030	29
30	7.3	3.3	5.3	XXX	XXX	XXX	XXX	XXX	XX	XXXX	XXXX	1.0	1228	30
MONTH	10.3	-17.1	1.3	241	.1	.9	355	8.3	SW	XX	XXXX	12.2	7620	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS *****
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL *****
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
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
DENALI WEATHER STATION
September, 1983

FIGURE and TABLE 5.39

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

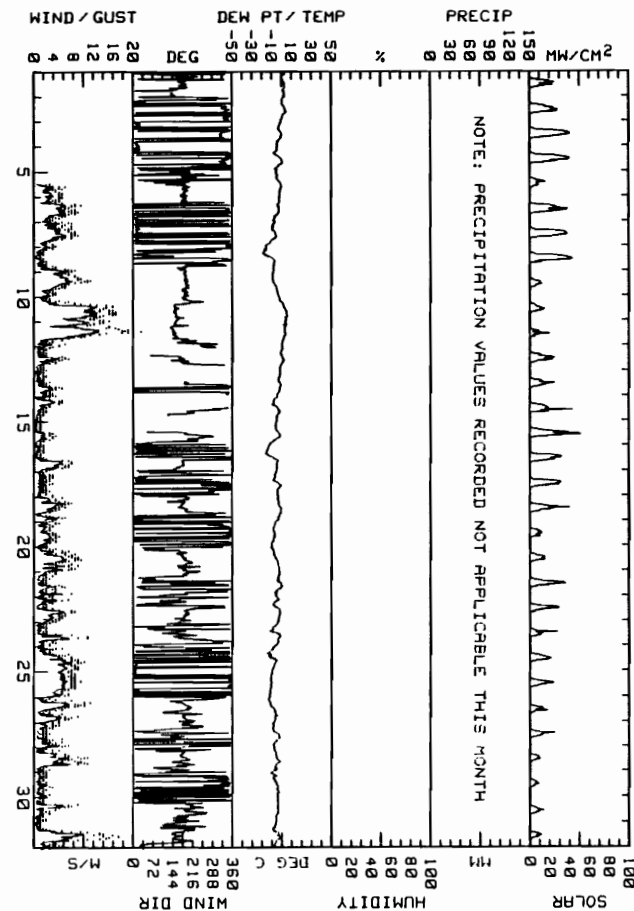
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING October, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	4.1	.1	2.1	***	***	***	***	***	S	**	***	***	1180	1
2	4.8	-1.0	1.9	***	***	***	***	***	NNW	**	***	***	1595	2
3	.3	-5.3	-2.5	***	***	***	***	***	NNE	**	***	***	2415	3
4	1.1	-8.4	-3.7	***	***	***	***	***	NNW	**	***	***	2333	4
5	.1	-5.4	-2.7	186	2.6	2.7	195	6.3	S	**	***	***	720	5
6	-2.0	-8.8	-5.4	356	2.8	4.1	356	9.5	N	**	***	***	2055	6
7	-5.1	-16.5	-10.8	006	3.7	3.8	008	8.9	N	**	***	***	2215	7
8	-6.6	-18.9	-12.8	213	.4	1.9	191	8.3	N	**	***	***	2225	8
9	-2.5	-9.0	-5.8	191	4.3	4.4	184	11.4	S	**	***	***	610	9
10	6.0	-2.3	1.9	159	7.9	8.2	146	16.5	SSE	**	***	***	720	10
11	4.9	.4	2.7	153	6.1	6.7	146	21.6	SSE	**	***	***	550	11
12	2.5	-1.8	.4	181	1.9	1.5	186	7.0	S	**	***	***	1200	12
13	-3	-4.6	-2.5	352	1.3	1.6	000	5.7	N	**	***	***	955	13
14	-1.2	-9.5	-5.4	243	.4	1.4	***	5.7	SSW	**	***	***	1325	14
15	-1.6	-13.6	-7.3	228	.6	.9	241	4.4	SW	**	***	***	2071	15
16	-3.6	-16.0	-9.8	174	1.2	2.1	176	7.6	N	**	***	***	1625	16
17	.1	-8.5	-4.2	348	.8	1.4	196	5.7	N	**	***	***	1585	17
18	.1	-6.3	-3.1	185	1.3	2.8	185	7.6	S	**	***	***	1325	18
19	-6.3	-10.5	-8.4	354	2.2	2.2	000	5.1	N	**	***	***	670	19
20	-2.0	-10.7	-6.4	182	3.3	3.8	185	9.5	S	**	***	***	770	20
21	1.7	-6.9	-2.6	020	.1	1.8	187	9.5	NNE	**	***	***	1390	21
22	-.8	-8.6	-4.7	187	2.2	2.8	185	8.3	S	**	***	***	1095	22
23	-.5	-12.0	-6.3	171	.9	2.0	154	12.1	SSE	**	***	***	695	23
24	-4.3	-14.7	-9.5	000	4.5	4.7	355	10.2	N	**	***	***	975	24
25	-9.6	-12.0	-10.8	357	5.2	5.2	348	9.5	N	**	***	***	920	25
26	-3.7	-13.7	-8.7	189	3.0	3.4	157	11.4	S	**	***	***	585	26
27	-1.7	-9.6	-5.7	345	.6	1.8	353	7.0	N	**	***	***	735	27
28	-1.5	-9.4	-5.5	181	2.6	3.1	178	10.8	S	**	***	***	475	28
29	-2.5	-10.8	-6.7	349	1.0	1.2	254	8.3	N	**	***	***	370	29
30	-2.5	-5.7	-4.1	289	1.2	1.6	192	8.9	SSW	**	***	***	558	30
31	-1.3	-10.4	-5.9	154	2.7	3.7	174	17.1	S	**	***	***	440	31
MONTH	6.0	-18.9	-4.9	170	.7	3.0	146	21.6	N	**	***	***	36381	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 17.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 18.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 17.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 19.0

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
October, 1983

FIGURE and TABLE 5.40

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	-7.3	-13.0	-10.2	347	1.3	2.1	172	7.6	N	**	*****	****	535	1
2	-2.4	-12.7	-7.6	183	2.8	3.7	176	14.0	S	**	*****	****	385	2
3	-7.5	-19.4	-13.5	343	.9	1.2	339	3.2	N	**	*****	****	1120	3
4	-11.7	-20.5	-16.1	349	.9	1.2	017	3.8	N	**	*****	****	540	4
5	-9.5	-16.7	-13.1	334	.5	1.1	167	4.4	NNW	**	*****	****	415	5
6	-13.4	-20.8	-17.1	002	.3	.8	009	3.8	NNE	**	*****	****	790	6
7	-7.8	-16.8	-12.3	192	5.5	5.8	181	11.4	S	**	*****	****	325	7
8	-2.1	-11.7	-6.9	208	1.1	2.4	209	7.6	SSW	**	*****	****	415	8
9	-3.8	-12.7	-8.3	199	1.4	2.7	197	14.0	SSW	**	*****	****	750	9
10	-6.8	-16.8	-11.8	072	.2	1.8	168	8.9	N	**	*****	****	480	10
11	-8.1	-15.7	-11.9	174	1.0	2.7	173	10.8	N	**	*****	****	700	11
12	-8.2	-16.0	-12.1	179	.5	1.3	177	9.5	SSW	**	*****	****	305	12
13	-12.0	-20.5	-16.3	015	.1	.6	013	1.9	S	**	*****	****	820	13
14	-15.9	-20.4	-18.2	028	.8	.8	006	1.9	NNE	**	*****	****	325	14
15	-18.9	-24.3	-21.6	004	.2	.6	278	2.5	N	**	*****	****	235	15
16	-9.4	-19.4	-14.4	136	.3	1.3	153	8.9	NNE	**	*****	****	485	16
17	-17.8	-21.9	-19.9	347	.5	.9	000	3.2	N	**	*****	****	265	17
18	-14.7	-21.2	-18.0	009	.8	.8	006	2.5	N	**	*****	****	535	18
19	-7.8	-22.0	-14.9	295	.1	.9	149	2.5	SSW	**	*****	****	165	19
20	-3.5	-16.9	-10.2	169	5.4	5.8	143	17.1	S	**	*****	****	135	20
21	2.6	-2.8	-1.1	150	6.9	7.3	152	22.2	SE	**	*****	****	115	21
22	-1.1	-11.6	-6.4	183	2.9	3.3	191	10.8	S	**	*****	****	175	22
23	-5.0	-16.0	-10.5	014	2.2	2.4	357	7.0	NNE	**	*****	****	380	23
24	-8.5	-21.8	-15.2	000	.8	1.7	021	6.3	NNE	**	*****	****	525	24
25	-12.1	-17.7	-14.9	170	2.3	3.4	175	10.2	S	**	*****	****	275	25
26	-11.8	-18.3	-15.1	339	.3	1.1	180	3.8	NNE	**	*****	****	190	26
27	-7.6	-16.1	-11.9	269	.3	1.6	188	6.3	N	**	*****	****	95	27
28	4.2	-10.6	-3.2	152	6.5	6.9	154	21.6	SE	**	*****	****	145	28
29	5.0	-2.1	1.5	177	2.2	2.8	142	14.6	SSW	**	*****	****	115	29
30	.9	-5.3	-2.2	193	1.7	2.4	182	11.4	S	**	*****	****	160	30
MONTH	5.0	-24.3	-11.7	170	1.0	2.4	152	22.2	N	**	*****	****	11900	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 21.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 15.9

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

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

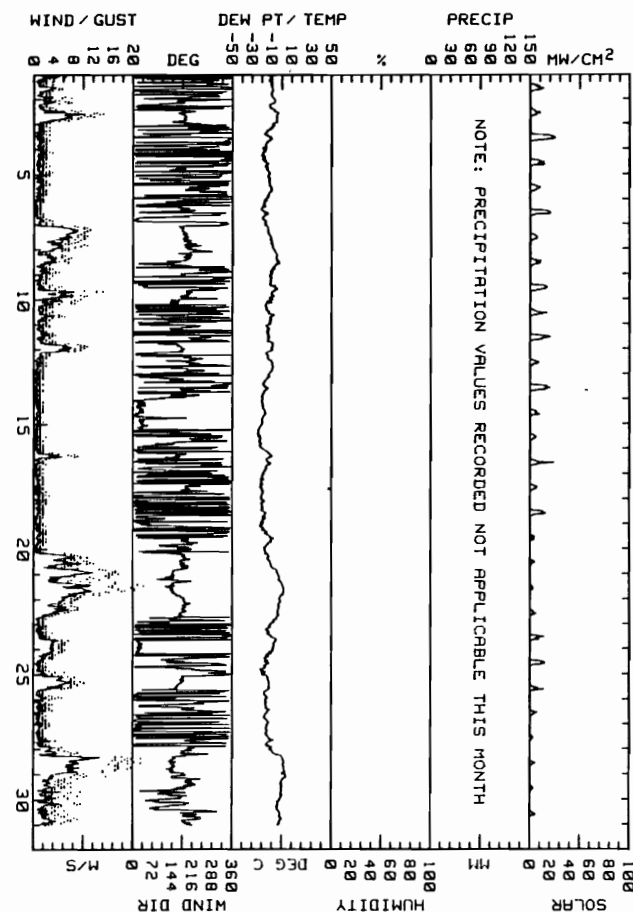


FIGURE and TABLE 5.41

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
November, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR. DEG	MAX. WIND SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-8	-4.9	-2.9	179	.9	1.5	189	7.0	S	88	*****	*****	125	1
2	-2.0	-7.5	-4.8	170	1.3	1.6	163	5.7	SSE	88	*****	*****	115	2
3	-3.1	-11.7	-7.4	209	.5	1.0	189	3.8	SSW	88	*****	*****	90	3
4	-6.2	-10.8	-8.5	177	3.7	4.0	183	10.8	S	88	*****	*****	60	4
5	-5.4	-9.3	-7.4	177	1.1	1.5	176	6.3	S	88	*****	*****	55	5
6	-6.5	-6.6	-6.6	229	.4	.8	303	1.9	WNW	88	*****	*****	0	6
7	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	7
8	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	8
9	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	9
10	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	10
11	-5.3	-7.1	-6.2	167	.6	1.1	168	5.1	SSW	88	*****	*****	92	11
12	-5.4	-12.0	-8.7	165	2.4	3.0	174	9.5	S	88	*****	*****	75	12
13	-16.7	-12.6	-11.7	807	1.3	1.5	671	4.4	WNW	88	*****	*****	0	13
14	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	14
15	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	15
16	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	16
17	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	17
18	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	18
19	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	19
20	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	20
21	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	21
22	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	22
23	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	23
24	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	24
25	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	25
26	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	26
27	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	27
28	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	28
29	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	29
30	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	30
31	*****	*****	*****	88	*****	*****	88	*****	88	88	*****	*****	*****	31
MONTH	-8	-12.6	-7.1	174	1.4	2.0	183	10.8	S	88	*****	*****	612	

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

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

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

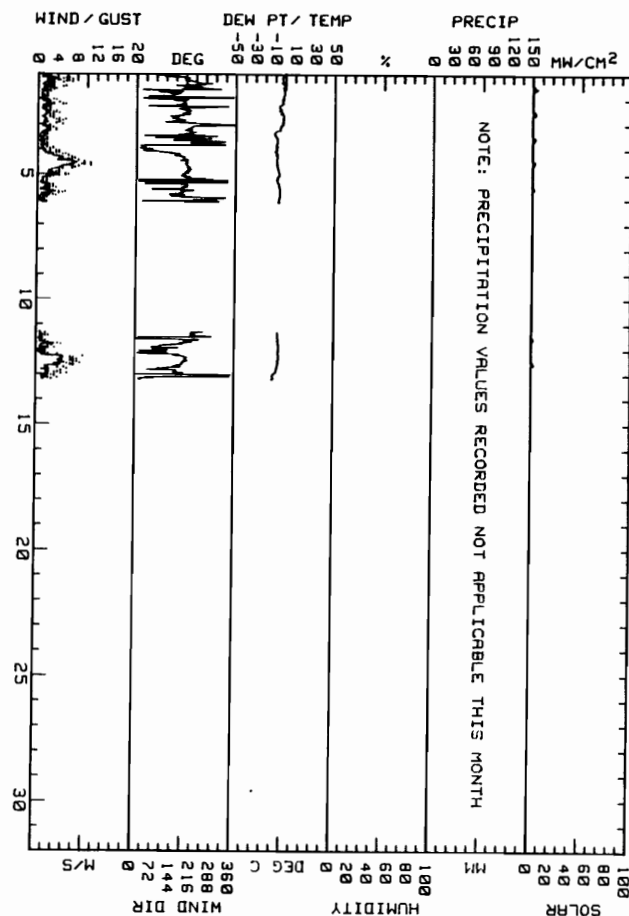


FIGURE and TABLE 5.42

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
December, 1983

FIGURE and TABLE 5.43

No data available for Denali Climate Station

January 1984

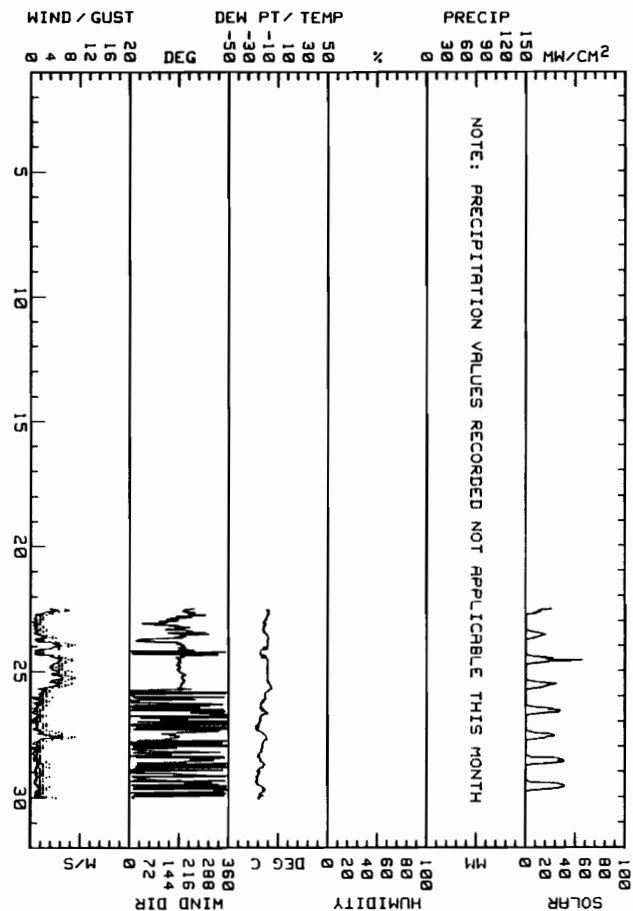
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH
1	*****	*****	*****	***	***	***	***	***	***	***	***	***	1
2	*****	*****	*****	***	***	***	***	***	***	***	***	***	2
3	*****	*****	*****	***	***	***	***	***	***	***	***	***	3
4	*****	*****	*****	***	***	***	***	***	***	***	***	***	4
5	*****	*****	*****	***	***	***	***	***	***	***	***	***	5
6	*****	*****	*****	***	***	***	***	***	***	***	***	***	6
7	*****	*****	*****	***	***	***	***	***	***	***	***	***	7
8	*****	*****	*****	***	***	***	***	***	***	***	***	***	8
9	*****	*****	*****	***	***	***	***	***	***	***	***	***	9
10	*****	*****	*****	***	***	***	***	***	***	***	***	***	10
11	*****	*****	*****	***	***	***	***	***	***	***	***	***	11
12	*****	*****	*****	***	***	***	***	***	***	***	***	***	12
13	*****	*****	*****	***	***	***	***	***	***	***	***	***	13
14	*****	*****	*****	***	***	***	***	***	***	***	***	***	14
15	*****	*****	*****	***	***	***	***	***	***	***	***	***	15
16	*****	*****	*****	***	***	***	***	***	***	***	***	***	16
17	*****	*****	*****	***	***	***	***	***	***	***	***	***	17
18	*****	*****	*****	***	***	***	***	***	***	***	***	***	18
19	*****	*****	*****	***	***	***	***	***	***	***	***	***	19
20	*****	*****	*****	***	***	***	***	***	***	***	***	***	20
21	*****	*****	*****	***	***	***	***	***	***	***	***	***	21
22	-8.8	-15.4	-12.1	202	1.9	2.2	199	7.6	SSW	***	***	***	1505
23	-9.8	-15.7	-12.8	182	1.5	2.0	201	8.9	SSW	***	***	***	975
24	-9.9	-18.5	-14.2	183	3.5	4.0	183	8.3	S	***	***	***	1745
25	-6.7	-13.8	-10.3	193	2.7	4.1	188	8.9	S	***	***	***	1440
26	-10.2	-19.9	-15.1	355	.7	1.1	032	3.8	N	***	***	***	1820
27	-11.2	-22.9	-17.1	141	.3	2.0	177	8.9	N	***	***	***	1500
28	-13.2	-21.5	-17.4	017	.5	1.1	025	3.8	NNE	***	***	***	2185
29	-12.6	-23.3	-18.0	000	1.0	1.3	013	5.1	N	***	***	***	2315
MONTH	-6.7	-23.3	-14.6	188	.9	2.2	201	8.9	N	***	***	***	13485

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 8.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
February, 1984

FIGURE and TABLE 5.44

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

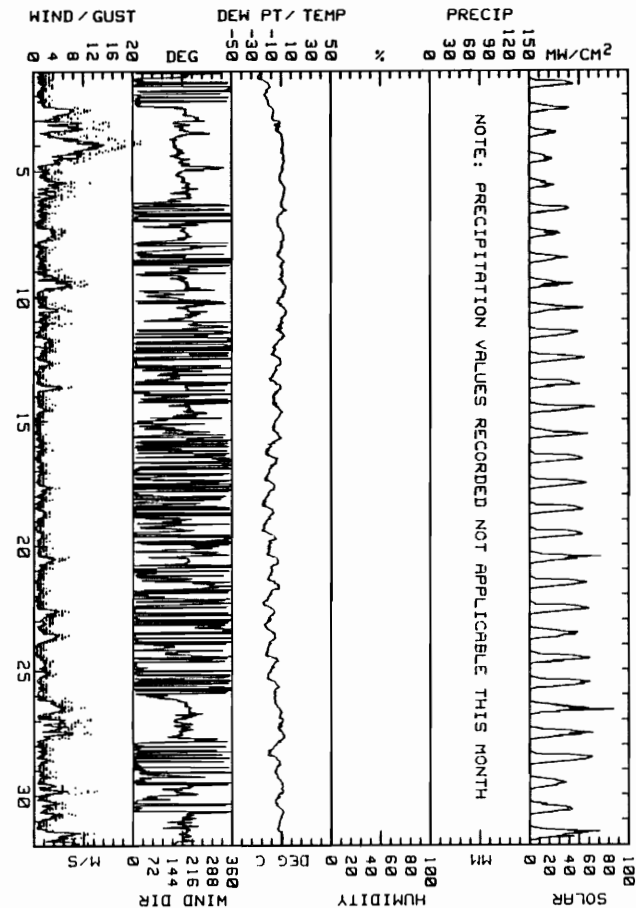
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY MH/SDH
1	-11.7	-24.8	-18.3	358	.8	1.4	836	3.8	N	**	*****	*****	2275 1
2	-8.3	-17.1	-12.7	198	2.1	3.8	193	11.4	NNE	**	*****	*****	1835 2
3	1.5	-7.5	-3.0	164	6.3	6.8	153	21.6	SSE	**	*****	*****	1270 3
4	2.8	-1.1	.9	170	5.5	6.8	158	18.4	SSE	**	*****	*****	1345 4
5	3.8	-2.5	.7	191	3.8	3.1	178	11.4	SSW	**	*****	*****	1380 5
6	5.1	-5.8	.1	005	.9	1.7	205	5.7	N	**	*****	*****	2185 6
7	2.0	-4.4	-1.2	188	1.7	2.2	185	6.3	S	**	*****	*****	1545 7
8	2.6	-4.9	-1.2	321	.2	1.4	195	5.7	N	**	*****	*****	1845 8
9	4.4	-3.3	.6	191	2.4	3.4	193	10.8	SSW	**	*****	*****	1925 9
10	5.8	-5.8	0.0	204	1.4	2.8	201	7.6	SSW	**	*****	*****	2410 10
11	2.7	-8.3	-2.8	334	1.1	1.9	220	7.6	N	**	*****	*****	2840 11
12	-1.1	-11.0	-6.1	003	1.5	1.8	011	5.1	N	**	*****	*****	3035 12
13	-.8	-13.5	-7.2	189	.6	1.6	199	7.6	N	**	*****	*****	2695 13
14	.9	-9.6	-4.4	209	.6	1.2	283	4.4	SSW	**	*****	*****	3080 14
15	-.5	-14.3	-7.4	026	.3	.9	008	3.2	NNE	**	*****	*****	2810 15
16	-4.2	-17.8	-10.6	004	.7	1.1	177	3.8	N	**	*****	*****	3305 16
17	-7.5	-17.7	-12.6	005	1.2	1.4	354	5.1	N	**	*****	*****	3290 17
18	-8.2	-20.8	-14.1	359	.8	1.3	007	3.8	N	**	*****	*****	3320 18
19	-5.5	-20.6	-13.1	002	.5	1.8	002	3.2	N	**	*****	*****	3315 19
20	-4.8	-15.7	-9.9	215	.6	1.8	165	7.8	SSW	**	*****	*****	3080 20
21	-2.6	-14.8	-8.7	007	.5	1.0	042	3.2	N	**	*****	*****	3445 21
22	-7.1	-19.8	-13.5	004	1.8	2.0	002	7.0	N	**	*****	*****	3570 22
23	-7.0	-18.3	-12.7	358	2.1	2.2	005	7.0	N	**	*****	*****	3090 23
24	-4.8	-16.8	-10.4	004	.7	1.3	291	3.8	N	**	*****	*****	3490 24
25	-3.8	-15.4	-9.2	002	1.3	1.4	002	4.4	N	**	*****	*****	3810 25
26	1.1	-8.4	-3.7	188	3.1	3.5	195	11.4	SSW	**	*****	*****	3640 26
27	3.0	-8.2	-2.6	175	2.8	3.5	175	11.4	S	**	*****	*****	3575 27
28	-1.6	-14.4	-8.0	003	1.3	1.4	015	5.1	N	**	*****	*****	4195 28
29	1.2	-7.7	-3.3	163	.8	2.4	159	12.7	NNE	**	*****	*****	2515 29
30	1.9	-7.2	-2.7	354	.5	2.7	196	8.3	N	**	*****	*****	2925 30
31	1.4	-4.5	-1.6	177	3.9	4.2	181	12.1	S	**	*****	*****	3640 31
MONTH	5.1	-24.8	-6.4	181	.6	2.3	153	21.6	N	**	*****	*****	86520

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 16.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 18.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 20.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 20.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
March, 1984

FIGURE and TABLE 5.45

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

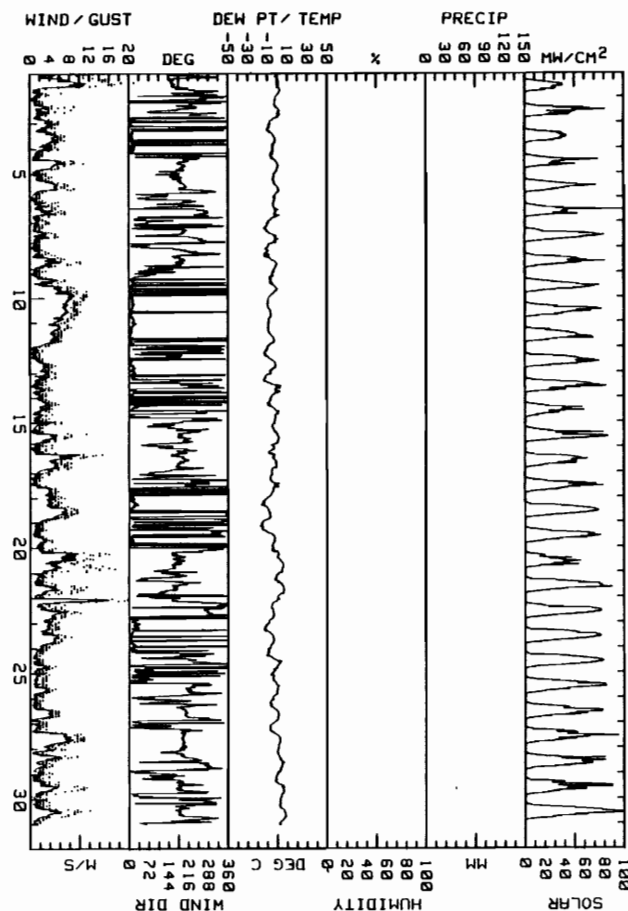
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR. Z	MEAN RH %	DEP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	2.6	-3.1	-3.3	166	3.4	4.4	159	21.0	SSE	**	*****	0.0	2795	1
2	2.3	-8.4	-3.1	341	.4	2.1	171	8.9	N	**	*****	.4	4270	2
3	-2.0	-10.9	-6.5	005	3.7	3.7	003	7.0	N	**	*****	0.0	3360	3
4	.8	-7.9	-3.6	194	1.8	2.8	175	10.8	SSW	**	*****	0.0	3510	4
5	1.9	-5.1	-1.6	192	2.3	2.7	183	8.9	S	**	*****	0.0	4070	5
6	1.9	-10.7	-4.4	265	.7	1.9	270	7.0	ENE	**	*****	0.0	3895	6
7	.7	-14.3	-6.8	206	.3	1.4	183	5.7	SSW	**	*****	0.0	4950	7
8	-1.6	-13.8	-7.2	183	1.5	2.3	183	10.2	S	**	*****	0.0	4440	8
9	-3.3	-9.5	-4.9	005	4.7	4.8	012	11.4	N	**	*****	0.0	4835	9
10	-6.7	-18.4	-8.6	010	6.7	6.8	010	10.8	N	**	*****	0.0	4860	10
11	-3.5	-10.9	-7.2	007	4.2	4.2	005	8.3	N	**	*****	0.0	4715	11
12	-1.7	-14.0	-7.9	011	1.7	2.0	004	5.1	N	**	*****	0.0	5315	12
13	3.3	-14.7	-5.7	360	1.2	1.7	016	5.1	N	**	*****	0.0	5170	13
14	1.5	-11.0	-4.8	354	1.4	2.2	196	6.3	N	**	*****	0.0	3520	14
15	1.6	-6.7	-2.6	182	1.6	2.2	180	11.4	S	**	*****	.2	5425	15
16	-7.7	-9.7	-5.2	185	3.7	4.1	156	14.6	SSW	**	*****	0.0	4520	16
17	1.9	-10.6	-4.4	360	1.8	2.4	002	7.0	N	**	*****	.2	4680	17
18	-6.9	-16.8	-11.9	006	4.7	4.8	008	9.5	N	**	*****	0.0	6110	18
19	-2.5	-17.8	-10.2	358	1.6	1.7	001	5.1	N	**	*****	0.0	5400	19
20	5.8	-6.2	-2.2	171	4.2	5.2	148	17.1	SSE	**	*****	0.0	3825	20
21	6.8	-3.2	1.8	156	1.5	2.4	173	11.4	S	**	*****	0.0	6270	21
22	1.6	-9.5	-4.0	299	.9	5.0	158	19.7	N	**	*****	0.0	6030	22
23	-3.9	-13.9	-8.9	011	3.7	3.7	359	8.3	N	**	*****	0.0	6305	23
24	4.0	-11.2	-3.6	359	.7	1.4	004	5.1	N	**	*****	0.0	6490	24
25	1.8	-6.9	-2.6	253	.5	1.6	205	5.1	SW	**	*****	0.0	6180	25
26	1.1	-8.4	-3.7	206	1.3	2.1	205	5.7	SSW	**	*****	0.0	5695	26
27	2.9	-8.1	-2.6	195	3.9	4.4	196	10.8	SSW	**	*****	0.0	5820	27
28	6.7	-1.1	2.8	221	1.3	2.4	188	9.5	S	**	*****	0.0	5660	28
29	6.9	-3.0	2.0	188	1.3	2.2	185	11.4	S	**	*****	0.0	5610	29
30	8.0	1.5	4.8	198	1.7	2.3	173	12.1	S	**	*****	0.0	7200	30
MONTH	8.0	-17.8	-4.0	353	.3	3.0	159	21.0	N	**	*****	.8	150925	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 18.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 18.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 16.5

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
April, 1984

FIGURE and TABLE 5.46

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

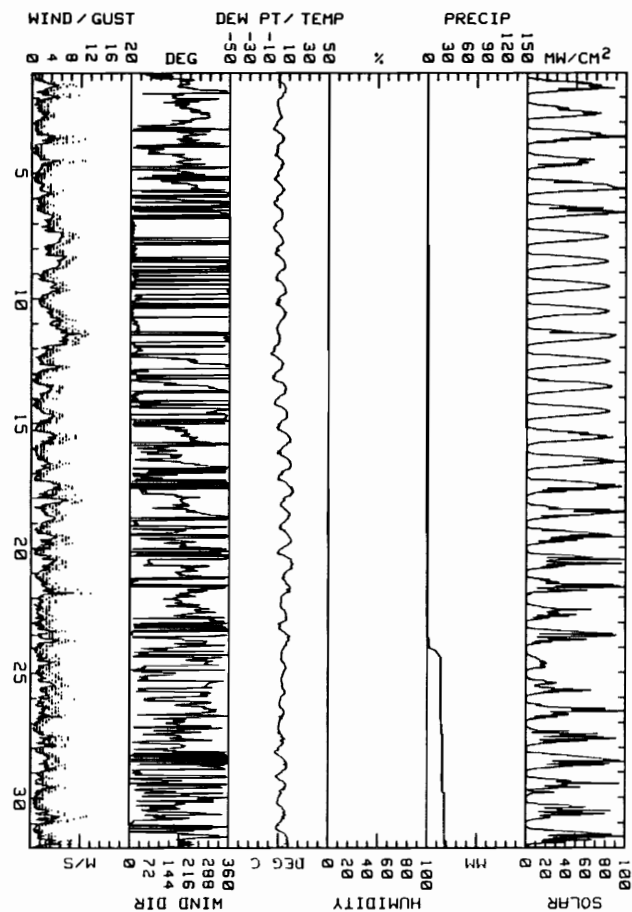
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SQM	
1	7.1	-1.2	3.0	182	1.5	2.5	171	9.5	SSW	**	*****	0.0	6500	1
2	2.6	-2.6	0.0	240	1.2	1.7	261	5.7	SSW	**	*****	0.0	5850	2
3	6.0	-5.8	.1	210	1.0	1.9	181	10.8	SSW	**	*****	0.0	7225	3
4	5.0	-4.5	.3	186	1.0	1.8	179	10.8	S	**	*****	0.0	5065	4
5	5.6	-5.0	.3	326	.7	1.8	000	6.3	N	**	*****	0.0	8410	5
6	4.4	-5.1	-.4	357	2.2	2.5	000	5.7	N	**	*****	0.0	7610	6
7	4.6	-5.4	-.4	004	4.5	4.6	002	9.5	N	**	*****	0.0	7425	7
8	6.6	-4.4	1.1	001	4.5	4.5	007	8.9	N	**	*****	0.0	7495	8
9	7.3	-3.2	2.1	005	3.3	3.3	351	7.6	N	**	*****	0.0	7545	9
10	8.0	-3.2	2.4	007	3.4	3.4	005	8.9	N	**	*****	0.0	7095	10
11	1.2	-5.0	-1.9	005	5.6	5.8	357	12.7	N	**	*****	0.0	7465	11
12	5.1	-7.7	-1.3	000	1.8	2.8	353	7.6	N	**	*****	0.0	7660	12
13	7.7	-6.3	.7	347	1.3	2.1	283	6.3	N	**	*****	0.0	7540	13
14	8.9	-4.2	2.4	351	2.0	2.2	344	6.3	N	**	*****	0.0	7675	14
15	12.5	-2.1	5.2	217	1.2	2.5	192	10.2	SSW	**	*****	0.0	6995	15
16	13.0	-1.4	5.8	100	.1	1.9	194	7.6	S	**	*****	0.0	7955	16
17	15.4	-.6	7.4	020	1.8	3.1	171	8.9	N	**	*****	0.0	7235	17
18	12.2	2.1	7.2	233	1.0	3.7	180	10.2	SSW	**	*****	0.0	6430	18
19	12.8	.7	6.8	088	.5	2.7	123	8.3	N	**	*****	0.0	6555	19
20	15.2	-1.3	7.0	029	.8	2.7	065	7.0	N	**	*****	0.0	6895	20
21	12.7	3.0	7.9	272	.7	2.7	180	12.1	N	**	*****	0.0	5125	21
22	8.9	-.2	4.4	238	.8	1.7	163	5.1	WSW	**	*****	0.0	3570	22
23	11.9	.7	6.3	330	1.0	2.6	279	8.9	N	**	*****	4.0	6055	23
24	8.1	2.9	5.5	335	.7	2.0	280	7.0	NE	**	*****	16.8	1845	24
25	7.7	2.8	5.3	314	1.1	2.8	279	7.6	W	**	*****	0.0	3420	25
26	7.0	.5	3.8	268	.9	2.3	052	8.9	W	**	*****	1.2	5100	26
27	7.5	-.6	3.5	183	1.1	2.2	188	7.6	S	**	*****	1.2	5585	27
28	9.1	-3.5	2.8	353	2.3	2.8	358	8.3	N	**	*****	0.0	7805	28
29	8.2	-2.7	2.8	001	.9	1.9	282	8.9	N	**	*****	3.6	4615	29
30	8.2	-.8	3.7	082	.8	2.4	116	11.4	S	**	*****	.2	5400	30
31	10.4	-2.1	4.2	210	1.0	2.0	171	8.3	S	**	*****	1.2	6205	31
MONTH	15.4	-7.7	3.1	350	1.0	2.7	357	12.7	N	**	*****	28.2	196550	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
May, 1984

FIGURE and TABLE 5.47

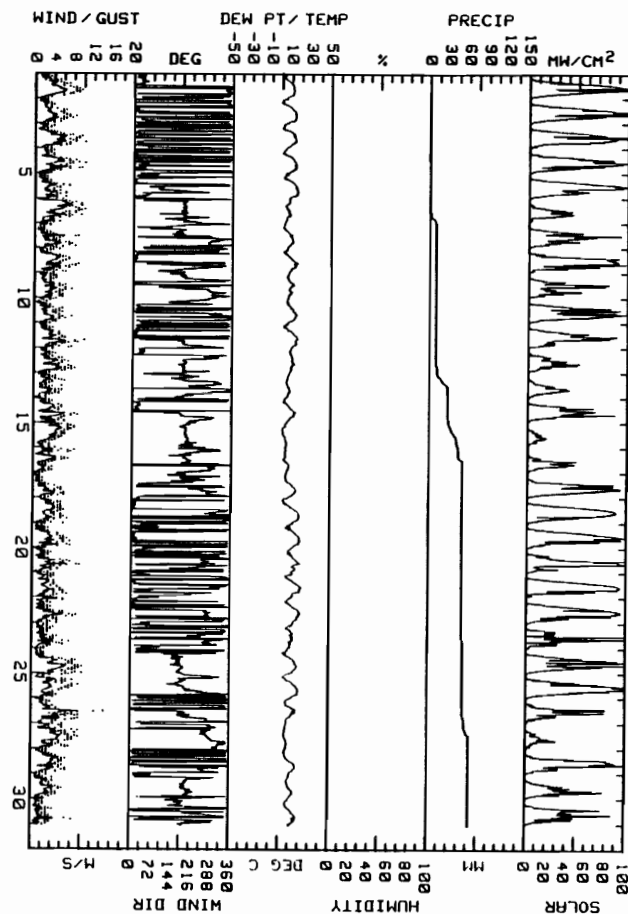
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM	DAY
1	12.4	2.2	7.3	003	3.1	3.4	336	9.5	NNE	**	*****	.2	8830	1
2	14.5	-9	6.8	002	2.4	2.5	359	8.3	N	**	*****	0.0	8740	2
3	14.5	.9	7.7	006	2.9	3.2	010	10.2	N	**	*****	0.0	8435	3
4	14.9	.8	7.9	006	2.9	3.1	025	10.2	N	**	*****	0.0	8010	4
5	16.6	1.5	9.1	031	1.3	2.3	347	7.0	N	**	*****	0.0	8430	5
6	9.5	3.3	6.4	187	3.4	3.9	186	10.2	S	**	*****	9.6	3035	6
7	12.3	1.9	7.1	201	1.0	2.3	244	8.9	S	**	*****	0.0	5995	7
8	16.9	1.9	9.4	000	1.5	3.1	050	8.9	N	**	*****	0.0	8245	8
9	13.3	5.6	9.5	286	1.1	2.6	203	7.6	WNW	**	*****	.2	4790	9
10	16.2	6.0	11.1	354	1.6	2.1	345	7.6	N	**	*****	0.0	7805	10
11	17.0	2.6	9.8	358	.8	3.1	127	10.2	NNE	**	*****	0.0	6220	11
12	13.8	8.6	11.2	194	1.4	3.0	185	8.3	S	**	*****	1.8	3200	12
13	9.7	5.1	7.4	261	.7	2.0	193	6.3	WNW	**	*****	16.8	2765	13
14	15.6	2.9	9.3	328	.3	3.0	179	8.9	NNE	**	*****	1.2	5365	14
15	6.4	2.1	4.3	197	3.4	3.5	177	8.3	SSW	**	*****	14.8	1240	15
16	9.3	2.7	6.0	232	1.3	2.2	321	8.3	SSW	**	*****	6.4	2850	16
17	16.5	5.2	10.9	283	.8	1.7	302	6.3	W	**	*****	.4	7310	17
18	20.1	2.7	11.4	357	2.7	2.9	006	7.0	N	**	*****	0.0	9835	18
19	21.2	6.1	13.7	008	2.2	2.4	346	7.6	N	**	*****	0.0	8315	19
20	21.1	8.7	14.9	332	1.2	2.2	064	9.5	NNE	**	*****	0.0	6195	20
21	22.4	5.9	14.2	007	1.5	2.4	221	7.0	N	**	*****	.6	8610	21
22	21.7	6.2	14.0	332	1.8	2.5	281	8.9	N	**	*****	0.0	8775	22
23	14.4	7.4	10.9	329	1.2	2.0	286	7.6	N	**	*****	1.6	4395	23
24	18.7	4.0	11.4	179	3.1	3.5	189	10.2	S	**	*****	0.0	7370	24
25	20.3	4.8	12.6	204	1.5	2.9	170	9.5	SSW	**	*****	0.0	9110	25
26	17.8	6.8	12.3	267	.7	3.4	150	14.6	N	**	*****	2.8	4225	26
27	9.0	5.8	7.4	296	3.4	3.8	285	9.5	WNW	**	*****	7.2	1535	27
28	17.7	5.7	11.7	347	2.5	3.1	357	7.0	N	**	*****	0.0	6965	28
29	15.3	8.6	12.0	204	1.8	2.3	191	6.3	SSW	**	*****	0.0	4210	29
30	18.7	7.6	13.2	322	.2	1.5	068	8.3	SSW	**	*****	.2	5405	30
MONTH	22.4	-9	10.0	322	.7	2.7	150	14.6	N	**	*****	63.8	184610	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
June, 1984

FIGURE and TABLE 5.48

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

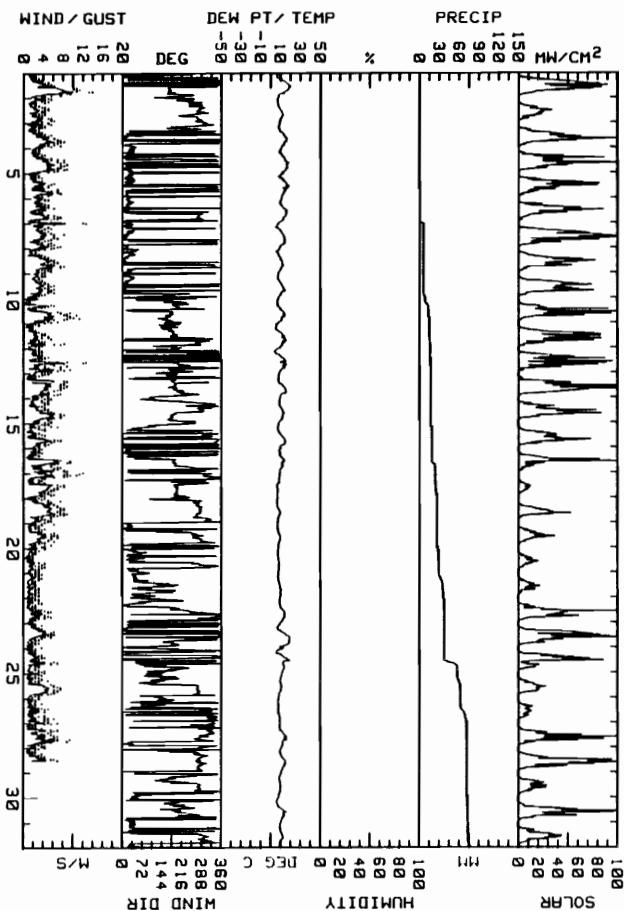
MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	20.6	6.3	13.5	182	1.2	4.0	169	14.0	N	**	*****	0.0	6975	1
2	13.1	6.8	10.0	271	2.1	2.3	283	6.3	W	**	*****	0.0	2320	2
3	17.0	8.0	12.5	358	2.3	3.1	355	8.3	N	**	*****	0.0	5175	3
4	18.7	8.2	13.5	010	3.4	3.6	353	8.9	NNE	**	*****	0.0	5830	4
5	18.8	7.8	13.3	014	2.7	2.8	014	7.6	NNE	**	*****	.4	4615	5
6	17.3	7.8	12.6	351	2.2	3.1	020	12.7	NNE	**	*****	5.2	4145	6
7	14.9	5.4	10.2	012	3.1	3.3	010	8.3	NNE	**	*****	.6	7575	7
8	13.0	5.6	9.3	009	3.0	3.2	339	8.3	NNE	**	*****	0.0	4880	8
9	15.0	7.1	11.1	013	2.1	2.7	006	6.3	N	**	*****	2.4	5315	9
10	14.6	6.7	10.7	173	2.5	3.0	132	11.4	S	**	*****	6.4	4500	10
11	16.3	4.7	10.5	213	.9	1.8	268	8.3	S	**	*****	1.2	5840	11
12	16.1	3.8	10.0	313	.5	2.9	052	12.7	N	**	*****	1.4	5385	12
13	16.2	7.1	11.7	196	2.6	3.3	184	8.9	SSW	**	*****	0.0	7180	13
14	14.2	8.4	11.3	219	1.6	3.1	178	8.3	S	**	*****	0.0	4715	14
15	15.3	7.1	11.2	357	1.6	2.2	352	7.6	N	**	*****	1.6	4370	15
16	14.5	8.4	11.5	231	.6	3.1	036	12.1	NNE	**	*****	5.0	3280	16
17	9.6	6.3	8.0	223	2.1	3.3	328	11.4	SSW	**	*****	2.6	820	17
18	10.4	6.8	8.6	284	3.4	3.8	272	8.9	W	**	*****	.2	2395	18
19	10.6	6.9	8.8	305	1.3	2.3	273	7.0	NNE	**	*****	1.2	2020	19
20	9.1	7.2	8.2	016	.7	1.2	338	4.4	NE	**	*****	1.8	1200	20
21	11.1	7.5	9.3	074	.9	1.2	036	3.8	NE	**	*****	6.4	1175	21
22	15.1	8.8	12.0	337	.6	1.6	251	5.7	N	**	*****	1.4	4390	22
23	20.1	6.4	13.3	358	1.5	2.2	358	6.3	N	**	*****	0.0	5995	23
24	19.5	5.7	12.6	028	.7	1.8	051	7.0	NNE	**	*****	19.6	4230	24
25	11.6	7.9	9.8	261	1.2	2.5	279	7.6	W	**	*****	4.4	1980	25
26	9.8	7.3	8.6	344	1.0	1.6	330	7.0	NNW	**	*****	9.6	1190	26
27	16.3	8.8	12.6	319	2.2	2.7	283	9.5	NNW	**	*****	.8	4170	27
28	15.7	9.4	12.6	282	1.8	2.0	284	7.0	NNW	**	*****	0.0	6105	28
29	11.0	8.1	9.6	***	***	***	***	***	W	**	*****	.6	2615	29
30	16.2	6.3	11.3	***	***	***	***	***	S	**	*****	1.2	4720	30
31	13.1	9.2	11.2	***	***	***	***	***	NE	**	*****	2.4	2930	31
MONTH	20.6	3.8	10.9	328	.8	2.6	169	14.0	N	**	*****	76.4	127435	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
July, 1984

FIGURE and TABLE 5.49

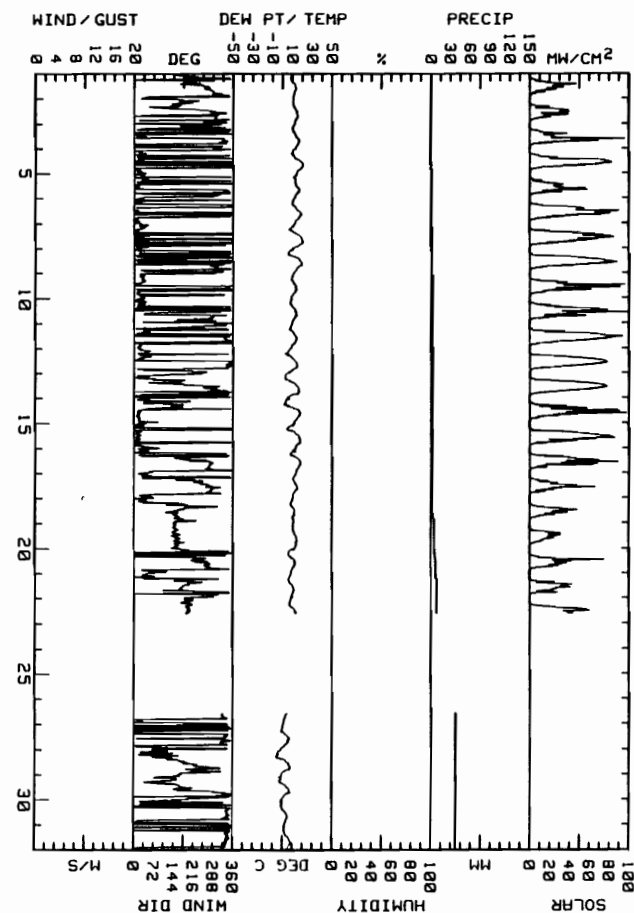
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY MH/SDH	DAY
1	13.5	7.3	10.4	***	***	***	***	***	WNW	**	***	.2	2700	1
2	15.3	10.2	12.8	***	***	***	***	***	WNW	**	***	0.0	2800	2
3	17.4	9.8	13.6	***	***	***	***	***	N	**	***	0.0	3885	3
4	20.9	8.8	14.9	***	***	***	***	***	N	**	***	.6	5835	4
5	17.5	10.5	14.0	***	***	***	***	***	NNE	**	***	.4	3185	5
6	19.4	9.5	14.5	***	***	***	***	***	N	**	***	0.0	6135	6
7	20.6	6.5	13.6	***	***	***	***	***	N	**	***	0.0	6665	7
8	19.5	5.5	12.5	***	***	***	***	***	N	**	***	0.0	6545	8
9	14.2	8.0	11.1	***	***	***	***	***	NNE	**	***	1.4	4985	9
10	15.0	7.3	11.2	***	***	***	***	***	N	**	***	0.0	5470	10
11	14.9	7.1	11.0	***	***	***	***	***	NNE	**	***	0.0	6860	11
12	14.8	2.6	8.7	***	***	***	***	***	NE	**	***	0.0	6830	12
13	17.0	2.5	9.8	***	***	***	***	***	N	**	***	0.0	6740	13
14	18.7	1.2	10.0	***	***	***	***	***	NNE	**	***	0.0	4840	14
15	18.2	4.3	11.3	***	***	***	***	***	N	**	***	0.0	6130	15
16	18.6	7.4	13.0	***	***	***	***	***	W	**	***	0.0	4925	16
17	15.3	10.1	12.7	***	***	***	***	***	W	**	***	.2	3010	17
18	12.4	7.8	10.1	***	***	***	***	***	SSE	**	***	2.8	2440	18
19	14.7	10.1	12.4	***	***	***	***	***	SSE	**	***	.6	2140	19
20	13.3	5.7	9.5	***	***	***	***	***	W	**	***	1.4	2985	20
21	11.9	5.8	8.9	***	***	***	***	***	S	**	***	1.8	2825	21
22	13.7	6.6	10.2	***	***	***	***	***	SSW	**	***	0.0	4866	22
23	****	****	****	***	***	***	***	***	***	**	***	---	****	23
24	****	****	****	***	***	***	***	***	***	**	***	---	****	24
25	****	****	****	***	***	***	***	***	***	**	***	---	****	25
26	4.4	.8	2.6	***	***	***	***	***	NNW	**	***	28.2	****	26
27	7.6	-2.0	2.8	***	***	***	***	***	N	**	***	0.0	****	27
28	8.2	-6.6	.8	***	***	***	***	***	SW	**	***	0.0	****	28
29	7.7	-3.3	2.2	***	***	***	***	***	SSE	**	***	0.0	****	29
30	5.1	-2.0	1.6	***	***	***	***	***	NNW	**	***	0.0	****	30
31	8.2	1.0	4.6	***	***	***	***	***	NNW	**	***	0.0	****	31
MONTH	20.9	-6.6	9.7	***	***	***	***	***	N	**	***	37.6	102716	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 999.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 999.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 999.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 999.0

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
August, 1984

FIGURE and TABLE 5.50

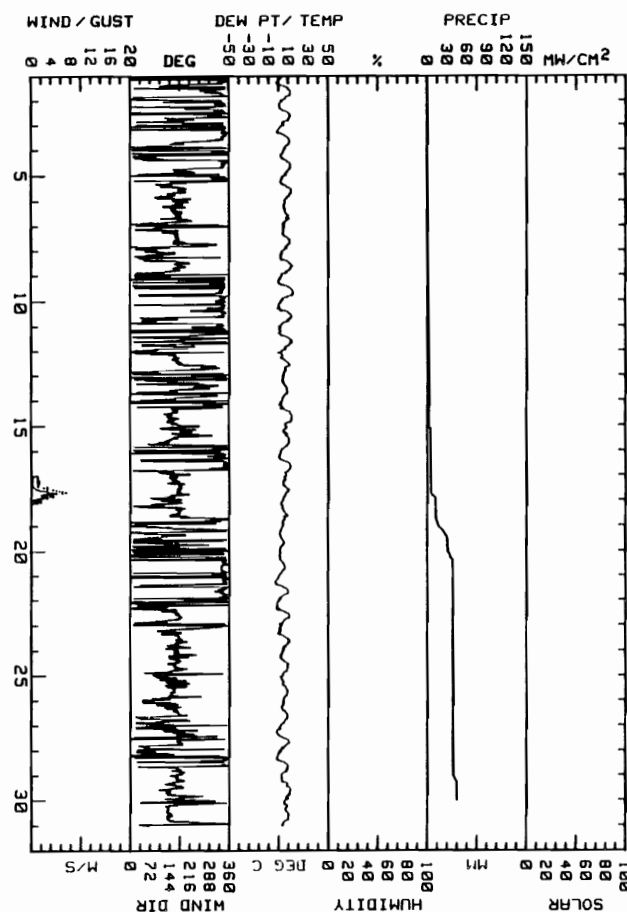
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	12.0	-3.1	4.5	***	***	***	***	***	NNW	**	***	0.0	*****	1
2	11.9	-1.1	5.9	***	***	***	***	***	NNW	**	***	0.0	*****	2
3	10.8	-2.3	4.3	***	***	***	***	***	NNW	**	***	0.0	*****	3
4	11.9	1.7	6.8	***	***	***	***	***	NNW	**	***	0.0	*****	4
5	12.8	1.3	7.1	***	***	***	***	***	SSE	**	***	0.0	*****	5
6	10.8	3.3	7.1	***	***	***	***	***	S	**	***	1.4	*****	6
7	11.5	3.5	7.5	***	***	***	***	***	S	**	***	.4	*****	7
8	13.7	.5	7.1	***	***	***	***	***	SSE	**	***	0.0	*****	8
9	14.7	-1.2	6.8	***	***	***	***	***	NNW	**	***	0.0	*****	9
10	13.0	-1.6	5.7	***	***	***	***	***	NNW	**	***	0.0	*****	10
11	13.1	-1.5	6.3	***	***	***	***	***	N	**	***	.2	*****	11
12	10.8	-1.6	4.6	***	***	***	***	***	S	**	***	1.0	*****	12
13	8.4	2.3	5.4	***	***	***	***	***	N	**	***	0.0	*****	13
14	13.5	-1.4	6.6	***	***	***	***	***	SSE	**	***	0.0	*****	14
15	10.6	1.5	6.1	***	***	***	***	***	SSE	**	***	2.4	*****	15
16	12.2	-1.5	5.9	***	***	***	***	***	NNW	**	***	0.0	*****	16
17	10.5	3.5	7.0	167	1.1	1.2	174	7.0	S	**	***	7.2	*****	17
18	8.8	1.6	5.2	158	.8	.9	112	1.9	S	**	***	4.6	*****	18
19	5.7	.4	3.1	***	***	***	***	***	N	**	***	14.2	*****	19
20	6.0	-1.1	2.5	***	***	***	***	***	NNW	**	***	7.2	*****	20
21	9.5	-5.0	2.3	***	***	***	***	***	NNW	**	***	0.0	*****	21
22	11.1	-3.1	4.0	***	***	***	***	***	S	**	***	0.0	*****	22
23	11.2	-1.4	4.9	***	***	***	***	***	S	**	***	0.0	*****	23
24	9.7	.9	5.3	***	***	***	***	***	S	**	***	0.0	*****	24
25	8.7	.9	4.8	***	***	***	***	***	SSE	**	***	.2	*****	25
26	8.7	1.5	5.1	***	***	***	***	***	S	**	***	0.0	*****	26
27	10.4	-2.7	3.9	***	***	***	***	***	S	**	***	0.0	*****	27
28	9.3	-2.9	3.2	***	***	***	***	***	S	**	***	.4	*****	28
29	11.5	2.1	6.8	***	***	***	***	***	SE	**	***	5.2	*****	29
30	9.7	3.0	6.4	***	***	***	***	***	SE	**	***	***	*****	30
MONTH	14.7	-5.0	5.4	166	1.0	1.2	174	7.0	NNW	**	***	44.4	*****	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
September, 1984

FIGURE and TABLE 5.51

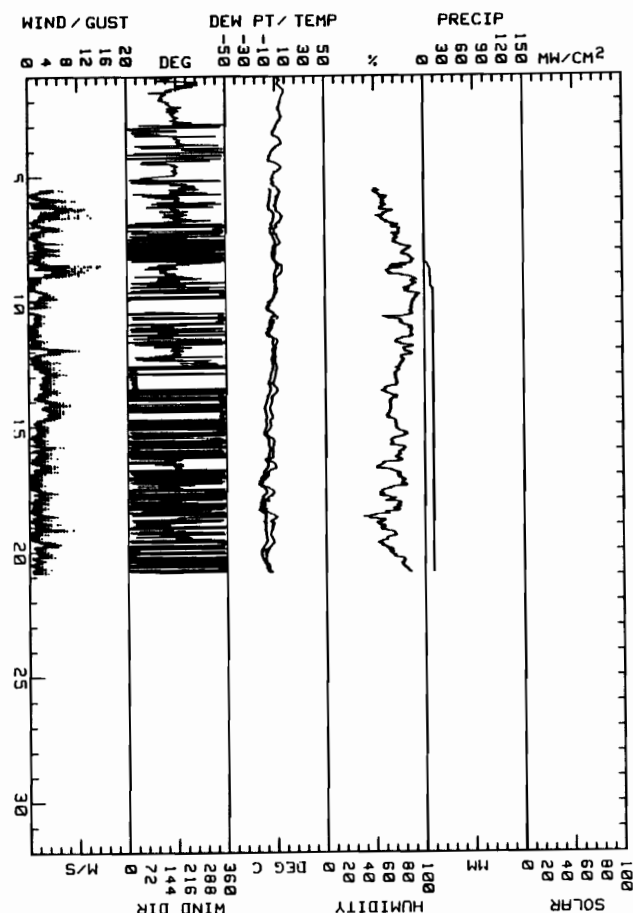
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	MAX. GUST DIR. DEG	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH
1	9.9	2.6	6.3	***	***	***	***	***	SE	***	***	***	***	1
2	7.7	1.2	4.5	***	***	***	***	***	S	***	***	***	***	2
3	7.0	-3.5	1.8	***	***	***	***	***	S	***	***	***	***	3
4	6.7	-6.7	0.0	***	***	***	***	***	S	***	***	***	***	4
5	6.1	-3.8	1.2	182	2.2	2.5	177	9.5	S	56	-5.3	0.0	***	5
6	8.4	-1.5	3.5	178	2.5	3.3	131	12.7	S	60	-4.0	0.0	***	6
7	5.5	-2.2	1.7	347	2.0	2.4	340	7.0	NW	75	-2.4	0.0	***	7
8	7.5	-1.0	3.3	134	2.0	3.6	139	14.6	SE	76	-7.7	8.8	***	8
9	2.9	-4.0	-6.6	353	1.0	1.7	356	5.7	N	88	-1.9	4.0	***	9
10	3.1	-7.9	-2.4	350	1.3	1.7	***	4.4	NW	81	-5.9	.2	***	10
11	2.3	-8.4	-3.1	177	.9	1.7	172	10.2	S	81	-4.4	0.0	***	11
12	1.7	-11.1	.3	002	.9	2.7	351	7.6	N	76	-3.7	.2	***	12
13	2.1	-5.1	-1.5	013	2.9	3.0	350	7.0	NNE	67	-6.8	0.0	***	13
14	-2.7	-6.7	-4.7	353	3.6	.2	349	8.3	N	66	-10.2	0.0	***	14
15	-1.6	-10.1	-5.9	359	1.7	2.0	356	7.0	N	73	-9.0	0.0	***	15
16	.3	-9.9	-4.8	066	.2	2.1	357	5.7	S	67	-9.3	0.0	***	16
17	-1.2	-15.5	-8.4	348	1.0	1.7	343	5.7	NW	66	-13.2	0.0	***	17
18	1.9	-14.9	-6.5	026	.4	1.7	143	6.3	NW	61	-13.0	0.0	***	18
19	-1.9	-11.1	-6.5	010	1.0	2.2	143	8.9	NNE	61	-11.5	0.0	***	19
20	-4.3	-11.3	-7.8	358	1.6	1.7	010	5.1	N	76	-12.2	0.0	***	20
21	***	***	***	***	***	***	***	***	***	***	***	***	***	21
22	***	***	***	***	***	***	***	***	***	***	***	***	***	22
23	***	***	***	***	***	***	***	***	***	***	***	***	***	23
24	***	***	***	***	***	***	***	***	***	***	***	***	***	24
25	***	***	***	***	***	***	***	***	***	***	***	***	***	25
26	***	***	***	***	***	***	***	***	***	***	***	***	***	26
27	***	***	***	***	***	***	***	***	***	***	***	***	***	27
28	***	***	***	***	***	***	***	***	***	***	***	***	***	28
29	***	***	***	***	***	***	***	***	***	***	***	***	***	29
30	***	***	***	***	***	***	***	***	***	***	***	***	***	30
31	***	***	***	***	***	***	***	***	***	***	***	***	***	31
MONTH	9.9	-15.5	-1.5	007	.7	2.4	139	14.6	N	71	-7.1	13.2	***	

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
October, 1984

FIGURE and TABLE 5.52

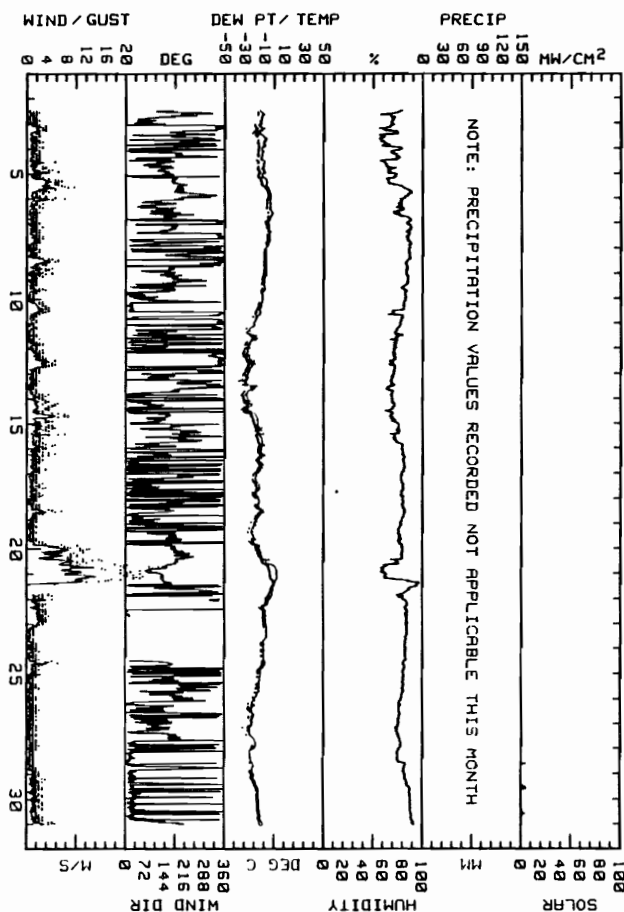
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND DIR.	MAX. WIND SPD.	MAX. GUST P'VAL	MEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	****	****	***	****	***	***	*****	****	*****	1
2	-10.1	-15.1	-12.6	127	.2	.7	196	2.5	ENE	65	-16.8	****	*****	2
3	-7.6	-18.5	-13.1	316	.4	1.4	359	3.8	NNW	65	-18.2	****	*****	3
4	-9.2	-14.3	-11.8	139	.8	1.4	152	6.3	SE	68	-16.2	****	*****	4
5	-3.1	-13.0	-8.1	190	2.1	2.6	187	9.5	S	76	-10.6	****	*****	5
6	-1.5	-7.8	-4.7	131	.3	1.1	207	5.1	SSE	81	-7.6	****	*****	6
7	-3.6	-8.3	-6.0	011	.4	1.1	183	3.2	NNW	86	-7.3	****	*****	7
8	-7.5	-8.7	-8.1	343	.5	1.8	000	6.3	N	85	-10.2	****	*****	8
9	-8.5	-13.9	-11.2	147	.3	.9	178	3.8	S	83	-12.3	****	*****	9
10	-11.8	-21.4	-16.6	009	1.3	1.4	024	4.4	NNE	78	-17.5	****	*****	10
11	-16.8	-28.4	-22.6	009	.5	.8	343	3.2	NNW	73	-27.9	****	*****	11
12	-19.4	-28.7	-24.1	345	1.9	2.1	348	5.7	NNW	71	-28.6	****	*****	12
13	-17.1	-32.3	-24.7	002	.3	1.0	000	4.4	N	69	-31.7	****	*****	13
14	-16.1	-29.4	-22.8	009	1.1	2.3	161	8.3	N	70	-25.8	****	*****	14
15	-9.8	-17.4	-13.6	174	.7	1.7	169	7.6	SSW	75	-16.9	****	*****	15
16	-9.3	-18.6	-14.0	017	.9	1.3	145	5.7	N	81	-16.0	****	*****	16
17	-14.6	-19.4	-17.0	008	.7	.9	028	3.8	N	79	-19.9	****	*****	17
18	-19.1	-21.1	-15.6	062	.4	1.2	175	7.0	NNE	81	-16.9	****	*****	18
19	-14.4	-23.8	-19.1	156	.8	1.7	164	12.7	N	78	-21.3	****	*****	19
20	3.3	-15.9	-6.3	156	5.4	7.3	141	26.7	S	71	-10.6	****	*****	20
21	3.1	-5.9	-1.4	134	6.4	6.5	129	23.5	SE	80	-3.8	****	*****	21
22	-5.3	-13.3	-9.3	357	2.2	2.2	013	4.4	N	84	-10.7	****	*****	22
23	-6.9	-12.2	-9.6	***	****	.7	***	2.5	***	83	-11.8	****	*****	23
24	-8.9	-15.4	-12.2	054	.4	1.1	162	6.3	N	81	-13.9	****	*****	24
25	-14.0	-21.0	-17.5	194	.2	.7	189	2.5	SSW	80	-18.3	****	*****	25
26	-19.4	-24.4	-21.9	040	.3	.6	017	2.5	NNE	76	-25.5	****	*****	26
27	-18.7	-26.7	-23.7	063	.2	.7	019	2.5	NNE	76	-24.9	****	*****	27
28	-20.2	-25.2	-22.7	015	.7	.8	022	2.5	NNE	82	-23.7	****	87	28
29	-15.4	-21.1	-18.3	024	1.3	1.4	022	3.8	NNE	86	-19.0	****	115	29
30	-12.0	-15.4	-13.7	032	.8	1.5	186	5.7	NNE	89	-15.8	****	58	30
MONTH	3.3	-32.3	-14.5	103	.3	1.6	141	26.7	N	78	-17.2	****	252	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 19.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 24.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 19.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 25.4

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
November, 1984

FIGURE and TABLE 5.53

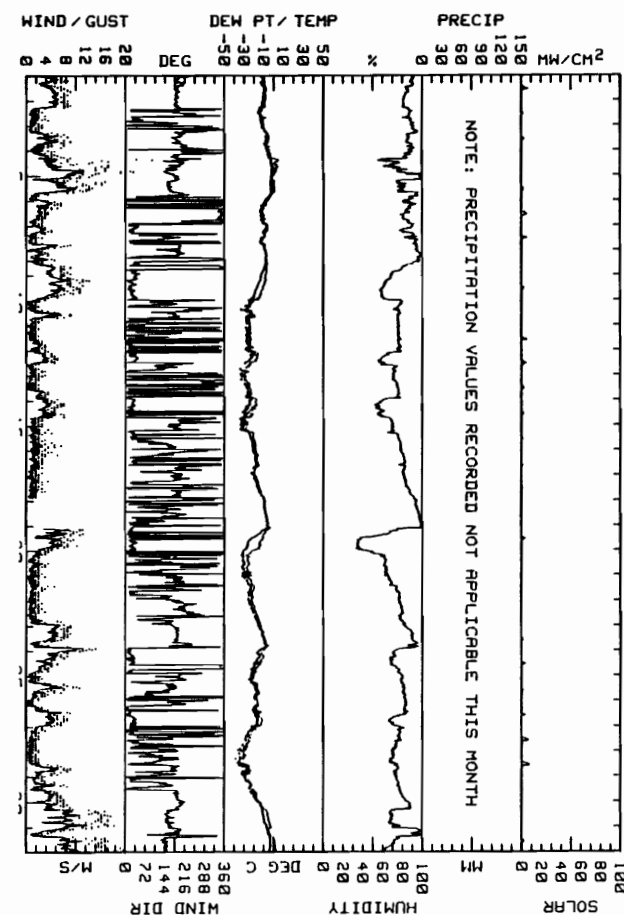
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50M	DAY
1	-6.9	-12.9	-9.9	189	5.0	5.0	189	8.9	S	86	-10.8	****	135	1
2	-7.8	-14.6	-11.2	180	1.2	2.4	193	8.9	S	85	-13.0	****	35	2
3	-3.7	-10.9	-7.3	203	2.3	2.8	196	8.9	SSW	88	-8.0	****	60	3
4	5.1	-4.8	.2	176	4.8	5.6	226	25.4	S	78	-3.3	****	24	4
5	.9	-7.3	-3.2	166	4.3	5.1	152	15.9	SSE	86	-3.7	****	45	5
6	-5.5	-12.2	-8.9	354	2.5	2.6	347	7.0	N	85	-11.5	****	150	6
7	-5.6	-13.5	-9.6	090	.3	2.1	193	8.9	NNE	89	-10.2	****	80	7
8	-6.6	-8.5	-7.6	015	2.1	3.4	348	8.9	NNE	87	-9.3	****	25	8
9	-7.9	-22.3	-15.1	024	5.3	5.5	010	12.7	NNE	62	-17.6	****	50	9
10	-18.6	-30.5	-24.6	171	.8	1.9	175	8.9	N	76	-26.3	****	20	10
11	-20.1	-26.1	-23.1	003	1.2	1.5	002	3.8	N	76	-26.8	****	90	11
12	-15.1	-30.7	-22.9	032	1.7	2.2	047	6.3	NE	66	-26.4	****	95	12
13	-16.6	-29.6	-23.1	005	1.6	1.7	032	6.3	N	73	-26.5	****	50	13
14	-16.7	-31.0	-23.9	013	2.3	3.1	029	7.6	NNE	61	-29.0	****	40	14
15	-17.8	-30.4	-24.1	095	.5	1.6	152	7.0	NNE	75	-24.2	****	25	15
16	-14.2	-20.7	-17.5	075	.2	1.3	175	6.3	S	81	-19.2	****	15	16
17	-8.3	-17.6	-13.0	196	.4	1.2	161	4.4	SSW	87	-15.1	****	15	17
18	-5.5	-8.9	-7.2	***	***	***	***	***	NE	96	-7.9	****	0	18
19	-3.7	-22.0	-12.9	017	4.9	5.1	016	11.4	NNE	53	-19.9	****	65	19
20	-22.4	-28.3	-25.4	002	.7	1.4	358	4.4	N	60	-30.7	****	15	20
21	-18.6	-27.4	-23.0	175	.2	1.2	339	5.7	S	73	-25.1	****	10	21
22	-12.5	-21.9	-17.2	183	1.2	1.7	169	8.9	SSW	80	-18.8	****	0	22
23	-5.0	-12.2	-8.6	189	2.0	5.2	008	14.0	S	88	-18.9	****	25	23
24	-9.6	-20.5	-15.1	016	3.3	3.6	011	8.3	NNE	72	-18.4	****	45	24
25	-13.5	-22.7	-18.1	153	1.4	2.3	187	10.8	S	81	-19.3	****	20	25
26	-11.0	-19.5	-15.3	023	3.4	3.6	015	8.9	NNE	76	-18.0	****	40	26
27	-17.9	-33.0	-25.5	019	.4	1.0	008	3.8	N	76	-27.0	****	165	27
28	-21.9	-35.7	-28.8	151	1.4	2.2	167	8.9	S	73	-30.6	****	190	28
29	-13.3	-25.9	-19.6	178	2.2	3.3	136	8.3	S	78	-22.4	****	10	29
30	-2.2	-12.8	-7.5	164	6.7	7.0	159	17.8	SSE	74	-18.4	****	5	30
31	2.6	-5.6	-1.5	155	6.0	6.8	151	19.7	SE	78	-4.2	****	45	31
MONTH	5.1	-35.7	-15.2	129	.6	3.1	226	25.4	NNE	77	-17.6	****	1585	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 22.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DENALI WEATHER STATION
December, 1984

FIGURE and TABLE 5.54

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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. N/S	AUG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/CM	DAY
1	3.6	-3.4	.1	234	.0	1.2	160	3.2	N	75	-3.9	****	1868	1
2	3.2	-3.1	.1	029	.0	1.4	345	4.4	N	86	-2.4	****	1738	2
3	.8	-3.6	-1.4	047	.4	1.6	062	5.1	SSW	88	-3.5	****	1168	3
4	0.0	-4.5	-2.3	126	1.4	1.7	099	5.7	SE	78	-5.4	****	1585	4
5	-4	-4.7	-2.6	077	1.5	1.9	102	5.7	ESE	72	-6.9	****	1988	5
6	1.5	-6.1	-2.3	133	1.0	1.7	106	8.9	SSW	62	-7.5	****	1675	6
7	-7	-4.3	-2.5	095	3.6	4.2	085	10.8	E	83	-5.3	****	1040	7
8	-2.5	-5.7	-4.1	031M	.5M	1.5M	039M	4.4M	NNE(M)	86	-6.5	****	1643	8
9	.5	-4.2	-1.9	021	.4	1.9	192	4.4	NNE	93	-3.5	****	823	9
10	-3.0	-7.2	-5.1	027	2.3	2.5	022	7.6	NNE	86	-6.7	****	1713	10
11	-2.7	-8.4	-5.6	175	1.4	2.2	110	7.6	SSW	88	-7.2	****	705	11
12	0.0	-11.1	-5.6	196	2.6	3.0	092	7.6	SSW	88	-5.7	****	1120	12
13	-1.9	-8.4	-5.2	344	2.2	3.2	317	11.4	NW	84	-7.6	****	1383	13
14	-6.1	-12.3	-9.2	189	2.5	2.6	193	5.7	SSW	84	-10.4	****	1408	14
15	-4.1	-16.2	-10.2	204	1.9	2.0	201	5.7	SSW	67	-16.0	****	2135	15
16	-5.8	-11.1	-8.5	161	2.2	3.0	112	7.0	S	80	-10.5	****	1183	16
17	.6	-7.5	-3.5	183	1.2	1.9	184	6.3	S	83	-6.5	****	1158	17
18	-2.5	-9.5	-6.0	178	2.2	2.4	204	6.3	S	76	-9.9	****	1553	18
19	-2.1	-6.7	-4.4	185	.7	1.7	336	7.0	S	84	-6.9	****	1033	19
20	-3.5	-16.0	-9.8	302	.9	3.3	332	9.5	S	65	-14.1	****	1553	20
21	-9.3	-19.4	-14.4	194	1.4	1.6	157	4.4	SSW	73	-19.2	****	1650	21
22	-9.4	-17.9	-13.7	165	1.6	2.0	117	7.0	SSE	67	-19.1	****	1415	22
23	-12.7	-21.9	-17.3	186	2.2	2.6	084	8.3	SSW	69	-21.5	****	1643	23
24	-13.5	-23.0	-18.3	166	2.6	2.9	140	6.3	SSE	74	-20.9	****	1248	24
25	-11.1	-18.5	-14.8	291	1.7	3.9	301	10.8	NW	67	-19.7	****	1098	25
26	-15.0	-22.9	-19.0	290	3.9	4.9	279	10.2	WNW	54	-25.0	****	1415	26
27	-18.5	-24.0	-21.3	164	2.3	2.8	084	8.3	S	60	-27.1	****	1330	27
28	-13.3	-20.3	-16.8	145	3.3	4.1	116	8.9	S	74	-21.4	****	703	28
29	-12.9	-21.4	-17.2	197	1.4	1.9	210	4.4	SSW	79	-19.0	****	1415	29
30	-14.6	-24.7	-19.7	205	1.6	1.8	225	4.4	SSW	69	-24.9	****	1895	30
31	-16.0	-24.6	-20.3	194	2.5	2.7	161	7.0	S	72	-23.9	****	1238	31
MONTH	3.6	-24.7	-9.1	175M	.8M	2.5M	317M	11.4M	SSW(M)	76	-12.5	****	43353	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
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 ****

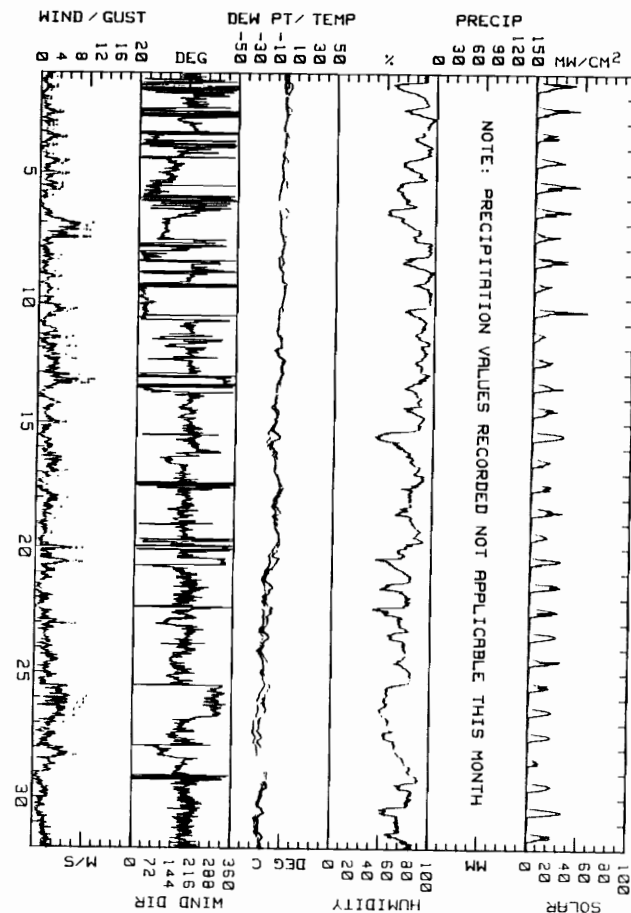


FIGURE and TABLE 5.55
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
October, 1982

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

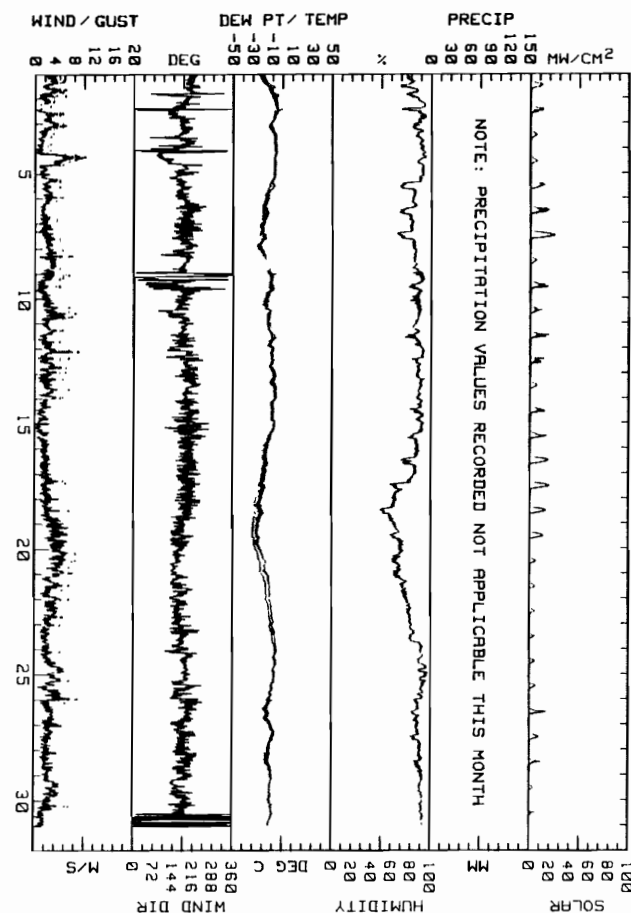
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 1982

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	
1	-3.9	-19.9	-11.9	205	2.7	3.0	188	6.3	SSW	88	-14.3	****	693	1
2	-2	-10.9	-5.6	168	2.2	2.6	127	5.7	S	90	-7.9	****	613	2
3	-5.1	-11.5	-8.3	181	1.6	1.8	172	6.3	S	89	-8.8	****	453	3
4	-5.1	-7.5	-6.3	125	2.5	3.2	087	10.2	E	92	-7.6	****	445	4
5	-6.4	-14.9	-10.7	170	2.6	2.7	154	5.7	S	83	-13.0	****	798	5
6	-13.2	-20.0	-16.6	198	1.9	2.0	179	4.4	SSW	80	-19.3	****	833	6
7	-16.1	-24.9	-20.5	190	2.4	2.7	174	5.7	SSW	79	-22.7	****	1293	7
8	-6.5	-19.6	-13.1	182	2.7	3.3	101	7.6	S	85	-16.9	****	455	8
9	-7.6	-16.1	-11.9	176	.6	2.0	013	5.7	SSW	88	-13.1	****	715	9
10	-10.9	-18.1	-14.5	163	2.9	3.3	124	8.3	S	88	-15.1	****	515	10
11	-5.2	-12.9	-9.1	176	2.6	2.7	136	7.0	S	86	-11.5	****	655	11
12	-6.0	-11.6	-8.8	191	2.6	2.9	133	8.9	SSW	89	-10.4	****	583	12
13	-5.0	-11.8	-8.4	202	2.7	2.8	199	7.0	SSW	89	-8.6	****	468	13
14	-6.7	-10.9	-8.8	199	1.4	1.6	142	4.4	SSW	89	-10.5	****	645	14
15	-7.3	-17.1	-12.2	196	1.5	1.7	164	4.4	S	87	-14.2	****	655	15
16	-14.2	-20.3	-17.3	199	2.1	2.2	199	4.4	SSW	83	-19.2	****	965	16
17	-16.7	-23.2	-20.0	194	2.4	2.5	181	6.3	SSW	71	-23.8	****	995	17
18	-18.3	-26.8	-22.6	185	2.9	3.1	170	7.6	SSW	60	-28.0	****	870	18
19	-21.5	-27.7	-24.6	168	4.2	4.5	151	8.3	S	67	-28.5	****	758	19
20	-14.3	-21.2	-17.8	155	5.0	5.1	167	8.3	SSE	67	-22.2	****	446	20
21	-10.7	-14.1	-12.4	162	3.2	3.4	139	7.0	SSE	73	-16.2	****	413	21
22	-7.5	-11.8	-9.7	162	3.3	3.4	162	6.3	SSE	79	-12.6	****	365	22
23	-5.1	-11.1	-8.1	177	2.2	2.3	183	4.4	S	84	-9.1	****	330	23
24	-5.0	-8.5	-6.8	190	3.5	3.6	192	7.0	SSW	92	-7.6	****	380	24
25	-6.9	-14.2	-10.6	175	3.5	3.8	145	8.9	SSE	92	-10.6	****	480	25
26	-9.7	-18.3	-14.0	192	3.0	3.3	190	6.3	SSW	87	-15.3	****	580	26
27	-6.4	-14.3	-10.4	179	2.6	2.7	158	5.1	S	88	-11.7	****	503	27
28	-9.0	-16.8	-12.9	188	2.4	2.6	168	5.7	SSW	90	-13.7	****	413	28
29	-8.9	-12.8	-10.9	166	3.3	3.5	146	6.3	SSE	92	-11.9	****	318	29
30	-7.8	-12.7	-10.3	165	.2	1.7	141	7.0	N	92	-11.4	****	268	30
MONTH	-2	-27.7	-12.5	178	2.4	2.9	087	10.2	S	84	-14.5	****	17810	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 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
KOSINA WEATHER STATION
November, 1982

FIGURE and TABLE 5.56

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR	MAX. GUST SPD. M/S	P'VAL DIR	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR WH/SON
1	-12.6	-25.3	-19.0	329	.2	1.6	015	3.8	N	89	-19.5	****	255
2	-19.0	-26.4	-22.7	175	2.9	3.1	169	7.0	S	86	-24.2	****	270
3	-19.7	-27.0	-23.4	173	2.8	3.0	170	6.3	S	84	-25.5	****	333
4	-19.3	-28.7	-24.0	181	3.2	3.3	156	6.3	S	81	-27.3	****	455
5	-10.4	-20.9	-15.7	189	2.4	2.5	175	4.4	S	83	-16.8	****	325
6	-7.6	-17.3	-12.5	159	2.3	2.9	117	8.9	SSE	87	-14.0	****	305
7	-2.0	-8.5	-5.3	110	3.1	4.1	102	15.2	ESE	92	-6.2	****	290
8	-1.3	-9.5	-5.4	169	1.3	2.6	122	10.2	S	91	-7.1	****	325
9	-3.5	-16.0	-10.2	183	2.2	2.4	152	5.7	S	83	-14.0	****	360
10	-9.0	-17.0	-13.0	189	2.4	2.6	213	6.3	SSW	85	-15.5	****	333
11	-9.4	-13.2	-11.3	154	3.3	4.2	107	9.5	SSW	84	-13.4	****	245
12	-6.7	-14.7	-10.7	109	4.0	5.5	094	14.0	E	85	-12.0	****	303
13	-5.1	-11.8	-8.5	201	2.5	3.3	323	10.2	SSW	92	-9.8	****	275
14	-4.6	-13.2	-8.9	178	3.3	3.5	193	7.0	S	85	-10.9	****	275
15	-4.5	-15.0	-9.8	168	2.0	2.9	132	8.3	SSW	85	-10.9	****	278
16	-5.9	-14.3	-10.1	190	2.3	3.1	084	11.4	SSW	99	-12.0	****	295
17	-6.0	-12.2	-9.1	164	3.1	3.4	154	7.6	SSE	90	-16.8	****	283
18	-9.6	-15.8	-12.7	191	2.4	2.6	169	6.3	S	92	-14.4	****	288
19	-13.0	-19.0	-16.0	187	2.5	2.6	196	4.4	SSW	90	-17.5	****	255
20	-13.9	-19.2	-16.6	182	3.0	3.2	150	7.0	S	83	-18.2	****	378
21	-14.6	-20.4	-17.5	168	3.0	4.0	161	7.6	SSE	85	-19.2	****	400
22	-13.6	-25.8	-22.2	166	4.6	4.8	153	9.5	SSE	85	-24.0	****	378
23	-17.0	-26.2	-21.6	189	2.5	2.6	154	5.7	SSW	85	-23.8	****	380
24	-13.5	-19.6	-16.6	160	4.1	4.3	142	9.5	SSE	96	-18.5	****	290
25	-13.3	-19.6	-16.5	163	3.6	3.8	140	8.9	SSE	90	-18.2	****	353
26	-8.1	-17.0	-12.6	188	3.2	3.4	152	7.0	SSW	89	-14.8	****	233
27	-4	-8.8	-4.6	113	4.8	6.4	101	16.5	E	90	-5.8	****	238
28	1.5	-1.6	-1	103	8.2	8.5	084	16.5	E	89	-1.3	****	258
29	1.6	-7.4	-2.9	115	4.4	5.1	108	14.0	ESE	86	-3.7	****	275
30	-5.6	-10.8	-8.2	188	2.8	3.0	147	5.7	S	85	-10.3	****	268
31	-7.8	-12.9	-10.4	185	2.8	3.0	198	6.3	S	84	-12.6	****	290
MONTH	1.6	-28.7	-12.8	161	2.7	3.6	101	16.5	S	87	-14.6	****	9503

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

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 ****

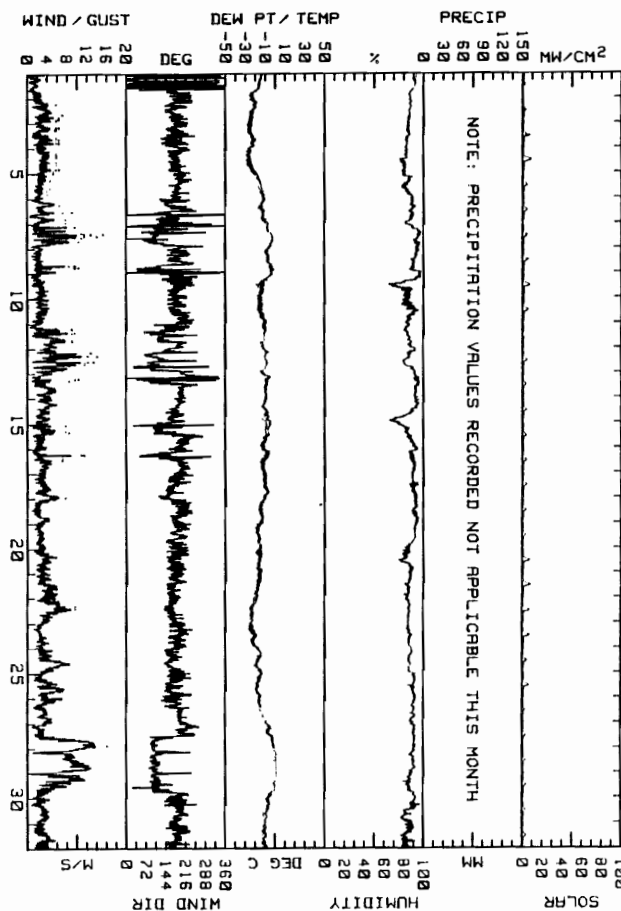


FIGURE and TABLE 5.57

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

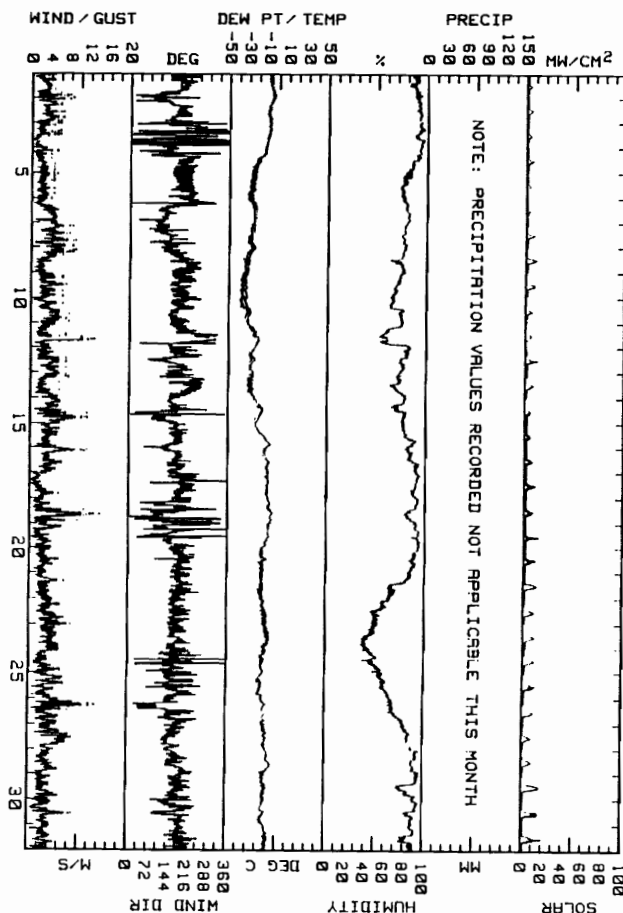
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING January, 1983

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. WIND DIR. DEG	MAX. GUST SPD. M/S	MAX. GUST P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	-4.4	-8.1	-6.3	173	1.9	2.6	201	8.3	SSW	88	-8.1	****	288	1
2	-5.6	-11.5	-8.6	159	2.7	3.4	097	7.6	SSW	91	-10.0	****	310	2
3	-7.9	-13.1	-10.5	348	.2	1.5	069	5.7	N	92	-11.3	****	290	3
4	-12.7	-25.9	-19.3	181	1.6	2.0	143	5.1	S	87	-21.2	****	333	4
5	-23.1	-29.4	-26.3	201	2.1	2.2	168	5.1	SE	76	-28.7	****	293	5
6	-22.3	-28.7	-25.5	132	2.6	3.2	127	6.3	SE	79	-26.2	****	263	6
7	-23.8	-28.8	-25.9	129	3.9	4.3	141	8.9	SE	77	-28.6	****	360	7
8	-23.9	-33.1	-28.5	170	2.5	3.1	123	8.9	S	74	-32.6	****	478	8
9	-31.1	-35.6	-33.4	179	2.8	3.0	150	7.0	S	69	-36.9	****	480	9
10	-27.6	-35.3	-31.5	165	3.4	3.7	141	7.6	SSE	70	-34.8	****	360	10
11	-19.7	-31.4	-25.6	220	1.6	3.0	306	12.7	SSE	64	-29.3	****	360	11
12	-23.6	-29.6	-26.6	161	2.8	3.5	142	7.0	S	76	-29.6	****	423	12
13	-23.7	-31.2	-27.5	193	2.3	3.0	148	7.6	SW	72	-30.8	****	433	13
14	-15.4	-24.2	-19.8	131	3.9	4.9	072	11.4	SSE	75	-22.7	****	365	14
15	-7.3	-22.9	-15.1	168	3.1	3.3	147	7.0	S	81	-17.7	****	323	15
16	-6.0	-14.4	-11.2	163	3.8	4.0	132	11.4	S	86	-13.2	****	395	16
17	-6.4	-12.5	-10.5	193	1.7	1.9	196	5.7	S	89	-11.4	****	395	17
18	-4.6	-9.6	-7.1	115	2.1	3.5	103	14.0	E	87	-9.2	****	405	18
19	-7.6	-16.3	-12.1	144	1.9	2.6	113	7.6	SE	92	-11.4	****	388	19
20	-10.7	-18.9	-14.8	184	2.5	2.8	113	7.6	S	88	-16.6	****	453	20
21	-12.5	-18.7	-15.6	189	2.9	3.0	186	7.0	S	72	-19.4	****	670	21
22	-9.5	-16.0	-12.8	171	3.8	4.0	159	8.3	SSE	53	-20.3	****	580	22
23	-7.4	-15.2	-11.3	170	3.9	4.1	151	8.3	SSE	43	-20.8	****	688	23
24	-7.4	-17.1	-15.3	163	2.3	3.0	140	7.6	SSE	49	-22.8	****	628	24
25	-13.7	-20.1	-16.9	165	3.6	3.7	144	8.9	SE	60	-22.5	****	580	25
26	-9.8	-14.9	-12.4	146	3.2	4.4	083	13.3	SE	71	-16.7	****	588	26
27	-6.6	-13.1	-11.0	151	4.8	5.0	137	10.2	SE	84	-13.2	****	476	27
28	-4.8	-15.1	-10.0	176	3.2	3.5	196	7.6	SSE	91	-9.9	****	530	28
29	-9.1	-14.3	-11.7	174	2.9	3.0	181	7.6	S	86	-13.9	****	905	29
30	-10.2	-15.5	-12.9	168	2.6	3.3	097	8.9	SSW	89	-14.7	****	688	30
31	-7.6	-12.4	-9.7	194	2.8	3.6	174	6.3	SSW	86	-11.5	****	748	31
MONTH	-4.4	-35.6	-16.9	165	2.5	3.3	103	14.0	SSE	77	-19.9	****	14476	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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

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



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

FIGURE and TABLE 5.58

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

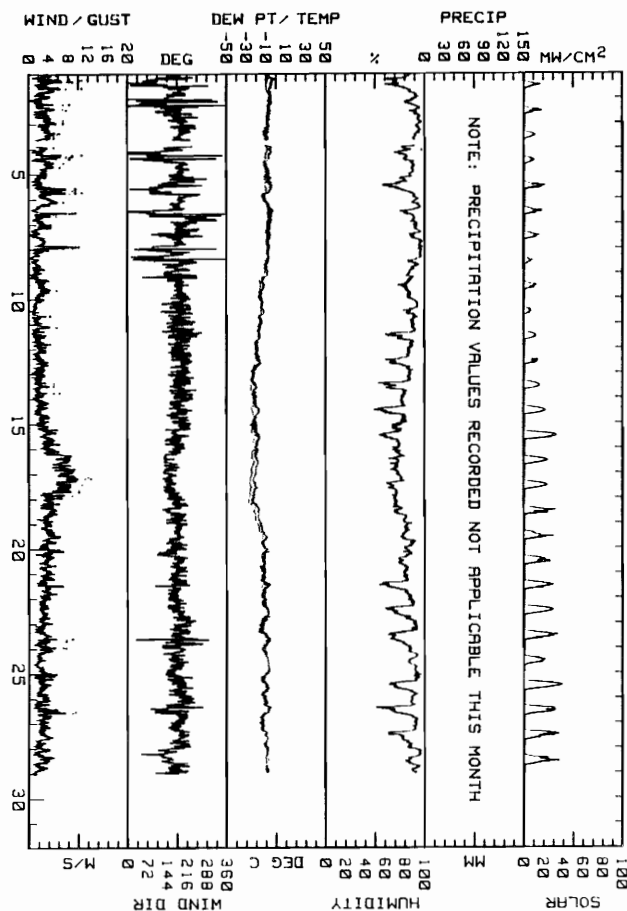
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING February, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	RES. WIND SPD M/S	AVG. WIND SPD M/S	MAX. WIND DIR. DEG	MAX. GUST SPD M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-9	-9.4	-5.2	152	2.0	3.3	093	10.8	SSE	80	-8.7	****	788	1
2	-4.2	-9.4	-6.8	175	1.9	2.9	099	8.3	SSW	91	-8.1	****	735	2
3	-4.7	-13.0	-8.9	196	3.1	3.4	199	6.3	SSW	91	-10.3	****	819	3
4	-4.3	-11.9	-8.1	163	2.1	3.3	109	10.8	SSW	84	-10.4	****	618	4
5	-4.3	-14.1	-9.2	151	1.8	3.1	086	10.8	SSE	80	-11.0	****	848	5
6	-3.7	-11.9	-7.8	188	1.4	2.7	084	9.5	S	89	-8.9	****	813	6
7	-6.3	-10.0	-8.2	171	1.7	2.6	096	10.2	S	93	-8.9	****	755	7
8	-7.3	-11.4	-9.4	163	1.1	1.5	080	5.7	S	91	-10.1	****	468	8
9	-8.0	-17.3	-13.1	188	2.2	2.3	197	5.7	S	83	-16.1	****	680	9
10	-11.8	-17.4	-14.6	188	1.4	1.5	153	4.4	SSW	89	-15.7	****	588	10
11	-15.0	-21.4	-18.2	185	1.8	2.1	150	5.7	S	83	-29.2	****	780	11
12	-15.3	-24.5	-19.9	200	2.1	2.2	201	5.1	SSW	80	-22.4	****	753	12
13	-19.4	-25.3	-22.4	194	1.9	2.1	164	6.3	S	77	-25.3	****	1033	13
14	-16.6	-23.9	-20.3	188	2.4	2.5	158	5.7	SSW	73	-23.9	****	1360	14
15	-16.8	-25.8	-21.3	182	3.4	3.6	145	8.3	S	70	-24.0	****	1958	15
16	-18.0	-22.4	-20.2	151	6.3	6.6	142	10.8	SE	72	-23.6	****	1413	16
17	-18.6	-24.3	-21.5	157	6.5	6.7	135	12.7	SSE	72	-25.6	****	1425	17
18	-14.3	-25.3	-19.8	177	3.8	4.0	173	8.3	S	75	-22.4	****	1398	18
19	-9.0	-16.3	-12.7	183	3.7	3.9	195	7.6	S	83	-15.2	****	1240	19
20	-7.2	-16.3	-11.8	176	3.4	3.8	145	8.9	S	81	-14.6	****	1425	20
21	-6.1	-15.1	-10.6	173	3.3	3.6	127	8.3	S	77	-14.9	****	1613	21
22	-6.7	-15.1	-10.9	193	2.7	2.9	171	5.7	S	81	-13.3	****	1770	22
23	-6.0	-17.5	-11.8	184	2.4	2.9	116	8.9	SSW	80	-14.3	****	1778	23
24	-4.9	-12.6	-8.8	178	2.3	2.5	195	5.7	SSE	89	-9.3	****	1295	24
25	-7.1	-15.0	-11.1	190	2.6	2.8	142	6.3	S	84	-13.4	****	2253	25
26	-5.4	-16.8	-11.1	182	2.4	3.0	183	9.5	SSW	82	-13.4	****	1993	26
27	-7.7	-15.8	-11.8	191	2.6	2.7	151	5.7	SSW	83	-13.4	****	1765	27
28	-6.6	-10.0	-8.3	154	2.3	2.6	140	6.3	SSE	90	-9.5	****	1695	28
MONTH	-9.9	-25.8	-13.8	176	2.6	3.1	135	12.7	S(M)	82	-15.3	****	3368	M

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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

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



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

FIGURE and TABLE 5.59

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

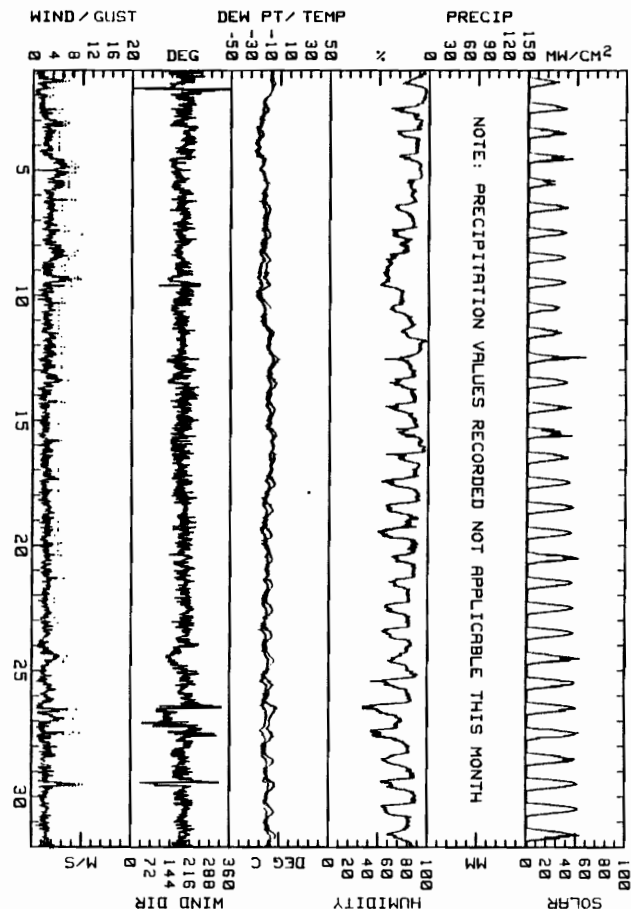
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 1983

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. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-5.0	-10.9	-8.0	185	1.4	1.8	204	7.0	S	88	-9.5	****	1618	1
2	-10.4	-19.5	-15.0	189	1.9	2.1	173	6.3	SSW	86	-17.0	****	2513	2
3	-16.8	-24.1	-20.5	193	2.9	3.2	152	7.0	SSW	84	-22.1	****	2260	3
4	-14.8	-24.7	-19.8	169	3.8	4.1	143	8.9	SSW	86	-20.9	****	2223	4
5	-10.9	-18.8	-14.9	170	4.2	4.4	144	8.3	SSE	86	-16.1	****	1593	5
6	-9.9	-20.2	-15.1	185	3.4	3.5	146	8.3	S	79	-16.2	****	2408	6
7	-9.6	-17.5	-13.6	182	3.1	3.3	197	7.0	S	76	-16.5	****	2500	7
8	-9.6	-18.7	-14.2	174	3.9	4.0	166	8.9	S	66	-19.0	****	2558	8
9	-10.2	-20.9	-15.6	172	3.0	3.5	134	9.5	S	61	-21.1	****	2573	9
10	-9.7	-21.1	-15.4	172	2.8	3.0	153	6.3	SSE	72	-18.0	****	2048	10
11	-5.7	-17.4	-11.6	184	3.1	3.2	201	5.7	S	83	-12.9	****	2153	11
12	.3	-12.5	-6.1	177	2.9	3.1	187	6.3	S	83	-9.5	****	2175	12
13	-3.1	-12.5	-7.8	176	2.8	3.1	140	7.0	SSW	78	-11.0	****	2883	13
14	-4.7	-12.6	-8.7	188	2.3	2.5	179	6.3	S	78	-11.7	****	2530	14
15	-2.5	-13.2	-7.9	177	2.3	2.4	144	5.7	S	85	-9.4	****	2503	15
16	-2.9	-8.7	-5.8	176	2.4	2.5	169	5.1	S	85	-8.8	****	2848	16
17	-4.0	-13.2	-8.6	180	2.5	2.7	157	5.7	S	78	-11.8	****	3100	17
18	-6.2	-17.0	-11.6	194	2.8	2.8	192	5.1	SSW	76	-14.6	****	3388	18
19	-7.3	-16.2	-11.8	193	2.7	2.8	162	5.7	S	73	-16.0	****	3288	19
20	-6.9	-12.9	-9.9	190	2.7	2.8	140	5.7	SSW	80	-12.6	****	3030	20
21	-6.2	-13.9	-10.1	193	2.9	3.0	160	6.3	SSW	77	-13.1	****	3245	21
22	-6.4	-15.0	-10.7	202	2.6	2.7	220	4.4	SSW	72	-14.8	****	3415	22
23	-7.5	-16.1	-11.8	198	2.4	2.5	176	5.1	SSW	72	-15.8	****	3525	23
24	-4.7	-14.5	-9.6	158	3.0	3.2	132	7.0	SSE	74	-13.2	****	3248	24
25	-5.8	-16.5	-11.2	198	2.6	2.7	191	5.7	SSW	74	-14.8	****	3645	25
26	-2.0	-15.1	-8.6	156	2.2	3.3	097	8.9	SE	64	-14.6	****	3560	26
27	-4.9	-15.5	-10.2	195	1.8	2.5	141	9.5	SSW	64	-15.8	****	3665	27
28	-5.0M	-16.7M	-10.9M	180	2.7	2.8	199	5.7	SSW	72	-15.1	****	3563	28
29	-4.0	-14.3	-9.2	171M	2.0M	3.3M	090M	10.2M	SSW(M)	76	-13.1	****	4058	29
30	-4.5M	-14.8M	-9.7M	195	2.5	2.6	166	5.1	SSW	73	-14.0	****	4210	30
31	-2.9	-13.8	-8.4	194	2.7	2.8	162	6.3	SSW	76	-11.3	****	3470	31
MONTH	.3M	-24.7M	-11.3M	182M	2.7M	3.0M	090M	10.2M	S(M)	77	-14.5	****	89788	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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
KOSINA WEATHER STATION
March, 1983

FIGURE and TABLE 5.60

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	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	-2.4	-11.4	-6.9	187	2.8	2.9	176	5.7	S 73	-10.7	0.0		421	1
2	1.1	-11.1	-5.0	173	2.6	2.7	160	6.3	S 67	-11.0	0.0		432	2
3	-9	-14.2	-7.6	186	2.1	2.7	096	7.0	S 71	-10.9	0.0		438	3
4	1.8	-7.5	-2.9	184	3.2	5.4	098	15.9	E 86	-3.7	.4		285	4
5	.1	-14.2	-7.1	192	2.5	2.9	148	6.3	S 79	-10.5	0.0		390	5
6	-2.7	-13.4	-8.1	178	2.6	2.7	166	5.7	S 72	-12.4	0.0		445	6
7	-3.1	-12.6	-7.9	176	2.7	2.8	149	5.7	S 64	-13.5	0.0		460	7
8	.1	-11.3	-5.6	188	2.2	2.4	174	5.7	S 63	-12.2	0.0		442	8
9	-1.6	-12.8	-7.2	192	1.4	1.8	158	3.8	S 79	-11.2	0.0		406	9
10	-12.2	-14.5	-13.4	193	2.3	2.4	179	3.8	SSW 85	-14.6	0.0		1129	10
11	-7.9	-20.2	-14.1	***	***	***	***	***	***	***	***	***	***	11
12	***	***	***	***	***	***	***	***	***	***	***	***	***	12
13	***	***	***	***	***	***	***	***	***	***	***	***	***	13
14	***	***	***	***	***	***	***	***	***	***	***	***	***	14
15	***	***	***	***	***	***	***	***	***	***	***	***	***	15
16	***	***	***	***	***	***	***	***	***	***	***	***	***	16
17	***	***	***	***	***	***	***	***	***	***	***	***	***	17
18	***	***	***	***	***	***	***	***	***	***	***	***	***	18
19	***	***	***	***	***	***	***	***	***	***	***	***	***	19
20	***	***	***	***	***	***	***	***	***	***	***	***	***	20
21	***	***	***	***	***	***	***	***	***	***	***	***	***	21
22	***	***	***	***	***	***	***	***	***	***	***	***	***	22
23	***	***	***	***	***	***	***	***	***	***	***	***	***	23
24	***	***	***	***	***	***	***	***	***	***	***	***	***	24
25	***	***	***	***	***	***	***	***	***	***	***	***	***	25
26	***	***	***	***	***	***	***	***	***	***	***	***	***	26
27	***	***	***	***	***	***	***	***	***	***	***	***	***	27
28	***	***	***	***	***	***	***	***	***	***	***	***	***	28
29	***	***	***	***	***	***	***	***	***	***	***	***	***	29
30	***	***	***	***	***	***	***	***	***	***	***	***	***	30
MONTH	1.8	-20.2	-7.8	173	2.2	2.9	098	15.9	S 73	-11.1	.4		383	

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

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

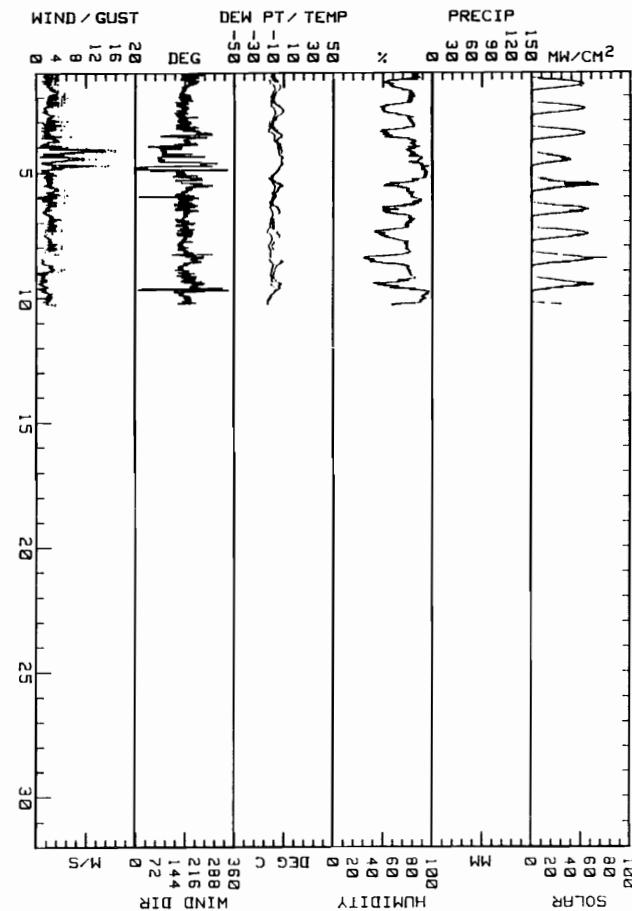


FIGURE and TABLE 5.61
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
April, 1983

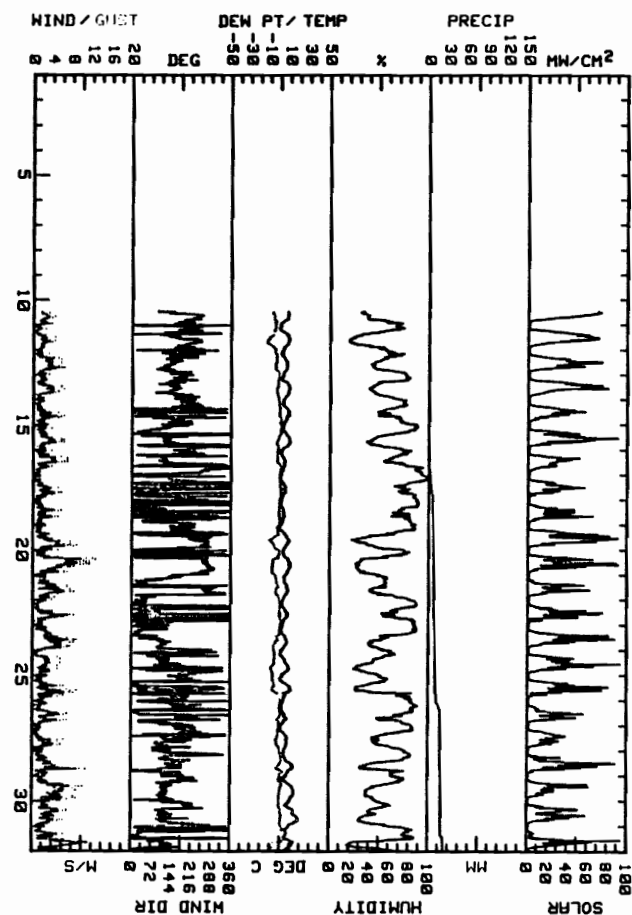
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	1
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	2
3	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	3
4	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	4
5	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	5
6	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	6
7	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	7
8	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	8
9	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	9
10	8.6M	-5.5M	4.1M	215M	1.7M	2.1M	248M	4.4M	SW	37	-5.7M	0.0M	6744M
11	9.6	-1.6	4.0	202	1.1	1.5	167	4.4	SW	37	-9.4	0.0	6175
12	7.1	0.0	3.6	147	1.9	2.3	116	6.3	SE	57	-3.7	0.0	5043
13	9.7	.7	5.2	159	1.9	2.2	158	6.3	SSE	57	-2.5	0.0	5445
14	9.8	1.8	5.8	165	.5	1.6	268	6.3	SW	67	-.0	.4	3643
15	10.5	.5	5.5	120	1.0	2.1	128	6.3	SE	61	-1.4	0.0	5788
16	5.4	-.7	2.4	116	.7	2.1	115	7.0	ESE	75	-1.5	2.6	3470
17	5.8	-.1	2.9	018M	.9M	1.7M	024M	5.7M	NNE	73	.1	3.8	3543
18	5.1	-.2	2.7	014	.5	1.6	037	5.7	N	79	-1.0	1.2	3498
19	9.9	-1.8	4.1	258	1.4	2.6	251	8.9	W	53	-5.0	.4	6738
20	11.3	2.2	6.8	279	3.2	4.0	260	12.7	W	40	-6.1	0.0	4793
21	8.5	2.3	5.4	346	1.1	3.0	266	8.3	NNE	56	-2.9	0.0	5780
22	8.7	1.6	5.2	039	1.5	1.8	092	8.3	NNE	74	.1	1.6	3868
23	7.8	.1	4.0	084	2.5	3.4	109	8.9	NNE	61	-3.5	1.0	4555
24	10.1	-.2	5.0	130	.9	1.9	094	5.7	ESE	41	-7.0	0.0	5253
25	11.9	-.5	5.7	068	.2	2.3	150	8.9	NNE	54	-3.9	2.2	4620
26	7.8	.7	4.3	041	.4	2.1	021	7.0	NNE	75	-.6	5.8	3290
27	8.0	-.1	4.0	146	1.0	1.7	220	6.3	ESE	61	-2.2	0.0	3408
28	14.1	3.4	8.8	140	1.9	2.6	115	10.8	ESE	60	.5	1.2	4875
29	15.1	2.0	8.6	126	3.5	3.9	116	10.2	ESE	51	.4	0.0	5210
30	19.5	5.3	12.4	139	2.0	2.9	104	7.0	ESE	45	1.1	0.0	4383
31	15.1	3.8	9.5	090	2.4	3.8	114	14.0	NNE	58	-.8	3.4	3595
MONTH	19.5M	-1.8M	5.4M	128M	.6M	2.0M	114M	14.0M	ESE	59M	-2.5M	23.6M	99211M

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 13.3

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.



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

FIGURE and TABLE 5.62

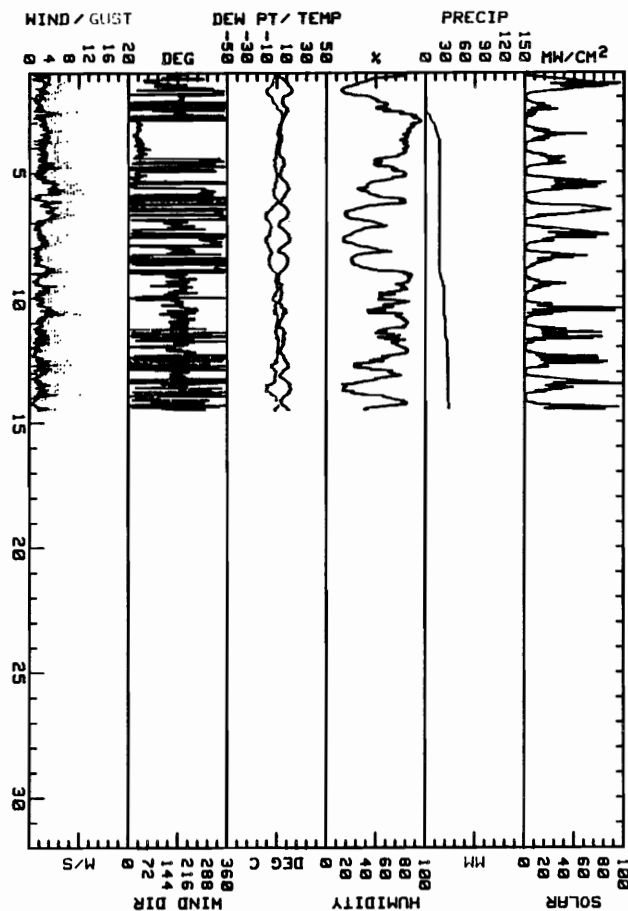
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	AUG. WIND SPD. M/S	MAX. WIND DIR. DEG	MAX. WIND SPD. M/S	MAX. GUST P'VAL M/S	MEAN RH %	MEAN DEW PT DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDN
1	15.7	.4	8.1	147	.7	2.5	111	7.8	SSE 37	-6.2	0.0	7593	1
2	11.8	4.6	8.2	006	.4	2.4	192	9.5	N 70	1.9	11.2	1865	2
3	5.6	2.5	4.1	036	3.0	3.1	039	7.6	NE 82	1.2	10.2	2865	3
4	8.5	1.9	5.2	012	1.9	3.0	029	8.3	NE 66	-1.2	0.0	3350	4
5	12.9	3.1	8.0	352	2.1	3.6	252	10.8	NNE 53	-1.6	0.0	6565	5
6	12.5	2.6	7.6	355	3.0	3.7	019	8.9	NNW 42	-6.1	0.0	7243	6
7	14.3	1.8	8.1	335	1.0	2.3	347	7.6	NNW 32M	-8.3M	0.0	6360	7
8	11.9	1.2	6.6	342	1.4	2.2	331	7.6	NNW 41	-5.9	.2	3603	8
9	6.0	.9	3.5	179	1.5	2.2	086	7.0	SSW 75	-6	6.6	2203	9
10	10.2	1.8	6.0	189	2.3	2.9	119	10.2	S 66	-8	1.8	3990	10
11	9.6	1.6	5.6	156	.5	2.0	206	6.3	S 68	.4	3.2	4208	11
12	12.7	3.0	7.9	016	.2	2.0	092	8.3	SW 55	-1.3	1.0	4458	12
13	14.7	2.1	8.4	151	.3	2.1	074	10.2	S 39	-5.2	0.0	5998	13
14	12.9M	5.0M	8.0M	111M	.4M	1.3M	142M	6.3M	SE 59M	-1M	1.4M	5311M	14
15	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	15
16	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	16
17	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	17
18	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	18
19	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	19
20	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	20
21	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	21
22	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	22
23	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	23
24	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	24
25	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	25
26	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	26
27	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	27
28	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	28
29	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	29
30	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	30
MONTH	15.7M	.4M	6.8M	011M	.5M	2.6M	252M	10.8M	NNE 58M	-2.4M	35.6M	65608M	

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 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.



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

FIGURE and TABLE 5.63

FIGURE and TABLE 5.64

No data available for Kosina Climate Station
July 1983

FIGURE and TABLE 5.65

No data available for Kosina Climate Station

August 1983

FIGURE and TABLE 5.66

No data available for Kosina Climate Station
September 1983

FIGURE and TABLE 5.67

No data available for Kosina Climate Station

October 1983

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SGH
1	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 1
2	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 2
3	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 3
4	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 4
5	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 5
6	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 6
7	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 7
8	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 8
9	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 9
10	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 10
11	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 11
12	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 12
13	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 13
14	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 14
15	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 15
16	xxxx	xxxx	xxxx	xxx	xxx	xxx	xxx	xxx	xxx	xx	xxxx	xxxx	xxxx 16
17	-11.8	-17.9	-14.9	184	2.6	3.1	161	6.3	SSE	92	-15.8	xxxx	218 17
18	-12.6	-20.2	-16.4	202	2.4	2.5	204	5.1	SSW	88	-17.3	xxxx	625 18
19	-9.5	-18.6	-14.1	193	2.0	2.0	166	6.3	S	89	-15.0	xxxx	480 19
20	-8.9	-19.4	-14.2	187	2.5	3.3	129	8.3	SSE	90	-16.0	xxxx	145 20
21	-1.8	-8.4	-4.6	149	1.7	2.3	130	8.3	SSE	88	-5.5	xxxx	145 21
22	-2.7	-10.9	-6.8	201	2.3	2.4	131	5.7	SSW	94	-8.3	xxxx	205 22
23	-7.2	-12.5	-9.9	186	2.1	2.2	183	4.4	S	93	-10.4	xxxx	260 23
24	-10.6	-15.6	-13.1	220	1.8	2.0	229	4.4	SW	91	-14.4	xxxx	545 24
25	-11.8	-18.3	-15.1	192	2.8	3.2	160	7.0	SSW	92	-15.9	xxxx	185 25
26	-10.2	-16.5	-13.4	191	2.6	2.7	186	6.3	SSW	89	-14.1	xxxx	275 26
27	-7.2	-13.9	-10.6	190	2.7	2.9	157	8.3	S	90	-12.2	xxxx	385 27
28	-4.2	-9.5	-6.9	188	2.7	3.4	123	9.5	SW	91	-8.8	xxxx	180 28
29	-1.6	-9.7	-5.7	228	2.6	2.7	233	8.3	SW	81	-8.2	xxxx	150 29
30	-3.7	-11.1	-7.4	225	2.8	2.9	240	5.7	SW	78	-10.9	xxxx	240 30
MONTH	-8	-20.2	-10.9	197	2.3	2.7	123	9.5	SSW	89	-12.3	xxxx	3878

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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

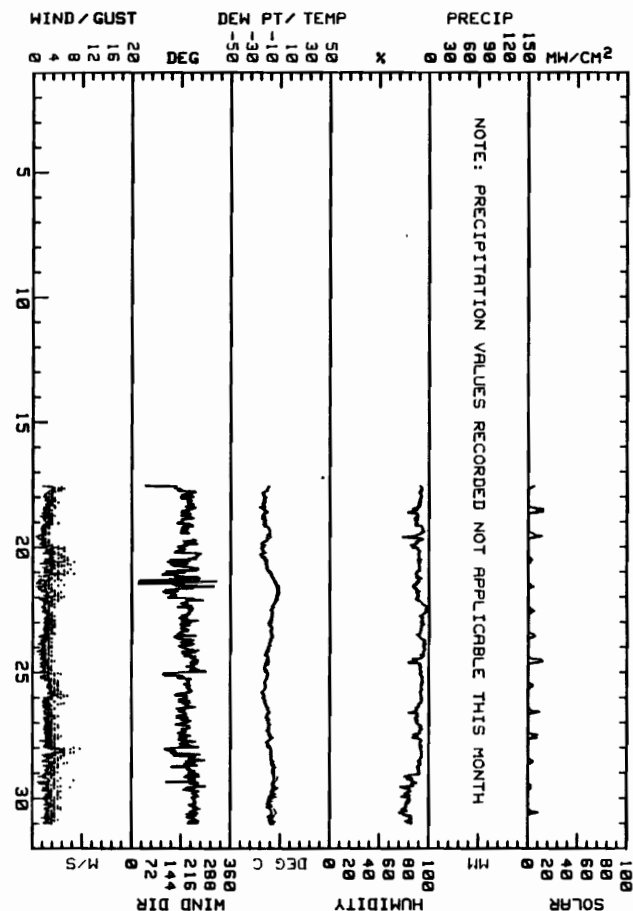


FIGURE and TABLE 5.68

R&M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
November, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

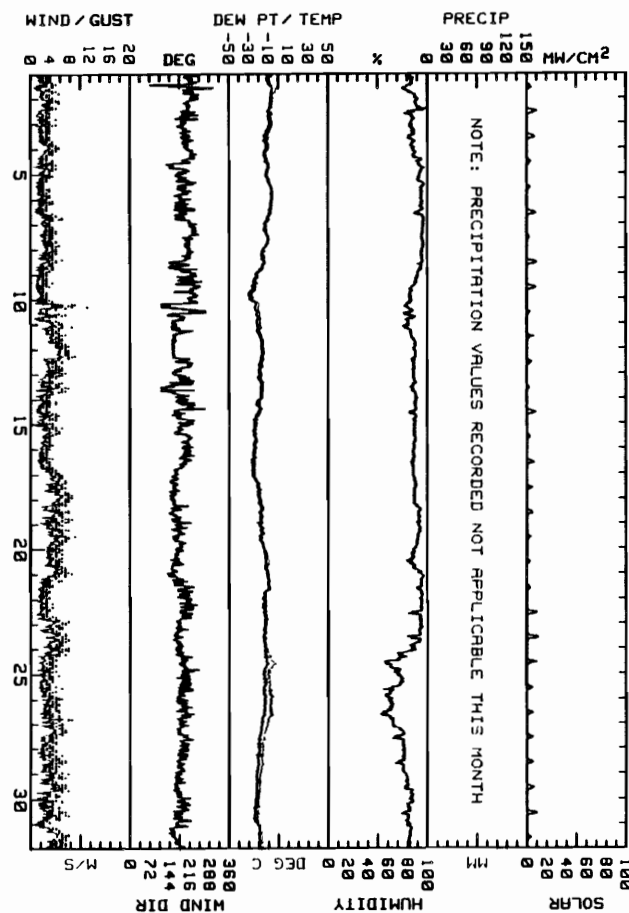
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.4	-10.5	-6.0	221	2.0	2.3	213	5.7	SW	83	-8.3	****	140	1
2	-5.7	-9.3	-7.5	205	2.4	2.5	214	5.7	SSW	87	-8.8	****	305	2
3	-6.3	-13.4	-9.9	201	2.5	2.6	197	5.7	SSW	85	-12.1	****	270	3
4	-8.8	-13.3	-11.1	199	2.1	2.4	228	5.1	SW	91	-12.3	****	120	4
5	-5.4	-11.4	-8.4	190	1.9	2.0	167	4.4	S	93	-8.2	****	100	5
6	-6.1	-13.9	-10.0	192	2.2	2.4	169	6.3	SSW	94	-9.5	****	280	6
7	-9.2	-14.9	-12.1	218	3.0	3.1	218	5.7	SW	95	-12.2	****	80	7
8	-13.2	-21.6	-17.4	199	2.3	2.6	200	6.3	SSW	93	-16.8	****	310	8
9	-20.2	-28.2	-24.2	224	1.7	1.8	235	4.4	SW	85	-25.8	****	285	9
10	-17.7	-24.2	-21.0	163	2.4	3.2	116	11.4	SSE	81	-21.8	****	90	10
11	-14.3	-19.6	-17.0	163	4.3	4.4	150	8.3	SSE	84	-18.4	****	125	11
12	-14.2	-18.1	-16.2	175	4.1	4.5	159	8.9	SSE	87	-17.9	****	140	12
13	-14.2	-19.4	-16.8	170	2.3	2.8	114	7.6	S	87	-17.6	****	75	13
14	-15.9	-23.6	-19.8	189	2.1	2.3	153	5.7	S	88	-21.1	****	255	14
15	-20.9	-24.0	-22.5	196	2.7	2.9	173	6.3	SSW	87	-23.9	****	185	15
16	-22.1	-25.4	-23.8	187	2.5	2.6	175	6.3	SSW	86	-25.3	****	205	16
17	-16.0	-24.0	-20.0	159	4.9	4.9	163	8.3	SSE	87	-20.8	****	140	17
18	-14.5	-20.1	-17.3	165	4.0	4.2	151	8.3	SSE	90	-17.7	****	190	18
19	-12.4	-18.1	-15.3	176	4.2	4.3	155	8.9	S	90	-16.8	****	90	19
20	-9.0	-12.2	-10.6	164	4.2	4.3	136	8.3	SSE	86	-12.3	****	90	20
21	-7.6	-14.8	-11.2	188	2.4	2.6	164	7.0	SSW	94	-11.1	****	115	21
22	-10.1	-15.0	-12.6	195	2.6	2.7	169	7.6	SSW	93	-13.4	****	285	22
23	-10.1	-14.0	-12.1	173	4.1	4.1	164	7.6	S	90	-13.8	****	335	23
24	-2.5	-12.2	-7.4	193	2.8	2.9	183	7.6	SSW	78	-12.4	****	225	24
25	-4.7	-11.8	-8.3	193	2.6	2.8	181	6.3	S	67	-13.3	****	175	25
26	-4.9	-11.8	-8.4	193	3.2	3.3	175	8.3	SSW	62	-14.4	****	185	26
27	-10.8	-18.0	-14.4	190	3.2	3.3	172	7.0	S	73	-18.4	****	185	27
28	-14.6	-19.2	-16.9	183	3.0	3.1	172	7.6	S	76	-20.1	****	190	28
29	-17.6	-21.2	-19.4	173	3.5	3.6	158	7.6	S	81	-21.6	****	220	29
30	-17.9	-23.2	-20.6	181	2.7	2.9	164	7.6	S	81	-23.0	****	300	30
31	-13.8	-17.8	-15.8	166	4.0	4.1	161	7.6	SSE	82	-18.8	****	130	31
NORTH	-1.4	-28.2	-14.6	183	2.8	3.1	116	11.4	S	85	-16.4	****	5740	

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
December, 1983

FIGURE and TABLE 5.69

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

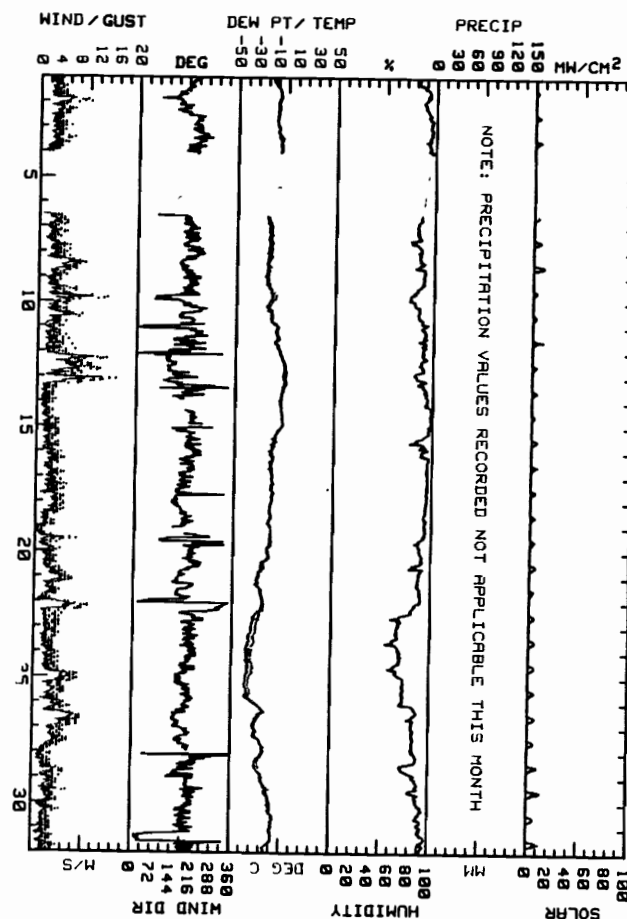
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING January, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SON
1	-6.4	-14.7	-10.6	169	2.9	3.3	153	9.5	SSE	88	-11.0	****	75
2	-8.2	-11.3	-9.8	186	3.1	3.5	159	11.2	SSW	93	-10.6	****	145
3	-3.9	-10.0	-7.0	219	2.6	2.8	267	7.0	SW	95	-7.5	****	175
4	*****	*****	*****	***	*****	*****	***	*****	***	***	*****	*****	4
5	*****	*****	*****	***	*****	*****	***	*****	***	***	*****	*****	5
6	-14.2	-18.6	-16.4	184	2.8	2.9	193	5.7	S	85	-18.4	****	188
7	-13.0	-16.8	-14.9	192	2.6	2.7	171	6.3	S	84	-17.1	****	268
8	-13.8	-20.1	-17.0	181	3.9	4.3	153	9.5	S	88	-18.6	****	395
9	-9.3	-18.6	-14.0	162	2.8	3.0	114	14.0	SSW	83	-16.4	****	138
10	-6.9	-18.2	-12.6	188	2.8	3.4	165	8.9	SSW	86	-15.2	****	135
11	-3.9	-10.1	-7.0	186	1.7	2.5	118	7.6	SSW	91	-8.4	****	238
12	2.0	-4.4	-1.2	123	5.1	5.5	107	14.0	ESE	88	-2.1	****	148
13	2.2	-5.0	-1.4	147	2.3	3.1	116	15.9	SSE	91	-2.2	****	175
14	-1.2	-4.3	-2.8	286	1.9	1.7	284	4.4	SSW	97	-2.9	****	188
15	-2.5	-14.0	-8.3	198	2.0	2.2	184	4.4	SSW	91	-9.8	****	215
16	-9.8	-15.0	-12.4	193	2.6	2.8	169	5.7	SSW	95	-12.7	****	175
17	-9.1	-12.7	-10.9	164	2.8	3.1	155	6.3	SSE	95	-11.8	****	155
18	-11.6	-15.2	-13.4	170	2.4	2.6	138	5.7	S	93	-13.9	****	165
19	-10.9	-15.2	-13.1	184	1.1	1.7	122	8.3	SSW	89	-14.2	****	175
20	-13.1	-23.4	-18.3	195	2.4	2.6	166	6.3	SSW	89	-19.8	****	265
21	-18.0	-26.1	-22.1	168	2.7	3.0	155	7.6	SSE	89	-23.1	****	175
22	-17.6	-27.4	-22.5	282	2.0	3.6	329	10.8	SSW	74	-25.7	****	235
23	-25.7	-32.9	-29.3	208	2.2	2.3	184	5.1	SSW	66	-33.0	****	278
24	-27.2	-33.2	-30.2	192	3.0	3.2	159	8.9	SSW	68	-34.2	****	298
25	-24.8	-33.8	-29.3	198	3.6	3.8	158	8.9	SSW	73	-34.6	****	255
26	-15.5	-26.1	-20.8	167	5.1	5.3	156	9.5	SSE	83	-23.8	****	315
27	-14.6	-26.0	-20.4	186	3.4	3.3	158	7.0	SSW	84	-22.4	****	268
28	-16.3	-24.0	-20.2	186	1.7	2.3	158	6.3	S	82	-22.3	****	358
29	-8.4	-17.7	-13.1	212	2.9	3.0	206	7.0	SSW	87	-14.4	****	488
30	-5.1	-11.4	-8.3	198	2.0	2.1	163	5.7	S	91	-8.8	****	338
31	-7.1	-16.0	-11.6	187	.5	1.9	224	5.1	SSW	93	-11.3	****	458
MONTH	2.2	-33.8	-14.4	182	2.4	3.0	116	15.9	SSW	87	-16.1	****	6788

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
January, 1984

FIGURE and TABLE 5.70

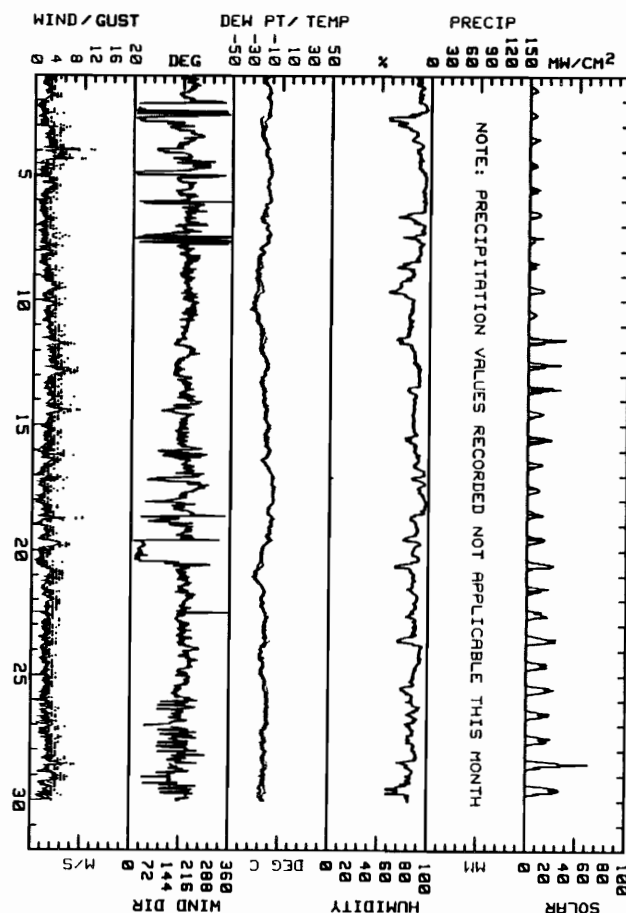
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDR
1	-11.8	-18.3	-15.1	199	2.3	2.4	170	5.1	SSW 89	-15.8	****	320	1
2	-11.4	-19.3	-15.4	020	.6	1.3	008	5.7	NNE 80	-17.4	****	290	2
3	-12.2	-20.2	-16.2	180	2.2	3.2	091	12.1	SSE 86	-18.8	****	375	3
4	-10.0	-15.9	-13.0	195	1.6	2.8	170	10.2	SSW 90	-13.7	****	310	4
5	-10.9	-15.0	-13.0	191	2.2	2.5	206	5.1	SSW 94	-13.7	****	375	5
6	-10.7	-19.5	-15.1	208	1.2	1.6	192	4.4	SSW 87	-18.0	****	545	6
7	-10.5	-21.1	-15.8	176	.7	1.9	359	7.0	S 90	-16.0	****	335	7
8	-16.8	-24.1	-20.5	198	2.2	2.3	196	5.7	SSW 83	-23.2	****	355	8
9	-17.7	-25.9	-21.8	202	2.9	2.9	211	6.3	SSW 73	-25.1	****	695	9
10	-19.2	-29.5	-24.4	211	2.7	2.8	215	5.7	SSW 82	-26.3	****	360	10
11	-14.3	-19.9	-17.1	187	3.5	3.7	160	8.3	S 78	-24.4	****	1245	11
12	-11.3	-19.0	-15.2	175	4.2	4.5	159	8.9	SSE 88	-16.2	****	1040	12
13	-13.1	-20.6	-16.9	196	3.1	3.2	166	8.3	SSW 86	-18.3	****	1080	13
14	-10.1	-16.8	-13.5	185	3.0	3.6	115	9.5	SSW 85	-15.7	****	695	14
15	-9.2	-15.3	-12.3	183	2.5	2.7	160	5.7	S 84	-14.2	****	1005	15
16	-6.7	-10.2	-12.5	195	2.0	2.6	116	8.3	SSW 90	-13.4	****	615	16
17	-4.7	-8.6	-6.7	194	1.3	2.2	102	7.0	SW 92	-7.8	****	610	17
18	-5.4	-12.6	-9.0	173	1.7	2.4	132	10.2	SSE 91	-10.1	****	600	18
19	-7.0	-16.8	-11.9	099	.6	3.0	047	7.6	NE 86	-13.2	****	860	19
20	-16.3	-24.0	-20.2	164	.9	2.5	139	6.3	NNE 83	-21.3	****	1200	20
21	-13.4	-25.8	-19.6	200	2.8	3.0	180	6.3	SSW 86	-19.7	****	790	21
22	-10.8	-17.7	-14.3	189	2.9	3.0	207	5.7	S 86	-16.1	****	1040	22
23	-9.3	-19.1	-14.2	196	2.5	2.6	207	5.7	S 85	-15.9	****	1505	23
24	-14.1	-19.4	-16.8	206	2.5	2.7	178	5.1	SSW 90	-17.9	****	1120	24
25	-10.0	-16.0	-13.0	193	2.5	2.7	218	5.1	S 82	-14.4	****	1485	25
26	-9.6	-12.7	-11.2	176	2.2	2.6	205	5.7	S 86	-13.0	****	1140	26
27	-11.5	-16.8	-14.2	180	2.5	3.2	155	7.0	SSW 84	-16.2	****	1360	27
28	-10.3	-16.5	-13.4	173	3.2	3.8	152	8.9	S 84	-15.2	****	2035	28
29	-11.5	-17.4	-14.5	166	2.4	3.2	153	7.6	SE 77	-17.6	****	2035	29
MONTH	-4.7	-29.5	-15.0	188	2.1	2.8	091	12.1	SSW 85	-16.7	****	25420	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
February, 1984

FIGURE and TABLE 5.71

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN BEGINNING MARCH, 1984

LAT	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SQ M
1	-13.3	-16.7	-13.5	181	2.7	3.3	054	8.9	SSE	78	-16.8	****	1460
2	-8.7	-17.7	-13.2	187	2.3	2.7	154	7.5	SSW	81	-16.3	****	2130
3	-2.1	-16.3	-9.4	200	2.5	3.2	243	8.3	SSW	86	-11.5	****	1785
4	1.1	-3.9	-1.9	178	1.7	2.7	048	9.5	SSW	90	-3.6	****	1670
5	1.6	-6.2	-2.3	169	2.2	2.5	133	8.3	SSW	87	-3.7	****	1495
6	3	-6.2	-3.0	197	1.8	2.1	159	5.1	SW	89	-3.5	****	3005
7	1.4	-2.6	-0.6	207	2.6	2.8	125	7.0	SSW	93	-1.7	****	1750
8	6.6	-3.3	1.4	167	2.5	3.1	188	10.2	S	91	-1.1	****	1845
9	3.1	-5.2	-1.1	161	2.0	3.3	143	10.8	SSW	90	-1.9	****	2365
10	3.0	-3.9	-0.5	153	1.7	2.9	099	8.3	SW	88	-1.8	****	1985
11	1.7	-6.8	-2.6	198	2.2	2.4	161	5.1	SSW	86	-5.0	****	2960
12	1.6	-7.9	-3.2	199	2.4	2.4	187	5.7	SSW	81	-6.6	****	2880
13	-2	-9.1	-1.7	199	2.8	3.3	098	8.3	SSW	90	-6.8	****	1960
14	-1.6	-8.3	-5.0	195	2.7	2.8	198	5.7	S	83	-7.5	****	3785
15	-2.9	-12.1	-7.5	200	2.7	2.8	199	5.7	SSW	81	-10.6	****	2870
16	-4.2	-14.8	-9.5	200	2.3	2.4	178	5.1	SSW	80	-12.9	****	3420
17	-5.5	-14.7	-10.1	199	2.3	2.3	199	5.1	SSW	78	-14.1	****	3305
18	-5.9	-16.2	-11.1	194	2.3	2.4	167	5.7	SSW	76	-15.1	****	3470
19	-7.5	-17.5	-12.5	212	2.3	2.4	205	4.4	SW	73	-16.8	****	3430
20	-4.6	-16.9	-10.8	193	2.0	2.1	183	5.1	SSW	73	-14.3	****	3015
21	-5.0	-15.5	-10.3	207	1.9	2.6	169	4.4	SSW	76	-13.3	****	3600
22	-5.0	-16.0	-10.5	192	2.6	2.7	165	5.7	S	76	-14.7	****	3655
23	-5.8	-15.9	-10.9	196	2.2	2.3	166	5.7	SSW	72	-15.5	****	3670
24	-6.5	-17.5	-12.0	199	2.7	2.8	191	5.7	SSW	73	-15.0	****	3830
25	-2.8	-11.8	-6.6	198	2.2	2.3	170	5.7	S	81	-9.9	****	3730
26	-2.5	-9.9	-6.2	204	2.5	2.7	157	5.1	SSW	85	-8.5	****	3540
27	-3.6	-9.9	-6.5	209	2.7	2.8	208	5.7	SSW	82	-9.1	****	2790
28	-9	-12.6	-6.8	203	2.1	2.2	175	5.1	S	72	-11.4	****	4685
29	-7	-13.4	-6.9	212	1.9	2.2	256	6.3	SSW	81	-7.6	****	2520
30	2.0	-9.2	-3.6	201	2.3	2.4	208	5.1	SSW	79	-7.1	****	4390
31	6	-6.9	-4.2	208	1.8	2.2	131	6.3	SW	84	-7.1	****	4140
MONTH	6.8	-17.7	-5.6	196	2.2	2.6	143	10.8	SSW	82	-9.4	****	90155

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **

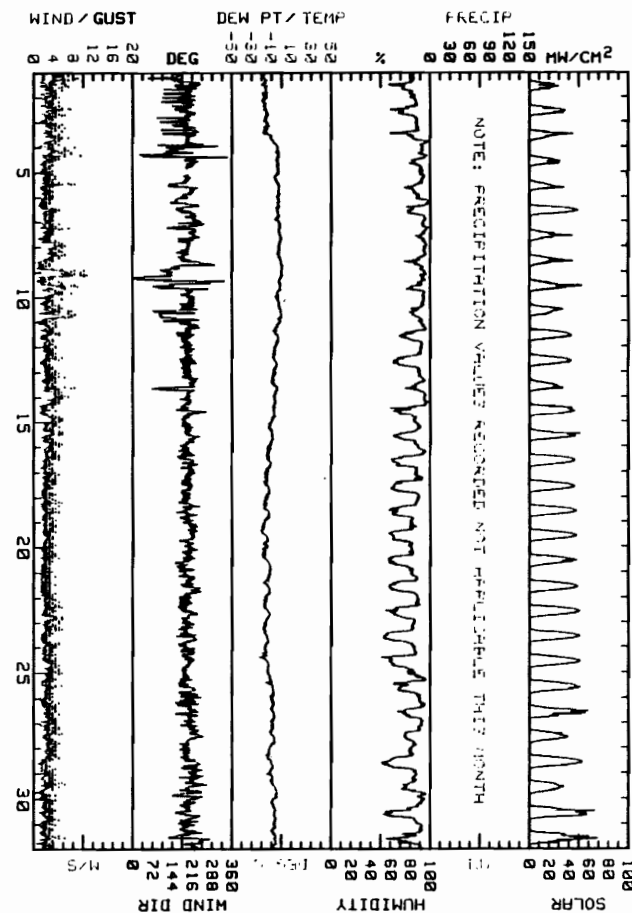


FIGURE and TABLE 5.72

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
March, 1984

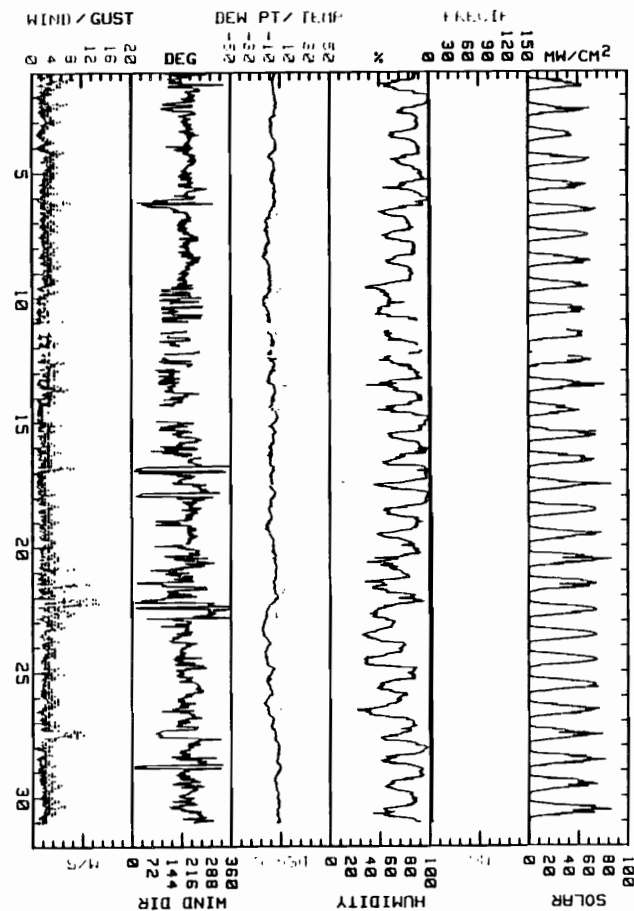
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA FROM DURING APRIL, 1984

DAY	MAX. TEMP DEG C	MIN. TEMP DEG C	MEAN TEMP DEG C	RFS. WIND DIR DEG	RFS. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR DEG	MAX. WIND SPD. M/S	MAX. GUST M/S	P-VAL DIR	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM	DAY
1	1.4	-5.7	-2.2	181	1.8	2.4	129	8.3	SW	76	-6.5	.2	.2	3845	1
2	-9	-9.0	-5.0	182	1.9	2.4	113	7.0	SSW	87	-6.2	.8	.8	3180	2
3	-6	-8.7	-4.7	206	1.9	2.6	219	4.4	SSW	86	-7.2	.4	.4	3345	3
4	-8	-9.6	-5.2	207	2.9	3.0	206	6.3	SSW	81	-7.3	0.0	0.0	4435	4
5	1.5	-9.1	-3.8	203	2.1	2.2	201	5.1	SSW	84	-6.9	0.0	0.0	4125	5
6	-1.2	-12.8	-7.0	175	1.3	2.4	021	8.9	SSW	76	-9.3	.2	.2	4905	6
7	-4.5	-13.9	-8.6	197	2.3	2.4	167	5.1	S	73	-13.1	0.0	0.0	4635	7
8	-1.7	-14.6	-9.7	210	2.5	2.6	206	5.7	SSW	75	-13.3	0.0	0.0	4440	8
9	1.6	-9.9	-4.1	180	2.1	2.4	167	5.1	SSW	64	-11.2	0.0	0.0	4280	9
10	-1.4	-11.5	-6.5	158	1.0	1.4	157	6.1	SSE	61	-13.4	0.0	0.0	4555	10
11	-1.1	-7.4	-4.3	164	1.8	2.2	154	5.1	SSW	68	-8.7	0.0	0.0	4833	11
12	3.4	-10.7	-5.7	151	2.1	2.7	124	6.3	SE	74	-8.2	0.0	0.0	4629	12
13	7.1	-11.0	-2.0	151	2.2	2.5	141	7.0	SSE	75	-8.4	0.0	0.0	4505	13
14	1.7	-7.7	-3.0	157	1.5	1.3	181	4.4	S	84	-6.4	0.0	0.0	3685	14
15	1	-10.5	-5.2	181	1.6	2.1	190	32.0	SSE	81	-7.6	.4	.4	5130	15
16	-2.1	-10.6	-6.1	195	.3	2.2	040	8.3	SW	80	-9.4	0.0	0.0	5135	16
17	-6	-10.0	-5.4	220	.5	1.5	035	4.4	WSW	86	-8.1	.8	.8	4575	17
18	-1.9	-11.3	-6.6	208	1.9	2.3	193	32.0	SSW	78	-10.2	.6	.6	5880	18
19	-2	-13.2	-7.6	201	2.1	2.3	177	4.4	SSW	74	-10.2	0.0	0.0	4825	19
20	7.2	-6.7	.3	200	1.5	2.1	140	8.3	WSW	71	-5.4	0.0	0.0	5880	20
21	5.6	-3.1	1.4	152	1.7	2.6	110	11.4	SSE	63	-5.1	0.0	0.0	5570	21
22	3	-11.9	-5.8	302	1.1	4.1	278	13.3	MW	61	-11.9	0.0	0.0	5790	22
23	-1.2	-12.4	-6.8	184	2.3	2.6	194	6.3	SSW	54	-15.1	0.0	0.0	6110	23
24	1.0	-11.7	-5.4	188	2.0	2.3	244	5.1	S	59	-12.4	0.0	0.0	6050	24
25	-4	-11.3	-5.9	213	2.0	2.3	181	6.3	WSW	67	-10.7	0.0	0.0	6100	25
26	4.5	-11.8	-3.7	187	2.0	2.2	184	5.1	S	59	-11.6	0.0	0.0	5525	26
27	4.1	-7.7	-1.8	138	1.9	3.3	100	10.2	SW	75	-5.6	0.0	0.0	5290	27
28	5.3	-1.4	2.0	213	.8	1.6	328	4.4	SSW	80	-2.1	0.0	0.0	5275	28
29	4.3	-4.3	0.0	202	2.0	2.3	147	5.7	S	75	-3.9	0.0	0.0	5460	29
30	7.5	-2.1	2.7	205	1.6	2.0	172	6.3	WSW	72	-2.3	0.0	0.0	6050	30
NO. IN	7.5	-14.6	-4.1	190	1.6	2.3	190	32.0	SSW	73	-8.6	3.4	3.4	148642	

GUST 99% AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST 99% AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST 99% AT MAX. GUST PLUS 1 INTERVAL 2.5
GUST 99% AT MAX. GUST PLUS 2 INTERVALS 3.2

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN
OR EQUAL TO 5.0 M/S. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY
OR MONTHLY MEAN OR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
April, 1984

FIGURE and TABLE 5.73

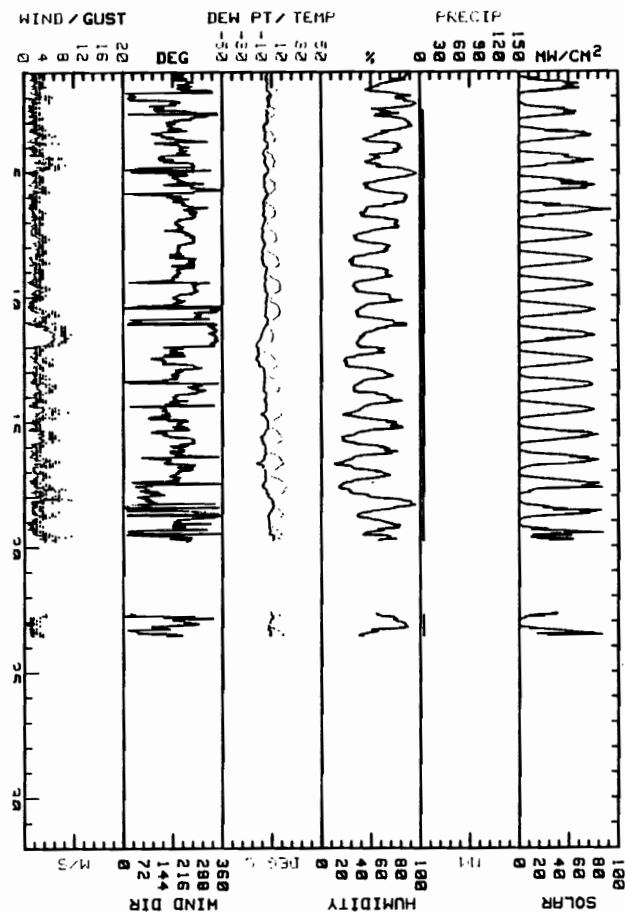
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

ADDITIONAL COMMENTS FOR KOSINA WEATHER STATION
DATA Taken Periods May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQm
1	6.6	-4.5	1.3	235	.8	2.1	046	5.7	SW	71	-4.0	0.0	5260
2	4.3	-3.5	.4	218	.5	1.6	031	5.1	WSW	79	-4.1	5.2	4600
3	5.0	-7.1	-1.1	166	1.9	2.2	115	7.0	S	69	-6.1	0.0	6120
4	3.9	-4.9	-1.5	194	1.3	3.1	259	8.3	SW	63	-6.3	0.0	6395
5	4.5	-6.2	-1.0	227	1.3	2.0	264	5.1	SSW	66	-6.3	0.0	7050
6	5.1	-6.1	-1.5	231	1.7	1.9	270	4.4	WSW	63	-7.3	0.0	6955
7	5.7	-5.8	-1.1	229	2.1	2.4	262	5.1	SSW	54	-8.3	0.0	6895
8	9.4	-4.2	2.6	215	2.0	2.2	240	5.1	SSW	48	-8.0	0.0	6965
9	9.0	-2.5	3.3	226	1.7	2.2	258	5.1	SSW	51	-6.0	0.0	7465
10	8.8	-2.5	3.2	281	1.0	2.3	270	7.0	W	52	-5.2	0.0	7060
11	1.8	-1.2	-1.2	333	4.5	4.7	320	9.5	HNW	50	-9.9	0.0	6630
12	6.8	-7.7	-1.5	187	1.5	2.2	102	5.7	SSW	41	-12.4	0.0	7095
13	8.1	-3.9	2.8	240	1.4	2.4	286	6.3	SSW	49	-7.0	0.0	7065
14	10.3	-3.4	5.5	160	2.0	2.6	162	8.9	SSE	50	-6.0	0.0	7100
15	11.6	-1.3	5.3	202	1.9	2.7	259	7.0	SSW	47	-6.7	0.0	6830
16	12.4	-3.3	4.6	196	1.6	2.2	159	7.0	SSW	43	-8.0	0.0	6800
17	16.1	-1.2	7.5	114	1.6	2.6	082	8.3	E	39	-6.1	0.0	6665
18	12.3	2.4	7.4	027	.7	2.4	099	9.5	NNE	64	-7	.2	5400
19	16.5	.3	5.3	217	.9	2.6	098	9.5	SW	64	-6	0.0	6833
20	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
21	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
22	6.5	.9	4.7	360	.2	1.6	027	4.4	SW	65	.2	.4	2920
23	12.2	-1.4	5.4	132	.4	1.4	055	3.8	NE	63	-2.1	0.0	6129
24	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
25	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
26	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
27	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
28	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
29	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
30	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
31	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXXXX
Month	16.1	-7.7	2.5	217	.9	2.4	320	9.5	SSW	56	-5.8	5.8	133172

GUST VFI: AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VFI: AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VFI: AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VFI: AT MAX. GUST PLUS 2 INTERVALS 7.6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN
0.5 MPH (0.8 KM/H). SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY
OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
XX SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT XX



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
May, 1984

FIGURE and TABLE 5.74

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

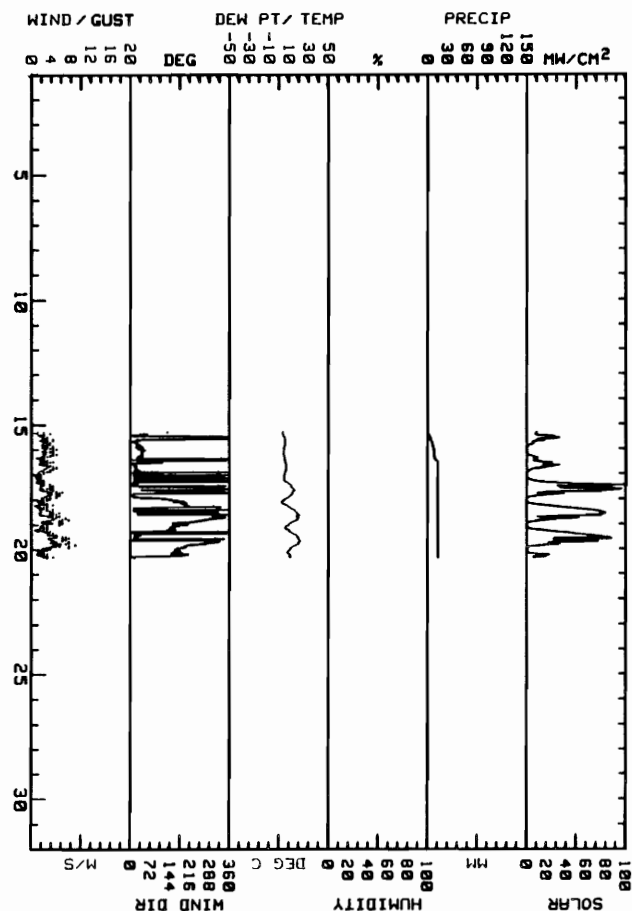
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING June, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	MAX. P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SQM
1	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 1
2	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 2
3	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 3
4	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 4
5	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 5
6	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 6
7	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 7
8	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 8
9	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 9
10	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 10
11	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 11
12	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 12
13	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 13
14	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 14
15	6.5	3.5	5.0	023	2.1	2.2	028	5.1	NNE	***	*****	9.8	2541 15
16	7.2	4.4	5.8	032	2.1	2.3	044	5.1	NNE	***	*****	6.2	2060 16
17	15.7	4.7	10.2	015	1.6	2.2	345	6.3	N	***	*****	0.0	7890 17
18	20.8	2.2	11.5	282	.8	2.4	291	7.6	NNE	***	*****	0.0	7840 18
19	21.4	5.9	13.7	322	.8	3.5	259	8.9	NNE	***	*****	0.0	7415 19
20	11.5	7.6	9.6	157	.6	1.7	004	4.4	S	***	*****	0.0	1890 20
21	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 21
22	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 22
23	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 23
24	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 24
25	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 25
26	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 26
27	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 27
28	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 28
29	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 29
30	*****	*****	*****	***	****	****	***	****	***	***	****	****	***** 30
MONTH	21.4	2.2	9.3	010	1.0	2.5	259	8.9	NNE	***	*****	16.0	28836

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
June, 1984

FIGURE and TABLE 5.75

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

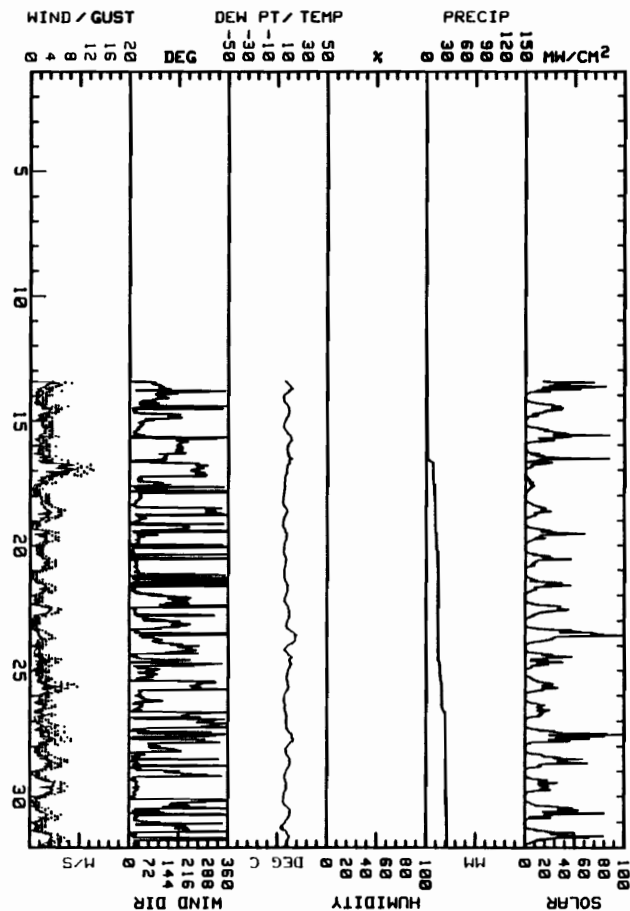
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	1
2	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	2
3	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	3
4	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	4
5	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	5
6	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	6
7	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	7
8	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	8
9	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	9
10	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	10
11	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	11
12	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	12
13	16.0	6.4	11.2	104	2.0	2.5	086	8.3	ESE	***	***	0.0	6323	13
14	12.4	5.7	9.1	057	1.4	2.3	357	7.6	NNE	***	***	0.0	2965	14
15	14.7	6.2	10.5	035	1.3	2.4	005	5.7	NNE	***	***	1.6	4050	15
16	15.1	9.2	12.2	216	2.2	3.9	227	12.7	S	***	***	9.0	2455	16
17	9.7	6.1	7.9	338	.4	2.4	251	11.4	NE	***	***	2.8	665	17
18	10.4	5.7	8.1	006	2.1	2.9	281	7.0	NNE	***	***	1.0	1855	18
19	10.2	5.2	7.7	027	1.6	2.0	016	5.7	NNE	***	***	1.4	2645	19
20	9.2	6.2	7.7	017	2.3	2.4	004	5.1	NNE	***	***	2.4	1980	20
21	11.1	6.0	9.0	012	1.5	1.6	001	5.1	NNE	***	***	.2	2195	21
22	12.8	7.0	9.9	025	1.1	1.9	024	6.3	NNE	***	***	0.0	2910	22
23	20.3	9.2	14.8	090	.7	1.5	091	5.1	E	***	***	0.0	6035	23
24	15.3	6.9	11.1	043	.3	1.8	194	6.3	NNE	***	***	2.6	3035	24
25	12.1	7.2	9.7	356	.7	2.7	230	9.5	NE	***	***	3.0	2435	25
26	10.0	6.4	8.2	040	.8	1.9	042	5.1	NE	***	***	6.2	2150	26
27	16.9	8.6	12.8	331	1.2	2.7	011	8.3	NNE	***	***	0.0	5250	27
28	13.8	7.7	10.8	027	2.1	2.8	009	7.6	NNE	***	***	0.0	3830	28
29	9.7	6.5	8.1	024	2.8	3.0	030	7.6	NNE	***	***	.2	2390	29
30	14.3	6.0	10.2	029	1.2	1.8	345	6.3	NNE	***	***	1.8	4010	30
31	13.1	3.2	8.2	013	2.1	2.8	023	7.6	NNE	***	***	.6	3605	31
MONTH	20.3	3.2	9.8	023	1.1	2.4	227	12.7	NNE	***	***	32.8	60803	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.8

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
July, 1984

FIGURE and TABLE 5.76

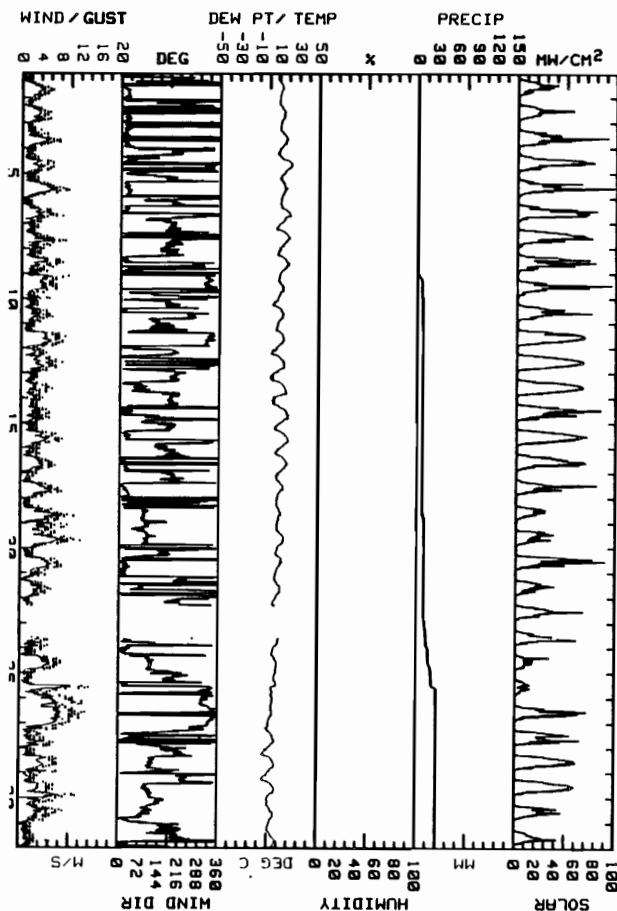
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	P-VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	DAY
1	12.6	7.0	9.8	016	1.9	2.2	030	6.3	NNE	**	*****	0.0	2580	1
2	14.4	8.8	11.6	009	2.0	2.2	006	5.7	N	**	*****	0.0	2755	2
3	17.2	9.7	13.5	011	2.3	2.4	355	7.6	NNE	**	*****	0.0	4540	3
4	21.6	7.2	14.4	359	1.2	2.0	000	6.3	NNW	**	*****	0.0	4785	4
5	17.0	9.4	13.2	020	2.4	3.0	030	9.5	NNE	**	*****	0.0	4110	5
6	20.5	10.2	15.4	359	.7	2.0	347	8.3	NNE	**	*****	0.0	5370	6
7	20.4	5.7	13.1	196	.9	2.5	189	8.9	S	**	*****	0.0	5185	7
8	19.7	7.0	13.4	015	1.0	2.6	016	8.3	NNE	**	*****	1.4	4545	8
9	14.0	7.8	10.9	324	2.6	3.3	315	9.5	NW	**	*****	6.4	3385	9
10	14.1	2.5	8.3	234	.4	2.1	265	6.3	W	**	*****	.4	3655	10
11	14.7	6.0	10.4	325	2.5	3.2	322	8.9	NW	**	*****	.2	6190	11
12	15.0	1.1	8.1	334	1.0	2.0	321	8.3	SSW	**	*****	0.0	6200	12
13	17.6	.3	9.0	145	.9	2.0	057	6.3	SSW	**	*****	0.0	6040	13
14	19.6	2.4	11.0	060	.5	2.4	040	5.7	N	**	*****	0.0	5055	14
15	19.2	4.6	11.9	022	1.1	2.0	027	8.3	NNE	**	*****	0.0	5850	15
16	18.2	5.4	11.8	017	1.3	2.5	020	7.0	NNE	**	*****	0.0	4815	16
17	14.4	6.3	10.4	022	2.0	2.0	030	8.3	NNE	**	*****	0.0	3010	17
18	11.9	7.6	9.8	085	2.7	3.1	090	10.8	E	**	*****	2.8	1975	18
19	15.0	7.5	11.3	090	4.2	4.7	100	12.1	E	**	*****	0.0	2635	19
20	13.2	6.5	9.9	020	2.5	3.1	021	8.3	NNE	**	*****	.2	4240	20
21	11.5	5.4	8.5	020	1.0	2.4	074	6.3	N	**	*****	0.0	2270	21
22	6.4	3.9	5.2	223	.9	1.3	220	2.5	SW	**	*****	1.6	2985	22
23	10.5	4.6	7.6	044	1.7	2.5	030	5.7	NNE	**	*****	5.0	2437	23
24	8.6	3.2	5.9	106	2.7	3.2	119	8.3	ESE	**	*****	4.4	1495	24
25	8.2	2.3	5.3	329	2.3	3.2	338	14.0	NNW	**	*****	8.6	1065	25
26	4.5	.2	2.4	332	6.6	7.1	349	13.3	NNW	**	*****	.2	3095	26
27	6.9	-2.5	2.2	339	1.4	2.0	327	8.9	NW	**	*****	0.0	4155	27
28	6.8	-6.6	.1	130	2.4	3.1	114	7.6	ESE	**	*****	0.0	5010	28
29	7.1	-6.2	.5	112	2.0	3.2	113	11.4	ESE	**	*****	0.0	4985	29
30	6.0	-8	2.6	104	2.5	3.1	098	8.9	ESE	**	*****	0.0	2840	30
31	7.8	-4	3.7	206	.5	1.3	050	6.3	SW	**	*****	0.0	2070	31
MONTH	21.6	-6.6	8.7	025	1.1	2.8	338	14.0	NNE	**	*****	31.2	120127	

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
August, 1984

FIGURE and TABLE 5.77

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

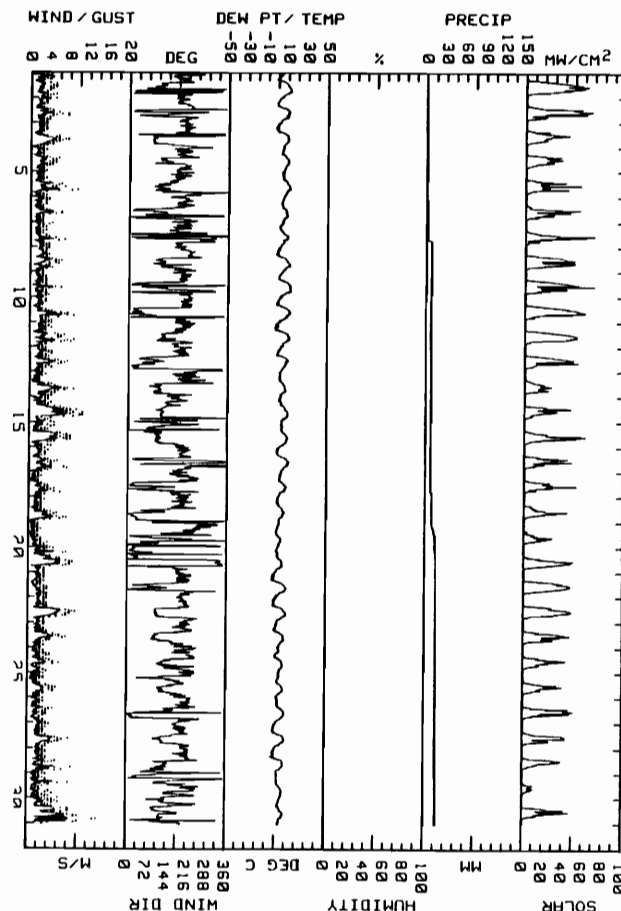
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. WIND DIR. DEG	MAX. WIND SPD. N/S	P-VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	12.7	-2.1	5.3	165	1.0	2.1	115	5.1	SSW	**	*****	0.0	4815	1
2	11.2	-1.5	4.9	197	1.0	2.2	183	7.6	SW	**	*****	0.0	3740	2
3	10.6	-2.5	4.1	132	1.1	2.4	084	7.6	E	**	*****	.2	2485	3
4	10.6	3.6	7.1	175	1.4	1.8	114	5.7	S	**	*****	0.0	2385	4
5	12.7	4.0	8.4	147	1.5	2.0	102	9.5	SSE	**	*****	0.0	2340	5
6	10.0	3.8	6.9	167	.7	1.8	135	6.3	SSW	**	*****	2.0	2260	6
7	10.7	1.2	6.0	204	.7	1.9	255	7.0	S	**	*****	5.8	2325	7
8	12.4	-2.0	5.2	176	1.5	2.3	112	6.3	SW	**	*****	0.0	3710	8
9	13.5	1.0	7.3	190	.7	1.7	092	6.3	SSW	**	*****	0.0	3295	9
10	13.1	-1.1	6.0	139	.4	2.3	093	8.9	SSW	**	*****	0.0	3835	10
11	12.7	-2.6	5.1	170	1.8	2.4	111	8.9	S	**	*****	0.0	3885	11
12	11.2	-.5	5.4	110	.7	2.2	129	7.6	SSW	**	*****	.2	2870	12
13	8.7	1.9	5.3	132	1.7	2.4	117	8.9	ESE	**	*****	0.0	1670	13
14	11.3	1.7	6.5	131	2.8	3.4	129	10.8	ESE	**	*****	0.0	2075	14
15	11.6	.6	6.1	115	2.1	2.7	110	8.3	ESE	**	*****	0.0	2615	15
16	12.6	0.0	6.3	210	.6	2.2	228	7.6	SSW	**	*****	0.0	2255	16
17	10.0	1.8	5.9	161	.3	1.6	255	6.3	S	**	*****	2.2	1970	17
18	8.6	0.0	4.3	059	.5	2.0	035	7.6	NNE	**	*****	.2	1685	18
19	5.3	.1	2.7	326	.3	1.1	020	4.4	WSW	**	*****	5.2	1245	19
20	6.7	-2.2	2.3	003	1.8	3.2	331	8.9	NNE	**	*****	1.6	2750	20
21	10.6	-4.1	3.3	196	1.0	1.8	076	3.8	S	**	*****	0.0	3540	21
22	10.6	-3.0	3.8	147	2.0	3.2	102	9.5	ESE	**	*****	0.0	3295	22
23	9.0	-1.6	3.7	152	1.5	2.4	096	7.6	SSW	**	*****	0.0	2600	23
24	7.7	-.8	3.5	185	1.3	1.9	115	6.3	WSW	**	*****	0.0	1980	24
25	7.7	.6	4.2	156	1.5	1.9	123	5.7	SSW	**	*****	.2	1825	25
26	9.6	.4	5.0	203	.8	1.8	134	5.1	SW	**	*****	0.0	2660	26
27	9.8	-2.4	3.7	167	2.1	2.7	100	8.3	SSW	**	*****	0.0	2270	27
28	8.5	-4.0	2.3	165	1.3	2.3	117	8.9	SW	**	*****	0.0	1740	28
29	7.7	2.0	4.9	155	.8	1.7	102	8.3	SE	**	*****	.8	570	29
30	9.0	2.6	5.8	123	3.1	3.9	124	14.0	ESE	**	*****	0.0	1990	30
MONTH	13.5	-4.1	5.0	153	1.0	2.2	124	14.0	SSW	**	*****	18.4	76680	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
September, 1984

FIGURE and TABLE 5.78

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	9.2	1.0	5.1	119	3.3	3.8	096	10.2	ESE	**	*****	*****	1065	1
2	7.6	-1.0	3.3	179	1.1	1.8	106	5.1	S	**	*****	*****	1940	2
3	6.9	-3.5	1.7	169	1.9	2.2	144	5.1	S	**	*****	*****	2390	3
4	6.0	-5.8	.1	146	2.6	3.2	104	8.9	S	**	*****	*****	2710	4
5	4.4	-5.0	-3.3	161	1.4	2.4	086	8.3	SW	81	-1.3	*****	1395	5
6	6.8	-3.6	1.6	160	1.6	2.5	093	7.0	S	65	-5.1	*****	1595	6
7	6.0	-3.6	1.2	157	1.9	2.4	107	8.3	S	67	-3.6	*****	1185	7
8	5.9	.1	3.0	120	1.5	2.5	122	7.0	ESE	82	-.4	*****	955	8
9	2.3	-4.7	-1.2	165	.5	1.4	164	3.8	SSE	85	-3.2	*****	995	9
10	3.9	-6.9	-1.5	183	1.6	2.2	109	5.1	SSW	68	-7.6	*****	2255	10
11	4.7	-7.5	-1.4	173	1.6	2.1	125	7.0	SSW	73	-6.4	*****	1585	11
12	2.2	-4.2	-1.0	248	.6	1.6	257	8.3	S	69	-5.4	*****	1685	12
13	3.0	-8.7	-2.9	255	.7	1.9	310	6.3	SW	59	-8.8	*****	1890	13
14	1.5	-9.7	-4.1	178	1.2	1.6	181	4.4	S	65	-11.7	*****	2080	14
15	-1.4	-11.2	-6.3	194	.1	1.6	028	5.1	SSW	66	-11.1	*****	1265	15
16	.4	-9.2	-4.4	155	2.1	2.4	135	5.7	SE	58	-11.3	*****	1870	16
17	2.5	-11.5	-4.5	182	2.5	2.6	187	5.7	S	38	-10.5	*****	1730	17
18	2.8	-10.5	-3.9	170	2.7	2.9	144	6.3	SSE	37	-17.7	*****	1390	18
19	-1.1	-9.4	-4.8	144	.8	1.9	146	6.3	SSE	55	-12.7	*****	1105	19
20	-4.1	-8.7	-6.4	124	1.1	2.0	109	7.0	ESE	77	-9.5	*****	400	20
21	1.3	-4.3	-1.5	107	1.7	2.8	112	7.6	ESE	58	-8.6	*****	1180	21
22	2.8	-2.4	.2	128	1.9	2.4	121	9.5	SE	69	-4.9	*****	490	22
23	.6	-9.7	-4.6	049	1.9	2.7	036	7.6	NE	84	-5.0	*****	610	23
24	-2.6	-12.6	-7.6	256	1.1	3.0	318	8.3	S	58	-14.8	*****	1765	24
25	-2.5	-13.8	-8.2	202	2.0	2.2	263	8.9	SSW	48	-17.8	*****	1350	25
26	-3.3	-16.0	-9.7	170	1.5	2.1	193	5.1	S	45	-20.7	*****	1245	26
27	-3.5	-14.0	-8.8	175	1.2	2.0	134	5.1	S	45	-19.1	*****	1230	27
28	-5.6	-15.2	-10.4	158	2.5	2.8	127	8.9	SSE	47	-20.2	*****	1310	28
29	-10.5	-21.7	-16.1	184	2.3	2.7	164	5.7	SSW	43	-26.2	*****	1215	29
30	-12.5	-20.2	-16.4	163	3.2	3.5	137	7.6	S	47	-24.7	*****	615	30
31	-6.6	-18.1	-12.4	185	2.4	3.0	117	8.9	SSW	52	-21.1	*****	1105	31
MONTH	9.2	-21.7	-3.9	161	1.4	2.4	096	10.2	S	59	-11.8	*****	44400	

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 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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

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

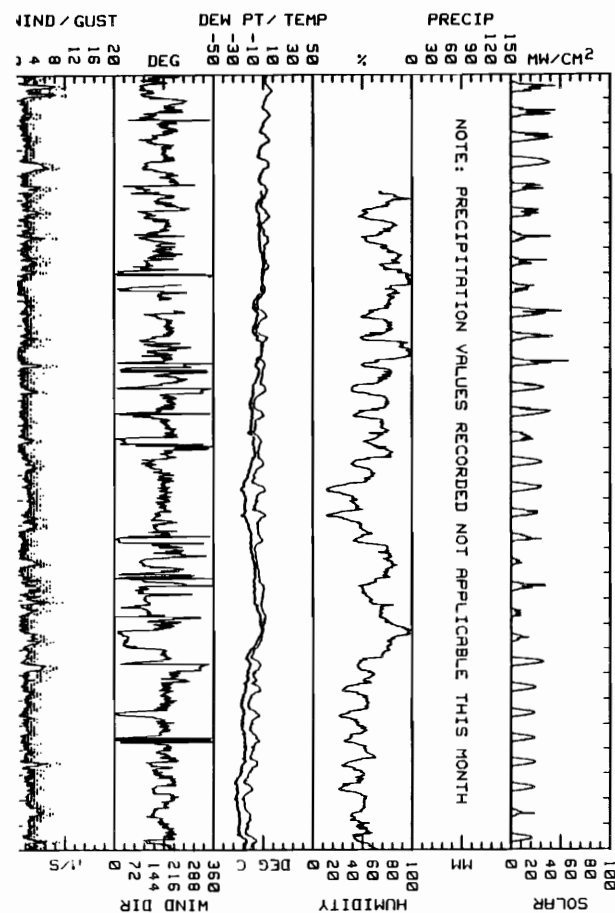


FIGURE and TABLE 5.79

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
October, 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND DIR.	MAX. WIND SPD.	MAX. GUST P'VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/CMH	DAY
1	-2.0	-16.1	-9.1	187	2.5	2.6	211	4.4	S	45	-21.8	****	1340	1
2	-8.4	-16.7	-12.6	156	3.9	4.3	154	8.3	SSE	38	-26.1	****	1030	2
3	-3.3	-11.9	-7.6	156	2.4	2.7	148	6.3	SSE	36	-20.7	****	925	3
4	-8.8	-14.5	-11.7	158	2.7	3.0	140	6.3	SE	53	-19.6	****	780	4
5	-6.8	-11.9	-9.4	180	2.1	2.4	132	7.0	SSW	67	-14.0	****	225	5
6	-4.0	-8.4	-6.2	187	1.7	1.8	194	5.1	S	78	-9.3	****	255	6
7	-3.8	-15.2	-9.5	200	.8	1.1	177	3.8	SSW	86	-11.7	****	170	7
8	-5.2	-9.7	-7.5	182	1.6	1.9	195	3.8	SSW	79	-10.9	****	170	8
9	-8.7	-13.5	-11.1	161	2.0	2.3	121	5.1	S	76	-13.7	****	145	9
10	-13.8	-21.8	-17.8	182	2.6	2.8	144	5.7	SSW	74	-21.0	****	540	10
11	-14.0	-23.5	-18.8	198	1.6	1.7	163	5.1	SSW	66	-24.8	****	660	11
12	-15.4	-25.1	-20.3	187	2.1	2.2	224	5.1	S	58	-27.5	****	780	12
13	-15.2	-23.6	-19.4	177	2.9	3.0	166	5.7	S	56	-26.6	****	885	13
14	-15.6	-25.6	-20.6	187	2.6	2.8	149	6.3	S	61	-26.6	****	430	14
15	-9.1	-15.7	-12.4	167	2.8	3.0	140	7.0	S	62	-18.3	****	265	15
16	-9.9	-16.0	-13.0	169	3.3	3.5	167	7.0	SSE	75	-16.6	****	425	16
17	-13.4	-17.7	-15.6	176	2.5	2.8	143	7.6	SSW	76	-18.9	****	375	17
18	-10.3	-17.1	-13.7	185	2.3	2.4	159	5.7	S	77	-16.7	****	545	18
19	-11.5	-16.9	-14.2	167	3.1	3.4	146	8.9	SSE	73	-18.3	****	790	19
20	-6	-15.5	-8.1	142	2.5	4.1	183	16.5	SSW	79	-13.7	****	105	20
21	.9	-5.4	-2.3	099	2.9	3.6	154	19.0	ESE	86	-4.1	****	175	21
22	-5.1	-9.7	-7.4	198	.8	1.4	223	5.1	SSW	84	-9.8	****	205	22
23	-8.2	-11.5	-9.9	192	1.0	1.2	188	3.2	S	82	-12.0	****	90	23
24	-9.4	-13.5	-11.5	203	.7	1.0	233	3.2	SSW	82	-13.8	****	80	24
25	-12.7	-19.8	-16.3	179	1.5	1.6	168	5.1	SSE	72	-19.3	****	125	25
26	-17.6	-23.4	-20.5	191	2.1	2.2	161	5.1	SSW	61	-26.3	****	160	26
27	-14.9	-23.9	-19.4	162	3.6	3.8	140	7.6	SSE	71	-22.8	****	115	27
28	-15.1	-20.8	-18.0	161	3.8	3.9	148	7.6	SSE	73	-21.3	****	95	28
29	-12.6	-19.5	-16.1	167	3.6	3.7	151	7.6	SSE	74	-19.2	****	285	29
30	-11.8	-15.7	-13.8	166	4.2	4.4	167	8.3	SSE	74	-17.5	****	275	30
MONTH	.9	-25.6	-13.1	170	2.3	2.7	154	19.0	S	68	-18.1	****	12285	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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

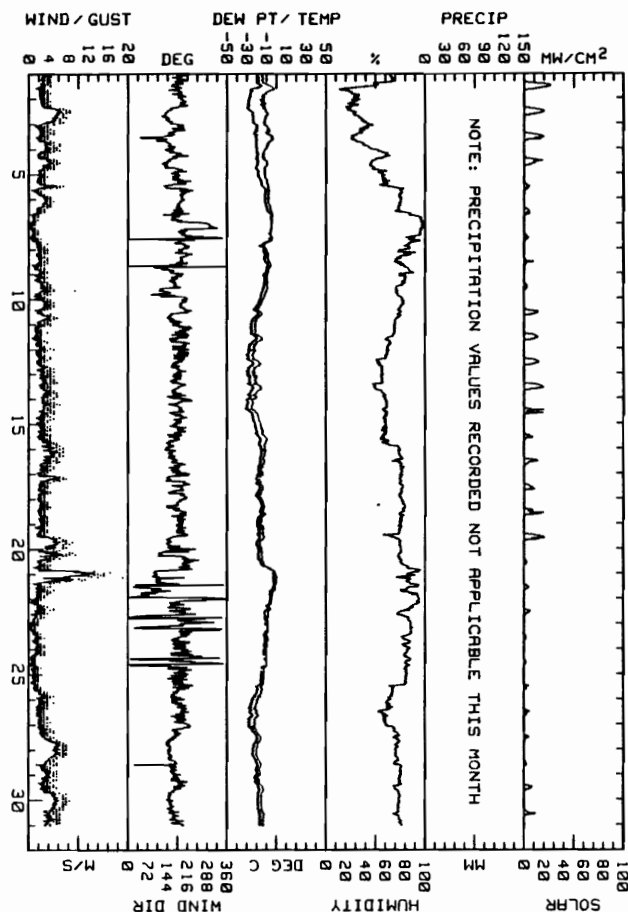


FIGURE and TABLE 5.80

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
November, 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

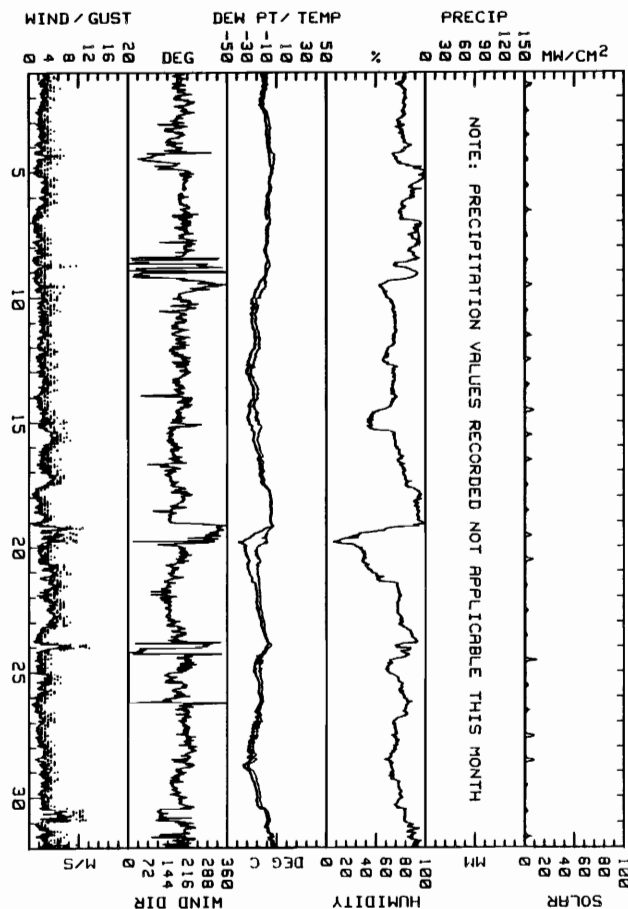
MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-8.4	-14.3	-11.4	186	2.8	2.9	162	6.3	S	78	-14.5	****	225	1
2	-7.0	-16.0	-11.5	196	2.2	2.4	189	5.1	SSW	77	-14.1	****	105	2
3	-6.0	-7.8	-6.9	166	2.1	2.3	132	5.1	SSE	77	-10.4	****	120	3
4	-1.9	-6.8	-4.4	130	1.4	2.2	095	7.0	S	78	-7.3	****	120	4
5	-4.7	-9.0	-6.9	203	2.8	2.9	205	5.7	SSW	91	-7.8	****	125	5
6	-5.9	-8.9	-7.4	198	1.9	1.9	188	5.7	SSW	78	-10.7	****	155	6
7	-7.0	-11.0	-9.0	205	1.6	1.7	198	4.4	SSW	90	-10.5	****	85	7
8	-6.5	-11.0	-8.8	246	.6	2.0	248	9.5	SSW	82	-11.6	****	85	8
9	-16.3	-18.0	-14.2	247	.8	2.1	330	7.0	S	67	-18.1	****	200	9
10	-18.0	-23.0	-20.5	198	2.3	2.6	167	6.3	SSW	67	-25.1	****	95	10
11	-16.1	-21.5	-18.8	181	2.3	2.4	211	5.1	S	68	-22.9	****	155	11
12	-16.2	-27.0	-21.6	189	2.2	2.4	151	5.7	SSW	62	-27.7	****	170	12
13	-17.7	-27.0	-22.4	186	2.4	2.7	162	5.7	S	68	-25.8	****	135	13
14	-17.1	-24.4	-20.8	188	2.6	2.7	161	7.6	S	55	-27.6	****	275	14
15	-15.1	-20.2	-17.7	161	3.5	3.8	144	8.3	SSE	61	-24.0	****	175	15
16	-11.9	-17.5	-14.7	162	2.6	2.8	156	6.3	SSE	75	-18.4	****	170	16
17	-5.4	-15.0	-10.2	162	2.8	3.0	133	7.0	SSE	84	-13.1	****	90	17
18	-4.4	-6.0	-5.2	165	2.2	2.4	149	5.1	SSE	92	-6.4	****	100	18
19	-2.6	-20.8	-11.7	308	2.9	4.0	326	18.8	NW	41	-23.2	****	200	19
20	-16.2	-22.5	-19.4	178	2.9	3.1	158	7.6	S	39	-30.1	****	220	20
21	-16.3	-20.2	-18.3	146	3.8	3.9	165	8.3	SE	64	-23.0	****	55	21
22	-12.1	-17.0	-14.6	149	4.5	4.6	158	8.3	SSE	73	-18.7	****	95	22
23	-5.2	-12.6	-8.9	214	1.8	3.2	252	12.1	S	82	-12.6	****	60	23
24	-8.1	-18.9	-13.5	208	.8	2.2	266	8.9	SW	70	-19.3	****	265	24
25	-13.9	-17.2	-15.6	169	2.5	2.8	144	6.3	SSW	73	-19.1	****	95	25
26	-13.6	-19.9	-16.8	199	1.6	1.9	222	5.1	SSW	78	-19.3	****	105	26
27	-16.8	-25.0	-21.3	215	2.0	2.1	210	5.1	SSW	69	-25.6	****	270	27
28	-20.0	-30.1	-25.1	209	2.6	2.8	173	5.7	SW	65	-29.3	****	265	28
29	-16.4	-22.9	-19.7	172	2.7	2.8	154	5.7	SSE	71	-23.1	****	70	29
30	-6.3	-17.7	-12.0	143	3.1	4.1	121	11.4	ESE	76	-14.7	****	90	30
31	-1.6	-10.2	-5.9	185	2.3	3.0	125	9.5	SSW	88	-7.3	****	155	31
MONTH	-1.6	-30.1	-14.0	181	2.0	2.8	252	12.1	SSW	72	-18.1	****	4530	

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
KOSINA WEATHER STATION
December, 1984

FIGURE and TABLE 5.81

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

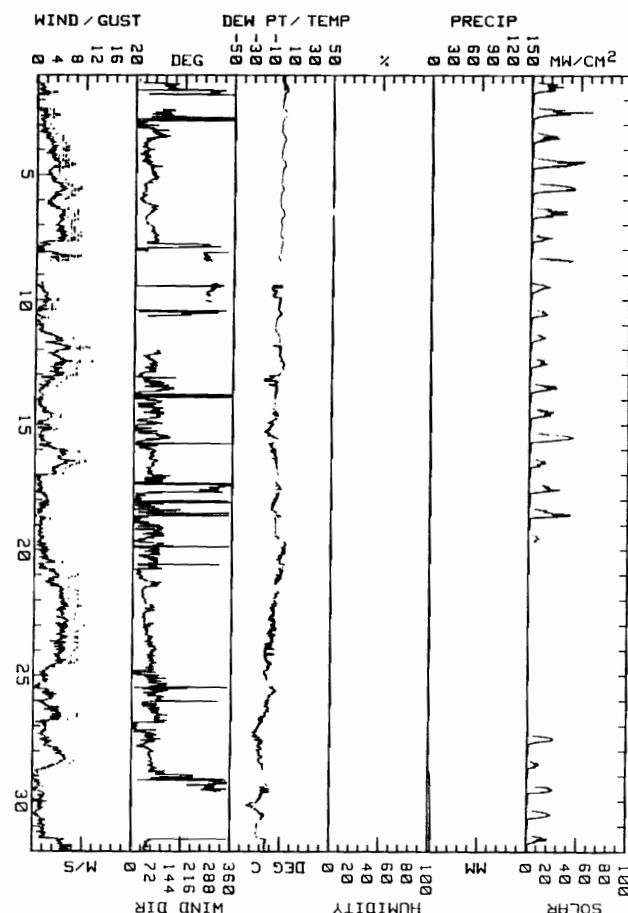
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING October, 1982

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. WIND DIR.	MAX. GUST DIR.	MAX. GUST SPD. N/S	P/VOL P/DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	3.7	-2.1	.8	218	.1	.6	271	3.8	SE	3.8	88	8.0	0.0	1830	1
2	2.2	-2.0	.1	062	.9	1.0	110	4.4	N	4.4	88	8.0	0.0	2270	2
3	1.8	-2.6	-.4	052	2.2	2.4	031	6.3	NE	6.3	88	.4	0.0	1400	3
4	1.9	-3.3	-.7	049	3.3	3.4	046	7.6	NE	7.6	88	0.0	0.0	2890	4
5	-.1	-3.5	-1.8	040	4.0	4.1	035	8.9	NNE	8.9	88	0.0	0.0	2780	5
6	1.1	-3.5	-1.2	049	4.3	4.4	064	8.3	NE	8.3	88	0.0	0.0	2005	6
7	-.8	-3.8	-2.3	069	3.3	3.8	073	8.9	ENE	8.9	88	0.0	0.0	985	7
8	-2.3	-5.7	-4.0	260	3.8	3.5	265	8.9	WSW	8.9	88	0.0	0.0	2229	8
9	-1.2	-10.9	-6.1	276	1.4	1.6	257	4.4	W	4.4	88	0.0	0.0	1468	9
10	-.9	-7.3	-4.1	297	.6	1.1	266	3.8	W	3.8	88	0.0	0.0	1085	10
11	-1.9	-9.9	-5.9	000	0.0	3.5	000	0.0	000	0.0	88	.2	0.0	930	11
12	1.8	-4.2	-1.2	062	4.4	4.6	079	11.4	ENE	11.4	88	0.0	.2	1080	12
13	-3.3	-10.1	-6.7	052	1.5	2.0	029	8.3	N	8.3	88	0.0	0.0	1435	13
14	-4.1	-14.5	-9.3	068	1.7	1.9	096	5.1	E	5.1	88	0.0	0.0	1513	14
15	-4.0	-17.2	-10.6	039	1.8	2.2	073	7.6	N	7.6	88	0.0	0.0	2619	15
16	-3.2	-11.3	-7.3	067	5.1	5.1	086	10.2	ENE	10.2	88	0.0	0.0	1020	16
17	-.5	-7.6	-4.1	012	1.0	1.4	017	3.8	NNE	3.8	88	0.0	0.0	1640	17
18	-.3	-11.0	-5.7	036	1.2	1.5	346	3.8	N	3.8	88	0.0	0.0	2100	18
19	5.1	-6.6	-.8	065	1.2	1.5	037	3.8	E	3.8	88	0.0	0.0	1056	19
20	4.1	-4.7	-.3	052	2.3	2.7	026	8.9	NNE	8.9	88	0.0	0.0	0.0	20
21	-.1	-7.5	-3.8	044	4.7	4.9	036	8.9	NE	8.9	88	0.0	0.0	0.0	21
22	-3.3	-12.1	-7.7	052	5.9	6.0	059	10.2	NE	10.2	88	0.0	0.0	0.0	22
23	-4.5	-16.0	-10.3	063	5.5	5.7	043	8.9	ENE	8.9	88	0.0	0.0	0.0	23
24	-6.4	-16.8	-11.6	066	4.0	4.2	075	8.9	ENE	8.9	88	0.0	0.0	0.0	24
25	-4.0	-14.6	-9.3	086	2.2	2.5	050	6.3	ENE	6.3	88	0.0	0.0	0.0	25
26	-11.1	-22.7	-16.9	080	3.2	3.6	097	8.9	E	8.9	88	0.0	0.0	0.0	26
27	-17.3	-27.9	-22.6	054	2.7	2.9	082	8.3	ENE	8.3	88	0.0	0.0	1550	27
28	-16.2	-21.2	-18.7	072	3.9	4.0	072	9.5	ENE	9.5	88	3.0	0.0	730	28
29	-10.3	-22.3	-16.3	302	.7	1.4	301	3.2	WNW	3.2	88	.4	0.0	1505	29
30	-15.1	-32.8	-24.0	000	0.0	1.6	000	0.0	000	0.0	88	0.0	0.0	1488	30
31	-13.1	-24.3	-18.7	056	6.2	4.4	056	10.2	NE	10.2	88	0.0	0.0	1035	31
MONTH	5.1	-32.8	-7.6	056	2.7	3.0	079	11.4	ENE	11.4	88	4.2	0.0	38729	

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

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

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



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

FIGURE and TABLE 5.82

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

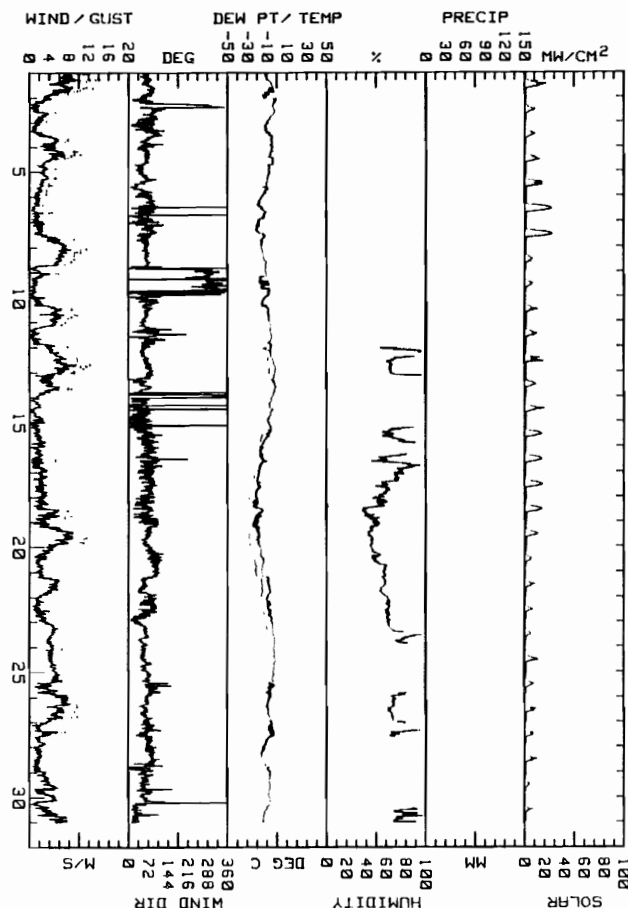
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING November, 1982

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 DAY WH/SQ M
1	-3.0	-14.9	-9.0	072	6.3	6.4	073	14.0	ENE	**	*****	0.0	1010
2	-1.4	-10.9	-6.2	068	1.5	2.0	064	6.3	E	**	*****	0.0	585
3	-4.3	-13.4	-8.9	071	2.7	2.9	076	7.6	ENE	**	*****	0.0	588
4	-4.3	-9.2	-6.8	060	4.0	4.1	068	10.2	ENE	**	*****	0.0	913
5	-8.4	-15.7	-12.1	052	2.3	2.4	057	5.1	NE	**	*****	0.0	965
6	-11.3	-20.5	-15.9	065	1.2	1.4	045	4.4	E	**	*****	0.0	1528
7	-12.6	-21.9	-17.3	064	3.6	3.7	064	9.5	ENE	**	*****	0.0	1515
8	-11.2	-16.5	-13.9	064	4.3	4.8	064	11.4	ENE	**	*****	0.0	523
9	-8.2	-18.5	-13.4	302	.8	1.2	288	5.7	WNW	**	*****	0.0	495
10	-8.3	-16.7	-12.5	064	3.9	4.0	067	9.5	ENE	**	*****	.2	573
11	-5.4	-9.5	-7.5	063	1.9	2.0	075	7.6	ENE	**	*****	0.0	640
12	-1.6	-7.1	-4.4	066	5.9	6.0	082	12.1	ENE	68	-9.1	0.0	750
13	-1.5	-6.0	-3.8	054	3.2	3.6	086	8.9	NE	73	-7.3	0.0	643
14	-4.2	-10.2	-7.2	025	1.2	1.3	008	3.2	N	**	*****	0.0	798
15	-5.8	-17.6	-11.7	065	1.5	1.7	089	4.4	ENE	68	-14.9	0.0	920
16	-10.2	-19.4	-14.8	075	1.7	1.8	073	5.7	ENE	72	-20.4	0.0	1003
17	-16.2	-22.7	-19.5	077	2.3	2.3	073	4.4	E	63	-25.1	0.0	991
18	-14.5	-24.5	-19.5	066	2.8	3.0	081	8.3	ENE	47	-28.8	0.0	1003
19	-16.8	-24.7	-20.8	070	5.7	5.8	074	11.4	ENE	46	-28.6	0.0	785
20	-13.3	-17.9	-15.6	091	2.4	2.5	071	7.6	E	52	-23.2	0.0	505
21	-6.6	-15.1	-10.9	061	3.6	3.8	052	7.6	NE	58	-16.4	0.0	520
22	-5.1	-11.2	-8.2	056	1.8	2.0	051	5.1	E	62	-14.0	0.0	459
23	-2.7	-5.5	-4.1	056	4.3	4.4	059	7.0	ENE	71	-8.5	0.0	435
24	-1.6	-4.2	-2.9	058	4.5	4.5	082	7.0	NE	**	*****	0.0	620
25	-3.3	-10.9	-7.1	076	4.5	4.6	081	9.5	ENE	73	-11.6	0.0	515
26	-5.8	-11.6	-8.7	062	5.7	5.7	067	10.8	ENE	56	-13.9	0.0	558
27	-3.8	-14.5	-9.2	066	2.3	2.4	065	7.0	ENE	73	-9.2	0.0	518
28	-7.2	-16.6	-11.9	071	1.6	1.7	060	4.4	E	**	*****	0.0	558
29	-7.0	-9.4	-8.2	058	3.4	3.5	055	7.6	NE	**	*****	0.0	385
30	-6.9	-15.2	-11.1	035	3.8	4.1	030	10.2	NNE	77	-16.6	0.0	380
MONTH	-1.4	-24.7	-10.7	063	3.1	3.3	073	14.0	ENE	62	-16.5	.2	21573

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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

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



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

FIGURE and TABLE 5.83

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/50M
1	-14.4	-19.7	-17.1	032	5.5	5.7	025	10.8	NNE	66	-21.9	0.0	448	1
2	-17.1	-23.9	-20.5	070	5.3	5.4	071	10.2	ENE	59	-24.8	0.0	498	2
3	-17.7	-24.2	-21.0	085	4.5	4.8	074	9.5	ENE	60	-26.3	.2	483	3
4	-15.1	-24.1	-19.6	063	5.6	5.6	063	10.2	ENE	60	-25.6	0.0	463	4
5	-7.4	-15.6	-11.5	061	6.6	6.7	062	10.2	ENE	72	-15.1	0.0	395	5
6	-5.3	-10.8	-8.1	057	6.5	6.6	057	12.1	NE	69	-13.4	.8	458	6
7	-1.9	-5.9	-3.4	082	7.1	7.2	089	14.6	E	88M	-8.4M	2.8	358	7
8	-1.0	-4.8	-2.9	079	3.6	3.8	079	12.1	ENE	**	*****	.4	368	8
9	-2.4	-17.2	-9.8	059	.8	2.0	279	7.0	ENE	**	*****	0.0	420	9
10	-8.3	-18.4	-13.4	076	3.4	3.5	066	8.9	E	66M	-15.5M	0.0	375	10
11	-7.6	-10.2	-8.9	063	6.6	6.7	067	13.3	ENE	66	-14.3	0.0	345	11
12	-5.8	-9.2	-7.5	066	6.8	7.1	084	14.0	ENE	69M	-12.4M	0.0	368	12
13	-3.3	-6.9	-5.1	070	5.7	6.0	077	12.1	ENE	**	*****	0.0	375	13
14	-2.9	-10.8	-6.9	077	3.6	3.8	091	8.9	E	78M	-12.1M	0.0	358	14
15	-2.8	-10.6	-6.7	066	5.3	5.4	074	9.5	ENE	78M	-9.2M	0.0	383	15
16	-4.5	-11.6	-8.2	065	3.5	5.6	075	12.1	ENE	70M	-11.0M	0.0	380	16
17	-6.2	-12.2	-9.2	068	2.3	2.4	054	7.6	E	75M	-10.5M	0.0	355	17
18	-7.3	-15.9	-11.6	067	3.1	3.1	067	7.6	ENE	**	*****	0.0	363	18
19	-8.7	-14.6	-11.7	059	5.7	5.7	055	10.2	ENE	69	-15.9	0.0	350	19
20	-8.9	-17.5	-13.2	066	4.2	4.4	049	9.5	ENE	65M	-17.6M	0.0	410	20
21	-14.6	-21.9	-18.4	077	2.2	2.3	069	5.1	ENE	83M	-21.4M	0.0	463	21
22	-14.4	-22.7	-18.6	075	4.2	4.4	079	9.5	ENE	74	-22.4	0.0	475	22
23	-14.3	-26.4	-17.2	062	5.5	5.6	061	9.5	ENE	64	-21.2	0.0	405	23
24	-9.4	-18.0	-13.7	076	3.3	3.4	053	7.6	E	69M	-18.3M	0.0	390	24
25	-11.6	-16.1	-14.9	073	3.1	3.3	055	9.5	E	85	-17.5	0.0	385	25
26	-2.5	-13.4	-8.0	062	6.6	6.7	078	11.4	ENE	78M	-13.6M	0.0	358	26
27	.4	-3.6	-1.7	065	5.7	5.8	098	12.7	E	**	*****	0.0	303	27
28	2.7	-1.3	1.2	083	4.1	4.2	080	9.5	E	**	*****	2.8	290	28
29	2.6	-3.1	-3.3	078	3.4	3.7	075	10.2	E	**	*****	0.0	348	29
30	-1.6	-11.6	-6.7	088	.1	1.9	265	6.3	E	**	*****	0.0	313	30
31	-4.1	-12.5	-8.3	061	2.3	2.5	050	7.0	ENE	**	*****	0.0	400	31
Month	2.7	-24.2	-10.4	068	4.4	4.7	089	14.6	ENE	69M	-16.7M	7.0	12068	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.8

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 ****

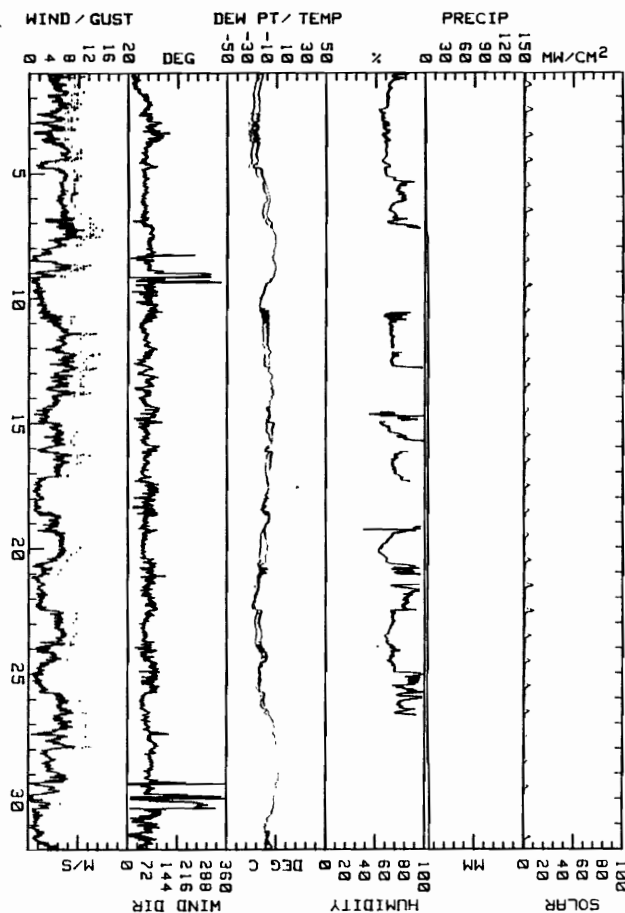


FIGURE and TABLE 5.84
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
December, 1982

R & M CONSULTANTS, INC.
SUSTINA HYDROELECTRIC PROJECT

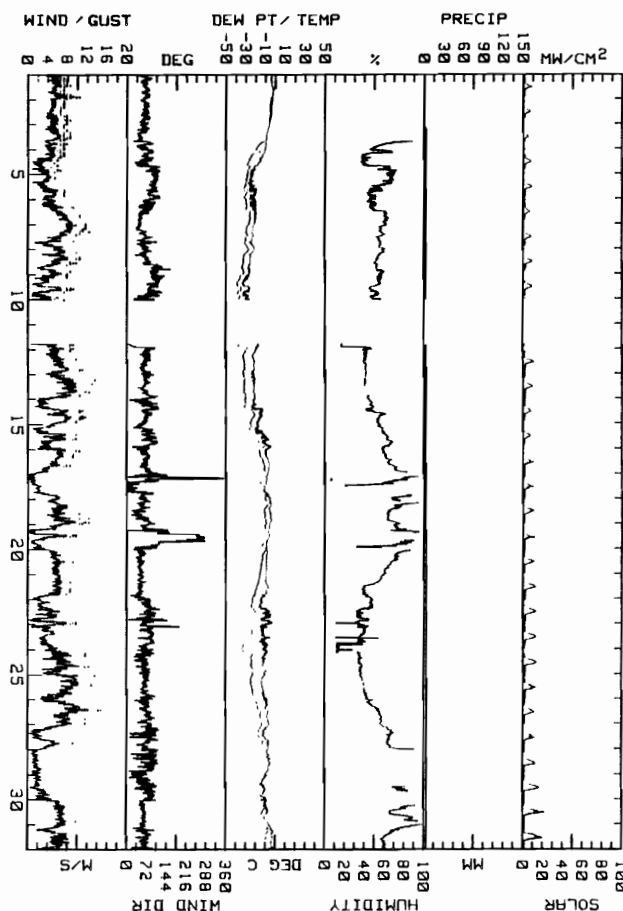
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING January, 1983

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. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ
1	-2.6	-5.7	-4.2	064	5.3	5.4	072	10.2	ENE	##	####	0.0	425	1
2	-4.2	-7.1	-5.7	062	4.8	4.8	059	8.3	ENE	##	####	0.0	410	2
3	-6.6	-11.5	-9.1	053	4.7	4.8	053	8.3	NE	58M	-17.3M	1.6	348	3
4	-10.6	-25.7	-18.2	076	3.1	3.3	080	7.0	E	51	-25.7	0.0	495	4
5	-20.2	-28.6	-24.4	091	3.6	3.7	086	7.0	E	55	-30.9	0.0	495	5
6	-20.6	-26.1	-23.4	051	6.0	6.2	040	11.4	NE	54	-28.6	0.0	435	6
7	-22.1	-27.2	-24.7	052	5.9	6.0	062	12.1	NE	56	-30.3	0.0	468	7
8	-21.8	-28.6	-25.2	076	5.0	5.3	060	10.2	ENE	54	-32.8	0.0	515	8
9	-27.0	-34.4	-30.7	088	2.9	3.1	078	8.9	ESE	51	-37.5	0.0	510	9
10	-27.5M	-27.5M	-27.5M	093M	4.5M	4.5M	093M	7.0M	EM	55M	-33.8M	###	240M	10
11	-17.9M	-20.8M	-19.4M	051M	4.0M	4.9M	010M	8.9M	EM	28M	-34.4M	0.0M	240M	11
12	-20.5	-25.0	-22.8	062	5.8	5.9	052	10.8	ENE	40	-32.7	0.0	598	12
13	-21.1	-25.2	-23.2	065	7.2	7.3	059	13.3	ENE	40	-32.5	0.0	573	13
14	-14.1	-24.6	-19.4	068	5.0	5.2	069	11.4	ENE	49	-27.0	0.0	585	14
15	-4.9	-20.9	-12.9	069	3.9	4.1	062	9.5	ENE	60	-19.3	0.0	450	15
16	-6.1	-10.2	-8.2	066	4.8	4.8	066	10.2	ENE	65M	-13.7M	0.0	485	16
17	-5.8	-12.6	-9.2	044	2.0	2.3	067	8.3	N	70M	-13.3M	0.0	475	17
18	-4.2	-6.9	-5.6	057	5.9	6.2	075	12.1	ENE	68M	-10.4M	0.0	560	18
19	-6.0	-10.9	-8.5	066	.5	2.8	072	9.5	ENE	68M	-12.9M	1.2	453	19
20	-8.0	-10.5	-9.3	047	5.5	5.5	061	8.9	NE	67	-14.2	0.0	565	20
21	-7.4	-15.2	-11.3	047	5.1	5.2	056	8.3	NE	46	-19.4	0.0	720	21
22	-3.8	-17.2	-10.5	076	3.6	3.7	083	9.5	ENE	39	-22.7	0.0	760	22
23	-6.0	-16.4	-11.2	075	3.6	3.7	070	8.3	E	31	-26.7	0.0	790	23
24	-8.4	-13.7	-11.1	062	6.0	6.2	063	12.1	ENE	33	-24.9	0.0	815	24
25	-8.7	-14.6	-11.7	065	7.4	7.5	065	13.3	ENE	39	-23.8	0.0	750	25
26	-6.7	-11.3	-9.0	069	7.4	7.6	065	14.6	ENE	52	-16.9	0.0	640	26
27	-6.6	-13.8	-10.2	072	3.1	3.3	075	9.5	ENE	64M	-15.0M	0.0	598	27
28	-4.7	-10.7	-7.7	076	1.4	1.6	095	3.0	E	##	####	0.0	693	28
29	-8.1	-15.8	-12.0	073	2.2	2.4	097	5.7	E	75M	-14.8M	0.0	888	29
30	-6.1	-14.2	-10.2	058	6.4	6.4	057	10.2	ENE	77M	-12.6M	0.0	853	30
31	-2.2	-6.9	-4.6	063	5.2	5.4	075	10.8	ENE	66	-9.8	0.0	920	31
MONTH	-2.2M	-34.4M	-14.2M	064M	4.5M	4.8M	065M	14.6M	ENE(4)	53M	-22.6M	2.8M	17675M	

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

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

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



R&M CONSULTANTS, INC.
SUSTINA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
January, 1983

FIGURE and TABLE 5.85

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

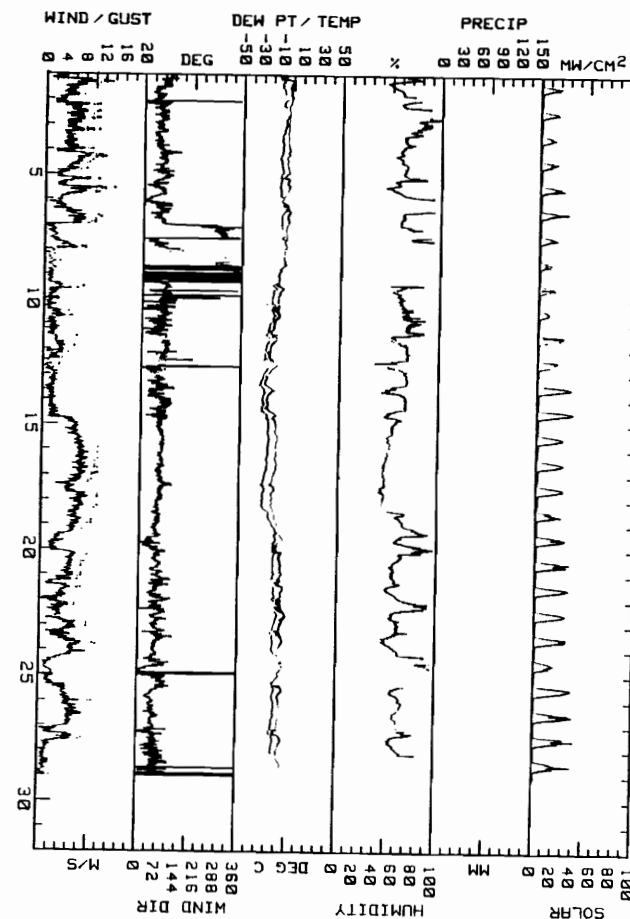
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING February, 1983

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. WIND DIR. DEG	MAX. WIND SPD. M/S	MAX. GUST P'VAL M/S	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM
1	.3	-10.2	-5.0	069	4.8	5.0	069	13.3	NE	59M	-10.5M		913 1
2	-1.7	-5.3	-3.5	063	5.3	5.5	070	10.8	ENE	77M	-7.3M		893 2
3	-2.8	-5.7	-4.3	059	5.0	5.1	074	10.8	NE	69	-9.3		813 3
4	-2.7	-6.3	-4.5	071	5.5	5.6	077	12.1	ENE	62	-10.8		833 4
5	-2.4	-9.4	-5.9	060	4.7	4.9	071	14.0	ENE	61M	-11.7M		1108 5
6	-1.7	-10.7	-6.2	064	4.6	4.9	061	11.4	ENE	64M	-9.3M		1100 6
7	-4.4M	-7.4M	-5.9M	028M	.9M	2.5M	077M	8.3M	W	76M	-8.8M		931M 7
8	-5.1M	-13.5M	-9.3M	341M	1.2M	1.4M	290M	3.2M	N	8M	*****		687M 8
9	-7.5M	-15.9M	-11.7M	063M	1.2M	1.7M	086M	8.0M	E	60M	-17.5M		783M 9
10	-11.1	-17.4	-14.3	074M	1.7M	1.8M	079M	5.7M	E	60M	-18.0M		751 10
11	-13.6M	-20.8M	-17.2M	075M	2.1M	2.4M	073M	5.1M	E	60M	-22.4M		828M 11
12	-12.7M	-22.9M	-17.8M	074M	1.9M	1.9M	096M	5.1M	E	64M	-24.6M		935M 12
13	-14.0	-25.4	-20.1	063M	1.7M	1.9M	066M	3.8M	ENE	63	-27.3		1912 13
14	-13.2	-25.4	-19.3	072	2.0	2.9	073	8.9	ENE	59	-24.7		1973 14
15	-11.4	-15.1	-13.3	076	7.1	7.1	070	11.4	ENE	52	-21.1		1558 15
16	-12.0	-15.3	-13.7	073	8.0	8.0	076	11.4	ENE	47	-22.4		1630 16
17	-14.0	-19.4	-16.7	077	6.6	6.7	076	11.4	ENE	45	-25.6		1685 17
18	-10.9	-18.0	-14.5	063	7.1	7.2	065	11.4	ENE	56	-21.7		1245 18
19	-5.1	-13.6	-9.4	051	4.0	4.2	061	8.9	ENE	73	-13.6		1690 19
20	-5.0	-12.9	-9.0	066	5.6	5.7	077	9.5	ENE	60	-14.3		1740 20
21	-4.1	-12.3	-8.2	067	4.0	4.1	066	8.3	ENE	58	-14.0		1845 21
22	-1.1	-11.8	-6.5	063	3.8	4.0	065	9.5	ENE	65M	-10.9M		1920 22
23	-3.7	-12.3	-8.0	066	5.6	5.7	061	11.4	ENE	56	-14.3		1908 23
24	-3.4	-8.6	-6.0	050	2.9	3.2	068	15.2	ENE	75M	-9.8M		1253 24
25	-3.6	-14.4	-9.0	061	3.7	3.9	062	8.9	NE	61M	-12.3M		2365 25
26	-4.8	-9.0	-6.9	055	6.4	6.5	060	10.8	NE	62	-12.6		2110 26
27	-3.9	-12.8	-8.4	056	3.0	3.1	064	8.9	ENE	61	-13.7		1928 27
28	-4.2	-9.2	-6.7	059	1.0	1.1	073	3.0	ENE	66M	-13.6M		1650 28
MONTH	.3M	-25.4M	-10.8M	065M	4.1M	4.3M	068M	15.2M	ENE	61M	-15.6M	M	38982M

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.6
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
WATANA WEATHER STATION
February, 1983

FIGURE and TABLE 5.86

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

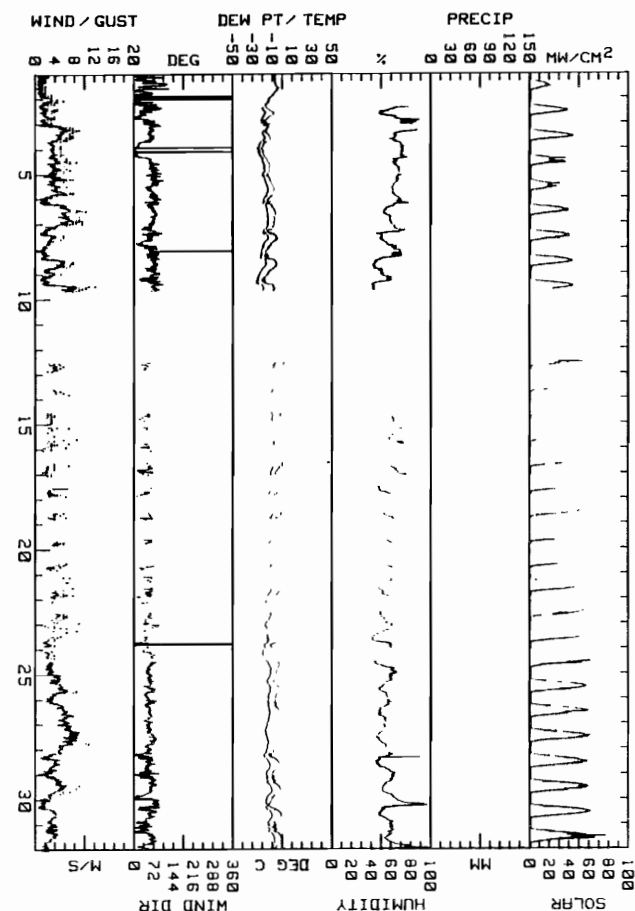
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING March, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	NEAN RH %	NEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-2.8	-13.6	-8.2	027	1.0	1.2	357	4.4	N	**	*****	*****	1330	1
2	-8.1	-17.4	-12.8	034	1.8	2.0	001	5.7	NNE	63	-18.8	****	2450	2
3	-11.6	-21.3	-16.5	050	4.0	4.4	066	8.9	ENE	68	-20.3	****	2740	3
4	-12.4	-20.2	-16.3	051	3.3	3.8	064	8.3	ENE	68	-19.9	****	2001	4
5	-7.8	-16.4	-12.1	068	3.7	3.8	078	7.6	ENE	64	-16.4	****	1725	5
6	-6.5	-15.4	-11.0	070	5.3	5.3	072	10.2	ENE	60	-15.6	****	2503	6
7	-4.9	-15.2	-10.1	053	2.6	2.7	072	6.3	ENE	58	-16.7	****	2638	7
8	-5.6	-17.5	-11.6	074	3.2	3.2	074	7.6	ENE	53	-19.5	****	3025	8
9	-7.8	-20.6	-14.2	072	3.8	3.9	070	12.1	ENE	49	-22.5	****	4227	9
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	10
11	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	11
12	1.0	-1.8	0.0	042	3.6	3.6	051	5.7	NE	53	-8.0	****	3960	12
13	1.0	-8.9	-4.0	054	4.1	4.2	017	6.8	ENE	50	-10.2	****	2910	13
14	-1.3	-6.3	-3.8	052	2.5	2.6	066	3.8	NE	58	-10.6	****	2655	14
15	-1.7	-8.4	-4.6	043	2.8	3.0	036	6.8	NE	66	-8.6	****	1287	15
16	.6	-9.8	-4.6	044	2.2	2.3	048	3.8	NE	61	-10.2	****	1673	16
17	-1.5	-9.2	-4.9	048	3.0	3.2	011	6.2	NE	54	-12.1	****	3378	17
18	-1.8	-7.1	-4.0	054	3.2	3.3	054	5.7	NE	56	-10.8	****	4926	18
19	-3.0	-10.1	-6.6	060	4.0	4.0	063	5.7	NE	58	-12.8	****	2400	19
20	-2.8	-7.8	-5.3	059	3.3	3.5	078	6.3	ENE	57	-11.8	****	4110	20
21	-1.6	-9.1	-5.4	054	4.3	4.4	075	7.6	ENE	53	-12.7	****	3471	21
22	-1.9	-9.8	-5.9	054	4.2	4.3	061	6.3	NE	52	-12.9	****	4920	22
23	-2.5	-11.7	-7.1	032	2.4	2.7	056	6.3	NE	50	-15.4	****	4152	23
24	-2.6	-14.9	-8.8	058	3.0	3.1	064	6.3	NE	56	-13.0	****	3249	24
25	-2.4	-8.7	-5.6	058	4.4	4.4	069	8.3	ENE	55	-13.1	****	4112	25
26	-2.6	-8.9	-5.8	055	5.4	5.4	060	10.8	NE	53	-13.5	****	3903	26
27	-4.3	-9.1	-6.7	061	6.6	6.7	053	11.4	ENE	51	-15.2	****	4220	27
28	-2.0	-13.4	-7.7	048	3.3	3.4	054	7.0	NE	54	-14.7	****	4320	28
29	-1.4	-10.8	-6.1	059	3.8	4.0	070	8.9	ENE	58	-13.1	****	4523	29
30	-1.5	-13.4	-7.0	055	2.7	2.9	074	5.7	ENE	60	-13.0	****	4778	30
31	.9	-10.1	-4.6	051	2.8	2.9	061	6.3	ENE	62	-10.0	****	4500	31
MONTH	1.8	-21.3	-7.6	057	3.5	3.7	070	12.1	ENE	58	-14.0	****	9609	1

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.9

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

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



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

FIGURE and TABLE 5.87

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

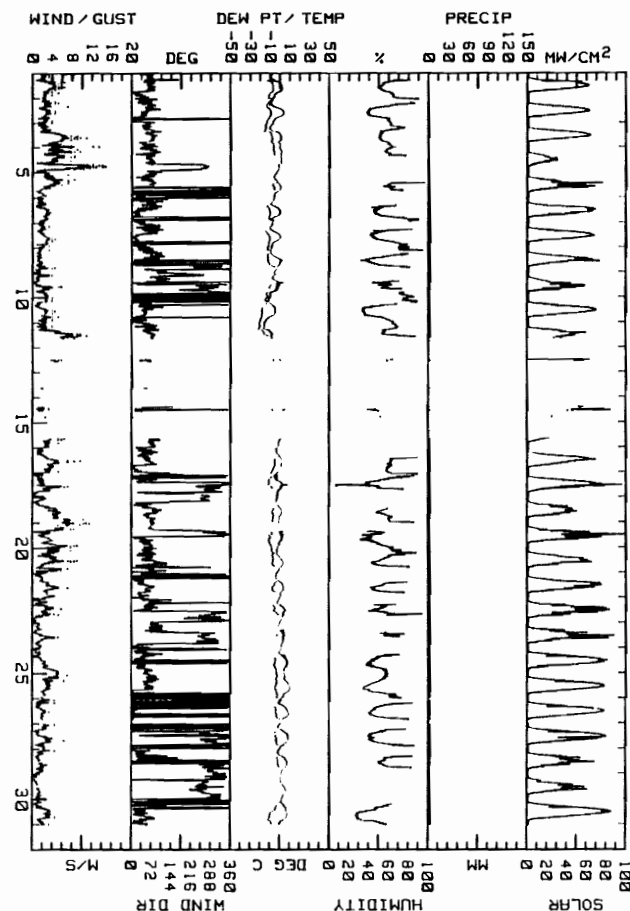
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING April, 1983

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. WIND DIR. DEG	MAX. WIND SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM
1	1.8	-10.9	-4.6	058	2.6	2.7	069	6.3	ENE	58M	-9.1M	0.0	4918
2	3.6	-11.1	-3.8	046	2.3	2.5	068	7.0	NE	54M	-11.6M	0.0	5065
3	.8	-11.3	-5.3	068	3.9	4.1	071	13.3	ENE	59	-10.5	0.0	5130
4	1.7	-3.9	-1.1	048	1.1	4.9	274	14.6	ENE	60M	-6.3M	2.0	2143
5	1.0	-7.0	-3.0	051	2.4	2.8	073	8.3	ENE	63M	-6.5M	0.0	4013
6	.3	-10.3	-5.0	031	1.8	2.1	007	5.1	NNE	58M	-10.9M	0.0	5288
7	.6	-10.6	-5.0	033	1.8	2.1	009	4.4	NNE	57M	-11.9M	0.0	5383
8	2.2	-10.4	-4.1	051	.6	1.3	249	4.4	NE	58M	-11.6M	0.0	4383
9	2.6	-10.7	-4.1	322	.6	1.6	278	5.7	N	69M	-12.1M	.2	3473
10	-4.6	-15.9	-10.3	028	1.9	2.1	022	5.1	NE	54M	-17.7M	0.0	5653
11	-8.2M	-17.0M	-12.6M	069M	4.0M	4.1M	078M	10.8M	ENE(4M)	63M	-18.4M	0.0	5615M
12	.4M	-1.0M	-.3M	054M	3.6M	3.7M	069M	5.7M	ENE(4M)	60M	-6.9M	0.0	10829M
13	0.0M	0.0M	0.0M	050M	1.7M	1.7M	055M	1.9M	NE(4M)	60M	-.0M	0.0	7440M
14	5.1M	0.0M	2.6M	033M	1.2M	1.4M	035M	3.2M	NNE(4M)	46M	-7.5M	0.0	13920M
15	.1M	-3.2M	-1.6M	076M	2.7M	2.8M	099M	6.3M	ENE(4M)	60M	-.0M	0.0	1271M
16	1.4	-5.0	-1.8	045M	2.5M	2.8M	061M	9.5M	ENE(4M)	62M	-6.0M	0.0	4878
17	6.8	-5.8	.5	320M	.9M	1.7M	245M	7.0M	NNW(4M)	53M	-9.9M	0.0	5600
18	1.8	-4.2	-1.2	071M	3.0M	3.7M	083M	10.2M	ENE(4M)	58M	-7.1M	0.0	4050
19	3.4M	-3.1M	.2M	057	3.0	3.9	079	11.4	ENE	47M	-10.0M	0.0	5571
20	3.4	-4.2	-.4	067	2.9	3.2	081	8.9	ENE	60M	-7.4M	0.0	4740
21	3.7	-4.4	-.4	044	2.4	2.7	080	7.0	NE	53M	-6.3M	0.0	6108
22	6.5	-3.0	1.8	036	.9	1.7	094	5.7	ENE	56M	-4.8M	0.0	5863
23	4.9	-2.1	1.4	302	.4	1.3	255	5.1	E	63M	-2.7M	0.0	5168
24	8.3	-1.2	3.6	040	2.0	2.2	076	6.3	NE	49M	-4.6M	0.0	6968
25	10.1	1.3	5.7	052	2.6	3.0	060	7.0	ENE	51M	-3.4M	0.0	7031M
26	8.9M	-1.8M	3.6M	002	1.7	1.8	001	4.4	N	50M	-3.9M	0.0	8238M
27	8.7	-2.2	3.3	336	1.6	2.0	265	6.3	N	49M	-3.7M	.2	6895
28	7.6	-2.8	2.4	344	.9	1.5	001	4.4	N	57M	-1.8M	0.0	4610
29	6.4	.3	3.4	275	.7	.9	219	3.2	W	60M	-.0M	0.0	4080
30	7.7	-1.1	3.3	035	1.7	1.9	011	5.1	NNE	40M	-8.3M	0.0	7525
MONTH	18.1M	-17.0M	-1.1M	045M	1.7M	2.5M	274M	14.6M	ENE(4M)	55M	-8.2M	2.4	171764M

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 11.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.0

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

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



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

FIGURE and TABLE 5.88

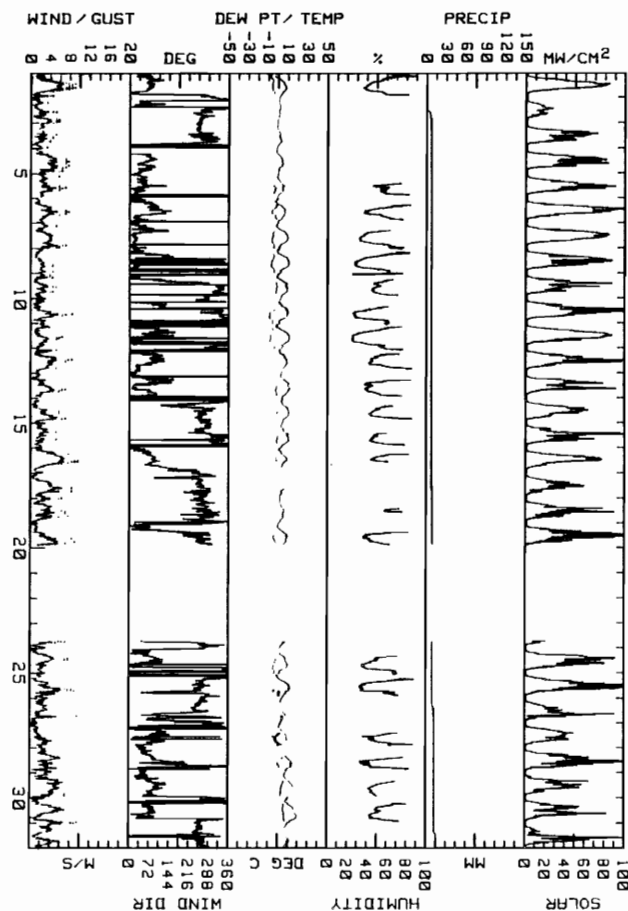
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DTR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SQM
1	8.0	-3.6	2.2	069	2.7	3.2	081	8.9	ENE	52	-6.1	0.0	6785
2	2.1	-8	.7	279	1.1	1.9	262	5.7	WSW	**	*****	6.6	2233
3	3.3	-1.6	.9	272	1.5	1.9	214	5.1	WSW	**	*****	.6	5448
4	5.1	-2.1	1.5	064	3.6	3.3	070	7.6	ENE	**	*****	.2	6218
5	6.0	-1.8	2.1	037	2.3	2.6	067	7.0	NE	58	-3.5	0.0	6073
6	7.1	-3.3	1.9	072	2.0	2.6	126	7.6	NNE	54	-3.8	0.0	7523
7	10.0	-2.4	3.8	023	2.8	3.1	000	7.0	NNE	45	-5.2	0.0	7580
8	11.1	-1.4	4.9	010	1.6	1.9	003	4.4	N	46	-5.3	0.0	6753
9	9.4	-1.8	3.8	332	1.5	2.0	316	5.1	N	51	-2.4	0.0	5120
10	10.2	.1	5.2	334	1.6	2.3	324	8.3	NNW	41	-6.5	0.0	7320
11	11.6	-2.5	4.6	015	1.5	2.1	133	6.3	N	41	-6.6	0.0	7833
12	9.4	.8	5.1	063	2.3	2.9	109	8.3	NNE	54	-2.2	0.0	5755
13	12.6	2.6	7.6	049	1.8	2.4	020	7.0	NNE	47	-1.4	0.0	5215
14	11.1	3.1	7.1	270	1.7	2.2	240	7.0	W	50	-3.3	0.0	5098
15	11.1	2.1	6.6	300	1.5	2.0	330	5.7	NNW	49	-1.8	0.0	5500
16	9.6	.1	4.9	084	3.1	3.7	083	9.5	ENE	54	-1.8	.2	5525
17	6.4	1.0	3.7	262	2.6	2.8	254	8.3	W	**	*****	1.2	3960
18	6.7	.6	3.7	274	2.2	2.6	252	7.6	WNW	63	-5.3	0.0	4963
19	9.8	-6.2	4.6	261	1.8	2.6	245	8.9	W	47	-3.0	0.0	8053
20	****	****	****	***	****	****	***	****	***	**	*****	****	****
21	****	****	****	***	****	****	***	****	***	**	*****	****	****
22	****	****	****	***	****	****	***	****	***	**	*****	****	****
23	8.1	1.8	5.0	294	1.0	2.3	080	7.0	W	**	*****	.4	1357
24	10.6	.7	5.7	055	1.8	2.5	099	7.6	N	50	-2.9	.6	6990
25	12.7	-1.2	5.8	272	1.9	2.9	236	8.9	W	52	-1.5	0.0	7223
26	8.6	2.1	5.4	254	1.3	2.0	275	10.2	WSW	**	*****	2.8	4030
27	10.4	1.2	5.8	072	1.5	1.9	084	5.7	ENE	54	-3.3	0.0	4701
28	15.6	4.6	10.1	073	2.6	3.4	085	8.3	NE	50	2.2	0.0	6905
29	17.6	6.7	12.2	085	3.5	4.0	086	9.5	E	50	4.4	0.0	4425
30	20.1	7.6	13.9	065	1.3	3.2	092	10.2	E	54	6.5	0.0	4690
31	12.1	5.8	9.0	260	2.7	3.0	257	7.6	W	**	*****	2.6	4113
MONTH	20.1	-3.6	5.3	021	.7	2.6	275	10.2	W	50	-2.0	15.2	157304

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 2.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
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
WATANA WEATHER STATION
May, 1983

FIGURE and TABLE 5.89

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

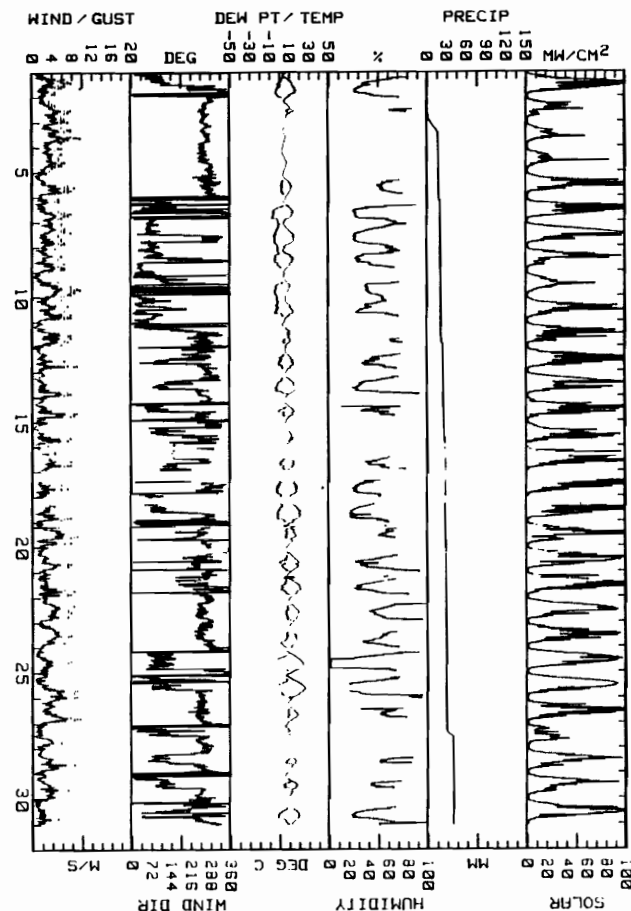
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING June, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST P'VAL M/S	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDA	DAY
1	16.9	2.7	9.8	054	.7	2.3	270	9.5	ESE	41M	-1.4M	0.0	7630	1
2	14.4	4.3	9.4	264	3.5	3.6	267	7.6	W	69M	6.5M	5.0	3285	2
3	6.3	3.1	4.7	269	3.7	3.8	275	9.5	W	88	12.0	12.0	2968	3
4	7.2	2.1	4.7	267	2.9	3.0	246	6.3	W	88	12.0	.2	2643	4
5	12.2	2.9	7.6	283	2.3	2.5	268	8.3	WNW	57M	2.0M	.6	6083	5
6	13.6	3.7	8.7	027	1.7	2.7	355	7.6	N	39M	-4.3M	2.0	7730	6
7	14.8	3.4	9.1	059	1.7	2.9	075	7.6	ENE	42	-3.6	0.0	8190	7
8	13.6	2.6	8.1	054	1.9	2.6	025	6.3	NE	47M	-2.7M	.4	4700	8
9	10.8	3.6	7.2	012	2.1	2.9	356	9.5	N	44M	-3.4M	.2	3723	9
10	13.7	4.6	9.2	064	2.3	3.0	094	7.6	NNE	46M	-2.1M	0.0	5590	10
11	10.9	2.6	6.8	264	1.5	2.5	238	7.6	WSW	66M	4.2M	3.2	5840	11
12	14.4	5.1	9.8	246	1.1	2.0	247	8.9	W	50M	1.1M	.2	7103	12
13	15.8	4.2	10.0	241	1.4	2.3	246	7.6	WSW	41M	-8.0M	0.0	7210	13
14	14.7	4.2	9.5	264	.8	2.3	244	8.9	W	50M	2.1M	1.4	6538	14
15	13.8M	4.6M	9.2M	245M	.7M	1.6M	246M	7.6M	WNW	88	1.2M	1.2M	6801M	15
16	14.3	4.6	9.5	190M	1.6M	3.1M	103M	6.7M	WSW	51M	2.2M	.8M	8563M	16
17	17.8M	10.3M	14.1M	303M	1.1M	2.0M	278M	7.8M	W	34M	-1.5M	0.0M	10051M	17
18	21.2M	12.3M	16.8M	006M	.1M	2.7M	264M	7.6M	WNW	32M	.8M	0.0M	9992M	18
19	16.5	4.6	10.6	251M	2.5M	3.4M	249M	8.9M	W	50M	6.4M	1.2	7124	19
20	19.2M	3.5M	11.4M	256M	2.0M	2.5M	219M	7.6M	WSW	49M	4.3M	0.0M	9070M	20
21	21.3	4.0	12.7	274M	1.9M	2.6M	355M	8.3M	W	44M	4.5M	0.0	9835	21
22	19.5	8.5	14.0	258	3.3	3.4	253	8.3	WSW	55M	7.5M	0.0	8013	22
23	17.3	9.8	13.6	260	3.2	3.4	247	7.6	WSW	52M	4.8M	0.0	6724	23
24	23.8	6.1	15.0	088	1.0	2.0	113	7.6	E		0.0	0.0	9518	24
25	26.1	6.4	16.3	250	1.3	3.1	219	8.9	WSW	49M	4.7M	0.0	9368	25
26	18.7	7.3	13.0	253	3.5	3.6	248	9.5	WSW	59M	8.2M	.4	7388	26
27	12.7	4.9	8.0	257	1.0	1.8	236	5.7	WSW	88	9.8	9.8	3643	27
28	16.5	6.2	11.4	224	.7	2.5	240	8.3	W	60M	7.4M	.4	6225	28
29	17.3	4.5	10.9	220	.6	2.6	251	7.0	WSW	51M	5.5M	.4	5633	29
30	20.1	7.5	13.8	257	.8	1.5	090	5.7	WSW	46M	3.5M	0.0	8293	30
MONTH	26.1M	2.1M	10.5M	270M	1.0M	2.7M	270M	9.5M	W	46M	1.6M	39.4M	284082M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 2.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.8
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 ****



RAM CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
June, 1983

FIGURE and TABLE 5.90

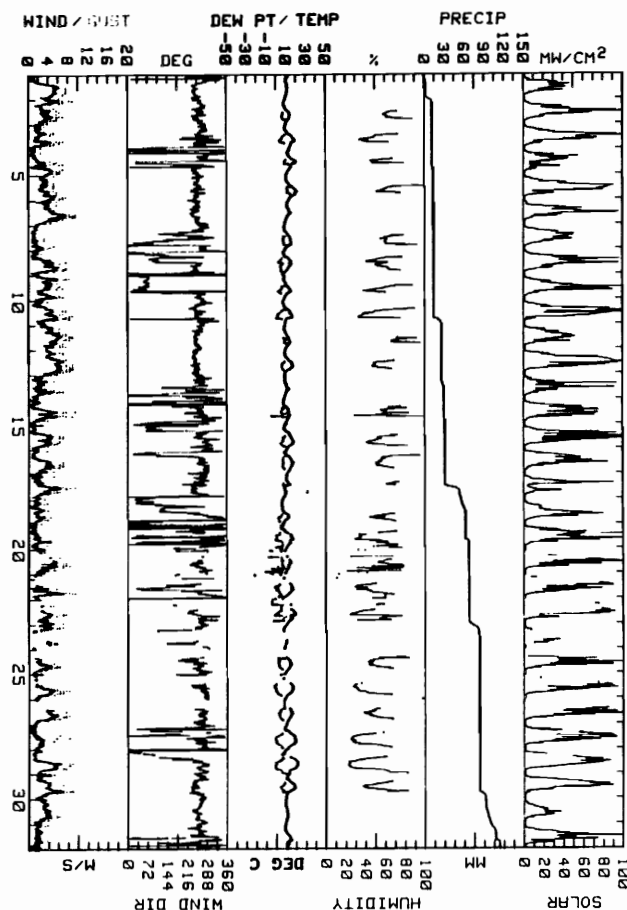
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	12.7	9.0	10.9	251	3.3	3.6	240	7.6	WSW			7.4	3450	1
2	15.1	7.7	11.4	259	3.2	3.3	270	8.9	W			4.2	5138	2
3	19.8	8.0	14.3	274	1.7	2.0	265	7.0	W			.4	6178	3
4	21.0	10.3	15.7	269	1.5	2.4	105	7.0	WSW			1.4	3293	4
5	22.2	10.2	16.2	253	3.4	3.5	260	7.6	WSW			0.0	6813	5
6	15.6	8.4	12.0	249	4.2	4.2	235	9.5	WSW			.4	5800	6
7	15.9	8.0	12.0	264	.6	1.4	304	5.1	W			.2	4618	7
8	16.2	6.5	11.4	241	.9	2.9	108	7.6	WSW			0.0	5910	8
9	16.2	6.8	11.5	251	1.4	3.3	076	8.3	ENE			.4	5015	9
10	17.3	6.7	12.0	262	3.1	3.4	246	8.9	WSW			11.2	7363	10
11	15.0	7.8	11.4	253	4.7	4.7	249	8.9	WSW			.2	4450	11
12	17.8	8.1	13.0	247	5.1	5.2	253	8.9	WSW			0.0	8908	12
13	13.6	7.8	10.7	264	1.5	2.1	238	7.0	W			4.0	3530	13
14	15.1	6.8	11.0	273	1.6	2.2	257	9.5	W			1.2	5925	14
15	18.2	7.2	12.7	277	1.8	2.4	253	7.0	WNW			.2	6533	15
16	18.3	7.9	13.1	277	2.0	2.4	262	7.0	W			0.0	5493	16
17	14.9	6.6	10.8	253	2.0	2.6	235	9.5	WSW			24.2	3225	17
18	13.7	5.4	9.6	031	.5	1.7	122	4.4	N			6.6	4233	18
19	17.8	4.2	11.0	323	.6	1.5	231	8.9	N (M)			4.8	6251	19
20	15.9	4.7	10.3	260	3.4	3.6	252	8.3	W (M)			.8	6550	20
21	17.8	4.2	11.0	267	1.0	2.4	264	9.5	W (M)			0.0	7787	21
22	20.6	10.8	15.7	258	2.9	3.4	240	7.6	W (M)			2.8	9032	22
23	11.1	7.4	9.3	251	2.4	3.1	265	7.0	WSW (M)			13.0	2172	23
24	15.9	8.5	12.2	256	2.2	2.3	276	7.6	W (M)			0.0	7241	24
25	17.4	4.2	10.8	276	2.8	2.9	278	8.3	WNW (M)			0.0	8526	25
26	16.8	8.5	12.7	272	3.3	3.4	258	8.3	W (M)			0.0	8424	26
27	20.2	7.9	14.1	278	1.1	1.7	283	8.3	W (M)			0.0	7487	27
28	22.1	5.0	13.6	271	2.3	3.0	279	9.5	W (M)			0.0	7733	28
29	19.3	9.4	14.4	249	3.3	3.4	238	10.2	WSW			8.6	6293	29
30	11.9	9.0	10.5	257	3.0	3.0	253	6.3	WSW			8.0	2485	30
31	16.1	8.5	12.3	275	1.2	1.6	322	5.1	W			13.4	4995	31
MONTH	22.2	4.2	12.2	261	2.1	2.9	238	10.2	WSW (M)			113.4	17995	31

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
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.



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

FIGURE and TABLE 5.91

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. WIND DIR.	MAX. WIND SPD. N/S	MAX. GUST P'VAL N/S	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDN
1	17.8	8.7	13.3	263	2.1	2.3	258	5.1	W	52	6.0	0.0	4858
2	20.1	6.1	13.1	359	1.6	2.1	358	7.0	N	40	1.4	0.0	6433
3	21.4	5.4	13.4	141	.3	2.1	238	7.0	ESE	41	1.8	0.0	10837
4	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	-	XXXX
5	8.2	8.2	8.2	305	.5	.5	305	1.3	NW	47	XXXX	21.0	241
6	14.1	7.5	10.8	192	1.0	2.2	267	7.0	SSE	60	4.4	1.6	11387
7	15.0	7.5	11.3	279	.3	1.3	262	4.4	NNE	47	4.9	4.6	6744
8	9.8	7.9	8.5	311	.3	.9	XXX	XXXX	N	61	-27.6	14.2	240
9	13.4	8.2	10.8	259	1.7	1.9	283	6.3	W	60	4.1	5.6	4622
10	15.0	6.6	10.8	270	2.1	2.2	280	6.3	W	44	1.3	0.0	9458
11	16.3	13.1	14.7	262	2.5	2.8	283	7.6	SW	37	.5	0.0	16244
12	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	0.0	XXXX
13	10.3	8.5	9.4	134	1.3	1.4	125	3.2	E	63	2.9	26.2	1824
14	9.5	2.4	6.0	285	1.2	1.9	270	3.8	W	61	XXXX	3.4	5215
15	7.7	1.0	4.4	275	1.7	1.9	257	4.4	W	61	XXXX	3.0	436
16	14.4	2.3	8.4	255	2.5	3.1	241	7.0	WSW	49	1.2	.2	11362
17	12.3	2.3	7.3	106	.6	1.5	358	5.5	N	52	2.3	.2	3678
18	16.4	3.7	10.1	027	1.2	2.3	324	6.3	NE	61	38	-2.4	1389
19	17.0	8.5	12.8	213	.9	2.3	226	6.3	ESE	32	-3.3	0.0	15725
20	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	-	XXXX
21	6.0	5.3	6.1	062	1.4	1.7	069	3.8	ENE	61	XXXX	9.4	1920
22	9.0	6.0	7.5	307	.4	1.0	356	3.2	N	61	XXXX	-	2016
23	7.9	4.3	6.1	182	.9	1.3	067	4.9	ESE	61	XXXX	-	2936
24	8.5	1.8	5.2	280	.3	1.8	088	4.9	W	61	XXXX	26.2	5175
25	7.3	1.0	4.2	088	2.6	2.7	074	5.7	E	61	XXXX	2.2	993
26	13.8	5.1	9.5	071	1.4	2.2	120	5.7	NE	61	57	0.0	4520
27	6.0	1.6	3.8	332	1.1	1.2	327	3.2	N	61	XXXX	0.0	241
28	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXX
29	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXX
30	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXX
31	XXXX	XXXX	XXXX	XXX	XXXX	XXXX	XXX	XXXX	XXX	XX	XXXX	XXXX	XXXX
MONTH	21.4	1.0	9.0	283	.6	2.0	283	7.6	W	46	.1	117.0	160540

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

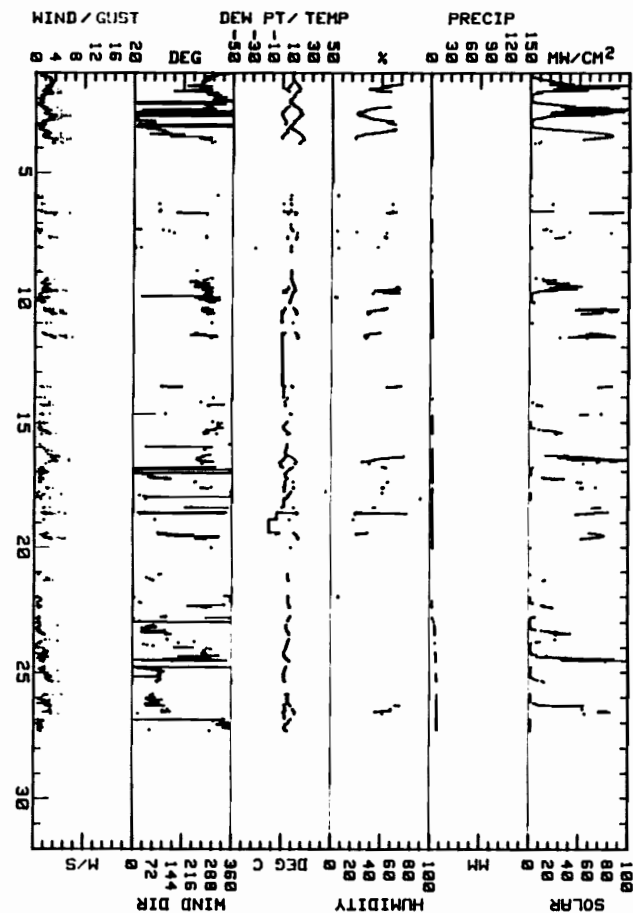


FIGURE and TABLE 5.92
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
August, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	NEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SGH
1	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 1
2	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	7451 2
3	6.1	1.4	3.8	078	1.8	2.0	048	5.1	E (155)	-5.1	0.0	0.0	2755 3
4	10.0	-5.5	6.8	046	2.1	2.8	095	6.1	NNE (104)	-3.3	0.0	0.0	7416 4
5	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 5
6	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 6
7	8.3	2.3	5.3	086	1.3	1.7	266	8.3	E (182)	2.7	1.8	0.0	884 7
8	3.4	3.2	3.3	019	1.2	1.2	024	1.9	NNE (199)	3.1	0.0	0.0	248 8
9	8.0	3.1	6.0	288	1.2	1.5	280	6.3	N (175)	2.6	0.0	0.0	2374 9
10	11.0	2.2	7.3	294	1.2	2.1	252	5.1	N (178)	1.9	0.0	0.0	4003 10
11	11.1	1.6	6.4	083	1.2	1.6	093	4.4	E (171)	.9	0.0	0.0	1778 11
12	11.2	2.6	6.9	283	.5	1.5	293	5.7	NNE (167)	.9	0.0	0.0	3257 12
13	8.3	1.2	4.8	080	3.8	3.9	089	9.5	E		0.1	0.1	1945 13
14	5.2	.1	2.7	036	.6	2.7	091	5.7	ENE		.2	0.0	1920 14
15	7.6	.1	3.9	014	.6	1.5	257	4.4	N (17)		0.0	0.0	2613 15
16	10.7	-3.2	3.8	066	1.3	1.8	126	6.3	NNE (163)	-2.4	0.0	0.0	4027 16
17	10.0	-3.0	2.7	307	.9	2.1	243	6.3	NNE (168)	-3.2	0.0	0.0	4323 17
18	8.6	-4.3	1.0	078	2.5	2.9	188	7.0	E (164)	-4.1	0.0	0.0	2350 18
19	7.2	1.6	4.4	081	4.8	4.9	093	10.2	E 58	-6.0	1.8	0.0	1850 19
20	8.5	2.7	5.6	066	2.1	3.0	095	8.3	ENE		1.2	0.0	1975 20
21	8.3	4.5	6.4	094	1.1	1.4	083	5.7	ESF (1)		0.0	0.0	1943 21
22	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 22
23	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 23
24	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 24
25	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 25
26	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 26
27	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 27
28	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 28
29	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 29
30	*****	*****	*****	***	***	***	***	***	***	***	***	0.0	***** 30
MONTH	11.2	-4.3	4.7	068	1.3	2.5	093	10.2	E (16)	M	M	5.0	53103

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
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 DLP POINT.

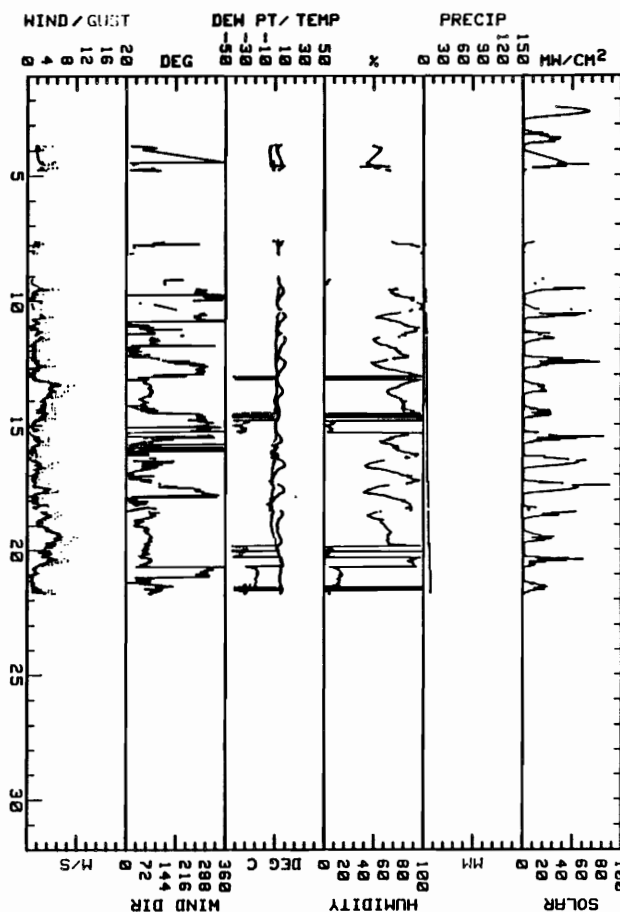


FIGURE and TABLE 5.93
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
September, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

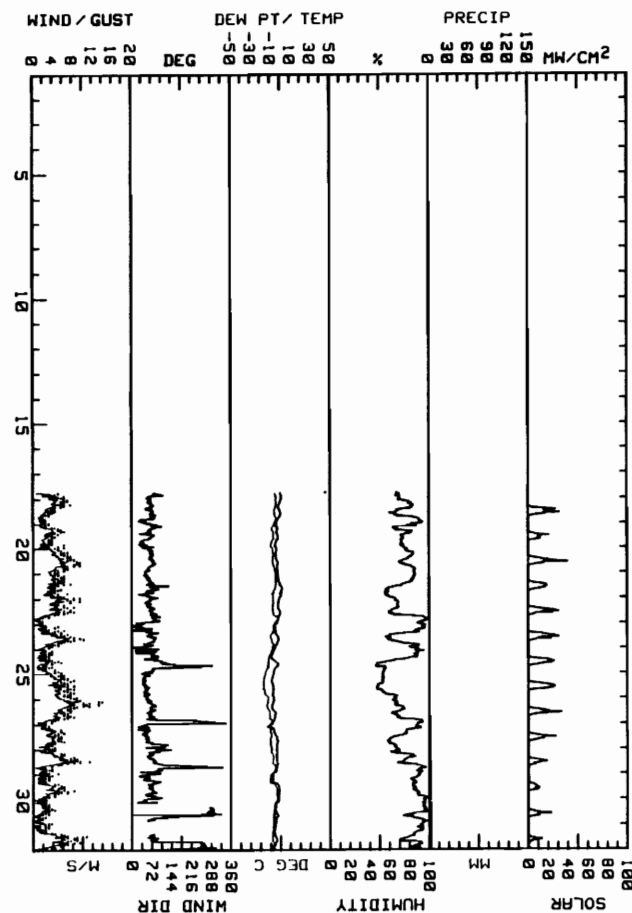
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING October, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY WH/SMH
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	1
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	2
3	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	3
4	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	4
5	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	5
6	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	6
7	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	7
8	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	8
9	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	9
10	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	10
11	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	11
12	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	12
13	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	13
14	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	14
15	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	15
16	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XX	XXXX	XX	XXXX	XXXX	XXXX	16
17	.9	-8	.1	070	3.2	3.3	065	6.3	ENE	69	-4.7	0.0	0
18	.5	-5.1	-2.3	066	2.7	2.7	074	7.6	ENE	70	-5.1	0.0	1390
19	-2.7	-6.3	-4.5	060	2.4	2.6	059	6.3	ENE	74	-8.2	0.0	755
20	-2.7	-5.2	-4.0	069	4.7	4.8	080	9.5	ENE	80	-7.1	.2	1290
21	1.8	-3.2	-7	067	3.8	4.0	095	9.5	ENE	70	-5.8	0.0	995
22	-1	-4.6	-2.4	068	3.1	3.2	066	9.5	ENE	72	-6.7	.4	1185
23	-1.9	-7.1	-4.5	064	3.1	3.4	085	10.2	ENE	78	-8.1	0.0	1295
24	-2.4	-10.5	-6.5	076	1.6	2.0	105	5.7	E	68	-12.2	0.0	1215
25	-6.7	-9.4	-8.1	050	4.9	4.9	057	8.9	NE	54	-15.8	0.0	1345
26	-4.6	-9.1	-6.9	072	4.5	5.1	058	14.0	ENE	73	-11.4	.8	1060
27	-2.7	-11.6	-7.3	062	2.9	3.1	057	6.3	NE	71	-10.0	0.0	845
28	-2.9	-8.3	-5.6	080	3.2	3.6	084	11.4	ENE	80	-7.3	.8	665
29	-1.3	-9.6	-5.5	069	2.5	2.6	079	8.3	ENE	88	-6.0	0.0	520
30	-2.3	-6.0	-4.2	300	.8	1.5	294	4.4	WNW	93	-5.9	.8	720
31	-3.6	-9.8	-6.7	077	.8	3.3	082	10.8	E	84	-8.0	0.0	370
MONTH	1.8	-11.8	-4.6	066	3.0	3.4	058	14.0	ENE	75	-8.2	3.0	13650

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
October, 1983

FIGURE and TABLE 5.94

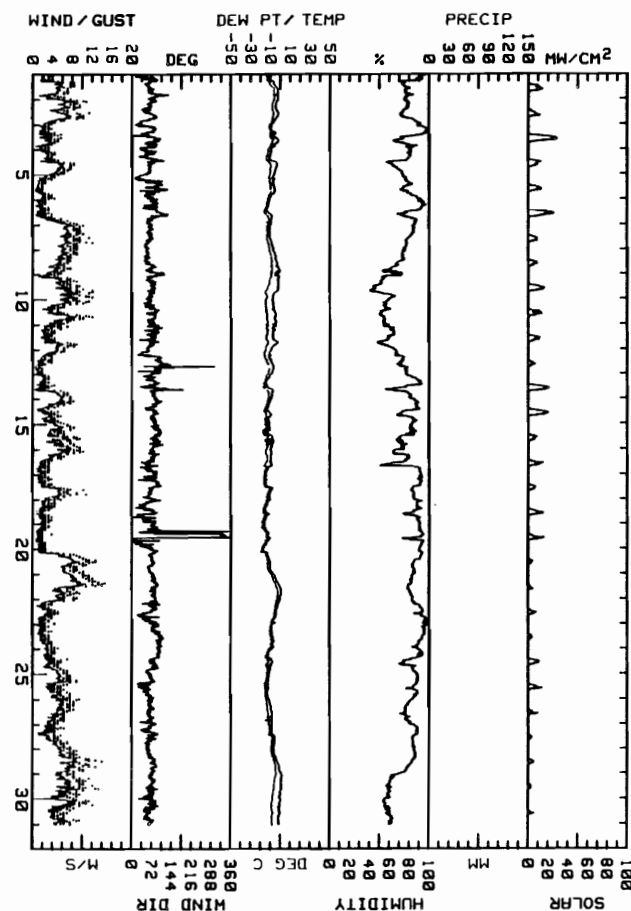
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND SPD.	MAX. GUST SPD.	P'VAL GUST DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	-2.3	-13.4	-7.9	066	3.7	3.8	068	8.3	ENE 80	-9.1	0.0	630	1
2	-1.8	-9.5	-5.7	066	5.3	5.6	057	11.4	ENE 79	-7.8	0.0	435	2
3	-1.8	-10.6	-6.2	067	2.1	2.3	051	5.7	E 83	-9.4	0.0	1335	3
4	-3.3	-11.9	-7.6	065	3.9	4.0	080	8.3	ENE 73	-11.6	0.0	515	4
5	-5.1	-11.8	-8.5	059	1.4	1.6	032	4.4	E 80	-10.9	0.0	525	5
6	-7.7	-14.8	-11.3	073	2.5	2.6	074	10.2	ENE 86	-13.3	0.0	1080	6
7	-6.8	-11.6	-9.2	062	6.6	6.6	056	12.1	ENE 80	-12.6	0.0	410	7
8	-2	-7.7	-4.0	062	4.8	5.0	061	8.9	ENE 69	-8.9	0.0	360	8
9	-1.0	-8.0	-4.5	072	5.8	5.9	078	12.1	ENE 54	-12.2	0.0	715	9
10	-4.1	-8.4	-6.3	073	5.1	5.2	084	12.1	ENE 55	-13.7	0.0	490	10
11	-2.5	-9.7	-6.1	073	3.3	3.4	076	8.9	ENE 59	-13.4	0.0	440	11
12	-6.8	-12.3	-9.6	072	1.5	1.7	056	6.3	E 72	-13.9	0.0	235	12
13	-7.1	-15.6	-11.4	078	2.9	3.0	076	7.6	E 82	-13.7	0.0	880	13
14	-9.2	-15.1	-12.2	084	3.3	3.3	088	8.3	E 83	-14.1	0.0	830	14
15	-6.6	-16.2	-11.4	086	4.9	5.0	068	9.5	E 77	-13.9	0.0	325	15
16	-8.6	-15.1	-11.9	073	2.8	2.8	080	10.2	ENE 76	-14.4	.6	450	16
17	-7.8	-15.9	-11.9	071	3.1	3.2	066	10.8	ENE 88	-14.2	0.0	280	17
18	-10.2	-18.1	-14.2	056	1.7	1.9	084	4.4	E 88	-16.3	0.0	495	18
19	-10.1	-18.0	-14.1	046	1.0	1.3	329	3.8	ENE 91	-16.1	0.0	415	19
20	-6.7	-18.5	-12.6	072	6.1	6.2	075	12.7	ENE 87	-13.2	0.0	135	20
21	.9	-6.2	-2.7	084	7.0	7.0	094	14.6	E 82	-4.4	0.0	100	21
22	-8	-9.1	-5.0	069	2.2	2.3	089	8.3	E 92	-5.9	0.0	230	22
23	-6.4	-10.6	-8.5	096	2.0	2.0	095	5.1	E 92	-9.5	0.0	140	23
24	-7.5	-14.5	-11.0	078	3.4	3.6	066	7.0	E 85	-13.1	0.0	420	24
25	-11.0	-14.5	-12.8	063	4.6	4.7	076	9.5	ENE 87	-14.4	0.0	360	25
26	-7.5	-11.7	-9.6	068	4.7	4.8	059	8.3	ENE 78	-12.3	0.0	195	26
27	-5.1	-9.6	-7.4	062	3.4	3.5	055	7.6	ENE 86	-9.2	0.0	115	27
28	.8	-6.8	-3.0	075	6.7	6.8	085	14.0	ENE 82	-6.0	0.0	180	28
29	1.8	-1.6	.1	072	6.0	6.2	095	13.3	ENE 61	-6.3	0.0	110	29
30	.5	-2.5	-1.0	070	5.1	5.3	083	12.1	ENE 59	-8.2	0.0	100	30
MONTH	1.8	-18.5	-8.2	071	3.9	4.1	094	14.6	ENE 78	-11.4	.6	12930	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 13.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 13.3

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
November, 1983

FIGURE and TABLE 5.95

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

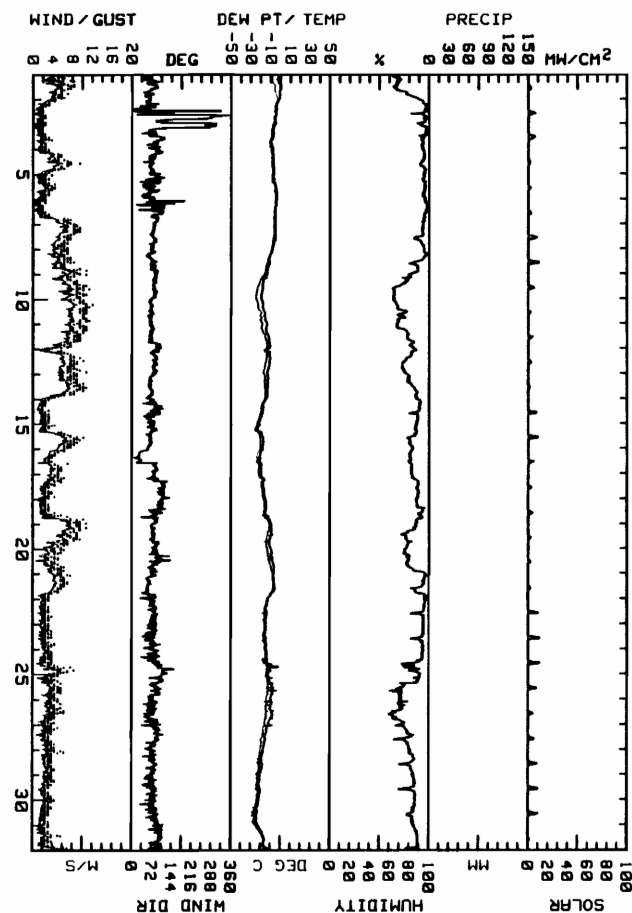
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND DIR.	MAX. WIND SPD.	P-VAL GUST	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY MH/SGH
1	.3	-4.2	-2.0	070	4.0	4.2	084	8.3	ENE 72	-6.1	0.0	185	1
2	-2.4	-6.3	-4.4	038	.7	1.3	051	4.4	E 95	-5.4	0.0	175	2
3	-6.1	-10.6	-8.4	085	1.0	1.3	108	3.8	E 94	-9.3	****	205	3
4	-7.0	-8.6	-7.8	074	3.2	3.3	079	9.5	ENE 94	-8.3	****	60	4
5	-3.9	-7.9	-5.9	068	1.6	1.7	055	4.4	E 95	-6.1	****	65	5
6	-4.2	-6.4	-5.3	088	2.1	2.2	078	8.3	E 96	-6.0	****	100	6
7	-5.1	-8.7	-6.9	078	5.3	5.3	078	9.5	ENE 92	-7.3	****	250	7
8	-8.6	-14.5	-11.6	076	5.0	5.1	092	10.8	ENE 90	-13.1	****	295	8
9	-13.6	-20.2	-16.9	082	6.5	6.5	077	11.4	E 78	-22.3	****	170	9
10	-13.7	-19.2	-16.5	069	7.7	7.7	069	12.1	ENE 70	-20.9	****	60	10
11	-10.3	-15.2	-12.8	075	6.3	6.4	077	10.8	E 78	-15.8	****	95	11
12	-10.4	-15.2	-12.8	083	5.4	5.4	080	10.8	E 78	-15.3	****	90	12
13	-12.6	-14.7	-13.7	068	5.8	5.8	065	10.8	ENE 84	-15.6	****	45	13
14	-15.3	-22.7	-19.0	076	1.5	1.6	082	3.2	E 89	-20.4	****	220	14
15	-17.2	-24.3	-20.8	066	4.4	4.4	067	10.2	ENE 84	-21.7	****	255	15
16	-18.4	-21.9	-20.2	058	2.9	3.3	075	7.0	NNE 82	-22.5	****	105	16
17	-15.0	-19.7	-17.4	100	2.4	2.5	069	6.3	ESE 88	-18.5	****	80	17
18	-9.2	-16.7	-13.0	088	3.0	3.1	083	10.8	E 98	-14.9	****	125	18
19	-8.0	-14.0	-11.0	078	5.5	5.5	081	10.8	ENE 79	-13.1	****	70	19
20	-6.3	-10.2	-8.3	081	2.8	2.9	078	6.3	ENE 81	-10.7	****	65	20
21	-5.5	-13.0	-9.3	062	3.6	3.7	088	7.6	ENE 93	-8.6	****	70	21
22	-12.6	-16.9	-14.8	080	1.8	1.8	090	3.8	E 94	-15.2	****	255	22
23	-13.5	-17.2	-15.4	073	1.9	2.0	087	4.4	ENE 93	-16.1	****	205	23
24	-1.7	-17.7	-9.7	099	2.5	2.6	115	8.3	E 89	-14.0	****	270	24
25	-3.6	-13.9	-8.8	090	3.1	3.2	071	5.7	E 77	-12.9	****	210	25
26	-6.2	-13.4	-9.8	073	2.7	2.8	069	6.3	ENE 70	-14.4	****	125	26
27	-7.9	-18.1	-13.0	083	2.3	2.4	098	5.1	E 78	-18.4	****	155	27
28	-17.1	-22.7	-19.9	076	2.5	2.6	076	6.3	ENE 82	-21.5	****	225	28
29	-20.0	-22.7	-21.4	074	2.2	2.2	092	4.4	E 84	-23.2	****	255	29
30	-21.4	-26.7	-24.1	081	1.8	1.9	067	4.4	E 84	-25.8	****	235	30
31	-10.9	-22.2	-16.6	095	2.2	2.3	068	7.0	ESE 87	-18.4	****	35	31
MONTH	.3	-26.7	-12.8	077	3.3	3.5	069	12.1	ENE 85	-14.9	0.0	4755	

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

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
December, 1983

FIGURE and TABLE 5.96

SUSTITNA HYDROELECTRIC PROJECT

DATA TAKEN DURING January, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY DAY	
													WH/SM	WH/SM
1	-3.7	-9.7	-6.7	073	5.4	5.5	076	10.2	ENE	87	-8.1	****	35	1
2	-3.3	-6.8	-5.1	063	4.8	4.9	077	9.5	ENE	91	-6.8	****	100	2
3	-8	-3.6	-2.2	075	4.3	4.4	077	10.2	E	92	-3.4	****	145	3
4	-3.0	-20.7	-11.9	021	2.3	3.1	034	8.9	NNE	93	-13.5	****	45	4
5	-16.5	-25.1	-20.8	062	2.9	3.1	076	8.3	ENE	85	-21.6	****	160	5
6	-14.5	-20.6	-17.6	085	1.7	1.9	086	4.4	E	87	-19.2	****	110	6
7	-8.4	-16.3	-12.4	096	2.3	2.4	086	8.9	E	82	-16.2	****	165	7
8	-8.5	-16.8	-12.7	082	6.0	6.1	083	12.7	E	71	-15.4	****	190	8
9	-6.9	-16.7	-11.8	080	5.8	5.9	072	11.4	ENE	65	-15.7	****	105	9
10	-3.0	-10.9	-7.0	073	6.8	6.9	068	12.7	ENE	74	-12.1	****	100	10
11	-2.4	-6.6	-4.5	078	4.5	5.4	097	13.3	ENE	82	-6.5	****	150	11
12	3.4	-2.4	-0.5	083	7.0	7.1	086	13.0	E	80	-2.0	****	80	12
13	2.6	-5.8	-1.6	073	2.1	2.7	097	11.4	E	88	-2.2	****	55	13
14	3	-6.6	-3.2	039	1.0	2.1	071	5.1	ENE	93	-2.9	****	50	14
15	-1.8	-9.9	-5.9	070	1.1	2.2	087	7.6	E	92	-6.8	****	230	15
16	-4.5	-11.4	-8.0	079	4.0	4.1	080	9.5	E	88	-9.4	****	125	16
17	-9.9	-12.2	-11.1	098	1.7	1.7	103	3.8	ESE	90	-12.3	****	75	17
18	-10.2	-15.3	-12.8	107	2.0	2.0	110	4.4	ESF	91	-13.3	****	85	18
19	-9.6	-15.8	-12.7	071	4.2	4.3	072	8.9	ENE	79	-14.3	****	155	19
20	-10.7	-23.0	-16.9	076	3.5	3.5	085	8.9	ENE	80	-17.9	****	405	20
21	-16.5	-24.4	-20.5	092	3.0	3.3	071	7.6	ESE	80	-22.4	****	470	21
22	-16.6	-23.2	-19.9	025	1.1	1.4	072	5.1	NNE	54	-26.2	****	485	22
23	-21.8	-31.8	-26.8	087	2.3	2.5	108	7.6	E	60	-32.7	****	590	23
24	-22.7	-31.6	-27.2	095	3.6	3.7	101	9.5	E	58	-33.2	****	480	24
25	-21.1	-31.9	-26.5	071	6.3	6.4	071	11.4	ENE	60	-32.3	****	435	25
26	-15.6	-22.8	-19.2	096	3.4	3.5	076	9.5	E	72	-23.2	****	500	26
27	-14.3	-23.2	-18.8	073	2.5	2.7	063	9.5	ENE	74	-23.1	****	360	27
28	-14.5	-23.4	-19.0	056	2.3	2.9	061	10.2	ENE	72	-22.9	****	525	28
29	-4.0	-13.9	-9.0	075	5.1	5.2	070	12.1	ENE	83	-18.1	****	580	29
30	-4.5	-7.6	-6.1	098	1.1	1.3	094	4.4	ESE	93	-7.0	****	85	30
31	-4.5	-15.2	-9.9	252	7	1.4	253	5.7	WSW	91	-9.9	****	350	31
MONTH	3.4	3.9	-12.5	077	3.2	3.7	097	13.3	E	80	-14.9	****	7425	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS	11.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL	11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL	12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS	9.5

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

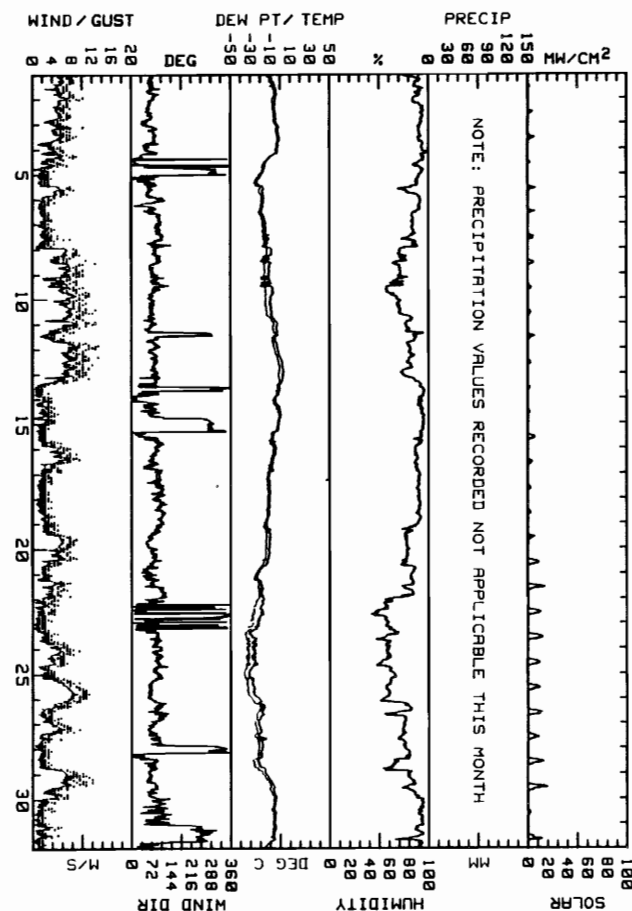


FIGURE and TABLE 5.97

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-9.7	-19.5	-14.6	099	2.2	2.4	095	5.7	ESE	88	-15.1	****	110	1
2	-9.5	-18.1	-13.8	078	2.8	3.0	094	7.0	ENE	65	-19.2	****	220	2
3	-10.7	-15.9	-13.3	077	6.3	6.4	087	13.3	ENE	73	-17.6	****	295	3
4	-7.5	-12.9	-10.2	074	4.3	5.9	077	12.7	ENE	88	-11.5	****	250	4
5	-8.9	-17.3	-13.1	041	1.0	1.5	338	5.1	E	90	-15.1	****	280	5
6	-11.4	-17.3	-14.4	051	1.9	2.4	064	8.9	ENE	84	-16.7	****	755	6
7	-8.3	-18.1	-13.2	037	1.7	3.7	079	10.8	NNE	80	-15.0	****	260	7
8	-15.6	-23.8	-19.7	041	.9	1.5	297	4.4	NNE	83	-22.3	****	915	8
9	-15.2	-26.1	-20.7	070	1.5	1.7	063	4.4	ENE	78	-25.7	****	1240	9
10	-14.9	-24.1	-19.5	064	5.9	5.9	072	10.8	ENE	77	-22.3	****	615	10
11	-10.9	-16.3	-13.6	074	3.7	3.9	067	8.9	ENE	71	-17.8	****	820	11
12	-8.9	-15.7	-12.3	081	4.6	4.7	081	9.5	ENE	74	-15.2	****	790	12
13	-9.1	-14.5	-11.8	075	6.6	6.6	067	10.8	ENE	71	-15.1	****	645	13
14	-8.8	-14.3	-11.6	071	4.9	5.0	074	14.6	ENE	74	-14.6	****	705	14
15	-7.3	-15.1	-11.2	080	2.4	2.6	066	8.9	E	74	-14.6	****	1165	15
16	-4.7	-11.8	-8.3	076	5.9	6.0	085	12.7	ENE	79	-11.0	****	665	16
17	-2.3	-6.4	-4.4	073	4.3	4.6	094	11.4	ENE	84	-6.3	****	860	17
18	-4.4	-7.6	-6.0	071	4.2	4.3	080	9.5	ENE	82	-8.5	****	1075	18
19	-5.1	-17.6	-11.4	044	4.1	4.3	027	10.8	NE	72	-15.1	****	810	19
20	-16.2	-21.4	-18.8	054	3.7	3.9	043	10.2	NE	72	-21.5	****	1000	20
21	-18.9	-23.8	-21.4	067	4.4	4.6	077	9.5	ENE	76	-18.6	****	795	21
22	-8.2	-12.4	-10.3	058	3.0	3.1	057	8.3	NE	79	-13.2	****	1130	22
23	-7.9	-14.4	-11.2	090	1.5	1.6	099	6.3	E	83	-14.0	****	985	23
24	-9.2	-14.3	-11.8	082	2.5	2.6	087	5.7	ENE	82	-14.0	****	1770	24
25	-6.3	-10.4	-8.4	061	4.4	4.4	068	8.3	ENE	76	-11.5	****	1310	25
26	-6.0	-10.9	-8.5	083	4.4	4.5	065	8.9	E	71	-12.3	****	1600	26
27	-9.3	-12.5	-10.9	069	6.6	6.7	068	12.7	ENE	72	-14.8	****	1390	27
28	-6.2	-13.2	-9.7	074	4.1	4.3	087	13.3	ENE	69	-14.2	****	2115	28
29	-8.0	-12.9	-10.5	065	6.1	6.1	074	10.2	ENE	66	-14.6	****	2155	29
MONTH	-2.3	-26.1	-12.4	070	3.7	4.1	074	14.6	ENE	77	-15.4	****	26725	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 11.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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

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

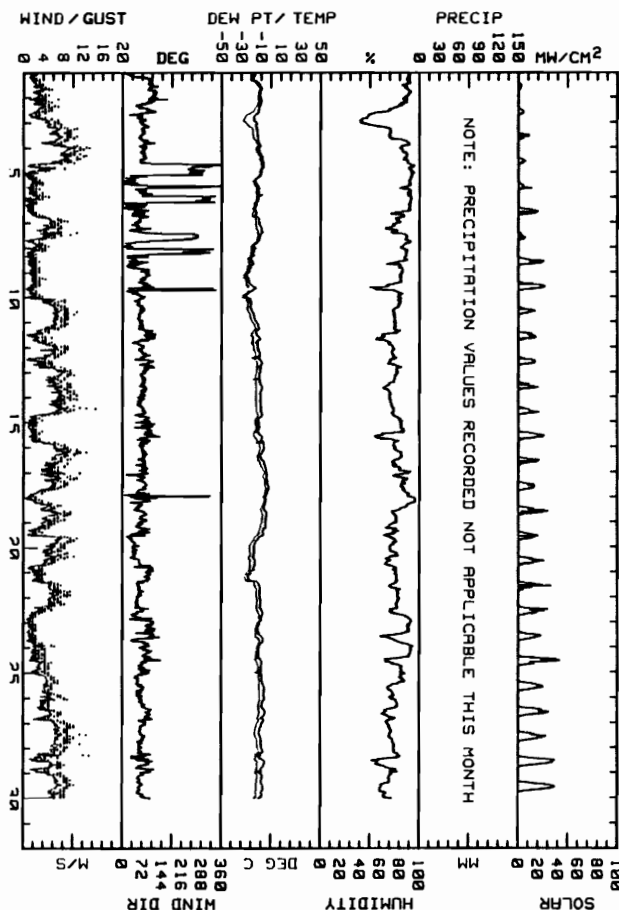


FIGURE and TABLE 5.98

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
February, 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

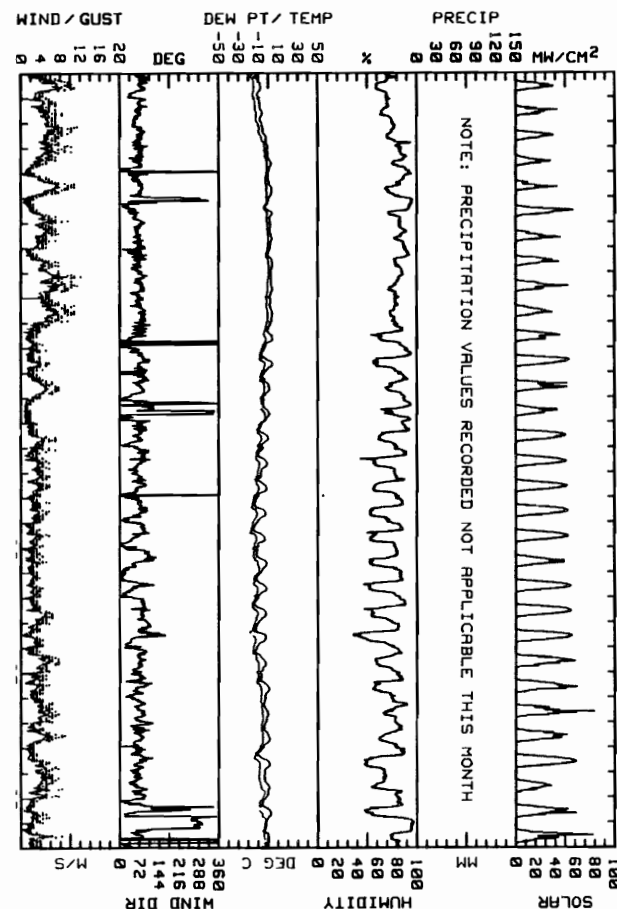
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING March, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	-7.6	-15.4	-11.5	074	4.4	4.7	087	10.8	ENE	67	-15.4	****	1940	1
2	-6.0	-11.4	-8.7	065	4.4	4.5	076	8.3	ENE	70	-12.0	****	1725	2
3	-7	-6.9	-3.8	071	5.3	5.4	068	11.4	ENE	77	-7.3	****	1915	3
4	2.7	-2.2	.3	068	3.1	3.3	068	10.2	ENE	84	-2.1	****	1525	4
5	3.5	-1.5	1.0	071	4.3	4.4	084	10.8	ENE	80	-2.0	****	1480	5
6	3.8	-3.9	-1.1	057	2.5	2.8	079	9.5	ENE	85	-2.2	****	2770	6
7	3.9	.9	2.4	067	3.8	3.9	061	7.6	ENE	85	-.3	****	1965	7
8	4.3	-1.9	1.2	065	3.2	3.3	074	7.6	ENE	85	-.4	****	2110	8
9	4.1	-.8	1.7	076	5.6	5.7	089	12.1	ENE	79	-.6	****	2455	9
10	4.0	.7	2.4	079	5.4	5.5	078	10.8	ENE	77	-1.1	****	1990	10
11	4.5	-3.9	.3	048	1.8	2.1	072	5.7	N	76	-3.4	****	2550	11
12	4.3	-7.7	-1.7	075	2.0	2.1	070	5.7	E	76	-6.1	****	3695	12
13	1.4	-7.2	-2.9	072	3.3	3.5	074	7.6	E	81	-5.8	****	2900	13
14	2.2	-5.7	-1.8	031	.7	1.1	082	2.5	N	85	-5.3	****	2130	14
15	.1	-10.7	-5.3	062	2.5	2.7	073	7.0	ENE	77	-9.0	****	3555	15
16	-1.2	-10.8	-6.0	071	2.6	2.7	106	7.0	ENE	73	-10.5	****	3570	16
17	-1.9	-12.4	-7.2	064	2.6	2.9	071	5.7	ENE	71	-11.7	****	3555	17
18	-2.7	-15.1	-8.9	063	2.4	2.7	065	5.7	ENE	69	-14.2	****	3850	18
19	-3.5	-15.8	-9.7	055	1.9	2.2	074	5.7	E	70	-14.6	****	3855	19
20	-1.6	-12.6	-7.1	069	1.6	2.0	067	5.1	ESE	71	-11.8	****	2805	20
21	-1.8	-12.9	-7.4	031	2.0	2.2	060	4.4	NNE	70	-12.7	****	4000	21
22	-2.6	-14.8	-8.7	084	3.1	3.1	078	6.3	E	70	-13.2	****	4315	22
23	-2.5	-15.0	-8.8	063	1.8	2.2	105	5.7	NE	68	-14.6	****	4075	23
24	-2.5	-13.7	-8.1	071	3.4	3.5	072	7.6	ENE	71	-11.6	****	3775	24
25	1.0	-9.7	-4.4	069	2.4	2.5	100	5.7	ENE	71	-8.4	****	3785	25
26	-.2	-5.0	-2.6	076	3.7	3.8	086	7.6	ENE	77	-6.1	****	3570	26
27	1.2	-5.9	-2.4	071	2.8	3.0	078	8.9	ENE	75	-6.2	****	3445	27
28	1.6	-11.5	-5.0	069	2.7	2.8	074	7.6	ENE	66	-10.4	****	4710	28
29	1.3	-4.6	-1.7	069	3.6	3.8	099	8.3	ENE	69	-6.8	****	2260	29
30	2.8	-7.1	-2.2	007	.9	1.9	310	5.7	NNE	76	-6.1	****	3465	30
31	.9	-5.6	-2.1	038	1.4	2.2	084	8.3	N	84	-4.2	****	3370	31
MONTH	4.5	-15.8	-3.8	068	2.9	3.2	089	12.1	ENE	75	-7.6	****	93110	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
March, 1984

FIGURE and TABLE 5.99

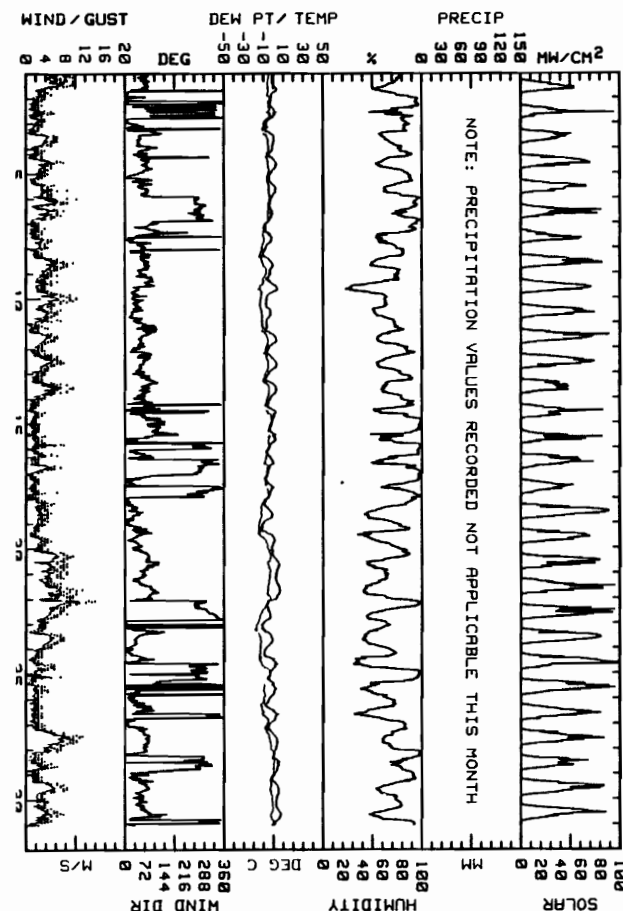
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING April, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	MAX. P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	3.3	-3.4	-1.1	062	3.7	4.1	071	9.5	ENE	71	-5.5	****	3595	1
2	3.2	-8.9	-2.9	357	1.0	1.8	331	5.7	N	84	-5.6	****	3135	2
3	.5	-9.1	-4.3	055	2.2	2.5	053	6.3	NE	72	-7.1	****	3545	3
4	3.0	-5.5	-1.3	072	2.5	2.6	077	7.6	ENE	71	-5.5	****	4935	4
5	1.8	-5.1	-1.7	058	1.8	2.7	268	10.2	ENE	78	-5.1	****	4260	5
6	-1.9	-8.1	-4.5	262	3.0	3.3	255	8.3	W	88	-5.6	****	3950	6
7	-1.7	-9.1	-5.4	058	1.6	2.0	007	5.1	ENE	73	-10.4	****	3495	7
8	-1.8	-12.0	-6.4	068	3.4	3.6	086	9.5	ENE	67	-11.0	****	5320	8
9	3.9	-7.8	-2.0	056	3.1	3.4	030	10.2	NE	54	-11.6	****	5040	9
10	-3.1	-8.2	-5.7	038	3.4	3.5	047	9.5	NE	60	-12.5	****	4950	10
11	2.5	-9.3	-3.4	065	2.3	2.4	073	6.3	ENE	67	-7.8	****	5410	11
12	3.1	-9.0	-3.0	065	3.0	3.1	068	7.6	ENE	71	-6.9	****	5725	12
13	2.9	-9.1	-3.1	076	3.2	3.3	087	9.5	E	73	-6.7	****	3990	13
14	2.1	-7.1	-2.5	067	.8	1.2	278	3.8	ENE	83	-4.6	****	4070	14
15	2.4	-5.3	-1.5	046	.4	1.7	271	7.6	ESE	85	-4.6	****	3700	15
16	.2	-7.6	-3.7	312	1.0	2.1	278	7.0	W	83	-7.2	****	4635	16
17	0.0	-8.6	-4.3	352	.8	1.2	295	6.3	N	89	-6.9	****	3395	17
18	-1.5	-10.6	-5.6	026	2.6	2.7	006	5.7	NNE	64	-12.2	****	7265	18
19	1.0	-13.2	-6.1	040	2.0	2.1	023	5.1	NE	66	-10.7	****	5390	19
20	5.7	-2.1	1.8	082	4.4	4.6	085	9.5	E	66	-4.0	****	5855	20
21	6.7	1.4	4.1	081	4.4	4.8	105	11.4	E	54	-4.7	****	5820	21
22	2.1	-10.7	-4.3	303	3.8	5.0	289	14.0	N	68	-10.8	****	6175	22
23	-1.9	-12.6	-6.8	037	3.1	3.4	044	7.6	NE	51	-14.5	****	6935	23
24	4.0	-10.4	-3.2	341	1.0	1.9	343	5.7	NNE	59	-11.1	****	6595	24
25	3.3	-5.2	-1.0	001	.9	1.5	258	7.0	N	59	-8.6	****	6540	25
26	4.9	-9.3	-2.2	031	1.3	1.6	003	3.8	NE	61	-9.4	****	5370	26
27	3.9	-6.7	-1.4	075	4.8	5.0	090	11.4	ENE	70	-4.8	****	5465	27
28	6.2	-1.3	3.0	319	.6	1.9	078	6.3	WNW	86	.0	****	4475	28
29	5.4	-2.4	1.5	066	3.8	3.2	085	8.3	ENE	73	-2.2	****	6540	29
30	7.5	-1.1	3.7	064	2.0	2.9	084	7.6	ENE	70	-1.0	****	5485	30
MONTH	7.5	-13.2	-2.4	052	1.8	2.8	289	14.0	ENE	70	-7.3	****	151060	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 6.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
April, 1984

FIGURE and TABLE 5.100

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

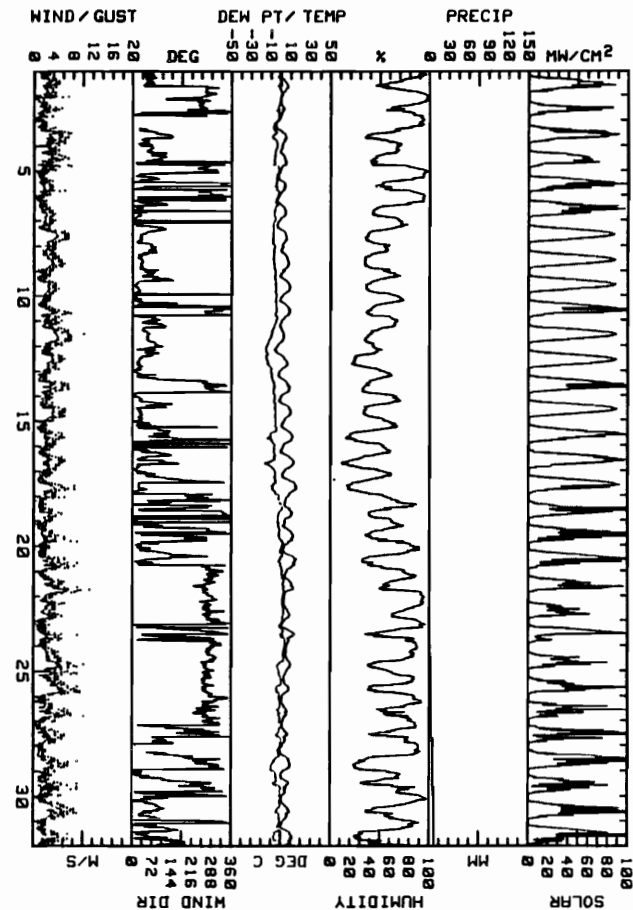
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING MAY, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENRGY MH/50H	DAY
1	7.2	-2.4	2.4	013	.8	2.4	064	5.1	ENE	77	-1.3	****	6490	1		1
2	3.7	-3.6	.1	264	1.1	1.5	240	7.0	WSW	83	-2.5	****	3855	2		2
3	6.0	-7.1	-6	078	2.4	2.6	088	7.6	NE	65	-6.1	****	6495	3		3
4	5.6	-1.9	1.9	068	1.3	2.9	201	7.6	ENE	61	-5.4	****	5945	4		4
5	4.8	-3.7	.6	351	.9	1.6	285	6.3	NNE	74	-4.1	****	6215	5		5
6	5.0	-5.7	-4	023	1.4	1.6	026	4.4	NNE	61	-6.1	****	7890	6		6
7	6.6	-4.5	.8	042	2.7	3.1	044	7.0	NNE	52	-7.8	****	8020	7		7
8	7.9	-4	3.8	044	2.6	2.8	034	6.3	NNE	44	-7.0	****	8125	8		8
9	9.5	-1.7	3.9	027	2.0	2.2	020	5.1	NNE	49	-5.4	****	8250	9		9
10	9.7	-2.0	3.9	353	1.3	2.4	268	7.6	N	54	-4.7	****	7625	10		10
11	3.2	-4.1	-5	061	3.4	3.7	063	10.2	NE	47	-9.9	****	8205	11		11
12	7.1	-7.4	-2	036	2.6	2.8	023	6.3	NNE	36	-13.3	****	8380	12		12
13	9.6	-3.4	3.2	318	1.5	2.4	286	7.0	N	45	-7.7	****	7765	13		13
14	10.3	-2.8	3.8	035	2.5	2.8	014	6.3	NNE	48	-5.8	****	8435	14		14
15	12.4	.1	6.3	057	1.1	2.1	136	6.3	N	39	-7.8	****	7265	15		15
16	13.3	-1.0	6.2	044	1.6	2.3	016	6.3	NNE	37	-8.5	****	8270	16		16
17	16.1	.6	8.4	029	1.6	2.3	023	8.3	NNE	37	-6.2	****	8065	17		17
18	17.0	3.0	7.5	341	1.0	1.8	223	6.3	N	55	-1.4	****	6210	18		18
19	13.4	1.2	7.3	311	.4	1.8	157	8.9	W	56	-7	****	6995	19		19
20	16.2	.9	8.6	019	.6	2.5	075	8.9	NNE	59	.0	****	6705	20		20
21	12.8	2.6	7.7	270	3.2	3.4	275	11.4	W	73	2.3	****	5595	21		21
22	9.0	2.0	5.5	278	2.3	2.4	272	6.3	W	81	1.8	****	4390	22		22
23	14.5	-1.1	6.6	329	.7	1.7	035	8.9	WNW	74	1.9	0.0	5470	23		23
24	10.4	4.5	7.5	277	3.2	3.3	266	10.2	W	68	.5	1.4	4260	24		24
25	8.6	.6	4.6	268	3.9	3.9	259	9.5	W	67	-1.5	.4	5190	25		25
26	7.3	.3	3.8	271	2.1	2.4	263	10.2	W	72	-1.5	.8	4590	26		26
27	7.6	.3	4.0	168	.1	1.8	243	6.3	W	69	-1.7	3.2	5450	27		27
28	10.2	-2.3	4.0	281	1.4	2.2	223	8.9	NW	53	-6.1	0.0	8300	28		28
29	5.5	-7	3.9	295	.6	2.2	248	8.9	WNW	63	-3.0	1.4	4975	29		29
30	9.8	0.0	4.9	070	2.6	3.1	035	8.9	E	65	-1.8	.8	7125	30		30
31	12.2	-1.0	5.6	075	1.1	2.0	045	7.0	NE	51	-3.9	0.0	7365	31		31
MONTH	16.2	-7.4	4.0	002	.8	2.5	275	11.4	NNE	58	-4.0	8.0	207055			

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **

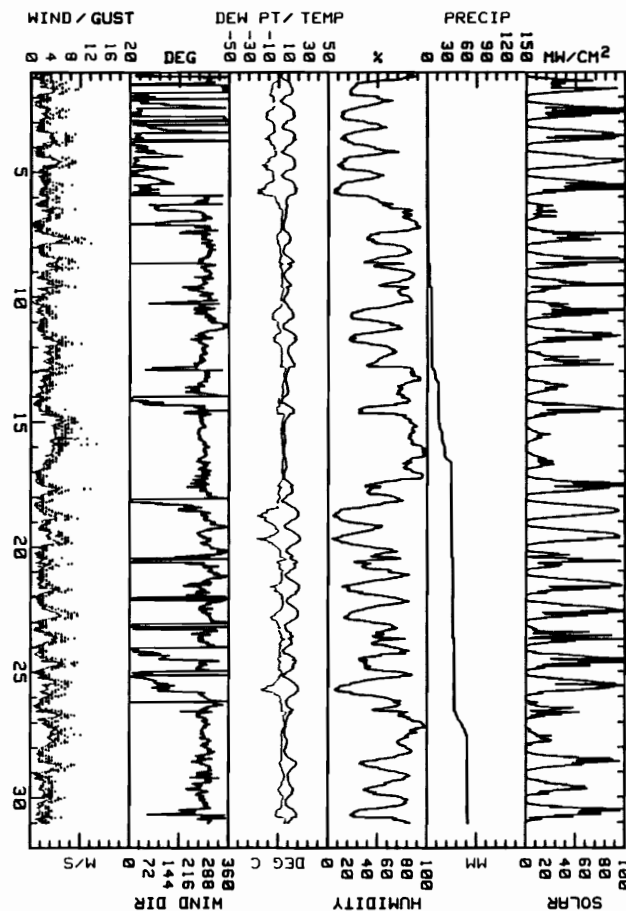


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
May, 1984

FIGURE and TABLE 5.101

FIGURE and TABLE 5.102

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
June, 1984



DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH
1	13.9	1.1	7.5	351	2.0	2.4	334	9.5	N	40	-5.3	0.0	6040
2	16.7	.6	8.7	014	1.8	2.2	027	7.6	N	20	-8.9	0.0	7885
3	16.9	2.5	9.7	019	2.3	2.9	027	8.9	NNE	32	-7.1	0.0	8655
4	16.2	1.8	9.0	036	2.2	2.9	021	8.9	NNE	27	-9.0	0.0	9275
5	18.5	1.9	10.2	058	1.4	2.4	058	8.3	ENE	26	-10.6	0.0	7825
6	8.9	4.8	6.9	261	1.1	2.7	095	8.9	W	69	1.4	1.6	2300
7	11.8	4.3	8.1	275	2.8	3.3	259	12.1	W	61	.2	0.0	5950
8	15.3	3.9	9.6	274	3.3	3.5	257	9.5	WNW	64	1.8	1.8	7800
9	12.6	4.7	8.7	266	2.6	2.9	254	8.9	W	74	3.4	4.0	5430
10	15.3	4.5	9.9	281	1.6	1.8	272	5.1	WNW	47	-1.7	0.0	6495
11	18.1	4.3	11.2	274	2.6	3.1	261	10.2	W	47	-.9	0.0	7890
12	16.0	8.1	12.1	256	2.7	3.5	247	8.3	W	60	3.4	4.4	4595
13	9.4	5.5	7.5	266	2.2	2.4	276	7.0	W	80	4.4	5.6	2990
14	15.8	2.1	9.0	265	2.1	3.0	264	9.5	W	62	1.6	1.2	6395
15	6.6	4.9	5.8	262	5.0	5.1	271	13.3	W	86	3.4	7.8	1365
16	7.7	4.8	6.3	269	3.1	3.2	286	6.3	W	87	4.2	10.4	2135
17	14.7	5.1	9.9	271	2.3	2.4	273	12.1	W	62	2.1	.4	8165
18	20.2	2.7	11.5	283	1.7	2.5	280	9.5	W	30	-8.4	0.0	9800
19	21.6	5.3	13.5	278	3.0	3.3	257	8.3	WNW	29	-6.0	0.0	9590
20	18.5	7.0	12.8	304	1.3	2.0	202	8.3	WNW	50	2.2	2.0	5375
21	21.5	6.0	13.8	273	1.9	2.3	271	8.3	WSW	45	.9	0.0	8255
22	20.2	7.7	14.0	290	2.8	3.1	286	9.5	WNW	44	.5	0.0	8730
23	14.6	6.0	10.3	278	2.1	2.8	250	8.9	W	56	2.2	2.0	4760
24	18.4	3.4	10.9	268	1.0	2.8	274	9.5	WSW	51	1.2	0.0	7655
25	20.3	3.8	12.1	090	1.2	3.2	093	8.3	E	37	-4.1	0.0	9040
26	15.2	6.9	11.1	273	2.5	2.8	244	8.9	W	71	4.6	10.8	2815
27	9.1	5.8	7.5	274	3.9	4.0	271	10.2	W	82	4.3	9.4	1835
28	18.2	5.8	12.0	279	2.7	2.9	274	8.9	WNW	60	3.5	0.0	7890
29	15.3	9.3	12.3	264	2.2	2.4	259	7.0	WSW	60	3.7	0.0	4440
30	18.9	7.1	13.0	272	1.8	2.2	264	6.3	WNW	58	2.8	1.0	6705
MONTH	21.6	.6	10.1	281	1.8	2.9	271	13.3	W	54	-.3	62.4	186480

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
 GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
 GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
 GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

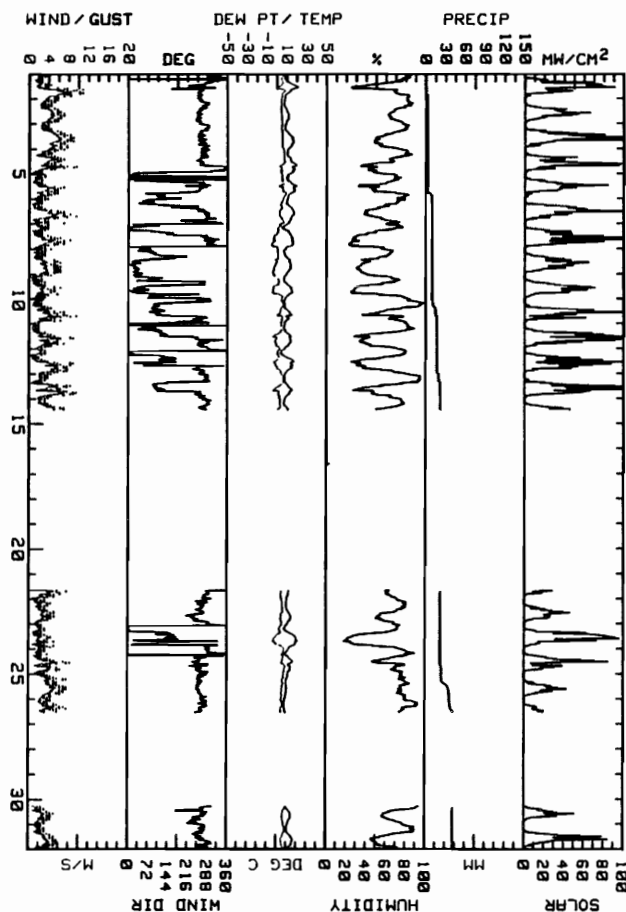
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50M	DAY
1	20.6	7.2	13.9	268	2.9	3.4	258	10.8	W	67	4.7	2.4	6125	1
2	11.9	6.6	9.3	261	3.6	3.6	262	7.0	W	73	4.4	0.0	3980	2
3	16.2	7.4	11.8	270	4.4	4.5	261	8.9	W	64	5.1	0.0	6795	3
4	19.5	9.4	14.5	289	2.5	3.1	348	9.5	W	62	6.0	.2	5295	4
5	19.6	8.8	14.2	268	.6	2.2	284	7.0	W	63	6.0	7.4	4415	5
6	17.0	8.9	13.0	286	1.5	2.4	292	9.5	WNW	56	4.4	.2	5895	6
7	16.3	4.8	10.6	326	1.2	2.3	290	8.3	WNW	44	-1.2	0.0	7495	7
8	14.3	6.2	10.3	041	2.0	2.5	024	6.3	NNE	45	-1.1	0.0	4920	8
9	15.5	6.4	11.0	046	.8	1.8	059	6.3	NNE	49	-.2	.8	4765	9
10	15.3	7.0	11.2	133	.6	2.4	170	9.5	E	71	4.4	6.4	4995	10
11	14.2	6.4	10.3	258	1.0	2.3	250	8.9	WSW	49	.3	.2	7755	11
12	17.3	3.5	10.4	281	.7	2.8	059	8.9	N	55	1.0	2.4	6330	12
13	15.7	7.5	11.6	245	.9	3.2	253	9.5	W	66	3.2	2.8	6420	13
14	11.2	6.8	9.0	279	3.0	3.2	258	7.0	WNW	71	3.2	0.0	2772	14
15	####	####	####	###	####	####	###	####	###	####	####	####	####	15
16	####	####	####	###	####	####	###	####	###	####	####	####	####	16
17	####	####	####	###	####	####	###	####	###	####	####	####	####	17
18	####	####	####	###	####	####	###	####	###	####	####	####	####	18
19	####	####	####	###	####	####	###	####	###	####	####	####	####	19
20	####	####	####	###	####	####	###	####	###	####	####	####	####	20
21	12.7	9.9	11.3	287	2.8	2.8	281	7.6	W	64	4.8	0.0	1427	21
22	14.4	9.4	11.9	259	2.1	2.2	275	5.1	W	68	5.5	.2	2940	22
23	21.2	7.1	14.2	018	.3	1.9	331	5.1	N	48	1.8	0.0	6630	23
24	16.9	8.2	12.6	269	2.2	2.6	252	8.3	WNW	71	7.1	2.2	4845	24
25	11.1	7.9	9.5	262	3.8	3.8	259	7.6	W	78	5.9	12.2	2485	25
26	8.7	7.2	8.0	271	3.0	3.1	261	7.6	W	84	5.1	5.0	1650	26
27	####	####	####	###	####	####	###	####	###	####	####	####	####	27
28	####	####	####	###	####	####	###	####	###	####	####	####	####	28
29	####	####	####	###	####	####	###	####	###	####	####	####	####	29
30	15.0	9.9	12.5	259	1.9	2.1	271	5.1	W	69	7.1	0.0	3167	30
31	17.0	10.3	13.7	275	2.5	2.6	275	5.7	W	68	6.9	0.0	4135	31
MONTH	21.2	3.5	11.6	275	1.6	2.7	258	10.8	W	62	3.8	42.4	104435	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
July, 1984

FIGURE and TABLE 5.103

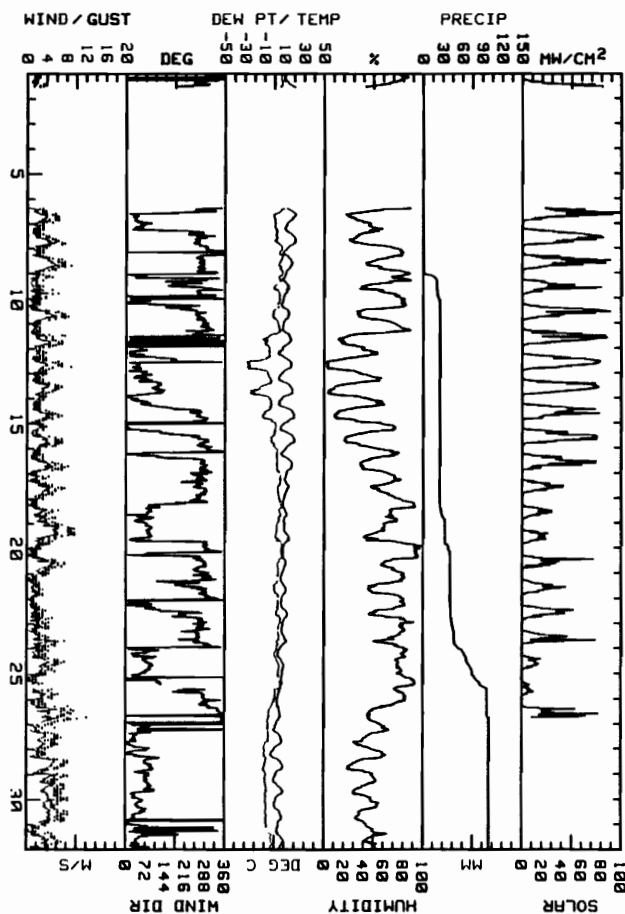
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING August, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGN	DAY
1	20.4	9.2	14.8	311	1.0	1.4	245	3.8	N	71	6.9	0.0	4688	1
2	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	2
3	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	3
4	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	4
5	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	5
6	21.5	11.9	16.7	032	1.6	2.5	044	6.3	NE	38	2.0	0.0	8686	6
7	21.1	9.4	15.3	273	1.6	2.5	248	7.6	W	44	2.6	0.0	7135	7
8	18.5	8.3	13.4	283	2.9	3.2	274	8.9	W	64	6.3	2.6	5245	8
9	11.4	8.0	11.2	307	.6	1.5	261	6.3	W	65	4.1	21.4	3475	9
10	14.7	6.1	10.4	270	1.7	2.3	262	8.3	W	54	1.3	1.6	5325	10
11	16.6	7.0	11.8	346	1.7	2.2	343	7.6	N	43	-3.1	0.0	6805	11
12	17.1	3.0	10.1	047	1.7	2.3	025	8.9	NE	25	-13.6	0.0	6970	12
13	18.3	3.6	11.0	093	2.0	2.6	116	7.0	ESE	28	-10.5	0.0	6645	13
14	19.9	3.5	11.7	277	1.0	2.3	261	7.0	W	33	-5.9	0.0	5115	14
15	20.3	5.1	12.7	297	1.6	2.5	261	7.0	N	43	-6	0.0	5975	15
16	17.6	6.0	11.8	296	1.8	2.3	291	8.3	WNW	51	2.8	0.0	4495	16
17	14.6	9.1	11.9	273	2.3	2.4	268	7.6	W	64	4.7	0.0	2485	17
18	12.0	8.2	10.1	074	1.6	2.1	088	6.3	E	73	5.2	7.8	1835	18
19	14.8	8.4	11.6	072	2.6	3.8	087	9.5	E	62	3.5	5.0	1840	19
20	11.6	7.3	9.5	279	2.2	2.5	289	7.6	WNW	74	4.8	3.0	2670	20
21	11.7	5.9	8.8	271	.9	1.2	274	3.8	W	60	1.6	.2	2455	21
22	13.2	6.3	9.8	248	.3	1.4	248	5.1	W	68	3.9	2.6	3045	22
23	12.1	5.2	8.7	270	1.8	2.1	264	7.6	W	72	3.6	10.8	2888	23
24	9.3	3.1	6.2	074	2.5	2.7	072	7.6	E	78	2.9	20.0	1310	24
25	7.7	2.0	4.9	276	.9	1.8	276	6.3	W	81	2.1	22.4	730	25
26	6.0	1.1	3.6	343	3.1	3.3	354	12.1	N	54	-4.8	2.6	4391	26
27	8.1	-1.5	3.3	033	2.3	2.5	028	7.0	NNE	46	-7.3	0.0	*****	27
28	8.9	-4.2	2.4	073	3.0	3.4	069	8.3	E	43	-9.4	0.0	*****	28
29	9.4	-1.1	4.2	067	3.8	4.2	085	8.3	ENE	43	-8.5	0.0	*****	29
30	7.9	-5	3.7	038	3.7	3.9	072	8.3	NE	42	-8.3	0.0	*****	30
31	9.6	1.6	5.6	042	1.9	2.2	038	7.0	NE	50	-3.8	0.0	*****	31
MONTH	21.5	-4.2	9.4	002	.8	2.5	354	12.1	W	54	-6	100.0	93320	

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 8.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
August, 1984

FIGURE and TABLE 5.104

R & M CONSULTANTS, INC.

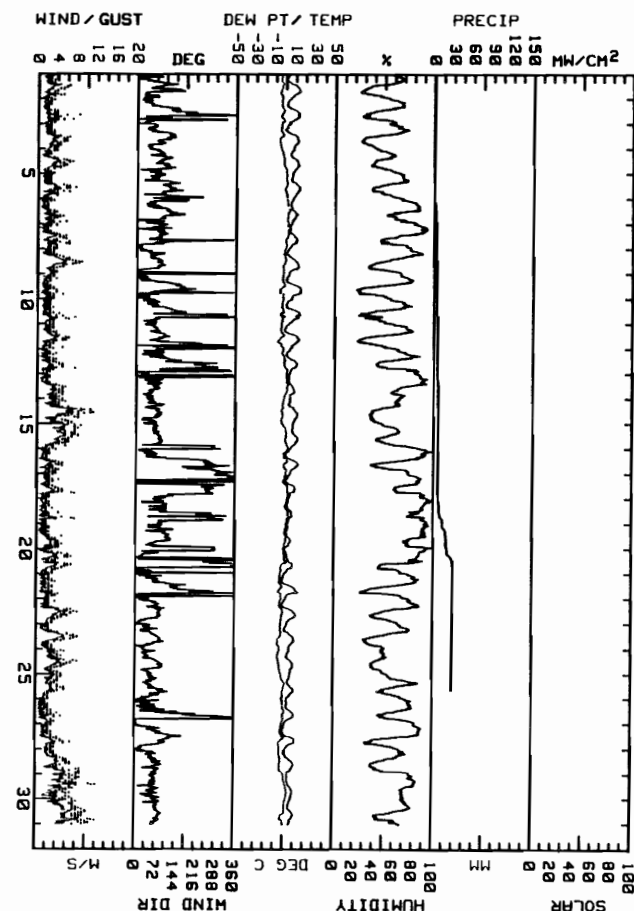
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	11.3	.1	7.2	062	1.5	2.1	096	6.3	NNE	48	-4.5	0.0	*****	1
2	13.5	0.0	6.8	056	.9	1.8	332	8.3	NNE	51	-3.6	0.0	*****	2
3	12.8	-1.6	5.6	085	2.1	2.4	139	6.3	NE	47	-4.9	0.0	*****	3
4	13.1	4.4	8.8	092	2.1	2.2	084	7.0	E	50	-1.4	0.0	*****	4
5	14.0	4.6	9.3	104	1.6	1.9	116	7.6	ESE	55	.5	0.0	*****	5
6	11.9	4.5	8.2	094	1.3	1.7	069	5.7	ESE	72	2.4	3.4	*****	6
7	11.8	3.1	7.5	072	1.6	2.1	136	6.3	E	69	1.5	.8	*****	7
8	13.2	-3	6.5	063	2.6	3.1	091	8.9	E	60	-1.3	0.0	*****	8
9	15.5	-1	7.7	050	.9	1.6	077	5.1	N	53	-2.7	.6	*****	9
10	15.4	.3	7.9	069	1.1	1.7	358	7.6	ENE	52	-2.9	1.0	*****	10
11	14.4	-1.2	6.6	078	1.5	2.1	103	6.3	ENE	53	-3.8	0.0	*****	11
12	12.5	.8	6.7	117	.1	1.7	184	7.6	E	65	-.2	.2	*****	12
13	9.5	2.9	6.2	054	2.1	2.3	075	5.7	NE	74	1.5	1.0	*****	13
14	13.1	3.3	8.2	071	3.8	4.0	091	11.4	ENE	48	-2.4	0.0	*****	14
15	13.2	5.3	9.3	076	3.6	4.1	070	8.9	E	59	1.3	0.0	*****	15
16	13.9	-1	6.9	303	.8	1.7	272	5.1	W	70	.7	0.0	*****	16
17	11.0	.4	5.7	305	1.1	2.0	279	7.6	N	79	1.8	1.0	*****	17
18	7.7	1.9	4.8	093	.3	1.4	279	7.6	E	89	2.5	6.2	*****	18
19	6.5	0.0	3.3	087	1.2	1.8	118	5.1	ESE	84	.7	7.2	*****	19
20	8.5	-5	4.0	002	2.0	2.5	015	7.0	N	71	-1.3	8.2	*****	20
21	14.4	-3.0	5.7	057	.7	1.6	013	4.4	N	64	-3.8	0.0	*****	21
22	11.9	-2.7	4.6	070	2.5	2.8	085	8.3	E	62	-2.9	0.0	*****	22
23	10.2	-3	5.0	065	2.4	2.7	078	8.3	ENE	51	-4.4	0.0	*****	23
24	9.2	1.8	5.5	065	2.9	3.2	076	8.3	NE	46	-4.7	0.0	*****	24
25	10.1	2.6	6.4	064	2.3	2.5	066	5.7	ENE	63	-.6	.2	*****	25
26	10.4	.3	5.4	020	.9	1.4	294	5.1	N	67	-.5	****	*****	26
27	11.4	-1.7	4.9	077	1.7	2.2	112	7.0	E	67	-2.7	****	*****	27
28	10.3	-2	5.1	070	3.6	3.7	089	8.9	ENE	56	-2.9	****	*****	28
29	9.4	3.2	6.3	068	4.1	4.3	075	12.1	ENE	75	2.4	****	*****	29
30	10.8	4.7	7.8	082	5.6	5.7	088	12.1	E	63	.4	****	*****	30
MONTH	15.5	-3.0	6.4	069	1.8	2.5	075	12.1	ENE	62	-1.2	29.8	*****	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
September, 1984

FIGURE and TABLE 5.105

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

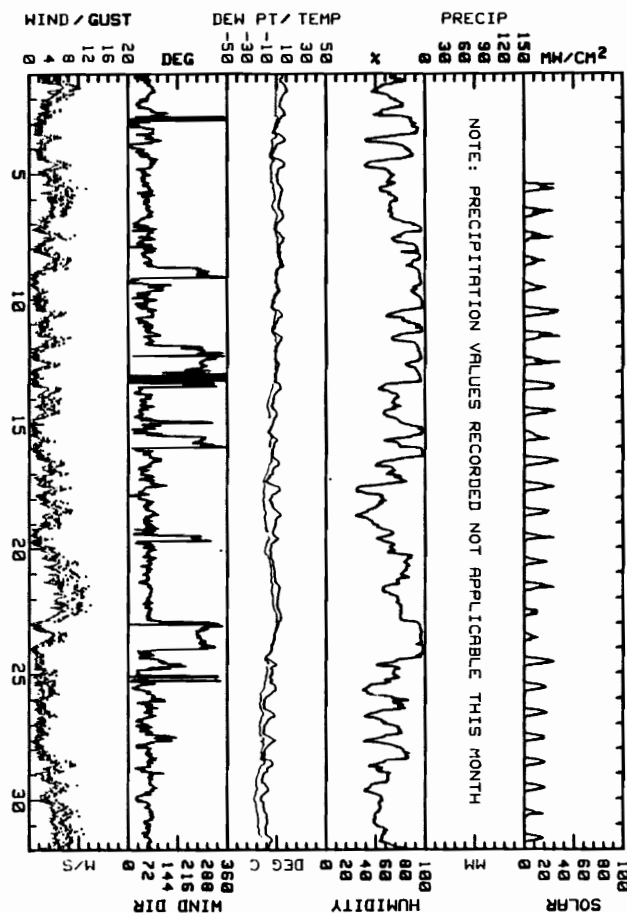
MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING October, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH
1	16.7	2.9	6.8	076	4.5	4.7	092	10.2	ENE	62	-1.2	****	***** 1
2	8.9	.5	4.7	058	2.0	2.5	082	6.3	NE	72	-1.5	****	***** 2
3	8.3	-2.5	2.9	062	1.7	2.1	084	6.3	E	74	-2.9	****	***** 3
4	7.8	-5.8	1.0	073	2.9	3.0	090	8.3	E	66	-5.3	****	***** 4
5	6.1	-1.1	2.5	069	4.4	4.5	076	11.5	ENE	64	-3.5	****	1490 5
6	6.8	.1	3.5	069	3.7	3.9	069	8.7	ENE	68	-1.7	****	1235 6
7	7.2	-2.2	2.5	067	2.3	2.4	071	9.2	ENE	83	-1.8	****	1835 7
8	6.7	.1	3.4	072	2.1	3.3	072	8.3	ENE	90	1.9	****	885 8
9	3.4	-2.4	.5	063	.7	1.1	097	3.7	N	92	-4.6	****	995 9
10	5.5	-5.0	.3	073	2.3	2.5	085	7.4	E	83	-2.8	****	1995 10
11	5.2	-4.5	.4	081	2.2	2.6	074	8.3	ENE	85	-2.2	****	1540 11
12	2.4	-1.9	.3	271	1.4	1.5	261	6.0	W	89	-1.3	****	1325 12
13	4.2	-3.2	.5	038	1.5	1.9	049	6.4	N	72	-4.5	****	1940 13
14	.2	-5.5	-2.7	051	1.9	2.0	047	6.0	NE	66	-7.9	****	1380 14
15	.5	-8.4	-4.0	291	.5	1.2	268	5.1	W	77	-6.6	****	1165 15
16	2.0	-5.0	-1.5	070	2.6	2.8	049	7.8	NE	74	-6.7	****	1860 16
17	3.3	-11.1	-3.9	064	2.4	2.7	065	8.3	NE	56	-12.4	****	1550 17
18	4.2	-7.6	-1.7	077	3.6	3.8	077	8.7	ENE	46	-11.8	****	1210 18
19	1.5	-6.6	-2.6	075	.8	1.6	082	6.0	E	59	-9.8	****	925 19
20	-2.2	-7.5	-4.9	075	4.3	4.4	082	9.7	ENE	78	-7.9	****	985 20
21	3.2	-2.2	.5	075	5.7	5.8	082	12.0	ENE	69	-4.6	****	1210 21
22	4.5	.3	2.4	076	4.8	5.0	076	12.4	ENE	75	-1.5	****	620 22
23	1.2	-5.3	-2.1	265	2.5	2.6	252	7.4	W	96	-2.6	****	535 23
24	0.0	-10.8	-5.4	072	1.2	1.6	032	5.5	NE	80	-9.6	****	1535 24
25	-7	-12.7	-6.7	058	1.8	2.2	072	6.0	E	56	-13.2	****	1175 25
26	-2.0	-14.0	-8.0	069	1.8	1.9	086	5.5	ENE	60	-15.5	****	1125 26
27	-1.1	-14.1	-7.6	077	1.3	1.5	078	4.1	ENE	67	-15.3	****	1075 27
28	-4.5	-14.3	-9.4	074	3.2	3.3	074	9.2	ENE	65	-15.7	****	1075 28
29	-6.3	-16.2	-12.3	077	3.4	3.6	083	9.7	E	53	-20.8	****	1035 29
30	-9.4	-15.8	-12.6	077	4.6	4.7	092	10.1	ENE	52	-19.7	****	550 30
31	-4.6	-11.7	-8.2	074	5.0	5.0	070	11.0	ENE	62	-15.1	****	895 31
MONTH	10.7	-16.2	-2.0	070	2.4	3.0	076	12.4	ENE	70	-7.1	****	32265

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.7

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
October, 1984

FIGURE and TABLE 5.106

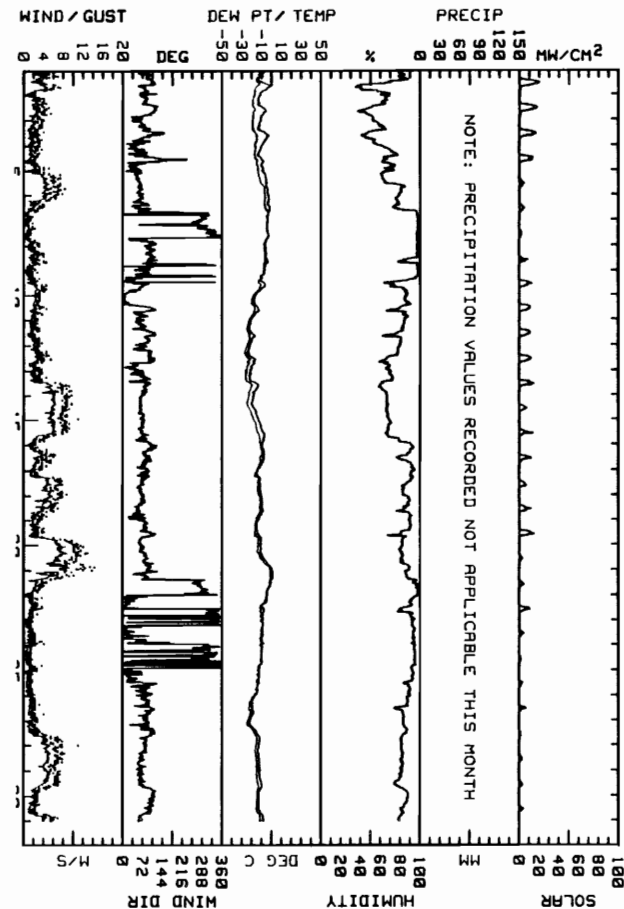
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR WATANA WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP DEC C	MIN. TEMP DEC C	MEAN TEMP DEC C	RES. WIND DIR DEC	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR DEC	MAX. GUST SPD. N/S	P-VAL DIR N/S	MEAN RH %	MEAN DP DEC C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	-1.5	-14.9	-8.2	085	2.8	2.9	080	7.4	E	65	-14.6	****	1000	1
2	-5.9	-14.3	-10.1	091	2.0	2.2	099	5.5	E	55	-18.4	****	925	2
3	-2.6	-14.2	-8.4	077	1.4	1.6	108	4.1	ENE	54	-16.9	****	785	3
4	-8.1	-14.6	-11.4	059	1.2	1.5	031	5.1	NE	70	-15.5	****	635	4
5	-3.5	-9.2	-6.4	060	4.1	4.1	066	8.3	ENE	71	-10.0	****	215	5
6	-2.0	-4.8	-3.4	059	1.3	1.7	072	6.4	ENE	78	-6.5	****	220	6
7	-3.3	-7.7	-5.5	021	.2	.8	097	3.2	W	98	-6.1	****	115	7
8	-3.4	-7.9	-5.7	094	1.2	1.4	088	4.6	E	94	-6.7	****	220	8
9	-6.6	-17.0	-11.8	042	1.5	1.8	085	4.6	ENE	83	-13.3	****	515	9
10	-12.0	-21.3	-17.1	044	1.6	2.0	107	4.6	N	83	-19.3	****	560	10
11	-16.8	-23.4	-20.1	080	1.5	1.6	089	3.7	E	80	-23.7	****	550	11
12	-15.9	-25.0	-20.5	082	2.0	2.2	105	5.5	E	71	-24.8	****	570	12
13	-13.5	-22.8	-18.2	078	3.7	3.8	072	9.7	E	66	-23.4	****	565	13
14	-13.5	-20.7	-17.1	066	5.7	5.8	064	11.0	ENE	67	-22.1	****	305	14
15	-7.4	-13.3	-10.4	071	4.2	4.3	071	9.2	ENE	72	-14.0	****	335	15
16	-7.5	-14.3	-10.9	084	2.3	2.4	076	6.4	E	89	-11.6	****	395	16
17	-10.3	-16.3	-13.3	069	4.0	4.0	076	8.7	ENE	87	-14.2	****	295	17
18	-8.5	-14.9	-11.7	062	3.1	3.2	078	7.8	ENE	88	-12.4	****	390	18
19	-10.5	-16.2	-13.4	071	3.1	3.2	062	11.0	ENE	85	-15.6	****	560	19
20	.4	-12.0	-5.8	081	7.1	7.2	102	14.3	E	83	-9.5	****	110	20
21	1.3	-4.9	-1.8	034	.6	2.8	081	10.1	WNW	93	-2.3	****	175	21
22	-4.6	-10.7	-7.7	004	1.2	1.3	001	3.7	N	89	-9.3	****	360	22
23	-7.6	-11.0	-9.3	017	.9	1.1	055	4.1	N	94	-10.6	****	160	23
24	-9.6	-12.7	-11.2	349	.7	.8	000	3.7	N	93	-12.9	****	65	24
25	-12.6	-17.1	-14.9	061	.7	.8	103	2.3	NNE	91	-15.5	****	105	25
26	-17.8	-22.1	-20.0	087	1.4	1.4	091	4.1	E	84	-21.9	****	180	26
27	-12.1	-23.2	-17.7	086	2.5	2.5	079	11.0	E	83	-18.1	****	60	27
28	-11.7	-14.7	-13.2	069	4.5	4.6	060	8.3	ENE	82	-15.6	****	120	28
29	-9.6	-13.3	-11.5	074	3.3	3.5	077	7.4	ENE	81	-14.3	****	130	29
30	-8.3	-13.3	-10.8	082	2.0	2.1	065	6.9	E	83	-13.8	****	140	30
MONTH	1.3	-25.0	-11.6	070	2.3	2.6	102	14.3	ENE	79	-14.4	****	10760	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 11.5

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
November, 1984

FIGURE and TABLE 5.107

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	-5.8	-8.5	-7.2	050	3.6	3.7	050	6.4	NE	79	-10.2	****	125	1
2	-4.1	-8.7	-6.4	057	4.4	4.5	059	7.8	NE	75	-10.3	****	135	2
3	-2.9	-4.9	-3.9	061	4.2	4.3	070	7.4	ENE	75	-7.8	****	115	3
4	0.0	-2.9	-1.5	060	4.8	4.9	089	11.0	ENE	75	-5.2	****	105	4
5	-1.0	-6.7	-3.9	065	3.7	3.8	068	9.2	ENE	85	-4.8	****	125	5
6	-6.7	-10.1	-8.4	069	1.0	1.1	072	2.8	E	87	-10.6	****	120	6
7	-6.7	-9.5	-8.1	070	1.5	1.7	076	6.4	ENE	88	-9.6	****	80	7
8	-6.7	-9.3	-8.0	278	2.3	3.6	266	10.1	W	92	-9.3	****	85	8
9	-9.4	-19.3	-14.4	332	.7	1.5	262	7.4	N	85	-16.2	****	265	9
10	-15.5	-20.6	-18.1	072	4.5	4.6	057	11.0	ENE	75	-20.9	****	117	10
11	****	****	****	****	****	****	****	****	****	****	****	****	****	11
12	****	****	****	****	****	****	****	****	****	****	****	****	****	12
13	-16.5	-21.6	-19.1	080	1.7	1.8	100	4.6	E	73	-22.7	****	48	13
14	-18.7	-24.5	-21.6	082	2.4	2.5	095	7.8	ENE	65	-26.9	****	222	14
15	****	****	****	****	****	****	****	****	****	****	****	****	****	15
16	****	****	****	****	****	****	****	****	****	****	****	****	****	16
17	-7.9	-11.3	-9.6	115	.7	.9	094	3.2	ESE	93	-10.3	****	13	17
18	-4.0	-8.4	-6.2	097	.8	.9	126	2.8	E	93	-7.1	****	50	18
19	-3.1	-12.9	-8.0	078	2.1	3.2	079	8.7	E	70	-13.0	****	305	19
20	****	****	****	****	****	****	****	****	****	****	****	****	****	20
21	****	****	****	****	****	****	****	****	****	****	****	****	****	21
22	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	31
MONTH	0.0	-24.5	-9.6	063	2.3	3.0	089	11.0	ENE	80	-12.4	****	1910	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.9

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

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

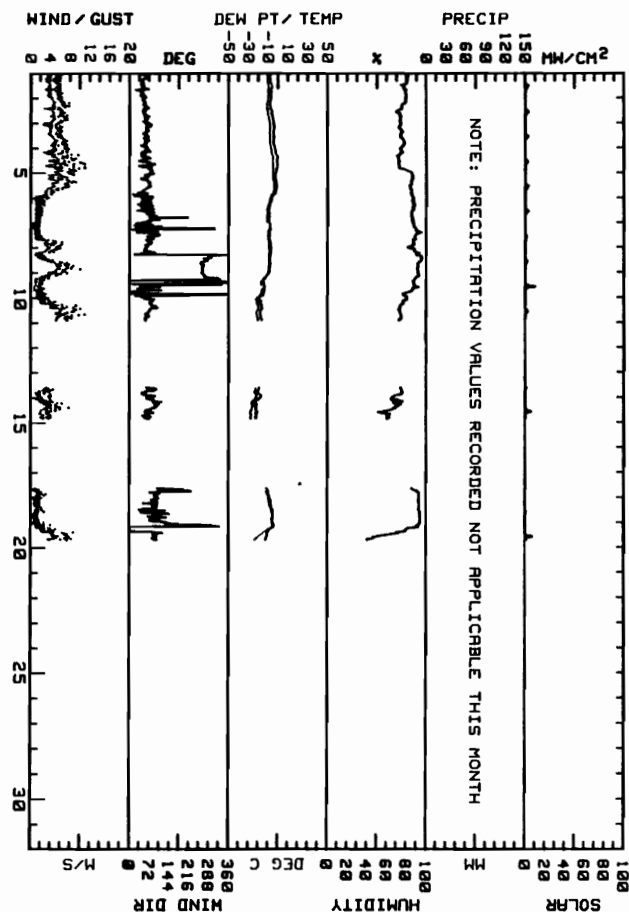


FIGURE and TABLE 5.108
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
WATANA WEATHER STATION
December, 1984

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

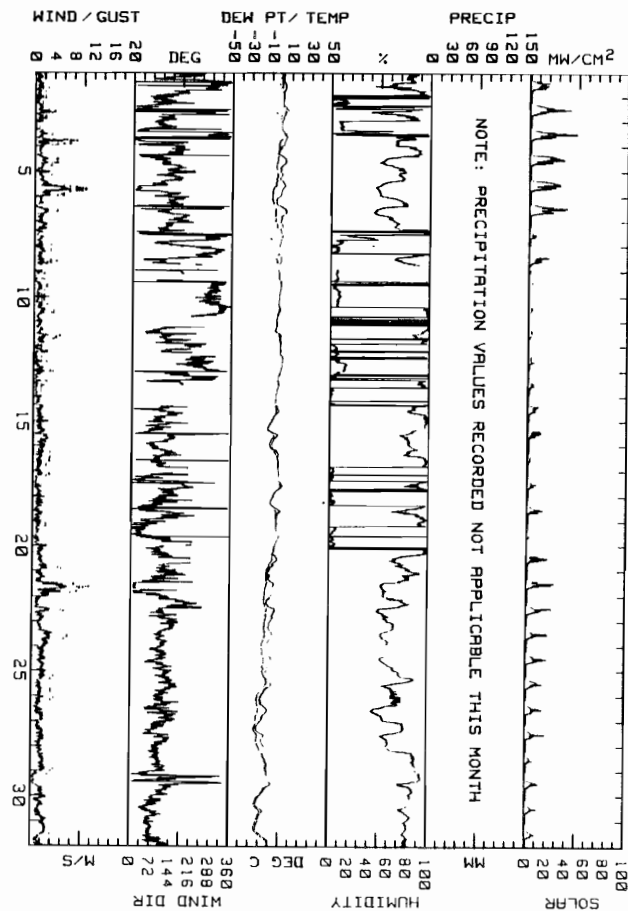
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING October, 1982

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. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	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	****	1940	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	-5.5	-4.2M	-2.4M	280M	.3M	1.0M	255M	4.4M	WSW (M)			****	980	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	118M	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	****	25252	M

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

FIGURE and TABLE 5.109

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

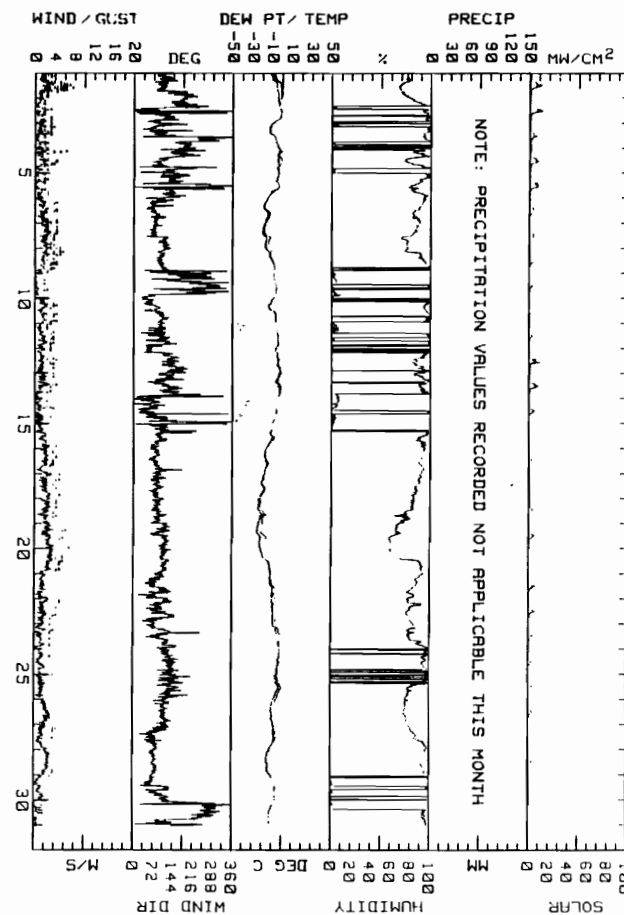
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 1982

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. H/S	AVG. WIND SPD. H/S	MAX. GUST DIR. DEG	MAX. GUST SPD. H/S	P'VAL DIR.	MEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM
1	-2	-9.1	-4.5	120	1.5	1.8	113	7.6	ESE	73	-7.5	****	653
2	-6	-9.6	-5.1	120	.6	.9	085	3.2	S			****	615
3	-2.7	-12.9	-7.8	116	.5	.9	070	3.8	ENE			****	440
4	-3	-5.5	-2.9	125	.9	1.1	170	6.3	ESE			****	568
5	-2.6	-14.3	-8.5	135	.6	.8	132	2.5	SE	89	-8.7	****	685
6	-11.7	-18.1	-14.9	082	1.6	1.7	082	4.4	E	88	-16.8	****	423
7	-11.9	-18.5	-15.2	094	2.1	2.3	120	5.1	ESE	80	-18.1	****	423
8	-7.4	-13.6	-10.5	104	1.7	1.8	090	5.7	ESE			****	340
9	-5.7	-8.5	-7.1	194	.1	.5	120	2.5	WSW			****	310
10	-5.9	-13.7	-9.8	088	1.6	1.7	075	4.4	ESE			****	345
11	-3.6	-6.5	-5.1	100	1.3	1.4	117	3.8	ESE			****	310
12	-5	-6.8	-3.7	130	1.1	1.4	137	4.4	SE			****	493
13	-7	-6.5	-3.6	121	1.1	1.3	115	4.4	ESE			****	540
14	-3.2	-9.2	-6.2	076	.7	.9	089	3.8	ENE			****	400
15	-6.7	-15.3	-11.0	093	1.6	1.6	095	4.4	E			****	365
16	-13.0	-16.8	-14.9	087	2.0	2.0	088	4.4	E	92	-16.5	****	350
17	-15.7	-21.4	-18.6	088	2.3	2.4	097	5.1	E	87	-19.9	****	350
18	-15.9	-22.2	-19.1	092	2.2	2.3	090	4.4	E	78	-23.0	****	390
19	-15.2	-21.4	-18.3	115	2.8	2.8	115	7.0	ESE	63	-23.2	****	410
20	-10.1	-15.3	-12.7	115	2.9	3.0	123	6.3	ESE	79	-15.4	****	330
21	-5.8	-10.7	-8.3	093	1.5	1.7	125	4.4	ENE	85	-10.4	****	393
22	-4.6	-7.5	-6.1	103	1.6	1.8	119	5.1	ENE	80	-8.9	****	370
23	-8	-6.0	-3.4	112	1.1	1.3	113	3.8	ESE			****	348
24	-1.0	-4.7	-2.9	136	1.4	1.4	138	3.8	SE			****	335
25	.5	-6.7	-3.1	138	1.4	1.5	159	3.8	SE			****	350
26	-4.9	-7.3	-6.1	116	2.4	2.4	110	5.7	ESE	76	-9.7	****	358
27	-3.8	-11.8	-7.8	086	1.5	1.6	114	4.4	E	88	-8.5	****	363
28	-10.3	-14.7	-12.5	080	2.7	2.7	070	4.4	E	95	-13.8	****	368
29	-5.4	-10.1	-7.8	097	1.1	1.2	131	3.8	ENE			****	258
30	-5.8	-12.0	-8.9	259	.4	.7	276	3.8	W			****	273
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

FIGURE and TABLE 5.110

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

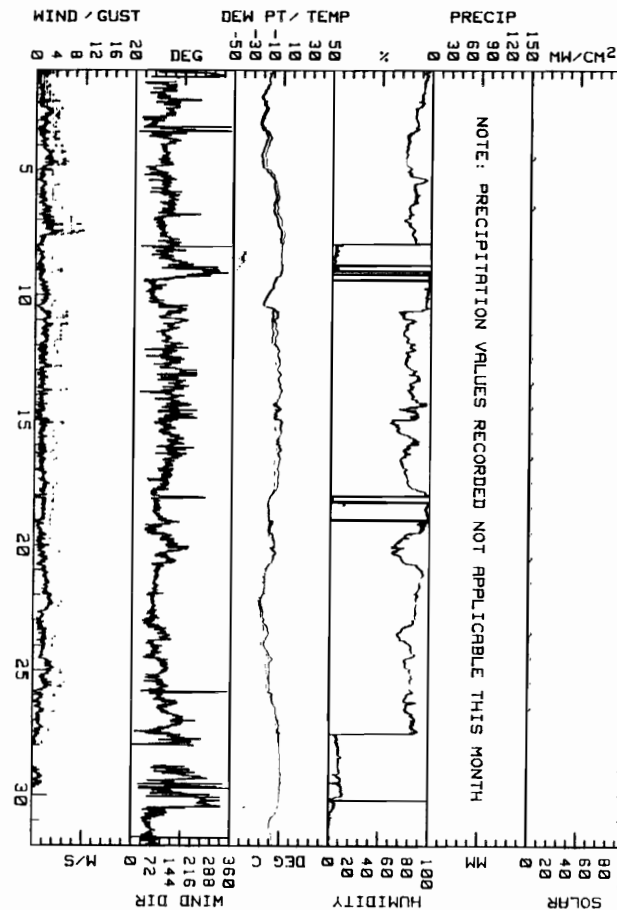
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING December, 1982

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. WIND DIR. DEG	MAX. WIND SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	-11.1	-19.9	-15.5	117	.5	.8	280	3.2	SE	92	-17.7	****	268
2	-15.1	-21.6	-18.4	121	1.5	1.7	133	5.1	SE	86	-20.1	****	283
3	-11.9	-21.4	-16.7	107	1.2	1.6	125	4.4	ESE	80	-18.9	****	293
4	-13.1	-18.7	-15.9	108	2.3	2.5	125	6.3	ESE	75	-20.5	****	343
5	-4.7	-13.1	-8.9	188	1.3	1.3	098	4.4	ESE	83	-10.3	****	305
6	-1.5	-7.5	-4.5	122	1.7	1.9	110	7.8	SE	80	-7.9	****	333
7	1.8	-1.9	-.1	107	2.3	2.4	107	9.5	ESE			****	300
8	0.8	-1.8	-.9	134	.7	1.0	305	5.1	SE			****	258
9	-.6	-14.4	-7.5	067	1.0	1.7	277	5.1	ENE			****	270
10	-4.3	-19.1	-11.7	110	1.6	1.9	141	6.3	ESE	86	-13.3	****	273
11	-4.8	-8.7	-6.8	129	2.0	2.1	108	6.3	ESE	77	-18.1	****	295
12	-2.3	-6.8	-4.6	130	1.5	1.6	124	5.1	ESE	77	-7.2	****	310
13	-.1	-5.1	-2.6	145	1.3	1.5	109	6.3	SSE	83	-5.0	****	328
14	-.9	-9.0	-5.0	142	1.1	1.2	124	4.4	SE	83	-6.9	****	318
15	.3	-5.5	-2.6	130	1.5	1.7	102	5.7	ESE	73	-6.1	****	308
16	-.3	-5.0	-2.7	134	1.4	1.5	115	4.4	SE	74	-6.7	****	315
17	-2.6	-10.5	-6.6	107	1.8	1.9	117	4.4	ESE	82	-7.5	****	303
18	-10.2	-13.9	-12.1	089	1.7	1.8	077	4.4	E			****	308
19	-6.6	-13.0	-9.8	113	1.1	1.3	122	4.4	SE			****	300
20	-5.6	-15.3	-10.5	124	1.6	1.8	123	5.1	ESE	74	-13.5	****	315
21	-15.0	-18.8	-16.9	083	2.6	2.6	071	5.1	E	91	-17.7	****	310
22	-16.0	-20.6	-18.3	075	2.6	2.7	072	5.7	ENE	87	-20.5	****	305
23	-11.8	-17.8	-14.8	099	1.8	2.0	101	4.4	ESE	75	-18.1	****	328
24	-8.0	-16.8	-12.4	105	2.3	2.5	119	5.7	ESE	80	-14.6	****	308
25	-7.8	-12.7	-10.3	102	2.1	2.3	116	6.3	ESE	81	-13.5	****	310
26	-.8	-8.7	-4.8	130	1.2	1.4	101	4.4	ESE	80	-8.4	****	300
27	.4	-2.9	-1.3	143	.8	1.0	098	3.2	SSE			****	253
28	.9	-.4	.3	145	.3	.4	087	1.9	SE			****	240
29	1.7	-.3	.7	179M	.6M	1.0M	252M	3.2M	SE(M)			****	268
30	-.1	-9.3	-4.7	***	***	***	***	***	***			****	253
31	-6.6	-10.4	-8.5	***	***	***	***	***	***			****	250
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

FIGURE and TABLE 5.111

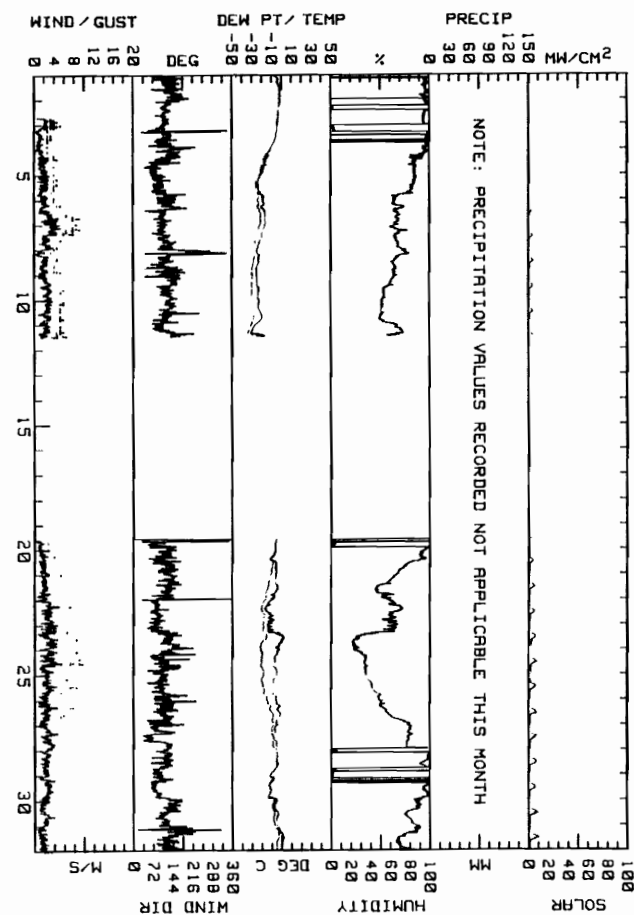
R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

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.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	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(4)	###	###	###	###	###	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	-16.2	-31.0	-24.9	115M	1.7M	2.0M	140M	6.3M E(4)	68M	-32.1M	###	###	###	311M	11
12	####	####	####	###	###	###	###	###	###	###	###	###	###	####	12
13	####	####	####	###	###	###	###	###	###	###	###	###	###	####	13
14	####	####	####	###	###	###	###	###	###	###	###	###	###	####	14
15	####	####	####	###	###	###	###	###	###	###	###	###	###	####	15
16	####	####	####	###	###	###	###	###	###	###	###	###	###	####	16
17	####	####	####	###	###	###	###	###	###	###	###	###	###	####	17
18	####	####	####	###	###	###	###	###	###	###	###	###	###	####	18
19	-5.8	-7.4	-6.6	102M	.6M	.9M	274M	2.5M SE(4)	###	###	###	###	###	269M	19
20	-5.6	-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	126	1.6	1.7	124	4.4 SE	54	-14.4	###	###	###	420	21
22	-8.8	-18.0	-13.4	084	2.6	2.6	089	7.0 E	63	-19.2	###	###	###	418	22
23	1.0	-15.6	-6.7	120	2.3	2.7	131	8.3 ESE	37	-19.2	###	###	###	503	23
24	-5.8	-9.9	-6.9	108	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	-31.0M	-12.0M	112M	1.8M	1.5M	100M	9.5M ESE(4)	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.
SUSTITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
January, 1983

FIGURE and TABLE 5.112

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

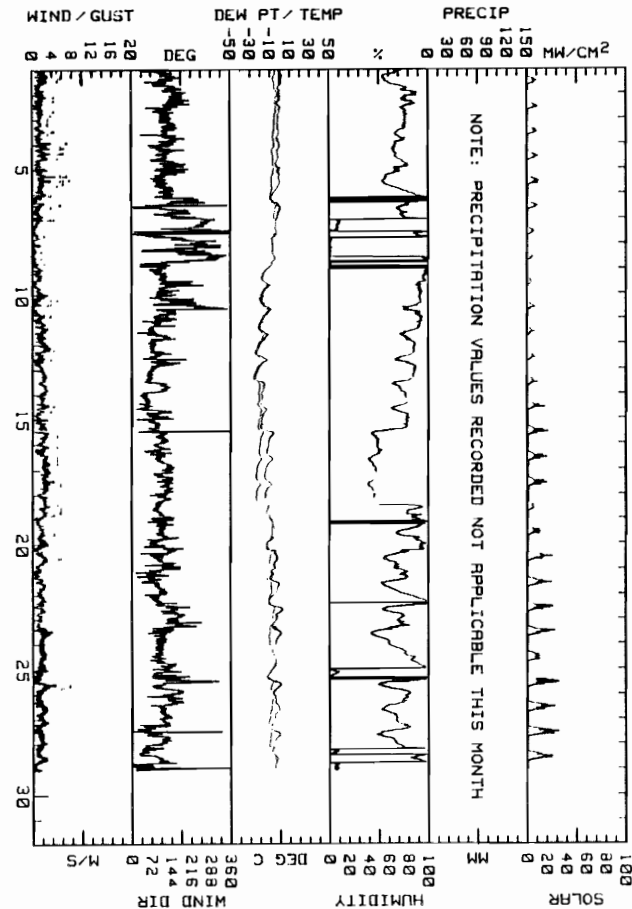
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING February, 1983

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 GUST DIR. DEG	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ
1	3.3	-1.5	.9	133	1.6	1.7	112	5.7	ESE	67	-4.4	****	595
2	1.5	-2.9	-.7	138	1.4	1.6	142	4.4	SE	78	-3.7	****	613
3	.3	-3.2	-1.5	135	1.5	1.6	115	7.8	ESE	73	-5.3	****	615
4	1.1	-4.0	-1.5	123	1.7	1.8	099	6.3	SE	69	-6.2	****	620
5	1.1	-6.7	-2.8	119	1.8	2.0	095	7.6	ESE	64	-7.3	****	783
6	1.3	-9.4	-4.1	145	.7	1.2	098	5.7	SSE			****	625
7	-2.4	-7.5	-5.0	251	.3	.8	384	3.8	WSW			****	495
8	-3.8	-12.8	-8.3	122	.2	.6	093	3.8	ESE			****	448
9	-8.9	-18.5	-13.7	117	1.1	1.2	113	4.4	ESE	94	-16.2	****	435
10	-8.4	-20.0	-14.2	120	.8	1.1	126	5.1	E	90	-16.0	****	500
11	-10.9	-20.2	-15.6	091	1.8	1.9	107	4.4	E	84	-18.7	****	465
12	-11.9	-22.0	-17.4	089	1.7	1.8	082	5.1	E	83	-21.5	****	558
13	-14.5	-24.2	-19.4	087	2.1	2.4	116	5.1	ENE	78	-22.2	****	583
14	-12.5	-19.0	-15.8	068	1.5	1.7	058	4.4	ENE	74	-19.8	****	720
15	-5.8	-19.3	-12.6	103	1.9	2.0	123	5.1	ESE	61	-19.2	****	805
16	-6.2	-13.7	-10.0	115	2.3	2.4	099	5.1	ESE	47	-20.0	****	843
17	-7.4	-15.1	-11.3	128	2.5	2.6	128	6.3	SE	45	-21.9	****	898
18	-8.5	-14.7	-11.6	100	2.1	2.2	090	6.3	ESE	68	-16.8	****	628
19	-2.2	-13.0	-7.6	108	1.6	1.7	113	4.4	ESE			****	743
20	-1.6	-13.2	-7.4	115	1.5	1.7	089	5.7	SE	78	-10.0	****	1083
21	.1	-9.6	-4.8	095	1.5	1.6	096	5.1	E	67	-9.3	****	1040
22	3.1	-10.7	-3.8	126	1.4	1.7	114	5.1	SSE			****	1065
23	1.7	-8.8	-3.6	120	1.7	1.9	098	7.0	ESE	58	-10.0	****	1158
24	-.8	-7.3	-4.1	109	1.9	1.9	088	5.1	ESE			****	950
25	1.7	-12.7	-5.5	122	1.2	1.6	093	7.6	E			****	1388
26	.5	-4.9	-2.2	125	1.7	1.8	111	6.3	ESE	67	-8.3	****	1363
27	1.1	-9.8	-4.4	107	1.5	1.7	118	5.1	ESE	66	-10.0	****	1598
28	-1.1	-7.1	-4.1	078	1.1	1.3	109	5.1	NE			****	1288
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 ****

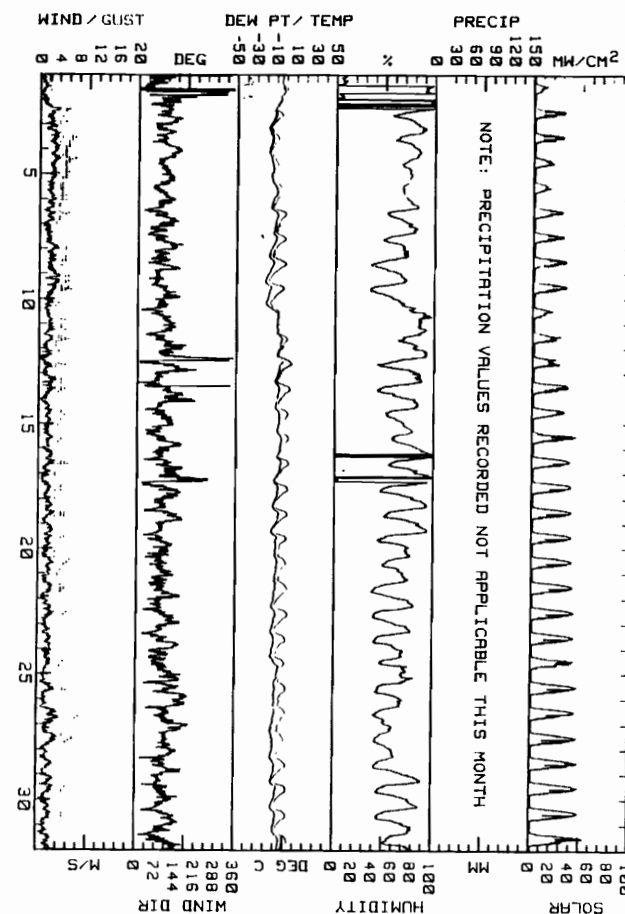


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
February, 1983

FIGURE and TABLE 5.113

FIGURE and TABLE 5.114

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



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.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	MAX. 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	****	1620	3
4	-9.0	-16.7	-12.9	100	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	-1.8	-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	****	1820	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	-0.8	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	-0.9	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	****	3100	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

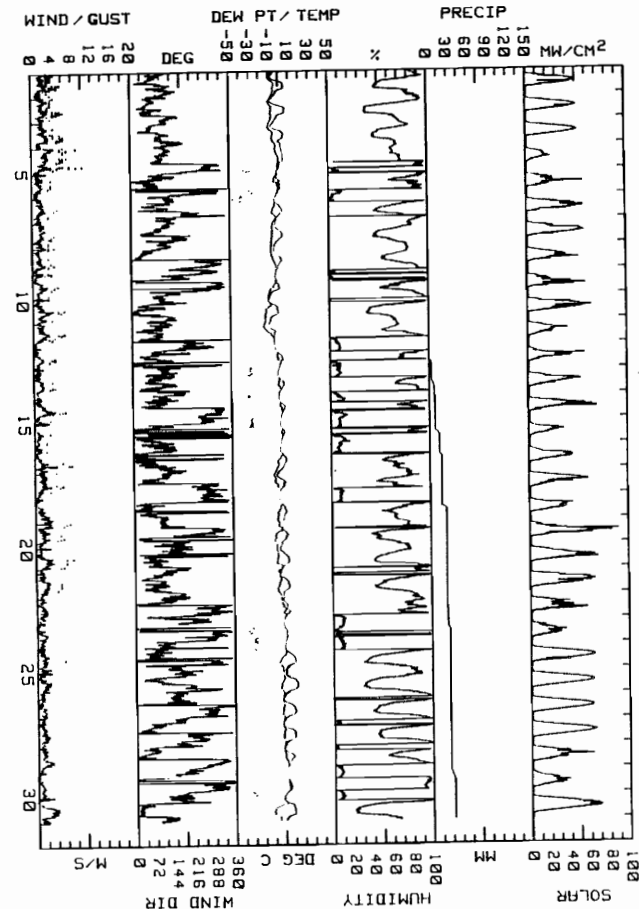
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL	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	-0.8	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	MNE			3.2	3108	16
17	4.6	-5.2	-.3	115	.0	1.5	251	5.7	M			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	110M	3.2M	S(M)			5.6	2908	29
30	10.5	-1.6	4.5	034	1.3	1.8	021	6.3	MNE			0.0	6235	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

FIGURE and TABLE 5.115

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

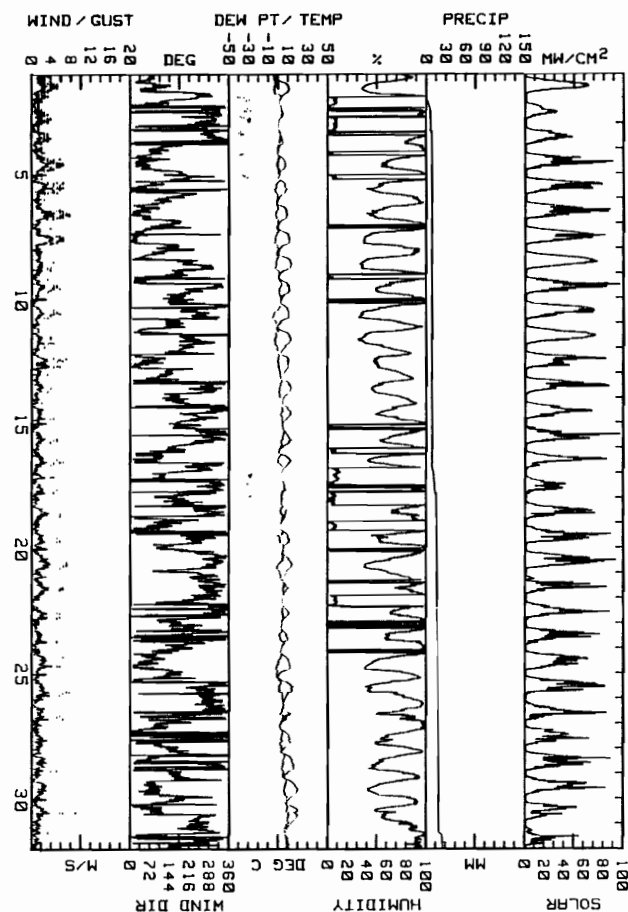
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING May, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	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	2308	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	4571	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	389	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	11.3	3.8	7.6	322	.6	1.2	325	5.7	WNW			1.4	4111	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	43	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	4008	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	20.1	-2.2	6.8	004	.2	1.4	095	8.9	WNW	67	3	25.4	143590	

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

FIGURE and TABLE 5.116

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

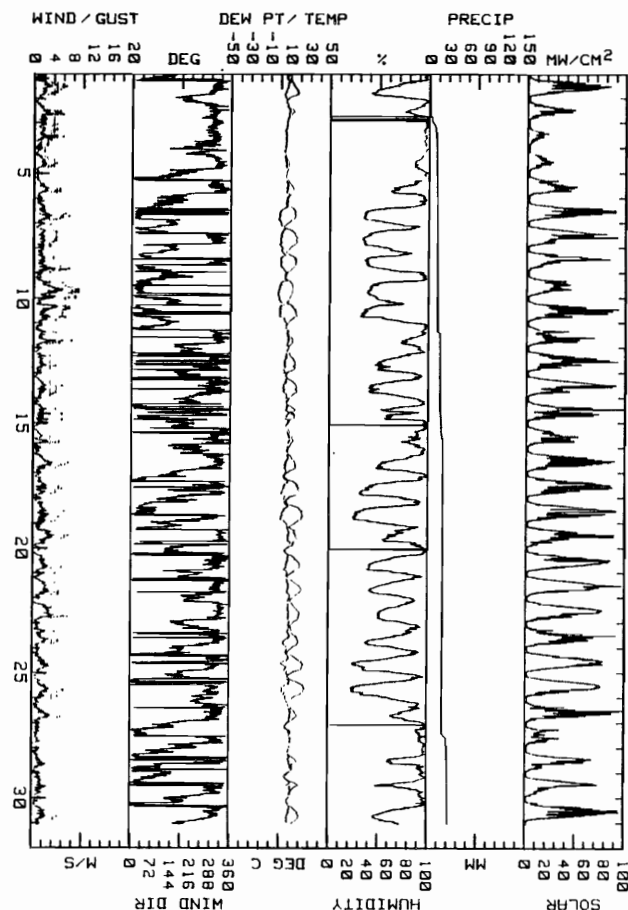
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING June, 1983

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	MAX. P'VAL DIR. DEG	MEAN RH %	MEAN DEW PT. 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	NNW	82	2.8	5.0	2848	2
3	6.0	4.0	5.0	293	1.3	1.4	321	5.7	NNW	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	NNW	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	-.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	NNF	74	6.7	2.2	4940	14
15	13.1	5.5	9.3	299	.6	1.0	297	5.1	NNW	86	8.2	2.8	3863	15
16	15.0	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	53	4.2	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	NNW	50	6.2	0.0	7568	24
25	25.7	7.7	16.7	301	1.1	1.6	298	6.3	NNW	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	91	8.0	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	NNW	61	9.1	0.0	6788	30
MONTH	25.7	1.9	11.2	324	.7	1.5	024	8.9	NW	65	5.5	31.6	157893	

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 ****

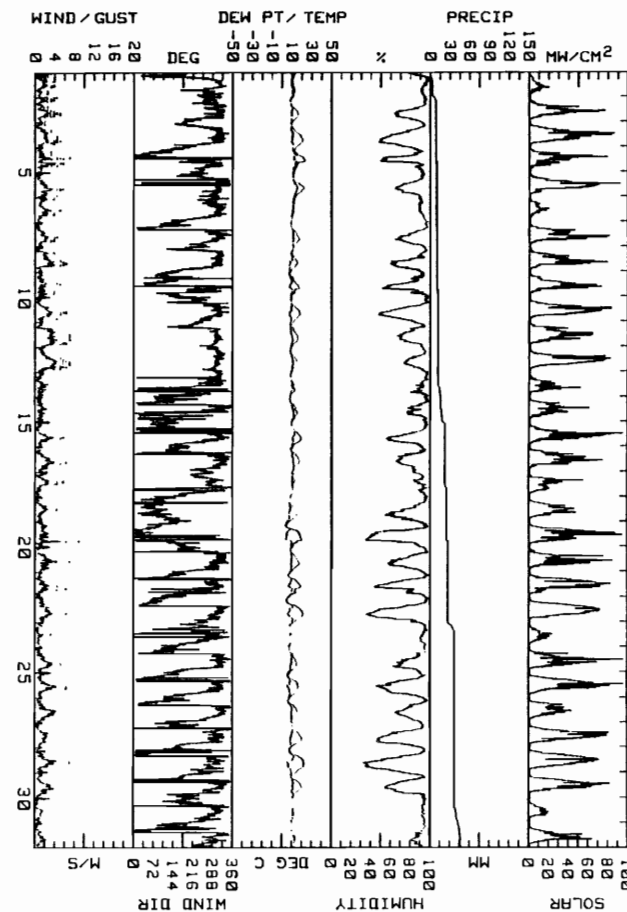


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
June, 1983

FIGURE and TABLE 5.117

FIGURE and TABLE 5.118

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



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. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	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	334	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	186	.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	4703	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	138781	

GUST VFL. 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 ****

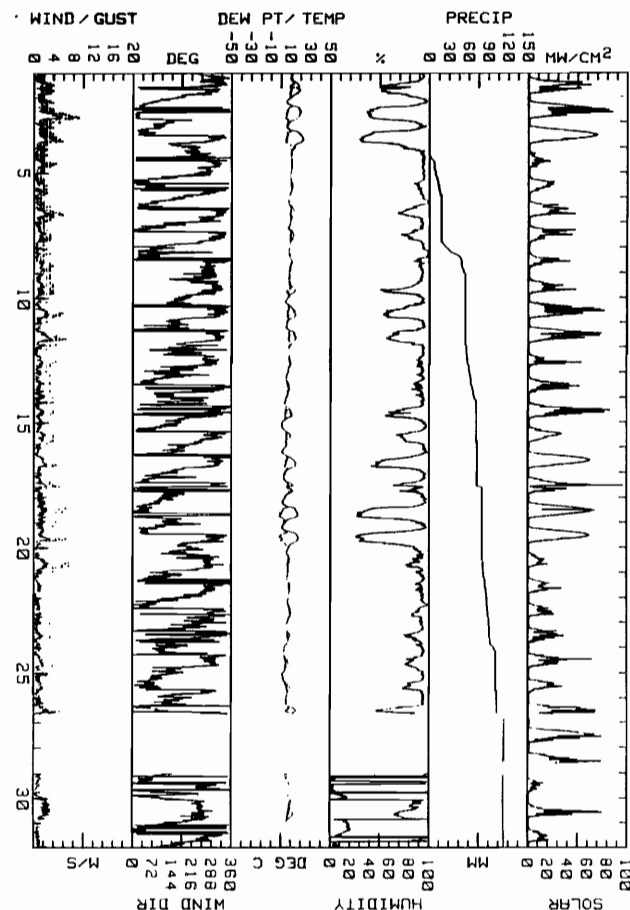
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDN	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	270	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	0.0	2023	5
6	14.6	7.7	11.2	325	.6	1.3	306	5.7	NW	82	9.2	.6	2980	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	1420	12
13	9.8	5.5	7.7	090	.3	1.0	174	3.8	E	90	6.3	6.8	2490	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	3310	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	1740	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	080m	.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	N	N	0.0	975	29
30	13.6	6.5	10.1	243	1.8	2.0	206	8.3	WSW	N	N	0.0	2615	30
31	11.5	6.0	8.8	278	.1	.8	354	2.5	NNE	N	N	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

FIGURE and TABLE 5.119

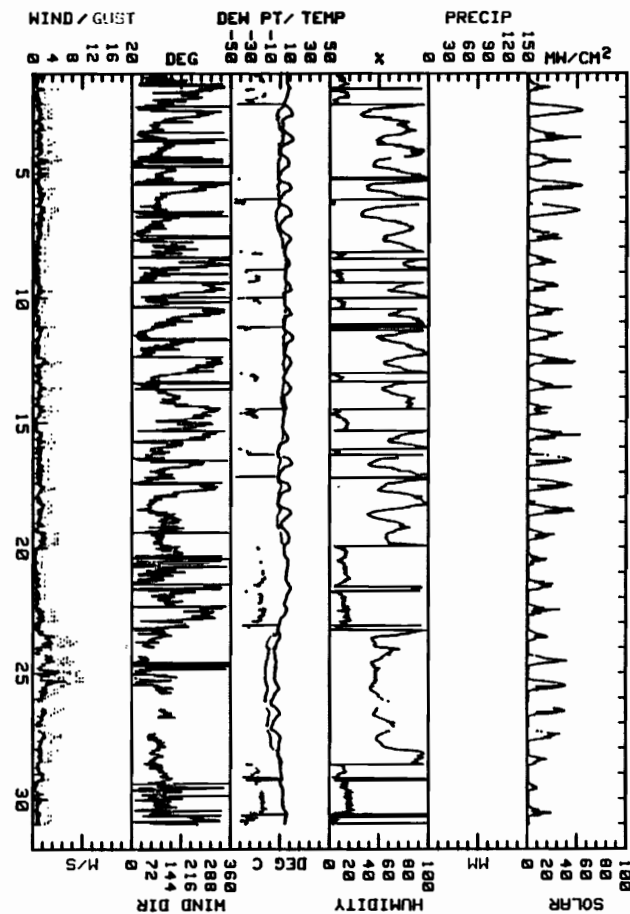
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	18.2	5.6	7.9	173	.8	.8	274	5.1 ENE				0.0	1880	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	2748	3
4	8.9M	-1.1M	3.9M	079M	.8M	1.3M	019M	5.7M ESE(1)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 (1)				0.0	4280	6
7	11.1	-1.4	4.9	065M	.6M	1.1M	077M	3.2M NE (1)72			-1.1	0.0	2801	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 (1)				0.0	3173M	16
17	10.0	-2.6	3.7	158M	.1M	1.3M	276M	4.4M E (1)				0.0	3085	17
18	11.3	-2.7	4.3	090M	1.1M	1.4M	058M	3.8M ENE(1)68			-2.5	0.0	2705	18
19	9.4	-1.2	4.6	109M	1.3M	1.5M	094M	5.1M ESE(1)				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	130	2.5 E				0.0	1608	21
22	7.3	-1.9	3.2	223	.4	1.1	033	5.1 W				0.0	1285	22
23	-1.1	-5.8	-3.0	085M	1.6M	2.0M	041M	8.9M ENE(1)				0.0	1228	23
24	-3.7M	-6.7M	-5.2M	030M	2.2M	2.4M	028M	9.5M NNE(1)58M-13.6M				0.0	2351M	24
25	-8.8M	-7.5M	-9.2M	079M	2.0M	2.6M	015M	10.2M ESE(1)55M-14.2M				0.0	2847M	25
26	0.0M	-4.7M	-4.9M	123M	2.0M	1.8M	108M	6.3M ESE(1)50M-12.4M				0.0	3048M	26
27	.6M	-9.4M	-4.4M	087M	1.7M	1.7M	061M	5.7M E (1)53M-10.5M				0.0	2183M	27
28	2.1	-2.9	-1.4	092M	1.2M	1.3M	081M	5.1M F (1)				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 F (1) 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

FIGURE and TABLE 5.120

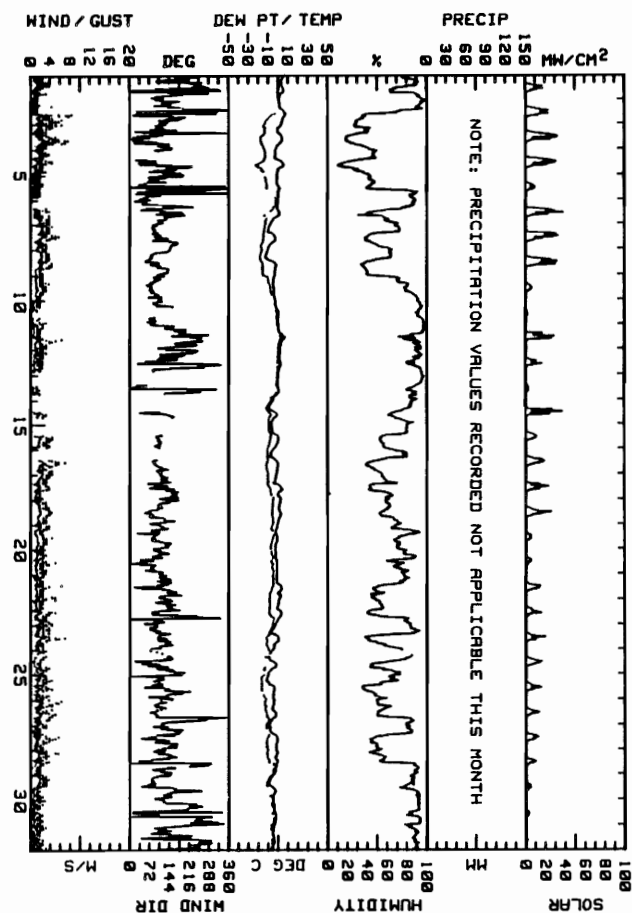
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING October 1983

DAY	MAX. TEMP. DEG. C	MIN. TEMP. DEG. C	MEAN TEMP. DEG. C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. DEG	MEAN RH %	MEAN DP DEG. C	PRECIP MM	DAY'S SOLAR ENRGY WH/50M	DAY
1	5.8	.2	3.0	289	.5	.9	144	3.8	WSW	84	1.1	****	748	1
2	7.7	.2	4.0	118	.6	1.1	812	8.3	SE	32	-18.8	****	1300	2
3	4.4	-3.0	.7	083	1.2	1.8	024	7.6	ESE	29	-15.7	****	1648	3
4	6.8	-4.1	1.3	110	.7	1.2	045	4.4	E	33	-15.5	****	1650	4
5	2.2	-1.6	.3	066	.5	.7	062	2.5	NE	63	-7.3	****	470	5
6	2.2	-8.3	-3.1	119	1.2	1.4	101	3.8	SE	75	-6.4	****	1253	6
7	-2.3	-10.9	-6.6	114	1.6	1.9	101	5.7	E	55	-15.5	****	1635	7
8	-8	-13.2	-7.0	098	1.6	1.8	087	4.4	SE	49	-16.5	****	1550	8
9	-2.4	-5.2	-3.8	089	1.0	1.1	079	3.8	E	76	-8.0	****	390	9
10	1.8	-2.8	-.9	094	.6	.5	076	3.2	E	93	-.6	****	110	10
11	7.7	.1	3.9	201	.6	.9	254	6.3	S	87	1.7	****	1100	11
12	3.8	-.2	1.8	182	.3	.8	232	3.2	E	91	-.1	****	565	12
13	1.5	-5.6	-2.1	334	.1	.5	302	1.9	NNE	91	-3.0	****	190	13
14	-5	-10.0	-5.3	131	1.0	1.3	132	3.2	SSE	77	-9.5	****	1230	14
15	.8	-7.6	-3.1	104	1.5	1.5	095	4.4	ESE	66	-9.8	****	590	15
16	.4	-8.9	-4.3	103	2.0	2.1	088	7.0	ESE	57	-11.0	****	935	16
17	5.1	-5.1	0.0	132	1.2	1.4	112	3.8	SE	54	-8.1	****	830	17
18	3.4	-1.1	1.2	102	1.5	1.6	074	4.4	ESE	61	-5.2	****	975	18
19	-7	-3.5	-2.1	110	1.2	1.3	085	4.4	E	71	-6.3	****	315	19
20	-5	-3.5	-2.0	091	1.0	1.1	058	5.1	E	75	-5.4	****	245	20
21	4.3	-2.0	1.2	128	1.1	1.3	090	6.3	SE	57	-6.6	****	665	21
22	3.7	-3.5	.1	114	1.0	1.4	099	5.1	E	60	-7.1	****	555	22
23	.9	-8.7	-3.9	110	1.4	1.5	113	7.0	ESE	64	-9.9	****	585	23
24	-1.6	-11.1	-6.4	126	.7	.9	123	3.8	SSE	60	-14.8	****	710	24
25	-3.3	-12.5	-7.9	118	1.1	1.3	112	4.4	ESE	52	-15.7	****	545	25
26	-1.6	-9.3	-5.5	108	1.1	1.6	114	6.3	ESE	61	-11.7	****	505	26
27	-.2	-9.0	-4.6	123	.8	1.0	093	5.7	ESE	50	-11.0	****	590	27
28	.1	-5.2	-2.6	123	.8	1.2	105	5.7	SE	63	-8.7	****	385	28
29	-2.8	-10.0	-6.0	098	.9	1.0	077	3.8	E	85	-10.3	****	235	29
30	-1.4	-5.2	-3.3	253	.3	.6	243	2.5	WSW	90	-4.7	****	141	30
31	-3.5	-8.2	-5.9	168	.3	.7	127	3.2	WSW	87	-6.8	****	61	31
Month	7.7	-13.2	-2.2	111	.8	1.2	012	8.3	ESE	61	-8.3	****	22706	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

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



RAM CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
October, 1983

FIGURE and TABLE 5.121

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

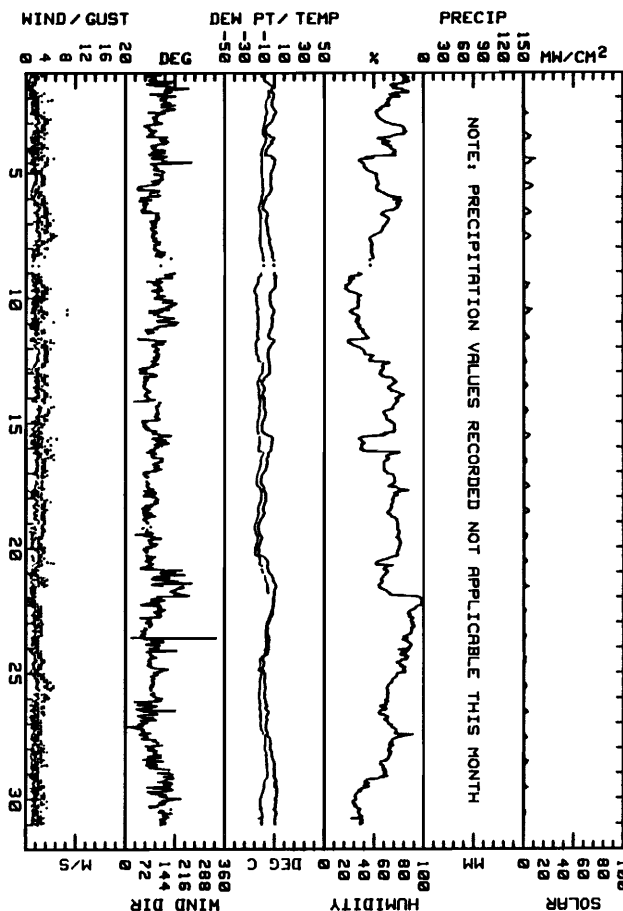
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND DIR.	MAX. WIND SPD.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	
1	1.2	-10.7	-5.3	130	.8	.9	152	3.8	ESE	75	-8.5	****	0	1	
2	1.8	-4.6	-1.4	127	1.7	1.8	130	5.4	ESE	59	-8.4	****	130	2	
3	.4	-10.3	-5.0	104	1.6	1.7	104	4.4	E	70	-10.5	****	340	3	
4	.9	-9.8	-4.5	119	1.3	1.4	094	5.7	SE	49	-13.0	****	425	4	
5	-3.0	-9.4	-6.2	106	1.4	1.6	131	3.8	ESE	56	-12.3	****	425	5	
6	-6.7	-12.3	-9.5	090	2.1	2.3	114	5.7	ENE	67	-14.4	****	335	6	
7	-3.1	-7.8	-5.5	106	2.4	2.5	097	6.3	ESE	52	-14.0	****	330	7	
8	.1	-3.0	-1.5	124	1.4	1.5	102	4.4	ESE	47	-11.7	****	0	8	
9	2.2	-5.3	-1.6	125	1.6	1.7	122	5.1	ESE	28	-17.6	****	240	9	
10	.2	-5.4	-2.6	144	1.4	1.5	121	8.4	SSE	32	-16.8	****	305	10	
11	.5	-6.7	-3.1	104	1.6	1.7	114	5.7	ESE	35	-17.3	****	250	11	
12	-4.5	-7.2	-5.9	106	2.0	2.0	121	5.1	ESE	50	-14.8	****	125	12	
13	-5.0	-14.6	-9.8	080	2.1	2.2	082	5.1	ENE	68	-15.6	****	180	13	
14	-8.4	-12.6	-10.5	105	2.1	2.3	111	5.7	ESE	67	-15.3	****	205	14	
15	-1.1	-13.3	-7.2	105	1.6	1.7	102	6.3	ESE	54	-16.0	****	260	15	
16	-3.4	-11.5	-7.5	108	2.2	2.3	102	5.7	ESE	60	-14.2	****	150	16	
17	-8.3	-14.1	-11.2	083	1.6	1.7	071	4.4	ENE	71	-15.9	****	230	17	
18	-8.6	-16.0	-12.3	067	1.9	2.1	104	5.1	ENE	68	-16.2	****	225	18	
19	-12.4	-17.3	-14.9	090	1.3	1.3	094	3.9	E	75	-18.7	****	165	19	
20	-4.6	-16.6	-10.6	088	1.3	1.5	093	5.7	E	65	-16.3	****	130	20	
21	1.9	-4.4	-1.3	154	.7	1.0	094	4.4	S	58	-7.5	****	135	21	
22	-2	-6.7	-3.5	110	1.3	1.4	128	3.2	ESE	89	-4.4	****	75	22	
23	-1.6	-7.9	-6.3	081	1.3	1.4	067	3.6	ENE	86	-8.8	****	85	23	
24	-5.6	-13.5	-9.6	099	1.4	1.5	085	3.8	E	79	-13.5	****	105	24	
25	-9.0	-10.2	-9.6	101	2.2	2.3	091	5.7	E	66	-14.8	****	140	25	
26	-5.5	-9.4	-7.5	089	1.2	1.4	130	3.8	ENE	61	-14.1	****	150	26	
27	-3.3	-9.2	-6.3	080	1.4	1.6	134	3.8	ENE	70	-10.5	****	125	27	
28	.9	-4.5	-1.8	106	1.2	1.3	102	4.4	ESE	62	-7.5	****	153	28	
29	3.5	-1.4	1.1	145	1.4	1.6	150	3.8	SSE	41	-10.7	****	115	29	
30	2.8	-1.2	.8	138	1.4	1.5	133	4.4	SE	34	-13.1	****	110	30	
MONTH	3.5	-17.3	-6.0	106	1.5	1.7	121	8.4	ESE	59	-13.1	****	5643		

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 2.5
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



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

FIGURE and TABLE 5.122

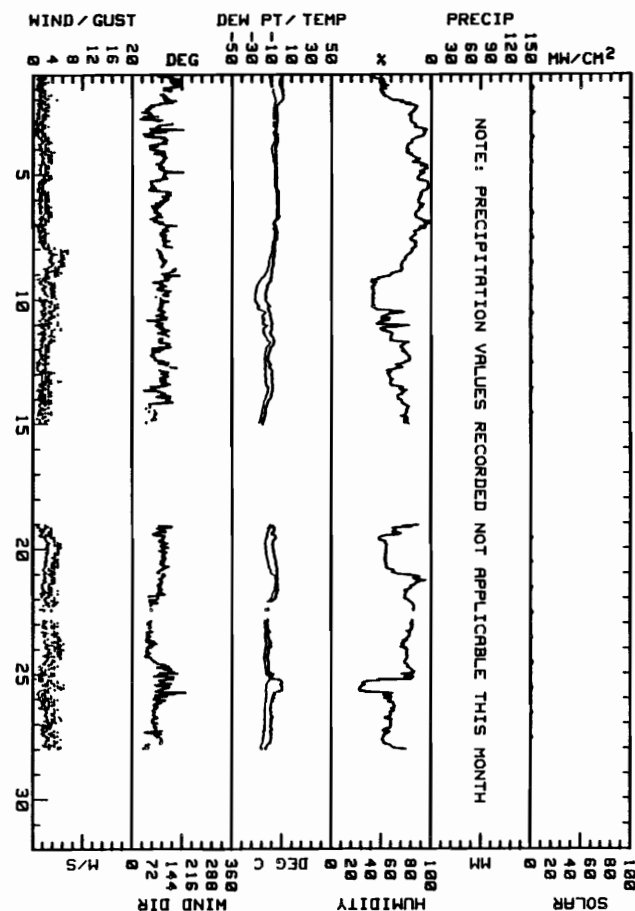
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	MAX. P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENRGY DAY WH/SGM
1	2.1	-2.6	-3	135	1.1	1.2	135	4.9	SE	51	-8.7	****	95
2	.7	-5.5	-2.4	081	.9	1.1	097	3.2	ENE	80	-6.9	****	110
3	-3.1	-6.7	-4.9	495	1.1	1.2	121	3.8	ENE	82	-7.7	****	95
4	-4.7	-6.7	-5.7	111	1.7	1.7	118	4.4	ESE	87	-7.3	****	45
5	-2.5	-5.5	-4.0	106	1.3	1.5	117	3.8	ENE	91	-5.4	****	40
6	-2.1	-8.4	-5.3	093	1.5	1.6	085	3.8	E	89	-5.2	****	80
7	-3.8	-7.5	-5.7	119	1.4	1.5	145	4.4	ESE	84	-8.0	****	95
8	-6.9	-10.5	-8.7	113	3.4	3.5	080	7.0	ESE	72	-12.8	****	80
9	-10.0	-16.8	-13.4	116	1.9	2.1	132	5.1	ESE	44	-23.9	****	80
10	-8.8	-16.3	-12.6	104	1.9	2.0	100	5.1	ESE	50	-20.5	****	80
11	-7.1	-11.8	-9.5	115	1.8	1.8	100	5.7	ESE	64	-14.9	****	60
12	-8.9	-14.3	-11.6	095	1.3	1.3	132	4.4	E	70	-16.4	****	70
13	-8.5	-11.8	-10.2	111	1.4	1.5	101	5.7	ESE	64	-15.3	****	40
14	-12.4	-19.7	-16.1	094	1.4	1.6	131	3.8	E	74	-19.8	****	40
15	****	****	****	****	****	****	****	****	****	****	****	****	****
16	****	****	****	****	****	****	****	****	****	****	****	****	****
17	****	****	****	****	****	****	****	****	****	****	****	****	****
18	****	****	****	****	****	****	****	****	****	****	****	****	****
19	-5.3	-10.6	-8.0	110	2.2	2.3	129	5.7	ESE	59	-14.6	****	65
20	-3.8	-8.0	-5.9	110	2.6	2.6	115	5.1	ESE	57	-12.9	****	55
21	-2.9	-6.6	-4.8	102	2.1	2.1	095	5.1	E	80	-7.2	****	60
22	-9.0	-14.4	-11.7	067	2.5	2.4	062	5.1	ENE	81	-16.1	****	65
23	-9.6	-14.3	-12.0	063	2.7	2.7	087	6.3	ENE	76	-15.8	****	60
24	-6.8	-14.8	-10.8	079	2.0	2.3	***	6.3	NE	77	-16.2	****	103
25	1.3	-12.2	-5.5	113	1.7	1.9	135	6.3	E	43	-14.6	****	80
26	-8.2	-11.7	-10.0	083	2.3	2.4	069	5.8	E	60	-16.5	****	65
27	-8.9	-16.3	-12.6	082	2.3	2.5	053	5.7	E	56	-18.6	****	60
28	****	****	****	****	****	****	****	****	****	****	****	****	****
29	****	****	****	****	****	****	****	****	****	****	****	****	****
30	****	****	****	****	****	****	****	****	****	****	****	****	****
31	****	****	****	****	****	****	****	****	****	****	****	****	****
MONTH	2.1	-19.7	-8.3	101	1.7	1.9	088	7.0	ESE	69	-13.3	****	1623

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
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 6.3

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



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

FIGURE and TABLE 5.123

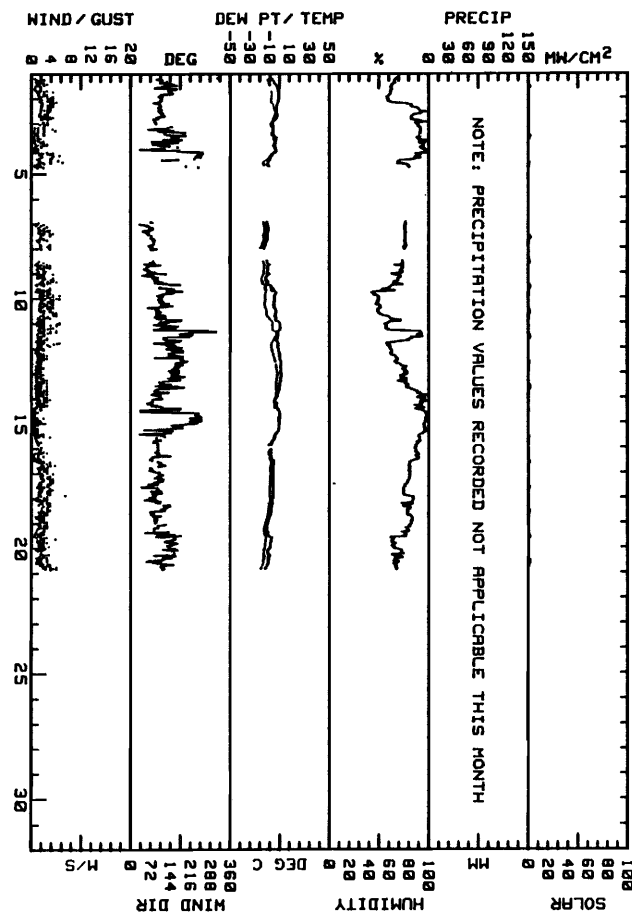
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING January, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	-8	-9.0	-4.9	125	1.1	1.2	137	4.4	ESE	62	-8.9	****	60	1
2	-1.3	-7.9	-4.6	104	2.0	2.0	102	5.1	ESE	82	-6.2	****	35	2
3	-2.5	-8.1	-5.3	127	.6	.7	155	4.9	SE	91	-7.5	****	60	3
4	-2.7	-12.9	-7.8	241	1.2	1.4	***	6.3	WSW	82	-12.3	****	47	4
5	****	****	****	****	****	****	****	****	****	****	****	****	****	5
6	-12.8	-13.5	-13.2	075	1.5	1.5	***	****	ENE	76	-16.4	****	0	6
7	-11.5	-16.6	-14.1	070	1.5	1.6	057	4.4	ENE	76	-16.6	****	105	7
8	-9.6	-13.0	-11.3	068	1.2	1.3	108	3.8	ENE	73	-16.0	****	65	8
9	-3.3	-14.6	-9.0	113	1.6	1.8	107	5.7	E	59	-15.9	****	90	9
10	.5	-7.1	-3.3	113	1.7	1.9	111	5.7	ESE	54	-12.3	****	75	10
11	1.1	-4.0	-1.5	150	.9	1.5	115	5.7	SE	70	-6.3	****	95	11
12	2.1	-1.3	.4	165	.9	1.0	136	3.2	SSE	69	-4.6	****	50	12
13	1.9	-3.7	-.9	125	.9	1.0	164	3.2	E	82	-3.4	****	105	13
14	6	-5.6	-2.5	097	.3	.7	081	3.8	WSW	93	-4.5	****	35	14
15	-8	-9.9	-5.4	114	.5	.7	123	3.8	E	89	-8.2	****	40	15
16	-5.5	-10.4	-8.0	096	1.4	1.5	124	4.8	E	83	-9.8	****	50	16
17	-6.1	-7.5	-6.8	096	1.7	1.8	***	6.8	E	78	-10.0	****	55	17
18	-7.0	-13.3	-10.2	099	1.6	1.7	091	3.8	E	81	-12.1	****	55	18
19	-7.4	-13.8	-10.6	131	1.2	1.3	161	4.9	SSE	71	-15.3	****	75	19
20	-9.2	-15.1	-12.2	122	1.6	1.8	106	5.1	ESE	68	-17.1	****	97	20
21	****	****	****	****	****	****	****	****	****	****	****	****	****	21
22	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	31
MOATH	2.1	-16.6	-6.9	113	1.1	1.4	***	6.8	E	74	-10.7	****	1194	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 1.9
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
January, 1984

FIGURE and TABLE 5.124

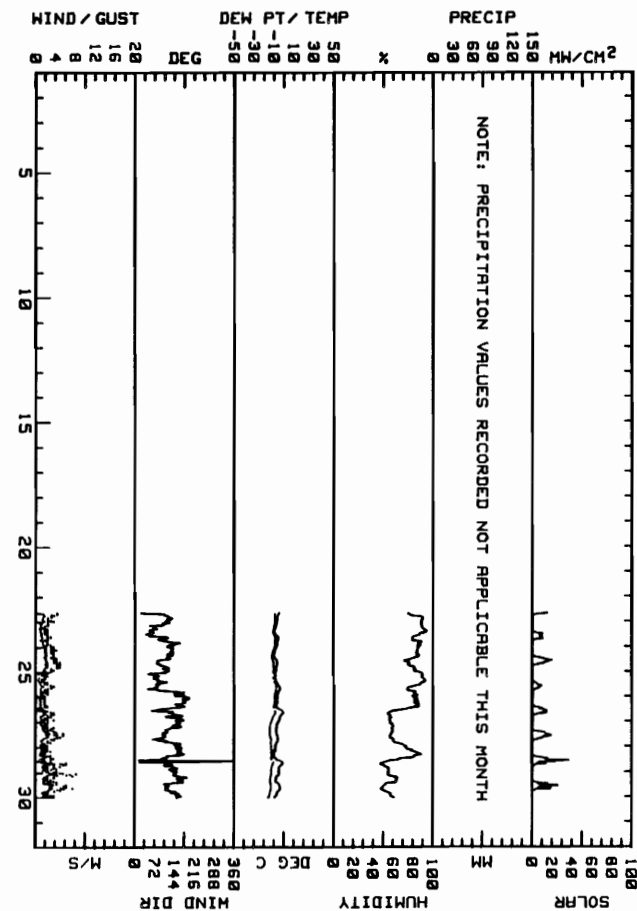
R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING February, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RFS. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR. Z	MEAN RH	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM
1	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
2	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
3	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
4	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
5	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
6	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
7	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
8	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
9	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
10	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
11	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
12	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
13	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
14	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
15	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
16	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
17	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
18	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
19	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
20	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
21	XXXX	XXXX	XXXX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XXXX
22	-5.0	-7.4	-6.2	116	1.6	1.6	025	4.4	ESE	85	-8.9	XXXX	480
23	-5.0	-10.1	-7.6	101	1.1	1.4	117	3.8	ESE	87	-9.3	XXXX	585
24	-6.2	-10.1	-8.2	115	2.0	2.1	080	5.1	ESE	81	-10.8	XXXX	940
25	-3.3	-9.1	-6.2	102	.8	1.0	081	3.8	E	81	-7.9	XXXX	460
26	1	-8.8	-4.4	157	1.0	1.1	137	3.8	S	67	-10.1	XXXX	810
27	-5.7	-8.7	-7.2	124	1.6	1.7	099	5.7	ESE	61	-13.3	XXXX	1024
28	-1	-12.0	-6.1	137	1.5	1.7	118	6.3	SSE	64	-11.8	XXXX	1205
29	-3.6	-9.8	-6.4	141	2.2	2.4	141	8.3	SSE	56	-13.5	XXXX	995
MONTH	1	-12.0	-6.5	126	1.4	1.6	141	8.3	ESE	71	-10.7	XXXX	6495

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 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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



R&M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
February, 1984

FIGURE and TABLE 5.125

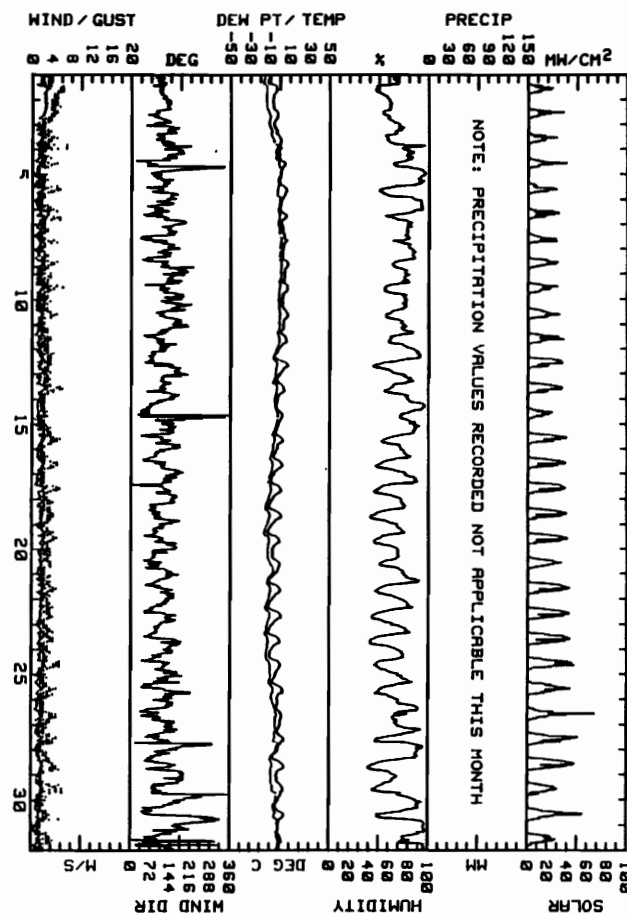
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING March, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM	DAY
1	-2.5	-12.7	-7.6	111	2.3	2.3	110	6.3	ESE	58	-14.5	****	1115	1
2	-2.1	-7.7	-4.9	119	2.1	2.2	133	5.7	SE	60	-11.6	****	1130	2
3	1.3	-6.7	-2.7	130	1.5	1.7	123	7.0	ESE	68	-6.6	****	1115	3
4	5.5	-2.8	1.4	129	.7	1.2	067	5.1	S	77	-2.8	****	1210	4
5	7.3	-1.3	3.0	121	1.2	1.3	112	5.7	ESE	71	-1.7	****	1210	5
6	7.3	-6	3.4	122	1.2	1.6	121	5.7	ESE	80	-1.8	****	1450	6
7	7.7	1.0	4.4	127	1.0	1.2	108	5.1	SE	77	.4	****	1180	7
8	8.5	1.4	5.0	130	1.0	1.3	132	5.1	ESE	75	.9	****	1490	8
9	8.5	1.7	5.0	130	1.4	1.6	116	6.3	SE	69	-1.2	****	1405	9
10	8.7	1.4	5.1	145	1.2	1.4	111	5.1	SSE	68	-1.2	****	1600	10
11	7.6	-1.7	2.7	117	1.2	1.4	084	3.8	ESE	72	-1.6	****	1565	11
12	8.5	-6.1	1.2	113	1.3	1.8	087	4.4	ENE	70	-4.7	****	2170	12
13	5.3	-5.0	.2	125	1.6	1.8	126	6.3	ESE	72	-4.3	****	2100	13
14	3.1	-3.8	-.4	083	.8	1.2	067	3.2	ENE	85	-3.4	****	1210	14
15	3.2	-5.4	-1.1	130	1.6	1.8	107	5.7	SE	72	-6.2	****	2255	15
16	3.1	-7.4	-2.2	100	1.3	1.6	124	5.1	E	65	-8.6	****	2330	16
17	1.8	-10.3	-4.3	133	1.4	1.5	117	5.7	SE	63	-9.9	****	2535	17
18	2.1	-11.4	-4.7	112	1.6	1.8	160	4.4	E	60	-12.1	****	2465	18
19	.5	-13.1	-6.3	111	1.8	2.1	107	5.1	E	61	-12.9	****	2520	19
20	.4	-8.0	-3.8	091	1.5	1.6	095	3.8	E	66	-9.6	****	1870	20
21	1.4	-11.8	-5.2	121	1.7	1.9	127	5.1	SE	67	-10.8	****	2790	21
22	2.1	-13.2	-5.6	113	1.6	1.8	075	4.4	ESE	63	-12.0	****	2855	22
23	.9	-12.8	-6.0	112	1.5	1.8	089	4.4	E	61	-12.9	****	2995	23
24	1.8	-10.4	-4.3	119	1.6	1.8	117	5.7	ESE	62	-11.3	****	2725	24
25	4.1	-8.4	-2.2	123	1.1	1.5	119	5.1	SE	63	-8.0	****	2540	25
26	3.1	-3.0	.1	107	1.2	1.4	086	5.1	SE	73	-4.2	****	2100	26
27	5.4	-2.7	1.4	119	.9	1.5	101	5.1	SE	73	-3.8	****	2750	27
28	5.3	-7.9	-1.3	119	1.3	1.8	109	5.7	ESE	64	-8.0	****	3360	28
29	4.3	-3.4	.5	127	.9	1.5	093	6.3	E	60	-6.5	****	2005	29
30	5.7	-5.1	.3	091	.2	1.2	324	5.7	ENE	73	-4.2	****	2545	30
31	3.1	-2.5	.3	106	.7	1.2	286	4.4	E	83	-2.0	****	1810	31
MONTH	8.7	-13.2	-9	119	1.3	1.6	123	7.0	ESE	68	-6.3	****	62400	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.2
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
March, 1984

FIGURE and TABLE 5.126

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

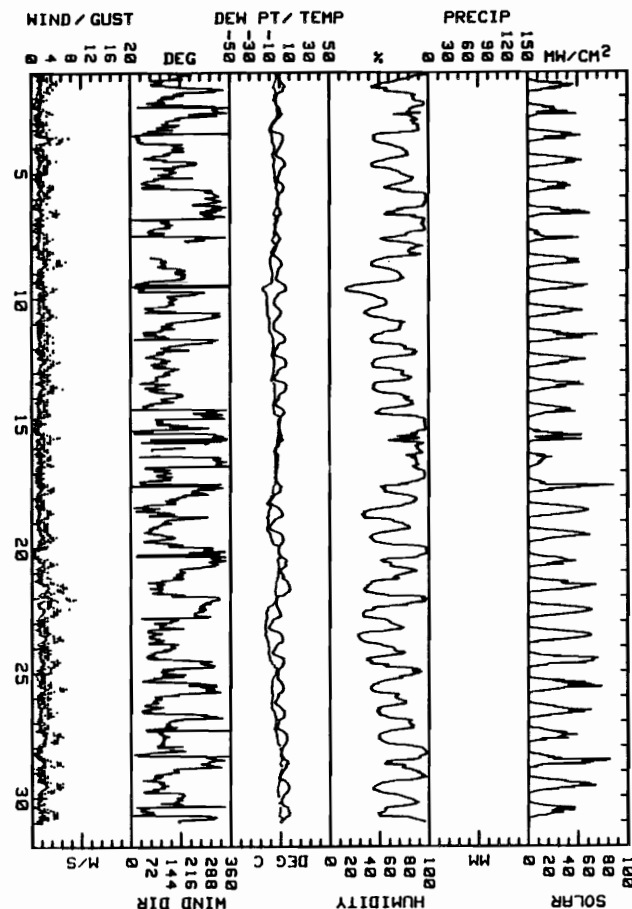
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING April 1984

DAY	MAX TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR. DEG	MAX. GUST SPD. M/S	P'VAL GUST DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGM	DAY
1	5.9	-1.1	.9	153	.7	1.5	110	5.1	S	68	-4.5	****	2615	1
2	3.5	-5.0	-0.8	193	.1	1.1	349	4.4	NW	84	-4.2	****	2275	2
3	3.9	-9.4	-2.8	059	1.2	1.8	031	7.6	NNE	65	-7.8	****	3280	3
4	5.6	-4.8	.4	148	1.1	1.5	131	5.1	SSE	62	-5.9	****	3935	4
5	4.8	-2.4	1.2	042	.3	1.4	062	4.4	WNW	77	-2.8	****	2880	5
6	2.0	-3.5	-0.8	290	.8	1.2	284	5.7	WNW	78	-4.3	****	3075	6
7	1.5	-5.2	-1.9	119	.3	1.1	298	4.4	SE	74	-6.2	****	1915	7
8	2.3	-6.9	-2.3	126	1.9	2.0	120	7.0	ESE	63	-8.8	****	3755	8
9	6.8	-4.2	1.3	087	.2	1.5	044	5.1	NNE	44	-11.8	****	3885	9
10	1.8	-6.0	-2.1	143	.3	1.6	325	5.1	SE	50	-12.0	****	3675	10
11	5.8	-6.5	-0.4	122	.6	1.5	126	4.4	ESE	59	-8.3	****	4080	11
12	6.8	-6.9	-1.1	113	1.5	1.8	114	5.7	E	61	-6.7	****	3985	12
13	7.3	-6.4	.5	108	1.5	1.8	052	6.3	E	63	-6.2	****	3405	13
14	5.2	-5.3	-1.1	062	.4	1.2	310	3.8	ESE	70	-5.1	****	2980	14
15	3.3	-3.5	-0.1	338	.5	1.1	337	5.7	NW	83	-2.1	****	2760	15
16	-1.5	-5.3	-3.4	348	.5	1.3	327	4.4	NW	88	-5.1	****	1545	16
17	-2.4	-7.2	-2.6	265	.2	1.2	311	4.4	SE	69	-6.9	****	3590	17
18	3.4	-11.7	-4.2	117	.8	1.3	136	4.4	SE	56	-11.6	****	5130	18
19	3.6	-11.4	-3.9	104	1.2	1.5	129	5.1	ENE	60	-10.4	****	4345	19
20	6.8	-1.9	2.5	288	.7	1.1	298	5.1	WNW	68	-1.5	****	3095	20
21	10.2	-3.2	4.0	123	1.5	2.1	113	7.0	ESE	52	-3.9	****	4850	21
22	1.3	-8.6	-3.7	267	1.4	2.0	317	8.9	WSW	60	-10.6	****	5375	22
23	2.9	-11.9	-4.5	101	1.6	1.8	102	6.3	ESE	48	-13.6	****	5450	23
24	4.3	-8.4	-2.1	135	.4	1.8	293	5.7	E	60	-8.7	****	5080	24
25	3.5	-3.3	.1	258	.3	1.6	296	7.0	NW	57	-7.8	****	4985	25
26	4.9	-5.8	-0.5	086	.7	1.5	054	5.1	ENE	62	-6.9	****	4285	26
27	7.6	-3.7	2.0	118	1.8	1.9	115	6.3	ESE	63	-3.6	****	3440	27
28	8.4	.3	4.4	275	.6	1.3	273	6.3	WNW	78	.9	****	4360	28
29	9.0	-1.5	3.8	111	1.5	1.8	121	6.3	ESE	67	-1.7	****	4980	29
30	10.2	.6	5.4	049	.3	1.3	041	5.1	S	65	.2	****	3240	30
MONTH	10.2	-11.9	-3.3	112	.5	1.5	317	8.9	ESE	64	-6.3	****	112250	

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
April, 1984

FIGURE and TABLE 5.127

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

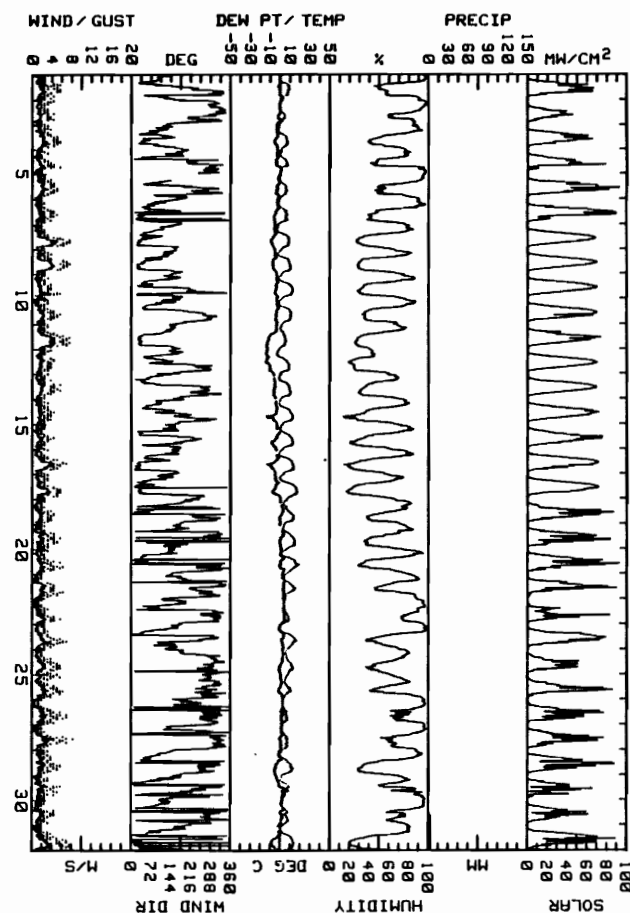
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR. DEG	MAX. GUST SPD. N/S	P-VAL DIR. N/S	MEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR WH/SON	DAY
1	9.2	-5	4.4	189	.3	1.6	886	5.7	E	71	-4	****	5470	1
2	5.3	-1.1	2.1	292	.8	1.3	251	4.4	NW	83	-1.1	****	3180	2
3	7.5	-2.8	2.4	892	1.4	1.9	836	5.7	ESE	65	-3.7	****	5195	3
4	7.9	-1.8	3.5	255	.5	1.2	281	5.7	WNW	64	-3.1	****	4480	4
5	7.8	-1.2	2.9	213	.3	1.7	266	5.1	W	72	-2.2	****	6725	5
6	7.9	-1.8	3.1	864	.7	1.4	845	5.1	NE	62	-4.1	****	6425	6
7	9.2	-3.7	2.8	852	1.6	2.1	832	7.6	NNE	48	-6.7	****	6375	7
8	10.8	-2.8	4.0	859	1.5	2.2	841	7.6	NNE	49	-6.1	****	6415	8
9	12.9	-2.2	5.4	181	.3	1.4	824	5.7	NE	47	-3.8	****	6520	9
10	11.7	-1.3	5.2	242	.4	1.5	272	5.7	W	51	-3.3	****	6585	10
11	5.7	-1.3	2.2	862	1.7	2.6	828	7.6	NNE	45	-9.0	****	5775	11
12	9.4	-3.8	2.8	156	.6	1.5	887	4.4	S	34	-11.6	****	6610	12
13	11.1	-1.3	4.9	249	.2	1.5	894	5.7	W	44	-5.7	****	6475	13
14	13.3	-1.4	6.0	142	.6	1.4	117	4.4	S	46	-5.1	****	6475	14
15	13.2	-.8	6.2	168	.6	1.2	228	4.4	SSE	46	-4.2	****	5960	15
16	14.0	-1.1	6.5	859	1.2	1.9	823	7.8	NNE	41	-5.5	****	6595	16
17	17.5	-.6	8.5	842	1.8	1.7	838	5.7	NNE	41	-3.9	****	6680	17
18	14.0	3.0	8.5	262	.3	1.2	867	4.4	S	58	.9	****	5485	18
19	15.0	2.6	8.8	389	.2	1.4	816	5.7	SSE	51	1.2	****	5760	19
20	19.3	.8	10.1	889	.4	1.5	239	6.3	NE	58	1.6	****	6120	20
21	16.8	3.7	9.9	285	.7	1.5	297	6.3	WNW	67	3.6	****	4660	21
22	9.4	1.5	5.5	298	.5	1.3	312	5.7	NW	82	3.8	****	3120	22
23	16.3	-1.2	7.6	131	.3	1.6	167	7.8	SSE	67	1.9	****	6465	23
24	13.5	5.5	9.5	289	1.1	1.5	388	5.7	WNW	57	1.1	****	3955	24
25	11.6	2.8	7.2	284	1.5	1.7	292	6.3	W	66	.8	****	4880	25
26	7.9	2.2	5.1	292	1.2	1.5	313	7.8	WNW	77	1.9	****	4715	26
27	8.5	1.1	4.8	317	1.1	1.6	327	8.3	NW	72	.9	****	4915	27
28	13.6	-.5	6.6	297	.2	1.7	325	5.7	W	57	-2.7	****	5725	28
29	8.9	-.3	4.3	882	.8	1.3	315	5.7	ESE	79	.9	****	3545	29
30	8.5	1.4	5.0	387	.4	1.2	352	4.4	N	73	1.3	3.6	3740	30
31	14.5	.1	7.3	825	1.1	1.9	813	7.6	NNE	41	-4.5	8.8	6430	31
MONTH	19.3	-3.8	5.6	815	.2	1.6	327	8.3	SSE	58	-2.2	3.6	171215	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 4.4

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
May, 1984

FIGURE and TABLE 5.128

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

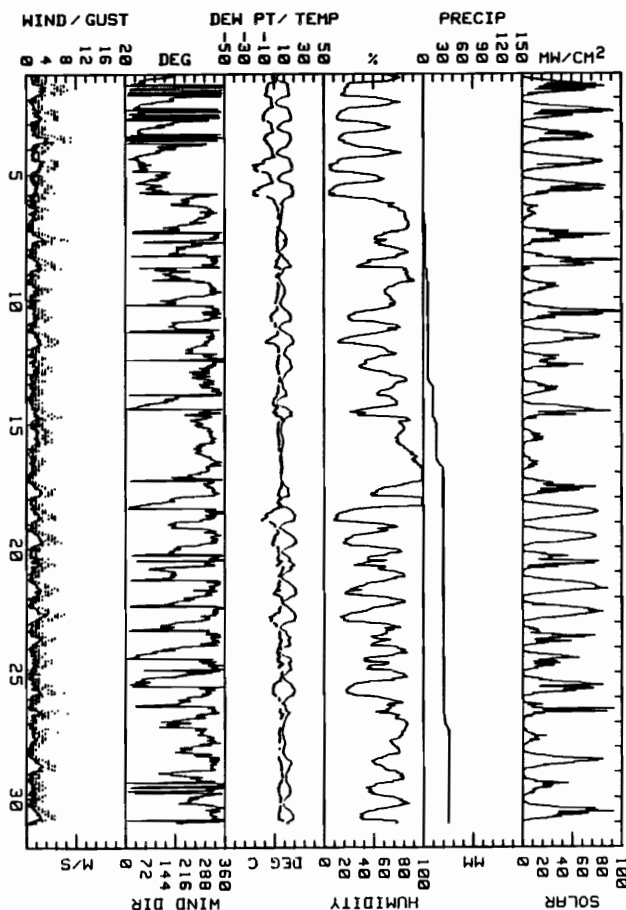
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING June, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	15.2	1.4	8.3	017	1.3	2.1	033	8.3	NW	40	-5.1	0.0	6065	1
2	17.0	.8	8.9	022	1.1	1.8	325	6.3	NE	34	-6.9	0.0	6530	2
3	16.8	2.9	9.9	031	1.4	2.2	022	8.9	NE	35	-5.5	0.0	5645	3
4	18.6	1.1	9.9	071	1.6	1.9	044	6.3	NE	32	-9.4	0.0	7450	4
5	20.1	3.3	11.7	104	.9	1.6	053	5.7	E	27	-9.8	0.0	6310	5
6	9.1	5.7	7.4	277	.8	1.1	302	4.4	WNW	72	2.8	2.2	1105	6
7	12.4	4.7	8.6	314	.8	1.6	310	8.3	NW	60	2.6	.6	4955	7
8	17.0	4.2	10.6	308	.7	1.5	050	7.0	NW	55	2.6	2.6	5715	8
9	10.7	4.0	7.4	298	.7	1.2	320	5.1	NW	69	3.4	1.6	2615	9
10	17.1	5.1	11.1	306	.8	1.3	317	5.1	NW	42	-9.0	0.0	6150	10
11	19.5	4.0	11.8	295	1.3	1.7	309	6.3	NW	39	-9.0	0.0	7290	11
12	17.7	9.2	13.5	299	1.2	1.4	313	5.1	NW	49	3.4	0.0	3940	12
13	11.9	5.1	8.5	301	.8	1.0	313	3.8	NW	69	3.8	7.8	2635	13
14	18.3	2.6	10.5	299	.6	1.5	252	7.0	N	58	1.9	4.6	5370	14
15	8.8	6.1	7.5	303	1.6	1.7	313	5.1	NW	76	3.6	.2	1490	15
16	7.8	6.3	7.1	299	.9	1.0	326	3.8	NW	93	6.1	10.2	1075	16
17	14.6	6.3	10.5	310	1.2	1.5	320	5.7	NW	67	5.4	0.0	4640	17
18	21.1	2.6	11.9	320	.8	1.6	320	5.7	WNW	43	-2.9	0.0	7820	18
19	22.0	4.3	13.2	300	1.3	1.8	322	7.0	NW	37	.5	0.0	7615	19
20	20.3	7.1	13.7	301	.4	1.4	280	5.7	S	52	5.3	.6	5365	20
21	22.2	6.3	14.3	305	1.1	1.6	324	6.3	NW	43	3.4	0.0	7995	21
22	21.3	7.4	14.4	308	1.3	1.8	325	7.6	NW	35	1.0	0.0	7595	22
23	16.3	5.4	10.9	314	.8	1.5	345	5.7	NW	58	4.6	0.0	4120	23
24	16.7	4.9	10.8	344	.6	1.3	319	5.1	NW	60	4.5	.4	4235	24
25	20.4	8.4	14.4	329	.6	1.5	304	7.6	ENE	42	1.1	0.0	6400	25
26	15.5	7.2	11.4	280	.7	1.2	338	8.3	SSW	66	6.0	2.0	2900	26
27	10.3	7.5	8.9	284	.9	1.2	279	6.3	NW	77	4.6	5.2	1320	27
28	16.9	8.1	12.5	307	1.3	1.6	329	5.7	NW	56	5.6	0.0	5465	28
29	15.6	10.5	13.1	319	.5	1.1	046	3.8	N	59	5.1	0.0	2610	29
30	19.0	8.1	13.6	313	1.3	1.6	306	5.7	NW	51	4.6	0.0	6200	30
MONTH	22.2	.8	10.8	319	.7	.8	022	8.9	NW	51	1.4	38.0	148780	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
June, 1984

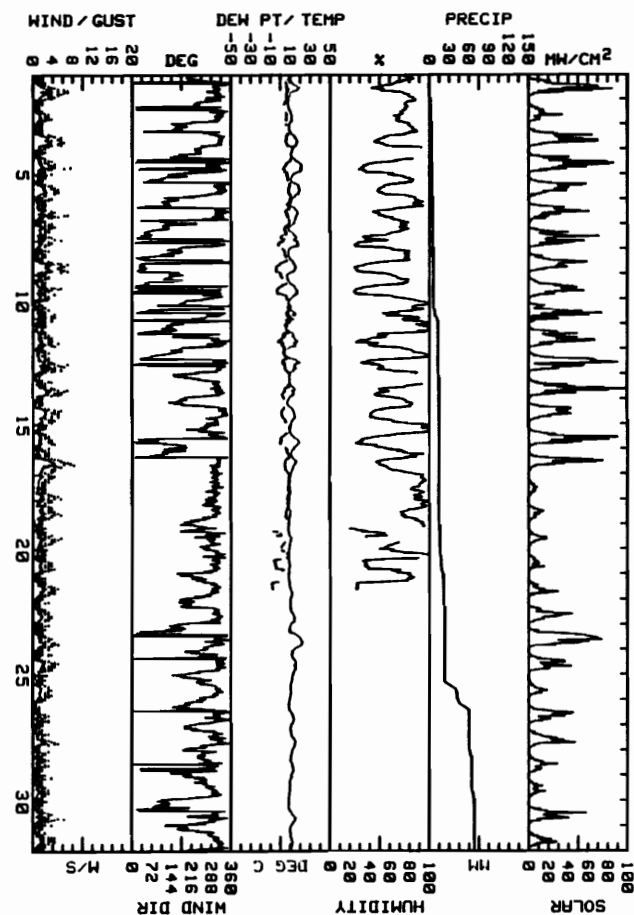
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	19.6	7.0	13.7	305	1.4	1.6	316	7.0	NW	65	6.4	2.0	4745	1
2	12.1	7.0	10.0	307	.6	.9	319	3.8	NW	69	5.6	1.6	1730	2
3	17.6	8.6	13.1	307	1.3	1.7	317	6.3	NW	59	6.6	.2	4735	3
4	21.8	10.2	16.0	312	.6	1.2	323	7.6	NW	47	6.2	.2	5890	4
5	19.5	10.2	14.9	327	.6	1.5	332	5.1	NNW	62	8.4	1.4	3680	5
6	17.7	8.7	13.2	334	.4	1.3	329	7.0	SE	65	7.3	0.0	3225	6
7	18.1	6.8	12.5	059	.6	1.4	282	5.7	NE	53	2.6	0.0	4290	7
8	15.9	7.3	11.6	042	1.2	1.0	035	7.0	NNE	46	-1.3	1.0	3770	8
9	17.5	6.3	11.9	355	.5	1.2	025	5.7	NNE	50	1.3	0.0	3975	9
10	15.3	5.6	10.5	292	.3	1.0	330	4.4	S	78	7.2	6.6	3425	10
11	17.1	5.5	11.3	294	.3	1.3	332	5.1	S	55	2.6	0.0	4765	11
12	19.4	3.7	11.6	343	.7	1.6	009	7.0	NW	64	4.2	.8	5755	12
13	15.0	7.7	11.4	304	1.2	1.5	330	7.0	NW	60	4.3	.8	4500	13
14	15.0	6.7	10.9	319	1.2	1.5	317	5.7	NNW	49	2.5	0.0	3540	14
15	19.0	8.9	14.0	302	.2	1.1	114	4.4	NNW	54	3.2	0.0	4620	15
16	16.1	9.6	12.9	312	1.5	2.0	313	8.3	NW	64	5.7	0.0	3250	16
17	10.5	8.9	9.7	300	1.3	1.4	303	5.7	NNW	90	8.0	0.0	635	17
18	10.2	8.1	9.2	294	1.2	1.4	294	5.7	NW	84	6.5	.6	1030	18
19	11.2	7.7	9.5	280	1.0	1.1	292	5.7	W	56	.4	1.0	1000	19
20	9.5	8.1	8.8	306	1.1	1.1	306	4.4	NW	49	-2.0	4.8	810	20
21	12.5	8.3	10.4	287	1.0	1.2	307	5.1	NNW	29	-7.8	1.2	1330	21
22	14.5	9.8	12.2	292	.7	1.0	322	3.8	NW	**	*****	1.4	2415	22
23	22.3	8.8	15.6	311	.7	1.3	316	5.1	NW	**	*****	0.0	6410	23
24	15.8	11.3	13.6	304	1.0	1.3	320	5.1	NW	**	*****	0.0	2785	24
25	12.5	9.0	10.8	288	.9	1.1	317	3.8	NW	**	*****	20.2	990	25
26	13.9	8.4	11.2	297	.5	.7	299	3.2	NNW	**	*****	16.4	2760	26
27	15.6	9.7	12.7	302	.7	1.0	355	5.1	NW	**	*****	1.0	2505	27
28	13.2	9.7	11.5	277	.5	.8	306	3.2	W	**	*****	3.0	1470	28
29	11.2	8.2	9.7	279	.6	.9	243	3.8	W	**	*****	3.4	960	29
30	16.1	7.8	12.0	305	.4	1.0	327	6.3	NNW	**	*****	.6	2735	30
31	12.6	9.5	11.1	301	.9	1.1	316	4.4	NW	**	*****	0.0	1550	31
NORTH	22.3	3.7	11.8	308	.7	1.3	313	8.3	NW	61	3.8	68.2	95280	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 4.4

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
July, 1984

FIGURE and TABLE 5.130

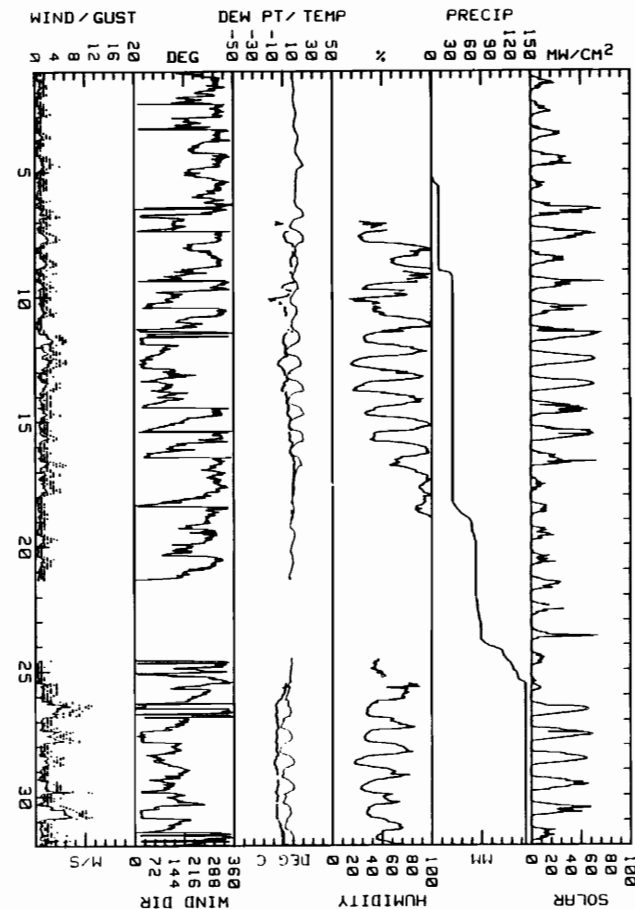
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING August, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. WIND DIR.	MAX. WIND SPD.	P'VAL	MEAN RH	MEAN DP	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH
1	11.8	9.4	10.6	289	.6	.7	307	2.5	WNW	##	####	.6	1350
2	13.5	10.3	11.9	290	.5	.7	293	3.2	WNW	##	####	.2	1335
3	15.6	11.0	13.3	290	.5	.7	300	3.2	WNW	##	####	.2	2030
4	21.1	12.5	16.8	294	.8	1.0	300	5.1	SSW	##	####	0.0	3200
5	14.3	12.7	13.5	289	.6	.7	271	2.5	WNW	##	####	10.4	690
6	21.4	10.0	15.7	334	.5	1.2	024	5.1	NW	##	####	.4	4445
7	21.2	7.1	14.2	295	.7	1.5	315	5.1	NW	40	2.0	0.0	5190
8	15.4	12.1	13.8	293	1.0	1.2	315	4.4	NW	71	8.8	1.0	2230
9	15.9	9.5	12.7	264	.2	1.1	264	4.4	NNW	60	4.9	19.4	3300
10	14.9	7.8	11.4	008	.2	1.2	317	4.4	NW	43	-1.2	.2	3035
11	17.8	8.4	13.1	040	1.2	1.6	034	6.3	NNE	42	1.6	0.0	5265
12	18.4	2.7	10.6	067	1.7	2.1	024	6.3	NNE	52	-2	0.0	5805
13	21.2	4.4	12.8	115	1.2	1.4	095	5.1	ESE	48	1.6	0.0	5470
14	21.1	4.8	13.0	322	.3	1.4	310	5.1	WNW	60	4.7	0.0	4015
15	21.0	5.9	13.5	322	.3	1.3	318	5.7	NW	60	6.9	0.0	5360
16	19.2	6.9	13.1	316	.6	1.3	309	6.3	WNW	70	9.8	0.0	3020
17	13.7	10.0	11.9	303	1.5	1.6	333	5.1	NW	92	10.2	0.0	835
18	11.2	7.8	9.5	278	.4	.7	307	2.5	W	90	8.6	26.2	1260
19	12.1	6.8	9.5	253	.8	.9	250	4.4	WSW	##	####	0.4	1395
20	10.6	7.0	8.8	276	.6	.9	315	3.8	WNW	##	####	.2	1175
21	8.1	6.3	7.2	167	.5	.7	186	1.9	S	##	####	.6	2055
22	####	####	####	###	###	###	###	###	###	##	####	5.2	1229
23	####	####	####	###	###	###	###	###	###	##	####	12.2	1800
24	9.2	7.7	8.5	325	.2	.4	008	3.2	NW	##	####	38.6	940
25	8.0	3.6	5.8	254	.7	1.1	287	5.7	W	74	1.3	17.8	595
26	8.4	-5	4.0	008	1.7	3.2	037	11.4	SSW	47	-6.1	.2	4325
27	9.2	-2.8	3.2	046	1.6	2.5	023	8.9	NNE	50	-6.9	0.0	4691
28	11.3	-4.1	3.6	117	1.3	1.6	078	5.7	E	45	-7.7	0.0	4650
29	11.1	-1.7	4.7	111	1.3	1.8	061	11.4	ESE	41	-6.4	0.0	4285
30	7.9	-1.8	3.6	047	2.2	3.3	025	11.4	NNE	43	-6.8	0.0	3780
31	10.7	1.5	6.1	054	.3	1.3	027	7.0	SE	57	-2.3	0.0	1665
MONTH	21.4	-4.1	10.2	000	.3	1.4	037	11.4	WNW	56	1.2	141.0	90499

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
August, 1984

FIGURE and TABLE 5.131

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

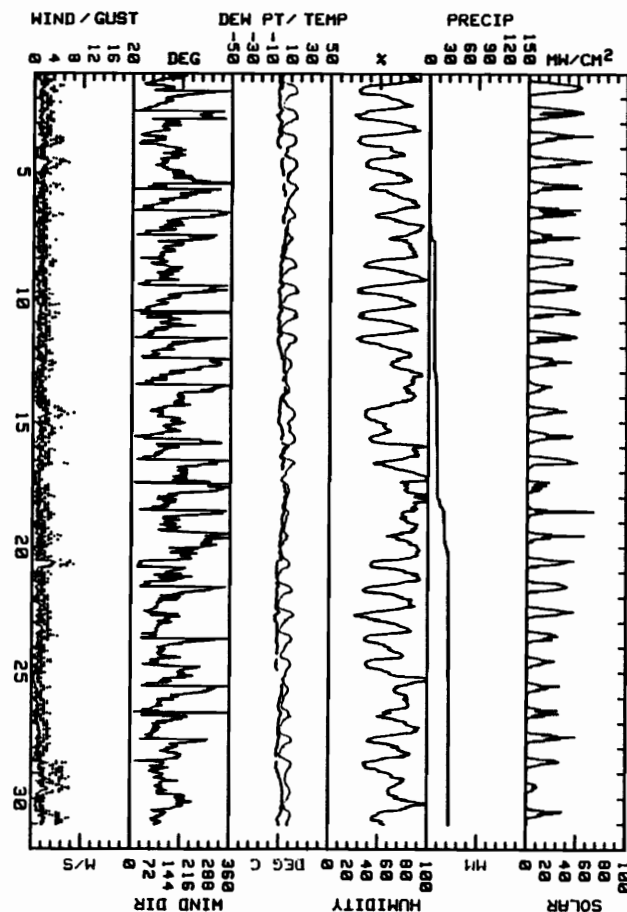
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR.	MAX. GUST SPD. N/S	P'VAL DIR.	MEAN RH Z	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50M	DAY
1	15.6	-8	7.4	120	.7	1.4	122	5.7	SE	53	-2.2	0.0	4440	1
2	15.7	0.0	7.9	105	.4	1.5	110	5.1	ESE	55	-2.0	0.0	3875	2
3	14.4	-1.5	6.5	087	1.3	1.6	099	5.7	ESE	54	-2.0	0.0	3120	3
4	15.5	2.9	9.2	125	1.4	1.5	123	7.0	ESE	44	.5	0.0	3570	4
5	15.9	5.2	10.6	155	.3	1.1	320	5.7	SSW	51	2.7	0.0	2330	5
6	13.7	5.6	9.7	036	.2	1.1	338	5.7	SE	61	2.9	0.0	2360	6
7	11.6	4.3	8.0	141	.5	1.0	209	4.4	SE	80	3.7	8.2	1855	7
8	15.4	1.8	8.6	115	1.3	1.4	110	4.4	ESE	63	.4	.2	3525	8
9	17.6	-6	8.5	104	.2	1.1	139	3.8	SE	55	-1.5	0.0	3490	9
10	16.5	.8	8.7	089	.9	1.4	106	5.1	FSE	55	-1.9	0.0	3340	10
11	15.9	-8	7.6	111	.6	1.3	279	3.8	SE	56	-1.7	0.0	3130	11
12	11.1	3.7	7.4	350	.2	1.3	312	4.4	E	72	2.5	2.0	2090	12
13	9.1	2.7	5.9	147	.2	.9	125	3.2	S	82	3.3	2.2	1245	13
14	14.7	2.7	8.7	127	1.5	1.9	106	8.3	S	49	-1.7	0.0	1970	14
15	15.0	6.5	10.8	124	.8	1.3	135	5.7	ESE	60	2.5	1.4	1980	15
16	14.5	1.9	8.2	105	.3	1.3	307	7.0	E	74	2.2	0.0	2785	16
17	9.8	1.1	5.5	236	.2	.9	147	4.4	SSE	84	5.5	1.4	1195	17
18	8.9	5.2	7.1	127	.6	1.2	247	4.4	SE	83	3.6	0.0	1315	18
19	8.2	.5	4.4	261	.4	1.1	270	5.7	W	77	1.1	3.8	1445	19
20	9.7	-5	4.6	069	.7	1.0	024	8.3	S	63	-1.9	3.2	2275	20
21	12.7	-2.4	5.2	125	.3	1.0	085	3.8	SE	57	-2.3	0.0	2760	21
22	14.5	-1.6	6.5	100	1.3	1.5	067	3.8	E	58	-2.9	0.0	2600	22
23	12.5	.1	6.3	095	1.0	1.4	078	5.1	E	59	-2.2	0.0	1900	23
24	11.4	1.1	6.3	114	.7	1.0	072	3.8	ESE	50	-2.7	0.0	1345	24
25	9.5	3.9	6.7	193	.2	.8	295	3.8	SSW	73	2.7	1.2	1265	25
26	12.1	2.3	7.2	104	.8	1.1	099	3.8	ESE	73	.3	0.0	1380	26
27	12.7	.6	6.7	101	.9	1.5	081	3.8	E	68	-1.6	0.0	2035	27
28	12.7	0.0	6.4	117	1.4	1.6	124	7.0	ESE	53	-1.8	0.0	1620	28
29	11.7	6.0	8.9	110	1.9	2.1	094	7.6	ESE	67	3.1	.2	640	29
30	12.2	4.0	8.1	120	1.5	1.9	097	7.6	ESE	63	1.8	0.0	1450	30
MONTH	17.6	-2.4	7.4	113	.7	1.3	106	8.3	ESE	62	.4	32.6	68330	

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

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
September, 1984

FIGURE and TABLE 5.132

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

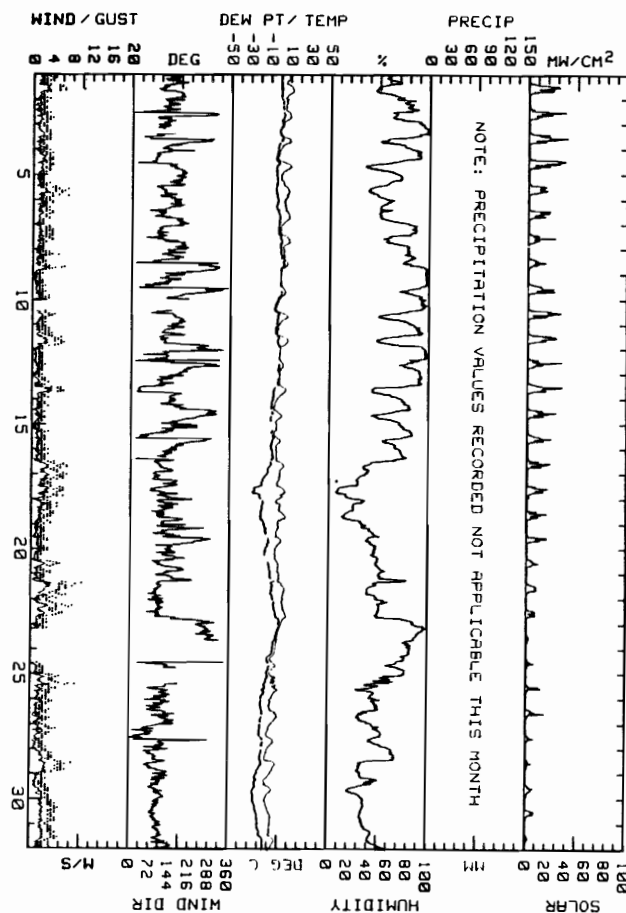
MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING October, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	MAX. GUST DIR. DEG	P-VAL MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	DAY
1	12.3	3.8	8.1	137	1.5	1.8	106	10.2	S	57	.3	****	1545	1
2	9.6	1.8	5.7	125	.6	1.0	888	3.8	SE	74	1.8	****	1245	2
3	9.8	-1.5	4.2	118	.7	1.2	151	3.2	ESE	82	-1.0	****	1565	3
4	10.5	-4.1	3.2	123	1.2	1.6	894	3.8	E	68	-4.3	****	1748	4
5	8.6	-1.1	4.3	135	1.3	1.5	111	7.0	ESE	51	-4.4	****	1030	5
6	9.1	.2	4.7	144	1.1	1.3	153	3.8	S	55	-2.6	****	925	6
7	9.3	-7	4.3	125	1.0	1.2	103	3.8	ESE	73	-1.0	****	755	7
8	7.3	.4	3.9	194	.1	1.1	318	6.3	SE	85	1.2	****	615	8
9	5.5	-2.5	1.5	145	.3	.8	177	3.2	SE	90	-4	****	1165	9
10	7.6	-5.2	1.2	153	1.1	1.3	148	4.4	S	78	-3.7	****	1425	10
11	8.0	-4.6	1.7	133	1.1	1.5	122	6.3	ESE	68	-2.9	****	1365	11
12	3.1	-1.1	1.0	186	.3	.7	306	2.5	SE	81	-1.6	****	845	12
13	6.0	-3.4	1.3	879	.8	1.4	833	6.3	NNE	64	-4.9	****	1258	13
14	2.6	-6.3	-1.9	189	.5	1.0	155	3.2	SSE	67	-8.5	****	1010	14
15	.7	-6.2	-2.8	154	.4	.9	116	3.2	SSE	70	-8.0	****	785	15
16	4.3	-3.9	.2	113	1.7	1.8	185	7.0	ESE	51	-9.8	****	788	16
17	6.1	-2.8	1.7	113	2.0	2.3	894	7.0	E	21	-20.1	****	890	17
18	6.8	-3.2	1.8	125	1.5	1.6	128	5.1	ESE	24	-17.7	****	640	18
19	2.1	-4.3	-1.1	165	.6	1.1	267	3.2	ESE	42	-12.7	****	614	19
20	.3	-4.6	-2.2	129	1.1	1.2	899	5.7	ESE	49	-18.9	****	410	20
21	6.0	-.9	2.6	103	1.9	2.1	103	10.2	E	46	-7.3	****	575	21
22	7.7	2.0	4.9	110	1.2	1.7	184	8.3	ESE	59	-2.8	****	438	22
23	1.8	-3.6	-.9	268	1.1	1.1	278	3.2	W	86	-3.8	****	120	23
24	-2.3	-8.8	-5.6	133	.8	.9	129	2.5	SE	75	-9.7	****	170	24
25	.2	-8.5	-4.2	121	1.6	1.8	130	8.9	SE	48	-14.0	****	268	25
26	-.8	-9.5	-5.2	119	1.2	1.3	118	4.4	ESE	41	-17.3	****	385	26
27	-4.0	-11.7	-7.9	872	1.0	1.2	886	5.1	E	49	-17.7	****	175	27
28	-2.2	-13.9	-8.1	890	2.3	2.4	181	8.3	E	47	-18.3	****	170	28
29	-5.7	-13.9	-9.8	108	1.5	1.6	890	3.8	ESE	33	-23.8	****	365	29
30	-6.6	-12.7	-9.7	894	2.4	2.4	887	5.7	E	35	-21.5	****	375	30
31	-2.9	-9.0	-6.0	110	2.0	2.1	891	5.7	ESE	44	-16.7	****	118	31
MONTH	12.3	-13.9	-3.3	118	1.1	1.5	186	10.2	ESE	56	-8.5	****	23654	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 6.3
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 6.3

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
October, 1984

FIGURE and TABLE 5.133

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	DAY
1	.1	-8.0	-4.0	134	1.9	2.0	143	6.3	SE	35	-18.2	****	480	1
2	-2.2	-11.4	-6.8	182	2.4	2.7	122	7.0	E	35	-19.9	****	195	2
3	-2.6	-12.6	-7.6	097	1.5	1.6	068	5.1	ESE	53	-16.4	****	220	3
4	-6.5	-13.8	-10.2	080	1.5	1.6	102	4.4	ENE	66	-15.6	****	350	4
5	-1.4	-7.9	-4.7	100	1.0	1.1	084	3.8	ENE	69	-9.4	****	175	5
6	-.9	-3.8	-2.4	106	.7	.9	142	3.2	ESE	73	-5.8	****	330	6
7	-2.1	-5.8	-4.0	137	.3	.4	144	2.5	S	91	-6.7	****	145	7
8	-4.2	-7.7	-6.0	092	.7	.8	093	2.5	E	89	-7.6	****	170	8
9	-7.5	-14.9	-11.2	100	1.3	1.3	094	3.2	E	84	-13.1	****	145	9
10	-11.9	-18.1	-15.0	103	1.8	2.0	123	5.7	ESE	79	-18.1	****	110	10
11	-17.1	-21.1	-19.1	070	2.4	2.4	050	5.1	ENE	77	-22.4	****	115	11
12	-14.3	-22.3	-18.3	097	1.2	1.4	077	4.4	E	75	-23.4	****	105	12
13	-10.7	-20.3	-15.5	106	1.5	1.6	109	5.1	ESE	62	-20.9	****	45	13
14	-9.6	-16.8	-13.2	098	2.4	2.4	092	6.3	ESE	56	-20.4	****	150	14
15	-3.4	-9.6	-6.5	103	2.1	2.1	100	5.1	ESE	62	-12.4	****	255	15
16	-5.8	-11.5	-8.7	111	2.2	2.3	123	5.1	ESE	82	-10.3	****	115	16
17	-8.3	-14.7	-11.5	090	1.9	2.0	103	4.4	ENE	80	-14.4	****	230	17
18	-6.9	-12.4	-9.7	093	1.4	1.6	063	4.4	ENE	80	-11.9	****	170	18
19	-5.4	-14.5	-10.0	078	2.2	2.2	119	5.1	ENE	79	-14.8	****	140	19
20	2.4	-5.9	-1.8	104	2.2	2.3	097	9.5	ESE	69	-7.8	****	35	20
21	2.8	-3.0	-.1	190	.3	.9	070	6.3	S	84	-1.7	****	125	21
22	-2.8	-11.7	-7.3	121	.8	.9	136	3.2	SE	89	-7.8	****	150	22
23	-8.1	-12.4	-10.3	111	.3	.5	084	2.5	SSE	88	-10.1	****	110	23
24	-8.3	-11.1	-9.7	158	.2	.5	112	1.9	S	88	-10.2	****	45	24
25	-10.1	-12.4	-11.3	091	.6	.7	113	2.5	E	85	-13.4	****	35	25
26	-12.6	-19.6	-16.1	074	1.6	1.6	070	3.2	ENE	82	-18.5	****	40	26
27	-10.7	-22.0	-16.4	090	1.6	1.7	107	4.4	ENE	80	-18.1	****	35	27
28	-9.7	-12.8	-11.3	100	1.3	1.4	107	3.8	ESE	80	-14.0	****	40	28
29	-7.5	-10.9	-9.2	109	2.0	2.0	114	4.4	ESE	80	-11.7	****	100	29
30	-7.1	-9.5	-8.3	100	2.1	2.1	110	5.1	E	81	-11.4	****	80	30
MONTH	2.8	-22.3	-9.5	099	1.4	1.6	097	9.5	ESE	71	-13.5	****	4440	

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

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

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

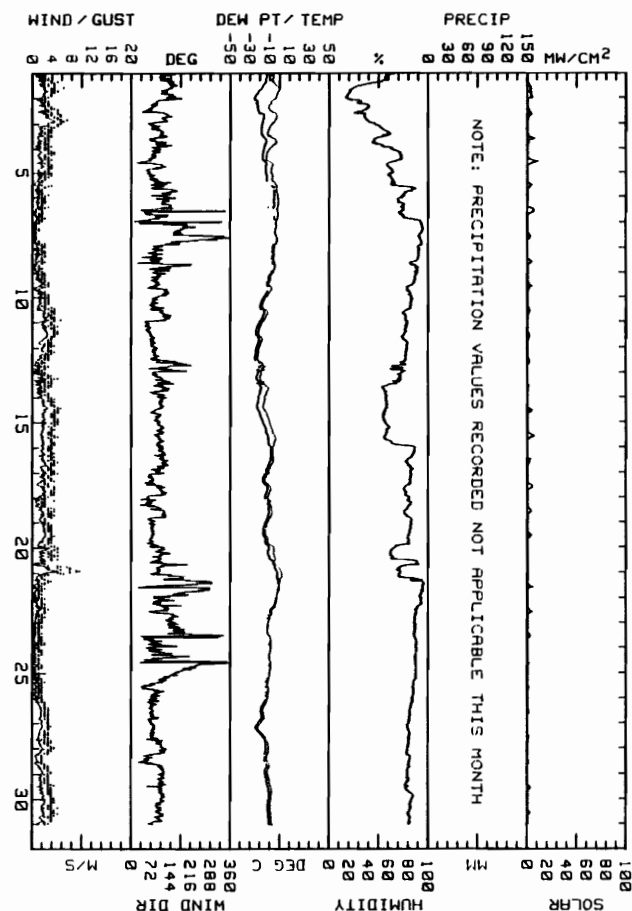


FIGURE and TABLE 5.134
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
November, 1984

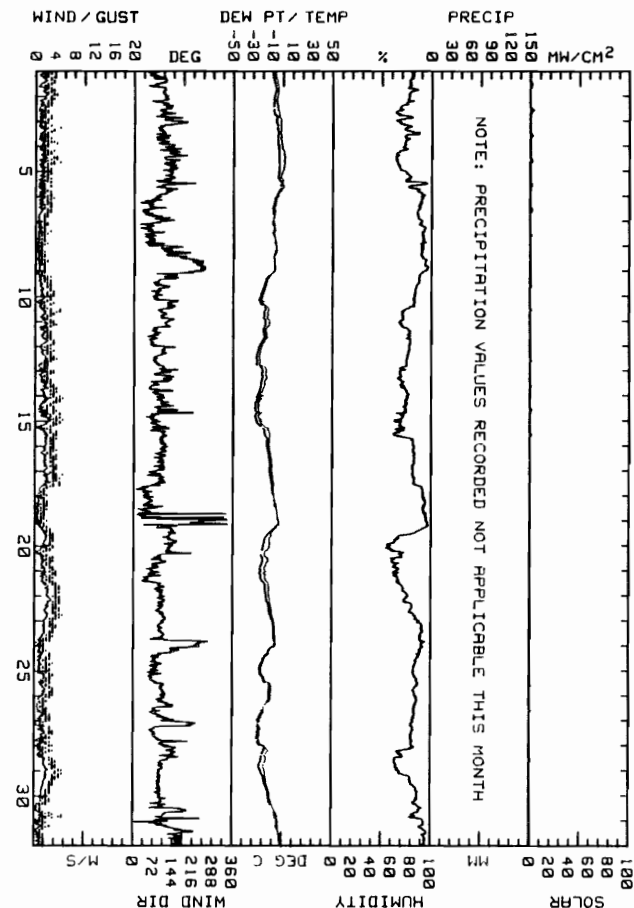
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DEVIL CANYON WEATHER STATION
DATA TAKEN DURING December, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ
1	-3.8	-8.0	-5.9	101	1.6	1.7	113	4.4	ESE	80	-8.4	****	65
2	-1.2	-8.0	-4.6	119	1.1	1.2	126	3.8	ESE	72	-8.6	****	95
3	0.0	-2.5	-1.3	114	1.2	1.3	087	5.1	ESE	75	-5.2	****	65
4	2.6	-9	9	136	1.4	1.4	148	5.1	SE	67	-3.8	****	70
5	1.5	-5.4	-2.0	123	1.1	1.2	141	3.2	SE	83	-3.9	****	55
6	-5.7	-9.4	-7.6	068	1.0	1.1	076	3.8	ENE	89	-8.8	****	75
7	-5.8	-8.8	-7.3	066	.7	.7	049	3.2	ENE	90	-9.3	****	30
8	-5.7	-8.7	-7.2	286	.5	.7	232	2.5	WSW	94	-7.8	****	15
9	-8.3	-20.1	-14.2	100	1.0	1.2	065	3.8	E	85	-19.1	****	30
10	-12.4	-21.8	-17.1	114	1.4	1.5	101	5.1	ESE	75	-19.1	****	30
11	-12.3	-20.8	-16.6	005	1.6	1.8	119	4.4	ENE	76	-19.4	****	35
12	-15.6	-23.2	-19.4	096	1.5	1.5	079	4.4	ESE	75	-24.5	****	40
13	-15.1	-22.1	-18.6	093	1.5	1.7	097	5.1	ENE	72	-21.8	****	40
14	-20.0	-24.5	-22.3	092	1.7	1.9	095	5.7	E	73	-26.5	****	55
15	-12.0	-22.1	-17.1	101	1.9	2.0	063	5.1	ESE	73	-18.2	****	40
16	-9.6	-12.8	-11.2	101	2.0	2.0	105	4.4	ESE	83	-13.2	****	20
17	-7.8	-10.8	-9.3	083	1.5	1.7	106	7.0	NE	85	-11.0	****	10
18	-3.3	-7.7	-5.5	052	.5	.6	070	2.5	ENE	94	-7.3	****	0
19	-2.7	-12.7	-7.7	137	1.6	1.8	153	3.8	SE	74	-14.1	****	10
20	-12.1	-17.7	-14.9	096	1.4	1.5	073	4.4	ENE	64	-20.5	****	35
21	-12.6	-18.2	-15.4	087	2.1	2.2	106	5.1	E	70	-18.8	****	0
22	-7.5	-12.5	-10.0	105	2.6	2.6	109	5.7	ESE	80	-12.9	****	0
23	-5.8	-7.4	-6.6	107	1.2	1.6	092	4.4	ESE	91	-8.1	****	5
24	-7.3	-20.5	-13.9	098	1.0	1.1	106	3.8	E	87	-17.5	****	20
25	-10.0	-20.2	-15.1	092	1.6	1.7	095	3.8	ESE	85	-15.6	****	30
26	-10.6	-22.3	-16.5	104	1.0	1.1	115	3.2	ESE	84	-19.1	****	25
27	-15.7	-23.7	-19.7	090	1.1	1.3	068	3.8	ENE	81	-23.8	****	20
28	-12.6	-18.1	-15.4	117	1.6	1.7	093	5.7	SE	67	-20.6	****	45
29	-11.3	-16.1	-13.7	096	1.9	1.9	095	5.7	E	82	-16.3	****	0
30	-3.1	-11.3	-7.2	113	.9	1.0	111	5.7	ESE	85	-9.1	****	0
31	.8	-3.8	-1.5	151	.8	.9	115	3.2	S	93	-2.5	****	15
MONTH	2.6	-24.5	-11.1	102	1.3	1.5	106	7.0	ESE	78	-14.0	****	975

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.1
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
DEVIL CANYON WEATHER STATION
December, 1984

FIGURE and TABLE 5.135

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ M
1	4.5	-1	2.2	059	.2	.4	210	2.5	ENE	88	8888	8888	1300 1
2	7.6	-1.0	3.3	064M	.3M	.4M	349M	2.5M	ESE(M)	88	8888	8888	2080 2
3	7.4	-1.8	2.8	067M	.9M	.7M	050M	4.4M	ENE(M)	88	8888	8888	2350 3
4	7.8	-5.2	1.3	073	.8	.8	096	3.8	ENE	88	8888	8888	2733 4
5	6.1	-5.9	.1	063	1.6	1.7	047	7.6	NE	88	8888	8888	2750 5
6	5.6	-1.1	2.3	060	1.4	1.5	075	6.3	ENE	88	8888	8888	1920 6
7	1.8M	-1.8M	.5M	061M	.8M	1.0M	062M	4.4M	ENE(M)	88	8888	8888	755M 7
8	1.8M	-1.6M	.1M	048M	.4M	1.0M	027M	3.2M	ENE(M)	88	8888	8888	855M 8
9	2.4	-2.2	.1	216M	1.1M	.8M	212M	3.8M	SSW(M)	88	8888	8888	763 9
10	-4	-3.5	-2.0	214M	2.3M	1.2M	219M	5.1M	SSW(M)	88	8888	8888	1020 10
11	2.0	-3.3	-.7	068M	1.1M	1.1M	043M	5.7M	ENE(M)	88	8888	8888	765 11
12	2.0	.1	1.1	060	.4	.4	047	1.9	NE	88	8888	8888	538 12
13	.5	-5.2	-2.4	031M	.4M	.6M	214M	3.2M	NE(M)	88	8888	8888	345 13
14	1.3	-11.5	-5.1	079M	1.0M	.7M	072M	3.8M	E(M)	88	8888	8888	623 14
15	1.2	-14.3	-6.6	048M	.7M	.6M	028M	2.5M	E(M)	88	8888	8888	1500 15
16	-8	-7.5	-4.2	888	888	.7M	888	888	888	88	8888	8888	293 16
17	5.0	-8.4	-1.7	026M	.3M	.4M	026M	1.9M	NNE(M)	88	8888	8888	835 17
18	2.4	-11.0	-4.3	153M	.1M	.4M	046M	1.9M	S(M)	88	8888	8888	1540 18
19	.8	-4.2	-1.7	888	888	.3M	888	888	888	88	8888	8888	243 19
20	.7	-13.0	-6.6	888	888	.6M	888	888	888	88	8888	8888	630 20
21	-2.0	-12.0	-7.0	067M	2.3M	2.2M	084M	7.6M	ENE(M)	88	8888	8888	893 21
22	-1.5	-10.6	-6.1	050	2.1	2.3	057	7.0	NE	88	8888	8888	1485 22
23	-2.0	-15.5	-8.0	080	1.5	1.6	055	6.3	E	88	8888	8888	1240 23
24	-3.4	-19.4	-11.4	076	.6	.7	081	3.8	E	88	8888	8888	1323 24
25	-4.3	-21.5	-12.9	096	.2	.4	124	1.3	E	88	8888	8888	1193 25
26	-20.8M	-24.6M	-22.2M	079M	.5M	.5M	077M	2.5M	ENE(M)	88	8888	8888	153M 26
27	8888	8888	8888	888	888	888	888	888	888	88	8888	8888	8888 27
28	8888	8888	8888	888	888	888	888	888	888	88	8888	8888	8888 28
29	8888	8888	8888	888	888	888	888	888	888	88	8888	8888	8888 29
30	8888	8888	8888	888	888	888	888	888	888	88	8888	8888	8888 30
31	8888	8888	8888	888	888	888	888	888	888	88	8888	8888	8888 31
NORTH	7.8M	-24.6M	-3.5M	068M	.8M	.5M	047M	7.6M	ENE(M)	88	8888	8888	30135M

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

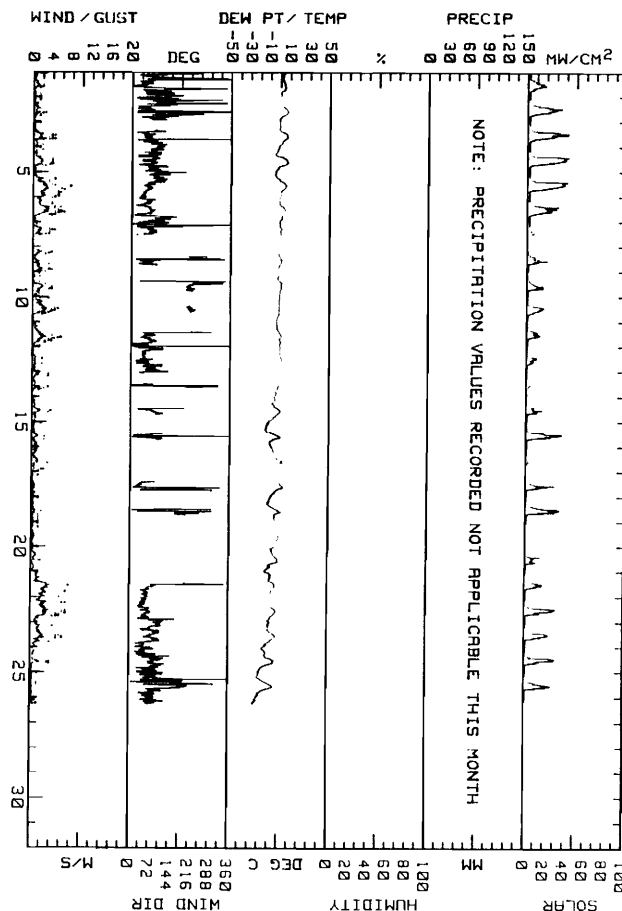


FIGURE and TABLE 5.136
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
October, 1982

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	1
2	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	2
3	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	3
4	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	4
5	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	5
6	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	6
7	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	7
8	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	8
9	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	9
10	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	10
11	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xxxx	11
12	0.0	-3.1	-1.6	080M	.9M	.7M	078M	3.2M	E (M)	xx	xxxx	xxxx	178	12
13	-2.1	-7.1	-4.6	035M	.2M	.3M	352M	1.9M	E (M)	xx	xxxx	xxxx	278	13
14	-1.8	-10.6	-6.2	xx	xx	.2M	xx	xx	xx	xx	xxxx	xxxx	233	14
15	-10.1	-16.9	-13.5	092M	.1M	.2M	092M	1.3M	E (M)	xx	xxxx	xxxx	171	15
16	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	16
17	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	17
18	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	18
19	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	19
20	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	20
21	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	21
22	xxxx	xxxx	xxxx	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	xxxx	22
23	0.0	-3.2	-1.6	038M	.6M	.6M	061M	3.8M	NE (M)	xx	xxxx	xxxx	275	23
24	-5	-10.7	-5.6	073	.5	.5	053	1.3	ENE	xx	xxxx	xxxx	268	24
25	.8	-10.9	-5.1	056	.7	.8	091	3.2	ENE	xx	xxxx	xxxx	273	25
26	-5.3	-10.5	-7.9	048	.9	.9	044	3.2	NE	xx	xxxx	xxxx	270	26
27	-7.5	-16.5	-12.0	075	.6	.6	073	1.9	ENE	xx	xxxx	xxxx	245	27
28	-14.6	-20.1	-17.4	068M	.3M	.3M	080M	1.9M	ENE (M)	xx	xxxx	xxxx	260	28
29	-4.9	-14.3	-9.6	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	190	29
30	-7.8	-13.0	-10.4	xx	xx	xx	xx	xx	xx	xx	xxxx	xxxx	160	30
MONTH	.6M	-20.1M	-7.9M	059M	.6M	.4M	061M	3.8M	ENE (M)	xx	xxxx	xxxx	2799M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 1.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 1.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 1.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 1.3

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 ****

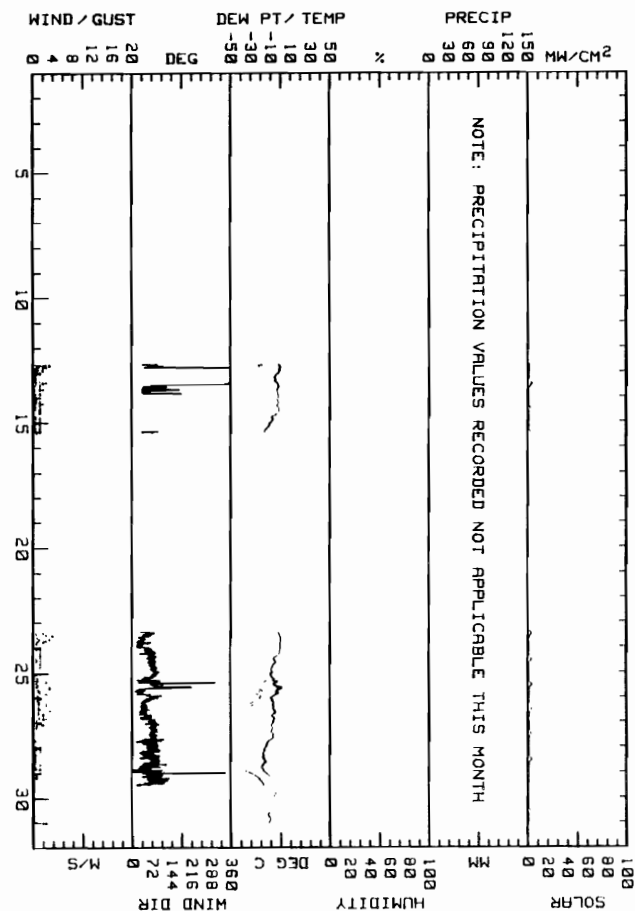
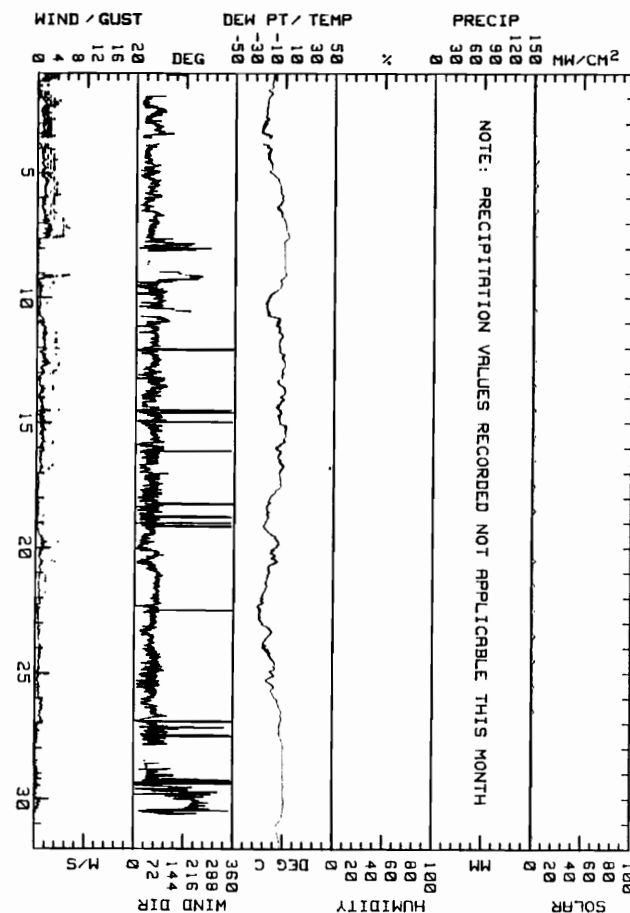


FIGURE and TABLE 5.37

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

FIGURE and TABLE 5.138

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



DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ
1	-12.1	-18.0	-15.1	071M	.7M	.6M	186M	3.2M	NE	W	***	***	***	203
2	-16.8	-21.9	-19.4	047	1.2	1.3	029	4.4	NNE	***	***	***	***	220
3	-14.5	-24.5	-19.5	064M	1.0M	1.0M	030M	3.2M	ENE	W	***	***	***	227M
4	-13.4	-18.2	-15.8	044	1.2	1.2	050	3.8	NE	***	***	***	***	302
5	-2.3	-14.0	-8.2	057	1.5	1.6	083	4.4	NE	***	***	***	***	275
6	.4	-9.2	-4.4	055	1.4	1.5	063	5.1	ENE	***	***	***	***	283
7	4.0	-1.1	1.5	056	1.4	1.4	046	6.3	NE	***	***	***	***	243
8	.9	-.4	.3	***	***	***	***	***	***	***	***	***	***	200
9	1.3	-15.8	-7.3	101M	.2M	.8M	178M	6.3M	E (M)	***	***	***	***	203
10	-5.1	-19.4	-12.3	087M	.7M	.7M	111M	3.2M	E (M)	***	***	***	***	250
11	-2.4	-8.7	-5.6	064	1.5	1.6	030	3.8	ENE	***	***	***	***	234
12	.4	-5.7	-2.7	059	1.4	1.5	042	4.4	ENE	***	***	***	***	270
13	1.1	-7.6	-3.3	063	.8	.9	052	3.2	ENE	***	***	***	***	241
14	-2	-8.9	-4.6	043	1.0	1.2	335	4.4	ENE	***	***	***	***	258
15	2.2	-8.7	-3.3	063	1.2	1.3	065	3.8	ENE	***	***	***	***	241
16	-.3	-8.9	-4.6	048	.9	1.0	029	3.2	NE	***	***	***	***	238
17	-2.8	-14.1	-8.5	062	.4	.4	086	1.9	ENE	***	***	***	***	234
18	-13.4	-18.9	-16.2	055	.3	.4	075	1.9	ENE	***	***	***	***	255
19	-4.5	-21.1	-12.8	039	.9	1.0	052	4.4	NNE	***	***	***	***	220
20	-6.3	-16.4	-11.4	056	.9	1.0	012	3.8	ENE	***	***	***	***	263
21	-14.9	-22.7	-18.8	082	.8	.8	088	1.9	E	***	***	***	***	241
22	-19.9	-26.6	-23.3	072	.6	.7	090	2.5	ENE	***	***	***	***	248
23	-11.2	-22.1	-16.7	054	.8	.8	031	2.5	ENE	***	***	***	***	258
24	-8.0	-19.4	-13.7	069	.8	.9	056	2.5	ENE	***	***	***	***	228
25	-8.4	-17.5	-13.0	060	.7	.8	020	2.5	ENE	***	***	***	***	203
26	-1.4	-7.5	-4.5	055	1.1	1.2	061	3.8	ENE	***	***	***	***	248
27	.1	-4.3	-2.1	069M	.4M	.4M	082M	1.9M	ENE(M)	***	***	***	***	171
28	.4	.1	.3	063M	.4M	.2M	092M	1.9M	NE(M)	***	***	***	***	173
29	.9	.1	.5	092	.2	.4	102	3.2	NE	***	***	***	***	173
30	1.5	-5.6	-2.1	221M	.5M	.6M	226M	2.5M	SW (M)	***	***	***	***	223
31	-2.5	-6.7	-4.6	***	***	***	***	***	***	***	***	***	***	165
MONTH	4.0M	-26.6M	-8.7M	059M	.9M	.9M	046M	6.3M	ENE (M)	***	***	***	***	7187M

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 4.4
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 ***

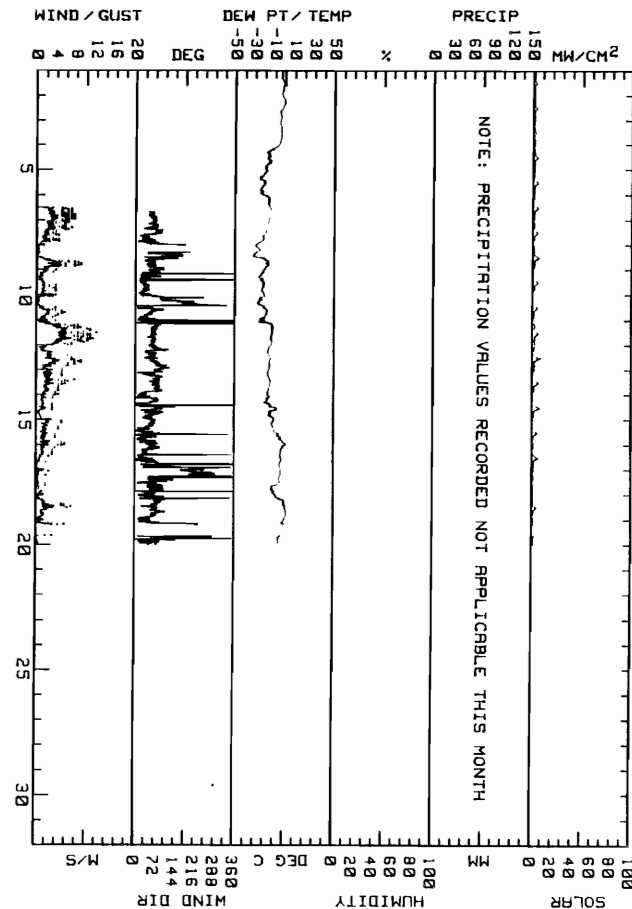
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST 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	-5.9	-5.0	-3.0	***	***	***	***	***	***	***	***	***	206	1
2	0.0	-5.8	-2.9	***	***	***	***	***	***	***	***	***	220	2
3	-3.9	-7.1	-5.5	***	***	***	***	***	***	***	***	***	188	3
4	-6.9	-20.8	-13.9	***	***	***	***	***	***	***	***	***	268	4
5	-18.0	-25.8	-21.9	***	***	***	***	***	***	***	***	***	278	5
6	-14.3	-20.0	-17.2	061M	3.4M	3.1M	062M	7.6M	ENE	***	***	***	330	6
7	-16.3	-29.5	-22.9	058M	2.6M	2.1M	051M	7.6M	ENE	***	***	***	323	7
8	-18.8	-32.2	-24.5	060M	1.8M	1.5M	052M	8.9M	ENE	***	***	***	358	8
9	-20.5	-27.0	-23.8	035	1.2	1.3	046	3.8	NNE	***	***	***	355	9
10	-17.7	-27.8	-22.8	054	.9	1.2	053	5.7	NE	***	***	***	348	10
11	-11.9	-25.9	-18.9	062	4.2	4.4	069	12.1	ENE	***	***	***	528	11
12	-14.2	-17.6	-15.9	068	2.4	2.5	056	8.9	ENE	***	***	***	438	12
13	-14.3	-17.9	-16.1	068	2.1	2.2	077	7.6	ENE	***	***	***	393	13
14	-7.9	-20.7	-14.3	050	1.1	1.2	071	4.4	ENE	***	***	***	405	14
15	1.6	-13.5	-6.0	047	1.7	1.8	070	5.7	ENE	***	***	***	345	15
16	7	-5.0	-2.2	043	.8	.9	054	5.1	NE	***	***	***	333	16
17	-3.4	-13.4	-8.4	062	.3	.6	215	2.5	ENE	***	***	***	288	17
18	2.3	-9.4	-3.6	066	1.3	1.4	065	7.0	ENE	***	***	***	275	18
19	0.0M	-6.2	-3.1	076M	.2M	.6M	227M	5.7M	ENE	***	***	***	171M	19
20	***	***	***	***	***	***	***	***	***	***	***	***	***	20
21	***	***	***	***	***	***	***	***	***	***	***	***	***	21
22	***	***	***	***	***	***	***	***	***	***	***	***	***	22
23	***	***	***	***	***	***	***	***	***	***	***	***	***	23
24	***	***	***	***	***	***	***	***	***	***	***	***	***	24
25	***	***	***	***	***	***	***	***	***	***	***	***	***	25
26	***	***	***	***	***	***	***	***	***	***	***	***	***	26
27	***	***	***	***	***	***	***	***	***	***	***	***	***	27
28	***	***	***	***	***	***	***	***	***	***	***	***	***	28
29	***	***	***	***	***	***	***	***	***	***	***	***	***	29
30	***	***	***	***	***	***	***	***	***	***	***	***	***	30
31	***	***	***	***	***	***	***	***	***	***	***	***	***	31
MONTH	2.5M	-32.2M	-13.0M	059M	1.6M	1.8M	069M	12.1M	ENE	***	***	***	5998M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE MILE 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
SHERMAN WEATHER STATION
January, 1983

FIGURE and TABLE 5.139

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	****	****	****	***	***	***	***	***	***	***	***	***	***** 1
2	****	****	****	***	***	***	***	***	***	***	***	***	***** 2
3	****	****	****	***	***	***	***	***	***	***	***	***	***** 3
4	****	****	****	***	***	***	***	***	***	***	***	***	***** 4
5	****	****	****	***	***	***	***	***	***	***	***	***	***** 5
6	****	****	****	***	***	***	***	***	***	***	***	***	***** 6
7	-1.1	-8.3	-4.2	089	.4	.6	073	2.5	E (M)	***	***	***	652M 7
8	-1.9	-13.6	-7.8	072	.2	.3	047	3.2	E	***	***	***	733 8
9	-9.0	-21.9	-15.5	076	.5	.6	045	2.5	E	***	***	***	1135 9
10	-7.5	-23.3	-15.4	078	.4	.5	095	3.2	FNE	***	***	***	1118 10
11	-10.1	-26.1	-18.1	059	.5	.6	044	2.5	NE	***	***	***	1215 11
12	-10.5	-28.0	-19.3	060	.3	.5	141	1.9	FNE	***	***	***	1305 12
13	-24.7	-29.6	-27.2	043	.4	.4	027	1.3	ENE (M)	***	***	***	398M 13
14	****	****	****	***	***	***	***	***	***	***	***	***	***** 14
15	****	****	****	***	***	***	***	***	***	***	***	***	***** 15
16	****	****	****	***	***	***	***	***	***	***	***	***	***** 16
17	****	****	****	***	***	***	***	***	***	***	***	***	***** 17
18	****	****	****	***	***	***	***	***	***	***	***	***	***** 18
19	****	****	****	***	***	***	***	***	***	***	***	***	***** 19
20	****	****	****	***	***	***	***	***	***	***	***	***	***** 20
21	****	****	****	***	***	***	***	***	***	***	***	***	***** 21
22	****	****	****	***	***	***	***	***	***	***	***	***	***** 22
23	****	****	****	***	***	***	***	***	***	***	***	***	***** 23
24	****	****	****	***	***	***	***	***	***	***	***	***	***** 24
25	****	****	****	***	***	***	***	***	***	***	***	***	***** 25
26	****	****	****	***	***	***	***	***	***	***	***	***	***** 26
27	****	****	****	***	***	***	***	***	***	***	***	***	***** 27
28	****	****	****	***	***	***	***	***	***	***	***	***	***** 28
MONTH	-1.1	-29.6	-15.3	069	.4	.5	047	3.2	ENE (M)	***	***	***	655M

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 1.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 1.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 2.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 1.9

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 DFW POINT.

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

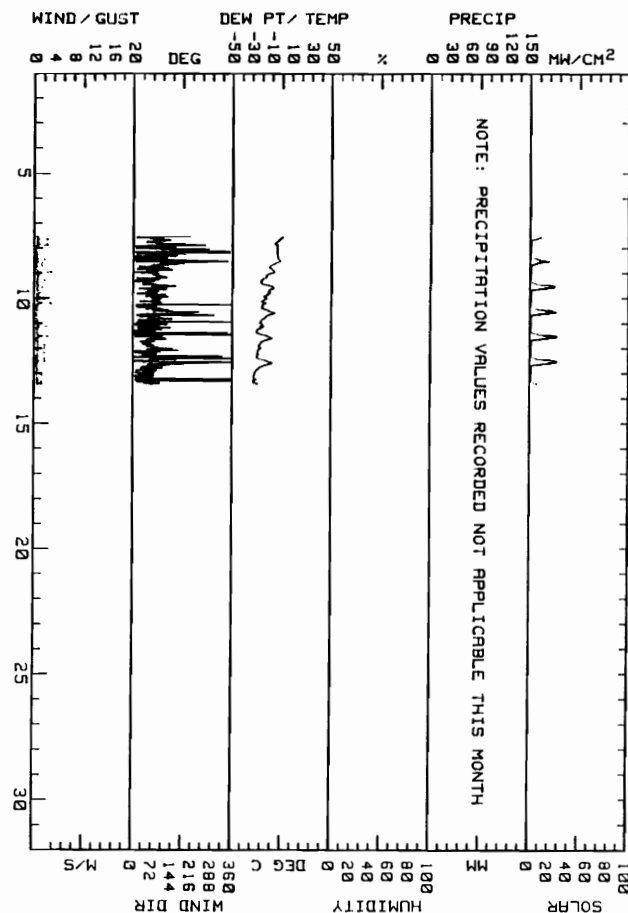


FIGURE and TABLE 5.140
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
February, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR SHERMAN 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. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	1
2	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	2
3	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	3
4	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	4
5	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	5
6	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	6
7	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	7
8	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	8
9	*****	*****	*****	***	***	***	***	***	***	***	***	***	*****	9
10	-2.6M	-15.1M	-8.9M	061M	1.2M	1.3M	074M	4.4M	ENE(2)	**	*****	*****	2556M	10
11	4.4	-7.8	-1.7	056	1.0	1.0	053	3.8	ENE	**	*****	*****	1913	11
12	8.6	-8.3	.2	063	1.0	1.2	062	4.4	ENE	**	*****	*****	1980	12
13	8.6	-10.5	-1.0	068	.9	1.0	076	4.4	ENE	**	*****	*****	2798	13
14	5.3	-11.2	-3.0	069	.9	.9	075	3.8	ENE	**	*****	*****	2270	14
15	8.5	-8.5	0.0	065	.5	.7	010	3.8	E	**	*****	*****	2468	15
16	6.8	-10.4	-1.8	068	.8	.9	076	4.4	ENE	**	*****	*****	3880	16
17	6.4	-13.9	-3.8	076	.8	.8	084	4.4	ENE	**	*****	*****	3255	17
18	6.0	-15.7	-4.9	069	.9	1.0	069	5.1	E	**	*****	*****	3355	18
19	5.9	-15.8	-5.0	073	.8	.9	078	4.4	E	**	*****	*****	3423	19
20	5.3	-8.5	-1.6	***	***	1.2	079	4.4	***	**	*****	*****	3220	20
21	7.1	-10.3	-1.6	069	1.1	1.1	072	4.4	ENE	**	*****	*****	3423	21
22	7.1	-15.0	-4.0	075	.6	.7	085	3.8	ENE	**	*****	*****	3528	22
23	5.9	-14.8	-4.5	068	.7	.8	079	4.4	ENE	**	*****	*****	3618	23
24	4.7	-11.9	-3.6	052	.8	.9	067	3.8	ENE	**	*****	*****	2533	24
25	5.2	-8.0	-1.4	063	1.4	1.5	081	5.7	ENE	**	*****	*****	3695	25
26	5.1	-8.3	-1.6	050	2.0	2.0	049	7.6	NE	**	*****	*****	3435	26
27	4.3	-7.9	-1.8	059	1.9	1.9	052	7.0	ENE	**	*****	*****	3663	27
28	5.8	-9.9	-2.1	065	1.4	1.5	077	5.1	ENE	**	*****	*****	3798	28
29	7.6	-11.7	-2.1	077	1.1	1.1	071	4.4	E	**	*****	*****	3958	29
30	6.5	-12.1	-2.8	072	1.2	1.2	077	5.1	ENE	**	*****	*****	4228	30
31	10.0	-8.0	1.0	065	.7	.8	055	3.8	ENE	**	*****	*****	3553	31
MONTH	10.0M	-15.8M	-2.6M	065M	1.0M	1.1M	049M	7.6M	ENE(2)	**	*****	*****	6774M	

GUST VEL. AT MAX. GUST MTNUS 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 6.3

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

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

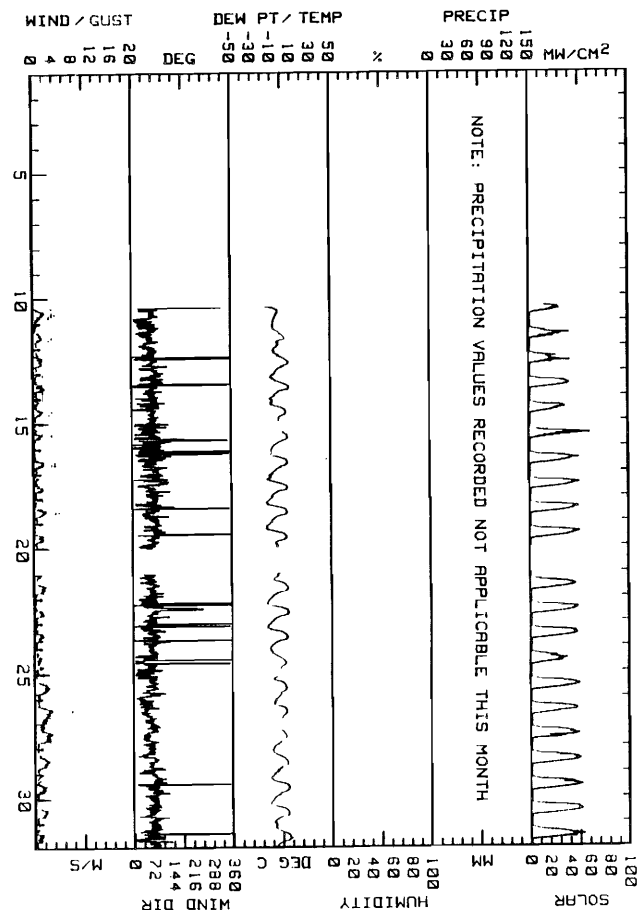


FIGURE and TABLE 5.141

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

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR	RES. WIND SPD. N/S	AVG. WIND SPD. N/S	MAX. GUST DIR	MAX. GUST SPD. N/S	P'VAL DIR	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	9.2	-10.1	-5	070	1.0	1.1	082	4.4	E	88	*****	0.0	4243	1
2	9.6	-8.8	.4	069	1.0	1.1	082	5.7	ENE	88	*****	0.0	4435	2
3	8.3	-10.7	-1.2	063	1.2	1.2	065	4.4	ENE	88	*****	0.0	4500	3
4	7.6	-5	3.6	135	.2	1.9	212	10.2	NE	88	*****	2.2	1903	4
5	5.1	-2.4	1.4	053M	.2M	.6M	352M	3.2M	ENE(M)	88	*****	2.6	2065	5
6	9.5	-4.9	2.3	042	.4M	.4M	169M	3.0M	ENE	88	*****	1.6	3050	6
7	7.5	-4.5	1.5	104M	.1M	.2M	064M	2.5M	ENE(M)	88	*****	0.0	4520	7
8	4.4	-5.4	-5	235M	.8M	.8M	223M	4.4M	SW	88	*****	0.0	3908	8
9	3.7	-9.5	-2.9	217M	.8M	1.0M	200M	3.8M	SSW(M)	88	*****	.6	3155	9
10	2.6	-11.3	-4.4	096	.8	1.1	120	4.4	E	88	*****	0.0	4948	10
11	-1.9	-11.7	-6.8	057	1.3	1.4	035	5.1	ENE	88	*****	0.0	2727	11
12	3.4	-4.3	-5	039M	.1M	.7M	030M	3.2M	NNE(M)	88	*****	8.4	2070	12
13	7.4	-3.8	1.8	084M	.7M	.6M	046M	3.2M	E(M)	88	*****	4.0	4438	13
14	5.1	-9	2.1	220	.8	.9	229	4.4	SW	88	*****	5.0	2715	14
15	4.5	0.0	2.3	041	.3	.5	211	2.5	NNE	88	*****	14.2	2175	15
16	7.6	-1.7	3.0	066M	1.3M	1.1M	059M	5.1M	ENE(M)	88	*****	1.8	3900	16
17	5.1	-5.3	-1	218	.9	1.2	231	5.1	SSW	88	*****	.2	4210	17
18	7.0	-1.3	2.9	052M	.6M	.8M	020M	5.1M	ENE(M)	88	*****	11.0	3580	18
19	7.5	-3.3	2.1	210	.5	1.2	206	4.4	SSW	88	*****	0.0	3900	19
20	9.9	-4.3	2.8	071	.9	1.1	077	5.1	E	88	*****	0.0	5030	20
21	10.1	-4.5	2.8	093	.6	.8	031	3.8	ENE	88	*****	0.0	5143	21
22	8.8	-2.2	3.3	214	.2	.5	169	4.4	S	88	*****	3.4	3503	22
23	7.6	.5	4.1	200M	.1M	.5M	212M	3.2M	SSW(M)	88	*****	6.4	3148	23
24	15.1	.1	7.6	023	.5	.9	001	4.4	ENE	88	*****	0.0	6030	24
25	19.4	-1.6	8.9	103	.3	.7	196	3.8	E	88	*****	0.0	6008	25
26	14.3	-3.7	5.3	315	.3	.6	305	3.2	WNW	88	*****	0.0	6028	26
27	14.8	-3.7	5.6	225	.1	.7	166	3.2	NE	88	*****	0.0	6113	27
28	10.5	-2.9	3.8	215	.6	.8	212	5.1	SSW	88	*****	0.0	4195	28
29	10.6	.1	5.4	156	.1	.4	200	2.5	ENE	88	*****	6.0	4245	29
30	13.7	-2.0	5.9	042	1.0	1.2	007	5.1	ENE	88	*****	0.0	6580	30
MONTH	19.4	-11.7	2.1	084M	.3M	.9M	212M	10.2M	ENE(M)	88	*****	67.4	123202	

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

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

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

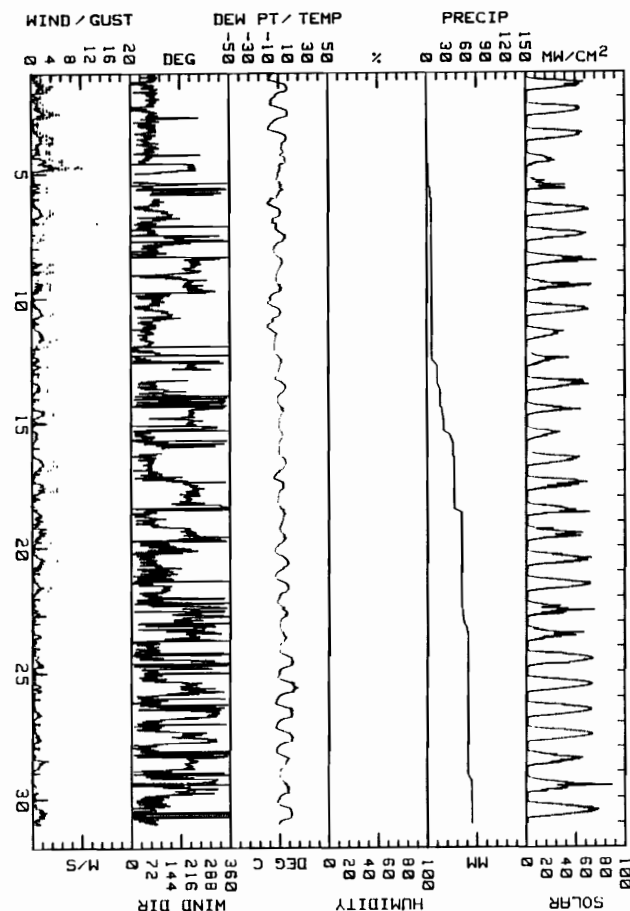


FIGURE and TABLE 5.142

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

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

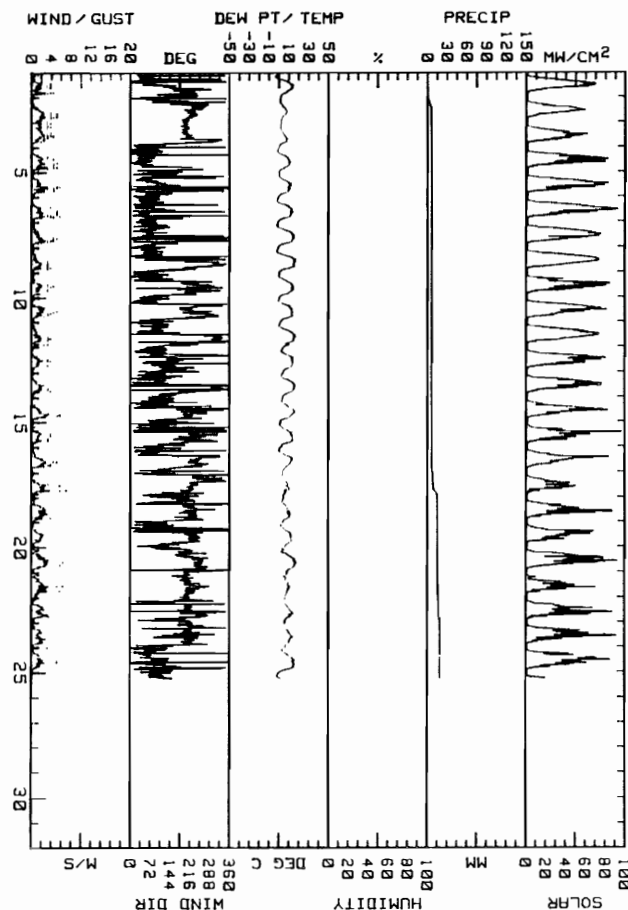
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING May, 1983

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/SQ	DAY
1	14.4	-3.7	5.4	127	.3	.8	204	4.4	ENE	**	*****	.6	5418	1
2	8.2	1.1	4.7	219M	1.1M	1.2M	216M	5.1M	SSW(M)	**	*****	5.0	4123	2
3	8.8	-1	4.4	208	1.1	1.3	214	4.4	SSW	**	*****	.8	4618	3
4	11.9	-1.6	5.2	056	.7	1.1	028	5.1	ENE	**	*****	0.0	5820	4
5	12.3	-8	5.8	043	.5	1.0	347	5.7	E	**	*****	0.0	6433	5
6	14.3	-2.2	6.1	058	.8	.9	350	5.7	ENE	**	*****	0.0	7815	6
7	15.4	-2.2	6.6	040	.6	.9	347	5.1	E	**	*****	0.0	6853	7
8	16.9	-2.5	7.2	308	.2	.8	213	3.8	NE	**	*****	0.0	6955	8
9	15.0	-5	7.3	244	.4	.8	263	4.4	SSW	**	*****	0.0	5903	9
10	14.0	-8	6.6	233	.5	.9	293	5.1	SW	**	*****	0.0	6283	10
11	16.8	-8	8.0	341	.2	.8	316	3.8	ESE	**	*****	0.0	6765	11
12	14.5	2.2	8.4	127	.4	.7	136	3.8	ESE	**	*****	0.0	5783	12
13	16.4	2.4	9.4	001	.2	.8	017	3.8	ESE	**	*****	0.0	5783	13
14	16.1	.9	8.5	223	.5	1.0	195	5.7	SSW	**	*****	.2	4833	14
15	14.2	.3	7.3	237	.3	.8	234	3.8	E	**	*****	0.0	4793	15
16	13.6	-3	6.7	238	.6	1.0	218	5.1	WSW	**	*****	1.0	4183	16
17	10.8	3.1	7.0	222	.8	1.0	184	7.0	SW	**	*****	7.0	3528	17
18	11.4	2.7	7.1	222	1.1	1.3	225	6.3	SW	**	*****	.6	4838	18
19	12.7	1.6	7.2	216	.5	.9	199	4.4	SW	**	*****	0.0	4285	19
20	18.2	1.8	10.0	237	1.3	1.5	234	6.3	WSW	**	*****	0.0	6615	20
21	11.1	4.6	7.9	216	1.3	1.4	253	6.3	SSW	**	*****	1.4	3365	21
22	14.5	5.1	9.8	227	.9	1.2	272	5.7	SSW	**	*****	2.0	5868	22
23	14.4	4.1	9.3	206	.9	1.2	227	5.1	SSW	**	*****	.4	4973	23
24	16.4M	-1M	8.2M	078M	.6M	1.0M	090M	5.1M	SE(M)	**	*****	0.0	5889M	24
25	1.8M	-2.2M	-2M	105M	.2M	.2M	145M	.6M	ESE(M)	**	*****	.4M	968M	25
26	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	26
27	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	27
28	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	28
29	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	29
30	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	30
31	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	31
MONTH	18.2M	-3.7M	6.9M	217M	.3M	.1M	184M	7.0M	SSW(M)	**	*****	19.4M	131075M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
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
SHERMAN WEATHER STATION
May, 1983

FIGURE and TABLE 5.143

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

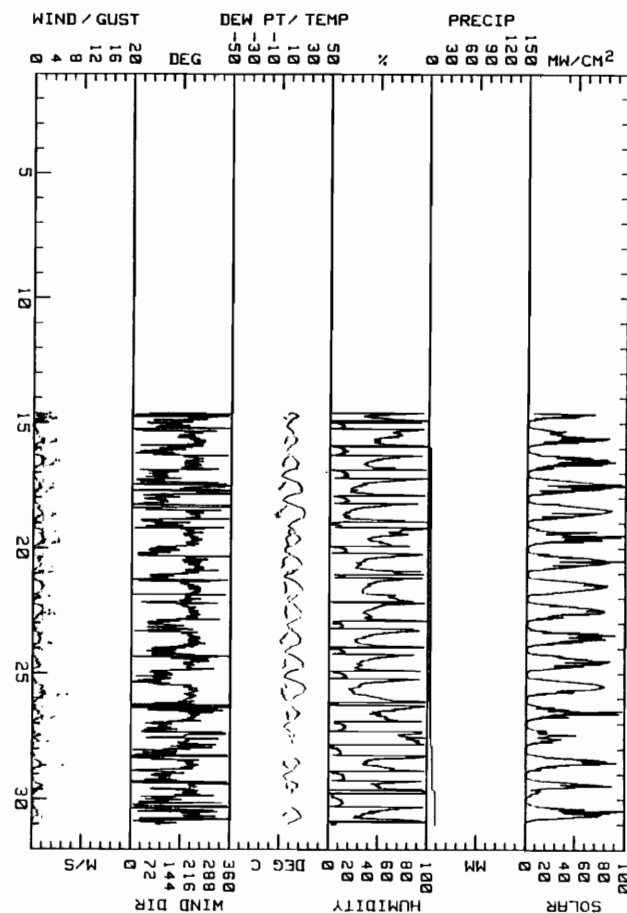
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING June, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DTR.	MAX. GUST SPD. M/S	P'VAL DTR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH	DAY
1	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	1
2	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	2
3	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	3
4	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	4
5	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	5
6	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	6
7	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	7
8	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	8
9	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	9
10	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	10
11	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	11
12	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	12
13	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	XX	XXXX	XXXX	XXXX	XXXX	13
14	17.9M	7.9M	12.9M	253M	.3M	.9M	224M	4.4M	SW(M)			0.0M	5046M	14
15	17.0	6.3	11.7	226	.6	.7	245	4.4	SW			3.4	5495	15
16	18.4	3.5	11.0	219	.7	.9	197	5.1	SW			0.0	6435	16
17	22.3	1.1	11.7	295	.1	.7	284	3.8	E			0.0	7850	17
18	25.2	2.4	13.8	250	.2	.9	224	4.4	FSE			0.0	8273	18
19	20.7	5.4	13.1	217	1.1	1.3	230	5.1	SW			.6	6210	19
20	22.4	4.6	13.5	223	.7	1.0	219	3.8	SW			0.0	7605	20
21	23.2	4.3	13.8	219	.9	1.2	221	4.4	SSW			0.0	9100	21
22	21.9	9.0	15.5	216	.9	1.1	242	4.4	SW			0.0	7250	22
23	21.7	7.1	14.4	215	.7	.9	251	3.8	SW			0.0	6800	23
24	24.6	5.8	15.2	218	.5	.6	220	3.8	SW			0.0	7303	24
25	26.6	5.1	15.9	211	1.0	1.3	216	7.0	SW			0.0	9005	25
26	21.1	7.7	14.4	226	.6	.9	238	4.4	SSW			.8	4865	26
27	15.6	4.8	10.2	196	.3	.5	201	3.2	SSW			3.2	3000	27
28	21.2	6.1	13.7	210	.4	.7	236	6.3	SSW			.2	6063	28
29	19.1	4.1	11.6	213	.3	.7	221	4.4	SW			4.8	4473	29
30	23.1	9.1	16.1	229	.1	.5	300	2.5	NNE			.2	6720	30
MONTH	26.6M	1.1M	13.4M	219M	.6M	.9M	216M	7.0M	SW(M)	M	M	13.2M	109716M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VFL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VFL. 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
SHERMAN WEATHER STATION
June, 1983

FIGURE and TABLE 5.144

R & M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT

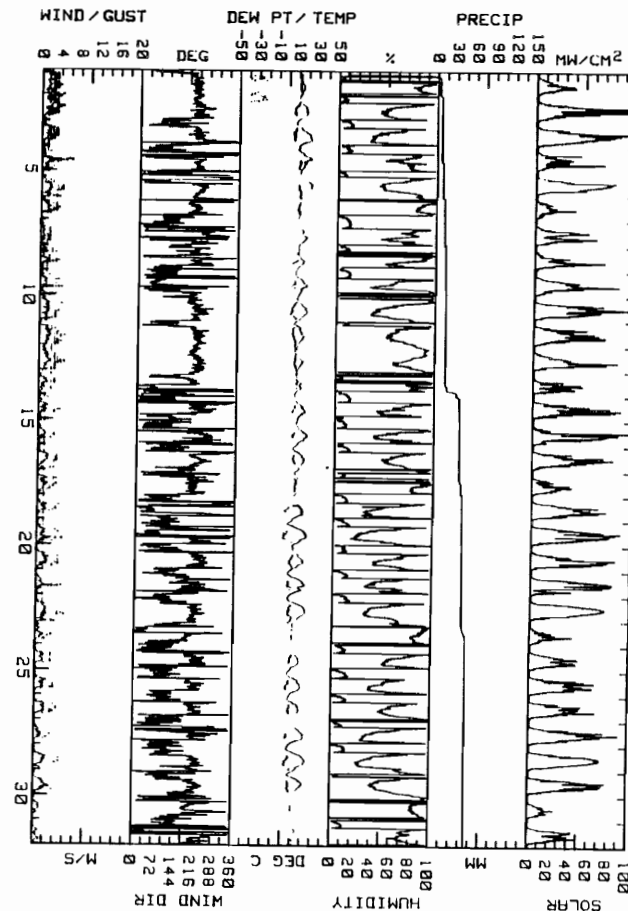
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING July, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM	
1	15.4	9.8	12.6	202	1.1	1.2	220	4.4	SSW			4.6	2525	1
2	19.3	8.7	14.0	214	1.1	1.1	227	4.4	SSW			2.6	5480	2
3	23.5	7.4	15.5	212	.7	.8	216	3.2	SSW			0.0	7153	3
4	23.8	9.2	16.5	215	.5	.8	218	6.3	SW			2.0	3073	4
5	23.7	11.8	17.8	232	.6	.9	217	4.4	SW			0.0	6438	5
6	15.4	10.1	12.8	206	.8	.9	194	3.8	SSW			3.6	1855	6
7	19.5	9.8	14.7	282	.1	.4	309	1.9	WSW			1.2	3795	7
8	17.0	8.7	12.9	203	.4	.7	200	3.8	SSW			1.2	3005	8
9	20.1	8.0	14.1	090	.3	.7	181	4.4	ESE			1.2	4445	9
10	20.8	10.3	15.6	211	1.1	1.2	214	4.4	SSW			0.0	6565	10
11	18.5	7.0	12.8	216	1.2	1.3	207	5.1	SSW			0.0	5380	11
12	17.6	10.7	14.2	217	1.3	1.4	223	5.1	SSW			0.0	4418	12
13	15.7	8.8	12.3	192	.3	.8	194	3.2	SSW			17.6	2655	13
14	20.1	8.5	14.3	218	.3	.7	226	4.4	SSW			5.2	5040	14
15	22.4	10.8	16.6	239	.2	.5	228	3.2	WSW			.2	5190	15
16	19.8	7.9	13.9	221	.7	.9	196	3.8	SSW			0.0	4995	16
17	14.7	10.1	12.4	206	.8	.8	192	3.8	SSW			5.2	2605	17
18	19.2	8.3	13.8	029	.3	.5	048	4.4	ESE			.2	5510	18
19	23.3	3.5	13.4	021	.1	.8	238	5.1	E			0.0	7590	19
20	20.3	6.8	13.6	234	.8	.9	210	4.4	WSW			.8	5478	20
21	22.1	4.5	13.3	204	.4	.6	184	5.1	S			.2	6360	21
22	22.8	4.2	13.5	214	1.0	1.2	204	5.7	SSW			0.0	7295	22
23	14.4	9.1	11.8	190	.3	.6	220	3.8	SSW			6.8	2120	23
24	17.4	7.6	12.5	221	.5	.6	198	3.2	SSW			0.0	3813	24
25	19.2	5.1	12.2	205	.6	.7	222	3.8	SSW			0.0	5198	25
26	18.0	5.8	11.9	218	.7	.8	208	4.4	SSW			0.0	4500	26
27	22.9	7.4	15.2	236	.2	.5	210	3.2	SW			0.0	6355	27
28	24.6	5.6	15.1	215	.8	1.0	217	5.1	SW			0.0	6843	28
29	22.0	6.8	14.4	218	.9	1.1	205	5.7	SW			0.0	5955	29
30	14.6	10.9	12.8	207	.4	.5	208	2.5	SSW			.6	1800	30
31	18.4	9.9	14.2	299	.1	.4	047	2.5	N			1.0	3698	31
MONTH	24.6	3.5	13.9	214	.5	.5	218	6.3	SSW	M	M	54.2	147129	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 1.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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



R&M CONSULTANTS, INC.
SUSTITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
July, 1983

FIGURE and TABLE 5.145

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR.	MAX. WIND SPD. M/S	MAX. GUST P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	22.2	6.2	14.2	201	.6	.7	189	3.8	SSW			.6	4653	1
2	24.4	4.3	14.4	053	.7	.7	041	5.7	NE			1.8	6683	2
3	25.7	4.1	14.9	172	.1	.6	233	3.8	SW			0.0	6565	3
4	14.1	11.1	12.6	200	.4	.6	234	3.8	SSW			3.0	1800	4
5	14.9	9.5	12.2	040	.3	.4	025	1.9	ENE	..	.....	6.2	2288	5
6	17.3	9.4	13.4	222	.4	.8	235	5.1	SW			6.8	4170	6
7	15.4	9.4	12.4	126	.0	.3	017	1.9	E			.8	2003	7
8	13.4	10.2	11.8	130	.1	.5	185	2.5	SSW			.8	1503	8
9	18.1	3.0	10.6	221	.8	1.0	258	4.4	SW			.6	4423	9
10	19.2	2.9	11.1	248	.2	.6	242	3.2	ESE			.2	5455	10
11	18.4	3.4	10.9	220	.4	.5	316	4.4	SSW			.4	4113	11
12	14.2	8.5	11.4	200	.6	.7	234	3.8	SSW			8.4	2510	12
13	13.6	6.6	10.1	221	.3	.7	220	5.1	SW			5.4	2795	13
14	15.3	.7	8.0	299	.1	.6	219	3.2	N			2.4	4600	14
15	14.5	.5	7.5	152	.1	.5	198	3.2	ESE			1.6	3493	15
16	18.2	3.1	10.7	215	.3	.7	210	3.8	SW			.2	5578	16
17	17.3	1.8	9.6	155	.1	.6	189	3.8	E			0.0	4130	17
18	20.4	.6	10.5	091	.2	.5	167	2.5	E			0.0	5590	18
19	20.7	-2	10.3	193	.2	.6	255	3.8	SW			0.0	5490	19
20	11.4	5.8	8.6	217	.7	.9	214	8.9	SW			7.0	1620	20
21	11.8	7.9	9.9	210	.3	.6	206	3.2	SSW			9.8	2310	21
22	15.4	8.3	11.9	228	.4	.6	249	4.4	SSW			.6	2700	22
23	13.2	6.3	9.8	047	.1	.4	210	3.2	ENE			.2	2663	23
24	11.9	1.7	6.8	039	.3	.5	038	2.5	NE			.2	2743	24
25	13.6	-1.2	6.2	059	.6	.7	061	5.7	ENE			1.4	3133	25
26	13.2M	6.0M	9.6M	222M	.4M	.7M	211M	3.2M	SW(M)			.2	3309	26
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	0.0	.....	27
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	0.0	.....	28
29	11.7M	10.5M	11.1M	224M	.5M	.7M	330M	3.8M	SSW(M)			.2M	781M	29
30	15.2	7.9	11.6	226	1.5	1.8	230	6.3	SW			2.0	2945	30
31	14.8	5.1	10.0	263	.1	.5	190	3.2	SW			.8	2193	31
MONTH	25.7M	-1.2M	10.7M	210M	.2M	.7M	214M	8.9M	SW(M)	M	M	61.6M	10225M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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

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

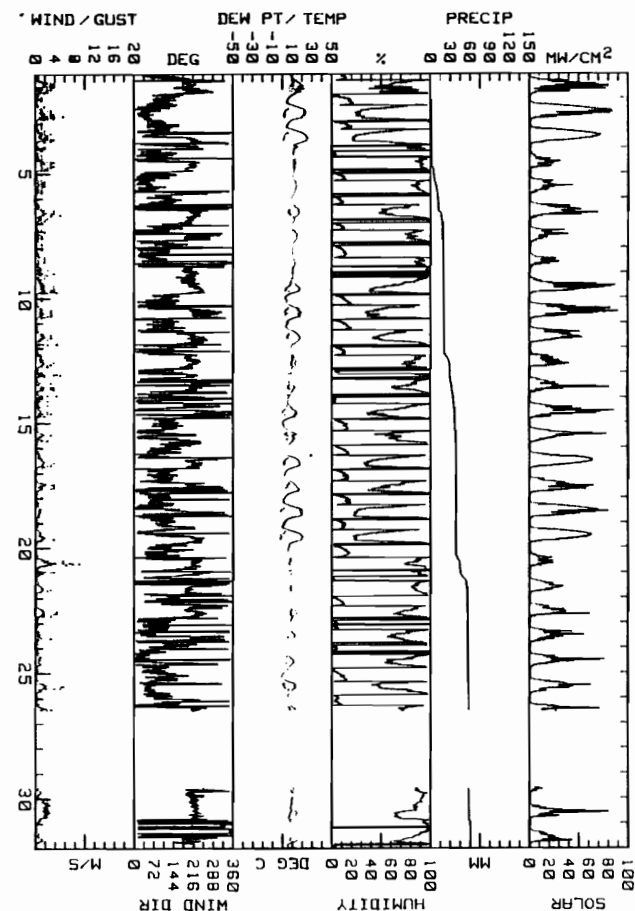


FIGURE and TABLE 5.146
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
August, 1983

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

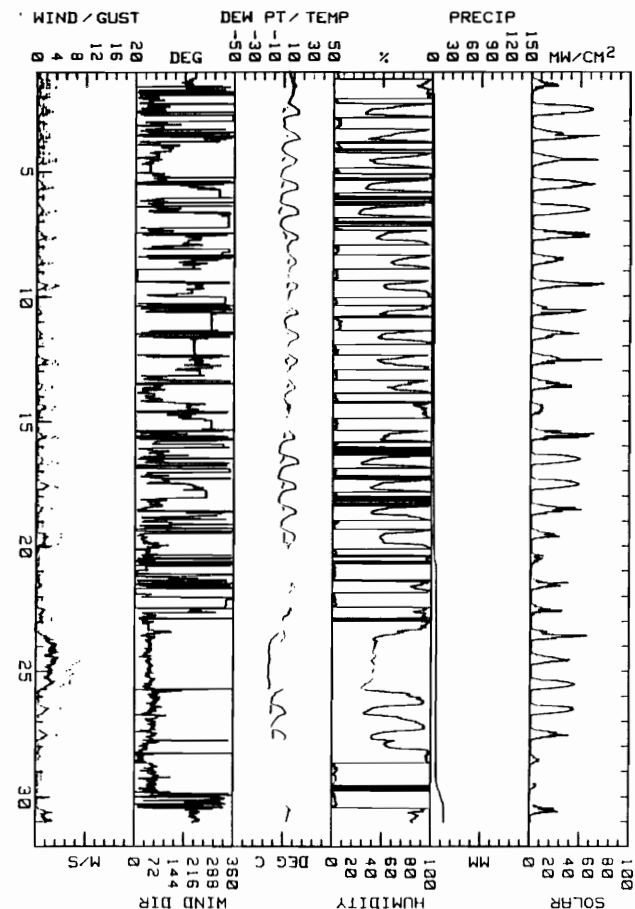
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING September, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SON	DAY
1	12.4	5.8	9.1	190	.2	.6	281	3.8	SSW			2.8	1370	1
2	15.3	-9	7.2	046	.4	.5	045	3.2	N			0.0	5145	2
3	16.5	-1.5	7.5	023	.2	.5	340	2.5	ENE			0.0	3290	3
4	13.1	-2.3	5.4	066	.4	.4	094	3.8	NE			0.0	2763	4
5	14.2	-3.6	5.3	269	.1	.5	195	3.2	NW			0.0	4348	5
6	15.0	-4.3	5.4	052	.2	.5	084	3.8	NNW			0.0	4625	6
7	14.7	-3.7	5.5	215	.1	.6	192	3.8	NNW			0.0	3553	7
8	12.8	3.8	8.3	258	.2	.4	227	3.2	SSW			.2	2093	8
9	14.6	4.7	9.7	236	.3	.6	222	4.4	N			.2	3210	9
10	15.0	.9	8.0	337	.2	.4	052	1.9	NNW			.4	2468	10
11	15.5	1.0	8.3	294	.2	.3	255	3.2	SSW			0.0	2398	11
12	14.8	3.3	9.1	229	.5	.6	245	4.4	SW			0.0	2388	12
13	12.9	1.5	7.2	051	.3	.4	071	3.2	ENE			0.0	2230	13
14	7.5	.1	3.8	186	.3	.7	203	3.8	S			.6	1113	14
15	11.9	-3.7	4.1	005	.3	.5	026	4.4	W			0.0	2953	15
16	15.7	-4.8	5.5	037	.4	.6	249	4.4	NNW			0.0	3815	16
17	12.8	-5.1	3.9	209	.4	.7	224	4.4	WSW			0.0	3698	17
18	13.5	-4.8	4.4	032	.3	.5	027	3.2	E			0.0	2530	18
19	12.0	-3.0	4.5	039	.9	1.0	049	6.3	NNE			0.0	1434	19
20	8.8	5.0	6.9	033	.4	.4	045	2.5	NE			3.8	690	20
21	12.2	5.9	9.1	013	.2	.4	104	2.5	N			0.0	1533	21
22	9.8	.3	5.1	016	.2	.7	207	4.4	NNW			.4	1108	22
23	3.4	-2.6	.4	055	1.4	1.5	048	8.9	NE	46	-10.3	0.0	2335	23
24	-6	-3.4	-2.0	050	3.2	3.3	051	9.5	NE	42	-13.6	0.0	2205	24
25	3.7	-9.2	-2.8	054	2.0	2.1	040	7.6	NE	37	-13.6	0.0	3283	25
26	3.9	-11.6	-3.9	067	1.0	1.1	057	5.1	ENE	39	-11.2	0.0	3085	26
27	3.6	-11.1	-3.8	059	1.0	1.0	067	4.4	ENE	46	-9.0	0.0	1948	27
28	1.8	-9	.5	034	.6	.6	015	2.5	NNE			.2	598	28
29	3.4	.2	1.8	063	.4	.5	339	1.9	ENE	**	*****	0.0	473	29
30	10.2	2.3	6.3	223	1.0	1.3	236	7.0	SW			4.2	1363	30
MONTH	16.5	-11.6	4.6	050	.3	.8	051	9.5	NE	M	M	20.8	74033	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
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
SHERMAN WEATHER STATION
September, 1983

FIGURE and TABLE 5.147

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

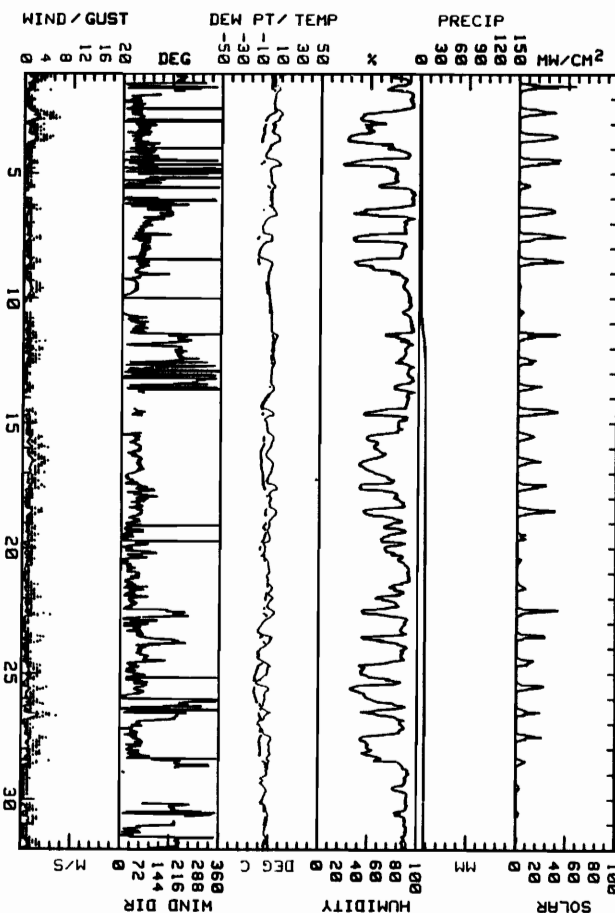
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING October, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. H/S	AVG. WIND SPD. H/S	MAX. GUST DIR. DEG	MAX. GUST SPD. H/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM
1	7.9	2.4	5.2	206	.5	1.0	209	5.1	SSW	80	2.5	2.2	1240
2	10.3	-3	5.0	049	1.3	1.3	061	7.0	NE	54	-1.5	.4	1610
3	7.9	-3.2	2.4	063	1.1	1.2	044	5.7	NE	37	-9.1	0.0	2285
4	9.1	-6.7	1.2	075	.3	.5	084	2.5	E	32	-8.8	0.0	2208
5	3.6	-1.1	1.3	046	.3	.4	071	1.9	N	91	-1.1	0.0	410
6	5.2	-7.9	-1.4	134	.3	.5	138	3.2	S	86	-2.0	.2	1718
7	.9	-11.7	-5.4	076	.6	.7	041	3.2	ENE	36	-13.1	0.0	2060
8	1.0	-13.4	-6.2	059	.6	.7	060	3.2	ENE	40	-13.1	0.0	1765
9	-1.3	-3.4	-2.4	041	.9	.9	053	3.8	NE	86	-4.4	0.0	75
10	1.0	-1.2	-1	040	.4	.5	070	1.9	NNE	89	-1.4	2.0	175
11	7.4	.5	4.0	175	.2	.8	208	4.4	ENE	83	2.0	3.4	1270
12	4.5	.5	2.5	206	.5	.7	215	3.8	SSW	85	.8	2.2	810
13	3.5	-4.2	-4	017	.2	.4	049	1.9	N	87	-3.8	.4	785
14	3.0	-8.0	-2.5	054	.8	.7	059	2.5	NE	80	-8.3	0.0	1930
15	3.4	-3.7	-2	054	1.2	1.0	069	5.1	NE	53	-7.0	0.0	835
16	3.1	-4.6	-0.8	060	1.4	1.5	058	5.1	ENE	52	-9.0	0.0	910
17	7.2	-4.4	1.4	050	.9	1.0	074	4.4	NNE	58	-6.7	0.0	1220
18	6.5	-1.3	2.6	060	.9	.9	063	3.8	ENE	51	-4.6	0.0	1465
19	.2	-6.7	-3.3	023	.8	.9	003	3.2	NNE	69	-6.4	0.0	380
20	.1	-6.7	-3.3	036	.6	.7	020	2.5	NNE	79	-6.8	0.0	155
21	3.8	-2.9	.5	044	.7	.7	075	3.8	NE	73	-3.1	0.0	385
22	5.4	-7.2	-9	063	.1	.7	224	5.7	NNE	65	-4.2	.2	1210
23	3.4	-11.7	-4.2	097	.3	.6	075	4.4	ENE	63	-6.5	0.0	1005
24	1.5	-12.1	-5.3	055	.9	1.0	032	3.8	ENE	49	-11.2	0.0	795
25	-2	-13.2	-6.7	052	.9	1.0	066	5.1	E	47	-14.5	0.0	1085
26	1.7	-11.4	-4.9	221	.5	1.4	209	7.0	SSW	67	-9.8	0.0	740
27	2.6	-9.3	-3.4	050	1.1	1.2	048	5.1	NE	55	-8.8	0.0	775
28	2.0	-2.7	-4	080	.2	.9	220	5.7	SSW	62	-6.3	0.0	390
29	-2.0	-9.0	-5.5	***	***	.4	***	1.9	***	**	***	0.0	170
30	.1	-7.0	-3.5	197	.7	1.0	199	3.2	SSW	88	-4.2	0.0	125
31	-1.9	-5.4	-3.7	205	.3	.7	219	3.8	SSW	86	-4.7	0.0	50
MONTH	10.3	-13.4	-1.2	060	.5	.9	061	7.0	ENE	65	-5.8	11.0	30050

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 5.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.7

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
October, 1983

FIGURE and TABLE 5.148

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

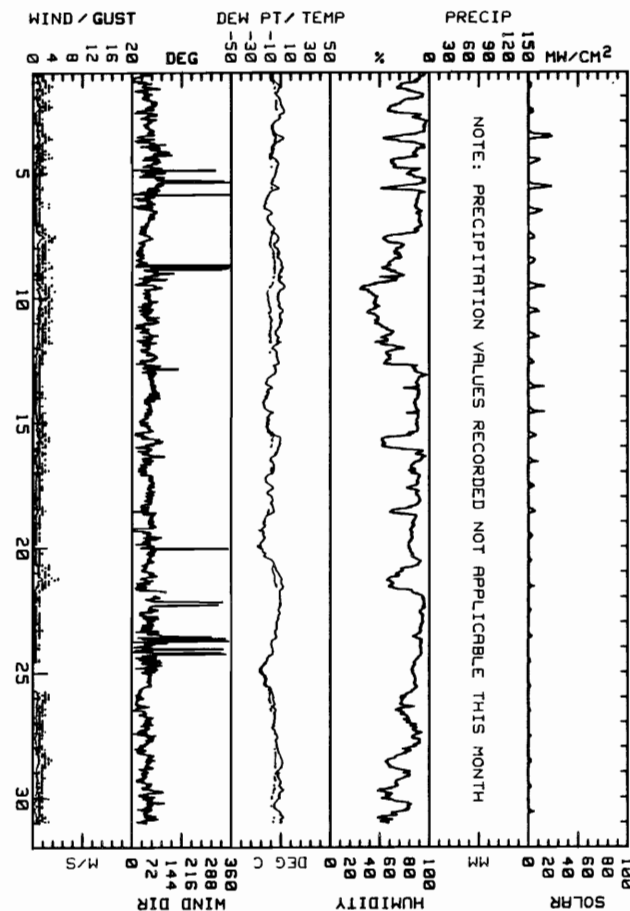
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING November, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/CH ²	DAY
1	-6	-9.5	-5.1	040	.9	.9	049	3.8	NE	78	-7.0	****	125	1
2	4.2	-5.8	-8	064	.8	.9	059	3.8	ENE	64	-4.6	****	205	2
3	3.5	-9.4	-3.0	056	.9	1.0	045	3.8	ENE	79	-6.8	****	865	3
4	-1.8	-10.5	-6.2	079	.7	.8	046	3.8	E	82	-10.0	****	440	4
5	-1.4	-13.7	-7.6	072	.4	.5	059	2.5	E	58	-9.4	****	775	5
6	-8.4	-17.3	-12.9	066	.4	.4	076	3.2	ENE	88	*****	****	510	6
7	-1.6	-10.5	-6.1	040	1.1	1.2	051	4.4	NE	65	-9.8	****	275	7
8	2.7	-3.6	-5	034	.9	1.0	040	3.8	NNE	64	-6.7	****	305	8
9	4.3	-3.2	.6	062	1.0	1.1	059	4.4	NE	43	-11.4	****	510	9
10	2.9	-3.1	-1	063	1.2	1.3	069	3.8	ENE	45	-10.9	****	360	10
11	.9	-8.3	-3.7	051	1.0	1.0	071	3.8	NE	55	-10.4	****	335	11
12	-1.4	-9.1	-5.3	061	.6	.6	038	2.5	ENE	57	-10.9	****	190	12
13	-5.5	-15.4	-10.5	077	.6	.6	071	2.5	ENE	89	-14.4	****	330	13
14	-7.3	-17.8	-12.6	054	.6	.6	050	2.5	NE	87	-13.1	****	315	14
15	.3	-13.9	-6.8	054	.9	1.0	045	3.2	ENE	66	-9.9	****	265	15
16	-2.2	-10.6	-6.4	051	.7	.7	050	3.2	NE	85	-7.6	****	220	16
17	-6.9	-15.4	-11.2	067	.6	.6	051	1.9	ENE	88	*****	****	200	17
18	-6.5	-17.6	-12.1	057	.6	.7	037	2.5	ENE	63	-12.7	****	225	18
19	-15.0	-21.2	-18.1	064	.3	.4	059	1.3	ENE	80	-22.4	****	145	19
20	-2.4	-20.6	-11.5	057	.7	.7	052	3.2	ENE	76	-8.0	****	85	20
21	3.4	-2.0	.7	054	.9	.9	049	5.1	NE	63	-5.8	****	111	21
22	.1	-4.5	-2.2	058	.3	.3	069	1.3	ENE	95	-.7	****	60	22
23	-3.4	-9.9	-6.7	059	.3	.3	035	1.9	ENE	88	*****	****	105	23
24	-7.4	-19.6	-13.5	052	.1	.2	310	1.3	ENE	85	-18.1	****	80	24
25	-6.7	-17.5	-12.1	025	1.0	1.0	031	3.2	ENE	84	-14.6	****	71	25
26	-4.4	-9.3	-6.9	036	.8	.8	024	3.2	NNE	71	-10.6	****	60	26
27	-2.5	-8.8	-5.7	050	.7	.7	021	2.5	NE	90	-5.6	****	55	27
28	2.6	-4.1	-.8	055	1.0	1.0	054	3.8	ENE	63	-5.2	****	100	28
29	4.0	-3.4	.3	054	.8	.9	046	2.5	NE	67	-5.9	****	91	29
30	3.4	-7.0	-1.8	057	.7	.7	051	3.2	NE	55	-7.8	****	105	30
MONTH	4.3	-21.2	-6.3	055	.7	.8	049	5.1	ENE	67	-9.6	****	7515	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 2.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.1
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
November, 1983

FIGURE and TABLE 5.149

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

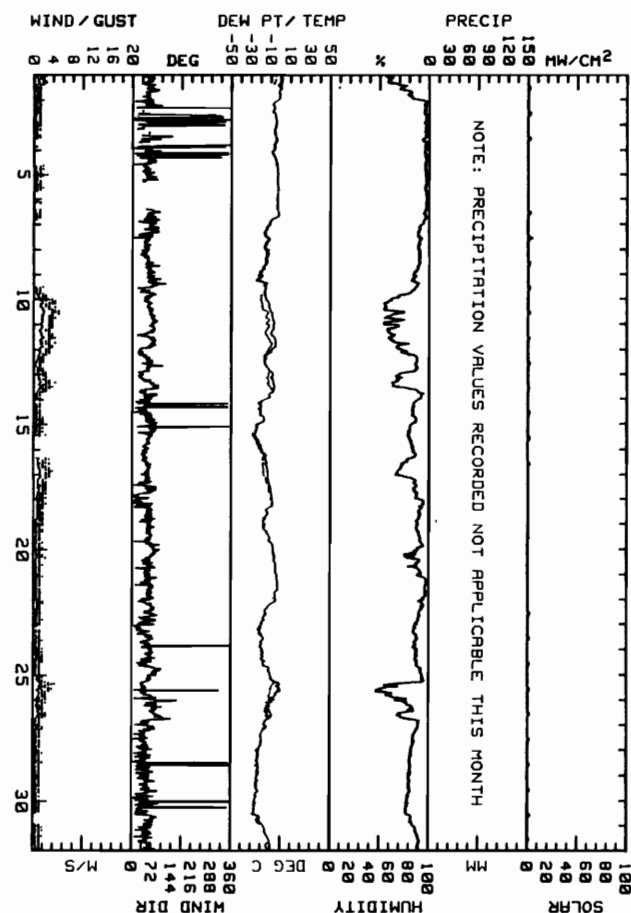
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	2.2	-3.1	-5.5	059	.7	.7	064	2.5	ENE	61	-6.2	****	70	1
2	-2.9	-8.5	-5.7	033	.3	.3	075	1.9	ENE	88	*****	****	80	2
3	-3.4	-6.5	-5.0	061	.2	.2	059	1.3	NE	96	-5.8	****	80	3
4	-2.8	-8.8	-5.8	052	.4	.4	046	1.9	NE	96	-6.1	****	0	4
5	-2.4	-3.8	-3.1	058	.3	.3	062	1.9	NE	97	-3.4	****	0	5
6	-1.5	-10.7	-6.1	072	.4	.3	067	1.3	ENE	96	-6.5	****	80	6
7	-10.7	-15.6	-13.2	***	***	***	***	***	ENE	98	-14.9	****	115	7
8	-11.4	-20.6	-16.0	***	***	***	***	***	ENE	89	-16.6	****	70	8
9	-12.9	-22.9	-17.9	054	.8	.8	049	3.8	ENE	82	-20.1	****	70	9
10	-6.1	-14.5	-10.3	070	1.8	1.8	066	5.1	ENE	61	-15.7	****	65	10
11	-4.5	-9.5	-7.0	067	1.6	1.6	081	4.4	ENE	65	-12.0	****	45	11
12	-7.2	-16.1	-11.7	046	.8	.9	038	3.2	NE	78	-14.2	****	60	12
13	-5.5	-14.3	-9.9	059	.9	1.0	066	4.4	ENE	69	-11.9	****	25	13
14	-16.0	-21.2	-18.6	057	.4	.4	045	1.9	NE	85	-21.6	****	65	14
15	-18.4	-25.7	-22.1	072	.5	.5	072	2.5	ENE	82	-23.9	****	71	15
16	-12.5	-17.7	-15.1	054	1.1	1.2	059	3.8	NE	76	-17.6	****	55	16
17	-8.5	-12.6	-10.6	052	.9	1.0	059	3.2	ENE	83	-13.3	****	5	17
18	-7.7	-17.8	-12.8	050	.7	.7	075	2.5	ENE	91	-14.2	****	35	18
19	-6.8	-17.5	-12.2	067	.5	.5	065	1.9	ENE	89	-16.9	****	30	19
20	-3.3	-7.1	-5.2	064	.5	.6	051	2.5	ENE	88	*****	****	15	20
21	-2.2	-5.8	-4.0	059	.5	.5	046	1.9	ENE	88	*****	****	10	21
22	-4.3	-19.8	-12.1	062	.5	.5	022	1.9	ENE	88	*****	****	60	22
23	-16.5	-21.3	-18.9	057	.4	.4	061	1.9	ENE	86	-21.6	****	55	23
24	-9.4	-19.5	-14.5	066	.6	.6	074	1.9	ENE	88	*****	****	70	24
25	.6	-10.0	-4.7	051	1.0	1.1	039	4.4	NE	65	-9.1	****	60	25
26	-7.7	-17.0	-12.4	080	.8	.8	053	2.5	ENE	75	-13.7	****	60	26
27	-13.3	-22.2	-17.8	052	.4	.4	082	1.9	NE	85	-21.1	****	55	27
28	-20.7	-23.9	-22.3	044	.4	.4	009	1.9	NE	82	-23.8	****	60	28
29	-21.7	-26.0	-23.9	057	.3	.3	042	1.3	NE	88	*****	****	60	29
30	-16.7	-27.3	-22.0	051	.2	.3	085	1.3	ENE	82	-23.7	****	75	30
31	-10.2	-16.3	-13.3	054	.5	.6	039	1.9	ENE	88	*****	****	35	31
MONTH	2.2	-27.3	-12.1	059	.7	.7	066	5.1	ENE	80	-14.7	****	1636	

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

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
December, 1983

FIGURE and TABLE 5.150

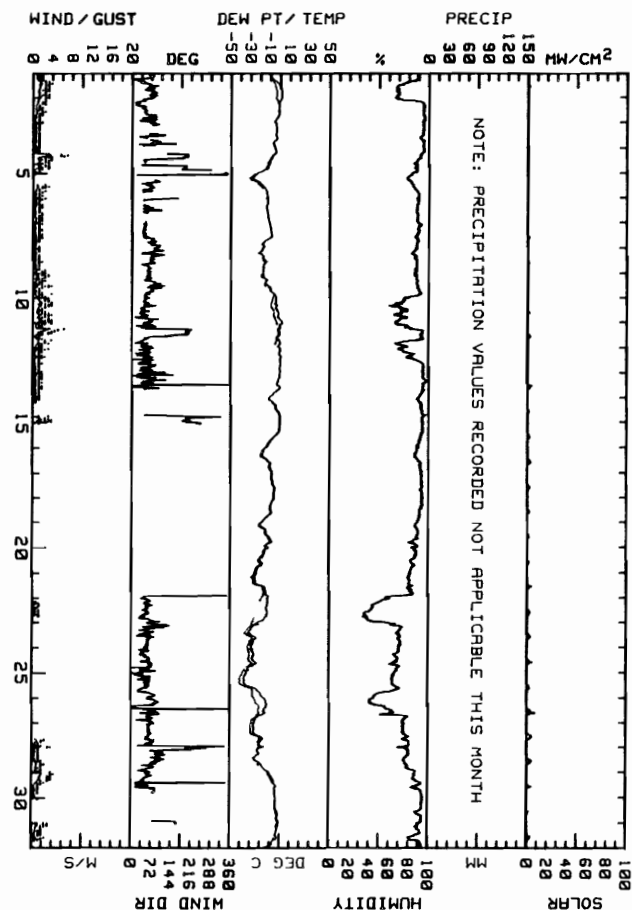
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH. %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM ²	DAY	
1	1.7	-12.2	-5.3	063	1.1	1.2	062	3.8	ENE	72	-5.2	****	35	1	
2	1.2	-6.2	-2.5	046	.7	.7	072	2.5	NE	82	-3.0	****	0	2	
3	-3.3	-7.4	-5.4	079	.3	.3	082	1.3	E	**	*****	****	5	3	
4	-3.8	-22.8	-13.3	184	.8	1.1	199	7.0	SSW	89	-18.9	****	0	4	
5	-12.5	-28.7	-20.6	063	.8	.6	076	3.2	ENE	81	-25.6	****	0	5	
6	-10.8	-14.0	-12.4	065	.4	.5	166	2.5	NE	88	-13.6	****	0	6	
7	-7.8	-18.7	-13.3	056	.4	.5	043	1.9	NE	**	*****	****	40	7	
8	-12.6	-21.9	-17.3	071	.4	.5	060	2.5	ENE	**	*****	****	40	8	
9	-3.6	-17.5	-10.6	064	.6	.7	119	3.8	ENE	84	-12.2	****	30	9	
10	2.2	-5.9	-1.9	053	1.3	1.3	046	3.8	NE	70	-7.0	****	25	10	
11	2.2	-4.1	-1.0	107	.3	1.1	159	6.3	NE	83	-2.9	****	75	11	
12	1.3	-1.0	.2	054	.5	.5	050	3.2	NE	**	*****	****	25	12	
13	.2	-10.9	-5.4	051	.4	.4	020	1.9	NE	**	*****	****	100	13	
14	.7	-11.4	-5.4	206	1.2	.9	209	3.8	SSW	93	-2.8	****	35	14	
15	.4	-13.9	-6.8	243	.4	.5	236	1.3	SW	92	-6.3	****	75	15	
16	-7.1	-17.9	-12.5	***	****	****	***	****	***	90	-13.8	****	125	16	
17	-4.5	-8.3	-6.4	***	****	****	***	****	***	93	-7.2	****	75	17	
18	-5.5	-18.1	-11.8	***	****	****	***	****	***	92	-11.4	****	65	18	
19	-7.4	-19.7	-13.6	***	****	****	***	****	***	88	-14.9	****	60	19	
20	-11.1	-23.6	-17.4	***	****	****	***	****	***	85	-20.3	****	70	20	
21	-10.5	-26.5	-18.5	***	****	****	***	****	***	NE	79	-21.5	****	115	21
22	-11.8	-22.3	-17.1	057	.2	.2	048	1.3	ENE	47	-24.5	****	130	22	
23	-20.8	-31.5	-26.2	***	****	****	***	****	***	ENE	71	-30.8	****	130	23
24	-22.0	-33.7	-27.9	***	****	****	***	****	***	ENE	68	-31.6	****	135	24
25	-15.5	-36.0	-25.8	***	****	****	***	****	***	ENE	61	-33.3	****	115	25
26	-11.8	-25.5	-18.7	***	****	****	***	****	***	ENE	61	-23.4	****	215	26
27	-15.3	-26.5	-20.9	079	.4	.8	200	3.8	ENE	76	-25.5	****	210	27	
28	-10.1	-27.0	-18.6	081	.6	.7	064	3.8	E	83	-16.5	****	180	28	
29	-2.4	-9.9	-6.2	054	1.0	.9	061	4.4	NE	87	-9.0	****	95	29	
30	0.0	-3.4	-1.7	167	1.2	.7	167	3.2	SSE	93	-3.1	****	45	30	
31	-6	-13.7	-7.2	***	****	.7	***	3.2	SSE	91	-7.9	****	115	31	
MONTH	2.2	-36.0	-12.0	067	.5	.7	199	7.0	ENE	80	-14.8	****	2365		

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 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
January, 1984

FIGURE and TABLE 5.151

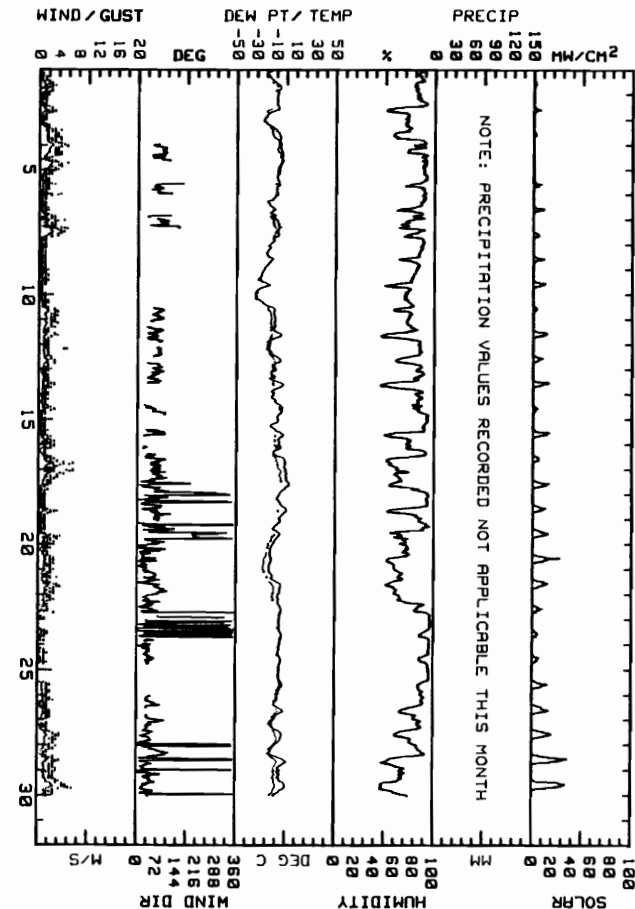
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	-6.3	-21.0	-13.7	***	***	.7	***	3.2	***	83	-13.0	***	75
2	-7.8	-22.9	-15.4	***	***	.5	***	3.2	***	54	-17.9	***	155
3	-4.9	-23.6	-14.3	065	2.7	1.4	054	5.7	ENE	74	-11.8	***	80
4	-3.1	-7.2	-5.2	087	1.6	1.8	063	5.7	E	86	-7.3	***	30
5	-6.8	-10.3	-8.6	083	.5	.7	***	4.4	ENE	86	-9.8	***	180
6	-9.5	-19.8	-14.7	069	1.3	.6	054	3.2	NE	83	-13.7	***	290
7	-4.7	-16.5	-10.6	098	1.3	1.4	***	5.7	E	76	-11.6	***	210
8	-13.3	-22.6	-18.0	***	***	.4	***	1.9	***	***	***	***	300
9	-16.2	-31.2	-23.7	***	***	.5	***	1.9	***	77	-28.4	***	415
10	-10.9	-31.3	-21.1	078	1.5	1.0	093	3.8	E	71	-16.1	***	135
11	-5.0	-17.2	-11.1	060	1.0	1.1	065	3.8	EHE	71	-15.7	***	550
12	-5.3	-17.9	-11.6	074	1.0	1.2	085	5.7	ENE	78	-15.0	***	325
13	-2.5	-16.0	-9.3	063	.9	.8	037	3.2	ENE	72	-13.7	***	560
14	-3.3	-14.7	-9.0	057	.7	.6	049	3.2	ENE	84	-6.3	***	145
15	-2.2	-16.0	-9.1	067	.5	.6	***	3.2	E	78	-11.0	***	585
16	.5	-13.1	-6.3	061	1.5	1.3	051	7.0	ENE	63	-9.1	***	285
17	3.8	-6.8	-1.5	065	.9	1.1	052	7.0	ENE	65	-5.1	***	610
18	.7	-9.5	-4.4	060	.5	.6	074	3.8	ENE	54	-7.7	***	500
19	-5.2	-13.9	-9.6	091	.2	.8	208	4.4	NE	67	-14.0	***	695
20	-13.3	-17.1	-15.2	027	1.1	1.1	019	3.2	NNE	62	-21.3	***	860
21	-4.5	-16.8	-10.7	064	1.2	1.3	070	4.4	ENE	60	-14.9	***	740
22	-4.0	-8.7	-6.4	037	.7	.7	045	3.2	NE	78	-10.0	***	375
23	-3.2	-6.7	-5.0	359	.5	.5	002	1.9	NNE	96	-6.4	***	265
24	-4.2	-7.4	-5.8	041	.3	.3	036	1.9	NE	95	-6.8	***	305
25	-2.2	-7.8	-5.0	***	***	1.0	***	2.5	***	92	-6.7	***	630
26	-1.6	-13.4	-7.5	042	.8	.9	034	3.2	NE	79	-9.6	***	830
27	-2.8	-14.9	-8.9	033	1.2	1.3	048	4.4	NE	74	-10.8	***	1010
28	2.1	-17.7	-7.8	031	1.1	1.3	338	4.4	NNE	67	-11.4	***	1680
29	.6	-11.1	-5.3	036	1.7	1.8	023	7.0	NE	68	-11.1	***	1805
MONTH	3.8	-31.3	-10.1	054	.9	1.0	051	7.0	ENE	74	-12.0	***	14625

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



RAM CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
February, 1984

FIGURE and TABLE 5.152

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

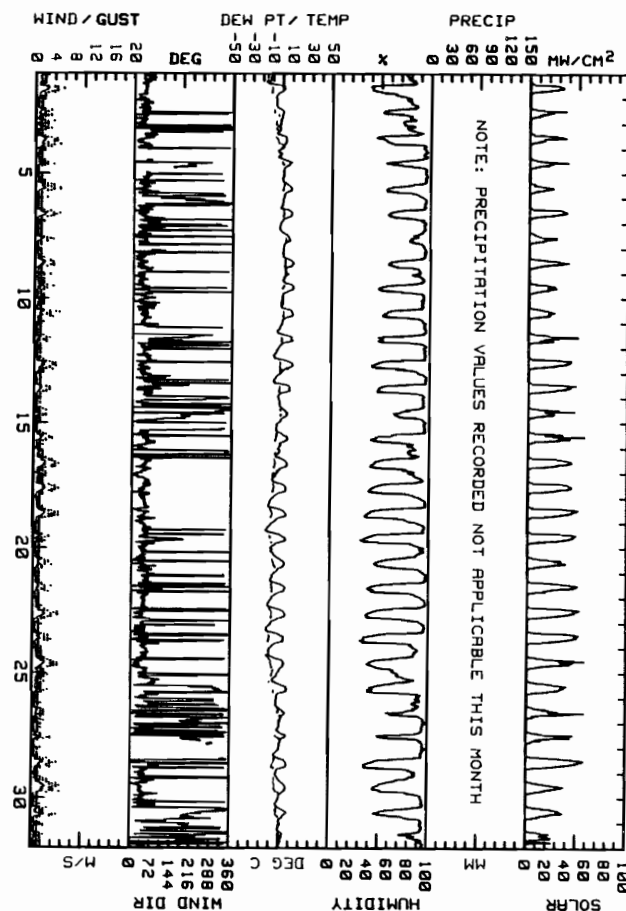
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING March, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	1.4	-16.1	-7.4	044	1.2	1.2	041	5.7	NE	63	-13.8	****	1785	1
2	.7	-7.0	-3.2	032	.8	.8	036	3.8	NE	68	-6.9	****	1225	2
3	3.8	-5.8	-1.0	032	1.0	1.1	041	5.1	NE	70	-4.2	****	1495	3
4	8.9	-5.1	1.9	184	.1	.6	198	3.8	SSW	64	.5	****	1290	4
5	9.1	-.7	4.2	036	.7	.8	038	5.1	NE	66	1.0	****	1075	5
6	9.5	-2.6	3.5	034	.6	.8	038	5.1	NE	60	1.4	****	2185	6
7	7.5	-3.1	2.2	032	.5	.5	042	3.8	NNE	80	4.0	****	1170	7
8	11.1	.4	5.8	034	.8	.8	048	3.8	NNE	62	2.9	****	1845	8
9	11.6	-.4	5.6	034	.7	.7	045	3.8	NE	60	1.8	****	1500	9
10	11.0	-1.2	4.9	041	.8	.9	039	5.1	NE	66	1.0	****	1575	10
11	11.1	-4.7	3.2	061	.2	.5	194	3.2	NE	51	.1	****	1880	11
12	11.4	-8.5	1.5	038	.9	.9	050	4.4	NE	58	-1.3	****	2665	12
13	8.5	-8.2	.2	054	.5	.6	043	3.2	NE	50	-2.1	****	2750	13
14	6.6	-3.2	1.7	310	.1	.4	357	2.5	NNE	70	-.5	****	1770	14
15	7.0	-5.5	.8	037	.8	.7	039	3.8	NE	50	-5.2	****	2570	15
16	6.1	-6.1	0.0	033	1.2	1.3	051	5.1	NE	56	-6.3	****	2955	16
17	5.2	-9.4	-2.1	039	1.1	1.1	036	5.1	NE	52	-7.6	****	3100	17
18	5.4	-12.9	-3.8	042	1.1	1.1	050	5.1	NE	41	-9.2	****	3330	18
19	5.4	-15.2	-4.9	050	.5	.6	032	3.2	NE	42	-10.4	****	3295	19
20	4.4	-10.1	-2.9	035	.7	.8	034	3.8	NE	51	-6.8	****	2245	20
21	5.3	-10.4	-2.6	039	.6	.7	004	3.8	NE	45	-8.4	****	3200	21
22	5.1	-12.9	-3.9	032	1.1	1.2	031	5.1	NE	44	-8.8	****	3715	22
23	4.7	-14.3	-5.1	027	.7	.8	003	3.8	NE	37	-11.1	****	3885	23
24	4.5	-11.6	-3.6	032	1.2	1.3	028	5.1	NE	55	-9.1	****	2915	24
25	8.1	-7.5	.3	022	.5	.7	346	3.2	NE	59	-7.3	****	2835	25
26	5.8	-4.2	.8	357	.3	.6	355	2.5	NNE	82	-.5	****	2185	26
27	7.1	-3.0	2.1	311	.1	.6	204	3.8	NE	70	-.9	****	1995	27
28	7.4	-6.0	.7	033	1.0	.9	003	5.1	NE	46	-5.8	****	4150	28
29	6.7	-3.9	1.4	037	1.3	1.3	031	5.7	NE	59	-4.0	****	2220	29
30	8.3	-4.8	2.2	244	.2	.8	196	5.1	NNE	64	-2.4	****	2475	30
31	4.3	-1.2	1.6	332	.1	.6	178	2.5	N	80	-.0	****	1665	31
MONTH	11.6	-16.1	.1	035	.7	.8	041	5.7	NE	58	-3.9	****	72865	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 4.4

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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
March, 1984

FIGURE and TABLE 5.153

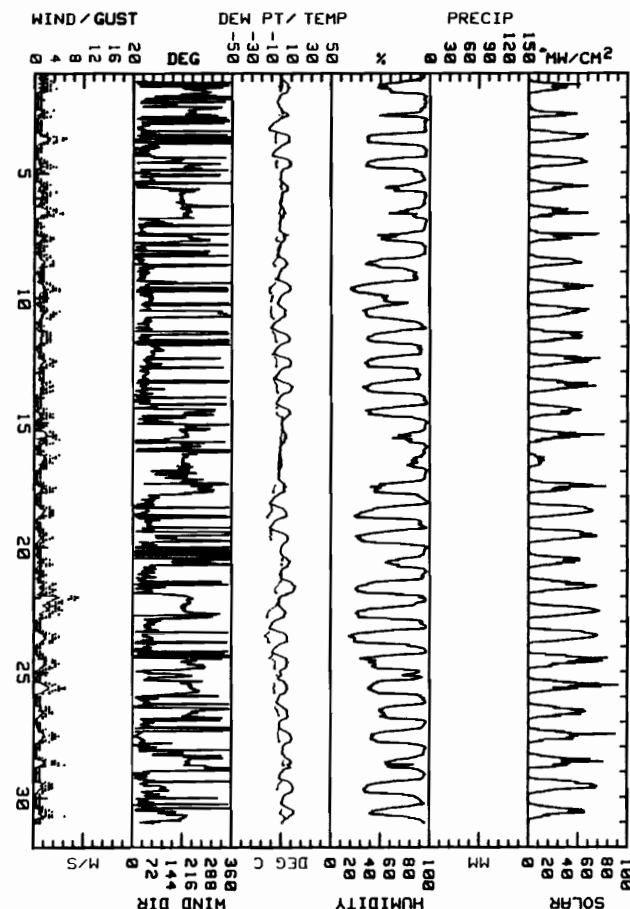
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING April, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND DIR. DEG	MAX. GUST M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/50M	DAY
1	8.4	-2.7	2.9	340	.3	.9	182	4.4	N	67	-2.0	****	2600	1
2	7.1	-8.7	-0.8	251	.1	.6	199	3.8	NNE	83	-1.1	****	1925	2
3	7.7	-13.8	-3.1	008	.9	1.0	350	6.3	NNE	42	-6.5	****	4265	3
4	9.4	-10.3	-5.5	165	.1	.6	213	4.4	NNE	39	-5.5	****	4480	4
5	6.2	-2.0	2.1	148	.3	.9	225	4.4	S	86	-1.3	****	2950	5
6	4.2	-2.8	.7	190	1.1	1.3	201	5.7	S	83	-1.5	****	2915	6
7	6.6	-3.1	1.8	275	.0	.7	214	3.8	NNE	65	-4.8	****	2870	7
8	6.1	-4.1	1.0	022	.9	1.0	033	3.8	NNE	61	-6.2	****	3375	8
9	9.5	-4.3	2.6	030	1.0	1.2	342	5.1	NE	40	-9.5	****	4190	9
10	4.2	-6.8	-1.3	022	.8	1.1	327	5.1	NE	42	-10.5	****	4540	10
11	8.4	-11.4	-1.5	024	.8	.9	342	3.2	NE	45	-6.9	****	4075	11
12	9.8	-8.1	.9	054	.9	1.0	041	4.4	ENE	44	-5.8	****	4715	12
13	11.9	-6.7	2.6	034	1.0	1.1	037	3.8	NE	54	-5.6	****	4340	13
14	8.9	-5.6	1.7	038	.2	.7	236	3.8	NE	56	-2.7	****	3735	14
15	5.1	-2.1	1.5	187	.8	1.2	129	5.1	S	81	-1.4	****	3315	15
16	.3	-2.8	-1.3	100	.9	1.1	203	5.1	S	86	-2.9	****	1255	16
17	5.0	-7.6	-1.3	258	.4	.7	270	4.4	WNW	47	-7.7	****	3700	17
18	5.3	-12.4	-3.6	033	.8	1.0	052	3.8	NE	39	-10.9	****	5795	18
19	6.9	-12.2	-2.7	053	.4	.8	162	3.8	ENE	36	-10.7	****	5550	19
20	9.4	-1.0	4.2	360	.4	.7	300	3.8	N	68	.7	****	3605	20
21	14.3	-1.0	6.7	063	.5	1.5	207	8.9	NE	50	-3.4	****	4960	21
22	4.8	-9.3	-2.3	207	1.5	1.9	207	8.3	SSW	59	-8.5	****	5930	22
23	6.5	-12.0	-2.8	046	1.0	1.1	045	5.1	NE	26	-13.7	****	6340	23
24	7.5	-9.3	-9.9	232	.5	1.1	212	5.1	SSW	43	-7.2	****	5345	24
25	6.2	-3.7	1.3	211	1.0	1.2	218	6.3	SSW	44	-6.9	****	5115	25
26	7.3	-5.0	1.2	268	.2	.8	218	3.8	NE	54	-4.0	****	4440	26
27	10.7	-2.6	4.1	023	1.0	1.1	005	5.1	NNE	50	-2.5	****	4230	27
28	10.9	0.0	5.5	213	.5	.7	203	6.3	SSW	66	2.4	****	4375	28
29	12.7	-2.3	5.2	070	.7	.8	039	3.8	NE	41	-2.3	****	5630	29
30	13.4	0.0	6.7	120	.3	.8	190	6.3	NNE	54	1.1	****	3910	30
MONTH	14.3	-13.8	1.0	040	.2	.3	207	8.9	NE	55	-4.8	****	124470	

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
April, 1984

FIGURE and TABLE 5.154

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

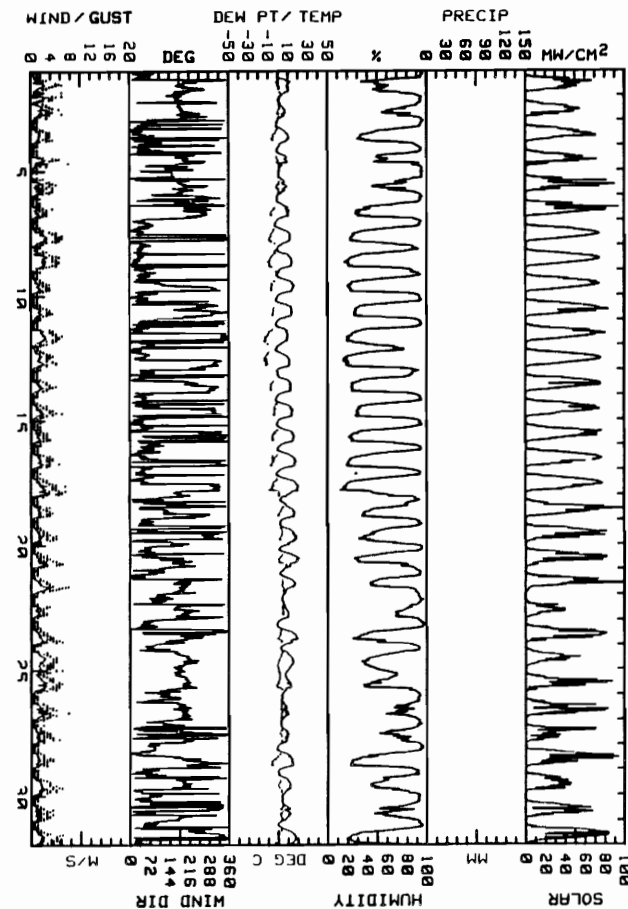
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM
1	12.7	-1.6	6.1	189	.6	1.2	174	6.3	SSW	58	.5	****	5275
2	7.3	-1.4	3.0	187	1.3	1.5	175	6.3	S	80	.4	****	4330
3	10.9	-2.4	4.3	031	.8	.9	326	4.4	NNE	42	-4.2	****	5645
4	9.3	-1.8	3.8	194	.6	.9	218	7.6	SSW	64	-1.6	****	4490
5	8.6	-1.3	3.7	187	.7	.9	197	5.1	SSW	71	.2	****	5035
6	11.1	-1.7	4.7	258	.5	.8	239	4.4	W	34	-6.0	****	6080
7	12.4	-4.0	4.2	013	1.3	1.5	342	6.3	NNE	30	-7.1	****	7050
8	13.9	-2.2	5.9	025	1.6	1.7	050	5.7	NNE	33	-7.2	****	6985
9	16.1	-2.5	6.8	028	.3	.9	118	3.8	NE	30	-5.9	****	6925
10	14.4	-2.9	5.8	285	.3	.9	297	4.4	WNW	28	-5.0	****	6880
11	9.3	-2.8	3.3	003	1.2	1.4	332	6.3	WNW	26	-10.9	****	6670
12	11.6	-3.4	4.1	003	.8	1.2	311	5.1	NE	23	-12.1	****	7170
13	13.1	-2.2	5.5	286	.4	.9	297	5.1	NE	27	-6.8	****	6795
14	14.7	-2.9	5.9	341	.6	.9	385	6.3	NE	32	-3.6	****	6680
15	15.9	-2.2	6.9	006	.5	.8	315	3.8	NE	26	-5.2	****	6365
16	17.7	-1.6	8.1	015	.7	1.0	317	5.7	NE	26	-4.7	****	7241
17	20.3	-2.5	8.9	333	.4	1.6	294	7.0	NE	31	-3.1	****	7455
18	16.7	1.5	9.1	114	.2	.9	143	4.4	NE	48	2.5	****	6455
19	18.5	1.1	9.8	336	.4	1.0	262	5.1	E	44	2.7	****	6880
20	21.0	-1.3	10.4	159	.6	1.1	153	6.3	E	46	3.0	****	5860
21	17.4	1.4	9.4	193	.9	1.2	209	7.6	SSW	60	4.7	****	5080
22	10.3	.7	5.5	192	.5	.7	195	3.8	SSW	77	4.8	****	2680
23	19.7	-1.4	9.2	188	.2	1.2	131	6.3	NE	42	1.8	****	6580
24	15.1	2.2	8.7	196	1.4	1.5	176	6.3	SSW	49	1.1	****	3485
25	12.9	3.4	8.2	199	1.5	1.6	210	6.3	SSW	57	.7	****	4530
26	10.2	2.2	6.2	193	1.1	1.2	194	7.6	SSW	77	3.2	****	4740
27	10.4	-1.5	5.0	070	.0	.9	254	5.7	ESE	71	2.8	****	3755
28	14.7	-2.0	6.4	204	.2	.8	200	4.4	E	35	-3.6	****	6040
29	11.9	-1.8	5.6	187	.3	1.2	153	6.3	SSW	57	1.7	****	4375
30	12.5	2.5	7.5	003	.1	.9	288	4.4	ENE	66	3.3	****	4825
31	18.2	-1.9	8.7	352	.8	1.2	337	6.3	NNE	32	-2.7	****	6745
MONTH	21.0	-4.0	6.4	251	.8	1.1	218	7.6	NE	46	-1.8	****	178221

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 2.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 1.9

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
May, 1984

FIGURE and TABLE 5.155

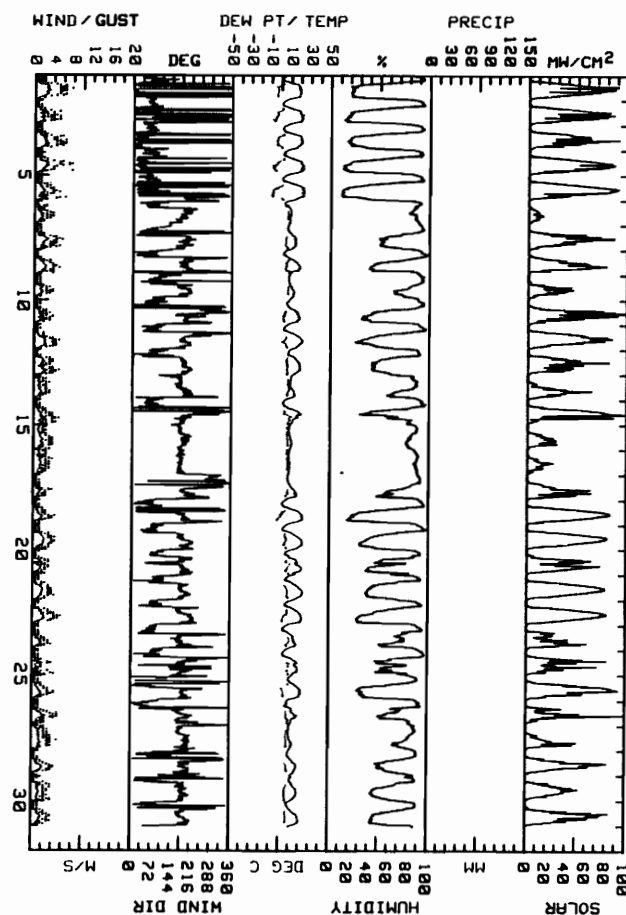
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DTR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SDH
1	19.5	-1	9.7	010	1.3	1.4	357	7.6	N	23	-3.7	####	7920
2	22.1	.1	11.1	013	.7	1.0	057	5.1	ENE	21	-4.7	####	7035
3	20.7	.6	10.7	018	1.2	1.2	004	6.3	N	26	-2.8	####	5980
4	22.2	1.1	11.7	010	1.0	1.2	016	7.6	NNE	22	-4.9	####	8250
5	23.0	.6	11.8	032	.4	1.1	302	6.3	E	21	-4.9	####	8395
6	10.0	3.3	6.7	100	.5	.8	209	3.8	S	84	6.5	####	1125
7	14.7	4.0	9.8	108	.8	1.1	216	5.7	S	55	4.6	####	5960
8	18.9	1.8	10.4	194	.7	1.1	105	5.1	S	54	5.7	####	5565
9	13.4	7.1	10.3	105	.5	.7	200	3.8	SSW	72	7.0	####	2680
10	19.3	5.5	12.4	226	.3	.7	195	3.8	SSW	40	3.1	####	6620
11	22.0	2.2	12.1	194	.8	1.1	190	5.1	S	38	4.2	####	7305
12	19.8	6.7	13.3	191	1.1	1.2	217	5.1	SSW	49	6.2	####	5305
13	14.4	3.8	9.1	104	.8	.9	178	3.2	S	77	7.6	####	3425
14	21.2	1.7	11.5	208	.5	1.0	190	5.1	S	61	7.0	####	6285
15	11.6	8.1	9.9	105	1.2	1.2	197	3.8	S	82	6.7	####	2375
16	9.7	7.7	8.7	177	1.1	1.1	103	3.8	S	87	6.9	####	1645
17	16.9	4.4	10.7	221	.3	.6	100	3.8	NW	50	7.2	####	4310
18	22.9	1.6	12.3	100	.3	.7	109	4.4	S	25	.3	####	8315
19	22.0	2.3	12.6	109	1.0	1.2	168	4.4	S	41	5.5	####	8300
20	22.2	5.1	13.7	100	.6	.8	179	3.2	S	46	7.4	####	5700
21	23.6	5.3	14.5	105	.9	1.1	210	4.4	S	42	7.5	####	8115
22	22.6	5.2	13.9	198	.9	1.1	213	5.7	SW	38	5.4	####	8075
23	17.5	2.8	10.2	175	.5	.7	209	3.8	S	65	9.0	####	4220
24	18.8	2.8	10.8	108	.4	.6	106	4.4	S	63	9.0	####	4805
25	22.2	8.1	15.2	108	.4	.8	104	4.4	S	34	4.1	####	7470
26	18.6	5.8	12.2	109	.7	.9	176	5.1	S	64	7.9	####	3490
27	13.9	9.4	11.7	195	1.2	1.2	190	5.1	SSW	79	7.5	####	2620
28	18.2	8.7	13.5	202	.6	.8	176	4.4	S	54	7.7	####	5345
29	18.5	10.4	14.5	188	.9	1.0	103	3.8	S	53	6.6	####	4340
30	20.6	7.1	13.9	109	.7	.9	177	3.8	S	49	7.2	####	6250
MONTH	23.6	-1	11.6	107	.4	1.0	357	7.6	S	51	4.6	####	167305

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 5.7
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
June, 1984

FIGURE and TABLE 5.156

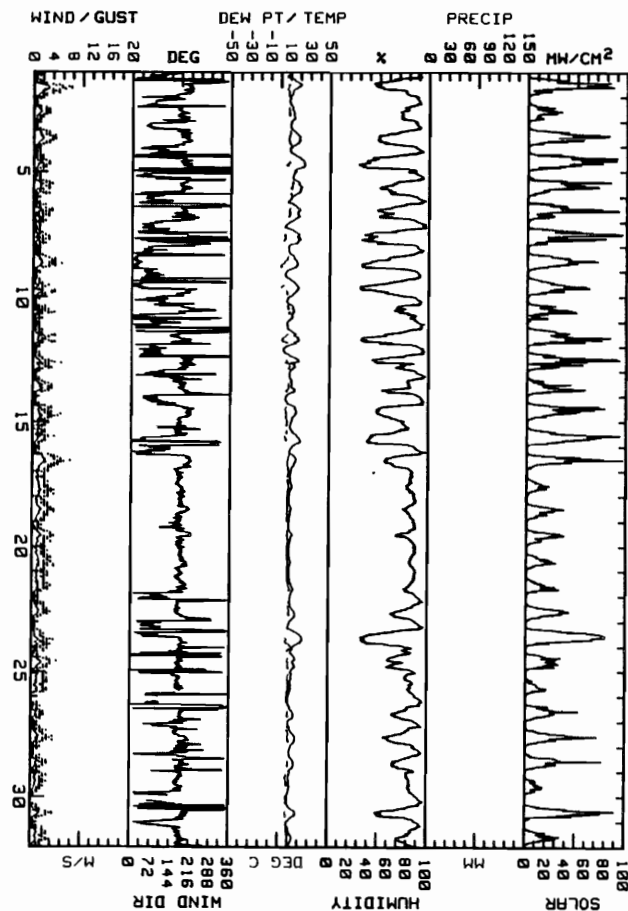
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. WIND SPD. M/S	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ	DAY
1	20.6	6.2	13.4	205	1.0	1.2	210	7.6	SSW	64	7.7	****	5605	1
2	14.4	8.7	11.6	173	.6	.7	178	3.2	S	75	8.4	****	2360	2
3	19.8	9.8	14.8	190	.9	1.0	197	4.4	S	57	8.9	****	5810	3
4	24.6	9.2	16.9	185	.2	.6	202	3.2	N	35	7.6	****	6920	4
5	22.0	11.2	16.6	180	.4	.8	184	3.8	S	61	11.6	****	4635	5
6	20.4	7.7	14.1	186	.4	.7	178	3.8	S	53	9.1	****	4580	6
7	20.7	4.3	12.5	047	.2	.6	203	3.2	ENE	38	4.3	****	6420	7
8	18.1	6.6	12.4	019	.8	.9	024	5.7	NNE	47	4.2	****	4795	8
9	19.4	4.9	12.2	157	.1	.7	212	4.4	NNE	50	5.6	****	3985	9
10	15.2	6.8	11.0	185	.2	.5	188	4.4	S	74	9.3	****	2870	10
11	19.8	5.6	12.7	169	.3	.8	162	4.4	S	44	4.3	****	5465	11
12	19.5	3.5	11.5	192	.5	.8	198	5.7	SSW	63	8.3	****	4920	12
13	15.8	6.5	11.2	182	.7	.8	174	3.8	S	73	8.2	****	3190	13
14	17.6	5.5	11.6	192	.9	1.0	216	5.7	SSW	58	6.6	****	4550	14
15	21.2	10.3	15.8	155	.4	.8	153	4.4	S	58	6.6	****	6015	15
16	17.0	9.4	13.2	197	1.2	1.4	212	7.6	SSW	68	8.6	****	4200	16
17	13.1	10.2	11.7	179	1.3	1.4	191	4.4	S	83	8.6	****	1505	17
18	12.6	9.7	11.2	185	1.2	1.3	214	4.4	S	83	8.1	****	2390	18
19	13.9	9.4	11.7	187	1.0	1.1	218	4.4	S	81	8.4	****	2375	19
20	11.9	9.7	10.8	186	1.2	1.2	205	4.4	S	85	8.2	****	1830	20
21	14.9	10.4	12.7	179	.9	1.0	202	3.8	S	83	9.2	****	1820	21
22	17.0	11.1	14.1	171	.7	.8	164	3.8	S	76	10.0	****	2920	22
23	24.2	9.1	16.7	165	.3	.7	188	4.4	S	45	8.5	****	7590	23
24	17.2	12.1	14.7	179	.8	1.0	192	5.1	S	67	9.6	****	3145	24
25	13.6	10.0	11.8	171	1.0	1.1	159	3.2	S	83	9.4	****	1375	25
26	16.1	9.5	12.8	196	.3	.6	187	2.5	S	80	9.1	****	2785	26
27	17.9	9.9	13.9	183	.8	.9	206	4.4	S	68	9.9	****	3515	27
28	16.5	11.1	13.8	193	.5	.6	159	3.2	S	68	9.9	****	3070	28
29	12.2	9.4	10.8	174	.8	.8	184	3.2	S	84	8.2	****	1330	29
30	18.7	9.3	14.0	211	.4	.8	206	4.4	SSW	74	8.2	****	4830	30
31	15.2	8.7	12.0	179	.8	.8	211	3.8	S	80	9.6	****	2235	31
MONTH	24.6	3.5	13.0	183	.6	.9	210	7.6	S	70	8.2	****	119035	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
July, 1984

FIGURE and TABLE 5.157

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

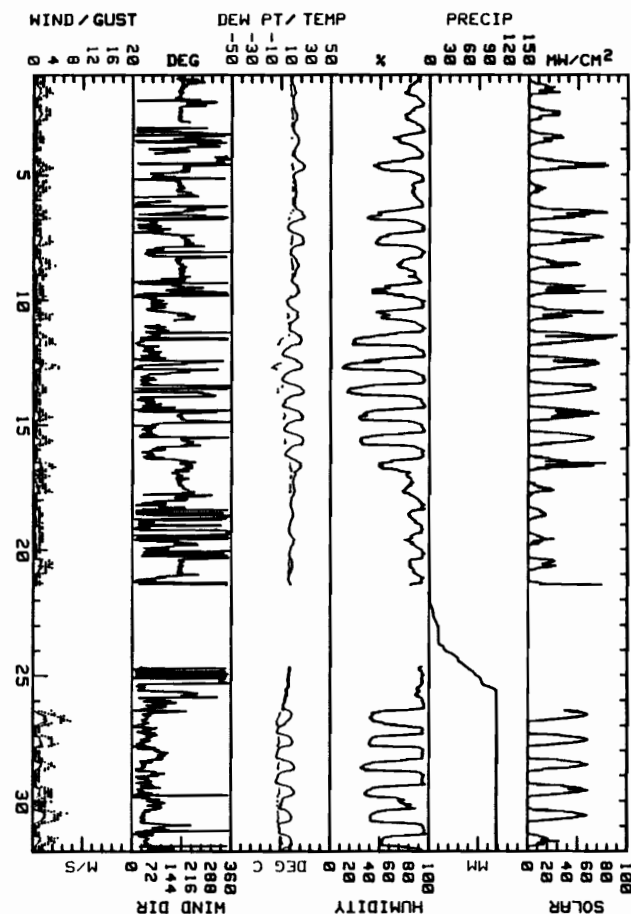
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING August, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SGH	DAY
1	15.0	10.4	12.7	179	.8	.9	169	3.8	S	79	10.0	****	2030	1
2	16.1	11.9	14.0	174	.8	.9	171	3.2	S	81	11.1	****	2145	2
3	18.1	12.0	15.1	279	.1	.3	292	1.9	SSW	84	10.8	****	2180	3
4	24.6	12.7	18.7	219	.2	.7	182	3.8	SSW	71	11.8	****	4925	4
5	15.2	12.0	13.6	171	.6	.6	181	3.2	S	87	12.1	****	940	5
6	24.2	8.2	16.2	266	.1	.6	000	3.2	NNE	75	11.2	****	5345	6
7	23.3	6.5	14.9	183	.5	.7	187	3.8	SSW	49	10.9	****	6150	7
8	18.7	9.3	14.0	171	.8	.9	174	4.4	S	74	11.5	****	2810	8
9	18.7	6.7	12.7	148	.1	.5	179	2.5	S	74	10.1	****	3535	9
10	17.5	5.5	11.5	172	.4	.6	283	3.8	E	68	7.9	****	3945	10
11	20.8	5.5	13.2	035	.5	.7	020	4.4	NE	27	-3	****	6105	11
12	21.4	1.4	11.4	044	.3	.6	018	5.1	NNE	17	-5.4	****	5780	12
13	23.3	.9	12.1	013	.3	.5	359	2.5	NE	24	-1.3	****	5945	13
14	23.2	1.5	12.4	165	.3	.6	182	3.8	S	32	3.7	****	5245	14
15	22.8	3.3	13.1	171	.2	.6	186	3.8	ENE	31	4.3	****	5750	15
16	20.7	4.2	12.5	186	.6	.7	216	4.4	SSE	55	9.7	****	3795	16
17	14.7	10.8	12.8	185	.7	.7	227	3.8	S	77	9.9	****	1320	17
18	12.8	9.2	11.0	019	.2	.3	335	1.9	NNE	**	****	****	1335	18
19	14.2	8.5	11.4	005	.3	.4	061	1.9	N	**	****	****	1255	19
20	12.1	8.6	10.4	173	.8	.9	179	3.8	S	82	8.3	****	2000	20
21	10.2	7.4	8.8	021	.2	.3	346	1.9	NNE	**	****	1.0	1667	21
22	****	****	****	****	****	****	****	****	****	**	****	12.4	****	22
23	****	****	****	****	****	****	****	****	****	**	****	11.8	****	23
24	10.1	8.6	9.4	***	****	****	****	****	NNE	92	8.2	47.4	****	24
25	9.3	4.9	7.1	***	****	****	****	****	NE	91	6.0	30.2	****	25
26	11.9	.1	6.0	052	1.7	1.8	048	7.6	NE	65	-1	0.0	7223	26
27	12.8	-3.5	4.7	047	.8	.8	016	5.1	NE	42	-1.5	0.0	4855	27
28	14.8	-4.2	5.3	054	.7	.8	039	4.4	E	37	-1.6	0.0	4585	28
29	14.9	-4.3	5.3	041	.7	.8	036	3.8	NE	42	-1.1	0.0	4490	29
30	11.9	-2.0	5.0	051	1.2	1.3	042	7.0	NE	46	-2.0	0.0	4440	30
31	12.6	-1.3	5.7	054	.6	.7	053	5.1	ENE	54	2.0	0.0	1675	31
MONTH	24.6	-4.3	11.8	189	.2	.7	048	7.6	S	64	5.6	102.8	101471	

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 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.7

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

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



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
August, 1984

FIGURE and TABLE 5.158

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD.	AVG. WIND SPD.	MAX. GUST DIR.	MAX. GUST SPD.	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SM	DAY
1	18.3	-6	8.9	839	.4	.7	019	3.8	NE	41	2.7	0.0	4340	1
2	18.5	-2.9	7.8	078	.1	.5	190	3.2	ENE	40	3.9	0.0	4460	2
3	18.7	-2.0	8.4	055	.6	.7	041	5.1	NE	37	2.1	0.0	4005	3
4	19.4	1.3	10.4	050	.7	.8	041	4.4	ENE	41	4.5	0.0	3735	4
5	19.1	1.8	10.5	044	.2	.6	048	4.4	NE	49	6.3	0.0	2630	5
6	17.9	4.3	11.1	231	.3	.7	257	5.1	WSW	53	6.6	0.0	3545	6
7	14.5	4.0	9.3	045	.4	.4	032	3.2	NE	64	5.9	2.6	2820	7
8	18.4	1.7	10.1	056	.4	.5	084	3.2	ENE	44	5.1	0.0	3590	8
9	20.5	-1.6	9.5	140	.1	.5	006	2.5	ESE	41	5.0	0.0	3690	9
10	20.3	-2.6	8.9	054	.5	.5	086	3.8	NE	35	2.9	0.0	3665	10
11	18.7	-2.3	8.2	093	.2	.6	161	4.4	E	45	3.2	0.0	3015	11
12	13.7	1.8	7.8	048	.4	.5	007	2.5	NE	72	7.5	5.6	1870	12
13	10.1	2.8	6.5	045	.3	.4	032	1.9	NNE	**	*****	4.2	1035	13
14	16.9	1.2	9.1	056	.8	.8	048	5.1	ENE	45	4.2	0.0	1905	14
15	18.4	3.1	10.8	156	.1	.5	253	3.8	NE	51	6.1	.4	2370	15
16	17.5	.1	8.8	243	.1	.8	217	5.1	NE	65	7.0	2.8	3215	16
17	11.7	3.8	7.8	158	.2	.5	228	3.2	ESE	79	7.8	1.2	1310	17
18	11.1	6.8	9.0	208	1.2	1.4	208	7.0	SSW	83	6.6	14.4	1065	18
19	10.5	1.9	6.2	222	.5	.8	224	5.1	SW	76	4.1	15.4	1535	19
20	13.3	-2.3	5.5	051	1.0	1.2	055	5.7	NE	56	1.8	1.2	2800	20
21	15.7	-3.6	6.1	062	.3	.5	063	3.8	NE	48	2.2	0.0	2855	21
22	16.9	-3.5	6.7	059	.4	.5	037	3.2	ENE	51	2.4	0.0	2715	22
23	13.1	-1.1	6.0	029	.2	.5	241	3.8	ENE	57	3.2	0.0	1280	23
24	13.3	2.6	8.0	044	.1	.4	052	2.5	NE	47	.9	0.0	1255	24
25	11.2	4.7	8.0	059	.4	.5	068	3.2	NE	76	6.4	3.0	1555	25
26	14.8	-2	7.3	159	.1	.4	216	3.2	ENE	55	4.7	0.0	1550	26
27	16.0	-1.3	7.4	058	.5	.6	066	2.5	ENE	57	3.9	0.0	2205	27
28	16.0	-2.6	6.7	064	1.0	1.1	043	6.3	E	49	2.2	0.0	1525	28
29	14.2	7.2	10.7	058	1.2	1.4	053	6.3	NE	70	5.8	.4	890	29
30	15.0	4.2	9.6	049	.9	1.0	030	7.0	NE	54	3.6	1.4	1465	30
MONTH	20.5	-3.6	8.3	062	.3	.7	208	7.0	NE	56	4.4	52.6	73095	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 2.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.7

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

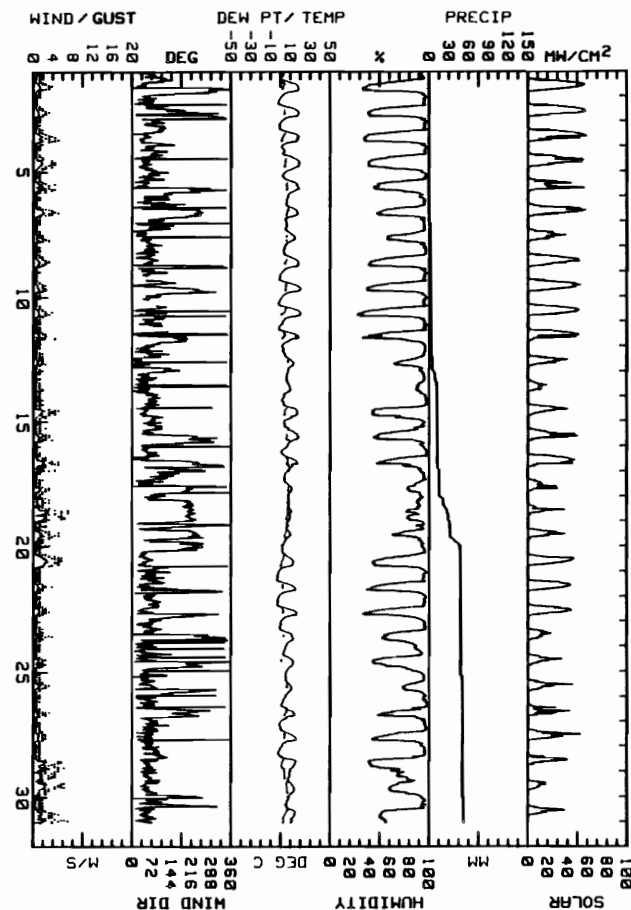


FIGURE and TABLE 5.159

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
September, 1984

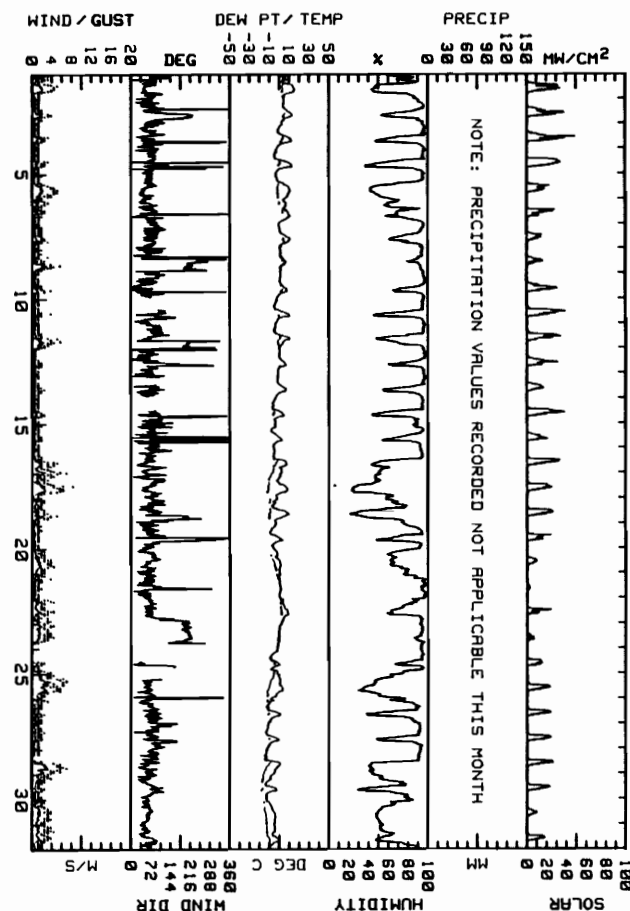
5-163

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

DAY	MAX.	MIN.	MEAN	RES.	RES.	AVG.	MAX.	MAX.	P VAL	MEAN	MEAN	PRECIP	DAY'S
	TEMP.	TEMP.	TEMP.	WIND	WIND	WIND	GUST	GUST		RH	DP		ENERGY
	DEG C	DEG C	DEG C	DIR.	SPD.	SPD.	DIR.	DIR.		%	DEG C	MM	WH/SGH
1	15.9	2.6	9.3	063	.9	1.0	066	5.1	NE	52	3.1	****	1800
2	13.2	1.9	7.6	130	.2	.6	214	3.8	ENE	57	4.3	****	1580
3	12.6	-2.7	5.0	055	.5	.6	042	3.2	ENE	58	2.9	****	1705
4	13.4	-5.0	4.2	070	.4	.6	025	3.2	E	57	.2	****	2025
5	11.3	-3.7	3.8	055	1.1	1.2	048	5.1	ENE	47	-1.6	****	1075
6	11.1	-.6	5.3	062	.6	.7	036	3.2	ENE	67	1.5	****	1070
7	11.1	-1.1	5.0	076	.6	.6	089	3.2	E	65	4.0	****	700
8	7.3	.5	3.9	215	.4	.9	217	5.7	SSW	92	2.4	****	575
9	8.5	-2.7	2.9	044	.4	.5	041	3.8	E	72	2.4	****	1265
10	10.7	-5.6	2.6	085	.4	.5	063	3.8	E	46	-.6	****	1645
11	11.0	-5.6	2.7	125	.3	1.0	326	5.7	ENE	68	-.8	****	1385
12	7.1	-1.2	3.0	067	.2	.3	047	1.9	ENE	68	.1	****	1065
13	7.4	-3.9	1.8	071	.4	.4	121	2.5	E	**	*****	****	630
14	5.4	-6.9	-.8	078	.4	.5	075	2.5	ESE	50	-5.8	****	1520
15	3.1	-8.0	-2.5	052	.3	.4	099	1.9	ENE	**	*****	****	835
16	7.9	-6.1	.9	059	1.0	1.1	059	7.0	ENE	52	-4.7	****	1315
17	8.8	-3.1	2.9	070	1.4	1.5	076	8.3	ENE	38	-10.4	****	1170
18	10.3	-7.4	1.5	102	.5	.9	175	5.1	E	40	-9.5	****	1225
19	4.0	-9.4	-2.7	071	.3	.4	079	1.9	ENE	**	*****	****	020
20	1.7	-5.0	-1.7	067	1.0	1.1	040	4.4	ENE	66	-5.0	****	480
21	2.2	-.9	.7	065	.4	.5	050	3.8	ENE	81	-1.6	****	130
22	9.9	2.6	6.3	089	.7	1.0	074	4.4	ENE	79	2.1	****	590
23	2.6	-1.2	.7	206	1.3	1.4	201	4.4	SSW	93	-.9	****	270
24	.9	-9.2	-4.2	048	.6	.9	***	3.8	NE	88	-6.0	****	705
25	3.9	-8.5	-2.3	064	1.9	2.0	044	7.0	ENE	47	-9.5	****	930
26	1.6	-13.1	-5.8	076	.6	.7	039	3.2	E	64	-11.5	****	890
27	-.3	-13.2	-6.8	086	.5	.6	055	2.5	E	71	-11.9	****	955
28	1.1	-13.9	-6.4	050	1.5	1.6	043	7.0	ENE	58	-13.6	****	945
29	-2.4	-14.3	-8.4	066	.8	.8	078	3.8	ENE	50	-16.8	****	815
30	-3.7	-12.9	-8.3	061	1.1	1.1	075	3.8	ENE	51	-13.9	****	420
31	.7	-12.0	-5.7	062	1.0	1.0	068	4.4	NE	55	-11.7	****	660
MONTH	15.9	-14.3	.5	071	.6	.8	076	8.3	ENE	62	-4.0	****	31395

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS	4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL	6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL	4.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS	5.7

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



R&M CONSULTANTS, INC.
SUSTAINA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
October, 1984

FIGURE and TABLE 5.160

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

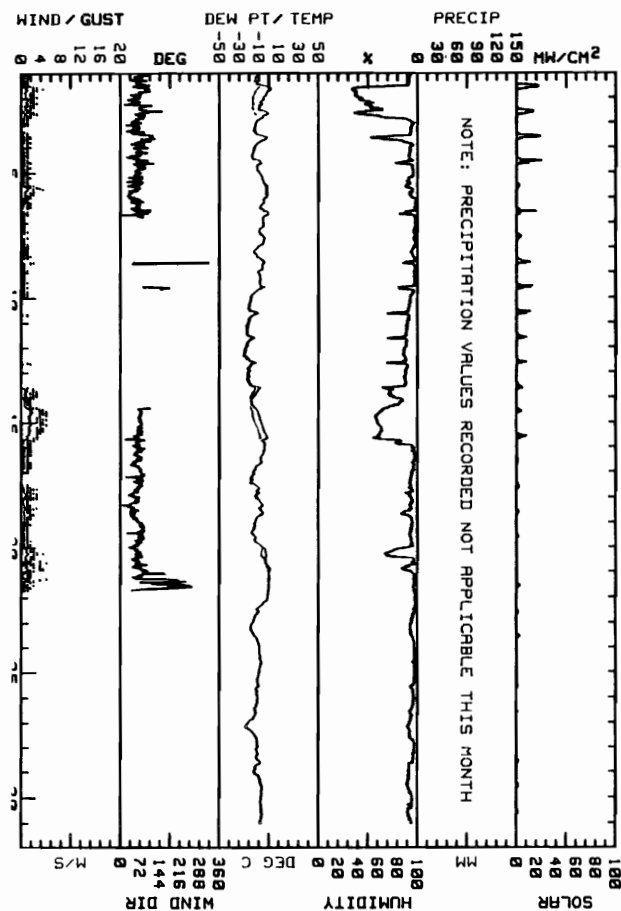
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR.	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	-14.1	-5.6	075	.7	.8	107	4.4	ENE	38	-13.8	****	745	1
2	.1	-12.8	-6.4	064	.8	.9	055	3.2	ENE	50	-15.9	****	620	2
3	-1.4	-14.5	-8.0	086	.4	.4	115	1.9	NE	93	-14.7	****	655	3
4	-6.9	-17.1	-12.0	072	.4	.4	095	1.9	ENE	88	-14.7	****	530	4
5	-9	-8.4	-4.7	052	.8	.8	053	4.4	ENE	92	-2.4	****	95	5
6	.2	-8.9	-4.4	068	.4	.4	070	1.9	ENE	97	-5.7	****	325	6
7	-3.8	-11.6	-7.7	****	****	.2	****	1.3	****	98	-6.5	****	170	7
8	-3.7	-15.1	-9.4	330	.3	.3	325	2.5	NE	97	-6.4	****	330	8
9	-3.6	-17.8	-10.7	157	.3	.2	169	1.3	SSE	93	-18.2	****	340	9
10	-10.1	-20.4	-15.3	****	****	.4	****	1.3	****	91	-19.1	****	315	10
11	-14.2	-23.1	-18.7	****	****	****	****	****	****	88	-21.8	****	215	11
12	-12.4	-24.6	-18.5	****	****	.4	****	1.9	****	88	-22.2	****	165	12
13	-7.8	-21.4	-14.6	****	****	1.0	****	3.2	****	82	-18.8	****	205	13
14	-7.1	-18.0	-12.6	074	1.9	1.5	073	5.1	ENE	62	-15.8	****	130	14
15	-8	-7.1	-4.0	068	1.3	1.3	077	5.1	ENE	62	-10.5	****	235	15
16	-4.1	-15.5	-9.8	062	.6	.6	069	1.9	ENE	95	-14.9	****	50	16
17	-8.5	-17.7	-13.1	056	.7	.7	059	3.2	ENE	93	-16.6	****	105	17
18	-5.0	-14.0	-9.5	049	.7	.7	068	3.2	NE	93	-10.4	****	90	18
19	-6.0	-17.7	-11.9	070	.5	.5	081	1.9	ENE	95	-14.5	****	55	19
20	2.2	-4.9	-1.4	065	1.1	1.1	069	5.1	ENE	82	-4.5	****	0	20
21	1.6	-8	.4	153	.2	.6	090	5.1	E	97	-4	****	90	21
22	-9	-15.8	-8.4	****	****	****	****	****	****	97	-18.0	****	70	22
23	-9.0	-17.8	-13.4	****	****	****	****	****	****	95	-14.3	****	100	23
24	-6.8	-9.4	-8.1	****	****	****	****	****	****	97	-8.9	****	30	24
25	-9.5	-12.6	-11.1	****	****	****	****	****	****	96	-11.4	****	20	25
26	-10.9	-20.6	-15.8	****	****	****	****	****	****	94	-14.5	****	15	26
27	-10.7	-23.4	-17.1	****	****	****	****	****	****	94	-15.9	****	0	27
28	-7.9	-15.1	-11.5	****	****	****	****	****	****	94	-12.4	****	65	28
29	-5.7	-13.9	-9.8	****	****	****	****	****	****	92	-9.0	****	55	29
30	-6.3	-8.5	-7.4	****	****	****	****	****	****	93	-8.2	****	30	30
MONTH	2.9	-24.6	-10.0	067	.7	.7	073	5.1	ENE	88	-12.3	****	5850	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.8
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
November, 1984

FIGURE and TABLE 5.161

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

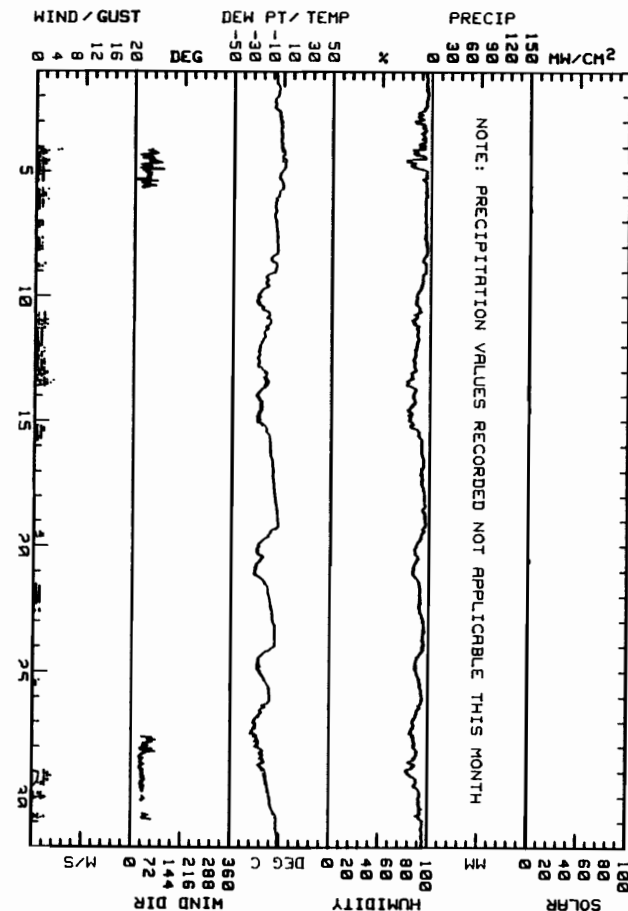
MONTHLY SUMMARY FOR SHERMAN WEATHER STATION
DATA TAKEN DURING December, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P-VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-3.6	-8.0	-5.8	***	***	***	***	***	***	95	-6.4	***	5	1
2	-5	-9.0	-4.8	***	***	***	***	***	***	91	-6.4	***	10	2
3	-1	-2.3	-1.2	***	***	***	***	***	***	92	-2.4	***	0	3
4	3.5	-1.5	1.0	059	.4	.4	062	5.1	ENE	86	-1.4	***	5	4
5	.4	-4.4	-2.0	047	.2	.4	***	2.5	NE	95	-1.5	***	15	5
6	-4.6	-8.3	-6.5	***	***	.4	***	2.5	***	95	-7.9	***	40	6
7	-4.8	-6.5	-5.7	***	***	.3	***	1.3	***	95	-6.1	***	0	7
8	-4.2	-11.5	-7.9	***	***	.3	***	1.9	***	94	-8.6	***	5	8
9	-7.5	-23.7	-15.6	***	***	***	***	***	***	90	-18.0	***	25	9
10	-11.0	-25.0	-18.0	***	***	.7	***	2.5	***	87	-21.7	***	5	10
11	-11.6	-22.7	-17.2	***	***	.5	***	2.5	***	88	-16.6	***	5	11
12	-15.0	-25.0	-20.0	***	***	.4	***	2.5	***	***	***	***	0	12
13	-12.8	-24.4	-18.6	***	***	.8	***	3.8	***	82	-20.9	***	10	13
14	-18.7	-24.1	-21.4	***	***	***	***	***	***	81	-23.5	***	40	14
15	-10.6	-23.2	-16.9	***	***	.4	***	1.9	***	88	-16.3	***	5	15
16	-7.4	-10.6	-9.0	***	***	***	***	***	***	93	-9.9	***	0	16
17	-5.7	-8.1	-6.9	***	***	***	***	***	***	93	-7.7	***	0	17
18	-3.0	-5.7	-4.4	***	***	***	***	***	***	95	-4.8	***	0	18
19	-2.5	-22.7	-12.6	***	***	.6	***	1.9	***	92	-12.6	***	35	19
20	-16.9	-25.4	-21.2	***	***	***	***	***	***	86	-24.0	***	45	20
21	-11.2	-25.9	-18.6	***	***	.3	***	1.3	***	87	-21.6	***	0	21
22	-6.9	-11.2	-9.1	***	***	.4	***	1.3	***	92	-9.2	***	5	22
23	-4.6	-6.9	-5.8	***	***	***	***	***	***	94	-6.1	***	0	23
24	-6.9	-22.4	-14.7	***	***	***	***	***	***	89	-19.7	***	0	24
25	-9.9	-19.8	-14.9	***	***	.1	***	1.3	***	92	-14.1	***	10	25
26	-9.9	-25.9	-17.9	***	***	***	***	***	***	89	-19.2	***	10	26
27	-20.5	-28.5	-24.5	***	***	***	***	ENE	85	***	-25.8	***	0	27
28	-13.8	-21.1	-17.5	040	.7	.8	042	3.2	NE	86	-19.2	***	0	28
29	-8.9	-13.8	-11.4	042	1.1	.9	048	3.8	NE	88	-13.8	***	0	29
30	-2.3	-8.9	-5.6	049	.5	.5	049	2.5	NE	93	-7.3	***	0	30
31	-1.1	-3.2	-2.2	***	***	***	***	***	***	95	-2.7	***	0	31
MONTH	3.5	-28.5	-11.5	048	.6	.5	062	5.1	NE	90	-12.5	***	275	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS *****
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 1.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 4.4
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 INTERPRETATION NOTES AT END OF MONTHLY REPORT **



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
SHERMAN WEATHER STATION
December, 1984

FIGURE and TABLE 5.162

TABLE 5.163
SUMMARY OF CLIMATE DATA RECORDED AT GLACIER STATION (NO. 610)
WATER YEAR 1983

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

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

Source: R&M 1984a

TABLE 5.164 SUMMARY OF CLIMATE DATA RECORDED AT
SUSITNA GLACIER STATION (NO. 0610)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir (°True)	Max Gust Speed (m/sec)	P' Val Dir (True)				
October 1983	3.6	-15.3	-5.5	M	M	1.8M	M	19.0M	M	62	M	M	31,859
November	5.5	-13.8	-5.3	083	2.2	2.5	118	19.7	ENE	46M	M	M	8,665
December	4.5	-21.5	-8.1	070M	1.3M	0.8	099M	12.7	ENE(M)	48	M	M	1,525
January 1984	1.2	-27.8	-10.4	087	1.6	2.2	118	19.7	ENE	61	M	M	3,650
February	-1.6M	-26.7M	-11.2M	-85M	1.4M	2.0M	155M	18.4M	ENE(M)	60M	M	M	15,030M
March	M	M	M	M	M	M	M	M	M	M	M	M	M
April	M	M	M	M	M	M	M	M	M	M	M	M	M
May	13.2M	-9.2M	2.9M	061M	0.9M	1.5M	027M	11.4M	ENE(M)	M	M	18.2M	187,763M
June	15.3M	-0.4M	7.2M	089M	0.8M	1.9M	128M	13.3M	ENE(M)	M	M	105.4M	168,663 / 1
July	M	M	M	M	M	M	M	M	M	M	M	M	M
August	M	M	M	M	M	M	M	M	M	M	M	M	M
September	M	M	M	M	M	M	M	M	M	M	M	M	M
October	M	M	M	M	M	M	M	M	M	M	M	M	M
November	-0.6M	-19.1M	-10.0M	070M	1.2M	1.6M	120M	26.0M	ENE(M)	63M	M	M	7,159M
December	1.8M	-20.0M	-11.1M	072M	1.4M	1.9M	338M	17.8M	ENE(M)	68M	M	M	1,085M
Annual-WY (10/83 - 9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

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

Source: R&M 1985b

TABLE 5.165
SUMMARY OF CLIMATE DATA RECORDED AT DENALI STATION (NO. 620)
WATER YEAR 1983

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m2)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT	M	M	M	M	M	M	M	M	M	M	M	M	M	OCT
NOV	M	M	M	M	M	M	M	M	M	M	M	M	M	NOV
DEC	M	M	M	M	M	M	M	M	M	M	M	M	M	DEC
JAN	M	M	M	M	M	M	M	M	M	M	M	M	M	JAN
FEB	0.7	-31.6	-14.1	M	M	M	M	M	M	M	M	M	36,403M	FEB
MAR	1.8M	-26.7M	-11.8M	M	M	M	M	M	M	M	M	M	90,588M	MAR
APR	12.5	-22.2	-2.3	166M	0.4M	2.9M	138M	23.5M	NNW(M)	M	M	0.8	154,391	APR
MAY	21.4	-5.2	4.7	210M	0.5M	2.1M	160M	17.1M	NNW(M)	M	M	7.6	166,505	MAY
JUN	25.6M	2.4M	10.3M	306M	0.6M	2.7M	163M	13.3M	NNW(M)	M	M	12.8M	190,115M	JUN
JUL	22.7	3.7	11.9	306M	0.8M	2.8M	158M	12.1M	NNW(M)	M	M	23.8	173,718M	JUL
AUG	19.6M	-1.6M	8.4M	025M	0.4M	2.7M	155M	16.5M	NNE(M)	M	M	36.4	110,843M	AUG
SEP	10.3M	-17.1M	1.3M	M	M	M	M	M	M	M	M	12.2	76,201M	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.

Source: R&M 1984a

TABLE 5.16 SUMMARY OF CLIMATE DATA RECORDED AT
DENALI STATION (No. 0620)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind					P' Val Dir (True)	Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir (°True)	Max Gust Speed (m/sec)					
October 1983	6.0	-18.9	-4.9	170M	0.7M	3.0M	146M	21.6M	N(M)	M	M	M	36,381
November	5.0	-24.3	-11.7	170	1.0	2.4	152	22.2	N	M	M	M	11,900
December	M	M	M	M	M	M	M	M	M	M	M	M	M
January 1984	M	M	M	M	M	M	M	M	M	M	M	M	M
February	M	M	M	M	M	M	M	M	M	M	M	M	M
March	5.1	-24.8	-6.4	181	0.6	2.3	153	21.6	N	M	M	M	86,520
April	8.0	-17.8	-4.0	353	0.3	3.0	159	21.0	N	M	M	0.8	150,925
May	15.4	-7.7	3.1	350	1.0	2.7	357	12.7	N	M	M	28.2	196,550
June	22.4	-0.9	10.0	322	0.7	2.7	150	14.6	N	M	M	63.8	184,610
July	20.6	3.8	10.9	328M	0.8M	2.6M	169M	14.0M	N	M	M	76.4	127,435
August	20.9M	-6.6M	9.7M	M	M	M	M	M	N(M)	M	M	37.6M	M
September	14.7	-5.0	5.4	M	M	M	M	M	NNW	M	M	44.4M	M
October	M	M	M	M	M	M	M	M	M	M	M	M	M
November	3.3M	-32.3M	-14.5M	103M	0.3M	1.6M	141M	26.7M	N(M)	78M	M	M	M
December	5.1	-35.7	-15.2	129M	0.6M	3.1M	226M	25.4M	NNE	77	M	M	1,585
Annual-WY (10/83-9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

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

Source: R&M 1985b

TABLE 5.167
SUMMARY OF CLIMATE DATA RECORDED AT KOSINA STATION (NO. 640)
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	3.6	-24.7	-9.1	175M	0.8M	2.5M	317M	11.4M	SSW(M)	76	-12.5	M	43,353	OCT
NOV	-0.2	-27.7	-12.5	178	2.4	2.9	087	10.2	S	84	-14.5	M	17,810	NOV
DEC	1.6	-28.7	-12.8	161	2.7	3.6	101	16.5	S	87	-14.6	M	9,503	DEC
JAN	-4.4M	-35.6M	-16.9M	165M	2.5M	3.3M	103M	14.0M	S(M)	77M	-19.9M	M	14,470M	JAN
FEB	-0.9M	-25.8M	-13.0M	176M	2.6M	3.1M	135M	12.7M	S(M)	82M	-15.3M	M	33,884M	FEB
MAR	0.3M	-24.7M	-11.3M	182M	2.7M	3.0M	090M	10.2M	S(M)	77	-14.5	M	89,788M	MAR
APR	M	M	M	M	M	M	M	M	M	M	M	M	M	APR
MAY	M	M	M	M	M	M	M	M	M	M	M	M	M	MAY
JUN	M	M	M	M	M	M	M	M	M	M	M	M	M	JUN
JUL	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

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

Source: R&M 1984a

TABLE 5.168 SUMMARY OF CLIMATE DATA RECORDED AT
KOSINA STATION (NO. 0640)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir (°True)	Max Gust Speed (m/sec)	P' Val Dir (True)				
October 1983	M	M	M	M	M	M	M	M	M	M	M	M	M
November	M	M	M	M	M	M	M	M	M	M	M	M	M
December	-1.4	-28.2	-14.6	183	2.8	3.1	116	11.4	S	85	-16.4	M	5,740
January 1984	2.2M	-33.8M	-14.4M	182M	2.4M	3.0M	116M	15.9M	SSW(M)	87M	-16.1M	M	6,708M
February	-4.7	-29.5	-15.0	188	2.1	2.8	091	12.1	SSW	85	-16.7M	M	25,420
March	6.0	-17.7	-6.6	196M	2.2M	2.6M	143M	10.8	SSW(M)	82	-9.4M	M	90,155
April	7.5M	-14.6M	-4.1M	190M	1.6M	2.3M	190M	32.0M	SSW(M)	73M	M	3.4	148,042M
May	M	M	M	M	M	M	M	M	M	M	M	M	M
June	M	M	M	M	M	M	M	M	M	M	M	M	M
July	M	M	M	M	M	M	M	M	M	M	M	M	M
August	21.6M	-6.6M	8.7M	025M	1.1M	2.8M	338M	14.0M	NNE(M)	M	M	31.2	120,127M
September	13.5	-4.1	5.0	153	1.0	2.2	124	14.0	SSW	M	M	18.4	76,600
October	9.2	-21.7	-3.9	161M	1.4M	2.4M	096M	10.2	S(M)	59M	M	M	44,400
November	0.9	-25.6	-13.1	170	2.3	2.7	154	19.0	S	68	-18.1M	M	12,285
December	-1.6	-30.1	-14.0	181	2.0	2.8	252	12.1	SSW	72	-18.1M	M	4,530
Annual-WY (10/83 - 9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

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

Source: R&M 1985b

TABLE 5.169
SUMMARY OF CLIMATE DATA RECORDED AT WATANA STATION (NO. 650)
WATER YEAR 1983

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip. (mm)	Total Solar Energy (WH/m2)	Month
	Max. (°C)	Min. (°C)	Mean (°C)	Res. Dir. (°True)	Res. Speed (m/sec)	Avg. Speed (m/sec)	Max. Gust Dir. (°True)	Max. Gust Speed (m/sec)	P'val. Dir. (True)					
OCT	M	M	M	056M	2.7M	3.0M	079M	11.4M	ENE(M)	M	M	4.2	38,729M	OCT
NOV	-1.4M	-24.7M	-10.7M	063	3.1	3.3	073	14.0	ENE	M	M	0.2	21,573	NOV
DEC	2.7	-24.2	-10.4	068	4.4	4.7	089	14.6	ENE	M	M	7.0	12,068	DEC
JAN	-2.2M	-34.4M	-14.2M	064M	4.5M	4.8M	065M	14.6M	ENE(M)	M	M	2.8M	17,675M	JAN
FEB	0.3M	-25.4M	-10.0M	065M	4.1M	4.3M	068M	15.2M	ENE(M)	M	M	M	38,982M	FEB
MAR	M	M	M	M	M	M	M	M	M	M	M	M	M	MAR
APR	10.1M	-17.0M	-1.1M	045M	1.7M	2.5M	274M	14.6M	ENE(M)	M	M	2.4	171,764M	APR
MAY	20.1M	-3.6M	5.3M	021M	0.7M	2.6M	275M	10.2M	N(M)	M	M	15.2M	157,304M	MAY
JUN	26.1M	2.1M	10.5M	270M	1.0M	2.7M	270M	9.5M	W(M)	M	M	39.4M	204,082M	JUN
JUL	M	M	M	M	M	M	M	M	M	M	M	113.4	M	JUL
AUG	M	M	M	M	M	M	M	M	M	M	M	117.8M	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

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

Source: R&M 1984a

TABLE 5.170
SUMMARY OF CLIMATE DATA RECORDED AT WATANA STATION (NO. 0650)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir. (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir. (°True)	Max Gust Speed (m/sec)	P'Val Dir. (°True)				
1983													
October	M	M	M	M	M	M	M	M	M	M	M	M	M
November	1.8	-18.5	-8.2	071	3.9	4.0	094	14.6	ENE	78	-11.4M	0.6	12,930
December	0.3	-26.7	-12.8	077	3.3	3.5	069	12.1	ENE	85	-14.9M	M	4,755
1984													
January	3.4	-31.9	-12.5	077	3.2	3.7	097	13.3	E	80	-14.9M	M	7,425
February	-2.3	-26.1	-12.4	070	3.7	4.1	074	14.6	ENE	77	M	M	26,725
March	4.5	-15.8	-3.8	068	2.9	3.2	089	12.1	ENE	75	-7.6M	M	93,110
April	7.5	-13.2	-2.4	052	1.8	2.8	289	14.0	ENE	70	M	M	151,060
May	16.2	-7.4	4.0	002M	0.8M	2.5M	275M	11.4	NNE(M)	58	M	M	207,055
June	21.6	0.6	10.1	281	1.8	2.9	271	13.3	W	54	M	62.4	186,480
July	M	M	M	M	M	M	M	M	M	M	M	M	M
August	21.5M	-4.2M	9.4M	002M	0.8M	2.5M	354M	12.1M	W(M)	54M	M	100.0M	M
September	15.5	-3.0	6.4	069	1.8	2.5	075	12.1	ENE	62	M	29.8M	M
October	10.7	-16.2	-2.0	070	2.4	3.0	076	12.4	ENE	70	M	M	32,265M
November	1.3	-25.0	-11.6	070	2.3	2.6	102	14.3	ENE	79	M	M	10,760
December	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-WY (10/83-9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

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

Source: R&M 1985b

TABLE 5.171
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.

Source: R&M 1984a

TABLE 5.172 SUMMARY OF CLIMATE DATA RECORDED AT
DEVIL CANYON STATION (No. 0660)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir (°True)	Max Gust Speed (m/sec)	P ¹ Val Dir (True)				
October 1983	7.7M	-13.2M	-2.2M	111M	0.8M	1.2M	012M	8.3M	ESE(M)	61M	M	M	22,706
November	02.M	-10.7M	-5.3M	130M	0.8M	0.9M	152M	3.8M	ESE(M)	59M	M	M	5,643M
December	2.1M	-19.7M	-8.3M	M	M	M	M	M	M	69M	M	M	1,623M
January 1984	M	M	M	M	M	M	M	M	M	M	M	M	M
February	M	M	M	M	M	M	M	M	M	M	M	M	M
March	8.7	-13.2	-0.9	119	1.3	1.6M	123	7.0	ESE	68	M	M	62,400
April	10.2	-11.9	-0.3	112M	0.5M	1.5M	317M	8.9M	ESE(M)	64	M	M	112,250M
May	19.3	-3.8	5.6	015M	0.2M	1.6M	327M	8.3	SSE(M)	58	M	M	171,215
June	22.2	0.8	10.8	319	0.7	0.8	022	8.9	NW	51	M	38.0	148,780
July	22.3	3.7	11.8	308	0.7	1.3	313	8.3	NW	M	M	68.2	95,280
August	21.4M	-4.1M	10.2M	000M	0.3M	1.4M	037M	11.4M	WNW(M)	M	M	141.8	90,499M
September	17.6	-2.4	7.4	113	0.7	1.3	106	8.3	ESE	62	M	32.6	68,330
October	12.3	-13.9	-0.3	118M	1.1M	1.5M	106M	10.2M	ESE(M)	56	M	M	23,654
November	2.8	-22.3	-9.5	099	1.4	1.6	097	9.5	ESE	71	M	M	4,440
December	2.6	-24.5	-11.1	102	1.3	1.5	106	7.0	ESE	78	M	M	975
Annual-WY (10/83-9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

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

Source: R&M 1985b

TABLE 5.173
SUMMARY OF CLIMATE DATA RECORDED AT SHERMAN STATION (NO. 665)
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	7.8M	-24.6M	-3.5M	M	M	M	M	M	M	M	M	M	30,135M	OCT
NOV	M	M	M	M	M	M	M	M	M	M	M	M	M	NOV
DEC	4.0M	-26.6M	-8.7M	059M	0.9M	0.9M	046M	6.3M	ENE(M)	M	M	M	7,187M	DEC
JAN	M	M	M	M	M	M	M	M	M	M	M	M	M	JAN
FEB	M	M	M	M	M	M	M	M	M	M	M	M	M	FEB
MAR	M	M	M	M	M	M	M	M	M	M	M	M	M	MAR
APR	19.4	-11.7	2.1	M	M	M	M	M	M	M	M	67.4	123,282	APR
MAY	18.2M	-3.7M	6.9M	217M	0.3M	0.1M	184M	7.0M	SSW(M)	M	M	19.4M	131,075M	MAY
JUN	M	M	M	M	M	M	M	M	M	M	M	M	M	JUN
JUL	24.6	3.5	13.9	214	0.5	0.5	218	6.3	SSW	M	M	54.2	147,129	JUL
AUG	25.7M	-1.2M	10.7M	210M	0.2M	0.7M	214M	8.9M	SW(M)	M	M	61.6	102,256M	AUG
SEP	16.5	-11.6	4.6	050	0.3	0.8	051	9.5	NE	M	M	20.8	74,033	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.

Source: R&M 1984a

TABLE 5.174 SUMMARY OF CLIMATE DATA RECORDED AT
SHERMAN STATION (0665)
OCTOBER 1983 TO DECEMBER 1984

Month	Temperature			Wind						Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m ²)
	Max (°C)	Min (°C)	Mean (°C)	Res Dir. (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir. (°True)	Max Gust Speed (m/sec)	P ¹ Val Dir. (°True)				
1983													
October	10.3	-13.4	-1.2	060M	0.5M	0.9M	061M	7.0M	ENE(M)	62M	M	11.0	30,050
November	4.3	-21.2	-6.3	055M	0.7M	0.8M	049M	5.1M	ENE(M)	67M	M	M	7,515
December	2.2	-27.3	-12.1	M	M	M	M	M	M	80M	M	M	1,636
1984													
January	2.2	-36.0	-12.0	M	M	M	M	M	M	80M	M	M	2,365
February	3.8	-31.3	-10.1	M	M	M	M	7.0M	M	74M	M	M	14,625
March	11.6	-16.1	0.1	035M	0.7M	0.8M	041M	5.7	NE(M)	58	M	M	72,865
April	14.3	-13.8	1.0	048M	0.2M	0.3M	207M	8.9	NE(M)	55	M	M	124,470
May	21.0	-4.0	6.4	251	0.0	1.1	218	7.6	NE	46	M	M	178,221
June	23.6	-0.1	11.6	187	0.4	1.0	357	7.6	S	51	M	M	167,305
July	24.6	3.5	13.0	183M	0.6M	0.9M	210M	7.6M	S(M)	70	M	M	119,035
August	24.6M	-4.3M	11.0M	109M	0.2M	0.7M	048M	7.6M	S(M)	64M	M	M	101,471M
September	20.5	-3.6	8.3	062M	0.3M	0.7M	208M	7.0	NE(M)	56M	M	52.6	73,095
October	15.9	-14.3	0.5	071M	0.6M	0.8M	076M	8.3M	ENE(M)	62M	M	M	31,395
November	2.9	-24.6	-10.0	M	M	M	M	M	M	88M	M	M	5,850
December	3.5	-28.5	-11.5	M	M	M	M	M	M	90M	M	M	275
Annual-WY (10/83 - 9/84)	24.6M	-36.0M	0.8M	M	M	M	M	M	M	M	M	M	892,653M
Annual-CY (1/84-12/84)	24.6M	-36.0M	0.7M	M	M	M	M	M	M	M	M	M	890,972M

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

Source: R&M 1985b

TABLE 5.175 SUMMARY OF EXTREME VALUES RECORDED AT

SUSITNA GLACIER CLIMATE STATIONPeriod of Record: July 20, 1980 - December 31, 1984

		(Date)			
Air Temp.	Maximum Recorded Temperature	20.0 °C	(6/25/83)		
	Minimum Recorded Temperature	-33.7 °C	(1/ 8/83)		
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	32.4 m/s @ 154 °	(1/ 2/80)		
Precipitation	Max. Recorded Hourly Precipitation	6.8 mm	(6/27/81)		
	Max. Recorded Daily (24-Hour Period)	57.8 mm	(6/15/84)		
	Max. Recorded Monthly - April	16.6M mm	(1982)		
	Max. Recorded Monthly - May	34.0 mm	(1981)		
	Max. Recorded Monthly - June	141.4 mm	(1981)		
	Max. Recorded Monthly - July	324.2 mm	(1981)		
	Max. Recorded Monthly - August	300.2 mm	(1981)		
	Max. Recorded Monthly - September	108.0 mm	(1983)		
Max. Recorded Monthly - October	M mm	()			
Solar Radiation Energy		Max.	Min.	Avg.	
	Max./Min./Avg. Recorded Monthly - January	9	3	5	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	32	16E	24	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	81	72E	77	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	144E	135	140	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	207E	168E	190	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	191E	168	181	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	152	101	127	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	123	102	113	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	77	55E	69	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	44E	32	37	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	13	6E	9	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	7	1	4	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.176 SUMMARY OF EXTREME VALUES RECORDED AT

DENALI CLIMATE STATIONPeriod of Record: July 18, 1980 - December 31, 1984

				(Date)	
Air Temp.	Maximum Recorded Temperature	25.6 °C	(6/25/83)		
	Minimum Recorded Temperature	-48.9 °C	(2/16/82)		
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	31.7 m/s @ 139 °	(12/18/81)		
Precipitation	Max. Recorded Hourly Precipitation	8.2 mm	(7/24/84)		
	Max. Recorded Daily (24-Hour Period)	24.0 mm	(7/24-7/25/84)		
	Max. Recorded Monthly - April	1.0 mm	(1982)		
	Max. Recorded Monthly - May	28.2 mm	(1984)		
	Max. Recorded Monthly - June	63.8 mm	(1984)		
	Max. Recorded Monthly - July	76.4 mm	(1984)		
	Max. Recorded Monthly - August	63.2 mm	(1981)		
	Max. Recorded Monthly - September	44.4 mm	(1984)		
	Max. Recorded Monthly - October	13.2M mm	(1984)		
Solar Radiation Energy	Max./Min./Avg. Recorded Monthly - January	11	7	9	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	34E	24E	29	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	86	75E	81	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	152E	139	147	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	197	152	170	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	185E	158	176	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	167E	97	133	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	144E	100E	116	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	70E	68	69	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	38	29	34	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	16	10E	12	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	6	2	4	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.177 SUMMARY OF EXTREME VALUES RECORDED AT

TYONE RIVER CLIMATE STATIONPeriod of Record: August 27, 1980 - May 13, 1982

(Date)

Air Temp.	Maximum Recorded Temperature	25.8 °C	(8/26/81)
	Minimum Recorded Temperature	-48.0 °C	(1/ 7/82)
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	11.4 m/s @ 347 °	(7/25/81)
Precipitation	Max. Recorded Hourly Precipitation	4.2 mm	(7/25/81)
	Max. Recorded Daily (24-Hour Period)	16.4 mm	(8/1-8/2/81)
	Max. Recorded Monthly - April	13.2 mm	(1982)
	Max. Recorded Monthly - May	12.0Mmm	(1982)
	Max. Recorded Monthly - June	67.0 mm	(1981)
	Max. Recorded Monthly - July	100.2 mm	(1981)
	Max. Recorded Monthly - August	65.2 mm	(1981)
	Max. Recorded Monthly - September	14.6 mm	(1981)
	Max. Recorded Monthly - October	M mm	(-----)

Solar Radiation Energy	Max./Min./Avg. Recorded Monthly -	Max.	Min.	Avg.	
	January	16E	16E	16	KWH/m ²
	February	28	28	28	KWH/m ²
	March	78	78	78	KWH/m ²
	April	163E	156	160	KWH/m ²
	May	188E	158	173	KWH/m ²
	June	170	170	170	KWH/m ²
	July	115	115	115	KWH/m ²
	August	110	110	110	KWH/m ²
	September	71	71	71	KWH/m ²
	October	35	35	35	KWH/m ²
	November	14	7	10	KWH/m ²
	December	3	3	3	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.178 SUMMARY OF EXTREME VALUES RECORDED AT

KOSINA CREEK CLIMATE STATIONPeriod of Record: August 25, 1980 - December 31, 1984

			(Date)		
Air Temp.	Maximum Recorded Temperature	25.2 °C	(7/ 7/82)		
	Minimum Recorded Temperature	-35.7 °C	(12/12/80)		
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	32.0 m/s @ 190 °	(4/15/84)		
Precipitation	Max. Recorded Hourly Precipitation	6.0 mm	(7/25/81)		
	Max. Recorded Daily (24-Hour Period)	21.2 mm	(7/9-7/10/81)		
	Max. Recorded Monthly - April	6.6 mm	(1982)		
	Max. Recorded Monthly - May	23.6mm	(1983)		
	Max. Recorded Monthly - June	41.4mm	(1981)		
	Max. Recorded Monthly - July	102.6mm	(1981)		
	Max. Recorded Monthly - August	103.6 mm	(1981)		
	Max. Recorded Monthly - September	75.4 mm	(1982)		
Max. Recorded Monthly - October	M mm	()			
Solar Radiation Energy		Max.	Min.	Avg.	
	Max./Min./Avg. Recorded Monthly - January	11E	7E	10	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	76E	25	41	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	90	80	86	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	148	143	146	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	203	133	173	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	148	135E	139	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	133	94E	109	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	126	109	118	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	77	65E	69	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	44	25E	36	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	16	8	12	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	10E	4	7	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.179 SUMMARY OF EXTREME VALUES RECORDED AT

WATANA CLIMATE STATION

Period of Record: April 8, 1980 - December 31, 1984

(Date)

Air Temp.	Maximum Recorded Temperature	26.4 °C	(7/ 7/82)		
	Minimum Recorded Temperature	-36.7 °C	(12/16/80)		
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	16.5 m/s @ 098 °	(5/18/80)		
Precipitation	Max. Recorded Hourly Precipitation	8.4 mm	(8/ 9/84)		
	Max. Recorded Daily (24-Hour Period)	40.8 mm	(9/14-9/15/80)		
	Max. Recorded Monthly - April	7.2M mm	(1982)		
	Max. Recorded Monthly - May	44.0 mm	(1981)		
	Max. Recorded Monthly - June	129.8 mm	(1981)		
	Max. Recorded Monthly - July	170.6 mm	(1981)		
	Max. Recorded Monthly - August	165.6 mm	(1981)		
	Max. Recorded Monthly - September	100.8M mm	(1982)		
	Max. Recorded Monthly - October	25.0M mm	(1982)		
Solar Radiation Energy		Max.	Min.	Avg.	
	Max./Min./Avg. Recorded Monthly - January	11E	7	9	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	36E	17E	26	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	105E	83E	94	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	159	143E	149	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	207	147E	176	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	186	159E	173	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	164	116	148	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	147E	112	127	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	84E	66E	76	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	43	30E	37	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	16E	11	14	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	7	5	5	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.180 SUMMARY OF EXTREME VALUES RECORDED AT

DEVIL CANYON CLIMATE STATION

Period of Record: July 17, 1980 - December 31, 1984

			(Date)		
Air Temp.	Maximum Recorded Temperature	28.3°C	(7/ 7/82)		
	Minimum Recorded Temperature	-34.4°C	(12/16/80)		
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	13.9 m/s @ ??? °	(4/ 7/81)		
Precipitation	Max. Recorded Hourly Precipitation	11.2mm	(7/7/81)		
	Max. Recorded Daily (24-Hour Period)	45.8mm	(8/23-8/24/84)		
	Max. Recorded Monthly - April	33.2mm	(1983)		
	Max. Recorded Monthly - May	39.0mm	(1981)		
	Max. Recorded Monthly - June	166.4mm	(1981)		
	Max. Recorded Monthly - July	176.6mm	(1981)		
	Max. Recorded Monthly - August	141.8mm	(1984)		
	Max. Recorded Monthly - September	156.6mm	(1982)		
	Max. Recorded Monthly - October	M mm	()		
Solar Radiation Energy		Max.	Min.	Avg.	
	Max./Min./Avg. Recorded Monthly - January	6	2E	5	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	16	16	16	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	67	60E	63	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	139E	107	123	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	171	137	149	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	149	130	142	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	149E	77	112	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	124E	89E	104	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	68	44	55	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	24	18E	22	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	6	4	5	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	2E	1	2	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

TABLE 5.181 SUMMARY OF EXTREME VALUES RECORDED AT

SHERMAN CLIMATE STATION

Period of Record: May 15, 1982 - December 31, 1984

(Date)

Air Temp.	Maximum Recorded Temperature	29.6°C	(7/ 7/82)
	Minimum Recorded Temperature	-36.0°C	(1/25/84)
Wind Speed	Max. Recorded Gust (15-Sec.) and Dir.	10.2 m/s @ 212 °	(4/ 4/83)
Precipitation	Max. Recorded Hourly Precipitation	10.2 mm	(7/13/83)
	Max. Recorded Daily (24-Hour Period)	49.4 mm	(7/24-7/25/82)
	Max. Recorded Monthly - April	67.4 mm	(1983)
	Max. Recorded Monthly - May	19.4Mmm	(1983)
	Max. Recorded Monthly - June	101.2 mm	(1982)
	Max. Recorded Monthly - July	171.0 mm	(1982)
	Max. Recorded Monthly - August	102.8Mmm	(1984)
	Max. Recorded Monthly - September	232.2 mm	(1982)
	Max. Recorded Monthly - October	11.0 mm	(1983)

		Max.	Min.	Avg.	
Solar Radiation Energy	Max./Min./Avg. Recorded Monthly - January	2 E	3	2	KWH/m ²
	Max./Min./Avg. Recorded Monthly - February	15	15	15	KWH/m ²
	Max./Min./Avg. Recorded Monthly - March	96 E	73	84	KWH/m ²
	Max./Min./Avg. Recorded Monthly - April	124	120	122	KWH/m ²
	Max./Min./Avg. Recorded Monthly - May	178	164E	172	KWH/m ²
	Max./Min./Avg. Recorded Monthly - June	196 E	147	170	KWH/m ²
	Max./Min./Avg. Recorded Monthly - July	142	119	135	KWH/m ²
	Max./Min./Avg. Recorded Monthly - August	132	109E	119	KWH/m ²
	Max./Min./Avg. Recorded Monthly - September	73	54	66	KWH/m ²
	Max./Min./Avg. Recorded Monthly - October	34E	30	32	KWH/m ²
	Max./Min./Avg. Recorded Monthly - November	8	6	7	KWH/m ²
	Max./Min./Avg. Recorded Monthly - December	4E	0	2	KWH/m ²

- Notes:
1. Period of Record notes dates when station was installed (and removed, if applicable). Some gaps exist in the record between the 2 dates.
 2. When a table value has been recorded more than once, the latter occurrence is the one noted.
 3. Solar radiation values have been adjusted to give values for the full month when part of the month is missing, based on the daily average for the recorded days. Adjusted values are followed by an "E". If more than 20 days of solar data were missing, the month was not considered for this summary.
 4. An "M" following monthly precipitation values indicates that data were missing for part of the month. Values have not been adjusted; the table values are the totals for the good portions of the months.

Table 5.182

Watana Streamgage Site
Air Temperature and
Freezing Degree-Days Summary
September 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)	Deviation From Watana Weather Station (°C)
1	-1.0	12.4	5.7	-1.5
2	-0.9	3.2	1.2	-5.6
3	-1.0	10.1	4.6	-1.0
4	3.8	12.0	7.9	-0.9
5	5.0	11.7	8.4	-0.9
6	5.0	10.5	7.8	-0.4
7	5.0	10.5	7.8	0.3
8	0.5	13.0	6.8	0.3
9	-1.5	13.0	5.8	-1.9
10	-1.0	12.0	5.5	-2.4
11	-2.1	13.2	5.6	-1.0
12	1.2	11.5	6.4	-0.3
13	3.8	7.2	5.5	-1.7
14	2.9	10.2	6.6	-1.6
15	6.1	13.2	9.7	0.4
16	0.4	14.0	7.2	0.3
17	-0.2	8.7	4.3	-1.4
18	3.0	6.6	4.8	0
19	2.8	5.5	4.2	0.9
20	0	9.0	4.5	0.5
21	-4.1	9.0	2.5	-3.2
22	-4.0	10.1	3.1	-1.5
23	-2.3	8.0	2.9	-2.1
24	-1.3	7.2	3.0	-2.5
25	3.0	8.8	5.9	-0.5
26	1.0	17.1	9.1	3.7
27	-2.0	11.0	4.5	-0.4
28	-1.0	8.0	3.5	-1.6
29	4.0	7.5	5.8	-0.5
30	3.2	10.5	6.9	-0.9

Average -0.9°C

Mean Monthly Air Temperature	5.6°C
Total Monthly Freezing Degree-Days	0
Total Accumulated Freezing Degree-Days	0

Source: Table reproduced from (R&M 1985d)

Table 5.183

Watana Streamgage Site
Air Temperature and
Freezing Degree-Days Summary
October 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)	Deviation From Watana Weather Station (°C)
1	3.0	11.4	7.2	0.4
2	1.2	7.9	4.6	-0.1
3	-1.2	7.9	3.4	0.5
4	-6.2	8.0	0.9	-0.1
5	-2.0	5.0	1.5	-1.0
6	0.9	5.1	3.0	-0.5
7	-1.7	4.8	1.6	-0.9
8	1.0	5.0	3.0	-0.4
9	-0.3	3.0	1.4	0.9
10	-6.1	5.7	-0.2	-0.5
11	-4.3	3.5	-0.4	-0.8
12	-1.0	3.1	1.1	0.8
13	-3.0	4.8	0.9	0.4
14	-4.9	0.5	-2.2	0.5
15	-7.1	-2.0	-4.6	-0.6
16	-5.1	3.0	-1.1	0.4
17	-8.8	1.2	-3.8	0.1
18	-7.5	1.1	-3.2	-1.5
19	-3.5	-0.5	-2.0	0.6
20	-6.3	-2.1	-4.2	0.7
21	-2.9	3.5	0.3	-0.2
22	0.0	3.1	1.6	-0.8
23	-1.8	2.5	0.4	1.7
24	-9.5	-3.0	-6.3	-0.9
25	-13.5	-8.0	-10.8	-4.1
26	-13.0	-6.0	-9.5	-1.5
27	-14.0	-6.0	-10.0	-2.4
28	-14.9	-9.5	-12.2	-2.8
29	-15.5	-7.8	-11.7	0.6
30	-15.2	-10.5	-12.9	-0.3
31	-16.3	-9.1	-12.7	-4.5

Average -0.5°C

Mean Monthly Air Temperature -2.5°C
 Total Monthly Freezing Degree-Days 107.8
 Total Accumulated Freezing Degree-Days 107.8

Source: Table reproduced from (R&M 1985d)

Table 5.184

Watana Streamgage Site
Air Temperature and
Freezing Degree-Days Summary
November 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)	Deviation From Watana Weather Station (°C)
1	-13.5	-9.0	-11.3	-3.1
2	-15.2	-11.0	-13.1	-3.0
3	-15.0	-10.0	-12.5	-4.1
4	-17.5	-13.0	-15.3	-3.9
5	-13.5	-5.7	-9.6	-3.2
6	-6.0	-4.8	-5.4	-2.0
7	-6.5	-4.5	-5.5	0
8	-9.0	-7.0	-8.0	-2.3
9	-16.0	-9.5	-12.8	-1.0
10	-22.0	-17.0	-19.5	-2.4
11	-26.0	-22.0	-24.5	-3.9
12	-27.0	-22.0	-24.0	-4.4
13	-24.0	-18.0	-21.0	-2.9
14	-20.0	-15.0	-17.5	-0.4
15	-15.0	-9.5	-12.3	-1.9
16	-17.0	-10.0	-13.5	-2.6
17	-20.0	-14.0	-17.0	-3.7
18	-15.0	-9.5	-14.0	-2.3
19	-19.0	-15.0	-17.0	-3.6
20	-14.0	-3.5	-8.8	-3.0
21	-6.0	-1.5	-3.8	-2.0
22	-12.0	-6.0	-9.0	-1.3
23	-13.0	-11.5	-12.3	-3.0
24	-12.5	-11.5	-12.0	-0.8
25	-14.0	-12.0	-13.0	1.9
26	-22.0	-14.0	-18.0	2.0
27	-27.0	-15.0	-21.0	-3.3
28	-16.0	-14.5	-15.3	-2.1
29	-15.0	-12.0	-13.5	-1.6
30	-13.5	-12.0	-12.7	-1.9

Average -2.2°C

Mean Monthly Air Temperature	-13.8°C
Total Monthly Freezing Degree-Days	413.2
Total Accumulated Freezing Degree-Days	521.0

Source: Table reproduced from (R&M 1985d)

Table 5.185

Watana Streamgage Site
Air Temperature and
Freezing Degree-Days Summary
December 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)	Deviation From Watana Weather Station (°C)
1	-11.5	-7.0	-9.3	-2.1
2	-7.0	-4.5	-5.8	0.6
3	-4.5	-2.5	-3.5	0.4
4	-9.0	-4.0	-6.5	-5.0
5	-11.7	-9.0	-10.4	-6.5
6	-11.5	-10.5	-11.0	-2.6
7	-9.5	-8.5	-9.0	-0.9
8	-25.0	-11.0	-18.0	-10.0
9	-24.0	-17.0	-20.5	-6.1
10	-24.0	-17.0	-20.5	-2.4
11	-27.0	-22.0	-24.5	-6.6
12	-25.0	-21.0	-23.0	-0.6
13	-28.0	-25.0	-26.5	-7.4
14	-28.0	-16.0	-22.0	-0.4
15	-15.5	-13.5	-14.5	2.3
16	-15.0	-10.5	-12.8	-1.9
17	-10.5	-7.0	-8.8	0.8
18	-21.0	-7.0	-14.0	-7.8
19	-23.0	-20.0	-21.5	-13.5
20	-23.0	-17.0	-20.0	-1.6
21	-17.0	-11.5	-14.3	3.6
22	-11.5	-9.0	-10.3	0.6
23	-25.0	-10.0	-17.5	-5.2
24	-25.0	-9.0	-17.0	3.3
25	-25.0	-8.5	-16.8	-2.3
26	-27.0	-23.0	-25.0	-7.1
27	-23.0	-22.0	-22.5	-2.6
28	-20.0	-15.0	-17.5	-2.8
29	-15.0	-7.0	-11.0	2.9
30	-7.5	-3.0	-5.3	3.1
31	-4.5	-3.8	-3.0	0.9

Average -2.5°C

Mean Monthly Air Temperature	-14.9°C
Total Monthly Freezing Degree-Days	463.1
Total Accumulated Freezing Degree-Days	984.1

Source: Table reproduced from (R&M 1985d)

Table 5.186

Delta Islands Air Temperature and
Freezing Degree-Days Summary
October 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)
1	-	-	-
2	-	-	-
3	6.0	13.2	9.6
4	-3.8	11.5	3.9
5	-2.5	8.5	3.0
6	1.1	9.2	5.2
7	1.0	5.0	3.0
8	1.0	2.1	1.6
9	-2.5	4.5	1.0
10	-3.1	3.9	0.4
11	-5.0	0.8	-2.1
12	-3.5	4.9	0.7
13	-4.4	6.5	1.1
14	-7.1	4.0	-1.6
15	-9.0	3.5	-2.8
16	-9.3	5.5	-1.9
17	-8.9	4.5	-2.2
18	-12.0	1.5	-5.3
19	-8.5	3.7	-2.4
20	-11.1	-1.0	-6.1
21	-3.6	-1.9	-2.8
22	-1.9	-0.8	-1.4
23	-3.8	0.4	-1.7
24	-7.9	-1.0	-4.5
25	-10.0	1.0	-4.5
26	-15.2	-1.7	-8.5
27	-17.3	-3.5	-10.4
28	-19.0	-3.7	-11.4
29	-23.0	-7.7	-15.4
30	-12.0	-6.0	-9.0
31	-13.0	-4.0	-8.5

Mean Monthly Air Temperature	-2.5°C
Total Monthly Freezing Degree-Days	102.5
Total Accumulated Freezing Degree-Days	102.5

Source: Table reproduced from (R&A 1985d)

Table 5.187

Delta Islands Air Temperature and
Freezing Degree-Days Summary
November 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)
1	-20.0	-6.5	-13.3
2	-22.0	-8.0	-15.0
3	-21.5	-8.5	-15.0
4	-20.5	-8.5	-14.5
5	-12.0	-3.5	-7.8
6	-10.5	-2.8	-6.7
7	-15.0	-5.1	-10.1
8	-20.5	-8.7	-14.6
9	-23.0	-11.5	-17.3
10	-26.0	-13.5	-19.8
11	-28.0	-17.0	-22.5
12	-30.0	-18.0	-24.0
13	-30.0	-19.0	-24.5
14	-29.0	-10.5	-19.8
15	-12.5	-7.5	-10.0
16	-19.0	-10.0	-14.5
17	-20.5	-10.5	-15.5
18	-19.0	-8.5	-13.8
19	-22.0	-10.0	-16.0
20	-10.0	0.0	-5.0
21	-10.0	-1.5	-5.8
22	-10.0	-4.5	-7.3
23	-9.5	-9.0	-9.3
24	-12.0	-9.5	-10.8
25	-19.0	-11.0	-15.0
26	-24.0	-12.5	-18.3
27	-27.0	-13.5	-20.3
28	-15.0	-10.0	-12.5
29	-16.0	-9.0	-12.5
30	-10.5	-7.5	-9.0

Mean Monthly Air Temperature	-14.0°C
Total Monthly Freezing Degree-Days	420.5
Total Accumulated Freezing Degree-Days	523.0

Source: Table reproduced from (R&M 1985d)

Table 5.188

Delta Islands Air Temperature and
Freezing Degree-Days Summary
December 1984

Date	Minimum (°C)	Maximum (°C)	Average (°C)
1	-10.0	-6.0	-8.0
2	-17.0	-3.5	-10.3
3	-5.0	-4.5	-4.8
4	-8.0	-4.2	-6.1
5	-8.0	-2.5	-5.3
6	-11.0	-7.1	-9.1
7	-10.0	-7.8	-8.9
8	-14.5	-7.5	-11.0
9	-26.0	-17.5	-21.8
10	-27.0	-16.0	-21.5
11	-24.0	-16.0	-20.0
12	-28.0	-22.0	-25.0
13	-28.0	-21.0	-24.5
14	-30.0	-25.0	-27.5
15	-25.0	-13.5	-19.3
16	-13.5	-10.5	-12.0
17	-11.5	-7.5	-9.5
18	-7.5	-4.5	-6.0
19	-20.0	-6.0	-13.0
20	-23.0	-19.0	-21.0
21	-20.0	-12.5	-16.3
22	-12.5	-9.0	-10.3
23	-12.0	-8.0	-12.0
24	-18.0	-12.0	-15.0
25	-17.0	-10.5	-13.8
26	-17.0	-10.0	-13.5
27	-23.0	-17.0	-20.0
28	-26.0	-20.0	-23.0
29	-20.0	-12.5	-16.3
30	-12.5	-7.5	-10.0
31	-7.0	-5.5	-6.3
Mean Monthly Air Temperature		-14.2°C	
Total Monthly Freezing Degree-Days		441.1	
Total Accumulated Freezing Degree-Days		964.1	

Source: Table reproduced from (R&M 1985d)

TABLE 5.189

WYOMING GAGE PRECIPITATION MEASUREMENTS
WATANA CLIMATE STATION
1983-1985

Date	Cumulative Precipitation (inches)	Incremental Precipitation (inches)
12/04/83	4.0 (Start)	--
01/06/84	4.4	0.4
02/22/84	5.3	0.9
04/09/84	5.6	0.3
05/22/84	7.0	1.4
05/23/84	7.1	0.1
09/25/84	5.2 (Start)	--
10/05/84	5.2	0.0
11/02/84	5.4	0.2
11/29/84	5.9	0.5
	4.5 (Re-started)	--
01/04/85	6.2	1.7
02/05/85	7.9	1.7
03/04/85	8.8	0.9
03/18/85	9.5	0.7
04/01/85	9.5	0.0
04/29/85	9.8	0.3
06/06/85	11.6	1.8

TABLE 5.190
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

May 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0.19							0
2	0.10							0
3	T							0
4	0.16							0
5	0.10							0
6	0.01							0
7	0							0
8	0							0
9	0							0
10	0							0
11	0							0
12	0							0
13	0							0
14	0							0
15	0							0
16	0							0
17	0							0
18	0.05							0
19	T							0
20	0							0
21	0.01							0
22	0.12							0
23	0.01							0
24	0							0
25	0.04							0
26	0.15							0
27	0.04							0
28	0							0
29	0.22							0
30	0.15							0.15
31	0.05							0
TOTAL	1.40							0.15

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.191
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

June 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0							0
2	0							0
3	0							0
4	0							0
5	0							0
6	0.02							0.09
7	0.08							0.02
8	0							0.10
9	0.14							0.06
10	0.06							0
11	0							0
12	0							0
13	0.08				1.00			0.31
14	0.02							0.18
15	0.04							0.01
16	0.64							0.40
17	0.03							0
18	0							0
19	0							0
20	0							0.02
21	0							0
22	0				0.50			0
23	0.01							0
24	0.03							0.02
25	0.03							0
26	0.07							0.08
27	0.21							0.21
28	0							0
29	0.01							0
30	T							0
TOTAL	1.47				1.65(e)			1.50

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.192
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

July 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0.30							0.08
2	0.02				0.30			0.04
3	0.01							0.01
4	0							0.01
5	0							0.06
6	0							0
7	0.01							0
8	T							0.04
9	0.10							0
10	0.11							0.26
11	0.01							0
12	0.06							0.03
13	0.11							0.02
14	0							0
15	T							0
16	T							0
17	0.02							0
18	0.13							0.02
19	0.06							0.04
20	0.52							0.19
21	0.13							0.05
22	0							0.06
23	T							0
24	0.18							0
25	0.61							0.80
26	0.59							0.65
27	0							0.04
28	0.01							0.11
29	0.08							0.13
30	0.16							0.02
31	T				5.10			0
TOTAL	3.22				5.25(e)			2.66

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.193
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

August 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0.17	Start	-	-	-	-	-	0.02/0
2	0.07		-	-	-	-	-	0.01/0.02
3	T	0.05	-	-	-	-	-	0.01/0.01
4	0	0	-	-	-	-	-	0 /0.01
5	0.54	0.59	-	-	-	-	-	0.41/0.10
6	0	0	-	-	-	-	-	0.02/0.33
7	0.11	0	-	-	-	-	-	0
8	0.04	0.63	-	-	-	-	-	0.04/0
9	0.52	0	-	-	-	-	-	0.76/0.79
10	T	0	-	-	-	-	-	0
11	0	0	-	-	-	-	-	0
12	0	0	-	-	-	-	-	0
13	0	0	-	-	-	-	-	0
14	0	0	Start	-	0 /0	Start	-	0
15	0	0	|	-	0 /0	|	-	0
16	0	0	|	-	0 /0	|	Start	0
17	0.03/0	T	|	-	0.07/0	|	0.01	0
18	0.63/0.28	0.39	|	-	1.26/0.26	|	0.49	1.03/0.10
19	0.52/0.70	1.32	|	-	0.54/1.35	|	1.11	0.33/1.02
20	0.40/0.38		|	-	0.29/0.44	|	0.26	0.01/0.24
21	0.13/0.32	0.75	|	0.27/0	0.06/0.10	|	0.04	0.02/0.02
22	0.30/0.23	0.42	|	0.49/0.46	0.60/0.28	|	0.19	1.00/0.07
23	0.24/0.20	0.97	|	0.46/0.35	0.35/0.45	|	1.75	0.48/0.95
24	1.31/0.40	1.24	|	1.83/1.16	2.05/1.21	|	1.60	1.42/1.33
25	1.62/1.65	1.54	|	1.19/1.51	1.24/1.50	|	-	0.70/0.83
26	0.02/1.04	1.51	|	0 /0.76	0 /0.87	6.65	0	0.01/0.39
27	0	0	8.18	0	|	|	0	0
28	0	0		0	|	|	0.01	0
29	0	0		0	|	|	0	0
30	0	0		0	|	|	0	0
31	0	0		0	|	|	0	0
TOTAL	6.65	9.41	-	-	-	-	-	6.28

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.194
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

September 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0	0	-	0			0	0
2	0	0	-	0			0	0
3	0	0	-	0			0	0
4	0	0	-	0			0	0
5	0	0	-	0			0	0
6	0.06/0	0	-	0			0.09	0
7	0.02/0.08	0.07	-	0.10/0.09			0.11	0.32/0.08
8	0	0	-	0 /0.01			0	T /0.25
9	0	0	-	0			0	0
10	0	0	-	0			0	0
11	0	0.10	-	0			0.13	0
12	0.08/0	0.15	-	0.22/0.09	0.20	0.18	0.29	0.08/T
13	0.06/0.12	0.34		0.17/0.21			0.04	0.09/0.10
14	0 /0.02	0		0 /0.08			0	0 /0.06
15	0	0.02		0.02/0				0.06/0
16	0.02/0	0		0.11/0.02				0 /0.06
17	0.12/0.06			0.04/0.12				0.35/0.28
18	0.05/0.10			0.57/0.29			0.68	0.15/0.15
19	0.76/0.03	0.92		0.61/0.33			0.51	0.13/0.24
20	0.11/0.87	0.82		0.05/0.64			0	0 /0.01
21	0			0			0	0
22	0		1.95	0			0	0
23	0			0			0	0
24	T/0			0			0.15	0.05/0.04
25	0.17/0.12	0.18		0.12/0.10	1.98	2.09	0	0 /0.01
26	0 /0.05	0		0 /0.02	0	-	0	0
27	0	0		0	0	-	0	0
28	0.02/0	0		0	0.01	-	0.06	T/T
29	0.16/0.17	0.10		0.02/0.01	0.03	-	0.09	0
30	0.10/0.11	0.21		0.05/0.06	0.06	-	0	0
TOTAL	1.73	2.91	-	2.08	2.28	2.27	2.15	1.28

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.195
MIDDLE SUSITNA RIVER
PRECIPITATION DATA - (Inches)

October 1984

Station Elevation Day	Talkeetna 345	Curry 500	Curry 1750	Sherman 700	Sherman 1900	4th of July 1600	Gold Creek 700	Devil Canyon 1700
1	0.02	0	|	0	0	-	0	0
2	0.04	0	|	0.04	0.06	-	0.04	0.02
3	0	0.06	|	0	0	-	0.06	0.01
4	0	0	|	0	0	-	|	0
5	0	0	|	0	0	-	|	0
6	T	-	|	0.02	0.05	-	|	0
7	T	-	|	0	0	-	|	0
8	0.30	-	|	0.22	0.12	-	|	0.05
9	0.21	-	0.38	0.04	0	-	0.30	0.04
10	0	|	|	0.01	0	-	|	0.01
11	0.04	|	|	0.01	|	|	-	0.01
12	0.16	|	|	0.08	|	|	-	0.06
13	0	|	|	0	|	|	-	0
14	0	|	|	0	|	|	-	0
15	0	|	|	0	|	|	-	0
16	0	|	|	0	|	|	-	0
17	0	|	|	0	|	|	-	0
18	0	|	|	0	|	|	-	0
19	0	|	|	0.02	|	|	-	0
20	T	|	|	0	|	|	-	0
21	0.48	|	|	0.09	|	|	-	0
22	0.11	|	|	0.17	|	|	-	0.03
23	0.24	|	|	0.15	|	|	-	0.03
24	0	|	|	0	|	|	-	0
25	0	|	|	0.01	|	|	-	0
26	0	|	|	0	|	|	-	0
27	0	|	|	0	|	|	-	0
28	0	|	|	0	|	|	-	0
29	0	|	|	0	|	|	-	0
30	T	|	|	0	|	|	-	0
31	0	0.62	0.88	0	0.45	0.64	-	0
TOTAL	1.60	-	N/A	0.87	0.58	-	-	0.26

See notes on Precipitation at end of tables for explanation of symbols.

Source: R&M 1985f

TABLE 5.196

NOTES FOR TABLES 5.190-5.195

1. Talkeetna FAA Station reports daily precipitation from midnight to midnight for the days noted. Where a slash (/) appears, the first number is the reported precipitation and the second number is the precipitation from 9 a.m. of the previous day to 9 a.m. of the date noted.
 2. "Curry at 500" is monitored daily, with an attempt to measure between 8 a.m. and 10 a.m. each day.
 3. "Curry at 1750" and "4th of July Creek at 1600" are cumulative stations measured at approximately 2 week intervals.
 4. "Sherman at 700", "Sherman at 1900" and "Devil Canyon" are continuously recording stations. Where a slash (/) appears, the first number is the precipitation from midnight to midnight and the second number is the precipitation from 9 a.m. of the previous day to 9 a.m. of the date noted.
- T - Trace amounts of rainfall
- (e) - estimated value
- - No data

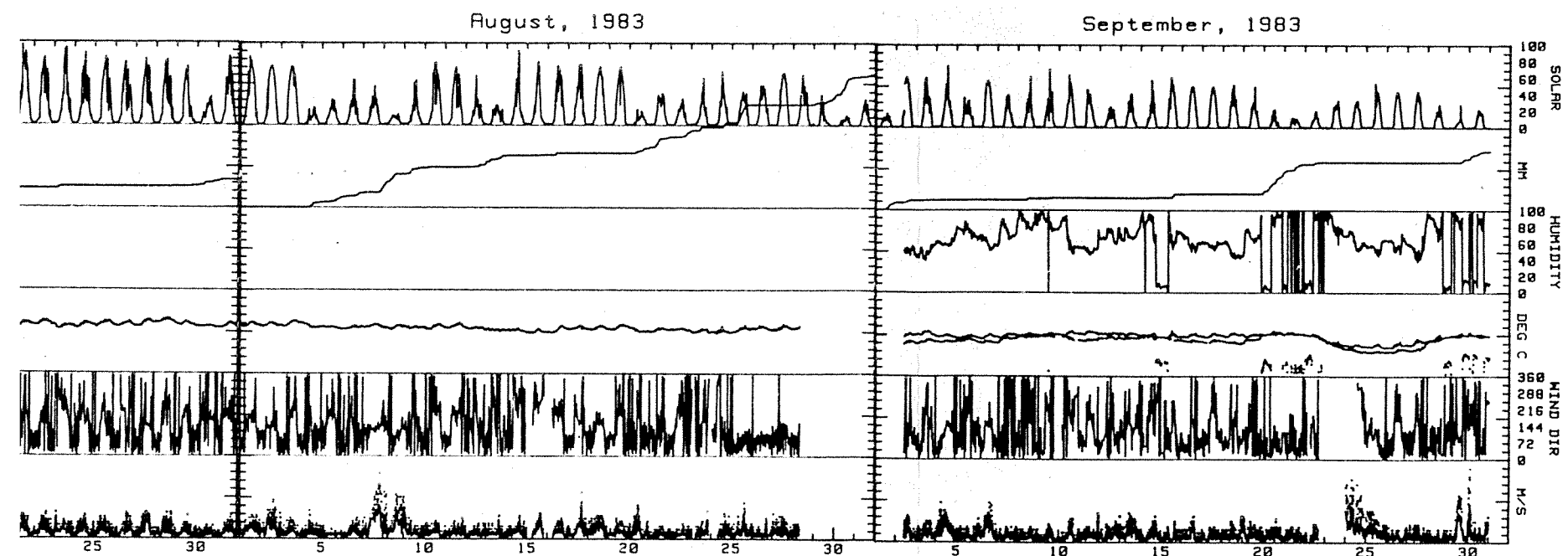
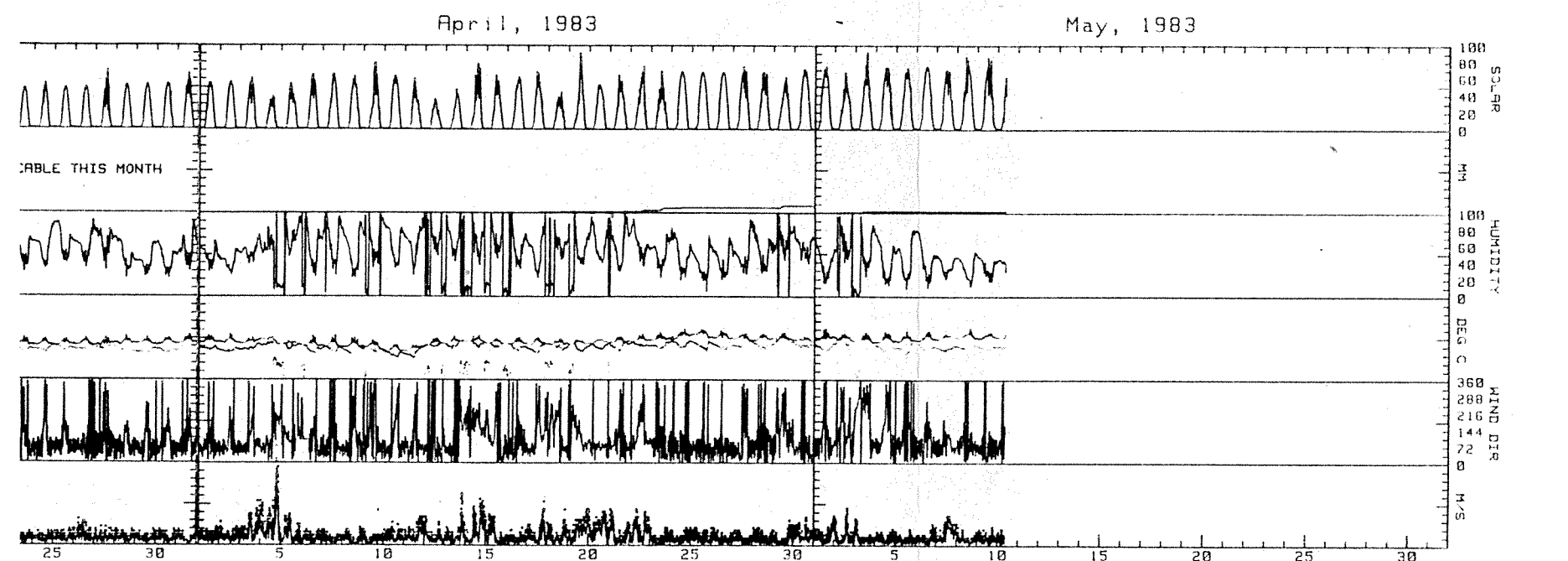
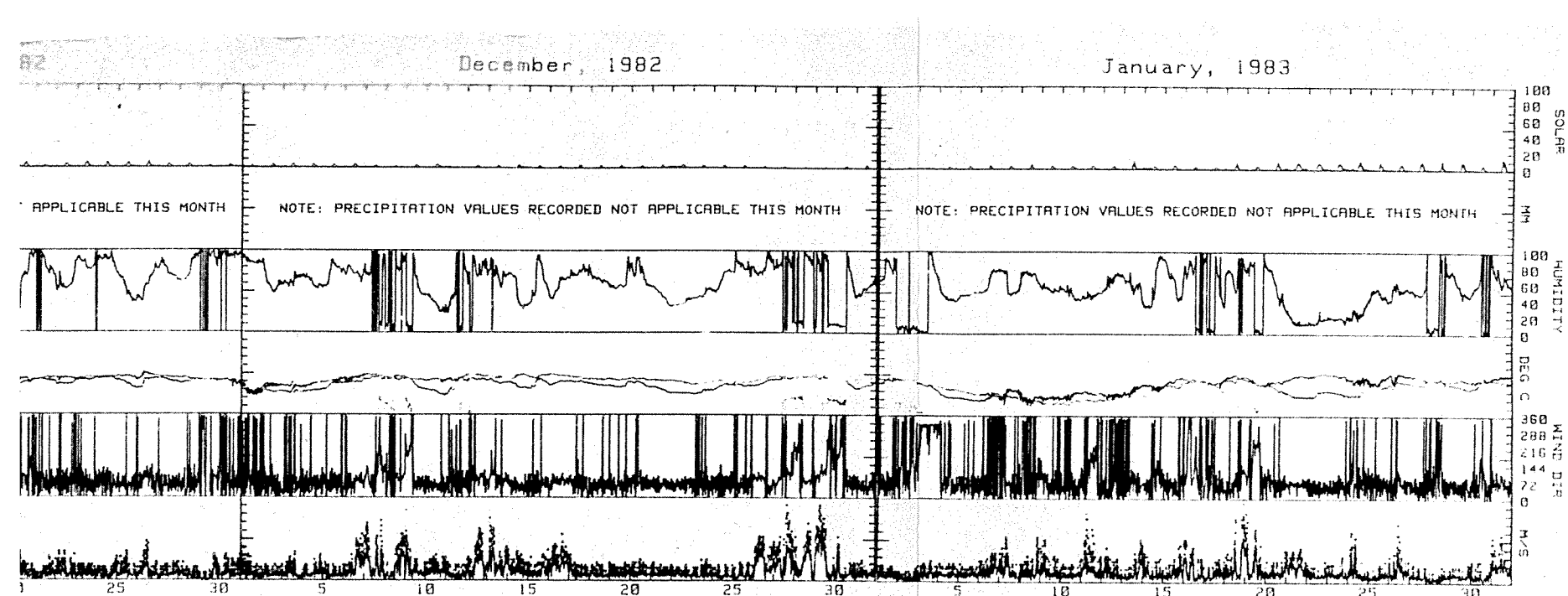
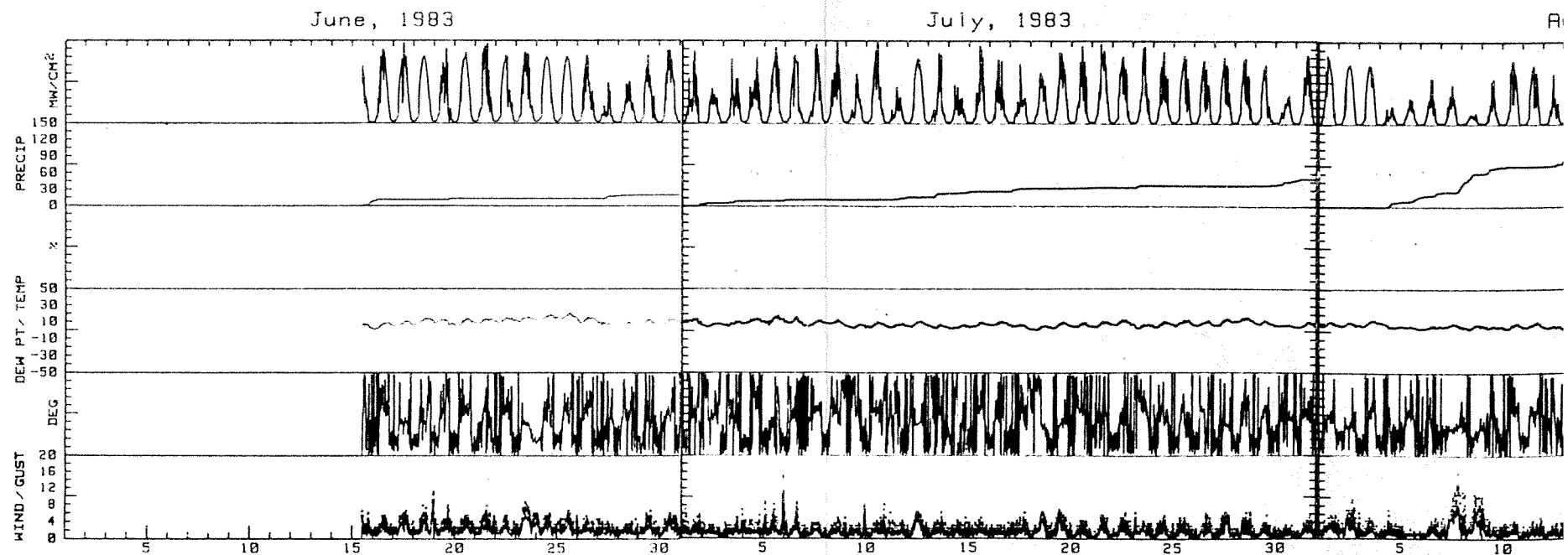
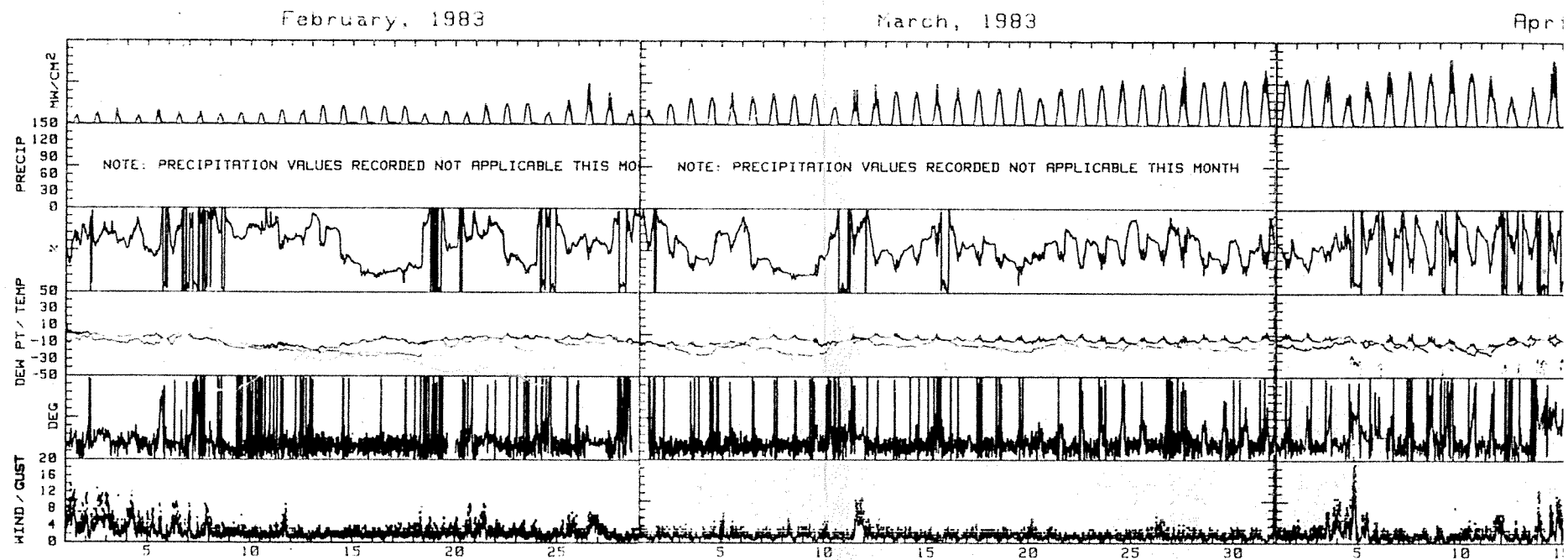
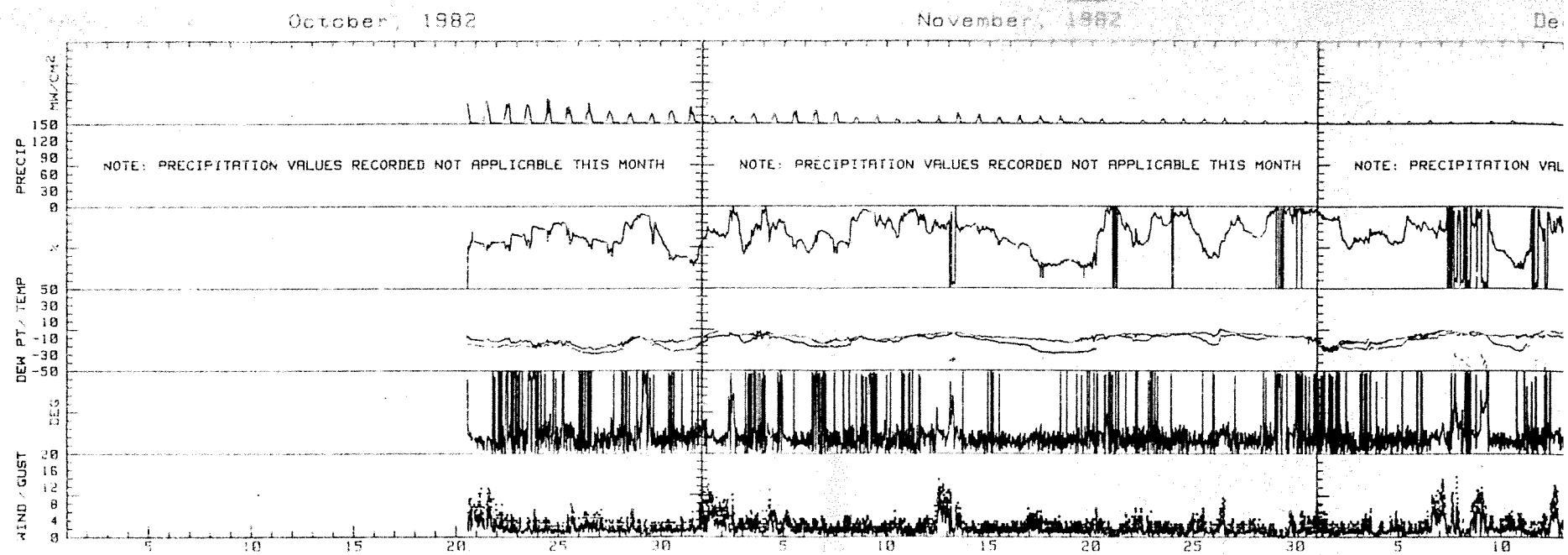
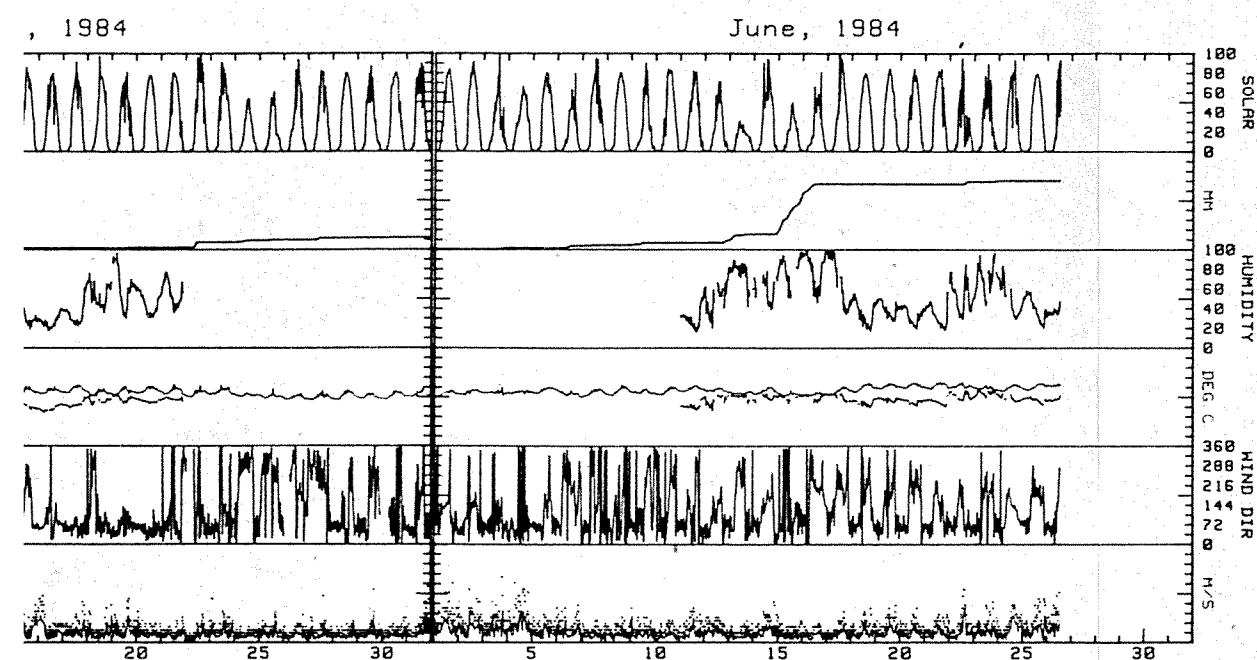
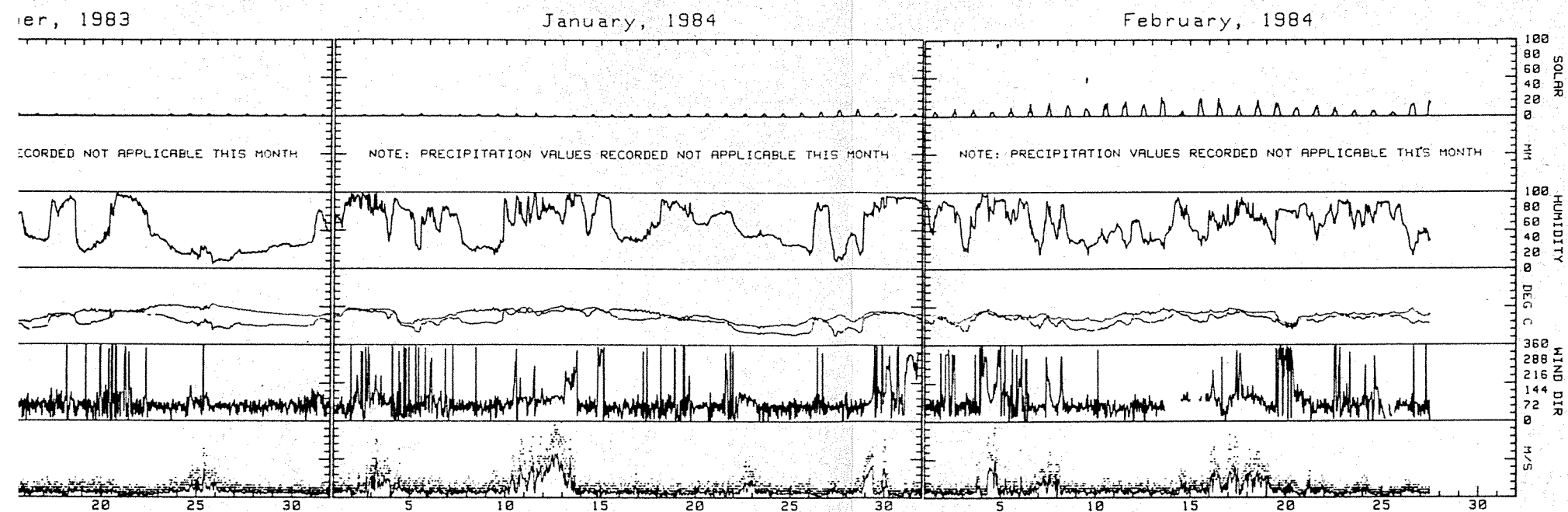


FIGURE 5.163
SEQUENTIAL PLOT OF
CLIMATIC DATA
GLACIER STATION
OCTOBER 1982-
SEPTEMBER 1983





NO DATA FOR JULY 1984

STATION NOT WORKING

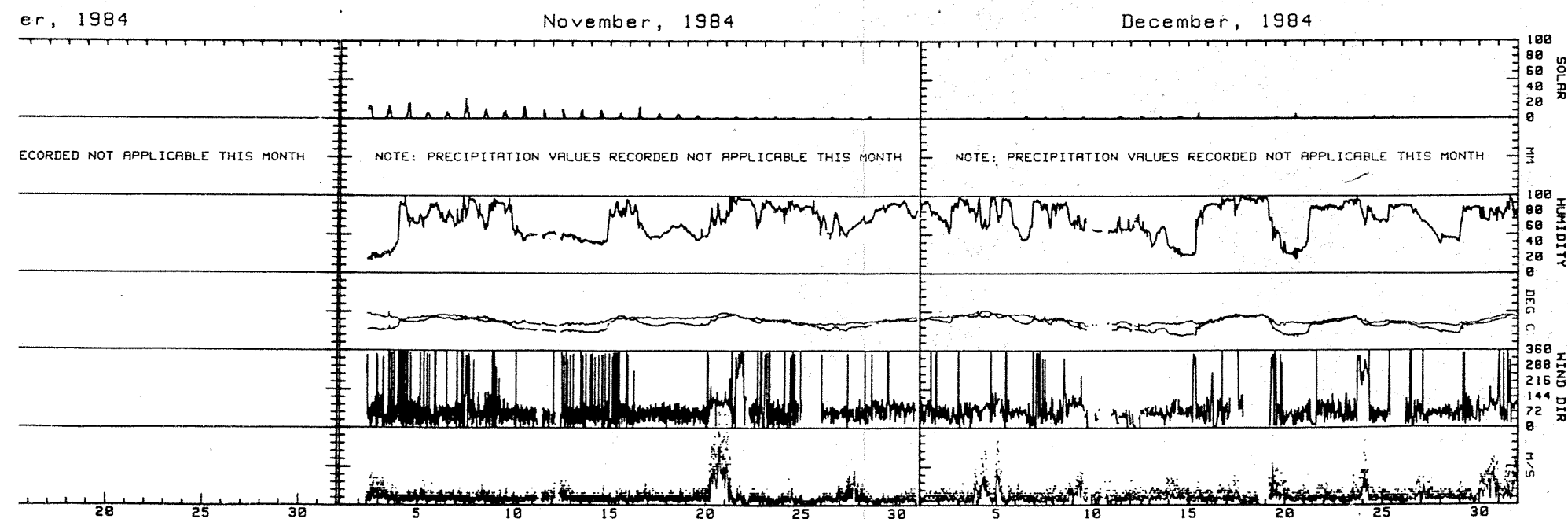
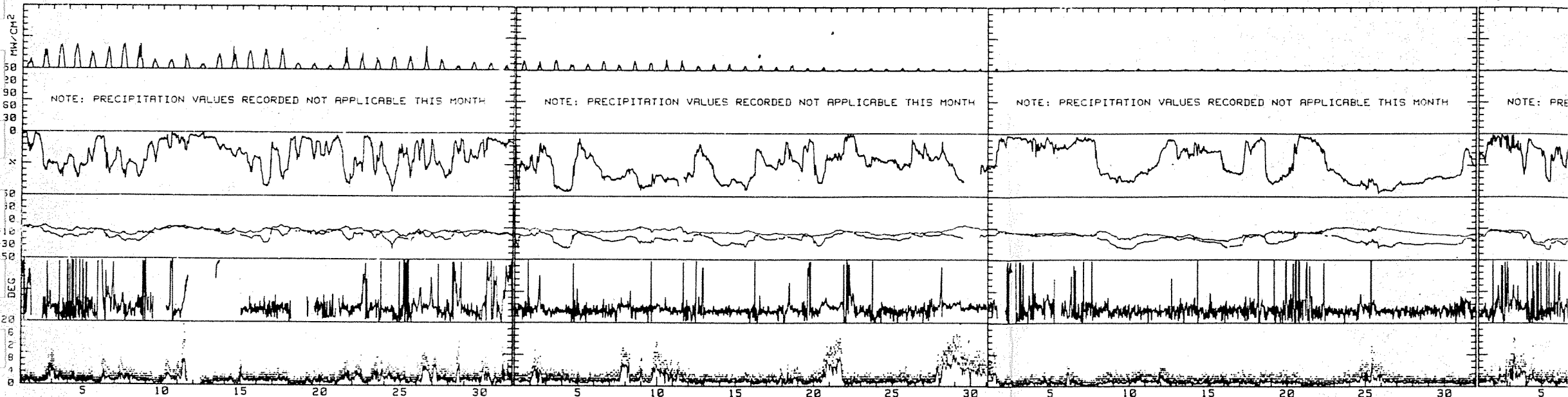


**FIGURE 5.164
SEQUENTIAL PLOT
OF CLIMATIC DATA,
SUSITNA GLACIER
STATION,
OCTOBER 1983-
DECEMBER 1984**

October, 1983

November, 1983

December, 1983



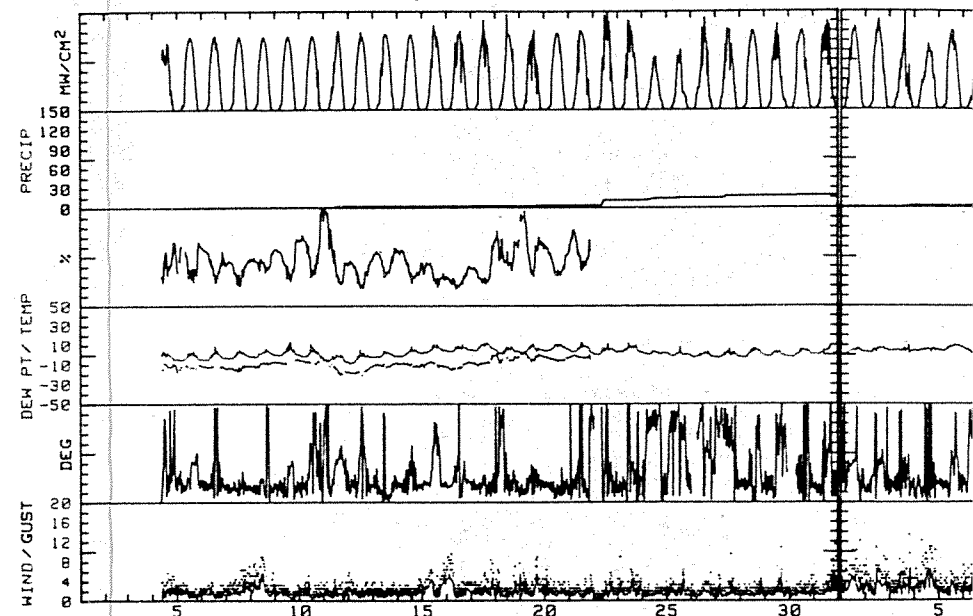
NO DATA FOR MARCH 1984

NO DATA FOR APRIL 1984

STATION NOT WORKING

STATION NOT WORKING

May, 1984

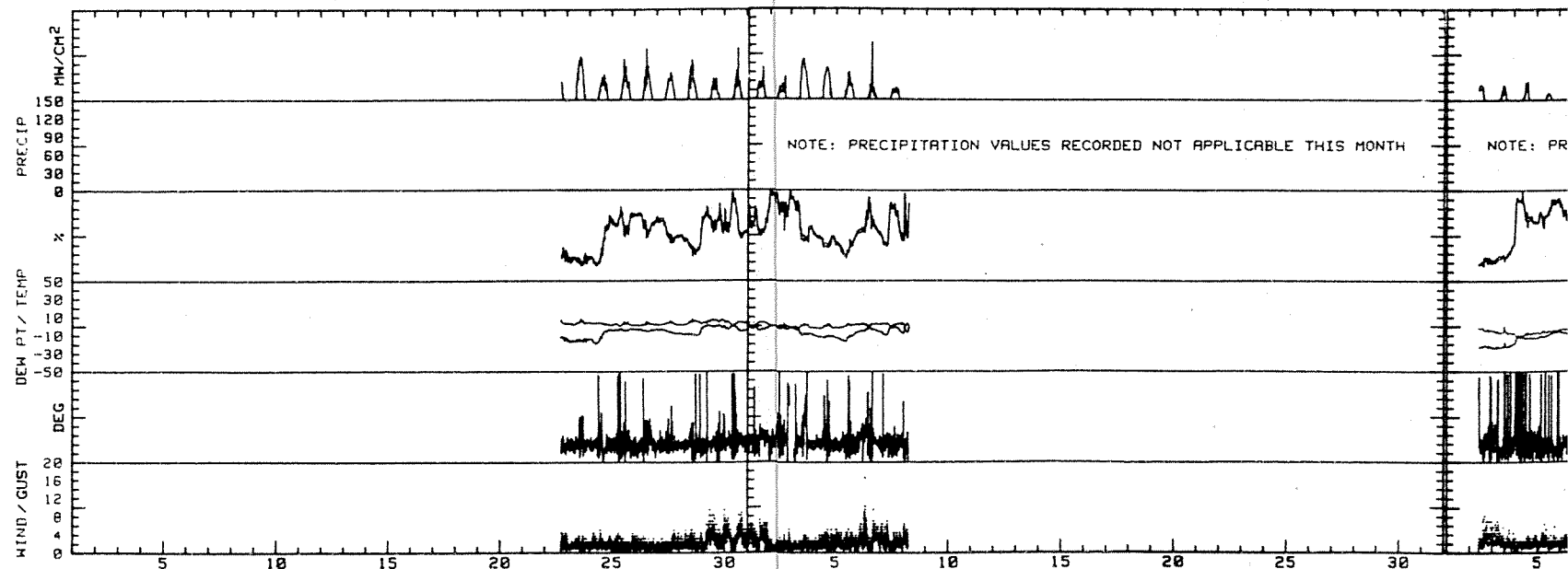


September, 1984

October, 1984

NO DATA FOR AUGUST 1984

STATION NOT WORKING



2
BLE,
LLED)

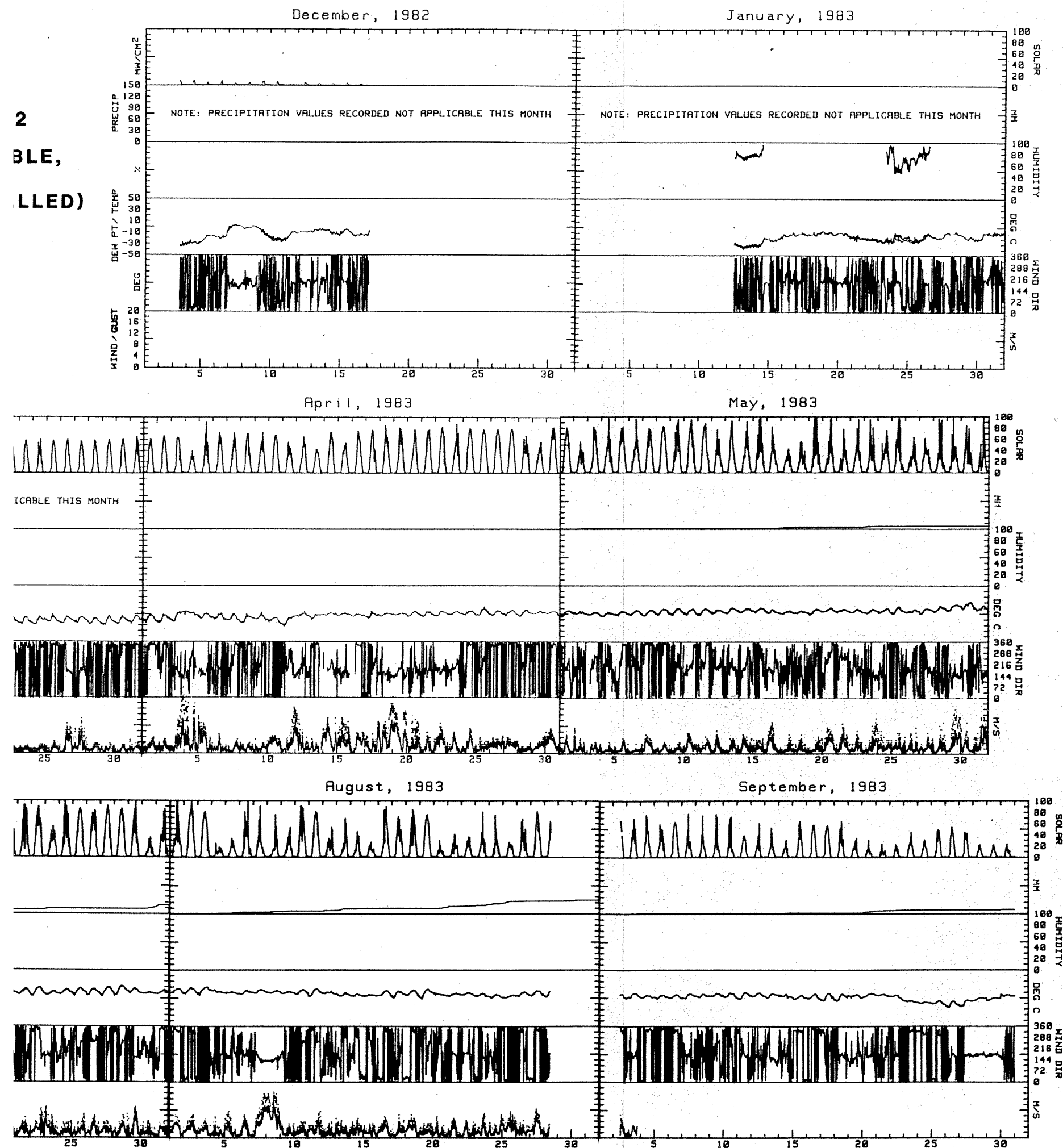
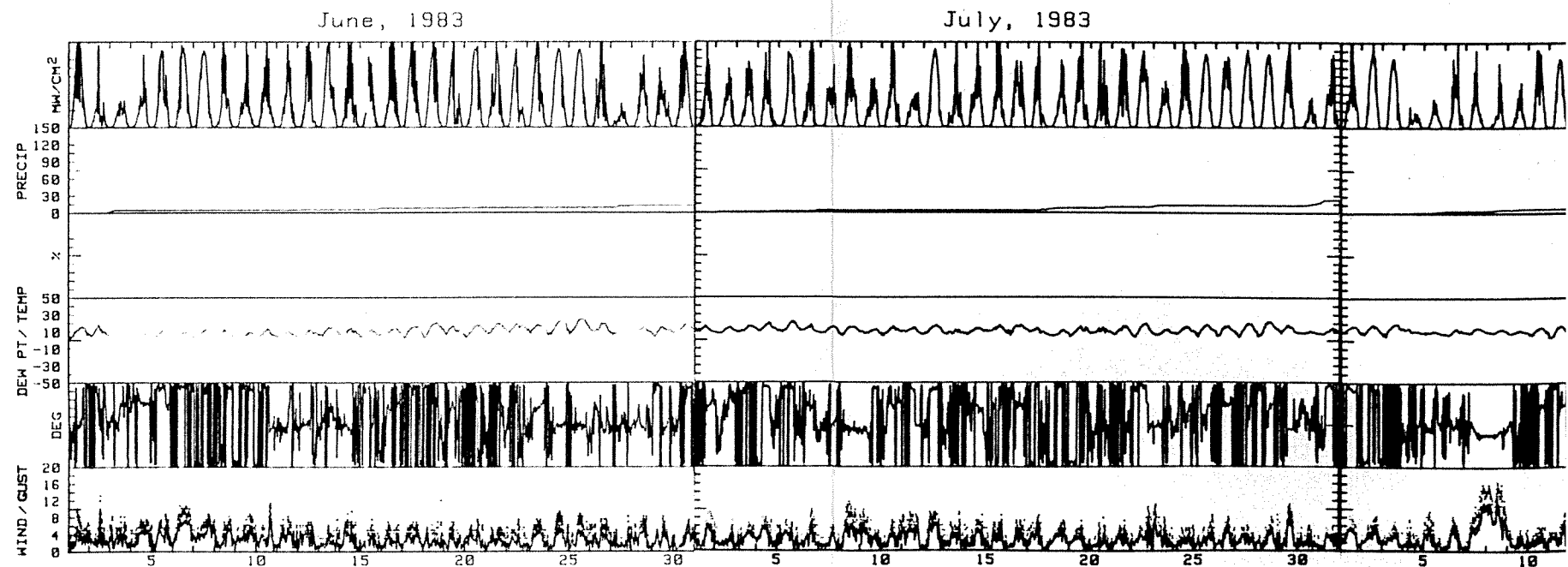
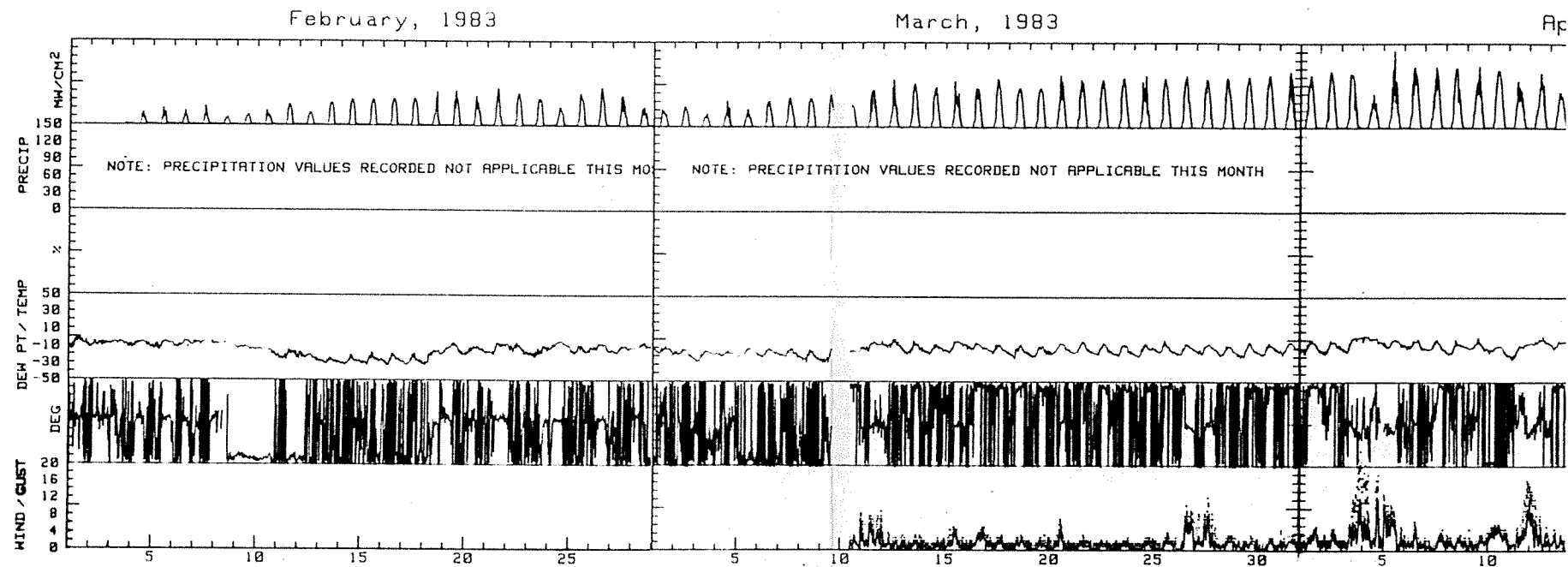
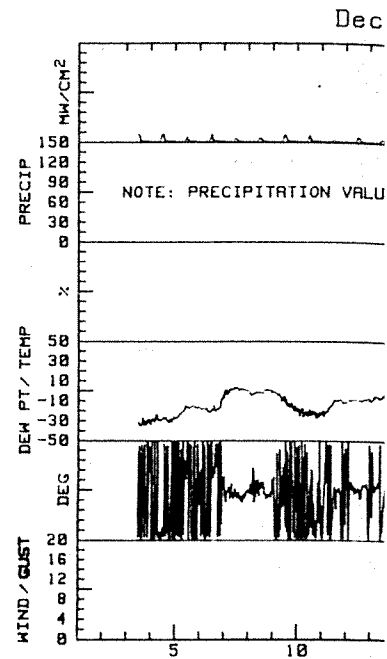


**FIGURE 5.165
SEQUENTIAL PLOT OF
CLIMATIC DATA
DENALI STATION
OCTOBER 1982-
SEPTEMBER 1983**

OCTOBER 1982
(NO DATA AVAILABLE,
STATION NOT INSTALLED)

NOVEMBER 1982
(NO DATA AVAILABLE,
STATION NOT INSTALLED)



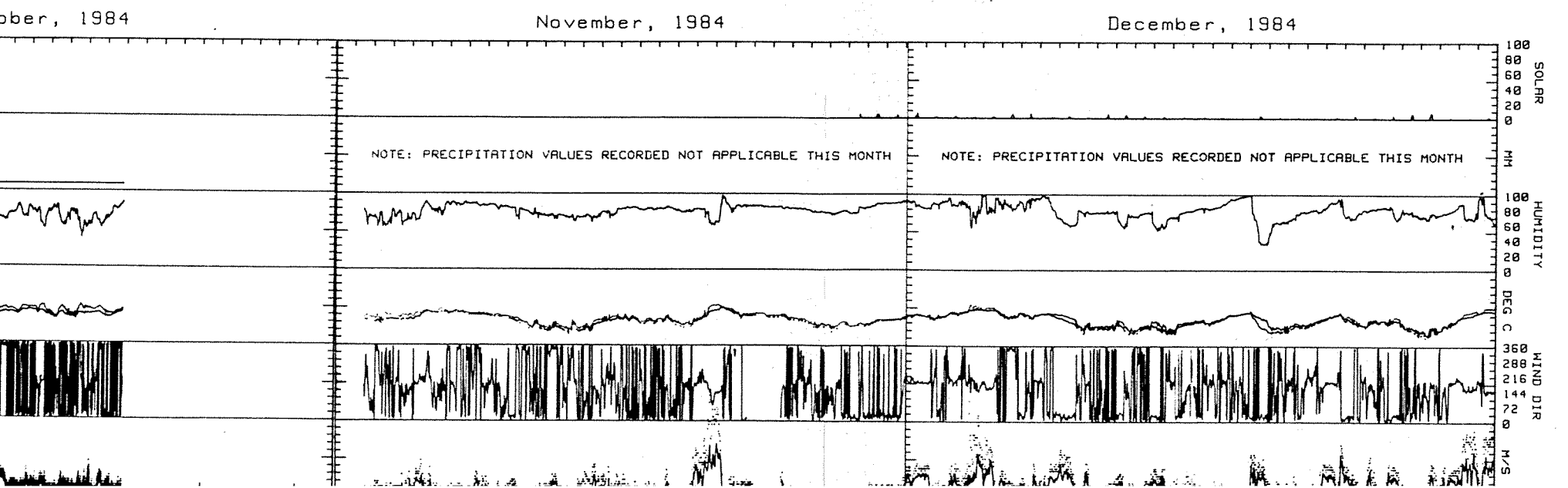
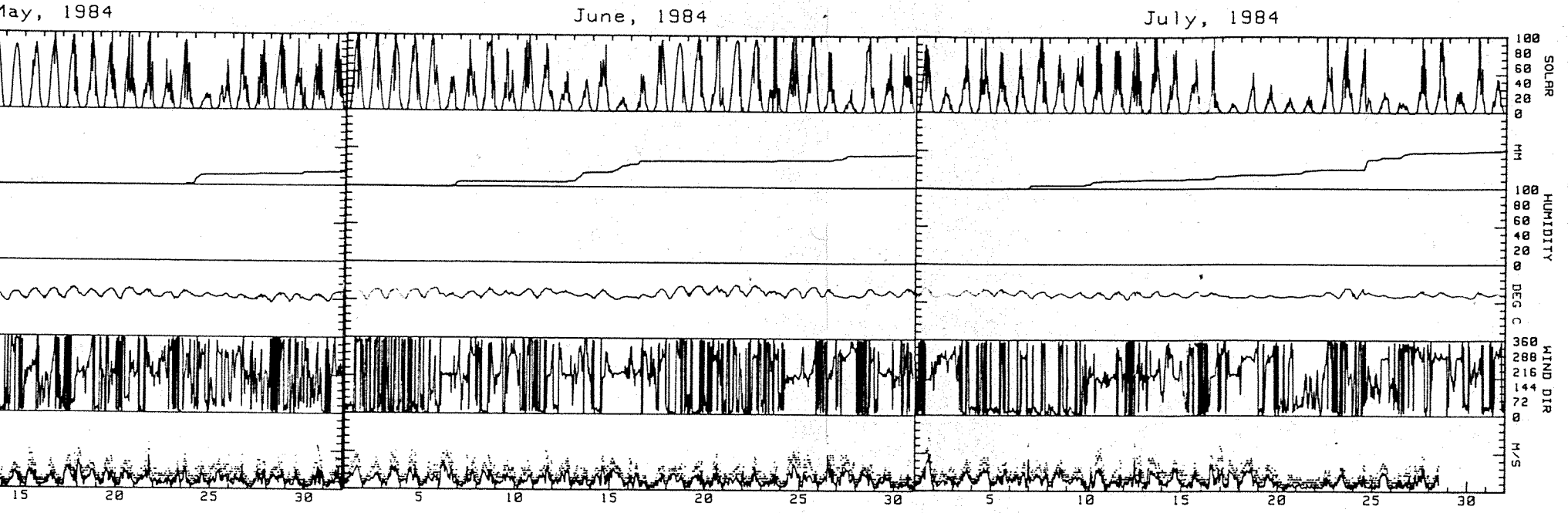
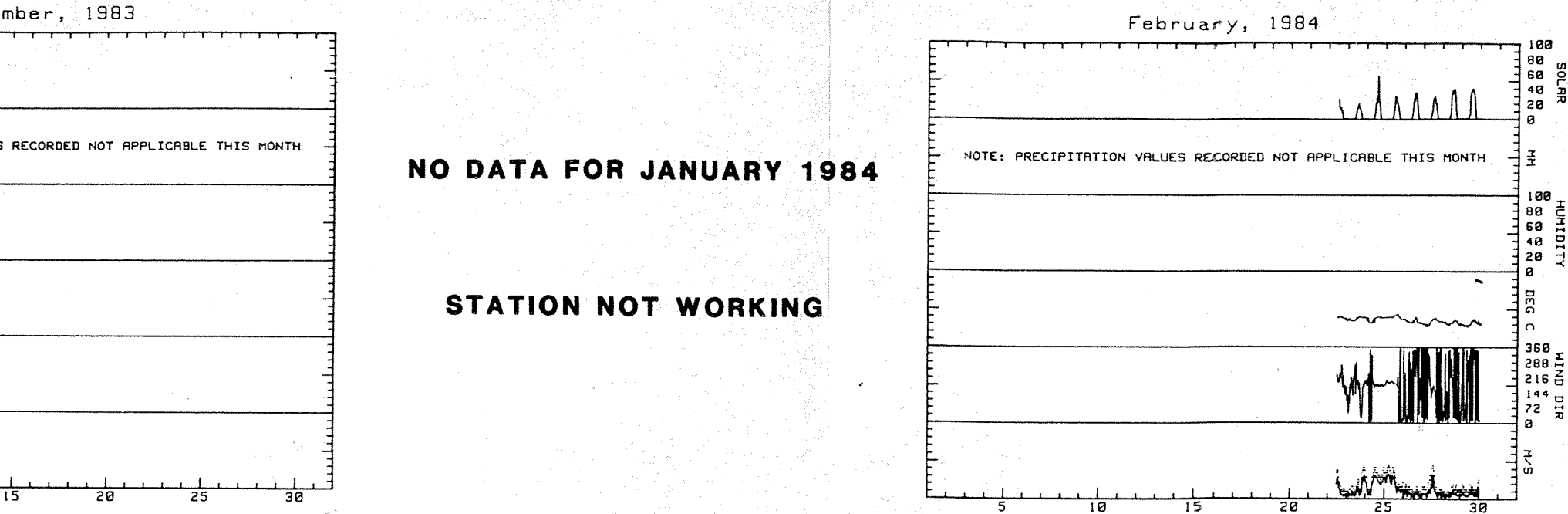
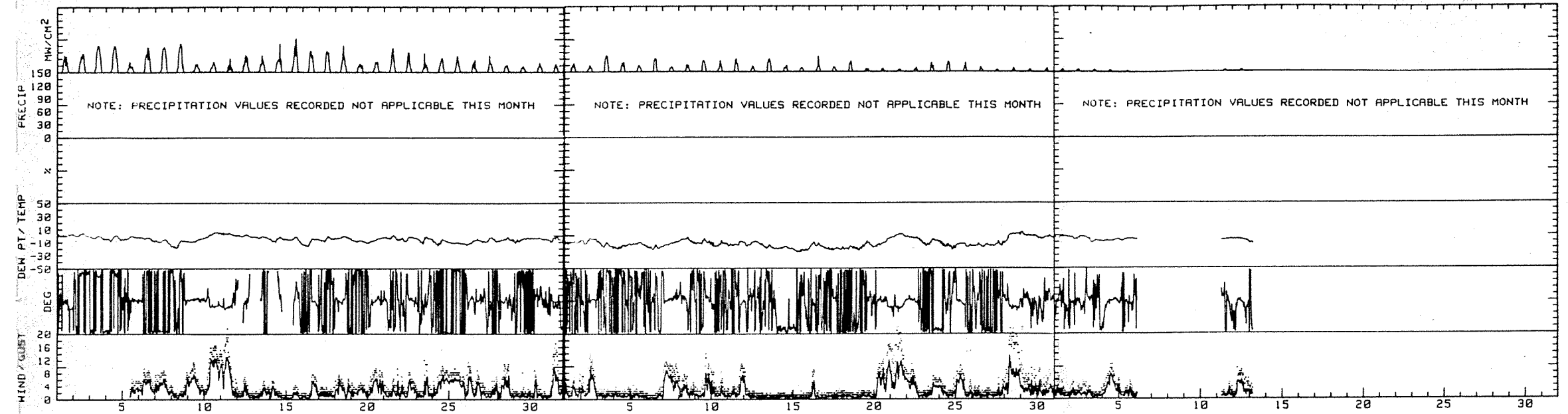


FIGURE 5.166
SEQUENTIAL PLOT
OF CLIMATIC DATA
DENALI STATION,
OCTOBER 1983-
DECEMBER 1984

October, 1983

November, 1983

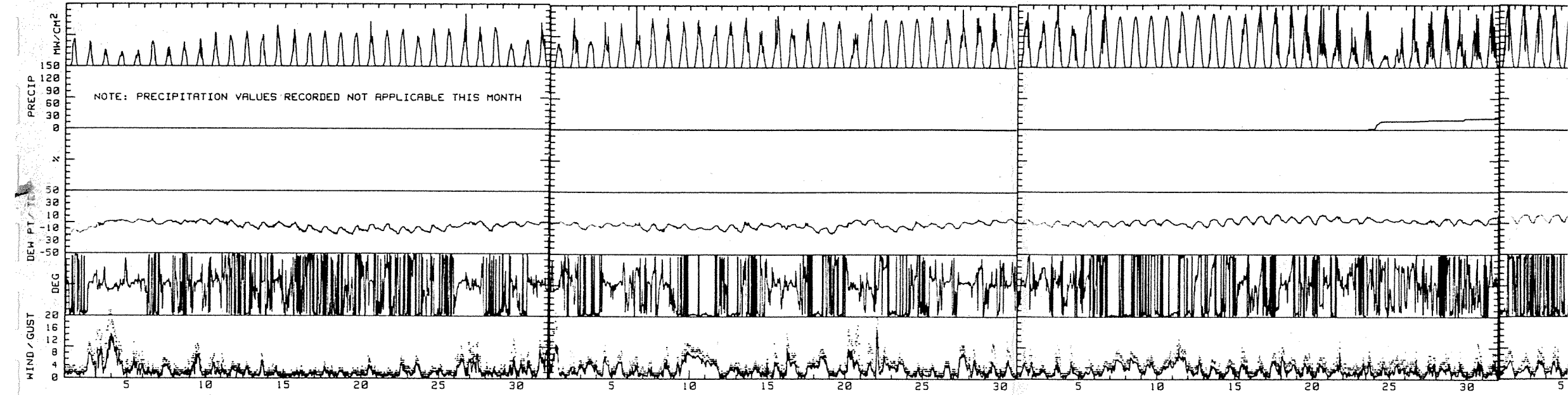
December, 1983



March, 1984

April, 1984

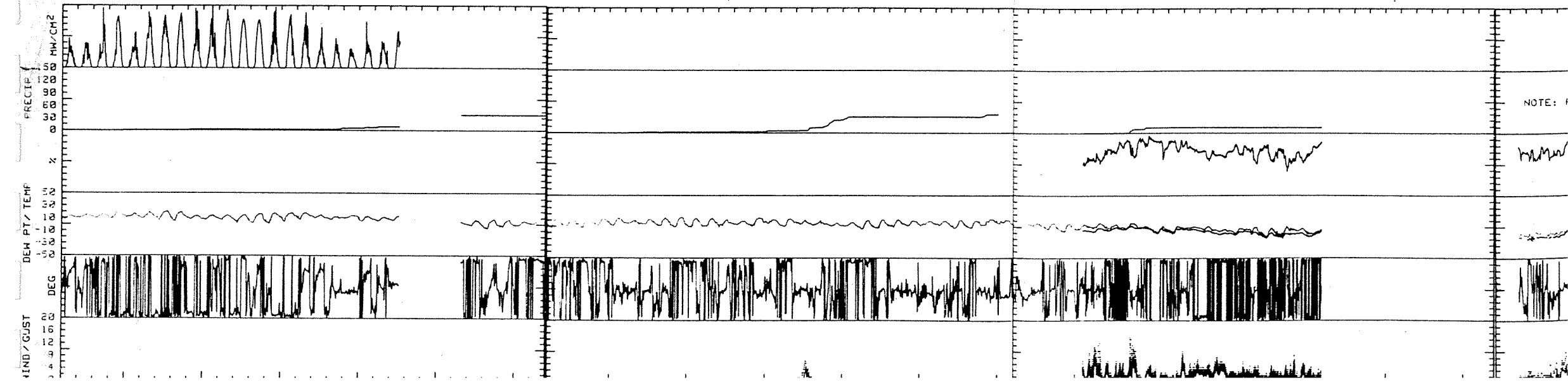
May, 1984



August, 1984

September, 1984

October, 1984



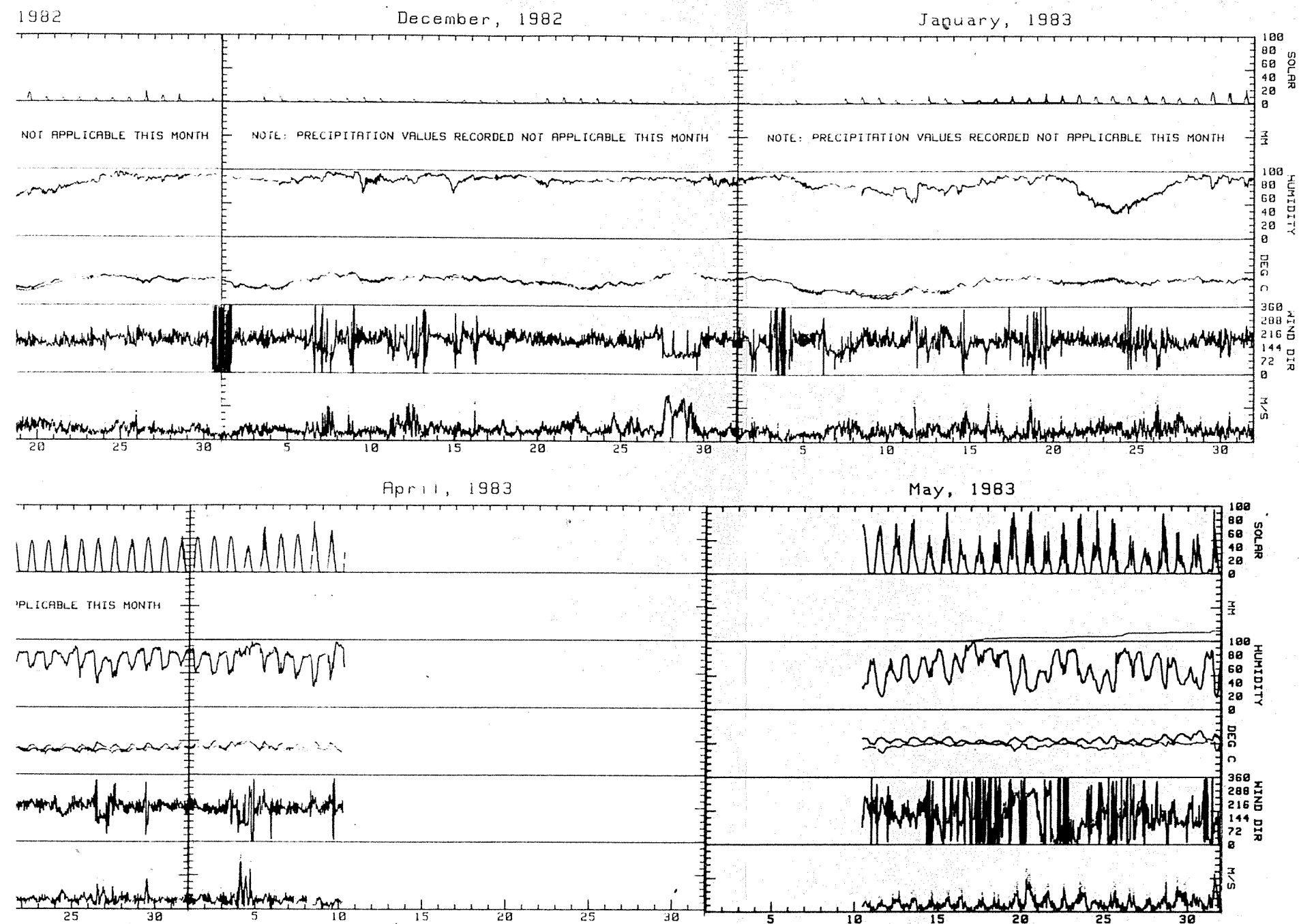


**FIGURE 5.167
SEQUENTIAL PLOT OF
CLIMATIC DATA
KOSINA STATION
OCTOBER 1982-
SEPTEMBER 1983**

1983

AVAILABLE,

NOT INSTALLED)

AUGUST 1983

(NO DATA AVAILABLE,

STATION NOT INSTALLED)

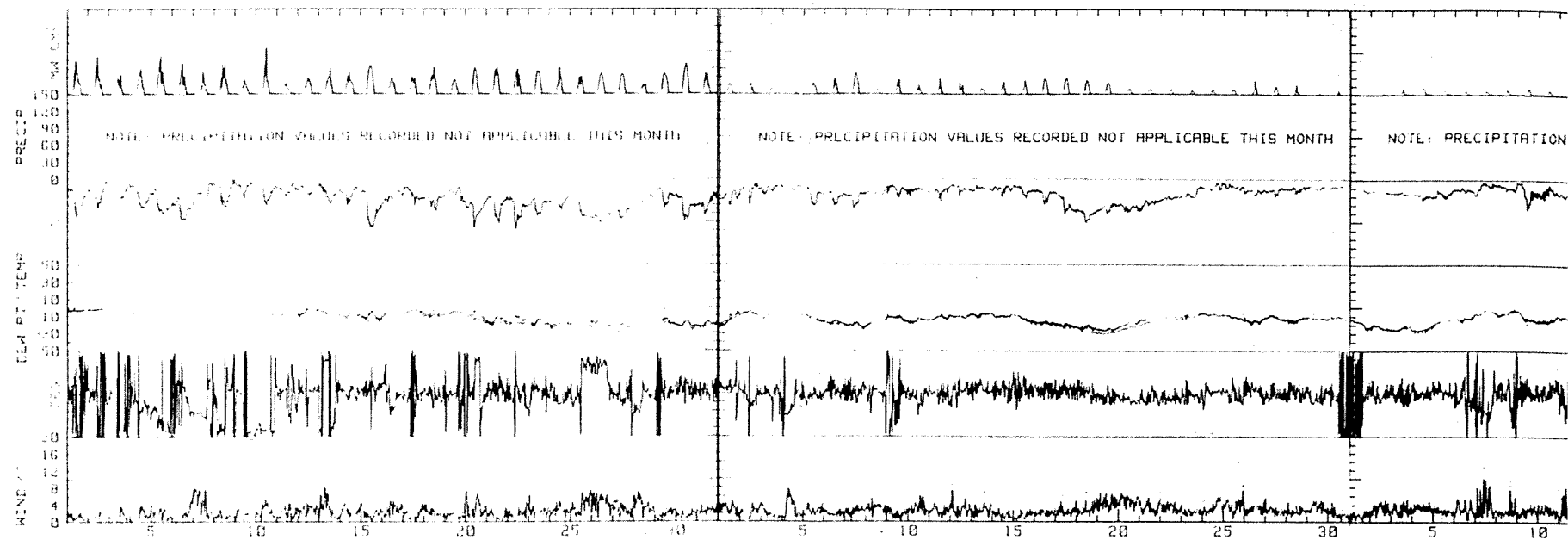
SEPTEMBER 1983

(NO DATA AVAILABLE,

STATION NOT INSTALLED)

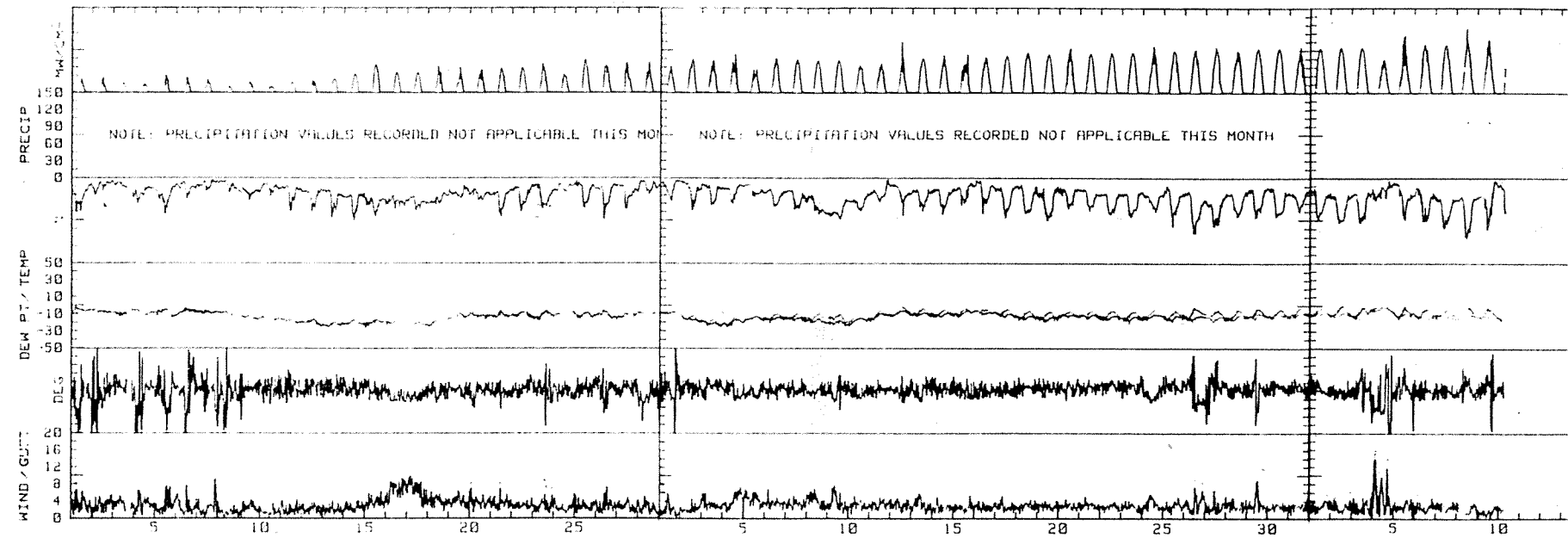
October, 1982

November, 1982

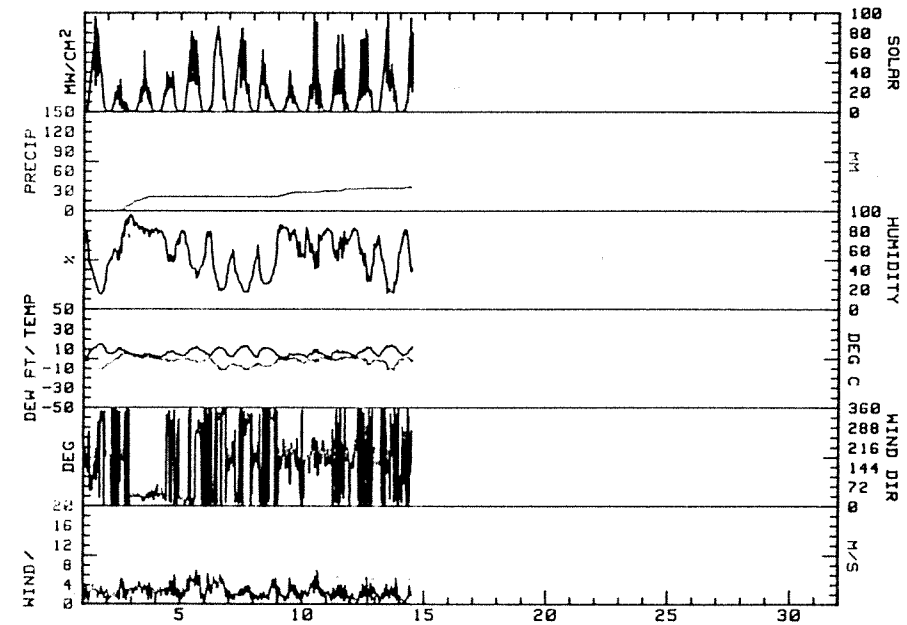


February, 1983

March, 1983



June, 1983



JULY 1983
(NO DATA AVAILABLE,
STATION NOT INSTALLED)

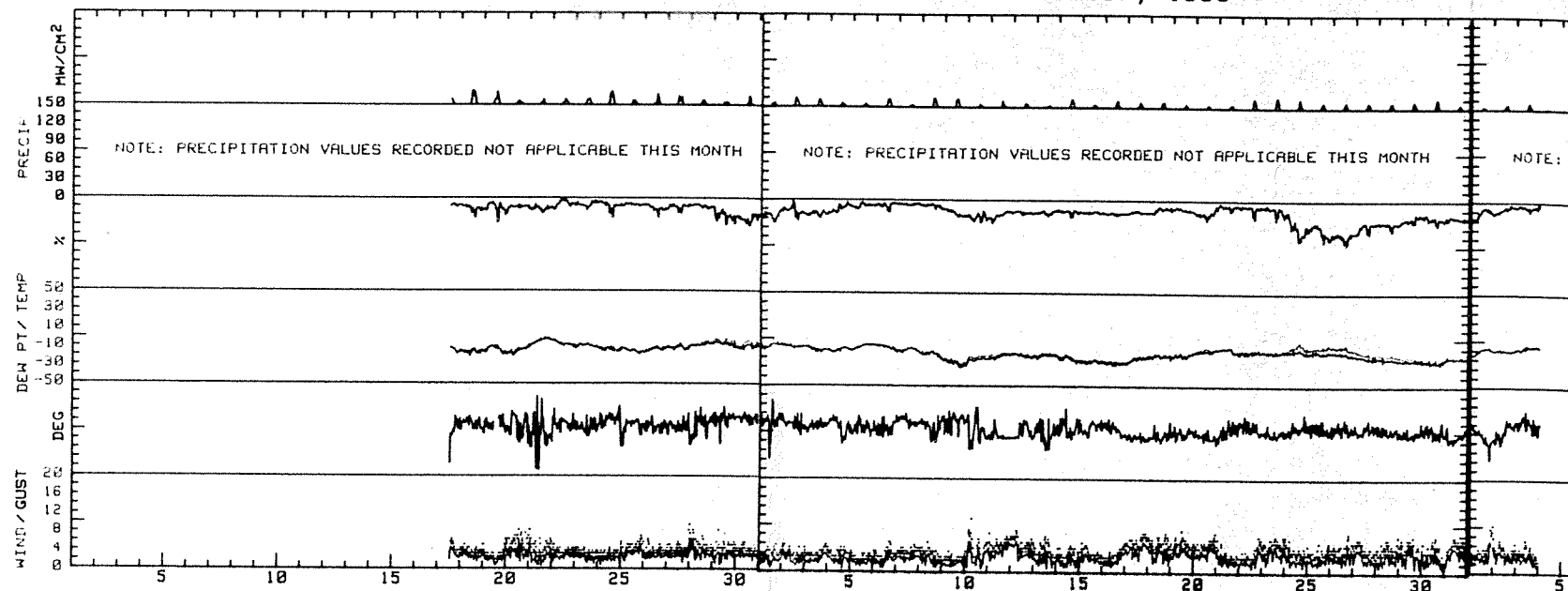
AU
(NO DA
STATION

NO DATA FOR OCTOBER 1983

STATION NOT INSTALLED

November, 1983

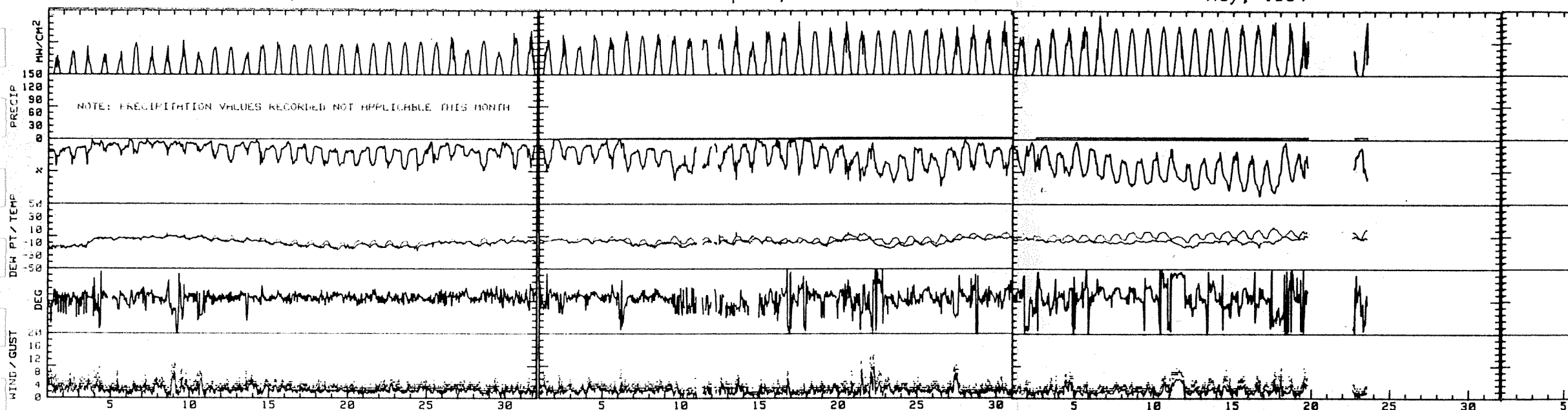
December, 1983



March, 1984

April, 1984

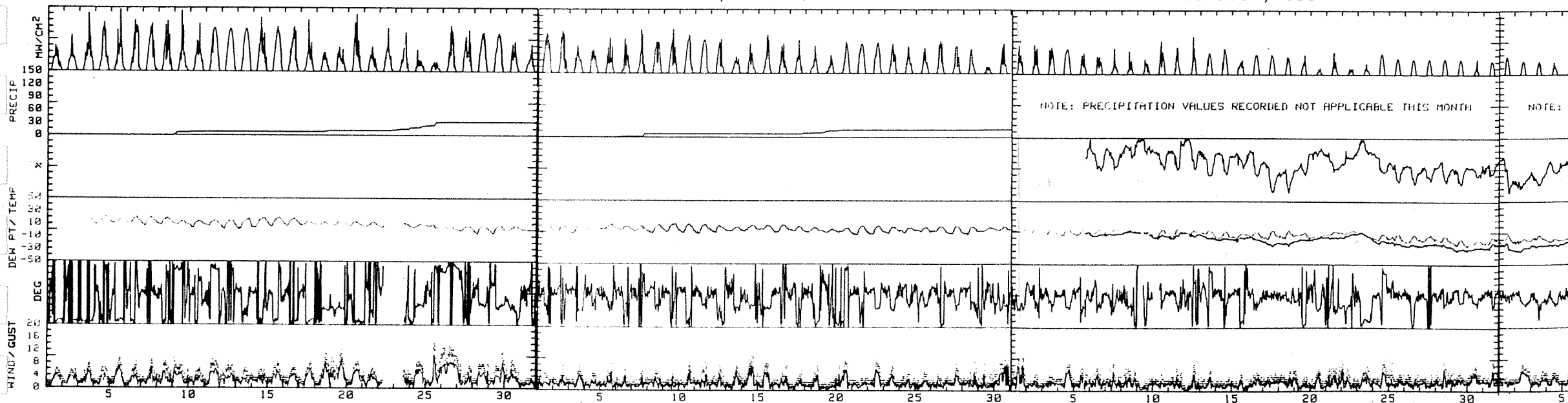
May, 1984



August, 1984

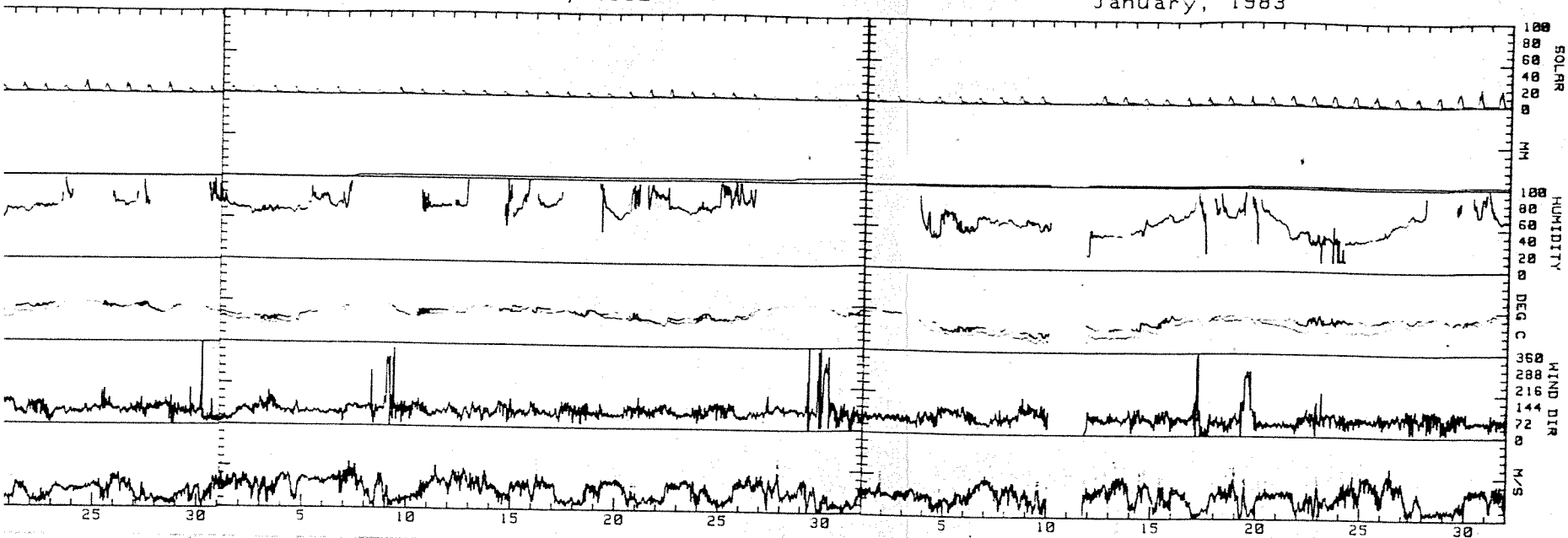
September, 1984

October, 1984



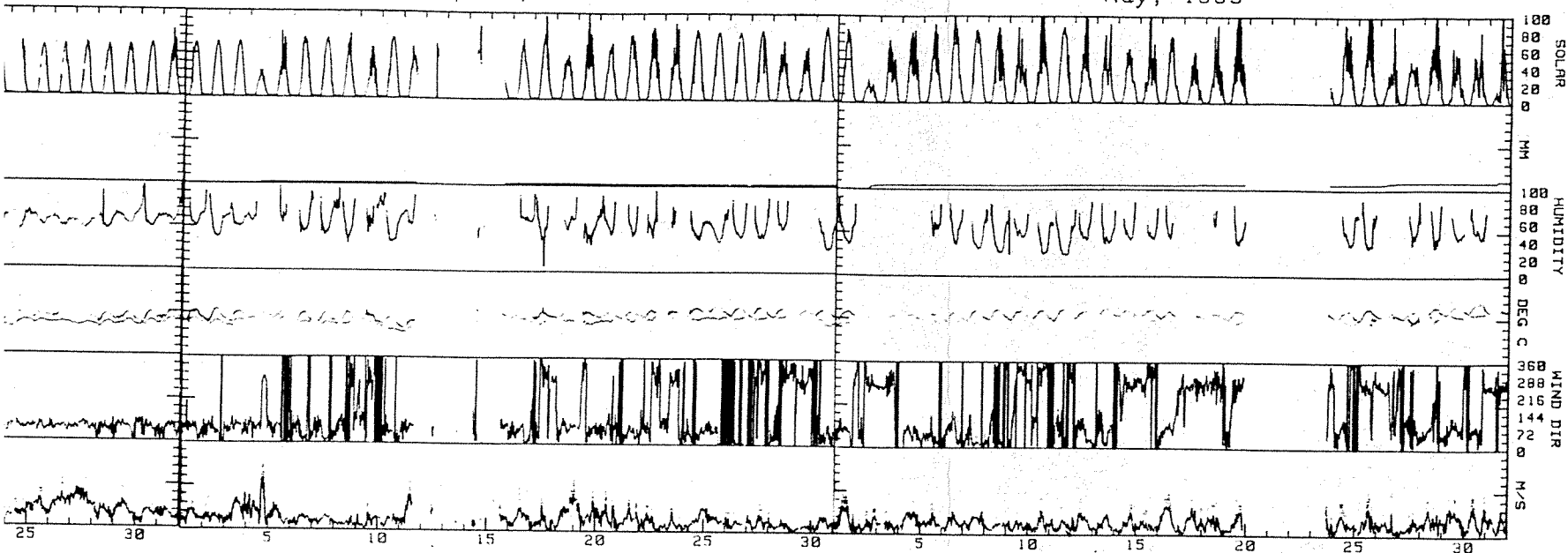
December, 1982

January, 1983



April, 1983

May, 1983



August, 1983

September, 1983

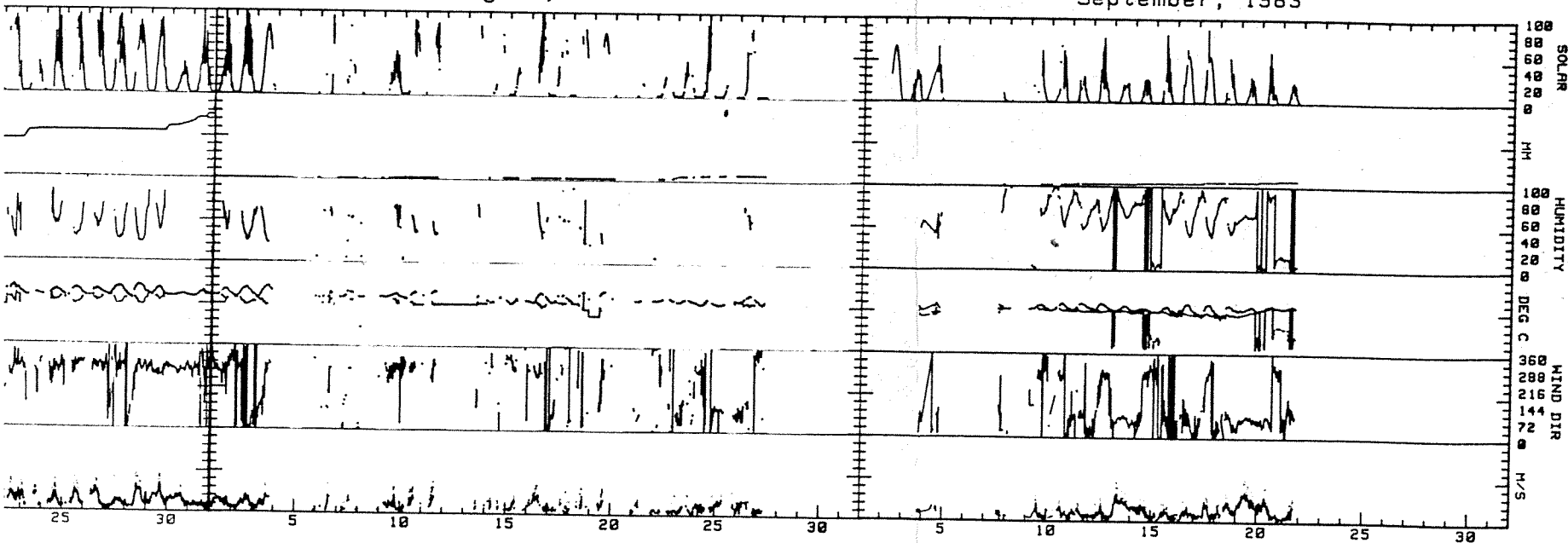
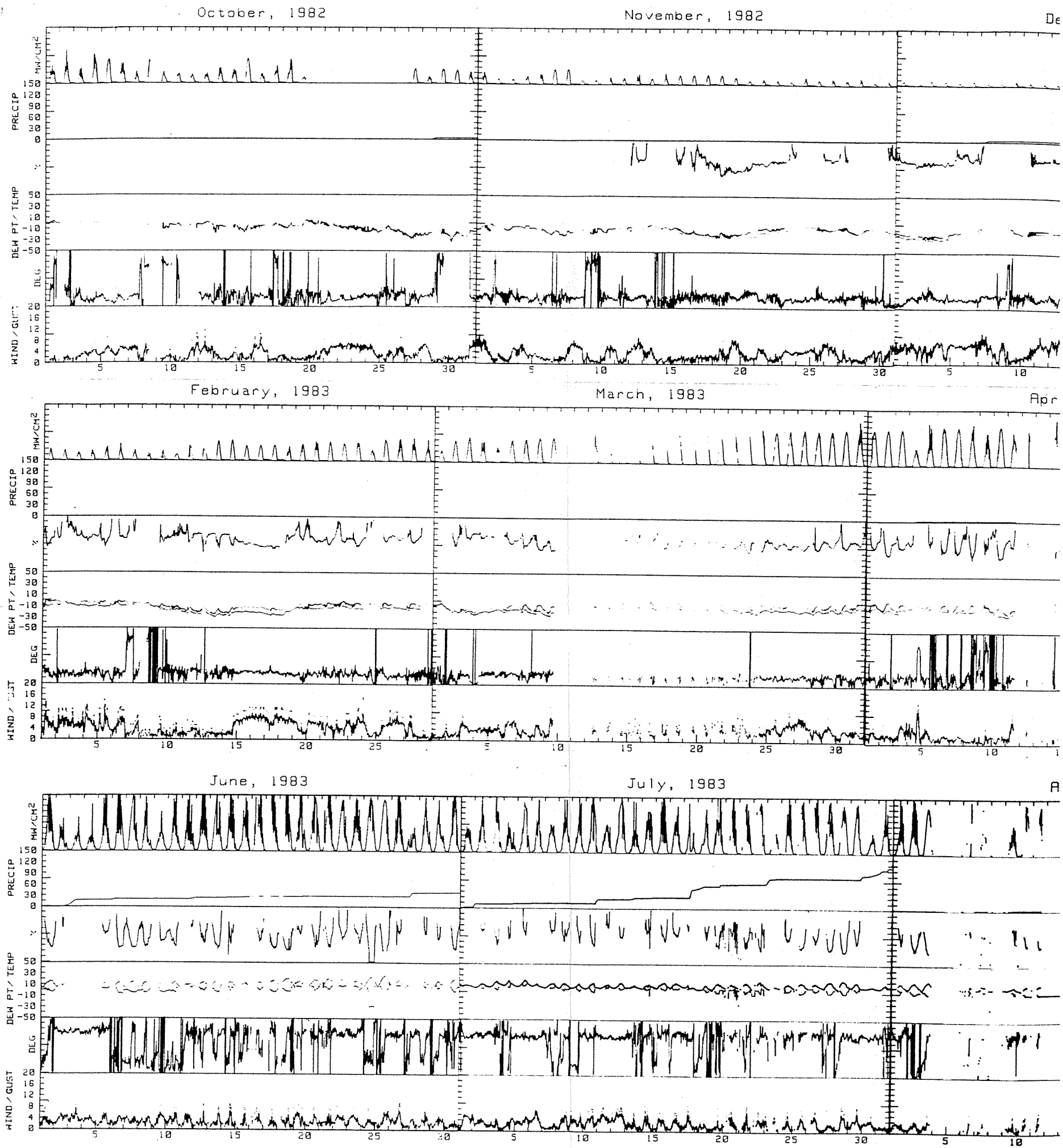


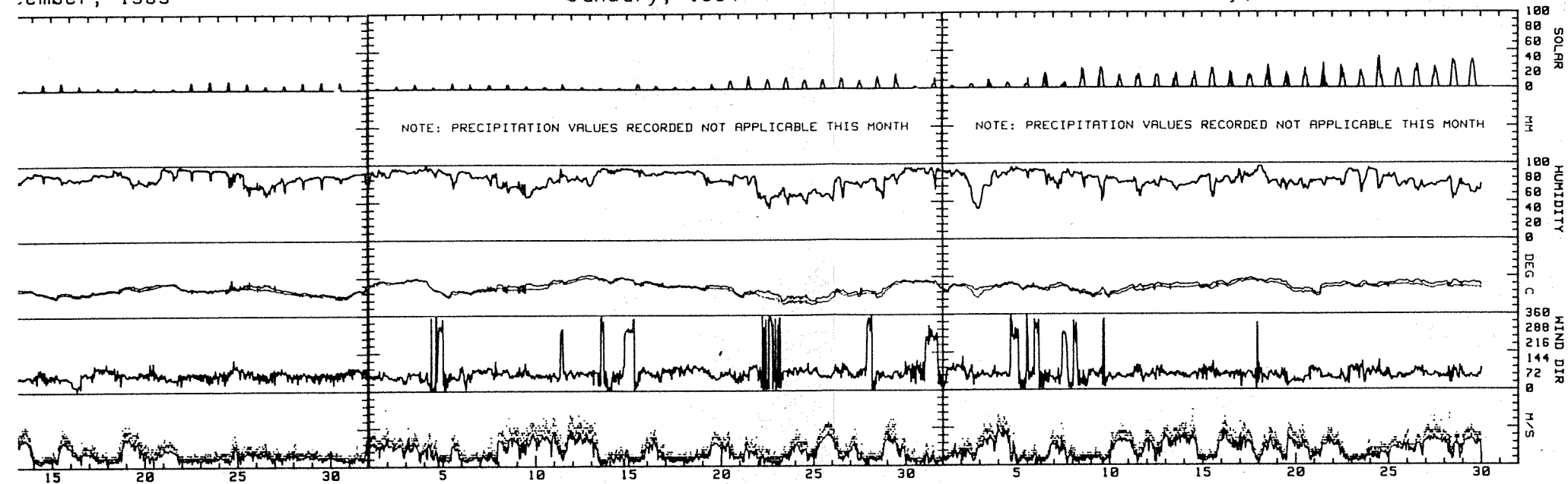
**FIGURE 5.169
SEQUENTIAL PLOT OF
CLIMATIC DATA
WATANA STATION
OCTOBER 1982-
SEPTEMBER 1983**



ember, 1983

January, 1984

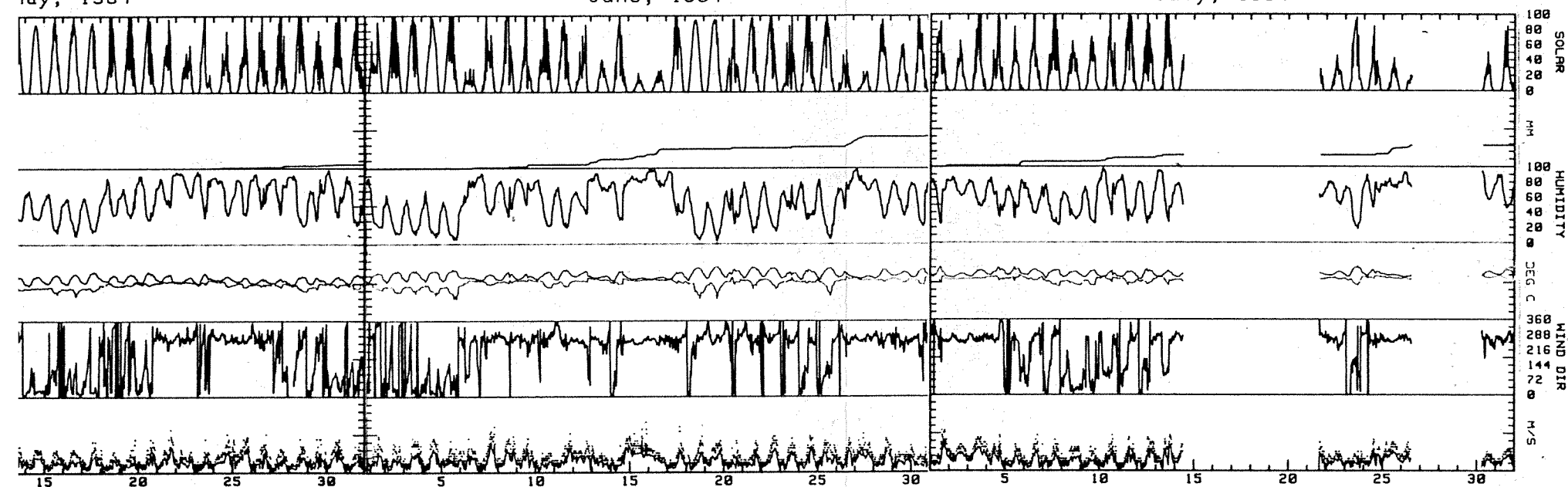
February, 1984



May, 1984

June, 1984

July, 1984



October, 1984

November, 1984

December, 1984

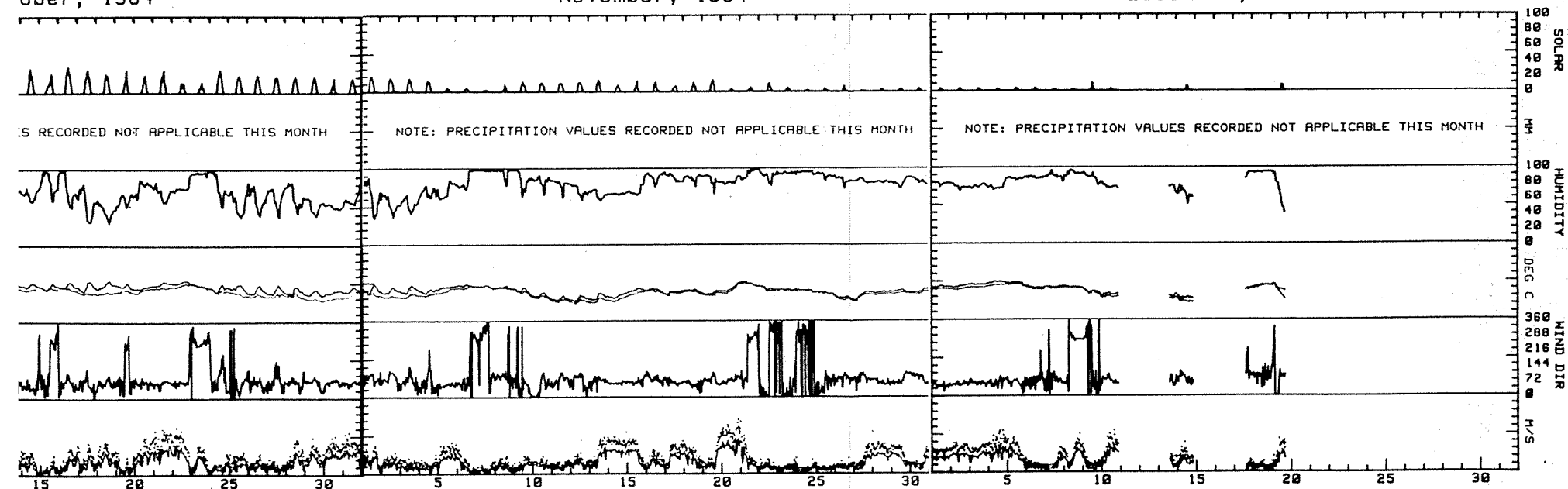
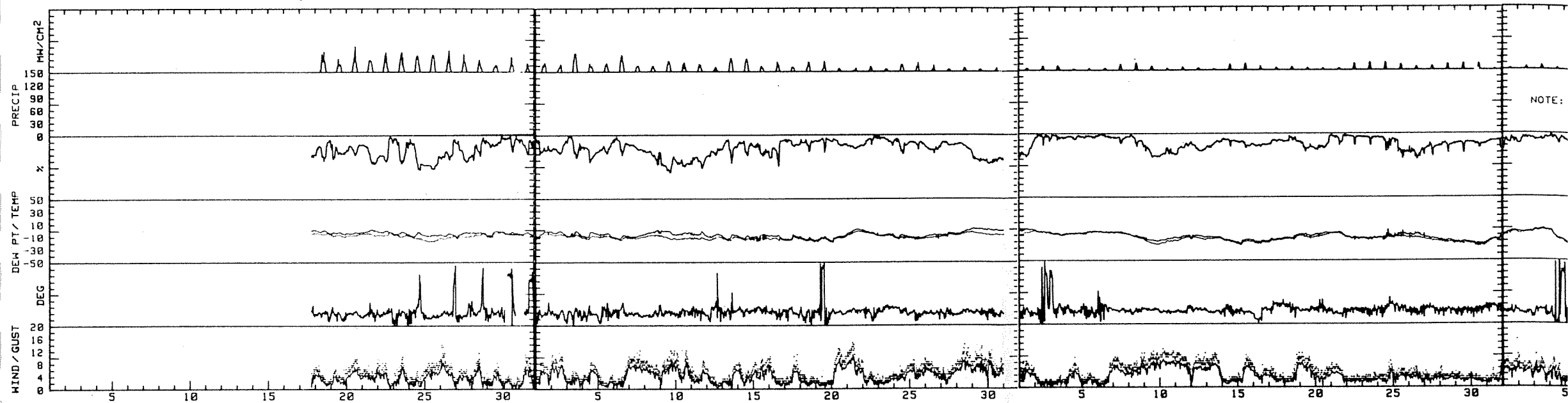


**FIGURE 5.170
SEQUENTIAL PLOT
OF CLIMATIC DATA
WATANA STATION,
OCTOBER 1983-
DECEMBER 1984**

October, 1983

November, 1983

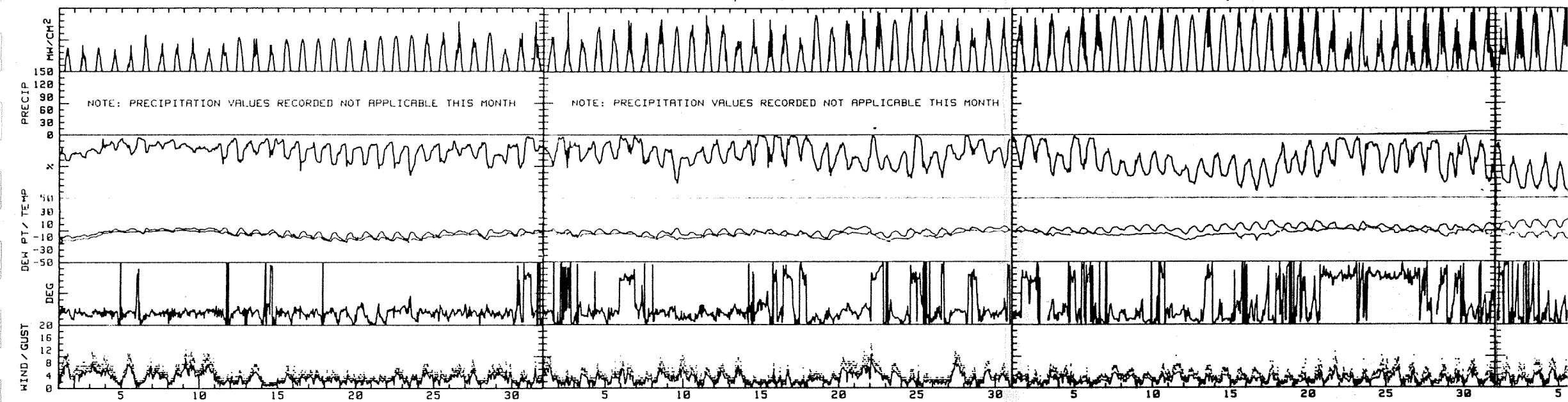
December, 1983



March, 1984

April, 1984

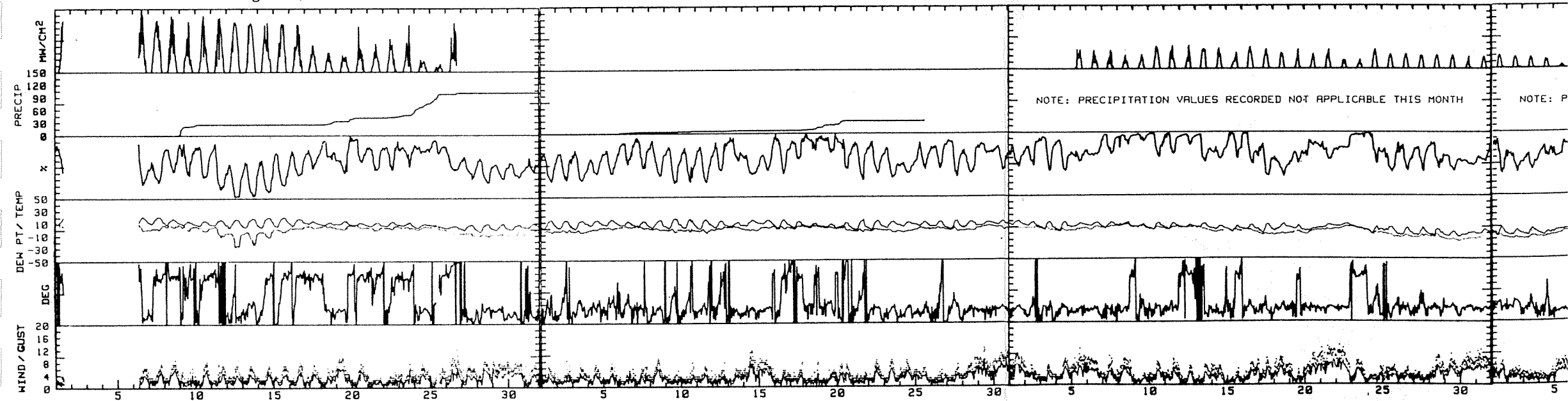
May, 1984



August, 1984

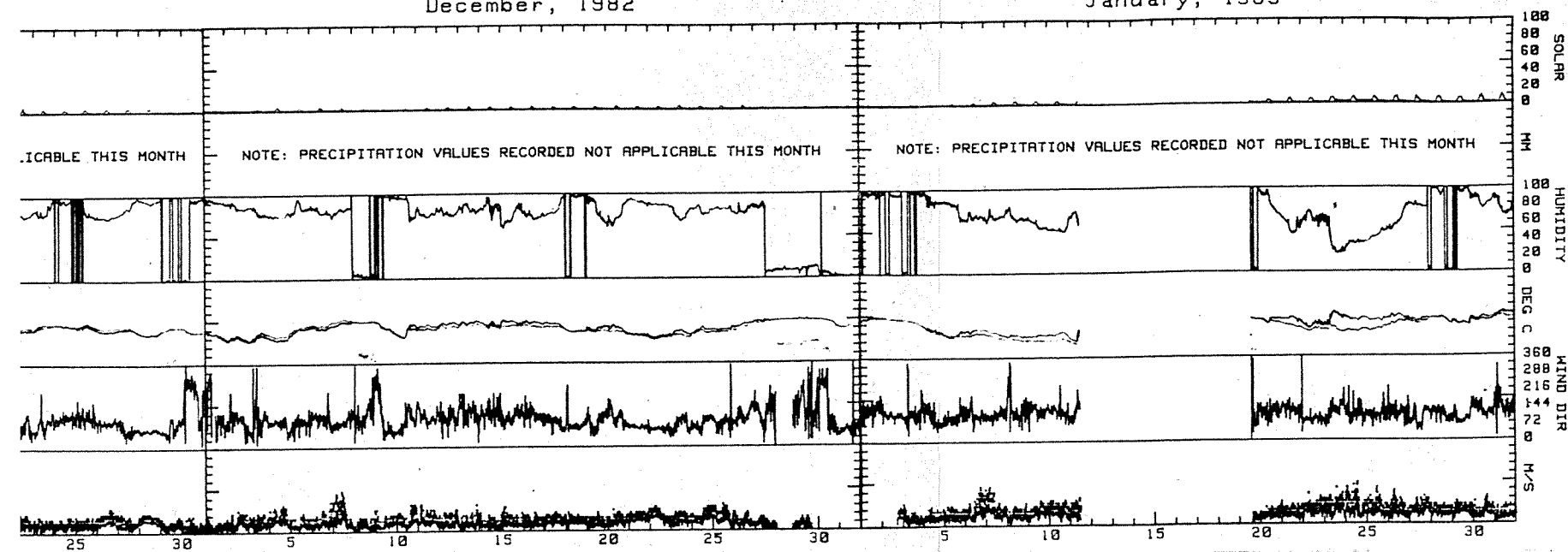
September, 1984

October, 1984



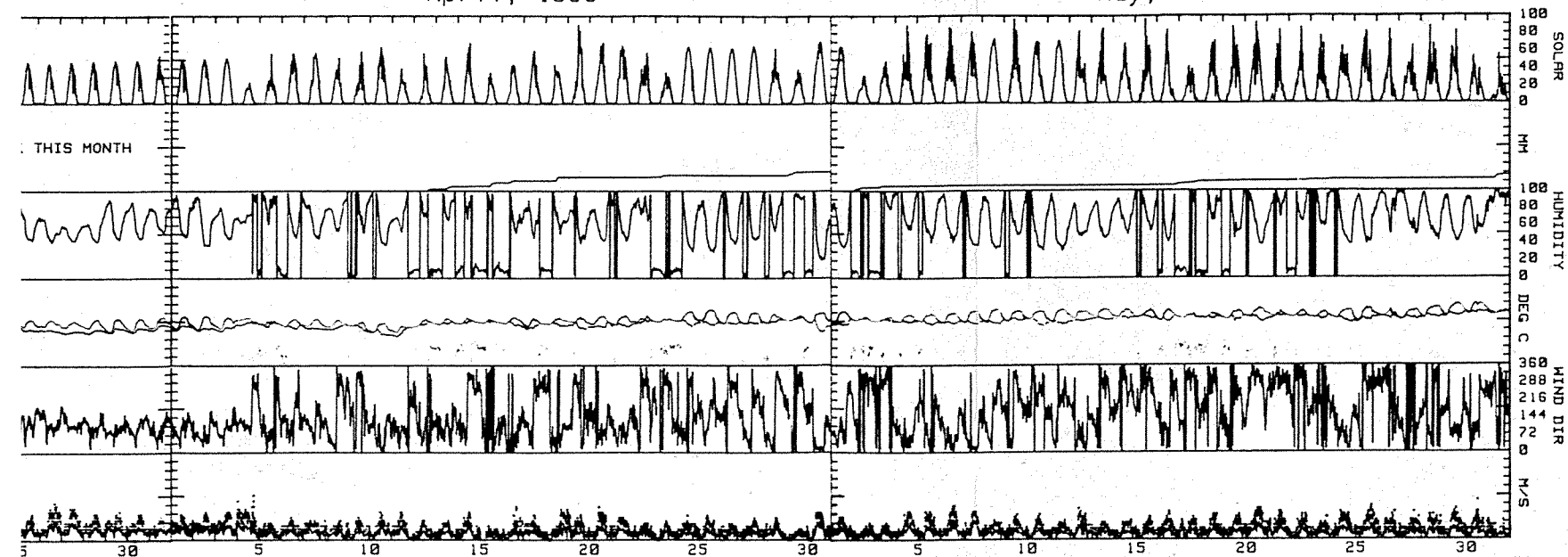
December, 1982

January, 1983



April, 1983

May, 1983



August, 1983

September, 1983

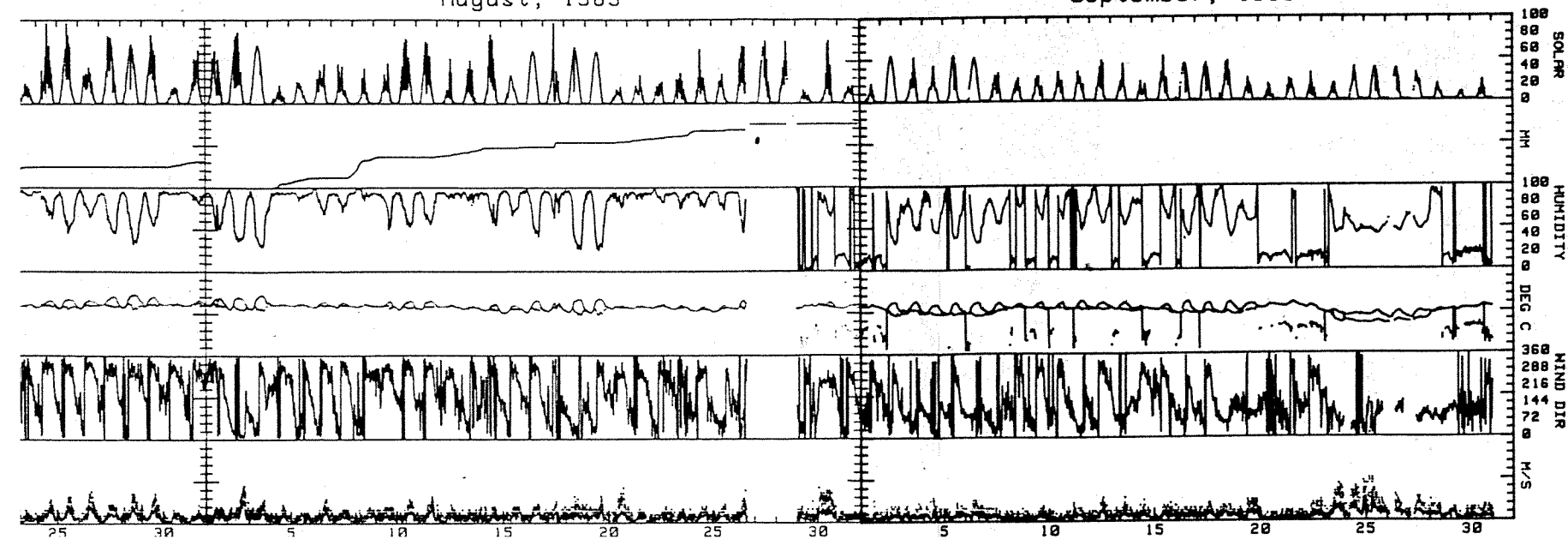
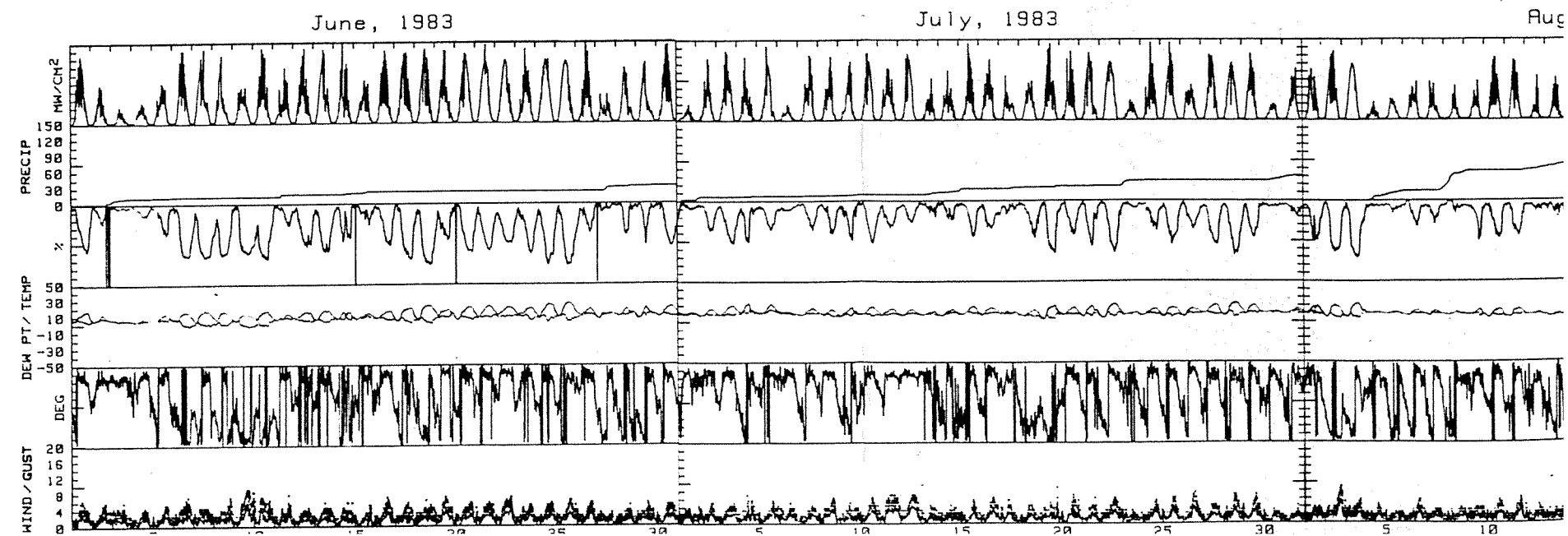
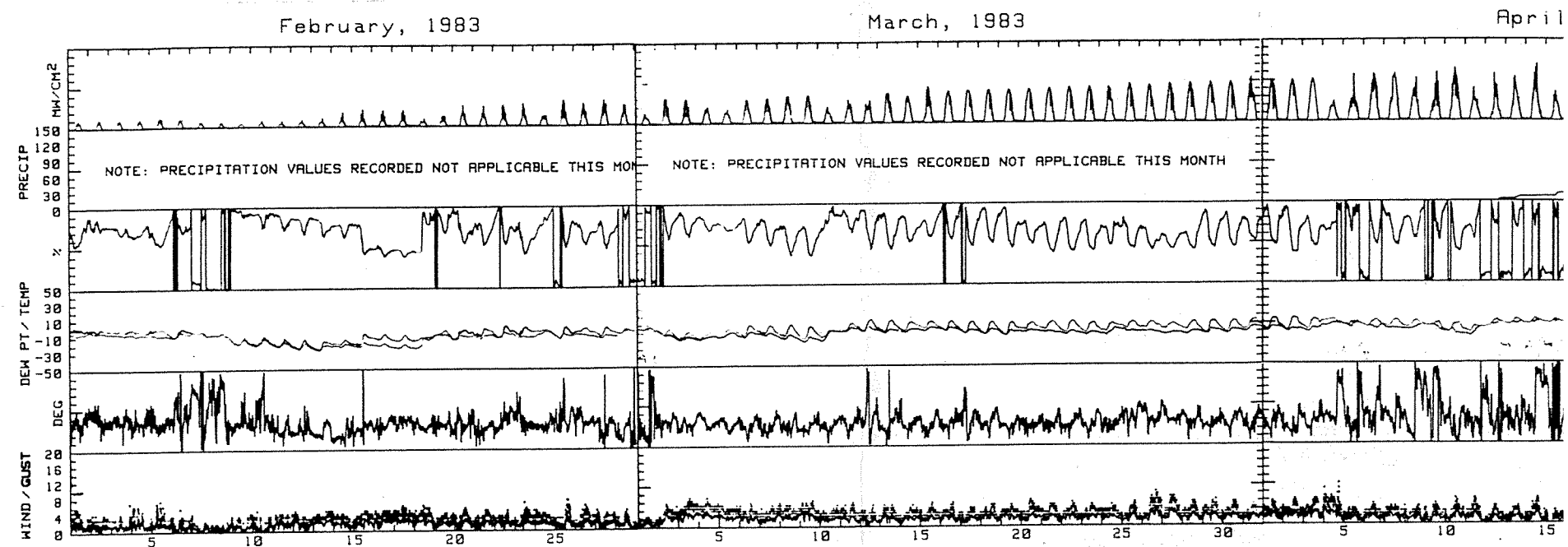
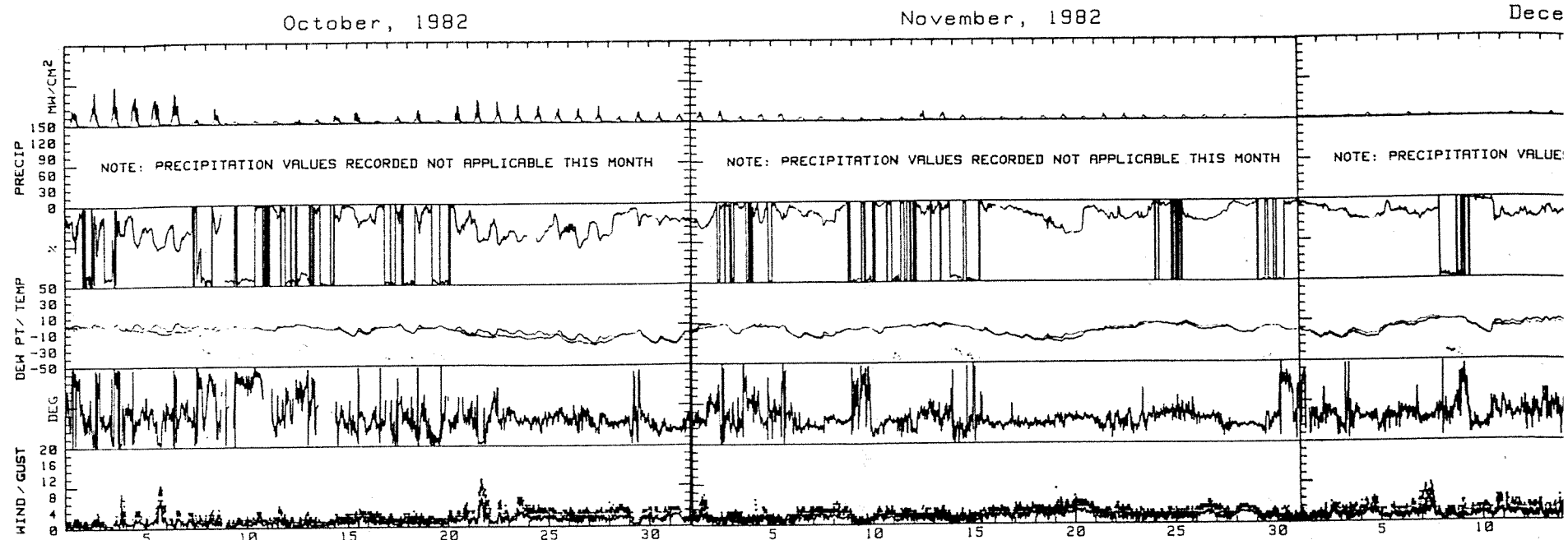


FIGURE 5.171
SEQUENTIAL PLOT OF
CLIMATIC DATA
DEVIL CANYON STATION
OCTOBER 1982-
SEPTEMBER 1983



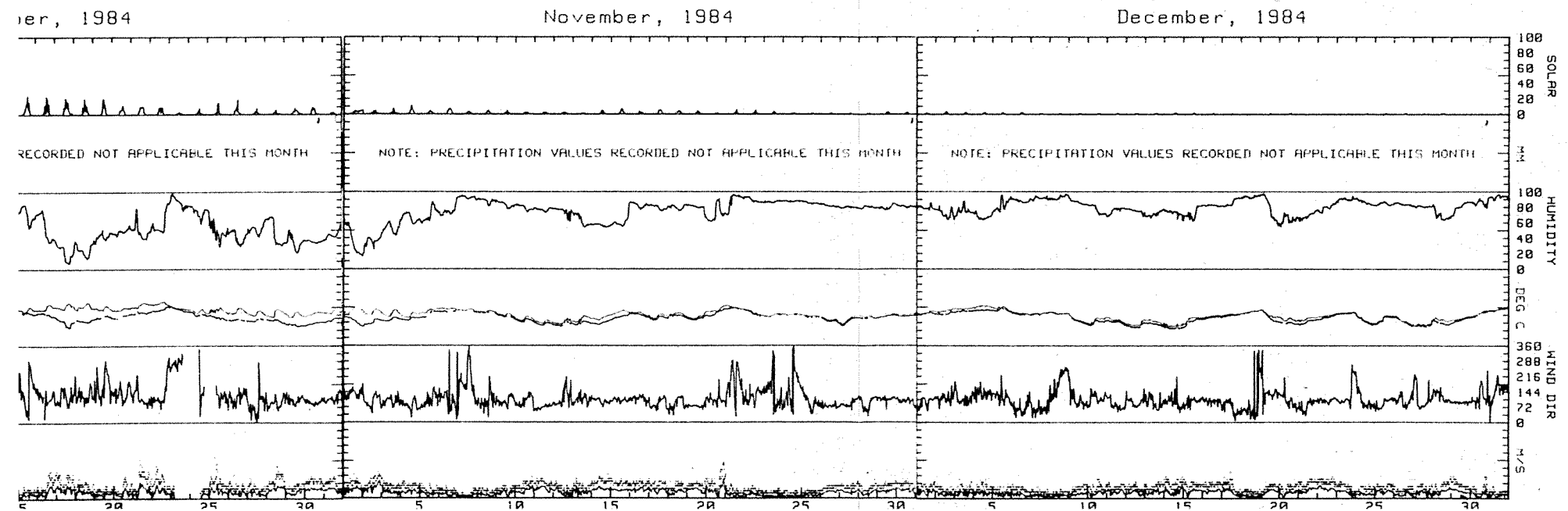
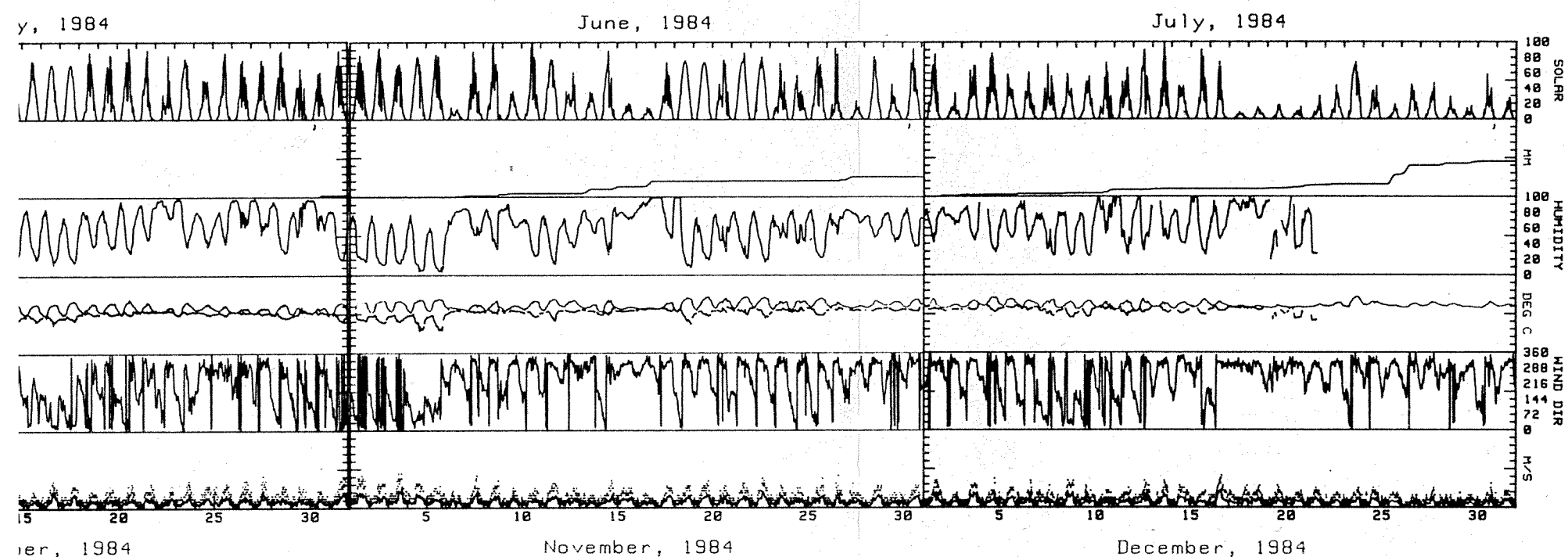
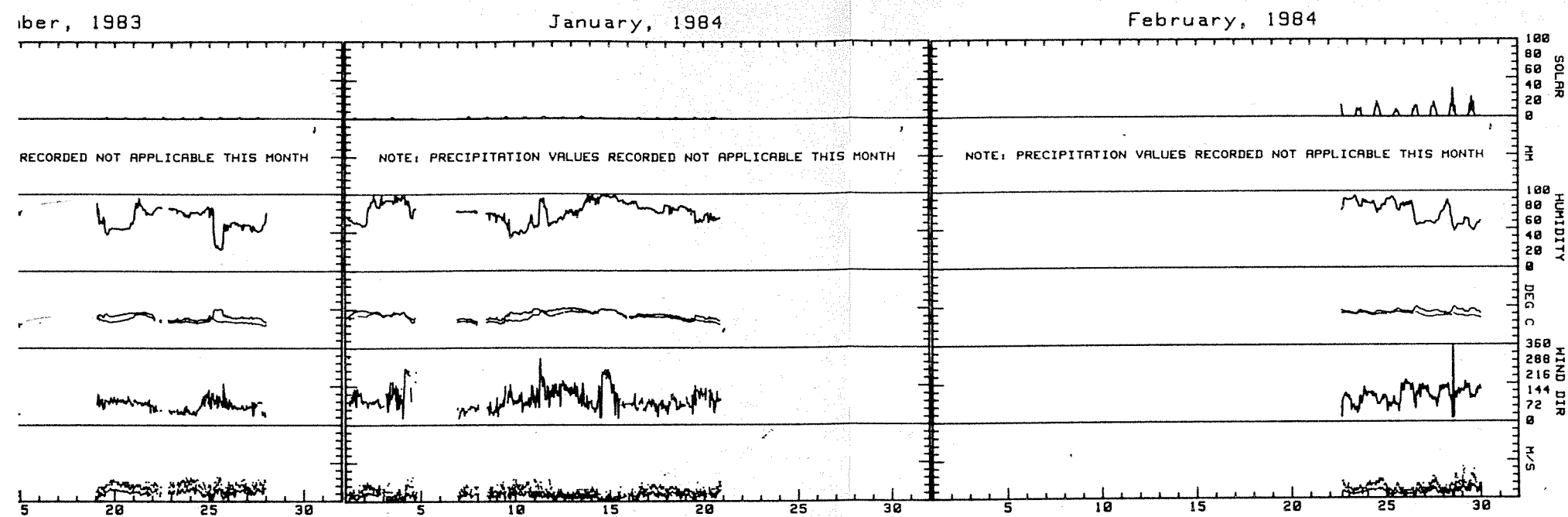
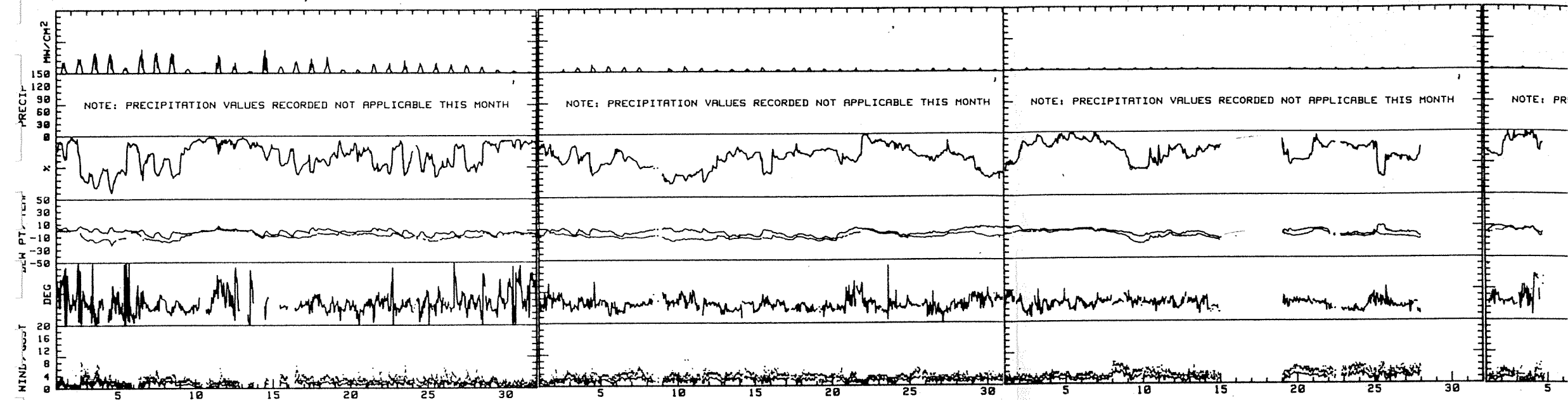


**FIGURE 5.172
SEQUENTIAL PLOT
OF CLIMATIC DATA
DEVIL CANYON
STATION,
OCTOBER 1983-
DECEMBER 1984**

October, 1983

November, 1983

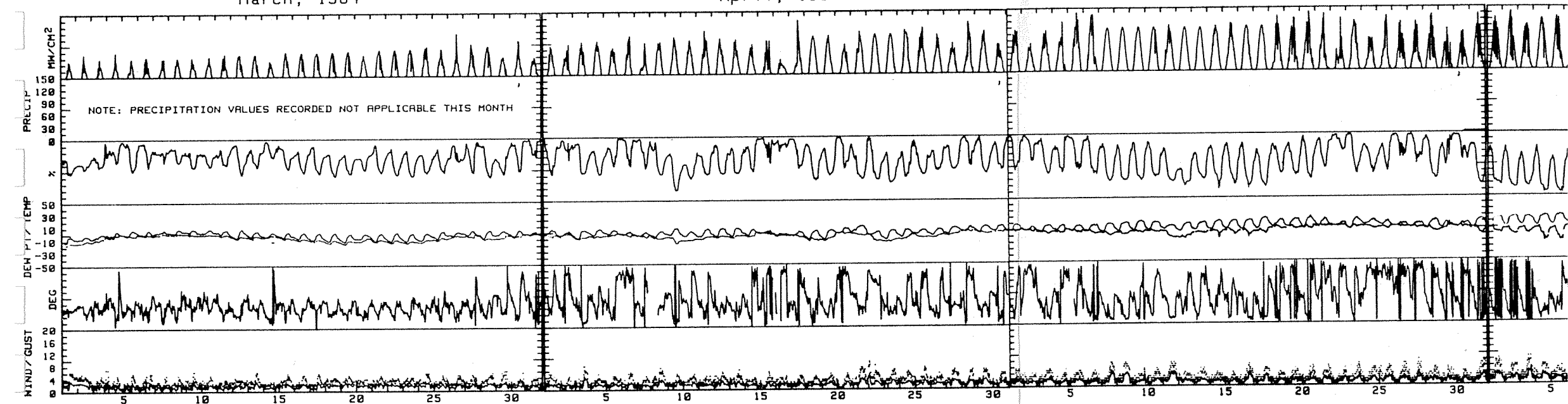
December, 1983



March, 1984

April, 1984

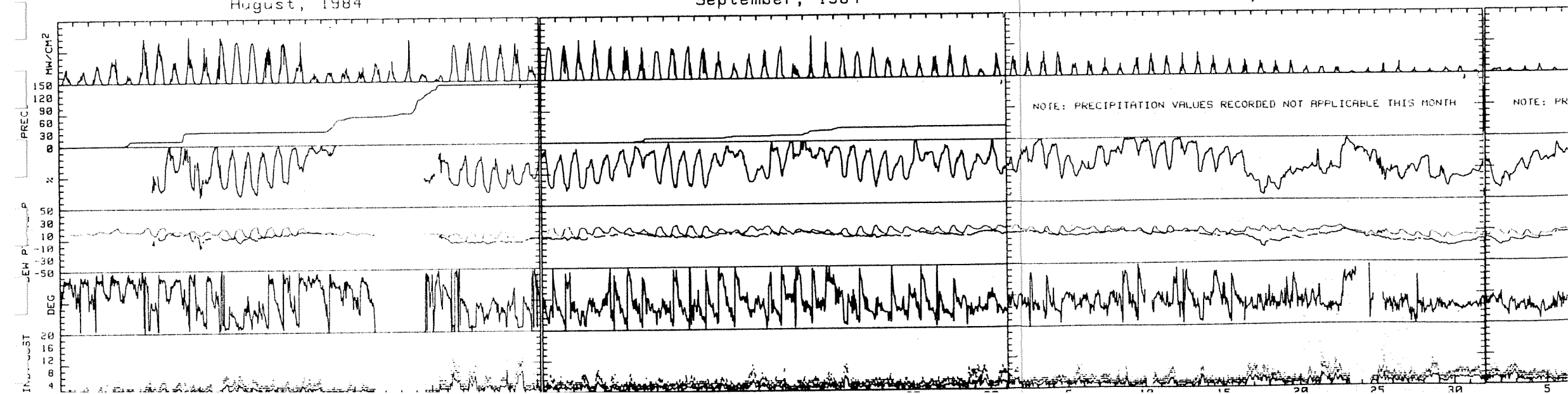
May, 1984



August, 1984

September, 1984

October, 1984



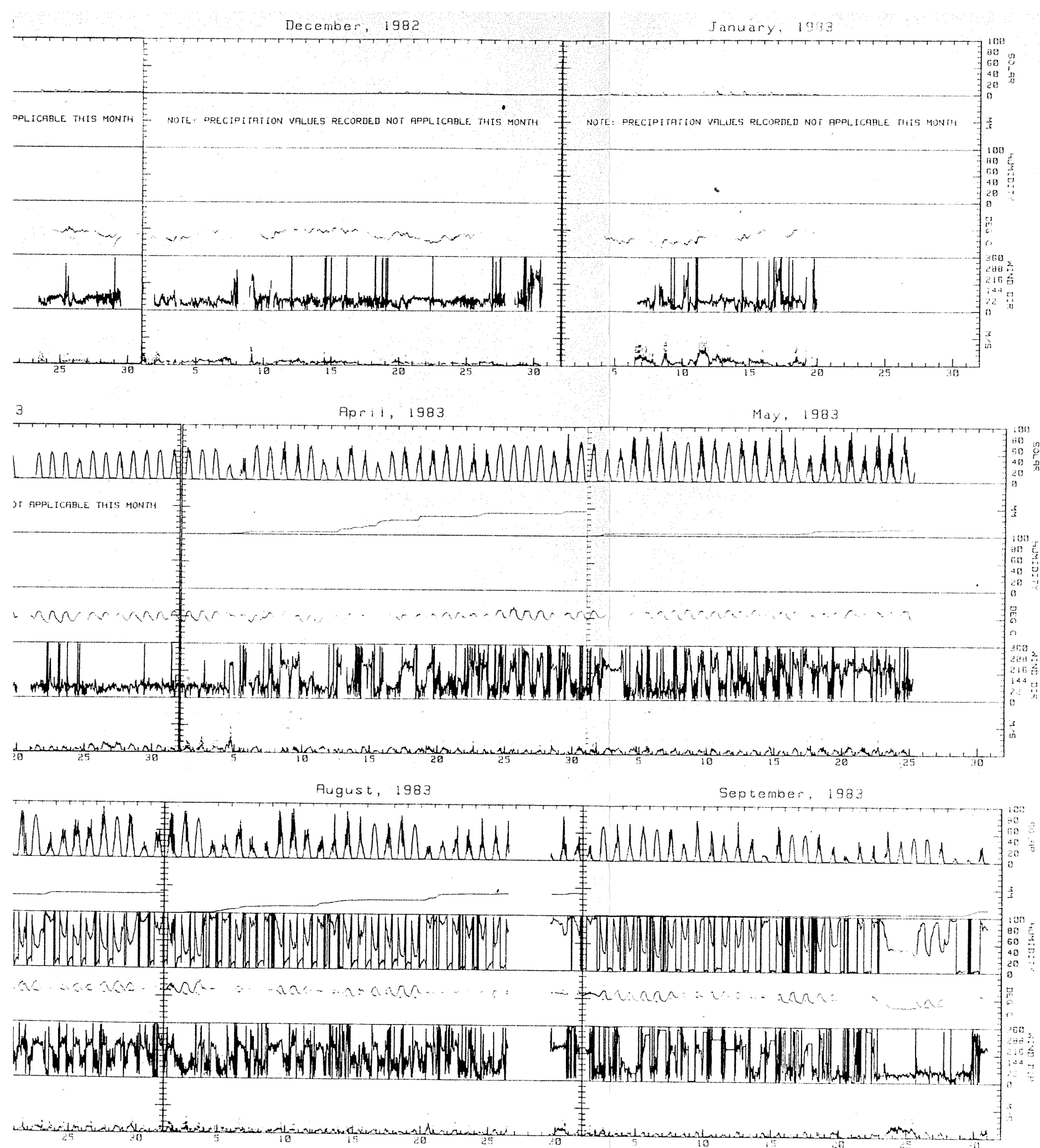
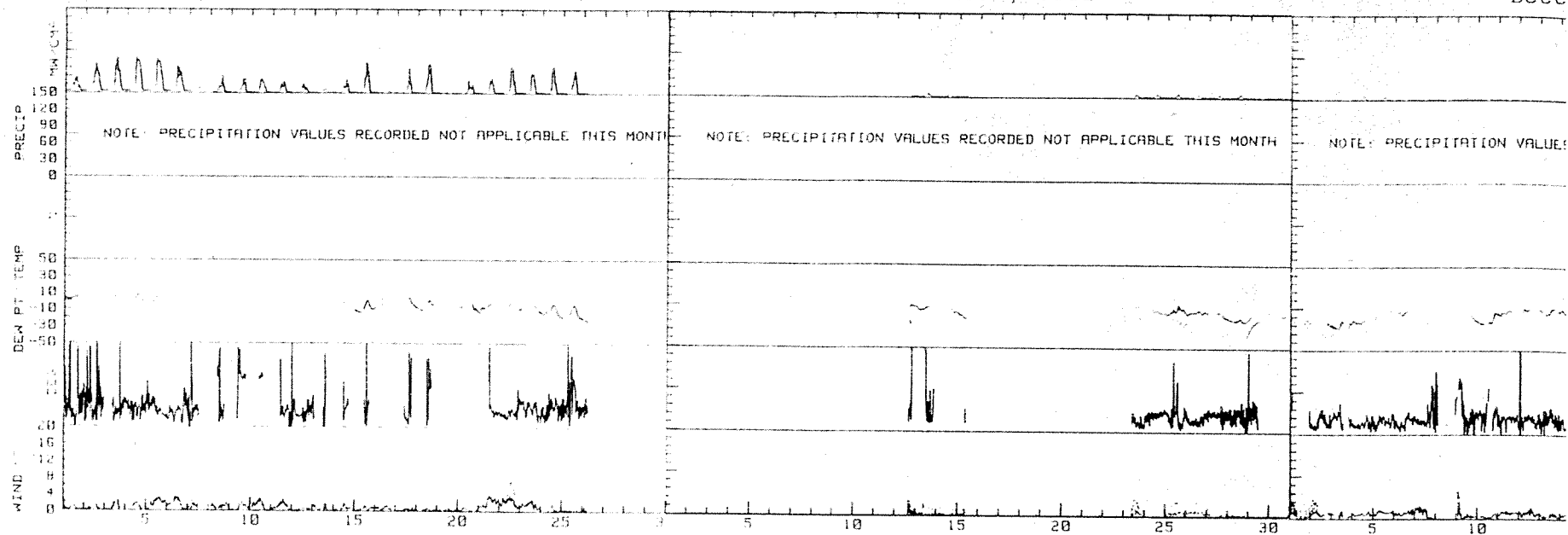


FIGURE 5.173
SEQUENTIAL PLOT OF
CLIMATIC DATA
SHERMAN STATION
OCTOBER 1982-
SEPTEMBER 1983

October, 1982

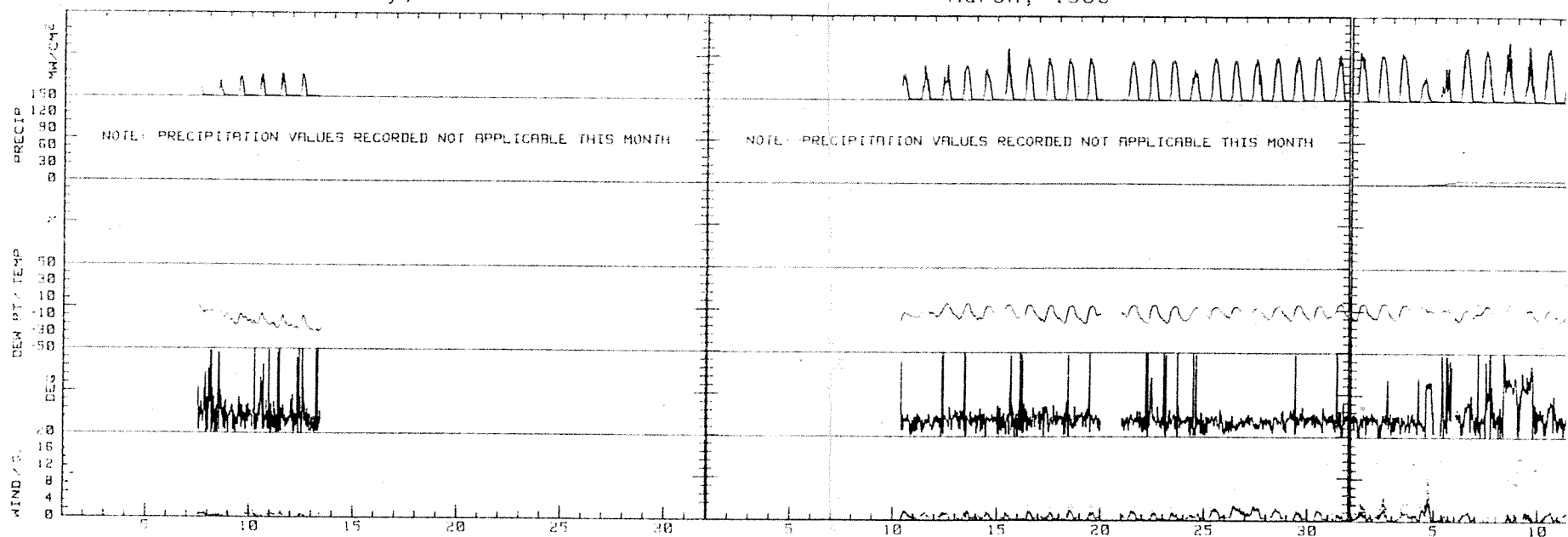
November, 1982

December, 1982



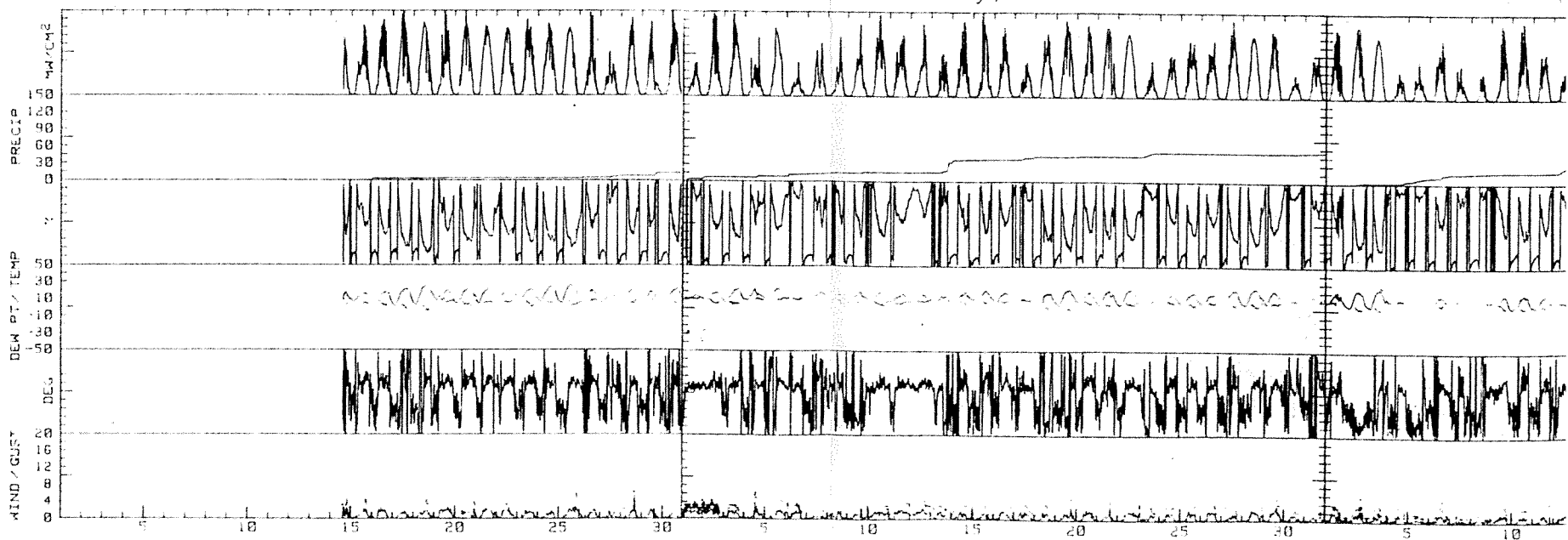
February, 1983

March, 1983



June, 1983

July, 1983



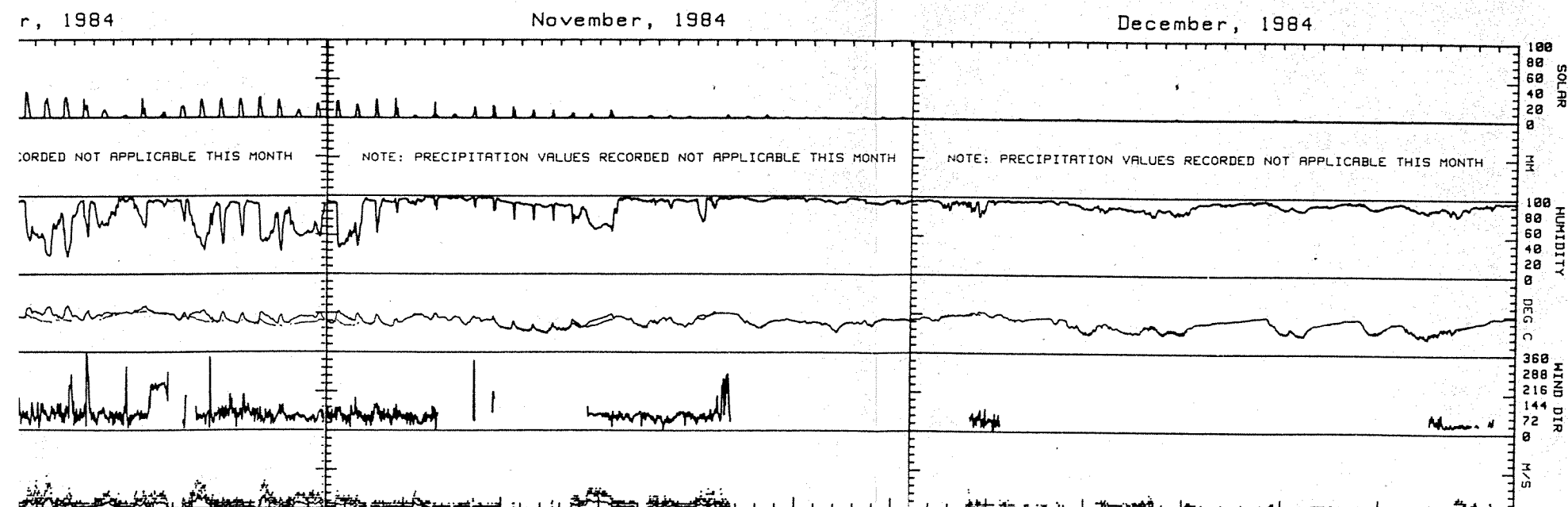
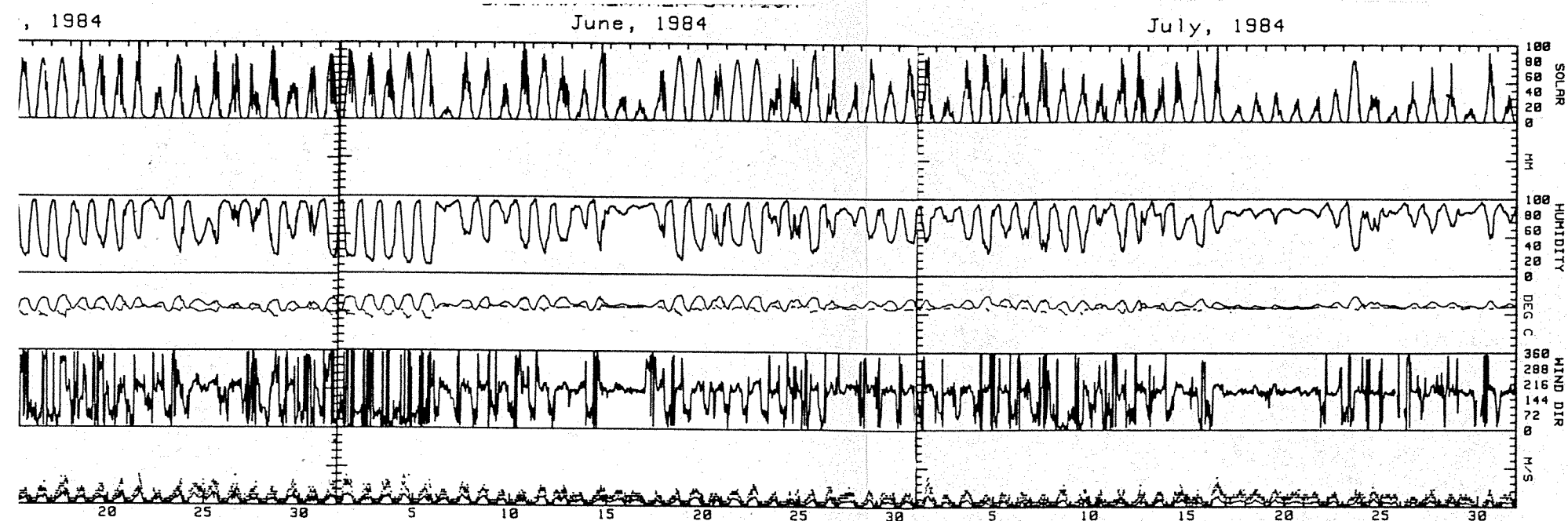
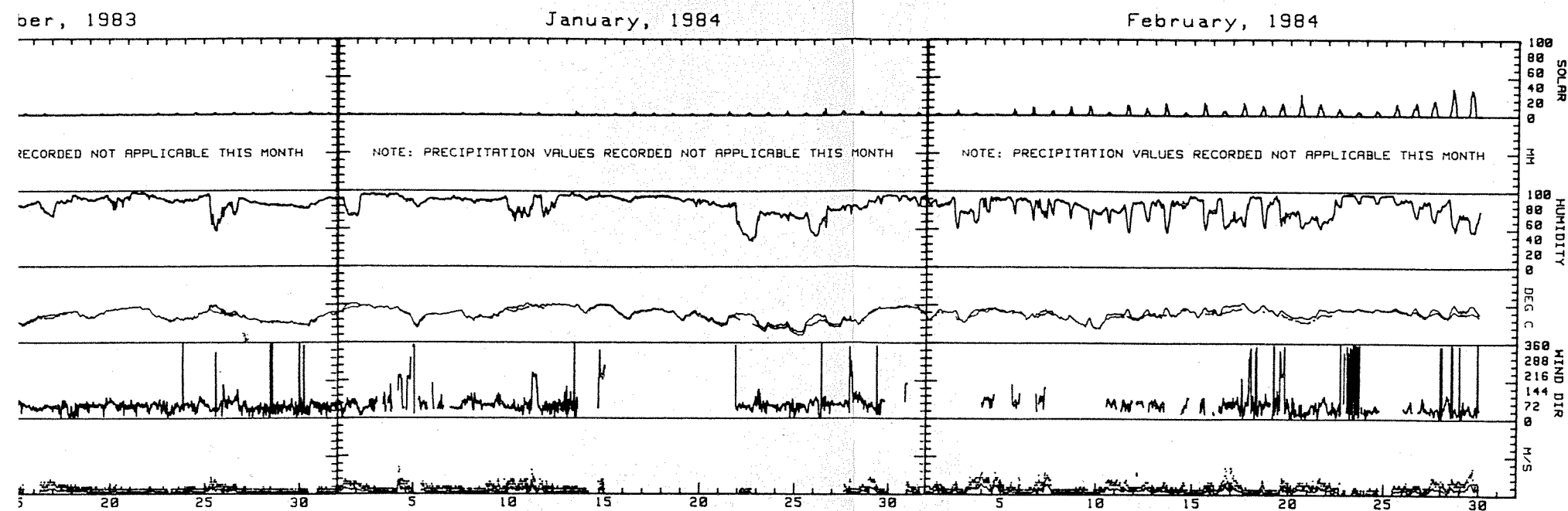
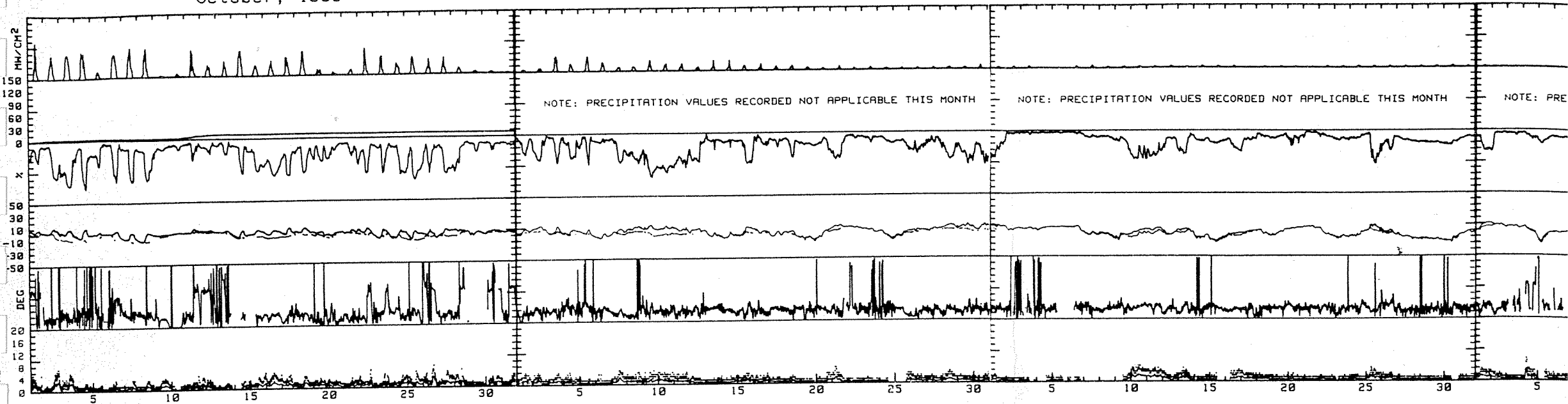


FIGURE 5.174
SEQUENTIAL PLOT
OF CLIMATIC DATA
SHERMAN STATION
OCTOBER 1983-
DECEMBER 1984

October, 1983

November, 1983

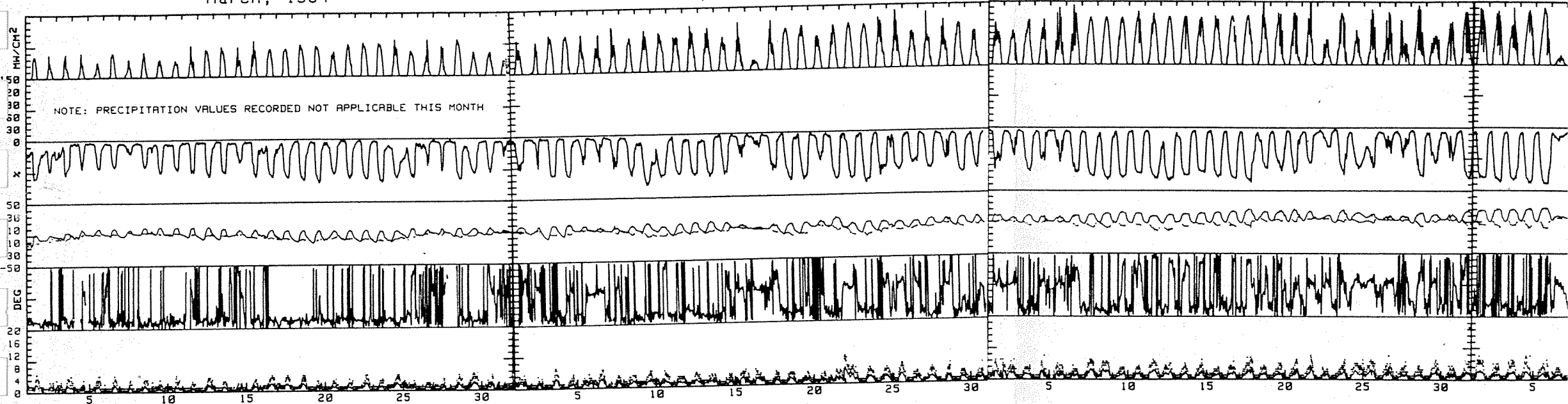
December, 1983



March, 1984

April, 1984

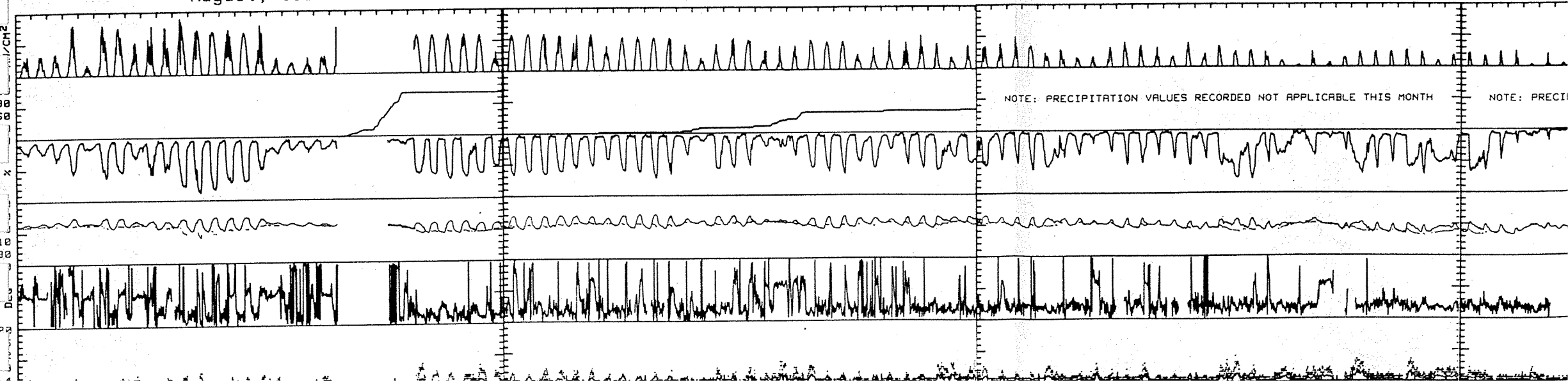
May, 1984

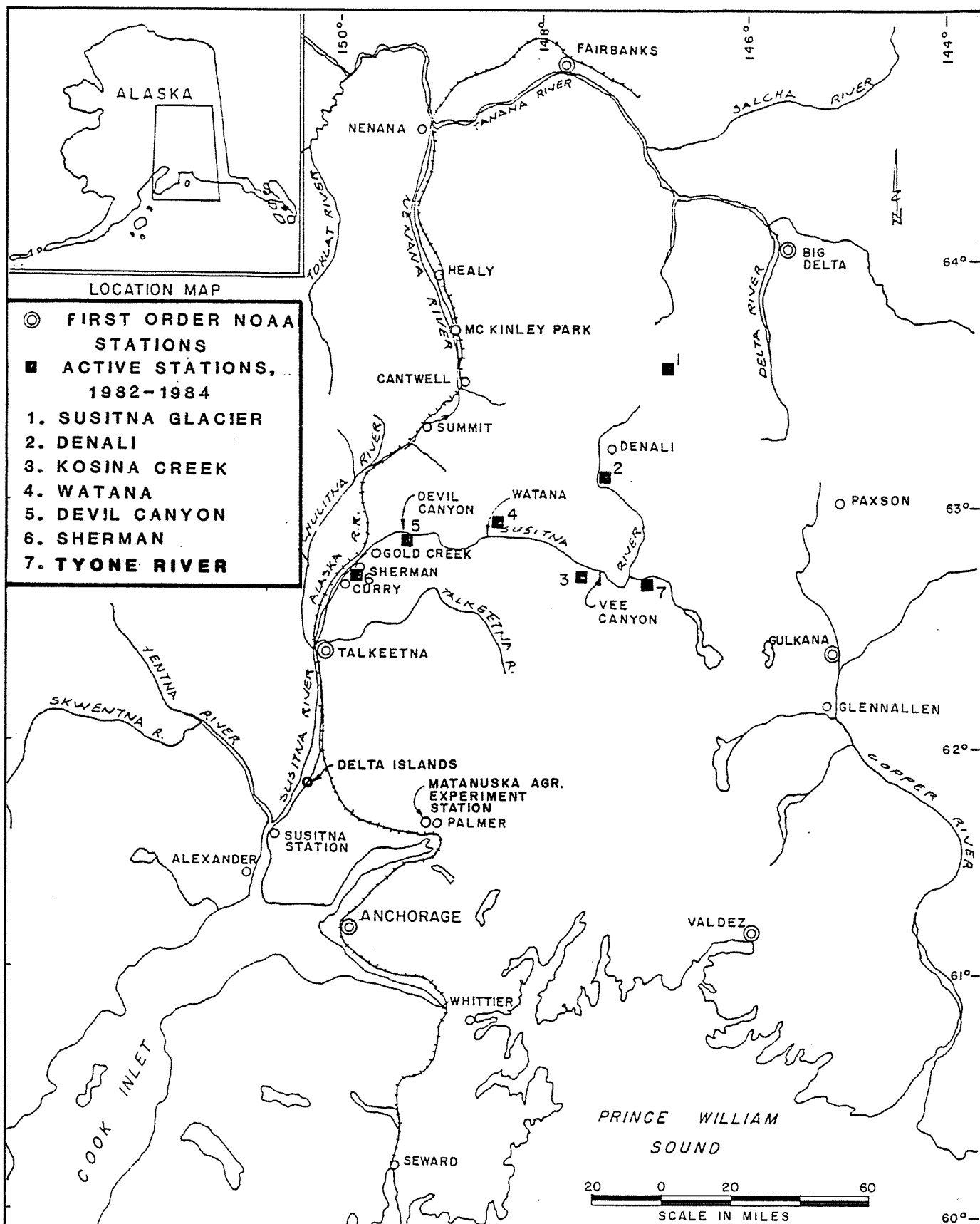


August, 1984

September, 1984

October, 1984





LOCATION MAP: SUSITNA BASIN METEOROLOGIC STATIONS

PREPARED BY:

R&M
R&M CONSULTANTS, INC.
 ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

FIGURE 5.175

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE

SECTION 6.0

6.0 SNOW SURVEYS

Susitna Basin snow survey data were collected cooperatively by R&M and the U.S.D.A. Soil Conservation Service (S.C.S.). Monthly flights were taken each winter between February 1 and May 1 to measure the snow depth and water content at numerous sites in and adjacent to the basin. A few stations in the Copper River Basin are close to the Susitna Basin and were surveyed at the same time. Additional snow surveys were performed during separate monthly trips made by R&M to the weather stations and high-elevation and glacier locations. All the data are summarized and reported by the S.C.S. each month (S.C.S. 1983-84).

Snow surveys consisted of on-the-ground measurements of snow depth and water content or aerial observations of snow depth at specially-constructed markers. Snow densities observed at ground survey sites were used to estimate densities and water contents at the aerial sites. Ground measurements were made using a Federal snow sampler and established S.C.S. snow survey procedures.

Monthly summaries of the Susitna Basin and Cooper Basin snow surveys are presented in Tables 6.1-6.8 for 1983 and 1984. Locations are shown on maps in the February 1, 1983 snow survey bulletin (S.C.S. 1983). Table 6.9 gives information on locations for each of the sites. Additional snow survey data, measurements made at the recording weather stations, are tabulated in Table 6.10. Additional summaries by S.C.S. of the weather experienced in and around south-central Alaska in the winter of 1982-83 are shown in Appendix D, Tables D.1-D.3.

TABLE 6.1 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF JANUARY AND FEBRUARY 1983

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE		
NAME	Number	Elevation	Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
AS OF JANUARY 15, 1983										
MATANUSKA/SUSITNA:										
Devils Canyon	2C16	1350	1/11	37	8.1	--	--	--	--	--
Kosina Creek	2C43	2500	1/11	16	4.2	--	--	--	--	--
Watana Camp	2C45	2200	1/11	10	2.2	--	--	--	--	--
AS OF FEBRUARY 1, 1983										
COPPER:										
Haggard Creek	2D03	2540	1/26	18	3.5	16	3.0	22	4.1	19
Kenny Lake School	2D16	1300	1/31	16	2.6	NO	SURVEY	--	--	--
Mankomen Lake	2D05	3050	1/28	25	5.1	24	5.7	25	4.6	15
Mentasta Pass	2D02	2430	1/26	22	4.7	19	4.1	22	4.4	21
Paxson	2D17	2650	1/26	27	5.9	25	5.0	--	--	1
Sanford River	2D06	2280	1/27	24a	4.1e	22	4.0	21	3.7	16
*St. Anne Lake	2D04	1990	1/27	22	3.9	17	4.0	19	3.7	19
Tsaina River	2D14	1650	2/1	50	13.0	NO	SURVEY	--	--	--
*Worthington Glacier	2D01	2100	2/1	58	14.9	NO	SURVEY	--	--	--
MATANUSKA/SUSITNA:										
Alexander Lake	2C02	140	1/28	29	6.9	24a	6.0e	34	7.5	19
*Bald Mountain Lake	2C03	2150	1/28	33a	6.8	11a	3.0e	22	4.4	19
*Chelatina Lake	2C04	1650	1/28	41a	9.4e	20a	4.8e	30	6.7	19
Chuniina Creek	2C16	1350	NO	SURVEY		21a	4.6e	--	--	4
Deception Creek	2C17	700	1/28	23a	6.0e	NO	SURVEY	--	--	3
Devils Canyon	2C16	1350	2/4	37	9.0	21	4.2	--	--	4
Dutch Hills	2C28	3100	1/28	60a	17.4e	53a	16.5e	--	--	4
*Fern Mine Road	2C48	2200	1/27	44	13.9	--	--	--	--	--
Fog Lakes	2C14	2120	1/27	22	4.2	15a	3.2e	23	4.2	13
Horsepasture Pass	2C15	4300	1/27	27a	5.3e	33a	8.2e	22	4.2	15
*Independence Mine	2B06	3300	1/27	50	17.9	41	12.0	--	--	3
*Jatu Pass	2C37	4500	2/11	48a	13.4e	43	12.0	--	--	3
Lake Louise	2C06	2400	1/27	17	2.7	16	3.4	18	2.9	19
Little Susitna	2C47	1700	1/27	38	11.5	25	6.0	--	--	1
*Monahan Flat	2C07	2710	1/27	29	6.1	20a	4.4e	26	5.0	19
*Mt. Hayes	2C42	4200	NO	SURVEY		27	7.3	--	--	2
*Nugget Bench	2C10	2010	1/28	42a	10.1e	22a	6.0e	44	9.9	15
*Ramsdyke Creek	2C29	2220	1/28	45a	11.7e	28a	7.0e	--	--	3
Risley's	2C46	930	1/27	22	6.7	18	4.0	--	--	1
Sheep Mountain	2C08	2900	1/31	25	5.2	NO	SURVEY	--	--	--
Skwentna	2C11	160	1/28	31	6.9	18	3.6	34	7.2	16
Square Lake	2C13	2950	1/27	23	4.1	28	5.8	17	2.9	19
Talkeetna	2C12	350	1/28	22	5.2	12	2.7	25	5.4	16
*Tokositna Valley	2C30	850	1/28	44a	10.1e	25a	6.0e	--	--	3
*W. Fork Glacier	2C41	5050	NO	SURVEY		62	19.2	--	--	2
Willow Airstrip	2C09	200	1/28	22	5.8	20	4.2	25	4.9	19
SUPPLEMENTAL DATA										
AS OF JANUARY										
Caribou	2C33	4100	1/12	31a	6.8e	25a	6.5e	--	--	1
AS OF FEBRUARY										
Butte Creek	2C32	2900	2/11	25a	5.0e	15a	3.3e	--	--	2
Caribou	2C33	4100	2/03	36a	8.6e	25a	6.8e	--	--	1
East Fork	2C35	2900	2/11	30a	6.0e	9a	2.5e	--	--	1
Pyramid	2C36	4850	2/03	38a	10.6e	25a	7.0e	--	--	2
*Effected to some degree by wind										
a - aerial marker reading										
e - estimated										
Underlined values have been revised from the original report.										

TABLE 6.2 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF MARCH 1, 1983

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE ¹		
			Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
AS OF MARCH 1, 1983										
COPPER:										
Haggard Creek	2D03	2540	2/28	20	3.7	15	2.9	24	4.9	19
Kenny Lake School	2D16	1300	3/1	17	3.4	16	2.9	--	--	3
Mankomen Lake	2D05	3050	2/28	27	5.4	24	5.7	28	5.5	15
Mentasta Pass	2D02	2430	2/28	24	4.9	22	4.8	25	5.1	21
Paxson	2D17	2650	2/28	29	5.7	26	5.3	--	--	1
*St. Anne Lake	2D04	1990	2/23	23	4.2	18	3.1	22	4.3	19
Sanford River	2D06	2280	2/23	29	5.6	24a	4.0e	24	4.6	16
Tsaina River	2D14	1650	3/1	52	15.3	49	14.4	53	14.8	11
*Worthington Glacier	2D01	2100	3/1	62	19.1	41	16.1	61	18.4	25
MATANUSKA/SUSITNA:										
Alexander Lake	2C02	140	2/24	34	8.2	27a	6.2e	38	9.4	19
*Bald Mountain Lake	2C03	2150	2/23	32a	7.4e	NO	SURVEY	27	6.0	19
Chelatna Lake	2C04	1650	2/24	44a	10.6e	20a	5.0e	36	8.3	19
Chunilna Creek	2C24	1750	NO	SURVEY		20a	4.7e	--	--	4
Deception Creek	2C17	700	2/23	24a	6.2e	NO	SURVEY	--	--	3
Devils Canyon	2C16	1350	2/23	40a	9.6e	23a	5.1e	31	6.3	6
Dutch Hills	2C28	3100	NO	SURVEY		61a	18.3e	--	--	3
*Fern Mine Road	2C48	2200	2/28	45	14.1	14	5.6	--	--	1
Fog Lakes	2C14	2120	2/23	23	4.3	22	4.9	25	5.0	13
*Horsepasture Pass	2C15	4300	2/23	28a	5.6e	38a	9.1e	26	5.2	15
Independence Mine	2C06	3300	2/28	54	20.0	35	11.5	54	15.7	19
*Jatu Pass	2C37	4500	3/9	42	14.2	46	15.7	--	--	2
Lake Louise	2C06	2400	2/23	20	4.0	19	3.2	21	3.5	19
Little Susitna	2C47	1700	2/28	41	12.0	21	5.4	--	--	1
*Monanan Flat	2C07	2710	2/23	33	6.5	19a	4.9e	30	6.3	19
*Mt. Hayes	2C42	4200	NO	SURVEY		29	7.3	--	--	2
*Nugget Bench	2C10	2010	2/23	45a	11.0e	23a	6.0e	52	12.2	15
*Ramsdyke Creek	2C29	2220	NO	SURVEY		28a	7.6e	--	--	4
Risley's	2C46	930	2/28	24	6.5	12	4.5	--	--	1
Sheep Mountain	2C08	2900	3/1	27	5.6	28	6.2	24	4.8	25
Skwentna	2C11	160	2/24	37	8.8	21	4.7	38	8.9	16
Square Lake	2C13	2950	2/23	25	4.6	30	6.0	20	3.4	19
Talkeetna	2C12	350	2/24	26	6.0	8	2.6	27	6.4	16
*Tokositna Valley	2C30	850	2/24	61a	14.0e	23a	6.0e	--	--	3
*W. Fork Glacier	2C41	5050	3/09	65	22.4	62	20.2	--	--	2
Willow Airstrip	2C09	200	2/24	26	6.3	19	4.2	27	5.3	19
SUPPLEMENTAL DATA										
AS OF MARCH										
Butte Creek	2C32	2900	3/09	27a	5.7e	18a	4.1e	--	--	2
Caribou	2C33	4100	3/09	39a	10.1e	28a	7.6e	--	--	2
East Fork	2C35	2900	3/09	39a	8.2e	13a	4.4e	--	--	1
Pyramid	2C36	4850	3/09	41a	13.9e	29a	8.1e	--	--	2
Turkey	New	5400	3/09	64	22.5	--	--	--	--	--
*Effectuated to some degree by wind										
a - aerial marker reading										
e - estimated										
Underlined values have been revised from the original report.										

- FOR PERIOD OF RECORD

TABLE 6.3 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF APRIL 1, 1983

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE		
			Date of Survey	Snow Depth Inches	Water Content inches	Snow Depth Inches	Water Content inches	Snow Depth Inches	Water Content inches	Years of Previous Record
NAME	Number	Elevation								
AS OF APRIL 1, 1983										
<u>COPPER:</u>										
Haggard Creek	2D03	2540	3/27	20	3.5	20	4.3	30	6.0	19
Kenny Lake School	2D16	1300	3/28	16	3.4	17	3.3	--	--	2
Mankomen Lake	2D05	3050	3/31	28	6.3	27	7.1	31	6.5	15
Mentasta Pass	2D02	2430	3/27	23	5.1	29	6.4	29	5.9	21
Paxson	2D17	2650	3/27	28	5.7	30	6.9	--	--	1
*St. Anne Lake	2D04	1990	3/28	22	4.5	19a	3.4e	23	4.9	19
Sanford River	2D06	2280	3/28	22	6.0	29a	5.2e	25	5.2	15
Tsaina River	2D14	1650	3/28	50	16.0	52	15.7	54	16.7	11
*Worthington Glacier	2D01	2100	3/28	60	20.7	52	17.1	65	21.4	25
<u>MATANUSKA/SUSITNA:</u>										
Alexander Lake	2C02	140	3/29	32	8.6	27a	6.2e	39	10.2	19
*Bald Mountain Lake	2C03	2150	3/29	35a	8.0e	NO	SURVEY	32	7.9	19
Cheliatna Lake	2C04	1650	3/29	46a	11.5e	33a	7.6e	40	10.2	19
Chunilna Creek	2C24	1750	NO	SURVEY		24a	4.8e	--	--	4
Deception Creek	2C17	700	3/29	24a	6.7e	NO	SURVEY	--	--	3
Devils Canyon	2C16	1350	3/28	51a	12.2e	42a	8.4e	39	8.9	6
Dutch Hills	2C28	3100	3/29	60a	22.8e	75a	25.5e	--	--	3
*Fern Mine Road	2C48	2200	3/29	44	15.0	--	--	--	--	--
Fog Lakes	2C14	2120	3/28	24	4.6	30	5.6	28	5.9	13
*Horsepasture Pass	2C15	4300	3/28	28a	6.3e	NO	SURVEY	28	6.0	15
Independence Mine	2B06	3300	3/29	52	20.2	64	9.9	65	19.7	19
*Jato Pass	2C37	4500	DELAYED DATA			52	23.4	--	--	2
Lake Louise	2C06	2400	3/28	21	4.2	20	3.5	23	4.1	19
Little Susitna	2C47	1700	3/29	39	12.0	36	10.8	--	--	1
*Monahan Flat	2C07	2710	3/28	33	7.0	23	5.0	31	6.8	19
*Mt. Hayes	2C42	4200	NO	SURVEY		38	15.6	--	--	2
*Nugget Bench	2C10	2010	3/29	43a	11.6e	50a	10.6e	59	15.7	15
*Ramsdye Creek	2C29	2220	3/29	55a	14.8e	66a	14.5e	--	--	4
Risley's	2C46	930	3/29	23	7.2	16	5.3	--	--	1
Sheep Mountain	2C08	2900	3/28	25	5.8	30	6.4	24	5.4	25
Skwentna	2C11	160	3/29	34	8.6	24	4.9	40	10.4	16
Square Lake	2C13	2950	3/29	26	5.1	32	6.7	21	4.0	19
Talkeetna	2C12	350	3/29	25	6.1	14	4.3	30	7.5	16
*Tokositna Valley	2C30	850	3/29	48a	14.2e	48a	10.6e	--	--	3
W. Fork Glacier	2C41	5050	NO	SURVEY		83	19.8	--	--	2
Willow Airstrip	2C09	200	3/29	25	6.9	21	5.3	27	6.4	19
SUPPLEMENTAL DATA										
AS OF APRIL										
Butte Creek	2C32	2900	4/15	28a	6.2e	19a	4.6e	--	--	2
*Effected to some degree by wind										
a - aerial marker reading										
e - estimated										

- FOR PERIOD OF RECORD

TABLE 6.4 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF MAY 1, 1983

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE		
			Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
NAME	Number	Elevation								
AS OF MAY 1, 1983										
COPPER:										
Haggard Creek	2D03	2540	5/2	0	0.0	16	4.3	21	5.4	19
Kennv Lake School	2D16	1300	4/27	0	0.0	12	2.9	--	--	3
Mankomen Lake	2D05	3050	4/30	20	3.7	25	7.2	27	6.5	15
Mentasta Pass	2D02	2430	5/2	4	1.1	23	5.3	20	5.4	21
Paxson	2D17	2650	5/2	10	2.6	25	5.9	--	--	1
Sanford River	2D06	2280	4/27	8a	2.0e	22a	5.4e	11	2.9	15
*St. Anne Lake	2D04	1990	4/27	10a	2.7e	15a	3.7e	11	3.0	19
Tsaina River	2D14	1650	4/27	46	16.3	46	14.2	45	15.2	11
*Worthington Glacier	2D01	2100	4/27	63	23.8	52	20.0	60	23.0	25
MATANUSKA/SUSITNA:										
Alexander Lake	2C02	140	4/27	27a	8.1e	20a	6.4e	28	8.7	17
*Bald Mountain Lake	2C03	2150	4/27	31a	8.7e	NO	SURVEY	33.2	9.3	19
Chelatna Lake	2C04	1650	4/27	47a	13.6e	NO	SURVEY	36	10.5	19
Chunilna Creek	2C24	1750	NO	SURVEY		32a	7.4e	--	--	3
Deception Creek	2C17	700	4/27	9a	3.2e	--	--	--	--	3
Devils Canyon	2C16	1350	DELAYED	DATA		34a	8.5e	30	8.2e	6
Dutch Hills	2C28	3100	4/27	75a	26.2e	61a	24.4e	--	--	3
*Fern Mine Road	2C48	2200	4/26	44	15.4	--	--	--	--	--
Fog Lakes	2C14	2120	4/27	9a	2.2e	23a	5.3e	22	5.6e	13
*Horsepasture Pass	2C15	4300	4/27	29a	7.8e	41a	10.2e	29	7.0	15
Independence Mine	2B06	3300	4/26	58	22.0	57	19.7	63	22.1	19
*Jatu Pass	2C37	4500	DELAYED	DATA		57	19.9	--	--	2
Kashwitna River Cirque	2C20	3900	4/27	53a	17.5e	58a	20.3	--	--	1
Lake Louise	2C06	2400	4/27	11	2.6	18	4.3	14	3.4	19
Little Susitna	2C47	1700	4/26	32	8.4	29	10.6	--	--	1
*Monahan Flat	2C07	2710	4/27	31a	7.8e	23	5.2	30	7.6	19
*Mt. Hayes	2C42	4200	DELAYED	DATA		42	12.8	--	--	2
*Nugget Bench	2C10	2010	4/27	43a	13.3e	40a	12.0e	54	16.6	15
*Ramsdyke Creek	2C29	2220	4/27	60a	18.6e	51a	15.3e	--	--	3
Risley's	2C46	930	4/26	5	1.7	9	2.8	--	--	1
Sheep Mountain	2C08	2900	4/27	14	3.3	25	5.9	15	4.0	25
*Sheep River	2C19	4100	4/27	40a	12.0e	38a	11.4e	--	--	4
Skwentna	2C11	160	4/27	23	7.0	17	5.4	23	7.6	16
Square Lake	2C13	2950	4/27	16	4.8	31	7.2	16	3.3	19
Talkeetna	2C12	350	4/27	11	4.2	6	2.3	17	5.4	16
Talkeetna River Pass	2C22	5100	4/27	32a	8.6e	47a	14.1e	--	--	4
*Tokositna Valley	2C30	850	4/27	47a	13.6e	38a	11.4e	--	--	3
*Upper Kashwitna River	2C27	4300	4/27	32a	8.6e	45a	14.6e	--	--	4
W. Fork Glacier	2C41	5050	DELAYED	DATA		83	25.7	--	--	2
Willow Airstrip	2C09	200	4/27	13	4.6	11	4.2	9	2.9	19
SUPPLEMENTAL DATA										
AS OF MAY										
Butte Creek	2C32	2900	5/10	12a	3.6e	9a	2.0e	--	--	2
Caribou	2C33	4100	5/10	36a	10.8e	32a	10.5e	--	--	2
East Fork	2C35	2900	5/10	18a	6.8e	0a	0.0e	--	--	1
Pyramid	2C36	4850	5/10	38a	14.4e	9a	2.0e	--	--	2
Turkey	New	5400	5/10	66	25.3	--	--	--	--	--
DELAYED MAY DATA										
Devils Canyon	2C16	1350	NO	SURVEY		34a	8.5e	30	8.2	6
*Jatu Pass	2C37	4500	5/10	43	16.2	57	19.9	--	--	2
*Mt. Hayes	2C42	4200	NO	SURVEY		42	12.8	--	--	2
*W. Fork Glacier	2C41	5050	5/10	67	25.5	83	25.7	--	--	2
*Affected to some degree by wind										
a - aerial marker reading										
e - estimated										

- FOR PERIOD OF RECORD

TABLE 6.5 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF JANUARY AND FEBRUARY 1984

DRAINAGE BASIN and or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL RECORD		
			Date of Survey	Snow Depth inches	Water Content inches	Snow Depth inches	Water Content inches	Snow Depth inches	Water Content inches	Year of Previous Record
NAME	Number	Elevation								
AS OF JANUARY 1, 1984										
Devils Canyon	2C16	1350	1/6	28	5.4	37	8.1	--	--	4
Jatu Pass	2C37	4500	1/9	52	18.6	NO SURVEY	--	--	--	3
W. Fork Glacier	2C41	5050	1/9	74	24.8	NO SURVEY	--	--	--	3
SUPPLEMENTAL DATA										
AS OF JANUARY										
Butte Creek	2C32	2900	1/10	18a	3.2e	--	--	--	--	--
Caribou	2C33	4100	1/09	42a	13.9e	31a	6.8e	--	--	2
East Fork	2C35	2900	1/09	23a	4.4e	--	--	--	--	--
Sherman	New	650	1/10	34	7.7	--	--	--	--	--
AS OF FEBRUARY 1, 1984										
COPPER:										
Haggard Creek	2D03	2540	1/30	26	4.7	18	3.5	22	4.1	20
Kenny Lake School	2D16	1300	1/31	16	2.1	16	2.6	--	--	--
Mankomen Lake	2D05	3050	1/28	32	5.7	25	5.1	25	4.7	16
Mentasta Pass	2D02	2430	1/30	24	5.2	22	4.7	22	4.4	22
Paxson	2D17	2650	1/30	27	5.9	27	5.9	--	--	2
Sanford River	2D06	2280	1/28	33a	4.6e	24a	4.1e	21	3.8	17
*St. Anne Lake	2D04	1990	1/28	18	2.6	22	3.9	20	3.7	20
Tsaina River	2D14	1650	2/1	40	9.1	50	13.0	--	--	1
*Worthington Glacier	2D01	2100	1/31	58	13.2	58	14.9	--	--	1
MATANUSKA/SUSITNA:										
Alexander Lake	2C02	140	1/27	32	7.5	29	6.9	33	7.4	20
*Bald Mountain Lake	2C03	2150	1/27	24a	5.0e	33a	6.8e	23	4.5	20
*Chelatna Lake	2C04	1650	1/27	39a	11.7e	41a	9.4e	31	6.8	20
Deception Creek	2C17	700	1/28	11a	2.2e	23a	6.0e	--	--	4
Devils Canyon	2C16	1350	NO SURVEY			37	9.0	--	--	5
Dutch Hills	2C28	3100	1/27	53a	18.0e	60a	17.4e	--	--	5
*Fern Mine Road	2C48	2200	1/27	35	10.4	44	13.9	--	--	1
Fog Lakes	2C14	2120	1/27	19	3.7	22	4.2	21	3.8	13
Horsepasture Pass	2C15	4300	1/28	18a	3.1e	27a	5.3e	23	4.3	15
*Independence Mine	2B06	3300	1/27	41	14.0	50	17.9	--	--	4
*Jatu Pass	2C37	4500	NO SURVEY			48a	13.4e	--	--	2
Lake Louise	2C06	2400	1/28	17	2.0	17	2.7	18	2.9	20
Little Susitna	2C47	1700	1/27	30	8.0	38	11.5	--	--	2
*Monahan Flat	2C07	2710	1/27	28	5.6	29	6.1	27	5.1	20
*Mt. Hayes	2C42	4200	NO SURVEY			NO SURVEY		--	--	2
*Nugget Bench	2C10	2010	1/27	35a	10.2e	42a	10.1e	44	10.0	16
*Ramsdyke Creek	2C29	2220	1/27	47a	15.5e	45a	11.7e	--	--	4
Risley's	2C46	930	1/27	14	2.8	22	6.7	--	--	2
Sheep Mountain	2C08	2900	1/31	17	2.7	25	5.2	--	--	1
Skwentna	2C11	160	1/27	36	7.9	31	6.9	34	7.2	17
Square Lake	2C13	2590	1/27	13	1.7	23	4.1	17	3.0	19
Talkeetna	2C12	350	1/28	19	4.1	22	5.2	25	5.4	16
*Tokositna Valley	2C30	850	1/27	44a	14.1e	44a	10.1e	--	--	4
*W. Fork Glacier	2C41	5050	NO SURVEY			NO SURVEY		--	--	2
Willow Airstrip	2C09	200	1/28	22	4.6	22	5.8	25	5.0	19

*Affected to some degree by wind

a - aerial marker reading

e - estimated

Underlined values have been revised from the original report.

- FOR PERIOD OF RECORD

TABLE 6.6 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF MARCH 1, 1984

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE		
			Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
NAME	Number	Elevation								
AS OF MARCH 1, 1984										
COPPER:										
Haggard Creek	2D03	2540	3/4	26	5.5	20	3.7	24	4.9	20
Kenny Lake School	2D16	1300	2/29	19	3.6	17	3.4	--	--	4
Mankomen Lake	2D05	3050	NO	SURVEY	5.4	28	5.5	16	--	--
Mentasta Pass	2D02	2430	3/4	27	6.4	24	4.9	25	5.1	22
Paxson	2D17	2650	3/4	30	6.7	29	5.7	--	--	2
Sanford River	2D06	2280	2/28	29a	<u>5.2e</u>	29	5.6	24	4.7	20
*St. Anne Lake	2D04	1990	2/28	23	3.9	23	4.2	22	4.3	17
Tsaina River	2D14	1650	2/29	51	13.2	52	15.3	53	14.9	12
*Worthington Glacier	2D01	2100	2/29	76	22.4	52	19.1	61	18.5	26
MATANUSKA/SUSITNA:										
Alexander Lake	2C02	140	2/28	46a	11.0e	34	3.2	38	9.3	20
*Bald Mountain Lake	2C03	2150	2/28	28a	6.4e	32a	7.4e	27	6.0	20
*Chelatna Lake	2C04	1650	2/28	54a	<u>13.8e</u>	44a	<u>10.6e</u>	36	8.5	20
Chunilna Creek	2C24	1750	2/28	49a	15.1e	NO	SURVEY	--	--	4
Deception Creek	2C17	700	2/29	28a	5.7e	24a	6.2e	--	--	4
Devils Canyon	2C16	1350	2/28	36a	7.3e	40a	9.6e	32	6.8	7
Dutch Hills	2C28	3100	2/28	73a	23.7e	NO	SURVEY	--	--	3
*Fern Mine Road	2C48	2200	2/28	42	11.7	45	14.1	--	--	2
Fog Lakes	2C14	2120	2/28	22a	4.6e	22	4.3	23	4.5	14
Horsepasture Pass	2C15	4300	2/29	23a	<u>4.1e</u>	<u>28a</u>	<u>5.6e</u>	26	5.2	16
*Independence Mine	2B06	3300	2/28	51	17.1	54	20.0	54	15.9	20
*Jatu Pass	2C37	4500	2/27	66	22.0	42	14.2	--	--	3
Lake Louise	2C06	2400	2/28	21	3.1	20	4.0	21	3.6	20
Little Susitna	2C47	1700	2/28	37	9.9	41	12.0	--	--	2
Monahan Flat	2C07	2710	2/28	41a	<u>8.4e</u>	33	6.5	30	6.3	20
*Mt. Hayes	2C42	4200	NO	SURVEY	--	NO	SURVEY	--	--	2
*Nugget Bench	2C10	2010	2/28	54a	14.5e	45a	11.0e	51	12.1	16
*Ramsdyke Creek	2C29	2220	2/28	67a	20.8e	NO	SURVEY	--	--	4
Risley's	2C46	930	2/28	20	4.1	24	6.5	--	--	2
Sheep Mountain	2C08	2900	2/29	21	3.7	27	5.6	25	4.8	26
Skwentna	2C11	160	2/28	51	11.5	37	8.8	38	8.9	17
Square Lake	2C13	2590	2/29	16a	2.2e	25	4.6	20	3.5	20
Talkeetna	2C12	350	2/28	28	5.4	26	6.0	27	6.4	17
Tokositna Valley	2C30	850	2/28	66a	<u>17.2e</u>	61a	<u>14.0e</u>	--	--	4
W. Fork Glacier	2C41	5050	NO	SURVEY	--	<u>65</u>	<u>22.4</u>	--	--	2
Willow Airstrip	2C09	200	2/29	31	6.9	26	6.9	27	5.9	20
SUPPLEMENTAL DATA										
AS OF MARCH										
Butte Creek	2C32	2900	2/22	27a	5.8e	27a	5.7e	--	--	3
East Fork	2C35	2900	2/22	36a	7.6e	39a	8.2e	--	--	2
Sherman	New	650	2/22	46	11.2	--	--	--	--	1
Turkey	New	5400	2/27	78	26.1	64	22.5	--	--	1

*Affected to some degree by wind

a - serial marker reading

e - estimated

Underlined values have been revised from the original report.

- FOR PERIOD OF RECORD

TABLE 6.7 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF APRIL 1, 1984

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE		
			Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
NAME	Number	Elevation								
AS OF APRIL 1, 1984										
<u>COPPER:</u>										
Haggard Creek	2D03	2540	4/03	24	5.3	20	3.5	27	5.8	20
Kenny Lake School	2D16	1300	3/28	15	3.8	16	3.4	--	--	4
Mankomen Lake	2D05	3050	NO	SURVEY		28	6.3	31	6.5	16
Mentasta Pass	2D02	2430	4/03	23	6.1	23	5.1	28	6.1	22
Paxson	2D17	2650	4/03	29	6.7	28	5.7	--	--	2
Sanford River	2D06	2280	3/28	24a	5.7e	28	6.0	26	5.4	17
*St. Anne Lake	2D04	1990	3/28	21	4.4	22	4.5	23	4.9	20
Tsaina River	2D14	1650	3/29	44	13.7	50	16.0	56	16.7	12
*Worthington Glacier	2D01	2100	3/29	65	24.5	60	20.7	65	21.4	26
<u>MATANUSKA/SUSITNA:</u>										
Alexander Lake	2C02	140	3/28	40a	11.4e	32	3.6	39	10.2	20
*Bald Mountain Lake	2C03	2150	3/28	27a	6.5e	35a	8.0e	32	7.9	20
*Chelatna Lake	2C04	1650	3/28	45a	14.0e	46a	11.5e	40	10.3	20
Deception Creek	2C17	700	NO	SURVEY		24a	6.7e	--	--	4
Devils Canyon	2C16	1350	3/28	39a	9.0e	51a	12.2e	41	9.4	7
Dutch Hills	2C28	3100	3/28	78a	28.1e	60a	22.8e	--	--	4
*Fern Mine Road	2C48	2200	3/27	41	12.6	44	15.0	--	--	1
Fog Lakes	2C14	2120	3/28	24	5.5	24	4.6	26	5.3	14
Horsepasture Pass	2C15	4300	3/28	24a	4.8e	28a	6.3e	28	6.0	16
Independence Mine	2B06	3300	3/27	52	16.9	52	20.2	64	19.7	20
*Jatu Pass	2C37	4500	NO	SURVEY		NO	SURVEY	--	--	2
Lake Louise	2C06	2400	EST	20	3.4	21	4.2	23	4.1	20
Little Susitna	2C47	1700	3/27	34	9.8	39	12.0	--	--	2
*Monahan Flat	2C07	2710	3/28	35	8.6	33	7.0	31	6.7	20
*Mt. Hayes	2C42	4200	NO	SURVEY		NO	SURVEY	--	--	2
*Nugget Bench	2C10	2010	3/28	50a	16.0e	43a	11.6e	58	15.5	16
*Ramsdyke Creek	2C29	2220	3/28	66a	22.4e	55a	14.8e	--	--	5
Risley's	2C46	930	3/27	12	3.4	23	7.2	--	--	2
Sheep Mountain	2C08	2900	3/28	19	4.2	25	5.8	24	5.4	26
Skwentna	2C11	160	3/28	40	11.9	34	8.6	40	10.3	17
Square Lake	2C13	2590	EST	16	2.8	26	5.1	21	4.0	20
Talkeetna	2C12	350	3/28	19	5.6	25	6.1	30	7.4	17
*Tokositna Valley	2C30	850	3/28	57a	17.7e	48a	14.2e	--	--	4
*W. Fork Glacier	2C41	5050	NO	SURVEY		NO	SURVEY	--	--	2
Willow Airstrip	2C09	200	4/02	24	6.9	25	6.9	27	6.5	20
SUPPLEMENTAL DATA										
AS OF APRIL										
Butte Creek	2C32	2900	4/09	25a	6.0e	28a	6.2e	--	--	3
Caribou	2C33	4100	4/09	51a	18.1e	--	--	--	--	--
East Fork	2C35	2900	4/09	33a	8.2e	--	--	--	--	--
Jatu Pass	2C37	4500	4/09	71	26.0	--	--	--	--	2
Sherman	New	650	4/09	42	10.5	--	--	--	--	--
Turkey	New	5400	4/09	78	28.2	--	--	--	--	--
W. Fork Glacier	2C41	5050	4/09	99	37.5	--	--	--	--	2

*Affected to some degree by wind

a - aerial marker reading

e - estimated

Underlined values have been revised from the original report.

- FOR PERIOD OF RECORD

TABLE 6.8 MONTHLY SNOW SURVEY REPORT BY SCS, AS OF MAY 1, 1984

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			LAST YEAR		HISTORICAL AVERAGE ¹		
			Date of Survey	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Snow Depth (inches)	Water Content (inches)	Years of Previous Record
NAME	Number	Elevation								
AS OF MAY 1, 1984										
<u>COPPER:</u>										
Haggard Creek	2D03	2540	4/28	21	5.8	0	0.0	19	5.1	20
Kenny Lake School	2D16	1300	5/01	3	1.2	0	0.0	--	--	4
Mankomen Lake	2D05	3050	NO	SURVEY		20	3.7	27	6.6	16
Mentasta Pass	2D02	2430	4/28	19	5.5	4	1.1	19	5.2	22
Paxson	2D17	2650	4/28	27	7.3	10	2.6	--	--	2
Sanford River	2D06	2280	4/25	14a	3.9e	8a	2.0e	11	2.9	17
*St. Anne Lake	2D04	1990	4/25	15	4.3	10a	2.7e	11	3.0	20
Tsaina River	2D14	1650	5/01	27	9.7	46	16.3	45	15.3	12
*Worthington Glacier	2D01	2100	5/01	61	21.9	63	23.8	60	22.7	26
<u>MATANUSKA/SUSITNA:</u>										
Alexander Lake	2C02	140	4/25	38a	11.6e	27a	8.1e	28	8.7	18
*Bald Mountain Lake	2C03	2150	4/25	32a	8.0e	31a	8.7e	33	9.1	20
*Chelatna Lake	2C04	1650	4/25	47	14.9	47a	13.6e	37	10.7	20
Deception Creek	2C17	700	4/25	11a	3.5e	9a	3.2e	--	--	4
Devils Canyon	2C16	1350	4/25	38a	9.5e	NO	SURVEY	30	8.2	6
Dutch Hills	2C28	3100	4/25	74a	28.9e	75a	26.2e	--	--	4
*Fern Mine Road	2C48	2200	4/30	40	11.6	44	15.4	--	--	1
Fog Lakes	2C14	2120	4/25	25	6.1	9a	2.2e	20	5.1	14
*Horsepasture Pass	2C15	4300	4/25	25a	5.8e	29a	7.8e	28	7.1	16
*Independence Mine	2B06	3300	4/30	55	19.5	58	22.0	63	22.1	20
*Jatu Pass	2C37	4500	NO	SURVEY		43	16.2	--	--	3
Kashwitna R. Cirque	2C20	3900	NO	SURVEY		53a	17.5e	--	--	5
Lake Louise	2C06	2400	4/25	14	3.6	11	2.6	14	3.4	20
Little Susitna	2C47	1700	4/30	28	9.2	32	8.4	--	--	2
*Monahan Flat	2C07	2710	4/25	35	8.6	31a	7.8e	30	7.6	20
*Mt. Hayes	2C42	4200	NO	SURVEY		NO	SURVEY	--	--	2
*Nugget Bench	2C10	2010	4/25	45a	16.0e	43a	13.3e	53	16.4	16
*Ramsdyke Creek	2C29	2220	4/25	63a	22.7e	60a	18.6e	--	--	4
Risley's	2C46	930	4/30	0	0.0	5	1.7	--	--	2
Sheep Mountain	2C08	2900	5/01	11	2.8	14	3.3	15	4.0	26
*Sheep River	2C19	4100	NO	SURVEY		40a	12.0e	--	--	5
Skwentna	2C11	160	4/25	34	10.7	23	7.0	23	7.5	17
Square Lake	2C13	2590	4/25	15	3.1	16	4.8	17	3.9	20
Talkeetna	2C12	350	4/25	8	2.5	11	4.2	16	5.3	17
Talkeetna River Pass	2C22	5100	NO	SURVEY		32a	8.6e	--	--	5
*Tokositna Valley	2C30	850	4/25	52a	17.7e	47a	13.6e	--	--	4
*Upper Kashwitna R.	2C27	4300	NO	SURVEY		32a	8.6e	--	--	5
*W. Fork Glacier	2C41	5050	NO	SURVEY		67	25.5	--	--	3
Willow Airstrip	2C09	200	4/25	20	6.0	13	4.6	9	3.0	20
*Affected to some degree by wind										
a - aerial marker reading										
e - estimated										

+ FOR PERIOD OF RECORD

TABLE 6.9 LOCATION INFORMATION FOR SNOW SURVEY SITES REPORTED BY
U.S. SOIL CONSERVATIONS SERVICE (1983-84)

AREA 2

South Central

Active Data Collection Sites

MAP NO.	SITE NAME	COURSE NO.	ELEV.	LATITUDE	LONGITUDE	MEAS. DATES	MEAS. BY
2C	MATANUSKA/SUSITNA						
2C01	Sheep Mountain	47MM1	2900	61°48'N	147°29'W	3.4.5	a
2C02	Alexander Lake	50MM1A	140	61°45'N	150°53'W	2.3.4.5	a,h
2C03	Bald Mountain Lake	49NN1A	2150	62°15'N	149°42'W	2.3.4.5	a,h
2C04	Chelatna Lake	51NN1a	1650	62°30'N	151°25'W	2.3.4.5	a,h
2C06	Lake Louise	46NN2A	2400	62°16'N	146°31'W	2.3.4.5	a,h
2C07	Monahan Flat	47OO1APST	2710	63°18'N	147°39'W	2.3.4.5	a,h
2C09	Willow Airstrip	50MM2	200	61°45'N	150°03'W	2.3.4.5	a,h
2C10	Nugget Bench	50NN1A	2010	63°31'N	150°56'W	2.3.4.5	a,h
2C11	Skwentna	51MM1A	160	61°58'N	151°12'W	2.3.4.5	a,h
2C12	Taikeetna	50NN2	350	62°19'N	150°05'W	2.3.4.5	a,h
2C13	Square Lake	47NN1A	2950	62°24'N	147°28'W	2.3.4.5	a,h
2C14	Fog Lake	48NN2A	2120	62°47'N	148°28'W	2.3.4.5	a,h
2C15	Horsepasture Pass	47NN2a	4300	62°08'N	147°38'W	2.3.4.5	a,h
2C16	Devils Canyon	49NN1a	1350	62°49'N	149°18'W	2.3.4.5	a,h
2C17	Deception Creek	49MM14a	700	61°42'N	149°50'W	2.3.4.5	a,h
2C19	Sheep River	49NN4a	4100	62°08'N	149°07'W	4.5	a,h
2C20	Kashwitna River Cirque	49MM13a	3900	61°57'N	149°22'W	4.5	a,h
2C21	Little Willow Creek	49MM12a	2100	61°59'N	149°42'W	4.5	a,h
2C22	Taikeetna River Pass	48NN3a	5100	62°12'N	148°24'W	4.5	a,h
2C24	Chunilna Creek	49NN6a	1750	62°32'N	149°46'W	2.3.4.5	a,h
2C27	Upper Kashwitna River	48MM9a	4300	61°57'N	148°59'W	4.5	a,h
2C28	Dutch Hills	50NN3A	3100	62°36'N	150°51'W	2.3.4.5	a,h
2C29	Ramsdyke Creek	50NN4AS	2220	62°37'N	150°48'W	2.3.4.5	a,h
2C30	Tokositna Valley	50NN5A	850	62°38'N	150°46'W	2.3.4.5	a,h
2C31	Moose	47OO3A	2750	63°04'N	147°40'W	2.3.4.5	h
2C32	Butte Creek	47OO4A	2900	63°01'N	147°53'W	2.3.4.5	h
2C33	Caribou	47OO5A	4100	63°25'N	147°04'W	2.3.4.5	h
2C34	Malemute	47OO6A	2600	63°23'N	147°12'W	2.3.4.5	h
2C35	East Fork	46OO3A	2900	63°24'N	146°51'W	2.3.4.5	h
2C36	Pyramid	46OO2A	4850	63°25'N	146°56'W	2.3.4.5	h
2C37	Jatu Pass	46OO4A	4500	63°26'N	146°47'W	2.3.4.5	h
2C38	Tyone River	47NN3	2500	62°40'N	147°08'W	2.3.4.5	h
2C39	Cirque	47OO8A	4700	63°28'N	147°27'W	2.3.4.5	h
2C40	Ice Cave	47OO9A	4000	63°30'N	147°25'W	2.3.4.5	h
2C41	West Fork Glacier	47OO10A	5050	63°33'N	147°10'W	2.3.4.5	h
2C42	Mt. Hayes	46OO6A	4200	63°31'N	146°54'W	2.3.4.5	h
2C43	Kosina Creek	47NN4	2600	62°41'N	147°58'W	2.3.4.5	h
2C44	Denali	47OO11	2650	63°05'N	147°28'W	2.3.4.5	h
2C45	Watana Camp	49NN6P	2200	62°50'N	148°24'W	2.3.4.5	h
2C46	Risley's	New	930	61°42'N	149°13'W	2.3.4.5	a
2C47	Little Susitna	New	1700	61°46'N	149°12'W	2.3.4.5	a
2C48	Fern Mine Road	New	2200	61°47'N	149°13'W	2.3.4.5	a
2C49	Fishhook	New	2600	61°46'N	149°15'W	2.3.4.5	a
2C50	Valdez Creek	New	4400	63°13'N	147°08'W	2.3.4.5	h
2C51	Boulder Creek	New	4000	63°13'N	147°08'W	2.3.4.5	h
2D	COPPER/PRINCE WILLIAM SOUND						
2D01	Worthington Glacier	45MM2	2100	61°11'N	145°41'W	3.4.5	a
2D02	Mentasta Pass	43NN1	2430	62°54'N	143°40'W	2.3.4.5	a
2D03	Haggard Creek	45NN1A	2540	62°42'N	145°27'W	2.3.4.5	a
2D04	St. Anne Lake	46MM1A	1990	61°54'N	146°03'W	2.3.4.5	a,h
2D05	Mankomen Lake	44OO1	3050	63°00'N	144°32'W	2.3.4.5	a
2D06	Sanford River	45NN2A	2280	62°13'N	145°04'W	2.3.4.5	a,h
2D07	Gulkana Glacier A	45OO6	4590	63°15'N	145°29'W	7	f
2D08	Gulkana Glacier B	45OO7	5460	63°17'N	145°26'W	7	f
2D09	Gulkana Glacier D	45OO9	6037	63°17'N	145°21'W	7	f
2D10	Wolverine Glacier A	48LL1	1950	60°23'N	148°54'W	7	f
2D11	Wolverine Glacier B	48LL2	3500	60°24'N	148°55'W	7	f
2D12	Wolverine Glacier C	48LL3	4250	60°25'N	148°55'W	7	f
2D13	Lowe River	45MM3	600	61°06'N	145°49'W	3.4.5	a
2D14	Tsaina River	45MM4	1650	61°12'N	145°30'W	3.4.5	a
2D15	Valdez	46MM2	50	61°06'N	146°13'W	3.4.5	a
2D16	Kenny Lake School	44MM1	1300	61°44'N	145°00'W	3.4.5	a
2D17	Paxson	New	2650	63°01'N	145°30'W	3.4.5	a

LEGEND

★ Numerals refer to specific dates:
 Numerals 1 = January 1
 2 = February 1
 3 = March 1
 4 = April 1
 5 = May 1
 6 = June 1
 7 = Special dates

★ ★ Letters refer to Agency that secures the snow survey:
 a. Soil Conservation Service
 b. Forest Service
 c. U.S. Army Corps of Engineers
 d. Alaska Power Administration
 e. Bureau of Land Management
 f. U.S. Geological Survey
 g. U.S. Fish and Wildlife Service
 h. R & M Consultants
 i. Alaska Dept. of Transportation
 j. Alaska Dept. of Natural Resources

★ ★ ★ Letters following the snow course number refer to:
 A. Snow Course and Aerial Stadia Marker
 a. Aerial Stadia Marker only
 P. Precipitation Storage Gage
 S. Snow Pillow
 T. Radio Telemetered

TABLE 6.10 SUMMARY OF SNOW SURVEYS MADE AT SUSITNA BASIN
CLIMATIC STATION SITES, 1983-1984

DATE OF SURVEY	DENALI		KOSINA		WATANA		DEVIL CANYON		SHERMAN	
	(inches)		(inches)		(inches)		(inches)		(inches)	
	Snow Depth	Water Content	Snow Depth	Water Content	Snow Depth	Water Content	Snow Depth	Water Content	Snow Depth	Water Content
January 11-12, 1983	8.3	2.0	16.3	4.3	10.4	2.2	37.0	8.1	No Survey	
February 2-8, 1983	10.2	2.8	17.8	3.6	11.5	3.1	37.0	9.0	42.8	10.6
March 9, 1983	15.0	3.0	20.5	4.3	No Survey		38.2	5.2	42.4	11.4
April 11-15, 1983	13.3	2.2	19.0	4.9	8.6	2.4	36.5	8.9	No Survey	
May 10-23, 1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
January 6-10, 1984	9.5	1.5	10.7	1.8	14.0	3.0	28.4	5.4	34.3	7.7
February 27, 1984	10.2	2.3	19.4	3.4	10.1	2.6	33.4	7.0	45.8	11.2
April 9, 1984	10.3	2.1	17.4	3.7	11.2	2.9	35.0	8.2	40.0	9.3
May 22-30, 1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SECTION 7.0

7.0 EVAPORATION

Evaporation data collected with a Class A evaporation pan were reported for the summers of 1983 and 1984 by R&M at Watana Camp and by the National Oceanic and Atmospheric Administration (N.O.A.A.) at four stations near the Susitna Basin.

7.1 R&M Data

The Watana Camp evaporation measurements were daily observations by R&M staff and by camp personnel from May through September in 1983 and 1984. Daily precipitation totals were recorded by the automatic weather station's tipping bucket rain gage nearby. Windspeed data were also measured by the weather station. Daily evaporation totals for the two years are tabulated in Tables 7.1 and 7.2. The station location is shown in Figure 5.175.

7.2 N.O.A.A. Data

The four stations in proximity to the Susitna Basin for which N.O.A.A. reported evaporation data in 1983 and 1984 are the University Experiment Station in Fairbanks, McKinley Park, the Matanuska Agricultural Experiment Station near Palmer, and Palmer. The data were reported in the monthly Climatological Data reports (N.O.A.A. 1983-84a) and are summarized in Appendix E, Tables E.1-E.8. Station locations are indicated in Figure 5.175.

TABLE 7.1
EVAPORATION DATA COLLECTED AT WATANA CAMP, 1983
(inches)

Day	May	June	July	August	September
1		0.18	0.17	0.16	-
2		0.19	0.11	*	-
3		0.02	0.12	0.27	0.13
4		*	0.14	*	0.05
5		*	0.16	*	0.01
6		0.25	0.08	0.28	End
7		0.00	-	-	of
8		*	-	-	observations
9		0.55	-	0.23	
10		0.00	-	0.01	
11		*	-	0.10	
12		*	-	-	
13		*	-	-	
14		0.71	-	-	
15		0.12	0.09	-	
16		0.01 (e)	0.08	0.05	
17		0.14 (e)	0.28	0.12	
18		0.22 (e)	0.12	0.05	
19		0.24	0.09	*	
20		0.14 (e)	0.12	*	
21		0.25	0.14	*	
22		0.27	0.16	0.21	
23		0.24	-	0.02	
24		0.21	-	0.02	
25	Record started	0.16	-	0.00	
26	*	0.45	-	0.13	
27	0.24	0.22	0.15	0.08	
28	*	0.00	0.25	-	
29	*	0.14	0.02	-	
30	*	0.11	0.42	-	
31	0.50		0.00	-	
Total Evaporation	-	4.82 (a)	4.36 (b)	2.55 (b)	-
Mean Daily Evap.	0.12 (6 days)	0.16 (a)	0.14 (19 days)	0.08 (21 days)	0.06 (3 days)

All values are for 24 hour period ending at approximately 0800 on date shown.

* No Pan observation on this date. Amount included in following measurement, time distribution unknown.

- Missing data for this date.

(e) Missing data. Value estimated.

(a) Calculated using estimated values.

(b) Adjusted monthly value. Total evaporation amount was determined by dividing sum of readings by number of recorded days, then multiplying by number of days in the month.

TABLE 7.2

EVAPORATION DATA, WATANA CAMP, 1984

Day	May	June	July	August	September
1		0.18	0.21	0.08(e)	0.10(i)
2		0.19	0.07	0.02(e)	0.09
3		0.20	0.11	0.05(e)	0.08(i)
4		0.12	*	0.17(e)	*
5		0.22	0.40	0.15(e)	0.21
6		0.12	0.58	0.00(e)	0.06
7		*	0.28	0.20(e)	0.02
8		*	0.17	0.19	0.06
9		*	0.14	0.17	0.12(i)
10		*	0.06	0.00	0.06(i)
11		0.37	0.11	0.55	0.04
12		0.06	0.18	*	0.08
13		0.07	0.14	0.38	0.02
14		0.19	0.00	0.17	0.08
15		0.00(e)	0.09(e)	0.14	0.12
16		*	0.08(e)	0.16	end of data
17		*	0.01(e)	0.13	
18		0.42	0.00(e)	0.06	
19		0.21	0.04(e)	0.04	
20		0.81	0.07(e)	0.00	
21		0.64	0.00(e)	0.05	
22		0.28	0.00(e)	0.04	
23	Start	0.81	0.08	0.00	
24	0.03	0.30	0.15	0.00	
25	0.06	0.12	0.09	0.00	
26	0.09	0.24	0.00	0.04	
27	*	0.05	0.00(e)	0.23	
28	*	0.03	0.01(e)	0.14(i)	
29	0.28	0.02	0.00(e)	0.03(i)	
30	0.00(e)	0.01	0.03(e)	0.24(i)	
31	0.73		0.06	0.12	
TOTAL	1.19M	5.66(e)	3.16(e)	3.55(e)	1.14M

NOTE: All values are for a 24-hour period ending at approximately 0800 on date shown.

* No pan observation on this date. Amount included in following measurement, time distribution unknown.

(e) Precipitation data missing but estimated from observers notes and records from nearby stations.

(i) Ice layer on water surface.

M Monthly total is approximate, based on a partial record only.

SECTION 8.0

8.0 GLACIAL OBSERVATIONS

Glacial studies were begun by R&M Consultants and the University of Alaska, Fairbanks (UAF) during 1981. The objective of this program is to identify any problems peculiar to the existence of glaciers in the Susitna Basin. This study assessed whether significant changes in water or sediment yield could occur or if potential lake dumps exist and is oriented toward a long-term glacial observation and study program.

Data were gathered on all major glaciers of the Upper Susitna Basin with the exception of the Eureka and Oshetna Glaciers. Study of the Eureka Glacier was limited to visual observations and aerial photography. The Oshetna Glacier was not considered a major contributor to the flow or sediment regime of the Susitna River and therefore was omitted from this study.

R&M conducted the control and velocity surveys on the West Fork Glacier, West Tributary of Susitna Glacier, Turkey Glacier and East Tributary of Susitna Glacier. The velocity surveys were repeated monthly, May through September, during 1981 and 1982, to determine ice movement as an aid in mass balance and glacier dynamics analyses.

A thermocouple string was installed to a depth of 66 feet at an elevation of 7700 feet on the West Tributary of Susitna Glacier to determine the thermal regime of the ice.

Glacial studies were supported by historical data from climate stations and snow surveys in the Susitna Basin, as well as sediment discharge records for the Susitna and Maclaren Rivers.

The results of this data acquisition effort, as well as a thorough description of field procedures and analytical methods, are presented in reports by Dr. William Harrison of the Geophysical Institute (R&M and Harrison 1981, and 1982).

A mass balance survey was conducted by R&M and UAF in May 1983 on the following glaciers: West Fork, Susitna, Turkey, East Fork Susitna, East Fork and Maclaren. Velocity surveys were discontinued in 1983. UAF measured the snow stakes in September 1983 and obtained snow stratigraphy data.

R&M Consultants measured the remaining snow stakes in September 1984 and reset all the markers at the original locations. These markers consist of accumulation stakes at high elevations, ablation stakes at low elevations and velocity stakes near the equilibrium zone on all the previously named glaciers.

SECTION 9.0

9.0 RIVER ICE OBSERVATIONS

River ice conditions during freeze-up and breakup and through the winter have been thoroughly documented by R&M Consultants since October 1980. Ground observations, aerial observations, photography, and physical measurements were all used to record locations, timing, and other characteristics of the ice. Other characteristics include stability, ice thickness, locations of open leads, ice porosity, and ice density. Local observers were also used at various times to make daily observations at Denali, Gold Creek, at the mouth of the Deshka River, and at Susitna Station. Several sets of aerial photographs were taken by aerial photography firms to record conditions on specific dates. Dates of field observations are listed in the Hydrology Field Data Index (R&M 1985a). Complete results of the ice observations from October 1982 through December 1984 are presented in the Susitna River Ice Study reports for 1982-83 (R&M 1984b), 1983-84 (R&M 1985c), and 1984-85 (R&M 1985d).

SECTION 10.0

10.0 REFERENCES

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APPENDICES A-E
DATA COLLECTED BY OTHER ORGANIZATIONS

APPENDIX A
STREAMFLOW DATA (USGS, ADF&G)

TABLE A.1

SOUTH-CENTRAL ALASKA

15291000 SUSITNA RIVER NEAR DENALI

LOCATION.--Lat 63°06'14", long 147°30'57", in NE¼ sec.10, T.21 S., R.1 E., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on upstream right pier of bridge on Denali Highway, 0.2 mi downstream from Windy Creek, 3.3 mi upstream from Butte Creek, and 5.3 mi southwest of Denali.

DRAINAGE AREA.--950 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1957 to September 1966, July 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,440 ft, from topographic map. See WSP 2136 for history of changes prior to July 4, 1968. July 4, 1968 to Aug. 28, 1974, on left upstream wingwall, at present datum.

REMARKS.--Water-discharge records fair, except those for period of no gage-height record, Oct. 6 to May 15, which are poor. Streamflow augmented by glaciers, which cover 25 percent of the basin.

AVERAGE DISCHARGE.--24 years (water years 1958-66, 1969-83), 2,759 ft³/s, 39.44 in/yr, 1,999,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,200 ft³/s Aug. 10, 1971, gage height, 13.32 ft from rating curve extended above 19,000 ft³/s; maximum gage height, 13.58 ft May 11, 1970, backwater from ice; minimum daily discharge, about 34 ft³/s Mar. 16-31, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 14 or 15, 1967 reached a stage of 12.7 ft, from floodmarks, discharge, 28,200 ft³/s, from rating curve extended above 19,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 7	0630	*18,700	11.92	Aug. 8	2330	16,600	11.75
July 30	0630	14,400	11.54				

Minimum daily discharge, about 260 ft³/s Mar. 27 to Apr. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2160	500	380	340	300	280	260	460	6020	11700	11300	6500		
2	2000	500	380	340	300	280	260	480	5800	12800	11300	6800		
3	1860	500	380	340	300	280	260	550	8470	11000	11300	5000		
4	1630	500	380	340	300	280	260	600	7770	10800	11000	3820		
5	1580	480	360	340	300	280	260	650	5600	13000	9980	3160		
6	1500	480	360	340	300	280	260	750	5300	15600	10100	2770		
7	1500	460	360	340	300	280	260	800	5150	15800	10100	2550		
8	1400	460	360	340	300	280	260	900	4540	12900	12000	2390		
9	1400	460	360	340	300	280	260	1100	3900	11300	15100	2390		
10	1300	440	360	340	300	280	260	1200	3780	9580	11300	2310		
11	1300	440	360	340	300	280	260	1400	4300	9900	8610	2210		
12	1200	440	360	340	300	280	260	1600	4700	9500	8330	2100		
13	1200	440	360	340	300	280	260	1800	4580	10700	8750	2000		
14	1200	440	360	340	300	280	260	2200	4700	8820	7840	1900		
15	1200	440	360	340	300	280	260	2600	5100	7340	6260	2000		
16	1100	440	360	320	300	280	260	2830	6980	8120	5800	1860		
17	1100	440	360	320	300	280	260	3040	7160	8890	5100	1690		
18	1100	420	360	320	300	280	260	2720	6620	8890	4820	1610		
19	1100	420	360	320	300	280	260	2100	7640	7640	4820	1540		
20	1000	420	360	320	300	280	260	1900	8610	8470	5250	1760		
21	1000	420	360	320	300	280	260	1830	8680	9180	7280	2950		
22	950	420	360	320	300	280	260	1690	9180	9100	6080	3460		
23	850	420	360	320	300	280	260	2470	9660	10600	6440	2950		
24	800	420	360	320	300	280	300	2390	10200	9500	6920	2400		
25	700	400	360	320	300	280	300	2160	11100	9100	6620	1900		
26	650	400	360	320	300	280	320	2290	12400	9740	6920	1600		
27	650	400	360	320	300	280	340	2260	11800	9340	5700	1400		
28	600	400	360	320	300	260	360	2260	11800	9660	5100	1300		
29	600	380	360	320	---	260	380	2950	11100	11300	4900	1500		
30	550	380	360	320	---	260	420	4740	11000	12400	6200	2100		
31	550	---	360	320	---	260	---	6320	---	11500	8190	---		
TOTAL	35730	13160	11240	10220	8400	8600	8440	61040	223640	324170	249410	77920		
MEAN	1153	439	363	330	300	277	281	1969	7455	10460	8045	2597		
MAX	2160	500	380	340	300	280	420	6320	12400	15800	15100	6800		
MIN	550	380	360	320	300	260	260	460	3780	7340	4820	1300		
CFSM	1.21	.46	.38	.35	.32	.29	.30	2.07	7.85	11.0	8.47	2.73		
IN.	1.40	.52	.44	.40	.33	.34	.33	2.39	8.76	12.69	9.77	3.05		
AC-FT	70870	26100	22290	20270	16660	17060	16740	121100	443600	643000	494700	154600		
CAL YR 1982	TOTAL	967020	MEAN	2649	MAX	13900	MIN	110	CFSM	2.79	IN	40.41	AC-FT	1918000
WTR YR 1983	TOTAL	1031970	MEAN	2827	MAX	15800	MIN	260	CFSM	2.98	IN	40.41	AC-FT	2047000

TABLE A.2

1954 HY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION													
15291000	Susitna River near Denali, AK				PROCESS DATE: 16-JAN-85 14:33 GLP								
	LAT 630614	LONG 1473057	STATE 02	COUNTY 170	DATUM OF GAGE: 2440.00 FT NGVD				DRAINAGE AREA: 950				
PROVISIONAL DATA		DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984											
		MEAN VALUES											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	2100	630	310	240	210	200	190	290	2460	11500	9510	2230	
2	2100	640	310	240	210	200	190	320	2800	11900	8500	2100	
3	1900	620	310	240	210	200	190	370	3230	10100	9150	2040	
4	1800	600	310	240	210	200	190	420	3520	9900	10500	1980	
5	1800	560	310	240	210	200	190	480	3600	10600	13000	2100	
6	1500	540	300	230	210	200	190	550	4140	10600	13300	2300	
7	1300	520	300	230	210	200	190	640	4540	11600	13700	2350	
8	1200	500	300	230	210	200	190	740	4710	11000	13000	2360	
9	1100	470	300	230	210	200	190	850	4990	10200	13000	2530	
10	1200	450	300	230	210	200	190	970	5030	9330	11500	2460	
11	1300	440	290	220	210	200	190	1150	5520	9690	8950	2460	
12	1500	440	290	220	210	200	190	1350	6520	9300	8670	2190	
13	1700	420	290	220	210	200	190	1550	8510	9230	7740	2150	
14	1600	420	290	220	210	200	190	1300	9320	8500	7240	2100	
15	1500	400	290	220	210	200	190	2100	9970	8920	7020	1980	
16	1400	400	270	210	200	200	190	2400	11400	9750	7720	1960	
17	1300	360	270	210	200	200	190	2700	11100	10000	8240	1960	
18	1200	360	270	210	200	200	190	3000	10400	9180	8360	2230	
19	1100	370	270	210	200	200	190	3300	9920	8500	9680	3270	
20	1000	370	270	210	200	200	190	3500	10600	8790	10700	3490	
21	950	350	260	210	200	200	190	3700	10500	11300	9340	2670	
22	900	350	260	210	200	200	190	3800	11400	12800	6350	2130	
23	850	350	260	210	200	200	190	3800	12200	11200	3400	1920	
24	800	350	260	210	200	200	190	3800	11300	11400	10100	1600	
25	770	350	260	210	200	200	190	3700	11600	13900	11900	1550	
26	740	330	240	210	200	200	200	3400	12000	16000	9580	1500	
27	720	330	240	210	200	200	210	3000	13600	13700	5160	1450	
28	700	330	240	210	200	200	220	2700	12700	12500	3990	1400	
29	700	330	240	210	200	200	240	2500	12000	11700	3320	1450	
30	700	330	240	210	---	200	260	2290	10900	10600	2770	1500	
31	700	---	240	210	---	200	---	2350	---	10100	2410	---	
TOTAL	37930	13000	3590	6810	5950	6200	5860	63520	251430	334290	273310	64410	
MEAN	1224	433	277	220	205	200	196	2049	8361	10780	8816	2147	
MAX	2100	630	310	240	210	200	260	3800	13600	16000	13700	3490	
MIN	700	330	240	210	200	200	190	290	2460	8500	2410	1400	
CFSM	1.29	4.46	2.29	2.23	2.22	2.21	2.21	2.15	8.82	11.3	9.22	2.26	
IN.	1.49	4.51	2.34	2.27	2.23	2.24	2.23	2.49	9.35	13.09	10.70	2.56	
AC-FT	75330	25790	17040	13510	11800	12300	11660	126000	498700	663100	542100	127600	
ATR YR 1984	TOTAL	1071320	MEAN	2927	MAX	16000	MIN	190	CFSM	3.06	IN.	41.95	AC-FT 2125000

TABLE A.3

SOUTH-CENTRAL ALASKA

15291200 MACLAREN RIVER NEAR PAXSON

LOCATION.--Lat 63°07'10", long 146°31'45", Matanuska-Susitna Borough, Hydrologic Unit 19050002, near left bank on downstream side of bridge on Denali Highway, 1.5 mi downstream from Boulder Creek, and 34 mi west of Paxson.

DRAINAGE AREA.--280 mi², approximately.

PERIOD OF RECORD.--June 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,865.84 ft National Geodetic Vertical Datum (Alaska Department of Public Works bench mark). See WSP 2136 for history of changes prior to Aug. 23, 1968.

REMARKS.--Records fair except those for the periods of no gage-height record, Oct. 1 to June 7, July 5-9, and July 22 to Aug. 23, which are poor. Streamflow augmented by Maclaren Glacier, which covers 19 percent of the basin.

AVERAGE DISCHARGE.--25 years, 979 ft³/s, 47.48 in/yr, 709,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,260 ft³/s Aug. 11, 1971, gage height, 8.24 ft, from rating curve extended above 5,300 ft³/s; maximum gage height, 9.10 ft in May 1964, from floodmarks, backwater from ice; minimum daily discharge, about 40 ft³/s Mar. 1-25, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 6	Unknown	*Unknown	*Unknown	Aug. 9	Unknown	Unknown	Unknown

Minimum daily discharge, about 110 ft³/s Mar. 21 to Apr. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	340	240	170	130	120	110	200	2000	3420	3200	1960
2	700	340	220	170	130	120	110	220	2200	3800	3000	2040
3	650	340	220	170	130	120	110	240	2500	3500	3000	1740
4	620	340	220	160	130	120	110	260	2300	3030	3000	1530
5	600	340	220	160	130	120	110	280	2000	3800	2900	1400
6	600	320	220	160	130	120	110	320	2100	4800	2900	1200
7	620	320	220	160	130	120	110	360	2100	4600	2800	1100
8	620	300	220	150	130	120	110	400	2180	4000	3600	1000
9	620	300	220	150	120	120	110	450	2130	3500	4000	950
10	600	300	220	150	120	120	110	500	2130	2870	3600	950
11	580	300	200	150	120	120	110	600	2070	2720	2500	900
12	580	300	200	150	120	120	110	700	2000	2620	2500	900
13	560	300	200	150	120	120	110	800	1980	2710	2400	850
14	560	300	200	150	120	120	110	900	2140	2470	2200	850
15	540	280	200	150	120	120	110	1000	2410	2530	2100	950
16	520	280	200	150	120	120	120	1100	3080	2640	2000	900
17	520	280	190	150	120	120	120	1200	3000	2670	2000	870
18	500	280	190	150	120	120	120	1100	2820	2540	1900	830
19	500	280	190	150	120	120	120	1000	3110	2360	1800	800
20	480	260	190	150	120	120	120	900	3200	2460	1800	1000
21	460	260	190	140	120	110	120	900	3210	2400	2000	2060
22	440	260	180	140	120	110	120	900	3390	2600	2100	2310
23	420	260	180	140	120	110	130	1000	3640	2600	2300	1760
24	400	260	180	140	120	110	130	1000	3530	2600	2700	1570
25	400	260	180	140	120	110	140	1000	3470	2600	2990	1200
26	380	260	180	130	120	110	140	1100	3720	2600	2680	1000
27	380	240	180	130	120	110	150	1200	3810	2700	2270	800
28	380	240	180	130	120	110	160	1400	3690	2700	2080	720
29	360	240	180	130	---	110	170	1600	3360	3000	2020	800
30	360	240	180	130	---	110	180	1800	3270	3000	2130	950
31	360	---	180	130	---	110	---	2000	---	3200	2150	---
TOTAL	16010	8620	6170	4580	3440	3610	3690	26430	82540	93040	78620	35890
MEAN	516	287	199	148	123	116	123	853	2751	3001	2536	1196
MAX	700	340	240	170	130	120	180	2000	3810	4800	4000	2310
MIN	360	240	180	130	120	110	110	200	1980	2360	1800	720
CFSM	1.84	1.03	.71	.53	.44	.41	.44	3.05	9.83	10.7	9.06	4.27
IN.	2.13	1.15	.82	.61	.46	.48	.49	3.51	10.97	12.36	10.45	4.77
AC-FT	31760	17100	12240	9080	6820	7160	7320	52420	163700	184500	155900	71190
CAL YR 1982	TOTAL	299197	MEAN	820	MAX	4400	MIN	65	CFSM	2.93	IN	39.75
WTR YR 1983	TOTAL	362640	MEAN	994	MAX	4800	MIN	110	CFSM	3.55	IN	48.18
									AC-FT	593500	AC-FT	719300

TABLE A.4

1984 WY

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

15291200

MACLAREN R NR PAXSON AK

PROCESS DATE: 16-JAN-85 14:33 GLP

LAT 630710

LONG 1463145

STATE 02

COUNTY 170

DATUM OF GAGE: 2865.84 FT NGVD

DRAINAGE AREA: 280

PROVISIONAL DATA

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	270	140	100	90	90	80	175	1520	3490	2540	540
2	730	270	140	100	90	90	80	200	1650	3550	2450	490
3	720	260	140	100	90	85	80	230	1770	3300	2710	460
4	660	250	140	100	90	85	80	270	1940	3150	3080	440
5	620	250	140	100	90	85	80	300	2030	3190	3310	500
6	580	250	130	100	90	85	78	360	2270	3170	3250	640
7	520	240	130	100	90	85	78	420	2440	3230	3040	780
8	480	240	130	100	90	85	78	480	2220	2990	2380	850
9	440	230	130	100	90	85	78	540	2290	2680	3040	700
10	430	230	130	100	90	85	78	600	2330	2670	2600	620
11	540	220	130	100	90	85	78	630	2420	2620	2320	660
12	570	210	120	100	90	85	78	720	2500	2490	2140	600
13	500	200	120	95	90	85	78	850	3460	2450	1980	570
14	590	200	120	95	90	85	78	950	3330	2300	1910	530
15	550	190	120	95	90	85	78	1100	3370	2340	1980	510
16	530	190	120	95	90	85	78	1200	3040	2410	2130	500
17	500	190	120	95	90	85	78	1300	2790	2400	2220	520
18	480	180	120	95	90	80	80	1350	2970	2170	2250	500
19	450	180	110	95	90	80	80	1450	3220	2000	2300	900
20	430	180	110	95	90	80	80	1500	3520	2060	3140	1150
21	400	170	110	95	90	80	80	1550	3770	2240	2830	950
22	370	170	110	90	90	80	80	1600	3950	2460	2250	700
23	350	160	110	90	90	80	85	1600	4100	2450	2370	560
24	330	160	110	90	90	80	85	1500	4030	2580	2430	500
25	320	160	110	90	90	80	90	1450	3920	3370	3490	450
26	310	150	110	90	90	80	100	1400	4000	3350	2300	440
27	300	150	110	90	90	80	110	1300	4570	3170	1600	420
28	290	150	110	90	90	80	125	1200	4220	3140	1100	400
29	280	140	110	90	90	80	140	1150	3570	3010	850	390
30	280	140	110	90	---	80	160	1200	3570	2700	660	370
31	270	---	100	90	---	80	---	1300	---	2590	600	---
TOTAL	14920	5990	3740	2955	2610	2575	2631	29965	91130	96600	72250	17540
MEAN	481	200	121	95.3	90.0	83.1	87.7	967	3033	2794	2331	595
MAX	550	270	140	100	90	90	160	1600	4570	3550	3490	1150
MIN	270	140	100	90	90	80	73	175	1520	2000	600	370

WTR YR 1984

TOTAL 333226

MEAN

910

MAX

4570

MIN

73

TABLE A.5

SOUTH-CENTRAL ALASKA

15291500 SUSITNA RIVER NEAR CANTWELL

LOCATION.--Lat 62°41'55", long 147°32'42", in SE¼SE¼ sec.10, T.30 N., R.10 E., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank at lower end of gorge, 8 mi east of Clarence Lake, 9.7 mi downstream from Oshetna River, and 65 mi southeast of Cantwell.

DRAINAGE AREA.--4,140 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1961 to September 1972, June 1980 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,900 ft, from topographic map. Prior to May 29, 1980, gage on opposite bank and different datum.

REMARKS.--Water-discharge records fair except those for period of no gage-height record, Oct. 2 to May 16, which are poor. Large diurnal fluctuations at times each year caused by glacier melt at the source. Satellite telemetry installed May 1983.

AVERAGE DISCHARGE.--14 years (water years 1962-72, 1981-83), 6,404 ft³/s, 21.01 in/yr, 4,640,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 55,000 ft³/s Aug. 10, 1971 on basis of discharge recorded at stations 15291000 and 15292000; minimum daily discharge, about 400 ft³/s Mar. 16-31, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,800 ft³/s June 4, gage height 7.75 ft; maximum gage height, 10.2 ft May 14 or 15, from floodmarks, backwater from ice; minimum daily discharge, about 1,100 ft³/s Mar. 16 to Apr. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	5570	1800	1400	1300	1200	1200	1100	2000	19100	16800	17100	16000		
2	5200	1800	1400	1300	1200	1200	1100	2100	16600	18200	17400	15000		
3	5000	1800	1400	1300	1200	1200	1100	2400	22400	19100	17000	14600		
4	4700	1800	1400	1300	1200	1200	1100	2600	24500	17500	16500	12400		
5	4400	1800	1400	1300	1200	1200	1100	3000	19100	18800	16500	10900		
6	4100	1700	1400	1300	1200	1200	1100	3400	16200	20100	18200	9760		
7	4000	1700	1400	1300	1200	1200	1100	3800	15000	22900	18400	8910		
8	4000	1700	1400	1300	1200	1200	1100	4300	13600	20800	16900	8370		
9	4000	1700	1400	1300	1200	1200	1100	4800	12200	18200	22200	7920		
10	4000	1700	1400	1300	1200	1200	1100	5400	11600	16400	22300	7700		
11	3900	1600	1400	1300	1200	1200	1100	6200	12300	15200	18200	7610		
12	3800	1600	1400	1300	1200	1200	1100	7400	12800	15200	16100	7260		
13	3600	1600	1400	1300	1200	1200	1100	8400	12700	14900	16500	6790		
14	3500	1600	1400	1300	1200	1200	1100	9200	12200	15200	18100	6570		
15	3500	1600	1400	1300	1200	1200	1100	10000	12900	13400	17200	6620		
16	3200	1500	1400	1300	1200	1100	1100	11000	14400	12800	16000	6450		
17	3100	1500	1400	1300	1200	1100	1100	11200	16500	13200	14700	6030		
18	3100	1500	1400	1300	1200	1100	1100	12000	15400	15000	14100	5610		
19	3200	1500	1400	1300	1200	1100	1100	11600	15400	15300	12800	5450		
20	3200	1500	1400	1300	1200	1100	1200	10500	17700	14000	12000	5700		
21	2900	1500	1400	1300	1200	1100	1200	10500	17100	14800	13000	7750		
22	2500	1500	1400	1300	1200	1100	1200	9630	17500	15000	15000	11800		
23	2300	1500	1400	1300	1200	1100	1200	9720	18300	15700	14600	13000		
24	2200	1500	1400	1300	1200	1100	1300	10300	18100	17600	17100	10500		
25	2100	1500	1400	1300	1200	1100	1300	8960	17700	15800	19900	7700		
26	2000	1500	1400	1300	1200	1100	1400	9720	18100	15000	23800	6700		
27	2000	1500	1400	1300	1200	1100	1500	10500	18800	14700	21200	5780		
28	1900	1500	1400	1300	1200	1100	1600	9040	19400	14200	17600	5400		
29	1900	1500	1400	1300	---	1100	1700	10400	18700	14700	15600	5900		
30	1900	1500	1400	1300	---	1100	1800	14900	17400	16000	14800	9500		
31	1800	---	1400	1300	---	1100	---	19100	---	17100	16300	---		
TOTAL	102570	48000	43400	40300	33600	35600	36300	254070	493700	503600	527100	259680		
MEAN	3309	1600	1400	1300	1200	1148	1210	8196	16460	16250	17000	8656		
MAX	5570	1800	1400	1300	1200	1200	1800	19100	24500	22900	23800	16000		
MIN	1800	1500	1400	1300	1200	1100	1100	2000	11600	12800	12000	5400		
CFSM	.80	.39	.34	.31	.29	.28	.29	1.98	3.98	3.93	4.11	2.09		
IN.	.92	.43	.39	.36	.30	.32	.33	2.28	4.44	4.53	4.74	2.33		
AC-FT	203400	95210	86080	79940	66650	70610	72000	503900	979300	998900	1046000	515100		
CAL YR 1982	TOTAL	2183080	MEAN	5981	MAX	23200	MIN	500	CFSM	1.45	IN	19.62	AC-FT	4330000
WTR YR 1983	TOTAL	2377920	MEAN	6515	MAX	24500	MIN	1100	CFSM	1.57	IN	21.37	AC-FT	4717000

TABLE A.6

1984 WY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 15291500 Susitna River near Cantwell, AK (V-site) PROCESS DATE: 16-JAN-85 14:33 GLP
 LAT 624155 LONG 1473242 STATE 02 COUNTY 290 DATUM OF GAGE: 1900.00 FT NGVD DRAINAGE AREA: 4140

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9400	3200	1600	1500	1500	1500	1400	1600	5400	21400	17000	6750
2	9400	3000	1600	1500	1500	1500	1400	1700	9000	19000	15300	6250
3	8300	2900	1600	1500	1500	1500	1400	1900	9800	18300	14900	6200
4	7400	2600	1600	1500	1500	1500	1400	2000	11000	18000	15500	6360
5	6700	2700	1600	1500	1500	1500	1400	2200	12000	16900	16600	6150
6	6200	2600	1600	1500	1500	1500	1400	2600	13000	17100	18400	5320
7	5900	2500	1600	1500	1500	1500	1400	2900	14000	16500	13300	6900
8	5200	2400	1600	1500	1500	1500	1400	3400	15000	17200	13200	7390
9	5200	2300	1600	1500	1500	1500	1400	3900	16000	16500	17500	7570
10	5600	2200	1600	1500	1500	1500	1400	4300	16000	16800	13100	6920
11	6000	2100	1600	1500	1500	1500	1400	5000	16000	17500	15600	6210
12	7200	2100	1600	1500	1500	1500	1400	5800	17000	16400	14100	5500
13	7400	2100	1600	1500	1500	1500	1400	6800	19000	15900	13100	4970
14	7000	2000	1600	1500	1500	1500	1400	8400	21000	15600	12000	4350
15	6000	2000	1600	1500	1500	1500	1400	9400	21500	14600	11400	4410
16	5600	1900	1600	1500	1500	1500	1400	11000	30100	15000	11400	3390
17	5200	1900	1600	1500	1500	1500	1400	12000	30100	16500	12000	3300
18	4900	1900	1600	1500	1500	1500	1400	13000	24500	17100	12400	3300
19	4700	1900	1600	1500	1500	1500	1400	14000	21600	16000	12600	4160
20	4600	1900	1600	1500	1500	1500	1400	15000	21200	15100	14600	6100
21	4300	1800	1600	1500	1500	1500	1400	16000	21300	15100	15200	6730
22	4000	1800	1600	1500	1500	1500	1400	16000	20900	16900	13500	5750
23	3600	1800	1600	1500	1500	1500	1400	16000	21500	17300	11600	4220
24	3600	1800	1600	1500	1500	1500	1400	16000	21400	16000	13900	3370
25	3500	1800	1600	1500	1500	1500	1400	15000	20200	18000	15200	3300
26	3400	1700	1600	1500	1500	1400	1400	13000	19400	23300	20300	3200
27	3300	1700	1600	1500	1500	1400	1400	11000	21200	23700	15000	3100
28	3300	1700	1600	1500	1500	1400	1400	10000	23500	21700	11100	3000
29	3300	1700	1600	1500	1500	1400	1400	9200	21400	20900	9470	3200
30	3300	1700	1600	1500	---	1400	1500	3400	20400	19600	3330	3300
31	3300	---	1600	1500	---	1400	---	3200	---	16000	7400	---
TOTAL	166700	53900	49600	46500	43500	45900	42100	265700	557400	545700	442100	153900
MEAN	5377	2130	1600	1500	1500	1481	1403	3571	18550	17700	14260	5130
MAX	9400	3200	1600	1500	1500	1500	1500	16000	30100	23700	20300	7570
MIN	3300	1700	1600	1500	1500	1400	1400	1600	8400	14600	7400	3000
CFSM	1.35	.51	.39	.36	.36	.36	.34	2.07	4.49	4.28	3.44	1.24
IN.	1.60	.57	.45	.42	.39	.41	.38	2.39	5.01	4.93	3.97	1.35
AC-FT	336800	126700	98300	92230	86280	91040	83510	527000	1106000	1086000	876900	305300

WTR YR 1984 TOTAL 2426000 MEAN 6628 MAX 30100 MIN 1400 CFSM 1.60 IN. 21.60 AC-FT 4512000

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TABLE A.7

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK

LOCATION.--Lat 62°46'04", long 149°41'28". in NW¼ sec.20, T.31 N., R.2 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, near left bank under Alaska Railroad bridge, 0.1 mi downstream from Gold Creek, 0.9 mi north of Gold Creek railroad station, and 2.0 mi downstream from Indian River.

DRAINAGE AREA.--6,160 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 676.50 ft National Geodetic Vertical Datum of 1929. Prior to June 6, 1957, nonrecording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mi upstream at same datum.

REMARKS.--Water-discharge records good except those for Oct. 20 to June 11, which are poor.

AVERAGE DISCHARGE.--34 years, 9,724 ft³/s, 21.44 in/yr, 7,045,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,700 ft³/s June 7, 1964, gage height, 16.58 ft; maximum gage height observed, 24.48 ft May 10, 1954, ice jam; minimum daily discharge, about 600 ft³/s Feb. 16-20, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge observed, 37,300 ft³/s June 3, gage height, 12.00 ft, minimum daily, about 1,500 ft³/s Mar. 26 to Apr. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12400	3000	2400	2900	1900	1900	1500	4000	33000	23100	23000	25400
2	11700	2900	2400	2800	1900	1900	1500	4500	29000	24900	22400	25400
3	11000	2900	2300	2800	1900	1900	1500	5000	35000	26200	21600	23600
4	10500	2900	2300	2700	1900	1900	1500	5800	36000	24800	20900	21000
5	9800	2900	2300	2700	1900	1800	1500	6400	30000	25100	21700	18200
6	8960	2800	2300	2600	1900	1800	1500	7200	26000	26300	23800	16000
7	8640	2800	2300	2500	1900	1800	1500	8200	23000	27200	25100	14800
8	8480	2800	2300	2500	1900	1800	1500	9200	22000	27900	26000	13700
9	8440	2800	2300	2400	1900	1800	1500	11000	19400	24300	29900	13200
10	8480	2700	2300	2400	1900	1800	1500	12000	18000	22200	31900	12700
11	8220	2700	2300	2400	1900	1700	1500	14000	19000	20000	27700	12200
12	7950	2700	2300	2300	2000	1700	1500	16000	20000	19700	24500	11600
13	8040	2700	2300	2300	2000	1700	1600	17000	19900	19100	25900	11100
14	7800	2700	2300	2200	2100	1700	1600	18000	19000	19800	27400	10700
15	7110	2600	2300	2200	2100	1700	1600	19000	19600	18600	26800	10600
16	6750	2600	2300	2200	2100	1700	1700	20000	21600	16400	24600	10500
17	6660	2600	2300	2100	2100	1700	1700	21000	23300	16500	22700	10000
18	6720	2600	2300	2100	2100	1700	1800	20000	22900	18900	21000	9400
19	6900	2500	2300	2100	2100	1700	1800	19000	23000	20600	19200	8920
20	6800	2500	2300	2000	2100	1700	1900	19000	25000	18600	17800	9320
21	5800	2500	2300	2000	2100	1600	2000	18000	24000	18100	18900	10600
22	5200	2500	2300	2000	2100	1600	2000	17000	23600	18600	21600	13600
23	4700	2500	2300	2000	2100	1600	2100	17000	25400	19200	22700	17500
24	4000	2400	2300	2000	2000	1600	2300	16000	24000	22700	24700	15200
25	3600	2400	2300	2000	2000	1600	2400	16000	23300	21900	27400	12000
26	3400	2400	2300	2000	2000	1500	2500	16000	25000	19400	31700	10600
27	3300	2400	2400	2000	2000	1500	2700	17000	26500	18500	31000	9640
28	3200	2400	2400	2000	2000	1500	2900	16000	27300	17700	26600	9080
29	3100	2400	2600	2000	---	1500	3100	17000	26800	17300	23300	9400
30	3000	2400	2800	2000	---	1500	3300	25000	24700	19100	22900	11600
31	3000	---	2900	2000	---	1500	---	32000	---	22800	24800	---
TOTAL	213650	79000	73100	70200	55900	52400	57000	463300	735300	655500	759500	407560
MEAN	6892	2633	2358	2265	1996	1690	1900	14950	24510	21150	24500	13590
MAX	12400	3000	2900	2900	2100	1900	3300	32000	36000	27900	31900	25400
MIN	3000	2400	2300	2000	1900	1500	1500	4000	18000	16400	17800	8920
CFSM	1.12	.43	.38	.37	.32	.27	.31	2.43	3.98	3.43	3.98	2.21
IN.	1.29	.48	.44	.42	.34	.32	.34	2.80	4.44	3.96	4.59	2.46
AC-FT	423800	156700	145000	139200	110900	103900	113100	919000	1458000	1300000	1506000	808400

CAL YR 1982 TOTAL 3523400 MEAN 9653 MAX 37000 MIN 1300 CFSM 1.57 IN 21.28 AC-FT 6989000
WTR YR 1983 TOTAL 3622410 MEAN 9924 MAX 36000 MIN 1500 CFSM 1.61 IN 21.88 AC-FT 7185000

NOTE.--No gage-height record Dec. 5 to May 17. Occasional gage-height readings furnished by the Alaska Department of Fish and Game were used May 26 to June 11.

TABLE A.8

1964 4Y UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 15292000 Susitna River at Gold Creek, AK PROCESS DATE: 17-JAN-85 15:40 SLP
 LAT 624504 LONG 1494128 STATE 02 COUNTY 170 DATUM OF GAGE: 676.50 FT NGVD DRAINAGE AREA: 5150

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	12500	5100	2500	2100	2000	1900	1800	2100	12200	25500	23400	12700		
2	13500	4900	2400	2100	2000	1900	1800	2200	13100	24800	22000	11800		
3	12900	4600	2400	2100	2000	1900	1800	2400	15100	25100	20400	11200		
4	11400	4100	2400	2100	2000	1900	1800	2600	17200	23200	20000	10800		
5	10200	3900	2400	2100	2000	1900	1800	2900	18000	22400	21100	10400		
6	9570	3500	2400	2100	2000	1900	1800	3300	18200	22300	23300	10300		
7	8910	3500	2400	2100	2000	1900	1800	3700	19300	21900	23400	10700		
8	7540	3300	2400	2100	2000	1900	1800	4300	20300	21500	23000	10900		
9	7350	3200	2300	2100	2000	1900	1800	5000	21100	21400	24500	10600		
10	7710	3100	2300	2100	2000	1900	1800	6000	21700	21200	24000	9890		
11	9150	3100	2300	2100	2000	1900	1800	7500	21500	23100	22500	9530		
12	10800	3000	2300	2100	2000	1900	1500	9000	21300	21900	19000	9090		
13	12000	3000	2300	2100	2000	1900	1800	10500	25900	21200	17500	9000		
14	11000	3000	2300	2100	2000	1900	1800	12000	31500	21200	15100	8800		
15	9550	3000	2300	2100	2000	1900	1800	14000	31200	19400	15100	5530		
16	8690	2900	2200	2000	2000	1900	1800	15500	40500	18600	14500	8280		
17	7990	2900	2200	2000	2000	1900	1800	16500	52000	20500	14300	6130		
18	7560	2800	2200	2000	2000	1900	1800	17100	49400	21700	15600	5370		
19	7650	2800	2200	2000	2000	1900	1800	21900	33600	21600	17400	7390		
20	7560	2800	2200	2000	2000	1900	1800	21200	31500	21100	13500	10400		
21	7140	2700	2200	2000	1900	1900	1800	21900	31400	22300	19900	11400		
22	6840	2700	2200	2000	1900	1900	1800	24100	30900	23000	17100	10300		
23	6970	2700	2200	2000	1900	1900	1800	24400	31100	23500	17900	9010		
24	6800	2500	2200	2000	1900	1900	1800	24000	30000	21600	22700	8290		
25	5600	2600	2200	2000	1900	1900	1800	23400	28400	22800	29300	7990		
26	5600	2600	2100	2000	1900	1900	1800	23800	26600	30600	31700	7680		
27	5200	2500	2100	2000	1900	1900	1800	19400	23700	34200	27700	7470		
28	4900	2500	2100	2000	1900	1900	1800	16300	32000	31500	21000	7320		
29	4900	2500	2100	2000	1900	1900	1900	14700	30100	26500	17400	7410		
30	5100	2500	2100	2000	---	1900	2000	13500	27900	27500	15300	7500		
31	5200	---	2100	2000	---	1900	---	12600	---	25300	13600	---		
TOTAL	257320	94500	79000	63500	57100	58900	54300	401500	303200	729300	632300	267560		
MEAN	8301	3153	2553	2043	1969	1930	1610	12760	26770	23540	20400	8429		
MAX	13500	5100	2500	2100	2000	1900	2000	25400	52000	34200	31700	12700		
MIN	4900	2500	2100	2000	1900	1900	1800	2100	12200	18600	13600	7320		
CF54	1.35	.51	.37	.33	.32	.31	.29	2.10	4.35	3.82	3.31	1.53		
IN.	1.55	.57	.42	.36	.34	.35	.33	2.43	4.85	4.41	3.32	1.71		
AC-FT	510400	137500	133800	126000	113300	116300	107700	797000	1593000	1445000	1254000	581100		
WTR YR 1984	TOTAL	3503630	MEAN	9578	MAX	52000	MIN	1300	CF54	1.55	IN.	21.17	AC-FT	6954000

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TABLE A.9

SOUTH-CENTRAL ALASKA

15292400 CHULITNA RIVER NEAR TALKEETNA

LOCATION.--Lat 62°33'31", long 150°14'02", in SE¼ sec.32, T.29 N., R.5 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on right bank, 0.5 mi downstream from Parks Highway bridge, 4.5 mi downstream from Troublesome Creek, 18 mi upstream from mouth, and 16 mi northwest of Talkeetna.

DRAINAGE AREA.--2,570 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1958 to September 1972 and annual maximum, water years 1973-77, 1979. May 1980 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 500 ft. from topographic map. Prior to July 30, 1964, at site 3 mi downstream at different datum. Oct. 1, 1972 to Apr. 30, 1980, crest-stage gage at site 150 ft upstream at same datum. Streamflow augmented by glaciers, which cover 27 percent of the basin.

REMARKS.--Records fair except those for period of no gage-height record, Oct. 30 to May 17, which are poor.

AVERAGE DISCHARGE.--17 years (water years 1959-72, 1981-83), 8,798 ft³/s, 46.49 in/yr, 6,374,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,900 ft³/s July 20, 1967, gage height, 22.48 ft; minimum daily, about 650 ft³/s Apr. 1-15, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48,500 ft³/s Aug. 9, gage height, 15.63 ft; minimum daily, about 1,000 ft³/s Feb. 11-19 and Apr. 1-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11100	3100	2100	2150	1100	1050	1000	2300	17200	26600	21600	23500
2	10200	3100	2000	2150	1100	1050	1000	2500	16300	26900	21800	25900
3	9220	3000	2000	2100	1100	1050	1000	2700	19000	25700	22500	21400
4	8390	3000	2000	2100	1050	1050	1000	2900	17600	26000	22800	17900
5	8000	2500	2000	2000	1050	1050	1000	3200	14100	27100	23000	14700
6	7500	2900	2000	1950	1050	1050	1000	3500	13700	28600	22600	13000
7	7000	2800	1900	1900	1050	1050	1000	3800	14300	26900	23100	12100
8	6600	2800	1900	1850	1050	1050	1000	4300	14400	25000	33000	11600
9	6400	2700	1900	1800	1050	1050	1000	4800	14000	23400	46800	11200
10	6400	2700	1900	1750	1050	1050	1000	5300	13500	21900	40600	10800
11	6200	2600	1900	1700	1000	1050	1000	6200	13800	21900	29800	10600
12	5900	2600	1800	1650	1000	1050	1000	7200	14200	22300	26400	10300
13	5600	2500	1800	1600	1000	1050	1000	8500	14900	23100	29100	10300
14	5300	2500	1800	1550	1000	1050	1000	10000	15200	22400	26800	10600
15	4650	2500	1800	1550	1000	1050	1050	11500	15900	21200	21600	11000
16	4560	2400	1800	1500	1000	1050	1100	12500	16100	20500	18100	9580
17	4820	2400	1800	1500	1000	1050	1100	13500	16700	20000	16700	8480
18	4540	2400	1800	1450	1000	1050	1150	13500	17000	19500	16000	8020
19	4580	2300	1800	1450	1000	1050	1150	12900	18400	19500	15800	7580
20	4430	2300	1700	1400	1050	1050	1200	11600	20600	21200	16300	7680
21	3970	2300	1700	1350	1050	1050	1250	11600	21100	21700	20800	8000
22	3900	2300	1700	1350	1050	1050	1350	11200	22200	21900	19500	8800
23	3800	2200	1700	1300	1050	1050	1400	12400	23900	22700	19400	10000
24	3700	2200	1700	1300	1050	1050	1500	12400	25200	22500	18000	8400
25	3600	2200	1700	1250	1050	1050	1600	11300	25600	19000	15700	7200
26	3500	2200	1700	1250	1050	1050	1700	11200	26500	17600	13700	6300
27	3400	2200	1750	1200	1050	1050	1800	11500	26300	17000	13600	5700
28	3400	2100	1800	1200	1050	1050	1900	10700	26600	17600	13600	5400
29	3300	2100	1900	1150	---	1050	2000	11000	26200	19400	13800	5800
30	3300	2100	2000	1150	---	1050	2200	12900	26200	21100	18800	7100
31	3200	---	2100	1150	---	1050	---	16400	---	21700	26600	---
TOTAL	170460	75400	57450	48750	29100	32550	37450	275300	566700	691900	687900	328940
MEAN	5499	2513	1853	1573	1039	1050	1248	8968	18890	22320	22190	10960
MAX	11100	3100	2100	2150	1100	1050	2200	16400	26600	28600	46800	25900
MIN	3200	2100	1700	1150	1000	1050	1000	2300	13500	17000	13600	5400
CFSM	2.14	.98	.72	.61	.40	.41	.49	3.49	7.35	8.69	8.63	4.27
IN.	2.47	1.09	.83	.71	.42	.47	.54	4.02	8.20	10.02	9.96	4.76
AC-FT	338100	149600	114000	96700	57720	64560	74280	551400	1124000	1372000	1364000	652500
CAL YR 1982	TOTAL	3134260	MEAN	8587	MAX	42000	MIN	750	CFSM	3.34	IN	45.37
WTR YR 1983	TOTAL	3001900	MEAN	8224	MAX	46800	MIN	1000	CFSM	3.20	IN	43.49
									AC-FT			6217000
									AC-FT			5960000

TABLE A.10

1934 HY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 1529240J Chulitna River near Talkeetna, AK PROCESS DATE: 17-JAN-85 15:40 GLP
 LAT 623331 LONG 1501432 STATE 02 COUNTY 170 DATUM OF GAGE: 520.00 FT NGVD DRAINAGE AREA: 2570

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22500	3300	2500	2300	1500	1300	1200	1900	9750	23500	20600	13000
2	17600	3700	2500	2300	1800	1300	1200	1900	10300	24500	19700	12000
3	14100	3700	2500	2300	1700	1300	1200	2000	11600	22900	19600	11500
4	12000	3600	2500	2300	1700	1300	1200	2100	12600	23500	20900	11000
5	11100	3500	2500	2300	1700	1300	1200	2300	13500	25500	23500	11000
6	10500	3400	2500	2300	1600	1300	1200	2500	14600	25500	25500	11000
7	9950	3300	2400	2200	1600	1300	1200	2700	15600	24300	26700	11000
8	9230	3200	2400	2200	1600	1300	1200	2900	15100	23700	26700	11500
9	9340	3100	2400	2200	1600	1300	1200	3200	15400	22600	25100	12000
10	9130	3000	2400	2200	1600	1300	1200	3700	15100	20400	24500	10500
11	11900	2900	2400	2200	1500	1300	1200	4200	15200	19300	21400	9340
12	14400	2900	2400	2100	1500	1300	1300	4400	16000	19600	19900	9460
13	12300	2300	2400	2100	1500	1300	1300	4600	18000	19100	13800	10400
14	9760	2300	2400	2100	1500	1300	1300	5200	18100	18000	18600	10900
15	6500	2300	2400	2000	1500	1300	1300	6400	19400	17900	18700	9360
16	8000	2700	2400	2000	1500	1300	1400	7400	19600	19000	19000	8590
17	7500	2700	2400	2000	1500	1300	1400	8550	20000	19700	19300	8160
18	7000	2700	2300	2000	1400	1300	1400	9520	18900	19500	22300	8500
19	6600	2700	2300	2000	1400	1200	1400	10300	19100	19300	23400	10000
20	6200	2700	2300	2000	1400	1200	1400	11600	20900	20700	31300	14000
21	5800	2600	2300	1900	1400	1200	1500	13300	23300	22500	27700	11500
22	5400	2600	2300	1900	1400	1200	1500	14100	24200	21400	22600	9500
23	5000	2600	2300	1900	1400	1200	1500	13200	25500	20300	24000	9000
24	4800	2600	2300	1900	1400	1200	1500	13000	24000	20900	27000	8500
25	4400	2600	2400	1900	1400	1200	1500	11900	23600	22300	32000	8000
26	4200	2600	2400	1800	1400	1200	1600	12000	23600	29500	39200	7600
27	4000	2600	2400	1800	1300	1200	1600	11500	24300	28600	30000	7460
28	4000	2500	2400	1800	1300	1200	1700	10600	23600	26400	24000	7400
29	3900	2500	2300	1800	1200	1200	1700	10200	23500	24300	19000	7500
30	3800	2500	2300	1800	---	1200	1800	9990	23600	22600	16000	7900
31	3600	---	2300	1800	---	1200	---	9600	---	21700	14000	---
TOTAL	267160	37700	74000	63400	43700	39000	41300	226760	558950	669500	727500	298120
MEAN	8618	2923	2337	2045	1507	1253	1377	7315	18630	22240	23470	9937
MAX	22600	3800	2500	2300	1800	1300	1800	14100	25500	29500	39000	14000
MIN	3600	2500	2300	1800	1300	1200	1200	1900	9750	17900	14000	7400
CFSM	3.35	1.14	.93	.80	.59	.49	.54	2.55	7.25	3.63	9.13	3.97
IN.	3.37	1.27	1.07	.92	.63	.55	.60	3.28	3.09	9.98	10.33	4.32
AC-FT	519400	174000	146800	125800	86680	77360	81920	449800	1109000	1363000	1443000	591300

WTR YR 1984 TOTAL 3117090 MEAN 8517 MAX 39000 MIN 1200 CFSM 3.31 IN. 45.12 AC-FT 5183000

A-10

TABLE A.11

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA
(Hydrologic bench-mark station)

LOCATION.--Lat 62°20'49", long 150°01'01", in NE¼ sec.16, T.26 N., R.4 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank 1.7 mi downstream from Chunilna Creek, 3.5 mi northeast of Talkeetna, and about 5 mi above mouth.

DRAINAGE AREA.--2,006 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 400 ft, from topographic map.

REMARKS.--Water-discharge records good except those for period of no gage-height record, Oct. 15 to May 12, which are poor.

AVERAGE DISCHARGE.--19 years, 4,055 ft³/s, 27.45 in/yr, 2,938,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,400 ft³/s Aug. 10, 1971, gage height, 16.35 ft; minimum daily, about 260 ft³/s Feb. 27 to Mar. 20, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,500 ft³/s Aug. 9, gage height, 8.62 ft; minimum daily, about 540 ft³/s Apr. 1-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	6490	1500	1100	1200	590	600	540	1300	13500	8540	10200	6100		
2	6020	1400	1100	1150	580	590	540	1400	10900	9390	9760	7130		
3	5660	1400	1100	1150	580	590	540	1500	13400	9460	8710	6360		
4	5270	1400	1100	1100	570	590	540	1600	11600	9150	8500	5630		
5	4990	1400	1100	1100	560	580	540	1700	7940	9630	9050	5130		
6	4700	1300	1100	1050	550	580	540	1900	8640	11300	10800	4720		
7	4400	1300	1100	1000	550	580	540	2100	8810	12800	9800	4400		
8	4100	1300	1100	980	550	580	540	2300	7880	11300	12400	4100		
9	4000	1300	1100	960	550	570	540	2600	7340	10500	15900	3900		
10	4000	1300	1100	930	550	570	540	2800	6490	10300	13000	3700		
11	3900	1300	1100	900	550	570	540	3200	6490	9660	10800	3500		
12	3800	1300	1100	870	550	570	540	3800	6950	8840	10200	3300		
13	3600	1200	1100	850	550	570	540	4420	7010	8980	10900	3200		
14	3460	1200	1100	830	560	570	540	4830	7340	8740	10700	3100		
15	3300	1200	1100	810	570	570	550	5160	8670	7670	9250	3000		
16	3100	1200	1100	790	580	560	560	5500	8950	7250	8210	2900		
17	3000	1200	1100	770	590	560	580	5410	8500	7130	7460	2800		
18	3000	1200	1100	760	600	560	600	5710	8030	7700	7130	2700		
19	3000	1200	1050	750	600	560	630	5320	9180	7400	6590	2700		
20	3000	1200	1050	730	610	560	650	5320	9690	7310	6230	2800		
21	2800	1200	1050	720	610	550	680	6310	9830	7340	6590	3000		
22	2600	1200	1050	710	610	550	700	6180	10500	7490	6570	3400		
23	2400	1200	1050	690	610	550	750	6800	10200	8370	7190	4200		
24	2100	1200	1000	680	610	550	800	6280	9180	9490	7880	3900		
25	1800	1200	1000	660	610	550	850	5790	9290	8270	7550	3500		
26	1700	1100	1000	660	600	550	900	5710	9390	7580	6950	3300		
27	1600	1100	1000	650	600	550	950	5580	8570	7010	7160	3100		
28	1600	1100	1050	640	600	550	1000	5090	8090	6950	7130	3100		
29	1500	1100	1100	620	---	550	1100	5760	9010	7280	6800	3500		
30	1500	1100	1150	610	---	550	1200	7700	9010	7820	6640	6150		
31	1500	---	1200	600	---	550	---	12000	---	9150	6830	---		
TOTAL	103890	37300	33550	25920	16240	17530	20060	141070	270380	269800	272880	118320		
MEAN	3351	1243	1082	836	580	565	669	4551	9013	8703	8803	3944		
MAX	6490	1500	1200	1200	610	600	1200	12000	13500	12800	15900	7130		
MIN	1500	1100	1000	600	550	550	540	1300	6490	6950	6230	2700		
CFSM	1.67	.62	.54	.42	.29	.28	.33	2.27	4.49	4.34	4.39	1.97		
IN.	1.93	.69	.62	.48	.30	.33	.37	2.62	5.01	5.00	5.06	2.19		
AC-FT	206100	73980	66550	51410	32210	34770	39790	279800	536300	535100	541300	234700		
CAL YR 1982	TOTAL	1577510	MEAN	4322	MAX	27600	MIN	260	CFSM	2.16	IN	29.25	AC-FT	3129000
WTR YR 1983	TOTAL	1326940	MEAN	3635	MAX	15900	MIN	540	CFSM	1.81	IN	24.61	AC-FT	2632000

TABLE A.12

1934 WY

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

15292700

TALKEETNA RIVER NEAR TALKEETNA AK
LAT 622047 LONG 1500101 STATE 02 COUNTY 170

PROCESS DATE: 17-JAN-85 15:41 GLP

DATUM OF GAGE: 400.00 FT NGVD DRAINAGE AREA: 2006

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1933 TO SEPTEMBER 1934
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6160	1700	850	700	650	600	550	680	4200	6370	9500	5870
2	5310	1700	850	700	650	600	550	760	5190	9070	9030	5370
3	4730	1600	850	700	650	600	550	840	6240	8160	9220	5040
4	4200	1500	850	700	650	600	550	920	7090	7350	9460	4760
5	3500	1400	850	700	650	600	550	1000	7560	8090	10400	4500
6	3500	1300	800	700	650	600	550	1050	7850	8150	10500	4440
7	3200	1200	800	700	650	600	550	1300	7350	8210	10000	4400
8	3000	1200	800	700	650	600	550	1500	6980	7620	9800	4400
9	3000	1100	800	700	650	600	550	1700	3230	7050	11500	4500
10	4000	1100	800	700	650	600	550	1900	3000	8200	11600	4100
11	5240	1100	800	700	650	600	550	2200	7730	9640	9850	3900
12	6230	1100	800	700	650	600	550	2600	8120	8550	9090	3700
13	5300	1000	800	700	650	600	550	3000	10100	9170	7740	3500
14	4500	1000	800	700	650	600	550	3500	10600	9990	7110	3500
15	4300	1000	750	700	650	600	550	4000	10400	8320	6800	3400
16	3000	1000	750	700	600	600	550	4500	12700	7740	6860	3300
17	2500	950	750	700	600	600	550	5000	15000	7550	6720	3300
18	2600	950	750	700	600	600	550	5600	12700	7060	6530	3300
19	2600	950	750	700	600	600	550	6200	11300	6260	7750	3500
20	2600	950	750	700	600	600	550	6600	11800	7540	7260	3400
21	2400	950	750	700	600	600	550	7000	12100	8300	6530	4200
22	2200	950	750	700	600	600	550	7200	11700	8400	6410	3500
23	2200	950	750	700	600	600	550	7400	11300	7920	7720	3500
24	2000	900	750	700	600	600	550	7400	9580	7970	10500	3200
25	2000	900	750	700	600	600	550	7400	9090	9240	24200	3000
26	1800	900	750	650	600	600	550	7000	8980	13700	22900	2900
27	1700	900	750	650	600	600	560	6400	10600	12900	13500	2800
28	1600	900	750	650	600	600	580	5800	7670	11400	10500	2700
29	1600	900	750	650	600	600	600	5100	3750	11100	8760	2800
30	1700	850	750	650	600	600	620	4500	6400	11000	7470	2900
31	1600	---	750	650	---	600	---	4200	---	10100	6540	---
TOTAL	101670	32900	24200	21400	18150	18600	16660	124250	279330	275770	302630	114430
MEAN	3260	1097	781	690	626	600	555	4008	9325	8896	9742	3616
MAX	6230	1700	850	700	650	600	620	7400	15000	13700	24200	5370
MIN	1600	850	750	650	600	600	550	530	4200	6560	6410	2700
CFSM	1.64	.55	.37	.34	.31	.30	.28	2.00	4.65	4.43	4.37	1.90
IN.	1.59	.61	.45	.40	.34	.34	.31	2.30	5.19	5.11	5.61	2.12
AC-FT	201700	65260	48000	42450	36000	36890	33050	246400	555000	547000	600300	227100

WTR YR 1934 TOTAL 1330540 MEAN 3635 MAX 24200 MIN 550 CFSM 1.81 IN. 24.67 AC-FT 2639000

A-12

TABLE A.13

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE

LOCATION.--Lat 62°10'42", long 150°10'30", in SE&SW sec.10, T.24 N., R.5 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank 100 ft upstream from Parks Highway bridge, 1.6 mi downstream from Sunshine Creek, and 3.2 mi northwest of Sunshine. Prior to May 28, 1982 at site 100 ft upstream on right bank.

DRAINAGE AREA.--11,100 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1981 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 270 ft, from topographic map. Prior to May 28, 1982 at site 100 ft upstream on right bank at same datum.

REMARKS.-- Water-discharge records good except those for Oct. 21 to May 10, which are poor. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 150,000 ft³/s July 11, 1981; minimum daily, 2,700 ft³/s Feb. 23 to Mar. 20, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 10, 1971 had a peak discharge of 200,000 ft³/s, gage height, about 62.0 ft, datum then in use for National Weather Service gage on downstream side of bridge near left bank.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103,000 ft³/s Aug. 10, gage height, 12.10 ft; minimum daily, about 3,100 ft³/s Mar. 26 to Apr. 4.

REVISIONS.--The maximum discharge for the water year 1982 has been revised to 125,000 ft³/s July 25, 1982, gage height, 13.44 ft, superseding figure published in the report for 1982.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30600	7800	5600	6800	4600	4100	3100	8400	64000	64400	58300	60500
2	28400	7600	5600	6800	4600	4100	3100	9400	65300	65300	57700	65200
3	26600	7400	5600	6600	4600	4000	3100	11000	70100	67400	56300	59300
4	24800	7200	5500	6400	4500	4000	3100	12000	80800	64800	55400	50600
5	23000	7000	5500	6200	4500	3900	3200	13000	64800	65500	57400	42500
6	21400	7000	5500	6000	4500	3900	3200	15000	54200	70900	60200	36600
7	20600	6800	5500	5800	4500	3800	3200	17000	52700	72800	62000	35000
8	20000	6800	5500	5600	4500	3800	3200	20000	49100	67000	70900	33000
9	19400	6600	5500	5500	4500	3700	3200	22000	45400	66000	97700	32000
10	19100	6600	5500	5400	4600	3700	3200	25000	41900	63000	100000	30000
11	18400	6400	5500	5300	4700	3600	3300	28800	40800	57000	82700	28000
12	18000	6400	5500	5200	4800	3600	3300	32400	43200	54000	68800	27000
13	18800	6200	5500	5100	4900	3500	3400	35600	44700	54400	72700	25000
14	17700	6200	5500	5000	5000	3500	3400	36400	45200	54400	74000	24000
15	15800	6000	5500	5000	5000	3400	3500	37800	47100	51000	67200	23000
16	14600	6000	5500	4900	5100	3400	3600	40600	50100	47900	58000	22000
17	15200	6000	5500	4800	5100	3400	3700	42200	52900	46400	52400	21000
18	14700	6000	5500	4800	5000	3300	3900	42400	53300	48600	48900	21000
19	14800	6000	5500	4700	5000	3300	4000	43000	54800	50000	45700	20000
20	14400	6000	5500	4700	4900	3300	4200	41000	60400	49100	43000	20000
21	13200	5800	5500	4700	4800	3200	4400	40000	63000	47900	48400	22000
22	11600	5800	5500	4700	4700	3200	4600	38000	63600	48800	51100	25000
23	11200	5800	5500	4700	4600	3200	4800	37000	66400	50400	53200	27200
24	9920	5800	5400	4700	4500	3200	5000	35000	67000	55900	54100	25000
25	9200	5800	5400	4700	4400	3200	5400	34000	66200	52300	55300	20800
26	8920	5600	5400	4600	4300	3100	5800	34000	66400	46900	56000	18000
27	8840	5600	5400	4600	4200	3100	6200	34000	66000	44000	58800	18300
28	8400	5600	5600	4600	4200	3100	6800	37000	67700	43500	53000	18000
29	8200	5600	6400	4600	---	3100	7200	43000	68600	44600	47700	19000
30	8000	5600	6800	4600	---	3100	7800	50000	67000	48100	48600	31400
31	7800	---	6800	4600	---	3100	---	58000	---	54400	62500	---
TOTAL	501580	189000	174000	161700	130600	107900	125900	973000	1742900	1716700	1878000	900400
MEAN	16180	6300	5613	5216	4664	3481	4197	31390	58100	55380	60580	30010
MAX	30600	7800	6800	6800	5100	4100	7800	58000	80800	72800	100000	65200
MIN	7800	5600	5400	4600	4200	3100	3100	8400	40800	43500	43000	18000
CFSM	1.46	.57	.51	.47	.42	.31	.38	2.83	5.23	4.99	5.46	2.70
IN.	1.68	.63	.58	.54	.44	.36	.42	3.26	5.84	5.75	6.29	3.02
AC-FT	994900	374900	345100	320700	259000	214000	249700	1930000	3457000	3405000	3725000	1786000
CAL YR 1982	TOTAL	8806880	MEAN	24130	MAX	99300	MIN	2700	CFSM	2.17	IN	29.51
WTR YR 1983	TOTAL	8601680	MEAN	23570	MAX	100000	MIN	3100	CFSM	2.12	IN	28.83
									AC-FT	17470000		
										17060000		

NOTE.--No gage-height record Oct. 29 to May 2.

TABLE A.14

1934 HY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 15292780 Susitna River at Sunshine, AK PROCESS DATE: 17-JAN-85 15:41 GLP
 LAT 621042 LONG 1501030 STATE 02 COUNTY 170 DATUM OF GAGE: 270.00 FT NGVD DRAINAGE AREA: 11100

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	43300	12300	5000	5000	4600	4600	4400	6000	32000	62800	63300	35000	
2	39600	12600	5300	5000	4600	4600	4400	6200	33000	62500	56700	32000	
3	33400	12300	5900	5000	4600	4600	4400	6600	34000	61000	54700	29000	
4	26500	12200	5300	5000	4600	4600	4400	6800	37700	58600	53900	27000	
5	25200	11300	5800	5000	4600	4600	4400	7160	41600	59200	57700	25400	
6	24000	10300	5500	5000	4600	4600	4400	7550	42900	60400	63600	25300	
7	21700	9400	5800	5000	4600	4600	4400	8290	45200	58500	65700	25900	
8	19200	9200	5300	5000	4600	4600	4400	9660	45400	57100	65900	26200	
9	13600	8300	5300	5000	4600	4600	4400	12300	43200	55400	63300	25900	
10	19200	8500	5500	5000	4600	4600	4400	15200	49400	52500	56400	24700	
11	24300	8200	5600	5000	4600	4600	4400	17800	46900	55100	60000	23500	
12	31500	3000	5600	5000	4600	4600	4400	19000	49200	54100	52900	22700	
13	30500	9000	5600	5000	4600	4600	4400	19000	54200	52400	43100	22700	
14	27200	7300	5600	5000	4600	4600	4400	19000	67300	52400	43000	24000	
15	23600	7600	5600	5000	4600	4600	4400	23000	67700	48900	46000	22300	
16	21500	7400	5600	4500	4600	4400	4400	26000	75100	47900	44000	21000	
17	20000	7200	5600	4800	4600	4400	4400	28500	93000	49600	42500	20400	
18	18300	7000	5300	4800	4600	4400	4400	33200	51300	51200	45400	20900	
19	15300	7000	5500	4500	4600	4400	4400	33300	71200	51600	57200	24400	
20	17600	7000	5600	4800	4600	4400	4400	42100	59100	52600	63300	30500	
21	16300	5500	5400	4500	4600	4400	4400	44500	70500	57700	61800	28200	
22	16200	6500	5400	4500	4600	4400	4500	47000	72000	52500	54300	25000	
23	15500	6500	5400	4800	4600	4400	4500	47800	73500	52000	54600	22200	
24	14900	6500	5400	4800	4600	4400	4600	47300	70100	52000	64500	20400	
25	13900	6500	5400	4300	4600	4400	4700	47100	67100	58000	93300	19600	
26	13000	6200	5200	4800	4600	4400	4800	46300	64300	70300	104000	19000	
27	12900	6200	5200	4500	4600	4400	4900	41200	67200	62000	79700	16300	
28	12900	6200	5200	4300	4600	4400	5200	35100	70900	78400	59900	17700	
29	12900	6200	5200	4800	4600	4400	5400	32400	65200	71900	47600	17400	
30	12500	6200	5200	4800	---	4400	5600	32000	65400	70500	40800	17500	
31	13000	---	5200	4800	---	4400	---	31000	---	64900	38000	---	
TOTAL	561400	245200	172200	151800	133400	139400	136600	303560	1778300	1514500	1320400	718400	
MEAN	21340	8273	5555	4897	4600	4497	4553	25920	59260	58540	53720	23950	
MAX	43300	12300	5600	5000	4600	4500	5600	47800	93000	32000	104000	35000	
MIN	12300	6200	5200	4300	4600	4400	4400	6000	32000	47900	38000	17400	
CFSM	1.32	.75	.50	.44	.41	.41	.41	2.34	5.34	5.27	3.29	2.16	
IN.	2.22	.83	.56	.51	.45	.47	.46	2.69	5.96	6.03	6.10	2.41	
AC=FT	1312000	492300	341600	301100	264600	276500	270900	1594000	3527000	3399000	3611000	1425000	
WTR YR 1994	TOTAL	3578260	MEAN	23440	MAX	104000	MIN	4400	CFSM	2.11	IN.	28.75	AC=FT1701500

TABLE A.15

SOUTH-CENTRAL ALASKA

15294005 WILLOW CREEK NEAR WILLOW

LOCATION.--Lat 61°46'51", long 149°53'04", in NW¼SE¼ sec.31, T.20 N., R.3 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on right bank 0.9 mi downstream from unnamed tributary, 5.5 mi northeast of Willow, and 6.7 mi upstream from Deception Creek.
DRAINAGE AREA.--166 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to current year.

REVISED RECORDS.--WDR AK-80-1: 1979 (M).

GAGE.--Water-stage recorder. Altitude of gage is 350 ft, from topographic map. Prior to Apr. 2, 1981 at site 0.2 mi upstream at different datum.

REMARKS.--Water-discharge records good except those for Oct. 22 to Apr. 26, which are poor.

AVERAGE DISCHARGE.--5 years, 417 ft³/s, 34.11 in/yr, 302,100 acre-ft/yr.EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,450 ft³/s July 28, 1980, gage height, 8.80 ft, site and datum then in use; minimum daily, about 33 ft³/s Mar. 9-30, 1982.EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft³/s Sept. 30 (0200 hrs), gage height, 5.02 ft, no peak above base of 2,300 ft³/s; minimum daily discharge, about 60 ft³/s Mar. 27 to Apr. 16.

Peak discharges above base of 2,300 ft³/s for the period of daily record were computed and are shown below.
Annual maximums (*) are also shown.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 28, 1979	2230	*3,000	*a7.82	Aug. 1, 1981	2000	2,420	5.30
July 5, 1979	2100	2,700	a7.59	Aug. 15, 1981	1500	*3,470	*5.97
June 6, 1980	2230	2,470	a7.32	Dec. 11, 1981	--	ice jam	*6.69
July 28, 1980	0200	*4,450	*a8.80	June 6, 1982	2100	3,420	5.94
Aug. 19, 1980	0200	2,530	a7.46	July 25, 1982	1430	3,450	5.96
Sept. 15, 1980	1200	4,120	a8.58	Sept. 13, 1982	1430	2,920	5.64
				Sept. 16, 1982	0800	*4,140	6.34

a Site and datum then in use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	785	155	145	120	90	62	60	375	1360	474	293	666
2	722	155	140	115	90	62	60	364	1330	516	359	900
3	708	155	140	110	90	62	60	302	1640	450	354	792
4	659	150	135	105	90	62	60	258	1170	444	349	800
5	589	150	135	100	90	62	60	258	916	411	400	694
6	582	150	130	98	88	62	60	254	953	417	385	631
7	562	150	130	94	87	63	60	288	987	406	330	575
8	536	150	130	92	86	64	60	344	900	380	1020	542
9	523	150	125	90	85	64	60	349	916	354	1090	523
10	492	150	120	90	84	65	60	417	1000	335	830	498
11	462	150	120	90	82	66	60	406	1060	375	680	468
12	468	150	115	90	80	67	60	433	916	316	715	445
13	474	150	110	90	79	67	60	480	908	354	962	428
14	480	150	110	90	78	67	60	510	945	325	1270	450
15	444	150	110	90	77	67	60	582	953	284	1060	480
16	439	150	110	90	76	67	60	562	892	263	868	439
17	439	150	110	90	75	67	63	510	884	258	778	412
18	380	150	110	90	74	66	66	556	822	254	722	385
19	380	150	110	90	73	66	70	582	892	311	631	370
20	354	150	110	90	72	66	75	659	800	288	596	480
21	276	150	110	90	70	64	80	792	792	311	908	582
22	250	150	110	90	68	64	92	771	785	311	750	715
23	230	150	110	90	67	64	105	852	792	411	1140	659
24	220	150	110	90	66	62	129	715	687	364	1350	516
25	200	150	110	90	65	62	177	757	659	311	1100	445
26	190	150	110	90	64	61	231	808	596	288	988	406
27	180	150	110	90	64	60	201	822	556	276	908	390
28	170	150	110	90	63	60	219	822	542	246	800	380
29	165	145	115	90	---	60	258	1040	523	235	729	596
30	160	145	120	90	---	60	364	1220	480	246	694	1270
31	160	---	120	90	---	60	---	1500	---	258	694	---
TOTAL	12679	4505	3680	2904	2173	1971	3090	18588	26656	10472	23753	16937
MEAN	409	150	119	93.7	77.6	63.6	103	600	889	338	766	565
MAX	785	155	145	120	90	67	364	1500	1640	516	1350	1270
MIN	160	145	110	90	63	60	60	254	480	235	293	370
CFSM	2.46	.90	.72	.56	.47	.38	.62	3.61	5.36	2.04	4.61	3.40
IN.	2.84	1.01	.82	.65	.49	.44	.69	4.17	5.97	2.35	5.32	3.80
AC-FT	25150	8940	7300	5760	4310	3910	6130	36870	52870	20770	47110	33590

CAL YR 1982 TOTAL 155836 MEAN 427 MAX 3110 MIN 33 CFSM 2.57 IN 34.92 AC-FT 309100
WTR YR 1983 TOTAL 127408 MEAN 349 MAX 1640 MIN 60 CFSM 2.10 IN 28.55 AC-FT 252700

NOTE.--No gage-height record Nov. 17 to Mar. 15.

TABLE A.16

1934 WY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 15294005 Willow Creek near Willow, AK PROCESS DATE: 17-JAN-35 15:41 JLP
 LAT 61-651 LONG 149-5304 STATE 02 COUNTY 170 DATUM OF GAGE: 350.00 FT NGVD DRAINAGE AREA: 156

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1933 TO SEPTEMBER 1934
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	624	250	120	110	80	84	65	142	516	547	482	547
2	705	250	120	110	80	92	63	166	627	589	436	534
3	508	240	120	110	90	80	62	149	774	529	426	510
4	550	230	120	110	80	77	62	142	867	486	415	502
5	513	220	120	110	80	75	63	142	916	504	384	475
6	709	210	120	110	80	74	63	140	933	431	364	430
7	514	200	120	110	80	74	63	153	845	442	350	400
8	444	200	120	110	90	72	65	201	823	435	341	370
9	471	190	120	100	80	72	63	273	875	567	419	340
10	1090	190	120	100	90	70	68	313	323	724	369	310
11	2230	130	120	98	80	70	63	313	814	623	374	290
12	1400	130	120	96	80	70	63	291	329	596	327	280
13	1050	170	120	94	80	70	63	304	903	738	309	250
14	900	170	120	94	80	70	62	345	807	630	295	250
15	300	160	120	94	82	70	63	379	949	603	278	240
16	700	160	120	94	84	70	63	354	1030	535	274	230
17	640	150	120	94	86	70	63	435	983	522	262	270
18	570	150	120	94	90	70	65	551	933	485	265	450
19	520	150	120	92	90	70	65	539	963	516	349	550
20	490	140	120	90	90	70	62	515	933	569	301	540
21	450	140	120	88	90	70	70	675	967	655	270	420
22	430	140	120	86	90	70	72	629	925	575	270	370
23	400	140	120	86	90	70	74	575	859	517	404	290
24	330	130	120	84	90	70	76	662	792	522	497	270
25	350	130	120	84	90	70	80	597	754	716	2440	250
26	340	130	110	82	90	70	84	552	684	763	1690	250
27	320	130	110	80	90	70	90	516	725	677	1110	250
28	310	130	110	80	95	70	100	465	629	590	826	250
29	290	120	110	80	85	70	110	475	523	596	755	250
30	260	120	110	80	---	70	120	522	602	564	677	290
31	270	---	110	60	---	70	---	492	---	552	610	---
TOTAL	19573	5100	3660	2932	2443	2230	2235	12205	24543	17941	16550	10773
MEAN	631	170	113	94.6	84.2	71.9	74.5	394	823	579	537	350
MAX	2230	250	120	110	90	84	120	675	1030	768	2440	650
MIN	270	120	110	80	80	70	62	140	516	435	252	230
CFSM	3.60	1.02	.71	.57	.51	.43	.45	2.37	4.99	3.45	3.23	2.17
IN.	4.39	1.14	.82	.66	.55	.50	.50	2.74	5.57	4.02	3.73	2.42
AC-FT	33520	10120	7260	5820	4950	4420	4440	24210	49230	35590	33030	21410

WTR YR 1934 TOTAL 120607 MEAN 330 MAX 2440 MIN 65 CF5M 1.99 IN. 27.03 AC-FT 239200

TABLE A.17

SOUTH-CENTRAL ALASKA

15294010 DECEPTION CREEK NEAR WILLOW

LOCATION.--Lat 61°44'52", long 149°56'14", in NE¼SE¼ sec.11, T.19 N., R.4 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank 0.6 mi downstream from unnamed tributary, 3.3 mi east of Willow, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--48.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 250 ft, from topographic map. Prior to May 1, 1980 at site 500 ft upstream at different datum.

REMARKS.--Water-discharge records poor for period of no gage-height record prior to May 3, good thereafter.

AVERAGE DISCHARGE.--5 years, 69.1 ft³/s, 19.55 in/yr, 50,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 751 ft³/s June 21, 1980, gage height, 8.44 ft; minimum daily, about 2.0 ft³/s Dec. 24, 1980 to Jan. 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 451 ft³/s Aug. 24, gage height, 7.50 ft; minimum daily, about 14 ft³/s Apr 4-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	42	38	32	20	15	16	280	95	34	25	40
2	140	42	38	30	20	15	15	330	79	36	28	66
3	132	42	37	28	20	15	15	330	295	35	25	61
4	125	42	37	27	20	15	14	293	244	32	26	57
5	117	42	37	25	20	15	14	251	137	30	40	45
6	110	41	37	24	20	15	14	220	103	28	36	40
7	104	41	37	23	20	15	14	240	85	27	30	36
8	96	41	37	22	19	16	14	278	73	26	92	35
9	90	41	37	22	19	16	14	264	67	26	88	34
10	84	41	37	22	19	16	14	230	118	26	51	32
11	78	40	37	21	18	16	14	223	131	27	38	32
12	78	40	36	21	18	16	14	193	112	28	33	31
13	80	40	35	21	18	16	14	181	82	30	51	30
14	82	40	35	21	17	16	14	174	84	28	206	34
15	82	40	35	21	17	16	14	176	74	26	138	73
16	82	40	35	21	17	16	14	148	68	25	79	54
17	76	39	35	21	16	16	15	124	62	24	55	44
18	70	39	35	21	16	16	15	125	54	25	50	40
19	66	39	35	20	16	16	16	115	50	36	41	37
20	62	39	35	20	16	16	16	112	46	32	36	67
21	58	39	34	20	16	16	17	117	42	29	98	115
22	54	39	34	20	16	16	23	104	40	32	94	156
23	52	38	34	20	15	16	30	129	37	29	255	240
24	49	38	34	20	15	16	40	96	35	31	383	139
25	46	38	34	20	15	16	60	92	34	27	203	81
26	44	38	34	20	15	16	64	94	33	25	116	58
27	44	38	34	20	15	16	64	99	32	23	84	50
28	43	38	35	20	15	16	70	81	31	22	61	46
29	43	38	35	20	---	16	100	85	31	21	49	44
30	43	38	35	20	---	16	200	94	32	23	45	67
31	43	---	34	20	---	16	---	105	---	24	42	---
TOTAL	2423	1193	1102	683	488	489	958	5383	2406	867	2598	1884
MEAN	78.2	39.8	35.5	22.0	17.4	15.8	31.9	174	80.2	28.0	83.8	62.8
MAX	150	42	38	32	20	16	200	330	295	36	383	240
MIN	43	38	34	20	15	15	14	81	31	21	25	30
CFSM	1.63	.83	.74	.46	.36	.33	.67	3.63	1.67	.58	1.75	1.31
IN.	1.88	.92	.85	.53	.38	.38	.74	4.17	1.86	.67	2.01	1.46
AC-FT	4810	2370	2190	1350	968	970	1900	10680	4770	1720	5150	3740
CAL YR 1982	TOTAL	22753	MEAN 62.3	MAX 610	MIN 2.8	CFSM 1.30	IN 17.63	AC-FT 45130				
WTR YR 1983	TOTAL	20474	MEAN 56.1	MAX 383	MIN 14	CFSM 1.17	IN 15.87	AC-FT 40610				

TABLE A.18

1954 WY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 15294013 Deception Creek near Willow, AK PROCESS DATE: 17-JAN-95 15:41 GLP
 LAT 614452 LONG 1495614 STATE 02 COUNTY 170 DATUM OF GAGE: 250.00 FT NGVD DRAINAGE AREA: 42.0

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	40	35	29	24	20	24	20	130	131	30	35	40		
2	44	34	29	24	20	24	20	120	97	33	33	39		
3	40	33	29	24	20	23	20	120	30	35	33	37		
4	30	33	23	24	20	22	20	120	70	30	31	36		
5	34	33	23	24	20	21	20	130	66	28	29	35		
6	34	20	28	24	20	21	20	120	61	26	29	35		
7	34	39	23	23	20	21	20	125	72	24	28	34		
8	33	37	25	23	20	21	20	140	63	24	26	35		
9	33	35	23	23	20	21	20	160	75	40	26	35		
10	33	35	23	22	20	21	20	160	69	60	29	39		
11	34	35	23	22	20	21	20	150	60	55	27	40		
12	30	34	23	22	20	21	21	140	53	46	26	45		
13	35	34	27	22	20	21	21	140	51	70	25	44		
14	33	33	27	22	20	21	22	140	43	66	24	43		
15	34	33	27	22	20	21	23	140	57	46	24	42		
16	33	32	27	21	21	21	24	130	144	35	24	41		
17	33	32	27	21	22	21	26	124	195	33	24	40		
18	35	32	27	21	23	21	23	123	102	32	27	40		
19	33	31	25	21	24	21	30	126	69	33	40	73		
20	33	31	26	21	24	21	34	116	53	42	33	156		
21	33	31	25	20	24	21	40	101	45	69	36	123		
22	33	30	25	20	24	21	51	110	41	56	34	100		
23	33	30	25	19	24	21	54	104	37	40	40	66		
24	32	30	25	19	24	21	49	89	37	35	42	61		
25	33	30	24	19	24	21	45	79	34	49	205	61		
26	34	30	24	19	24	21	50	36	33	94	190	70		
27	34	30	24	19	24	21	55	114	37	73	33	61		
28	34	29	24	19	24	21	105	90	39	52	57	54		
29	33	29	24	19	24	21	173	75	33	43	50	69		
30	33	29	24	19	---	21	142	143	31	44	43	75		
31	33	---	24	19	---	21	---	151	---	39	42	---		
TOTAL	1073	959	621	661	630	660	1213	3801	1933	1367	1405	1674		
MEAN	34.6	32.0	26.5	21.3	21.7	21.3	40.4	123	66.1	44.7	45.3	55.3		
MAX	43	39	29	24	24	24	173	150	195	94	208	156		
MIN	32	20	24	19	20	21	20	75	31	24	24	34		
CFSM	.72	.67	.55	.44	.45	.44	.34	2.56	1.33	.93	.94	1.16		
IN.	.23	.74	.64	.51	.49	.51	.94	2.95	1.54	1.07	1.09	1.30		
AC-FT	2130	1400	1630	1310	1250	1310	2410	7540	3730	2750	2790	3320		
WTR YR 1994	TOTAL	16267	MEAN	44.4	MAX	206	MIN	19	CFSM	.92	IN.	12.61	AC-FT	32270

A-18

TABLE A.19

SOUTH-CENTRAL ALASKA

15294100 DESHKA RIVER NEAR WILLOW

LOCATION.--Lat 61°46'05", long 150°20'13, in SW¼NE¼ sec.3, T.19 N., R.6 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank 0.2 mi upstream from unnamed tributary, 1.1 mi downstream from unnamed tributary, 7.9 mi upstream from mouth, and 10 mi west of Willow.

DRAINAGE AREA.--592 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 80 ft, from topographic map.

REMARKS.--Records good except those for Oct. 25 to Apr. 30, and June 23 to July 27, which are fair.

AVERAGE DISCHARGE.--5 years, 941 ft³/s, 21.59 in/yr, 681,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,920 ft³/s Nov. 13, 1979, gage height, 8.16 ft; maximum gage height, 11.21 ft, Apr. 30, 1983, ice jam; minimum daily, about 170 ft³/s, Mar. 1-12, 1982 and Mar. 21 to Apr. 2, 1983

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 143 ft³/s was measured, Mar. 13, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,850 ft³/s May 4, gage height, 5.31 ft; maximum gage height, 11.21 ft, Apr. 30, ice jam; minimum daily, about 170 ft³/s Mar. 21 to Apr. 2.

Peak discharges above base of 3,600 ft³/s for the period of daily record were computed and are shown below. Annual maximums (*) are also shown.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 30, 1979	2100	ice jam	*7.34	July 13, 1981	1730	6,340	6.20
May 7, 1979	Unknown	*7,100	6.65	July 18, 1981	1300	6,540	6.32
June 29, 1979	0500	3,780	4.62	Aug. 4, 1981	1800	4,380	5.02
				Aug. 15, 1981	2100	*8,140	*7.23
Oct. 8, 1979	1600	3,840	4.66				
Nov. 13, 1979	1530	*9,920	*8.16	Oct. 25, 1981	0330	4,880	5.33
Apr. 30, 1980	1700	3,900	4.70	Sept. 18, 1982	1130	*6,050	*6.03
June 23, 1980	0630	4,610	5.16				
July 14, 1980	1000	4,890	5.34	Apr. 30, 1983	--	ice jam	*11.21
May 3, 1981	1900	6,600	6.35	May 4, 1983	1030	*4,850	5.31

REVISIONS.--The daily discharge for June 23, 1980 has been revised to 4,170 ft³/s and supersedes the figure published in the report for 1980.

Monthly	Cfs-day	Mean	Maximum	Minimum	Per square mile	Runoff in	
						Inches	Acre-feet
June 1980.....	48,943	1,631	4,170	753	2.76	3.08	97,080
WTR YR 1980.....	454,737	1,242	9,440	320	2.10	28.57	902,000
CAL YR 1980.....	384,614	1,051	4,780	190	1.78	24.17	762,900

TABLE A.19, cont.

SOUTH-CENTRAL ALASKA

15294100 DESHKA RIVER NEAR WILLOW--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2200	540	310	330	310	200	170	4400	900	340	228	533		
2	2030	520	300	330	320	190	170	4460	850	360	222	510		
3	1730	500	300	320	320	190	180	4750	990	300	222	549		
4	1630	500	300	320	330	190	180	4770	1600	290	206	565		
5	1490	480	300	310	330	190	180	4410	1690	280	222	488		
6	1330	480	300	310	310	190	190	4230	1320	280	267	443		
7	1240	460	310	300	290	190	190	4110	1060	270	279	415		
8	1180	460	310	300	280	190	190	3870	890	270	380	401		
9	1140	440	310	290	280	190	190	3800	762	260	1350	380		
10	1110	440	300	290	270	190	190	3800	682	260	2230	380		
11	1060	440	300	290	260	190	180	3630	630	260	1360	367		
12	1050	420	300	280	250	190	180	3450	589	270	890	367		
13	1370	400	300	280	240	180	180	3280	541	250	753	360		
14	1870	400	300	280	230	180	190	3080	510	240	1030	367		
15	1600	380	300	290	230	180	210	2870	510	240	1470	408		
16	1370	380	300	300	230	180	240	2560	518	230	1100	525		
17	1290	380	290	290	230	180	290	2230	495	230	850	525		
18	1180	380	280	300	220	180	350	2030	472	230	762	458		
19	1150	360	280	310	220	180	450	2080	443	240	717	422		
20	1190	360	280	310	220	180	600	1780	422	220	622	450		
21	1340	360	280	300	230	170	620	1520	401	220	630	573		
22	840	360	280	300	240	170	750	1380	394	220	1030	910		
23	735	360	280	290	240	170	1000	1340	380	210	1360	820		
24	690	380	280	290	230	170	1300	1340	360	210	1270	690		
25	650	360	280	290	220	170	1700	1180	350	210	1080	581		
26	650	340	280	290	230	170	2200	1020	340	210	880	510		
27	650	340	290	290	220	170	2700	910	330	210	726	465		
28	680	340	330	290	210	170	3400	850	320	206	639	436		
29	620	320	350	290	---	170	3800	780	320	211	573	472		
30	580	320	350	290	---	170	4200	735	310	216	549	1030		
31	560	---	340	300	---	170	---	762	---	216	510	---		
TOTAL	36205	12200	9310	9250	7190	5600	26370	81407	19379	7659	24407	15400		
MEAN	1168	407	300	298	257	181	879	2626	646	247	787	513		
MAX	2200	540	350	330	330	200	4200	4770	1690	360	2230	1030		
MIN	560	320	280	280	210	170	170	735	310	206	206	360		
CFSM	1.97	.69	.51	.50	.43	.31	1.49	4.44	1.09	.42	1.33	.87		
IN.	2.26	.77	.59	.58	.45	.35	1.66	5.12	1.22	.48	1.53	.97		
AC-FT	71810	24200	18470	18350	14260	11110	52300	161500	38440	15190	48410	30550		
CAL YR 1982	TOTAL	306485	MEAN	840	MAX	5930	MIN	170	CFSM	1.42	IN	19.26	AC-FT	607900
WTR YR 1983	TOTAL	254377	MEAN	697	MAX	4770	MIN	170	CFSM	1.18	IN	15.98	AC-FT	504600

NOTE.--No gage-height record Nov. 20 to Mar. 14 and June 23 to July 27.

TABLE A.20

1984 HY

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

15294100

Dashka River near Willow

PROCESS DATE: 17-JAN-85 15:41 SLP

LAT 514605 LONG 1502013

STATE 02 COUNTY 170

DATUM OF GAGE: 30.00 FT NGVD

DRAINAGE AREA: 592

PROVISIONAL DATA		DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1933 TO SEPTEMBER 1984										
		MEAN VALUES										
DAY	GCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2470	650	400	270	230	230	370	2240	997	309	486	705
2	2130	700	360	270	230	230	370	2790	835	295	443	631
3	1360	670	340	270	230	230	370	3300	708	295	467	565
4	1490	600	330	270	230	230	370	3240	622	272	464	517
5	1160	580	320	270	230	240	375	3000	557	265	403	457
6	980	560	310	260	230	240	380	2840	502	255	380	440
7	352	540	310	260	230	240	380	2810	467	237	393	420
8	744	520	300	260	230	240	380	2790	533	232	355	390
9	599	510	300	260	230	240	390	2650	540	216	346	370
10	751	500	290	250	230	240	390	2530	509	216	373	350
11	1410	480	290	260	230	250	390	2380	502	216	360	330
12	3200	450	290	270	230	270	390	2590	464	210	321	320
13	4030	420	290	260	230	290	390	2190	435	205	302	300
14	3350	400	290	260	230	290	400	1930	421	205	284	290
15	2560	390	290	250	230	300	410	1630	400	205	249	280
16	1900	380	290	240	230	310	420	1760	407	200	237	270
17	1530	350	290	240	240	310	460	1680	508	195	221	260
18	1300	350	290	230	240	310	430	1560	529	189	232	300
19	1180	360	290	230	250	310	500	1500	605	205	339	400
20	1060	370	290	230	250	310	520	1360	503	237	1070	560
21	969	400	290	220	240	310	530	1240	429	289	1410	900
22	928	420	280	220	240	310	550	1150	357	441	1140	720
23	350	390	280	220	237	310	580	1100	360	457	1090	560
24	750	350	300	220	230	310	620	1040	360	394	1270	430
25	690	340	310	220	230	320	700	900	353	328	2100	320
26	630	340	310	220	230	330	600	799	340	334	3080	290
27	620	350	300	220	230	340	950	771	340	613	3840	250
28	750	370	300	220	230	350	1070	908	327	742	3170	260
29	660	390	290	220	230	360	1450	853	321	563	1510	290
30	640	400	290	230	---	370	1860	772	315	503	1050	320
31	620	---	250	230	---	370	---	893	---	479	835	---
TOTAL	43373	13550	9390	7550	6757	8960	17235	56391	14597	9667	28307	12615
MEAN	1399	452	303	244	233	290	575	1884	490	318	913	421
MAX	4060	700	400	270	250	370	1860	3300	997	742	3840	900
MIN	520	340	280	220	230	230	370	771	315	169	221	260
CFSM	2.36	.75	.51	.41	.39	.49	.97	3.12	.83	.54	1.54	.71
IN.	2.73	.55	.59	.47	.42	.56	1.03	3.67	.92	.62	1.78	.79
AC-FT	56530	26830	18530	14980	13400	17510	34190	115300	29150	19570	55150	25030

WTR YR 1984 TOTAL 230716 MEAN 630 MAX 4080 MIN 189 CFSM 1.05 IN. 14.50 AC-FT 457500

A-21

TABLE A.21

SOUTH-CENTRAL ALASKA

15294345 YENTNA RIVER NEAR SUSITNA STATION

LOCATION.--Lat 61°41'55", long 150°39'02", in NW¼ sec.36, T.19 N., R.8 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on right bank 12 mi upstream from mouth and 14 mi northwest of Susitna Station.

DRAINAGE AREA.--6,180 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 80 ft, from topographic map.

REMARKS.--Water-discharge records good except those for period of no gage-height record, Oct. 16 to May 9, which are poor. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 116,000 ft³/s Aug. 13, 1981, gage height, 18.61 ft; minimum daily, about 2,000 ft³/s Mar. 21 to Apr. 10, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft³/s Aug. 10, gage-height, 18.16 ft; minimum daily, about 2,500 ft³/s Apr. 6 to 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	25900	7000	4600	4100	3000	3400	2700	14000	65200	50700	41800	27200		
2	23100	7000	4600	4200	3000	3400	2600	16000	62100	50900	42200	27500		
3	21400	7000	4600	4200	3000	3400	2600	18000	58400	49800	43100	27000		
4	20900	7000	4600	4100	3000	3400	2600	20000	58600	48300	43300	24100		
5	19100	6500	4400	4000	3000	3400	2550	22000	51300	49100	46200	21600		
6	17500	6500	4400	3900	3000	3400	2500	23000	44500	51300	52000	19300		
7	15400	6500	4400	3800	3000	3400	2500	24000	44000	57800	59000	17400		
8	15000	6500	4400	3700	3000	3400	2500	24000	43800	53700	78000	16400		
9	14200	6000	4400	3500	3000	3200	2500	23000	42600	52100	100000	16000		
10	13600	6000	4400	3400	3000	3200	2500	24700	41700	48900	112000	15400		
11	12700	6000	4200	3300	3100	3200	2500	24900	38500	46800	91200	15000		
12	12500	6000	4200	3200	3200	3200	2500	25400	37600	45900	63400	14800		
13	12600	6000	4200	3200	3300	3200	2600	26400	37300	47700	56600	14600		
14	11900	5500	4200	3200	3400	3200	2700	29700	37100	49400	50200	15900		
15	11400	5500	4000	3200	3400	3000	2800	31000	37100	49000	49900	19000		
16	11000	5500	4000	3200	3400	3000	2900	28700	38500	47000	40400	16900		
17	10500	5500	4000	3200	3400	3000	3100	26700	39200	46000	35600	13800		
18	10500	5500	4000	3100	3400	3000	3300	26400	42000	45000	34600	12300		
19	10000	5000	4000	3000	3400	3000	3500	26800	45000	43000	33600	11500		
20	9500	5000	4000	3020	3400	3000	3800	27100	50000	41000	32600	11300		
21	9500	5000	3800	3000	3400	3000	4100	27500	51000	39000	35300	12500		
22	9000	5000	3800	3000	3400	3000	4600	28200	52000	38000	44300	14000		
23	8500	5000	3800	3000	3400	2900	5200	28100	55000	40000	42500	13800		
24	8500	5000	3800	3000	3400	2900	5800	28000	57500	42000	36400	12300		
25	8000	4800	3800	3000	3400	2900	6800	27300	56300	37000	31100	11000		
26	8000	4800	3800	3000	3400	2800	7800	26500	57300	32800	27300	10600		
27	8000	4800	3800	3000	3400	2800	9000	26500	60200	32000	25200	10100		
28	7500	4800	3800	3000	3400	2800	10000	25000	55800	32600	24500	9640		
29	7500	4600	3800	3000	---	2800	11000	26000	52600	35500	25400	9640		
30	7500	4600	3800	3000	---	2700	13000	29600	51700	39200	26800	12000		
31	7000	---	4000	3000	---	2700	---	48500	---	41800	27700	---		
TOTAL	387700	169900	127600	103520	90600	95700	132550	803000	1463900	1383300	1461200	472580		
MEAN	12510	5663	4116	3339	3236	3087	4418	25900	48800	44620	47140	15750		
MAX	25900	7000	4600	4200	3400	3400	13000	48500	65200	57800	112000	27500		
MIN	7000	4600	3800	3000	3000	2700	2500	14000	37100	32000	24500	9640		
CFSM	2.02	.92	.67	.54	.52	.50	.72	4.19	7.90	7.22	7.63	2.55		
IN.	2.33	1.02	.77	.62	.55	.58	.80	4.83	8.81	8.33	8.80	2.84		
AC-FT	769000	337000	253100	205300	179700	189800	262900	1593000	2904000	2744000	2898000	937400		
CAL YR 1982	TOTAL	6779200	MEAN	18570	MAX	105000	MIN	2000	CFSM	3.01	IN	40.81	AC-FT	13450000
WTR YR 1983	TOTAL	6691550	MEAN	18330	MAX	112000	MIN	2500	CFSM	2.97	IN	40.28	AC-FT	13270000

TABLE A.22

1984 WY UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
 1529-345 YENTNA R NR SUSITNA STATION AK
 LAT 614155 LONG 1503902 STATE 02 COUNTY 170 DATUM OF GAGE: PROCESS DATE: 17-JAN-85 15:41 GLP
 DRAINAGE AREA: 6120

PROVISIONAL DATA DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15000	6500	4500	2900	2400	2200	3100	21300	31100	57400	52400	24300
2	15000	6500	4600	2900	2400	2200	3200	26000	31100	58600	51100	22600
3	15000	6500	4400	2900	2400	2200	3300	35300	33300	60200	49500	21600
4	14000	6000	4400	2800	2400	2200	3400	36700	35800	55100	50900	20900
5	13000	6000	4400	2800	2400	2200	3540	30800	38900	61800	55800	20200
6	12000	5000	4400	2300	2400	2200	3600	19400	41400	66900	62300	20000
7	11000	6000	4400	2800	2400	2200	3700	20200	45100	65100	65900	19700
8	10000	6000	4200	2700	2400	2200	3800	22200	50300	61100	62300	20500
9	11000	5200	4000	2700	2400	2200	3900	24700	47000	58400	51500	21200
10	12000	5800	3700	2700	2400	2200	4000	27400	44500	52900	56300	20600
11	13000	5500	3500	2700	2300	2200	4100	23800	43400	50100	50100	20100
12	14000	5400	3700	2600	2300	2200	4200	27100	43900	49400	44200	19600
13	15000	5400	3500	2600	2300	2200	4300	24200	48000	47000	42800	19200
14	14000	5400	3500	2600	2300	2200	4500	24400	54000	45300	41200	23100
15	13000	5400	3400	2600	2300	2100	4600	26300	50300	41400	40700	22700
16	12000	5400	3400	2500	2300	2100	4500	23000	52500	41500	42300	20500
17	11000	5400	3300	2600	2300	2100	5100	29900	54200	43200	44000	19000
18	10000	5400	3200	2600	2300	2100	5400	32200	54400	42200	46800	18100
19	7500	5200	3100	2600	2300	2100	5700	36400	51200	49400	72400	21000
20	9000	5200	3000	2600	2300	2100	6000	37600	50900	47200	75600	27000
21	8500	5200	3000	2600	2300	2100	6400	38700	53500	49100	73200	24000
22	8000	5000	3000	2600	2200	2200	7000	40100	57200	47400	59100	20000
23	8000	5000	3000	2600	2240	2200	3500	39300	59300	45000	63300	13000
24	7500	4300	3000	2600	2200	2300	5000	37400	62500	45100	53100	15000
25	7500	4500	3100	2500	2200	2300	8000	36600	64100	49500	56300	15000
26	7000	4800	3100	2500	2200	2400	8000	38000	63400	53400	65600	14500
27	7000	4500	3100	2500	2200	2500	8500	35800	59700	55400	42600	14000
28	7000	4300	3100	2500	2200	2600	9500	34300	62300	52800	37800	14000
29	7000	4500	3100	2400	2200	2700	11000	32500	59400	55400	32600	14200
30	6500	4500	3100	2400	---	2900	15000	31000	58200	56500	27000	15000
31	6500	---	3000	2400	---	3000	---	32500	---	55700	26300	---
TOTAL	333000	163300	110900	81700	66940	70600	174140	957300	1502200	1626500	1655000	586500
MEAN	10740	5443	3577	2635	2306	2277	5805	30530	50090	52470	53390	18550
MAX	15000	6500	4500	2900	2400	3000	15000	40100	64100	66900	75600	27000
MIN	6500	4500	3000	2400	2200	2100	3100	19400	31100	41400	26300	14000
WTR TR 1984	TOTAL	7323500	MEAN	20020	MAX	96600	MIN	2100				

TABLE A.23

SOUTH-CENTRAL ALASKA

15294350 SUSITNA RIVER AT SUSITNA STATION
(National stream-quality accounting network station)

LOCATION.--Lat 61°32'41", long 150°30'45", in SE¼SE¼ sec.22, T.17 N., R.7 W., Matanuska-Susitna Borough, Hydrologic Unit 19050002, on left bank at Susitna Station, 1.5 mi downstream from Yentna River, and 12.5 mi upstream from Alexander Creek.

DRAINAGE AREA.--19,400 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORD.--WDR AK-82-1: 1980.

GAGE.--Water-stage recorder. Altitude of gage is 40 ft, from topographic map.

REMARKS.--Water-discharge records good, except those for period of no gage-height record, Oct. 21 to June 21, which are poor.

AVERAGE DISCHARGE.--9 years, 49,940 ft³/s, 34.96 in/yr, 36,180,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s July 29, 1980 and Aug. 16, 1981; maximum gage height, 20.27 ft, Aug. 16, 1981; minimum daily discharge, about 5,000 ft³/s Mar. 18 to Apr. 13, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 223,000 ft³/s Aug. 10, gage height, 18.45 ft; minimum daily, about 6,400 ft³/s Apr. 11-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	67000	19000	12000	10500	7600	8200	6600	15000	105000	116000	98400	91800		
2	63000	19000	12000	10500	7600	8200	6600	18000	115000	116000	100000	90800		
3	60000	18000	12000	10000	7600	8200	6600	21000	125000	117000	101000	93900		
4	56000	18000	11000	10000	7600	8000	6520	24000	130000	115000	99800	84200		
5	50800	18000	11000	9500	7600	7800	6500	29000	120000	114000	103000	75500		
6	45700	18000	11000	9500	7600	7600	6500	34000	110000	118000	107000	67800		
7	42200	17000	11000	9200	7600	7600	6500	42000	100000	128000	107000	61800		
8	40500	17000	11000	9000	7800	7400	6500	50000	90000	126000	116000	58100		
9	38700	16000	10000	8600	7800	7400	6500	55900	80000	121000	183000	55900		
10	37000	16000	10000	8400	7800	7400	6500	62000	75000	113000	218000	53800		
11	35200	16000	10000	8200	8000	7200	6400	68000	70000	108000	182000	51800		
12	33800	16000	10000	8000	8200	7200	6400	72000	70000	104000	134000	50300		
13	34400	15000	10000	8000	8400	7000	6400	75000	75000	104000	122000	49100		
14	34300	15000	10000	8000	8600	7000	6400	75000	80000	106000	129000	49000		
15	32000	15000	10000	8000	8800	7000	6400	80000	80000	105000	121000	52000		
16	29000	15000	9600	7800	9000	7000	6600	80000	90000	101000	105000	51400		
17	29100	15000	9600	7800	9200	7000	6800	82000	95000	99200	94200	46600		
18	29200	15000	9200	7800	9400	7000	6800	85000	100000	100000	89000	43100		
19	27500	14000	9200	7800	9400	6800	7000	85000	100000	98600	84900	40700		
20	28000	14000	9000	7800	9400	6800	7200	80000	105000	96200	81500	40200		
21	27000	14000	9000	7800	9200	6800	7400	75000	110000	94900	82800	43000		
22	25000	14000	8800	7800	9200	6800	7800	70000	116000	95300	95200	47900		
23	24000	14000	8800	7800	9000	6600	8000	66000	120000	93300	96400	51400		
24	23000	13000	8800	7800	9000	6600	8500	64000	124000	96600	95600	51900		
25	22000	13000	8800	7800	8800	6600	9000	62000	122000	94200	92500	45900		
26	21000	13000	8800	7800	8600	6600	9500	64000	123000	88600	87600	40900		
27	21000	13000	8800	7800	8600	6600	10500	66000	125000	83800	87600	39000		
28	20000	12000	8800	7600	8400	6600	11500	70000	122000	82500	85800	37300		
29	20000	12000	9000	7600	---	6600	12500	75000	120000	84500	81500	35000		
30	19000	12000	9400	7600	---	6600	14000	85000	119000	88700	79800	46000		
31	19000	---	10000	7600	---	6600	---	95000	---	94000	85800	---		
TOTAL	1054400	456000	306600	259400	235800	220800	230420	1924900	3116000	3202400	3346400	1646100		
MEAN	34010	15200	9890	8368	8421	7123	7681	62090	103900	103300	107900	54870		
MAX	67000	19000	12000	10500	9400	8200	14000	95000	130000	128000	218000	93900		
MIN	19000	12000	8800	7600	7600	6600	6400	15000	70000	82500	79800	35000		
CFSM	1.75	.78	.51	.43	.43	.37	.40	3.20	5.36	5.33	5.56	2.83		
IN.	2.02	.87	.59	.50	.45	.42	.44	3.69	5.98	6.14	6.42	3.16		
AC-FT	2091000	904500	608100	514500	467700	438000	457000	3818000	6181000	6352000	6638000	3265000		
CAL YR 1982	TOTAL	17060800	MEAN	46740	MAX	208000	MIN	5000	CFSM	2.41	IN	32.71	AC-FT	33840000
WTR YR 1983	TOTAL	15999220	MEAN	43830	MAX	218000	MIN	6400	CFSM	2.26	IN	30.68	AC-FT	31730000

TABLE A.24

1944 HY

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

15294350

SUSITNA RIVER AT SUSITNA STATION AK

PROCESS DATE: 17-JAN-85 15:41 GLP

LAT 613241

LONG 1503045

STATE 02

COUNTY 170

DATUM OF GAGE: 40.00 FT NGVD

DRAINAGE AREA: 19400

PROVISIONAL DATA

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1933 TO SEPTEMBER 1934
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64600	23000	15000	8500	7000	6600	3000	32000	66700	118000	114000	67700
2	64800	22000	16000	8500	7000	6600	3200	40000	66400	116000	109000	62900
3	60700	22000	15000	8000	7000	6600	3400	45000	70900	119000	104000	59500
4	53900	22000	15000	8000	7000	6600	8600	46500	76500	112000	104000	57000
5	47400	21000	15000	8500	7000	6600	3500	46900	82600	115000	103000	55200
6	44400	21000	14000	8500	6800	6400	9100	42700	87200	122000	113000	54100
7	42100	21000	14000	7500	6800	6400	9200	42200	91300	121000	124000	53700
8	37500	21000	13000	7500	6800	6400	9400	40600	96600	116000	123000	53800
9	35100	22000	13000	7500	6800	6400	9400	43700	93400	112000	122000	54000
10	36100	21000	13000	7500	6900	6400	9600	43000	95000	106000	122000	53000
11	41200	21000	12000	7500	6600	6400	9800	51400	94100	103000	114000	51400
12	55400	20000	12000	7500	6600	6200	10000	52400	94300	103000	102000	50400
13	59100	20000	12000	7500	6600	6200	10000	49000	97800	100000	94800	49400
14	54400	20000	11000	7500	6600	6200	11000	48200	112000	99000	90000	52200
15	47400	20000	11000	7500	6600	6200	11000	50400	115000	94300	86700	52600
16	42500	19000	11000	7500	6600	6200	11000	54300	113000	90900	86300	49500
17	36700	13000	10000	7500	6600	6000	11000	58600	131000	92300	97200	47700
18	36500	15000	10000	7000	6600	6000	11000	62500	134000	97500	90000	46100
19	34500	16000	10000	7000	6600	6000	12000	69700	124000	93700	113000	49700
20	33400	17000	10000	7000	6600	6000	13000	75100	113000	97300	146000	57000
21	32000	17000	9500	7000	6600	6000	14000	77200	121000	101000	133000	62000
22	30000	17000	9500	7000	6600	6000	21000	81300	125000	105000	115000	55000
23	29000	17000	9500	7000	6600	6000	19000	85300	126000	101000	114000	50000
24	23000	17000	9500	7000	6600	6200	18000	84100	130000	99300	117000	46000
25	26000	16000	10000	7000	6600	6400	18000	96100	126000	102000	134000	43000
26	26000	16000	10000	7000	6600	6600	19000	86700	125000	112000	156000	41000
27	25000	16000	9500	7000	6600	6600	20000	83500	121000	131000	142000	39000
28	25000	16000	9500	7000	6600	7400	21000	77900	126000	130000	113000	36000
29	25000	16000	9000	7000	6600	7400	23000	72700	124000	126000	92300	33000
30	24000	16000	8500	7000	---	7500	27000	69400	121000	123000	91500	40000
31	24000	---	8500	7000	---	7300	---	65900	---	122000	73700	---
TOTAL	1222700	571000	356000	230500	194400	200500	593500	1873400	3211300	3335300	3440000	1526900
MEAN	39440	18387	11480	7435	6273	6465	19145	60430	107100	109200	111000	50960
MAX	54500	23000	16000	8500	7000	7300	27000	86700	134000	131000	156000	67700
MIN	24000	16000	8500	7000	6600	6000	3000	32000	66400	90900	73700	33000
CFSM	2.33	.95	.59	.36	.35	.33	.68	3.11	5.52	5.63	5.72	2.63
IN.	2.34	1.09	.63	.44	.37	.38	.76	3.59	6.16	6.49	6.60	2.63
AC-FT	2425000	1133000	705100	457200	385600	397700	790400	3716000	4371000	6715000	6323000	3033000

WTR YR 1934

TOTAL 16613000

MEAN

43390

MAX

166000

MIN

6000

CFSM

2.34

IN.

31.56

AC-FT

132952000

TABLE A.25. Mean Daily Streamflow Record for Portage Creek,
Alaska, 1983. River Mile 148.8, Tributary
River Mile 0.1.

<u>Day</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>
1		1,395	712	381	1,952	875
2		1,399	848	315	2,165	793
3		1,902	662	275	1,706	699
4		1,370	683	283	1,402	616
5		855	771	522	1,189	570
6		968	711	689	1,031	552
7		1,052	---	563	903	473
8		1,043		1,382	834	421
9		902		2,045	765	444
10		809		1,471	690	476
11		851		1,045	618	768
12		885		1,087	564	735
13		904		1,513	521	612
14	---	912		1,553	499	531
15	621	999		1,334	475	490
16	721	1,083		1,134	429	444
17	766	1,013		989	394	424
18	794	984		867	367	389
19	712	1,167		763	344	---
20	695	1,181		737	429	
21	699	1,113		1,160	525	
22	679	1,140		1,094	531	
23	737	1,109		1,267	541	
24	700	988		1,286	431	
25	632	947		1,147	396	
26	622	927		1,131	368	
27	590	952		1,000	348	
28	581	891	---	857	341	
29	895	772	257	805	418	
30	1,587	725	278	1,671	888	
31	1,729		392	2,185		

¹ Discharge is estimated from the regression equation for the Gold Creek tributary streamflow/water depth rating curve.

Source: ADF&G (1984b)

TABLE A.26. Mean Daily Streamflow Record for Indian River,
Alaska, 1983. River Mile 138.6, Tributary River
Mile 1.0.

<u>Day</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>
1		2,019	443	80	1,639	1,875
2		2,087	622	70	3,015	1,468
3		3,137	406	63	1,535	1,049
4		1,389	384	65	1,026	909
5		804	384	122	768	764
6		966	303	171	604	717
7		1,122	236	147	496	526
8		975	215	1,299	436	429
9		894	189	2,647	402	448
10		840	168	1,038	361	568
11		812	156	556	309	1,714
12		768	134	1,076	268	1,573
13		732	158	2,389	244	1,115
14		700	167	1,914	239	759
15		880	142	1,180	243	654
16		941	129	805	211	546
17		812	127	596	187	485
18	1,545	768	117	467	178	434
19	1,230	1,026	105	368	161	
20	1,090	1,138	88	326	278	
21	895	989	84	588	413	
22	865	1,101	107	578	365	
23	923	945	124	685	357	
24	931	754	130	705	253	
25	788	723	105	562	221	
26	662	668	89	503	201	
27	609	599	89	433	195	
28	508	608	84	368	208	
29	751	467	73	341	415	
30	1,809	448	68	695	2,308	
31	2,741		85	2,185		

¹ Discharge is estimated from the regression equation for the Indian River streamflow/water depth rating curve.

TABLE A.27

TABLE Daily mean streamflow record for Gold Creek,
Alaska, 1983. River Mile 136.7, Tributary
River Mile 0.2

<u>Day</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>
1		217	53	27	79	157
2		193	59	25	134	114
3		205	51	24	88	87
4		163	49	29	74	76
5		138	47	40	68	---
6		156	46	40	63	
7		156	43	37	60	
8		137	44	131	58	
9		120	40	200	54	
10		118	39	114	53	
11		126	36	83	49	
12		120	35	89	46	
13		114	39	114	45	
14		115	60	103	45	
15		116	50	84	46	
16	---	116	44	72	44	
17	69	103	42	65	42	
18	76	105	40	61	40	
19	74	115	36	56	38	
20	81	102	35	57	55	
21	95	90	33	79	60	
22	110	90	32	69	56	
23	102	83	36	64	52	
24	102	73	34	66	45	
25	104	69	32	60	44	
26	113	65	30	53	54	
27	116	59	29	52	63	
28	118	59	27	52	41	
29	149	57	26	50	52	
30	172	54	27	62	158	
31	238		30	84		

¹ Discharge is estimated from the regression equation for the Gold Creek tributary streamflow/water depth rating curve.

APPENDIX B
WATER QUALITY DATA (USGS, ADF&G)

TABLE B.1

SOUTH-CENTRAL ALASKA
15291000 SUSITNA RIVER NEAR DENALI--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-66, 1968-69, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM WIDTH (FT) (00004)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80134)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80135)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 06...	1330	187	264	--	.0	6	4.3	--
JUN 08...	1400	900	4550	--	--	E438	--	E59
JUL 20...	1800	--	8100	14.0	7.0	715	15600	63

E ESTIMATED

TABLE B.2

SOUTH-CENTRAL ALASKA
15291500 SUSITNA RIVER NEAR CANTWELL--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-72 and 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May to October 1980, June to September 1982, May to August 1983 (seasonal).

INSTRUMENTATION.--Temperature recorder since May 29, 1980.

REMARKS.--Missing record due to equipment malfunction. One cross-section was made during the water year with a maximum variation of 0.1°C observed. Several other observations of water temperature were made during the water year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 13.5°C, June 25, 26, 1982, and June 25, 26, 1983

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Minimum temperature of .0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum 13.5°C, June 25, 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM WIDTH (FT) (00004)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80134)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80135)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 01...	1615	380	5600	--	123	1860	51
MAR 02...	1600	300	1180	.0	6	19	--
APR 06...	1745	176	1155	.0	4	12	--
MAY 17...	1330	400	11000	2.9	355	10500	--

TEMPERATURE, WATER (DEG. C), MAY TO AUGUST 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	8.5	5.0	12.5	11.0	10.5	10.0	---	---
2	---	---	---	---	8.5	7.0	11.5	10.5	11.5	9.5	---	---
3	---	---	---	---	6.5	5.5	11.0	10.0	11.5	9.5	---	---
4	---	---	---	---	6.5	5.0	11.5	10.5	11.0	9.0	---	---
5	---	---	---	---	8.5	6.0	13.0	10.0	9.0	7.5	---	---
6	---	---	---	---	9.5	8.0	13.0	11.5	9.0	7.5	---	---
7	---	---	---	---	9.5	8.0	11.5	9.5	10.0	8.5	---	---
8	---	---	---	---	9.5	9.0	10.0	8.5	9.5	8.5	---	---
9	---	---	---	---	9.0	7.5	10.0	9.5	8.5	7.5	---	---
10	---	---	---	---	8.0	7.0	10.5	8.5	9.0	7.5	---	---
11	---	---	---	---	9.0	7.5	10.5	10.0	10.5	9.0	---	---
12	---	---	---	---	10.0	8.0	12.0	9.0	10.0	9.5	---	---
13	---	---	---	---	10.5	8.5	11.5	10.5	9.5	8.0	---	---
14	---	---	---	---	11.0	9.5	10.5	9.5	7.5	7.0	---	---
15	---	---	---	---	10.5	9.5	11.5	9.5	7.0	6.5	---	---
16	---	---	---	---	10.5	9.0	12.0	10.5	8.5	6.5	---	---
17	---	---	---	---	11.0	9.0	11.5	10.0	9.0	8.5	---	---
18	3.5	2.5	12.5	9.5	12.5	9.5	10.0	8.5	9.5	7.5	---	---
19	5.0	2.5	12.5	10.5	10.5	9.5	10.5	8.5	---	---	---	---
20	6.5	4.5	11.5	9.5	11.5	10.5	10.5	---	---	---	---	---
21	6.0	4.5	12.5	10.0	11.5	9.5	---	---	---	---	---	---
22	5.5	4.0	12.5	10.5	11.5	10.0	---	---	---	---	---	---
23	5.5	4.5	12.5	10.5	11.0	10.5	---	---	---	---	---	---
24	5.5	4.5	13.0	10.5	11.0	9.5	---	---	---	---	---	---
25	6.5	5.0	13.5	11.5	12.0	9.5	---	---	---	---	---	---
26	6.5	5.5	13.5	12.0	12.0	10.5	---	---	---	---	---	---
27	6.5	5.5	12.5	9.5	12.5	10.5	---	---	---	---	---	---
28	8.5	6.5	9.5	7.5	13.0	11.0	---	---	---	---	---	---
29	8.5	7.5	10.0	9.5	12.5	11.0	---	---	---	---	---	---
30	8.5	6.5	11.5	9.0	11.0	9.5	---	---	---	---	---	---
31	8.5	6.5	---	---	10.0	8.5	---	---	---	---	---	---
MONTH	8.5		13.5		5.0		13.0		8.5			

TABLE B.3

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-58, 1962, 1967-68, 1974 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August to September 1982, October, June to September 1983 (seasonal).

INSTRUMENTATION.--Water temperature recorder since Aug. 20, 1982.

REMARKS.--Missing record due to probe out of water. Four cross-sections were run during the water year with a maximum variation of 0.5°C observed. Recorded temperatures were found to be within 0.3°C of mean stream temperature based on cross-sectional information. Several other field observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 15.0°C June 28, 29, 1983; minimum, 0°C many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 15.0°C June 28, 29; minimum, 0°C many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK (00009)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SATUR- ATION (MG/L) (00301)	HARD- NESS, AS CACO3 (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L) (00915)
MAY											
19...	0921	145	90	7.6	3.7	740	13.1	102			
19...	0922	185	90	7.7	3.7	740	13.1	102			
19...	0923	230	90	7.7	3.8	740	13.1	102			
19...	0924	285	88	7.6	3.8	740	13.3	104			
19...	0925	350	84	7.4	4.2	740	13.4	106			
JUN											
28...	1431	120	120	7.5	12.2	742	12.4	119			
28...	1432	180	118	7.9	12.0	742	11.0	105			
28...	1433	225	116	8.0	11.8	742	10.4	99			
28...	1434	280	114	8.0	11.8	742	10.4	99			
28...	1435	350	108	8.0	11.7	742	10.1	96			
JUL											
28...	1521	125	117	7.8	14.1	744	11.0	110			
28...	1522	185	118	7.8	13.9	744	10.0	99			
28...	1523	230	118	7.8	13.9	744	10.3	102			
28...	1524	275	117	7.8	13.9	744	10.1	100			
28...	1525	340	115	7.9	14.0	744	10.6	105			
AUG											
25...	1631	120	115	7.6	8.0	745	11.4	98			
25...	1632	180	114	7.7	7.8	745	11.7	101			
25...	1633	225	112	7.7	7.8	745	11.6	100			
25...	1634	280	112	7.8	7.8	745	11.4	98			
25...	1635	350	108	7.8	7.8	745	11.8	101			

TABLE B.3, cont.

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L HCO3) (99440)	CAR- BONATE IT-FLD (MG/L CO3) (99445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIN- DIS- (MG/L (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
MAR												
18...	4.5	16	2.2	--	--	18	26	.10	12	153	170	.200
MAY												
19...	1.8	3.8	1.3	37	.0	14	5.4	.10	5.8	70	64	--
JUN												
28...	1.9	3.1	1.9	70	.0	12	3.8	<.10	5.0	71	81	<.100
JUL												
28...	2.2	4.0	1.8	--	--	14	5.1	<.10	5.6	75	81	<.100
AUG												
25...	2.3	4.0	1.5	52	.0	13	4.5	<.10	7.4	82	76	--

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORG. SUSP. TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO- GEN,AM- MONIA + ORG. SUSP. TOTAL (MG/L AS N) (00623)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)
MAR												
18...	.150	.130	.060	.47	.34	.60	.20	.40	.80	.55	.010	.010
MAY												
19...	.100	--	<.060	--	--	.60	--	--	--	--	.310	.010
JUN												
28...	--	<.060	<.060	--	--	.70	.30	.40	--	--	.060	.030
JUL												
28...	--	.050	--	.25	--	.30	--	--	--	--	.080	.040
AUG												
25...	<.100	--	.070	--	--	.40	--	--	--	--	.350	.080

DATE	PHOS- PHORUS, ORTHOPHOS- PHATE TOTAL (MG/L AS P) (00671)	PHOS- PHORUS, ORTHOPHOS- PHATE TOTAL (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC TOTAL (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00689)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC TOTAL (UG/L AS AS) (01001)	ARSENIC TOTAL (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)
MAR												
18...	.030	.020	--	6.0	.6	1	0	1	<100	--	<100	<1
MAY												
19...	.030	<.010	--	--	--	--	--	--	--	--	--	--
JUN												
28...	.070	<.010	--	2.4	.5	7	6	1	400	400	31	1
JUL												
28...	.030	.030	1.2	--	--	4	3	1	200	200	37	<1
AUG												
25...	--	.060	--	--	--	--	--	--	--	--	--	--

DATE	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, SUS- PENDE- D RECOV- ERABLE (UG/L AS CO) (01036)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE- D RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE- D RECOV- ERABLE (UG/L AS FE) (01044)
MAR											
18...	<1	<10	<10	<1	--	<1	5	4	1	120	110
MAY											
19...	--	--	--	--	--	--	--	--	--	--	--
JUN											
28...	<1	40	<10	11	10	1	36	33	3	24000	24000
JUL											
28...	<1	20	<10	5	2	3	25	22	3	14000	14000
AUG											
25...	--	--	--	--	--	--	--	--	--	--	--

TABLE B.3, cont.

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI) (01066)
MAR 18...	10	<1	--	<1	<10	--	<10	<.1	<.1	6	--
MAY 19...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	51	9	7	2	390	390	5	.1	<.1	24	--
JUL 28...	150	<1	--	1	210	210	5	.3	<.1	14	13
AUG 25...	--	--	--	--	--	--	--	--	--	--	--
DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, DIS- SUS- PENDE RECOV- ERABLE (MG/L AS ZN) (80154)	SEDI- MENT, DIS- SUS- PENDE RECOV- ERABLE (MG/L AS ZN) (80153)
MAR 18...	<1	1	0	1	1	<1	10	--	<10	4	18
MAY 19...	--	--	--	--	--	--	--	--	--	456	24600
JUN 28...	<1	1	0	1	<1	1	100	90	7	747	54500
JUL 28...	1	1	0	1	<1	<1	70	--	<3	E399	--
AUG 25...	--	--	--	--	--	--	--	--	--	494	36900

TEMPERATURE, WATER (DEG. C), OCTOBER 1982

DAY	MAX	MIN	DAY	MAX	MIN
OCTOBER					
1	4.5	2.0	6	2.0	1.0
2	4.5	3.5	7	1.5	1.0
3	4.5	3.0	8	1.5	.0
4	3.5	2.5	9	1.5	.5
5	3.0	2.0	10	1.5	1.0

TABLE B.3, cont.

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK--Continued

TEMPERATURE, WATER (DEG. C), JUNE TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1					---	---	12.5	11.5	13.0	11.0	8.0	7.5
2					---	---	12.5	12.0	13.0	12.0	8.0	7.0
3					---	---	13.0	11.5	13.5	12.0	7.5	6.5
4					---	---	13.0	12.0	13.0	12.0	7.0	6.0
5					---	---	14.0	11.5	12.0	11.0	6.5	5.5
6					---	---	13.5	13.0	11.0	10.0	---	---
7					---	---	13.5	12.5	11.0	10.5	---	---
8					---	---	12.5	11.5	11.0	10.0	---	---
9					9.5	---	12.5	11.5	10.5	10.0	---	---
10					10.0	7.5	13.0	11.5	10.5	9.0	---	---
11					9.0	8.0	12.5	12.0	11.0	9.5	---	---
12					10.5	8.5	13.0	11.5	11.0	10.0	---	---
13					10.5	8.5	13.0	12.0	10.0	9.5	---	---
14					11.0	9.5	12.5	12.0	9.5	8.5	---	---
15					11.0	9.5	13.5	12.0	8.5	8.0	---	---
16					11.0	9.5	13.5	12.5	9.5	7.5	---	---
17					11.5	9.0	13.0	12.5	10.0	8.5	---	---
18					12.5	10.0	12.5	11.0	10.5	8.5	---	---
19					13.0	11.0	12.0	10.5	10.5	8.5	---	---
20					12.5	10.0	13.0	11.5	10.0	9.0	---	---
21					13.0	10.5	14.0	12.5	9.5	9.0	---	---
22					13.5	11.0	14.0	12.0	9.0	8.5	---	---
23					13.0	11.5	13.5	12.0	9.0	8.5	---	---
24					14.0	11.5	12.5	12.0	9.0	8.0	---	---
25					14.5	12.0	13.0	11.5	8.0	7.5	---	---
26					14.0	12.5	13.0	12.0	8.0	7.0	---	---
27					13.5	11.5	14.5	13.0	9.0	7.5	---	---
28					12.0	10.5	15.0	13.0	9.5	8.5	---	---
29					11.5	10.0	15.0	14.0	9.5	9.0	---	---
30					13.0	10.5	14.0	12.0	9.5	8.5	---	---
31					---	---	12.5	11.5	8.5	7.0	---	---
MONTH					14.5	7.5	15.0	10.5	13.5	7.0		

TABLE B.4

SOUTH-CENTRAL ALASKA

15292400 CHULITNA RIVER NEAR TALKEETNA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1967-72, and 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May to September 1982, October, June to September 1983 (fragmentary).

INSTRUMENTATION.--Temperature recorder since May 24, 1982.

REMARKS.--Missing record due to equipment malfunction. Two cross-sections were run during the water year with a maximum variation of 1.6°C observed. Recorded temperatures were found to be within 1.2°C of mean stream temperature based on cross-sectional information. Several other field observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Minimum temperature 0.0°C on many days during winter period.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded 10.0°C June 14, 19, 24, 1982 but may have been higher during period of missing record June 10 to July 1, 1983.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 9.0°C on June 8, 9, but may have been higher during period of missing record June 10 to July 1; minimum, 0.0°C most days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDIMENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
JAN 20...	1115	1400	9	34
MAR 17...	1200	1060	7	20

TEMPERATURE, WATER (DEG. C), OCTOBER 1982

DAY	MAX	MIN	DAY	MAX	MIN
OCTOBER			OCTOBER		
1	4.5	3.5	8	1.5	.5
2	4.0	2.5	9	2.0	.5
3	4.0	2.5	10	2.0	1.5
4	2.5	1.0	11	1.5	.5
5	1.5	.5	12	1.0	.0
6	1.0	.0	13	.5	.0
7	.5	.0	14	.0	.0

TABLE B.4, cont.

SOUTH-CENTRAL ALASKA

15292400 CHULITNA RIVER NEAR TALKEETNA--Continued

TEMPERATURE, WATER (DEG. C), JUNE TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST	
1									7.5	7.5
2									7.5	7.0
3									7.5	6.0
4									7.5	5.5
5									7.5	6.0
6									7.0	6.0
7									7.0	6.0
8									6.5	6.0
9									6.5	5.0
10									6.0	5.0
11									6.0	5.0
12									6.0	5.0
13									6.0	5.0
14									6.0	5.0
15									6.0	5.0
16									6.0	5.0
17									6.0	5.0
18									6.0	5.0
19									6.0	5.0
20									6.0	5.0
21									6.0	5.0
22									6.0	5.0
23									6.0	5.0
24									6.0	5.0
25									6.0	5.0
26									6.0	5.0
27									6.0	5.0
28									6.0	5.0
29									6.0	5.0
30									6.0	5.0
31									6.0	5.0
MONTH									6.0	5.0

TABLE B.5

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLE LOC- ATION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00093)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (MTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00023)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, CENT SATUR- ATION (00301)
OCT 14...	1430	--	--	125	7.7	1.0	1.4	--	--
MAR 18...	1600	--	--	--	--	--	140	755	--
MAR 18...	1601	10.0	--	8.0	--	--	--	755	14.2
MAR 18...	1602	130	--	7.8	--	--	--	755	14.4
MAY 13...	0930	--	--	--	--	90	758	--	--
MAY 13...	0931	55.0	110	8.6	4.8	--	758	11.5	90
MAY 13...	0935	75.0	107	8.1	4.7	--	758	12.0	94
MAY 13...	0940	140	98	7.7	4.4	--	758	11.4	88
MAY 13...	0945	190	90	7.7	4.3	--	758	12.3	95
MAY 13...	0950	280	84	7.5	4.2	--	758	13.1	101
MAY 23...	1540	--	--	--	6.5	--	--	--	--
MAY 26...	0945	--	--	--	5.5	--	--	--	--
JUN 03...	1020	--	--	--	5.5	--	--	--	--
JUN 09...	1125	--	--	--	8.0	--	--	--	--
JUN 09...	1200	--	--	--	8.0	--	--	--	--
JUN 22...	2000	--	--	--	11.0	--	--	--	--
JUN 23...	1700	--	--	--	10.5	70	754	--	--
JUN 23...	1701	38.0	73	7.4	10.7	--	754	10.9	99
JUN 23...	1702	78.0	72	7.5	10.6	--	--	--	--
JUN 23...	1703	122	72	7.6	10.6	--	--	--	--
JUN 23...	1704	183	72	7.6	10.7	--	--	--	--
JUN 23...	1705	263	71	7.6	11.0	--	754	10.9	100
JUL 18...	1710	--	--	--	10.0	--	--	--	--
JUL 29...	1245	--	--	--	--	160	752	--	--
JUL 29...	1246	35.0	72	7.7	11.7	--	752	10.5	98
JUL 29...	1247	80.0	73	7.7	11.7	--	752	10.6	99
JUL 29...	1248	130	74	7.7	11.7	--	752	10.8	101
JUL 29...	1249	175	75	7.7	11.8	--	752	11.5	108
JUL 29...	1250	260	76	7.6	12.0	--	752	11.6	109
AUG 03...	0920	--	--	--	10.5	--	--	--	--
AUG 11...	1705	--	--	--	10.0	--	--	--	--
SEP 01...	1005	--	--	--	7.0	--	--	--	--
SEP 12...	1550	--	--	--	8.0	--	--	--	--
SEP 27...	1615	--	--	--	5	--	--	--	--

DATE	TIME	STREAM WIDTH (FT) (00004)	STREAM- INSTAN- TANEOUS (CFS) (00061)	COLI- FORM, FECAL, 0.7 KF AGAR (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS./ 100 ML) (31673)	HARD- NESS (MG/L CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L CAC02) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (90410)
OCT 14...	1430	320	3450	K1	44	49	7	16	2.1	6.5	.90	42
MAR 18...	1600	225	555	<1	K6	71	20	24	2.6	13	1.5	51
MAY 13...	0930	329	4420	--	--	34	3	11	1.6	6.4	.90	31
JUN 23...	1700	340	7830	--	--	35	3	12	1.2	3.2	.70	32
JUL 29...	1245	340	7960	K8	53	35	0	12	1.3	3.3	.80	35

NON-IDEAL COLONY COUNT

TABLE B.5, cont.

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (00955)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L) (00955)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 14...	13	8.4	<10	8.6	73	81	1.00	.100	.70	.050	.040	<.010
MAR 18...	15	23	<10	9.2	110	120	.460	.120	.40	<.010	.010	.010
MAY 13...	8.7	9.4	<10	7.7	71	64	.730	<.060	.50	.010	.010	<.010
JUN 23...	7.4	3.0	<10	5.0	45	52	.130	.090	.30	.110	.030	<.010
JUL 29...	7.5	3.7	<10	4.8	49	55	.290	.090	.60	.120	.040	.020

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC, DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01051)
MAR 18...	1600	10	<1	20	<0	<1	<1	<3	<1	9	<1
JUL 29...	1245	130	<1	18	<0	<1	<1	<3	3	68	68

DATE	TIME	LITHIUM, DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY, DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	THALLIUM, DIS- SOLVED (UG/L AS Tl) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
MAR 18...	22	5	<1	<10	1	<1	<1	140	<6	10	
JUL 29...	<4	5	<1	<10	<1	<1	<1	65	<6	4	

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-MAT) (80030)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-MAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (80050)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (80060)	RADIUM, DIS- SOLVED (PCI/L AS RADOH) (09511)	URANIUM, DIS- SOLVED, EXTWAC- TION: (UG/L) (80020)
JUL 29...	1245	<1.2	<14	.8	14	.8	13	.07	.10

TABLE B.5, cont.

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDIMENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. I FINER THAN 0.02 MM (70337)	SED. SUSP. FALL DIAM. I FINER THAN 0.04 MM (70338)	SED. SUSP. FALL DIAM. I FINER THAN 0.08 MM (70339)	
OCT 14...	1430	3450	25	233	--	--	--	
MAR 18...	1600	555	3	4.5	--	--	--	
MAY 23...	1540	6720	126	2290	--	--	--	
MAY 26...	0945	5790	90	1410	--	--	--	
JUN 03...	1020	14400	724	28100	9	11	13	
JUN 09...	1200	7500	114	2310	--	--	--	
JUN 22...	2000	10000	287	7750	23	28	--	
JUN 23...	1700	7830	249	5260	--	--	--	
JUL 08...	0915	11400	806	24800	--	--	--	
JUL 18...	1710	7460	372	7490	--	--	--	
JUL 29...	1245	7960	738	15900	--	--	--	
AUG 03...	0920	9420	1060	27000	16	20	22	
AUG 11...	1705	9860	253	6740	--	--	--	
SEP 01...	1005	6050	120	1960	--	--	--	
SEP 12...	1550	3380	49	447	--	--	--	
SEP 27...	1615	2280	28	172	--	--	--	
DATE		SED. SUSP. FALL DIAM. I FINER THAN 0.16 MM (70340)	SED. SUSP. FALL DIAM. I FINER THAN 0.31 MM (70341)	SED. SUSP. FALL DIAM. I FINER THAN 0.62 MM (70342)	SED. SUSP. FALL DIAM. I FINER THAN 1.25 MM (70343)	SED. SUSP. FALL DIAM. I FINER THAN 2.50 MM (70344)	SED. SUSP. FALL DIAM. I FINER THAN 5.00 MM (70345)	SED. SUSP. FALL DIAM. I FINER THAN 1.00 MM (70346)
OCT 14...	--	--	--	25	38	66	96	100
MAR 18...	--	--	--	--	--	--	--	--
MAY 23...	--	--	--	21	36	63	100	--
MAY 26...	--	--	--	17	28	49	100	--
JUN 03...	19	30	42	59	84	100	--	--
JUN 09...	--	--	17	27	56	100	--	--
JUN 22...	41	--	61	71	85	99	100	--
JUN 23...	--	--	61	71	81	100	--	--
JUL 08...	--	--	--	*67	--	--	--	100
JUL 18...	--	--	--	45	54	64	99	100
JUL 29...	--	--	--	*63	--	--	--	--
AUG 03...	31	39	73	81	92	100	--	--
AUG 11...	--	--	--	66	88	100	--	--
SEP 01...	--	--	--	29	41	74	99	100
SEP 12...	--	--	--	31	50	83	100	--
SEP 27...	--	--	--	32	64	96	100	--

SIEVE ANALYSES

TABLE B.5, cont.

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FH L BANK) (00009)	BED MAT. SIEVE DIAM. I FINER THAN (80165)	BED MAT. SIEVE DIAM. I FINER THAN (80166)	BED MAT. SIEVE DIAM. I FINER THAN (80167)	BED MAT. SIEVE DIAM. I FINER THAN (80168)	BED MAT. SIEVE DIAM. I FINER THAN (80169)
MAY 18...	0900	90.0	0	1	30	58	58
MAY 18...	0910	120	--	--	0	1	2
MAY 18...	0920	150	--	--	0	3	6
MAY 18...	0930	180	--	--	0	1	2
MAY 18...	0940	210	--	--	--	--	--
MAY 18...	0950	240	--	--	--	--	--
MAY 18...	1000	270	--	--	--	--	--
MAY 18...	1020	330	--	--	--	--	--
SEP 13...	1800	100	--	0	37	47	48
SEP 13...	1805	140	--	0	1	4	5
SEP 13...	1810	180	--	--	--	--	--
SEP 13...	1815	220	--	--	--	--	--
SEP 13...	1820	260	--	--	--	--	--
DATE		BED MAT. SIEVE DIAM. I FINER THAN (80170)	BED MAT. SIEVE DIAM. I FINER THAN (80171)	BED MAT. SIEVE DIAM. I FINER THAN (80172)	BED MAT. SIEVE DIAM. I FINER THAN (80173)	BED MAT. SIEVE DIAM. I FINER THAN (80174)	BED MAT. SIEVE DIAM. I FINER THAN (80175)
MAY 18...	58	59	59	59	100	--	--
MAY 18...	2	3	6	23	34	100	--
MAY 18...	6	9	15	49	100	--	--
MAY 18...	2	3	10	50	100	--	--
MAY 18...	--	0	1	14	100	--	--
MAY 18...	--	--	--	0	13	109	--
MAY 18...	--	0	1	5	75	100	--
MAY 18...	--	--	0	4	65	100	--
SEP 13...	48	48	49	49	49	100	--
SEP 13...	5	5	5	11	67	100	--
SEP 13...	--	0	3	31	100	--	--
SEP 13...	--	--	0	4	17	100	--
SEP 13...	--	--	0	2	14	100	--

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1975, 1977, and 1981 to current year.

PERIOD OF DAILY RECORD.--

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May to September 1981, July to September 1982, October, May to September 1983 (seasonal).

INSTRUMENTATION.--Temperature recorder since May 13, 1981.

REMARKS.--Missing record due to probe out of water. Six cross-sections were run during the water year with a maximum variation of 3.3°C observed. Recorded temperatures were found to be within 1.6°C of mean stream temperature based on cross-sectional information. Several other field observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded 12.5°C July 28, 1983; minimum, 0°C many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 12.5°C July 28; minimum 0°C many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (UHMS) (00095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT										
13...	1600	--	--	7.9	8.2	.5	2.7	--	--	--
JAN										
20...	1430	--	--	--	8.0	.0	.50	--	--	--
MAR										
17...	1430	--	240	--	7.8	--	.60	759	--	--
17...	1431	54.0	--	8.0	--	.0	--	759	14.4	99
17...	1432	94.0	--	8.0	--	.0	--	759	14.3	98
MAY										
12...	1500	--	--	--	7.7	--	41	762	--	--
12...	1531	1.00	--	7.6	--	4.3	--	762	12.6	97
12...	1532	92.0	--	7.8	--	3.5	--	762	13.0	98
12...	1533	182	--	7.8	--	3.5	--	762	13.0	98
12...	1534	357	--	7.8	--	4.3	--	762	12.6	97
12...	1535	607	--	7.5	--	6.8	--	762	9.8	80
18...	1800	--	--	--	--	5.5	--	--	--	--
24...	1120	--	--	--	--	6.5	--	--	--	--
JUN										
01...	1030	--	--	--	--	7.5	--	--	--	--
08...	1605	--	--	--	--	11.0	--	--	--	--
23...	1640	--	--	--	--	14.0	--	--	--	--
24...	1145	--	104	7.9	8.0	--	320	756	--	--
24...	1146	90.0	99	7.6	--	12.9	--	756	10.2	97
24...	1147	215	102	8.2	--	11.6	--	756	10.6	98
24...	1148	340	104	8.3	--	11.0	--	756	10.7	98
24...	1149	565	107	8.4	--	10.2	--	756	10.8	97
JUL										
05...	1810	--	--	--	--	14.0	--	--	--	--
19...	1105	--	--	--	--	10.0	--	--	--	--
27...	1715	--	--	--	8.0	--	190	--	--	--
27...	1716	70.0	--	7.5	--	13.1	--	--	--	--
27...	1717	145	--	7.6	--	12.9	--	--	--	--
27...	1718	220	--	7.6	--	12.4	--	--	--	--
27...	1719	295	--	7.7	--	12.2	--	--	--	--
27...	1720	420	--	7.8	--	12.0	--	--	--	--
AUG										
01...	1520	--	--	--	--	13.0	--	--	--	--
03...	1310	--	--	--	--	10.5	--	--	--	--
08...	1550	--	--	--	--	10.0	--	--	--	--
11...	1105	--	--	--	--	9.0	--	--	--	--
11...	1231	83.0	--	--	--	10.3	--	--	--	--
11...	1232	198	--	--	--	9.8	--	--	--	--
11...	1233	298	--	--	--	9.0	--	--	--	--
11...	1234	423	--	--	--	8.2	--	--	--	--
11...	1235	823	--	--	--	7.8	--	--	--	--
24...	1450	--	--	--	8.1	--	64	757	--	--

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SECTION (FT FM L BANK) (00009)	SAMPLE LOC- ATION, CROSS SECTION (MMOS) (00093)	SPEC- IFIC CON- DUCT- ANCE (MMOS) (00093)	PH (STAND- ARD AND UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (MG/L) (00301)
AUG									
24...	1451	95.0	115	7.8	9.6	757	10.3	91	
24...	1452	145	114	7.7	9.2	757	10.6	93	
24...	1453	220	115	7.8	9.1	757	10.6	91	
24...	1454	320	116	7.6	9.2	757	10.5	92	
24...	1455	470	116	7.2	9.4	757	10.4	91	
24...	1540	--	--	--	8.5	--	--	--	
SEP									
12...	1355	--	--	--	7.5	--	--	--	

DATE	TIME	STREAM WIDTH (FT) (00004)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	HARD- NESS (MG/L CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00913)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00923)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00933)	ALKAL- LITY LAR (MG/L AS CACO3) (90410)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
OCT 13...	1600	640	19400	62	11	20	2.9	5.5	1.4	51	--
JAN 20...	1430	290	4720	89	16	29	4.1	9.0	2.0	73	--
MAR 17...	1430	336	3320	99	29	33	4.1	10	2.0	71	--
MAY 12...	1500	607	33100	38	3	12	1.9	4.3	1.2	35	--
JUN 24...	1145	830	67100	49	6	16	2.2	2.5	1.3	43	--
JUL 27...	1715	945	44400	52	11	17	2.3	3.1	1.6	46	50
AUG 24...	1450	945	54800	57	17	19	2.4	3.7	1.4	44	49
DATE	CAR- BONATE IT-FLD (MG/L AS CO3) (99443)	SULFATE DIS- SOLVED (MG/L AS SO4) (8054)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS K) (00608)
OCT 13...	--	16	6.8	.10	8.2	83	92	.200	.250	.080	.100
JAN 20...	--	19	15	.20	9.5	124	130	.300	.290	.060	<.060
MAR 17...	--	17	16	.10	10	120	140	.300	.260	.080	.100
MAY 12...	--	13	5.0	.10	5.7	73	64	--	.320	--	<.060
JUN 24...	--	12	2.2	<.10	4.7	65	67	<.100	<.100	.140	<.060
JUL 27...	.0	13	3.3	.10	4.7	69	70	<.100	<.100	.070	.110
AUG 24...	.0	14	3.6	.10	6.1	73	75	--	.100	--	.060

TABLE B.6, cont.

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00624)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHOPHOS- PHATE, TOTAL (MG/L AS P) (00671)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT 13...	.52	--	.60	--	--	.80	--	.070	.100	<.010	.040
JAN 20...	.34	--	.40	.10	.30	.70	.59	.050	.040	--	--
MAR 17...	.52	.40	.60	.10	.50	.90	.76	.010	<.010	--	--
MAY 12...	--	--	.60	--	--	--	--	.240	.020	--	.010
JUN 24...	.56	--	.70	.30	.40	--	--	.910	.020	--	--
JUL 27...	.43	1.3	.50	.00	1.4	--	--	.050	.050	--	--
AUG 24...	--	--	.30	--	--	--	--	.150	.030	--	.020

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD) (01026)
OCT 13...	--	--	--	2	1	1	100	80	25	1	--
JAN 20...	2.0	--	--	--	--	1	--	--	42	--	--
MAR 17...	--	1.1	.2	1	0	1	100	0	100	1	0
MAY 12...	7.4	--	--	--	--	--	--	--	--	--	--
JUN 24...	--	2.1	.7	14	13	1	100	80	23	<1	--
JUL 27...	--	--	--	6	5	1	200	200	25	1	--
AUG 24...	1.7	.3	--	--	--	--	--	--	--	--	--

DATE	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO) (01036)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)
OCT 13...	<1	<10	<10	1	--	<1	13	2	13	1100	1100
JAN 20...	<1	--	<10	--	--	1	--	--	7	--	--
MAR 17...	1	<10	<10	1	--	<1	5	4	1	280	260
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	<1	50	<10	11	--	<1	48	47	1	32000	32000
JUL 27...	<1	20	<10	7	0	9	36	32	4	15000	15000
AUG 24...	--	--	--	--	--	--	--	--	--	--	--

TABLE B.6, cont.

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (01056)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (01056)	MICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
OCT 13...	37	14	--	<1	30	20	10	.1	.0	.1	5
JAN 20...	8	--	--	4	--	--	4	--	--	<.1	--
MAR 17...	20	--	--	--	10	--	<10	<.1	--	<.1	6
MAY 12...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	160	11	10	1	670	660	6	.2	--	<.1	45
JUL 27...	98	4	0	7	290	280	7	.3	--	<.1	23
AUG 24...	--	--	--	--	--	--	--	--	--	--	--

DATE	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI) (01066)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDED RECOV- ERABLE (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG) (01076)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 13...	2	3	1	0	1	<1	<1	20	3	17
JAN 20...	--	1	--	--	1	--	<1	--	--	31
MAR 17...	--	<1	1	0	1	<1	<1	20	10	10
MAY 12...	--	--	--	--	--	--	--	--	--	--
JUN 24...	44	1	1	0	1	<1	<1	120	90	33
JUL 27...	17	6	1	0	1	<1	<1	80	--	<3
AUG 24...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80155)	SED. SUSP. FALL DIAM. 1 FINE (70337)	SED. SUSP. FALL DIAM. 1 FINE (70338)	SED. SUSP. FALL DIAM. 1 FINE (70339)	SED. SUSP. FALL DIAM. 1 FINE (70340)
OCT 13...	1600	19400	50	2620	--	--	--	--
JAN 20...	1430	4720	5	64	--	--	--	--
MAR 17...	1430	3320	5	45	--	--	--	--
MAY 12...	1500	33100	622	55600	--	--	--	--
JUN 24...	1800	43400	396	46400	13	16	--	26
JUN 24...	1120	39200	225	23800	--	--	--	--
JUN 01...	1030	75300	871	177000	10	12	17	24
JUN 08...	1605	47000	431	54700	--	--	--	--
JUN 23...	1640	67900	850	156000	25	33	43	52
JUN 24...	1145	67100	942	171000	--	--	--	--
JUL 05...	1810	66800	1060	191000	--	--	--	--
JUL 19...	1105	50800	753	103000	--	--	--	--
JUL 27...	1715	44400	570	68300	--	--	--	--
AUG 01...	1520	59200	950	152000	20	29	41	49
AUG 03...	1310	57500	1030	160000	22	31	42	54
AUG 08...	1550	76100	2840	584000	13	22	23	35
AUG 11...	1105	87200	1160	273000	--	--	--	--
AUG 24...	1450	54800	381	56400	--	--	--	--
SEP 29...	1540	47700	401	51600	--	--	--	--
SEP 12...	1355	25200	167	11400	20	27	--	34

TABLE B.6, cont.

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	SED. SUSP. FALL. DIAM. 1/2 FINER THAN .031 MM (70341)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN .062 MM (70342)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN .125 MM (70343)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN .250 MM (70344)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN .500 MM (70345)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN 1.00 MM (70346)	SED. SUSP. FALL. DIAM. 1/2 FINER THAN 2.00 MM (70346)
OCT 13...	--	36	44	69	100	--	--
JAN 20...	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--
MAY 12...	--	*36	--	--	--	--	--
18...	--	47	56	72	85	97	*100
24...	--	35	43	65	98	*99	*100
JUN 01...	34	41	57	83	98	100	--
08...	--	*46	--	--	--	--	--
23...	61	69	78	89	100	--	--
24...	--	*73	--	--	--	--	--
JUL 05...	--	*80	--	--	--	--	--
19...	--	*71	--	--	--	--	--
27...	--	*62	--	--	--	--	--
AUG 01...	59	70	79	90	100	--	--
03...	66	73	80	91	100	--	--
08...	51	71	85	95	99	100	--
11...	--	*59	--	--	--	--	--
24...	--	*43	--	--	--	--	--
29...	--	31	41	65	99	100	--
SEP 12...	--	41	47	66	100	--	--

DATE	TIME	SAMPLE LOC. CROSS SECTION (FT FM L BANK)	BED MAT. SIEVE DIAM. 1/2 FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. 1/2 FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 64.0 MM (80174)	BED MAT. SIEVE DIAM. 1/2 FINER THAN 128 MM (80175)
MAY 18...	1600	200	0	3	6	14	15	30	51	81	100	--
18...	1610	300	--	1	1	2	2	5	13	43	100	--
18...	1620	400	--	--	1	2	2	4	9	20	84	100
18...	1630	500	--	1	1	1	1	3	9	43	78	100
18...	1640	600	--	--	--	--	--	--	--	1	11	100

SIEVE ANALYSIS

TABLE B.6, cont.

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

TEMPERATURE, WATER (DEG. C), OCTOBER 1982

DAY	MAX	MIN
OCTOBER		
1	5.0	4.5
2	4.5	4.0

TEMPERATURE, WATER (DEG. C), MAY TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	9.0	7.5	10.0	8.0	11.0	8.5	8.0	6.5
2	---	---	---	---	8.5	8.0	10.0	7.5	11.0	9.0	7.5	6.0
3	---	---	---	---	8.0	6.5	10.5	8.5	11.0	9.5	7.0	5.5
4	---	---	---	---	6.5	5.5	10.5	9.0	11.0	8.5	6.5	5.5
5	---	---	---	---	8.5	6.0	11.5	8.5	8.5	8.0	6.5	5.0
6	---	---	---	---	10.0	8.0	11.0	8.5	8.5	7.5	6.5	5.0
7	---	---	---	---	11.0	8.5	9.0	7.5	8.5	8.0	6.5	5.0
8	---	---	---	---	11.5	9.5	8.5	8.0	8.0	7.0	7.0	6.0
9	---	---	---	---	10.0	8.5	9.5	7.5	8.5	6.5	7.0	6.5
10	---	---	---	---	10.0	8.5	11.0	8.5	8.5	6.5	7.5	6.5
11	---	---	---	---	10.5	9.0	10.5	9.5	8.5	7.0	7.5	6.5
12	---	---	---	---	11.0	8.0	10.0	9.0	8.5	8.0	8.0	7.0
13	---	---	---	---	11.5	10.0	10.5	9.0	8.0	7.0	8.0	7.0
14	---	---	---	---	11.5	10.0	10.5	8.0	8.5	7.0	7.0	5.5
15	---	---	---	---	11.0	9.5	11.0	9.0	8.5	7.0	6.5	5.0
16	---	---	---	---	11.0	9.0	10.5	9.5	9.0	7.0	7.0	4.5
17	---	---	---	---	11.5	9.5	10.5	9.0	9.0	8.0	---	---
18	---	---	---	---	12.0	10.0	10.0	8.5	10.0	8.0	---	---
19	---	---	---	---	12.0	10.5	11.0	9.0	10.0	8.5	---	---
20	---	---	8.5	5.5	12.0	10.5	11.0	9.5	9.5	8.0	10.0	5.5
21	---	---	8.0	6.5	12.0	10.5	11.0	9.0	8.0	7.5	7.0	5.5
22	---	---	8.0	6.0	12.0	11.0	11.5	9.5	8.5	7.5	7.0	6.0
23	---	---	8.0	7.0	12.0	10.5	11.5	8.5	8.5	7.5	---	---
24	---	---	8.5	6.5	11.5	10.0	9.5	8.0	8.5	7.5	---	---
25	---	---	9.0	7.0	11.5	10.0	10.5	9.0	7.5	6.5	---	---
26	---	---	9.0	7.5	11.5	10.0	10.5	9.5	9.0	7.0	---	---
27	---	---	8.5	7.0	10.0	8.5	12.0	10.0	9.0	7.5	---	---
28	---	---	9.5	7.5	10.0	7.5	12.5	10.5	9.5	8.0	---	---
29	---	---	9.5	8.5	10.0	8.5	12.0	11.0	9.0	8.0	---	---
30	---	---	10.0	9.0	10.0	8.0	11.5	9.0	9.0	8.0	1.5	1.5
31	---	---	9.5	8.0	---	---	9.5	8.0	8.5	7.0	---	---
MONTH					12.0	5.5	12.5	7.5	11.0	6.5	10.0	1.5

TABLE B.7

SOUTH-CENTRAL ALASKA

15294005 WILLOW CREEK NEAR WILLOW--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979 to current year.

PERIOD OF DAILY RECORD.--
 WATER TEMPERATURES: October 1978, April to December 1979, April to November 1980, March to September 1981, April to September 1982, and October, June to September 1983 (fragmentary).

INSTRUMENTATION.--Temperature recorder since Oct. 5, 1978

REMARKS.--Missing record due to equipment malfunction or probe out of water. No cross-sections were run during the water year. Several other field observations of water temperature were made during the water year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 16.0°C July 28, 1983; minimum, 0.0°C most days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 16.0°C July 28; minimum, 0.0°C most days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLO- INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L AS O) (00300)	OXYGEN, SATUR- ATION (MG/L AS O) (00301)	HARD- NESS, MOHAR- DOHATE (MG/L CACO3) (00900)	HARD- NESS, MOHAR- DOHATE (MG/L CACO3) (00902)
MAR 16...	1200	67	119	7.6	--	.0	762	15.0	103	30	0
JUN 02...	1100	1190	33	6.8	11.0	4.5	750	11.0	86	15	1
DATE	TIME	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS) (90410)	BICAR- BONATE IT-FLD (MG/L AS) (99440)	CAR- BONATE IT-FLD (MG/L AS) (99445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 16...	9.0	1.9	9.7	1.0	30	--	--	2.6	15	<.10	
JUN 02...	4.5	.80	1.6	.50	--	16	.0	2.5	1.3	<.10	
DATE	TIME	SILICA, DIS- SOLVED (MG/L AS) (00955)	SOLIDS, RESIDUE AT 180 DEG C (MG/L AS) (70300)	SOLIDS, SUM OF COAST- TENTS, DIS- SOLVED (MG/L AS) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
MAR 16...	11	66	68	.188	.180	.084	.12	.20	.39	.006	
JUN 02...	4.6	19	24	.031	<.100	.048	.15	.20	.23	.005	
DATE	TIME	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	BERYL- LIUM, DIS- SOLVED (MG/L AS BE) (01005)	BORON, DIS- SOLVED (MG/L AS B) (01010)	CADMIUM, DIS- SOLVED (MG/L AS CD) (01020)	COBALT, DIS- SOLVED (MG/L AS CO) (01025)	COPPER, DIS- SOLVED (MG/L AS CU) (01035)	IRON, DIS- SOLVED (MG/L AS FE) (01040)	IRON, DIS- SOLVED (MG/L AS FE) (01046)
MAR 16...	<.010	1.7	20	22	<0	<10	<1	<3	10	44	
JUN 02...	<.010	1.4	20	14	0	10	<1	<3	<10	21	
DATE	TIME	LEAD, DIS- SOLVED (MG/L AS PB) (01049)	LITHIUM, DIS- SOLVED (MG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	MERCURY, DIS- SOLVED (MG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (MG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (MG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (MG/L AS V) (01085)	ZINC, DIS- SOLVED (MG/L AS ZN) (01090)	SEDI- MENT, DIS- SUS- PENDE (MG/L (T/DAY) (80154)	SEDI- MENT, DIS- SUS- PENDE (MG/L (T/DAY) (80155)
MAR 16...	<10	27	5	<.1	<10	120	<6	4	--	--	
JUN 02...	<10	8	2	<.1	<10	38	<6	19	14	45	

TABLE B.7, cont.

SOUTH-CENTRAL ALASKA

15294005 WILLOW CREEK NEAR WILLOW--Continued

TEMPERATURE, WATER (DEG. C), OCTOBER 1982

DAY	MAX	MIN
OCTOBER		
1	2.5	1.0
2	2.0	1.0
3	2.0	1.0
4	1.5	.0
5	.5	---

TEMPERATURE, WATER (DEG. C), JUNE TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1					7.5	3.0	12.5	10.0	14.0	11.0	9.5	6.0
2					6.0	3.5	10.5	8.5	15.0	10.0	8.5	6.0
3					5.0	4.0	14.5	8.5	15.5	9.5	7.5	3.5
4					5.5	3.5	13.5	10.5	14.0	11.0	7.5	3.5
5					9.5	3.0	12.0	10.0	11.5	10.0	7.5	3.5
6					10.5	5.0	11.5	10.0	12.0	9.5	7.5	5.5
7					9.5	4.5	12.0	9.0	11.0	10.0	7.5	5.0
8					10.5	4.5	11.5	10.0	10.5	8.5	8.0	6.0
9					8.5	5.5	12.0	9.0	11.0	7.5	8.0	5.0
10					8.5	4.5	12.0	9.5	11.5	7.5	7.5	5.5
11					8.0	5.5	11.5	9.5	12.0	7.0	8.0	5.0
12					9.0	4.5	10.5	9.0	10.0	7.5	7.5	5.0
13					8.5	5.5	13.5	9.0	9.5	6.5	6.0	2.0
14					10.0	6.0	14.5	9.5	9.5	5.0	6.0	3.0
15					9.0	6.0	16.0	11.0	9.0	5.0	5.5	2.5
16					9.5	6.0	14.5	11.5	11.0	7.5	5.5	4.5
17					12.0	6.0	13.0	11.0	10.0	5.5	7.0	5.0
18					12.5	6.0	11.5	9.0	11.0	6.5	---	---
19					10.5	7.0	13.5	8.5	11.0	8.0	---	---
20					11.5	7.0	13.5	10.0	8.5	6.5	---	---
21					12.5	6.5	12.5	10.5	10.0	6.5	---	---
22					13.0	8.0	14.0	9.0	9.5	7.5	---	---
23					11.5	8.5	12.5	10.0	8.0	6.5	---	---
24					13.5	8.0	11.5	9.0	7.0	5.0	---	---
25					13.0	8.0	13.0	8.5	9.0	6.0	---	---
26					12.0	9.0	13.5	10.0	10.5	6.5	---	---
27					10.0	8.5	14.5	11.5	10.5	6.5	---	---
28					12.0	8.0	16.0	11.0	8.5	6.5	---	---
29					11.0	8.0	14.5	12.0	9.0	5.5	---	---
30					13.0	8.5	12.5	11.0	8.5	6.5	---	---
31					---	---	14.0	11.0	9.5	7.0	---	---
MONTH					13.5	3.0	16.0	8.5	15.5	5.0	9.5	2.0

TABLE B.8

SOUTH-CENTRAL ALASKA

15294010 DECEPTION CREEK NEAR WILLOW--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1978, May to October 1979, May to September 1980, June to July 1981, May to September 1982 (seasonal), and October to November, May to September 1983 (fragmentary).

INSTRUMENTATION.--Temperature recorder since Oct. 1, 1978.

REMARKS.--Missing record due to equipment malfunction. June 6 to November 1982 and May 27 to June 1, 1983 reflect intragravel temperatures as probe was buried.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 17.0°C, July 3, 1979; minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 16.5°C July 28 and August 2, 3; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE, WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SATUR- ATION (MG/L) (00301)	HARD- NESS (MG/L CACO3) (00900)	HARD- NESS, MONGAR- BONATE (MG/L CACO3) (00902)
MAR 16...	1000	17	148	7.7	--	.0	763	15.0	102	46	6
JUN 03...	1610	359	54	6.7	9.0	7.0	750	11.6	97	19	3
DATE		CALCIUM DIS- SOLVED (MG/L AS CA) (00913)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00923)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKAL- INITY LAB (MG/L AS AL) (00410)	BICAR- BONATE IT-FLD (MG/L AS CO3) (00440)	CAR- BONATE DIS- SOLVED (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 16...	14	2.6	12	1.1	43	48	.0	2.8	19	<10	
JUN 03...	5.9	1.0	4.7	.60	--	20	.0	4.0	6.1	<10	
DATE		SILICA, DIS- SOLVED (MG/L AS P) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L AS P) (00955)	SOLIDS, SUM OF CONSTITU- ENTS, NO2+NO3 DIS- SOLVED (MG/L AS N) (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00631)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
MAR 16...	14	88	90	.222	.230	.084	.32	.40	.62	.013	
JUN 03...	8.3	47	41	.039	.100	.037	.36	.40	.44	.064	
DATE		PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ALUM- INIUM, DIS- SOLVED (MG/L AS AL) (01106)	BARIUM, DIS- SOLVED (MG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (MG/L AS BE) (01010)	BORON, DIS- SOLVED (MG/L AS B) (01020)	CADMIUM, DIS- SOLVED (MG/L AS CD) (01025)	COBALT, DIS- SOLVED (MG/L AS CO) (01035)	COPPER, DIS- SOLVED (MG/L AS CU) (01040)	IRON, DIS- SOLVED (MG/L AS FE) (01046)
MAR 16...	.010	3.2	20	20	<0	110	<1	<3	10	200	
JUN 03...	<.010	6.7	50	15	0	50	<1	<3	10	140	
DATE		LEAD, DIS- SOLVED (MG/L AS PB) (01049)	LITHIUM, DIS- SOLVED (MG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	MERCURY, DIS- SOLVED (MG/L AS HG) (01890)	MOLYB- DENUM, DIS- SOLVED (MG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (MG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (MG/L AS V) (01085)	ZINC, DIS- SOLVED (MG/L AS ZN) (01090)	SEDI- MENT, DIS- SOLVED (MG/L AS SUS) (01015)	SEDI- MENT, DIS- SOLVED (MG/L AS SUS) (01015)
MAR 16...	<10	27	37	<.1	<10	120	<6	22	--	--	
JUN 03...	<10	13	11	<.1	<10	47	<6	21	153	148	

TABLE B.8, cont.

SOUTH-CENTRAL ALASKA

15294010 DECEPTION CREEK NEAR WILLOW--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.5	4.5	.0	.0	.5	.0						
2	4.5	4.0	.0	.0	---	---						
3	4.0	4.0	.0	.0	---	---						
4	4.0	3.5	.5	.0	---	---						
5	4.0	3.0	.5	.5	---	---						
6	3.5	3.0	.5	.5	---	---						
7	3.0	2.5	.5	.5	---	---						
8	2.5	2.0	.5	.5	---	---						
9	2.0	2.0	.5	.5	---	---						
10	2.0	2.0	.5	.5	---	---						
11	2.0	1.5	.5	.5	---	---						
12	1.5	1.5	.5	.5	---	---						
13	1.5	1.5	.5	.5	---	---						
14	1.5	1.5	.5	.5	---	---						
15	1.5	1.0	.5	.5	---	---						
16	1.0	1.0	.5	.5	---	---						
17	1.5	1.0	.5	.5	---	---						
18	1.5	1.0	.5	.5	---	---						
19	1.5	1.0	.5	.5	---	---						
20	1.0	1.0	.5	.5	---	---						
21	1.0	1.0	.5	.5	---	---						
22	1.0	1.0	.5	.5	---	---						
23	1.0	.5	.5	.5	---	---						
24	.5	.0	.5	.5	---	---						
25	.0	.0	.5	.5	---	---						
26	.0	.0	.5	.5	---	---						
27	.0	.0	.5	.5	---	---						
28	.0	.0	.5	.5	---	---						
29	.0	.0	.5	.5	---	---						
30	.0	.0	.5	.0	---	---						
31	.0	.0	---	---	---	---						
MONTH	4.5	.0	.5	.0								
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	6.0	5.5	---	---	16.0	11.5	9.0	8.0
2	---	---	---	---	---	---	---	---	16.5	11.0	9.5	8.5
3	---	---	---	---	---	---	---	---	16.5	11.0	9.0	8.0
4	---	---	---	---	7.5	4.0	---	---	13.5	12.0	8.5	7.5
5	---	---	---	---	10.5	4.5	---	---	12.5	11.0	7.5	5.5
6	---	---	---	---	12.0	6.5	---	---	13.5	10.5	7.0	5.5
7	---	---	---	---	12.5	6.5	---	---	12.0	11.0	7.0	5.5
8	---	---	---	---	13.0	7.5	---	---	11.5	10.5	7.0	5.5
9	---	---	---	---	---	---	---	---	13.5	10.5	7.5	6.5
10	---	---	---	---	---	---	---	---	14.0	10.0	8.0	7.0
11	---	---	---	---	---	---	---	---	13.5	9.0	7.5	5.5
12	---	---	---	---	---	---	---	---	12.5	10.5	7.5	6.5
13	---	---	---	---	---	---	---	---	12.0	10.0	7.5	6.5
14	---	---	---	---	---	---	---	---	10.5	9.0	7.5	6.5
15	---	---	---	---	16.5	10.5	---	---	10.5	7.5	6.5	6.0
16	---	---	---	---	14.0	11.0	---	---	11.0	7.5	6.0	4.5
17	---	---	---	---	13.0	10.5	---	---	10.5	8.5	5.5	4.0
18	---	---	---	---	13.0	9.5	---	---	11.0	7.5	5.0	4.0
19	---	---	---	---	15.5	9.0	---	---	10.5	7.5	5.5	5.0
20	---	---	---	---	15.0	10.5	---	---	9.5	9.0	6.0	5.5
21	---	---	---	---	15.0	11.0	---	---	10.0	8.5	6.5	5.5
22	---	---	---	---	15.5	10.5	---	---	11.0	8.5	7.0	6.5
23	---	---	---	---	13.0	11.0	---	---	9.5	9.5	6.5	4.5
24	---	---	---	---	13.5	10.5	---	---	9.5	8.5	4.0	2.5
25	---	---	---	---	13.5	9.5	---	---	8.5	7.0	2.5	1.5
26	---	---	---	---	---	---	---	---	14.0	10.0	9.5	7.5
27	---	---	---	---	15.5	11.0	---	---	10.5	8.0	2.0	1.0
28	---	---	---	---	16.5	10.0	---	---	10.0	8.0	2.5	2.0
29	---	---	---	---	13.0	11.5	---	---	9.5	8.0	4.0	2.5
30	---	---	---	---	13.5	11.0	---	---	9.5	8.5	4.5	4.0
31	---	---	---	---	6.0	5.5	---	---	15.0	11.0	9.0	8.0
MONTH					16.5	9.0			16.5	7.0	9.5	1.0

TABLE B.9

SOUTH-CENTRAL ALASKA

15294100 DESHKA RIVER NEAR WILLOW--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE		TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SATUR- ATION (PER- CENT) (00301)			
MAR 15...		1700	--	--	6.6	.0	--	--	--			
MAY 20...	0841		5.00	31	6.8	7.7	757	11.2	94			
20...	0842		90.0	31	6.8	7.7	757	11.5	97			
20...	0843		180	33	6.7	7.8	757	12.4	105			
JUL 28...	1350		--	79	7.2	20.5	759	8.9	99			
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	HARD- NESS (MG/L AS CAC03) (00900)	NESS, NONCAR- BONATE (MG/L AS CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HC03) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	
MAR 15...	1700	183	38	2	11	2.6	2.5	1.2	44	.0	4.5	
MAY 20...	0840	1850	13	2	3.8	.89	1.2	.60	14	.0	6.3	
JUL 28...	1350	206	38	0	11	2.6	2.7	1.2	50	.0	3.4	
DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L AS (00300)	SOLIDS, SUM OF CONSTIT- UTENTS, NO2+NO3 DIS- SOLVED (MG/L AS (00301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS (00630)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS (00631)	NITRO- GEN, ORGANIC TOTAL (MG/L AS (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS (00605)	NITRO- GEN, TOTAL (MG/L AS (00625)	NITRO- GEN, TOTAL (MG/L AS (00600)
MAR 15...	.70	<.10	22	63	67	.149	.150	.120	.18	.30	.45	
MAY 20...	.60	<.10	9.1	34	30	.127	.100	.073	.43	.50	.63	
JUL 28...	.70	.10	14	57	61	<.010	<.100	.081	.72	.80	--	
DATE	TIME	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	
MAR 15...	.018	.010	--	3.4	30	26	<0	<10	<1	<3		
MAY 20...	.016	.010	--	--	70	16	<0	<10	<1	<3		
JUL 28...	.008	.100	3.0	--	20	24	1	<10	<1	<3		
DATE	TIME	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY, DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	
MAR 15...	10	780	10	7	76	<.1	<10	61	<6	12		
MAY 20...	<10	390	<10	<4	32	<.1	<10	24	<6	8		
JUL 28...	<10	390	<10	15	19	.3	<10	66	<6	9		

TABLE B.10
SOUTH-CENTRAL ALASKA

15294345 YENTNA RIVER NEAR SUSITNA STATION--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1981 to October 1981, May to September 1982 (seasonal), May to September 1983 (fragmentary).

INSTRUMENTATION.--Temperature recorder since May 20, 1981.

REMARKS.--Missing record due to equipment malfunction. Five cross-sections were run during the water year with a maximum variation of 0.4°C observed. Recorded temperatures were found to be within 0.5°C of mean stream temperature based on cross-sectional information. Several other field observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum 17.0°C July 20, 1982; minimum 0.0°C most days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 13.0°C June 22, but may have been higher during periods of no temperature record June 2-21 and July 1-26; minimum 0.0°C most days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM WIDTH (FT) (00004)	INSTAN- TANEOUS (CFS) (00061)	SEDIMENT, CHARGE, (MG/L) (80154)	SEDIMENT, DIS- CHARGE, (MG/L) (80155)	SEDIMENT, SUSP. SIEVE DIAM. 1/2 FINER (7/331)
OCT 06...	1145	--	15200	478	19600	29
JAN 20...	1415	--	3020	5	41	--
APR 05...	1430	428	2620	--	--	--
JUN 22...	1130	1280	53000	787	113000	50
JUL 26...	1630	1250	32700	839	74100	44
AUG 10...	1600	1280	114000	1760	542000	80
SEP 23...	1700	--	40400	563	61400	48
SEP 29...	1730	404	10500	144	4080	32

TABLE B.10, cont.

SOUTH-CENTRAL ALASKA

15294345 YENTNA RIVER NEAR SUSITNA STATION--Continued

TEMPERATURE, WATER (DEG. C) MAY TO SEPTEMBER 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST	
1					7.0	6.5			11.5	9.0
2									12.0	10.0
3									12.5	10.0
4									12.0	10.0
5									10.0	8.5
6									9.0	8.0
7									8.5	8.5
8									8.5	8.0
9									9.0	8.0
10			6.5						9.0	8.0
11			6.5	5.0					9.0	8.5
12			6.5	5.5					8.5	8.0
13			6.5	5.5					9.0	8.0
14			6.5	6.0					9.0	8.0
15			6.0	5.5					9.0	7.5
16			5.5	5.5					9.0	7.5
17			5.5	5.0					9.5	9.0
18			6.0	5.5					9.5	9.0
19			7.0	6.0					10.5	9.0
20			8.0	6.5					10.5	9.5
21			7.5	7.0					9.5	7.5
22			7.0	6.5	13.0	11.0			8.0	7.5
23			6.5	6.5	12.0	11.0			8.5	8.0
24			6.5	6.0	11.5	10.5			8.5	8.0
25			8.0	6.5	11.5	10.0			8.5	7.5
26			9.0	8.0	11.0	10.0			8.5	7.5
27			8.0	8.0	10.0	8.5	9.5	8.5	10.0	8.5
28			9.0	7.5	10.5	8.5	12.0	9.5	10.0	9.5
29			9.0	8.0	11.0	9.5	12.0	10.5	10.0	9.0
30			8.0	7.5	11.0	9.5	11.5	9.0	9.0	8.0
31			7.5	7.0			11.0	9.5	8.5	7.5
MONTH			9.0	5.0					12.5	7.5

TABLE B.11

SOUTH-CENTRAL ALASKA

15294350 SUSITNA RIVER AT SUSITNA STATION--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1970, 1975 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES. May 1975 to October 1980, May to August 1983 (seasonal).

INSTRUMENTATION.--Temperature recorder reinstalled May 1983.

REMARKS.--Missing record due to equipment malfunction. Five cross-sections were run during the water year with a maximum variation of 4.6°C observed. Recorded temperatures were found to be within 1.2°C of mean stream temperature based on cross sectional information. Several other field observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE. Maximum, 16.5°C July 9, 1976 and July 3, 4, 1979; minimum, 0.0°C on most days during winter.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE. Maximum recorded, 15.0°C June 20-23, and July 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT PH L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEC C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SATUR- ATION (00301)
OCT								
05...	1541	65.0	113	8.0	2.6	--	--	--
05...	1542	165	113	8.0	2.6	--	--	--
05...	1543	215	114	7.9	2.7	--	--	--
05...	1544	365	122	8.0	2.7	--	--	--
05...	1545	565	127	8.1	2.7	--	--	--
APR								
05...	1301	280	187	8.1	0	758	12.5	86
05...	1302	380	194	7.7	0	758	12.3	85
05...	1303	480	204	7.9	0	758	11.8	81
JUN								
22...	1901	90.0	100	7.8	14.8	787	10.5	100
22...	1902	190	102	7.8	14.7	787	10.6	101
22...	1903	290	104	7.9	14.2	787	10.7	101
22...	1904	540	105	7.8	13.5	787	10.9	101
22...	1905	940	111	8.1	12.9	787	10.6	97
JUL								
27...	1101	95.0	--	8.2	13.0	--	--	--
27...	1102	195	--	8.1	11.8	--	--	--
27...	1103	370	--	8.2	11.4	--	--	--
27...	1104	570	--	--	9.7	--	--	--
27...	1105	970	--	8.2	8.4	--	--	--
SEP								
30...	1232	115	130	8.0	3.1	--	--	--
30...	1233	190	130	7.9	3.2	--	--	--
30...	1234	265	133	8.1	3.2	--	--	--
30...	1235	440	142	8.1	3.4	--	--	--
30...	1236	690	152	8.0	3.6	--	--	--

DATE	TIME	STREAM WIDTH (FT) (00004)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEC C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00025)	COLI- FORM, FECAL, UM-HF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS./ 100 ML) (31673)	HARD- NESS (MG/L) AS CAC03 (00900)
OCT											
05...	1540	1865	51300	118	8.0	2.5	1.3	746	K4	K2	57
APR											
05...	1300	840	6520	--	--	0	.70	758	K4	K3	66
JUN											
22...	1900	1880	111000	--	--	--	200	787	K17	K20	50
JUL											
27...	1100	1850	83300	--	--	--	170	--	K10	K13	55
SEP											
30...	1230	940	42500	--	--	--	23	--	--	--	61

K NON-IDEAL COLONY COUNT

TABLE B.11, cont.

SOUTH-CENTRAL ALASKA

15294359 SUSITNA RIVER AT SUSITNA STATION--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	HARD- NESS, NONCAR- BOHATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS - SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEC. C DIS- SOLVED (MG/L) (70300)
	OCT 05...	8	18	2.8	3.8	1.2	49	16	4.6	.10	8.2	81
APR 05...	8	21	3.2	5.7	1.1	58	12	9.4	.10	7.7	85
JUN 22...	6	16	2.4	2.3	1.2	44	13	1.9	.10	5.0	60
JUL 27...	10	18	2.5	2.5	1.5	47	14	2.4	.20	4.4	69
SEP 30...	12	19	3.2	4.2	1.3	51	16	5.7	.10	7.6	92
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHOPHOS- PHATE (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	ARSENIC DIS- SOLVED (MG/L AS AS) (01000)	BARIUM, DIS- SOLVED (MG/L AS BA) (01005)
	OCT 05...	84	<.020	.230	<.060	.60	.110	.010	<.010	50	2	23
APR 05...	93	--	.180	<.060	.30	.010	.010	.010	10	1	29
JUN 22...	69	--	.100	<.060	.60	.120	.120	<.010	80	1	24
JUL 27...	73	--	<.100	.060	.90	.080	.030	.020	40	1	22
SEP 30...	87	--	.150	.070	.60	.130	.070	.010	40	1	29
DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	
	OCT 05...	<.5	<1	<1	<3	5	11	<1	18	17	.1
APR 05...	<.5	<1	<1	<3	2	68	<1	13	16	<.1	
JUN 22...	<.5	<1	<1	<3	2	65	1	10	3	.1	
JUL 27...	<.5	<1	<1	<3	3	26	9	4	4	<.1	
SEP 30...	<.5	<1	<1	<3	3	100	3	10	14	<.1	
DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80155)	SED. S'UP. SIEVE DIAM. 1 FINER THAN .062 MM (70331)	
	OCT 05...	<10	1	<1	1	100	<6	16	214	29600	22
APR 05...	<10	3	1	<1	120	<6	3	<4	--	--	
JUN 22...	<10	1	1	<1	86	<6	6	565	169000	63	
JUL 27...	<10	<1	1	<1	88	<6	<3	450	101000	76	
SEP 30...	<10	2	1	<1	110	<6	5	494	56700	21	

TABLE B.11, cont.

SOUTH-CENTRAL ALASKA

15294359 SUSITNA RIVER AT SUSITNA STATION--Continued

TEMPERATURE, WATER (DEG. C), MAY TO AUGUST 1983

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	11.0	9.0	12.5	12.0	13.0	11.0	---	---
2	---	---	---	---	10.0	9.0	12.5	11.0	14.0	12.0	---	---
3	---	---	---	---	9.5	8.5	14.0	11.5	14.0	12.5	---	---
4	---	---	---	---	8.5	7.5	14.0	12.5	13.5	12.0	---	---
5	---	---	---	---	10.0	7.0	13.5	12.0	12.0	11.0	---	---
6	---	---	---	---	11.5	9.5	13.5	12.5	11.0	10.0	---	---
7	---	---	---	---	12.0	10.5	13.0	11.5	11.0	10.0	---	---
8	---	---	---	---	13.0	11.5	12.0	11.5	10.0	9.5	---	---
9	---	---	---	---	13.0	11.5	12.0	11.0	11.0	9.5	---	---
10	---	---	2.5	.5	12.0	10.5	13.0	11.0	11.0	10.0	---	---
11	---	---	4.5	2.5	11.5	10.5	13.0	12.0	11.0	10.0	---	---
12	---	---	5.5	4.0	12.0	11.0	12.0	11.0	11.0	10.5	---	---
13	---	---	6.0	4.5	13.0	11.0	12.5	10.5	11.0	10.0	---	---
14	---	---	6.0	5.0	13.5	12.0	13.0	11.5	---	---	---	---
15	---	---	6.5	5.5	13.0	12.0	14.0	12.0	---	---	---	---
16	---	---	6.5	5.0	13.0	12.0	13.5	12.5	---	---	---	---
17	---	---	6.0	5.0	14.0	12.0	13.0	12.0	---	---	---	---
18	---	---	6.5	5.0	14.5	12.5	12.0	11.0	---	---	---	---
19	---	---	7.5	5.5	14.5	13.5	13.5	11.0	---	---	---	---
20	---	---	9.0	6.5	15.0	13.0	13.5	12.0	---	---	---	---
21	---	---	9.0	8.5	15.0	13.5	13.5	12.5	---	---	---	---
22	---	---	8.5	7.5	15.0	13.5	14.0	12.0	---	---	---	---
23	---	---	8.5	8.0	15.0	13.5	14.0	12.5	---	---	---	---
24	---	---	9.0	7.5	14.5	13.0	12.5	11.5	---	---	---	---
25	---	---	10.0	8.0	14.5	13.0	12.5	11.0	---	---	---	---
26	---	---	10.0	9.0	14.0	13.5	13.0	11.5	---	---	---	---
27	---	---	9.0	8.0	13.5	12.0	13.5	12.0	---	---	---	---
28	---	---	10.0	8.5	13.0	11.5	15.0	13.0	---	---	---	---
29	---	---	10.5	9.5	12.5	11.0	14.5	13.0	---	---	---	---
30	---	---	11.0	9.5	13.5	11.0	13.5	12.5	---	---	---	---
31	---	---	11.0	10.0	---	---	13.0	12.0	---	---	---	---
MONTH	---	---	11.0	.5	15.0	7.0	15.0	10.5	---	---	---	---

SOUTH-CENTRAL ALASKA -
1529200 SUSITNA RIVER AT GOLD CREEK--Continued
WATER-QUALITY RECORDS

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* 1972 to 1979: 1972 to current year (season:1).

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Self a statistician-responsibility researcher since Aug. 20, 1942.

NOTE:--Period of no record due to equipment malfunction. Recorded temperatures were found to be within 0.5° of mean stream temperature based on three cross-sectional measurements, with a maximum variation of 0.5°C observed within the cross-section. Several other field observations of water temperature were made during the year.

REFUGEE & ASYLUM OFFICE - NEW YORK, NY

collected during the last part of the winter period.

[illegible]

1. *Chrysomelidae*: 1 sp. (1 sp. = *Chrysomelidae* sp. 1, 3°C Aug. 5, 7).

WATER QUALITY DATA, WATER YEAR OCTOBER 1933 TO SEPTEMBER 1934

DATE	TIME	SAMPLE	SPEC	PH	TEMPER-	SARO-	OXYGEN,
		LOC-	IFIC			ERIC		DISE-
		ATLANTA	CON-	(STATION-	ATURE	PRES-	SOLVED
		CE333	CON-	400)	(F)	SURE	(PER-
		SECTION	DUCH-	UNIT-	(DEG C)	(MM)	SENT
		(FT SW	ANAL	(CM)	OF	(H2O)	SATUR-
		L TANK)	(JW035)	(000403)	(000101)	(000205)	ATION
		(000209)	(000395)				(001311)
201							
20...	1701	193	181	7.3	2.5	--	--
20...	1702	193	149	7.7	2.5	--	--
20...	1703	233	149	3.0	2.5	--	--
20...	1724	270	144	5.1	2.5	--	--
20...	1725	370	134	5.3	-2.5	--	--
21							
21...	0353	137	117	7.3	7.0	745	101
21...	0354	175	115	7.5	7.0	745	102
21...	0437	205	115	7.4	7.0	745	102
21...	0433	270	115	7.4	7.0	745	102
21...	0434	342	103	7.6	6.3	745	101
22							
22...	1508	123	111	8.0	11.0	737	100
22...	1510	123	117	7.7	11.0	737	100
22...	1512	220	115	7.5	11.0	737	100
22...	1514	250	117	8.0	11.0	737	98
22...	1515	357	107	7.9	12.5	737	98
23							
23...	1205	120	121	7.5	12.5	747	97
23...	1220	120	120	7.5	12.0	747	97
23...	1227	230	119	7.6	12.0	747	97
23...	1228	230	117	7.5	12.0	747	97
23...	1229	350	112	7.6	12.0	747	95
24							
24...	1340	35.0	--	7.5	10.0	739	99
24...	1341	165	--	7.3	10.0	739	98
24...	1429	190	--	7.3	9.5	739	98
24...	1443	235	--	7.5	9.5	739	99
24...	1504	300	--	7.0	10.5	739	105
25							
25...	1255	40.0	181	8.0	4.5	743	93
25...	1255	170	179	7.8	5.0	--	--
25...	1327	170	176	7.8	5.0	--	--
25...	1353	210	175	5.0	5.0	--	--
25...	1359	270	165	8.0	5.0	745	104

SOUTH-CENTRAL ALASKA

15222040 SUSITHA RIVER AT GOLD CREEK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1953 TO SEPTEMBER 1954

[illegible]

TABLE B.12, cont.

SOUTH-CENTRAL ALASKA										
13297000 SUSITHA RIVER AT GOLD CREEK--CONTINUED										
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984										
	COPPER,	COPPER,	IRON,	IRON,	LEAD,	LEAD,	NANGA- NESES,	NANGA- NESES,	MERCURY	
	TOTAL	DISS-	TOTAL	DISS-	TOTAL	DISS-	TOTAL	DISS-	TOTAL	
	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	
	US/L	US/L	US/L	US/L	US/L	US/L	US/L	US/L	US/L	
DATE	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	
	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	
JUL 27...	10	33	4	17000	11	14	41	270	5	1
JUL 28...	41	21	5	11000	173	17	41	150	5	3.2
	NICKEL,	NICKEL,	SELE-	SELE-	SILVER,	SILVER,	ZINC,	ZINC,		
	TOTAL	DISS-	NIUM,	NIUM,	TOTAL	DISS-	TOTAL	DISS-		
	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-	REC'DV-		
	US/L	US/L	US/L	US/L	US/L	US/L	US/L	US/L		
DATE	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)		
	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)		
JUL 27...	4.1	21	4	41	41	41	40	15		
JUL 28...	1.2	13	3	41	41	41	30	12		
	SED-	SED-	SED-	SED-	SED-	SED-	SED-	SED-		
	MENT,	MENT,	MENT,	MENT,	MENT,	MENT,	MENT,	MENT,		
	CHARGE,	CHARGE,	CHARGE,	CHARGE,	CHARGE,	CHARGE,	CHARGE,	CHARGE,		
	US/L	US/L	US/L	US/L	US/L	US/L	US/L	US/L		
DATE	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)		
	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)		
JUL 27...	1700	303	12400	74	2480	--	--	--		
JUL 28...	3040	303	12600	92	2790	--	--	--		
JUL 29...	1200	--	29200	476	37500	24	29	32		
JUL 30...	1237	--	29100	317	24900	20	24	27		
AUG 1...	1145	400	18000	273	13300	29	33	44		
SEP 1...	1120	360	7140	17	328	--	--	--		
	SED-	SED-	SED-	SED-	SED-	SED-	SED-	SED-		
	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.		
	FALL	FALL	FALL	FALL	FALL	FALL	FALL	FALL		
	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.		
	THAN	THAN	THAN	THAN	THAN	THAN	THAN	THAN		
DATE	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)	AS (1)		
	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)	(71247)		
JUL 27...	--	--	43	--	--	--	--	--		
JUL 28...	--	--	31	44	69	99	100			
JUL 29...	40	47	53	58	96	98	100			
JUL 30...	13	45	57	58	85	99	100			
AUG 1...	58	70	76	82	92	100	100			
SEP 1...	--	--	79	85	92	100	--			

TABLE B.12, cont.

SOUTH-CENTRAL ALASKA												
13297000 SUSITHA RIVER AT GOLD CREEK--CONTINUED												
TEMPERATURE, WATER (DEG. C), MAY TO AUGUST 1984												
DATE	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1					13.0	6.5	13.0	11.5	11.0	10.5		
2					13.0	7.0	12.0	11.5	11.0	10.5		
3					12.5	7.0	12.0	11.0	11.0	11.0		
4					10.0	7.4	13.0	11.5	11.0	11.0		
5					9.5	7.5	13.0	12.0	11.5	12.5		
6					9.0	8.0	13.0	12.0	11.0	11.0		
7					9.5	7.5	13.0	11.5	11.0	12.5		
8					10.0	7.5	12.0	11.5	11.0	12.5		
9					9.0	8.0	12.0	11.0	11.0	12.0		
10					10.0	8.5	12.0	11.0	11.0	11.5		
11					10.0	8.5	12.0	11.5	12.0	10.5		
12					9.5	8.0	13.0	12.0	12.0	10.5		
13					9.5	7.0	12.5	12.0	12.0	10.5		
14					9.0	7.5	12.0	11.5	12.5	10.5		
15					7.5	7.0	13.0	12.0	11.0	11.5		
16					9.0	6.5	12.0	10.5	12.5	12.0		
17					11.0	1.0	12.5	9.5	12.0	11.4		
18					12.5	9.5	9.5	9.0	11.5	10.0		
19					12.5	10.5	9.5	9.0	10.5	10.0		
20					13.0	10.5	9.0	9.5	13.0	9.5		
21					12.5	11.0	12.0	9.5	13.0	9.5		
22					11.5	13.5	12.0	11.5	---	---		
23					12.0	11.0	12.0	11.0	---	---		
24					12.5	11.0	11.0	10.0	---	---		
25					11.5	9.5	11.0	9.5	---	---		
26					11.0	9.5	11.0	10.5	---	---		
27					11.5	10.5	11.5	11.0	---	---		
28					11.0	11.0	11.0	10.0	---	---		
29					11.0	11.0	11.0	10.5	---	---		
30					11.0	11.0	11.0	10.5	---	---		
31					11.0	11.0	11.0	10.5	---	---		
1 MAY					11.5	6.5	13.5	9.5	14.0	9.5		

TABLE B.13

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD--Water years 1954, 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1953 TO SEPTEMBER 1964

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (000095)	PH (STAND- ARD UNITS) (004000)	TEMPER- ATURE (DEG C) (000010)	BARO- METRIC PRES- SURE (MM HG) (000025)	OXYGEN, DIS- SOLVED (MG/L) (000300)	OXYGEN, SATUR- ATION (000301)
OCT								
04...	1201	32.0	132	7.9	1.5	--	--	--
04...	1202	72.0	127	8.1	1.5	761	15.3	110
04...	1203	122	119	8.0	1.5	761	14.3	103
04...	1204	172	114	8.1	1.5	731	14.2	107
04...	1205	252	104	8.1	2.0	--	--	--
07...	1115	53.0	207	--	0.0	--	--	--
07...	1116	93.0	201	--	0.0	--	--	--
07...	1117	123	197	--	0.0	--	--	--
07...	1118	153	192	--	0.0	--	--	--
07...	1119	220	183	--	0.0	--	--	--
11...	1525	3--0	115	7.3	8.0	750	12.2	105
11...	1526	74.0	110	7.3	8.0	750	12.3	103
11...	1527	119	105	7.4	8.0	750	12.1	104
11...	1528	169	99	7.4	8.0	750	12.0	102
11...	1529	244	89	7.3	8.0	750	11.8	101
JUL								
25...	1225	35.0	72	7.3	9.0	755	11.0	96
25...	1226	85.0	72	7.3	9.0	755	11.0	96
25...	1227	140	72	7.3	9.0	755	11.0	96
25...	1228	200	71	7.2	9.0	755	10.9	95
25...	1229	255	68	7.3	9.5	755	10.6	93
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000734)	TUR- BID- ITY (1TU) (000761)	ECOLI- FORM, FECAL, 0.7 KF AGAR (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, 0.7 KF AGAR (COLS./ 100 ML) (31673)	HARD- NESS, MG/L AS (009000)	HARD- NESS, NONCAR- BONATE (MG/L) CACO3 (009002)	CALCIUM DISE- SOLVED (MG/L) AS CA (009153)
OCT								
04...	1207	324	1.3	--	--	48	10	16
07...	1130	590	2.6	K1	<1	64	28	21
MAR								
31...	1530	324	4.70	80	<1	37	7	12
JUL								
26...	1233	355	13200	140	--	33	0	11
DATE	TIME	ALKA- LITY, SODIUM, CARBOH- ATE (MG/L) AS NA (009255)	POTAS- SIUM, CARBOH- ATE (MG/L) AS K (009355)	BICAR- BONATE IT-FLO (MG/L) AS (009430)	CAR- BONATE IT-FLO (MG/L) AS (009445)	SULFATE DISE- SOLVED (MG/L) AS SO4 (009455)	CHLO- RIDE, DISE- SOLVED (MG/L) AS CL (009460)	FLUO- RIDE, DISE- SOLVED (MG/L) AS F (009500)
OCT								
04...	2.0	5.0	1.1	39	47	.000	11	7.6
MAR								
07...	2.7	12	1.4	36	44	.000	17	23
MAY								
31...	1.6	5.2	1.0	--	--	--	9.2	8.4
JUL								
26...	1.3	3.3	.80	34	42	.000	7.4	2.8

A NON-IDEAL COLONY COUNT

TABLE B.13, cont.

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1953 TO SEPTEMBER 1964

DATE	TIME	SILICA, DISE- SOLVED (MG/L) AS (009555)	SOLIDS, RESIDUE AT 100 DEG. C (MG/L) DISE- SOLVED (009560)	SOLIDS, SUM OF CONSTIT- UENTS, DISE- SOLVED (MG/L) AS (009565)	NITRO- GEN, NO2+NO3 DISE- SOLVED (MG/L) AS N (009570)	NITRO- GEN, AMMONIA DISE- SOLVED (MG/L) AS N (009575)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N (009580)	PHOS- PHORUS, DISE- SOLVED (MG/L) AS P (009585)	PHOS- PHORUS, DISE- SOLVED (MG/L) AS P (009590)	PHOS- PHORUS, DISE- SOLVED (MG/L) AS P (009595)
OCT										
04...	3.1	79	75	.33	.040	.50	.030	.030	.030	.010
MAR										
07...	3.9	116	110	.43	.030	<.20	.010	.010	.010	.020
MAY										
31...	7.2	59	63	.40	<.010	.20	.310	.010	.010	.010
JUL										
26...	5.8	41	54	<.10	.110	.40	.350	<.010	.010	.010
DATE	TIME	ALUM- INUM, DISE- SOLVED (MG/L) AS AL (010000)	ARSENIC DISE- SOLVED (MG/L) AS AS (010005)	BARIUM DISE- SOLVED (MG/L) AS BA (010010)	BERYL- LIUM, DISE- SOLVED (MG/L) AS BE (010015)	CADMIUM DISE- SOLVED (MG/L) AS CD (010020)	CHRO- MIUM, DISE- SOLVED (MG/L) AS CR (010025)	COBALT, DISE- SOLVED (MG/L) AS CO (010030)	COPPER, DISE- SOLVED (MG/L) AS CU (010035)	IRON, DISE- SOLVED (MG/L) AS FE (010040)
MAR										
07...	1130	<10	<1	19	<.5	<1	<1	<3	2	13
JUL										
25...	1230	280	<1	18	<1.0	<1	<1	<3	4	310
DATE	TIME	LITHIUM DISE- SOLVED (MG/L) AS LI (010045)	SODIUM DISE- SOLVED (MG/L) AS NA (010050)	MERCURY DISE- SOLVED (MG/L) AS HG (010055)	MOLYB- DENUM, DISE- SOLVED (MG/L) AS MO (010060)	NICKEL, DISE- SOLVED (MG/L) AS NI (010065)	SELE- NIUM, DISE- SOLVED (MG/L) AS SE (010070)	SILVER, DISE- SOLVED (MG/L) AS AG (010075)	STRON- TIUM, DISE- SOLVED (MG/L) AS SR (010080)	VANAD- IUM, DISE- SOLVED (MG/L) AS V (010085)
MAR										
07...	18	3	<.1	<10	<1	<1	<1	140	<6	9
JUL										
26...	16	11	<.1	<10	7	<1	<1	57	<6	33
DATE	TIME	GROSS ALPHA, DISE- SOLVED (CPS/L) AS (000000)	GROSS ALPHA, DISE- SOLVED (CPS/L) AS (000005)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000010)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000015)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000020)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000025)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000030)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000035)	GROSS BETA, DISE- SOLVED (CPS/L) AS (000040)
MAR										
07...	1130	324	4250	41	470	--	--	--	--	--
JUL										
26...	1230	355	13200	140	1310	42400	9	9	12	12
AUG										
16...	1533	--	6540	433	7850	14	19	27	10	10
26...	1115	--	22700	916	56100	5	7	10	10	10
SEP										
26...	2000	--	2900	15	117	--	--	--	--	--

TABLE B.13, cont.

SOUTH-CENTRAL ALASKA
15272700 TALKEETNA RIVER NEAR TALKEETNA--CONTINUED
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN	SED. SUSP. FALL DIAM. % FINER THAN
DATE	.015 MM (703440)	.075 MM (703441)	.062 MM (703442)	.125 MM (703443)	.250 MM (703444)	.500 MM (703445)	1.00 MM (703446)
OCT...	--	--	+17	--	--	--	--
MAR...	--	--	+72	--	--	--	--
MAY...	--	--	31	53	90	100	--
JUN...	--	--	15	28	53	100	--
JUL...	17	31	46	71	89	99	100
AUG...	27	--	42	53	79	98	100
SEP...	39	50	51	76	92	99	100
OCT...	--	--	44	53	80	99	100
NOV...	34	44	56	67	83	98	100
DEC...	16	24	36	68	92	99	100
JAN...	--	--	36	52	79	100	--

* SEE 76 ANALYSES

TABLE B.14

SOUTH-CENTRAL ALASKA

15792780 SUSITNA RIVER AT SUNSHINE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1975, 1977, and 1981 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER TEMPERATURE: 1971 to current year (seasonal).

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	SAMPLE LOC- TION, CRISIS SECTION (00309)	SPE- CIFIC CON- DUCT- ANCE (00045)	PH (00403)	TEMPER- ATURE (00010)	BARD- METRIC PRES- SURE (00025)	OXYGEN, DISS- OLVED (00300)	OXYGEN, SATUR- ATION (00301)
19...	1421	50.0	115	8.3	2.0	764	14.6	105
19...	1422	135	114	8.2	2.0	754	14.0	131
19...	1423	210	114	8.1	2.0	754	14.4	134
19...	1424	310	113	8.0	2.0	764	13.9	103
19...	1425	410	112	7.5	2.0	764	13.6	99
19...	1741	75.0	53	7.2	5.0	749	10.5	86
19...	1742	170	81	7.3	5.5	749	10.8	87
19...	1743	220	81	7.3	5.5	749	12.4	100
19...	1744	320	83	7.3	5.5	749	11.4	92
19...	1745	420	83	7.3	5.5	749	12.7	103
19...	0745	95.0	98	7.3	8.0	749	11.2	97
19...	0746	195	91	7.5	8.5	749	11.3	93
19...	0747	295	99	7.5	9.5	749	11.3	98
19...	0748	395	90	7.9	8.0	749	11.3	98
19...	0749	495	97	8.1	8.0	749	11.5	99
19...	0555	57.0	111	7.8	9.0	756	10.7	93
19...	0556	152	111	7.9	8.5	755	10.7	92
19...	0557	217	110	7.9	8.5	756	10.8	93
19...	0558	317	110	7.9	8.5	756	10.9	94
19...	0559	417	111	7.9	7.5	755	11.0	93
19...	1255	67.0	109	7.5	11.5	753	10.7	99
19...	1256	142	103	7.5	10.0	753	11.5	104
19...	1257	217	103	7.6	9.5	753	11.7	104
19...	1258	317	103	7.6	9.5	753	11.8	104
19...	1259	412	101	7.7	9.0	753	12.4	113
19...	1333	50.0	130	7.5	5.5	763	11.0	97
19...	1334	135	127	7.9	5.0	763	11.4	90
19...	1335	210	132	7.9	5.0	763	11.8	93
19...	1336	265	128	7.9	5.0	763	11.2	85
19...	1337	365	125	7.9	5.0	763	11.7	91

TABLE B.14, cont.

SOUTH-CENTRAL ALASKA

15292780 SUSITNA RIVER AT SUNSHINE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW INSTANTANEOUS (CFS) (00761)	TUR- BIDITY (NTU) (00076)	HARD- NESS (MG/L) (00900)	HARD- NESS MONOMER (MG/L) (00902)	CALCIUM DISE- SOLVED (MG/L) (00915)	MAGNE- SIUM, DISE- SOLVED (MG/L) (00925)	SODIUM, DISE- SOLVED (MG/L) (00935)	POTAS- SIUM, DISE- SOLVED (MG/L) (00935)	ALKAL- INITY, CARBON- ATE (MG/L) (00945)	
		STEAM- FLOW INSTANTANEOUS (CFS) (00761)	TUR- BIDITY (NTU) (00076)	HARD- NESS (MG/L) (00900)	HARD- NESS MONOMER (MG/L) (00902)	CALCIUM DISE- SOLVED (MG/L) (00915)	MAGNE- SIUM, DISE- SOLVED (MG/L) (00925)	SODIUM, DISE- SOLVED (MG/L) (00935)	POTAS- SIUM, DISE- SOLVED (MG/L) (00935)	ALKAL- INITY, CARBON- ATE (MG/L) (00945)	
		STEAM- FLOW INSTANTANEOUS (CFS) (00761)	TUR- BIDITY (NTU) (00076)	HARD- NESS (MG/L) (00900)	HARD- NESS MONOMER (MG/L) (00902)	CALCIUM DISE- SOLVED (MG/L) (00915)	MAGNE- SIUM, DISE- SOLVED (MG/L) (00925)	SODIUM, DISE- SOLVED (MG/L) (00935)	POTAS- SIUM, DISE- SOLVED (MG/L) (00935)	ALKAL- INITY, CARBON- ATE (MG/L) (00945)	
JCT 14...	1420	525	23	56	13	13	2.7	4.1	1.2	43	
14...	1421	545	55	46	11	15	2.0	3.5	1.2	34	
14...	1422	550	130	37	5	12	1.5	2.8	1.0	--	
JUL 14...	1742	552	180	52	10	17	2.4	3.0	1.5	43	
14...	1743	542	150	54	15	13	2.3	3.0	1.5	--	
SEP 21...	1525	595	29500	45	62	14	20	2.7	4.4	48	
		SILICA- DISE- SOLVED (MG/L) (00945)	CAR- BON- DISE- SOLVED (MG/L) (00945)	SULFATE DISE- SOLVED (MG/L) (00945)	CHLOR- IDE- DISE- SOLVED (MG/L) (00945)	FLUOR- IDE- DISE- SOLVED (MG/L) (00950)	SILICA- DISE- SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 150 DISE- SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 150 DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)
DATE		(00945)	(00945)	(00945)	(00945)	(00950)	(00955)	(00955)	(00955)	(00955)	(00955)
JCT 14...	53	.000	15	5.1	<.10	7.3	80	80	--	.29	--
14...	42	.000	11	4.9	.10	6.1	52	65	--	.29	--
JUL 14...	--	--	.12	2.9	<.10	5.4	63	57	<.10	<.10	.050
JUL 14...	52	.000	16	3.0	.10	5.0	63	74	<.10	<.10	.070
14...	--	--	14	2.8	.10	4.3	60	70	--	<.10	--
SEP 21...	57	--	15	5.8	.10	6.9	95	97	--	<.10	--
		NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)	NITRO- GEN, DISE- SOLVED (MG/L) (00955)
DATE		(00955)	(00955)	(00955)	(00955)	(00955)	(00955)	(00955)	(00955)	(00955)	(00955)
JCT 14...	.053	--	--	.60	--	.070	.020	<.010	2.7	--	--
14...	.021	--	--	1.5	--	.190	.010	.020	6.7	--	--
14...	.010	.25	--	.40	<.20	.070	.010	--	--	1.1	1.1
JUL 14...	.013	.54	.22	.40	.50	--	.010	--	--	6.1	.50
14...	.050	--	--	1.1	--	.140	<.010	.020	--	--	--
SEP 21...	<.010	--	--	<.20	--	.090	<.010	.010	--	--	--
		ARSENIC DISE- SOLVED (MG/L) (01203)	ARSENIC DISE- SOLVED (MG/L) (01203)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)	BARIUM, TOTAL ERASLE (MG/L) (01007)
DATE	TIME	(01203)	(01203)	(01007)	(01007)	(01007)	(01007)	(01007)	(01007)	(01007)	(01007)
JUL 14...	1030	7	<1	100	19	<1	<1	40	<10	6	6
JUL 14...	0730	9	1	100	26	<1	<1	30	<10	5	5

TABLE B.14, cont.

SOUTH-CENTRAL ALASKA
15292783 SUSITNA RIVER AT SUNSHINE--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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SOLVED									
(U/L)									
AS MN									
(01073)									
MANGA									

* SIEVE ANALYSIS

TABLE B.14, cont.

SOUTH-CENTRAL ALASKA
15292790 SUSITNA RIVER AT SUNSHINE--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

		SED. SUSP. FALL DIAM. THAN (00340)	SED. SUSP. FALL DIAM. THAN (00341)	SED. SUSP. FALL DIAM. THAN (00342)	SED. SUSP. FALL DIAM. THAN (00343)	SED. SUSP. FALL DIAM. THAN (00344)	SED. SUSP. FALL DIAM. THAN (00345)	SED. SUSP. FALL DIAM. THAN (00346)
		.014 MM	.031 MM	.062 MM	.125 MM	.250 MM	.500 MM	1.00 MM
	JUN							
	14....	26	34	46	70	97	99	100
	JUL							
	14....	47	55	50	56	72	98	100
	15....	54	65	69	75	87	99	100
	25....	45	54	64	74	87	96	99
	AUG							
	14....	50	57	63	70	84	100	--
	SEP							
	11....	46	--	57	63	76	100	--
	21....	25	--	35	41	63	96	100
	25....	34	--	46	51	67	100	--
	SAMPLE	SED	SED	SED	SED	SED	SED	SED
	MAT.	MAT.	MAT.	MAT.	MAT.	MAT.	MAT.	MAT.
	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE
	DIGM.	DIGM.	DIGM.	DIGM.	DIGM.	DIGM.	DIGM.	DIGM.
	SECTORY	X FINDER	X FINDER	X FINDER	X FINDER	X FINDER	X FINDER	X FINDER
	(FT PM	THAN	THAN	THAN	THAN	THAN	THAN	THAN
	(00340)	(00340)	(00341)	(00342)	(00343)	(00344)	(00345)	(00346)
DATE	TIME	SED	SED	SED	SED	SED	SED	SED
		THAN	THAN	THAN	THAN	THAN	THAN	THAN
OCT								
24....	1530	200	0	9	20	23	24	32
25....	200	0	2	6	9	14	31	61
26....	300	--	0	1	1	2	6	14
24....	350	--	--	0	1	1	1	5
24....	400	--	--	--	--	--	3	5

TEMPERATURE, WATER (DEG. C), OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN
OCTOBER		
1	4.0	3.5
2	4.0	3.0
3	3.5	2.0
4	2.5	1.5
5	2.0	1.5
17	--	.0

TABLE B.14, cont.

SOUTH-CENTRAL ALASKA

15292730 SUSITNA RIVER AT SUMMIT--Continued

TEMPERATURE, WATER (DEG. C), OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1			---	---	10.0	8.5	11.0	10.0	8.5	9.0	7.0	5.0
2			---	---	10.5	9.5	10.5	9.5	8.5	8.0	5.0	6.0
3			---	---	10.0	9.0	10.0	9.0	9.5	8.5	8.0	6.5
4			---	---	11.0	9.0	11.5	9.5	10.5	8.5	8.5	6.5
5			---	---	10.5	9.0	11.5	10.0	10.5	9.5	9.0	7.0
6			---	---	10.0	7.5	10.5	9.0	10.0	7.5	9.0	7.5
7			---	---	8.5	6.5	11.0	8.0	12.0	8.5	9.0	8.0
8			---	---	10.0	7.5	10.5	8.5	12.0	8.0	9.0	7.5
9			---	---	10.0	8.5	9.5	8.0	9.5	7.0	8.5	7.5
10			---	---	10.5	9.0	9.5	8.5	9.0	7.0	9.0	8.5
11			---	---	10.5	9.0	10.0	8.0	12.0	9.0	---	---
12			---	---	11.5	10.0	10.0	9.0	9.5	8.0	---	---
13			---	---	10.5	8.5	10.0	8.5	9.5	8.0	---	---
14			---	---	9.5	7.5	10.5	9.0	9.5	8.0	---	---
15			---	---	9.0	7.5	11.0	9.5	9.5	8.0	---	---
16			---	---	---	6.5	11.0	9.5	9.5	8.5	---	---
17			---	---	8.5	7.0	10.0	8.5	9.5	8.0	---	---
18			---	---	10.5	9.5	9.5	7.5	9.0	7.0	---	---
19			---	---	12.0	10.0	7.5	7.0	7.0	6.5	---	---
20			---	---	12.0	11.0	7.5	7.0	6.5	5.0	6.5	5.0
21			6.5	---	12.5	10.5	8.5	7.5	7.0	6.5	6.0	5.0
22			6.0	5.5	12.5	11.0	8.5	7.5	7.5	7.0	---	---
23			7.0	6.0	12.0	9.5	11.0	8.0	8.5	7.5	---	---
24			8.0	7.0	12.5	8.5	11.0	9.5	8.5	6.5	---	---
25			7.5	6.5	11.5	9.5	9.5	8.0	8.5	6.5	---	---
26			7.0	5.0	11.0	9.0	8.5	7.0	7.5	6.0	---	---
27			7.5	6.0	9.0	8.5	9.0	8.0	6.5	5.0	---	---
28			8.5	8.0	9.5	8.0	9.5	8.5	6.5	5.0	---	---
29			8.0	7.0	10.5	9.0	8.5	7.5	6.5	5.0	---	---
30			7.5	6.5	11.0	9.0	9.0	7.5	6.0	5.0	---	---
31			7.0	7.0	---	---	9.0	8.0	5.5	5.0	---	---
TOTAL			9.0	6.0	12.5	8.5	11.5	7.0	10.5	8.0	9.0	5.0
YEAR	12.5	6.0										

TABLE B.15

[illegible]

15:34350 SUSITHA RIVER AT SUSITHA STATION--Continued

WATER-QUALITY RECORDS

2:1:20, 18 9:5080.--after years 1955, 1970, 1975 to current year.

254220 U2 7-167 25(0)50.-

DATE: 12/22/84 10:00 AM; May 1975 to October 1980, May 1983 to current year (seasonal).

1: STATION 11110, -temperature recorder reinstalled May 1933.

42-245--Inferred of no recorded to equipment malfunction. Recorded temperatures were found to be within 0.5°C of air stream temperature listed in five cross-sectional measurements, with a maximum variation of 1.2°C between the cross-sections. Several other field observations of water temperature were made during the year. Recorded temperatures are fair.

EXTENDING OUTSIDE OF PERIOD OF DAILY RECORD.--

SALES TEMPERATURE: Minimum 4.0°C at most days during winter periods.

ENTER 454 FOR PERIOD OF DAILY RECORD.--

1964-1965-1966: Maximum record, 12.5°C July 9, 1975 and July 3, 4, 1979.

DATE FOR CURRENCY YEAR--

DATE: 1-22-54 TIME: Maximum recorded: 15.2°C June 22, 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	SAMPLE LOC- ATION CLASS SECTION (PT FM L PAKS) (J03C9)	SPEC- IFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (STAND- ARD UNITS) (006A5)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRESS- SURE (MM HG) (000025)	OXYGEN, DIS- SOLVED (NG/L) (J0330)	OXYGEN, PER- CENT SATUR- ATION (01713)
APR								
05...	1320	62.0	192	--	--	752	12.0	33
06...	1322	103	--	--	--	752	11.6	80
06...	1324	291	195	--	--	752	11.9	76
MAY								
15...	0310	103	95	--	7.0	755	10.3	90
15...	0311	175	93	--	7.0	755	10.9	91
15...	0312	359	92	--	7.3	755	11.1	93
15...	0313	400	85	--	7.5	755	10.0	84
15...	0314	577	55	--	7.5	755	10.1	85
JUL								
13...	0310	55.0	112	7.8	10.5	761	10.5	74
13...	0311	129	112	7.9	10.5	761	10.7	76
13...	0312	325	110	7.9	10.0	761	10.6	94
13...	0313	127	109	8.0	10.0	761	11.0	97
13...	0314	570	110	8.1	10.0	761	12.2	108
AUG								
15...	1345	49.0	--	--	12.0	--	--	--
15...	1347	165	--	--	12.0	--	--	--
15...	1342	240	--	--	11.5	--	--	--
15...	1343	390	--	--	11.0	--	--	--
15...	1344	640	--	--	10.0	--	--	--
SEP								
23...	1241	93.0	115	7.3	7.0	765	11.0	90
23...	1242	270	118	7.2	7.0	765	11.3	92
23...	1243	440	124	7.3	7.0	765	11.4	93
23...	1244	440	128	7.3	7.0	765	11.4	93
23...	1245	940	133	7.3	7.0	765	11.5	94

[illegible]

5 HO'S-IDEAL CLOTH COUNTRY

TABLE B.15, cont.

SOUTH-CENTRAL ALASKA

15274350 SUSITNA RIVER AT SUSITNA STATION--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	SOLICIT- DIS- SOLVED (%G/L AS 74) (00730)	PJTAS- SIUM- JIS- SOLVED (%G/L AS 43) (00735)	ALKA- LIMITY ZELD (%G/L AS 43) (00410)	ALKA- LIMITY CARBON- ATE (%G/L AS 43) (00410)	SICAR- 30NATE IT-ALD (%G/L AS 43) (00440)	CAR- 20NATE IT-FLO (%G/L AS 43) (00445)	SULFATE OIS- SOLVED (%G/L AS 50) (00945)	CHLO- RIDE OIS- SOLVED (%G/L AS 50) (00940)	FLUO- RIDE OIS- SOLVED (%G/L AS 50) (00950)
APR 70...	7.3	1.7	--	68	92	--	15	11	23
MAY 15...	3.3	1.1	37	--	--	--	11	4.3	10
JUL 15...	2.3	1.5	--	49	59	100	15	2.2	10
SEP 20...	3.2	1.5	--	43	52	--	15	3.9	10
SILICIA DIS- (%G/L AS 50) (00650)	SOLICIT- ESSICIDE AT 140 DEG. C JIS- SOLVED (%G/L AS 50) (00650)	SOLICIT- SUM OF COMSTI- TUENTS DIS- SOLVED (%G/L AS 43) (00730)	HITRO- GEN- MORPHO3 DIS- SOLVED (%G/L AS 43) (00643)	HITRO- GEN- AMPHO3 DIS- SOLVED (%G/L AS 43) (00643)	HITRO- GEN- AMPHO3 DIS- SOLVED (%G/L AS 43) (00643)	P4OS- 30NATE ORGANIC TOTAL (%G/L AS 50) (00645)	P4OS- 30NATE ORGANIC TOTAL (%G/L AS 50) (00645)	P4OS- 30NATE ORGANIC TOTAL (%G/L AS 50) (00645)	P4OS- 30NATE ORGANIC TOTAL (%G/L AS 50) (00645)

DATE	TIME	ALUM-	ARSENIC	BARIUM	BERYL-	CADMIUM	CHROM-	COSALT,	COPPER,	IRON,	LEAD,
		DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
		SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED
		(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)
		AS AL)	AS AS)	AS AS)	AS AS)	AS AS)	AS AS)	AS AS)	AS AS)	AS AS)	AS AS)
		(01103)	(01300)	(01005)	(01017)	(01025)	(01030)	(01035)	(01040)	(01045)	(01047)
APR											
09...	1330	23	<1	35	<1.5	<1	<1	<3	4	120	<1
MAY											
15...	0330	37	<1	21	<1.3	<1	<1	<3	3	170	<1
JUL											
12...	0015	120	1	27	<1.0	<1	<1	<3	1	130	4
SEP											
23...	1300	99	1	25	<1.0	<1	<1	<3	2	110	<1
		LITHIUM	MANGA-	MERCURY	MOLYB-	NICKEL	SELE-	SILVER,	STRON-	TANAM-	ZINC,
		DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
		SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED
		(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)	(U/L)
		AS LT)	AS MM)	AS MG)	AS MO)	AS NI)	AS SE)	AS SG)	AS SH)	AS TH)	AS ZN)
		(01133)	(01155)	(01330)	(01060)	(01065)	(01165)	(01075)	(01082)	(01085)	(01090)

APR										
CORE	14	12	<.1	<10	<1	<1	<1	153	<6	31
MAY										
JUN	10	12	<.1	<10	<1	<1	<1	76	<6	16
JUL										
AUG	13	6	<.1	<10	1	<1	<1	87	<6	12
SEP										
OCT	10	7	<.1	<10	1	<1	<1	99	<6	14

TABLE B.15, cont.

SOUTH-CENTRAL ALASKA									
15294353 SUSITNA RIVER AT SUSITNA STATION--Continued									
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984									
DATE	TIME	STREAM- FLOWS		SEDIMENT- CHARGE		SEDIMENT- FALL		SEDIMENT- FALL	
		INSTANTANEOUS (CFS)	INSTANTANEOUS (MG/L)	SEDIMENT- CHARGE (T/DAY)	SEDIMENT- CHARGE (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)
APR									
05...	1330	242	9090	155	4540	--	--	--	--
MAY									
01...	0130	975	61200	523	56430	5	10	--	--
JUN									
12...	0415	1670	97800	700	185000	30	40	50	50
JUL									
15...	1345	1670	42200	5553	--	--	--	--	--
SEP									
20...	1300	1500	55100	543	80600	10	15	24	24
TEMPERATURE, WATER (DEG. C), OCTOBER 1983 TO SEPTEMBER 1984									
DATE	TIME	SEDIMENT- FALL		SEDIMENT- FALL		SEDIMENT- FALL		SEDIMENT- FALL	
		SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)	SEDIMENT- FALL (T/DAY)
APR									
05...	--	--	493	--	--	--	--	--	--
MAY									
10...	17	--	31	44	66	90	100	--	--
JUN									
15...	50	71	80	66	97	100	--	--	--
JUL									
15...	--	--	4275	--	--	--	--	--	--
SEP									
20...	31	35	47	51	90	100	--	--	--

TABLE B.15, cont.

SOUTH-CENTRAL ALASKA											
15294350 SUSITNA RIVER AT SUSITNA STATION--Continued											
TEMPERATURE, WATER (DEG. C), OCTOBER 1983 TO SEPTEMBER 1984											
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
APRIL											
1	---	---	1.0	1.0	12.0	9.5	13.0	12.5	11.5	10.5	7.5
2	---	---	1.0	1.0	12.5	11.0	12.5	12.0	11.0	10.5	6.5
3	---	---	1.0	1.0	12.5	11.0	12.5	11.0	11.5	10.5	7.5
4	---	---	1.0	1.0	13.0	11.0	14.0	11.5	13.0	11.0	8.5
5	---	---	1.5	1.0	13.0	11.5	14.5	13.0	13.0	12.0	9.0
MAY											
6	---	---	1.5	1.0	12.5	10.5	14.5	12.5	13.0	12.0	9.5
7	---	---	1.0	1.0	11.0	9.5	14.0	12.5	14.0	12.0	9.5
8	---	---	2.0	1.5	11.5	9.5	13.5	12.5	14.0	12.0	9.5
9	---	---	2.5	1.0	11.5	10.5	12.5	11.5	13.5	11.5	9.5
10	---	---	2.5	1.5	12.0	10.5	12.5	11.0	12.5	11.5	9.5
JUNE											
11	---	---	4.0	1.5	12.5	11.0	12.5	11.5	12.5	10.5	9.0
12	---	---	5.5	1.0	13.0	11.0	13.5	11.5	12.5	11.0	8.5
13	---	---	6.5	1.0	13.0	11.5	12.5	11.5	12.5	11.0	8.5
14	---	---	7.5	1.5	13.5	10.5	12.5	11.5	12.5	10.5	8.5
15	---	---	1.0	1.5	11.5	10.0	13.5	11.5	12.0	10.5	7.5
JULY											
16	---	---	1.0	7.0	10.5	8.5	13.5	12.5	12.5	11.0	8.0
17	---	---	6.0	5.5	9.5	8.0	13.0	11.0	12.5	11.5	9.0
18	---	---	1.5	7.0	11.5	8.5	11.0	10.0	11.5	10.0	8.0
19	---	---	4.5	7.0	13.5	11.0	10.0	9.5	10.0	9.0	7.5
20	---	---	5.5	7.0	14.5	12.5	10.0	9.5	9.5	8.5	6.5
AUGUST											
21	---	---	9.5	7.0	14.0	12.5	11.0	9.0	9.5	8.0	6.0
22	---	---	1.0	7.0	15.0	12.5	11.5	10.5	9.5	9.0	5.5
23	---	---	5.5	6.5	15.0	13.0	12.5	10.5	10.0	9.0	5.5
24	---	---	10.0	1.0	13.5	11.5	13.5	12.0	13.0	9.5	6.0
25	---	---	9.5	6.5	13.0	11.5	13.5	12.0	9.0	5.5	6.0
SEPTEMBER											
26	---	---	7.0	8.0	13.0	12.0	12.0	11.5	9.0	7.5	6.5
27	---	---	9.0	7.5	12.5	11.5	12.0	11.0	3.0	7.0	7.0
28	---	---	7.5	5.0	12.0	10.5	12.0	11.0	7.5	6.5	6.5
29	---	---	7.5	7.0	12.5	11.0	12.0	11.0	7.5	6.0	6.5
30	---	---	9.0	3.0	12.0	11.5	11.5	10.5	7.5	6.0	5.5
31	---	---	10.0	3.0	---	---	11.5	11.0	7.5	6.0	---
MEAN	---	---	1.0	10.0	1.0	15.0	8.0	14.5	9.0	14.0	6.0
YEAR	15.0	1.0	---	---	---	---	---	---	---	---	---

TABLE B.16 LIST OF ADF&G CONTINUOUS TEMPERATURE MONITORING STATIONS (1981-83)

CONTINUOUS TEMPERATURE MONITORING STATIONS

River Mile	Site Description	Agency
235.2	Mainstem above Oshetna River Site #1 [83]	ADF&G
235.7	Mainstem above Oshetna River Site #2 [83]	ADF&G
233.4	Oshetna River TRM 0.1 [82,83]	ADF&G
231.3	Goose Creek TRM 0.1 [82,83]	ADF&G
206.8	Kosina Creek TRM 0.1 [82,83]	ADF&G
194.1	Watana Creek TRM 0.0 [82,83]	ADF&G
186.7	Deadman Creek TRM 0.0 [82,83]	ADF&G
181.6	Mainstem above Tsusena Creek [83]	ADF&G
181.3	Tsusena Creek TRM 0.0 [82,83]	ADF&G
150.1	Mainstem at Devil Canyon [82]	ADF&G
150.0	Mainstem at Devil Canyon [83]	ADF&G
148.8	Mainstem above Portage Creek [81]	ADF&G
148.8	Portage Creek Site #1 TRM 0.1 [6-8/82]	ADF&G
148.8	Portage Creek Site #2 TRM 0.5 [8-10/82,83]	ADF&G
142.3	LRX-57 Surface and Intragravel [83]	ADF&G
142.0	Upper Slough 21 Surface and Intragravel [82,83]	ADF&G
142.0	Slough 21 Middle [82]	ADF&G
141.8	Lower Slough 21 Surface and Intragravel (Previously Slough 21 Mouth RM 142.0)	
	Site #1 [2-5/82]	ADF&G
	Site #2 [9/82-83]	ADF&G
141.0	Side Channel 21 Surface and Intragravel [83]	ADF&G
140.1	LRX 53 [82]	ADF&G
140.0	Slough 19 [81]	ADF&G
140.0	Slough 19 Surface and Intragravel [82,83]	ADF&G
138.7	Mainstem above Indian River [81]	ADF&G
138.6	Indian River	
	Site #1 TRM 0.1 [81,6-8/82]	ADF&G
	Site #2 TRM 1.0 [8-10/82, 83]	ADF&G
138.0	Slough 16B Surface and Intragravel [82]	ADF&G
136.8	Mainstem above Gold Creek	
	Site #1 Surface [81]	ADF&G
	Site #2 Surface and Intragravel [82]	ADF&G
	Surface [83]	ADF&G
136.7	Gold Creek	
	Site #1 TRM 0.0 [81]	ADF&G
	Site #2 TRM 0.5 [83]	ADF&G
136.6	Mainstem at Gold Creek [83]	ADF&G
136.3	Upper Side Channel 11	
	Site #1 Surface and Intragravel [83]	ADF&G
	Site #2 Surface and Intragravel [83]	ADF&G
135.8	Mainstem below Gold Creek [83]	ADF&G
135.3	Slough 11 Site #1 Surface [2-4/82]	ADF&G
135.7	Slough 11 Site #2 Surface and Intragravel [8/82-83]	ADF&G
134.0	Slough 10 Northeast Surface and Intragravel [83]	ADF&G
134.0	Slough 10 Northwest Surface and Intragravel [83]	ADF&G

TABLE B.16 (cont) LIST OF ADF&G CONTINUOUS TEMPERATURE
MONITORING STATIONS (1981-83)

River Mile	Site Description	Agency
133.9	Side Channel 10 Surface and Intragravel [83]	ADF&G
131.1	Fourth of July Creek and Plume Intragravel [83]	ADF&G
	Creek Surface [installed 11/83]	ADF&G
131.1	Mainstem above Fourth of July Creek [81]	ADF&G
130.8	LRX 35 [82]	ADF&G
129.0	Slough 9B Surface and Intragravel [82]	ADF&G
128.3	Slough 9 Incubation Site [83]	ADF&G
128.8	Slough 9 Site #1 Surface and Intragravel [82]	ADF&G
	(Previously Slough 9 below trier B RM 129.0)	
128.7	Slough 9 Site #2 Surface [82]	ADF&G
	(Previously RM 129.2)	
128.6	Slough 9 Site #3 Surface and Intragravel [82,83]	ADF&G
126.6	Upper Slough 8A	
	Site #1 Surface and Intragravel [82]	ADF&G
	Site #2 Surface and Intragravel [83]	
126.1	LRX 29 Surface and Intragravel [82,83]	ADF&G
126.0	Slough 8A Northeast fort [82]	ADF&G
125.4	Lower Slough 8A Site #1 Surface and Intragravel	
	[82-4/83]	ADF&G
125.6	Lower Slough 8A Sites #2 and #3 Surface and	
	Intragravel [83]	ADF&G
120.7	Mainstem Curry Fishwheel [82,83]	ADF&G
113.0	LRX 18 [82]	ADF&G
103.2	Mainstem at LRX 9 Surface and Intragravel [83]	ADF&G
103.0	Mainstem at Talkeetna Fishwheel [81,82,83]	ADF&G
101.2	Whiskers Creek Slough [82]	ADF&G
98.6	Chulitna River	
	Site #1 TRM 0.5 [81]	ADF&G
	Site #2 TRM 0.6 [82,6/83]	ADF&G
	Site #3 TRM 2.0 [83]	ADF&G
	Site #4 TRM 3.0 [83]	ADF&G
97.2	Talkeetna River	
	Site #1 TRM 1.0 [81]	ADF&G
	Site #2 TRM 1.5 [82,83]	ADF&G
83.9	Mainstem at Parks Highway Bridge	
	Site #1 Eastshore [81]	ADF&G
	Site #2 Westshore [82,83]	ADF&G
	Site #3 Eastshore [82,83]	ADF&G
77.5	Mainstem above Montana Creek [81]	ADF&G
77.2	Montana Creek TRM 0.0 [81]	ADF&G
61.2	Mainstem above Kashwitna River [81]	ADF&G
50.5	Mainstem above Little Willow Creek [81]	ADF&G
50.5	Little Willow Creek TRM 1.0 [81]	ADF&G
41.1	Mainstem above Deshka River [83]	ADF&G
40.6	Deshka River TRM 1.2 [81]	ADF&G
32.3	Mainstem above Yentna River [81,82,83]	ADF&G

TABLE B.16 (cont) LIST OF ADF&G CONTINUOUS TEMPERATURE
MONITORING STATIONS (1981-83)

<u>River Mile</u>	<u>Site Description</u>	<u>Agency</u>
28.0	Yentna River Fishwheel	
	Site #1 TRM 2.0 [81]	ADF&G
	Site #2 TRM 4.0 [82,83]	ADF&G
25.8	Mainstem at Susitna Station [82,83]	ADF&G
18.2	Mainstem at Flathorn Station [83]	ADF&G
10.1	Mainstem above Alexander Creek [81]	ADF&G
10.1	Alexander Creek TRM 0.5 [81]	ADF&G
4.5	Estuary [83]	ADF&G

APPENDIX C
METEOROLOGIC DATA (NOAA)

TABLE C.1

Meteorological Data For The Current Year

Station: FAIRBANKS, ALASKA INTERNATIONAL AIRPORT Standard time used: ALASKAN Latitude: 64° 49' N Longitude: 147° 52' W Elevation (ground): 436 feet Year: 1983

Month	Temperature °F							Degree days Base 65 °F		Precipitation in inches						Relative humidity, pct.				Wind				Percent of possible sunshine	Average sky cover, tenths, sunrise to sunset	Number of days										Average station pressure mb			
	Averages			Extremes						Water equivalent			Snow, ice pellets			Hour		Hour		Resultant		Fastest mile				Sunrise to sunset		Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/2 mile or less	Temperature °F							
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date	Heating	Cooling	Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.	Date	Hour 02	Hour 08	Hour 14	Hour 20	Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.			Direction	Date					Clear	Partly cloudy	Cloudy	90° and above		32° and below	37° and below	0° and below
JAN	-2.9	-19.0	-11.0	25	1	-50	11	2356	0	0.24	0.11	29	4.8	1.8	29	56	56	56	56	02	2.7	4.1	29	03	6	5.6	10	8	13	7	2	0	8	0	31	31	25	990.2	
FEB	13.0	-6.3	3.4	31	24	-30	18	1725	0	0.18	0.07	10	3.6	1.4	10	56	56	54	58	01	2.3	4.9	18	04	25	6.3	9	2	17	4	1	0	0	28	28	17	986.1		
MAR	26.0	1.5	13.8	40	22	-16	4	1581	0	0.09	0.04	10-11	2.1	1.0	10-11	51	48	45	48	02	4.5	6.3	25	06	26	3.5	18	6	7	4	0	0	0	23	31	16	993.2		
APR	47.3	27.4	37.4	63	25	10	13	823	0	0.27	0.11	29-30	1.9	1.4	8-9	61	53	41	45	34	1.3	6.6	32	04	5	6.5	7	8	15	7	1	0	4	2	21	0	993.2		
MAY	61.3	39.5	50.4	84	30	29	3	451	5	0.14	0.07	2-3	0.4	0.3	2-3	48	37	27	34	01	4.8	9.7	24	29	20	6.1	5	15	11	7	0	1	0	4	5	0	993.9		
JUN	72.6	52.0	62.3	91	25	42	8	133	61	0.57	0.23	28-29	0.0	0.0		62	49	32	39	28	1.7	8.3	23	13	2	6.8	5	13	14	8	0	1	0	19	0	0	991.9		
JUL	73.4	54.9	64.2	85	6	48	19	62	40	1.71	0.54	30-31	0.0	0.0		75	65	45	54	26	2.9	7.5	25	20	25	7.1	3	12	16	15	0	0	0	24	0	0	993.2		
AUG	61.3	45.6	53.5	75	7	35	31	351	0	3.33	1.02	20-21	0.0	0.0		90	88	65	76	25	2.4	6.8	27	23	8	9.0	0	4	27	21	0	0	4	0	0	992.2			
SEP	48.9	33.5	41.2	63	12	10	27	705	0	0.92	0.34	31-1	0.4	0.4	24	81	78	58	71	27	2.0	6.8	21	26	22	8.0	3	8	19	14	0	0	1	0	3	10	0	995.3	
OCT	28.7	18.4	23.6	45	2	-4	27	1260	0	2.19	0.56	5	17.3	3.3	5	80	80	77	78	34	2.0	6.5	24	24	11	9.0	1	3	27	21	7	0	2	0	16	26	3	990.2	
NOV	18.3	-1.2	8.6	38	29	-14	20	1688	0	0.08	0.03	23	2.4	1.0	23-24	73	75	76	77	02	2.6	3.4	12	34	28	7.1	5	7	18	3	0	0	0	26	30	20	985.1		
DEC	3.4	-10.7	-3.7	24	2	-32	15	2126	0	0.65	0.19	2-3	14.4	4.1	30-31	68	68	66	68	02	1.3	2.0	10	36	6	4.8	16	0	15	9	6	0	1	0	31	31	24	1006.1	
YEAR	37.6	19.6	28.6	91	JUN 25	-50	JAN 11	13281	106	10.37	1.02	AUG 20-21	47.3	4.1	DEC 30-31	67	63	54	59	35	1.7	6.1	32	24	APR 5	6.7	80	86	199	120	17	2	16	51	160	213	105	992.6	

Normals, Means, And Extremes

Month	Temperatures °F							Normal Degree days Base 65 °F		Precipitation in inches										Relative humidity pct.			Wind				Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Mean number of days										Average station pressure mb.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Normal			Extremes						Water equivalent					Snow, ice pellets					Hour 02	Hour 08	Hour 14	Hour 20	thru 1963	Fastest mile				Clear	Partly cloudy	Cloudy	Precipitation .<01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/2 mile or less	Temperatures °F				Elev. feet m.s.l.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Maximum monthly	Year	Maximum in 24 hrs.	Year	Speed m.p.h.						Direction	Year										Max.	Min.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S):

- (a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
+ Less than one half.
T Trace.
BLANK entries denote missing or unreported data.

NORMALS - Based on record for the 1951-1980 period.
MEANS

TABLE C.2

METEOROLOGICAL DATA FOR 1984

FAIRBANKS, ALASKA

LATITUDE: 64°49' N LONGITUDE: 147°52' W ELEVATION: FT. (grd) 436 (msl) 454 TIME ZONE: YUKON WBAN: 26411

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F:													
Averages													
-Daily Maximum	1.8	-4.2	32.7	39.8	57.7	72.6	69.2	61.7	58.1	33.0	7.4	5.7	36.3
-Daily Minimum	-13.5	-22.4	10.5	20.7	36.6	50.5	52.5	45.8	35.5	18.8	-7.3	-11.9	18.0
-Monthly	-5.9	-13.3	21.6	30.3	47.2	61.6	60.9	53.8	46.8	25.9	0.1	-3.1	27.2
-Monthly Dewpt.	-12.7	-23.2	12.1	17.9	33.1	48.2	50.9	45.8	35.4	18.0	-5.4	-6.9	17.8
Extremes													
-Highest	39	15	48	62	73	82	84	74	66	53	37	35	84
-Date	12	29	28	29	20	25	1	8	8	1	21	17	JUL 1
-Lowest	-46	-46	-10	3	26	41	46	31	29	-12	-23	-37	-46
-Date	25	3	2	18	12	2	9	28	22	30	30	29	FEB 3
DEGREE DAYS BASE 65 °F:													
Heating	2201	2277	1338	1035	549	120	140	344	538	1205	1950	2111	13808
Cooling	0	0	0	0	0	22	21	2	0	0	0	0	45
% OF POSSIBLE SUNSHINE													
AVG. SKY COVER (tenths)													
Sunrise - Sunset	7.3	6.8	6.2	7.9	6.4	6.2	8.0	8.2	5.9	6.9	6.6	7.2	7.0
Midnight - Midnight	7.1	6.2	5.3	7.1	6.1	6.2	7.9	8.0	5.4	6.5	6.0	6.6	6.5
NUMBER OF DAYS:													
Sunrise to Sunset													
-Clear	5	6	9	3	6	4	2	3	9	7	8	8	70
-Partly Cloudy	6	8	6	5	14	15	6	4	8	4	5	3	84
-Cloudy	20	15	16	22	11	11	23	24	13	20	17	20	212
Precipitation													
.01 inches or more	12	11	2	6	13	9	15	13	4	9	10	13	117
Snow, Ice pellets													
1.0 inches or more	6	3	0	3	0	0	0	0	0	4	3	12	31
Thunderstorms	0	0	0	0	1	6	1	0	0	0	0	0	8
Heavy Fog, visibility													
1/4 mile or less	5	1	1	3	0	0	0	0	0	1	1	1	13
Temperature °F													
-Maximum													
70° and above	0	0	0	0	3	20	15	7	0	0	0	0	45
32° and below	29	29	15	7	0	0	0	0	0	14	29	29	152
-Minimum													
32° and below	31	29	31	29	11	0	0	0	9	28	30	31	231
0° and below	24	29	5	0	0	0	0	2	0	7	22	22	109
AVG. STATION PRESS. (mb)	994.9	988.8	991.2	991.9	994.2	992.2	995.3	994.9	994.9	995.3	988.3	994.9	993.1
RELATIVE HUMIDITY (%)													
Hour 03	71	61	74	75	80	87	89	90	83	79	79	84	79
Hour 09	70	61	73	66	67	69	77	83	77	79	79	84	74
Hour 15 (Local Time)	71	58	58	53	46	46	60	62	48	68	74	84	61
Hour 21	69	61	70	58	57	59	71	78	69	76	79	83	69
PRECIPITATION (inches):													
Water Equivalent													
-Total	0.89	0.64	0.03	0.47	1.17	0.48	2.95	1.15	0.22	0.70	0.42	3.23	12.35
-Greatest (24 hrs)	0.22	0.44	0.02	0.31	0.44	0.11	1.02	0.43	0.11	0.28	0.14	0.95	1.02
-Date	14-15	3-4	22	6-7	27	27	24-25	8-9	6	23	3-4	16-17	JUL 24-25
Snow, Ice pellets													
-Total	13.8	11.1	0.8	6.7	T	0.0	0.0	0.0	0.0	11.3	8.5	50.7	102.9
-Greatest (24 hrs)	2.9	7.5	0.5	4.0	T	0.0	0.0	0.0	0.0	4.6	2.8	12.4	12.4
-Date	14-15	3-4	22	6-7	2	0.0	0.0	0.0	0.0	23	3-4	16-17	DEC 16-17
WIND:													
Resultant													
-Direction (!!!)	010	330	012	260	295	014	239	282	017	006	008	354	340
-Speed (mph)	0.9	0.3	2.5	1.3	1.1	0.6	3.6	1.5	3.6	2.1	2.6	1.2	1.1
Average Speed (mph)	3.3	3.6	6.0	6.3	7.4	6.6	7.8	6.8	5.4	5.2	3.8	2.7	5.4
Fastest Obs. 1 Min.													
-Direction (!!!)	24	26	35	24	23	07	23	27	02	02	11	28	23
-Speed (mph)	15	16	17	31	32	28	28	21	23	18	18	18	32
-Date	4	19	22	22	27	20	17	23	9	20	21	18	MAY 27
PEAK GUST													
-direction (!!!)													SW
-Speed (mph)													32
-Date													23

(!!!) See Reference Notes on Page 68
Page 2

Source: NOAA (1984b)

TABLE C.3

Meteorological Data For The Current Year

Station: TALKEETNA, ALASKA # 26528 TALKEETNA AIRPORT Standard time used: ALASKAN Latitude: 62° 18' N Longitude: 150° 06' W Elevation (ground): 345 feet Year: 1983

Month	Temperature °F							Degree days Base 65 °F		Precipitation in inches						Relative humidity, pct.				Wind				Percent of possible sunshine	Average sky cover, sunths, sunrise to sunset	Number of days										Average station pressure mb																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Averages			Extremes						Water equivalent			Snow, ice pellets			Hour		Hour		Resultant		Average speed				Fastest mile		Sunrise to sunset			Precipitation		Snow, ice pellets		Thunderstorms		Heavy fog, visibility		Temperature °F																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date	Heating	Cooling	Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.	Date	Hour 02	Hour 08	Hour 14	Hour 20	Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.	Direction	Date	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/2 mile or less	Temperature °F				Elev. feet m.s.l.																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Normals, Means, And Extremes

Month	Temperatures °F						Normal Degree days Base 65 °F	Precipitation in inches										Relative humidity pct.			Wind				Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Mean number of days										Average station pressure mb.				
	Normal			Extremes				Water equivalent					Snow, ice pellets					Hour	Hour	Hour	thru 1963	Fastest mile					Sunrise to sunset				Thunderstorms			Heavy fog, visibility 1/2 mile or less			Temperatures °F		Elev. 35 feet m.s.l.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest		Year	Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Maximum monthly	Year					Maximum in 24 hrs.	Year	Mean speed m.p.h.			Prevailing direction	Speed m.p.h.	Direction	Year	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/2 mile or less	80° and above	32° and below	32° and below	0° and below			
																																								Hour	Hour
(a)				44		44			44		43		63		62		2	16	13	13		6	5	16	16			1	1	1	1	29	16	16	16	43	43	43	43		
J	17.9	-1.1	8.4	45	1961	-48	1972	1755	0	1.45	5.56	1948	1	1974	1.95	1948	56.3	1949	24.0	1937	68	72	64	73	6.3	N	38	04	1972	6.2	9	8	14	8	4	0	0	27	31	15	
F	25.3	3.4	14.4	50	1943	-46	1947	1417	0	1.53	5.57	1951	1	1979	1.44	1953	71.2	1951	36.0	1928	78	73	65	75	5.0	N	29	03	1979	7.7	4	5	19	8	4	0	0	19	28	11	
M	32.0	6.5	19.3	53	1958	-43	1956	1417	0	1.49	4.03	1946	0.06	1958	1.38	1979	56.3	1946	20.7	1946	76	73	61	73	4.9	N	28	03	1974	5.5	13	6	12	9	5	0	0	14	30	10	
A	43.7	22.1	32.9	69	1958	-37	1944	963	0	1.36	4.51	1977	0.04	1958	1.37	1977	40.1	1944	18.0	1924	82	69	54	69	4.4	N	26	02	1975	7.0	5	7	18	7	4	0	0	2	29	1	
M	55.9	33.2	44.6	82	1958	-5	1945	632	0	1.39	3.48	1946	0.27	1949	1.39	1941	11.0	1952	10.0	1952	87	66	53	62	4.4	S	23	03	1979	7.2	6	6	19	11	0	0	0	2	14	0	
J	64.8	44.4	54.6	91	1969	28	1940	317	0	2.50	6.44	1970	0.21	1952	1.58	1955	1	1952	1	1952	85	72	57	65	4.3	S	23	16	1982	7.4	1	12	17	12	0	1	0	9	0	0	
J	67.8	48.4	58.1	90	1956	33	1941	214	0	3.37	8.74	1981	1.08	1977	2.93	1981	0.0	0.0	89	78	62	71	3.7	S	22	17	1980	7.4	5	7	19	15	0	2	0	12	0	0			
A	64.5	45.4	55.0	85	1977	25	1974	310	0	4.26	11.92	1945	0.96	1941	2.54	1945	1	1952	1	1952	90	83	62	82	3.0	S	23	18	1976	7.1	3	11	17	15	0	1	0	8	0	1	
S	55.6	36.2	45.9	78	1957	15	1970	573	0	3.97	9.92	1942	0.91	1969	3.12	1942	18.0	1923	18.0	1923	92	84	62	84	3.1	N	22	18	1980	6.2	9	4	17	15	0	1	0	0	9	0	
O	39.8	23.0	31.4	68	1954	-21	1956	1042	0	2.63	6.05	1946	0.81	1953	1.56	1983	32.9	1976	15.0	1927	86	84	71	85	3.5	NNW	31	03	1974	8.0	4	3	24	13	4	0	1	0	5	25	2
N	26.3	9.0	17.7	50	1981	-41	1956	1419	0	1.87	7.04	1979	0.07	1975	1.59	1979	62.7	1967	19.5	1967	75	72	77	72	5.0	N	31	02	1978	7.7	5	3	22	10	5	0	0	21	29	9	
D	17.7	-4	8.7	47	1960	-45	1970	1745	0	1.41	4.15	1946	0.34	1972	1.67	1941	48.9	1978	20.7	1970	71	76	72	75	4.9	NNW	35	36	1972	4.5	17	2	12	10	6	0	0	0	27	31	15
YR	42.6	22.5	32.6	91	JUN 1969	-48	JAN 1972	11804	0	27.23	11.92	AUG 1945	1	FEB 1979	3.12	SEP 1942	71.2	FEB 1951	36.0	FEB 1928	81	75	63	74	4.3	N	38	04	JAN 1972	6.8	81	74	210	134	33	4	4	31	114	227	65

NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S):

- Mean Number of days Precipitation .01 inch or more period of record is 1941-1953 and 1968 to date.
- Mean Wind Speed period of record is 1950-1954 and 1968.
- Data for Thunderstorms and Heavy Fog may be incomplete. Station operated less than 24 hours daily.

NOTE: Due to less than full time operation on a variable schedule, manually recorded elements are from broken sequences in incomplete records. Daily temperature extremes and precipitation totals for portions of the record may be for other than a calendar day. The period of record for some elements is for other than consecutive years.

- (a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
* Less than one half.
T Trace.
BLANK entries denote missing or unreported data.

NORMALS - Based on record for the 1951-1980 period.
MEANS - Length of record in (a) is for complete data years.
EXTREMES - Length of record in (a) may be for other than complete or consecutive data years. Date is the most recent in cases of multiple occurrence.
WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.
FASTEST MILE WIND - Speed is fastest observed 1-minute value when direction is in tens of degrees.

Source: NOAA (1983b)

TABLE C.4

METEOROLOGICAL DATA FOR 1984

TALKEETNA, ALASKA

LATITUDE: 62°18'N LONGITUDE: 150°06'W ELEVATION: FT. (grd) 345 (msl) 356 TIME ZONE: YUKON WBAN: 26528

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F:													
Averages													
-Daily Maximum	21.5	24.3	42.6	44.7	57.8	66.7	65.2	63.0	60.1	42.6	24.9	21.5	44.6
-Daily Minimum	0.7	5.3	23.4	25.3	33.2	44.7	50.6	45.9	36.8	24.3	9.3	6.8	25.5
-Monthly	11.1	14.8	33.0	35.0	45.5	55.7	57.9	54.5	48.5	33.5	17.1	14.2	35.1
-Monthly Dewpt.		9.8	25.0	26.1		44.2		46.8	39.7		10.3	9.5	
Extremes													
-Highest	37	36	51	55	71	75	79	75	69	59	37	39	79
-Date	12	28	8	21	17	22	4	13	10	1	20	4	JUL 4
-Lowest	-38	-30	6	14	25	35	41	29	24	8	-8	-16	-38
-Date	25	10	1	18	13	2	12	31	21	28	26	14	JAN 25
DEGREE DAYS BASE 65 °F:													
Heating	1665	1449	981	892	598	270	213	324	491	970	1429	1571	10853
Cooling	0	0	0	0	0	0	1	2	0	0	0	0	3
% OF POSSIBLE SUNSHINE													
AVG. SKY COVER (tenths)													
Sunrise - Sunset	7.3	8.6	6.2						6.4	4.9	6.8	7.7	
Midnight - Midnight													
NUMBER OF DAYS:													
Sunrise to Sunset													
-Clear	8	3	10						7	11	8	6	
-Partly Cloudy	3	3	5						7	5	3	4	
-Cloudy	20	23	16						16	11	19	21	
Precipitation													
.01 inches or more	14	11	5	10	15	14	20	16	13	8	7	13	146
Snow, ice pellets													
1.0 inches or more	8	6	0	4	0	0	0	0	0	2	3	7	30
Thunderstorms	0	0	0	0	3	0	1	0	0	0	0	0	4
Heavy Fog, visibility													
1/4 mile or less	0	0	0	0	0	0	0	1	2	2	1	0	6
Temperature °F													
-Maximum													
70° and above	0	0	0	0	1	13	7	9	0	0	0	0	30
32° and below	25	23	2	1	0	0	0	0	0	2	24	26	103
-Minimum													
32° and below	31	29	30	29	16	0	0	4	4	24	30	31	228
0° and below	18	10	0	0	0	0	0	0	0	0	6	13	47
AVG. STATION PRESS. (mb)													
		983.6	992.2	994.6		998.3		998.3	997.8		987.1	995.6	
RELATIVE HUMIDITY (%)													
Hour 03													
Hour 09	83	81	77	76	68	69	80	82	81		76	77	
Hour 15 (Local Time)	78	72	59	56	48	49	64	61	52		70	77	
Hour 21	80	76	78	69	64	62	76	81	83		76	77	
PRECIPITATION (inches):													
Water Equivalent													
-Total	1.90	0.89	0.21	0.94	1.40	1.40	3.06	6.63	1.73	1.79	0.44	2.69	23.08
-Greatest (24 hrs)	0.55	0.34	0.09	0.41	0.29	0.67	0.99	2.12	0.87	0.66	0.22	0.74	2.12
-Date	29-30	4	27	6-7	1-2	16-17	25-26	24-25	19-20	21	20-21	29-30	AUG 24-25
Snow, ice pellets													
-Total	31.6	19.4	1.1	12.3	0.0	0.0	0.0	0.0	0.0	3.0	7.2	47.5	122.1
-Greatest (24 hrs)	9.0	7.9	0.8	6.7	0.0	0.0	0.0	0.0	0.0	2.0	1.8	21.9	21.9
-Date	29-30	4-5	26	6-7						21	20-21	29-30	DEC 29-30
WIND:													
Resultant													
-Direction (!!!)		001	358	295		174		336	031		009	007	
-Speed (mph)		3.5	3.5	1.2		1.5		0.5	0.5		4.3	4.5	
Average Speed (mph)		5.5	5.2	5.2		5.5		4.8	4.2		5.1	5.5	
Fastest Ups. 1 Min													
-Direction (!!!)	04	02	03	16	15	16	16	35	02	36	01	02	04
-Speed (mph)	23	18	16	22	22	21	21	17	17	21	21	21	21
-Date	26	21	3	22	1	14	16	30	3	22	15	3	JAN 26
PEAK GUST													
-direction (!!!)													
-Speed (mph)													
-Date													

(!!!) See Reference Notes on Page 6B
Page 2

Source: NOAA (1984b)

TABLE C.5

Meteorological Data For The Current Year

Station:	GULKANA, ALASKA # 26425										GULKANA INTERMEDIATE FIELD										Standard time used:				ALASKAN				Latitude: 62° 09' N				Longitude: 145° 27' W				Elevation (ground): 1572 feet				Year: 1983			
Month	Temperature °F						Degree days Base 65 °F		Precipitation in inches						Relative humidity, pct.				Wind				Percent of possible sunshine	Average sky cover, sunbts, sunrise to sunset	Number of days						Average station pressure mb Elev. 1579 feet m.s.l.													
	Averages			Extremes					Water equivalent			Snow, ice pellets			Resultant		Fastest mile		Sunrise to sunset		Precipitation .01 inch or more				Snow, ice pellets 1.0 inch or more		Thunderstorms		Heavy fog, visibility ½ mile or less			Temperature °F												
	Daily maximum	Daily minimum	Monthly	Highest	Dew	Lowest	Date	Heating	Cooling	Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.																		Date	Hour 02	Hour 08	Hour 14	Hour 20	Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.	Direction	Date	90° and above	32° and below
															(b)	Maximum	Minimum																											
	(Local time)	Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.	Direction	Date	Hour 02	Hour 08	Hour 14	Hour 20	Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.	Direction	Date	90° and above	32° and below	32° and below	0° and below																							
JAN	7	-16.0	-7.7	23	19	-38	10	2253	0	0.38	0.13	6	7.8	1.4	6	62	63	63																										
FEB	13.5	-6.8	3.4	25	4	-32	17	1725	0	0.26	0.08	28	4.2	1.0	8	68	66	71																										
MAR	28.9	-3.1	12.9	39	31	-23	9	1609	0	T	T	10	T	T	10	65	47	66																										
APR	45.3	24.0	34.7	67	25	-3	11	904	0	0.67	0.32	17	5.8	3.0	17	59	41	54																										
MAY	58.0			75	30				0	0.06	0.02	28	T	T	3	48	32	46																										
JUN	67.2	44.0	55.6	83	25	37	13	273	1	0.69	0.37	3	0.0	0.0		52	36	44																										
JUL	69.0	46.1	57.6	80	28	34	31	224	2	3.02	0.82	11	0.0	0.0		62	44	58																										
AUG	61.5	43.5	52.5	75	3	29	28	380	0	2.22	0.52	25	0.0	0.0		70	50	68																										
SEP	49.8	30.2	40.0	60	12	5	27	743	0	2.34	1.18	22	1.0	1.0	23	66	46	63																										
OCT	36.2	21.6	28.9	50	1	3	26	1110	0	0.25	0.07	18	2.8	1.1	25	73	59	70																										
NOV	16.0	1.1	8.6	36	28	-14	20	1688	0	0.17	0.14	1	1.3	1.0	1	72	73	72																										
DEC	2.3	-7.8	-2.8	27	1	-25	28	2104	0	0.35	0.14	31	5.5	2.0	14	66	67	66																										
YEAR	37.4			83	25					10.41	1.18	22	28.4	3.0	17	64	52	62																										

Normals, Means, And Extremes

Month	Temperatures °F						Normal Degree days Base 65 °F		Precipitation in inches										Relative humidity pct.			Wind				Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Mean number of days										Average station pressure mb.			
	Normal			Extremes					Water equivalent					Snow, ice pellets					Hour 02	Hour 08	Hour 14	Hour 20	Mean speed m.p.h.	Prevailing direction	thru 1954			Fastest mile Speed m.p.h.	Direction	Year	Precipitation 0.01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility ½ mile or less	Temperatures °F				Elev. 1579 feet m.s.l.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Maximum monthly	Year	Maximum in 24 hrs.	Year																	(b) 90° and above	32° and below	32° and below	0° and below			
	(a)				36		36								40		36			3	12	13	12	8	5			5	5		5	5	5	5	25	15	5	5	35	35	35
J		-17.5	-8.7	46	1948	-60	1947	2285	0	0.45	1.56	1943	T	1978	0.76	1958	21.4	1943	7.5	1947	67	70	67	69	5.1	N	52	04	1971	4.7	15	4	12	7	2	0	0	29	31	24	
F	13.8	-8.0	2.9	46	1943	-65	1947	1739	0	0.50	1.65	1968	0.04	1943	0.96	1978	19.2	1974	14.0	1978	78	72	63	72	5.6	N	35	19	1970	7.0	6	4	18	5	2	0	1	0	24	18	
M	27.2	-2	13.7	50	1981	-48	1972	1590	0	0.34	1.32	1972	T	1983	0.78	1972	23.4	1944	10.6	1972	76	70	53	67	6.5	WNW	35	15	1970	6.0	9	7	15	5	3	0	2	0	18	30	15
A	41.8	19.6	30.7	67	1958	-42	1944	1029	0	0.19	0.82	1945	0.00	1954	0.78	1961	6.9	1977	6.0	1977	75	62	45	59	8.6	SE	46	18	1970	6.8	5	10	15	3	1	0	0	0	4	29	2
M	54.6	32.4	43.5	85	1960	5	1964	667	0	0.63	1.51	1967	T	1950	1.25	1946	5.0	1945	4.0	1977	76	56	38	51	8.8	SE	29	17	1972	7.2	3	10	18	4	0	1	0	1	14	0	
J	64.9	42.3	53.7	90	1969	28	1981	343	0	1.47	4.07	1962	0.08	1946	1.51	1945	T	1963	75	58	41	50	8.8	SE	38	15	1971	7.4	2	10	18	9	0	2	0	9	0	1	0		
J	68.4	46.2	57.3	91	1953	29	1970	239	0	1.81	3.32	1975	0.48	1976	2.04	1972	0.0	1955	84	69	49	59	8.2	SE	40	15	1971	7.2	4	9	18	13	0	2	1	13	0	0	0		
A	64.8	42.1	53.5	86	1977	20	1948	357	0	1.47	4.19	1947	0.14	1982	2.01	1971	4.0	1955	84	71	47	66	8.0	SE	30	16	1970	7.4	3	9	19	11	0	1	2	7	0	3	0		
S	54.0	33.3	43.6	72	1963	5	1983	642	0	1.43	4.34	1951	0.07	1969	2.06	1951	6.4	1970	4.0	1972	82	75	51	69	7.6	SE	31	04	1972	6.8	6	7	17	9	0	0	3	0	0	13	0
O	35.7	18.6	27.2	65	1969	-23	1982	1172	0	0.89	2.42	1965	0.11	1967	1.15	1959	22.7	1965	13.0	1978	83	81	66	78	6.3	SE	46	19	1970	7.8	3	7	21	8	3	0	4	0	11	28	3
N	14.7	-5	7.1	48	1964	-44	1948	1737	0	0.75	4.11	1956	0.01	1975	2.02	1976	36.2	1956	8.3	1950	83	80	77	79	4.8	N	33	19	1969	7.5	5	4	21	6	3	0	3	0	26	30	17
D	1.8	-14.0	-6.1	44	1943	-58	1964	2204	0	0.89	3.07	1955	0.07	1972	0.99	1955	30.0	1955	12.0	1976	70	71	71	71	3.6	N	40	17	1969	6.7	7	7	17	8	3	0	2	0	29	31	24
YR	36.8	16.2	26.5	91	1953	-65	FEB 1947	14004	0	10.82	4.34	SEP 1951	0.00	APR 1954	2.06	SEP 1951	36.2	NOV 1956	14.0	FEB 1978	78	70	56	66	6.8	SE	52	04	JAN 1971	6.9	68	88	209	87	18	5	18	30	141	238	105

NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S):

1. Mean Number of days Precipitation .01 inch or more is for the period 1943-1952 and January 1968 to date.
2. Mean Wind Speed is 1950-1954 and 1968-1970.
3. Maximum Precipitation in 24 hours and Maximum Snowfall in 24 hours are for calendar day prior to 1968.
4. Thunderstorms and Heavy Fog data are through 1972. Station operated less than 24 hours daily; data may be incomplete.
5. Mean Sky Cover, No. of Days Clear-Partly Cloudy-Cloudy, data are through 1972.
6. Wind under Fastest Mile heading is through July 1973.

NOTE: Due to less than full time operation on a variable schedule, manually recorded elements are from broken sequences in incomplete records. Daily temperature extremes and precipitation totals for portions of the record may be for other than a calendar day. The period of record for some elements is for other than consecutive years.

- (a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
* Less than one half.
T Trace.
BLANK entries denote missing or unreported data.

NORMALS - Based on record for the 1951-1980 period.
MEANS - Length of record in (a) is for complete data years.
EXTREMES - Length of record in (a) may be for other than complete or consecutive data years. Date is the most recent in cases of multiple occurrence.
WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.
FASTEST MILE WIND - Speed is fastest observed 1-minute value when direction is in tens of degrees.

TABLE C.6

METEOROLOGICAL DATA FOR 1984

GULKANA, ALASKA

LATITUDE: 62°09' N LONGITUDE: 145°27' W ELEVATION: FT. (grd) 1572 (msl) 1579 TIME ZONE: YUKON WBAN: 26425

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F:													
Averages													
-Daily Maximum	11.2	15.5	37.9	45.2	57.5	67.1	65.5	64.6	57.5	34.2	9.4	5.1	39.2
-Daily Minimum	-4.9	-5.7	13.8	24.6	31.3	42.4	47.2	43.3	31.0	14.8	-5.0	-11.5	18.4
-Monthly	3.2	4.9	25.9	34.9	44.4	54.8	56.4	54.0	44.3	24.5	2.2	-3.2	28.9
-Monthly Dewpt.													
Extremes													
-Highest	43	38	47	57	68	80	76	80	65	53	37	35	80
-Date	13	17	10	29	20	21	23	5	9	1	21	31	AUG 5
-Lowest	-44	-26	-3	12	21	29	42	20	18	-12	-30	-38	-44
-Date	25	10	19	7	12	1	22	30	22	30	14	28	JAN 25
DEGREE DAYS BASE 65 °F:													
Heating	1919	1741	1206	894	630	299	263	339	615	1248	1883	2115	13152
Cooling	0	0	0	0	0	0	0	3	0	0	0	0	3
% OF POSSIBLE SUNSHINE													
AVG. SKY COVER (tenths)													
Sunrise - Sunset													
Midnight - Midnight													
NUMBER OF DAYS:													
Sunrise to Sunset													
-Clear													
-Partly Cloudy													
-Cloudy													
Precipitation													
01 inches or more	9	6	0	1	3	11	21	8	4	3	5	8	79
Snow, Ice pellets													
1.0 inches or more	6	5	0	1	0	0	0	0	0	2	4	4	22
Thunderstorms	0	0	0	0	1	0	0	0	0	0	0	0	1
Heavy Fog, visibility													
1/4 mile or less	0	0	0	0	0	0	1	1	0	0	2	0	4
Temperature °F													
-Maximum													
70° and above	0	0	0	0	0	11	9	12	0	0	0	0	32
32° and below	25	27	4	0	0	0	0	0	0	14	29	30	129
-Minimum													
32° and below	30	29	31	27	20	1	0	4	20	29	30	31	252
0° and below	19	22	8	0	0	0	0	0	0	6	20	24	99
AVG. STATION PRESS. (mb)													
RELATIVE HUMIDITY (%)													
Hour 03													
Hour 09	67	64	70	53	45	49	66	59	68	82	79	80	65
Hour 15 (Local Time)	68	60	47	35	28	34	49	43	41	59	78	81	52
Hour 21	67	66	66	51							81	80	
PRECIPITATION (inches):													
Water Equivalent													
-Total	0.73	0.95	T	0.04	0.05	1.22	2.51	1.95	0.43	0.27	0.99	0.81	9.95
-Greatest (24 hrs)	0.26	0.25	T	0.04	0.02	0.29	0.70	0.64	0.36	0.10	0.56	0.31	0.70
-Date	27-28	3	31	2	30	21	17	10-11	17	12	21	8	JUL 17
Snow, Ice pellets													
-Total	15.1	20.1	T	1.1	0.0	0.0	0.0	0.0	0.0	4.1	11.1	10.1	61.6
-Greatest (24 hrs)	5.6	6.0	T	1.1	0.0	0.0	0.0	0.0	0.0	2.1	6.4	2.0	6.4
-Date	27-28	2	31	2						12	21	24	NOV 21
WIND:													
Resultant													
-Direction (°)													
-Speed (mph)													
Average Speed (mph)													
Fastest Obs. 1 Min.													
-Direction (°)													
-Speed (mph)													
-Date													
PEAK GUST													
-direction (°)													
-Speed (mph)													
-Date													

(!!!) See Reference Notes on Page 6B
Page 2

Source: NOAA (1984b)

TABLE C.8

METEOROLOGICAL DATA FOR 1984

ANCHORAGE, ALASKA

LATITUDE: 61°13' N	LONGITUDE: 149°53' W	ELEVATION: FT. (grd)	114 (msl)	132	TIME ZONE: YUKON	WBAN: 26451							
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F:													
Averages													
-Daily Maximum	25.1	25.8	43.7	46.1	58.3	66.3	66.6	63.5	57.1	42.0	25.6	25.5	45.5
-Daily Minimum	12.5	12.9	29.0	31.4	40.8	51.3	54.9	49.6	41.4	29.0	13.9	12.2	31.6
-Monthly	18.8	19.4	36.4	38.8	49.6	58.8	60.8	56.6	49.3	35.5	19.8	18.9	38.6
-Monthly Dewpt	12.8	9.8	22.8	24.4	31.4	41.3	46.7	45.1	40.2	25.2	16.8	17.1	27.8
Extremes													
-Highest	44	43	51	58	67	74	76	76	64	54	43	43	76
-Date	30	17	11	28	20	4	4	15	11	3	21	31	AUG 15
-Lowest	-18	-7	14	22	32	44	49	31	32	13	-3	-5	-18
-Date	24	9	2	19	7	1	2	31	22	29	13	14	JAN 24
DEGREE DAYS BASE 65 °F:													
Heating	1425	1319	880	778	471	179	129	254	464	906	1350	1423	9578
Cooling	0	0	0	0	0	0	5	1	0	0	0	0	6
% OF POSSIBLE SUNSHINE													
	30	27	45	39	60	59	38	38	42	44	33	8	42
AVG. SKY COVER (tenths)													
Sunrise - Sunset	7.7	9.0	7.4	8.0	7.0	7.6	9.0	7.8	7.5	6.3	7.0	8.3	7.7
Midnight - Midnight	7.7	8.8	6.7	7.9	6.8	7.6	9.1	7.6	7.1	5.9	6.6	7.8	7.5
NUMBER OF DAYS:													
Sunrise to Sunset													
-Clear	6	1	6	3	7	4	0	2	5	8	6	3	51
-Partly Cloudy	3	2	6	6	4	6	5	10	6	6	8	4	66
-Cloudy	22	26	19	21	20	20	26	19	19	17	16	24	249
Precipitation													
0.1 inches or more	11	12	4	14	7	9	11	11	8	8	4	10	109
Snow, ice pellets													
1.0 inches or more	4	4	0	3	0	0	0	0	0	1	1	5	18
Thunderstorms	0	0	0	0	0	0	0	0	1	0	0	0	1
Heavy Fog, visibility													
1/4 mile or less	8	4	2	2	0	0	0	0	2	1	5	4	28
Temperature °F													
-Maximum													
70° and above	0	0	0	0	0	8	8	8	0	0	0	0	24
32° and below	21	24	1	0	0	0	0	0	0	2	27	23	98
-Minimum													
32° and below	30	29	20	18	2	0	0	2	1	22	30	31	185
0° and below	5	2	0	0	0	0	0	0	0	0	2	5	14
AVG. STATION PRESS. (mb)													
	1001.7	991.0	999.7	1002.4	1006.8	1006.4	1010.0	1006.1	1005.4	1003.1	994.9	1003.4	1002.7
RELATIVE HUMIDITY (%)													
Hour 03	79	66	65	63	61	61	67	76	81	73	87	89	72
Hour 09	75	67	64	61	54	55	63	70	77	73	89	92	70
Hour 15 (Local Time)	72	61	51	49	40	47	55	58	59	58	83	91	60
Hour 21	77	65	59	60	48	49	60	69	72	69	88	91	67
PRECIPITATION (inches):													
Water Equivalent													
-Total	1.30	1.08	0.08	0.93	0.96	1.10	1.11	3.21	2.59	1.38	0.15	1.08	14.97
-Greatest (24 hrs)	0.50	0.47	0.05	0.33	0.39	0.51	0.42	1.32	1.06	0.59	0.08	0.42	1.32
-Date	14	4-5	7-8	15-16	29-30	14-15	8-9	24-25	28-29	8	23-24	29	AUG 24-25
Snow, ice pellets													
-Total	15.0	18.9	0.2	9.8	0.0	0.0	0.0	0.0	0.0	3.3	1.8	18.0	67.0
-Greatest (24 hrs)	4.1	7.1	0.2	3.9	0.0	0.0	0.0	0.0	0.0	3.3	1.5	10.2	10.2
-Date	14	4-5	3	15-16						20-21	23-24	29	DEC 29
WIND:													
Resultant													
-Direction (!!!)	352	359	313	305	245	225	226	290	236	353	013	352	305
-Speed (mph)	2.8	4.8	1.9	2.1	3.7	5.1	3.8	2.4	1.7	2.8	3.4	3.4	1.7
Average Speed (mph)	6.8	7.1	5.3	6.5	7.7	8.1	6.7	6.8	5.2	5.6	5.3	6.1	6.4
Fastest Obs 1 Min													
-Direction (!!!)	30	01	20	25	20	20	20	34	20	01	19	19	19
-Speed (mph)	23	21	17	20	18	22	18	21	18	20	18	23	23
-Date	12	19	31	21	27	29	17	26	7	28	20	30	DEC 30
PEAK GUST													
-direction (!!!)	W	S	S	S	S	S	S	NW	S	S	SE	S	S
-Speed (mph)	33	33	30	29	33	32	29	32	29	30	33	44	44
-Date	12	17	31	4	17	29	16	26	6	2	21	30	DEC 30

(!!!) See Reference Notes on Page 68
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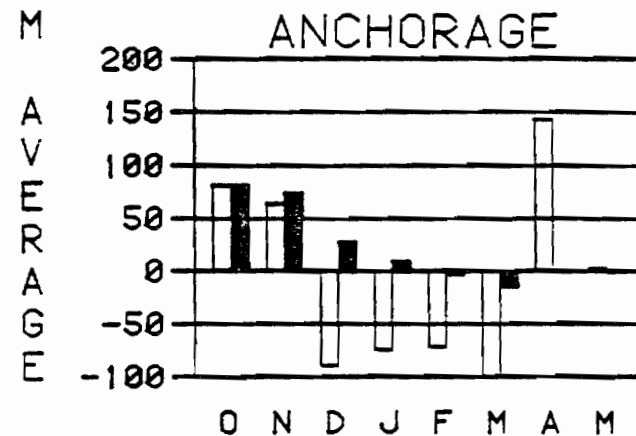
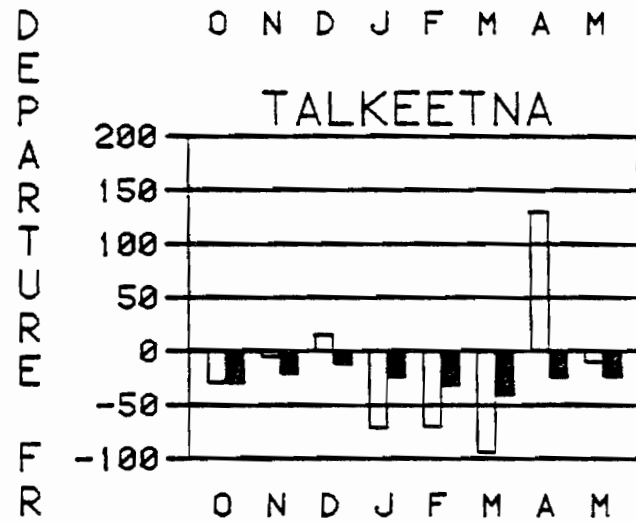
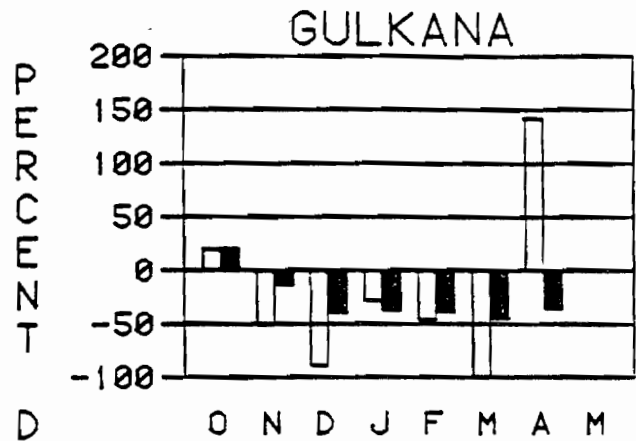
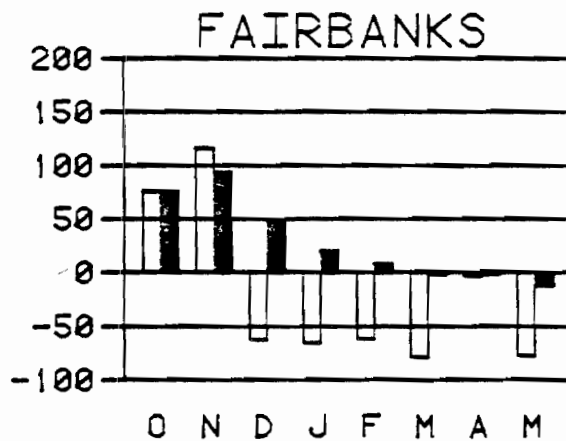
Source: NOAA (1984b)

APPENDIX D
WEATHER SUMMARY PLOTS, 1982-83 (SCS)

1982-83 PRECIPITATION SUMMARY

□ MONTHLY

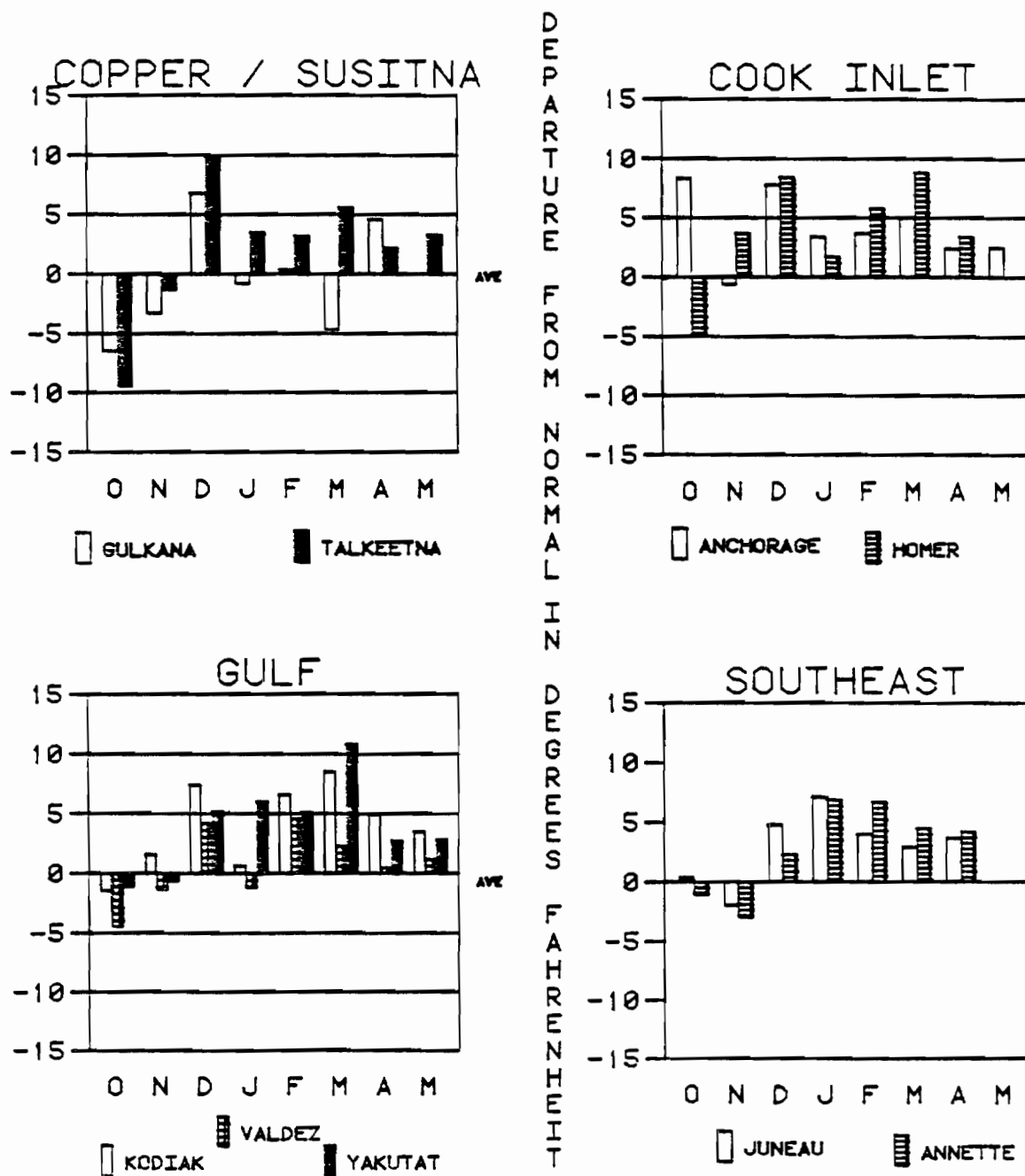
■ ACCUMULATIVE TOTAL SINCE OCT 1



Source: SCS (1983)

FIGURE D.2 SCS WEATHER PLOTS: MEAN MONTHLY TEMPERATURES 1982-83

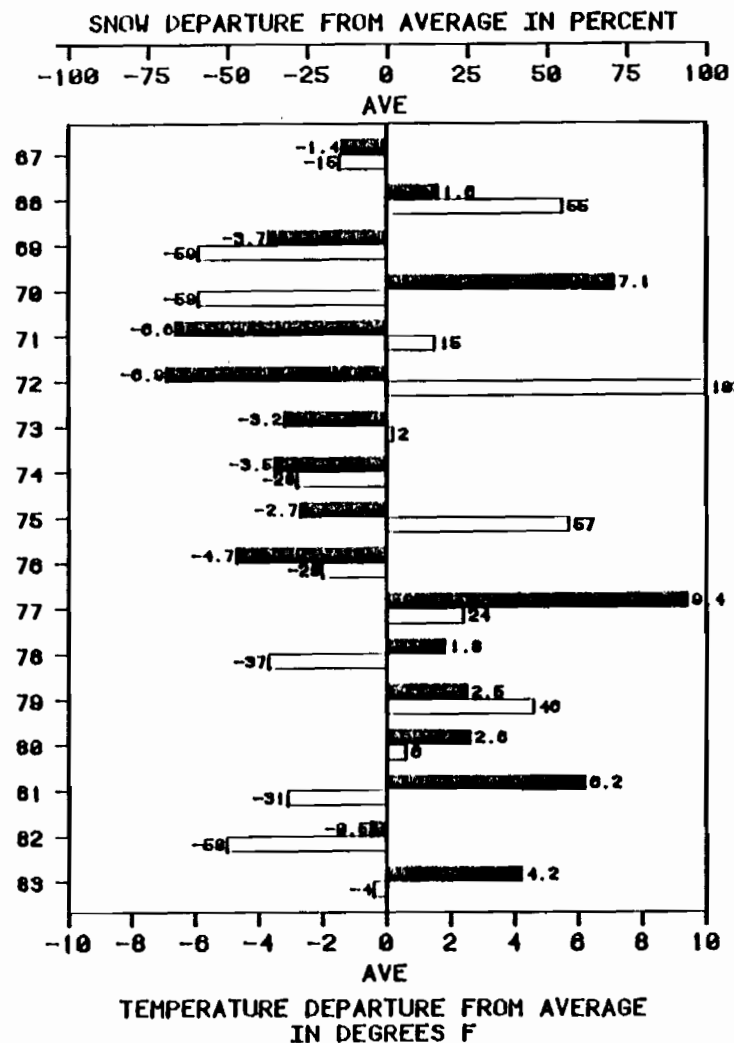
MEAN MONTHLY TEMPERATURES



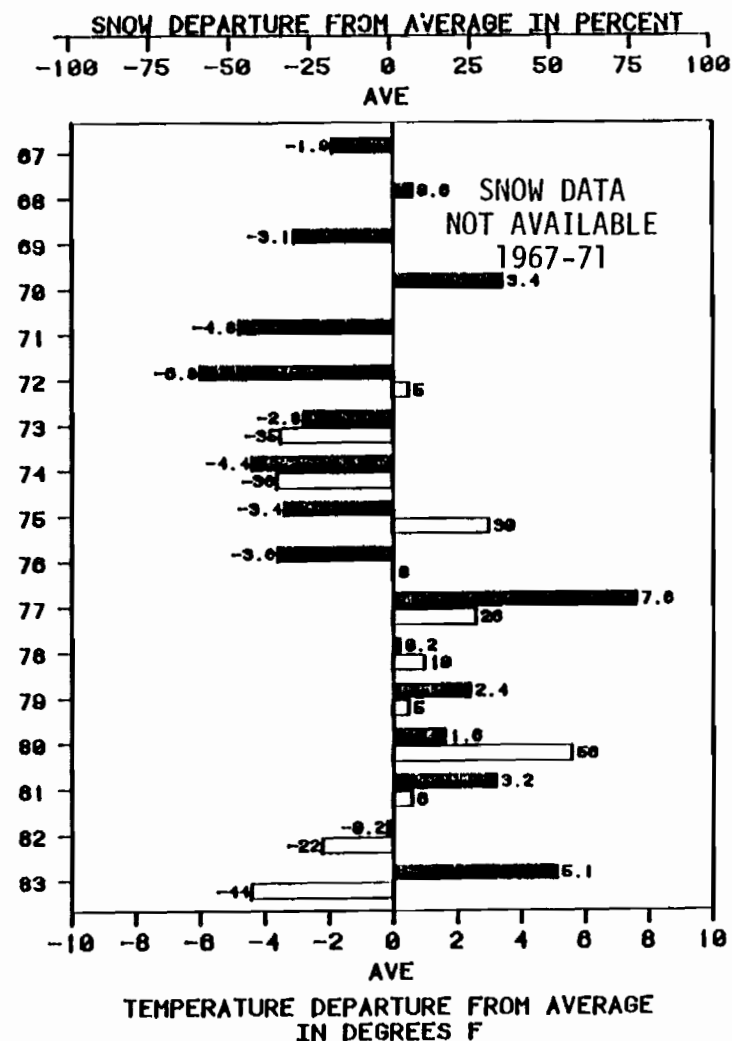
Source: SCS (1983)

FIGURE D.3 SCS WEATHER PLOTS: FEBRUARY 1 SNOW AND WINTER TEMPERATURES _ DEPARTURES
FROM AVERAGE 1982-83 (Talkeetna, Homer)

TALKEETNA



HOMER



NOTE: TEMPERATURE DATA IS FOR MONTHS NOVEMBER THROUGH MARCH.

SNOW DATA IS FEBRUARY 1 WATER-CONTENT OF LOCAL SNOW COURSES.

Source: SCS (1983)

APPENDIX E
EVAPORATION DATA (NOAA)

Table E.1. Evaporation Data Collected at
University Experiment Station (Fairbanks), 1983

Day	May	Daily Evaporation (inches) June	July	August	September
1	0.14	-	0.18		
2	0.10	0.42	0.15		
3	0.00	0.08	0.20		
4	0.02	0.10	0.05		
5	0.16	0.04	0.22		
6	0.14	0.13	0.06		
7	0.18	0.13	0.34		
8	0.15	0.06	0.20		
9	0.11	0.13	0.20		
10	0.17	0.17	0.17		
11	0.20	0.21	0.11		
12	0.18	0.21	0.26		
13	0.13	0.17	0.15		
14	0.10	-	0.10		
15	0.13	0.25	0.21		
16	0.22	0.17	0.07		
17	0.07	0.27	0.13		
18	0.09	0.19	0.09		
19	0.10	0.22	-		
20	0.17	0.03	0.13		
21	0.20	0.36	0.24		
22	0.13	*	0.23		
23	0.16	0.48	0.12		
24	-	0.17	0.18		
25	0.19	0.42	0.17		
26	0.20	0.17	0.12		
27	0.16	0.23	0.24		
28	0.13	0.06	0.17		
29	0.19	0.25	0.26		
30	-	0.09	-		
31	0.22	-	0.16		
Total Evap.	4.42B	5.58	5.25		

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 1700 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.2. Evaporation Data Collected at
University Experiment Station (Fairbanks), 1984

Day	May	Daily Evaporation (inches) June	July	August	September
1		0.19	0.15		
2		0.21	-		
3		0.08	-		
4		0.12	-		
5		0.17	-		
6		0.22	0.14		
7		0.10	0.13		
8		0.20	0.03		
9		0.20	0.04		
10		0.12	0.26		
11		0.09	0.14		
12		0.19	0.22		
13		0.10	0.13		
14		0.08	0.07		
15	N O D A T A	0.23	0.05	N O D A T A	N O D A T A
16		0.03	0.25		
17		0.21	0.13		
18		0.16	0.10		
19		0.22	0.10		
20	N O D A T A	0.21	*	N O D A T A	N O D A T A
21		0.30	*		
22		0.13	0.03		
23		0.09	0.09		
24		0.15	-		
25		0.23	0.21		
26		0.22	0.18		
27		0.11	0.17		
28		0.20	0.16		
29		0.11	0.07		
30		0.26	0.07		
31		-	0.14		
Total Evap.		4.93	3.65B		

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 1700 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.3. Evaporation Data Collected at
McKinley Park, 1983

Day	May	Daily June	Evaporation July	(inches) August	September
1			0.10	0.02	
2			0.07	0.09	
3			0.07	0.01	
4			0.11	0.17	
5			0.07	0.01	
6			0.13	-	
7			0.09	0.13	
8			0.24	0.09	
9			0.03	0.02	
10			0.18	0.06	
11			-	0.12	
12			0.08	0.03	
13			0.13	0.03	
14			0.03	-	
15			0.01	0.09	
16			0.08	0.02	
17			0.03	0.02	
18			0.05	-	
19			0.02	0.03	
20	DATA	DATA	0.04	0.07	DATA
21			0.07	0.01	
22			0.05	0.04	
23	DATA	DATA	0.00	0.03	DATA
24			0.10	0.03	
25	NO	NO	0.14	0.01	NO
26			0.15	0.02	
27			0.07	0.03	
28			0.06	0.03	
29			0.17	0.07	
30			-	0.05	
31			-	-	
Total Evap.			2.62B	1.53B	

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 0800 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.4 Evaporation Data Collected at
McKinley Park, 1984

Day	May	Daily Evaporation (inches)		August	September
		June	July		
1		0.14	.09		
2		0.15	.12		
3		0.14	.04		
4		0.18	.01		
5		0.12	.01		
6		0.16	.03		
7		0.07	-		
8		0.07	.15		
9		0.04	.15		
10		0.06	.05		
11		0.06	.03		
12		0.13	.18		
13		0.05	.08		
14		0.07	.13		
15		0.02	.01		
16		0.08	.09		
17		0.03	.11		
18		0.15	-		
19		0.23	-		
20		0.14	.5		
21		0.08	-		
22		0.19	-		
23		0.14	.10		
24		0.12	.07		
25		0.11	.07		
26		0.30	.14		
27		0.01	.01		
28		0.08	.09		
29		0.06	.09		
30		0.24	.04		
31		-	.09		
Total Evap.		3.42	2.42B		

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 0800 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.5. Evaporation Data Collected at
Matanuska Agricultural Experiment Station (Palmer), 1983

Day	May	Daily Evaporation (inches) June	July	August	September
1		0.30	0.18	0.09	0.05
2		0.17	0.05	0.06	0.01
3		0.02	0.16	0.14	0.07
4		0.03	0.23	0.17	0.04
5		0.09	0.10	0.06	0.09
6		0.21	0.06	0.03	0.08
7		0.19	0.05	0.15	0.10
8		0.24	0.12	0.09	0.07
9		0.23	0.11	0.05	0.04
10		0.03	0.14	0.09	0.05
11		0.49	0.11	0.13	0.08
12		-	0.06	0.14	0.03
13		0.21	0.03	0.06	0.04
14		0.16	0.10	0.09	0.09
15		0.22	0.20	0.19	0.00
16		0.13	0.22	0.08	0.02
17		0.15	0.10	0.12	0.05
18		0.20	0.06	0.10	0.07
19		0.26	0.04	0.10	0.07
20		0.17	0.14	0.15	0.03
21		0.22	0.09	0.03	0.01
22		0.22	0.17	-	0.01
23		0.20	0.21	0.07	0.00
24		0.11	0.04	0.02	-
25		0.18	0.19	0.01	-
26		0.16	0.15	0.01	-
27		0.13	0.18	0.05	-
28		0.08	0.18	0.11	-
29		0.16	0.23	0.10	-
30		0.07	0.03	0.04	-
31		-	0.06	0.02	-
NO DATA					
Total Evap.		5.20B	3.79	2.64	1.43B

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 1700 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.6. Evaporation Data Collected at
Matanuska Agricultural Experiment Station (Palmer), 1984

Day	May	Daily Evaporation (inches)				September
		June	July	August		
1		0.11	0.14	0.08		0.08
2		0.17	0.03	0.07		0.09
3		0.21	0.03	0.09		0.09
4		0.14	0.09	0.07		0.10
5		0.26	0.15	0.09		0.07
6		0.25	0.17	0.06		0.09
7		0.03	0.22	0.06		0.10
8		0.13	0.03	0.12		0.08
9		0.17	0.07	0.11		*
10		0.11	0.13	0.11		0.19
11		0.21	0.14	0.08		0.10
12		0.11	0.14	0.24		0.09
13		0.10	0.12	0.06		0.08
14		0.11	0.05	0.15		0.11
15		0.10	0.16	0.15		0.09
16		0.00	0.05	0.15		0.05
17		0.01	0.00	0.05		0.05
18		0.15	0.00	0.16		0.01
19		0.20	0.02	0.09		0.05
20	NO DATA	0.21	0.03	0.03		0.04
21		0.20	0.11	0.08		0.02
22		0.21	0.10	0.09		0.06
23		0.20	0.14	0.00		0.05
24		0.20	0.09	0.08		0.04
25		0.26	0.02	0.00		0.05
26		0.21	0.06	0.08		*
27		0.03	0.11	0.16		0.03
28		0.04	0.10	0.13		0.06
29		0.21	0.03	0.08		0.06
30		0.23	0.08	0.15		0.01
31		-	-	0.14		-
Total Evap.		4.57	2.75	3.01		1.94

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 1700 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.7. Evaporation Data Collected at
Palmer, 1983

Day	May	Daily Evaporation (inches) June	July	August	September
1	-	0.25	0.22	0.13	
2	-	0.14	0.00	0.10	
3	-	0.03	0.13	0.13	
4	-	0.09	0.15	0.15	
5	-	0.06	0.10	0.09	
6	0.10	0.22	0.31	0.03	
7	0.11	0.18	0.04	0.08	
8	0.14	0.21	0.15	0.14	
9	0.16	0.21	0.05	0.09	
10	0.24	0.04	0.15	0.09	
11	0.21	0.11	0.17	0.15	
12	0.18	0.15	0.06	0.12	
13	0.19	0.30	0.04	0.01	
14	0.14	0.20	0.08	0.11	
15	0.13	0.21	0.19	0.10	
16	0.27	0.15	0.13	0.10	
17	0.12	0.25	0.07	0.10	
18	0.13	0.12	0.15	0.07	
19	0.14	0.25	0.15	0.09	
20	0.15	0.29	0.21	0.14	
21	0.11	0.28	0.13	0.02	
22	0.12	0.22	0.10	0.01	
23	0.19	0.19	0.11	0.07	
24	0.13	0.15	0.09	0.06	
25	0.17	0.11	0.15	0.00	
26	0.18	0.14	0.15	0.00	
27	0.21	0.30	0.18	0.03	
28	0.12	0.13	0.18	0.10	
29	0.15	0.20	0.25	0.07	
30	0.15	0.12	0.06	0.08	
31	0.18	-	0.06	0.01	
Total Evap.	4.91B	5.30	4.01	2.47	

N O D A T A

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 0900 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.

Table E.8. Evaporation Data Collected at
Palmer, 1984

Day	May	Daily Evaporation (inches) June	July	August	September
1	-	0.13	0.18		0.10
2	-	0.20	0.03		0.09
3	0.10	0.20	0.04		0.05
4	0.12	0.23	0.07		0.12
5	0.12	0.25	0.15		0.06
6	0.13	0.21	0.14		0.09
7	0.14	0.07	0.23		0.12
8	0.12	0.15	0.27		0.06
9	0.19	0.16	0.04		0.11
10	0.19	0.13	0.12		0.02
11	0.17	0.19	0.17		0.06
12	0.18	0.09	0.22		0.11
13	0.17	0.09	0.15		0.09
14	0.19	0.10	0.0		0.09
15	0.20	0.09	0.04		0.07
16	0.20	0.02	0.17		0.06
17	0.21	0.01	0.02		0.06
18	0.24	0.17	0.00		0.03
19	0.12	0.18	0.02		0.02
20	0.08	0.21	0.01		0.04
21	0.20	0.21	0.01		0.03
22	0.05	0.20	0.12		0.05
23	0.04	0.25	0.15		0.06
24	0.15	0.19	0.16		0.05
25	0.20	0.29	0.12		0.04
26	0.05	0.24	0.00		0.03
27	0.09	0.05	0.07		0.07
28	0.19	0.01	0.15		0.05
29	0.20	0.26	0.09		0.00
30	0.15	0.25	0.09		0.02
31	0.07	-	0.12		-
Total Evap.	4.55B	4.83	3.23		1.85

N O D A T A

Notes and Explanation of Symbols:

1. All values are for 24-hour period ending at 0900 on date shown.
2. Symbols:
 - missing data for this date.
 - * no pan observation on this date. Amount is included in succeeding measurement. Time distribution is unknown.
 - B adjusted monthly value. Monthly total was computed by determining average daily evaporation for the days observed, then multiplying by the number of days in the month.