SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA

VOLUME 3

TYONE RIVER STATION

PREPARED BY:

R&M CONSULTANTS, INC.

PREPARED FOR:

ALASKA POWER AUTHORITY

HARZA-EBASCO
Susitna Joint Venture
Document Number

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SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA

VOLUME 3

TYONE RIVER STATION

PLEASE RETURN TO
Public Participation Office
Alaska Power Authority
334 West Fifth Avenue, 2nd floor
Anchorage, Alaska 99501
(907) 276-0001

PREPARED BY:
R&M CONSULTANTS, INC.

PREPARED FOR:
ACRES

ALASKA POWER AUTHORITY

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 3 - HYDROLOGY

PROCESSED CLIMATIC DATA
VOLUME 3 - TYONE RIVER STATION

MARCH 1982

PLEASE RETURN TO
Public Participation Office
Alaska Power Authority
334 West Fifth Avenue, 2nd floor
Anchorage, Alaska 99501
(907) 276-0001

Prepared for:

ACRES AMERICAN INCORPORATED
1000 Liberty Bank Building
Main at Court
Buffalo, New York 14202
Telephone: (716) 853-7525

Prepared by:

R&M CONSULTANTS, INC.
P.O. Box 6087
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Anchorage, Alaska 99503
Telephone: (907) 279-0483

s14/n9

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 3 - HYDROLOGY

PROCESSED CLIMATIC DATA

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PROCESSED CLIMATIC DATA

VOLUME 3

TYONE RIVER STATION

AUGUST 27, 1980 THRU SEPTEMBER 30, 1981

s14/n4

The Tyone River Climate Station was installed on August 27, 1980 on the left bank of the Tyone River about five miles east-southeast of the Susitna River. It is located on map Talkeetna Mountains (C-1) SE¼ Section 3, R10W, T10N, Copper River Meridian. The data were collected using a Meteorology Research Incorporated (MRI) Digital Weather Station. Data thru June 30, 1981 were processed by MRI and all subsequent data by R&M Consultants. An explanation of the parameters measured is located at the back of this report.

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

PRECIPITATION VALUES ARE IN MILLIMLTERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	0.0	0.0	1.6	.6	.2	.4	.2	.2	.4	27
28	.4	.6	.8	.4	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	112	.7	***	****	***
1800	7.0	-15.2	19	257	.6	210	5.7	002
2100	5.7	-9.9	32	272	.7	258	3.2	001
2400	5.2	*****	38	259	.5	234	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.5	*****	35	255	.5	249	1.3	001
0600	4.7	-15.9	21	249	1.0	234	3.2	003
0900	8.8	3.2	68	256	1.2	287	3.2	020
1200	10.2	.9	53	305	1.5	347	5.1	021
1500	13.0	.6	43	320	2.0	312	4.4	030
1800	10.7	1.4	53	282	1.9	305	4.4	007
2100	7.9	2.3	68	325	1.3	321	3.8	001
2400	7.3	*****	72	263	.4	297	1.3	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.9	*****	35	208	.4	199	1.9	001
0600	5.0	*****	36	072	.4	057	1.9	004
0900	9.2	*****	75	104	.6	116	1.9	025
1200	11.7	1.5	50	353	.4	063	2.5	029
1500	10.8	3.0	59	319	1.7	326	5.7	021
1800	10.6	1.6	54	325	1.8	319	6.3	007
2100	4.3	-31.9	05	262	.6	285	3.2	001
2400	2.4	*****	42	262	.4	274	2.5	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.8	*****	44	169	.0	226	2.5	001
0600	-.1	*****	43	063	.4	130	1.3	003
0900	6.9	*****	74	072	.3	184	1.9	046
1200	12.1	2.2	51	106	.9	157	3.8	024
1500	15.0	1.1	39	118	1.8	138	4.4	059
1800	*****	*****	**	134	2.0	131	3.8	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 31

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

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

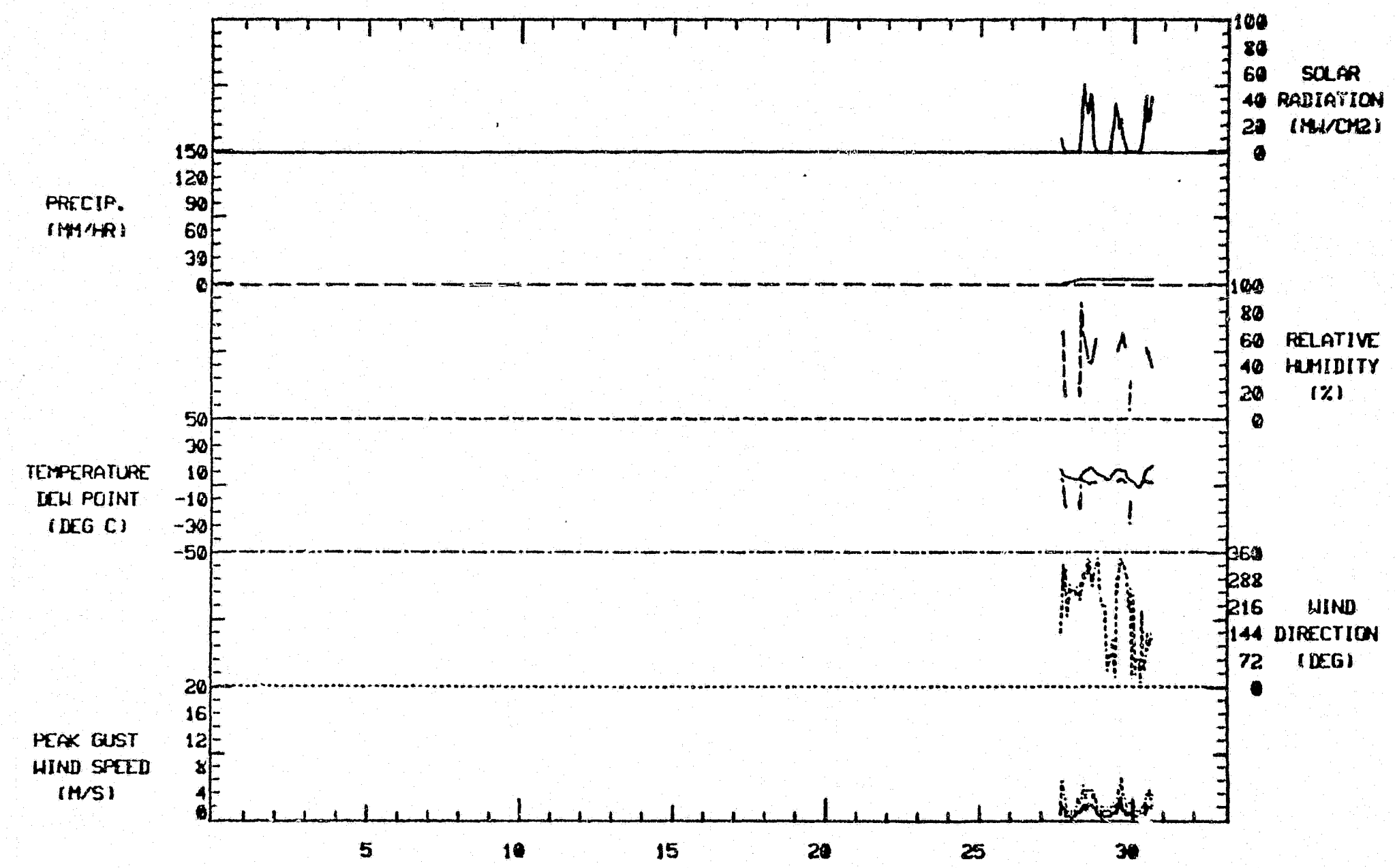
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	01
02	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	02
03	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	03
04	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	04
05	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	05
06	*****	****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	17
18	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	18
19	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	21
22	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	22
23	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	23
24	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	24
25	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	25
26	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	26
27	11.9	5.2	8.5	***	****	1.1	210	5.7	WSW	42	-12.5	3.6	658	27
28	13.7	4.3	9.0	290	1.1	1.3	347	5.1	WSW	50	-1.3	2.8	3850	28
29	11.9	2.3	7.1	318	.4	1.1	319	6.3	E	51	-6.4	0.0	2588	29
30	*****	*****	*****	109	.7	1.0	138	4.4	SE	46	1.6	0.0	4507	30
31	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	31
MONTH	13.7	2.3	8.2	306	.3	1.1	319	6.3	WSW	47	-4.7	6.4	11602	

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 4.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 3.8

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 27 AUGUST , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	2.41	2.76	0.00	0.00	0.00	0.00	0.00	5.17
NNE	1.72	.69	0.00	0.00	0.00	0.00	0.00	2.41
NE	4.14	1.03	0.00	0.00	0.00	0.00	0.00	5.17
ENE	5.17	1.03	0.00	0.00	0.00	0.00	0.00	6.21
E	4.83	1.38	0.00	0.00	0.00	0.00	0.00	6.21
ESE	1.03	2.76	0.00	0.00	0.00	0.00	0.00	3.79
SE	2.07	3.10	0.00	0.00	0.00	0.00	0.00	5.17
SSE	1.38	1.38	0.00	0.00	0.00	0.00	0.00	2.76
S	1.03	1.03	0.00	0.00	0.00	0.00	0.00	2.07
SSW	2.41	.34	.69	0.00	0.00	0.00	0.00	3.45
SW	4.14	2.41	0.00	0.00	0.00	0.00	0.00	6.55
WSW	7.93	5.17	0.00	0.00	0.00	0.00	0.00	[illegible]
W	7.93	4.48	0.00	0.00	0.00	0.00	0.00	12.41
WNW	2.41	6.90	0.00	0.00	0.00	0.00	0.00	9.31
NW	1.03	6.90	.69	0.00	0.00	0.00	0.00	8.62
NNW	1.38	5.17	1.03	0.00	0.00	0.00	0.00	7.59
CALM								0.00
TOTAL	51.03	46.55	2.41	0.00	0.00	0.00	0.00	100.00

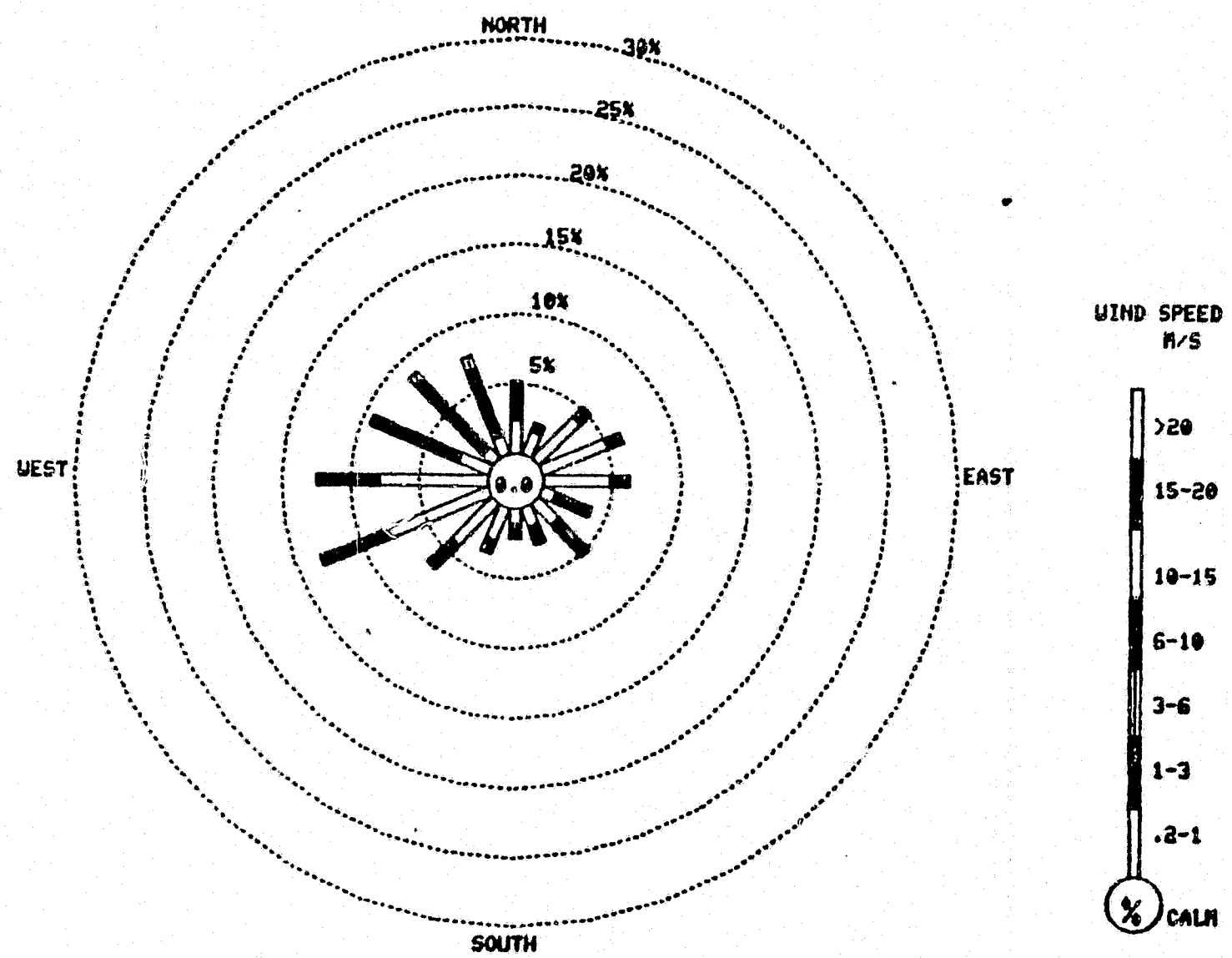
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

290 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

AUGUST, 1980



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

DAY 28

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

DAY 29

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

DAY 30

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

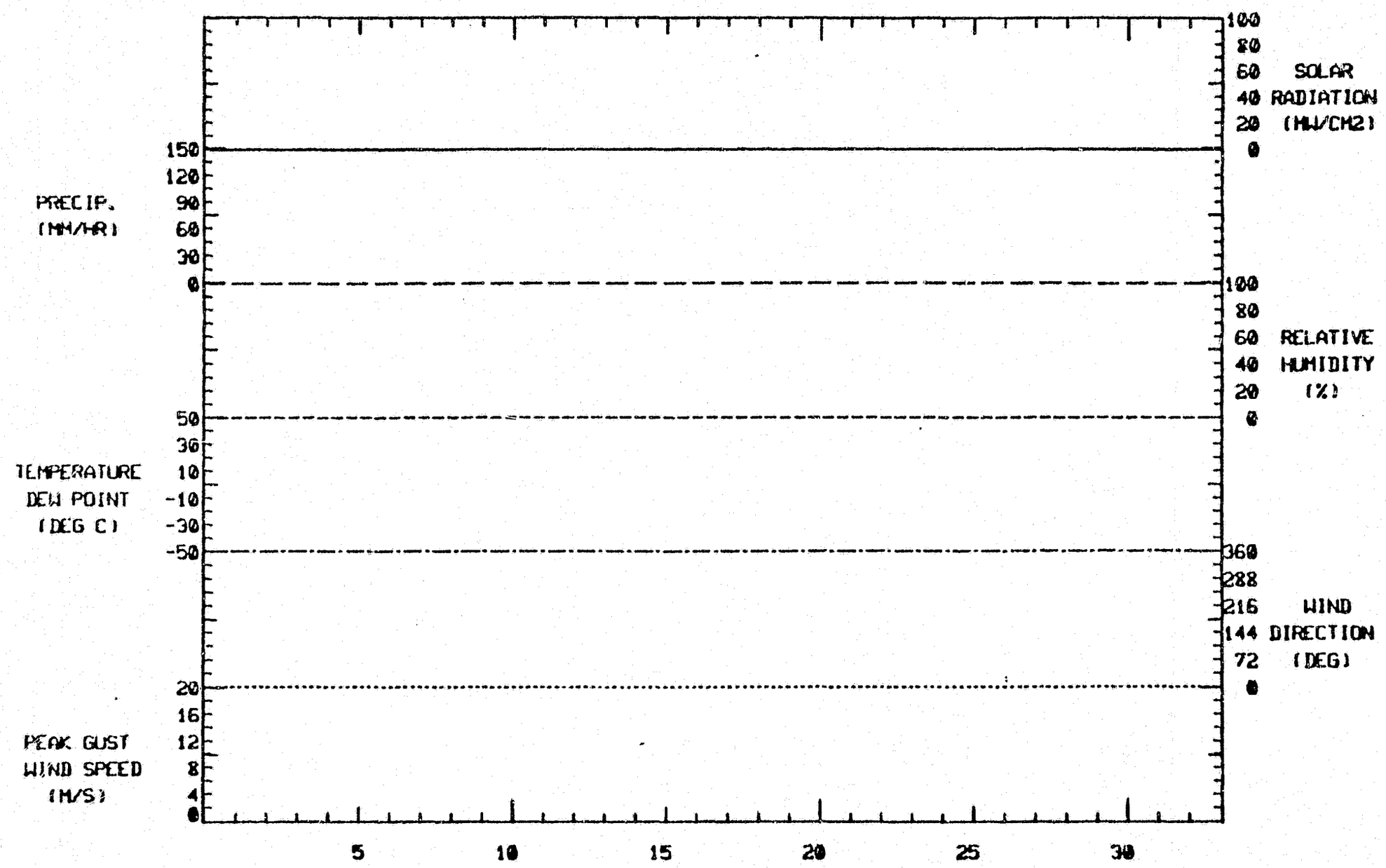
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	01
02	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	02
03	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	03
04	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	04
05	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	05
06	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	17
18	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	18
19	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	21
22	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	22
23	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	23
24	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	24
25	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	25
26	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	26
27	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	27
28	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	28
29	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	29
30	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	30
MONTH	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	

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 SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 SEPTEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM								0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

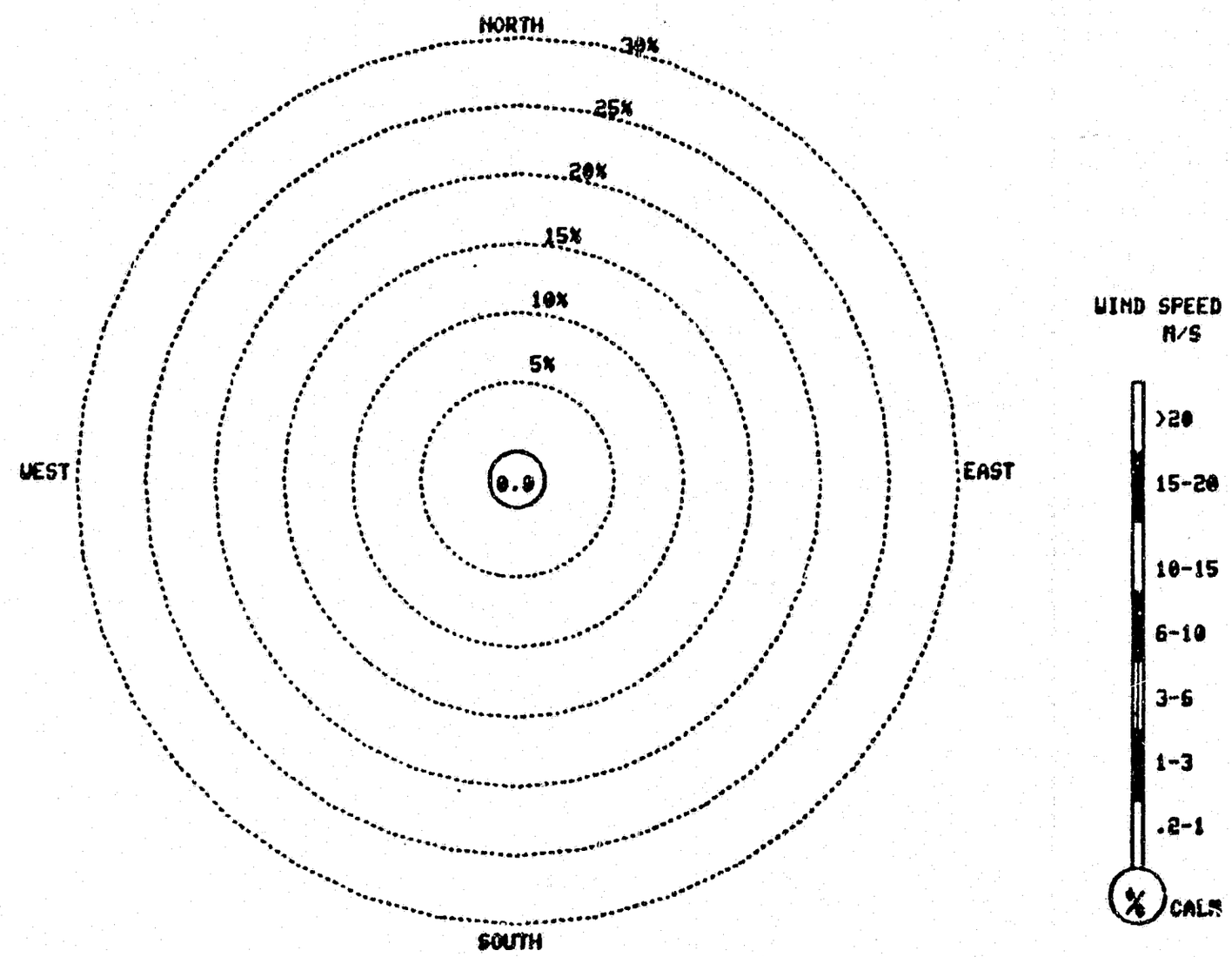
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

0 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

SEPTEMBER, 1980



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING OCTOBER , 1980

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

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THREE HOUR SUMMARY FOR TYONE WEATHER STATION
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DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

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DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-2.3	*****	78	332	.2	***	1.3	012
1500	*****	*****	**	***	****	***	****	***
1800	-3.1	*****	41	065	.4	064	1.9	001
2100	*****	*****	**	084	.5	084	1.9	***
2400	*****	*****	**	***	****	***	****	***

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	3.1	-4.5	58	085	2.8	082	5.1	004
1800	1.7	-5.8	58	093	1.8	083	3.8	001
2100	-3.0	*****	89	115	.4	062	3.4	001
2400	*****	*****	**	216	.7	212	1.9	***

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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	-2.1	*****	77	188	.4	225	1.9	001
2100	-.5	-5.4	70	204	.6	159	2.5	001
2400	.2	-7.2	58	107	2.8	097	7.0	001

DAY 20

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

DAY 21

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

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.9	-7.7	53	102	3.4	101	7.0	001
0600	-4.7	-8.2	77	144	1.0	096	5.1	001
0900	-4.6	*****	79	234	1.0	238	2.5	006
1200	2.1	*****	**	267	.6	***	3.2	015
1500	2.3	-7.2	50	090	1.7	***	4.4	006
1800	-1.6	*****	78	132	.4	091	2.5	001
2100	-5.3	*****	70	142	.5	092	2.5	001
2400	-6.8	*****	25	230	.7	228	1.9	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	*****	27	182	.4	151	1.9	001
0600	-5.0	*****	**	170	.3	***	1.3	001
0900	-3.4	-3.5	99	269	.4	301	2.5	006
1200	1.5	*****	66	023	.2	036	1.9	009
1500	1.9	-4.7	62	094	.6	088	3.2	005
1800	-3.0	*****	20	174	.4	141	2.5	001
2100	-7.0	*****	39	169	.2	224	1.3	001
2400	-5.8	*****	**	077	.4	082	1.3	001

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	*****	38	161	.2	104	1.3	001
0600	-8.9	-20.8	38	298	.1	124	1.3	001
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	222	.6	246	1.9	***
1500	*****	*****	58	122	2.2	123	3.8	***
1800	-3.6	*****	41	137	.4	106	1.9	001
2100	-8.4	*****	40	217	.4	209	1.9	001
2400	-11.1	*****	27	274	.2	235	1.3	001

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	89	215	.5	209	1.9	006
1800	-4.9	*****	40	246	.1	247	2.5	001
2100	-9.1	*****	38	057	.2	025	2.5	001
2400	*****	*****	**	075	.3	075	.6	***

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-3.3	*****	41	274	.6	248	1.9	005
1500	-1.2	*****	85	279	1.2	266	2.5	015
1800	-5.0	*****	38	237	.2	258	1.3	001
2100	-7.8	*****	27	211	.1	149	1.3	001
2400	*****	*****	**	349	.3	348	.6	***

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-2.5	*****	76	026	.5	***	2.7	004
1800	-8.6	*****	39	065	.2	021	1.3	001
2100	-7.1	-19.1	38	168	.1	082	1.3	001
2400	-5.8	-30.7	12	299	.2	237	1.3	001

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DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.3	*****	38	184	.2	261	1.3	001
0600	-7.7	*****	**	089	.3	072	1.9	***
0900	*****	*****	**	***	****	***	****	***
1200	-2.6	*****	86	201	.1	206	1.9	009
1500	-2.1	*****	88	227	.8	216	2.5	004
1800	-5.4	*****	38	034	.1	286	1.3	001
2100	-4.1	*****	34	211	.3	214	1.9	001
2400	-3.7	*****	41	090	.6	075	1.9	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.6	*****	42	071	.7	074	1.3	001
0600	-3.8	*****	42	103	.3	078	1.3	001
0900	-3.3	*****	32	262	.1	214	1.3	003
1200	-1.6	*****	12	277	.2	236	1.3	004
1500	-1.9	*****	23	356	.5	021	3.2	004
1800	-.2	*****	42	209	.2	019	1.3	001
2100	-6.5	*****	37	163	.1	255	.6	001
2400	-6.2	*****	36	089	.2	048	1.3	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.2	*****	37	074	.2	054	1.3	001
0600	-6.6	*****	36	073	.1	101	1.3	001
0900	-9.7	*****	25	070	.4	104	1.3	007
1200	-5.3	*****	**	249	1.0	***	2.5	***
1500	*****	*****	84	300	****	***	3.8	009
1800	-8.7	-21.5	35	263	1.3	287	3.8	001
2100	-9.8	-22.5	35	280	1.3	***	4.4	001
2400	-10.9	-26.8	26	267	1.0	272	3.8	001

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	264	1.8	278	3.2	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING OCTOBER , 1980

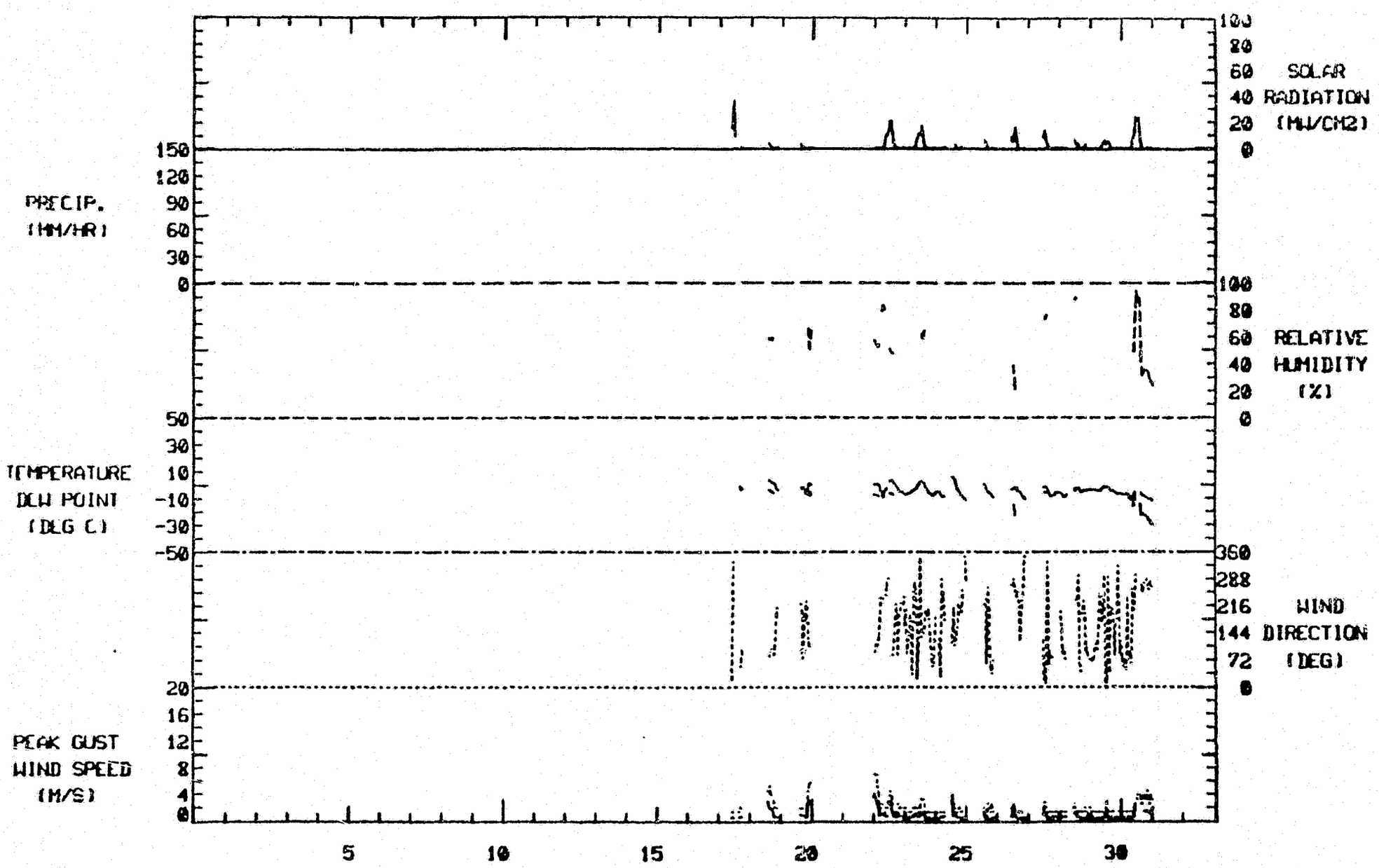
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	01
02	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	02
03	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	03
04	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	04
05	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	05
06	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	-.3	-6.4	-3.3	***	****	.4	064	1.9	NE	26	*****	****	2448	17
18	3.2	-4.6	-.7	***	****	1.3	082	5.1	E	58	-5.1	****	345	18
19	*****	*****	*****	***	****	1.5	097	7.0	SW	62	-6.3	****	287	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	.9	-6.2	-2.7	***	****	****	***	****	MSG	**	*****	****	***	21
22	3.8	-6.8	-1.5	132	.7	1.4	101	7.0	SW	57	-7.7	****	1037	22
23	3.0	-8.3	-2.6	157	.1	.6	088	3.2	S	59	-4.1	****	834	23
24	5.8	-11.1	-2.7	158	.4	.8	123	3.8	ESE	56	-20.8	****	274	24
25	2.4	-11.6	-4.6	***	****	.4	247	2.5	NE	60	*****	****	536	25
26	-1.1	-10.8	-5.9	***	****	.6	266	2.5	W	29	*****	****	1096	26
27	-1.0	-8.6	-4.8	***	****	.5	***	2.7	NNE	50	-24.9	****	730	27
28	-2.1	-9.8	-5.9	167	.2	.5	216	2.5	SW	75	*****	****	497	28
29	-.2	-7.0	-3.6	072	.1	.4	021	3.2	ENE	28	*****	****	533	29
30	-3.3	-11.4	-7.4	277	.4	.8	***	4.4	W	46	-23.6	****	889	30
31	-10.9	-11.8	-11.4	***	****	1.8	278	3.2	W	24	*****	****	240	31
MONTH	5.8	-11.8	-4.4	155	.2	.8	097	7.0	E	49	-13.2	****	9746	

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

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 OCTOBER , 1980

R&N CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING OCTOBER , 1980

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.64	1.15	0.00	0.00	0.00	0.00	0.00	2.79
NNE	3.12	0.00	0.00	0.00	0.00	0.00	0.00	3.12
NE	4.11	.16	0.00	0.00	0.00	0.00	0.00	4.27
ENE	8.21	.49	0.00	0.00	0.00	0.00	0.00	8.70
E	5.91	3.94	2.30	0.00	0.00	0.00	0.00	12.15
ESE	4.43	1.31	1.48	0.00	0.00	0.00	0.00	7.22
SE	3.28	1.15	0.00	0.00	0.00	0.00	0.00	4.43
SSE	2.13	.66	0.00	0.00	0.00	0.00	0.00	2.79
S	3.78	.16	0.00	0.00	0.00	0.00	0.00	3.94
SSW	8.70	.66	0.00	0.00	0.00	0.00	0.00	9.36
SW	8.21	2.79	0.00	0.00	0.00	0.00	0.00	11.00
WSW	5.25	1.81	0.00	0.00	0.00	0.00	0.00	7.06
W	5.25	1.81	.16	0.00	0.00	0.00	0.00	7.22
WNW	1.48	1.15	0.00	.16	0.00	0.00	0.00	2.79
NW	1.15	0.00	0.00	0.00	0.00	0.00	0.00	1.15
NNW	1.64	0.00	0.00	0.00	0.00	0.00	0.00	1.64
CALM								10.34
TOTAL	68.31	17.24	3.94	.16	0.00	0.00	0.00	100.00

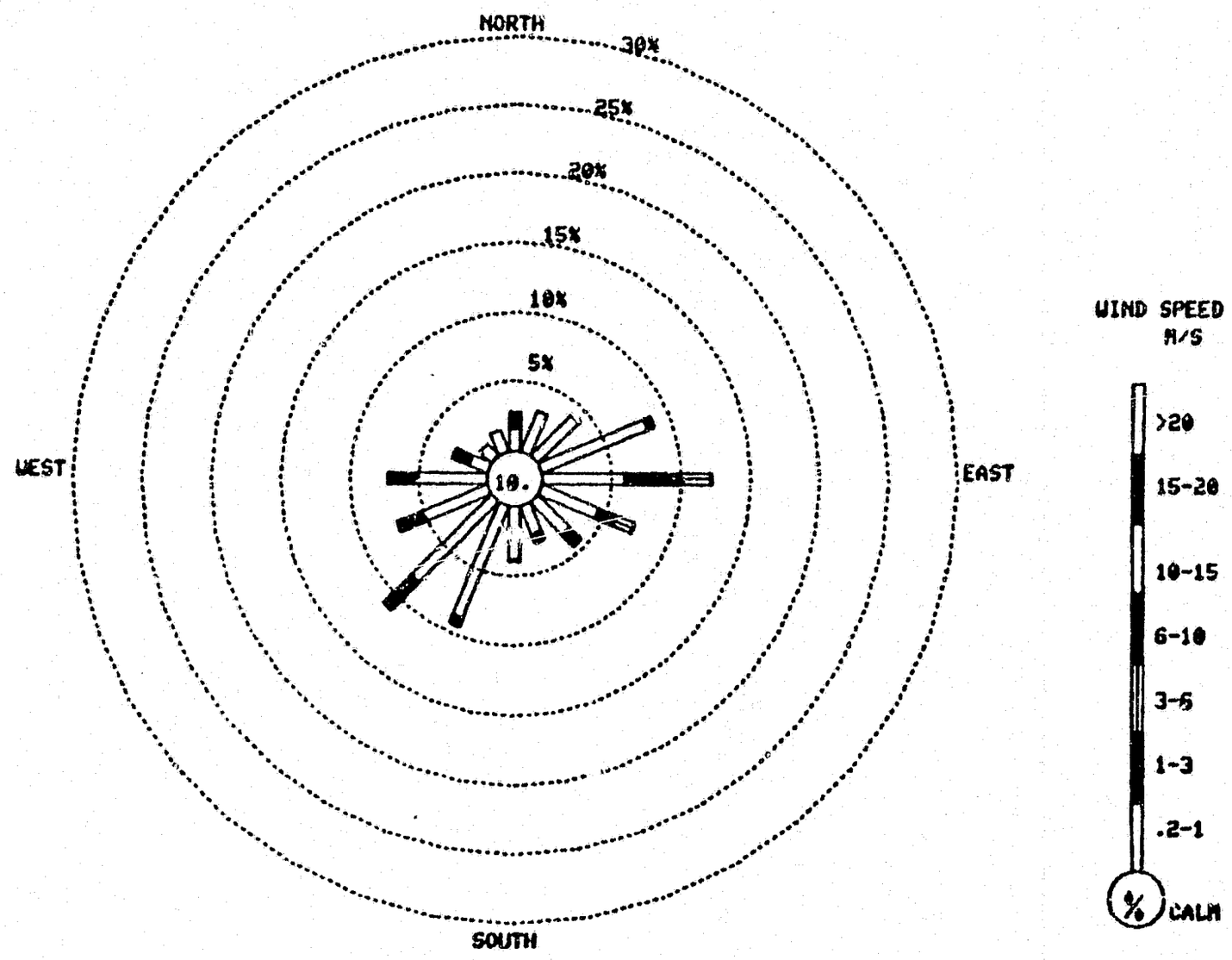
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

609 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

OCTOBER, 1980



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-10.9	*****	03	273	.3	244	1.3	002
1800	-10.2	*****	17	240	.2	167	1.9	001
2100	-10.1	*****	24	184	.3	179	1.3	001
2400	-10.2	-11.8	88	160	.2	***	.6	001

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.4	*****	27	191	.2	172	1.3	001
0600	-12.0	*****	26	208	.4	215	1.9	001
0900	-11.6	-33.8	14	152	.2	081	1.3	004
1200	*****	*****	**	240	.5	250	1.9	012
1500	-7.4	-7.9	96	156	.3	***	1.3	002
1800	-10.3	*****	35	227	.2	234	1.3	001
2100	-11.3	*****	30	097	.3	136	1.3	001
2400	-10.2	*****	32	205	.4	226	1.3	001

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.4	*****	34	230	.6	222	1.9	001
0600	-8.4	-22.3	32	246	1.1	252	3.2	001
0900	-7.8	*****	20	245	1.0	251	3.2	004
1200	-6.6	*****	18	047	.5	024	1.9	004
1500	-5.0	-19.3	32	344	.4	340	1.3	001
1800	-7.8	*****	36	222	.2	351	1.9	001
2100	-6.4	*****	36	134	.1	166	1.3	001
2400	*****	*****	38	085	.3	064	1.3	001

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.1	*****	23	115	.8	***	3.2	001
0600	-9.8	*****	36	079	.4	116	1.9	001
0900	-12.5	-30.4	21	089	.4	052	1.3	003
1200	-5.0	*****	18	237	.2	246	1.9	004
1500	-4.3	*****	37	230	.2	046	2.5	001
1800	-3.4	-15.8	38	159	.4	184	3.2	001
2100	-2.5	*****	36	111	1.2	120	2.5	001
2400	-2.7	*****	**	223	.4	247	1.3	001

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.1	*****	41	193	.5	256	1.3	001
0600	-3.4	*****	41	224	.4	252	1.9	001
0900	-4.5	*****	29	062	.3	060	1.9	005
1200	-1.1	-1.2	99	151	.2	219	2.5	008
1500	-4.2	*****	33	195	.4	210	1.3	002
1800	-9.4	*****	32	213	.2	215	1.3	001
2100	-11.4	*****	25	215	.6	215	1.9	001
2400	-11.8	*****	25	215	.3	215	1.3	001

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	*****	35	215	.4	215	1.3	001
0600	-7.0	*****	37	215	.4	215	1.3	001
0900	-5.5	*****	41	215	.3	215	1.3	002
1200	-4.2	*****	35	209	.5	215	1.9	003
1500	-4.0	*****	36	215	.6	215	1.9	001
1800	-4.6	*****	41	215	.2	215	.6	001
2100	-4.5	*****	40	217	.0	215	.6	001
2400	-4.5	*****	40	215	.1	215	.6	001

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.7	*****	**	215	.1	215	.6	001
0600	-4.4	*****	41	215	.4	215	1.3	001
0900	-4.1	*****	13	215	.6	215	1.9	003
1200	-3.8	-5.6	86	221	1.5	245	6.3	003
1500	-5.2	*****	**	346	3.7	350	8.3	001
1800	-6.5	-10.4	74	326	2.2	329	5.1	***
2100	-6.7	-11.1	71	338	2.8	347	6.3	001
2400	-7.3	*****	**	338	3.3	345	7.[illegible]	001

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	-13.7	69	326	2.2	337	5.7	***
0600	-9.4	-14.1	69	312	1.8	329	4.4	001
0900	-9.6	-14.8	66	315	1.6	268	3.2	003
1200	*****	*****	68	316	1.7	***	4.4	018
1500	*****	*****	63	311	2.0	***	5.1	002
1800	-10.5	-14.8	71	299	1.2	275	3.8	001
2100	-19.4	-20.6	90	236	1.3	239	3.2	001
2400	-22.5	-23.6	91	219	.7	202	2.5	001

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-24.7	*****	85	061	.1	066	1.9	001
0600	-27.0	*****	82	057	.5	344	1.3	001
0900	*****	*****	82	064	.6	051	1.9	003
1200	*****	*****	72	150	****	***	****	***
1500	-18.3	*****	77	196	.6	***	1.3	002
1800	-25.1	*****	84	282	.1	303	1.3	001
2100	*****	*****	82	063	.3	063	1.3	001
2400	-27.4	*****	**	084	.4	070	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	079	.4	065	1.3	***
0600	-21.9	*****	87	169	.1	057	1.3	001
0900	-21.9	*****	88	059	.2	263	1.3	003
1200	-16.2	*****	88	087	.3	072	1.9	009
1500	-15.4	*****	**	169	.2	142	1.3	001
1800	-18.7	*****	03	157	.2	068	1.3	001
2100	*****	*****	02	119	.3	156	1.9	001
2400	-14.9	*****	05	159	.2	171	1.9	001

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.1	*****	07	111	.4	089	1.3	001
0600	-15.0	*****	10	140	.2	118	1.9	001
0900	-15.0	*****	00	093	.3	093	1.3	005
1200	*****	*****	81	167	.3	228	1.3	010
1500	-14.6	*****	92	168	.3	178	1.3	002
1800	-21.1	*****	00	083	.3	170	1.3	001
2100	-23.6	*****	92	065	.3	043	1.3	001
2400	-25.2	*****	88	056	.3	029	1.3	001

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.9	*****	**	166	.2	062	1.9	001
0600	*****	*****	96	151	.1	044	1.3	001
0900	-15.0	*****	99	217	.3	186	1.3	003
1200	*****	*****	82	090	.5	088	2.5	015
1500	*****	*****	98	171	.3	186	1.9	001
1800	-9.7	*****	14	210	.4	199	4.3	001
2100	-9.8	*****	17	104	.3	***	1.3	001
2400	-15.1	*****	14	134	.3	142	1.9	001

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.6	*****	24	054	.2	050	1.9	***
0600	-12.5	*****	24	062	.4	069	1.9	001
0900	-12.8	*****	15	061	.4	068	1.9	003
1200	-10.8	*****	00	081	.3	106	1.3	006
1500	-12.6	*****	**	120	.1	120	1.9	001
1800	-18.9	*****	05	269	.2	311	1.3	001
2100	-21.5	*****	96	034	.3	032	1.3	001
2400	-22.4	*****	95	049	.2	037	1.3	001

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.7	*****	99	062	.2	052	1.3	001
0600	-13.4	*****	14	315	.0	061	.6	001
0900	-11.0	*****	16	089	.2	051	1.3	002
1200	-8.4	*****	18	230	.1	230	1.9	004
1500	-8.0	*****	35	244	.5	225	1.9	001
1800	-9.1	*****	30	109	.3	***	1.9	001
2100	-9.7	-23.4	32	055	.2	274	1.9	001
2400	*****	*****	**	292	.3	245	1.9	001

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.8	*****	26	219	.1	060	1.3	001
0600	-18.6	*****	01	166	.1	223	1.3	001
0900	-20.3	*****	96	039	.3	006	1.3	003
1200	*****	*****	27	245	.8	248	3.2	007
1500	-10.6	-24.2	32	244	.9	224	3.2	001
1800	-9.2	*****	30	244	1.4	238	3.2	001
2100	*****	*****	36	218	.8	224	2.5	001
2400	-6.0	*****	37	233	.6	238	1.9	001

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.2	*****	36	243	.3	***	2.5	001
0600	-6.8	*****	30	070	.4	099	2.5	001
0900	*****	*****	20	141	.9	156	1.9	003
1200	-8.8	*****	20	066	.4	091	4.3	006
1500	-8.6	*****	33	068	.1	062	1.3	001
1800	-10.4	-23.7	33	242	.7	254	2.5	001
2100	-10.1	*****	23	218	.4	250	1.9	001
2400	-10.2	-26.6	25	233	.2	***	1.3	001

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.1	-25.7	27	233	.6	217	1.9	001
0600	*****	*****	36	207	.0	246	1.9	001
0900	-7.9	*****	38	237	.3	***	1.3	002
1200	-6.8	-19.8	35	232	.9	219	1.9	***
1500	-9.8	-23.9	31	232	1.0	227	2.5	001
1800	-11.8	*****	26	050	.2	***	1.3	001
2100	-14.9	*****	15	085	.2	101	1.3	001
2400	-20.2	*****	97	091	.1	167	1.3	001

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.1	*****	93	031	.2	044	1.3	001
0600	-20.0	*****	96	070	.2	097	.6	001
0900	-17.7	*****	05	053	.3	057	1.3	002
1200	-12.9	*****	25	064	.1	186	1.3	007
1500	-12.2	*****	22	186	.2	***	1.9	001
1800	-17.7	*****	06	245	.2	221	1.3	001
2100	-20.9	*****	97	048	.2	035	1.3	001
2400	-16.8	*****	06	077	.3	062	1.9	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.7	*****	27	062	.1	233	1.3	001
0600	*****	*****	22	207	.3	220	1.9	001
0900	-14.8	*****	13	036	.2	075	1.3	002
1200	-11.0	*****	10	268	.2	019	2.5	004
1500	-10.8	*****	29	170	.3	122	2.5	001
1800	-12.6	*****	27	230	.2	217	3.2	001
2100	-14.6	*****	20	111	.3	168	1.9	001
2400	-11.8	*****	26	224	.3	242	2.5	001

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.3	*****	29	123	.3	057	2.5	001
0600	-11.3	*****	26	119	.3	213	1.9	001
0900	-9.4	*****	**	082	.1	257	2.5	002
1200	*****	*****	**	205	.5	230	1.3	***
1500	-16.0	*****	06	191	.2	***	1.9	***
1800	-16.4	*****	03	057	.3	043	1.3	001
2100	-21.1	*****	98	072	.3	043	1.3	001
2400	-22.7	*****	92	050	.2	042	1.3	001

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.4	*****	92	068	.3	035	1.3	001
0600	-24.7	*****	88	060	.2	033	1.3	001
0900	-24.1	*****	86	065	.3	048	1.3	002
1200	-15.9	*****	84	099	.3	065	1.3	012
1500	-16.8	*****	01	105	.3	124	1.9	001
1800	-17.7	*****	04	119	.3	208	1.3	001
2100	-17.5	*****	03	106	.2	159	1.3	001
2400	-15.1	*****	12	103	.1	001	1.3	001

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.0	*****	03	126	.2	236	1.3	001
0600	-15.9	*****	09	050	.3	026	1.3	001
0900	-13.4	*****	20	068	.4	094	1.9	002
1200	-9.4	*****	27	258	.3	028	1.9	006
1500	-9.2	*****	30	190	.2	280	2.3	001
1800	-10.3	*****	33	090	.4	092	2.5	001
2100	-14.3	*****	21	068	.3	042	1.3	001
2400	-16.4	*****	14	043	.4	091	1.9	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.7	*****	10	055	.3	035	1.3	001
0600	-16.3	*****	12	216	.2	140	1.3	001
0900	-18.0	*****	02	079	.4	055	1.3	002
1200	-10.9	-24.5	32	290	.2	239	1.9	004
1500	-9.6	*****	34	237	.8	223	2.5	001
1800	-8.8	*****	35	229	.5	227	1.9	001
2100	-12.0	*****	28	246	.4	245	1.9	001
2400	-13.1	*****	23	021	.3	338	1.3	001

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.5	*****	33	221	.2	230	1.9	001
0600	-9.6	*****	32	206	.2	270	1.9	***
0900	-6.8	-18.6	39	222	.7	215	1.9	002
1200	*****	*****	92	134	1.1	103	4.4	***
1500	-2.8	-20.7	24	107	1.3	085	2.5	***
1800	-5.8	*****	28	201	.5	112	1.9	001
2100	-5.8	*****	35	190	.3	193	1.9	001
2400	-3.8	-16.2	38	212	.3	***	1.9	001

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.9	-17.8	31	113	.9	***	3.2	***
0600	-5.3	*****	34	119	.7	088	3.2	001
0900	-8.7	*****	32	197	.6	***	2.5	002
1200	*****	*****	14	159	.2	***	1.3	005
1500	-4.0	*****	**	202	.3	145	3.2	***
1800	-1.4	*****	**	129	1.9	122	5.7	001
2100	-4.3	-19.0	31	097	1.3	105	4.4	001
2400	-10.5	-24.1	32	133	.6	***	2.5	001

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.5	*****	32	236	.6	222	2.5	001
0600	-7.3	*****	35	248	.2	201	1.3	001
0900	-9.4	*****	36	299	.1	054	1.9	001
1200	-3.2	-5.2	86	291	.8	339	5.7	003
1500	*****	*****	74	330	3.1	348	7.0	001
1800	-.6	-7.3	61	056	1.5	049	6.3	001
2100	-1.3	-8.4	59	044	1.8	039	5.7	001
2400	-3.0	*****	**	077	.8	***	5.7	001

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	*****	16	141	.4	171	2.5	001
0600	-5.6	*****	39	208	.3	206	1.3	001
0900	-7.1	*****	38	174	.2	205	1.3	001
1200	-5.0	-22.1	25	301	.6	338	2.5	003
1500	-5.7	-20.3	31	348	1.8	353	4.4	001
1800	-6.6	-25.9	20	005	3.0	001	5.7	001
2100	-7.4	-24.2	25	000	3.1	001	6.3	***
2400	-7.5	-24.7	24	357	2.7	357	5.1	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	-29.1	10	355	3.1	002	7.0	001
0600	-7.6	-30.5	14	350	2.7	001	7.0	001
0900	-7.4	-8.5	92	318	1.8	328	3.8	002
1200	-6.7	-10.1	77	327	2.3	319	6.3	005
1500	-7.3	-12.3	68	324	2.9	328	5.7	001
1800	-7.8	-13.1	66	318	2.5	306	6.3	001
2100	-9.2	-14.1	68	331	2.5	340	6.3	001
2400	-11.0	*****	77	276	1.2	329	3.8	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.0	*****	82	253	1.0	258	3.8	001
0600	-18.8	*****	92	254	1.1	249	3.8	001
0900	-21.1	-21.6	96	246	1.4	253	3.8	002
1200	-16.1	-18.8	80	227	1.0	257	2.5	012
1500	-20.7	*****	95	235	1.3	237	3.2	001
1800	-23.7	*****	93	251	.5	211	2.5	001
2100	-29.0	*****	80	033	.3	271	1.9	001
2400	-31.8	*****	76	036	.3	018	1.3	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-31.9	*****	76	039	.4	119	1.3	001
0600	-31.9	*****	75	063	.2	149	1.3	001
0900	-32.0	*****	76	043	.2	047	1.3	002
1200	-22.3	-25.0	79	172	.2	220	1.9	014
1500	-25.0	*****	85	217	.6	230	1.9	001
1800	-28.9	*****	79	049	.2	044	1.3	001
2100	-30.2	*****	78	060	.3	029	1.9	001
2400	-31.3	*****	76	050	.2	027	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

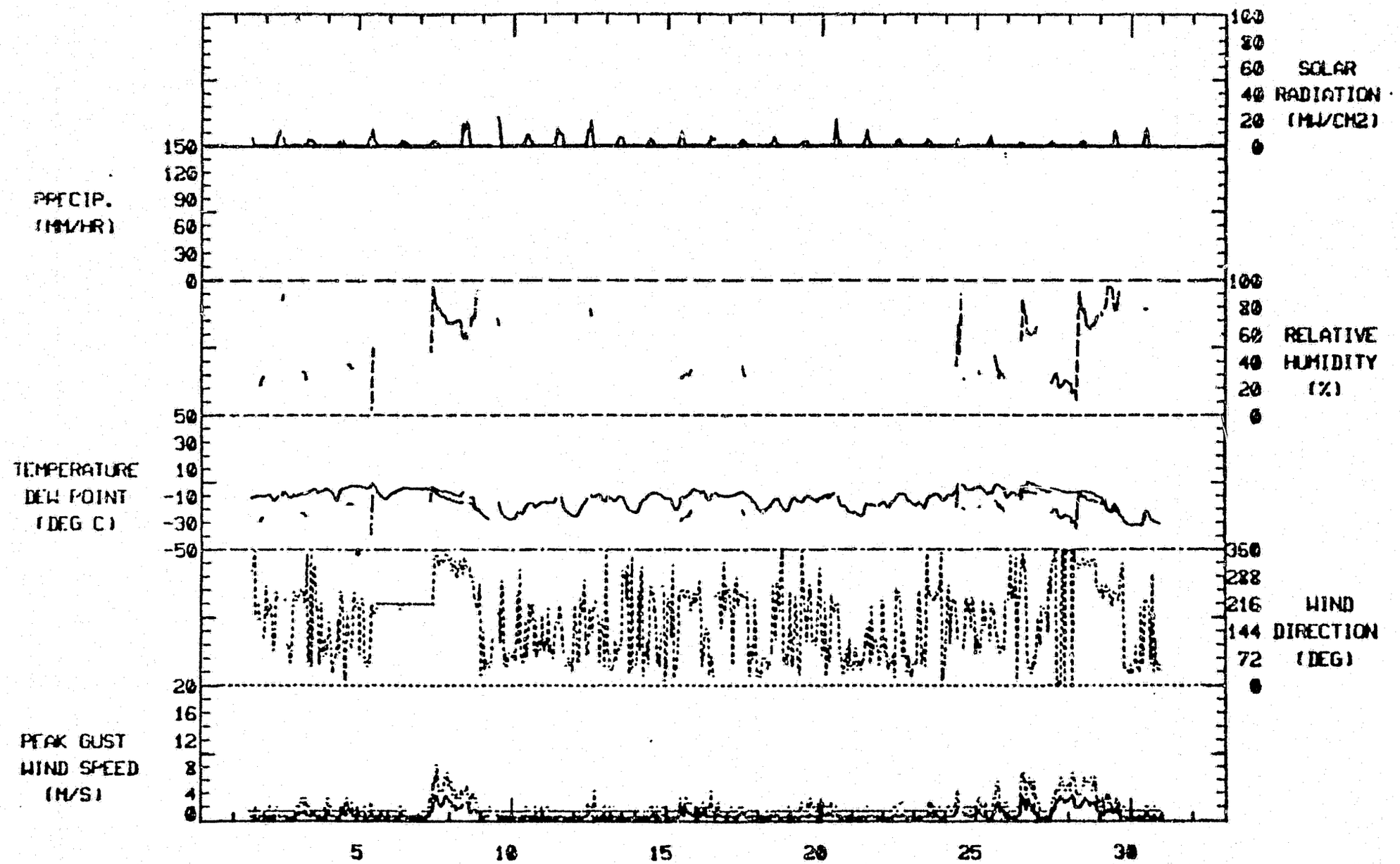
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	99.0	*****	*****	***	****	.4	167	1.9	SSW	27	-11.8	****	443	01
02	-7.2	-13.8	-10.5	186	.2	.4	215	1.9	SW	46	-20.8	****	621	02
03	-4.9	-10.7	-7.8	249	.3	.7	252	3.2	SW	29	-20.8	****	455	03
04	-2.4	-14.2	-8.3	126	.3	.7	***	3.2	ESE	32	-23.1	****	384	04
05	-.1	-12.7	-6.4	202	.3	.5	219	2.5	SW	33	-1.2	****	612	05
06	-3.8	-11.1	-7.5	214	.3	.3	215	1.9	SW	38	*****	****	376	06
07	-3.3	-7.4	-5.4	324	1.2	1.8	350	8.3	SW	76	-9.1	****	403	07
08	-6.7	-22.5	-14.6	302	1.3	1.7	337	5.7	NW	70	-16.9	****	1011	08
09	-14.4	-28.0	-21.2	082	.2	.4	086	1.9	ENE	72	*****	****	771	09
10	-14.8	-27.7	-21.3	116	.2	.4	072	1.9	ENE	67	*****	****	573	10
11	-10.2	-25.3	-17.8	116	.2	.4	118	1.9	ENE	79	*****	****	749	11
12	-8.0	-25.7	-16.9	158	.2	.5	199	4.3	SSW	54	*****	****	795	12
13	-10.3	-22.6	-16.5	058	.2	.4	050	1.9	ENE	08	*****	****	488	13
14	-7.6	-22.8	-15.2	275	.0	.4	230	1.9	ENE	43	-23.4	****	414	14
15	-5.4	-20.7	-13.1	238	.5	.7	248	3.2	WSW	30	-24.2	****	519	15
16	-4.6	-13.5	-9.1	172	.2	.6	091	4.3	WSW	43	-25.1	****	441	16
17	-6.8	-20.2	-13.5	228	.3	.5	227	2.5	SW	31	-23.1	****	365	17
18	-11.9	-22.1	-17.0	063	.1	.4	***	1.9	NE	21	*****	****	423	18
19	-10.1	-16.1	-13.1	193	.1	.4	217	3.2	SW	29	*****	****	364	19
20	-6.1	-22.7	-14.4	107	.2	.5	057	2.5	NE	52	*****	****	557	20
21	-15.0	-25.3	-20.2	088	.2	.4	124	1.9	NE	**	*****	****	520	21
22	-8.6	-19.0	-13.8	074	.2	.4	092	2.5	NE	22	*****	****	385	22
23	-8.7	-20.2	-14.5	248	.1	.5	223	2.5	NE	34	-24.5	****	384	23
24	-.3	-12.6	-6.4	188	.3	.7	103	4.4	SW	48	-18.5	****	334	24
25	-1.5	-10.5	-6.0	128	.7	1.0	122	5.7	E	32	-20.3	****	403	25
26	.4	-11.2	-5.4	003	.6	1.4	348	7.0	NE	64	-7.0	****	316	26
27	-2.8	-7.5	-5.2	357	1.3	1.5	001	6.3	N	27	-23.4	****	320	27
28	-6.6	-11.0	-8.8	330	2.2	2.5	002	7.0	NW	56	-16.8	****	373	28
29	-9.6	-32.2	-20.9	248	.7	.9	258	3.8	WSW	86	-20.2	****	538	29
30	-19.2	-32.3	-25.6	069	.1	.4	220	1.9	NE	79	-25.0	****	593	30
MONTH	99.0	-32.3	-13.0	317	.1	.7	350	8.3	SW	46	-18.7	****	14928	

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

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 NOVEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.28	1.07	1.57	0.00	0.00	0.00	0.00	3.93
NNE	4.05	.29	.04	0.00	0.00	0.00	0.00	4.38
NE	9.55	.62	.12	0.00	0.00	0.00	0.00	10.29
ENE	8.35	.58	.08	0.00	0.00	0.00	0.00	9.01
E	4.83	.99	0.00	0.00	0.00	0.00	0.00	5.83
ESE	4.34	.79	.04	0.00	0.00	0.00	0.00	5.17
SE	3.18	.33	.04	0.00	0.00	0.00	0.00	3.55
SSE	2.73	.21	0.00	0.00	0.00	0.00	0.00	2.93
S	3.51	.33	0.00	0.00	0.00	0.00	0.00	3.84
SSW	5.04	1.12	.04	0.00	0.00	0.00	0.00	6.20
SW	12.31	2.98	0.00	0.00	0.00	0.00	0.00	15.29
WSW	5.21	2.19	.04	0.00	0.00	0.00	0.00	7.44
W	2.46	.83	0.00	0.00	0.00	0.00	0.00	3.31
WNW	1.36	.87	0.00	0.00	0.00	0.00	0.00	2.23
NW	1.24	2.73	.37	0.00	0.00	0.00	0.00	4.34
NNW	.99	2.11	1.24	0.00	0.00	0.00	0.00	4.34
CALM								7.93
TOTAL	70.45	18.02	3.60	0.00	0.00	0.00	0.00	100.00

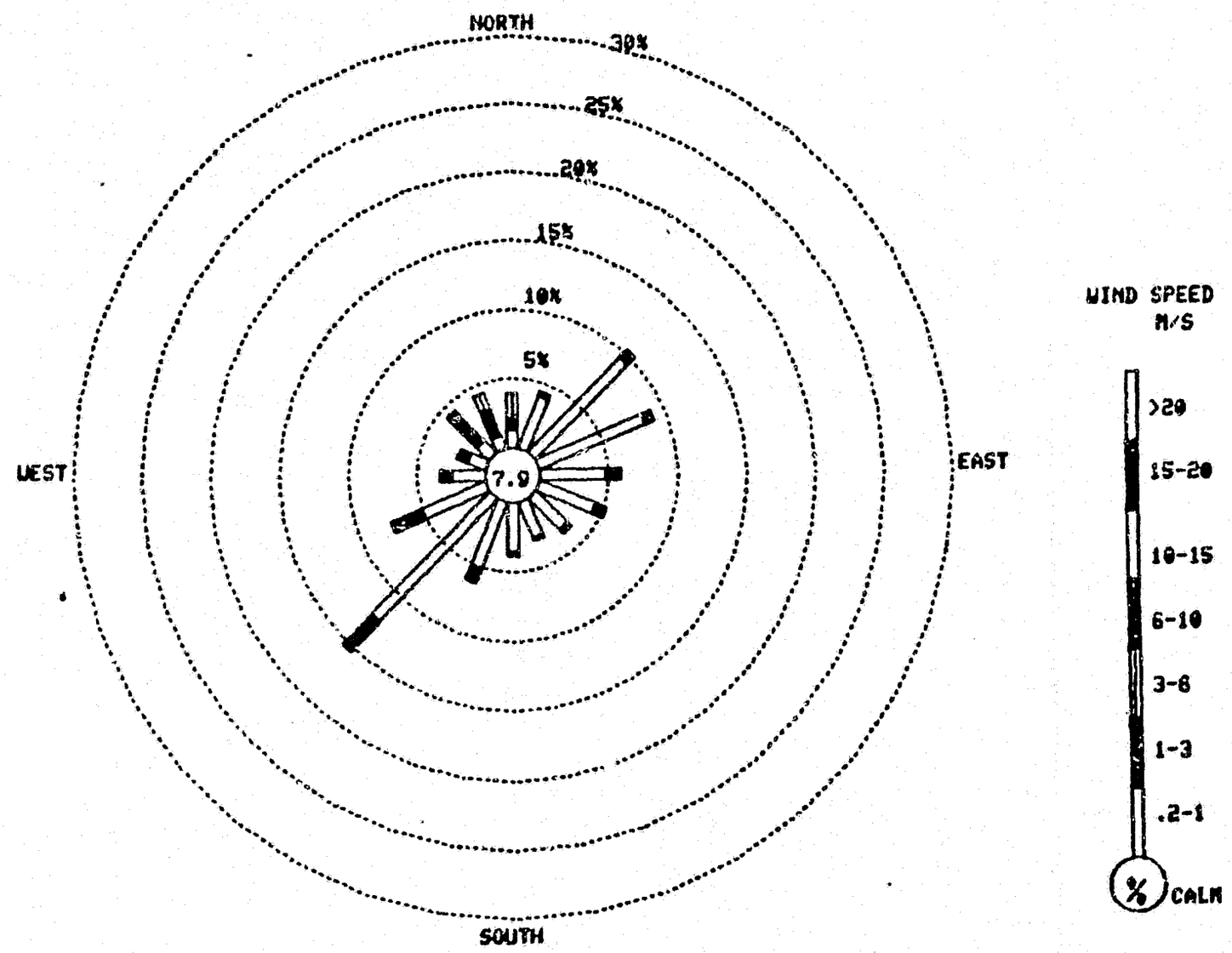
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2020 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

NOVEMBER, 1980



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-31.5	*****	75	070	.2	126	1.3	001
0600	-31.1	*****	76	050	.1	327	1.3	001
0900	-30.9	*****	76	051	.2	058	.6	002
1200	-25.0	*****	68	165	.2	191	1.3	011
1500	-27.6	*****	78	129	.1	083	1.3	001
1800	-30.1	*****	77	127	.2	177	1.3	001
2100	-30.8	*****	76	071	.2	047	1.3	001
2400	-30.8	*****	75	048	.2	035	1.3	001

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-30.3	*****	76	111	.1	202	1.3	001
0600	-30.4	*****	76	053	.2	046	1.3	001
0900	-30.3	*****	76	060	.1	060	.6	002
1200	-25.3	-29.0	71	191	.1	037	1.3	010
1500	-27.9	*****	78	148	.1	192	1.3	001
1800	-29.5	*****	78	070	.1	067	1.3	001
2100	-29.9	*****	77	062	.2	034	1.3	001
2400	-30.6	*****	76	091	.1	205	1.3	001

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-31.1	*****	75	068	.2	069	1.9	001
0600	-31.3	*****	74	009	.0	289	1.3	001
0900	-30.5	*****	75	078	.1	053	1.3	002
1200	-23.8	-27.6	71	141	.2	164	1.3	007
1500	-25.1	*****	81	165	.3	244	2.5	001
1800	-27.6	*****	79	042	.3	239	1.9	001
2100	-28.9	*****	77	062	.1	311	1.3	001
2400	-29.8	*****	76	080	.2	020	1.3	001

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-30.6	*****	75	057	.1	013	1.3	001
0600	-31.2	*****	74	084	.2	053	1.3	001
0900	-31.1	*****	74	349	.2	037	1.3	001
1200	-23.0	*****	75	115	.3	090	1.9	008
1500	-26.1	*****	80	189	.2	207	1.3	001
1800	-30.3	*****	76	033	.1	274	1.3	001
2100	-27.5	*****	78	052	.3	044	1.3	001
2400	-25.3	*****	82	064	.1	184	1.3	001

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-25.3	*****	82	152	.1	227	1.3	001
0600	-26.3	*****	81	078	.1	079	1.3	001
0900	-23.0	*****	84	239	.3	156	1.3	001
1200	*****	*****	**	242	.5	237	1.3	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

R&N CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

DAY 28

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

DAY 29

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

DAY 30

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

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

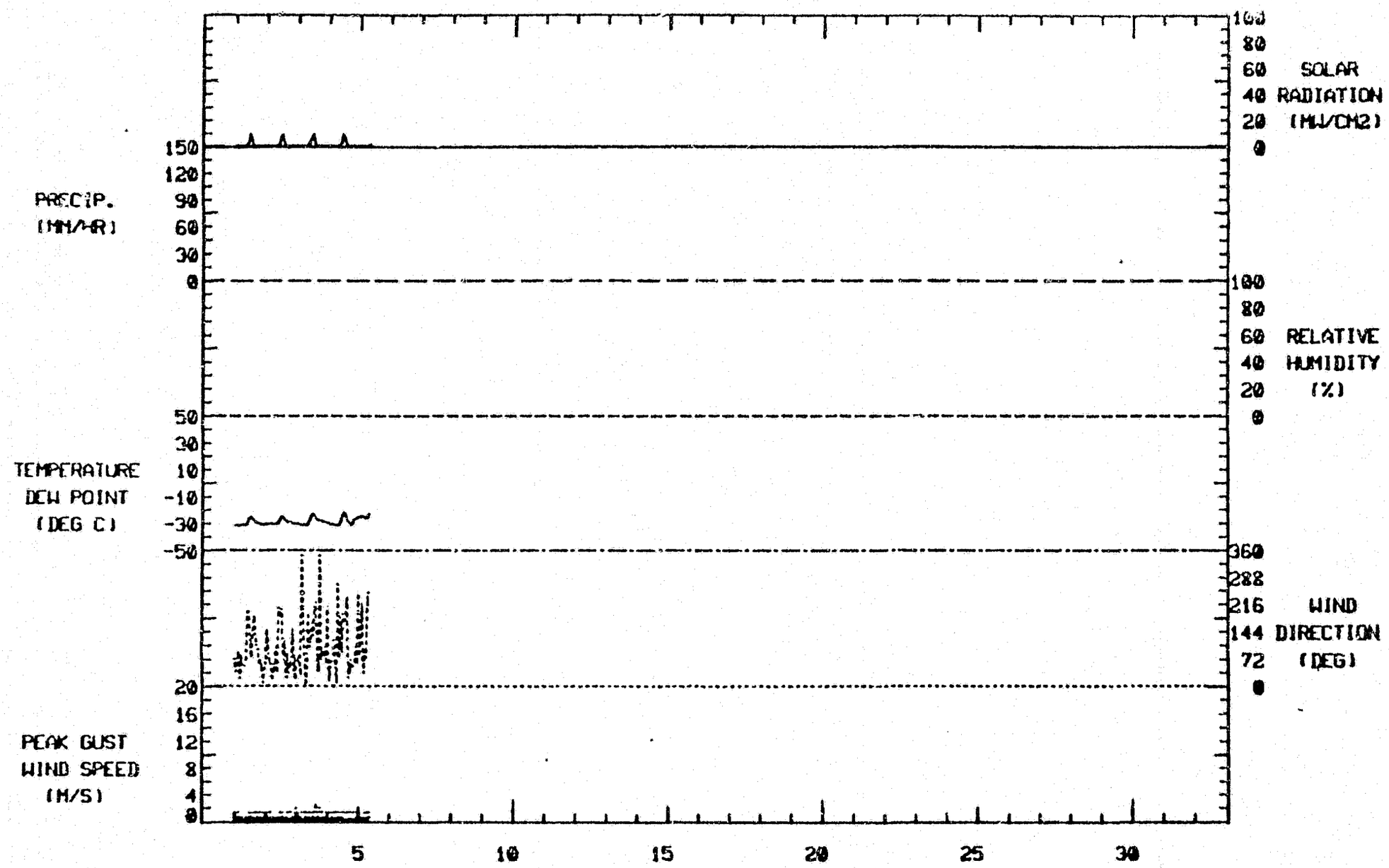
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	-24.4	-31.5	-28.0	084	.1	.2	126	1.3	NE	**	*****	****	460	01
02	-24.9	-30.9	-27.9	090	.1	.3	202	1.3	NE	74	-29.0	****	475	02
03	-22.6	-31.4	-27.0	093	.1	.3	244	2.5	ENE	73	-27.6	****	493	03
04	-19.4	-31.4	-25.4	077	.1	.3	090	1.9	NE	**	*****	****	480	04
05	*****	*****	*****	***	****	.3	227	1.3	SW	**	*****	****	253	05
06	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	17
18	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	18
19	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	21
22	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	22
23	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	23
24	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	24
25	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	25
26	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	26
27	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	27
28	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	28
29	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	29
30	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	30
31	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	31
MONTH	-19.4	-31.5	-27.1	086	.1	.3	244	2.5	NE	73	-28.3	****	2160	

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 1.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS .6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 DECEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.19	0.00	0.00	0.00	0.00	0.00	0.00	1.19
NNE	5.25	0.00	0.00	0.00	0.00	0.00	0.00	5.25
NE	15.04	0.00	0.00	0.00	0.00	0.00	0.00	15.04
ENE	11.22	0.00	0.00	0.00	0.00	0.00	0.00	11.22
E	4.77	0.00	0.00	0.00	0.00	0.00	0.00	4.77
ESE	5.49	.24	0.00	0.00	0.00	0.00	0.00	5.73
SE	4.06	0.00	0.00	0.00	0.00	0.00	0.00	4.06
SSE	3.10	0.00	0.00	0.00	0.00	0.00	0.00	3.10
S	5.01	0.00	0.00	0.00	0.00	0.00	0.00	5.01
SSW	6.92	0.00	0.00	0.00	0.00	0.00	0.00	6.92
SW	3.58	0.00	0.00	0.00	0.00	0.00	0.00	3.58
WSW	2.39	0.00	0.00	0.00	0.00	0.00	0.00	2.39
W	.95	0.00	0.00	0.00	0.00	0.00	0.00	.95
WNW	1.19	0.00	0.00	0.00	0.00	0.00	0.00	1.19
NW	.95	0.00	0.00	0.00	0.00	0.00	0.00	.95
NNW	2.15	0.00	0.00	0.00	0.00	0.00	0.00	2.15
CALM								26.49
TOTAL	73.27	.24	0.00	0.00	0.00	0.00	0.00	100.00

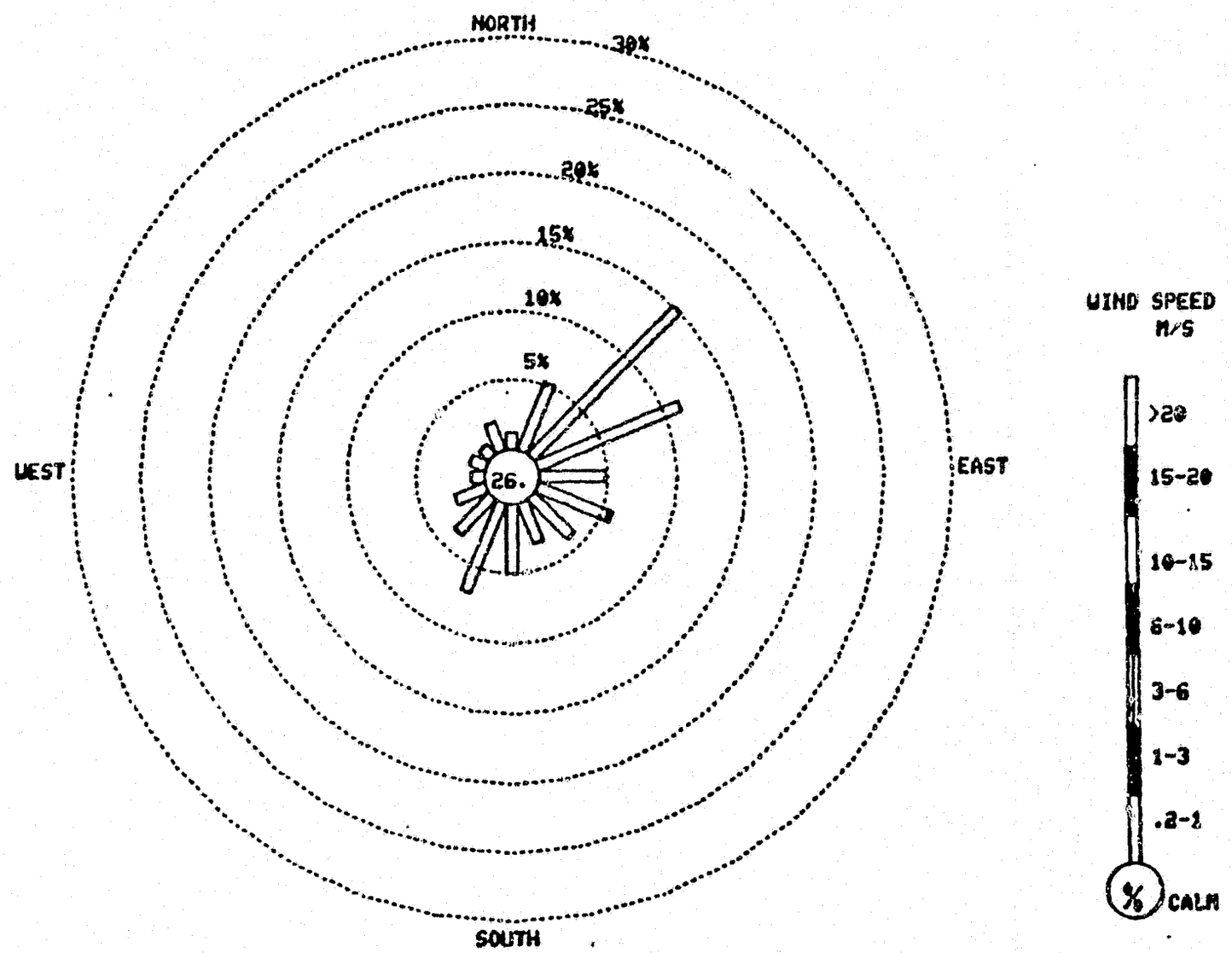
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

419 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

DECEMBER, 1980



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-13.8	*****	22	064	.1	238	1.3	003
1500	-14.3	*****	15	014	.2	248	1.9	001
1800	-17.8	*****	04	280	.2	225	1.3	001
2100	-17.7	*****	06	343	.2	290	1.3	001
2400	-18.5	*****	04	010	.2	041	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.3	*****	17	019	.3	036	1.9	001
0600	-10.9	*****	31	348	.2	332	1.3	000
0900	-17.5	*****	08	011	.2	010	1.3	001
1200	-16.6	*****	10	026	.3	033	1.3	004
1500	-12.3	*****	27	015	.1	038	1.3	001
1800	-12.4	*****	26	265	.1	319	1.3	000
2100	-9.6	*****	32	332	.1	049	1.3	001
2400	-8.3	*****	36	299	.1	345	.6	000

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.8	*****	37	305	.1	312	.6	000
0600	-7.5	*****	38	346	.0	298	1.3	001
0900	-7.4	*****	38	360	.1	271	1.3	001
1200	-6.1	*****	37	247	.6	232	1.3	002
1500	-10.1	*****	32	342	.1	284	1.3	001
1800	-8.3	*****	36	179	.1	176	1.9	001
2100	-7.7	*****	38	07[illegible]	.3	088	1.3	001
2400	-8.1	*****	37	29[illegible]	.1	289	1.3	001

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.8	*****	34	258	.2	244	1.3	001
0600	-10.3	*****	31	319	.1	299	1.3	000
0900	-9.8	*****	35	344	.0	298	.6	001
1200	-9.2	*****	16	027	.0	253	1.3	011
1500	-9.0	*****	33	007	.1	007	.6	001
1800	-8.4	*****	39	015	.1	029	.6	001
2100	-9.0	*****	36	023	.1	016	.6	001
2400	-13.8	*****	24	304	.2	311	1.3	001

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.6	*****	13	334	.0	245	1.3	000
0600	-16.6	*****	13	351	.1	321	1.9	000
0900	-16.3	*****	13	342	.1	027	1.3	001
1200	-11.9	*****	27	338	.2	026	1.3	003
1500	-10.7	*****	29	325	.1	303	1.3	001
1800	-10.1	*****	33	002	.2	314	1.9	001
2100	-13.1	*****	26	358	.3	014	1.3	001
2400	*****	*****	**	359	.3	037	1.3	***

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-6.1	*****	28	322	0.0	336	.6	002
1500	-5.2	*****	41	320	.1	027	1.9	001
1800	-1.2	-12.3	43	121	.7	121	3.8	001
2100	1.5	-10.8	40	100	2.9	095	6.3	001
2400	2.4	-11.7	35	117	5.2	125	10.8	000

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.2	-10.8	38	115	4.4	121	8.3	000
0600	3.1	-13.8	28	115	5.2	129	10.2	001
0900	2.7	-15.5	25	119	6.1	120	11.4	001
1200	3.7	-37.3	03	109	4.0	110	7.0	017
1500	1.4	*****	27	126	2.1	109	7.0	001
1800	-.4	*****	36	087	1.2	099	3.8	001
2100	-1.8	-20.3	23	089	1.3	071	3.8	001
2400	-9.9	*****	36	135	.7	100	2.5	001

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.2	*****	22	215	.6	201	2.5	000
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	-12.1	*****	28	161	.2	184	1.9	001

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-9.7	*****	33	356	.1	026	1.3	001
1800	-7.4	*****	39	338	.2	246	1.9	001
2100	-8.7	*****	35	242	.3	023	1.9	001
2400	-13.0	*****	28	345	.2	074	1.3	000

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	-6.4	-18.5	38	199	.5	104	3.2	001
0900	-7.5	-19.5	38	227	.7	226	2.5	001
1200	-5.0	*****	35	210	.7	195	3.2	003
1500	-6.0	-18.5	37	248	.5	282	1.9	001
1800	-7.8	*****	39	277	.3	328	1.9	001
2100	-9.0	*****	36	270	.3	209	1.9	001
2400	-8.8	*****	35	003	.3	031	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.1	*****	39	019	.2	138	1.3	001
0600	-7.9	*****	38	330	.2	256	1.3	001
0900	-5.7	*****	39	351	.2	222	1.3	001
1200	-.7	-19.9	22	096	2.1	096	4.4	002
1500	-2.4	-8.4	64	160	5.0	164	10.2	001
1800	-3.4	-8.9	66	151	3.6	***	7.6	001
2100	-8.4	-9.3	93	140	1.7	169	7.0	001
2400	-10.2	-25.0	29	095	1.4	087	3.2	001

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	*****	28	106	.9	085	3.2	***
0600	*****	*****	**	295	.3	280	1.3	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	-12.0	*****	17	141	.0	187	.6	000
0900	-11.3	*****	22	220	.4	212	2.5	001
1200	-9.6	*****	20	298	.2	220	1.9	002
1500	-8.4	*****	24	243	.3	210	1.9	001
1800	-8.9	*****	36	278	.2	340	1.3	000
2100	-12.5	*****	33	331	.1	256	1.3	000
2400	-17.3	*****	17	064	.1	014	1.3	000

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.9	*****	23	038	.3	042	1.3	001
0600	-17.5	*****	15	312	.1	242	1.9	000
0900	-16.2	*****	12	062	.3	065	1.3	001
1200	-12.5	*****	02	048	.1	061	1.3	003
1500	-11.9	*****	17	058	.2	349	1.3	001
1800	-15.6	*****	17	106	.1	093	1.3	001
2100	-15.1	*****	19	092	.3	093	1.9	000
2400	-20.2	*****	04	032	.1	083	1.9	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-9.7	*****	08	222	.3	175	1.3	004
1500	-8.9	*****	24	240	.1	261	1.9	001
1800	-11.7	*****	28	220	.6	212	1.9	001
2100	*****	*****	**	***	****	***	****	***
2400	-6.9	*****	40	056	.2	000	1.9	000

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.5	*****	33	119	.7	086	3.2	000
0600	-11.8	*****	35	095	.1	053	1.9	001
0900	-7.7	*****	27	026	.3	359	1.3	001
1200	-1.8	*****	88	094	.4	063	1.9	004
1500	-9.2	-26.6	23	206	.8	183	2.5	001
1800	-7.0	*****	97	144	.6	147	3.2	001
2100	-1.6	-8.9	58	133	1.0	114	4.4	001
2400	-1.3	-10.3	51	102	3.0	091	7.0	001

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	*****	62	108	1.5	096	4.4	001
0600	-6.7	*****	08	208	.8	213	3.2	001
0900	-11.3	-13.4	85	214	.7	182	2.5	002
1200	-7.3	*****	72	224	.6	241	2.5	007
1500	-2.6	-7.8	08	139	.7	083	5.7	002
1800	-11.0	*****	03	158	1.1	119	4.4	001
2100	-14.6	*****	30	174	.5	207	2.5	000
2400	*****	*****	**	033	.2	096	1.9	***

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	-17.7	*****	07	044	.3	035	1.3	000
0900	-17.3	*****	04	049	.2	040	1.3	002
1200	-11.2	*****	00	041	.4	058	1.9	008
1500	-6.8	*****	06	081	.4	149	1.9	004
1800	-17.5	*****	07	099	.2	050	1.9	001
2100	-9.0	*****	38	050	.3	066	1.9	000
2400	-12.5	*****	28	036	.2	224	1.3	001

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.1	*****	35	243	.0	056	1.9	001
0600	-9.2	*****	38	230	.2	188	1.3	001
0900	-10.8	*****	33	218	.3	206	1.3	001
1200	-8.4	*****	34	264	.4	255	1.9	006
1500	-8.4	-23.0	30	245	.5	230	2.5	002
1800	-11.8	*****	31	228	1.0	237	2.5	000
2100	-18.1	*****	10	208	.6	215	1.9	001
2400	-24.6	*****	90	227	.2	212	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	-16.1	*****	16	272	.0	030	.6	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.3	*****	20	235	.5	202	1.3	000
0600	-15.0	*****	20	225	.4	236	1.3	001
0900	-14.2	*****	23	261	.3	293	1.3	001
1200	-11.8	*****	31	288	.2	244	1.3	004
1500	-10.0	*****	29	269	.2	244	1.3	002
1800	-12.6	*****	28	247	.3	251	2.5	001
2100	-4.6	-17.2	37	196	.3	216	1.9	001
2400	-11.8	*****	31	210	.7	083	1.9	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.9	*****	33	216	.8	214	1.9	001
0600	-11.4	-24.9	32	217	.8	204	1.9	000
0900	-14.4	-33.5	18	222	.7	208	1.9	002
1200	-10.2	*****	03	225	.8	248	2.5	006
1500	-7.6	*****	02	223	.7	223	2.5	006
1800	-7.5	-19.5	38	173	.5	202	1.9	000
2100	-10.6	*****	33	200	.6	207	1.9	001
2400	-13.2	*****	29	255	.3	212	1.9	000

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.1	*****	17	125	.3	184	1.3	000
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-8.0	*****	85	127	.1	***	****	011
1500	-9.7	*****	19	214	.4	209	1.3	002
1800	-14.6	*****	25	195	.3	226	1.9	000
2100	-12.5	*****	29	236	.2	023	1.3	001
2400	-9.7	*****	34	046	.3	152	1.3	000

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

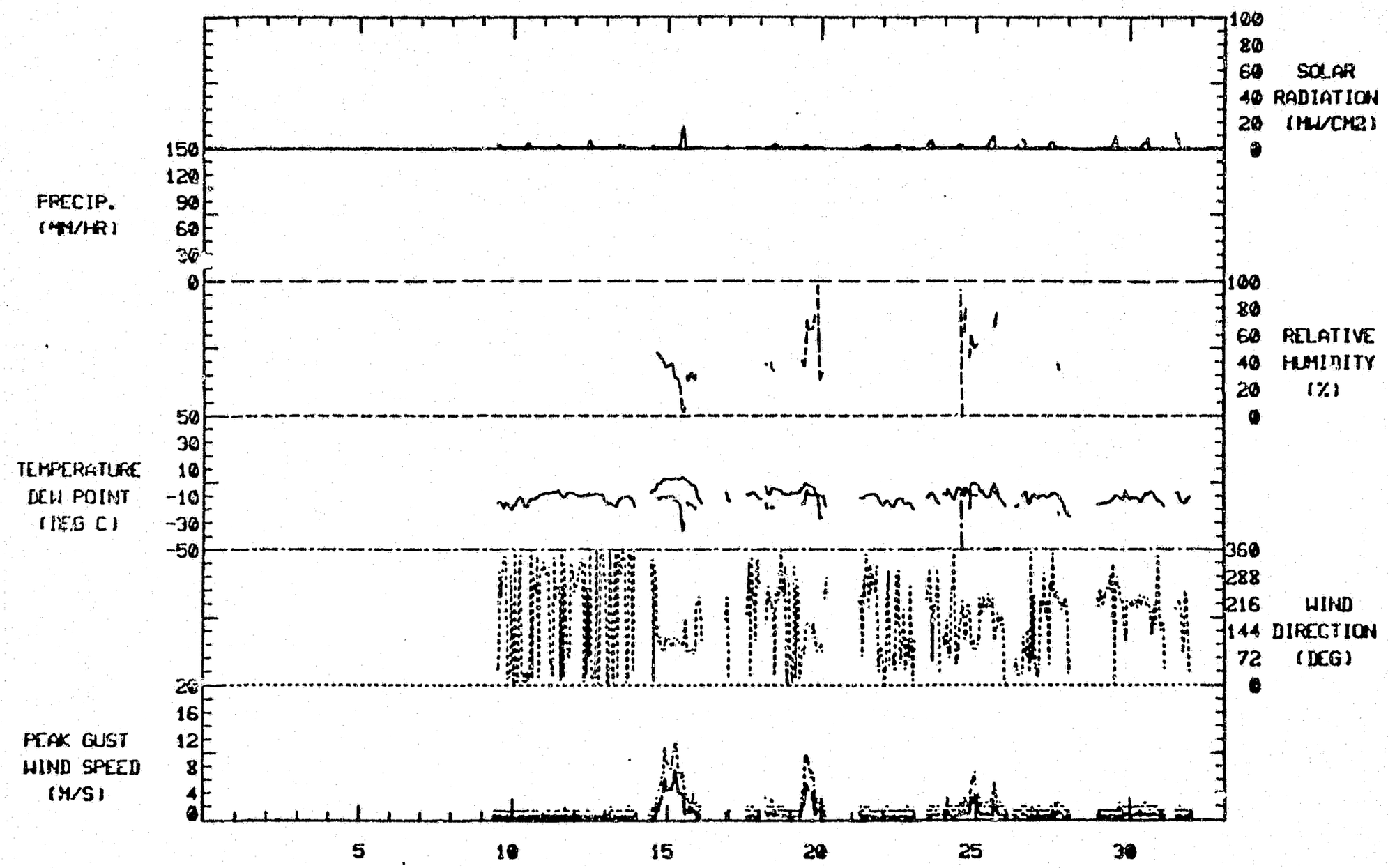
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	01
02	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	02
03	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	03
04	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	04
05	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	05
06	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	-11.6	-20.6	-16.1	***	****	.3	248	1.9	NNE	**	*****	****	282	09
10	-8.3	-16.5	-13.4	359	.1	.2	036	1.9	NNE	**	*****	****	248	10
11	-5.9	-12.4	-9.1	298	.0	.2	176	1.9	WNW	38	*****	****	203	11
12	-7.7	-13.8	-10.8	328	.1	.1	244	1.3	NNE	**	*****	****	283	12
13	-9.8	-18.2	-14.0	350	.1	.2	321	1.9	N	**	*****	****	253	13
14	2.7	-19.8	-8.5	***	****	2.1	125	10.8	ESE	41	-11.6	****	182	14
15	3.8	-9.9	-3.0	114	3.1	3.2	120	11.4	ESE	27	-19.5	****	630	15
16	-6.0	-18.7	-12.4	***	****	.6	201	2.5	SW	34	*****	****	142	16
17	-6.8	-16.9	-11.9	***	****	.4	246	1.9	NNE	39	*****	****	197	17
18	-1.2	-12.6	-6.9	237	.3	.7	104	3.2	SW	37	-18.8	****	264	18
19	-.4	-10.2	-5.3	137	1.4	1.8	164	10.2	E	56	-14.3	****	237	19
20	-9.8	-18.2	-14.0	***	****	.8	085	3.2	E	30	*****	****	160	20
21	-8.2	-17.3	-12.8	255	.1	.4	212	2.5	NNE	17	*****	****	243	21
22	-11.8	-20.5	-16.2	059	.2	.4	242	1.9	ENE	**	*****	****	240	22
23	-6.3	-23.0	-14.6	***	****	.6	261	1.9	SW	28	*****	****	480	23
24	.2	-13.1	-6.4	118	.7	1.1	091	7.0	E	54	-15.3	****	280	24
25	-.7	-17.8	-9.3	163	.6	1.0	083	5.7	SW	65	-10.6	****	531	25
26	-6.6	-21.4	-14.0	061	.3	.4	058	1.9	NE	07	*****	****	462	26
27	-7.3	-24.6	-15.9	230	.4	.5	230	2.5	SW	35	-23.0	****	355	27
28	-16.1	-25.3	-20.7	***	****	.3	030	.6	NNE	**	*****	****	187	28
29	-4.5	-16.2	-10.4	233	.3	.5	251	2.5	SW	33	-17.2	****	408	29
30	-4.6	-14.7	-9.7	216	.3	.7	248	2.5	SW	27	-26.0	****	419	30
31	-6.7	-20.2	-13.5	189	.1	.4	226	1.9	SW	23	*****	****	600	31
MONTH	3.8	-25.3	-11.7	137	.3	.7	120	11.4	SW	35	-17.4	****	7284	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.8

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 JANUARY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	3.89	0.00	0.00	0.00	0.00	0.00	0.00	3.89
NNE	7.72	.06	0.00	0.00	0.00	0.00	0.00	7.78
NE	5.44	0.00	0.00	0.00	0.00	0.00	0.00	5.44
ENE	3.35	.90	0.00	0.00	0.00	0.00	0.00	4.25
E	2.75	3.53	1.14	0.00	0.00	0.00	0.00	7.42
ESE	1.44	1.44	2.67	.48	0.00	0.00	0.00	6.22
SE	2.15	.66	.36	.18	0.00	0.00	0.00	3.35
SSE	1.56	.60	1.14	0.00	0.00	0.00	0.00	3.29
S	1.73	.12	0.00	0.00	0.00	0.00	0.00	1.85
SSW	5.38	2.33	0.00	0.00	0.00	0.00	0.00	7.72
SW	10.35	1.97	0.00	0.00	0.00	0.00	0.00	12.32
WSW	7.24	.42	0.00	0.00	0.00	0.00	0.00	7.66
W	4.13	.06	0.00	0.00	0.00	0.00	0.00	4.19
WNW	3.29	0.00	0.00	0.00	0.00	0.00	0.00	3.29
NW	2.21	0.00	0.00	0.00	0.00	0.00	0.00	2.21
NNW	2.33	0.00	0.00	0.00	0.00	0.00	0.00	2.33
CALM								16.81
TOTAL	64.95	12.08	5.50	.66	0.00	0.00	0.00	100.00

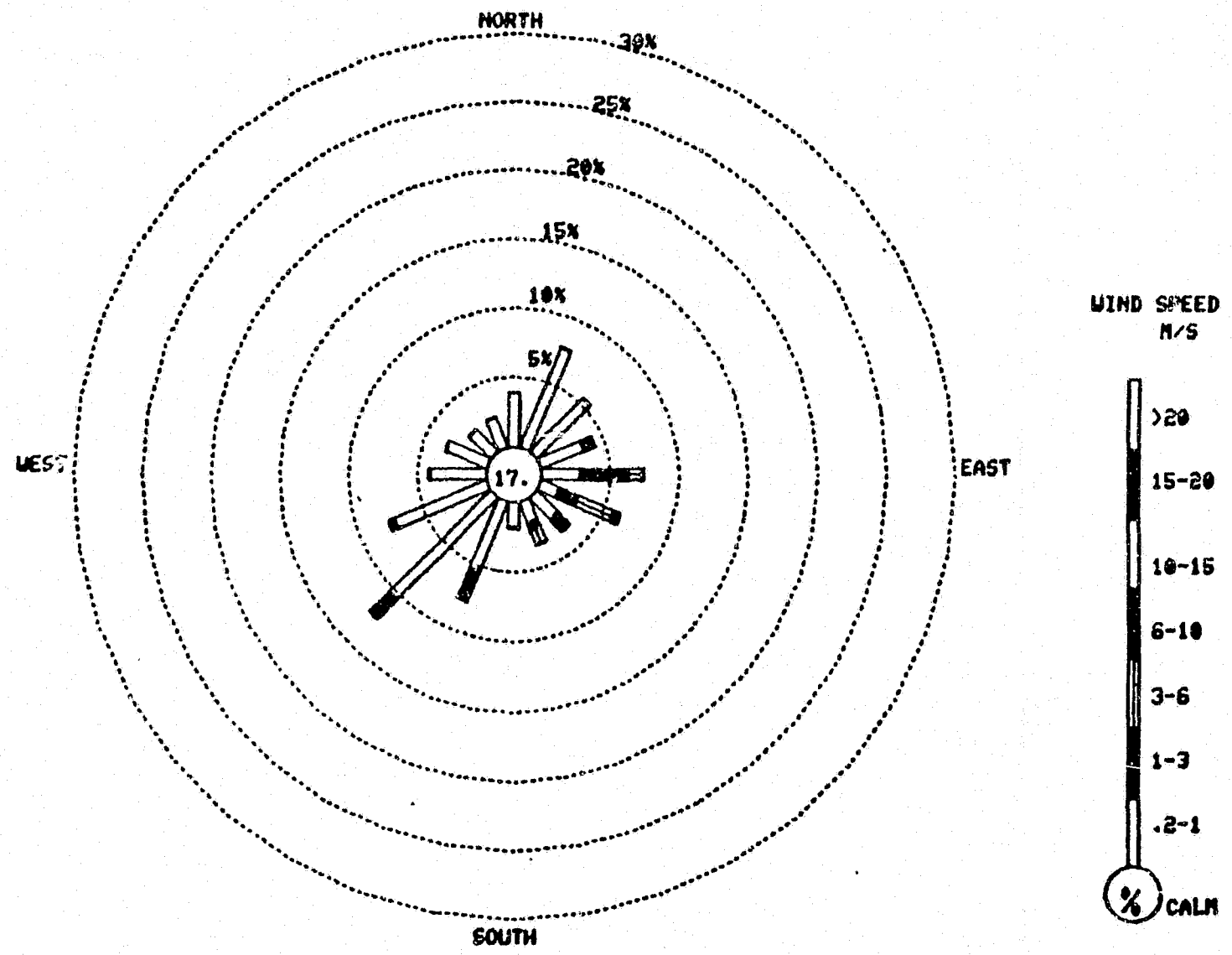
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1672 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

JANUARY, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.3	*****	40	227	.5	249	1.9	001
0600	-2.1	-112.	00	110	.4	171	3.8	000
0900	-2.1	-4.6	83	102	1.9	104	3.8	002
1200	-.1	-3.4	79	107	4.1	093	8.3	023
1500	2.5	-.5	81	126	2.0	139	7.0	007
1800	-2.9	-17.4	32	119	.5	228	2.5	001
2100	-3.3	-20.2	26	099	1.2	091	3.2	001
2400	-11.5	*****	37	159	.4	097	2.5	000

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.5	-2.6	80	181	.6	088	5.7	001
0600	-.6	-2.4	88	094	3.7	097	8.3	001
0900	-.8	-1.1	98	117	4.5	129	8.9	006
1200	.5	-2.8	79	141	4.2	164	11.4	021
1500	-1.3	-4.5	79	169	4.3	177	8.9	002
1800	-2.5	-4.1	89	158	1.1	176	5.7	001
2100	-3.9	-4.7	94	106	1.6	114	3.8	001
2400	-6.2	*****	17	093	.6	102	1.9	000

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	*****	30	174	.1	090	1.3	001
0600	-6.1	*****	41	184	.3	055	1.3	001
0900	-4.8	*****	39	179	.2	235	1.9	003
1200	-5.1	-32.0	10	231	.9	233	3.2	008
1500	-5.2	*****	25	207	.8	211	1.9	002
1800	-4.9	*****	37	233	.4	264	2.5	000
2100	-7.1	*****	43	231	.3	235	1.3	001
2400	-7.8	*****	39	232	.5	208	2.5	000

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	*****	39	258	.3	224	2.5	000
0600	-10.7	*****	34	231	.5	205	1.9	000
0900	-8.3	*****	32	007	.2	024	1.3	008
1200	-5.2	*****	73	202	.3	183	1.9	012
1500	-5.3	*****	89	222	.5	227	1.9	003
1800	-13.4	*****	38	113	.2	211	1.3	000
2100	*****	*****	**	052	.3	047	1.9	***
2400	*****	*****	**	***	****	***	****	***

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	-9.6	*****	29	055	.2	067	1.3	000
0900	-8.1	*****	31	076	.1	088	1.3	002
1200	-5.4	*****	10	251	.4	241	1.3	006
1500	-4.6	*****	25	202	.1	251	1.3	003
1800	-5.7	*****	42	206	.3	210	1.3	001
2100	-5.7	*****	43	197	.1	226	1.3	001
2400	-5.3	*****	40	096	.0	217	1.3	001

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	*****	43	208	.2	204	1.3	000
0600	-4.6	*****	41	224	.4	183	1.3	000
0900	-3.7	*****	38	217	.7	205	1.9	002
1200	-2.1	*****	30	217	.7	206	2.5	004
1500	-2.4	*****	37	226	.5	249	1.9	002
1800	-4.2	*****	45	170	.1	077	1.3	001
2100	-11.0	*****	29	064	.1	061	1.3	000
2400	-10.0	*****	35	068	.3	047	1.3	001

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.2	*****	31	087	.2	107	1.9	001
0600	-13.6	*****	26	254	.2	251	1.3	000
0900	-15.4	*****	21	023	.3	034	1.3	002
1200	-9.8	*****	38	007	.2	024	1.3	004
1500	-6.8	*****	37	290	.1	347	1.3	002
1800	-10.1	*****	37	152	.2	154	1.3	001
2100	-11.1	*****	33	324	.1	019	.6	000
2400	-9.3	*****	36	340	.0	029	1.3	000

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	*****	41	021	.1	113	1.3	000
0600	-7.4	*****	40	083	.0	040	.6	001
0900	-6.4	*****	37	017	.0	062	.6	002
1200	-4.8	*****	96	233	.2	269	1.3	008
1500	-3.8	*****	23	212	.4	204	1.3	002
1800	-5.0	*****	43	240	.2	259	1.3	001
2100	-4.9	*****	41	063	.1	168	.6	000
2400	-4.9	*****	42	073	.1	062	.6	001

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	-16.4	41	093	.4	102	2.5	000
0600	-5.3	*****	42	095	1.0	108	2.5	000
0900	-5.3	*****	43	123	.7	149	1.9	004
1200	-3.7	*****	06	130	.8	135	1.9	007
1500	-4.3	*****	32	202	.4	218	1.9	002
1800	-5.8	*****	41	242	.8	253	2.5	000
2100	-6.2	*****	42	218	.4	225	1.9	001
2400	-6.1	*****	42	269	.1	323	.6	000

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.1	*****	42	039	.2	248	1.3	001
0600	-5.8	*****	41	070	.5	118	1.9	001
0900	-5.2	*****	41	064	.3	052	1.3	006
1200	-5.0	-27.7	15	218	.6	219	1.9	005
1500	-4.2	*****	28	231	1.1	236	3.2	002
1800	-6.6	*****	38	236	.7	236	1.9	000
2100	-6.7	*****	40	236	.3	236	1.3	001
2400	-8.0	-9.5	69	236	1.1	236	5.1	001

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.3	-12.0	75	236	2.6	236	7.0	001
0600	-9.2	-12.7	76	240	2.3	236	5.7	001
0900	-12.1	-14.0	86	236	1.3	236	3.2	002
1200	-9.9	-13.2	77	236	1.4	236	3.2	006
1500	-10.9	-13.9	79	236	1.4	236	3.2	002
1800	-13.0	*****	02	236	.6	236	2.5	001
2100	-14.7	*****	18	236	.2	236	1.3	000
2400	*****	*****	**	235	.2	236	1.3	***

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

DAY 28

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

DAY 29

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

DAY 30

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

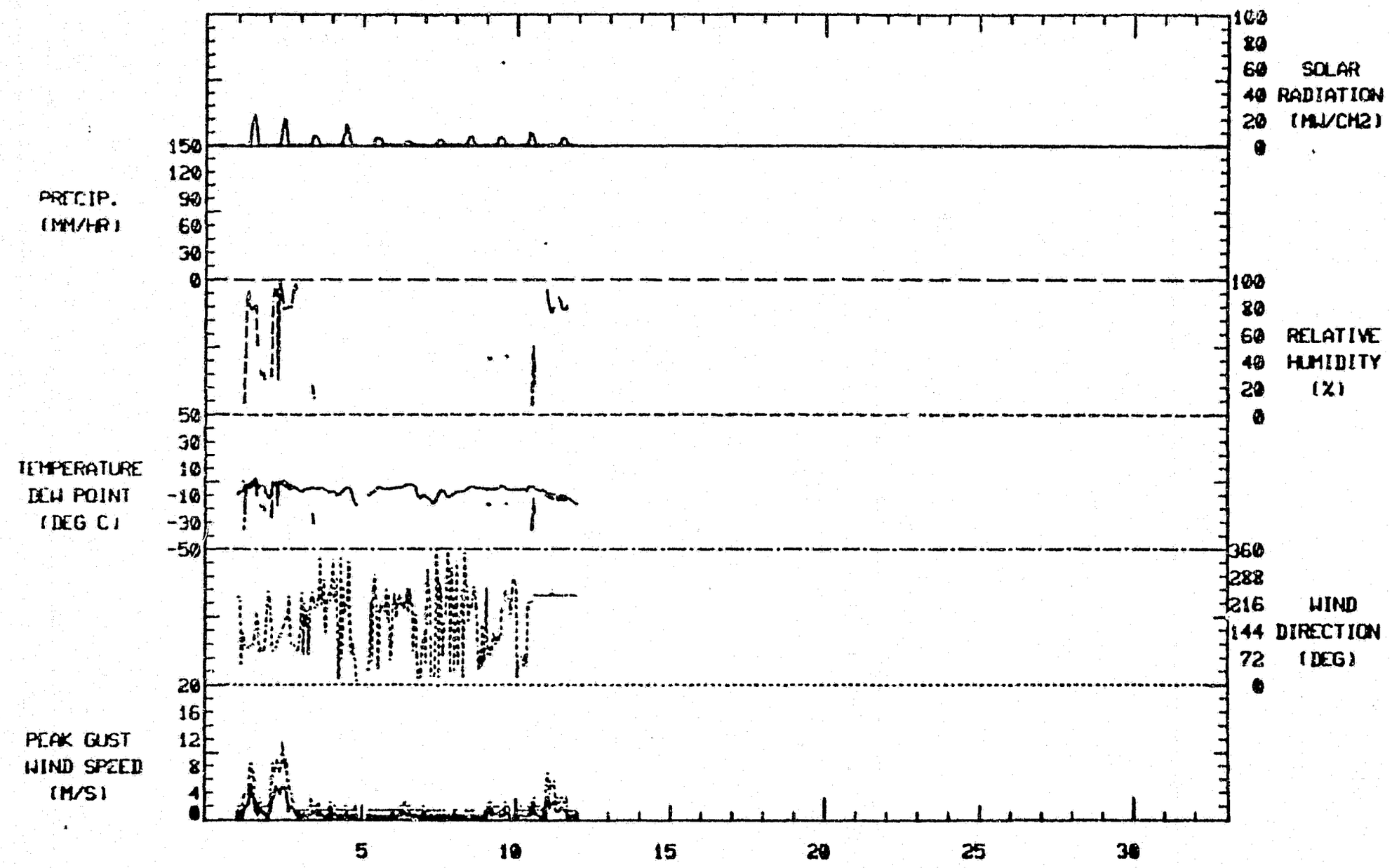
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	2.9	-11.5	-4.3	114	1.3	1.6	093	8.3	ESE	60	-26.4	****	1115	01
02	.9	-12.7	-5.9	131	2.3	2.8	164	11.4	E	79	-3.2	****	908	02
03	-4.3	-8.6	-6.5	217	.4	.6	233	3.2	SW	16	-32.0	****	505	03
04	-4.0	-17.3	-10.6	223	.1	.5	224	2.5	SW	60	*****	****	846	04
05	-3.3	-13.1	-8.2	207	.1	.3	067	1.3	ENE	**	*****	****	548	05
06	-1.8	-12.6	-7.2	212	.3	.5	206	2.5	SW	38	*****	****	293	06
07	-6.3	-16.0	-11.1	006	.0	.3	107	1.9	NNE	**	*****	****	353	07
08	-3.3	-9.2	-6.3	221	.1	.2	113	1.3	SSW	**	*****	****	460	08
09	-3.0	-6.5	-4.8	148	.3	.6	102	2.5	ESE	41	-16.4	****	453	09
10	-1.7	-8.0	-4.9	228	.4	.6	236	5.1	SW	43	-18.6	****	545	10
11	*****	*****	*****	237	1.3	1.3	236	7.0	SW	80	-13.2	****	460	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	17
18	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	18
19	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	21
22	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	22
23	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	23
24	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	24
25	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	25
26	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	26
27	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	27
28	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	28
MONTH	2.9	-17.3	-7.0	164	.4	.8	164	11.4	SW	52	-18.3	****	6483	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 6.3
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 8.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 FEBRUARY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.28	0.00	0.00	0.00	0.00	0.00	0.00	1.28
NNE	3.85	0.00	0.00	0.00	0.00	0.00	0.00	3.85
NE	4.54	0.00	0.00	0.00	0.00	0.00	0.00	4.54
ENE	3.85	.49	0.00	0.00	0.00	0.00	0.00	4.34
E	3.75	2.96	1.38	0.00	0.00	0.00	0.00	8.09
ESE	3.55	2.67	1.78	0.00	0.00	0.00	0.00	8.00
SE	2.17	.49	1.28	0.00	0.00	0.00	0.00	3.95
SSE	2.37	.39	.59	.10	0.00	0.00	0.00	3.46
S	2.96	.30	.79	0.00	0.00	0.00	0.00	4.05
SSW	8.09	1.28	0.00	0.00	0.00	0.00	0.00	9.38
SW	15.20	7.11	1.18	0.00	0.00	0.00	0.00	23.49
WSW	5.92	.49	0.00	0.00	0.00	0.00	0.00	6.42
W	3.06	.10	0.00	0.00	0.00	0.00	0.00	3.16
WNW	1.18	0.00	0.00	0.00	0.00	0.00	0.00	1.18
NW	.99	0.00	0.00	0.00	0.00	0.00	0.00	.99
NNW	1.18	.10	0.00	0.00	0.00	0.00	0.00	1.28
CALM								12.54
TOTAL	63.97	16.39	7.01	.10	0.00	0.00	0.00	100.00

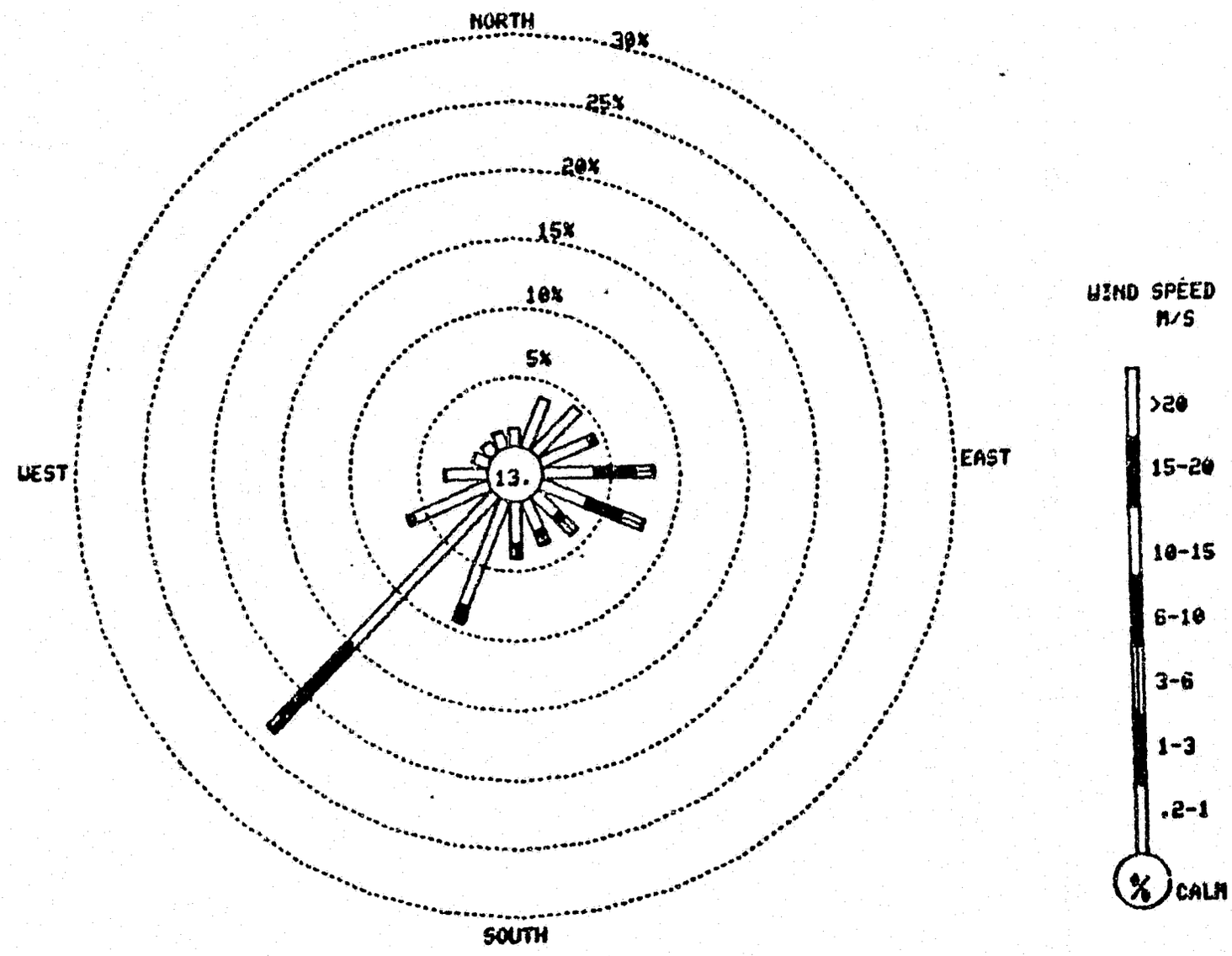
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1013 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

FEBRUARY, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MARCH , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MARCH , 1981

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	-11.8	*****	95	242	.9	252	2.5	***
2100	-21.1	*****	10	016	.1	213	1.3	***
2400	-20.7	*****	01	027	.3	027	1.3	***

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.1	*****	06	322	.1	236	1.3	***
0600	-19.4	*****	05	045	.4	039	1.3	***
0900	-14.2	*****	84	039	.3	050	1.3	***
1200	-6.6	-14.7	53	198	.7	200	2.5	***
1500	-3.5	*****	43	214	.8	207	1.9	***
1800	-11.9	*****	89	223	.8	210	1.9	***
2100	-16.9	*****	23	085	.3	082	1.9	***
2400	-20.7	*****	05	007	.3	032	1.3	***

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.0	*****	00	040	.3	009	1.3	***
0600	-25.6	*****	90	021	.3	001	1.3	***
0900	-15.5	*****	50	184	.2	005	1.9	***
1200	-5.2	-16.5	41	204	.8	193	1.9	***
1500	-2.4	*****	34	202	.9	253	1.9	***
1800	-13.9	*****	80	204	.6	190	1.9	***
2100	-22.7	*****	04	049	.1	235	1.3	***
2400	-27.0	*****	89	057	.2	024	1.3	***

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-28.6	*****	85	042	.3	030	1.3	***
0600	-29.6	*****	85	040	.3	035	1.3	***
0900	-15.2	*****	45	082	.2	057	1.3	***
1200	-5.5	-15.4	46	234	1.0	259	3.2	***
1500	-2.5	-13.8	42	251	1.5	269	3.2	***
1800	-10.4	-13.4	79	236	1.3	244	2.5	***
2100	-24.7	*****	97	238	.1	233	1.9	***
2400	-25.8	*****	89	059	.5	031	1.9	***

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.5	*****	95	021	.3	019	1.9	***
0600	-18.0	*****	05	069	.1	161	1.3	***
0900	-11.9	-17.0	66	225	.4	202	1.9	***
1200	*****	*****	**	236	1.0	239	2.5	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 09

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MARCH , 1981

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-.5	*****	41	221	1.3	307	3.2	***
1500	2.5	-8.4	45	169	.8	207	2.5	***
1800	-3.9	*****	70	194	.5	208	2.5	***
2100	-2.1	*****	50	200	1.0	168	7.0	***
2400	-6.1	*****	72	224	.8	219	2.5	***

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.2	*****	57	149	.5	110	2.5	***
0600	-7.8	-12.4	70	166	.3	069	2.5	***
0900	5.4	-14.2	23	145	.8	143	4.4	***
1200	7.5	-14.2	20	105	2.3	113	4.4	***
1500	7.5	-14.2	20	111	3.9	114	7.6	***
1800	4.3	-13.2	27	109	4.5	112	8.9	***
2100	-.6	-13.3	38	111	4.0	112	8.3	***
2400	-2.2	-13.8	41	103	1.8	100	4.4	***

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.0	-15.4	41	101	2.2	106	4.4	***
0600	-8.5	*****	64	143	.9	113	4.4	***
0900	-3.4	*****	44	192	.5	218	2.5	***
1200	3.0	-12.6	31	209	1.1	181	2.5	***
1500	4.0	-7.6	43	304	1.7	326	5.1	***
1800	-1.6	*****	90	307	2.0	312	5.1	***
2100	-9.6	*****	41	200	.6	218	2.5	***
2400	-13.7	*****	32	229	.8	229	2.5	***

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.8	*****	20	039	.2	317	1.9	***
0600	-14.2	-30.0	25	248	1.0	253	3.2	***
0900	-5.6	-8.9	78	259	1.3	254	3.2	***
1200	.4	-9.5	48	329	2.3	338	6.3	***
1500	2.6	-10.4	38	346	2.1	348	4.4	***
1800	-2.7	*****	61	031	1.2	043	3.8	***
2100	-11.4	*****	31	204	.7	227	1.9	***
2400	-18.8	*****	10	128	.5	166	3.2	***

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-20.9	*****	01	116	.5	099	1.9	***
0600	-23.1	*****	95	180	.1	228	2.5	***
0900	-8.3	*****	42	043	.2	009	1.9	***
1200	-.3	-12.1	41	236	1.2	227	3.8	***
1500	.1	-12.4	39	083	.7	061	5.1	***
1800	-3.7	-13.8	46	058	2.4	063	5.1	***
2100	-9.0	*****	60	063	.4	124	4.4	***
2400	-17.3	*****	93	198	.6	167	2.5	***

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.1	*****	04	223	.8	217	1.9	***
0600	-23.4	*****	95	196	.4	204	3.8	***
0900	-9.0	-19.1	44	232	.4	226	1.9	***
1200	-.7	-15.1	33	256	1.2	244	3.2	***
1500	-.8	-14.2	36	222	1.0	213	3.8	***
1800	-4.9	*****	66	242	1.1	253	3.2	***
2100	-5.9	*****	22	111	1.1	101	4.4	***
2400	-7.2	*****	40	160	.2	114	1.3	***

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	*****	40	213	.3	203	1.9	***
0600	-9.5	*****	51	208	.1	187	1.3	***
0900	-4.2	*****	69	254	.3	256	1.3	***
1200	-1.1	*****	48	170	.5	104	1.9	***
1500	-1.4	-8.3	60	173	.9	144	3.2	***
1800	-2.6	*****	77	186	1.0	149	2.5	***
2100	-4.3	*****	20	211	.3	217	1.9	***
2400	-4.8	*****	26	316	.0	187	.6	***

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	*****	27	238	.3	217	1.3	***
0600	-5.8	*****	33	225	.5	187	2.5	***
0900	-3.3	-5.2	87	262	.9	250	2.5	***
1200	-.9	-5.9	69	223	1.6	238	2.5	***
1500	-.7	-5.0	73	230	1.6	227	3.8	***
1800	-1.2	-2.2	93	235	1.1	229	2.5	***
2100	-7.7	*****	44	253	.6	234	1.9	***
2400	-14.5	*****	24	035	.3	037	1.3	***

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.1	*****	22	042	.4	034	1.3	***
0600	-19.3	*****	07	053	.3	036	1.3	***
0900	-6.2	*****	55	123	.2	026	1.3	***
1200	.2	-9.6	48	133	.7	147	2.5	***
1500	0.0	-7.6	56	160	2.0	157	3.8	***
1800	-2.4	*****	80	131	1.4	139	3.6	***
2100	-10.0	*****	47	133	.3	139	1.3	***
2400	-11.1	*****	39	130	.2	065	1.3	***

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.9	*****	48	148	.2	091	1.3	***
0600	-8.4	*****	47	212	.2	272	1.9	***
0900	-2.8	*****	76	046	.1	093	1.3	***
1200	.3	-6.9	59	223	.7	231	1.9	***
1500	.9	-6.5	58	225	1.3	224	2.5	***
1800	-2.3	*****	62	223	1.1	235	2.5	***
2100	-3.5	*****	20	192	.5	178	1.9	***
2400	-3.9	*****	36	129	.1	178	1.9	***

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	*****	51	076	.6	084	1.9	***
0600	-4.2	*****	50	078	.5	055	1.3	***
0900	-.7	-1.1	97	079	.8	072	1.9	***
1200	5.4	*****	44	130	1.0	153	2.5	***
1500	3.2	-6.9	48	216	.6	225	2.5	***
1800	-.2	*****	70	228	1.0	221	2.5	***
2100	-9.2	*****	44	194	1.0	188	2.5	***
2400	-14.1	*****	28	262	.2	221	1.9	***

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJE

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
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DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.7	*****	14	017	.2	311	1.3	***
0600	-18.6	*****	16	023	.3	023	1.3	***
0900	-5.3	-12.8	56	299	.3	252	2.5	***
1200	1.2	-9.0	47	300	1.7	323	3.8	***
1500	1.8	-9.3	44	329	2.3	336	5.1	***
1800	-1.2	-8.1	60	332	1.3	335	3.2	***
2100	-5.1	-8.7	76	272	1.2	281	2.5	***
2400	-8.4	-9.6	91	251	1.2	263	2.5	***

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.4	*****	33	235	1.0	229	2.5	***
0600	-12.0	*****	15	296	.4	225	1.9	***
0900	-6.2	-14.6	52	234	.3	028	1.9	***
1200	2.8	-10.6	37	185	.5	195	1.9	***
1500	.7	-10.3	44	216	1.7	207	3.8	***
1800	-3.1	-9.9	60	243	1.3	256	3.2	***
2100	-12.4	*****	41	244	.5	233	1.9	***
2400	-11.6	*****	28	233	.5	245	1.9	***

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.9	*****	19	248	.1	223	1.3	***
0600	-19.9	*****	13	027	.3	031	1.3	***
0900	-5.0	*****	51	218	.3	213	1.9	***
1200	-.4	-10.2	48	232	1.6	225	3.2	***
1500	1.5	-9.3	45	228	1.9	218	3.2	***
1800	-3.3	*****	59	235	1.6	241	3.2	***
2100	-13.1	*****	35	220	.5	222	1.9	***
2400	-15.5	*****	32	085	.3	062	1.9	***

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.2	-24.1	34	227	.9	232	2.5	***
0600	-5.5	-8.4	80	271	1.0	326	4.4	***
0900	-4.4	-8.6	73	348	4.1	352	8.3	***
1200	-1.1	-10.8	48	349	3.7	358	7.0	***
1500	-1.3	-11.6	46	328	2.3	338	4.4	***
1800	-3.0	*****	42	294	1.0	305	3.2	***
2100	-16.1	*****	33	184	.2	204	1.9	***
2400	-13.6	*****	31	025	.2	300	1.3	***

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MARCH , 1981

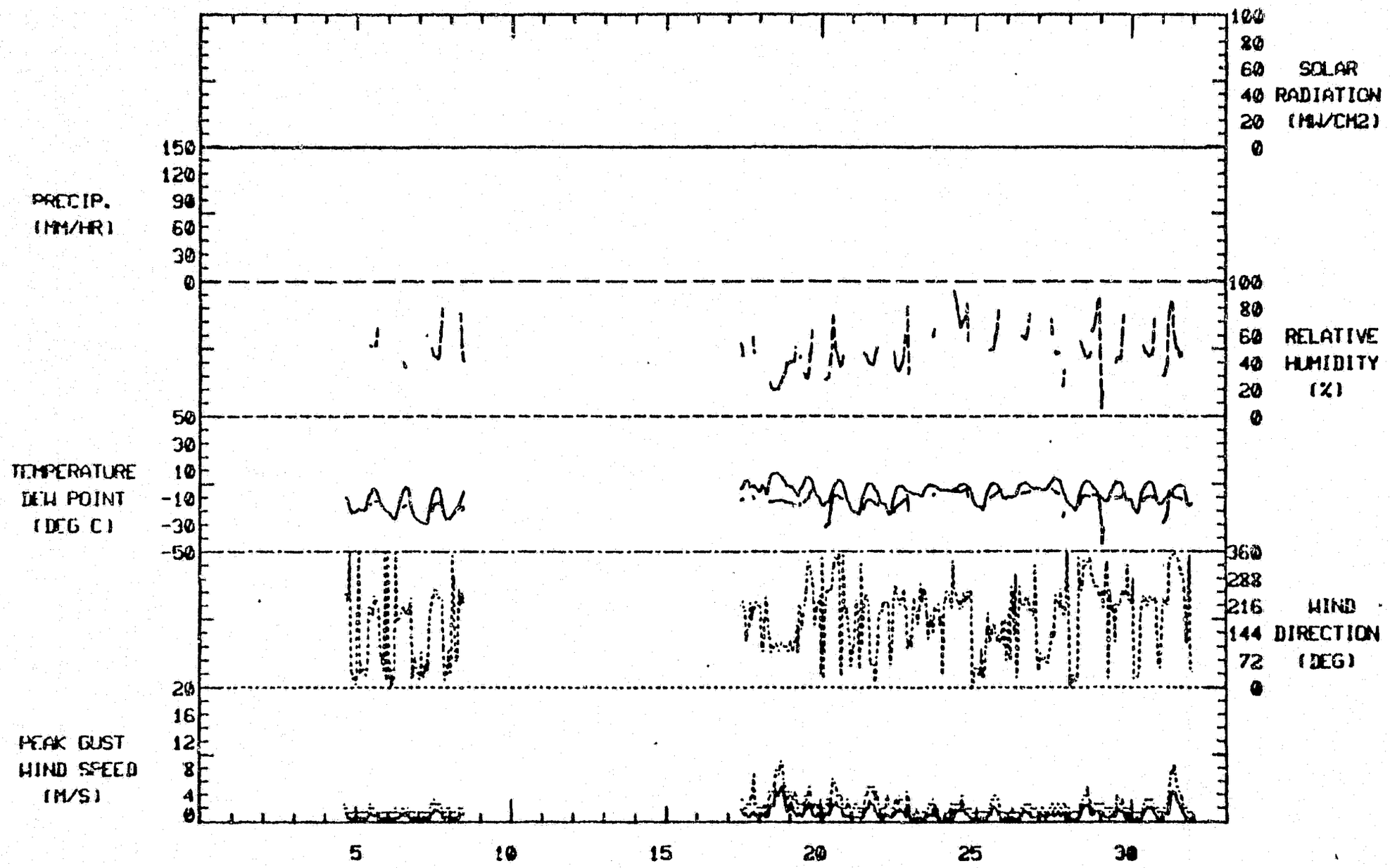
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	01
02	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	02
03	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	03
04	-9.3	-22.2	-15.8	***	****	.5	252	2.5	WSW	79	*****	****	***	04
05	-2.7	-20.7	-11.7	205	.1	.5	200	2.5	SSW	55	-14.7	****	***	05
06	-1.1	-27.0	-14.0	194	.2	.5	005	1.9	SSW	40	-16.5	****	***	06
07	-2.5	-29.8	-16.2	244	.3	.8	259	3.2	NE	51	-14.2	****	***	07
08	*****	*****	*****	***	****	.6	239	2.5	SW	55	-17.0	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	3.4	-6.1	-1.4	***	****	1.0	168	7.0	SW	51	-8.4	****	***	17
18	8.5	-8.4	.1	112	2.2	2.4	112	8.9	ESE	31	-13.6	****	***	18
19	5.6	-13.7	-4.1	129	.3	1.4	326	5.1	SSW	41	-11.9	****	***	19
20	2.9	-18.8	-7.9	320	.6	1.[illegible]	338	6.3	NNW	46	-14.7	****	***	20
21	.9	-23.1	-11.1	089	.3	1.[illegible]	061	5.1	ENE	44	-12.7	****	***	21
22	-.7	-23.6	-12.1	220	.6	1.6	101	4.4	SW	46	-16.1	****	***	22
23	1.3	-9.5	-4.[illegible]	191	.4	.5	144	3.2	SSW	63	-8.3	****	***	23
24	.4	-14.9	-7.3	236	.8	.9	227	3.8	WSW	74	-4.6	****	***	24
25	.7	-19.8	-9.5	135	.6	.8	157	3.8	SE	57	-8.7	****	***	25
26	1.6	-9.9	-4.1	215	.5	.7	224	2.5	SSW	62	-6.7	****	***	26
27	5.4	-14.1	-4.4	156	.3	.8	153	2.5	SW	45	-4.0	****	***	27
28	2.4	-20.0	-8.6	307	.9	1.2	338	5.1	NNE	59	-9.6	****	***	28
29	2.8	-14.0	-5.6	231	.7	.9	207	3.8	SW	41	-11.3	****	***	29
30	1.8	-21.5	-9.9	229	.7	.9	225	3.2	SW	50	-9.7	****	***	30
31	.3	-16.4	-8.1	330	1.4	1.8	352	8.3	SW	55	-12.7	****	***	31
MONTH	8.5	-29.8	-8.2	217	.2	1.0	112	8.9	SW	52	-11.3	****	***	

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 SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 MARCH , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MARCH , 1961

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.64	.56	.73	0.00	0.00	0.00	0.00	2.94
NNE	5.82	.11	0.00	0.00	0.00	0.00	0.00	5.93
NE	6.16	.62	.06	0.00	0.00	0.00	0.00	6.84
ENE	3.79	.73	.23	0.00	0.00	0.00	0.00	4.75
E	3.05	1.30	.34	0.00	0.00	0.00	0.00	4.69
ESE	2.03	2.26	1.69	0.00	0.00	0.00	0.00	5.99
SE	2.49	1.07	0.00	0.00	0.00	0.00	0.00	3.56
SSE	2.32	1.19	0.00	0.00	0.00	0.00	0.00	3.50
S	2.77	.79	0.00	0.00	0.00	0.00	0.00	3.56
SSW	6.50	5.48	0.00	0.00	0.00	0.00	0.00	11.98
SW	7.23	9.66	0.00	0.00	0.00	0.00	0.00	16.89
WSW	3.50	6.72	0.00	0.00	0.00	0.00	0.00	10.23
W	2.26	2.09	0.00	0.00	0.00	0.00	0.00	4.35
WNW	1.81	.90	0.00	0.00	0.00	0.00	0.00	2.71
NW	1.19	1.47	.11	0.00	0.00	0.00	0.00	2.77
NNW	.96	2.15	.85	0.00	0.00	0.00	0.00	3.95
CALM								5.37
TOTAL	53.50	37.12	4.01	0.00	0.00	0.00	0.00	100.00

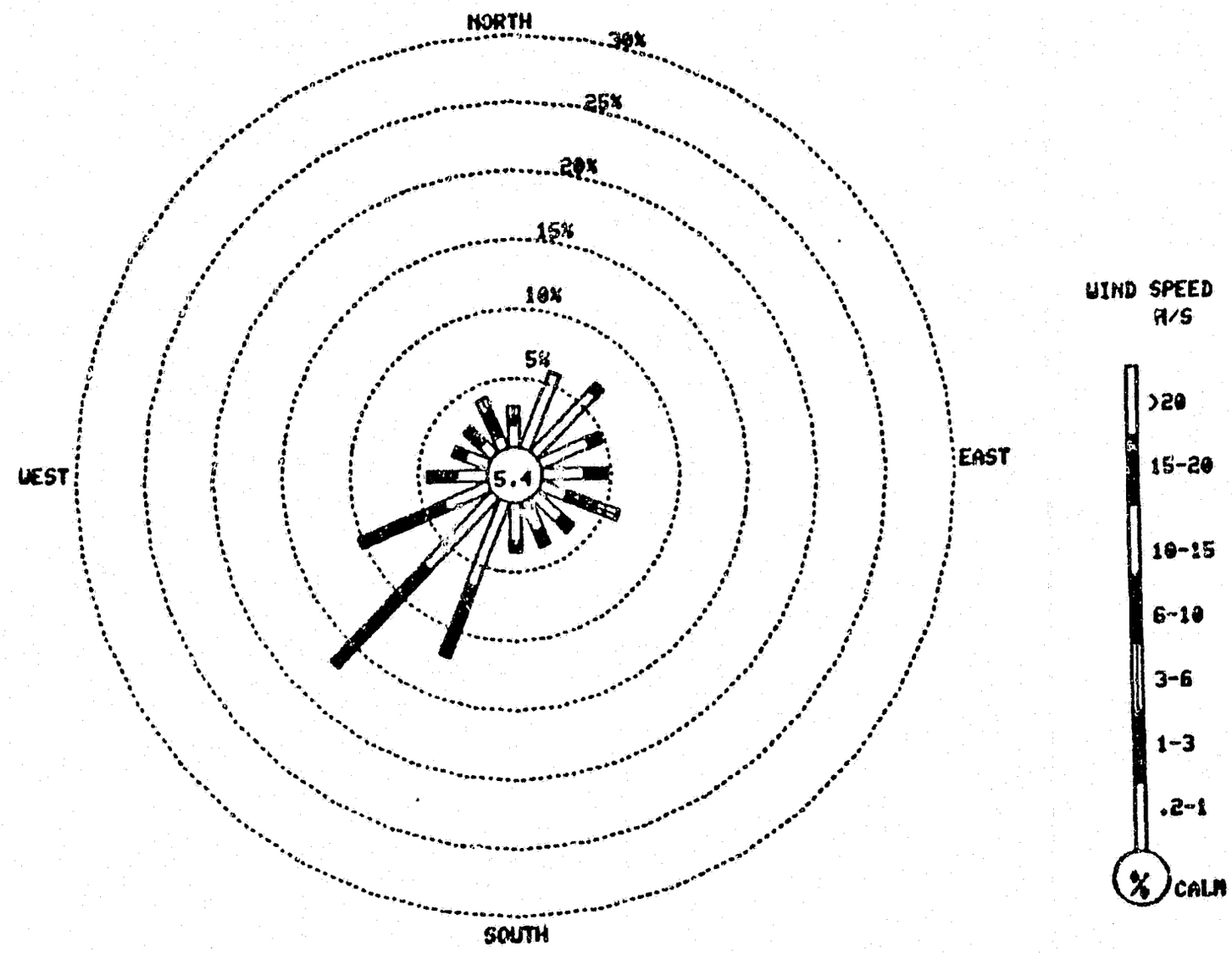
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1770 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

MARCH, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	01
02	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	02
03	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	0.0	30

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.0	*****	37	036	.2	038	1.3	***
0600	-10.5	*****	21	163	.0	064	1.3	***
0900	-5.6	-8.1	83	207	.7	218	1.9	***
1200	-1.6	*****	65	244	.7	240	2.5	***
1500	-2.4	-4.9	83	222	1.1	219	2.5	016
1800	-3.7	*****	29	248	1.3	250	3.2	002
2100	-6.7	*****	41	230	.8	234	1.9	000
2400	-11.2	*****	40	229	.5	220	1.9	001

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.8	*****	25	215	.2	242	1.3	000
0600	-10.0	*****	40	235	.6	218	1.9	005
0900	-.8	-9.8	51	274	.6	301	3.2	041
1200	.1	-11.4	42	314	2.3	325	4.4	048
1500	-1.4	-9.9	53	303	2.9	300	5.7	031
1800	-3.5	-13.1	48	285	2.5	293	5.7	006
2100	-10.0	-26.4	25	187	.4	251	2.5	001
2400	-18.5	*****	15	116	.3	215	1.9	001

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.7	*****	97	279	.0	189	2.5	001
0600	-21.2	*****	23	028	.2	096	1.3	012
0900	-7.9	-15.0	57	247	1.2	263	3.2	046
1200	-1.8	-12.9	43	255	1.6	248	[illegible]	059
1500	-1.4	-14.0	38	218	1.8	213	[illegible]	041
1800	-5.0	*****	45	240	1.3	253	3.2	006
2100	-14.7	*****	90	228	1.1	213	2.5	000
2400	-22.2	*****	00	033	.3	326	1.3	001

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.5	*****	20	110	.2	199	1.9	000
0600	-16.0	*****	09	290	.3	258	3.2	012
0900	-8.7	-16.0	56	252	1.9	257	3.8	048
1200	-2.1	-14.7	38	259	1.8	262	3.8	059
1500	-1.7	-14.6	37	307	2.0	317	4.4	042
1800	-3.9	-17.3	35	306	2.3	310	4.4	007
2100	-13.7	*****	60	230	.8	256	2.5	001
2400	-22.0	*****	08	206	.6	210	1.9	001

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.1	*****	12	255	.5	254	2.5	001
0600	-21.5	*****	70	281	.1	254	1.9	013
0900	-9.2	-19.9	42	234	.6	249	2.5	050
1200	-3.1	-17.6	32	225	1.5	254	3.2	060
1500	-1.4	-16.9	30	208	1.6	202	2.5	043
1800	-4.5	*****	34	225	1.2	218	2.5	008
2100	-16.8	*****	01	212	.8	203	3.2	001
2400	-24.1	*****	95	028	.3	032	1.3	001

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-25.9	*****	88	044	.2	031	1.3	001
0600	-22.7	*****	84	053	.2	047	1.3	013
0900	-9.4	-21.5	37	200	.3	229	1.9	050
1200	-3.0	-17.5	32	233	1.4	258	2.5	061
1500	-2.3	-16.9	32	219	1.6	204	3.2	032
1800	-5.9	-15.8	46	232	1.4	247	3.2	005
2100	-16.0	*****	06	249	.4	271	1.9	001
2400	-20.7	*****	11	030	.2	032	1.3	001

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.0	*****	97	036	.3	030	1.3	001
0600	-22.2	*****	94	045	.2	045	1.3	006
0900	-6.1	-15.7	47	254	1.2	263	3.2	048
1200	-1.8	-14.1	39	321	2.3	332	7.6	061
1500	-2.8	-14.7	40	336	4.3	349	7.0	035
1800	-4.5	-15.0	44	334	3.5	348	6.3	007
2100	-14.0	*****	07	243	.4	342	2.5	000
2400	-17.7	*****	28	202	.6	218	1.9	001

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-21.6	*****	05	063	.3	123	1.3	001
0600	-20.6	*****	90	037	.2	062	1.3	009
0900	-5.9	*****	35	086	.3	084	1.9	050
1200	-1.5	-15.1	35	249	1.3	228	3.2	048
1500	-.8	-13.8	37	294	3.5	322	7.0	036
1800	-2.6	-11.7	50	273	2.8	276	5.7	006
2100	-7.1	-10.0	80	249	1.3	244	3.2	001
2400	-6.7	-24.5	23	294	.8	337	5.1	000

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.9	-11.7	69	348	2.8	346	8.9	001
0600	-7.1	-17.4	44	337	3.6	339	7.6	013
0900	-5.4	-19.6	32	315	4.5	316	9.5	049
1200	-3.8	-21.6	24	327	6.0	333	10.2	063
1500	-3.1	-23.0	20	342	4.2	329	7.6	045
1800	-4.9	-23.5	22	334	2.7	349	5.7	008
2100	-14.4	*****	70	254	.7	303	3.8	001
2400	-21.1	*****	04	073	.3	136	1.9	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-26.2	*****	92	070	.3	062	1.3	001
0600	-23.0	*****	74	036	.3	038	1.3	016
0900	-9.6	-23.0	33	217	.5	222	1.9	052
1200	-3.9	-23.1	21	210	1.0	188	2.5	064
1500	-3.0	-21.9	22	227	1.4	235	3.2	045
1800	-5.4	-24.9	20	232	1.6	224	3.8	008
2100	-17.6	*****	71	219	.9	235	1.9	001
2400	-24.5	*****	96	034	.3	232	1.9	001

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-26.1	*****	90	035	.4	047	1.9	001
0600	-20.5	*****	66	038	.4	037	1.3	017
0900	-7.4	-21.0	33	207	.5	274	2.5	050
1200	-1.4	-21.6	20	279	1.6	336	3.8	064
1500	-.5	-21.4	19	249	1.9	263	3.8	047
1800	-1.3	-22.7	18	266	1.6	242	3.8	006
2100	-15.4	*****	79	238	.4	259	1.9	001
2400	-23.1	*****	00	360	.1	180	1.3	000

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-26.0	*****	88	050	.3	054	1.3	001
0600	-24.9	*****	87	027	.3	037	1.3	007
0900	-9.8	-22.5	35	205	.4	243	1.9	051
1200	-.9	-21.2	20	205	1.1	208	2.5	064
1500	-1.3	-21.0	21	233	1.7	232	3.8	047
1800	-3.1	-22.5	21	167	.3	073	5.1	007
2100	-11.8	-19.1	55	052	1.1	056	5.1	001
2400	-19.4	*****	95	198	.6	192	2.5	001

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-24.4	*****	96	135	.5	146	1.9	001
0600	-18.5	*****	65	113	.3	143	2.5	019
0900	-6.3	-20.1	33	260	.6	338	3.8	051
1200	-2.6	-19.2	27	062	3.6	071	7.0	065
1500	-3.0	-19.5	27	057	3.4	067	7.0	047
1800	-5.0	-22.6	24	060	2.9	055	5.1	006
2100	-13.9	*****	64	091	.6	050	3.8	001
2400	-20.1	*****	12	242	.3	238	1.9	001

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-26.8	*****	89	327	.4	265	1.9	001
0600	-21.2	*****	70	090	.3	116	1.9	019
0900	-7.3	*****	26	187	.7	194	2.5	053
1200	-5.1	-20.1	30	073	2.7	064	7.6	067
1500	-5.3	-18.8	34	050	3.6	043	7.0	036
1800	-6.3	-21.2	30	049	3.5	053	7.0	006
2100	-14.5	*****	63	056	.4	040	5.1	001
2400	-21.9	*****	87	229	.6	211	1.9	001

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-20.0	-20.2	98	035	.1	237	1.9	001
0600	-17.5	*****	67	204	.1	223	2.5	015
0900	-8.4	-21.3	35	265	.9	347	3.2	052
1200	-4.0	-23.2	21	025	.9	042	6.3	066
1500	-3.3	-23.8	19	047	3.5	036	7.0	049
1800	-5.3	-26.0	18	056	3.4	062	7.0	006
2100	-14.0	*****	53	045	1.4	060	5.1	001
2400	-19.5	-22.0	81	188	.2	206	1.9	001

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.7	-23.1	63	220	1.1	224	3.2	001
0600	-16.3	*****	47	226	.9	251	2.5	018
0900	-5.6	-22.6	25	214	.7	234	2.5	053
1200	-4.5	-22.2	24	197	.8	223	3.8	067
1500	-3.4	-21.2	24	225	2.0	231	3.8	048
1800	-4.8	-23.4	22	254	1.8	243	3.8	007
2100	-17.7	*****	86	214	.3	159	1.9	001
2400	-23.6	*****	96	069	.2	055	1.3	001

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-26.8	*****	88	023	.2	029	.6	001
0600	-19.3	*****	52	065	.1	052	1.3	021
0900	-9.0	-22.1	34	194	.7	185	2.5	055
1200	-1.9	-20.9	22	197	.9	206	2.5	067
1500	.2	-18.6	23	235	1.2	233	3.2	049
1800	-3.4	-19.0	29	245	1.8	248	3.2	007
2100	-14.9	*****	15	236	.6	226	3.2	001
2400	-2 6	*****	03	027	.1	055	1.3	001

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.6	*****	94	026	.3	034	1.3	001
0600	-17.6	*****	66	037	.3	025	1.3	020
0900	-4.2	-17.2	36	270	.6	279	2.5	052
1200	-1.1	-16.6	30	223	1.7	213	3.2	053
1500	.5	-15.2	30	228	1.6	209	4.4	034
1800	-1.8	*****	41	233	1.2	234	2.5	006
2100	-7.3	*****	72	186	.2	185	1.9	001
2400	-8.4	*****	85	049	.3	070	2.5	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.1	*****	46	039	.2	041	1.3	001
0600	-11.2	*****	01	045	.3	063	1.3	012
0900	-1.7	*****	35	208	.5	221	2.5	055
1200	1.8	-10.8	39	216	1.0	243	3.2	068
1500	3.0	-10.8	36	233	1.9	229	3.8	049
1800	.9	-13.3	34	253	1.7	265	3.2	011
2100	-8.4	*****	22	232	.9	246	2.5	001
2400	-8.9	*****	32	195	.1	124	1.3	000

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	*****	29	223	.3	214	1.9	001
0600	-5.4	*****	81	217	.7	206	2.5	015
0900	1.6	-9.2	45	216	.9	201	2.5	051
1200	4.5	-9.1	37	206	1.5	183	3.2	053
1500	6.6	-6.5	39	155	1.7	136	5.7	057
1800	4.4	*****	36	191	1.2	209	3.8	010
2100	-3.3	*****	08	114	.8	124	2.5	001
2400	-10.0	*****	51	225	.2	223	1.3	001

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.0	*****	34	334	.2	029	1.3	001
0600	-9.1	*****	72	026	.1	300	1.3	021
0900	-.2	-9.5	50	231	1.0	249	2.5	058
1200	6.4	-8.9	33	232	1.5	223	3.2	070
1500	6.9	-8.8	32	240	1.6	235	3.2	051
1800	4.3	-8.9	38	240	1.8	245	3.2	014
2100	-2.2	*****	02	226	.8	225	2.5	001
2400	-7.8	*****	54	225	.2	236	1.9	001

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.6	*****	47	326	.1	312	1.3	001
0600	-4.4	-8.8	72	296	.3	272	2.5	027
0900	3.1	-7.5	46	253	1.7	246	3.2	055
1200	6.2	-8.6	34	237	1.6	252	3.2	069
1500	8.5	-7.8	31	236	1.9	221	3.2	053
1800	5.1	-9.6	34	238	2.1	243	3.8	010
2100	-3.8	*****	30	233	.7	238	1.9	001
2400	-8.9	*****	47	054	.2	109	1.3	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.1	*****	46	190	.1	188	1.9	001
0600	-5.0	*****	85	341	.2	346	1.3	015
0900	3.7	*****	41	245	.4	264	1.9	045
1200	6.0	-6.7	40	242	1.4	260	3.2	043
1500	5.1	-5.4	47	149	1.3	086	3.8	030
1800	6.3	-7.8	36	247	1.3	243	2.5	017
2100	-1.4	-30.2	09	226	.9	241	2.5	001
2400	-2.5	-24.3	17	230	.9	270	2.5	001

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.6	*****	35	233	.4	176	2.5	001
0600	-2.0	-6.3	73	238	.7	254	2.5	030
0900	5.1	-7.2	41	308	1.2	320	3.8	049
1200	6.2	-9.0	33	305	1.1	359	3.8	057
1500	7.7	-9.4	29	154	1.1	111	3.8	054
1800	5.5	-7.2	40	203	1.4	216	3.8	024
2100	-1.6	*****	45	109	.9	128	3.8	001
2400	-5.0	*****	49	084	.1	077	1.9	000

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.9	*****	50	333	.1	224	1.3	001
0600	-1.1	*****	56	074	.3	079	1.9	035
0900	3.0	-5.3	55	213	.9	224	2.5	045
1200	6.0	-5.2	45	220	1.8	224	3.2	076
1500	6.4	-5.4	43	265	1.5	318	5.1	063
1800	6.4	*****	31	005	1.0	032	3.8	018
2100	-1.1	*****	95	216	.2	217	1.9	001
2400	-6.6	*****	48	210	.4	179	1.9	001

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.6	*****	42	204	.0	231	1.9	001
0600	-3.7	*****	61	067	.2	041	1.3	030
0900	3.7	-4.6	55	247	1.1	255	3.2	061
1200	5.7	-6.0	43	266	1.6	240	3.8	071
1500	6.7	-6.4	39	231	2.3	236	4.4	052
1800	6.0	-8.8	34	257	1.6	229	3.8	015
2100	-2.4	-28.0	12	244	.4	313	1.9	001
2400	-5.6	-16.6	42	227	.7	208	2.5	001

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.3	-19.5	32	233	1.0	226	1.9	001
0600	-4.1	-5.1	93	247	1.6	264	3.2	015
0900	3.3	-5.7	52	288	1.8	334	4.4	058
1200	6.8	-6.7	38	337	2.9	333	5.1	075
1500	7.4	-10.5	27	336	2.3	354	4.4	053
1800	6.9	-11.0	27	299	1.6	328	3.8	017
2100	-1.8	-4.8	80	258	.7	285	1.9	000
2400	-7.8	*****	50	147	.2	208	1.9	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.0	*****	47	213	.2	039	1.3	001
0600	-3.4	-5.6	85	241	.8	253	2.5	027
0900	4.6	*****	41	256	1.5	259	3.8	050
1200	6.7	-8.2	34	221	1.7	264	3.8	063
1500	7.7	-9.8	28	236	1.6	215	3.8	040
1800	6.3	*****	32	244	.8	223	3.2	011
2100	1.9	-16.2	25	348	2.7	353	6.3	001
2400	.5	*****	47	328	1.4	352	4.4	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.3	*****	52	220	.2	354	1.3	001
0600	.6	*****	47	097	.2	194	1.9	006
0900	4.3	*****	74	088	.4	090	1.9	026
1200	7.2	-3.5	47	203	1.4	219	3.8	083
1500	7.5	-4.1	44	234	2.3	226	5.7	053
1800	8.2	*****	37	227	2.0	235	3.8	017
2100	-1.6	*****	28	257	.4	246	1.9	001
2400	-5.2	*****	48	227	.2	213	1.9	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.0	*****	45	026	.2	353	1.3	001
0600	-2.9	*****	86	349	.1	034	1.3	026
0900	5.1	-4.9	49	208	.6	158	2.5	058
1200	8.5	-3.8	42	230	1.2	264	3.8	071
1500	9.0	-4.7	38	244	1.6	234	3.8	049
1800	8.5	-5.5	37	245	1.7	250	3.8	012
2100	-.8	*****	25	230	.5	245	1.9	000
2400	-4.4	*****	48	046	.2	048	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

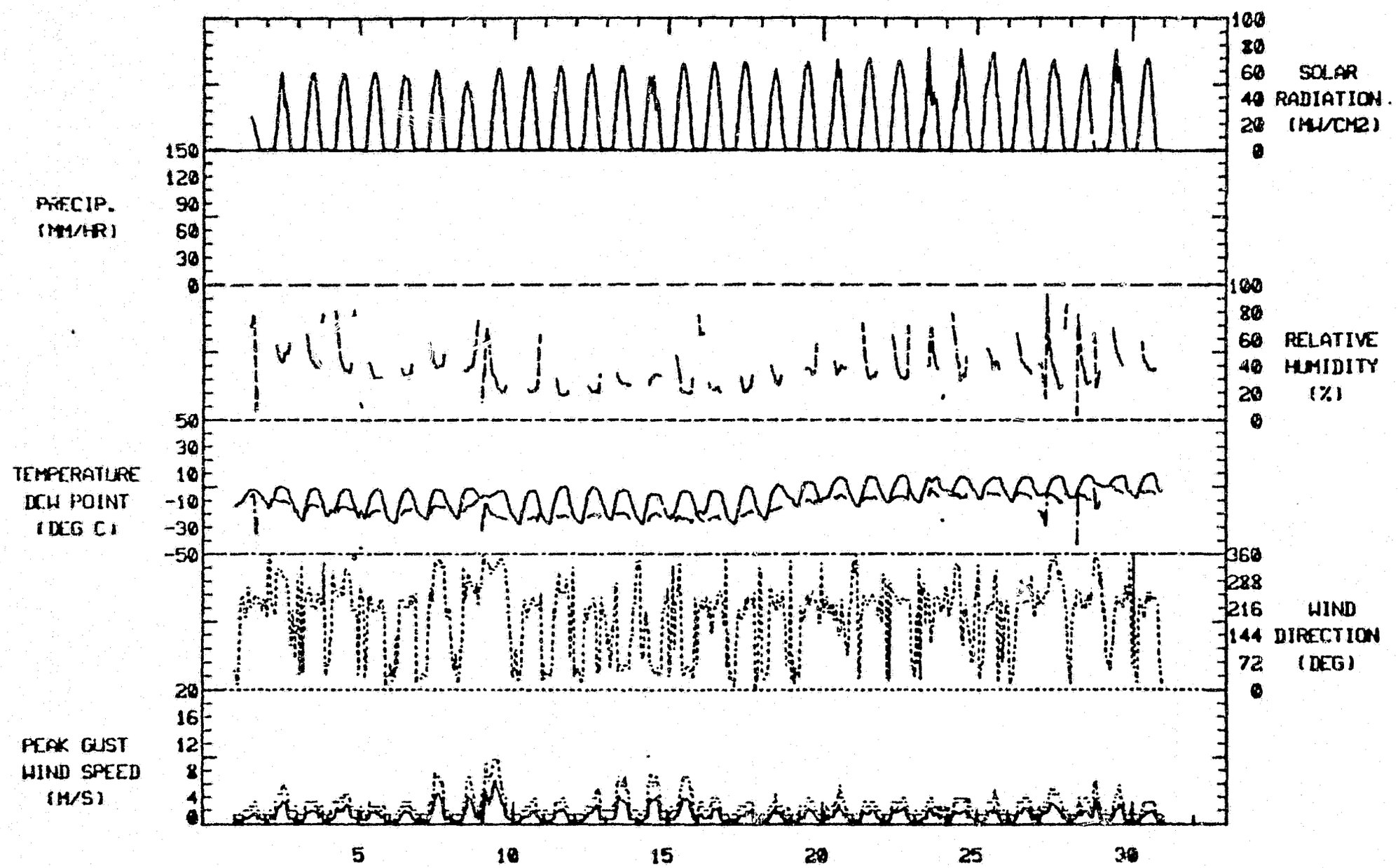
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	-1.6	-14.1	-7.9	232	.6	.8	250	3.2	SW	49	-6.5	****	1984	01
02	.6	-19.5	-9.5	291	1.0	1.4	300	5.7	NW	47	-14.1	****	4173	02
03	-.8	-25.0	-12.9	239	.8	1.0	263	3.2	WSW	50	-14.0	****	4918	03
04	-1.0	-22.0	-11.5	275	1.0	1.4	317	4.4	WSW	47	-15.6	****	5085	04
05	-.4	-24.1	-12.3	223	.7	1.0	254	3.2	SSW	36	-18.1	****	5245	05
06	-.2	-26.6	-13.4	228	.5	.8	204	3.2	SW	35	-17.9	****	4905	06
07	-1.5	-23.8	-12.6	324	1.3	1.8	332	7.6	NNW	44	-14.9	****	5125	07
08	-.8	-23.4	-12.1	279	1.1	1.4	322	7.0	W	42	-15.0	****	4425	08
09	-2.7	-21.2	-12.0	331	2.9	3.2	333	10.2	NNW	36	-19.5	****	5463	09
10	-2.4	-27.6	-15.0	223	.6	.9	224	3.8	SW	28	-23.2	****	5670	10
11	.8	-27.5	-13.4	264	.6	1.0	336	3.8	WSW	22	-21.7	****	5743	11
12	.6	-27.3	-13.4	201	.3	1.1	073	5.1	NE	25	-21.2	****	5560	12
13	-2.0	-25.1	-13.5	063	1.2	1.7	071	7.0	ENE	28	-20.3	****	5805	13
14	-4.9	-28.0	-16.5	059	1.1	1.7	064	7.6	NE	37	-20.0	****	5118	14
15	-2.5	-24.0	-13.3	046	1.0	1.7	036	7.0	NE	30	-22.7	****	5985	15
16	-2.5	-23.6	-13.0	226	.9	1.1	223	3.8	SW	35	-22.5	****	5970	16
17	1.0	-27.0	-13.0	227	.6	.8	233	3.2	WSW	27	-20.2	****	6153	17
18	1.8	-24.4	-11.3	233	.5	.9	209	4.4	SW	32	-16.3	****	5175	18
19	5.0	-15.0	-5.0	234	.7	.9	229	3.8	SW	40	-11.6	****	5965	19
20	6.7	-10.0	-1.7	187	.7	1.1	136	5.7	SSW	40	-8.3	****	5368	20
21	7.5	-14.9	-3.7	237	.8	1.0	223	3.2	SW	40	-9.0	****	6338	21
22	8.5	-11.9	-1.7	243	1.0	1.2	243	3.8	WSW	41	-8.5	****	6738	22
23	7.1	-11.6	-2.3	224	.6	1.0	086	3.8	SW	43	-14.9	****	5228	23
24	8.6	-7.1	.8	225	.3	1.2	320	3.8	SW	47	-7.8	****	6203	24
25	8.0	-8.9	-.4	243	.4	.9	318	5.1	SW	45	-5.3	****	7205	25
26	7.4	-11.0	-1.8	246	.9	1.1	236	4.4	WSW	43	-11.7	****	6815	26
27	7.8	-7.8	0.0	300	1.1	1.7	333	5.1	SW	41	-9.1	****	6490	27
28	8.4	-8.7	-.2	273	.8	1.5	353	6.3	SW	39	-10.0	****	5538	28
29	8.2	-5.2	1.5	222	.8	1.0	226	5.7	SW	49	-3.8	****	5768	29
30	10.5	-8.4	1.1	238	.6	.9	264	3.8	SW	42	-4.7	0.0	6585	30
MONTH	10.5	-28.0	-8.0	265	.5	1.2	333	10.2	SW	39	-14.3	0.0	166736	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
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 SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 APRIL , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING APRIL , 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.32	.49	.45	0.00	0.00	0.00	0.00	2.26
NNE	5.17	.14	.03	0.00	0.00	0.00	0.00	5.35
NE	5.73	.76	1.80	0.00	0.00	0.00	0.00	8.30
ENE	2.92	.56	1.25	0.00	0.00	0.00	0.00	4.72
E	2.12	.21	.07	0.00	0.00	0.00	0.00	2.40
ESE	1.67	.26	0.00	0.00	0.00	0.00	0.00	1.94
SE	1.53	.49	0.00	0.00	0.00	0.00	0.00	2.01
SSE	1.84	.42	.03	0.00	0.00	0.00	0.00	2.29
S	2.36	.67	0.00	0.00	0.00	0.00	0.00	3.23
SSW	4.56	5.66	.03	0.00	0.00	0.00	0.00	10.27
SW	6.35	12.01	.07	0.00	0.00	0.00	0.00	18.43
WSW	3.44	11.6	0.00	0.00	0.00	0.00	0.00	15.10
W	2.85	3.82	.21	0.00	0.00	0.00	0.00	6.87
WNW	1.32	1.42	.76	0.00	0.00	0.00	0.00	3.51
NW	1.18	2.40	.76	.24	0.00	0.00	0.00	4.58
NNW	.66	1.56	1.67	.10	0.00	0.00	0.00	3.99
CALM								4.76
TOTAL	45.02	42.73	7.15	.35	0.00	0.00	0.00	100.00

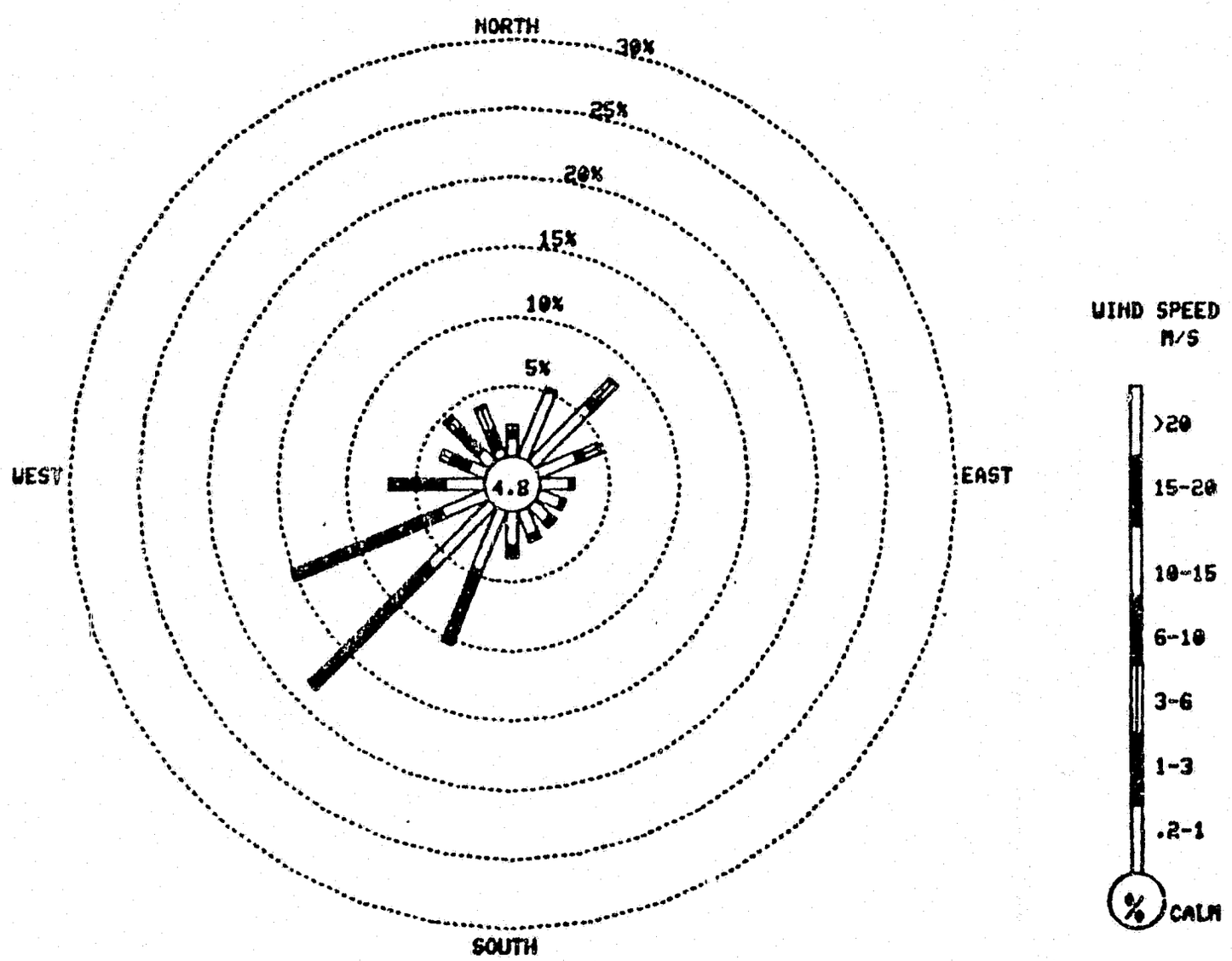
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2881 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

APRIL, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JUNE , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	01
02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	02
03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	03
04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.8	2.4	04
05	2.0	2.2	1.4	1.6	.6	.4	.2	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	05
06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	06
07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	07
08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.6	1.0	.6	1.2	1.2	1.0	1.0	1.4	1.8	.4	.2	.4	.2	.2	08
09	0.0	0.0	0.0	.2	.4	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	09
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	14
15	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	3.2	0.0	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6	0.0	22
23	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.0	1.0	1.6	1.6	.4	.4	.4	.4	.2	.2	.6	.4	.8	.4	.2	.2	.2	27
28	0.0	0.0	0.0	0.0	0.0	0.0	.8	1.6	.2	.2	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0	0.0	.4	.2	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30

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DATA TAKEN DURING JUNE , 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.1	.1	66	089	1.8	093	4.4	002
0600	8.2	.8	60	086	1.4	064	3.8	024
0900	12.2	-1.1	40	092	2.3	070	5.7	076
1200	14.3	-3.2	30	139	3.5	138	7.0	082
1500	14.6	-4.8	26	139	3.3	138	7.0	047
1800	13.6	-6.2	25	144	2.6	151	5.1	024
2100	8.9	*****	39	152	1.2	150	3.2	002
2400	1.1	*****	43	113	.2	114	1.3	000

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.1	*****	35	074	.4	082	1.9	003
0600	6.7	*****	70	287	.1	269	2.5	029
0900	11.1	-1.1	43	048	1.0	052	3.2	070
1200	12.8	-4.9	29	190	1.0	178	4.4	031
1500	13.1	-2.9	33	334	1.8	009	6.3	036
1800	12.6	-3.0	34	312	2.1	339	4.4	013
2100	7.7	4.2	79	332	1.8	004	6.3	001
2400	2.4	*****	39	239	.3	271	2.5	001

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.4	*****	42	217	.1	206	1.3	003
0600	6.8	*****	69	271	.2	317	1.3	020
0900	11.4	-1.8	40	107	1.7	105	5.7	061
1200	12.5	-1.9	37	119	2.6	137	5.1	037
1500	14.1	-3.3	30	122	2.5	134	6.3	045
1800	12.3	-3.2	34	147	3.2	145	5.7	019
2100	6.1	*****	78	147	1.6	145	5.7	001
2400	2.9	-11.9	33	087	.7	083	2.5	001

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.1	*****	43	171	.5	120	1.9	003
0600	6.7	1.1	68	281	.1	035	3.8	022
0900	9.8	-1.4	46	356	.8	309	3.8	054
1200	13.0	-3.4	32	119	1.5	113	4.4	070
1500	11.9	.2	45	198	2.1	229	7.6	045
1800	9.4	1.5	58	246	3.0	220	7.6	015
2100	6.8	6.4	97	294	.4	225	3.8	001
2400	4.6	-8.6	38	221	1.3	214	3.8	001

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.6	*****	44	222	.9	202	2.5	001
0600	3.9	*****	33	312	.4	334	1.9	007
0900	6.0	5.2	95	290	.6	337	2.5	037
1200	8.2	-.2	56	315	2.4	311	6.3	038
1500	11.3	-.9	43	314	2.6	316	5.7	067
1800	9.4	-1.2	48	315	3.3	326	6.3	013
2100	4.5	*****	81	293	1.9	286	4.4	002
2400	.4	*****	42	198	.3	211	1.9	001

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	-24.8	11	215	.3	134	1.9	003
0600	6.4	4.0	85	298	1.2	322	3.8	020
0900	10.0	.5	52	359	2.1	009	5.1	047
1200	13.4	-1.5	36	023	1.0	034	3.2	047
1500	13.5	.4	41	071	1.5	061	5.7	076
1800	8.9	6.0	82	043	1.4	059	4.4	005
2100	6.6	3.0	78	088	1.2	068	3.8	002
2400	1.3	*****	47	117	.4	155	2.5	001

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.8	*****	50	052	.3	039	1.3	003
0600	7.2	5.0	86	256	.7	261	1.9	021
0900	12.3	.3	44	290	1.4	275	3.2	091
1200	12.5	-1.2	39	258	2.5	245	6.3	031
1500	13.7	-2.0	34	313	1.6	282	5.1	030
1800	13.7	-3.2	31	314	2.7	283	6.3	022
2100	10.6	-2.6	40	279	2.8	285	6.3	002
2400	8.3	*****	58	240	.7	264	3.2	001

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.5	1.9	73	277	.8	294	2.5	003
0600	4.3	-14.2	25	095	.7	092	5.7	012
0900	3.4	-19.5	17	098	3.2	086	6.3	022
1200	4.3	-16.3	21	088	2.5	093	5.1	027
1500	5.0	-11.7	29	080	2.2	081	4.4	017
1800	3.9	-10.7	34	072	1.2	060	3.2	004
2100	1.8	*****	41	004	1.1	052	3.2	001
2400	2.0	-11.7	36	349	1.1	011	3.2	001

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.8	*****	41	034	.5	073	1.9	001
0600	3.0	*****	26	177	.4	135	1.9	015
0900	5.7	1.9	77	220	1.0	216	2.5	041
1200	10.2	-1.6	44	215	1.4	202	3.8	095
1500	10.3	-1.9	43	221	1.7	178	5.7	076
1800	10.8	-5.4	32	166	1.2	173	7.6	031
2100	6.8	1.4	69	155	.6	234	3.8	002
2400	2.4	*****	24	283	.8	345	3.2	001

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DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.8	-14.2	32	242	1.0	246	1.9	003
0600	6.7	.9	67	256	1.4	249	2.5	036
0900	11.5	-2.1	39	340	1.8	356	4.4	072
1200	14.8	-6.8	22	246	1.2	223	3.8	082
1500	14.5	-10.4	17	232	1.8	205	4.4	028
1800	16.5	*****	10	046	.7	063	3.8	034
2100	9.0	*****	44	059	.7	037	2.5	003
2400	3.3	-18.9	18	213	.7	213	2.5	001

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	-22.2	14	229	1.3	240	3.2	003
0600	8.1	.7	60	258	1.8	271	3.8	021
0900	13.7	-2.8	32	327	2.1	337	5.1	043
1200	13.4	-.4	39	024	3.1	054	7.6	085
1500	12.7	*****	47	010	2.7	036	7.0	028
1800	11.0	4.6	65	330	1.5	247	5.1	033
2100	7.7	5.3	85	331	2.7	337	6.3	002
2400	1.1	*****	51	223	.7	249	1.9	001

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.7	*****	51	077	.3	067	1.9	002
0600	6.7	4.8	88	282	.4	262	2.5	033
0900	13.9	.1	39	289	.7	282	3.2	068
1200	15.6	-5.0	24	160	1.0	167	3.8	091
1500	16.6	-12.0	13	161	.5	213	3.2	016
1800	17.8	-15.5	09	350	1.1	052	5.1	032
2100	13.5	-1.4	36	102	.4	139	2.5	003
2400	7.6	*****	58	293	1.0	289	4.4	001

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.3	*****	95	228	1.0	225	1.9	003
0600	11.3	-.3	45	260	1.4	259	3.2	035
0900	18.0	-.4	29	350	1.7	339	5.1	068
1200	20.2	-10.1	12	113	2.7	108	6.3	083
1500	18.9	-8.4	15	151	2.5	096	7.6	034
1800	18.7	-10.3	13	078	3.0	084	7.0	020
2100	10.4	*****	67	111	1.1	109	5.7	002
2400	2.6	*****	42	197	.2	215	1.3	001

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.3	*****	19	223	.9	260	3.2	003
0600	11.6	3.5	58	255	1.3	243	2.5	034
0900	16.2	1.0	36	262	1.7	266	3.8	062
1200	18.3	-1.6	26	310	1.4	013	4.4	023
1500	16.1	.5	35	353	1.0	343	7.0	031
1800	13.3	2.7	49	258	1.7	053	5.7	016
2100	11.4	2.8	56	267	1.6	265	5.1	001
2400	8.5	-14.0	19	220	1.2	285	3.8	001

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.5	*****	29	241	.7	250	2.5	003
0600	10.5	10.0	97	262	.9	252	2.5	014
0900	13.4	7.6	68	334	1.8	005	5.1	026
1200	18.0	4.8	42	349	.8	005	5.1	087
1500	16.9	1.2	35	118	2.5	044	7.0	087
1800	14.9	8.1	64	349	1.9	036	5.7	014
2100	9.3	*****	31	224	.8	223	5.7	002
2400	6.7	-6.4	39	251	.9	247	2.5	001

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.6	*****	40	252	1.2	263	3.2	003
0600	11.6	7.1	74	263	1.1	265	2.5	034
0900	16.0	5.2	49	334	2.1	332	4.4	069
1200	12.6	6.8	68	340	1.0	142	5.7	007
1500	19.8	-1.4	24	275	.1	088	5.1	061
1800	20.2	-7.3	15	322	1.3	004	4.4	025
2100	13.9	.8	41	307	1.6	321	5.1	004
2400	7.5	*****	83	225	.9	210	2.5	001

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.6	-32.5	04	239	1.4	239	2.5	003
0600	12.3	4.2	58	256	1.3	255	3.2	034
0900	18.9	-2.8	23	294	1.3	275	3.2	071
1200	21.3	-9.3	12	321	1.3	301	4.4	085
1500	21.9	-19.3	05	070	.9	112	5.7	073
1800	21.7	-21.9	04	070	2.8	059	5.7	040
2100	13.1	*****	33	073	2.0	073	5.7	003
2400	3.2	*****	10	188	.3	222	1.9	001

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.6	*****	39	106	.1	213	1.9	003
0600	9.1	3.4	68	255	.9	252	3.2	021
0900	18.5	-3.1	23	263	1.4	324	3.8	055
1200	18.7	-7.7	16	021	2.4	069	6.3	051
1500	19.1	-10.0	13	047	2.4	066	7.6	035
1800	15.0	.7	38	247	.9	279	5.1	007
2100	12.2	*****	58	177	.8	191	4.4	003
2400	7.6	*****	29	254	.7	244	3.8	001

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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.2	*****	39	119	.4	158	2.5	003
0600	10.3	4.4	67	140	.7	112	3.2	034
0900	15.1	.0	36	131	.5	136	2.5	072
1200	17.1	-4.9	22	063	1.3	055	4.4	090
1500	16.1	.9	36	084	2.2	044	10.2	071
1800	16.4	*****	22	139	1.3	135	3.8	011
2100	11.1	*****	49	116	1.6	094	5.7	003
2400	2.6	*****	43	040	.1	071	1.3	000

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.1	*****	48	093	.2	069	1.3	003
0600	8.3	*****	66	334	.2	046	1.9	031
0900	16.9	*****	35	189	.1	114	3.2	068
1200	18.8	-6.8	17	249	.8	310	5.1	067
1500	18.9	-9.2	14	228	1.5	222	4.4	038
1800	17.2	-6.1	20	212	2.0	211	5.1	015
2100	13.8	.3	40	258	1.2	259	4.4	001
2400	11.6	1.4	50	310	2.0	319	5.7	001

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.4	5.5	77	325	1.3	311	4.4	002
0600	8.8	-8.9	28	245	1.9	249	4.4	011
0900	11.9	7.6	75	248	2.8	253	5.7	045
1200	14.5	4.1	50	256	3.7	241	7.0	065
1500	14.1	4.0	51	288	3.8	286	7.0	048
1800	12.2	3.1	54	293	3.8	286	7.0	014
2100	10.7	3.6	62	277	2.5	279	5.7	003
2400	7.2	*****	16	224	.6	236	3.8	001

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.3	*****	31	158	.2	218	1.9	002
0600	11.0	7.8	81	281	1.0	297	3.8	019
0900	12.8	5.9	63	304	1.9	318	4.4	023
1200	17.3	.4	32	284	1.9	310	5.1	086
1500	17.7	-2.7	25	323	2.9	326	5.7	026
1800	11.9	9.4	85	136	2.3	143	5.7	016
2100	9.3	*****	27	197	.5	172	3.2	001
2400	8.2	*****	34	100	.5	085	2.5	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.7	*****	49	098	.4	078	1.3	003
0600	8.9	*****	87	347	.2	088	1.3	030
0900	13.9	3.8	51	120	1.2	134	4.4	071
1200	12.7	3.3	53	120	1.9	127	5.1	015
1500	16.9	2.4	38	069	.4	058	7.0	068
1800	15.5	-.0	35	187	.5	319	6.3	033
2100	10.4	*****	82	115	.7	096	2.5	002
2400	9.9	*****	81	130	.3	175	1.9	001

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.1	7.0	87	309	.6	079	2.5	002
0600	12.3	4.9	61	297	.4	330	3.2	029
0900	14.5	3.2	47	346	1.2	321	4.4	038
1200	16.2	1.4	37	312	1.8	331	5.1	028
1500	15.7	4.6	48	152	2.5	137	5.7	087
1800	9.3	-9.4	26	181	1.6	152	5.7	009
2100	9.2	-18.8	12	197	.7	235	3.8	002
2400	6.8	*****	37	147	.5	224	2.5	001

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.2	*****	40	060	.5	065	1.9	001
0600	9.2	*****	31	131	.1	232	1.3	010
0900	12.8	4.7	58	241	.5	313	3.8	030
1200	14.8	4.1	49	282	1.8	248	4.4	059
1500	17.7	2.0	35	277	1.7	304	4.4	026
1800	15.2	3.3	45	345	2.5	349	6.3	021
2100	11.0	*****	94	239	.6	343	3.2	001
2400	9.4	*****	19	150	.3	154	1.9	001

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.9	-33.7	03	206	.7	227	3.8	002
0600	10.5	7.3	81	286	.9	238	3.2	011
0900	11.1	*****	70	306	1.3	327	4.4	011
1200	10.3	8.0	86	325	1.2	328	2.5	015
1500	9.6	9.4	99	325	1.5	323	3.2	008
1800	8.5	7.3	92	294	1.2	318	3.8	001
2100	7.8	*****	20	321	1.2	317	4.4	001
2400	6.8	*****	30	204	.5	265	1.3	001

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.7	*****	25	165	.3	181	1.3	001
0600	7.1	-26.4	07	021	.4	009	1.9	015
0900	5.9	-11.8	27	013	1.5	018	3.8	010
1200	5.3	-16.0	20	357	2.5	002	5.1	019
1500	5.0	-12.6	27	350	2.5	359	5.1	016
1800	4.7	-11.1	31	347	2.0	001	4.4	005
2100	4.1	-10.1	35	336	1.5	350	3.8	001
2400	3.3	*****	42	318	.9	323	2.5	000

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JUNE , 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.1	*****	36	341	.7	355	3.2	002
0600	4.1	*****	36	339	.7	328	1.9	006
0900	5.1	-31.4	05	358	1.5	349	3.2	027
1200	7.9	3.9	76	031	.9	059	2.5	054
1500	6.1	-45.4	01	220	.5	196	3.8	003
1800	7.5	*****	82	160	1.4	133	3.2	015
2100	4.8	*****	29	322	.2	213	3.2	002
2400	2.0	*****	48	115	.2	205	1.3	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.4	*****	37	302	.1	255	1.9	002
0600	6.4	*****	81	252	.5	272	1.9	025
0900	8.0	1.7	65	133	1.1	137	4.4	039
1200	7.1	5.9	92	144	2.1	190	7.0	021
1500	8.6	6.9	89	101	2.0	115	4.4	026
1800	9.1	4.3	72	136	2.7	149	5.7	016
2100	6.5	3.3	80	105	2.4	114	5.7	002
2400	5.1	-46.0	01	075	1.5	075	3.2	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.1	*****	34	104	1.1	091	3.2	002
0600	4.5	2.5	87	357	1.2	352	4.4	013
0900	4.9	-31.5	05	331	1.7	326	4.4	018
1200	9.2	-4.5	38	272	2.0	264	5.7	029
1500	10.4	-7.5	28	288	2.3	281	5.1	017
1800	5.7	1.2	73	288	.2	209	5.7	008
2100	4.4	*****	99	356	.6	352	3.2	002
2400	-.5	*****	44	085	.3	077	1.3	001

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JUNE , 1981

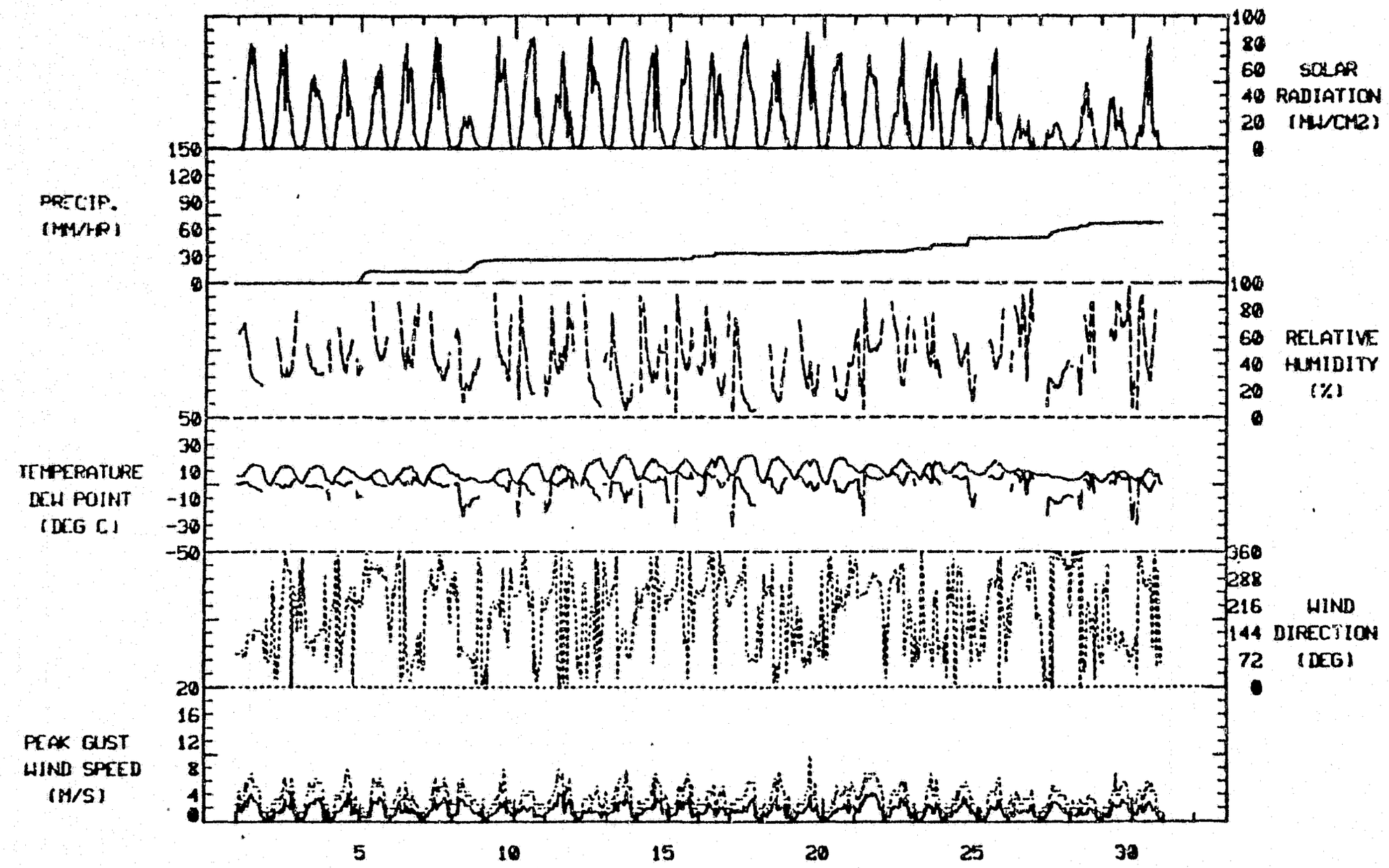
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	15.6	1.1	8.4	124	1.8	2.1	138	7.0	SE	43	-2.4	0.0	7188	01
02	15.2	-.5	7.4	329	.6	1.4	009	6.3	NW	41	-1.5	0.0	6568	02
03	14.3	.6	7.4	128	1.5	1.7	134	6.3	SE	38	-4.5	0.0	5523	03
04	13.3	-.4	6.4	218	.7	1.6	229	7.6	SW	48	-.6	4.2	5628	04
05	11.3	.4	5.8	304	1.4	1.6	311	6.3	NW	53	.7	8.6	5168	05
06	13.6	0.0	6.8	033	.7	1.4	061	5.7	N	57	-1.8	0.0	6225	06
07	15.3	-1.1	7.1	286	1.4	1.8	245	6.3	WNW	42	-.6	0.0	7283	07
08	8.5	1.5	5.0	074	1.1	1.8	086	6.3	E	33	-11.7	11.6	2233	08
09	12.1	1.8	6.9	208	.7	1.3	173	7.6	SW	50	-1.1	1.0	6618	09
10	16.6	.3	8.4	264	.6	1.3	356	4.4	WSW	36	-8.6	0.0	8110	10
11	14.9	1.1	8.0	333	1.3	2.2	054	7.6	NNW	50	-2.5	0.0	5510	11
12	19.2	-.8	9.2	289	.1	1.1	052	5.1	ENE	34	-4.8	0.0	7530	12
13	22.6	2.6	12.6	115	.7	1.9	096	7.6	E	28	-5.9	0.0	8225	13
14	19.5	3.3	11.4	265	1.1	1.8	343	7.0	W	45	-.7	.4	6500	14
15	19.4	6.7	13.1	312	.3	1.6	044	7.0	WSW	45	4.2	3.6	5965	15
16	21.1	5.5	13.3	300	.9	1.5	142	5.7	W	42	1.8	3.0	6535	16
17	22.4	3.2	12.8	025	.3	1.6	112	5.7	ENE	22	-13.6	0.0	8355	17
18	21.3	1.4	11.4	329	.3	1.5	066	7.6	WSW	33	-3.3	0.0	5663	18
19	18.6	2.6	10.6	106	.9	1.3	044	10.2	ESE	34	.1	.2	7913	19
20	20.3	-.1	10.1	251	.7	1.4	319	5.7	W	26	-4.1	0.0	6938	20
21	14.9	7.1	11.0	273	2.3	2.7	241	7.0	WSW	51	2.7	1.6	6158	21
22	18.7	5.2	12.0	291	.5	1.6	326	5.7	WNW	53	4.2	3.2	5110	22
23	17.1	3.7	10.4	118	.6	1.2	058	7.0	E	47	2.4	4.4	6825	23
24	16.6	6.8	11.7	216	.3	1.6	137	5.7	SSE	45	-1.0	7.4	5043	24
25	18.6	6.8	12.7	298	.6	1.3	349	6.3	S	49	3.5	.6	5280	25
26	11.7	6.8	9.3	302	.9	1.3	327	4.4	NW	69	-.3	.4	1937	26
27	7.3	3.1	5.2	351	1.3	1.5	002	5.1	N	27	-14.7	10.4	1813	27
28	10.6	1.9	6.3	004	.2	1.1	196	3.8	NNW	52	-24.3	5.8	3738	28
29	9.9	1.0	5.4	119	1.3	1.7	190	7.0	ESE	68	-4.0	.2	3573	29
30	11.9	-.5	5.7	315	.7	1.5	264	5.7	E	51	-8.0	.4	4968	30
MONTH	22.6	-1.1	9.1	299	.2	1.6	044	10.2	WSW	44	-3.3	67.0	174115	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
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 SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 JUNE , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JUNE , 1961

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	.94	3.89	1.18	0.00	0.00	0.00	0.00	6.01
NNE	1.18	2.01	.24	0.00	0.00	0.00	0.00	3.44
NE	1.81	1.67	.21	0.00	0.00	0.00	0.00	3.68
ENE	2.71	2.81	.76	0.00	0.00	0.00	0.00	6.28
E	1.81	4.44	.59	0.00	0.00	0.00	0.00	6.84
ESE	1.63	3.47	.69	0.00	0.00	0.00	0.00	5.80
SE	1.49	2.50	1.18	0.00	0.00	0.00	0.00	5.17
SSE	1.53	2.88	.83	0.00	0.00	0.00	0.00	5.24
S	1.63	1.11	.28	0.00	0.00	0.00	0.00	3.02
SSW	2.64	2.81	.07	0.00	0.00	0.00	0.00	5.52
SW	2.88	3.54	.24	0.00	0.00	0.00	0.00	6.67
WSW	2.71	6.53	.69	0.00	0.00	0.00	0.00	9.93
W	2.05	6.22	.80	0.00	0.00	0.00	0.00	9.06
WNW	1.77	4.03	.94	0.00	0.00	0.00	0.00	6.74
NW	1.49	5.73	.80	0.00	0.00	0.00	0.00	8.02
NNW	1.18	5.42	.52	0.00	0.00	0.00	0.00	7.12
CALM								1.46
TOTAL	29.44	59.06	10.03	0.00	0.00	0.00	0.00	100.00

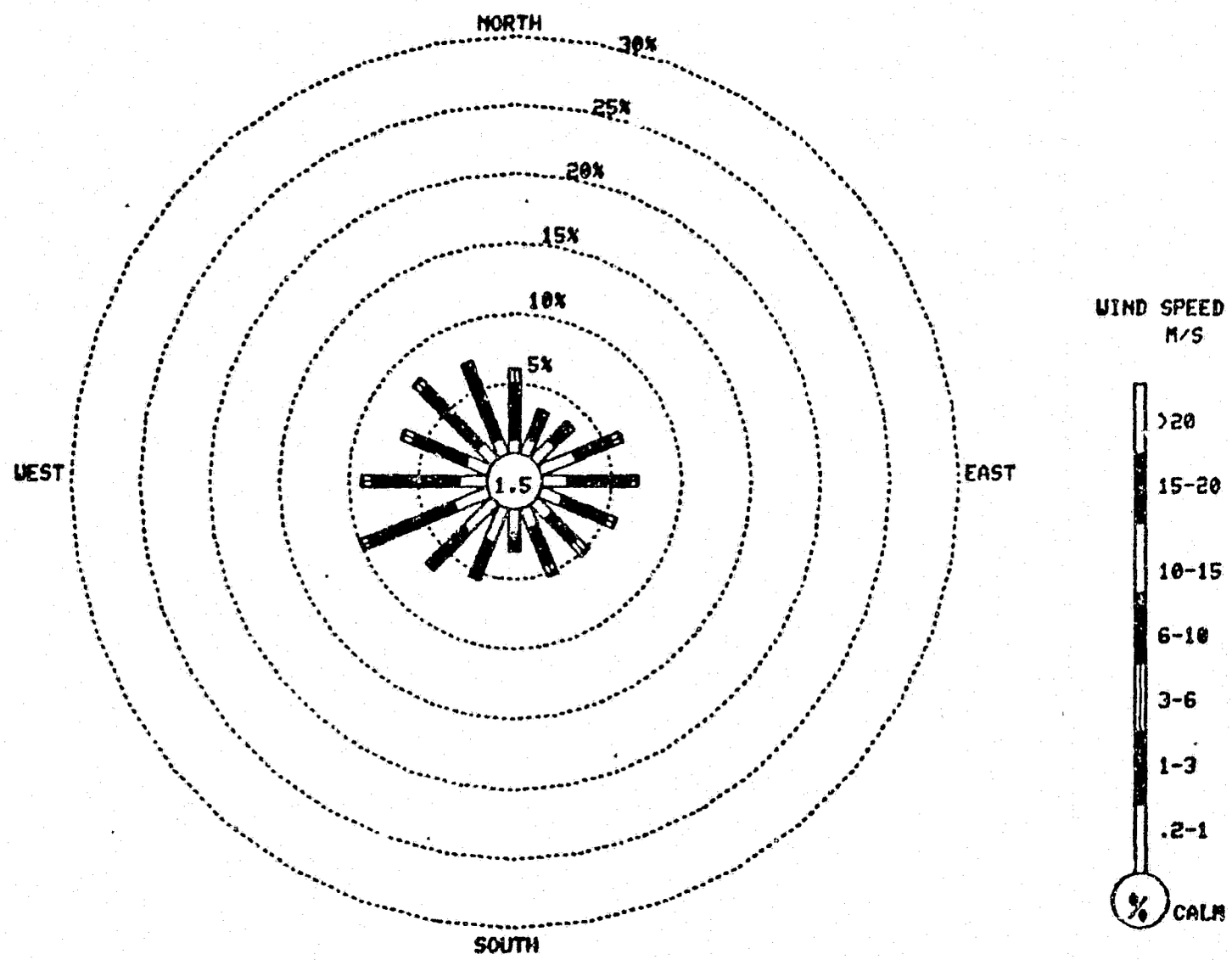
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2880 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

JUNE, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MAY , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	01
02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	02
03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	03
04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	04
05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	05
06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	06
07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	07
08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	08
09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	09
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	1.0	0.0	13
14	0.0	0.0	0.0	.2	0.0	.2	.2	0.0	.8	0.0	0.0	.2	1.4	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.2	0.0	.2	0.0	.2	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	.2	.4	0.0	.6	1.0	.4	.4	3.2	2.4	0.0	.2	0.0	1.2	1.6	.4	0.0	0.0	0.0	.2	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30
31	0.0	0.0	.4	1.0	3.4	2.8	.4	1.4	1.4	.2	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MAY , 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.6	*****	48	165	.1	190	1.3	001
0600	2.0	*****	60	218	.5	233	2.5	032
0900	7.1	-5.7	40	067	.8	072	5.7	059
1200	9.3	-6.3	33	129	1.9	153	4.4	091
1500	6.9	-5.6	41	231	.3	335	7.0	022
1800	6.0	-2.2	56	345	3.3	328	6.3	015
2100	.4	-18.0	24	253	1.3	288	4.4	001
2400	.9	-1.2	86	265	1.2	299	5.1	001

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.7	-2.0	91	276	1.7	281	4.4	001
0600	1.4	-3.9	68	301	1.7	344	5.1	025
0900	4.6	-3.5	56	337	3.5	334	7.0	058
1200	7.4	-3.0	48	340	2.7	356	5.7	071
1500	8.5	-4.5	40	315	2.1	325	5.7	032
1800	7.9	-5.0	40	326	2.4	330	5.7	018
2100	2.1	-1.6	77	327	1.1	343	3.8	001
2400	-3.0	-13.7	44	224	.9	227	2.5	001

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	*****	43	236	.9	236	3.2	001
0600	-.8	*****	06	222	.2	231	1.9	020
0900	5.1	-1.7	62	221	.5	158	5.1	041
1200	7.2	-3.2	48	151	2.1	140	5.1	018
1500	8.5	-4.8	39	147	2.5	142	7.6	044
1800	6.2	-5.9	42	132	3.9	134	7.6	013
2100	2.3	-3.3	67	113	2.0	133	5.1	001
2400	1.7	-2.5	74	066	1.5	062	3.8	001

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	-2.1	86	068	1.3	082	2.5	001
0600	3.7	-2.4	65	068	1.5	061	3.8	023
0900	6.9	-2.9	50	102	2.8	107	5.7	040
1200	8.9	-3.8	41	144	3.3	145	7.0	089
1500	7.8	-4.4	42	146	2.8	135	5.7	023
1800	4.9	-3.2	56	128	1.7	145	4.4	004
2100	.5	*****	97	096	.6	095	3.8	001
2400	-.9	*****	26	087	.9	085	1.9	001

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.6	*****	51	222	.4	213	1.3	001
0600	-1.0	*****	21	240	.3	260	1.9	016
0900	6.7	-.8	59	135	.7	124	4.4	057
1200	10.1	-2.0	43	195	.7	082	4.4	072
1500	10.6	-3.3	38	297	2.1	293	5.7	050
1800	9.8	-3.6	39	325	1.9	337	5.1	012
2100	3.0	*****	76	268	.6	293	3.2	001
2400	-2.1	*****	44	212	.7	212	2.5	001

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.2	*****	53	009	.2	323	1.3	001
0600	1.1	*****	84	007	.2	285	1.3	029
0900	9.9	-1.9	44	269	1.0	251	2.5	060
1200	13.1	-2.9	33	238	1.0	223	3.2	071
1500	16.2	*****	23	260	1.3	256	3.8	054
1800	14.9	-4.6	26	002	2.1	333	4.4	021
2100	6.5	-1.7	56	347	1.8	339	3.8	001
2400	.1	-14.4	33	222	1.0	223	1.9	000

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.1	-17.9	25	236	1.2	258	2.5	001
0600	4.2	-1.1	69	245	1.6	252	3.2	027
0900	13.4	-3.5	31	333	.8	016	3.8	061
1200	16.4	-3.8	25	307	1.2	292	3.8	063
1500	16.1	-9.1	17	049	1.5	055	5.7	055
1800	15.6	-8.0	19	037	3.1	040	5.7	021
2100	6.4	*****	55	042	.9	043	4.4	001
2400	5.4	*****	58	209	.9	203	1.9	001

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.2	*****	32	211	.7	215	1.9	001
0600	9.4	-2.1	45	218	.9	206	2.5	028
0900	15.3	-5.3	24	038	2.8	050	7.0	061
1200	16.1	-7.0	20	063	3.2	093	7.6	073
1500	16.9	-9.2	16	062	3.2	080	7.0	056
1800	16.5	-11.2	14	049	3.0	040	6.3	022
2100	5.5	*****	57	041	.8	039	4.4	001
2400	-.6	*****	17	210	.6	203	1.9	001

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	*****	44	086	.2	139	1.3	001
0600	1.8	*****	09	001	.1	062	1.9	010
0900	11.2	*****	39	306	.5	264	2.5	043
1200	14.3	-2.7	31	270	1.3	269	10.2	051
1500	12.9	-1.6	37	346	3.0	336	5.7	016
1800	11.3	-1.0	41	295	1.2	316	5.7	012
2100	7.4	*****	61	309	1.2	317	4.4	001
2400	4.3	3.4	94	234	.7	260	1.9	001

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DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.0	*****	39	095	.3	104	1.9	001
0600	5.3	*****	19	195	.3	183	1.9	010
0900	10.2	2.2	58	310	.7	352	3.8	027
1200	11.7	3.6	58	315	1.2	004	5.7	074
1500	11.4	1.0	49	340	2.3	352	5.1	024
1800	9.4	.2	53	326	3.2	337	6.3	008
2100	6.2	-.2	64	341	2.1	327	3.8	001
2400	4.3	*****	75	354	1.8	357	3.8	001

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	*****	25	215	.7	228	2.5	001
0600	2.0	-16.1	25	104	1.1	085	2.5	005
0900	6.1	*****	77	086	1.0	099	2.5	050
1200	10.0	-.6	48	151	1.0	201	3.8	049
1500	10.9	-2.3	40	157	1.4	151	3.8	030
1800	10.0	-1.2	46	009	1.6	354	3.8	008
2100	5.2	*****	78	006	.6	015	2.5	001
2400	1.2	*****	45	102	.2	040	1.3	000

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.6	*****	43	056	.2	052	1.3	001
0600	6.3	*****	59	057	.2	138	1.3	030
0900	11.3	-2.3	39	108	.7	140	4.4	061
1200	12.5	-4.3	31	127	1.9	141	6.3	032
1500	14.1	-4.3	28	065	2.3	049	5.1	032
1800	12.7	-4.6	30	075	2.0	110	4.4	009
2100	6.0	*****	55	042	.8	055	4.4	001
2400	4.6	*****	62	274	.5	254	3.8	001

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.8	*****	34	185	.2	200	1.3	001
0600	6.0	1.8	75	100	1.1	095	3.8	017
0900	8.2	3.2	71	101	2.2	092	4.4	027
1200	9.6	2.6	62	120	1.4	039	3.8	036
1500	10.3	5.2	71	253	.3	027	4.4	054
1800	8.4	-27.1	06	317	.7	033	5.7	013
2100	5.6	*****	39	230	.6	180	2.5	001
2400	4.4	-5.5	49	214	.5	232	3.8	001

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.3	*****	49	319	.2	273	1.9	001
0600	4.3	*****	38	250	.3	358	1.3	024
0900	7.1	*****	31	284	.6	255	1.9	018
1200	7.7	-24.5	08	205	.8	159	3.8	008
1500	11.7	2.3	53	035	.7	041	3.8	030
1800	11.0	3.2	59	347	1.2	056	5.1	021
2100	5.8	*****	36	106	.4	069	4.4	001
2400	1.7	*****	48	102	.2	060	1.3	001

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.4	*****	52	021	.2	094	1.3	001
0600	4.4	*****	09	054	.2	040	1.3	036
0900	11.8	2.7	54	341	.9	015	4.4	069
1200	12.4	-.3	42	026	2.4	031	5.7	009
1500	10.7	2.2	56	024	1.3	228	7.0	032
1800	5.8	-10.2	31	208	1.8	228	7.0	002
2100	4.6	*****	43	117	.4	171	4.4	001
2400	1.0	*****	46	233	.3	209	1.9	001

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.3	*****	53	276	.1	347	1.3	001
0600	.5	*****	43	336	.1	356	1.3	011
0900	11.2	5.7	69	253	.8	268	2.5	068
1200	13.5	1.7	45	209	.3	151	3.8	041
1500	9.3	2.3	62	337	.9	277	6.3	011
1800	10.1	2.8	61	184	1.4	233	5.7	011
2100	6.5	*****	11	184	.7	176	2.5	001
2400	.1	*****	44	313	.1	233	2.5	001

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.1	*****	40	064	.6	082	1.9	001
0600	7.9	*****	72	073	.4	108	2.5	017
0900	11.1	.1	47	306	1.0	333	4.4	025
1200	12.4	-1.6	38	279	2.2	262	5.1	040
1500	11.9	.8	47	325	.5	003	[illegible]	018
1800	12.4	1.6	48	139	1.7	221	5.1	022
2100	6.4	*****	98	130	1.3	138	4.4	001
2400	3.4	*****	39	086	.4	125	3.2	001

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	*****	40	091	.3	170	1.9	001
0600	4.9	*****	37	048	.3	314	2.5	004
0900	7.2	4.6	84	000	.3	014	2.5	028
1200	10.7	1.1	52	323	1.3	269	3.8	027
1500	12.1	*****	49	125	1.0	150	5.1	045
1800	11.0	1.7	53	115	1.4	067	6.3	018
2100	5.9	3.9	87	081	.7	172	5.7	001
2400	1.2	*****	33	096	.7	070	2.5	001

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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.3	-19.1	19	122	1.1	102	2.5	002
0600	6.2	3.0	80	097	.7	095	3.2	018
0900	10.1	1.1	54	120	2.3	136	6.3	046
1200	10.5	.4	50	139	3.6	139	7.0	039
1500	10.7	-.6	46	142	4.4	141	7.0	037
1800	8.9	-1.1	50	136	4.2	130	7.6	013
2100	6.6	-1.4	57	124	3.4	126	7.0	001
2400	6.0	-1.5	59	107	2.7	124	6.3	001

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.0	-1.5	63	104	1.4	094	3.8	001
0600	6.3	-.1	64	093	2.8	096	5.7	011
0900	8.5	-1.2	51	104	4.2	117	8.3	036
1200	10.7	-4.7	34	133	5.1	133	9.5	031
1500	12.1	-6.0	28	138	5.3	142	9.5	065
1800	10.3	-8.0	27	142	4.9	137	8.9	025
2100	3.2	-5.1	55	142	2.6	152	6.3	001
2400	-1.6	*****	94	096	.6	164	1.9	001

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	*****	39	121	.3	088	1.9	002
0600	3.0	*****	57	236	.4	211	1.3	018
0900	7.3	-6.2	38	329	1.2	323	3.2	066
1200	7.2	-5.6	40	336	1.4	309	5.1	022
1500	9.5	-7.8	29	105	.4	108	5.1	032
1800	7.4	*****	60	283	.9	023	5.1	007
2100	3.5	*****	62	284	.5	218	2.5	001
2400	1.6	-2.0	77	250	1.3	242	3.8	001

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.2	-20.9	19	246	1.2	248	3.2	001
0600	5.0	-2.9	57	295	1.2	348	5.1	027
0900	8.6	-4.7	39	066	1.0	002	4.4	039
1200	5.8	4.3	90	120	2.6	127	5.1	025
1500	7.9	2.5	69	063	2.2	078	4.4	038
1800	8.4	*****	59	039	1.0	031	3.2	013
2100	5.7	*****	86	147	.6	055	1.9	001
2400	3.6	*****	34	206	.5	192	3.2	001

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.6	*****	38	118	.3	115	1.3	001
0600	5.0	-10.9	31	087	.6	090	1.9	018
0900	7.4	-3.4	76	104	.9	057	3.2	043
1200	9.7	2.0	59	070	1.0	108	3.2	019
1500	11.6	-1.0	42	028	2.7	018	6.3	072
1800	10.3	-.3	48	056	1.3	026	6.3	010
2100	6.8	*****	84	009	.5	034	1.9	001
2400	2.6	*****	29	161	.3	065	1.9	000

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	-10.7	44	176	.2	234	1.9	003
0600	5.3	1.5	77	230	.9	240	3.2	030
0900	12.6	-1.5	38	282	1.1	269	3.2	062
1200	15.6	-3.9	26	075	1.0	100	4.4	068
1500	15.9	-4.8	24	143	2.3	134	5.7	044
1800	13.9	-.7	37	150	2.3	132	5.7	015
2100	8.1	*****	81	120	1.1	130	3.2	001
2400	4.5	*****	35	068	.3	061	1.9	001

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.2	*****	42	095	.3	090	1.3	002
0600	8.1	*****	80	061	.5	062	1.9	036
0900	12.7	1.6	47	320	1.7	317	5.1	031
1200	14.7	-.7	35	323	2.3	294	6.3	044
1500	16.1	-1.1	31	332	2.4	358	5.7	072
1800	16.3	-2.4	28	332	2.4	000	5.7	029
2100	10.4	2.4	58	337	1.9	349	4.4	001
2400	5.4	-31.1	05	318	.1	321	1.9	001

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.6	-14.3	26	244	1.1	262	2.5	002
0600	8.7	4.5	75	249	1.5	248	3.2	022
0900	13.9	2.7	47	338	2.1	358	5.7	064
1200	17.3	1.2	34	336	2.4	316	5.1	064
1500	17.5	2.2	36	047	1.8	005	5.7	029
1800	13.0	8.0	72	082	1.9	081	4.4	010
2100	10.2	*****	33	286	.3	106	2.5	001
2400	9.0	*****	34	228	.5	271	1.9	001

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.6	*****	33	166	.3	223	1.3	001
0600	10.1	*****	21	083	.3	021	1.3	012
0900	11.4	-14.4	15	135	1.7	134	3.8	024
1200	14.5	9.7	73	141	1.5	130	3.2	036
1500	15.9	*****	61	163	1.0	137	3.8	029
1800	15.2	8.4	64	255	1.1	257	3.2	012
2100	10.3	-17.0	13	219	1.1	204	3.2	001
2400	9.4	*****	26	203	.6	198	2.5	001

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DATA TAKEN DURING MAY , 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.5	*****	28	001	.6	046	3.8	001
0600	8.0	*****	38	126	.8	067	3.2	008
0900	7.6	-5.3	40	083	.8	029	2.5	012
1200	7.6	*****	38	066	1.1	072	2.5	005
1500	8.0	-10.0	27	064	2.0	071	3.8	021
1800	7.6	-5.3	40	332	.6	237	3.8	010
2100	6.5	*****	42	222	1.1	228	3.2	001
2400	.7	*****	45	062	.3	080	1.3	001

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.5	*****	54	073	.2	193	1.3	002
0600	5.4	-11.4	29	256	.9	274	3.2	031
0900	12.9	2.9	51	255	1.4	265	2.5	066
1200	17.4	.9	33	224	1.2	223	3.2	080
1500	21.1	.2	25	243	1.3	230	3.8	066
1800	22.3	-1.8	20	287	1.9	295	4.4	028
2100	15.0	*****	45	277	1.1	300	3.8	002
2400	5.2	*****	36	134	.3	196	1.3	001

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.7	*****	44	344	.1	215	1.3	003
0600	10.0	*****	70	203	.3	126	1.9	017
0900	17.9	2.1	35	261	.6	278	3.8	070
1200	20.4	1.7	29	271	.6	239	4.4	080
1500	20.7	-.1	25	255	1.8	244	5.7	077
1800	18.7	.2	29	323	2.0	342	6.3	026
2100	12.7	*****	62	318	1.8	280	6.3	001
2400	8.7	-13.2	20	039	2.0	051	5.1	001

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.3	-7.3	35	054	1.8	048	4.4	001
0600	6.7	-11.6	26	320	1.1	255	5.1	006
0900	7.1	-12.3	24	227	1.6	242	3.8	016
1200	10.2	5.5	73	202	.9	217	3.2	039
1500	13.9	2.4	46	035	.4	065	3.8	070
1800	15.3	-2.3	30	014	1.4	001	5.1	034
2100	10.3	-4.6	35	167	2.1	135	4.4	003
2400	6.8	.2	63	122	1.1	166	3.2	001

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MAY , 1981

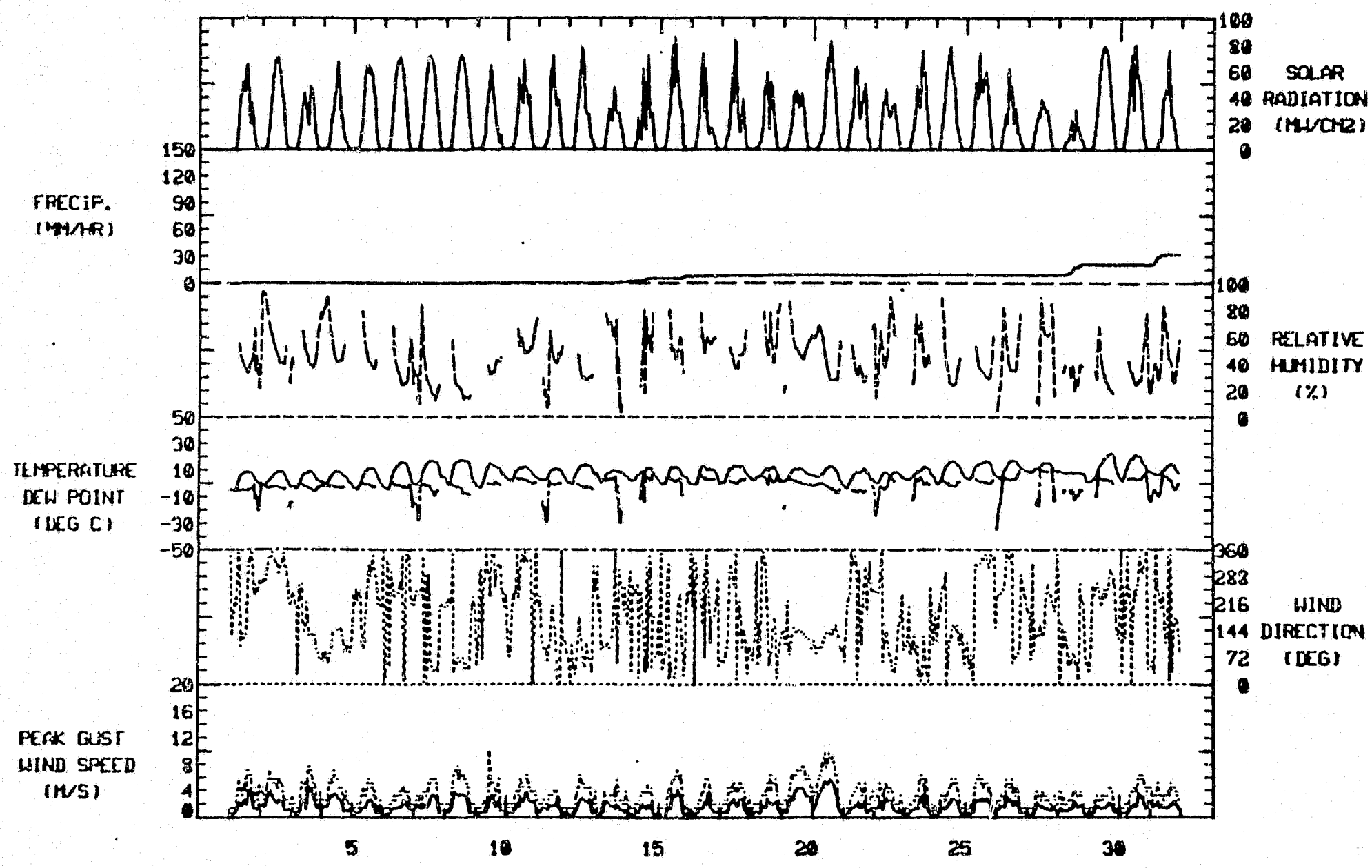
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	9.3	-6.5	1.4	301	.3	1.6	335	7.0	WSW	42	-6.5	0.0	5475	01
02	9.4	-2.3	3.5	318	1.8	2.1	334	7.0	NNW	58	-4.6	0.0	6648	02
03	9.4	-4.5	2.4	137	1.3	1.9	142	7.6	SE	51	-3.6	0.0	4520	03
04	9.3	-.6	4.3	115	1.6	1.9	145	7.0	E	57	-3.1	0.0	4213	04
05	11.3	-4.7	3.3	273	.5	1.2	293	5.7	SW	45	-2.4	0.0	6110	05
06	16.2	-4.6	5.7	304	.6	1.2	333	4.4	N	37	-5.1	0.0	6868	06
07	17.1	-1.0	8.0	351	.4	1.8	055	5.7	WSW	31	-7.2	0.0	7143	07
08	17.7	-2.0	7.9	057	1.3	2.0	093	7.6	NE	27	-6.9	0.0	7243	08
09	15.5	-3.8	5.9	311	.8	1.3	269	10.2	W	41	-.6	0.0	4253	09
10	12.7	.9	6.8	334	1.3	1.8	337	6.3	N	57	1.4	0.0	5153	10
11	12.0	2.0	7.0	104	.4	1.2	201	3.8	E	40	-5.1	0.0	4463	11
12	14.3	-.8	6.8	082	.8	1.4	141	6.3	NE	33	-3.8	0.0	5425	12
13	10.8	.5	5.6	124	.4	1.3	033	5.7	E	52	-3.3	2.0	3748	13
14	12.8	1.9	7.3	329	.1	1.0	056	5.1	ENE	52	-6.3	3.2	4165	14
15	13.2	-.8	6.2	018	.3	1.6	228	7.0	NNE	51	-1.4	2.6	5883	15
16	13.5	-.8	6.4	229	.3	1.1	277	6.3	SW	57	3.1	.2	4448	16
17	13.7	.1	6.9	164	.6	1.4	262	5.1	NE	47	.2	0.0	5383	17
18	13.3	2.2	7.8	065	.4	1.3	067	6.3	ENE	61	2.8	.8	4278	18
19	11.5	.7	6.1	129	2.7	2.9	130	7.6	SE	53	-2.4	0.0	4548	19
20	13.4	-.6	6.4	126	3.2	3.4	133	9.5	SE	46	-3.8	0.0	6503	20
21	11.1	-3.7	3.7	297	.5	1.2	309	5.1	WSW	42	-5.4	0.0	5655	21
22	8.6	0.0	4.3	092	.4	1.5	348	5.1	WSW	58	-4.3	0.0	4470	22
23	13.0	2.6	7.8	057	.8	1.2	018	6.3	NNE	50	-1.4	.4	5590	23
24	16.9	-.9	8.0	147	.7	1.4	134	5.7	SSE	39	-3.3	0.0	6590	24
25	16.9	3.2	10.1	333	1.3	1.6	294	6.3	NNW	37	-5.2	0.0	6498	25
26	17.5	3.4	10.5	339	.6	1.6	358	5.7	WSW	43	.7	0.0	4208	26
27	15.9	8.2	12.1	173	.7	1.1	134	3.8	SE	50	-3.4	0.0	3750	27
28	9.7	1.7	5.7	068	.5	1.2	046	3.8	NE	31	-6.9	12.2	2035	28
29	22.7	.6	11.6	257	.9	1.1	295	4.4	W	34	-1.8	0.0	8203	29
30	21.4	2.0	11.7	314	.8	1.6	342	6.3	W	36	-1.8	0.0	7165	30
31	15.3	6.5	10.9	129	.2	1.7	255	5.1	NE	42	-3.8	11.2	4560	31
MONTH	22.7	-6.5	6.8	081	.2	1.6	269	10.2	SE	45	-3.1	32.6	165185	

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 4.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 4.4

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 MAY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING MAY , 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.08	3.90	1.01	0.00	0.00	0.00	0.00	5.98
NNE	1.78	2.29	.71	0.00	0.00	0.00	0.00	4.77
NE	2.76	3.56	.97	0.00	0.00	0.00	0.00	7.29
ENE	3.13	3.29	.54	0.00	0.00	0.00	0.00	6.96
E	2.42	4.74	.77	0.00	0.00	0.00	0.00	7.93
ESE	2.05	3.46	1.04	0.00	0.00	0.00	0.00	6.55
SE	1.31	3.50	3.19	.03	0.00	0.00	0.00	8.03
SSE	1.04	2.72	.74	0.00	0.00	0.00	0.00	4.50
S	1.48	1.75	.07	0.00	0.00	0.00	0.00	3.29
SSW	3.26	2.42	.07	0.00	0.00	0.00	0.00	5.75
SW	3.83	3.70	.30	0.00	0.00	0.00	0.00	7.83
WSW	2.59	5.21	.13	0.00	0.00	0.00	0.00	7.93
W	2.35	4.07	.10	0.00	0.00	0.00	0.00	6.52
WNW	1.31	2.62	.07	0.00	0.00	0.00	0.00	4.00
NW	.77	3.66	.30	0.00	0.00	0.00	0.00	4.74
NNW	.64	3.76	1.16	0.00	0.00	0.00	0.00	5.58
CALM								2.32
TOTAL	31.80	54.66	11.19	.03	0.00	0.00	0.00	100.00

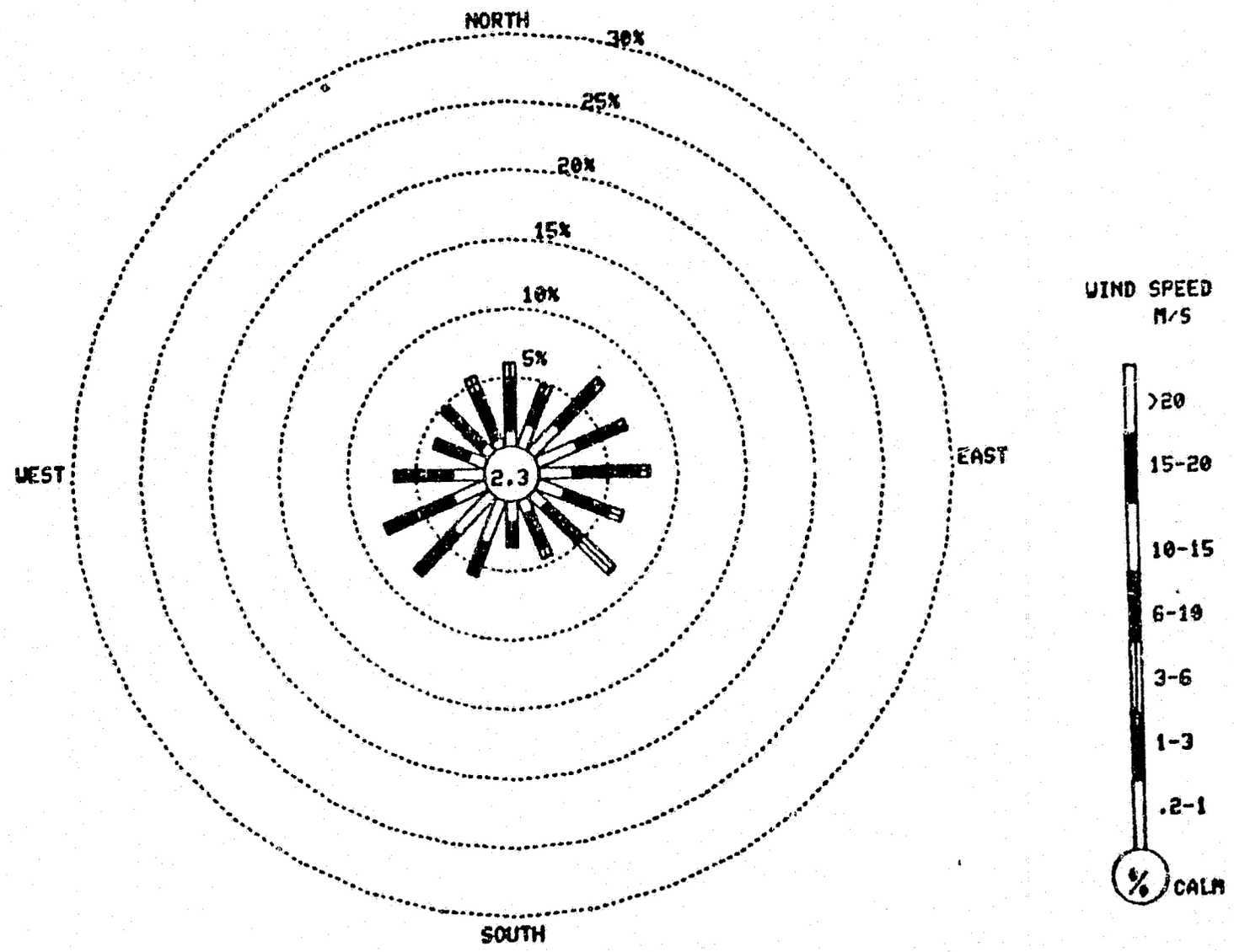
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2975 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

MAY, 1981



WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	.2	0.0	01
02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	.6	0.0	0.0	.2	.2	.4	0.0	0.0	0.0	0.0	0.0	0.0	.2	02
03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	****	****	****	****	****	****	****	****	****	****	****	****	03
04	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	04
05	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	05
06	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	06
07	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	07
08	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	08
09	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	09
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
300	-.8	*****	46	120	.1	190	1.9	002
0600	6.4	-2.6	53	132	.3	102	3.2	035
0900	8.5	-3.8	42	104	1.5	109	3.8	041
1200	9.8	-.8	48	104	2.4	112	5.7	047
1500	6.8	2.8	76	099	2.8	117	5.7	023
1800	6.9	*****	94	084	.4	129	3.2	011
2100	6.0	*****	29	323	.4	103	1.9	001
2400	4.9	-10.2	33	279	.8	270	1.9	001

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.8	2.8	87	262	1.0	244	2.5	001
0600	6.6	2.4	75	333	1.8	337	4.4	012
0900	6.7	6.3	97	005	2.5	000	6.3	017
1200	8.0	5.1	82	035	1.8	028	4.4	031
1500	8.2	3.6	73	001	2.6	356	4.4	020
1800	8.6	4.4	75	337	1.8	347	3.8	012
2100	7.9	*****	67	326	.8	316	4.4	002
2400	6.6	*****	66	287	.7	285	2.5	000

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.9	*****	70	255	.3	295	2.5	002
0600	7.1	*****	62	245	.6	228	1.9	015
0900	10.2	-4.3	36	343	2.1	345	5.7	049
1200	13.3	-8.7	21	007	2.2	012	5.7	045
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

DAY 28

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

DAY 29

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

DAY 30

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

DAY 31

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

DAY 31

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

DAY 31

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

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

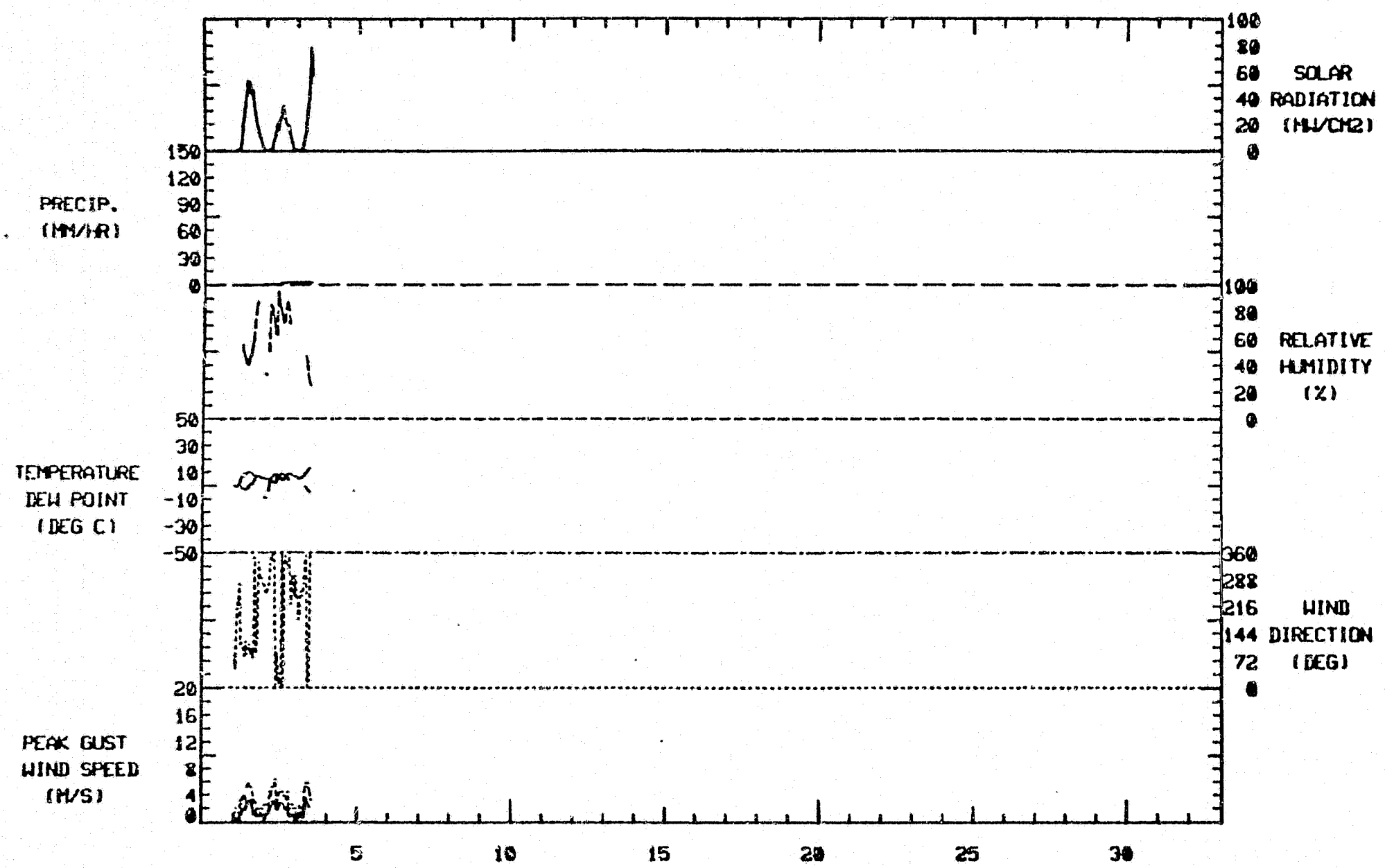
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
01	10.4	-1.2	4.6	100	.8	1.4	112	5.7	ESE	52	-2.9	.6	5115	01
02	8.9	4.4	6.6	348	1.4	1.8	000	6.3	N	74	4.1	2.2	3050	02
03	*****	*****	*****	***	****	1.5	345	5.7	N	35	-6.5	0.0	6205	03
04	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	04
05	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	05
06	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	06
07	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	07
08	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	08
09	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	09
10	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	10
11	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	11
12	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	12
13	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	13
14	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	14
15	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	15
16	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	16
17	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	17
18	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	18
19	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	19
20	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	20
21	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	21
22	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	22
23	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	23
24	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	24
25	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	25
26	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	26
27	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	27
28	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	28
29	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	29
30	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	30
31	*****	*****	*****	***	****	****	***	****	MSG	**	*****	****	***	31
MONTH	10.4	-1.2	5.6	023	.6	1.5	000	6.3	N	54	-1.8	2.8	14370	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
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 SPEED ARE <1.0 METERS PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

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

R&M CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT



DAY OF THE MONTH TYONE WEATHER STATION

DATA START: 01 JULY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING JULY , 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	GREATER THAN 20.0	TOTAL
N	1.25	10.83	3.75	0.00	0.00	0.00	0.00	15.83
NNE	0.00	4.58	0.00	0.00	0.00	0.00	0.00	4.58
NE	.83	1.67	0.00	0.00	0.00	0.00	0.00	2.50
ENE	.83	1.67	0.00	0.00	0.00	0.00	0.00	2.50
E	.42	5.00	2.50	0.00	0.00	0.00	0.00	7.92
ESE	2.08	7.08	1.25	0.00	0.00	0.00	0.00	10.42
SE	.42	2.08	0.00	0.00	0.00	0.00	0.00	2.50
SSE	.42	.42	0.00	0.00	0.00	0.00	0.00	.83
S	1.25	.42	0.00	0.00	0.00	0.00	0.00	1.67
SSW	2.92	0.00	0.00	0.00	0.00	0.00	0.00	2.92
SW	3.75	.83	0.00	0.00	0.00	0.00	0.00	4.58
WSW	3.33	.83	0.00	0.00	0.00	0.00	0.00	4.17
W	5.83	3.75	0.00	0.00	0.00	0.00	0.00	9.58
WNW	7.50	3.33	0.00	0.00	0.00	0.00	0.00	10.83
NW	3.75	2.92	0.00	0.00	0.00	0.00	0.00	6.67
NNW	.42	8.33	1.67	0.00	0.00	0.00	0.00	10.42
CALM								2.08
TOTAL	35.00	53.75	9.17	0.00	0.00	0.00	0.00	100.00

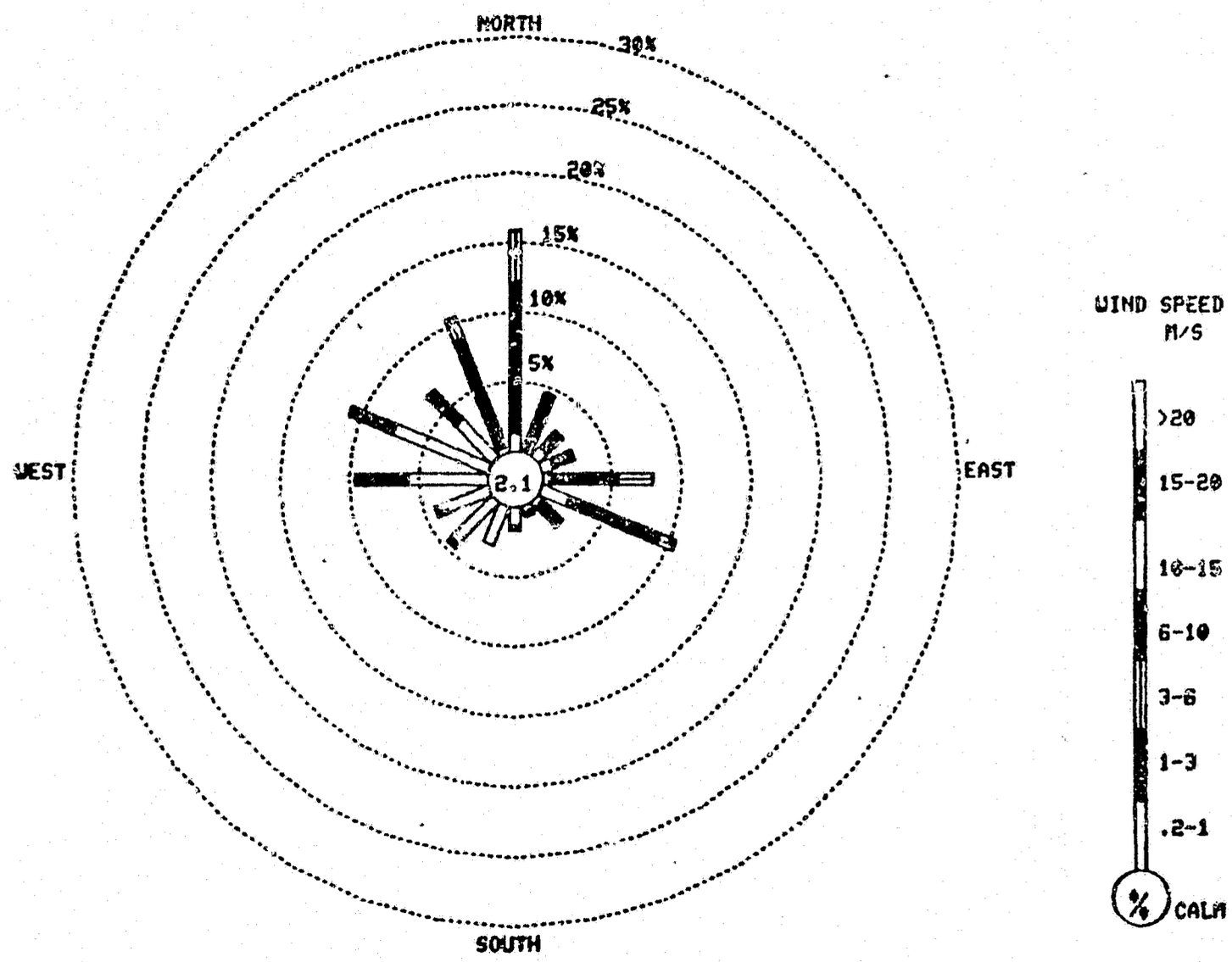
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

240 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

JULY, 1981



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	.2	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	.6	0.0	0.0	.2	.2	.4	0.0	0.0	0.0	0.0	0.0	0.0	.2	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.0	1.0	.2	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	.2	0.0	0.0	5
6	.6	.4	.6	.4	0.0	.2	.2	.8	.6	0.0	.2	2.8	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.6	0.0	0.0	0.0	.4	.4	1.4	.6	1.0	0.0	7
8	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	9
10	0.0	.4	.2	.6	.2	0.0	0.0	0.0	.2	.4	.4	.8	.4	.4	.8	.8	.4	.4	.4	0.0	0.0	.2	.2	.2	10
11	0.0	.2	0.0	0.0	0.0	.2	.2	.2	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	.6	0.0	0.0	0.0	0.0	.2	0.0	.4	0.0	.2	0.0	0.0	0.0	0.0	14
15	0.0	.2	.2	.8	.4	.4	0.0	0.0	.8	.8	.8	.4	0.0	.2	0.0	.2	.4	.2	.2	.4	0.0	.2	0.0	0.0	15
16	0.0	0.0	.6	.2	1.8	1.4	.6	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	16
17	0.0	.2	4.2	1.8	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.6	.6	.6	0.0	0.0	0.0	1.0	.2	0.0	17
18	.2	2.4	1.2	.6	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	.2	0.0	0.0	.2	.2	.4	1.2	.8	1[illegible]	.6	0.0	0.0	0.0	0.0	4.6	.4	0.0	0.0	0.0	0.0	0.0	.2	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	1.2	.4	1.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	1.2	22
23	1.8	.4	.2	.2	1.4	1.2	.2	.4	.6	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.2	.2	.2	0.0	0.0	23
24	.2	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.6	.2	0.0	0.0	0.0	.2	.6	1.2	1.4	1.6	.2	.2	4.2	2.6	.6	.4	25
26	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.8	.8	0.0	0.0	0.0	0.0	0.0	0.0	28
29	0.0	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	31

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.8	*****	46	123	.1	190	1.9	2
0600	6.4	-2.5	53	132	.3	102	3.2	35
0900	8.5	-3.8	42	104	1.5	109	3.8	41
1200	9.8	-.7	48	104	2.4	112	5.7	47
1500	6.8	2.9	76	099	2.8	117	5.7	23
1800	6.9	*****	94	084	.4	129	3.2	11
2100	6.0	*****	29	323	.4	103	1.9	1
2400	4.9	-10.2	33	279	.8	270	1.9	1

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.8	2.8	87	262	1.0	244	2.5	1
0600	6.6	2.5	75	333	1.8	337	4.4	12
0900	6.7	6.2	97	005	2.5	000	6.3	17
1200	8.0	5.1	82	035	1.8	028	4.4	31
1500	8.2	3.7	73	001	2.6	356	4.4	20
1800	8.6	4.5	75	337	1.8	347	3.8	12
2100	7.9	*****	67	326	.8	316	4.4	2
2400	6.6	*****	66	287	.7	285	2.5	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.9	*****	70	255	.3	295	2.5	2
0600	7.1	*****	62	245	.6	228	1.9	19
0900	10.2	-4.3	36	343	2.1	345	5.7	45
1200	13.3	-8.6	21	007	2.2	012	5.7	45
1500	12.2	-5.4	29	024	1.0	007	3.8	24
1800	12.0	-4.7	31	152	1.2	138	3.8	16
2100	7.6	*****	92	154	.3	072	1.9	2
2400	2.7	*****	36	086	.3	068	1.3	1

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.5	*****	41	099	.3	110	1.3	3
0600	7.8	*****	59	226	.6	233	1.9	33
0900	12.7	-2.9	34	242	.8	216	3.2	71
1200	14.1	-5.7	25	067	.5	000	3.8	40
1500	13.8	-3.6	30	355	2.3	335	6.3	15
1800	13.9	-5.4	26	291	1.8	268	6.3	24
2100	10.5	-1.3	44	285	2.2	295	6.3	2
2400	7.4	*****	83	302	.6	322	3.2	1

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.3	*****	24	240	.5	250	1.9	1
0600	7.9	*****	86	243	.4	235	2.5	4
0900	8.0	-13.7	20	186	.9	187	2.5	14
1200	9.9	5.3	73	153	1.0	211	3.8	44
1500	12.0	3.3	55	226	1.6	221	3.8	41
1800	9.9	*****	83	195	.4	214	3.2	9
2100	8.6	*****	26	092	.8	114	1.9	1
2400	7.2	*****	32	087	.9	101	1.9	1

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.9	*****	42	093	.6	090	1.3	1
0600	7.9	*****	32	098	.8	106	1.9	7
0900	9.0	*****	12	054	.7	062	1.9	15
1200	8.9	*****	3	011	1.2	010	4.4	16
1500	13.2	5.2	58	212	1.2	214	3.8	43
1800	12.8	*****	55	324	1.3	347	4.4	11
2100	10.4	*****	72	221	.7	260	3.8	1
2400	6.6	*****	33	090	.5	075	1.9	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.0	*****	37	099	.7	087	1.3	2
0600	8.4	-20.5	11	125	.8	139	2.5	12
0900	11.0	7.3	78	119	1.3	142	2.5	22
1200	13.2	3.0	50	214	.2	257	4.4	32
1500	10.0	-34.2	2	346	1.0	008	3.8	7
1800	7.4	6.3	93	026	1.4	007	7.0	3
2100	4.9	-20.4	14	359	3.7	010	7.6	1
2400	4.7	-15.3	22	220	1.6	221	3.8	1

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.1	-10.1	35	152	.5	225	2.5	2
0600	6.2	-17.1	17	079	1.2	072	2.5	12
0900	7.9	-41.1	0	092	1.6	110	3.2	25
1200	9.6	6.7	82	091	1.3	110	3.2	16
1500	11.6	6.6	71	353	2.3	352	5.1	41
1800	11.9	6.2	68	348	3.3	343	7.6	17
2100	8.8	*****	15	342	1.3	346	3.8	1
2400	6.0	*****	15	050	.6	000	2.5	1

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.1	*****	8	090	.6	106	1.9	1
0600	8.5	7.2	92	108	.7	111	2.5	8
0900	11.5	*****	64	123	.9	094	2.5	39
1200	14.7	5.0	52	049	.7	342	4.4	64
1500	13.1	10.6	85	350	1.9	008	5.1	16
1800	14.2	*****	63	117	1.2	142	3.8	15
2100	10.4	3.9	64	117	1.0	096	3.2	1
2400	8.1	-24.4	8	084	1.4	068	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.1	-12.7	23	075	1.5	074	3.2	1
0600	8.5	-21.6	10	070	1.3	073	3.2	9
0900	10.2	-17.1	13	047	1.5	047	3.8	16
1200	11.1	-13.8	16	047	1.7	055	3.8	19
1500	11.4	-11.5	19	000	2.1	000	4.4	14
1800	10.3	*****	20	304	.9	331	2.5	8
2100	8.1	-20.7	11	096	1.6	100	3.8	1
2400	8.0	-13.7	20	089	.9	058	3.2	1

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.4	*****	28	056	.3	096	1.9	2
0600	8.4	*****	20	001	.6	353	3.2	7
0900	10.2	8.4	89	020	.2	031	1.9	29
1200	12.9	5.9	62	004	.8	062	3.2	56
1500	13.9	4.8	54	350	1.2	336	5.7	27
1800	12.7	4.7	58	319	1.5	303	4.4	11
2100	10.0	*****	90	339	1.1	317	3.2	1
2400	8.6	*****	8	231	.4	267	1.3	1

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.7	*****	22	203	.4	174	1.9	1
0600	9.5	9.2	98	021	.8	020	3.2	18
0900	12.1	*****	69	002	1.8	000	3.8	25
1200	13.6	6.8	63	349	2.7	351	5.7	61
1500	13.6	5.8	59	350	2.9	003	5.7	25
1800	12.2	5.9	65	336	2.6	337	5.1	13
2100	10.9	*****	71	338	1.8	332	3.8	2
2400	6.0	*****	29	257	.5	300	1.9	1

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.5	*****	27	237	.6	218	1.9	2
0600	8.6	*****	14	245	.7	207	1.9	7
0900	11.0	*****	83	252	1.1	247	1.9	16
1200	13.0	5.7	61	309	.7	353	2.5	36
1500	13.6	5.5	58	345	1.5	347	3.8	29
1800	13.0	5.7	61	302	1.3	350	3.2	7
2100	10.5	*****	80	332	1.1	327	3.2	2
2400	7.7	*****	17	291	.8	304	2.5	1

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.9	*****	30	254	.6	256	2.5	2
0600	8.6	*****	19	069	.1	077	1.3	6
0900	10.7	-39.3	0	119	.5	095	2.5	17
1200	13.3	9.9	80	140	1.6	168	3.2	44
1500	13.4	*****	68	129	1.6	137	3.8	20
1800	11.3	-8.1	25	047	.5	011	2.5	4
2100	10.0	*****	26	353	1.7	355	3.8	1
2400	9.5	*****	13	076	.4	064	1.9	1

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.2	*****	24	086	.4	050	1.3	1
0600	9.8	-14.1	17	082	.9	081	2.5	13
0900	11.1	-18.4	11	083	1.9	078	3.8	15
1200	13.2	11.9	92	084	1.8	076	3.8	38
1500	14.4	11.6	83	077	2.3	088	4.4	32
1800	12.6	-16.2	12	076	2.3	073	4.4	7
2100	11.3	*****	23	080	1.4	085	2.5	1
2400	10.8	-11.3	20	079	1.1	070	2.5	1

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.2	*****	29	085	1.1	089	3.2	1
0600	11.1	*****	28	073	.7	074	1.9	7
0900	12.5	12.0	97	130	1.3	144	3.2	25
1200	16.5	10.0	65	040	.5	134	1.9	50
1500	18.0	7.1	49	248	.7	255	3.2	58
1800	16.1	9.6	65	284	.8	271	3.2	13
2100	13.9	*****	0	284	.8	248	3.2	1
2400	11.6	*****	22	293	.4	342	2.5	1

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.8	-5.0	33	238	.6	304	2.5	1
0600	12.2	*****	13	277	.4	337	1.9	13
0900	14.7	*****	76	155	.2	153	2.5	25
1200	15.8	*****	64	261	.8	234	2.5	30
1500	15.9	*****	63	065	.6	022	4.4	36
1800	13.6	*****	10	091	.7	153	2.5	8
2100	12.5	*****	10	315	.4	344	3.2	2
2400	10.7	-8.1	26	257	.8	214	3.8	1

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.1	*****	25	242	.5	270	1.9	1
0600	10.4	*****	21	248	.7	266	1.9	6
0900	12.8	8.7	76	262	1.2	255	3.2	30
1200	16.1	5.1	48	271	1.8	269	5.1	33
1500	13.8	7.6	66	277	2.1	276	4.4	23
1800	13.1	5.6	60	314	2.1	314	5.1	11
2100	10.6	*****	3	343	1.5	351	4.4	1
2400	9.8	*****	11	316	.5	353	1.9	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.0	*****	25	311	.6	357	1.9	1
0600	9.6	*****	28	269	.2	310	1.9	4
0900	10.1	-24.4	7	046	.9	039	2.5	21
1200	12.4	*****	77	344	.6	331	1.9	52
1500	13.6	7.2	65	222	.7	218	2.5	38
1800	11.6	*****	6	171	.9	165	3.2	10
2100	10.2	*****	26	175	.3	261	1.9	1
2400	9.4	*****	35	109	.2	164	1.3	1

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.8	*****	34	094	.4	114	1.3	1
0600	9.9	*****	14	093	.4	081	1.9	11
0900	11.7	8.7	82	112	1.5	135	3.2	26
1200	11.9	-24.6	6	087	1.6	101	3.2	27
1500	12.0	*****	2	128	1.3	116	3.8	24
1800	11.9	*****	99	025	.8	000	3.2	14
2100	10.8	*****	96	328	.4	336	1.3	1
2400	9.1	*****	18	232	.6	203	1.9	1

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.1	*****	20	259	.8	253	3.2	1
0600	10.7	*****	91	224	.3	233	1.9	17
0900	14.1	6.8	61	234	1.6	246	4.4	44
1200	17.3	4.2	42	239	2.3	245	5.1	62
1500	18.8	2.5	34	293	1.0	252	5.1	56
1800	15.9	3.6	44	254	2.3	242	4.4	14
2100	12.5	*****	72	271	1.0	262	3.8	1
2400	10.2	*****	94	119	.3	167	1.9	1

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.3	*****	16	161	.5	153	1.9	1
0600	12.7	5.9	63	271	.6	229	1.9	32
0900	15.4	5.0	50	258	1.1	217	4.4	38
1200	15.7	2.7	42	254	1.9	258	5.1	33
1500	15.7	3.4	44	245	1.8	248	3.2	25
1800	15.1	4.5	49	295	1.5	309	3.8	11
2100	11.5	*****	94	254	1.0	265	3.2	1
2400	10.2	-17.1	13	296	.3	016	2.5	1

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.4	-7.4	30	272	.5	334	2.5	1
0600	9.7	*****	31	249	.3	240	1.9	6
0900	11.9	*****	91	077	.5	117	1.9	34
1200	13.6	9.3	75	115	1.2	084	2.5	37
1500	15.4	9.2	66	139	1.6	112	3.2	83
1800	13.7	*****	84	159	1.8	161	3.8	3
2100	11.1	*****	23	052	.9	034	3.2	1
2400	10.8	*****	28	076	.5	071	1.3	1

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.7	*****	31	077	.5	083	1.3	1
0600	11.4	-5.3	31	075	.6	101	2.5	7
0900	13.6	10.8	83	087	1.7	087	3.8	23
1200	14.2	11.4	83	098	2.6	111	5.1	23
1500	14.6	9.3	70	139	3.3	138	6.3	31
1800	13.3	10.8	85	120	3.0	129	5.7	12
2100	10.8	-33.7	2	104	1.9	117	4.4	1
2400	9.6	-17.6	13	091	1.3	080	2.5	1

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.9	*****	16	103	.8	114	1.9	1
0600	10.6	10.1	97	086	1.0	069	3.2	9
0900	11.9	-26.4	5	087	1.7	082	3.2	22
1200	14.4	7.0	61	131	1.9	143	4.4	53
1500	11.5	8.9	84	155	1.8	173	3.8	14
1800	9.7	-11.1	22	078	.9	113	2.5	6
2100	9.7	*****	20	139	.6	065	2.5	1
2400	8.5	*****	32	141	.7	163	3.2	1

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.9	*****	39	176	.2	080	1.3	1
0600	9.1	-18.9	12	220	.6	244	2.5	10
0900	12.5	3.5	54	264	1.5	301	3.8	23
1200	14.4	1.6	42	292	2.0	302	4.4	33
1500	15.8	1.4	38	327	3.2	336	6.3	63
1800	14.9	1.3	40	338	3.0	354	6.3	15
2100	12.2	3.7	56	313	1.4	330	4.4	1
2400	9.6	*****	91	216	.1	260	1.9	1

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.0	*****	17	289	.3	101	1.3	1
0600	10.0	7.1	82	232	.3	148	1.9	15
0900	16.1	2.0	39	251	1.1	238	2.5	61
1200	17.0	1.3	35	237	1.2	204	3.8	32
1500	18.0	.9	32	294	1.3	356	4.4	36
1800	16.2	2.5	40	344	2.0	006	4.4	13
2100	12.7	5.2	60	351	1.9	328	4.4	1
2400	11.1	*****	70	328	1.0	343	2.5	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.2	-12.9	21	239	.6	245	1.9	1
0600	11.8	5.5	65	231	.9	247	2.5	34
0900	16.1	3.8	44	332	1.2	001	3.8	63
1200	16.4	*****	41	082	.4	045	3.2	25
1500	14.8	6.7	58	183	1.1	179	2.5	6
1800	10.4	-27.5	5	329	1.8	277	5.1	7
2100	10.1	9.5	96	342	1.6	358	3.8	1
2400	8.6	*****	25	168	.4	290	1.9	1

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.6	*****	32	199	.4	197	1.9	1
0600	9.5	*****	29	114	.1	188	1.3	6
0900	13.9	4.2	52	252	1.8	240	4.4	64
1200	15.6	.8	37	275	1.9	267	4.4	29
1500	16.0	1.2	37	278	2.0	303	5.1	38
1800	14.9	-.2	36	294	2.3	315	5.1	11
2100	9.4	*****	73	302	1.5	307	4.4	1
2400	4.9	*****	28	200	.2	219	1.9	1

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.8	*****	40	076	.2	009	1.9	1
0600	8.5	*****	19	086	.3	089	1.9	4
0900	13.1	3.8	53	314	1.0	337	3.2	38
1200	14.3	1.8	43	338	1.2	027	3.8	39
1500	15.0	2.8	44	359	1.2	015	5.1	30
1800	11.9	8.0	77	282	1.9	285	3.8	6
2100	10.7	*****	83	255	.9	229	2.5	1
2400	8.5	*****	23	267	.3	246	1.9	1

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.4	*****	28	061	.4	052	1.9	1
0600	9.7	*****	14	071	.3	092	1.3	13
0900	13.9	4.5	53	173	.4	173	2.5	38
1200	15.7	3.1	43	162	1.1	155	3.2	35
1500	13.0	8.1	72	098	.8	005	3.8	22
1800	11.5	9.7	89	358	2.7	001	5.7	4
2100	10.1	*****	22	292	.3	346	2.5	1
2400	9.0	*****	30	123	.4	157	1.3	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

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	10.4	-1.2	4.6	108	.8	1.4	112	5.7	ESE	49	-1.9	.6	5115	1
2	8.9	4.4	6.7	348	1.4	1.8	000	6.3	N	72	2.2	2.2	3050	2
3	13.5	2.7	8.1	003	.4	1.2	345	5.7	N	48	-4.7	0.0	4860	3
4	15.5	1.6	8.6	303	.8	1.5	335	6.3	W	42	-3.7	0.0	5855	4
5	12.1	6.3	9.2	181	.5	1.0	211	3.8	E	44	-4.1	3.0	2950	5
6	14.1	6.6	10.4	039	.2	1.0	010	4.4	E	45	.7	7.4	3483	6
7	13.7	4.4	9.1	027	.5	1.6	010	7.6	N	41	-7.4	5.4	3305	7
8	12.5	4.0	8.3	026	1.0	1.7	343	7.6	E	44	-5.4	.4	3878	8
9	15.3	6.1	10.7	082	.7	1.2	008	5.1	E	55	4.4	.4	4005	9
10	12.1	7.1	9.6	051	1.1	1.5	000	4.4	ENE	19	-16.3	7.4	2198	10
11	15.3	7.3	11.3	343	.6	1.0	336	5.7	NNW	51	3.9	1.2	4453	11
12	14.5	5.8	10.2	345	1.5	1.8	351	5.7	NNW	54	4.6	0.0	4773	12
13	14.3	6.0	10.2	298	.8	1.1	347	3.8	WSW	56	4.5	0.0	3035	13
14	14.0	5.9	10.0	100	.3	1.1	137	3.8	SE	36	-5.2	1.8	2765	14
15	14.7	8.2	11.5	080	1.5	1.5	088	4.4	ENE	29	-10.2	6.6	3150	15
16	18.1	10.2	14.2	073	.1	1.1	089	3.2	ENE	45	1.9	5.0	4210	16
17	17.3	10.7	14.0	260	.2	.9	022	4.4	W	41	-.9	10.4	3640	17
18	16.9	9.8	13.4	289	1.1	1.4	269	5.1	W	43	5.6	4.6	4873	18
19	13.9	9.0	11.5	216	.1	.7	165	3.2	NE	33	-3.4	10.0	3238	19
20	12.7	8.7	10.7	098	.6	1.0	116	3.8	E	48	-1.2	5.6	2998	20
21	18.8	7.7	13.3	251	1.1	1.4	245	5.1	WSW	45	2.3	0.0	5533	21
22	16.9	7.9	12.4	259	1.0	1.2	258	5.1	WSW	50	2.0	1.4	4430	22
23	15.4	9.4	12.4	127	.6	1.0	161	3.8	ENE	47	5.8	7.8	3458	23
24	15.3	9.6	12.5	108	1.7	1.9	138	6.3	E	53	1.9	.4	3645	24
25	14.4	8.5	11.5	117	1.0	1.3	143	4.4	E	36	-4.7	15.0	2875	25
26	15.8	7.9	11.9	310	1.2	1.6	336	6.3	NNW	46	.8	.2	5643	26
27	19.1	8.0	13.6	309	.8	1.3	356	4.4	N	50	2.9	0.0	5740	27
28	17.0	7.0	12.0	301	.4	1.2	277	5.1	NNW	42	-6.2	2.0	3615	28
29	16.6	4.9	10.8	276	1.2	1.4	303	5.1	WNW	40	1.6	.4	4270	29
30	16.2	4.3	10.3	311	.6	1.1	015	5.1	W	50	4.4	.4	3923	30
31	16.3	7.2	11.8	050	.3	1.0	001	5.7	N	46	6.1	.6	3228	31
MONTH	19.1	-1.2	10.8	359	.2	1.3	010	7.6	E	45	-.6	100.2	122189	

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 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.

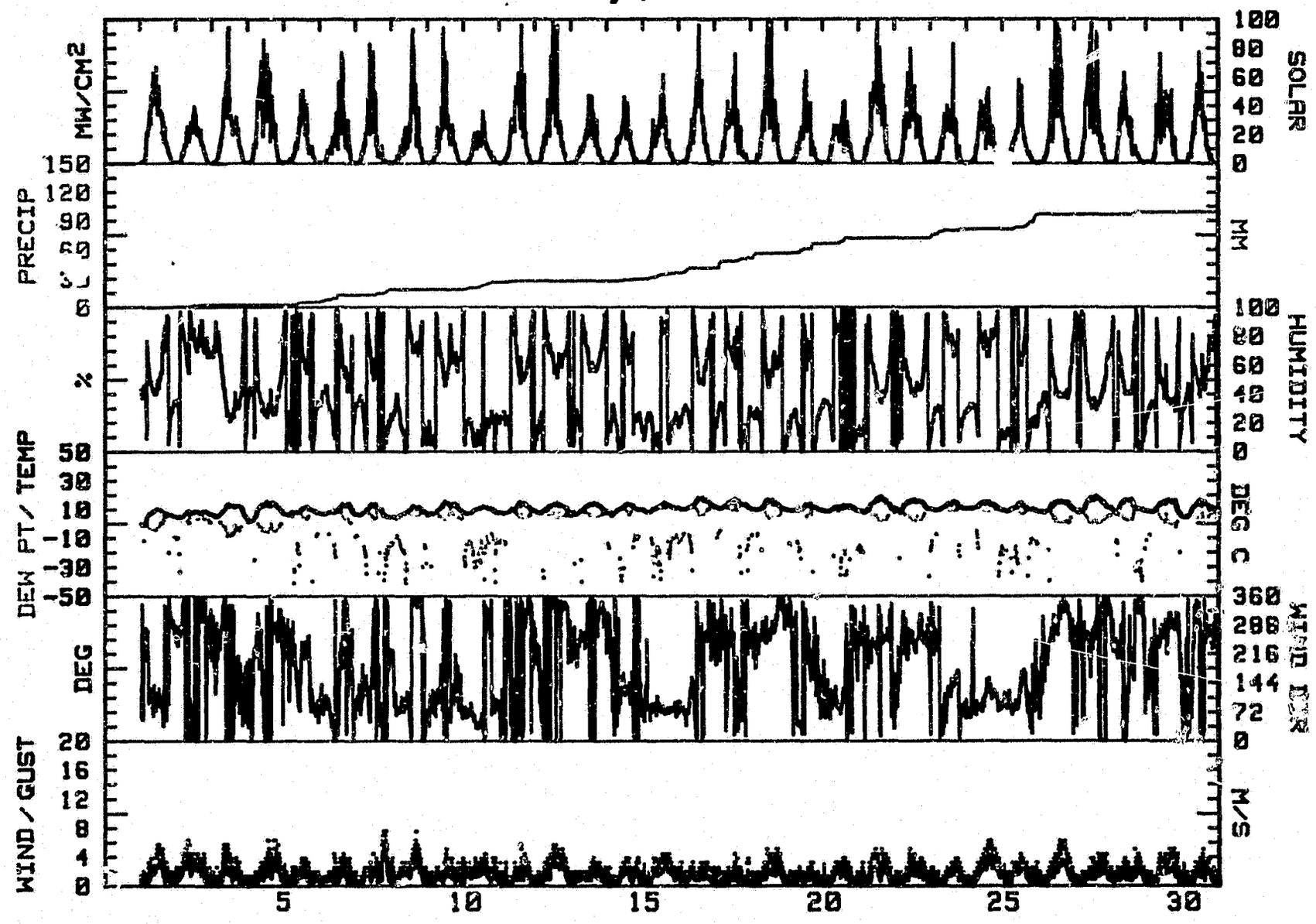
**** SEE NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

July, 1981



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING July, 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	.97	5.38	1.38	0.00	0.00	0.00	0.00	7.73
NNE	1.34	1.65	.17	0.00	0.00	0.00	0.00	3.16
NE	1.58	1.61	0.00	0.00	0.00	0.00	0.00	3.19
ENE	5.07	4.17	0.00	0.00	0.00	0.00	0.00	9.24
E	4.23	6.42	.20	0.00	0.00	0.00	0.00	10.85
ESE	2.99	3.83	.27	0.00	0.00	0.00	0.00	7.09
SE	1.75	2.55	.30	0.00	0.00	0.00	0.00	4.60
SSE	1.44	2.15	.07	0.00	0.00	0.00	0.00	3.66
S	1.98	1.21	0.00	0.00	0.00	0.00	0.00	3.19
SSW	2.39	1.14	0.00	0.00	0.00	0.00	0.00	3.53
SW	3.09	2.69	0.00	0.00	0.00	0.00	0.00	5.78
WSW	3.83	4.84	0.00	0.00	0.00	0.00	0.00	8.67
W	3.73	4.33	.07	0.00	0.00	0.00	0.00	8.13
WNW	2.79	3.06	.10	0.00	0.00	0.00	0.00	5.95
NW	2.28	2.89	.10	0.00	0.00	0.00	0.00	5.28
NNW	1.38	5.88	1.01	0.00	0.00	0.00	0.00	8.27
CALM								1.68
TOTAL	40.86	53.80	3.66	0.00	0.00	0.00	0.00	100.00

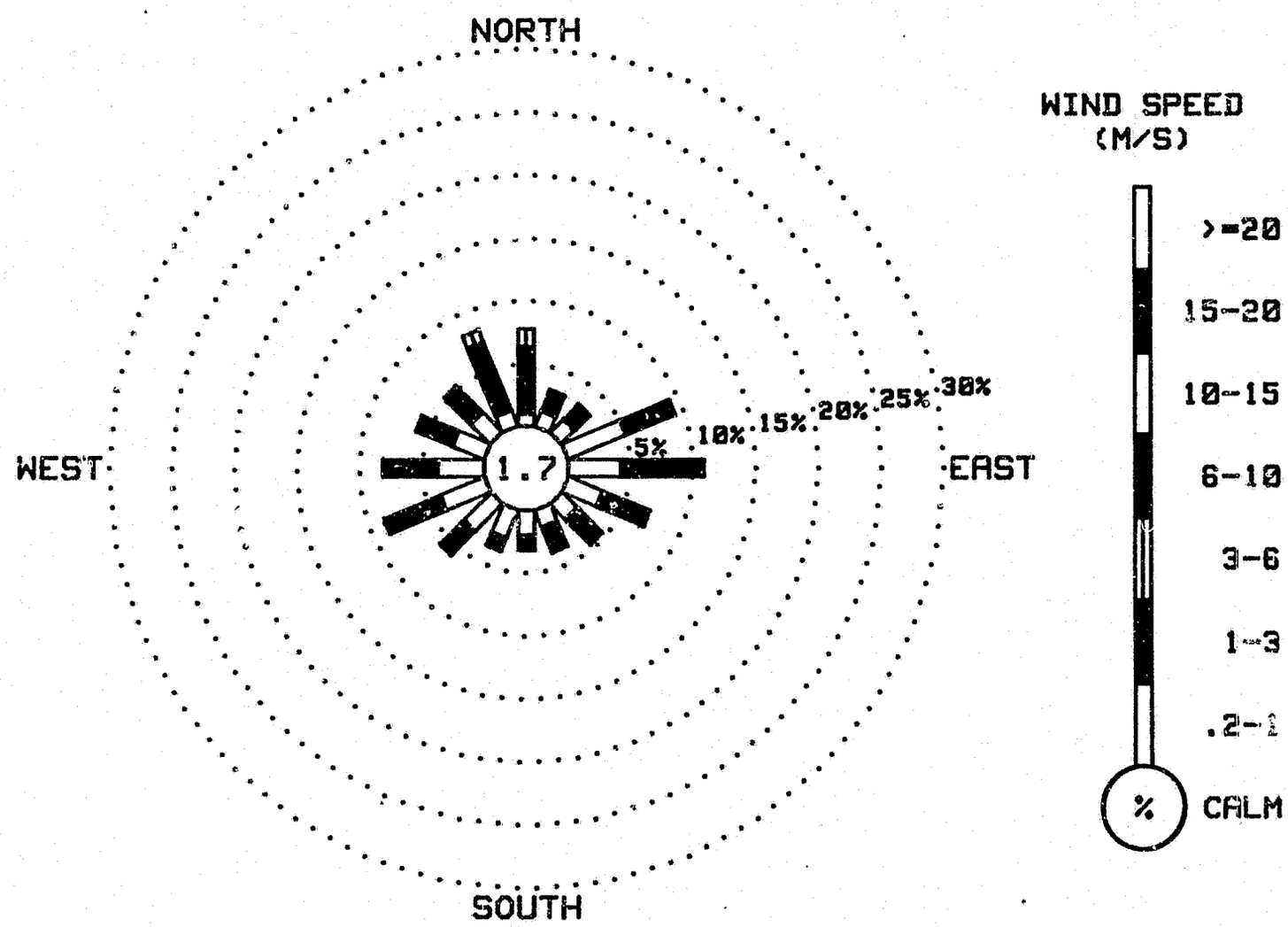
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2976 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

July, 1981



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING August, 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
1	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	1.2	0.0	0.0	.4	.8	0.0	0.0	1.0	1.4	1.0	0.0	.6	.2	1
2	.4	.6	1.4	1.4	1.4	1.6	.6	1.2	1.2	.4	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.4	.4	2
3	.2	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	1.2	.6	6
7	.2	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	8
9	0.0	.2	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	.8	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10
11	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	12
13	0.0	.2	.4	0.0	.6	.4	.6	.4	.2	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	.2	0.0	0.0	0.0	0.0	.4	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
15	0.0	.2	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	3.0	2.8	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	.2	17
18	.4	0.0	0.0	.2	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	.2	0.0	.2	.2	1.4	.6	.2	.2	.2	0.0	0.0	0.0	18
19	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	.4	.4	1.0	.4	0.0	0.0	0.0	.4	3.6	.8	0.0	.2	0.0	0.0	0.0	0.0	19
20	0.0	0.0	.2	0.0	0.0	0.0	.2	.4	.2	.8	1.8	.4	.2	0.0	0.0	0.0	.4	.2	.2	0.0	.2	.2	.2	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	.2	0.0	.2	.6	.2	0.0	.2	0.0	0.0	.6	.4	.4	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	.6	30
31	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31

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DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.0	-10.6	24	090	1.0	094	2.5	1
0600	9.2	-34.8	2	086	1.8	096	3.8	6
0900	10.8	8.5	86	082	2.3	075	5.1	7
1200	11.4	-33.3	2	077	1.9	073	3.8	20
1500	11.4	7.0	74	080	2.4	127	5.7	10
1800	11.4	8.4	82	085	2.5	124	5.1	4
2100	8.7	-17.4	14	080	2.4	077	5.1	1
2400	8.0	-13.1	21	083	2.0	088	3.8	1

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.8	-12.7	22	079	1.6	076	3.2	1
0600	7.9	-10.5	26	077	1.6	081	3.2	4
0900	9.2	-25.0	7	085	1.5	077	3.2	30
1200	11.1	8.2	82	114	1.8	114	3.8	46
1500	12.3	5.3	62	103	2.4	122	4.4	38
1800	11.8	4.6	61	065	1.7	083	4.4	10
2100	9.4	*****	18	288	.5	073	1.9	1
2400	8.5	*****	31	269	.6	302	1.3	1

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.2	*****	46	245	.7	245	1.3	1
0600	8.5	*****	2	282	1.1	292	3.8	11
0900	13.5	4.4	54	342	1.3	326	3.8	36
1200	14.0	2.8	47	131	1.7	154	4.4	34
1500	16.9	.8	34	144	1.2	143	3.2	53
1800	14.4	1.6	42	136	1.9	135	4.4	10
2100	7.4	*****	5	122	.7	167	2.5	1
2400	2.0	*****	35	058	.3	052	1.3	1

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.2	*****	47	112	.4	154	2.5	1
0600	4.4	*****	67	104	.3	073	1.9	23
0900	13.0	-2.2	35	265	.7	250	2.5	55
1200	17.5	-3.4	24	018	1.3	083	5.1	72
1500	16.6	-4.7	23	058	3.2	066	7.0	33
1800	16.1	-5.7	22	054	3.8	051	7.6	13
2100	6.0	*****	97	060	1.2	051	5.1	1
2400	2.2	*****	30	192	.5	190	1.9	1

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.1	*****	41	058	.4	050	1.3	1
0600	5.3	*****	23	082	.2	073	1.3	13
0900	13.1	3.5	52	126	.8	122	4.4	25
1200	13.2	4.4	55	125	2.7	113	6.3	35
1500	15.5	2.6	42	113	3.1	129	6.3	22
1800	14.8	-.6	35	123	3.3	128	7.0	13
2100	10.2	*****	54	114	1.3	124	5.1	1
2400	8.8	*****	14	106	1.4	117	7.0	1

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.5	*****	27	146	.3	076	2.5	1
0600	9.5	7.4	87	090	1.3	090	3.8	11
0900	11.4	7.5	77	107	1.4	098	3.8	18
1200	14.3	3.1	47	157	1.8	149	6.3	29
1500	17.0	1.3	35	136	3.4	142	6.3	73
1800	13.4	1.3	44	140	3.7	144	7.0	10
2100	9.5	5.9	78	111	3.2	122	5.7	1
2400	8.2	-11.8	23	093	1.8	105	5.1	1

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.8	*****	22	090	1.2	090	3.2	1
0600	9.0	-22.4	9	100	1.5	093	4.4	5
0900	11.3	8.7	84	105	3.0	107	7.0	15
1200	12.2	8.9	80	124	3.5	116	6.3	18
1500	12.6	7.5	71	128	3.2	123	7.0	8
1800	10.5	-21.2	9	122	2.3	138	6.3	3
2100	10.2	7.8	85	102	2.6	109	5.7	1
2400	7.1	*****	15	090	.9	092	3.8	1

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.0	8.3	89	089	1.1	085	3.2	1
0600	10.5	7.7	83	091	1.4	099	3.2	7
0900	13.2	7.5	68	104	2.0	104	4.4	18
1200	14.4	5.5	55	130	3.5	132	7.6	38
1500	13.3	5.0	57	119	4.4	117	7.6	22
1800	12.3	5.8	64	111	3.2	119	7.0	6
2100	10.2	7.6	84	098	1.8	102	5.1	1
2400	8.2	-17.8	14	081	.7	070	1.9	1

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.8	*****	23	100	.8	094	2.5	1
0600	7.5	*****	13	100	.8	134	1.9	6
0900	11.3	6.1	70	096	1.6	098	3.8	32
1200	13.6	2.2	46	133	2.5	138	5.1	22
1500	15.6	2.7	42	136	2.3	151	5.7	57
1800	15.5	-.8	33	160	2.8	154	6.3	36
2100	8.7	*****	71	033	.3	196	5.7	1
2400	7.3	*****	7	083	1.0	083	2.5	1

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DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.2	*****	17	134	.2	142	1.3	1
0600	7.1	*****	9	099	.3	097	1.9	6
0900	12.0	3.0	54	089	1.0	108	3.8	59
1200	14.8	1.6	41	122	2.0	154	5.1	30
1500	13.9	2.4	46	193	.8	141	5.1	22
1800	12.7	*****	47	224	.7	169	3.2	9
2100	9.0	6.6	85	219	.9	153	3.8	0
2400	8.0	*****	92	046	.6	036	3.2	1

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.2	*****	20	129	.1	026	2.5	1
0600	7.1	*****	91	120	.2	099	1.9	11
0900	10.7	*****	54	117	1.3	138	3.2	27
1200	11.3	3.4	58	144	1.6	204	5.7	58
1500	13.6	.2	40	328	.7	242	5.7	22
1800	10.4	*****	53	165	1.5	186	7.0	6
2100	8.6	*****	65	113	1.4	126	4.4	1
2400	7.6	*****	72	103	.9	108	2.5	1

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.1	2.8	74	086	1.1	084	2.5	1
0600	7.4	3.3	75	086	1.4	084	3.2	5
0900	8.8	4.8	76	081	1.7	078	3.8	20
1200	11.6	2.1	52	109	1.7	130	4.4	34
1500	11.9	.6	46	150	2.6	174	6.3	20
1800	9.8	2.4	60	176	2.2	165	5.1	4
2100	7.5	*****	4	162	.7	163	3.2	1
2400	6.6	4.2	85	092	1.1	061	3.2	1

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.6	*****	15	091	.9	083	2.5	1
0600	6.0	-15.3	20	085	.8	075	1.9	6
0900	8.2	5.1	81	086	1.1	116	3.8	38
1200	10.9	2.5	56	131	1.9	130	3.8	20
1500	11.5	2.5	54	116	2.0	099	5.7	20
1800	9.6	5.8	77	043	2.1	019	5.1	8
2100	7.0	3.8	80	360	2.5	007	5.7	1
2400	5.7	-42.5	0	355	2.3	358	4.4	1

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.6	-30.0	6	342	1.6	013	3.8	1
0600	4.8	*****	20	010	.9	012	3.2	4
0900	7.6	4.4	80	090	1.4	087	3.8	21
1200	10.4	-.5	47	127	2.5	154	5.1	21
1500	11.1	-1.4	42	182	3.2	173	7.6	34
1800	9.2	-2.8	43	167	3.9	165	7.6	7
2100	7.3	-.9	56	134	1.9	165	5.7	1
2400	5.1	*****	77	133	1.0	181	3.8	1

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.7	*****	9	079	1.1	080	2.5	1
0600	6.3	4.8	90	096	1.1	085	2.5	7
0900	9.4	3.0	64	137	2.1	132	6.3	26
1200	9.7	3.5	65	128	3.6	121	6.3	24
1500	4.6	-28.4	7	172	1.1	128	6.3	8
1800	5.8	*****	76	321	.9	003	3.8	18
2100	1.0	-16.0	27	235	1.1	240	2.5	1
2400	-.6	*****	39	074	.1	254	2.5	1

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.5	*****	38	071	.2	087	1.3	1
0600	1.3	*****	26	135	.1	065	1.3	6
0900	6.7	2.8	76	085	1.4	100	4.4	16
1200	4.1	-.7	73	282	2.6	281	7.0	24
1500	6.8	-6.0	40	308	2.9	304	7.0	54
1800	6.9	-9.2	31	310	3.0	303	7.0	7
2100	-.5	*****	96	326	.8	323	3.2	1
2400	-3.5	*****	21	149	.5	163	3.2	1

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.7	*****	17	209	.2	211	1.3	1
0600	0.0	*****	63	219	.2	041	1.3	25
0900	6.8	-8.5	33	023	.4	025	2.5	41
1200	11.1	-8.8	24	113	1.2	118	3.8	71
1500	9.9	-8.4	27	158	2.1	150	5.1	22
1800	8.4	-4.9	39	113	.9	136	5.1	8
2100	5.6	*****	76	064	.6	026	2.5	1
2400	5.0	*****	26	069	.4	069	1.9	1

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.5	-13.1	25	052	.6	322	1.9	1
0600	6.1	-20.4	13	077	1.2	081	2.5	4
0900	6.8	-19.8	13	083	1.8	089	4.4	16
1200	7.9	-41.1	0	088	2.2	093	3.8	18
1500	9.2	7.0	86	099	2.0	098	4.4	18
1800	8.5	-19.4	12	096	1.5	110	3.2	11
2100	7.7	-10.7	22	075	1.3	076	3.2	1
2400	7.1	-10.7	22	083	1.7	082	3.2	1

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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.7	*****	30	090	.8	093	2.5	1
0600	7.1	*****	29	074	.5	086	1.3	4
0900	8.6	-40.6	0	096	1.3	101	3.2	22
1200	10.1	7.9	86	105	1.6	097	3.2	43
1500	10.3	*****	89	189	.3	093	3.2	10
1800	8.9	-23.8	8	030	.9	020	3.2	3
2100	5.9	*****	18	039	.5	035	1.9	1
2400	4.9	*****	19	080	.7	061	1.9	1

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.8	-21.8	11	112	.6	081	3.2	1
0600	6.2	*****	20	128	.4	087	2.5	4
0900	9.2	*****	1	359	.2	032	1.9	13
1200	9.4	7.8	90	060	.6	050	4.4	18
1500	10.9	7.8	81	042	1.6	041	4.4	11
1800	8.9	*****	97	063	.7	072	3.2	2
2100	8.3	8.0	98	201	.8	170	3.2	1
2400	6.4	*****	21	165	.4	196	3.2	1

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.0	*****	32	090	.5	077	1.9	1
0600	6.0	*****	86	120	.4	099	1.9	11
0900	10.9	2.0	54	123	1.9	146	5.7	41
1200	15.5	-2.1	30	139	2.8	146	3.7	66
1500	15.4	-4.6	25	162	4.1	171	8.3	51
1800	12.2	-5.0	30	150	3.1	139	7.0	4
2100	7.8	5.6	86	328	.8	188	5.1	1
2400	6.0	*****	10	133	.3	262	1.9	1

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.3	-13.2	25	107	.2	065	1.9	1
0600	5.7	*****	15	078	.6	128	1.9	5
0900	8.4	*****	74	103	.8	098	1.9	29
1200	10.7	*****	64	060	.6	059	1.9	27
1500	8.7	6.8	88	355	1.2	000	2.5	6
1800	9.3	*****	80	072	.2	070	2.5	10
2100	6.7	*****	7	232	.5	254	2.5	1
2400	6.1	*****	11	206	.3	172	1.9	1

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.4	*****	33	229	.5	269	1.3	1
0600	5.7	*****	89	187	.3	249	1.9	15
0900	10.7	2.6	57	105	.3	145	3.2	73
1200	12.3	*****	39	163	.6	151	3.2	28
1500	14.2	-3.3	30	077	.8	100	5.7	28
1800	12.5	*****	35	102	1.1	086	3.2	6
2100	3.4	*****	24	089	.3	121	1.9	1
2400	1.2	*****	40	234	.1	241	1.3	1

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.5	*****	38	266	.0	216	1.3	1
0600	-.3	*****	29	119	.3	185	1.3	9
0900	10.5	-.4	47	256	.7	254	1.9	48
1200	15.2	-4.8	25	123	1.3	130	4.1	62
1500	17.8	-10.1	14	155	1.6	148	4.4	44
1800	17.5	*****	7	129	.8	111	3.2	11
2100	5.0	*****	7	154	.2	165	1.3	1
2400	1.8	*****	30	105	.2	104	1.3	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.2	*****	42	048	.1	055	1.3	1
0600	5.6	*****	9	060	.3	112	1.3	6
0900	14.5	-1.7	33	032	.5	053	1.9	45
1200	19.8	-9.5	13	082	.8	152	3.2	60
1500	22.4	*****	12	060	.7	170	2.5	47
1800	18.7	-3.5	22	250	.5	234	3.2	7
2100	11.8	*****	80	243	.4	218	2.5	1
2400	9.7	9.1	96	228	1.0	236	2.5	1

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.3	*****	30	223	.8	244	1.9	1
0600	7.4	-38.5	1	250	1.5	258	3.2	8
0900	17.6	4.8	43	268	1.1	254	3.2	45
1200	23.3	.9	23	030	.6	052	2.5	61
1500	25.1	-1.7	17	156	1.0	178	3.8	47
1800	24.8	*****	11	152	1.3	148	3.8	10
2100	10.8	*****	0	117	.4	164	1.9	1
2400	13.6	*****	72	252	.3	217	3.2	1

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.8	*****	28	250	.3	238	1.9	1
0600	9.6	*****	63	039	.5	028	1.9	13
0900	18.0	5.9	45	010	.3	268	2.5	44
1200	22.8	4.7	31	333	2.2	359	4.4	58
1500	24.4	.6	21	311	2.0	292	5.7	30
1800	23.9	-2.7	17	357	2.1	309	4.4	14
2100	14.0	*****	66	046	.5	005	1.9	1
2400	8.8	*****	25	263	.2	244	1.9	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING August, 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	11.0	8.2	83	253	1.3	249	3.2	1
0600	11.9	7.8	76	252	1.5	251	3.2	17
0900	16.8	6.9	52	293	1.5	331	5.1	25
1200	21.5	3.6	31	292	1.0	350	3.8	32
1500	24.7	-2.8	16	343	1.1	004	2.5	45
1800	22.9	*****	16	223	.6	168	2.5	6
2100	12.8	*****	71	058	.4	039	3.2	1
2400	6.7	*****	25	100	.1	330	1.9	0

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.1	*****	43	054	.3	036	1.9	1
0600	6.0	*****	12	048	.4	089	1.9	14
0900	14.2	*****	37	134	.4	109	1.9	45
1200	17.8	4.3	41	236	1.8	223	4.4	54
1500	18.8	3.7	37	248	2.5	248	5.1	44
1800	16.5	-.8	31	245	2.8	250	7.0	11
2100	11.9	7.5	74	231	1.1	187	4.4	1
2400	11.4	7.2	75	283	1.1	287	3.8	1

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.1	*****	16	318	.5	004	2.5	1
0600	8.6	*****	86	177	.5	185	2.5	8
0900	13.8	3.8	51	148	.6	163	2.5	36
1200	15.5	2.6	42	244	2.7	246	5.7	48
1500	16.1	2.0	39	242	3.0	248	5.7	32
1800	14.2	3.9	50	251	2.3	243	5.1	3
2100	11.0	7.7	80	308	1.1	317	3.8	1
2400	9.1	-28.4	5	284	1.6	297	3.8	1

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.1	6.2	82	258	2.4	230	5.7	1
0600	9.5	4.4	70	275	2.7	279	5.7	11
0900	11.8	-6.7	27	298	3.0	296	7.0	44
1200	14.4	-12.0	15	353	3.8	004	7.6	58
1500	15.3	-20.5	7	314	2.0	316	5.1	46
1800	13.0	-18.1	10	347	2.6	350	5.1	14
2100	6.7	*****	40	332	.9	001	4.4	2
2400	-.3	*****	7	200	.3	281	1.9	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING August, 1981

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	12.4	8.0	10.2	082	2.0	2.1	127	5.7	E	51	-4.3	7.4	1683	1
2	12.4	7.7	10.1	087	1.1	1.5	122	4.4	ENE	44	-3.5	11.8	3458	2
3	16.9	1.9	9.4	140	.4	1.2	154	4.4	SE	46	1.8	.4	4688	3
4	18.4	-.8	8.8	055	1.1	1.6	051	7.6	NE	36	-3.7	0.0	5878	4
5	16.6	0.0	8.3	116	1.6	1.8	128	7.0	ESE	44	1.9	.8	3845	5
6	17.4	6.5	12.0	124	2.0	2.2	144	7.0	SE	44	-1.3	2.8	3595	6
7	12.9	7.1	10.0	112	2.2	2.3	107	7.0	E	52	-2.6	1.0	1538	7
8	15.4	6.6	11.0	110	2.2	2.3	132	7.6	E	65	5.4	.4	3398	8
9	16.1	6.6	11.4	125	1.3	1.8	154	6.3	E	47	-.1	2.8	4163	9
10	15.5	5.9	10.7	140	.5	1.2	154	5.1	E	48	1.8	0.0	3603	10
11	14.0	5.1	9.6	129	.7	1.3	186	7.0	SE	50	.8	.8	4215	11
12	12.3	6.3	9.3	122	1.2	1.6	174	6.3	E	64	2.8	.4	2248	12
13	12.6	5.4	9.0	059	1.1	1.8	099	5.7	E	56	.9	3.2	3933	13
14	12.1	4.5	8.3	143	1.3	2.2	173	7.6	ESE	42	-6.9	1.2	2673	14
15	10.2	-.7	4.8	132	.9	1.7	132	6.3	SE	55	-4.3	8.0	2103	15
16	7.9	-3.5	2.2	309	.9	1.6	281	7.0	WNW	47	-5.4	.6	4530	16
17	11.7	-4.7	3.5	122	.5	1.1	150	5.1	NE	34	-8.4	1.0	5170	17
18	9.5	4.9	7.2	085	1.5	1.6	089	4.4	E	29	-13.5	4.2	2138	18
19	11.7	4.7	8.2	083	.7	1.0	101	3.2	E	33	-12.9	7.4	1748	19
20	11.3	3.6	7.5	083	.4	.9	050	4.4	SSW	44	-.4	5.6	1370	20
21	15.9	4.0	10.0	144	1.5	2.0	171	8.3	SE	42	-1.7	0.0	5110	21
22	11.1	5.1	8.1	060	.2	.7	000	2.5	ENE	43	-1.7	3.6	2390	22
23	15.3	.9	8.1	121	.3	.8	100	5.7	ESE	42	-2.8	.4	4000	23
24	18.8	-2.2	8.3	145	.5	.8	130	4.4	SE	32	-6.5	0.0	5485	24
25	24.2	1.3	12.8	080	.1	.8	152	3.2	NE	36	-4.2	0.0	5318	25
26	25.8	4.4	15.1	210	.4	1.1	178	3.8	WSW	34	-3.3	0.0	5325	26
27	24.8	6.3	15.6	340	.8	1.2	292	5.7	N	34	1.5	0.0	5065	27
28	25.4	6.7	16.1	280	.7	1.2	331	5.1	WSW	44	.9	0.0	4510	28
29	19.8	2.2	11.0	246	1.0	1.4	250	7.0	WSW	48	3.7	0.0	5085	29
30	17.8	6.8	12.3	253	1.3	1.7	246	5.7	WSW	50	2.4	1.4	4283	30
31	15.8	-.3	7.8	311	1.8	2.5	004	7.6	N	43	-6.1	.8	5233	31
MONTH	25.8	-4.7	9.6	111	.6	1.5	171	8.3	E	45	-2.2	65.2	117774	

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 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.

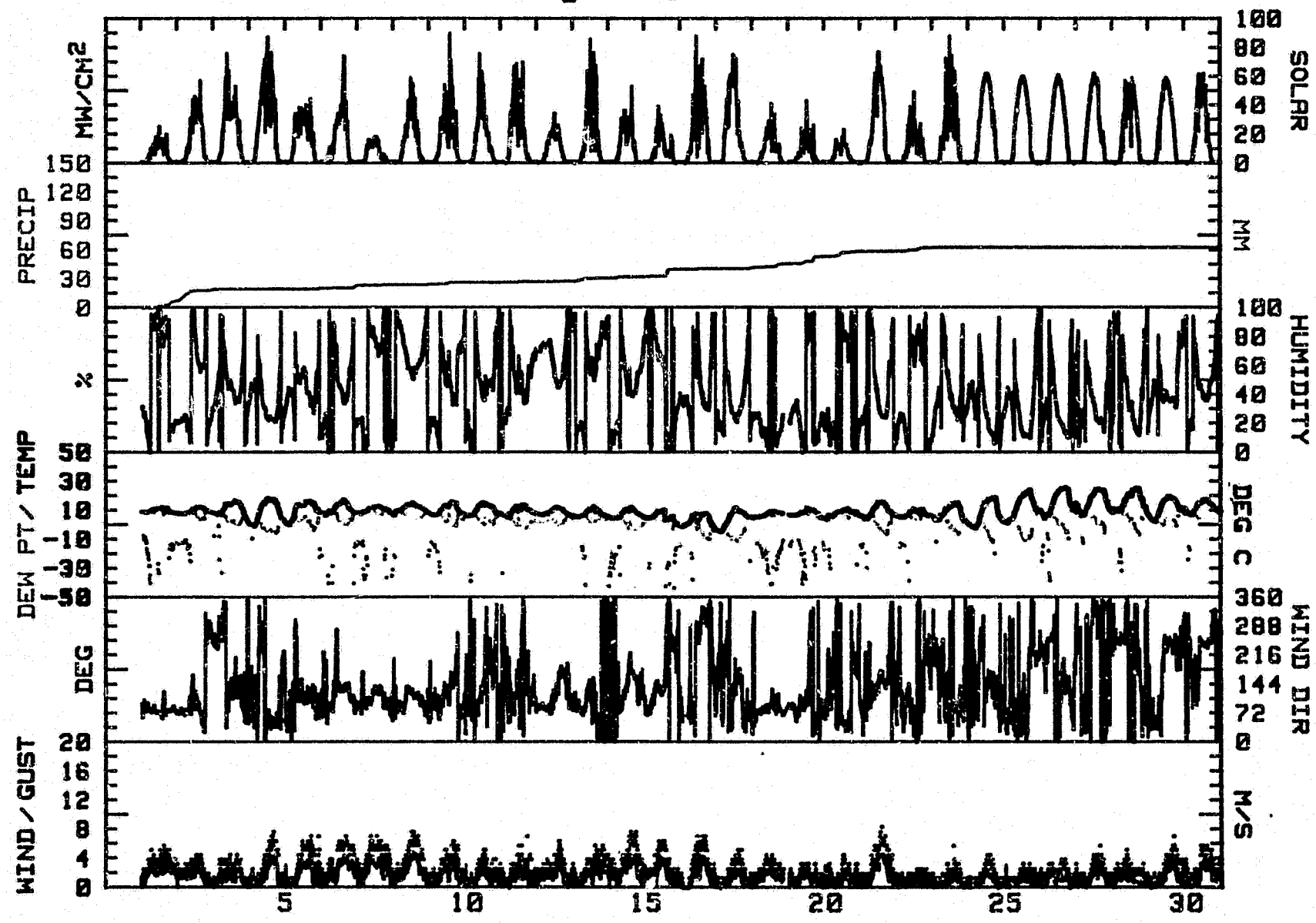
**** SEE NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

August, 1981



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING August, 1981

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	.77	2.65	.64	0.00	0.00	0.00	0.00	4.07
NNE	1.61	1.31	.07	0.00	0.00	0.00	0.00	2.99
NE	3.53	1.75	.37	0.00	0.00	0.00	0.00	5.65
ENE	4.74	6.32	.37	0.00	0.00	0.00	0.00	11.42
E	4.81	11.16	.40	0.00	0.00	0.00	0.00	16.36
ESE	2.92	6.05	2.25	0.00	0.00	0.00	0.00	11.22
SE	2.02	4.74	2.82	0.00	0.00	0.00	0.00	9.58
SSE	1.65	3.02	1.31	0.00	0.00	0.00	0.00	5.98
S	1.75	1.51	.57	0.00	0.00	0.00	0.00	3.83
SSW	2.72	.91	.13	0.00	0.00	0.00	0.00	3.76
SW	2.25	1.41	.27	0.00	0.00	0.00	0.00	3.93
WSW	2.69	3.49	.71	0.00	0.00	0.00	0.00	6.89
W	1.65	1.98	.34	0.00	0.00	0.00	0.00	3.97
WNW	.71	1.71	.40	0.00	0.00	0.00	0.00	2.82
NW	.87	1.51	.27	0.00	0.00	0.00	0.00	2.65
NNW	.91	1.98	.20	0.00	0.00	0.00	0.00	3.09
CALM								1.78
TOTAL	35.58	51.51	11.12	0.00	0.00	0.00	0.00	100.00

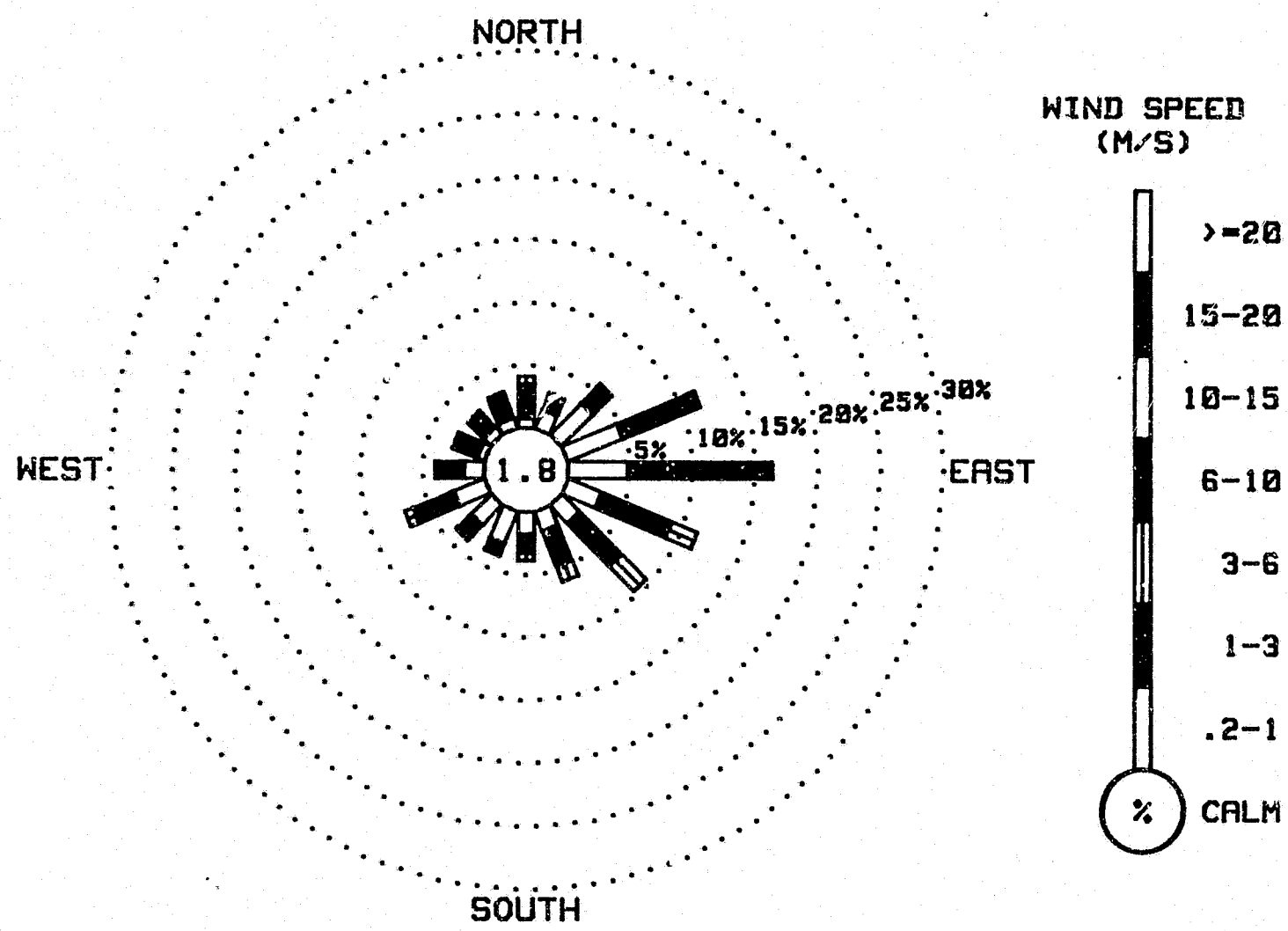
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2976 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

August, 1981



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING September, 1981

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.4	.4	.8	.8	.4	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	.2	0.0	0.0	.2	1.4	.8	.2	9
10	.6	1.0	.6	0.0	.2	0.0	0.0	.2	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.4	19
20	0.0	.2	.2	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30

R & M CONSULTANTS, INC.

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DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.7	*****	18	113	.2	139	1.3	0
0600	-2.3	*****	16	080	.3	131	1.3	16
0900	9.6	*****	38	126	.3	334	1.9	43
1200	14.4	-12.8	14	095	1.1	075	4.4	58
1500	16.3	-19.8	7	049	1.2	034	3.8	45
1800	15.9	*****	6	336	.6	349	3.2	14
2100	1.4	*****	11	090	.1	140	1.3	1
2400	-.9	*****	35	059	.3	092	1.3	1

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.7	*****	24	057	.3	059	1.9	1
0600	-.7	*****	35	049	.4	046	1.3	17
0900	10.2	-1.6	44	081	.5	129	1.9	52
1200	12.1	-.2	43	026	.6	295	4.4	26
1500	13.3	-1.6	36	342	1.7	333	5.1	25
1800	11.5	-.4	44	320	1.9	314	4.4	3
2100	8.4	*****	80	307	.5	303	2.5	1
2400	8.5	*****	77	284	.8	339	3.2	1

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.0	*****	92	139	.2	305	1.9	1
0600	6.6	6.1	97	193	.7	165	1.9	4
0900	9.3	*****	69	277	.5	227	1.3	17
1200	12.9	-2.3	35	087	.4	173	4.4	27
1500	13.0	-1.5	37	274	.4	052	3.8	23
1800	10.2	*****	55	300	.1	261	3.8	4
2100	7.7	*****	84	188	.1	207	1.9	1
2400	2.7	*****	13	074	.6	084	1.9	1

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	*****	38	066	.0	048	1.3	1
0600	.7	*****	45	225	.4	233	1.3	4
0900	7.6	3.3	74	085	.4	045	3.2	12
1200	8.9	5.7	80	097	2.2	104	4.4	22
1500	9.3	5.7	78	087	2.5	083	5.1	14
1800	7.9	6.8	93	092	2.0	118	5.1	2
2100	6.9	-21.7	11	078	1.2	080	3.2	1
2400	6.6	*****	18	103	.3	080	1.9	1

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.4	*****	21	220	.1	241	1.3	1
0600	6.5	*****	20	106	.2	156	1.3	3
0900	8.5	4.5	76	126	.8	141	3.2	16
1200	11.9	3.7	57	139	1.0	125	3.8	23
1500	13.4	-.4	39	138	1.7	132	4.4	30
1800	10.8	1.6	53	156	1.4	181	3.8	2
2100	6.2	4.8	91	086	1.3	088	3.2	1
2400	4.8	4.0	95	089	1.2	077	2.5	1

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.1	*****	26	098	.4	094	1.9	1
0600	.6	*****	36	228	.6	211	1.9	4
0900	8.7	3.2	68	236	1.1	205	3.2	30
1200	9.9	3.2	63	177	1.3	169	4.4	44
1500	11.0	1.8	53	124	2.9	151	6.3	29
1800	9.1	3.4	67	112	2.4	118	5.1	3
2100	4.2	1.2	81	106	1.1	098	2.5	1
2400	.5	*****	20	129	.6	100	1.9	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.8	*****	28	218	.4	162	1.3	1
0600	-.7	*****	41	228	.2	202	1.3	2
0900	4.0	*****	92	276	.5	265	1.9	12
1200	5.8	*****	85	232	.5	201	2.5	15
1500	6.2	3.0	80	031	.8	023	1.9	12
1800	5.6	*****	2	010	.4	034	1.9	1
2100	3.4	*****	29	242	.2	215	1.3	1
2400	2.0	*****	39	158	.1	221	1.3	1

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.4	*****	48	223	.3	194	1.9	0
0600	2.3	*****	51	264	.6	295	1.9	4
0900	5.2	*****	15	298	.6	253	2.5	24
1200	9.4	.3	53	176	1.2	181	3.2	31
1500	12.2	-5.4	29	330	.3	326	3.2	44
1800	11.1	*****	20	327	1.3	001	3.8	6
2100	1.5	*****	91	231	.5	214	1.9	1
2400	2.1	-1.5	77	221	1.1	200	2.5	1

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.1	-1.5	77	237	1.4	247	3.2	1
0600	2.7	-1.3	75	248	1.6	241	3.2	3
0900	7.7	-3.0	47	300	1.4	001	5.7	30
1200	9.1	.0	53	356	3.4	355	5.7	20
1500	9.0	2.4	63	350	1.9	016	4.4	15
1800	7.6	*****	84	340	2.0	353	5.1	1
2100	6.6	*****	93	349	2.0	332	4.4	1
2400	5.4	*****	28	186	.3	189	1.9	1

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DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.4	*****	34	199	.2	193	1.9	1
0600	4.7	*****	21	193	.3	177	1.3	1
0900	5.8	*****	3	045	.1	051	1.3	7
1200	8.5	3.6	71	285	.6	282	1.9	23
1500	11.1	-1.4	42	262	1.1	255	3.2	47
1800	8.3	-3.0	45	319	1.6	339	4.4	4
2100	3.4	*****	97	310	.8	352	3.2	1
2400	.8	*****	28	226	.7	220	1.9	1

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.9	-12.0	38	230	.8	203	1.9	1
0600	1.7	-21.5	16	251	1.1	251	2.5	4
0900	4.3	3.4	94	249	1.3	253	2.5	14
1200	9.4	.8	55	277	.3	090	2.5	40
1500	9.8	-1.3	46	150	1.3	192	3.8	21
1800	6.7	3.8	82	133	1.6	137	3.8	1
2100	3.5	2.9	96	091	.9	110	2.5	1
2400	-.1	*****	21	080	.4	081	1.9	1

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.1	*****	19	033	.2	039	1.9	1
0600	-2.2	*****	29	102	.1	062	1.9	4
0900	5.7	-.8	63	078	.1	085	1.9	32
1200	9.4	-2.6	43	124	1.8	095	3.8	49
1500	11.6	-5.5	30	122	2.5	143	5.7	36
1800	7.8	-5.8	38	103	2.3	118	5.1	2
2100	3.4	*****	63	090	.7	089	1.9	1
2400	-.8	*****	9	151	.3	070	1.3	1

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.4	*****	17	115	.6	142	1.9	0
0600	-1.6	*****	28	056	.4	058	1.9	2
0900	5.2	*****	72	246	.4	214	1.3	16
1200	8.2	-3.7	43	086	1.6	078	5.7	26
1500	10.0	-6.5	31	130	2.0	140	5.1	12
1800	6.0	-1.1	60	095	1.6	139	5.1	2
2100	1.8	*****	86	097	.8	085	1.9	1
2400	-1.0	*****	25	183	.1	208	1.3	1

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.5	*****	20	233	.4	236	1.9	1
0600	-2.4	*****	15	227	.3	226	1.3	4
0900	2.9	-1.3	74	268	.9	277	3.2	18
1200	11.3	-6.2	29	284	1.1	334	4.4	43
1500	12.2	-10.8	19	068	1.2	358	5.7	24
1800	7.5	-7.9	33	077	2.3	080	5.7	2
2100	4.1	*****	65	183	.4	199	2.5	1
2400	4.0	*****	77	091	.1	201	1.3	1

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.1	.1	75	106	.8	093	3.2	0
0600	3.4	*****	85	088	.9	104	2.5	2
0900	5.6	3.1	84	091	1.6	087	3.8	19
1200	11.4	-1.2	42	084	1.3	109	3.2	53
1500	11.4	-6.1	29	149	2.3	159	7.0	34
1800	7.3	-8.1	33	145	2.9	156	6.3	2
2100	5.8	-5.0	46	088	1.7	092	3.8	1
2400	4.2	*****	59	077	1.6	072	3.8	1

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.3	*****	67	110	.8	113	4.4	1
0600	1.5	-1.9	78	097	.9	078	1.9	3
0900	7.7	-4.2	43	097	1.5	109	3.8	36
1200	11.7	-10.6	20	151	2.8	155	5.7	49
1500	10.9	-8.5	25	137	3.1	151	6.3	30
1800	7.5	-6.8	36	125	2.6	146	6.3	2
2100	6.4	-6.3	40	088	2.3	096	5.1	1
2400	5.9	-6.5	41	094	2.1	097	5.1	1

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.4	-4.5	56	066	1.8	068	3.8	1
0600	2.7	-4.7	58	084	2.0	070	3.8	4
0900	7.5	-8.7	31	146	.4	109	2.5	35
1200	10.8	-12.0	19	098	.6	155	2.5	46
1500	13.0	-13.1	15	262	1.1	241	3.8	29
1800	8.9	-13.5	19	048	1.8	308	4.4	3
2100	4.9	*****	39	066	1.1	056	4.4	1
2400	7.0	-6.8	37	042	2.5	047	7.6	2

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.8	*****	42	064	2.3	050	6.[illegible]	1
0600	4.3	*****	63	089	1.0	092	6.3	2
0900	6.2	-3.5	50	331	.6	356	3.2	25
1200	8.0	-4.9	40	308	1.0	001	3.8	18
1500	9.5	-4.6	37	298	1.0	296	3.2	44
1800	7.4	*****	44	300	1.0	311	3.2	2
2100	5.8	*****	82	232	.2	226	1.9	1
2400	2.7	*****	12	118	.2	008	2.5	1

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DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.0	4.1	94	176	.8	147	3.2	1
0600	5.3	*****	91	172	1.3	164	3.8	1
0900	8.4	-2.0	48	125	1.3	138	4.4	10
1200	9.7	-3.4	40	124	3.0	134	7.0	13
1500	10.4	-6.6	30	130	2.8	132	5.7	16
1800	6.2	1.2	70	147	2.0	136	5.7	1
2100	4.3	-40.6	1	244	1.5	236	3.8	1
2400	3.6	*****	12	298	.6	264	2.5	1

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	*****	14	230	.3	143	1.3	1
0600	1.9	*****	20	262	.5	289	1.3	3
0900	4.9	.5	73	249	.8	259	1.9	36
1200	8.6	-2.1	47	254	.7	226	3.2	46
1500	6.8	-2.7	51	321	.7	319	4.4	9
1800	4.1	*****	72	301	.6	332	3.2	1
2100	3.4	-.8	74	257	.6	240	3.2	1
2400	1.4	-29.4	8	249	1.1	241	2.5	1

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.3	-30.9	7	251	1.1	259	1.9	1
0600	.9	-45.5	0	258	1.3	244	3.2	1
0900	4.7	-2.6	59	315	1.7	326	3.8	34
1200	7.0	-4.5	44	359	3.4	359	6.3	32
1500	7.9	-7.5	33	000	3.5	004	5.7	34
1800	3.2	-7.4	46	358	2.8	350	5.7	1
2100	1.8	-8.1	48	341	1.6	342	4.4	1
2400	1.9	-8.6	46	323	1.8	328	4.4	1

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.5	-8.4	48	335	2.4	353	5.7	1
0600	.4	-7.1	57	305	.8	340	3.2	2
0900	2.3	-7.9	47	330	1.8	349	3.8	16
1200	6.0	-8.5	35	344	2.1	009	5.1	44
1500	7.8	-11.6	24	276	1.2	016	3.8	34
1800	2.7	*****	50	252	.7	247	2.5	1
2100	-3.2	*****	95	194	.3	247	1.9	1
2400	-5.5	*****	0	076	.3	069	1.3	1

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	*****	0	070	.3	099	.6	1
0600	-3.2	*****	10	089	.1	074	1.3	1
0900	2.5	*****	59	214	.5	192	1.9	34
1200	6.3	-7.1	38	250	.7	247	2.5	40
1500	6.8	-8.9	32	138	1.2	189	3.8	14
1800	3.9	*****	52	111	.8	149	3.2	1
2100	1.7	*****	76	076	.5	097	1.9	1
2400	.2	*****	0	186	.2	080	1.3	1

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.1	*****	23	120	.1	049	1.3	1
0600	-1.2	*****	21	202	.2	194	1.3	1
0900	1.8	*****	2	231	.1	252	1.3	10
1200	.2	-3.2	78	353	2.7	356	7.0	20
1500	-1.0	-2.6	89	354	3.8	359	6.3	7
1800	-1.3	-4.6	78	325	2.0	342	5.1	1
2100	-2.8	*****	84	271	.6	283	3.8	1
2400	-2.1	-3.8	88	297	.4	349	2.5	1

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.8	*****	91	276	.9	322	3.2	1
0600	-2.2	-3.1	94	305	1.2	313	3.8	1
0900	-.9	-4.8	75	319	1.7	334	4.4	16
1200	.6	-6.5	59	350	2.5	350	5.1	16
1500	.3	-9.5	48	349	2.8	344	6.3	12
1800	-1.[illegible]	-10.5	52	355	2.7	358	5.1	1
2100	-3.6	-11.8	53	315	1.7	359	4.4	1
2400	-7.7	*****	81	280	.8	332	4.4	1

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.4	-11.2	87	233	1.1	247	2.5	1
0600	-10.1	-12.4	83	252	1.5	266	3.2	2
0900	-4.1	-13.3	49	272	1.7	325	5.1	36
1200	-.2	-12.0	41	330	2.5	332	5.7	45
1500	1.3	-12.6	35	354	2.9	344	5.1	29
1800	-3.3	-12.8	48	355	2.2	357	4.4	1
2100	-8.2	*****	87	285	.2	353	3.2	1
2400	-11.2	*****	82	055	.1	043	1.3	1

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.4	*****	80	144	.0	125	1.3	1
0600	-14.2	*****	78	149	.1	215	1.3	2
0900	-6.5	*****	55	153	.2	228	1.9	31
1200	-.7	-13.7	37	179	.6	194	2.5	49
1500	.6	-14.7	31	320	.6	003	3.8	23
1800	-3.9	*****	49	346	1.4	350	3.8	1
2100	-5.9	*****	55	324	.8	352	3.2	1
2400	-7.2	-13.0	63	354	.9	052	3.2	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING September, 1981

DAY 28

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.8	*****	65	356	.9	008	2.5	1
0600	-10.7	*****	82	012	.4	008	1.9	1
0900	-5.7	*****	57	029	.8	358	2.5	16
1200	-1.6	-13.3	41	351	1.2	003	3.2	47
1500	.7	-15.0	30	095	1.1	133	5.1	25
1800	-3.3	*****	45	093	1.7	119	3.8	1
2100	-7.4	*****	71	140	.5	111	1.9	1
2400	-11.5	*****	87	233	.4	251	1.3	1

DAY 29

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.1	*****	82	190	.4	201	1.3	1
0600	-9.3	-12.1	80	230	.7	247	1.9	1
0900	-5.3	*****	53	358	.7	002	3.2	21
1200	-.7	-13.1	39	315	.9	004	3.8	24
1500	-.2	-11.1	44	138	.7	067	3.2	17
1800	-3.0	*****	66	291	.8	336	3.2	1
2100	-8.4	*****	91	218	.5	212	2.5	1
2400	-5.6	-9.6	73	217	.4	251	2.5	1

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.5	-13.1	51	334	1.8	357	5.1	1
0600	-4.5	-12.4	54	323	1.9	355	6.3	1
0900	-2.8	-10.6	55	335	1.6	357	5.7	8
1200	1.4	-9.3	45	331	2.3	329	5.1	21
1500	2.6	-9.4	41	356	2.5	349	5.1	11
1800	.2	-9.6	48	355	3.7	352	7.0	1
2100	-1.3	-11.2	47	343	2.1	009	4.4	1
2400	-2.5	-12.3	47	334	2.4	347	6.3	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING September, 1981

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	17.9	-4.3	6.8	067	.4	.7	075	4.4	ENE	24	-15.0	0.0	5228	1
2	14.2	-3.0	5.6	340	.6	1.1	333	5.1	NW	43	-.6	0.0	3150	2
3	13.6	2.7	8.2	186	.1	.9	173	4.4	ESE	67	-.1	0.0	2845	3
4	9.8	.1	5.0	092	1.0	1.2	083	5.1	E	52	1.7	.8	1898	4
5	14.2	4.3	9.3	124	.8	1.1	132	4.4	E	50	-.3	0.0	2120	5
6	11.0	-.1	5.5	137	1.0	1.5	151	6.3	ESE	57	1.1	.2	2415	6
7	6.5	-3.1	1.7	280	.1	.5	201	2.5	W	50	.7	3.4	1383	7
8	13.3	1.5	7.4	254	.4	1.0	001	3.8	WSW	51	-3.1	0.0	3918	8
9	10.9	1.3	6.1	326	1.2	1.9	001	5.7	WSW	63	.4	3.0	1793	9
10	12.7	.8	6.8	281	.5	.9	339	4.4	WSW	42	-3.2	3.2	2935	10
11	10.4	-.1	5.2	181	.4	1.1	192	3.8	WSW	53	-5.5	0.0	2130	11
12	11.6	-2.3	4.7	113	.9	1.2	143	5.7	E	43	-3.9	.2	3233	12
13	10.7	-1.9	4.4	105	.8	1.1	078	5.7	E	44	-3.0	0.0	2658	13
14	12.4	-3.4	4.5	069	.1	1.1	358	5.7	ENE	38	-7.6	0.0	2810	14
15	14.3	3.4	8.9	111	1.4	1.8	159	7.0	E	55	-3.9	.2	3078	15
16	12.5	1.5	7.0	118	1.9	2.1	151	6.3	E	45	-6.1	0.0	3163	16
17	13.1	2.5	7.8	062	1.0	1.6	047	7.6	ENE	33	-9.6	0.0	3740	17
18	10.2	2.7	6.5	003	.4	1.1	058	6.3	ENE	51	-4.5	.2	1958	18
19	11.0	3.1	7.1	148	1.2	1.7	134	7.0	SE	51	-3.6	.8	1318	19
20	8.9	.9	4.9	265	.6	.9	319	4.4	WSW	47	-5.3	.8	2573	20
21	7.9	.8	4.4	338	1.8	2.2	359	6.3	N	38	-12.7	0.0	2238	21
22	8.9	-5.5	1.7	321	1.0	1.3	353	5.7	NNW	43	-8.6	0.0	2930	22
23	7.0	-5.8	.6	141	.3	.7	189	3.8	E	50	-7.5	0.0	2593	23
24	2.8	-3.0	-.1	340	1.1	1.4	356	7.0	N	59	-3.3	0.0	1098	24
25	.9	-7.7	-3.4	331	1.6	1.9	344	6.3	N	69	-7.2	1.2	1455	25
26	1.3	-11.3	-5.0	318	1.1	1.7	332	5.7	N	62	-12.5	0.0	3613	26
27	1.1	-14.5	-6.7	336	.3	.9	003	3.8	NNW	58	-13.8	.4	3358	27
28	1.2	-11.5	-5.2	052	.5	1.0	133	5.1	NNE	57	-13.9	0.0	2705	28
29	.4	-12.3	-6.0	259	.3	.9	004	3.8	WSW	67	-11.6	0.0	1895	29
30	3.4	-5.0	-.8	341	2.2	2.4	352	7.0	NNW	49	-10.8	.2	1553	30
MONTH	17.9	-14.5	3.4	025	.2	1.3	047	7.6	E	50	-5.8	14.6	77775	

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 7.0

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

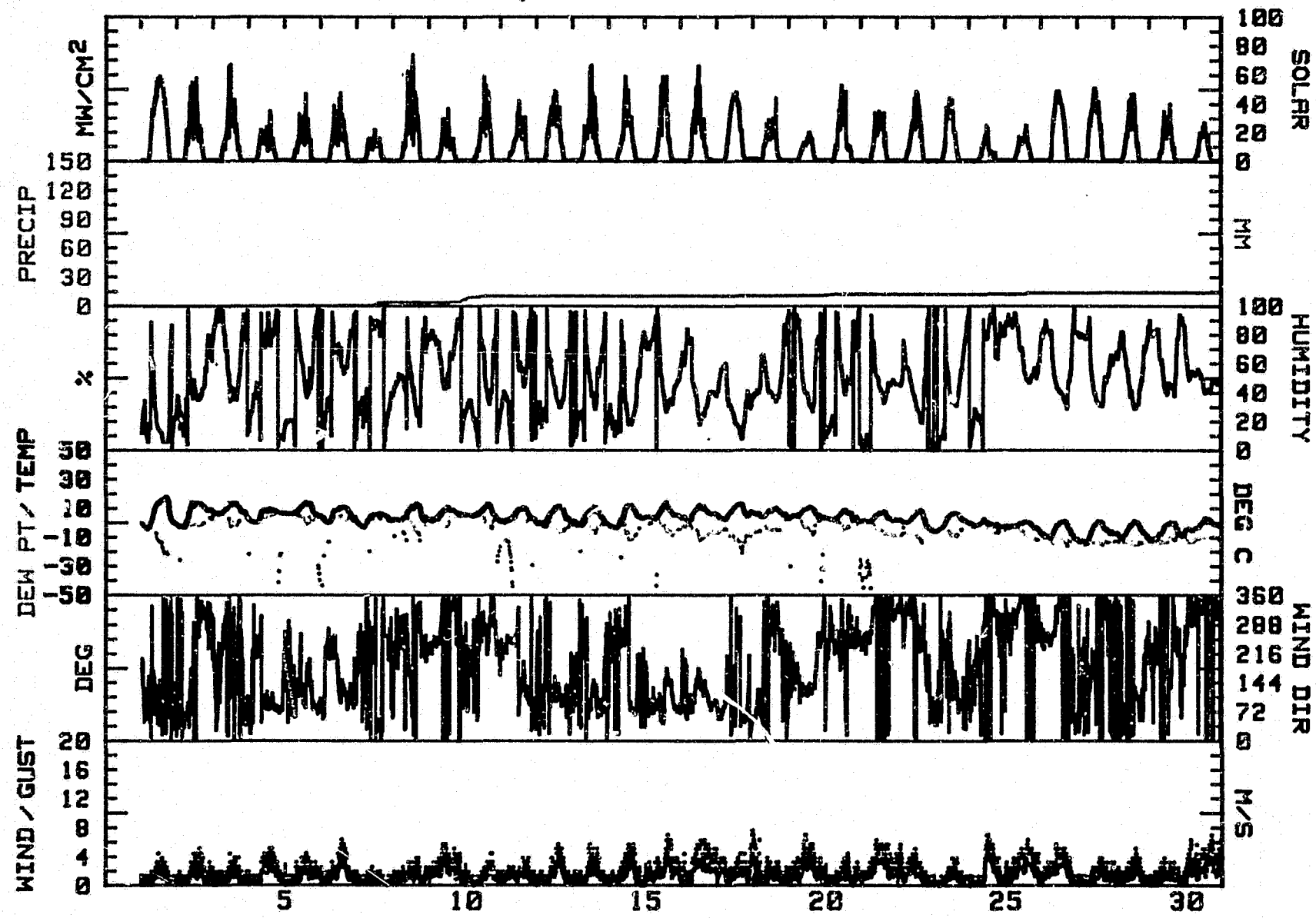
**** SEE NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

September, 1981



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR TYONE WEATHER STATION
DATA TAKEN DURING September, 1981

	VELOCITY (M/S)							
DIRECTION	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	.80	3.99	3.26	0.00	0.00	0.00	0.00	8.06
NNE	1.98	1.22	.10	0.00	0.00	0.00	0.00	3.30
NE	2.29	1.42	.21	0.00	0.00	0.00	0.00	3.92
ENE	3.92	3.75	.17	0.00	0.00	0.00	0.00	7.85
E	2.78	6.25	.31	0.00	0.00	0.00	0.00	9.34
ESE	2.22	4.41	.28	0.00	0.00	0.00	0.00	6.91
SE	1.88	3.16	.90	0.00	0.00	0.00	0.00	5.94
SSE	1.39	1.49	.56	0.00	0.00	0.00	0.00	3.44
S	1.74	1.08	.14	0.00	0.00	0.00	0.00	2.95
SSW	4.44	1.22	0.00	0.00	0.00	0.00	0.00	5.66
SW	4.31	1.88	0.00	0.00	0.00	0.00	0.00	6.18
WSW	4.58	4.79	0.00	0.00	0.00	0.00	0.00	9.38
W	3.51	3.02	.03	0.00	0.00	0.00	0.00	6.56
WNW	2.01	2.08	0.00	0.00	0.00	0.00	0.00	4.10
NW	1.60	3.78	0.00	0.00	0.00	0.00	0.00	5.38
NNW	1.18	6.15	.56	0.00	0.00	0.00	0.00	7.88
CALM								3.16
TOTAL	40.63	49.69	6.53	0.00	0.00	0.00	0.00	100.00

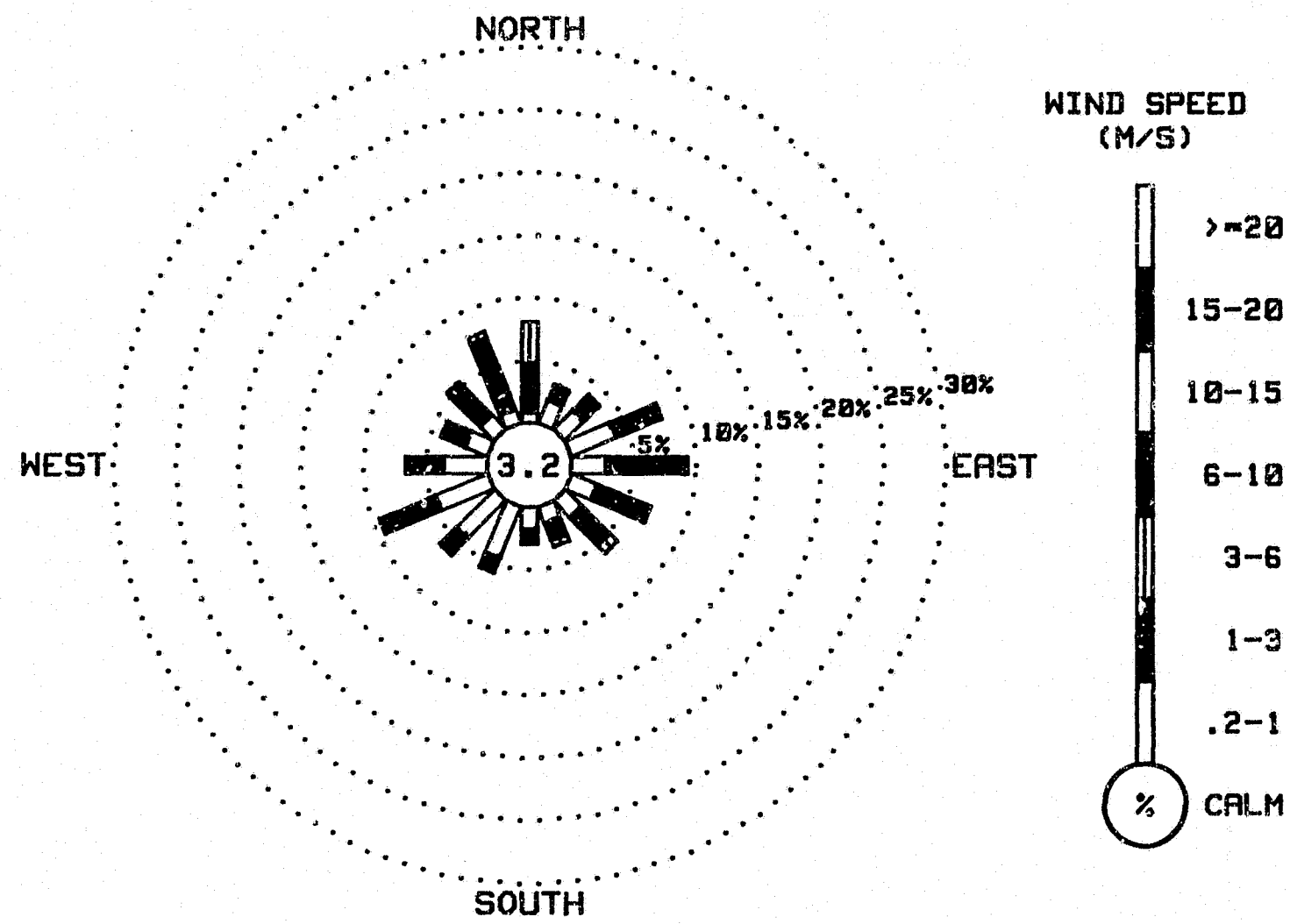
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2880 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TYONE WEATHER STATION

September, 1981



WIND ROSE PLOT

****

R & M CONSULTANTS, INC.

CLIMATE DATA SUMMARIES
DOCUMENTATION

****

A. GRAPHICAL DATA PLOT

1. GRAPHICAL REPRESENTATION OF VALID RECORDED AND/OR COMPUTED DATA.

B. HOURLY PRECIPITATION SUMMARY TABLE

1. HOURLY PRECIPITATION VALUES ARE CALCULATED AS THE DIFFERENCE BETWEEN VALID CONSEQUTIVE HOURLY READINGS. WHEN EITHER OF THE HOURLY PRECIPITATION READINGS IS INVALID, NO VALUE IS REPORTED AND ZERO PRECIPITATION IS ASSUMED.
2. A NON-AUTOMATIC ROLL-OVER TO ZERO, AS WHEN THE TAPE IS CHANGED, MUST BE FLAGGED WITH A NEGATIVE ONE (-1) AS THE PRECIPITATION VALUE.

C. MONTHLY SUMMARY TABLE

1. MAXIMUM DAILY AND MONTHLY TEMPERATURES ARE DETERMINED FROM ALL VALID RECORDED TEMPERATURES.
2. MINIMUM DAILY AND MONTHLY TEMPERATURES ARE DETERMINED FROM ALL VALID RECORDED TEMPERATURES.
3. MEAN DAILY AND MONTHLY TEMPERATURES ARE DETERMINED FROM ALL VALID RECORDED TEMPERATURES. THE MEAN DAILY TEMPERATURE IS DETERMINED FROM THE MEAN OF THE MAXIMUM AND MINIMUM TEMPERATURES. THE MEAN MONTHLY TEMPERATURE IS DETERMINED FROM THE MEAN OF ALL REPORTED DAILY MEAN TEMPERATURES.
4. RESULTANT DAILY AND MONTHLY WIND DIRECTIONS AND SPEEDS ARE SUMMED VECTORIALLY FROM ALL VALID READINGS.
5. AVERAGE DAILY AND MONTHLY WIND SPEEDS ARE ARITHMETICALLY MEANED FROM ALL VALID READINGS.
6. MAXIMUM DAILY AND MONTHLY GUST SPEEDS ARE DETERMINED FROM ALL VALID READINGS. ASSOCIATED DIRECTIONS ARE THE RESULTANT DIRECTIONS FROM THE RECORDING INTERVAL IN WHICH THE PEAK INTERVAL GUST WAS OBSERVED.
7. PREVAILING DAILY AND MONTHLY DIRECTIONS ARE DETERMINED FROM ALL VALID READINGS. THE REPORTED VALUE IS THE MOST FREQUENT DIRECTION OBSERVED.
8. MEAN DAILY AND MONTHLY RELATIVE HUMIDITIES ARE DETERMINED FROM ALL VALID READINGS. (ARITHMETIC MEAN)
9. MEAN DAILY AND MONTHLY DEWPOINT TEMPERATURES ARE DETERMINED FROM ALL VALID READINGS. (ARITHMETIC MEAN) WHEN THE WIND SPEED IS LESS THAN 1 m/s, WHEN THE DEWPOINT CALCULATES TO A VALUE GREATER THAN THE RECORDED TEMPERATURE, WHEN OR THE DEWPOINT CALCULATES TO LESS THAN MINUS 47 DEGREES OR MORE THAN 27 DEGREES, THE DEWPOINT IS NOT USED.
10. DAILY AND MONTHLY PRECIPITATION VALUES ARE DETERMINED FROM ALL VALID READINGS.
11. DAILY AND MONTHLY SOLAR ENERGY VALUES ARE DETERMINED FROM ALL VALID

READINGS. DAILY SOLAR ENERGY IS DETERMINED BY AVERAGING THE RECORDED SOLAR INTENSITY AND CONVERTING THE UNITS. THE MONTHLY VALUE IS THE SUM OF THE DAILY VALUES.

D. THREE HOUR SUMMARY TABLES

1. THE TEMPERATURE REPORTED IS THE TEMPERATURE RECORDED AT THE SPECIFIED TIME.
2. THE DEWPOINT TEMPERATURE REPORTED IS THE DEWPOINT CALCULATED AT THE SPECIFIED TIME. DEWPOINTS ARE OMITTED WHEN THE WIND SPEED IS LESS THAN 1m/s, WHEN THE DEWPOINT IS CALCULATED TO A VALUE GREATER THAN THE RECORDED TEMPERATURE, OR WHEN THE DEWPOINT CALCULATES TO LESS THAN MINUS 47 DEGRESS OR MORE THAN 27 DEGREES.
3. THE RELATIVE HUMIDITY REPORTED IS THE HUMIDITY RECORDED AT THE SPECIFIED TIME.
4. THE WIND DIRECTION REPORTED IS THE THREE-HOUR VECTORIAL RESULTANT SUM OF DATA RECORDED UP TO THE SPECIFIED TIME.
5. THE WIND SPEED REPORTED IS THE THREE-HOUR VECTORIAL RESULTANT OF DATA RECORDED UP TO THE SPECIFIED TIME.
6. THE GUST DIRECTION REPORTED IS THE DIRECTION OF THE MAXIMUM GUST RECORDED DURING THE PRECEDING THREE-HOUR PERIOD.
7. THE GUST REPORTED IS THE MAXIMUM RECORDED DURING THE THREE-HOUR PERIOD.
8. THE RADIATION REPORTED IS THE SOLAR RADIATION INTENSITY RECORDED AT THE SPECIFIED TIME.

E. WIND FREQUENCY SUMMARY TABLE

1. REPORTED DATA ARE DETERMINED FROM ALL VALID READINGS.

F. WIND ROSE GRAPHICAL PLOT

1. PLOT IS A GRAPHICAL REPRESENTATION OF THE WIND FREQUENCY SUMMARY TABLE.

G. GENERAL NOTES

1. THE FIRST DAY OF EACH MONTH MUST HAVE THE PRECEDING DAY'S LAST READING, AT 2400 HOURS, INSERTED AS THE FIRST READING OF THE FIRST DAY OF THE MONTH, AT 0000 HOURS, PRIOR TO RUNNING THE SUMMARY. THIS PROVIDES AN INITIAL VALUE FOR PRECIPITATION SUMMARY TABLE.
2. FLAGGED DATA IS NOT USED. WHEN AN ENTIRE LINE IS FLAGGED, NO DATA IN THAT LINE IS USED.
3. BAD DATA CAN BE USER-FLAGGED AS BEING BAD DATA BY REPLACING THE RAW DATA WITH THE VALUE '999'.
4. MISSING DATA IS ASSUMED TO BE BAD DATA.
5. IF A DATA LINE IS SHIFTED OVER AT ANY POINT, THE ENTIRE LINE WILL BE TREATED AS BAD DATA.
6. THE FOLLOWING ARE THE VALID DATA RANGES; DATA OUTSIDE THESE RANGES ARE NOT USED:

TIME	:	0000 through 2400 - at specified time intervals.
TEMP	:	-50 through +35
WIND	:	0 through 99.9 and less than or equal to GUST
DIR	:	0 through 360
RH	:	0 through 99
PRCP	:	0 through 99.8 & greater than last PRCP except in the case of an automatic roll-over. The difference between PRCPs cannot exceed 30mm. A '-1' implies a manual re-start.
SOL	:	0 through 150
GUST	:	0 through 99.9
BATT	:	9 through 14.5

7. THE FOLLOWING ARE THE DIRECTION RANGES USED IN THE PREVAILING DIRECTION, WIND FREQUENCY AND WIND ROSE SUMMARIES:

DIRECTION	COMPASS HEADING
NORTH	350 through 11
NORTH-NORTHEAST	12 through 34
NORTHEAST	35 through 56
EAST-NORTHEAST	57 through 79
EAST	80 through 101
EAST-SOUTHEAST	102 through 124
SOUTHEAST	125 through 146
SOUTH-SOUTHEAST	147 through 169
SOUTH	170 through 191
SOUTH-SOUTHWEST	192 through 214
SOUTHWEST	215 through 236
WEST-SOUTHWEST	237 through 259
WEST	260 through 281
WEST-NORTHWEST	282 through 304
NORTHWEST	305 through 326
NORTH-NORTHWEST	327 through 349