# SUSITNA HYDROELECTRIC PROJECT

## PROCESSED CLIMATIC DATA

## VOLUME 4

## KOSINA CREEK STATION

PREPARED BY:

R&M CONSULTANTS, INC.

PREPARED FOR:

ALASKA POWER AUTHORITY

HARZA-EBASCO
Susitna Joint Venture
Document Number

204

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DOCUMENT CONTROL

Record Copy

# SUSITNA HYDROELECTRIC PROJECT

## PROCESSED CLIMATIC DATA
## VOLUME 4
## KOSINA CREEK 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 4 - KOSINA CREEK STATION

MARCH 1982

Prepared for:

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

Prepared by:

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P.O. Box 6087
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s14/n10

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 3 - HYDROLOGY

PROCESSED CLIMATIC DATA

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PROCESSED CLIMATIC DATA

VOLUME 4

KOSINA CREEK STATION

AUGUST 25, 1980 THRU SEPTEMBER 30, 1981

s14/n3

The Kosina Creek Climate Station was installed on August 25, 1980 above Kosina Creek about six miles south of the Susitna River. It is located on map Talkeetna Mountains (C-2) NW¼ Section 16, R8E, T30N, Seward 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 KOSINA CREEK WEATHER STATION
DATA TAKEN DURING AUGUST , 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 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 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 | .2 | 0.0 | .6 | .6 | .6 | .2 | 1.0 | .2 | 27 |
| 28 | .2 | .6 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28 |
| 29 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 29 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30 |
| 31 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | 0.0 | 0.0 | 0.0 | 0.0 | 31 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 KUSINA CREEK 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 KUSINA CREEK 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 | ***** | ***** | ** | 330 | 5.5 | *** | **** | *** |
| 1800 | 10.6 | -1.0 | 45 | 309 | 3.2 | 327 | 6.3 | 008 |
| 2100 | 4.9 | -1.4 | 64 | 230 | .9 | 135 | 3.8 | 001 |
| 2400 | 1.6 | -2.6 | 74 | 209 | 2.0 | 182 | 3.8 | 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 | 2.1 | -2.3 | 73 | 194 | 2.3 | 200 | 3.8 | 001 |
| 0600 | 4.3 | -1.4 | 67 | 177 | 2.0 | 184 | 3.2 | 010 |
| 0900 | 9.8 | -.8 | 48 | 189 | .6 | 219 | 2.5 | 044 |
| 1200 | 12.5 | -1.9 | 37 | 002 | 1.9 | 007 | 4.4 | 041 |
| 1500 | 14.4 | -.2 | 37 | 358 | 2.8 | 005 | 5.7 | 043 |
| 1800 | 11.6 | .9 | 48 | 360 | 3.1 | 339 | 5.1 | 006 |
| 2100 | 7.5 | 1.1 | 64 | 066 | 1.1 | 005 | 4.4 | 001 |
| 2400 | 3.5 | -.6 | 75 | 163 | 1.9 | 129 | 3.8 | 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 | 1.1 | -2.0 | 80 | 195 | 1.6 | 144 | 3.2 | 001 |
| 0600 | 2.9 | -1.3 | 74 | 201 | 1.7 | 210 | 3.2 | 012 |
| 0900 | 7.8 | 1.8 | 66 | 193 | .4 | 188 | 2.5 | 024 |
| 1200 | 11.4 | 2.1 | 53 | 002 | 1.9 | 005 | 3.8 | 023 |
| 1500 | 9.3 | 2.8 | 64 | 001 | 3.1 | 029 | 5.7 | 020 |
| 1800 | 6.3 | 2.1 | 75 | 020 | 1.9 | 021 | 5.7 | 003 |
| 2100 | 5.2 | 2.3 | 82 | 017 | 2.1 | 018 | 5.1 | 001 |
| 2400 | 4.1 | 3.2 | 94 | 044 | 1.2 | 059 | 3.2 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 | 3.7 | .9 | 82 | 014 | 1.2 | 017 | 2.5 | 000 |
| 0600 | 3.1 | .8 | 85 | 154 | .3 | 038 | 1.9 | 003 |
| 0900 | 6.9 | 2.5 | 74 | 014 | 1.9 | 025 | 5.1 | 055 |
| 1200 | 9.4 | 2.6 | 63 | 019 | 3.2 | 001 | 5.7 | 043 |
| 1500 | 10.7 | 1.9 | 55 | 009 | 3.4 | 018 | 7.0 | 024 |
| 1800 | 9.4 | 1.5 | 58 | 305 | 1.8 | 019 | 5.1 | 015 |
| 2100 | 7.1 | 1.3 | 67 | 040 | 2.4 | 023 | 6.3 | 001 |
| 2400 | 4.4 | .9 | 78 | 026 | 1.0 | 100 | 3.2 | 000 |

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 | 3.8 | 1.6 | 86 | 230 | .8 | 313 | 2.5 | 000 |
| 0600 | 4.2 | ***** | 87 | 207 | .9 | 232 | 2.5 | 003 |
| 0900 | 7.5 | ***** | 80 | 199 | .6 | 212 | 1.9 | 019 |
| 1200 | 9.4 | 4.1 | 70 | 007 | 2.5 | 005 | 5.1 | 028 |
| 1500 | 10.1 | .6 | 52 | 305 | 2.6 | 279 | 8.3 | 018 |
| 1800 | 7.9 | 2.1 | 67 | 299 | 2.8 | 282 | 8.3 | 004 |
| 2100 | 5.1 | 1.2 | 76 | 059 | 2.2 | 039 | 5.7 | 001 |
| 2400 | 1.2 | .0 | 92 | 165 | 1.5 | 135 | 3.8 | 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 | 0.0 | -1.0 | 93 | 195 | 2.0 | 183 | 3.8 | 001 |
| 0600 | 1.2 | .8 | 97 | 189 | 1.9 | 148 | 4.4 | 004 |
| 0900 | 8.5 | 3.5 | 71 | 205 | .8 | 228 | 2.5 | 030 |
| 1200 | 11.2 | 2.4 | 55 | 080 | 5.5 | 074 | 9.5 | 031 |
| 1500 | 13.1 | 1.6 | 46 | 096 | 6.4 | 095 | 10.2 | 049 |
| 1800 | 11.1 | 1.0 | 50 | 084 | 5.6 | 082 | 8.9 | 004 |
| 2100 | 8.6 | 3.2 | 69 | 026 | 1.8 | 072 | 5.7 | 001 |
| 2400 | 6.3 | 5.9 | 97 | 003 | 1.3 | 359 | 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 | 4.5 | -6.5 | 45 | 148 | 1.0 | 142 | 3.8 | 001 |
| 0600 | 4.5 | ***** | 05 | 181 | 1.1 | 187 | 2.5 | 003 |
| 0900 | 5.9 | ***** | 83 | 257 | .4 | 335 | 1.9 | 012 |
| 1200 | 7.7 | 3.5 | 75 | 277 | .6 | 294 | 2.5 | 008 |
| 1500 | 9.4 | ***** | 67 | 125 | 1.5 | 113 | 5.1 | 034 |
| 1800 | 8.5 | 3.3 | 70 | 185 | .8 | 221 | 2.5 | 004 |
| 2100 | 6.7 | 3.1 | 78 | 176 | 1.3 | 215 | 3.2 | 000 |
| 2400 | 4.6 | ***** | ** | 190 | 2.1 | 200 | 4.4 | 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 KUSINA CREEK WEATHER STATION
DATA TAKEN DURING AUGUST , 1980

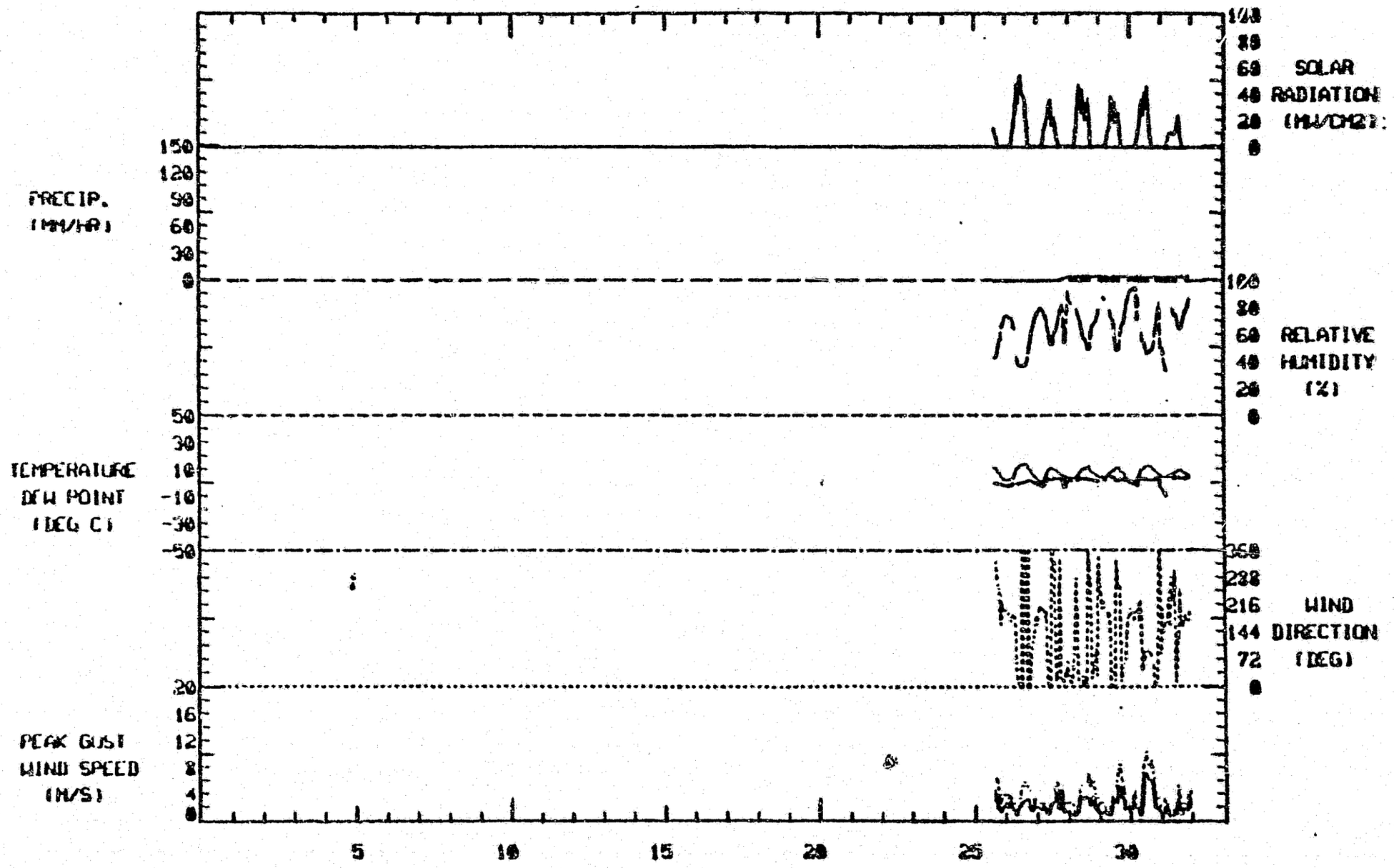
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 11.3 | 1.4 | 6.3 | *** | **** | 2.4 | 336 | 6.3 | SSW | 55 | -1.7 | 0.0 | 1383 | 25 |
| 26 | 14.4 | 1.2 | 7.8 | 031 | .2 | 2.2 | 005 | 5.7 | N | 56 | -.7 | 0.0 | 4378 | 26 |
| 27 | 11.4 | .4 | 5.9 | 010 | .8 | 2.0 | 029 | 5.7 | NNE | 69 | 1.4 | 3.4 | 2520 | 27 |
| 28 | 12.7 | 2.9 | 7.8 | 013 | 1.7 | 2.2 | 018 | 7.0 | NNE | 68 | 1.5 | 1.0 | 3845 | 28 |
| 29 | 11.6 | 1.2 | 6.4 | 314 | .6 | 2.2 | 279 | 8.3 | SSW | 70 | 1.6 | 0.0 | 2783 | 29 |
| 30 | 13.1 | -.5 | 6.3 | 092 | 2.1 | 3.3 | 095 | 10.2 | E | 69 | 2.2 | 0.0 | 3150 | 30 |
| 31 | 9.4 | 4.0 | 6.7 | 177 | .9 | 1.3 | 113 | 5.1 | SSE | 67 | .8 | .6 | 1688 | 31 |
| MONTH | 14.4 | -.5 | 6.8 | 050 | .5 | 2.2 | 095 | 10.2 | N | 65 | .7 | 5.0 | 19746 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.3
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 KOSINA CREEK WEATHER STATION

DATA START: 25 AUGUST , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING AUGUST , 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 | .49 | 10.26 | 4.40 | 0.00 | 0.00 | 0.00 | 0.00 | 15.15 |
| NNE | .98 | 6.68 | 6.35 | 0.00 | 0.00 | 0.00 | 0.00 | 14.01 |
| NE | .16 | 2.93 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 4.23 |
| ENE | .49 | 1.14 | .98 | .49 | 0.00 | 0.00 | 0.00 | 3.09 |
| E | .65 | .65 | 1.14 | 3.09 | 0.00 | 0.00 | 0.00 | 5.54 |
| ESE | 1.63 | 1.14 | .49 | .16 | 0.00 | 0.00 | 0.00 | 3.42 |
| SE | .16 | 2.77 | .49 | 0.00 | 0.00 | 0.00 | 0.00 | 3.42 |
| SSE | 1.47 | 4.72 | .16 | 0.00 | 0.00 | 0.00 | 0.00 | 6.35 |
| S | 1.14 | 9.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.42 |
| SSW | 1.79 | 9.45 | .16 | 0.00 | 0.00 | 0.00 | 0.00 | 11.40 |
| SW | 2.12 | 3.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.03 |
| WSW | 1.30 | 1.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.26 |
| W | .33 | 1.63 | 2.28 | .33 | 0.00 | 0.00 | 0.00 | 4.56 |
| WNW | .98 | 1.14 | .16 | 0.00 | 0.00 | 0.00 | 0.00 | 2.28 |
| NW | .33 | 1.95 | .49 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 |
| NNW | .49 | 2.28 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 3.91 |
| CALM | | | | | | | | .16 |
| TOTAL | 14.50 | 61.89 | 19.38 | 4.07 | 0.00 | 0.00 | 0.00 | 100.00 |

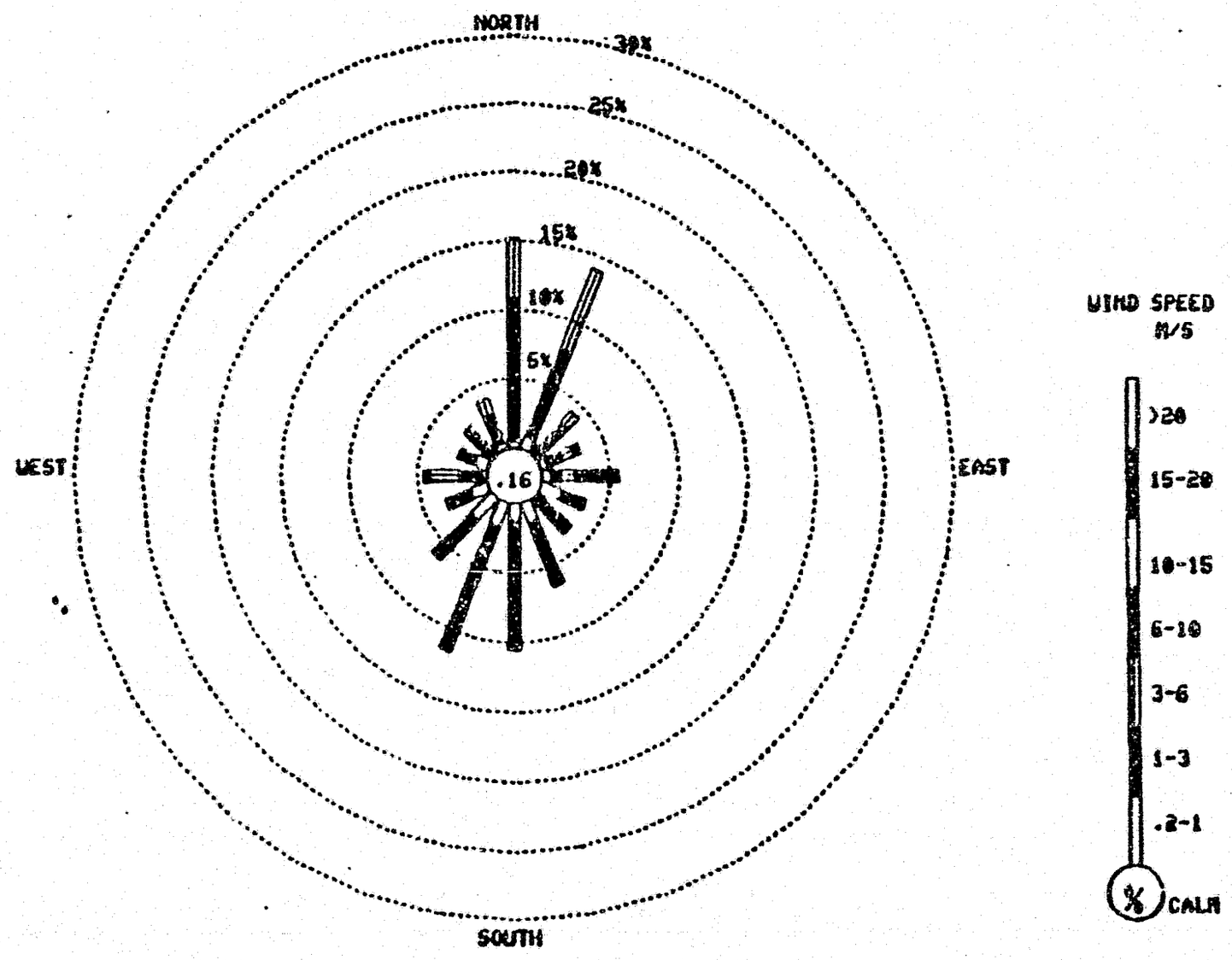
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

614 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

AUGUST, 1980




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | .4 | 0.0 | 0.0 | .2 | 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 | 1.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .6 | .8 | 3.2 | 1.8 | .6 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | .2 | 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 | .2 | .8 | .4 | .8 | 1.2 | 1.2 | .4 | 12 |
| 13 | .8 | 1.4 | 1.2 | .6 | .4 | .2 | 0.0 | .6 | .6 | 1.0 | .8 | .6 | .4 | .2 | 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 | .4 | .4 | 1.6 | 2.0 | 2.4 | 1.2 | 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 | 14 |
| 15 | 0.0 | 0.0 | .2 | .6 | 1.6 | 1.8 | 1.2 | 1.4 | 1.2 | 3.6 | 2.4 | .8 | .2 | 0.0 | 0.0 | .6 | .2 | 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 | 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 | 1.0 | 2.6 | .6 | .2 | .2 | .2 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21 |
| 22 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | .2 | 0.0 | .2 | .2 | .2 | 0.0 | 0.0 | 22 |
| 23 | .2 | 0.0 | 0.0 | .2 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23 |
| 24 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | .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 | 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 | .2 | 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 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 | 3.3 | ***** | ** | 194 | 2.2 | 205 | 3.8 | 001 |
| 0600 | 1.8 | ***** | ** | 201 | 1.3 | 198 | 3.2 | 004 |
| 0900 | 8.4 | ***** | ** | 020 | .7 | 023 | 4.4 | 055 |
| 1200 | 2.3 | ***** | ** | 017 | 4.0 | 017 | 11.4 | 004 |
| 1500 | -.8 | ***** | ** | 344 | 5.5 | 316 | 12.7 | 021 |
| 1800 | -2.2 | ***** | ** | 319 | 8.6 | 317 | 13.3 | 008 |
| 2100 | -3.7 | ***** | ** | 325 | 6.1 | 322 | 10.2 | 000 |
| 2400 | -4.4 | ***** | ** | 310 | 4.8 | 306 | 7.6 | 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 | -5.0 | ***** | ** | 299 | 3.1 | 317 | 7.6 | 000 |
| 0600 | -5.1 | ***** | ** | 159 | 1.8 | 140 | 3.8 | 008 |
| 0900 | -.8 | ***** | ** | 130 | .9 | 166 | 3.2 | 040 |
| 1200 | .9 | ***** | ** | 103 | 1.4 | 128 | 5.1 | 027 |
| 1500 | 1.7 | ***** | ** | 348 | 1.2 | 112 | 5.7 | 018 |
| 1800 | .1 | ***** | ** | 059 | 3.2 | 087 | 5.7 | 001 |
| 2100 | -1.4 | ***** | ** | 075 | 2.0 | 082 | 4.4 | 000 |
| 2400 | -2.6 | ***** | ** | 017 | 1.9 | 021 | 3.8 | 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 | -3.2 | ***** | ** | 004 | 1.9 | 348 | 4.4 | 000 |
| 0600 | -3.2 | ***** | ** | 343 | 1.7 | 323 | 5.1 | 006 |
| 0900 | -.5 | ***** | ** | 330 | 2.9 | 323 | 5.7 | 048 |
| 1200 | .1 | ***** | ** | 323 | 4.5 | 331 | 7.6 | 024 |
| 1500 | .1 | ***** | ** | 338 | 4.6 | 322 | 8.3 | 017 |
| 1800 | -.9 | ***** | ** | 323 | 5.0 | 324 | 8.3 | 005 |
| 2100 | -5.5 | ***** | ** | 320 | 3.3 | 313 | 7.0 | 000 |
| 2400 | -4.3 | ***** | ** | 216 | 1.1 | 249 | 3.2 | 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 | -6.1 | ***** | ** | 183 | 1.9 | 191 | 3.8 | 000 |
| 0600 | -5.9 | ***** | ** | 187 | 1.3 | 153 | 2.5 | 009 |
| 0900 | 2.4 | ***** | ** | 219 | .7 | 283 | 2.5 | 040 |
| 1200 | 6.0 | ***** | ** | 057 | .5 | 327 | 5.7 | 054 |
| 1500 | 7.5 | ***** | ** | 359 | 3.6 | 352 | 5.7 | 037 |
| 1800 | 3.8 | ***** | ** | 354 | 3.3 | 350 | 6.3 | 003 |
| 2100 | -.4 | ***** | ** | 022 | 1.0 | 033 | 4.4 | 000 |
| 2400 | -4.7 | -30.7 | 11 | 187 | 1.6 | 142 | 3.2 | 000 |

DAY 05

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RAD MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | -4.3 | -30.4 | 11 | 186 | 2.0 | 161 | 3.2 | 000 |
| 0600 | -3.9 | -31.1 | 10 | 182 | 2.0 | 151 | 3.8 | 004 |
| 0900 | 4.5 | ***** | 07 | 197 | 1.0 | 147 | 3.2 | 038 |
| 1200 | 8.9 | -26.7 | 06 | 035 | 1.2 | 015 | 3.8 | 052 |
| 1500 | 10.6 | -27.4 | 05 | 068 | 3.2 | 052 | 10.2 | 051 |
| 1800 | 7.9 | -27.4 | 06 | 089 | 3.9 | 100 | 7.0 | 002 |
| 2100 | 4.7 | -28.2 | 07 | 097 | 4.9 | 096 | 7.6 | 000 |
| 2400 | 3.1 | ***** | 08 | 162 | .8 | 105 | 5.1 | 000 |

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 | -.9 | -29.8 | 09 | 160 | 1.3 | 083 | 7.0 | 000 |
| 0600 | -1.4 | -29.1 | 10 | 192 | 2.0 | 198 | 3.8 | 014 |
| 0900 | 6.3 | ***** | 07 | 189 | .9 | 010 | 4.4 | 040 |
| 1200 | 7.5 | -27.7 | 06 | 173 | 1.0 | 130 | 3.8 | 038 |
| 1500 | 8.5 | -27.0 | 06 | 057 | .8 | 036 | 3.2 | 017 |
| 1800 | 5.7 | -27.5 | 07 | 257 | .8 | 192 | 6.3 | 002 |
| 2100 | 3.6 | -27.6 | 08 | 214 | 2.5 | 232 | 5.1 | 000 |
| 2400 | 1.4 | -29.3 | 08 | 194 | 1.7 | 236 | 4.4 | 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 | -29.8 | 09 | 169 | 2.3 | 173 | 3.2 | 001 |
| 0600 | -1.4 | -29.1 | 10 | 177 | 2.4 | 156 | 4.4 | 006 |
| 0900 | 3.7 | -27.6 | 08 | 120 | 1.7 | 106 | 7.0 | 021 |
| 1200 | 6.9 | -26.6 | 07 | 093 | 4.7 | 082 | 8.3 | 019 |
| 1500 | 8.7 | -26.9 | 06 | 107 | 4.4 | 088 | 7.6 | 013 |
| 1800 | 6.8 | -26.6 | 07 | 096 | 5.0 | 081 | 7.6 | 002 |
| 2100 | 5.8 | -27.4 | 07 | 083 | 1.5 | 071 | 6.3 | 000 |
| 2400 | 4.2 | ***** | 07 | 167 | .7 | 153 | 3.2 | 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 | 3.8 | -27.5 | 08 | 190 | 1.2 | 146 | 3.2 | 000 |
| 0600 | .6 | -28.7 | 09 | 156 | 1.5 | 144 | 3.2 | 005 |
| 0900 | 7.5 | -27.7 | 06 | 144 | 2.1 | 129 | 8.3 | 036 |
| 1200 | 10.0 | -27.8 | 05 | 101 | 7.4 | 104 | 11.4 | 040 |
| 1500 | 9.6 | -26.2 | 06 | 102 | 6.7 | 096 | 10.8 | 009 |
| 1800 | 7.6 | -27.7 | 06 | 120 | 4.3 | 124 | 8.3 | 002 |
| 2100 | 3.4 | -27.8 | 08 | 162 | 1.6 | 143 | 3.8 | 000 |
| 2400 | 2.6 | -28.4 | 08 | 194 | 1.2 | 137 | 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 | 2.8 | -28.2 | 08 | 192 | 1.6 | 159 | 2.5 | 001 |
| 0600 | 3.3 | -27.9 | 08 | 172 | 1.7 | 240 | 5.1 | 002 |
| 0900 | 5.3 | -27.8 | 07 | 143 | 2.3 | 128 | 5.1 | 025 |
| 1200 | 6.2 | -27.1 | 07 | 097 | 3.0 | 090 | 7.0 | 020 |
| 1500 | 1.8 | -29.0 | 08 | 216 | .6 | 080 | 7.0 | 003 |
| 1800 | 2.4 | -28.5 | 08 | 146 | 2.2 | 128 | 4.4 | 002 |
| 2100 | 2.6 | -28.4 | 08 | 181 | 2.5 | 199 | 5.1 | 000 |
| 2400 | 1.9 | -28.9 | 08 | 200 | 1.2 | 194 | 3.2 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 | .1 | -29.1 | 09 | 176 | 1.6 | 165 | 3.2 | 000 |
| 0600 | -.8 | -29.8 | 09 | 163 | 1.7 | 183 | 3.2 | 004 |
| 0900 | 5.4 | ***** | 07 | 183 | 1.2 | 187 | 2.5 | 038 |
| 1200 | 7.4 | -27.8 | 06 | 010 | 1.5 | 008 | 5.1 | 053 |
| 1500 | 7.6 | -27.7 | 06 | 028 | 2.0 | 032 | 5.1 | 007 |
| 1800 | 6.2 | -27.1 | 07 | 346 | 2.4 | 342 | 5.1 | 002 |
| 2100 | 1.3 | -28.1 | 09 | 190 | 1.9 | 189 | 3.8 | 000 |
| 2400 | .7 | -28.6 | 09 | 178 | 2.2 | 167 | 3.8 | 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 | -1.0 | -29.9 | 09 | 191 | 1.9 | 193 | 2.5 | 000 |
| 0600 | -.7 | -29.7 | 09 | 192 | 2.0 | 193 | 3.2 | 008 |
| 0900 | 7.3 | ***** | 06 | 176 | .9 | 187 | 2.5 | 037 |
| 1200 | 10.2 | -27.7 | 05 | 065 | .8 | 125 | 5.1 | 017 |
| 1500 | 10.3 | -27.6 | 05 | 133 | 2.3 | 100 | 5.7 | 031 |
| 1800 | 7.7 | -27.6 | 06 | 138 | 2.1 | 133 | 3.8 | 002 |
| 2100 | 1.1 | -28.3 | 09 | 179 | 2.5 | 167 | 4.4 | 000 |
| 2400 | -.4 | -29.4 | 09 | 183 | 2.1 | 169 | 3.8 | 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 | -1.5 | -29.2 | 10 | 203 | 2.2 | 192 | 3.8 | 000 |
| 0600 | -.4 | -29.4 | 09 | 217 | 2.2 | 213 | 4.4 | 005 |
| 0900 | 4.5 | -28.4 | 07 | 240 | 1.4 | 266 | 3.2 | 022 |
| 1200 | 4.7 | -28.2 | 07 | 095 | 3.3 | 096 | 9.5 | 018 |
| 1500 | 5.3 | -27.8 | 07 | 086 | 5.4 | 086 | 8.9 | 004 |
| 1800 | 3.4 | -27.8 | 08 | 115 | 2.0 | 076 | 5.1 | 000 |
| 2100 | 2.2 | -28.7 | 08 | 266 | .5 | 272 | 3.2 | 001 |
| 2400 | 1.3 | -28.1 | 09 | 169 | .3 | 231 | 3.2 | 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 | .7 | -28.6 | 09 | 288 | .9 | 238 | 3.2 | 001 |
| 0600 | 1.2 | -28.2 | 09 | 256 | 1.8 | 239 | 3.8 | 002 |
| 0900 | 1.0 | -28.4 | 09 | 185 | 1.4 | 128 | 4.4 | 004 |
| 1200 | 1.6 | -29.1 | 08 | 248 | 1.5 | 246 | 3.2 | 013 |
| 1500 | 4.0 | -27.3 | 08 | 220 | 1.1 | 225 | 3.2 | 008 |
| 1800 | 3.3 | -27.9 | 08 | 227 | 1.2 | 226 | 3.2 | 001 |
| 2100 | 2.6 | -28.4 | 08 | 212 | .9 | 220 | 1.9 | 001 |
| 2400 | 2.6 | -28.4 | 08 | 183 | 1.5 | 185 | 3.2 | 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 | 3.2 | -27.9 | 08 | 168 | 1.7 | 184 | 3.2 | 001 |
| 0600 | 2.6 | -28.4 | 08 | 194 | 1.4 | 151 | 3.2 | 002 |
| 0900 | 5.6 | -27.5 | 07 | 168 | .9 | 195 | 5.1 | 011 |
| 1200 | 6.1 | -27.2 | 07 | 206 | 1.5 | 146 | 4.4 | 011 |
| 1500 | 6.3 | -27.0 | 07 | 242 | 1.9 | 239 | 3.8 | 003 |
| 1800 | 6.6 | ***** | 07 | 189 | .6 | 172 | 2.5 | 001 |
| 2100 | 6.4 | -26.9 | 07 | 214 | 1.5 | 229 | 3.8 | 001 |
| 2400 | 6.3 | -27.0 | 07 | 179 | 1.6 | 178 | 2.5 | 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 | 5.8 | -27.4 | 07 | 189 | 1.4 | 177 | 3.2 | 001 |
| 0600 | 6.7 | -26.7 | 07 | 174 | 1.3 | 173 | 1.9 | 001 |
| 0900 | 7.8 | ***** | 06 | 182 | 1.0 | 170 | 2.5 | 005 |
| 1200 | 8.9 | ***** | 06 | 359 | .3 | 001 | 2.5 | 012 |
| 1500 | 7.5 | -27.7 | 06 | 013 | 2.8 | 012 | 5.7 | 008 |
| 1800 | 7.4 | ***** | 06 | 331 | 4.0 | 336 | 7.6 | 000 |
| 2100 | 6.4 | -26.9 | 07 | 218 | .6 | 334 | 3.8 | 001 |
| 2400 | 6.1 | ***** | 07 | 314 | .6 | 327 | 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 | 4.6 | -28.3 | 07 | 212 | .5 | 199 | 2.5 | 001 |
| 0600 | 4.3 | ***** | 07 | 179 | .2 | 187 | 2.5 | 003 |
| 0900 | 7.8 | -27.5 | 06 | 325 | 2.2 | 313 | 5.7 | 033 |
| 1200 | 9.0 | -26.6 | 06 | 322 | 3.4 | 312 | 6.3 | 052 |
| 1500 | 9.4 | -26.3 | 06 | 329 | 2.4 | 286 | 5.1 | 011 |
| 1800 | 6.8 | -26.6 | 07 | 342 | 2.9 | 339 | 5.1 | 001 |
| 2100 | 4.3 | -26.5 | 07 | 094 | .5 | 171 | 3.8 | 000 |
| 2400 | 1.4 | -29.3 | 08 | 178 | 1.5 | 199 | 3.2 | 000 |

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 | -29.4 | 09 | 201 | 2.0 | 184 | 3.8 | 000 |
| 0600 | -.8 | -29.8 | 09 | 184 | 2.2 | 187 | 3.8 | 002 |
| 0900 | 6.0 | -27.2 | 07 | 195 | .9 | 194 | 2.5 | 034 |
| 1200 | 8.3 | -27.2 | 06 | 018 | 2.0 | 020 | 4.4 | 043 |
| 1500 | 9.5 | -26.3 | 06 | 017 | 2.4 | 008 | 5.1 | 026 |
| 1800 | 6.5 | -26.9 | 07 | 336 | 2.9 | 330 | 5.1 | 001 |
| 2100 | 0.0 | -29.1 | 09 | 259 | .6 | 013 | 3.2 | 000 |
| 2400 | -1.4 | -29.1 | 10 | 199 | 1.5 | 199 | 3.2 | 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 | -2.4 | -29.9 | 10 | 204 | 1.4 | 210 | 3.2 | 000 |
| 0600 | -1.2 | -30.1 | 09 | 186 | 1.9 | 215 | 3.2 | 002 |
| 0900 | 6.4 | -26.9 | 07 | 258 | .3 | 349 | 7.0 | 035 |
| 1200 | 7.1 | -28.0 | 06 | 331 | 6.2 | 333 | 10.8 | 045 |
| 1500 | 6.4 | -26.9 | 07 | 331 | 5.2 | 329 | 8.3 | 011 |
| 1800 | 4.3 | -28.5 | 07 | 322 | 3.0 | 346 | 5.7 | 001 |
| 2100 | 1.9 | -28.9 | 08 | 301 | 2.9 | 293 | 5.1 | 000 |
| 2400 | 1.0 | -28.4 | 09 | 283 | 3.0 | 246 | 7.6 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | 1.5 | -29.2 | 08 | 307 | 3.1 | 320 | 7.0 | 000 |
| 0600 | -.9 | -29.8 | 09 | 206 | 1.9 | 207 | 5.1 | 002 |
| 0900 | 6.5 | -26.9 | 07 | 194 | 1.7 | 208 | 5.1 | 033 |
| 1200 | 8.5 | -27.0 | 06 | 331 | 2.8 | 332 | 6.3 | 047 |
| 1500 | 9.2 | -26.5 | 06 | 321 | 3.3 | 300 | 8.3 | 033 |
| 1800 | 5.2 | -27.8 | 07 | 331 | 3.1 | 329 | 6.3 | 001 |
| 2100 | -.1 | -29.2 | 09 | 295 | .6 | 324 | 3.8 | 000 |
| 2400 | -1.7 | -29.4 | 10 | 197 | 1.7 | 238 | 3.8 | 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 | -29.8 | 09 | 186 | 1.6 | 191 | 3.2 | 000 |
| 0600 | -.3 | ***** | 09 | 183 | 1.1 | 181 | 3.2 | 001 |
| 0900 | 5.0 | -28.0 | 07 | 168 | 1.0 | 142 | 4.4 | 029 |
| 1200 | 6.7 | -26.7 | 07 | 092 | 3.2 | 081 | 7.6 | 019 |
| 1500 | 6.9 | -26.6 | 07 | 073 | 5.2 | 074 | 8.9 | 010 |
| 1800 | 5.0 | -28.0 | 07 | 085 | 5.8 | 088 | 7.6 | 000 |
| 2100 | 3.8 | -27.5 | 08 | 090 | 4.6 | 090 | 7.0 | 000 |
| 2400 | 1.7 | -29.1 | 08 | 079 | 2.5 | 092 | 5.1 | 000 |

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 | .2 | ***** | 09 | 222 | .5 | 178 | 1.9 | 001 |
| 0600 | .1 | -29.1 | 09 | 237 | .7 | 258 | 1.9 | 001 |
| 0900 | 1.1 | -28.3 | 09 | 202 | .7 | 168 | 2.5 | 011 |
| 1200 | 1.9 | -28.9 | 08 | 322 | .7 | 053 | 3.2 | 016 |
| 1500 | 2.6 | -28.4 | 08 | 336 | .6 | 126 | 2.5 | 011 |
| 1800 | 1.6 | ***** | 08 | 352 | 1.4 | 353 | 3.2 | 001 |
| 2100 | 1.3 | ***** | 09 | 224 | .4 | 027 | 2.5 | 001 |
| 2400 | .9 | -28.5 | 09 | 198 | .3 | 248 | 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 | .9 | -28.5 | 09 | 151 | 1.4 | 165 | 3.2 | 001 |
| 0600 | .5 | -28.8 | 09 | 175 | .9 | 155 | 2.5 | 002 |
| 0900 | 2.1 | ***** | 08 | 133 | 1.2 | 138 | 2.5 | 011 |
| 1200 | 4.5 | -28.4 | 07 | 103 | .5 | 126 | 2.5 | 025 |
| 1500 | 4.4 | -28.4 | 07 | 016 | 1.7 | 017 | 3.8 | 008 |
| 1800 | 3.3 | -27.9 | 08 | 353 | 1.3 | 351 | 1.9 | 001 |
| 2100 | 2.8 | ***** | 08 | 357 | 1.0 | 004 | 1.9 | 001 |
| 2400 | 2.4 | ***** | 08 | 280 | .5 | 004 | 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 | 1.7 | ***** | 08 | 154 | .4 | 137 | 1.9 | 001 |
| 0600 | 1.6 | -29.1 | 08 | 171 | 1.1 | 183 | 2.5 | 001 |
| 0900 | 4.2 | -28.6 | 07 | 152 | 1.1 | 148 | 2.5 | 022 |
| 1200 | 5.1 | -27.9 | 07 | 029 | 1.2 | 010 | 5.1 | 020 |
| 1500 | 6.2 | -27.1 | 07 | 359 | 2.8 | 354 | 4.4 | 011 |
| 1800 | 3.4 | -27.8 | 08 | 007 | 1.4 | 357 | 3.2 | 000 |
| 2100 | 2.8 | -28.2 | 08 | 153 | 1.6 | 140 | 3.2 | 001 |
| 2400 | 2.6 | -28.4 | 08 | 154 | 1.8 | 122 | 5.1 | 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 | 1.8 | ***** | 08 | 129 | 1.3 | 107 | 5.1 | 000 |
| 0600 | 2.0 | -28.8 | 08 | 176 | .9 | 139 | 3.2 | 001 |
| 0900 | 2.8 | -28.2 | 08 | 191 | 1.0 | 120 | 3.8 | 010 |
| 1200 | 4.3 | -28.5 | 07 | 133 | .9 | 129 | 3.8 | 026 |
| 1500 | 6.2 | -27.1 | 07 | 359 | 1.2 | 349 | 2.5 | 020 |
| 1800 | 4.2 | -28.6 | 07 | 000 | 1.3 | 344 | 2.5 | 001 |
| 2100 | 1.5 | -29.2 | 08 | 146 | 1.0 | 133 | 2.5 | 000 |
| 2400 | .3 | -28.9 | 09 | 188 | 1.0 | 159 | 3.2 | 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 | .1 | ***** | 09 | 207 | 1.4 | 182 | 3.2 | 000 |
| 0600 | 1.6 | -29.1 | 08 | 178 | 1.2 | 133 | 4.4 | 001 |
| 0900 | 3.3 | -27.9 | 08 | 091 | 5.0 | 081 | 8.9 | 030 |
| 1200 | 5.1 | -27.9 | 07 | 087 | 6.3 | 084 | 8.9 | 018 |
| 1500 | 5.4 | -27.7 | 07 | 088 | 6.2 | 081 | 8.9 | 010 |
| 1800 | 4.8 | -28.1 | 07 | 092 | 4.9 | 090 | 8.3 | 000 |
| 2100 | 4.3 | -28.5 | 07 | 141 | 1.1 | 104 | 5.7 | 000 |
| 2400 | 3.4 | -27.8 | 08 | 124 | 3.0 | 120 | 6.3 | 000 |

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 | 2.1 | -28.8 | 08 | 109 | 3.2 | 114 | 5.7 | 000 |
| 0600 | 3.0 | ***** | 08 | 177 | 1.0 | 138 | 4.4 | 001 |
| 0900 | 4.6 | -28.3 | 07 | 115 | 1.8 | 103 | 5.1 | 005 |
| 1200 | 6.0 | -27.2 | 07 | 123 | 2.7 | 120 | 6.3 | 010 |
| 1500 | 6.9 | ***** | 07 | 105 | 2.0 | 099 | 5.7 | 007 |
| 1800 | 5.1 | -27.9 | 07 | 150 | .4 | 097 | 2.5 | 000 |
| 2100 | 5.5 | -27.6 | 07 | 219 | 1.1 | 232 | 3.2 | 000 |
| 2400 | 5.9 | 5.6 | 98 | 234 | .4 | 118 | 7.0 | 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 | 4.3 | ***** | 57 | 135 | 2.0 | 122 | 5.7 | 001 |
| 0600 | 1.9 | -28.9 | 08 | 204 | 1.3 | 257 | 3.8 | 001 |
| 0900 | 5.5 | ***** | 90 | 187 | .8 | 197 | 2.5 | 014 |
| 1200 | 7.1 | -28.0 | 06 | 316 | .5 | 006 | 3.8 | 010 |
| 1500 | 6.0 | -27.2 | 07 | 359 | 2.6 | 339 | 5.7 | 009 |
| 1800 | 2.3 | -28.6 | 08 | 238 | .5 | 219 | 3.2 | 000 |
| 2100 | 2.5 | -28.5 | 08 | 188 | 1.5 | 196 | 2.5 | 000 |
| 2400 | 1.2 | -28.2 | 09 | 188 | 1.4 | 157 | 3.2 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -.5 | -29.5 | 09 | 178 | 1.3 | 152 | 3.2 | 000 |
| 0600 | -1.1 | -30.0 | 09 | 188 | 1.6 | 210 | 3.2 | 003 |
| 0900 | 1.4 | -29.3 | 08 | 206 | 1.4 | 191 | 3.2 | 014 |
| 1200 | 6.7 | -24.0 | 09 | 213 | 1.0 | 260 | 5.7 | 025 |
| 1500 | 6.0 | -27.2 | 07 | 121 | 1.7 | 091 | 4.4 | 006 |
| 1800 | 1.8 | -7.1 | 52 | 190 | 1.8 | 163 | 3.2 | 000 |
| 2100 | 1.2 | ***** | 36 | 189 | 1.7 | 164 | 3.8 | 000 |
| 2400 | 2.1 | -28.8 | 08 | 158 | 1.7 | 152 | 3.2 | 000 |

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 | 2.9 | ***** | 08 | 165 | 1.2 | 193 | 2.5 | 000 |
| 0600 | 1.9 | -28.9 | 08 | 160 | 1.0 | 162 | 3.2 | 002 |
| 0900 | 6.8 | -26.6 | 07 | 139 | 1.9 | 143 | 3.8 | 030 |
| 1200 | 8.0 | -27.4 | 06 | 121 | 3.2 | 127 | 6.3 | 019 |
| 1500 | 7.0 | -28.1 | 06 | 115 | 4.1 | 118 | 7.6 | 006 |
| 1800 | 3.7 | -27.6 | 08 | 102 | 2.6 | 100 | 8.3 | 000 |
| 2100 | 4.6 | -28.3 | 07 | 247 | 1.2 | 257 | 3.8 | 000 |
| 2400 | 3.4 | -27.8 | 08 | 172 | .9 | 229 | 3.8 | 000 |

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 | 4.6 | -28.3 | 07 | 114 | 1.9 | 107 | 7.0 | 000 |
| 0600 | 6.0 | ***** | 07 | 146 | .4 | 107 | 3.8 | 002 |
| 0900 | 6.8 | -26.6 | 07 | 092 | 4.5 | 088 | 8.3 | 014 |
| 1200 | 9.4 | -26.3 | 06 | 100 | 3.2 | 099 | 5.7 | 020 |
| 1500 | 9.4 | -26.3 | 06 | 124 | 2.8 | 154 | 6.3 | 006 |
| 1800 | 4.8 | -28.1 | 07 | 011 | 2.7 | 053 | 5.1 | 000 |
| 2100 | 3.0 | -28.1 | 08 | 002 | 1.2 | 011 | 4.4 | 000 |
| 2400 | .2 | -29.0 | 09 | 156 | 2.2 | 142 | 3.8 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING SEPTEMBER , 1980

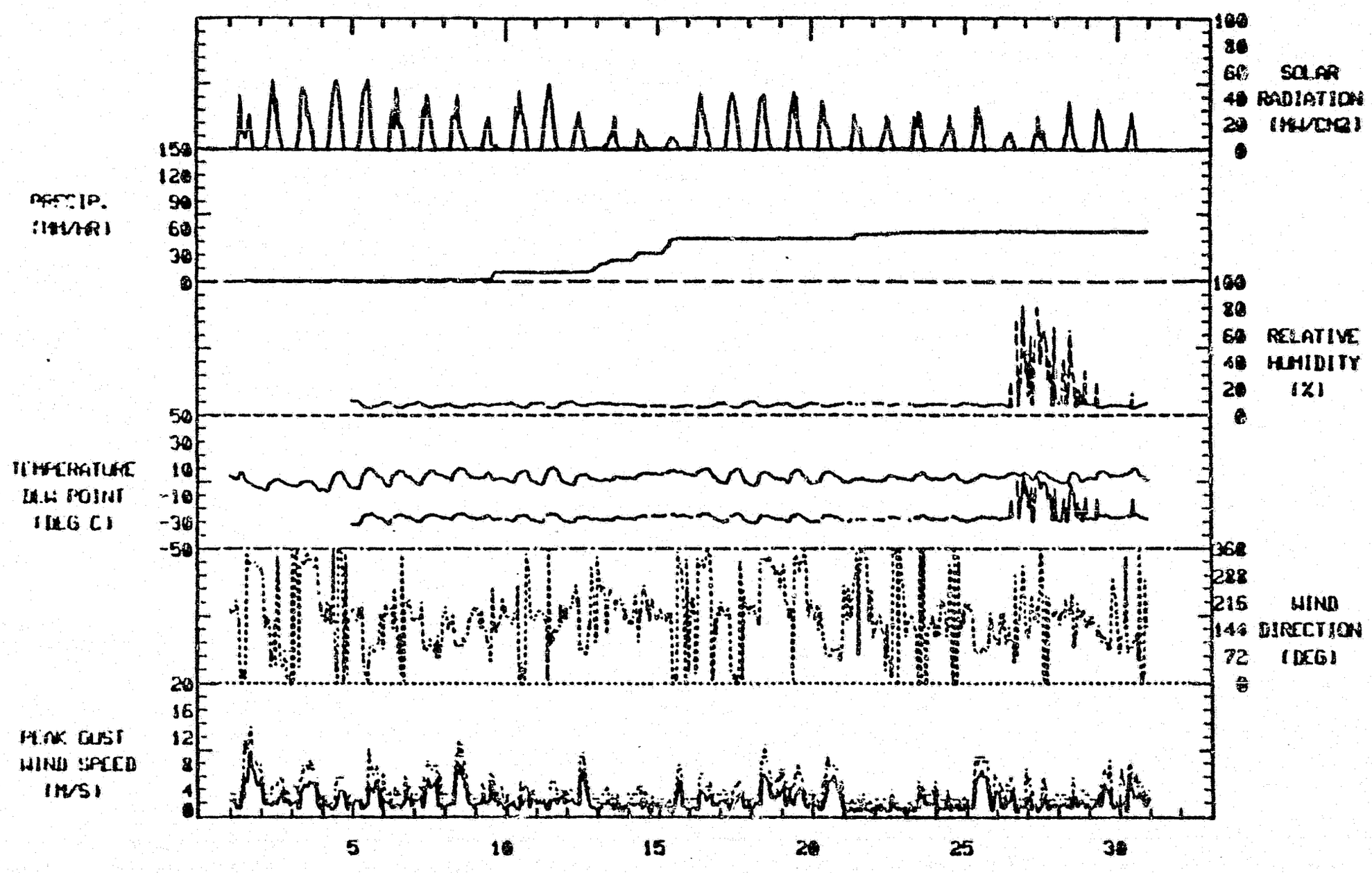
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 8.4 | -4.4 | 2.0 | 326 | 3.1 | 4.4 | 317 | 13.3 | NW | ** | ***** | 1.2 | 2280 | 01 |
| 02 | 2.8 | -7.1 | -2.2 | 050 | .8 | 2.4 | 317 | 7.6 | NNE | ** | ***** | 0.0 | 3333 | 02 |
| 03 | 1.1 | -7.2 | -3.1 | 328 | 2.9 | 3.3 | 322 | 8.3 | NW | ** | ***** | 0.0 | 3620 | 03 |
| 04 | 7.5 | -8.7 | -.6 | 351 | .3 | 2.1 | 350 | 6.3 | N | 11 | -30.7 | 0.0 | 4308 | 04 |
| 05 | 10.6 | -6.7 | 2.0 | 108 | 1.6 | 2.6 | 052 | 10.2 | E | 08 | -28.5 | 0.0 | 3748 | 05 |
| 06 | 9.3 | 1.4 | 5.3 | 192 | 1.1 | 2.0 | 083 | 7.0 | SW | 08 | -28.3 | .6 | 2566 | 06 |
| 07 | 8.7 | -2.8 | 3.0 | 114 | 2.4 | 3.1 | 082 | 8.3 | E | 08 | -27.7 | 0.0 | 2820 | 07 |
| 08 | 10.2 | .6 | 5.4 | 122 | 2.8 | 3.5 | 104 | 11.4 | ESE | 07 | -27.7 | 0.0 | 2345 | 08 |
| 09 | 7.0 | 1.8 | 4.4 | 158 | 1.5 | 2.3 | 090 | 7.0 | SSE | 08 | -28.2 | 8.6 | 1355 | 09 |
| 10 | 9.0 | -1.0 | 4.0 | 162 | .4 | 1.9 | 008 | 5.1 | S | 08 | -28.3 | 0.0 | 2938 | 10 |
| 11 | 11.1 | -3.3 | 3.9 | 166 | 1.0 | 2.1 | 100 | 5.7 | SSE | 07 | -28.6 | 0.0 | 3425 | 11 |
| 12 | 5.4 | -3.2 | 1.1 | 130 | 1.1 | 2.6 | 096 | 9.5 | E | 08 | -28.4 | 5.0 | 1628 | 12 |
| 13 | 4.3 | .2 | 2.3 | 226 | 1.1 | 1.4 | 128 | 4.0 | SW | 08 | -28.3 | 8.8 | 1213 | 13 |
| 14 | 6.9 | 2.2 | 4.6 | 197 | 1.2 | 1.6 | 195 | 5.1 | S | 07 | -27.4 | 8.2 | 918 | 14 |
| 15 | 8.9 | 5.3 | 7.1 | 322 | .5 | 1.7 | 336 | 7.6 | S | 07 | -27.2 | 15.8 | 758 | 15 |
| 16 | 10.2 | .6 | 5.4 | 324 | 1.1 | 2.1 | 312 | 6.3 | NW | 07 | -27.6 | 0.0 | 2783 | 16 |
| 17 | 9.5 | -1.6 | 4.0 | 278 | .3 | 2.0 | 008 | 5.1 | S | 08 | -28.1 | 0.0 | 3240 | 17 |
| 18 | 7.7 | -3.4 | 2.2 | 309 | 2.2 | 3.3 | 333 | 10.8 | NNW | 08 | -28.5 | 0.0 | 2855 | 18 |
| 19 | 9.6 | -2.5 | 3.6 | 296 | 1.4 | 2.6 | 300 | 8.3 | NW | 08 | -28.2 | 0.0 | 2703 | 19 |
| 20 | 8.0 | -1.4 | 3.3 | 094 | 2.6 | 3.3 | 074 | 8.9 | E | 08 | -27.9 | 0.0 | 2133 | 20 |
| 21 | 2.8 | -.4 | 1.2 | 280 | .3 | .9 | 053 | 3.2 | WSW | 08 | -28.6 | 5.0 | 1505 | 21 |
| 22 | 5.2 | .5 | 2.8 | 063 | .3 | 1.1 | 017 | 3.8 | N | 08 | -28.4 | 1.6 | 1540 | 22 |
| 23 | 6.9 | 1.2 | 4.1 | 096 | .4 | 1.7 | 010 | 5.1 | N | 08 | -28.2 | .6 | 1893 | 23 |
| 24 | 6.3 | 0.0 | 3.2 | 143 | .4 | 1.4 | 107 | 5.1 | N | 08 | -28.5 | .6 | 1330 | 24 |
| 25 | 6.5 | -1.2 | 2.7 | 100 | 3.2 | 3.8 | 081 | 8.9 | E | 08 | -28.1 | .2 | 1843 | 25 |
| 26 | 7.2 | 2.1 | 4.6 | 128 | 1.3 | 2.0 | 118 | 7.0 | ESE | 23 | -22.4 | 0.0 | 790 | 26 |
| 27 | 8.1 | .1 | 4.1 | 186 | .5 | 1.7 | 122 | 5.7 | S | 38 | -28.2 | 0.0 | 1250 | 27 |
| 28 | 7.1 | -2.9 | 2.1 | 179 | 1.4 | 1.8 | 260 | 5.7 | SSW | 19 | -25.1 | 0.0 | 1768 | 28 |
| 29 | 8.4 | 1.5 | 4.9 | 133 | 1.7 | 2.3 | 100 | 8.3 | ESE | 08 | -27.8 | .2 | 1713 | 29 |
| 30 | 10.3 | .2 | 5.3 | 097 | 1.7 | 2.7 | 088 | 8.3 | E | 07 | -27.5 | 0.0 | 1248 | 30 |
| MONTH | 11.1 | -8.7 | 3.1 | 120 | .4 | 2.3 | 317 | 13.3 | S | 10 | -27.9 | 56.4 | 65841 | |

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

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 KOSINA CREEK WEATHER STATION

DATA START: 01 SEPTEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK 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 | .73 | 4.28 | 1.77 | 0.00 | 0.00 | 0.00 | 0.00 | 6.78 |
| NNE | .49 | 3.37 | .59 | .14 | 0.00 | 0.00 | 0.00 | 4.59 |
| NE | .31 | 1.15 | .42 | 0.00 | 0.00 | 0.00 | 0.00 | 1.88 |
| ENE | .38 | .80 | 1.11 | .03 | 0.00 | 0.00 | 0.00 | 2.33 |
| E | .56 | 1.53 | 4.69 | 1.74 | 0.00 | 0.00 | 0.00 | 8.52 |
| ESE | .66 | 2.64 | 3.20 | .38 | 0.00 | 0.00 | 0.00 | 6.88 |
| SE | .49 | 5.32 | .94 | 0.00 | 0.00 | 0.00 | 0.00 | 6.74 |
| SSE | .97 | 9.77 | .21 | 0.00 | 0.00 | 0.00 | 0.00 | 10.95 |
| S | 1.0[illegible] | 10.67 | .35 | 0.00 | 0.00 | 0.00 | 0.00 | 12.10 |
| SSW | 1.22 | 8.93 | .38 | 0.00 | 0.00 | 0.00 | 0.00 | 10.53 |
| SW | 1.22 | 6.92 | .28 | 0.00 | 0.00 | 0.00 | 0.00 | 8.41 |
| WSW | 1.04 | 2.75 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 3.86 |
| W | .76 | 1.70 | .10 | 0.00 | 0.00 | 0.00 | 0.00 | 2.57 |
| WNW | .56 | .80 | .73 | .03 | 0.00 | 0.00 | 0.00 | 2.12 |
| NW | .52 | 1.08 | 3.89 | .56 | .03 | 0.00 | 0.00 | 6.08 |
| [illegible] | .52 | 2.40 | 2.12 | .52 | 0.00 | 0.00 | 0.00 | 5.56 |
| CALM | | | | | | | | .10 |
| TOTAL | 11.51 | 64.09 | 20.86 | 3.41 | .03 | 0.00 | 0.00 | 100.00 |

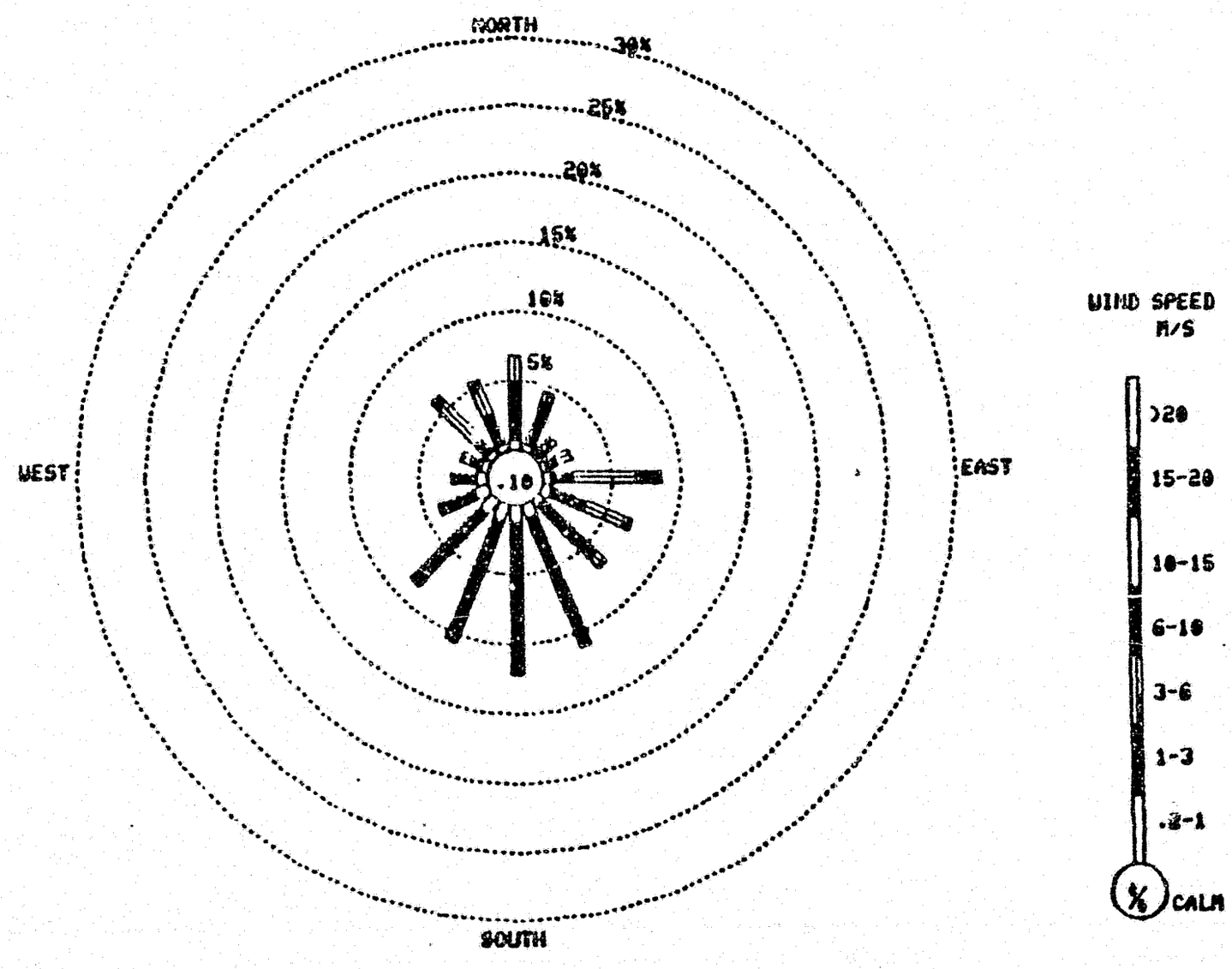
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2877 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

SEPTEMBER, 1980




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING OCTOBER , 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 | -.1 | -29.2 | 09 | 180 | 1.6 | 182 | 3.2 | 000 |
| 0600 | -.3 | -29.4 | 09 | 200 | 1.5 | 182 | 3.2 | 002 |
| 0900 | 1.0 | -28.4 | 09 | 197 | 1.5 | 203 | 3.2 | 020 |
| 1200 | 5.0 | -28.0 | 07 | 195 | 2.9 | 189 | 4.4 | 015 |
| 1500 | 8.2 | -27.2 | 06 | 199 | 2.7 | 193 | 5.1 | 012 |
| 1800 | 1.8 | -29.0 | 08 | 200 | 3.9 | 195 | 5.7 | 000 |
| 2100 | .9 | -28.5 | 09 | 178 | 2.9 | 193 | 5.7 | 000 |
| 2400 | .1 | ***** | 09 | 187 | 1.3 | 214 | 3.8 | 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 | .3 | -28.9 | 09 | 197 | .8 | 209 | 2.5 | 000 |
| 0600 | .1 | -29.1 | 09 | 208 | 1.2 | 135 | 2.5 | 001 |
| 0900 | 1.6 | ***** | 08 | 231 | 1.0 | 230 | 2.5 | 007 |
| 1200 | 2.8 | -28.2 | 08 | 008 | 1.6 | 016 | 5.7 | 025 |
| 1500 | 2.4 | -28.5 | 08 | 012 | 4.2 | 020 | 7.0 | 006 |
| 1800 | 1.0 | ***** | 04 | 014 | 3.1 | 016 | 7.0 | 001 |
| 2100 | -.8 | ***** | 27 | 210 | .8 | 203 | 2.5 | 001 |
| 2400 | -3.9 | -23.7 | 20 | 203 | .9 | 120 | 3.2 | 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 | -4.4 | -42.8 | 03 | 184 | 1.6 | 200 | 2.5 | 000 |
| 0600 | -1.9 | -12.7 | 44 | 183 | 1.5 | 187 | 3.2 | 000 |
| 0900 | -.8 | -29.8 | 09 | 185 | 1.2 | 155 | 3.2 | 007 |
| 1200 | .6 | -28.7 | 09 | 215 | 1.3 | 215 | 3.2 | 012 |
| 1500 | 1.5 | ***** | 08 | 243 | .3 | 225 | 1.9 | 006 |
| 1800 | .1 | ***** | 09 | 159 | .2 | 110 | 1.3 | 000 |
| 2100 | .1 | ***** | 09 | 184 | .0 | 044 | 1.3 | 000 |
| 2400 | 0.0 | ***** | 09 | 251 | .1 | 261 | 1.3 | 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 | -.5 | -22.0 | 18 | 016 | 1.0 | 031 | 2.5 | 000 |
| 0600 | -2.4 | -17.4 | 31 | 201 | 1.4 | 217 | 3.2 | 001 |
| 0900 | .2 | -29.0 | 09 | 191 | 2.0 | 202 | 3.2 | 027 |
| 1200 | 1.3 | -28.1 | 09 | 131 | 1.5 | 112 | 5.1 | 010 |
| 1500 | 1.9 | -28.9 | 08 | 107 | 3.0 | 091 | 5.1 | 012 |
| 1800 | -1.6 | -29.3 | 10 | 139 | 1.8 | 131 | 3.8 | 000 |
| 2100 | -1.6 | -29.3 | 10 | 163 | 1.8 | 136 | 3.8 | 000 |
| 2400 | -1.0 | -29.9 | 09 | 158 | 1.4 | 143 | 3.2 | 000 |

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 | 0.0 | -29.1 | 09 | 166 | 1.4 | 150 | 2.5 | 000 |
| 0600 | -.2 | -14.7 | 33 | 154 | 1.2 | 221 | 3.2 | 001 |
| 0900 | .1 | -22.9 | 16 | 073 | 2.3 | 093 | 8.3 | 008 |
| 1200 | .9 | -36.5 | 04 | 085 | 7.0 | 086 | 10.2 | 024 |
| 1500 | 1.8 | -29.0 | 08 | 089 | 5.2 | 084 | 10.2 | 006 |
| 1800 | 1.2 | -28.2 | 09 | 174 | .6 | 156 | 4.4 | 000 |
| 2100 | .1 | -29.1 | 09 | 216 | 2.0 | 208 | 6.3 | 000 |
| 2400 | .3 | -10.4 | 45 | 212 | 2.6 | 218 | 5.1 | 000 |

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 | -1.5 | -29.2 | 10 | 199 | 1.9 | 210 | 3.8 | 000 |
| 0600 | .3 | -12.8 | 37 | 198 | 1.6 | 204 | 3.2 | 001 |
| 0900 | 1.4 | -12.5 | 35 | 217 | 2.2 | 205 | 3.8 | 008 |
| 1200 | 3.4 | -6.4 | 49 | 182 | 1.0 | 119 | 4.4 | 008 |
| 1500 | 4.0 | ***** | 08 | 088 | 1.8 | 087 | 5.7 | 002 |
| 1800 | 3.2 | -18.4 | 19 | 167 | 1.3 | 142 | 3.2 | 001 |
| 2100 | 4.0 | -27.3 | 08 | 183 | .8 | 083 | 5.1 | 000 |
| 2400 | 4.2 | -28.6 | 07 | 103 | .3 | 051 | 4.4 | 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 | 3.7 | -27.6 | 06 | 108 | 3.3 | 104 | 6.3 | 000 |
| 0600 | 3.2 | -27.9 | 08 | 114 | 1.4 | 101 | 5.7 | 001 |
| 0900 | 4.5 | -28.4 | 07 | 105 | 2.6 | 096 | 5.7 | 017 |
| 1200 | 5.2 | -27.8 | 07 | 085 | 5.1 | 074 | 8.3 | 011 |
| 1500 | 6.1 | -27.2 | 07 | 105 | 2.8 | 103 | 5.7 | 006 |
| 1800 | 3.7 | -27.6 | 08 | 166 | 1.4 | 134 | 2.5 | 000 |
| 2100 | 2.7 | -28.3 | 08 | 218 | 1.2 | 243 | 3.2 | 000 |
| 2400 | 1.8 | -29.0 | 08 | 353 | 1.3 | 354 | 3.8 | 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 | .1 | -29.1 | 09 | 005 | 2.5 | 013 | 3.8 | 000 |
| 0600 | -.6 | -29.6 | 09 | 011 | 2.6 | 019 | 4.4 | 000 |
| 0900 | -1.4 | -29.1 | 10 | 017 | 2.9 | 010 | 7.0 | 004 |
| 1200 | -.8 | -29.8 | 09 | 016 | 5.1 | 009 | 8.3 | 020 |
| 1500 | -1.7 | -3.5 | 88 | 021 | 4.4 | 028 | 6.3 | 007 |
| 1800 | -2.4 | -29.9 | 10 | 016 | 3.7 | 022 | 5.7 | 000 |
| 2100 | -3.0 | -30.4 | 10 | 351 | 2.5 | 012 | 5.7 | 000 |
| 2400 | -3.4 | ***** | 10 | 006 | .7 | 023 | 2.5 | 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 | -4.2 | ***** | 11 | 043 | .6 | 099 | 1.9 | 000 |
| 0600 | -6.9 | -19.6 | 36 | 124 | .5 | 146 | 2.5 | 001 |
| 0900 | -4.7 | ***** | 11 | 205 | .6 | 181 | 2.5 | 020 |
| 1200 | -4.3 | -30.4 | 11 | 348 | 1.0 | 023 | 3.2 | 009 |
| 1500 | -5.0 | -30.9 | 11 | 018 | 2.1 | 025 | 3.8 | 003 |
| 1800 | -5.8 | -31.6 | 11 | 005 | 1.8 | 002 | 3.8 | 000 |
| 2100 | -5.8 | -31.6 | 11 | 350 | .6 | 005 | 2.5 | 000 |
| 2400 | -4.4 | -30.5 | 11 | 220 | .4 | 157 | 3.8 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING OCTOBER , 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 | -3.9 | -31.1 | 10 | 032 | 1.9 | 046 | 5.7 | 000 |
| 0600 | -3.2 | -30.5 | 10 | 059 | 1.1 | 104 | 9.5 | 000 |
| 0900 | -3.2 | -30.5 | 10 | 037 | 1.1 | 355 | 5.1 | 006 |
| 1200 | -2.5 | -30.0 | 10 | 028 | 1.9 | 071 | 4.4 | 008 |
| 1500 | -3.7 | -30.9 | 10 | 001 | 2.3 | 356 | 3.8 | 003 |
| 1800 | -5.7 | -31.5 | 11 | 220 | .7 | 200 | 3.2 | 000 |
| 2100 | -6.6 | -32.2 | 11 | 207 | 1.7 | 213 | 5.7 | 000 |
| 2400 | -9.8 | -33.1 | 13 | 162 | 2.8 | 156 | 5.1 | 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 | -10.5 | -33.6 | 13 | 172 | 2.5 | 159 | 5.1 | 000 |
| 0600 | -12.2 | -35.0 | 13 | 178 | 2.2 | 162 | 3.8 | 000 |
| 0900 | -7.3 | -31.9 | 12 | 178 | 2.2 | 181 | 3.8 | 015 |
| 1200 | -4.4 | -30.5 | 11 | 130 | .5 | 166 | 2.5 | 023 |
| 1500 | -4.8 | ***** | 11 | 329 | 1.0 | 337 | 1.9 | 004 |
| 1800 | -12.0 | -34.8 | 13 | 198 | 2.3 | 196 | 3.8 | 000 |
| 2100 | -13.6 | -35.4 | 14 | 174 | 2.3 | 157 | 3.8 | 000 |
| 2400 | -12.8 | -34.7 | 14 | 187 | 2.2 | 189 | 3.8 | 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 | -12.6 | -34.6 | 14 | 185 | 2.1 | 168 | 3.8 | 000 |
| 0600 | -13.8 | -35.5 | 14 | 192 | 2.1 | 185 | 3.8 | 000 |
| 0900 | -7.9 | -32.3 | 12 | 196 | 1.8 | 188 | 3.2 | 010 |
| 1200 | -2.5 | ***** | 10 | 134 | .5 | 175 | 2.5 | 028 |
| 1500 | -2.1 | ***** | 43 | 342 | 1.0 | 344 | 2.5 | 014 |
| 1800 | -10.2 | -33.4 | 13 | 201 | 1.4 | 186 | 3.2 | 000 |
| 2100 | -11.8 | -34.6 | 13 | 182 | 2.1 | 197 | 3.2 | 000 |
| 2400 | -13.7 | -35.4 | 14 | 190 | 2.0 | 197 | 3.8 | 000 |

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 | -11.8 | -34.6 | 13 | 203 | 2.4 | 197 | 4.4 | 000 |
| 0600 | -15.2 | -36.6 | 14 | 209 | 2.8 | 220 | 5.1 | 000 |
| 0900 | -9.0 | -33.2 | 12 | 214 | 2.5 | 200 | 5.1 | 013 |
| 1200 | -6.0 | -31.7 | 11 | 167 | .9 | 078 | 7.6 | 012 |
| 1500 | -6.5 | -32.1 | 11 | 089 | 3.7 | 081 | 7.0 | 003 |
| 1800 | -6.6 | -32.2 | 11 | 088 | 4.0 | 088 | 6.3 | 000 |
| 2100 | -6.9 | -32.4 | 11 | 105 | 2.8 | 102 | 7.0 | 000 |
| 2400 | -7.2 | -31.8 | 12 | 212 | 2.3 | 208 | 4.4 | 000 |

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 | -7.2 | -31.8 | 12 | 195 | 2.8 | 203 | 4.4 | 000 |
| 0600 | -6.9 | -32.4 | 11 | 198 | 2.4 | 203 | 4.4 | 000 |
| 0900 | -4.4 | -30.5 | 11 | 152 | 2.7 | 121 | 8.9 | 010 |
| 1200 | -2.7 | -30.1 | 10 | 110 | 4.7 | 106 | 8.9 | 015 |
| 1500 | -3.1 | -30.4 | 10 | 133 | 2.6 | 083 | 7.0 | 002 |
| 1800 | -2.5 | -30.0 | 10 | 145 | 1.7 | 122 | 5.1 | 000 |
| 2100 | -1.6 | -29.3 | 10 | 112 | 1.7 | 095 | 5.7 | 000 |
| 2400 | -.1 | -29.2 | 09 | 085 | 5.1 | 084 | 9.5 | 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 | .9 | -28.5 | 09 | 076 | 1.8 | 088 | 5.7 | 000 |
| 0600 | -2.4 | -29.9 | 10 | 190 | 2.4 | 272 | 6.3 | 000 |
| 0900 | .4 | -28.8 | 09 | 215 | .5 | 191 | 5.1 | 015 |
| 1200 | .5 | -28.8 | 09 | 356 | 2.8 | 012 | 5.7 | 016 |
| 1500 | -.6 | -29.6 | 09 | 011 | 3.1 | 015 | 5.7 | 006 |
| 1800 | -2.5 | -30.0 | 10 | 014 | 1.5 | 002 | 5.1 | 001 |
| 2100 | -6.0 | -31.7 | 11 | 221 | 2.0 | 203 | 3.2 | 000 |
| 2400 | -8.0 | -32.4 | 12 | 191 | 2.3 | 209 | 3.8 | 000 |

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 | -33.4 | 13 | 173 | 2.4 | 168 | 3.8 | 000 |
| 0600 | -11.2 | -34.2 | 13 | 166 | 2.9 | 154 | 5.1 | 002 |
| 0900 | -4.0 | -31.1 | 10 | 200 | 1.8 | 182 | 3.2 | 027 |
| 1200 | -2.1 | -29.7 | 10 | 204 | 1.4 | 158 | 3.2 | 018 |
| 1500 | -5.3 | -31.2 | 11 | 200 | 1.9 | 184 | 3.2 | 001 |
| 1800 | -8.7 | -33.0 | 12 | 186 | 2.4 | 182 | 3.8 | 000 |
| 2100 | -7.4 | -32.0 | 12 | 193 | 2.2 | 190 | 4.4 | 000 |
| 2400 | -7.0 | -31.6 | 12 | 164 | 2.6 | 148 | 4.4 | 000 |

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 | -10.6 | -33.7 | 13 | 181 | 2.2 | 173 | 4.4 | 000 |
| 0600 | -8.7 | -33.0 | 12 | 185 | 2.1 | 167 | 3.8 | 002 |
| 0900 | ***** | ***** | 11 | 260 | 1.5 | 292 | 5.1 | 011 |
| 1200 | .5 | -28.8 | 09 | 150 | 1.2 | 092 | 8.3 | 003 |
| 1500 | -.9 | -29.8 | 09 | 225 | 2.8 | 206 | 7.6 | 000 |
| 1800 | ***** | ***** | 09 | 187 | .7 | 155 | 5.1 | 001 |
| 2100 | -3.2 | -30.5 | 10 | 185 | 2.8 | 197 | 5.7 | 000 |
| 2400 | -1.9 | -29.5 | 10 | 188 | 2.0 | 187 | 3.8 | 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 | -30.3 | 10 | 191 | 1.4 | 194 | 3.2 | 001 |
| 0600 | ***** | ***** | ** | 170 | 1.8 | 151 | 3.8 | *** |
| 0900 | ***** | ***** | 09 | 119 | 4.9 | 106 | 8.3 | 015 |
| 1200 | -1.7 | -29.4 | 10 | 103 | 2.9 | 081 | 5.7 | 003 |
| 1500 | -5.8 | -31.6 | 11 | 183 | 2.0 | 133 | 3.8 | 000 |
| 1800 | -8.3 | -32.7 | 12 | 182 | 2.3 | 147 | 3.8 | 001 |
| 2100 | -10.1 | -33.3 | 13 | 184 | 2.3 | 151 | 5.1 | 001 |
| 2400 | -8.6 | -32.9 | 12 | 181 | 3.4 | 167 | 4.4 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING OCTOBER , 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 | -9.1 | -33.3 | 12 | 187 | 2.1 | 157 | 4.4 | 001 |
| 0600 | ***** | ***** | 12 | 164 | 1.7 | 172 | 3.2 | 013 |
| 0900 | -1.6 | -29.3 | 10 | 187 | 1.7 | 157 | 3.2 | 025 |
| 1200 | -3.8 | -31.0 | 10 | 192 | 2.6 | 203 | 5.1 | 003 |
| 1500 | -7.2 | -31.8 | 12 | 197 | 2.7 | 185 | 5.1 | 001 |
| 1800 | ***** | ***** | 10 | 156 | 2.4 | 122 | 7.0 | 001 |
| 2100 | -2.5 | -30.0 | 10 | 112 | 2.4 | 106 | 7.6 | 000 |
| 2400 | -.8 | -29.8 | 09 | 093 | 5.5 | 098 | 12.1 | 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 | -1.7 | -29.4 | 10 | 354 | 1.4 | 029 | 5.7 | 001 |
| 0600 | 0.0 | -29.1 | 09 | 178 | 1.5 | 228 | 5.1 | 013 |
| 0900 | ***** | ***** | 09 | 080 | 1.0 | 090 | 6.3 | 032 |
| 1200 | .7 | -28.6 | 09 | 056 | 3.2 | 077 | 7.0 | 004 |
| 1500 | -1.7 | -29.4 | 10 | 105 | 1.7 | 097 | 7.0 | 001 |
| 1800 | -5.6 | -31.4 | 11 | 193 | 2.0 | 163 | 4.4 | 000 |
| 2100 | -5.4 | -31.3 | 11 | 190 | 2.1 | 240 | 4.4 | 001 |
| 2400 | -4.6 | -30.6 | 11 | 196 | 2.3 | 187 | 3.8 | 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 | .1 | ***** | 09 | 202 | 1.5 | 188 | 3.8 | 001 |
| 0600 | ***** | ***** | 08 | 213 | 1.4 | 190 | 4.4 | 011 |
| 0900 | 1.6 | .1 | 90 | 082 | 2.0 | 092 | 9.5 | 015 |
| 1200 | -.2 | -29.3 | 09 | 116 | 3.8 | 113 | 7.6 | 002 |
| 1500 | ***** | ***** | 10 | 151 | 2.9 | 149 | 5.7 | 001 |
| 1800 | -3.2 | -112. | 00 | 163 | 2.8 | *** | 4.4 | 001 |
| 2100 | ***** | ***** | 09 | 164 | 1.3 | 191 | 5.1 | 001 |
| 2400 | 1.1 | -28.3 | 09 | 185 | 1.0 | 138 | 8.9 | 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 | -.8 | -29.8 | 09 | 073 | 4.5 | 094 | 9.5 | 001 |
| 0600 | ***** | ***** | 08 | 095 | 1.4 | 026 | 7.0 | 016 |
| 0900 | ***** | ***** | 08 | 092 | 4.7 | 080 | 10.8 | 020 |
| 1200 | 1.0 | -28.4 | 09 | 099 | 1.3 | 166 | 5.7 | 002 |
| 1500 | ***** | ***** | 11 | 214 | 1.1 | 239 | 3.8 | 001 |
| 1800 | -7.1 | -31.7 | 12 | 215 | 2.3 | 209 | 4.4 | 001 |
| 2100 | -5.9 | -31.7 | 11 | 207 | 2.6 | 209 | 4.4 | 001 |
| 2400 | -3.9 | -31.1 | 10 | 201 | 2.3 | 215 | 3.8 | 000 |

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 | -7.6 | -32.1 | 12 | 207 | 2.3 | 200 | 4.4 | 001 |
| 0600 | ***** | ***** | 10 | 196 | 3.5 | 198 | 5.1 | 011 |
| 0900 | ***** | ***** | 09 | 223 | 1.2 | 210 | 3.8 | 011 |
| 1200 | -2.3 | -29.8 | 10 | 155 | .2 | 222 | 3.2 | 002 |
| 1500 | -4.6 | -30.6 | 11 | 176 | 2.3 | 156 | 3.8 | 000 |
| 1800 | -6.7 | -10.3 | 76 | 174 | 2.7 | 179 | 3.8 | 001 |
| 2100 | ***** | ***** | 11 | 199 | 1.6 | 174 | 3.8 | 001 |
| 2400 | -2.4 | -29.9 | 10 | 169 | .8 | 204 | 2.5 | 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 | -3.0 | -30.4 | 10 | 062 | .7 | 126 | 3.8 | 001 |
| 0600 | -3.3 | -30.6 | 10 | 141 | .6 | 138 | 3.8 | 012 |
| 0900 | ***** | ***** | 10 | 218 | 1.5 | 228 | 3.2 | 008 |
| 1200 | ***** | ***** | 11 | 213 | 2.6 | 225 | 3.8 | 001 |
| 1500 | ***** | ***** | 12 | 192 | 3.0 | 190 | 5.1 | 000 |
| 1800 | -8.0 | -32.4 | 12 | 195 | 2.3 | 193 | 3.8 | 001 |
| 2100 | -9.3 | -33.5 | 12 | 190 | 2.5 | 180 | 3.2 | 001 |
| 2400 | -8.4 | -32.7 | 12 | 196 | 1.9 | 205 | 3.2 | 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 | ***** | ***** | 11 | 199 | 1.8 | 197 | 3.2 | 001 |
| 0600 | ***** | ***** | 11 | 197 | 2.2 | 187 | 3.2 | 011 |
| 0900 | ***** | ***** | 10 | 167 | 1.9 | 161 | 3.2 | 013 |
| 1200 | -4.2 | -30.3 | 11 | 132 | 2.1 | 127 | 3.8 | 001 |
| 1500 | -5.2 | -31.1 | 11 | 148 | 2.5 | 131 | 3.8 | 001 |
| 1800 | -4.2 | -30.3 | 11 | 144 | 1.7 | 136 | 3.8 | 000 |
| 2100 | -4.2 | ***** | 11 | 143 | .6 | 130 | 3.2 | 001 |
| 2400 | -3.0 | -30.4 | 10 | 116 | 1.2 | 113 | 4.4 | 000 |

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 | -4.7 | -30.7 | 11 | 138 | 1.6 | 161 | 5.1 | 001 |
| 0600 | -3.8 | -31.0 | 10 | 153 | 2.7 | 122 | 5.1 | 007 |
| 0900 | ***** | ***** | 10 | 193 | 1.7 | 138 | 4.4 | 017 |
| 1200 | -3.4 | -14.9 | 41 | 207 | 2.4 | 198 | 3.8 | 001 |
| 1500 | -4.7 | -30.7 | 11 | 192 | 2.2 | 194 | 3.2 | 001 |
| 1800 | -4.0 | -31.1 | 10 | 194 | 2.7 | 190 | 4.4 | 001 |
| 2100 | -3.2 | -30.5 | 10 | 148 | 1.0 | 151 | 3.2 | 001 |
| 2400 | -4.0 | -31.1 | 10 | 012 | 1.6 | 013 | 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 | -4.5 | ***** | 11 | 002 | .9 | 008 | 1.9 | 001 |
| 0600 | -3.3 | ***** | 10 | 356 | .9 | 344 | 1.9 | 004 |
| 0900 | ***** | ***** | ** | 348 | .7 | 029 | 2.5 | *** |
| 1200 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 1500 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 1800 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 2100 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 2400 | ***** | ***** | ** | *** | **** | *** | **** | *** |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING OCTOBER , 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 | ***** | ***** | ** | 061 | .3 | 046 | 2.5 | *** |
| 1800 | ***** | ***** | 11 | 194 | 3.4 | 197 | 5.1 | 001 |
| 2100 | -4.2 | -30.3 | 11 | 192 | 2.5 | 193 | 4.4 | 001 |
| 2400 | -4.0 | -31.1 | 10 | 172 | 1.9 | 167 | 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 | -4.6 | -12.6 | 54 | 176 | 2.2 | 192 | 5.1 | 001 |
| 0600 | -4.5 | -5.6 | 92 | 148 | 2.0 | 099 | 5.1 | 000 |
| 0900 | -5.2 | -17.8 | 37 | 132 | 1.6 | 107 | 5.1 | 004 |
| 1200 | -5.4 | -32.2 | 10 | 180 | 2.6 | 183 | 4.4 | 019 |
| 1500 | ***** | ***** | 77 | 142 | 1.3 | 139 | 3.2 | 004 |
| 1800 | ***** | ***** | 84 | 164 | 2.4 | 170 | 4.4 | 001 |
| 2100 | -12.3 | -14.6 | 83 | 164 | 2.9 | 150 | 5.1 | 001 |
| 2400 | -11.5 | -14.5 | 79 | 170 | 2.7 | 166 | 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 | -11.4 | -14.4 | 79 | 166 | 2.6 | 145 | 5.1 | 001 |
| 0600 | -10.5 | -13.2 | 81 | 192 | 1.0 | 148 | 3.8 | 001 |
| 0900 | -12.6 | -16.0 | 76 | 181 | 2.2 | 158 | 4.4 | 004 |
| 1200 | ***** | ***** | 69 | 191 | 1.7 | 219 | 2.5 | 020 |
| 1500 | ***** | ***** | 53 | 216 | 1.2 | 234 | 2.5 | 004 |
| 1800 | ***** | ***** | 78 | 187 | 1.7 | 172 | 3.8 | 001 |
| 2100 | ***** | ***** | 82 | 202 | 2.2 | 207 | 4.4 | 001 |
| 2400 | -14.3 | -16.6 | 83 | 207 | 2.5 | 226 | 4.4 | 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 KUSINA CREEK WEATHER STATION
DATA TAKEN DURING OCTOBER 1980

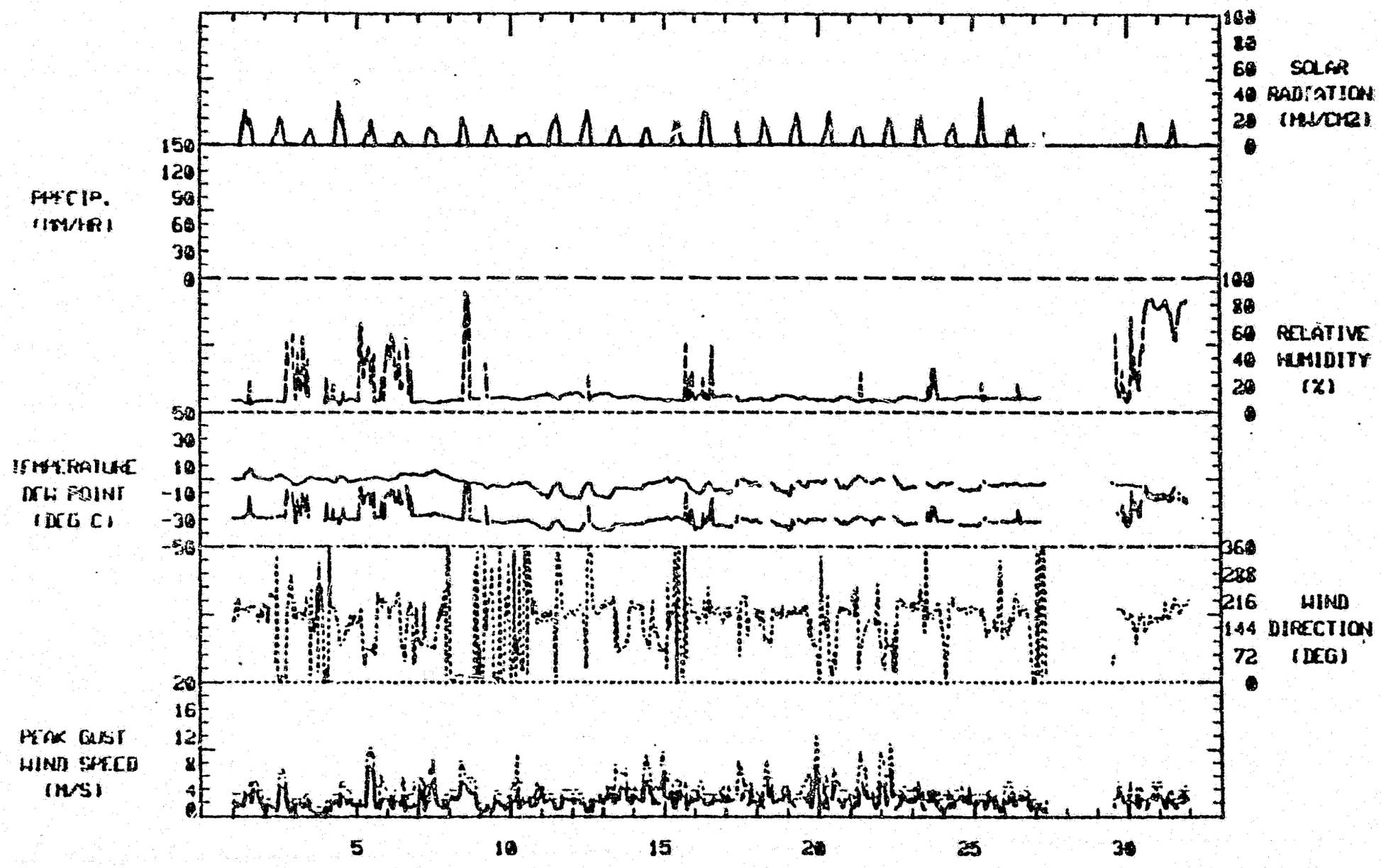
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 8.7 | -1.6 | 3.6 | 193 | 2.3 | 2.4 | 195 | 5.7 | SSW | 09 | -28.5 | **** | 1710 | 01 |
| 02 | 3.8 | -4.3 | -.3 | 357 | .7 | 1.9 | 020 | 7.0 | SW | 17 | -27.7 | **** | 1297 | 02 |
| 03 | 1.5 | -4.8 | -1.7 | 193 | .7 | 1.0 | 187 | 3.2 | SSW | 26 | -28.5 | **** | 708 | 03 |
| 04 | 2.8 | -2.7 | .1 | 147 | 1.3 | 1.9 | 112 | 5.1 | SE | 11 | -26.7 | **** | 1725 | 04 |
| 05 | 1.8 | -1.1 | .4 | 113 | 1.7 | 3.0 | 086 | 10.2 | E | 29 | -25.0 | **** | 1038 | 05 |
| 06 | 4.5 | -1.5 | 1.5 | 181 | 1.0 | 1.8 | 087 | 5.7 | SSW | 32 | -19.3 | **** | 588 | 06 |
| 07 | 6.5 | 1.8 | 4.1 | 104 | 1.8 | 2.6 | 074 | 8.3 | E | 08 | -28.0 | **** | 920 | 07 |
| 08 | 1.6 | -3.7 | -1.0 | 012 | 3.0 | 3.2 | 009 | 8.3 | NNE | 22 | -25.9 | **** | 1045 | 08 |
| 09 | -3.3 | -7.0 | -5.2 | 010 | .6 | 1.3 | 025 | 3.8 | NNE | 13 | -29.1 | **** | 818 | 09 |
| 10 | -.4 | -10.1 | -5.3 | 054 | .5 | 2.1 | 104 | 9.5 | NNE | 11 | -31.2 | **** | 690 | 10 |
| 11 | -2.3 | -15.4 | -8.9 | 181 | 1.6 | 2.1 | 159 | 5.1 | S | 13 | -33.7 | **** | 1378 | 11 |
| 12 | -1.2 | -15.9 | -8.5 | 191 | 1.3 | 1.8 | 168 | 3.8 | S | 13 | -34.3 | **** | 1433 | 12 |
| 13 | -5.8 | -15.3 | -10.5 | 151 | 1.4 | 2.9 | 078 | 7.6 | SSW | 12 | -33.1 | **** | 788 | 13 |
| 14 | -.1 | -7.5 | -3.8 | 132 | 2.3 | 3.3 | 084 | 9.5 | ESE | 11 | -30.5 | **** | 738 | 14 |
| 15 | 1.5 | -9.3 | -3.9 | 008 | .2 | 2.5 | 272 | 6.3 | NNE | 13 | -30.0 | **** | 1028 | 15 |
| 16 | -1.1 | -12.6 | -6.9 | 183 | 2.1 | 2.3 | 154 | 5.1 | S | 15 | -32.0 | **** | 1568 | 16 |
| 17 | 1.5 | -6.1 | -2.3 | 191 | 1.9 | 2.3 | 092 | 8.3 | S | 11 | -30.9 | **** | 522 | 17 |
| 18 | -.1 | -10.1 | -5.1 | 164 | 2.1 | 2.7 | 106 | 8.3 | SSE | 11 | -31.7 | **** | 1049 | 18 |
| 19 | -.9 | -10.9 | -5.9 | 154 | 2.0 | 2.9 | 098 | 12.1 | S | 11 | -30.8 | **** | 1333 | 19 |
| 20 | 1.9 | -8.4 | -3.3 | 156 | .8 | 2.4 | 077 | 7.0 | SSW | 10 | -30.0 | **** | 1158 | 20 |
| 21 | 2.8 | -6.2 | -1.7 | 155 | 1.6 | 2.5 | 092 | 9.5 | SSE | 10 | -42.5 | **** | 858 | 21 |
| 22 | 4.8 | -8.5 | -1.8 | 136 | 1.1 | 2.9 | 080 | 10.8 | SSW | 10 | -30.5 | **** | 1213 | 22 |
| 23 | 1.0 | -8.4 | -3.7 | 191 | 1.9 | 2.2 | 198 | 5.1 | S | 14 | -26.5 | **** | 1198 | 23 |
| 24 | -.5 | -9.3 | -4.9 | 193 | 1.7 | 2.1 | 190 | 5.1 | SSW | 11 | -31.9 | **** | 935 | 24 |
| 25 | -.7 | -8.9 | -4.8 | 161 | 1.5 | 1.9 | 113 | 4.4 | SE | 11 | -30.5 | **** | 1220 | 25 |
| 26 | -2.5 | -4.9 | -3.7 | 176 | 1.4 | 2.2 | 161 | 5.1 | SSW | 11 | -28.6 | **** | 848 | 26 |
| 27 | ***** | ***** | ***** | *** | **** | .9 | 029 | 2.5 | N | 11 | ***** | **** | 771 | 27 |
| 28 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 28 |
| 29 | -1.6 | -4.6 | -3.1 | *** | **** | 2.4 | 197 | 5.1 | SSW | 20 | -30.7 | **** | 354 | 29 |
| 30 | -4.0 | -12.7 | -8.4 | 161 | 2.1 | 2.3 | 192 | 5.1 | SSE | 55 | -16.2 | **** | 995 | 30 |
| 31 | -4.5 | -16.8 | -10.6 | 191 | 1.9 | 2.1 | 145 | 5.1 | SSW | 76 | -15.0 | **** | 860 | 31 |
| MONTH | 8.7 | -16.8 | -3.6 | 161 | 1.1 | 2.3 | 098 | 12.1 | SSW | 17 | -28.9 | **** | 30777 | |

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

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 KOSINA CREEK WEATHER STATION

DATA START: 01 OCTOBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK 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 | 1.10 | 3.02 | 1.22 | 0.00 | 0.00 | 0.00 | 0.00 | 5.34 |
| NNE | .94 | 3.26 | 2.65 | 0.00 | 0.00 | 0.00 | 0.00 | 6.85 |
| NE | .41 | .78 | .20 | 0.00 | 0.00 | 0.00 | 0.00 | 1.39 |
| ENE | .57 | .98 | .61 | .16 | 0.00 | 0.00 | 0.00 | 2.33 |
| E | .29 | 1.26 | 3.55 | 1.31 | 0.00 | 0.00 | 0.00 | 6.41 |
| ESE | .57 | 2.16 | 2.24 | .16 | 0.00 | 0.00 | 0.00 | 5.14 |
| SE | .33 | 3.96 | 1.10 | 0.00 | 0.00 | 0.00 | 0.00 | 5.39 |
| SSE | .53 | 9.47 | 2.41 | .04 | 0.00 | 0.00 | 0.00 | 12.44 |
| S | .33 | 15.01 | 1.75 | .08 | 0.00 | 0.00 | 0.00 | 17.18 |
| SSW | 1.22 | 15.14 | 3.18 | .04 | 0.00 | 0.00 | 0.00 | 19.58 |
| SW | .53 | 7.71 | .53 | 0.00 | 0.00 | 0.00 | 0.00 | 8.77 |
| WSW | .49 | 2.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.86 |
| W | .82 | .53 | .04 | 0.00 | 0.00 | 0.00 | 0.00 | 1.39 |
| WNW | .57 | .33 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | .98 |
| NW | .49 | .37 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | .94 |
| NNW | .69 | 2.00 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 |
| CALM | | | | | | | | .24 |
| TOTAL | 9.87 | 68.34 | 19.75 | 1.80 | 0.00 | 0.00 | 0.00 | 100.00 |

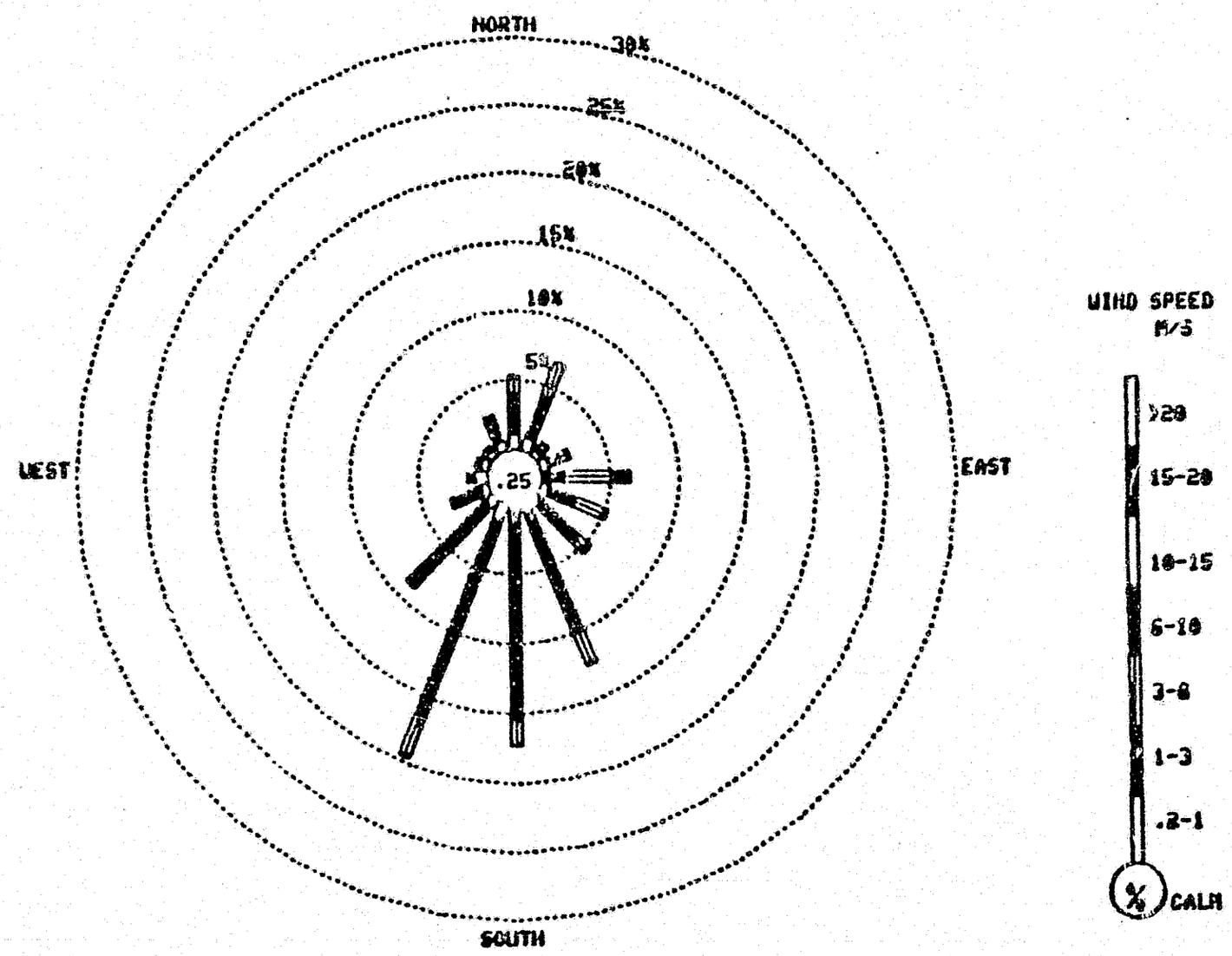
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2451 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

OCTOBER, 1980




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 KUSINA CREEK 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 | -14.5 | -17.1 | 81 | 203 | 2.2 | 194 | 4.4 | 001 |
| 0600 | -14.4 | -16.1 | 87 | 209 | 2.3 | 202 | 3.8 | 001 |
| 0900 | ***** | ***** | 70 | 220 | 4.6 | 213 | 4.4 | 016 |
| 1200 | ***** | ***** | 65 | 215 | 2.7 | 219 | 4.4 | 022 |
| 1500 | -7.3 | ***** | 74 | 223 | 1.7 | 210 | 3.8 | 003 |
| 1800 | -6.3 | -9.7 | 77 | 171 | .5 | 094 | 7.0 | 001 |
| 2100 | ***** | ***** | 85 | 149 | 2.1 | 119 | 5.7 | 001 |
| 2400 | -10.6 | -12.5 | 86 | 207 | 2.2 | 256 | 4.4 | 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 | -11.2 | -12.5 | 90 | 199 | 2.3 | 193 | 3.8 | 001 |
| 0600 | ***** | ***** | 90 | 206 | 2.1 | 196 | 3.8 | 001 |
| 0900 | -11.4 | -13.4 | 85 | 190 | 2.4 | 163 | 3.8 | 006 |
| 1200 | -6.7 | -11.1 | 71 | 213 | 1.6 | 204 | 2.5 | 013 |
| 1500 | -7.9 | -10.9 | 79 | 194 | 2.1 | 198 | 3.2 | 002 |
| 1800 | -8.9 | -11.3 | 83 | 166 | 2.0 | 145 | 3.2 | 001 |
| 2100 | -8.1 | -10.4 | 84 | 180 | 2.0 | 154 | 3.8 | 001 |
| 2400 | -7.5 | -9.8 | 84 | 171 | 3.5 | 199 | 3.8 | 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 | -7.0 | -9.5 | 88 | 175 | 2.0 | 143 | 4.4 | 001 |
| 0600 | -5.5 | -7.7 | 85 | 171 | 2.5 | 167 | 4.4 | 001 |
| 0900 | -5.0 | -7.0 | 86 | 164 | 2.2 | 138 | 5.1 | 006 |
| 1200 | ***** | ***** | 85 | 160 | 1.9 | 143 | 3.8 | 004 |
| 1500 | -3.1 | -4.7 | 89 | 123 | 2.4 | 113 | 5.7 | 002 |
| 1800 | -2.9 | -4.3 | 90 | 161 | 1.8 | 122 | 4.4 | 001 |
| 2100 | ***** | ***** | 89 | 115 | 2.5 | 120 | 4.4 | 001 |
| 2400 | ***** | ***** | 89 | 083 | 5.4 | 088 | 10.8 | 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 | -4.5 | -5.3 | 94 | 093 | 5.8 | 091 | 10.2 | 001 |
| 0600 | -4.9 | -5.7 | 94 | 115 | 2.4 | 079 | 5.7 | 001 |
| 0900 | -7.0 | -7.5 | 96 | 162 | 2.6 | 146 | 4.4 | 004 |
| 1200 | ***** | ***** | 94 | 153 | 2.7 | 143 | 5.1 | 007 |
| 1500 | -1.5 | -1.6 | 99 | 228 | .7 | 152 | 3.8 | 002 |
| 1800 | ***** | ***** | 94 | 180 | .8 | 096 | 5.7 | 001 |
| 2100 | -2.2 | -3.6 | 90 | 088 | 5.3 | 085 | 8.3 | 001 |
| 2400 | -2.5 | -3.2 | 95 | 139 | 1.9 | 073 | 7.0 | 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 | -2.6 | -3.3 | 95 | 192 | 2.4 | 187 | 3.8 | 001 |
| 0600 | -2.7 | -112. | 00 | 200 | 1.3 | 206 | 3.2 | 001 |
| 0900 | -2.0 | -2.4 | 97 | 190 | 1.3 | 201 | 2.5 | 004 |
| 1200 | ***** | ***** | 93 | 172 | 1.5 | 171 | 2.5 | 005 |
| 1500 | -1.4 | -2.0 | 96 | 151 | 1.9 | 139 | 3.2 | 001 |
| 1800 | ***** | ***** | 95 | 138 | 3.0 | 135 | 4.4 | 001 |
| 2100 | -5.0 | -5.8 | 94 | 167 | 2.0 | 172 | 3.2 | 001 |
| 2400 | -6.8 | -7.9 | 92 | 181 | 2.1 | 161 | 3.8 | 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 | -6.4 | -7.5 | 92 | 188 | 1.8 | 190 | 4.4 | 001 |
| 0600 | -5.8 | -6.3 | 96 | 157 | 3.0 | 145 | 5.7 | 001 |
| 0900 | -5.7 | -6.2 | 96 | 140 | 3.8 | 113 | 5.7 | 003 |
| 1200 | -2.9 | ***** | 85 | 133 | 1.8 | 108 | 4.4 | 010 |
| 1500 | -3.3 | -4.3 | 93 | 168 | 1.2 | 162 | 2.5 | 002 |
| 1800 | -4.2 | -5.0 | 94 | 179 | 2.0 | 157 | 3.2 | 001 |
| 2100 | -4.6 | -5.3 | 95 | 190 | 1.4 | 179 | 2.5 | 001 |
| 2400 | -4.0 | -4.6 | 96 | 177 | .4 | 216 | 1.9 | 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 | -4.2 | -4.5 | 98 | 169 | 1.1 | 174 | 1.9 | 001 |
| 0600 | -4.6 | -4.7 | 99 | 146 | 1.5 | 147 | 3.2 | 001 |
| 0900 | -4.0 | ***** | 95 | 209 | .7 | 203 | 2.5 | 003 |
| 1200 | -3.9 | -5.6 | 88 | 103 | .3 | 018 | 3.2 | 007 |
| 1500 | -4.8 | -8.3 | 77 | 342 | 2.0 | 325 | 7.0 | 001 |
| 1800 | ***** | ***** | 66 | 318 | 7.0 | 313 | 11.4 | 001 |
| 2100 | -7.3 | -12.6 | 66 | 318 | 6.4 | 312 | 9.5 | 001 |
| 2400 | -7.5 | -13.2 | 64 | 313 | 6.3 | 313 | 8.9 | 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 | -7.4 | -13.3 | 63 | 311 | 5.6 | 311 | 8.3 | 001 |
| 0600 | -8.2 | -14.3 | 62 | 312 | 6.4 | 310 | 10.2 | 001 |
| 0900 | ***** | ***** | 58 | 311 | 5.9 | 313 | 8.3 | 006 |
| 1200 | ***** | ***** | 57 | 307 | 5.9 | 306 | 8.9 | 013 |
| 1500 | ***** | ***** | 67 | 189 | 3.3 | 208 | 7.0 | 002 |
| 1800 | ***** | ***** | 73 | 179 | 2.2 | 168 | 4.4 | 001 |
| 2100 | -16.6 | -19.7 | 77 | 184 | 2.5 | 180 | 4.4 | 001 |
| 2400 | -16.8 | -19.8 | 78 | 174 | 2.5 | 155 | 4.4 | 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 | -20.4 | -23.0 | 80 | 201 | 1.9 | 219 | 3.8 | 001 |
| 0600 | -17.9 | -20.5 | 80 | 197 | 2.2 | 217 | 4.4 | 001 |
| 0900 | ***** | ***** | 67 | 210 | 2.3 | 187 | 3.8 | 009 |
| 1200 | -13.2 | -18.3 | 66 | 198 | 2.2 | 166 | 4.4 | 016 |
| 1500 | ***** | ***** | 74 | 158 | 2.9 | 144 | 4.4 | 001 |
| 1800 | -20.4 | -23.3 | 78 | 208 | 2.4 | 184 | 4.4 | 001 |
| 2100 | -18.9 | -21.7 | 79 | 216 | 2.8 | 217 | 5.1 | 001 |
| 2400 | -20.2 | -23.1 | 78 | 218 | 3.3 | 220 | 5.1 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -18.1 | -20.4 | 82 | 193 | 3.0 | 153 | 5.7 | 001 |
| 0600 | -18.1 | -20.6 | 81 | 213 | 2.9 | 208 | 4.4 | 001 |
| 0900 | ***** | ***** | 84 | 203 | 2.6 | 187 | 4.4 | 003 |
| 1200 | -13.0 | -16.5 | 75 | 190 | 2.6 | 185 | 3.8 | 006 |
| 1500 | -12.6 | -14.9 | 83 | 164 | 2.9 | 197 | 4.4 | 002 |
| 1800 | -13.5 | -15.7 | 84 | 171 | 3.0 | 162 | 5.1 | 001 |
| 2100 | ***** | ***** | 80 | 182 | 2.4 | 199 | 5.1 | 001 |
| 2400 | ***** | ***** | 81 | 177 | 2.9 | 124 | 7.0 | 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 | -10.8 | -13.8 | 79 | 198 | 2.9 | 194 | 4.4 | 001 |
| 0600 | -10.3 | -13.1 | 80 | 191 | 2.8 | 198 | 4.4 | 001 |
| 0900 | -8.5 | -12.7 | 72 | 177 | 2.5 | 190 | 3.8 | 003 |
| 1200 | -8.4 | -12.3 | 74 | 201 | 2.3 | 174 | 3.8 | 006 |
| 1500 | ***** | ***** | 77 | 189 | 1.8 | 173 | 4.4 | 001 |
| 1800 | -11.0 | -13.7 | 81 | 176 | 3.9 | 178 | 6.3 | 001 |
| 2100 | -12.7 | -15.2 | 82 | 185 | 2.6 | 197 | 4.4 | 001 |
| 2400 | -15.0 | -16.8 | 86 | 179 | 2.6 | 152 | 5.7 | 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 | -14.8 | -17.5 | 80 | 194 | 2.6 | 155 | 5.7 | 001 |
| 0600 | ***** | ***** | 75 | 189 | 1.6 | 208 | 5.1 | 001 |
| 0900 | ***** | ***** | 80 | 193 | .9 | 141 | 3.8 | 003 |
| 1200 | -4.2 | -12.0 | 55 | 213 | 1.3 | 175 | 5.7 | 025 |
| 1500 | ***** | ***** | 74 | 100 | 4.4 | 089 | 8.9 | 001 |
| 1800 | -8.9 | -10.4 | 89 | 083 | 1.5 | 090 | 8.3 | 001 |
| 2100 | ***** | ***** | 88 | 180 | 1.8 | 147 | 7.0 | 001 |
| 2400 | -9.9 | -11.0 | 92 | 205 | 2.9 | 165 | 6.3 | 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 | -8.8 | -9.7 | 93 | 202 | 3.3 | 199 | 5.7 | 001 |
| 0600 | -8.6 | -10.0 | 90 | 208 | 3.0 | 211 | 5.7 | 001 |
| 0900 | -8.3 | -10.0 | 88 | 196 | 2.5 | 208 | 4.4 | 003 |
| 1200 | -7.8 | -9.8 | 86 | 207 | 2.1 | 200 | 3.8 | 008 |
| 1500 | ***** | ***** | 92 | 174 | 1.9 | 174 | 3.8 | 001 |
| 1800 | -9.8 | -11.0 | 91 | 162 | 2.7 | 152 | 4.4 | 001 |
| 2100 | -9.8 | -12.0 | 84 | 161 | 3.1 | 147 | 4.4 | 001 |
| 2400 | -10.9 | -12.4 | 89 | 161 | 3.3 | 157 | 5.7 | 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 | -13.1 | -14.4 | 90 | 202 | 1.9 | 156 | 4.4 | 001 |
| 0600 | -11.1 | -12.2 | 92 | 193 | 2.9 | 218 | 4.4 | 001 |
| 0900 | -9.7 | -10.6 | 93 | 179 | 2.0 | 171 | 3.8 | 003 |
| 1200 | -8.8 | -11.5 | 81 | 187 | 2.9 | 186 | 5.1 | 007 |
| 1500 | -9.5 | -9.9 | 97 | 187 | 3.8 | 190 | 7.0 | 001 |
| 1800 | -10.3 | -12.1 | 87 | 189 | 4.3 | 190 | 6.3 | 001 |
| 2100 | -10.3 | -12.2 | 86 | 193 | 3.2 | 185 | 5.1 | 001 |
| 2400 | -11.4 | -13.4 | 85 | 198 | 3.2 | 202 | 5.1 | 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 | -10.9 | -13.1 | 84 | 180 | 2.6 | 185 | 4.4 | 001 |
| 0600 | -10.9 | -13.1 | 84 | 186 | 3.2 | 180 | 5.7 | 001 |
| 0900 | -13.2 | -14.9 | 87 | 170 | 3.1 | 171 | 5.1 | 003 |
| 1200 | -8.8 | -11.5 | 81 | 173 | 2.9 | 177 | 5.1 | 007 |
| 1500 | ***** | ***** | 81 | 166 | 2.8 | 182 | 4.4 | 001 |
| 1800 | -5.0 | -6.4 | 90 | 182 | 2.5 | 177 | 5.1 | 001 |
| 2100 | ***** | ***** | 98 | 176 | 1.2 | 195 | 1.9 | 001 |
| 2400 | -5.9 | -6.2 | 98 | 192 | 1.1 | 152 | 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 | -5.8 | -7.1 | 91 | 150 | .9 | 127 | 1.9 | 001 |
| 0600 | -5.3 | ***** | 93 | 067 | .4 | 144 | 4.4 | 001 |
| 0900 | -7.4 | -8.4 | 93 | 132 | 1.2 | 129 | 7.0 | 003 |
| 1200 | -7.1 | -9.7 | 82 | 138 | 3.5 | 125 | 6.3 | 007 |
| 1500 | -11.1 | -11.8 | 95 | 138 | 4.2 | 139 | 6.3 | 001 |
| 1800 | -10.9 | -11.6 | 95 | 165 | 2.4 | 167 | 4.4 | 001 |
| 2100 | ***** | ***** | 91 | 170 | 2.4 | 144 | 4.4 | 001 |
| 2400 | -10.0 | -11.2 | 91 | 178 | 2.4 | 169 | 4.4 | 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 | -7.4 | -8.6 | 91 | 159 | 1.9 | 135 | 4.4 | 001 |
| 0600 | -7.7 | -8.1 | 97 | 156 | 2.1 | 159 | 3.8 | 001 |
| 0900 | -9.2 | -9.6 | 97 | 163 | 2.6 | 139 | 4.4 | 002 |
| 1200 | -9.7 | -10.2 | 96 | 141 | 3.3 | 136 | 5.7 | 003 |
| 1500 | -8.9 | -10.0 | 92 | 141 | 3.5 | 137 | 5.1 | 001 |
| 1800 | -8.5 | -9.6 | 92 | 164 | 2.4 | 141 | 4.4 | 001 |
| 2100 | -9.2 | -10.3 | 92 | 168 | 2.3 | 168 | 3.8 | 001 |
| 2400 | -9.6 | -10.0 | 97 | 179 | 2.0 | 174 | 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 | -10.3 | -11.5 | 91 | 184 | 3.1 | 189 | 4.4 | 001 |
| 0600 | -10.6 | -11.9 | 90 | 184 | 2.6 | 181 | 3.8 | 001 |
| 0900 | -8.9 | -11.0 | 85 | 206 | 1.8 | 182 | 3.2 | 002 |
| 1200 | -6.2 | -9.3 | 79 | 143 | 1.6 | 123 | 5.7 | 004 |
| 1500 | -7.5 | -10.1 | 82 | 093 | 2.6 | 083 | 8.9 | 001 |
| 1800 | -9.8 | -10.9 | 92 | 156 | 6.2 | 134 | 7.0 | 001 |
| 2100 | -9.9 | ***** | 89 | 194 | 2.5 | 199 | 5.1 | 001 |
| 2400 | -9.5 | -11.4 | 86 | 186 | 3.2 | 198 | 5.1 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 | -9.8 | -11.0 | 91 | 207 | 2.3 | 207 | 5.1 | 001 |
| 0600 | -9.7 | -10.4 | 95 | 189 | 2.8 | 186 | 5.1 | 001 |
| 0900 | -8.4 | -10.4 | 86 | 186 | 2.9 | 185 | 5.7 | 002 |
| 1200 | -5.6 | ***** | 86 | 197 | 2.0 | 200 | 4.4 | 004 |
| 1500 | -5.0 | -6.6 | 89 | 129 | 1.7 | 128 | 5.7 | 001 |
| 1800 | ***** | ***** | 90 | 204 | .2 | 028 | 3.8 | 001 |
| 2100 | -5.5 | -8.4 | 80 | 191 | 1.6 | 169 | 4.4 | 001 |
| 2400 | -5.5 | -9.3 | 75 | 210 | 1.9 | 217 | 3.8 | 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 | ***** | ***** | 44 | 164 | 1.8 | 152 | 5.1 | 001 |
| 0600 | -6.7 | -9.8 | 79 | 107 | 1.7 | 092 | 7.0 | 001 |
| 0900 | -7.6 | -9.1 | 89 | 181 | 1.2 | 091 | 4.4 | 001 |
| 1200 | -7.1 | -9.7 | 82 | 179 | 2.2 | 147 | 3.8 | 007 |
| 1500 | -10.2 | -11.4 | 91 | 167 | 2.0 | 154 | 3.8 | 001 |
| 1800 | -10.1 | -11.3 | 91 | 176 | 2.4 | 162 | 5.7 | 001 |
| 2100 | -10.3 | -11.8 | 89 | 177 | 2.5 | 160 | 4.4 | 001 |
| 2400 | -8.7 | -11.3 | 82 | 179 | 2.3 | 162 | 4.4 | 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 | -8.7 | -10.5 | 87 | 178 | 2.0 | 171 | 3.8 | 001 |
| 0600 | ***** | ***** | 90 | 175 | 2.0 | 163 | 5.1 | 001 |
| 0900 | -12.6 | -13.9 | 90 | 161 | 3.5 | 159 | 6.3 | 002 |
| 1200 | ***** | ***** | 79 | 192 | 2.5 | 156 | 6.3 | 006 |
| 1500 | -8.9 | -9.8 | 93 | 180 | 2.2 | 156 | 5.1 | 001 |
| 1800 | -13.4 | -14.3 | 93 | 206 | 2.2 | 196 | 4.4 | 001 |
| 2100 | -11.5 | -12.7 | 91 | 197 | 2.5 | 203 | 3.8 | 001 |
| 2400 | -9.8 | -11.4 | 88 | 188 | 2.3 | 192 | 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 | -9.5 | -10.7 | 91 | 192 | 2.1 | 135 | 5.7 | 001 |
| 0600 | -9.8 | -10.7 | 93 | 191 | 2.6 | 194 | 4.4 | 001 |
| 0900 | -8.4 | -9.6 | 91 | 196 | 2.7 | 188 | 4.4 | 001 |
| 1200 | -6.6 | -9.2 | 82 | 222 | .8 | 328 | 3.8 | 006 |
| 1500 | -5.3 | -7.8 | 83 | 174 | 2.0 | 191 | 3.2 | 001 |
| 1800 | -5.5 | -8.1 | 82 | 168 | 2.2 | 159 | 3.8 | 001 |
| 2100 | -7.5 | -10.2 | 81 | 179 | 2.3 | 179 | 3.8 | 001 |
| 2400 | -6.7 | -9.1 | 83 | 187 | 2.0 | 186 | 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 | -6.3 | -8.6 | 84 | 159 | 2.4 | 138 | 5.1 | 001 |
| 0600 | -7.6 | -9.3 | 88 | 164 | 2.6 | 161 | 6.3 | 001 |
| 0900 | -12.0 | -13.5 | 89 | 174 | 2.7 | 150 | 5.7 | 003 |
| 1200 | -8.3 | -10.3 | 86 | 180 | 2.7 | 165 | 5.7 | 012 |
| 1500 | ***** | ***** | 95 | 149 | 3.2 | 155 | 5.7 | 001 |
| 1800 | -12.5 | -13.3 | 94 | 211 | 3.2 | 225 | 4.4 | 001 |
| 2100 | -10.3 | -11.0 | 95 | 206 | 3.2 | 213 | 5.1 | 001 |
| 2400 | -6.4 | -7.2 | 94 | 202 | 2.6 | 129 | 6.3 | 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 | -5.3 | -7.5 | 85 | 313 | .9 | 124 | 6.3 | 001 |
| 0600 | -4.1 | -7.6 | 77 | 175 | 1.6 | 166 | 4.4 | 001 |
| 0900 | -2.7 | -7.9 | 68 | 130 | 1.9 | 098 | 4.4 | 002 |
| 1200 | -1.9 | -6.9 | 69 | 138 | 2.2 | 101 | 7.0 | 011 |
| 1500 | -6.3 | -8.3 | 86 | 125 | 1.8 | 130 | 6.3 | 001 |
| 1800 | -9.3 | -10.4 | 92 | 211 | 2.2 | 199 | 3.8 | 001 |
| 2100 | ***** | ***** | 91 | 210 | 2.3 | 203 | 4.4 | 001 |
| 2400 | -3.6 | -4.3 | 95 | 163 | 1.3 | 084 | 5.7 | 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 | ***** | ***** | 91 | 131 | 1.4 | 202 | 5.7 | 001 |
| 0600 | -6.0 | -7.0 | 93 | 199 | 2.3 | 196 | 5.7 | 001 |
| 0900 | -5.7 | -6.7 | 93 | 206 | 2.4 | 198 | 4.4 | 001 |
| 1200 | -3.3 | -5.0 | 88 | 119 | 4.2 | 091 | 5.7 | 004 |
| 1500 | -6.0 | -7.3 | 91 | 129 | 1.4 | 088 | 5.7 | 001 |
| 1800 | -7.5 | -8.3 | 94 | 198 | 2.7 | 187 | 5.7 | 001 |
| 2100 | -6.7 | -7.1 | 97 | 233 | 1.8 | 286 | 4.4 | 001 |
| 2400 | -7.5 | -7.9 | 97 | 212 | 2.9 | 241 | 4.4 | 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 | -9.3 | -10.1 | 94 | 208 | 2.3 | 223 | 3.8 | 001 |
| 0600 | -7.4 | -7.9 | 96 | 200 | 3.2 | 202 | 5.1 | 000 |
| 0900 | -7.4 | -7.5 | 99 | 189 | 3.4 | 184 | 5.7 | 001 |
| 1200 | -7.3 | -8.0 | 95 | 185 | 3.1 | 184 | 4.4 | 004 |
| 1500 | -5.7 | -7.1 | 90 | 195 | 4.2 | 194 | 5.7 | 001 |
| 1800 | -2.3 | -3.4 | 92 | 155 | 1.2 | 049 | 7.6 | 001 |
| 2100 | -4.0 | -4.8 | 94 | 096 | 3.1 | 074 | 10.8 | 001 |
| 2400 | -5.7 | -6.0 | 98 | 194 | 1.1 | 135 | 3.2 | 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 | ***** | ***** | 94 | 166 | 1.0 | 164 | 1.9 | 001 |
| 0600 | -6.0 | -6.1 | 99 | 171 | 1.1 | 153 | 1.9 | 001 |
| 0900 | -7.9 | -8.4 | 96 | 189 | 1.5 | 161 | 2.5 | 001 |
| 1200 | ***** | ***** | 95 | 192 | 1.8 | 207 | 2.5 | 004 |
| 1500 | -6.4 | ***** | 99 | 197 | .8 | 190 | 2.5 | 001 |
| 1800 | -7.4 | ***** | 00 | 014 | .4 | 045 | 1.3 | 001 |
| 2100 | -8.1 | ***** | 97 | 303 | .6 | 329 | 1.9 | 001 |
| 2400 | -8.5 | ***** | 97 | 350 | 1.0 | 348 | 1.9 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -9.6 | -10.1 | 96 | 213 | 1.2 | 237 | 2.5 | 001 |
| 0600 | -9.4 | ***** | 96 | 193 | .6 | 213 | 1.3 | 001 |
| 0900 | ***** | ***** | 97 | 208 | .7 | 141 | 1.9 | 001 |
| 1200 | -8.2 | -9.3 | 92 | 222 | 1.0 | 228 | 3.2 | 002 |
| 1500 | -7.4 | -13.5 | 62 | 306 | 4.9 | 311 | 8.9 | 001 |
| 1800 | -7.4 | -13.1 | 64 | 298 | 3.5 | 300 | 6.3 | 001 |
| 2100 | -8.2 | -13.9 | 64 | 297 | 4.7 | 290 | 6.3 | 001 |
| 2400 | -8.4 | -14.3 | 63 | 299 | 4.8 | 303 | 7.6 | 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 | ***** | ***** | 64 | 286 | 3.5 | 288 | 7.0 | 001 |
| 0600 | -11.1 | -16.1 | 67 | 191 | 2.3 | 181 | 5.7 | 001 |
| 0900 | -14.9 | -19.7 | 67 | 192 | 4.0 | 195 | 6.3 | 001 |
| 1200 | -11.5 | -21.2 | 45 | 191 | 3.6 | 191 | 6.3 | 007 |
| 1500 | -13.2 | -23.5 | 42 | 196 | 2.4 | 200 | 5.7 | 002 |
| 1800 | -14.7 | -25.4 | 40 | 187 | 2.5 | 159 | 5.1 | 002 |
| 2100 | -16.0 | -25.0 | 46 | 151 | 2.6 | 152 | 5.[illegible] | 002 |
| 2400 | -17.1 | -25.6 | 48 | 201 | 1.6 | *** | 4.4 | 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 | -16.8 | -24.8 | 50 | 187 | 2.7 | 150 | 5.7 | 001 |
| 0600 | -16.0 | -23.9 | 51 | 172 | 3.1 | 151 | 5.7 | 001 |
| 0900 | -15.7 | -23.4 | 52 | 187 | 2.4 | 148 | 4.4 | 002 |
| 1200 | -14.4 | -23.1 | 48 | 198 | 2.4 | 204 | 5.7 | 008 |
| 1500 | -15.5 | -22.0 | 58 | 200 | 1.9 | 207 | 4.4 | 001 |
| 1800 | -16.3 | -22.9 | 57 | 194 | 2.4 | 204 | 5.1 | 001 |
| 2100 | -14.6 | -21.5 | 56 | 193 | 2.8 | 181 | 5.1 | 001 |
| 2400 | ***** | ***** | 55 | 177 | 3.6 | 173 | 6.3 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING NOVEMBER , 1980

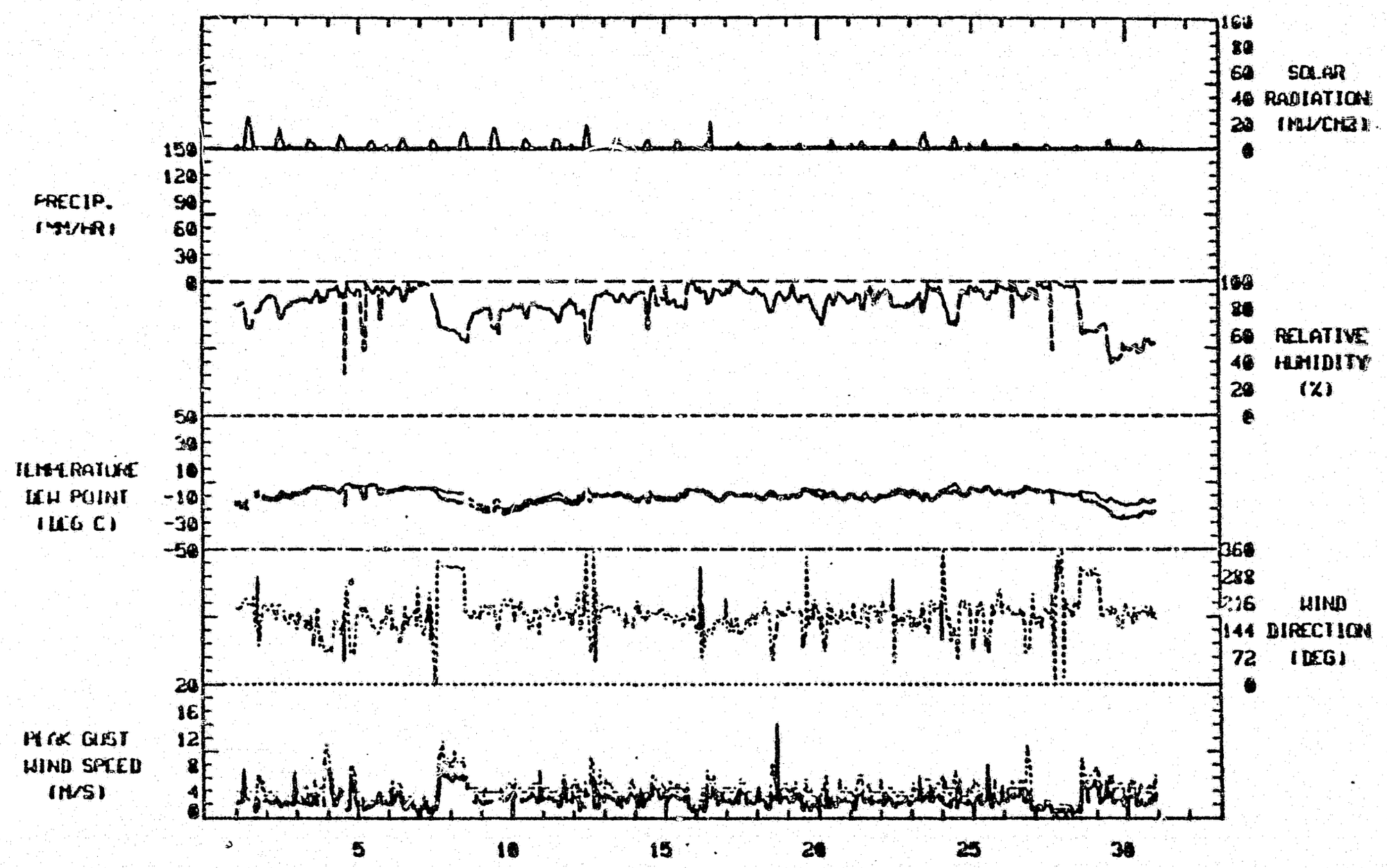
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | -6.3 | -18.1 | -12.2 | 208 | 2.3 | 2.6 | 094 | 7.0 | SSW | 78 | -13.9 | **** | 1340 | 01 |
| 02 | -6.7 | -12.8 | -9.8 | 189 | 2.2 | 2.3 | 193 | 3.8 | SSW | 83 | -11.4 | **** | 788 | 02 |
| 03 | -2.1 | -7.9 | -5.0 | 141 | 2.0 | 2.6 | 088 | 10.8 | SSE | 87 | -6.6 | **** | 523 | 03 |
| 04 | -.5 | -8.0 | -4.3 | 118 | 2.5 | 3.2 | 091 | 10.2 | E | 91 | -4.5 | **** | 628 | 04 |
| 05 | -.5 | -7.6 | -4.1 | 171 | 1.8 | 2.0 | 135 | 4.4 | SSE | 88 | -22.3 | **** | 513 | 05 |
| 06 | -2.6 | -6.7 | -4.6 | 162 | 1.9 | 2.1 | 145 | 5.7 | SSE | 93 | -5.6 | **** | 520 | 06 |
| 07 | -3.5 | -7.5 | -5.5 | 314 | 2.5 | 3.5 | 313 | 11.4 | NW | 82 | -8.2 | **** | 495 | 07 |
| 08 | -6.1 | -17.7 | -11.9 | 291 | 2.9 | 4.6 | 310 | 10.2 | NW | 66 | -16.8 | **** | 785 | 08 |
| 09 | -12.0 | -22.4 | -17.2 | 204 | 2.4 | 2.6 | 217 | 5.1 | SSW | 75 | -23.6 | **** | 933 | 09 |
| 10 | -11.4 | -18.7 | -15.1 | 186 | 2.7 | 3.0 | 124 | 7.0 | SSW | 81 | -17.4 | **** | 508 | 10 |
| 11 | -7.5 | -15.0 | -11.3 | 186 | 2.7 | 2.8 | 178 | 6.3 | S | 79 | -13.9 | **** | 575 | 11 |
| 12 | -4.0 | -15.3 | -9.6 | 169 | 1.5 | 2.6 | 089 | 8.9 | SSW | 79 | -12.7 | **** | 788 | 12 |
| 13 | -6.2 | -11.1 | -8.6 | 183 | 2.6 | 2.8 | 199 | 5.7 | SSW | 89 | -10.7 | **** | 495 | 13 |
| 14 | -8.1 | -14.7 | -11.4 | 191 | 3.0 | 3.1 | 190 | 7.0 | S | 88 | -12.0 | **** | 453 | 14 |
| 15 | -5.0 | -13.2 | -9.1 | 177 | 2.4 | 2.5 | 180 | 5.7 | S | 87 | -10.9 | **** | 480 | 15 |
| 16 | -4.9 | -15.4 | -10.1 | 152 | 2.0 | 2.4 | 129 | 7.0 | SE | 91 | -9.9 | **** | 610 | 16 |
| 17 | -6.9 | -10.2 | -8.6 | 157 | 2.5 | 2.7 | 136 | 5.7 | SE | 94 | -9.5 | **** | 340 | 17 |
| 18 | -5.1 | -12.4 | -8.8 | 168 | 2.6 | 2.3 | 083 | 8.9 | S | 87 | -10.9 | **** | 338 | 18 |
| 19 | -3.9 | -10.9 | -7.4 | 189 | 1.8 | 2.2 | 185 | 5.7 | SSW | 87 | -9.3 | **** | 350 | 19 |
| 20 | -4.9 | -12.6 | -8.8 | 168 | 1.9 | 2.3 | 092 | 7.0 | SSE | 84 | -10.6 | **** | 395 | 20 |
| 21 | -7.5 | -13.7 | -10.6 | 183 | 2.3 | 2.5 | 159 | 6.3 | SSW | 88 | -12.1 | **** | 410 | 21 |
| 22 | -4.7 | -10.6 | -7.7 | 185 | 2.0 | 2.3 | 135 | 5.7 | S | 86 | -9.4 | **** | 398 | 22 |
| 23 | -5.5 | -13.1 | -9.3 | 181 | 2.6 | 3.0 | 161 | 6.3 | SSW | 89 | -10.4 | **** | 690 | 23 |
| 24 | -.8 | -11.0 | -5.9 | 169 | 1.3 | 2.3 | 101 | 7.0 | SSW | 83 | -7.5 | **** | 540 | 24 |
| 25 | -2.9 | -8.9 | -5.9 | 178 | 1.8 | 2.3 | 202 | 5.7 | SSW | 93 | -7.0 | **** | 405 | 25 |
| 26 | -2.3 | -10.1 | -6.2 | 182 | 2.2 | 3.0 | 074 | 10.8 | SSW | 92 | -6.9 | **** | 333 | 26 |
| 27 | -5.4 | -8.6 | -7.0 | 195 | .6 | 1.1 | 161 | 2.5 | S | 95 | -7.3 | **** | 313 | 27 |
| 28 | -6.8 | -10.3 | -8.5 | 289 | 2.3 | 2.8 | 311 | 8.9 | WNW | 76 | -12.4 | **** | 288 | 28 |
| 29 | -8.6 | -17.7 | -13.2 | 199 | 2.3 | 2.9 | 288 | 7.0 | S | 54 | -22.4 | **** | 505 | 29 |
| 30 | -11.6 | -19.4 | -15.5 | 187 | 2.6 | 2.8 | 173 | 6.3 | S | 52 | -23.1 | **** | 478 | 30 |
| MONTH | -.5 | -22.4 | -9.1 | 185 | 1.7 | 2.7 | 313 | 11.4 | S | 83 | -11.9 | **** | 16210 | |

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

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 ****

RLM CONSULTANT, INC. SUSITNA HYDROELECTRIC PROJECT




DAY OF THE MONTH KOSINA CREEK WEATHER STATION

DATA START: 01 NOVEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING NOVEMBER , 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 | .34 | .59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .93 |
| NNE | .08 | .21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .30 |
| NE | .08 | .34 | .04 | 0.00 | 0.00 | 0.00 | 0.00 | .47 |
| ENE | 0.00 | .17 | .30 | .17 | 0.00 | 0.00 | 0.00 | .64 |
| E | .04 | .68 | 1.31 | .64 | 0.00 | 0.00 | 0.00 | 2.67 |
| ESE | .21 | 1.14 | .93 | 0.00 | 0.00 | 0.00 | 0.00 | 2.29 |
| SE | .42 | 3.94 | 3.98 | .04 | 0.00 | 0.00 | .04 | 8.43 |
| SSE | .42 | 11.39 | 4.79 | 0.00 | 0.00 | .04 | .04 | 16.69 |
| S | .64 | 17.07 | 6.65 | .13 | 0.00 | 0.00 | 0.00 | 24.48 |
| SSW | .76 | 16.73 | 6.48 | .17 | 0.00 | 0.00 | .04 | 24.18 |
| SW | .55 | 7.58 | .97 | 0.00 | 0.00 | 0.00 | 0.00 | 9.11 |
| WSW | .55 | 1.61 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 |
| W | .21 | .68 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | .97 |
| WNW | .34 | .25 | 1.36 | .13 | 0.00 | 0.00 | 0.00 | 2.08 |
| NW | .04 | .30 | 1.36 | 2.03 | 0.00 | 0.00 | 0.00 | 3.73 |
| NNW | 0.00 | .51 | .04 | .04 | 0.00 | 0.00 | 0.00 | .59 |
| CALM | | | | | | | | .21 |
| TOTAL | 4.70 | 63.19 | 28.38 | 3.35 | 0.00 | .04 | .13 | 100.00 |

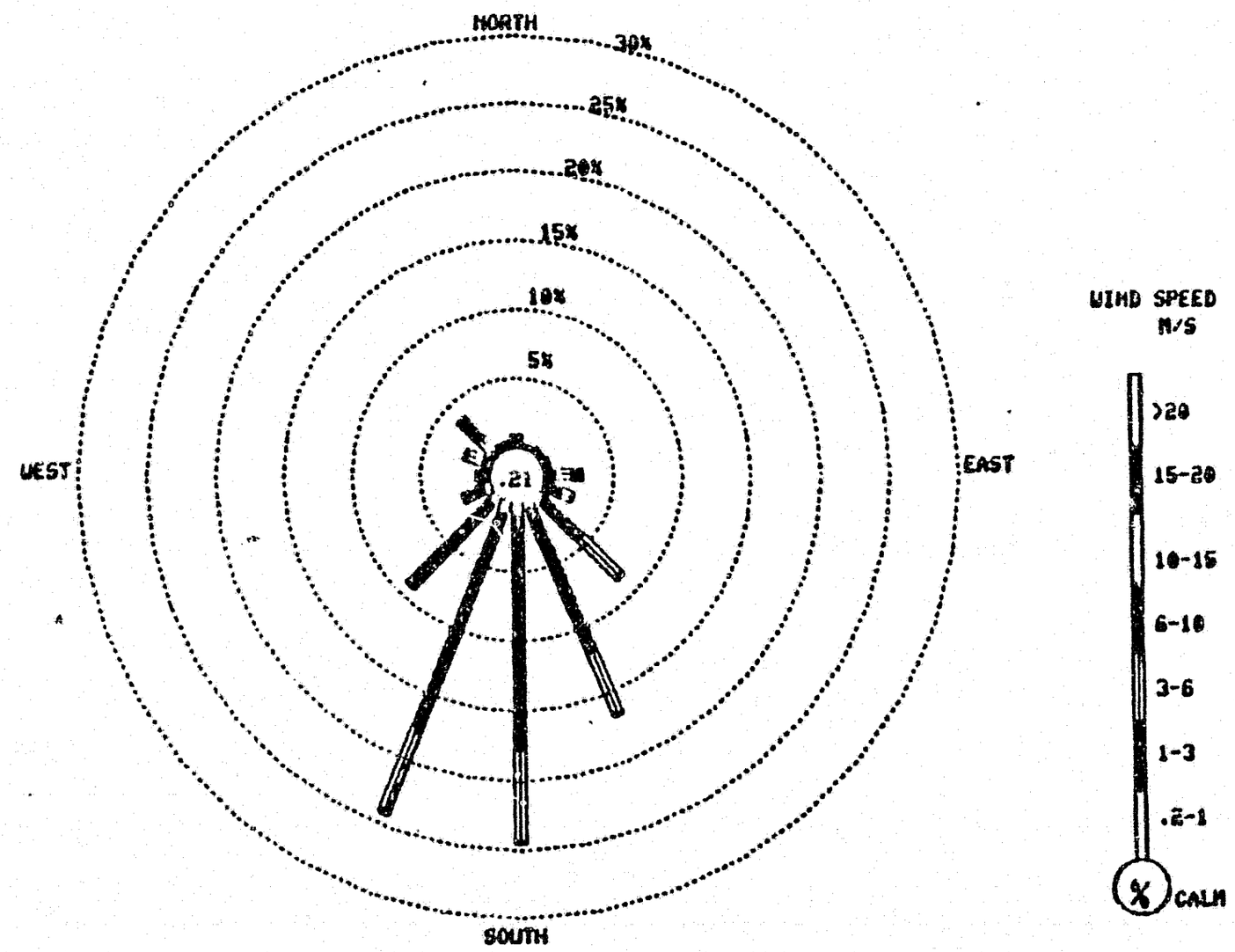
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2361 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

NOVEMBER, 1980




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 KOSINA CREEK 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 | -14.3 | -21.2 | 56 | 162 | 4.8 | 157 | 7.6 | 001 |
| 0600 | -15.4 | -21.5 | 60 | 149 | 4.3 | 131 | 7.0 | 001 |
| 0900 | -17.4 | -23.0 | 62 | 162 | 3.7 | 145 | 7.0 | 001 |
| 1200 | -16.1 | -22.1 | 60 | 175 | 3.3 | 173 | 6.3 | 004 |
| 1500 | ***** | ***** | 63 | 158 | 3.7 | 153 | 7.0 | 001 |
| 1800 | -17.3 | -22.4 | 65 | 156 | 3.6 | 144 | 7.0 | 001 |
| 2100 | -17.7 | -23.1 | 63 | 154 | 4.5 | 155 | 7.6 | 001 |
| 2400 | -17.5 | -22.4 | 66 | 151 | 4.4 | 152 | 7.0 | 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 | -17.1 | -22.3 | 64 | 154 | 2.7 | 129 | 6.3 | 001 |
| 0600 | -17.8 | -22.7 | 66 | 154 | 3.9 | 145 | 7.6 | 001 |
| 0900 | -17.6 | -22.6 | 65 | 147 | 5.0 | 142 | 7.6 | 001 |
| 1200 | ***** | ***** | 61 | 142 | 4.2 | 138 | 7.0 | 006 |
| 1500 | -17.5 | -21.7 | 70 | 146 | 4.6 | 142 | 8.3 | 001 |
| 1800 | -17.0 | -21.6 | 68 | 141 | 6.3 | 137 | 8.9 | 001 |
| 2100 | -17.2 | -21.7 | 68 | 144 | 5.2 | 144 | 8.3 | 001 |
| 2400 | -15.5 | -21.0 | 63 | 160 | 3.8 | 151 | 6.3 | 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 | -15.7 | -21.0 | 64 | 163 | 3.0 | 151 | 6.3 | 001 |
| 0600 | ***** | ***** | 66 | 152 | 5.1 | 156 | 8.3 | 001 |
| 0900 | -15.6 | -20.6 | 66 | 153 | 4.8 | 155 | 7.6 | 002 |
| 1200 | ***** | ***** | 60 | 158 | 3.8 | 161 | 7.0 | 007 |
| 1500 | ***** | ***** | 65 | 157 | 4.2 | 140 | 7.6 | 001 |
| 1800 | -17.2 | -21.4 | 70 | 148 | 4.8 | 144 | 7.6 | 001 |
| 2100 | -17.1 | -21.3 | 70 | 159 | 4.0 | 146 | 7.0 | 001 |
| 2400 | -18.5 | -22.3 | 72 | 176 | 3.2 | 171 | 5.7 | 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 | -19.2 | -22.2 | 77 | 192 | 2.6 | 169 | 5.1 | 001 |
| 0600 | ***** | ***** | 76 | 194 | 2.2 | 222 | 3.8 | 001 |
| 0900 | -18.6 | -21.8 | 76 | 168 | 3.3 | 146 | 7.6 | 001 |
| 1200 | -15.2 | -19.8 | 68 | 165 | 2.4 | 149 | 5.1 | 004 |
| 1500 | -17.4 | -20.8 | 75 | 147 | 3.6 | 140 | 7.0 | 001 |
| 1800 | -18.0 | -21.4 | 75 | 162 | 3.9 | 143 | 6.3 | 001 |
| 2100 | -17.2 | -20.6 | 75 | 182 | 2.4 | 161 | 5.1 | 001 |
| 2400 | -17.5 | -20.7 | 76 | 162 | 2.7 | 149 | 5.1 | 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 | ***** | ***** | 76 | 169 | 2.3 | 141 | 4.4 | 001 |
| 0600 | -18.7 | -21.8 | 77 | 165 | 1.9 | 163 | 5.1 | 001 |
| 0900 | ***** | ***** | ** | 166 | 2.3 | 130 | 5.1 | *** |
| 1200 | -13.5 | -17.5 | 72 | 140 | 3.5 | 138 | 5.7 | 005 |
| 1500 | -15.9 | -18.9 | 78 | 156 | 2.8 | 163 | 5.1 | 001 |
| 1800 | -15.7 | -18.7 | 78 | 142 | 3.6 | 144 | 6.3 | 001 |
| 2100 | -18.0 | -20.8 | 79 | 144 | 3.1 | 128 | 5.1 | 001 |
| 2400 | -18.9 | -21.4 | 81 | 182 | 2.3 | 161 | 4.4 | 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 | -17.1 | -19.8 | 80 | 164 | 2.3 | 123 | 5.1 | 001 |
| 0600 | -17.3 | -19.5 | 83 | 176 | 1.5 | 142 | 3.8 | 001 |
| 0900 | -16.4 | ***** | 83 | 197 | .5 | 140 | 1.9 | 001 |
| 1200 | -17.2 | -24.0 | 56 | 220 | .7 | 278 | 2.5 | 007 |
| 1500 | -21.6 | -25.3 | 72 | 184 | 1.3 | 160 | 3.8 | 001 |
| 1800 | -23.1 | -26.6 | 73 | 181 | 2.0 | 219 | 3.8 | 001 |
| 2100 | -21.4 | -25.0 | 73 | 179 | 2.6 | 167 | 5.1 | 001 |
| 2400 | -22.6 | -26.1 | 73 | 193 | 2.5 | 194 | 3.8 | 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 | -25.2 | -28.2 | 76 | 202 | 2.1 | 180 | 5.1 | 001 |
| 0600 | -21.7 | -25.0 | 75 | 163 | 3.0 | 143 | 5.1 | 001 |
| 0900 | -22.9 | -26.7 | 71 | 194 | 2.9 | 188 | 5.7 | 001 |
| 1200 | -23.2 | ***** | ** | 188 | 2.5 | 161 | 6.3 | *** |
| 1500 | -21.2 | -26.8 | 61 | 198 | 2.7 | 206 | 4.4 | 001 |
| 1800 | ***** | ***** | 50 | 192 | 2.1 | 183 | 4.4 | 001 |
| 2100 | -19.6 | -27.9 | 48 | 180 | 2.7 | 164 | 5.1 | 002 |
| 2400 | -19.6 | -28.8 | 44 | 173 | 2.5 | 153 | 5.7 | 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 | -21.8 | -30.1 | 47 | 178 | 3.0 | 186 | 6.3 | 002 |
| 0600 | -22.7 | -30.7 | 48 | 176 | 3.3 | 166 | 5.7 | 001 |
| 0900 | -21.2 | -29.4 | 48 | 175 | 2.6 | 165 | 5.7 | 002 |
| 1200 | ***** | ***** | 38 | 168 | 3.7 | 160 | 7.0 | 006 |
| 1500 | -19.6 | -28.6 | 45 | 201 | 2.4 | *** | 5.7 | 002 |
| 1800 | ***** | ***** | 46 | 199 | 2.6 | 217 | 4.4 | 001 |
| 2100 | -22.3 | -29.9 | 50 | 201 | 2.5 | 192 | 5.1 | 001 |
| 2400 | ***** | ***** | 51 | 214 | 2.5 | 213 | 4.4 | 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 | -22.2 | -29.6 | 51 | 196 | 2.0 | 217 | 3.8 | 001 |
| 0600 | -22.2 | -29.8 | 50 | 202 | 2.4 | 215 | 4.4 | 001 |
| 0900 | -21.3 | -29.0 | 50 | 163 | 4.0 | 168 | 7.6 | 002 |
| 1200 | ***** | ***** | 48 | 152 | 5.2 | 146 | 8.3 | 006 |
| 1500 | -24.3 | -31.4 | 52 | 140 | 6.1 | 143 | 8.3 | 001 |
| 1800 | -24.4 | -31.5 | 52 | 148 | 6.0 | 145 | 9.5 | 001 |
| 2100 | ***** | ***** | 52 | 145 | 4.8 | 147 | 7.6 | 001 |
| 2400 | -25.1 | -31.9 | 53 | 137 | 7.0 | 132 | 7.6 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | ***** | ***** | 55 | 136 | 5.5 | 130 | 8.3 | 001 |
| 0600 | -25.7 | -31.7 | 57 | 149 | 4.5 | 142 | 8.3 | 001 |
| 0900 | -24.5 | -29.6 | 63 | 178 | 2.4 | 149 | 5.1 | 001 |
| 1200 | -23.4 | -31.0 | 50 | 199 | 2.1 | 194 | 4.4 | 006 |
| 1500 | ***** | ***** | 60 | 215 | 1.7 | 222 | 2.5 | 001 |
| 1800 | -24.5 | -29.6 | 63 | 195 | 2.1 | 149 | 4.4 | 001 |
| 2100 | ***** | ***** | 63 | 198 | 2.1 | 210 | 3.8 | 001 |
| 2400 | ***** | ***** | 65 | 188 | 1.9 | 176 | 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 | -28.3 | -32.8 | 65 | 194 | 1.9 | 222 | 3.8 | 001 |
| 0600 | -28.2 | -32.3 | 68 | 220 | 2.3 | 223 | 4.4 | 001 |
| 0900 | -29.9 | -34.1 | 67 | 211 | 2.8 | 197 | 4.4 | 001 |
| 1200 | ***** | ***** | 57 | 189 | 2.2 | 156 | 5.7 | 008 |
| 1500 | -28.8 | -33.5 | 64 | 152 | 2.2 | 128 | 7.0 | 001 |
| 1800 | -32.0 | -36.2 | 66 | 172 | 2.7 | 177 | 5.1 | 001 |
| 2100 | -33.7 | -38.3 | 63 | 210 | 2.4 | 162 | 3.8 | 001 |
| 2400 | -32.0 | -36.5 | 64 | 203 | 2.6 | 192 | 5.1 | 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 | -32.8 | -37.4 | 63 | 196 | 3.0 | 191 | 3.8 | 001 |
| 0600 | -33.1 | -37.7 | 63 | 200 | 2.6 | 201 | 4.4 | 001 |
| 0900 | -33.5 | -38.3 | 62 | 179 | 2.4 | 169 | 4.4 | 002 |
| 1200 | ***** | ***** | 53 | 198 | 2.9 | 191 | 5.1 | 021 |
| 1500 | -32.9 | -37.7 | 62 | 183 | 2.9 | 198 | 4.4 | 001 |
| 1800 | -33.8 | -38.4 | 63 | 184 | 2.8 | 167 | 5.1 | 001 |
| 2100 | -33.4 | -38.0 | 63 | 172 | 2.9 | 152 | 5.7 | 001 |
| 2400 | -27.2 | -32.0 | 64 | 171 | 6.3 | 156 | 5.1 | 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 | -23.9 | -28.0 | 69 | 147 | 4.2 | 154 | 7.0 | 001 |
| 0600 | ***** | ***** | 74 | 133 | 5.2 | 133 | 7.6 | 001 |
| 0900 | -24.4 | -27.6 | 75 | 134 | 5.9 | 142 | 8.3 | 001 |
| 1200 | ***** | ***** | 74 | 130 | 4.2 | 122 | 7.0 | 005 |
| 1500 | -22.1 | -25.8 | 72 | 119 | 2.6 | *** | 5.7 | 001 |
| 1800 | -22.0 | -25.7 | 72 | 125 | 3.4 | 132 | 5.7 | 001 |
| 2100 | -23.5 | -26.9 | 74 | 142 | 4.4 | 149 | 6.3 | 001 |
| 2400 | -23.7 | -26.9 | 75 | 149 | 3.1 | 139 | 5.1 | 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 | -20.7 | -24.9 | 82 | 351 | .9 | 352 | 3.2 | 001 |
| 0600 | -22.2 | ***** | 82 | 338 | 1.3 | 355 | 3.2 | 001 |
| 0900 | -22.0 | -24.3 | 82 | 012 | 2.2 | 011 | 3.8 | 001 |
| 1200 | -23.3 | -25.8 | 80 | 013 | 2.6 | 015 | 4.4 | 007 |
| 1500 | -25.0 | -27.6 | 79 | 359 | 1.2 | 327 | 3.2 | 001 |
| 1800 | -27.4 | -30.2 | 77 | 198 | 1.6 | 185 | 4.4 | 001 |
| 2100 | -27.0 | -29.8 | 77 | 203 | 1.1 | 198 | 3.2 | 001 |
| 2400 | -29.3 | -32.3 | 75 | 219 | 1.1 | 189 | 2.5 | 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 | -28.8 | -31.8 | 75 | 214 | 1.4 | 225 | 3.2 | 001 |
| 0600 | -27.7 | ***** | 76 | 202 | .6 | 195 | 1.9 | 001 |
| 0900 | -30.3 | -33.4 | 74 | 196 | 1.3 | 191 | 3.8 | 001 |
| 1200 | -30.0 | -34.6 | 64 | 195 | 1.6 | 214 | 3.2 | 020 |
| 1500 | -31.4 | -35.3 | 68 | 194 | 1.7 | 198 | 3.2 | 001 |
| 1800 | -31.8 | -35.7 | 68 | 199 | 2.4 | 180 | 3.8 | 001 |
| 2100 | -33.0 | -37.0 | 67 | 212 | 1.5 | 189 | 3.8 | 001 |
| 2400 | -31.8 | -36.0 | 66 | 191 | 1.8 | 150 | 3.8 | 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 | -33.5 | -37.2 | 69 | 203 | 1.6 | 209 | 3.2 | 001 |
| 0600 | -31.9 | -35.8 | 68 | 184 | 1.4 | 148 | 3.8 | 001 |
| 0900 | -32.4 | -36.5 | 67 | 174 | 2.2 | 170 | 3.8 | 002 |
| 1200 | -31.7 | -38.1 | 53 | 170 | 2.0 | 150 | 4.4 | 021 |
| 1500 | -33.2 | -38.3 | 60 | 179 | 2.6 | 138 | 5.1 | 001 |
| 1800 | -32.6 | -37.7 | 60 | 168 | 2.4 | 147 | 4.4 | 001 |
| 2100 | -33.8 | -39.0 | 59 | 188 | 1.9 | 180 | 3.8 | 001 |
| 2400 | -32.0 | -37.2 | 60 | 187 | 2.4 | 159 | 5.1 | 002 |

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 | -34.1 | -39.6 | 57 | 191 | 2.3 | 210 | 3.8 | 001 |
| 0600 | -30.2 | -36.0 | 57 | 189 | 3.0 | 167 | 5.1 | 001 |
| 0900 | -30.9 | -36.6 | 57 | 184 | 2.1 | 162 | 5.7 | 002 |
| 1200 | -29.5 | -36.6 | 50 | 170 | 3.0 | 160 | 6.3 | 023 |
| 1500 | -27.8 | -34.4 | 53 | 175 | 3.2 | 157 | 7.6 | 001 |
| 1800 | -30.2 | -36.5 | 54 | 150 | 4.8 | 135 | 8.9 | 001 |
| 2100 | -31.1 | -37.0 | 56 | 143 | 6.9 | 139 | 10.2 | 001 |
| 2400 | -31.2 | -36.9 | 57 | 148 | 6.3 | 148 | 9.5 | 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 | -27.3 | -33.8 | 54 | 173 | 4.2 | 149 | 9.5 | 001 |
| 0600 | -26.6 | -33.3 | 53 | 170 | 5.0 | 170 | 8.3 | 001 |
| 0900 | -27.5 | -34.0 | 54 | 171 | 3.2 | 159 | 6.3 | 002 |
| 1200 | -27.8 | -36.3 | 44 | 171 | 3.5 | 153 | 6.3 | 015 |
| 1500 | -28.8 | -35.2 | 54 | 162 | 3.9 | 136 | 8.3 | 001 |
| 1800 | -28.1 | -34.4 | 55 | 151 | 5.9 | 148 | 8.9 | 001 |
| 2100 | -27.2 | -33.5 | 55 | 159 | 4.8 | 159 | 7.6 | 001 |
| 2400 | -24.6 | -31.5 | 53 | 159 | 5.3 | 140 | 8.9 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -24.1 | -30.8 | 54 | 174 | 4.4 | 150 | 8.3 | 001 |
| 0600 | -27.7 | -33.8 | 56 | 158 | 5.1 | 148 | 8.3 | 001 |
| 0900 | -25.8 | -31.8 | 57 | 165 | 5.2 | 152 | 9.5 | 002 |
| 1200 | ***** | ***** | 46 | 150 | 4.3 | 142 | 8.3 | 011 |
| 1500 | -27.2 | -33.1 | 57 | 151 | 3.4 | 149 | 5.7 | 001 |
| 1800 | -27.0 | -32.6 | 59 | 175 | 2.6 | 202 | 4.4 | 001 |
| 2100 | -27.8 | -33.4 | 59 | 176 | 2.8 | 149 | 5.1 | 001 |
| 2400 | -23.2 | -29.6 | 56 | 188 | 2.5 | 204 | 4.4 | 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 | ***** | ***** | 56 | 182 | 2.8 | 176 | 5.1 | 001 |
| 0600 | -28.0 | -34.3 | 55 | 167 | 3.3 | 148 | 5.1 | 001 |
| 0900 | ***** | ***** | 53 | 181 | 3.3 | 154 | 6.3 | 002 |
| 1200 | -21.5 | -31.8 | 39 | 158 | 3.7 | 141 | 6.3 | 012 |
| 1500 | -23.4 | -31.6 | 47 | 150 | 4.5 | 146 | 6.3 | 002 |
| 1800 | -20.3 | -29.2 | 45 | 164 | 4.0 | 156 | 5.7 | 002 |
| 2100 | -19.1 | -28.9 | 42 | 194 | 2.9 | 187 | 4.4 | 002 |
| 2400 | -18.6 | -29.2 | 39 | 169 | 3.3 | 153 | 5.7 | 002 |

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 | -21.2 | -31.0 | 41 | 165 | 3.4 | 152 | 5.7 | 002 |
| 0600 | ***** | ***** | 40 | 162 | 3.9 | 150 | 5.7 | 002 |
| 0900 | -17.2 | -27.7 | 40 | 167 | 3.4 | 164 | 5.7 | 002 |
| 1200 | ***** | ***** | 27 | 167 | 3.1 | 161 | 5.7 | 012 |
| 1500 | -16.8 | -28.7 | 35 | 181 | 3.2 | 147 | 6.3 | 002 |
| 1800 | ***** | ***** | 36 | 163 | 3.7 | 158 | 6.3 | 002 |
| 2100 | -19.4 | -30.2 | 38 | 151 | 5.6 | 143 | 8.3 | 002 |
| 2400 | -18.2 | -29.1 | 38 | 167 | 4.5 | 160 | 7.6 | 002 |

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 | -20.8 | -31.2 | 39 | 147 | 6.3 | 154 | 8.3 | 002 |
| 0600 | -20.8 | -31.2 | 39 | 155 | 4.4 | 143 | 7.0 | 002 |
| 0900 | -21.1 | -30.7 | 42 | 167 | 3.5 | 147 | 6.3 | 002 |
| 1200 | ***** | ***** | 35 | 186 | 3.2 | 182 | 5.1 | 012 |
| 1500 | -21.6 | -30.4 | 45 | 165 | 3.9 | 140 | 10.2 | 002 |
| 1800 | -20.8 | -30.2 | 43 | 144 | 7.3 | 136 | 10.2 | 002 |
| 2100 | ***** | ***** | 44 | 161 | 4.8 | 141 | 7.6 | 002 |
| 2400 | -21.3 | -30.4 | 44 | 166 | 3.5 | 160 | 6.3 | 002 |

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 | -20.3 | -29.7 | 43 | 160 | 4.8 | 151 | 7.0 | 002 |
| 0600 | -21.9 | -30.7 | 45 | 162 | 4.9 | 172 | 7.6 | 002 |
| 0900 | -22.3 | -31.0 | 45 | 159 | 4.8 | 159 | 7.7 | 002 |
| 1200 | -20.1 | -30.3 | 40 | 153 | 6.1 | 152 | 8.3 | 012 |
| 1500 | ***** | ***** | 43 | 177 | 3.6 | 166 | 7.6 | 002 |
| 1800 | ***** | ***** | 44 | 180 | 3.0 | 162 | 6.3 | 001 |
| 2100 | -19.1 | -27.9 | 46 | 174 | 3.3 | 165 | 8.3 | 002 |
| 2400 | -16.3 | -25.8 | 44 | 166 | 3.6 | 142 | 7.0 | 002 |

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 | -15.0 | -25.1 | 42 | 162 | 3.8 | 151 | 7.0 | 002 |
| 0600 | -15.6 | -24.9 | 43 | 174 | 3.1 | 153 | 7.0 | 001 |
| 0900 | -16.1 | -25.1 | 46 | 160 | 4.2 | 150 | 7.6 | 002 |
| 1200 | -16.1 | -26.4 | 41 | 158 | 4.3 | 146 | 8.3 | 012 |
| 1500 | ***** | ***** | 48 | 148 | 5.9 | 143 | 9.5 | 001 |
| 1800 | -21.8 | -29.3 | 51 | 144 | 6.7 | 144 | 9.5 | 001 |
| 2100 | -22.3 | -29.5 | 52 | 141 | 5.7 | 139 | 7.6 | 001 |
| 2400 | -21.3 | -28.8 | 51 | 144 | 4.7 | 138 | 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 | -21.3 | -28.8 | 51 | 159 | 3.9 | 140 | 6.3 | 001 |
| 0600 | ***** | ***** | 52 | 161 | 3.4 | 170 | 5.7 | 001 |
| 0900 | -20.3 | -27.9 | 51 | 167 | 3.1 | 169 | 5.7 | 002 |
| 1200 | -19.5 | -29.7 | 40 | 168 | 2.9 | 151 | 6.3 | 011 |
| 1500 | -23.5 | -30.0 | 55 | 174 | 2.4 | 150 | 5.7 | 001 |
| 1800 | -22.6 | -29.0 | 56 | 185 | 2.5 | 150 | 5.1 | 001 |
| 2100 | -23.3 | -29.5 | 57 | 196 | 2.4 | 165 | 5.1 | 001 |
| 2400 | -24.5 | -30.6 | 57 | 188 | 1.8 | 160 | 5.1 | 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 | -23.8 | -30.0 | 57 | 201 | 2.1 | 171 | 5.1 | 001 |
| 0600 | -24.8 | -31.1 | 56 | 188 | 2.4 | 187 | 4.4 | 001 |
| 0900 | -24.7 | -31.2 | 55 | 202 | 1.7 | 196 | 4.4 | 001 |
| 1200 | -23.5 | -32.6 | 43 | 195 | 2.5 | 199 | 4.4 | 012 |
| 1500 | ***** | ***** | 52 | 190 | 1.8 | 165 | 3.8 | 001 |
| 1800 | -27.0 | -33.7 | 53 | 202 | 2.3 | 204 | 5.1 | 001 |
| 2100 | -23.9 | -30.8 | 53 | 205 | 3.0 | 209 | 5.1 | 001 |
| 2400 | -27.0 | -33.5 | 54 | 202 | 2.8 | 177 | 5.1 | 002 |

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 | -25.2 | -32.2 | 52 | 214 | 2.2 | 179 | 4.4 | 001 |
| 0600 | -26.6 | -33.5 | 52 | 209 | 2.4 | 217 | 4.4 | 001 |
| 0900 | -26.8 | -33.5 | 53 | 175 | 2.1 | 179 | 5.1 | 002 |
| 1200 | -26.1 | -33.9 | 48 | 169 | 2.2 | 145 | 7.0 | 012 |
| 1500 | -27.0 | -33.7 | 53 | 178 | 3.8 | 165 | 7.0 | 001 |
| 1800 | -20.3 | -26.7 | 57 | 183 | 2.6 | 142 | 7.0 | 001 |
| 2100 | -29.1 | -35.1 | 56 | 190 | 2.3 | 150 | 5.1 | 001 |
| 2400 | -30.6 | -36.3 | 57 | 186 | 2.8 | 167 | 5.1 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -31.8 | -37.5 | 57 | 202 | 2.8 | 204 | [illegible] | 001 |
| 0600 | -28.7 | -35.1 | 54 | 188 | 2.9 | 195 | 4.4 | 001 |
| 0900 | -30.2 | -36.3 | 55 | 190 | 3.5 | 182 | 5.7 | 001 |
| 1200 | ***** | ***** | 46 | 181 | 6.1 | 175 | 7.0 | 013 |
| 1500 | -25.3 | -32.3 | 52 | 171 | 4.0 | 161 | 7.0 | 001 |
| 1800 | -27.0 | -33.5 | 54 | 155 | 5.2 | 158 | 7.6 | 002 |
| 2100 | -27.5 | -34.0 | 54 | 158 | 5.8 | 153 | 8.9 | 001 |
| 2400 | -26.3 | -32.9 | 54 | 153 | 6.7 | 146 | 9.5 | 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 | -27.2 | -33.0 | 58 | 147 | 6.9 | 148 | 9.5 | 001 |
| 0600 | -29.4 | -34.7 | 60 | 145 | 8.1 | 133 | 11.4 | 001 |
| 0900 | -26.1 | -31.6 | 60 | 142 | 7.5 | 134 | 11.4 | 001 |
| 1200 | -24.5 | -30.1 | 60 | 148 | 6.1 | 152 | 8.9 | 006 |
| 1500 | ***** | ***** | 62 | 144 | 6.7 | 144 | 9.5 | 001 |
| 1800 | -20.6 | -24.7 | 70 | 132 | 7.6 | 130 | 10.8 | 001 |
| 2100 | ***** | ***** | 80 | 136 | 6.2 | 139 | 8.9 | 001 |
| 2400 | -20.4 | -23.9 | 74 | 133 | 5.4 | 102 | 10.2 | 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 | -18.7 | -22.1 | 75 | 150 | 5.0 | 160 | 7.0 | 001 |
| 0600 | -15.3 | -17.4 | 84 | 148 | 3.5 | 141 | 5.1 | 001 |
| 0900 | -14.1 | -15.8 | 87 | 165 | 1.8 | 141 | 4.4 | 001 |
| 1200 | -11.5 | -13.7 | 84 | 174 | 1.6 | 212 | 3.8 | 004 |
| 1500 | ***** | ***** | 88 | 160 | 2.0 | 146 | 5.1 | 001 |
| 1800 | -11.3 | -13.4 | 85 | 189 | 2.0 | 156 | 3.8 | 001 |
| 2100 | -9.7 | -10.6 | 93 | 182 | 1.6 | 168 | 3.2 | 001 |
| 2400 | -6.7 | -7.8 | 92 | 142 | 1.5 | 112 | 5.7 | 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 | -5.3 | -6.7 | 90 | 158 | 1.1 | 098 | 3.2 | 001 |
| 0600 | -1.2 | -2.1 | 94 | 106 | 4.2 | 102 | 15.9 | 001 |
| 0900 | 1.4 | -.4 | 88 | 111 | 6.9 | 100 | 15.9 | 001 |
| 1200 | ***** | ***** | 84 | 097 | 10.4 | 093 | 15.9 | 009 |
| 1500 | ***** | ***** | 88 | 094 | 7.2 | 092 | 14.6 | 001 |
| 1800 | 1.2 | -1.2 | 84 | 146 | 8.2 | 148 | 15.2 | 001 |
| 2100 | .1 | -.6 | 95 | 096 | 10.1 | 090 | 14.6 | 001 |
| 2400 | -1.6 | -2.2 | 96 | 146 | 1.7 | 103 | 8.3 | 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

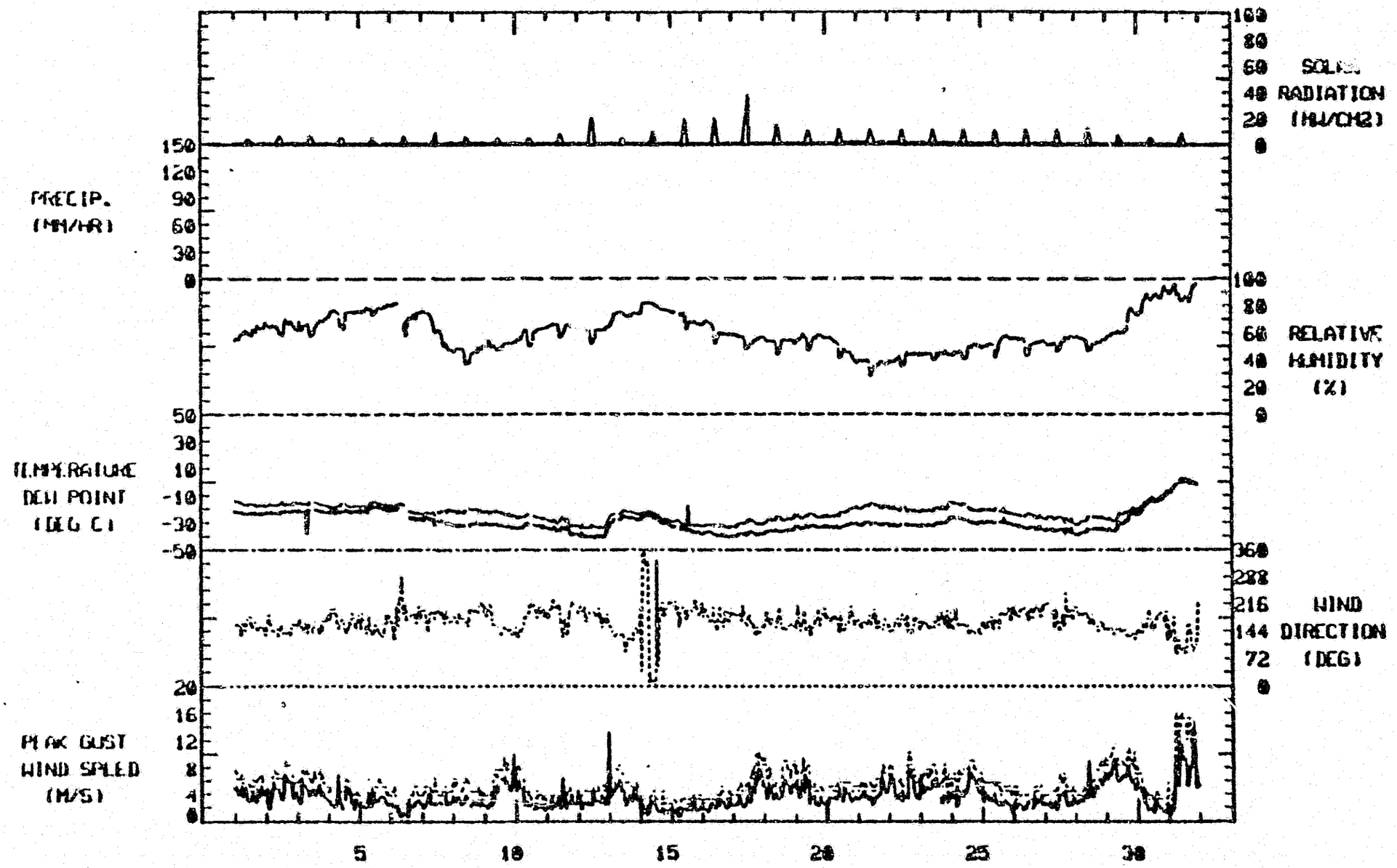
MONTHLY SUMMARY FOR KUSIHA CREEK WEATHER STATION
DATA TAKEN DURING DECEMBER , 1980

| 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 | -13.5 | -18.8 | -16.2 | 158 | 4.0 | 4.1 | 157 | 7.6 | SSE | 61 | -22.2 | **** | 353 | 01 |
| 02 | -13.9 | -18.6 | -16.3 | 148 | 4.4 | 4.6 | 137 | 8.9 | SE | 65 | -22.0 | **** | 408 | 02 |
| 03 | -13.2 | -18.5 | -15.9 | 157 | 4.1 | 4.2 | 156 | 8.3 | SSE | 66 | -21.3 | **** | 425 | 03 |
| 04 | -14.8 | -19.9 | -17.4 | 170 | 2.8 | 3.0 | 146 | 7.6 | SSE | 74 | -21.1 | **** | 413 | 04 |
| 05 | -13.5 | -18.9 | -16.2 | 155 | 2.6 | 2.9 | 144 | 6.3 | SSE | 77 | -19.8 | **** | 345 | 05 |
| 06 | -15.9 | -25.0 | -20.5 | 181 | 1.6 | 1.9 | 123 | 5.1 | SSW | 75 | -23.8 | **** | 387 | 06 |
| 07 | -19.1 | -27.3 | -23.2 | 185 | 2.5 | 2.7 | 161 | 6.3 | SSW | 63 | -27.2 | **** | 405 | 07 |
| 08 | -18.3 | -24.7 | -21.5 | 186 | 2.7 | 2.9 | 160 | 7.0 | S | 46 | -29.7 | **** | 495 | 08 |
| 09 | -20.2 | -26.3 | -23.3 | 153 | 4.4 | 4.7 | 145 | 9.5 | SE | 51 | -30.5 | **** | 403 | 09 |
| 10 | -22.2 | -29.3 | -25.8 | 169 | 2.6 | 3.0 | 130 | 8.3 | SSW | 59 | -30.5 | **** | 375 | 10 |
| 11 | -26.2 | -34.9 | -30.6 | 195 | 2.3 | 2.7 | 128 | 7.0 | SSW | 64 | -34.8 | **** | 443 | 11 |
| 12 | -27.2 | -35.7 | -31.5 | 183 | 3.2 | 3.4 | 152 | 5.7 | SSW | 61 | -37.1 | **** | 855 | 12 |
| 13 | -21.1 | -27.7 | -24.4 | 135 | 4.1 | 4.2 | 142 | 8.3 | SE | 73 | -26.8 | **** | 345 | 13 |
| 14 | -21.9 | -29.5 | -25.7 | 345 | .6 | 1.7 | 015 | 4.4 | N | 79 | -27.9 | **** | 470 | 14 |
| 15 | -27.6 | -33.5 | -30.5 | 200 | 1.5 | 1.7 | 191 | 3.8 | S | 70 | -34.9 | **** | 787 | 15 |
| 16 | -30.0 | -34.6 | -32.3 | 181 | 2.0 | 2.3 | 138 | 5.1 | SSE | 62 | -37.5 | **** | 825 | 16 |
| 17 | -27.3 | -34.8 | -31.1 | 161 | 3.8 | 4.1 | 139 | 10.2 | SSE | 55 | -36.7 | **** | 1163 | 17 |
| 18 | -24.6 | -31.0 | -27.8 | 163 | 4.5 | 4.6 | 149 | 9.5 | SSE | 53 | -34.0 | **** | 665 | 18 |
| 19 | -22.1 | -28.7 | -25.4 | 165 | 3.7 | 4.0 | 152 | 9.5 | SSE | 55 | -32.2 | **** | 563 | 19 |
| 20 | -17.7 | -26.0 | -22.9 | 171 | 3.3 | 3.5 | 154 | 6.3 | SSE | 49 | -30.8 | **** | 638 | 20 |
| 21 | -14.9 | -21.2 | -18.0 | 164 | 3.8 | 4.0 | 143 | 8.3 | SSE | 37 | -29.3 | **** | 763 | 21 |
| 22 | -16.0 | -22.7 | -19.4 | 159 | 4.5 | 4.7 | 140 | 10.2 | SSE | 41 | -30.7 | **** | 720 | 22 |
| 23 | -16.1 | -22.7 | -19.4 | 165 | 4.2 | 4.4 | 152 | 8.3 | SSE | 44 | -29.2 | **** | 690 | 23 |
| 24 | -14.2 | -22.7 | -18.5 | 152 | 4.7 | 4.9 | 143 | 9.5 | SSE | 47 | -27.0 | **** | 615 | 24 |
| 25 | -18.6 | -24.6 | -21.6 | 172 | 2.7 | 2.9 | 140 | 6.3 | SSE | 53 | -29.4 | **** | 568 | 25 |
| 26 | -22.6 | -27.9 | -25.3 | 199 | 2.4 | 2.5 | 171 | 5.1 | SSW | 53 | -31.8 | **** | 580 | 26 |
| 27 | -23.9 | -31.9 | -27.9 | 188 | 2.4 | 2.8 | 145 | 7.0 | SSE | 53 | -33.1 | **** | 585 | 27 |
| 28 | -23.9 | -33.3 | -28.6 | 170 | 4.4 | 4.7 | 146 | 9.5 | SSE | 54 | -34.5 | **** | 573 | 28 |
| 29 | -17.7 | -29.8 | -23.8 | 141 | 6.8 | 6.9 | 133 | 11.4 | SE | 64 | -29.6 | **** | 428 | 29 |
| 30 | -6.6 | -20.2 | -13.4 | 160 | 2.3 | 2.5 | 160 | 7.0 | SSE | 85 | -14.4 | **** | 403 | 30 |
| 31 | 2.9 | -6.9 | -2.0 | 108 | 6.0 | 6.8 | 102 | 15.9 | E | 90 | -2.2 | **** | 493 | 31 |
| MONTH | 2.9 | -35.7 | -22.4 | 161 | 3.1 | 3.7 | 102 | 15.9 | SSE | 61 | -28.1 | **** | 17173 | |

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 15.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.6

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 KOSINA CREEK WEATHER STATION

DATA START: 01 DECEMBER , 1980

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING DECEMBER , 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 | 0.00 | .65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .65 |
| NNE | 0.00 | .27 | .27 | 0.00 | 0.00 | 0.00 | 0.00 | .53 |
| NE | .08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .08 |
| ENE | .04 | .08 | 0.00 | .04 | 0.00 | 0.00 | 0.00 | .15 |
| E | 0.00 | .11 | .11 | .30 | .84 | 0.00 | 0.00 | 1.37 |
| ESE | .08 | .34 | 1.10 | .19 | .08 | 0.00 | 0.00 | 1.78 |
| SE | .11 | .91 | 9.26 | 5.73 | 0.00 | 0.00 | .04 | 16.06 |
| SSE | .23 | 6.53 | 21.72 | 3.64 | 0.00 | 0.00 | 0.00 | 32.12 |
| S | .38 | 12.19 | 7.97 | .11 | 0.00 | 0.00 | .08 | 20.73 |
| SSW | .34 | 12.49 | 3.87 | .15 | 0.00 | 0.00 | 0.00 | 16.86 |
| SW | .34 | 6.26 | .65 | .15 | 0.00 | 0.00 | 0.00 | 7.40 |
| WSW | .23 | .76 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | 1.06 |
| W | .08 | .08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .15 |
| WNW | .15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .15 |
| NW | .11 | .19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .30 |
| NNW | .04 | .46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .49 |
| CALM | | | | | | | | .11 |
| TOTAL | 2.20 | 41.31 | 45.03 | 10.33 | .91 | 0.00 | .11 | 100.00 |

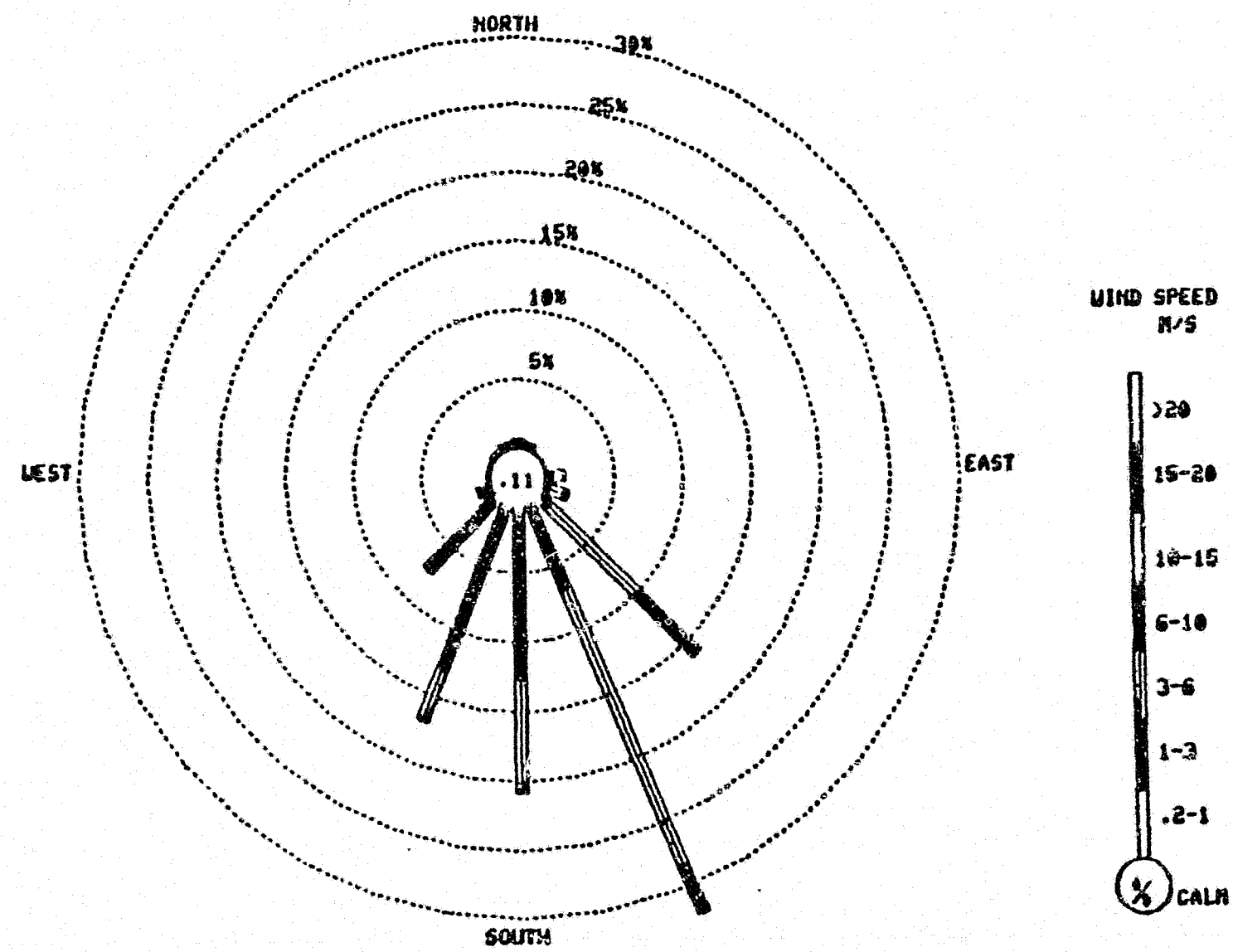
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2634 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

DECEMBER, 1980




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 KOSINA CREEK 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 | -4.9 | -6.0 | 92 | 209 | 2.5 | 190 | 5.1 | 001 |
| 0600 | -6.2 | -7.2 | 93 | 220 | 2.3 | 231 | 5.1 | 001 |
| 0900 | -.5 | -1.6 | 93 | 187 | 1.2 | 239 | 4.4 | 001 |
| 1200 | .2 | -1.7 | 87 | 216 | 1.3 | 203 | 3.8 | 000 |
| 1500 | ***** | ***** | 88 | 102 | 1.6 | 102 | 5.7 | 001 |
| 1800 | 1.0 | -.5 | 90 | 099 | 8.4 | 095 | 13.3 | 001 |
| 2100 | 1.2 | -.9 | 86 | 097 | 8.9 | 098 | 19.7 | 001 |
| 2400 | ***** | ***** | 79 | 142 | 8.5 | 145 | 15.2 | 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 | -1.5 | -5.2 | 76 | 148 | 5.0 | 125 | 11.4 | 001 |
| 0600 | -3.6 | -8.3 | 70 | 214 | 2.0 | 219 | 5.7 | 001 |
| 0900 | ***** | ***** | 79 | 217 | 1.6 | 162 | 3.8 | 001 |
| 1200 | -6.6 | -13.6 | 58 | 183 | 2.0 | 183 | 3.8 | 017 |
| 1500 | ***** | ***** | 77 | 202 | 1.6 | 204 | 3.8 | 001 |
| 1800 | -10.6 | -13.6 | 79 | 176 | 2.9 | 172 | 5.7 | 001 |
| 2100 | -12.6 | -15.1 | 82 | 182 | 2.5 | 175 | 5.1 | 001 |
| 2400 | -8.8 | -11.5 | 81 | 185 | 2.1 | 184 | 3.8 | 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 | -9.8 | -12.6 | 80 | 178 | 3.5 | 155 | 4.4 | 001 |
| 0600 | -11.2 | -13.1 | 86 | 192 | 2.4 | 156 | 4.4 | 001 |
| 0900 | -8.9 | -11.9 | 79 | 185 | 2.6 | 189 | 4.4 | 001 |
| 1200 | -8.6 | -13.2 | 70 | 189 | 2.5 | 173 | 4.4 | 024 |
| 1500 | -10.6 | -12.8 | 84 | 229 | 2.5 | 221 | 3.8 | 001 |
| 1800 | -11.3 | -13.5 | 84 | 219 | 2.9 | 218 | 5.1 | 001 |
| 2100 | -9.5 | -11.9 | 83 | 208 | 3.0 | 221 | 4.4 | 001 |
| 2400 | -8.4 | -10.1 | 88 | 206 | 2.4 | 226 | 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 | -7.2 | -9.8 | 82 | 176 | 2.4 | 173 | 4.4 | 001 |
| 0600 | -7.1 | -7.9 | 94 | 168 | 1.4 | 190 | 3.8 | 001 |
| 0900 | -7.2 | -8.3 | 92 | 148 | 2.0 | 151 | 4.4 | 001 |
| 1200 | -6.5 | -7.9 | 90 | 169 | 2.2 | 165 | 3.8 | 006 |
| 1500 | -6.9 | -8.3 | 90 | 169 | 3.0 | 160 | 5.1 | 001 |
| 1800 | ***** | ***** | 91 | 157 | 2.9 | 150 | 5.1 | 001 |
| 2100 | -8.5 | -9.3 | 94 | 200 | 2.3 | 202 | 3.8 | 001 |
| 2400 | -12.5 | -13.7 | 91 | 212 | 2.2 | 191 | 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 | -10.0 | -11.1 | 92 | 191 | 2.1 | 193 | 3.8 | 001 |
| 0600 | -10.6 | -11.7 | 92 | 160 | 2.7 | 146 | 4.4 | 001 |
| 0900 | -9.7 | -12.7 | 79 | 166 | 2.6 | 165 | 4.4 | 001 |
| 1200 | -9.0 | -11.2 | 84 | 182 | 1.7 | 179 | 3.8 | 008 |
| 1500 | -11.1 | -12.9 | 87 | 176 | 2.3 | 194 | 3.8 | 001 |
| 1800 | -8.3 | -11.0 | 81 | 170 | 2.9 | 169 | 5.1 | 001 |
| 2100 | -9.4 | -11.9 | 82 | 174 | 2.7 | 141 | 5.7 | 001 |
| 2400 | -9.9 | -12.7 | 80 | 156 | 3.2 | 156 | 5.1 | 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 | -7.3 | -10.2 | 80 | 148 | 2.8 | 235 | 5.1 | 001 |
| 0600 | -8.5 | -10.5 | 86 | 114 | 1.1 | 077 | 5.7 | 001 |
| 0900 | -6.3 | -8.8 | 83 | 092 | 3.5 | 092 | 9.5 | 002 |
| 1200 | -5.8 | -8.3 | 83 | 107 | 6.5 | 103 | 10.2 | 009 |
| 1500 | -7.2 | -9.8 | 82 | 084 | 6.0 | 082 | 10.8 | 001 |
| 1800 | -7.2 | -9.8 | 82 | 074 | 1.7 | 084 | 8.9 | 001 |
| 2100 | -7.5 | -9.9 | 83 | 217 | 1.8 | 184 | 4.4 | 001 |
| 2400 | -7.0 | -9.4 | 83 | 138 | 5.0 | 143 | 8.9 | 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 | -5.8 | -8.1 | 84 | 168 | 1.9 | 138 | 8.3 | 001 |
| 0600 | -5.1 | -7.6 | 83 | 083 | 3.0 | 073 | 9.5 | 001 |
| 0900 | -3.1 | -6.5 | 79 | 200 | 1.1 | 309 | 5.1 | 001 |
| 1200 | -2.1 | ***** | 77 | 084 | .7 | 119 | 6.3 | 008 |
| 1500 | ***** | ***** | 75 | 139 | 2.4 | 112 | 5.7 | 001 |
| 1800 | -3.4 | -7.4 | 74 | 129 | 3.4 | 120 | 6.3 | 001 |
| 2100 | ***** | ***** | 79 | 140 | 2.6 | 119 | 8.9 | 001 |
| 2400 | -4.4 | -7.0 | 82 | 156 | 1.3 | 141 | 7.0 | 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 | -7.1 | -8.9 | 87 | 179 | 3.1 | 162 | 5.7 | 001 |
| 0600 | -9.5 | -10.9 | 90 | 185 | 2.6 | 206 | 4.4 | 001 |
| 0900 | -8.6 | -5.5 | 93 | 175 | 2.6 | 150 | 4.4 | 001 |
| 1200 | -6.8 | -7.9 | 92 | 170 | 2.5 | 153 | 4.4 | 010 |
| 1500 | -6.9 | -8.0 | 92 | 152 | 2.8 | 150 | 5.1 | 001 |
| 1800 | ***** | ***** | ** | 163 | 2.5 | 149 | 5.1 | *** |
| 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 KOSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 | 1.2 | -1.7 | 81 | 127 | 3.0 | 011 | 7.0 | 001 |
| 1800 | -2.5 | -4.9 | 84 | 153 | 1.5 | 123 | 5.1 | 001 |
| 2100 | -3.9 | -5.9 | 86 | 175 | 1.8 | 156 | 4.4 | 001 |
| 2400 | -4.1 | -5.4 | 91 | 147 | 2.8 | 138 | 5.1 | 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 | -4.2 | -5.5 | 91 | 187 | 2.8 | 176 | 4.4 | 001 |
| 0600 | -5.2 | -6.8 | 89 | 182 | 2.8 | 194 | 5.1 | 001 |
| 0900 | -6.5 | -8.3 | 87 | 161 | 2.3 | 157 | 5.7 | 002 |
| 1200 | -4.8 | -7.6 | 81 | 131 | 2.5 | 133 | 6.3 | 020 |
| 1500 | -4.3 | -7.1 | 81 | 185 | 1.9 | 190 | 3.8 | 002 |
| 1800 | -5.0 | -8.8 | 75 | 146 | .9 | 144 | 5.1 | 001 |
| 2100 | -4.2 | -7.5 | 78 | 320 | 1.4 | 352 | 7.0 | 001 |
| 2400 | ***** | ***** | ** | 075 | 4.4 | 072 | 8.9 | *** |

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 KUSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 KUSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |

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 KOSINA CREEK WEATHER STATION
DATA TAKEN DURING JANUARY , 1981

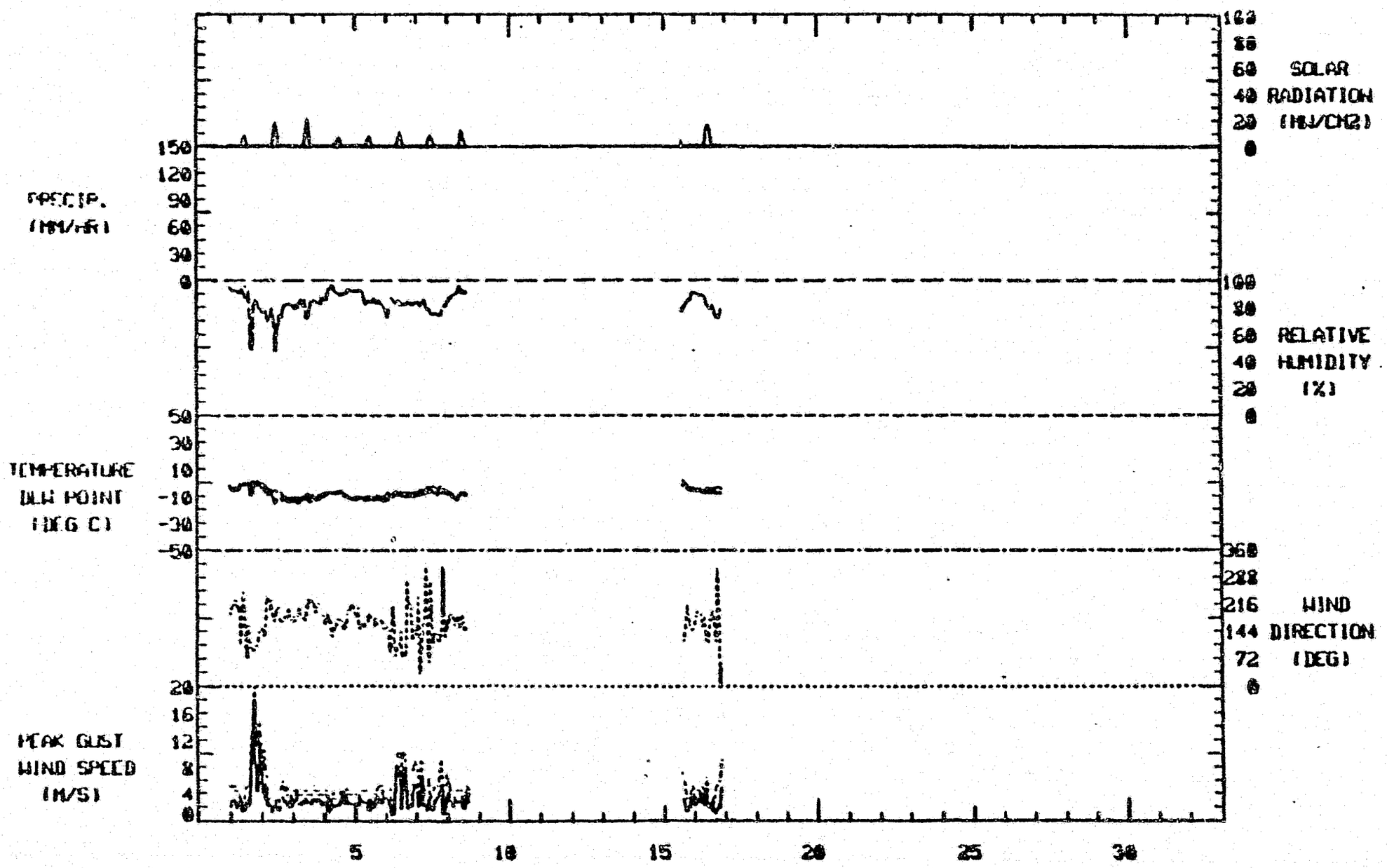
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 2.0 | -6.2 | -2.1 | 128 | 3.3 | 4.8 | 098 | 19.7 | E | 85 | -3.0 | **** | 450 | 01 |
| 02 | .1 | -12.6 | -6.3 | 181 | 2.3 | 2.7 | 125 | 11.4 | S | 75 | -11.2 | **** | 770 | 02 |
| 03 | -6.5 | -13.2 | -9.9 | 200 | 2.6 | 2.8 | 218 | 5.1 | SSW | 82 | -12.4 | **** | 808 | 03 |
| 04 | -5.9 | -13.7 | -9.8 | 175 | 2.2 | 2.4 | 160 | 5.1 | SSE | 91 | -9.3 | **** | 443 | 04 |
| 05 | -8.0 | -12.1 | -10.1 | 170 | 2.5 | 2.6 | 141 | 5.7 | SSE | 86 | -11.9 | **** | 468 | 05 |
| 06 | -6.1 | -9.5 | -7.8 | 112 | 3.0 | 4.0 | 082 | 10.8 | ESE | 82 | -9.6 | **** | 550 | 06 |
| 07 | -1.9 | -8.9 | -5.4 | 133 | 1.7 | 2.9 | 073 | 9.5 | SE | 79 | -7.3 | **** | 488 | 07 |
| 08 | ***** | ***** | ***** | 172 | 2.6 | 2.8 | 162 | 5.7 | SSE | 90 | -9.0 | **** | 754 | 08 |
| 09 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 09 |
| 10 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 10 |
| 11 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 11 |
| 12 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 12 |
| 13 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 13 |
| 14 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 14 |
| 15 | 2.6 | -4.9 | -1.1 | *** | **** | 2.4 | 011 | 7.0 | SE | 85 | -4.5 | **** | 322 | 15 |
| 16 | ***** | ***** | ***** | 166 | 1.5 | 2.5 | 072 | 8.9 | S | 83 | -7.4 | **** | 927 | 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 | 2.6 | -13.7 | -6.6 | 158 | 2.1 | 3.0 | 098 | 19.7 | SSE | 84 | -8.6 | **** | 5978 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 19.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 17.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.0

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 KOSINA CREEK WEATHER STATION

DATA START: 01 JANUARY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING JANUARY , 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 | .13 | .52 | .26 | 0.00 | 0.00 | 0.00 | 0.00 | .91 |
| NNE | .13 | .39 | .13 | 0.00 | 0.00 | 0.00 | 0.00 | .65 |
| NE | .13 | .26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .39 |
| ENE | .13 | 1.04 | .52 | 1.17 | 0.00 | 0.00 | 0.00 | 2.86 |
| E | .39 | .65 | 1.17 | 1.95 | .78 | .26 | .13 | 5.34 |
| ESE | .13 | 1.30 | 3.39 | 1.30 | 0.00 | 0.00 | 0.00 | 6.12 |
| SE | .13 | 4.04 | 4.82 | .78 | .52 | 0.00 | 0.00 | 10.29 |
| SSE | .13 | 13.15 | 7.55 | .52 | .13 | 0.00 | 0.00 | 21.48 |
| S | .13 | 14.71 | 4.43 | .13 | 0.00 | 0.00 | 0.00 | 19.40 |
| SSW | 0.00 | 11.33 | 3.78 | 0.00 | 0.00 | 0.00 | 0.00 | 15.10 |
| SW | .52 | 7.81 | 1.82 | 0.00 | 0.00 | 0.00 | 0.00 | 10.16 |
| WSW | .26 | 3.65 | .26 | 0.00 | 0.00 | 0.00 | 0.00 | 4.17 |
| W | .13 | 1.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.17 |
| WNW | .26 | .39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .65 |
| NW | 0.00 | .52 | .13 | 0.00 | 0.00 | 0.00 | 0.00 | .65 |
| NNW | .13 | .39 | .13 | 0.00 | 0.00 | 0.00 | 0.00 | .65 |
| CALM | | | | | | | | 0.00 |
| TOTAL | 2.73 | 61.20 | 28.39 | 5.86 | 1.43 | .26 | .13 | 100.00 |

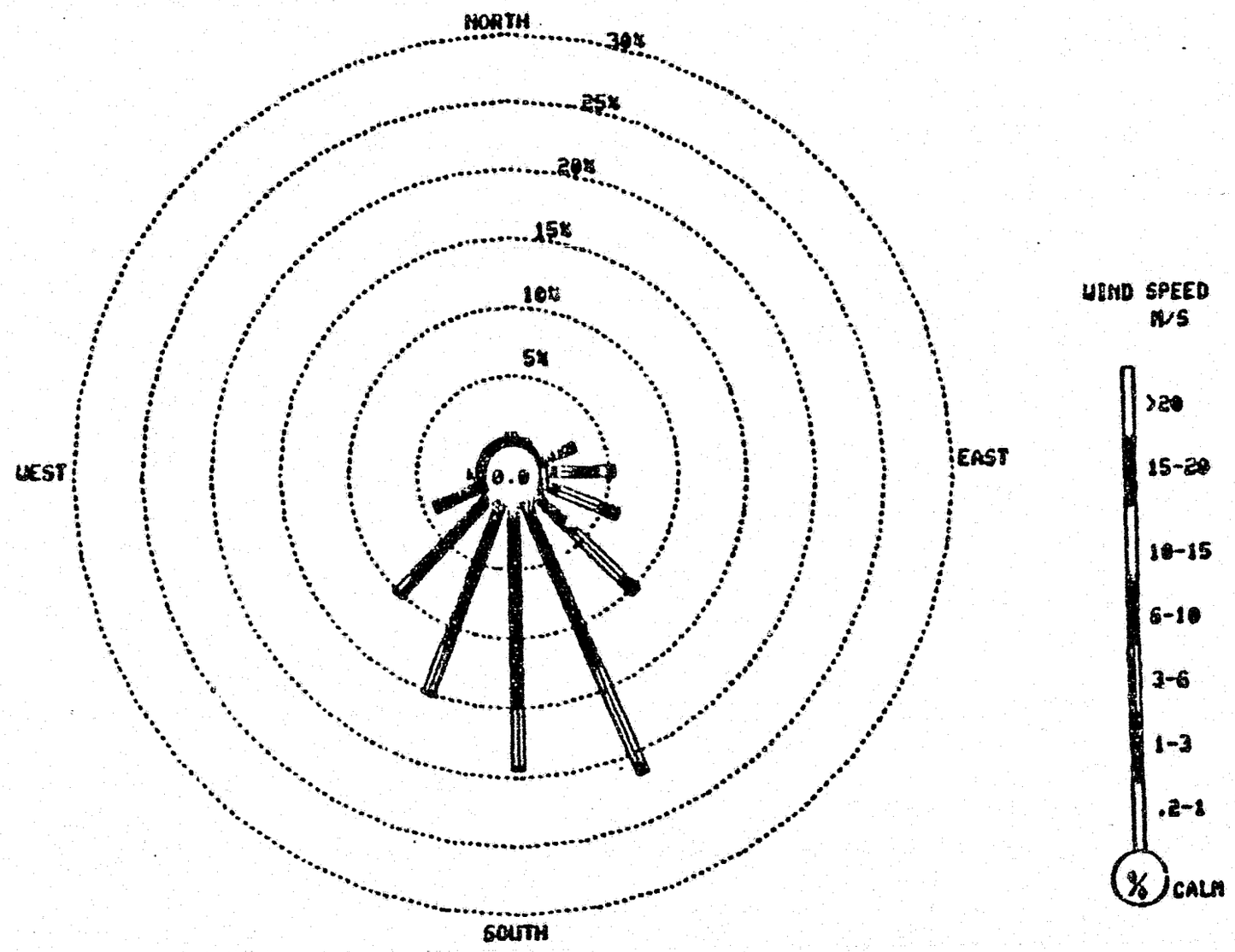
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

768 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

JANUARY, 1981




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KUSINA CREEK 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 KOSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 | -7.5 | -10.4 | 80 | 219 | 1.4 | *** | 5.1 | 018 |
| 1500 | -5.4 | -8.7 | 78 | 184 | 1.7 | 209 | 3.2 | 006 |
| 1800 | -5.9 | -8.7 | 81 | 191 | 1.7 | 197 | 4.4 | 001 |
| 2100 | -5.0 | -8.3 | 78 | 179 | 2.5 | 192 | 4.4 | 001 |
| 2400 | -6.4 | -9.5 | 79 | 218 | 1.9 | 237 | 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 | -5.8 | -9.1 | 78 | 205 | 2.1 | 195 | 3.8 | 001 |
| 0600 | -5.8 | -8.4 | 82 | 211 | 2.1 | 226 | 3.2 | 001 |
| 0900 | -6.0 | -10.1 | 73 | 181 | 2.4 | 189 | 4.4 | 006 |
| 1200 | -4.3 | -9.4 | 68 | 153 | 2.6 | 154 | 4.4 | 035 |
| 1500 | -5.0 | -8.8 | 75 | 149 | 1.5 | 146 | 3.2 | 007 |
| 1800 | -4.8 | -8.3 | 77 | 147 | 2.4 | 145 | 3.8 | 001 |
| 2100 | -5.9 | -9.2 | 78 | 160 | 2.3 | 149 | 3.8 | 001 |
| 2400 | -5.8 | -9.1 | 78 | 178 | 2.2 | 184 | 4.4 | 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 | -5.4 | -8.7 | 78 | 166 | 2.1 | 181 | 3.2 | 001 |
| 0600 | -3.8 | -7.3 | 77 | 173 | 1.7 | 163 | 3.2 | 001 |
| 0900 | -4.2 | -7.0 | 81 | 146 | 2.5 | 133 | 4.4 | 008 |
| 1200 | -3.5 | -6.7 | 79 | 144 | 3.1 | 152 | 5.1 | 024 |
| 1500 | -3.3 | -6.1 | 81 | 136 | 2.9 | 137 | 4.4 | 008 |
| 1800 | -4.1 | -6.6 | 83 | 165 | 1.9 | 135 | 4.4 | 001 |
| 2100 | -3.5 | -5.8 | 84 | 226 | 1.9 | 219 | 3.8 | 001 |
| 2400 | -3.3 | -6.5 | 79 | 104 | 2.1 | 073 | 8.9 | 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 | -3.6 | -6.9 | 78 | 093 | 4.3 | 096 | 8.3 | 001 |
| 0600 | -4.2 | -6.7 | 83 | 139 | 1.8 | 124 | 5.7 | 001 |
| 0900 | -4.3 | -6.6 | 84 | 196 | 1.8 | 229 | 2.5 | 006 |
| 1200 | -3.6 | -6.4 | 81 | 187 | 1.7 | 200 | 2.5 | 018 |
| 1500 | -3.0 | ***** | 83 | 173 | 1.5 | 183 | 2.5 | 010 |
| 1800 | -4.1 | ***** | 86 | 177 | .1 | 140 | 1.9 | 001 |
| 2100 | -3.3 | ***** | 86 | 203 | .8 | 217 | 1.9 | 001 |
| 2400 | -3.9 | -5.9 | 86 | 165 | 1.0 | 134 | 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 | -7.8 | -9.8 | 86 | 178 | 1.3 | 136 | 3.8 | 001 |
| 0600 | -9.2 | -11.3 | 85 | 171 | 2.0 | 146 | 3.8 | 001 |
| 0900 | -8.1 | -10.2 | 85 | 180 | 2.0 | 157 | 3.8 | 006 |
| 1200 | -5.7 | -8.8 | 79 | 183 | 1.6 | 140 | 3.2 | 021 |
| 1500 | -3.9 | -7.1 | 79 | 166 | 1.8 | 192 | 3.2 | 008 |
| 1800 | -5.5 | -8.3 | 81 | 165 | 1.6 | 140 | 3.8 | 001 |
| 2100 | -4.0 | -6.7 | 82 | 173 | 1.7 | 158 | 3.2 | 001 |
| 2400 | -3.7 | -6.5 | 81 | 145 | 2.5 | 141 | 3.8 | 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 | -3.7 | ***** | 84 | 127 | 1.7 | 138 | 4.4 | 001 |
| 0600 | -4.0 | -6.3 | 84 | 109 | .7 | 103 | 2.5 | 001 |
| 0900 | -4.3 | -6.6 | 84 | 153 | 1.2 | 133 | 3.8 | 008 |
| 1200 | -2.9 | -6.1 | 79 | 131 | 2.2 | 140 | 5.1 | 026 |
| 1500 | -3.4 | -5.4 | 86 | 131 | 2.8 | 135 | 4.4 | 010 |
| 1800 | -4.4 | -6.3 | 87 | 133 | 2.6 | 124 | 4.4 | 001 |
| 2100 | -4.1 | -6.1 | 86 | 150 | 3.1 | 135 | 5.1 | 001 |
| 2400 | -4.5 | -6.7 | 85 | 138 | 3.9 | 147 | 5.1 | 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 | -6.2 | -8.0 | 87 | 142 | 4.4 | 139 | 7.0 | 001 |
| 0600 | -6.2 | -8.0 | 87 | 141 | 2.1 | 141 | 5.7 | 001 |
| 0900 | -6.8 | -8.9 | 85 | 174 | 3.0 | 158 | 4.4 | 016 |
| 1200 | -5.9 | -8.8 | 80 | 155 | 3.3 | 131 | 5.7 | 036 |
| 1500 | -6.7 | -9.5 | 81 | 193 | 2.5 | 132 | 5.1 | 010 |
| 1800 | -6.8 | -8.6 | 87 | 205 | 2.2 | 214 | 3.8 | 001 |
| 2100 | -6.0 | -8.0 | 86 | 170 | 1.2 | 201 | 3.2 | 001 |
| 2400 | -5.6 | ***** | 87 | 220 | .7 | 205 | 2.5 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -5.8 | -7.8 | 86 | 217 | .3 | 134 | 1.9 | 001 |
| 0600 | -5.7 | ***** | 86 | 190 | 1.2 | 174 | 3.2 | 001 |
| 0900 | -5.7 | -7.7 | 86 | 194 | .5 | 179 | 1.9 | 005 |
| 1200 | -4.5 | -7.0 | 83 | 064 | .3 | 025 | 3.8 | 017 |
| 1500 | -5.0 | -7.8 | 81 | 031 | 1.5 | 023 | 3.8 | 009 |
| 1800 | -6.8 | ***** | 85 | 034 | 1.0 | 021 | 2.5 | 001 |
| 2100 | -7.5 | ***** | 86 | 192 | .7 | 188 | 1.9 | 001 |
| 2400 | -7.4 | -11.6 | 72 | 012 | 1.5 | 019 | 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 | -8.5 | -13.1 | 70 | 018 | 2.8 | 024 | 5.1 | 001 |
| 0600 | -10.1 | -13.6 | 76 | 191 | .4 | 283 | 2.5 | 001 |
| 0900 | -9.9 | -14.2 | 71 | 149 | 1.5 | 137 | 3.8 | 008 |
| 1200 | -8.7 | -14.4 | 64 | 088 | 1.2 | 080 | 5.1 | 030 |
| 1500 | -9.3 | -14.9 | 64 | 064 | 1.2 | 081 | 5.7 | 012 |
| 1800 | -10.8 | -16.0 | 66 | 102 | 1.1 | 112 | 4.4 | 001 |
| 2100 | -11.8 | -17.5 | 63 | 118 | 2.5 | 135 | 7.0 | 001 |
| 2400 | -13.6 | -19.0 | 64 | 104 | 3.6 | 089 | 8.9 | 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 | -13.4 | -19.8 | 59 | 125 | .9 | 091 | 5.7 | 001 |
| 0600 | -16.0 | -21.7 | 62 | 127 | 1.8 | 140 | 5.7 | 001 |
| 0900 | -15.3 | -21.4 | 60 | 118 | 3.4 | 109 | 6.3 | 012 |
| 1200 | -14.8 | -22.6 | 52 | 114 | 3.4 | 113 | 7.0 | 039 |
| 1500 | -16.8 | -24.4 | 52 | 116 | 2.1 | 113 | 5.7 | 016 |
| 1800 | -19.5 | -24.5 | 65 | 184 | 1.7 | 171 | 3.8 | 001 |
| 2100 | -23.4 | -28.0 | 66 | 192 | 2.8 | 183 | 5.1 | 001 |
| 2400 | -20.5 | -25.2 | 66 | 195 | 2.9 | 205 | 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 | -19.0 | -23.3 | 69 | 185 | 2.3 | 168 | 3.8 | 001 |
| 0600 | -19.4 | -23.4 | 71 | 176 | 2.5 | 148 | 5.1 | 001 |
| 0900 | -19.3 | -25.9 | 56 | 199 | 2.2 | 204 | 3.2 | 032 |
| 1200 | -17.4 | -25.2 | 51 | 188 | 1.7 | 165 | 3.2 | 062 |
| 1500 | -18.4 | -23.1 | 67 | 157 | 2.4 | 150 | 3.8 | 015 |
| 1800 | -17.8 | -21.7 | 72 | 181 | 1.5 | 181 | 3.8 | 001 |
| 2100 | -18.3 | -22.0 | 73 | 150 | 2.1 | 140 | 3.8 | 001 |
| 2400 | -18.9 | ***** | 75 | 168 | .8 | 126 | 2.5 | 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 | -19.7 | ***** | 77 | 194 | .9 | 191 | 2.5 | 001 |
| 0600 | -20.7 | ***** | 76 | 242 | .7 | 225 | 1.9 | 001 |
| 0900 | -20.2 | -24.6 | 68 | 209 | 1.2 | 194 | 3.2 | 029 |
| 1200 | -19.4 | -26.8 | 52 | 161 | 1.6 | 167 | 4.4 | 062 |
| 1500 | -20.4 | -28.6 | 48 | 196 | .9 | 177 | 2.5 | 022 |
| 1800 | -24.8 | -29.3 | 66 | 190 | 2.2 | 169 | 4.4 | 001 |
| 2100 | -25.6 | -30.6 | 63 | 182 | 2.1 | 189 | 4.4 | 001 |
| 2400 | -26.3 | -31.4 | 62 | 181 | 2.2 | 168 | 4.4 | 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 | -28.7 | -33.7 | 62 | 187 | 2.0 | 162 | 4.4 | 001 |
| 0600 | -28.1 | -32.8 | 64 | 193 | 1.8 | 176 | 3.2 | 001 |
| 0900 | -26.8 | -34.1 | 50 | 192 | 2.0 | 175 | 3.8 | 047 |
| 1200 | -25.5 | -33.7 | 46 | 210 | 2.0 | 227 | 3.8 | 078 |
| 1500 | -23.3 | -31.3 | 48 | 202 | 2.5 | 217 | 3.8 | 025 |
| 1800 | -28.1 | -33.3 | 61 | 196 | 3.1 | 190 | 5.1 | 001 |
| 2100 | -26.3 | -31.4 | 62 | 196 | 2.4 | 195 | 3.8 | 001 |
| 2400 | -27.1 | -32.0 | 63 | 188 | 2.4 | 200 | 3.8 | 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 | -25.7 | -30.9 | 62 | 180 | 1.7 | 185 | 3.2 | 001 |
| 0600 | -24.6 | -29.3 | 65 | 171 | 2.0 | 140 | 3.8 | 001 |
| 0900 | -23.0 | -30.6 | 50 | 162 | 2.7 | 151 | 4.4 | 047 |
| 1200 | -22.2 | -29.8 | 50 | 166 | 2.7 | 152 | 5.1 | 078 |
| 1500 | -22.6 | -29.4 | 54 | 177 | 1.6 | 182 | 3.2 | 021 |
| 1800 | -24.7 | -29.6 | 64 | 165 | 2.7 | 149 | 3.8 | 001 |
| 2100 | -26.6 | -31.1 | 66 | 149 | 3.9 | 142 | 5.7 | 001 |
| 2400 | -25.2 | -29.4 | 68 | 173 | 3.1 | 148 | 6.3 | 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 | -25.8 | -30.0 | 68 | 179 | 2.4 | 171 | 5.1 | 001 |
| 0600 | -25.3 | -29.7 | 67 | 159 | 3.3 | 172 | 5.1 | 001 |
| 0900 | -23.3 | -28.2 | 64 | 168 | 3.2 | 150 | 5.7 | 012 |
| 1200 | -21.4 | -27.5 | 58 | 165 | 3.7 | 150 | 6.3 | 088 |
| 1500 | -19.2 | -26.0 | 55 | 160 | 4.0 | 155 | 7.0 | 031 |
| 1800 | -24.4 | -28.3 | 70 | 183 | 2.7 | 174 | 5.7 | 001 |
| 2100 | -24.5 | -28.4 | 70 | 200 | 2.4 | 203 | 4.4 | 001 |
| 2400 | -27.0 | -31.0 | 69 | 162 | 3.3 | 145 | 5.7 | 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 | -25.5 | -29.4 | 70 | 193 | 2.4 | 165 | 4.4 | 001 |
| 0600 | -25.2 | -28.9 | 71 | 154 | 4.1 | 139 | 6.3 | 001 |
| 0900 | -23.9 | -29.5 | 60 | 147 | [illegible] | 142 | 7.6 | 055 |
| 1200 | -21.0 | -26.1 | 64 | 158 | 4.0 | 147 | 6.3 | 031 |
| 1500 | -19.9 | -25.4 | 62 | 173 | 3.3 | 147 | 6.3 | 020 |
| 1800 | -18.5 | -23.0 | 68 | 142 | 5.6 | 133 | 7.6 | 001 |
| 2100 | -19.9 | -24.8 | 65 | 142 | 5.3 | 134 | 8.3 | 001 |
| 2400 | -21.7 | -26.2 | 67 | 153 | 4.7 | 136 | 7.6 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -20.8 | -25.4 | 67 | 174 | 3.8 | 175 | 6.3 | 001 |
| 0600 | -18.4 | -22.9 | 68 | 148 | 4.5 | 141 | 6.3 | 001 |
| 0900 | -18.1 | -22.6 | 68 | 151 | 3.9 | 136 | 7.0 | 017 |
| 1200 | -13.6 | -20.2 | 58 | 162 | 3.5 | 134 | 6.3 | 062 |
| 1500 | -11.8 | -17.7 | 62 | 205 | 2.3 | 189 | 4.4 | 018 |
| 1800 | -15.0 | -18.5 | 75 | 165 | 3.4 | 145 | 6.3 | 001 |
| 2100 | -21.2 | -24.2 | 77 | 171 | 3.4 | 167 | 5.7 | 001 |
| 2400 | -18.7 | -21.6 | 78 | 200 | 2.8 | 211 | 4.4 | 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 | -18.4 | -21.3 | 78 | 168 | 3.4 | 188 | 5.1 | 001 |
| 0600 | -17.0 | -20.0 | 78 | 175 | 2.7 | 146 | 5.7 | 001 |
| 0900 | -16.0 | -19.6 | 74 | 177 | 2.7 | 152 | 5.7 | 022 |
| 1200 | -11.5 | -17.8 | 60 | 194 | 2.0 | 188 | 3.8 | 068 |
| 1500 | -11.4 | -16.6 | 66 | 185 | 3.0 | 189 | 5.1 | 018 |
| 1800 | -9.9 | -15.1 | 66 | 174 | 2.8 | 186 | 4.4 | 001 |
| 2100 | -9.9 | -12.9 | 79 | 151 | 2.3 | 141 | 5.1 | 001 |
| 2400 | -8.6 | -13.7 | 67 | 148 | 2.1 | 116 | 8.3 | 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 | -9.0 | -13.5 | 70 | 101 | 5.4 | 086 | 9.5 | 00[illegible] |
| 0600 | -10.5 | -14.3 | 74 | 152 | 2.5 | 130 | 8.3 | 00[illegible] |
| 0900 | -11.6 | -15.2 | 75 | 180 | 1.8 | 165 | 3.2 | 0[illegible] |
| 1200 | -7.9 | -13.4 | 65 | 184 | 2.1 | 188 | 3.8 | 06[illegible] |
| 1500 | -8.5 | -13.8 | 66 | 148 | 1.8 | 140 | 5.1 | 02[illegible] |
| 1800 | -9.1 | -12.0 | 80 | 164 | 1.2 | 135 | 4.4 | 00[illegible] |
| 2100 | -9.8 | -11.9 | 85 | 060 | 1.6 | 037 | 5.7 | 00[illegible] |
| 2400 | -12.4 | -14.9 | 82 | 087 | 1.9 | 033 | 5.7 | 00[illegible] |

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 | -11.4 | ***** | 83 | 030 | 1.0 | 103 | 4.4 | 001 |
| 0600 | -11.8 | -14.1 | 83 | 187 | .9 | 190 | 2.5 | 001 |
| 0900 | -11.2 | -15.0 | 74 | 140 | 2.0 | 111 | 6.3 | 034 |
| 1200 | -10.4 | -18.7 | 51 | 105 | 3.8 | 093 | 10.2 | 066 |
| 1500 | -12.1 | -19.2 | 56 | 167 | 1.8 | 135 | 5.7 | 033 |
| 1800 | -14.3 | -18.1 | 73 | 173 | 2.6 | 170 | 4.4 | 001 |
| 2100 | -13.8 | -17.2 | 76 | 166 | 2.7 | 157 | 5.1 | 001 |
| 2400 | -13.5 | -17.5 | 72 | 177 | 2.9 | 184 | 5.1 | 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 | -12.7 | -16.9 | 71 | 207 | 2.6 | 186 | 5.1 | 001 |
| 0600 | -11.9 | -15.2 | 77 | 206 | 2.5 | 220 | 4.4 | 001 |
| 0900 | -12.7 | -17.8 | 66 | 189 | 3.4 | 193 | 5.1 | 017 |
| 1200 | -9.5 | -16.1 | 59 | 185 | 3.2 | 197 | 6.3 | 056 |
| 1500 | -8.3 | -15.2 | 58 | 162 | 2.3 | 182 | 5.1 | 024 |
| 1800 | -10.1 | -14.6 | 70 | 167 | 2.0 | 150 | 3.8 | 001 |
| 2100 | -9.8 | -13.8 | 73 | 163 | 1.6 | 145 | 3.2 | 001 |
| 2400 | -10.9 | -14.5 | 75 | 190 | 3.7 | 188 | 6.3 | 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 | -12.8 | -15.9 | 78 | 193 | 4.0 | 194 | 5.7 | 001 |
| 0600 | -12.0 | -14.9 | 79 | 183 | 3.5 | 188 | 5.1 | 001 |
| 0900 | -12.2 | -15.8 | 75 | 184 | 3.6 | 186 | 5.7 | 024 |
| 1200 | -10.3 | -14.3 | 73 | 225 | 2.1 | 210 | 3.8 | 044 |
| 1500 | -10.2 | -14.3 | 72 | 232 | 2.2 | 244 | 3.8 | 021 |
| 1800 | -9.9 | -13.7 | 74 | 133 | 3.3 | 105 | 6.3 | 001 |
| 2100 | -9.2 | -13.6 | 71 | 120 | 3.8 | 135 | 7.0 | 001 |
| 2400 | -10.3 | -12.8 | 82 | 192 | 2.3 | 156 | 5.7 | 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 | -12.0 | -15.4 | 76 | 178 | 3.0 | 166 | 5.1 | 001 |
| 0600 | -10.7 | -14.3 | 75 | 180 | 2.6 | 154 | 4.[illegible] | 001 |
| 0900 | -8.4 | -13.1 | 69 | 185 | 2.7 | 204 | 4.4 | 026 |
| 1200 | -6.2 | -14.3 | 53 | 180 | 2.6 | 180 | 5.1 | 079 |
| 1500 | -7.0 | -13.1 | 62 | 175 | 2.9 | 184 | 5.1 | 029 |
| 1800 | -7.7 | -12.1 | 71 | 161 | 3.0 | 158 | 5.1 | 001 |
| 2100 | -10.2 | -14.3 | 72 | 169 | 3.1 | 172 | 5.1 | 001 |
| 2400 | -10.7 | -1[illegible].8 | 72 | 166 | 2.9 | 153 | 5.1 | 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 | -10.4 | -14.7 | 71 | 163 | 2.8 | 152 | 5.1 | 001 |
| 0600 | -7.5 | -12.1 | 70 | 191 | 2.2 | 165 | 4.4 | 001 |
| 0900 | -6.3 | -11.1 | 69 | 176 | 2.1 | 163 | 4.4 | 022 |
| 1200 | -2.9 | -9.5 | 61 | 163 | 2.3 | 150 | 3.8 | 052 |
| 1500 | -2.9 | -6.9 | 74 | 196 | 1.7 | 209 | 3.2 | 026 |
| 1800 | -4.2 | -6.7 | 83 | 144 | 2.4 | 115 | 5.1 | 001 |
| 2100 | -5.1 | -7.4 | 84 | 144 | 1.2 | 157 | 3.2 | 001 |
| 2400 | -6.5 | -9.1 | 82 | 164 | 1.7 | 132 | 3.8 | 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 | -7.0 | -9.1 | 85 | 169 | 2.3 | 175 | 3.8 | 001 |
| 0600 | -8.5 | -10.9 | 83 | 176 | 2.2 | 146 | 4.4 | 001 |
| 0900 | -7.8 | -11.0 | 78 | 204 | 2.3 | 200 | 3.8 | 044 |
| 1200 | -5.7 | -9.7 | 74 | 205 | 2.4 | 207 | 3.8 | 055 |
| 1500 | -5.0 | -8.8 | 75 | 193 | 1.8 | 207 | 3.2 | 029 |
| 1800 | -9.0 | -11.5 | 82 | 185 | 3.7 | 187 | 5.7 | 001 |
| 2100 | -8.3 | -10.6 | 84 | 186 | 2.9 | 195 | 5.7 | 001 |
| 2400 | -10.9 | -13.1 | 84 | 189 | 2.5 | 163 | 3.8 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK 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 | -9.2 | -13.0 | 74 | 190 | 2.4 | 203 | 3.8 | 001 |
| 0600 | -10.1 | -14.1 | 73 | 180 | 2.2 | 165 | 4.4 | 001 |
| 0900 | -6.8 | -11.6 | 69 | 216 | 2.1 | 223 | 4.4 | 029 |
| 1200 | -7.1 | -11.7 | 70 | 154 | 1.5 | 114 | 8.3 | 080 |
| 1500 | -6.2 | -12.8 | 60 | 153 | 2.2 | 096 | 7.0 | 045 |
| 1800 | -8.4 | -13.3 | 68 | 184 | 3.6 | 184 | 5.7 | 001 |
| 2100 | -10.7 | -15.2 | 70 | 176 | 3.0 | 185 | 5.7 | 001 |
| 2400 | -5.9 | -9.2 | 78 | 168 | 2.3 | 199 | 5.1 | 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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&N CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING FEBRUARY , 1981

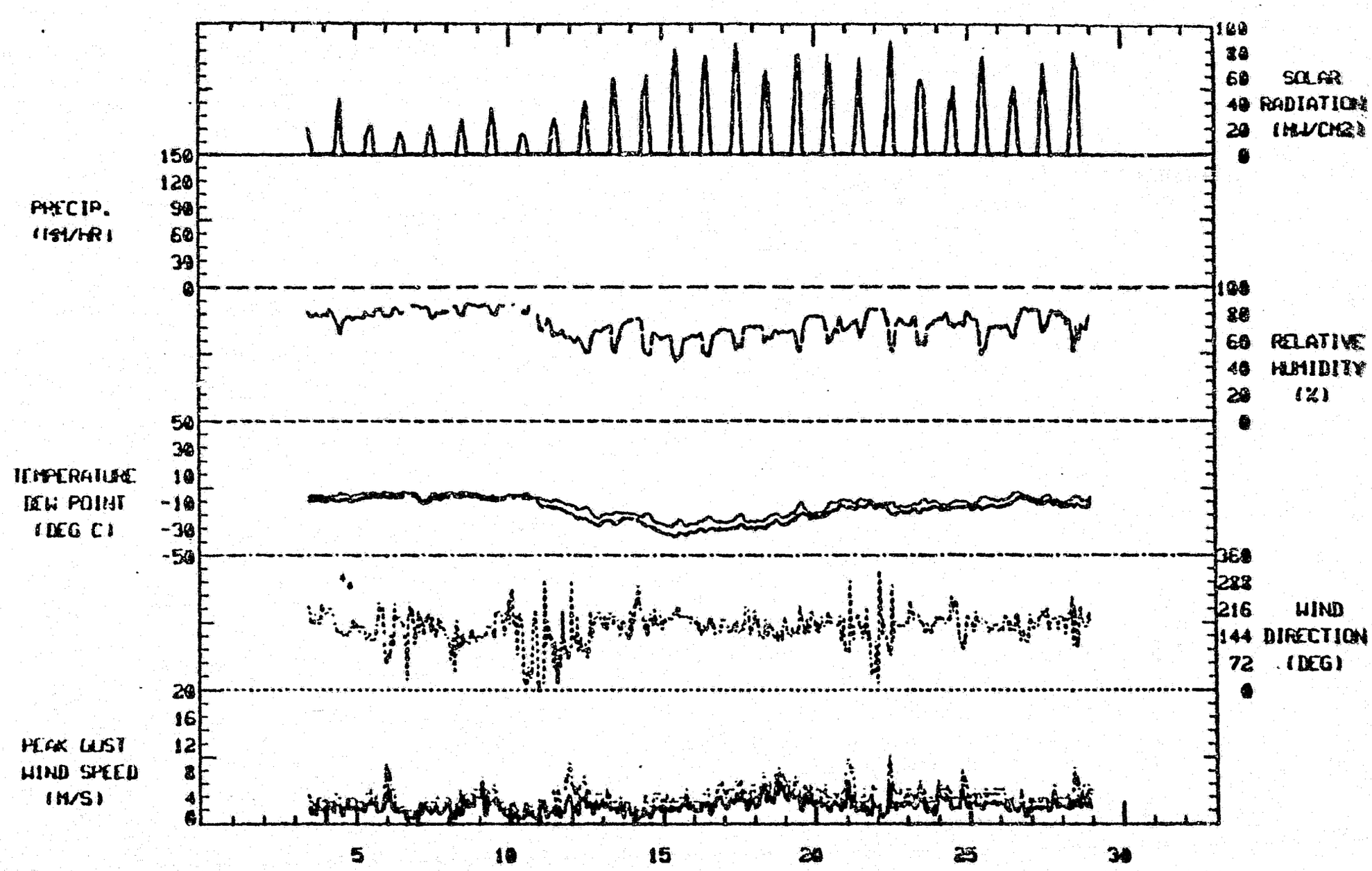
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 01 |
| 02 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 02 |
| 03 | -5.0 | -7.5 | -6.3 | *** | **** | 2.0 | *** | 5.1 | S | 79 | -9.1 | **** | 1396 | 03 |
| 04 | -2.9 | -7.4 | -5.1 | 172 | 2.0 | 2.2 | 189 | 4.4 | SSE | 77 | -9.0 | **** | 1743 | 04 |
| 05 | -2.7 | -5.8 | -4.3 | 153 | 2.0 | 2.5 | 073 | 8.9 | SE | 80 | -6.8 | **** | 1410 | 05 |
| 06 | -2.6 | -4.7 | -3.7 | 149 | 1.2 | 1.9 | 096 | 8.3 | S | 82 | -6.5 | **** | 1093 | 06 |
| 07 | -3.5 | -9.6 | -6.6 | 169 | 1.8 | 2.0 | 136 | 3.8 | SSE | 82 | -8.6 | **** | 1230 | 07 |
| 08 | -2.4 | -5.0 | -3.7 | 137 | 2.2 | 2.4 | 140 | 5.1 | SE | 84 | -6.2 | **** | 1445 | 08 |
| 09 | -4.5 | -7.2 | -5.9 | 167 | 2.2 | 2.6 | 139 | 7.0 | SE | 84 | -8.6 | **** | 1940 | 09 |
| 10 | -3.7 | -7.5 | -5.6 | 047 | .2 | 1.1 | 019 | 5.1 | NNE | 83 | -8.4 | **** | 1100 | 10 |
| 11 | -7.6 | -13.6 | -10.0 | 094 | 1.3 | 2.3 | 089 | 8.9 | SE | 67 | -15.3 | **** | 1563 | 11 |
| 12 | -12.7 | -24.5 | -18.6 | 146 | 1.9 | 2.8 | 113 | 7.0 | ESE | 60 | -23.4 | **** | 2135 | 12 |
| 13 | -17.3 | -20.6 | -19.0 | 176 | 1.9 | 2.1 | 148 | 5.1 | SSE | 67 | -23.5 | **** | 2983 | 13 |
| 14 | -17.6 | -27.9 | -22.8 | 188 | 1.4 | 1.6 | 167 | 4.4 | S | 64 | -28.6 | **** | 3233 | 14 |
| 15 | -22.7 | -29.9 | -26.3 | 195 | 2.3 | 2.4 | 190 | 5.1 | SSW | 58 | -32.8 | **** | 4353 | 15 |
| 16 | -20.6 | -28.6 | -24.6 | 166 | 2.5 | 2.6 | 148 | 6.3 | SSE | 61 | -30.0 | **** | 4113 | 16 |
| 17 | -18.2 | -27.3 | -22.8 | 170 | 3.1 | 3.3 | 155 | 7.0 | SSE | 65 | -28.6 | **** | 4558 | 17 |
| 18 | -17.8 | -26.6 | -22.2 | 154 | 4.2 | 4.5 | 134 | 8.3 | SE | 66 | -26.7 | **** | 3733 | 18 |
| 19 | -9.9 | -22.7 | -16.3 | 168 | 3.3 | 3.6 | 136 | 7.0 | SSE | 68 | -21.6 | **** | 4118 | 19 |
| 20 | -7.6 | -19.4 | -13.5 | 172 | 2.6 | 2.9 | 116 | 8.3 | S | 71 | -17.1 | **** | 3780 | 20 |
| 21 | -7.5 | -13.6 | -10.6 | 129 | 1.8 | 2.8 | 086 | 9.5 | SE | 74 | -13.6 | **** | 3215 | 21 |
| 22 | -9.3 | -15.0 | -12.1 | 151 | 1.8 | 2.5 | 093 | 10.2 | S | 73 | -17.1 | **** | 4058 | 22 |
| 23 | -7.5 | -14.8 | -11.1 | 186 | 2.6 | 2.8 | 197 | 6.3 | S | 69 | -15.5 | **** | 3755 | 23 |
| 24 | -9.2 | -13.4 | -11.3 | 178 | 2.5 | 3.2 | 105 | 8.3 | S | 75 | -14.4 | **** | 3013 | 24 |
| 25 | -5.5 | -13.3 | -9.4 | 174 | 2.8 | 2.9 | 166 | 5.1 | S | 68 | -14.0 | **** | 4150 | 25 |
| 26 | -2.5 | -10.4 | -6.4 | 168 | 2.0 | 2.2 | 152 | 5.1 | SSE | 73 | -9.7 | **** | 3125 | 26 |
| 27 | -4.8 | -10.9 | -7.9 | 188 | 2.5 | 2.6 | 187 | 5.7 | S | 79 | -10.6 | **** | 3808 | 27 |
| 28 | -4.2 | -11.9 | -8.0 | 181 | 2.3 | 2.9 | 114 | 8.3 | SSW | 72 | -12.6 | **** | 4643 | 28 |
| MONTH | -2.4 | -29.9 | -12.1 | 166 | 2.0 | 2.6 | 093 | 10.2 | S | 72 | -16.1 | **** | 75686 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.7

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 KOSINA CREEK WEATHER STATION

DATA START: 01 FEBRUARY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING FEBRUARY , 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 | .24 | .45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .69 |
| NNE | .33 | 1.06 | .41 | 0.00 | 0.00 | 0.00 | 0.00 | 1.79 |
| NE | .37 | .37 | .24 | 0.00 | 0.00 | 0.00 | 0.00 | .98 |
| ENE | .45 | .61 | .33 | .08 | 0.00 | 0.00 | 0.00 | 1.47 |
| E | .41 | .77 | .94 | .41 | 0.00 | 0.00 | 0.00 | 2.53 |
| ESE | .24 | 1.55 | 1.96 | .20 | 0.00 | 0.00 | 0.00 | 3.95 |
| SE | .57 | 5.26 | 7.05 | .49 | 0.00 | 0.00 | 0.00 | 13.37 |
| SSE | .53 | 11.74 | 8.76 | 0.00 | 0.00 | 0.00 | 0.00 | 21.04 |
| S | .57 | 17.49 | 7.13 | 0.00 | 0.00 | 0.00 | 0.00 | 25.19 |
| SSW | 1.26 | 13.33 | 3.51 | 0.00 | 0.00 | 0.00 | 0.00 | 18.10 |
| SW | .90 | 5.71 | .37 | 0.00 | 0.00 | 0.00 | 0.00 | 6.97 |
| WSW | .57 | 1.55 | .12 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 |
| W | .33 | .49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .82 |
| WNW | .12 | .08 | .04 | 0.00 | 0.00 | 0.00 | 0.00 | .24 |
| NW | .04 | .20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .24 |
| NNW | .12 | .16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .29 |
| CALM | | | | | | | | .08 |
| TOTAL | 7.05 | 60.82 | 30.86 | 1.18 | 0.00 | 0.00 | 0.00 | 100.00 |

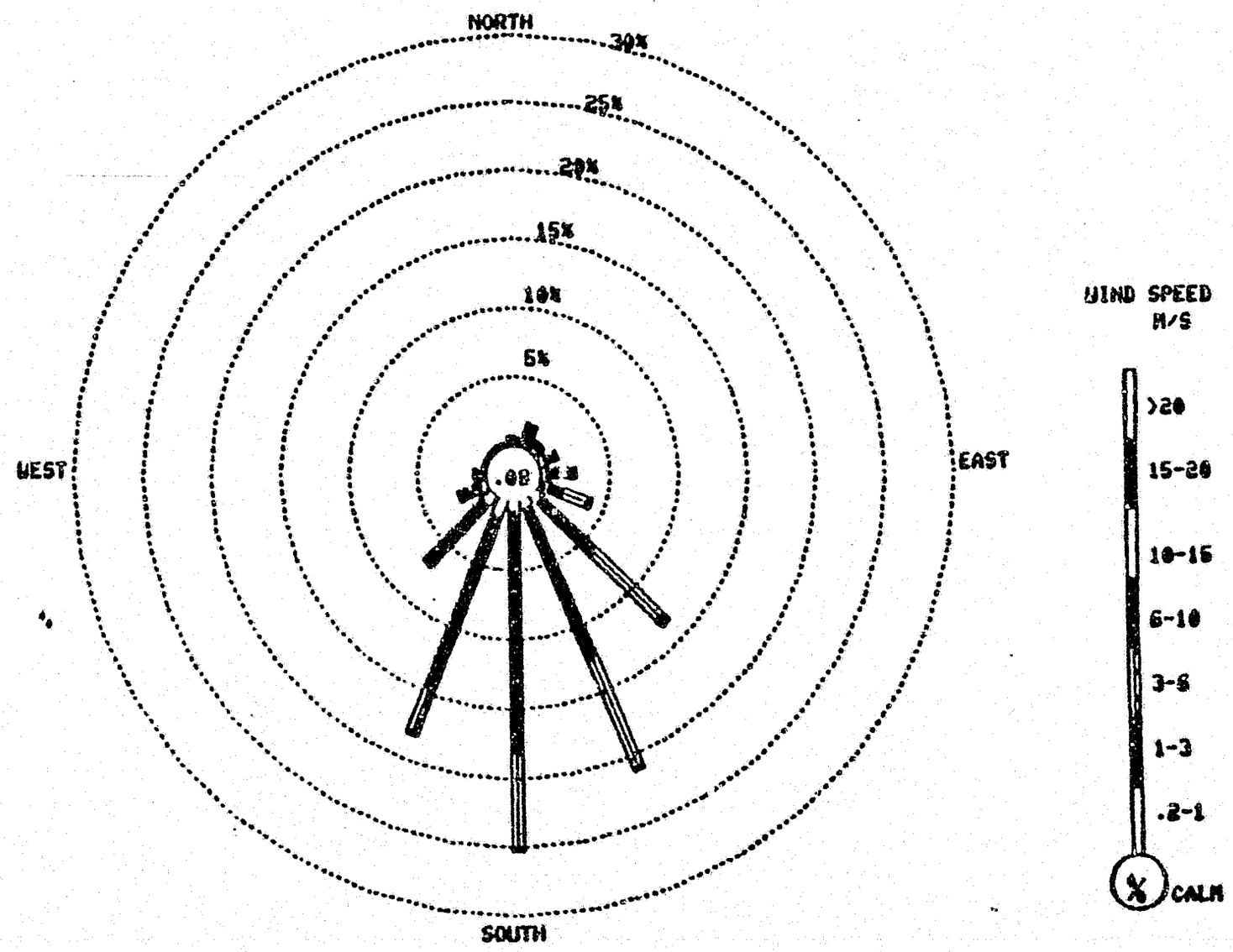
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

2453 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

FEBRUARY, 1981




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 KUSINA CREEK 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 | -8.8 | -13.2 | 71 | 199 | 3.7 | 199 | 5.7 | 001 |
| 0600 | -8.8 | -12.6 | 74 | 206 | 3.4 | 191 | 5.7 | 001 |
| 0900 | -6.6 | -11.0 | 71 | 160 | 3.6 | 166 | 7.0 | 024 |
| 1200 | -3.6 | -9.9 | 62 | 204 | 3.5 | 202 | 5.7 | 069 |
| 1500 | -4.1 | -9.4 | 67 | 190 | 3.3 | 202 | 5.7 | 034 |
| 1800 | -1.5 | -6.3 | 70 | 167 | 2.7 | 108 | 6.3 | 001 |
| 2100 | -2.5 | -6.6 | 74 | 093 | 1.0 | 098 | 7.6 | 001 |
| 2400 | -2.8 | -6.2 | 78 | 071 | 3.2 | 070 | 7.6 | 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 | -3.5 | -5.7 | 85 | 123 | 1.5 | 081 | 7.0 | 001 |
| 0600 | -4.4 | -6.6 | 86 | 167 | 1.9 | 160 | 4.4 | 001 |
| 0900 | -4.0 | -6.7 | 82 | 002 | 2.0 | 030 | 5.7 | 034 |
| 1200 | -3.2 | -7.6 | 72 | 041 | 2.5 | 025 | 5.1 | 051 |
| 1500 | -4.1 | -7.8 | 76 | 037 | 2.6 | 037 | 5.7 | 028 |
| 1800 | -7.3 | -9.7 | 83 | 062 | 1.0 | 196 | 5.1 | 001 |
| 2100 | -10.9 | -14.8 | 73 | 186 | 2.6 | 206 | 5.1 | 001 |
| 2400 | -11.7 | -16.3 | 69 | 183 | 3.4 | 179 | 5.7 | 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 | -14.0 | -18.5 | 69 | 181 | 3.0 | 174 | 5.7 | 001 |
| 0600 | -15.2 | -19.7 | 69 | 182 | 2.4 | 175 | 4.4 | 001 |
| 0900 | -9.7 | -19.3 | 46 | 186 | 2.1 | 169 | 4.4 | 053 |
| 1200 | ***** | ***** | ** | 203 | 1.1 | 213 | 2.5 | *** |
| 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 | -13.2 | -17.1 | 73 | 183 | 2.5 | 348 | 6.3 | 001 |
| 2100 | -12.0 | -15.7 | 74 | 183 | 3.5 | 191 | 5.1 | 001 |
| 2400 | -11.4 | -14.8 | 76 | 194 | 3.1 | 180 | 5.1 | 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 | -10.5 | -14.3 | 74 | 202 | 2.5 | 186 | 3.8 | 001 |
| 0600 | -11.0 | -14.4 | 76 | 213 | 2.1 | 196 | 3.8 | 001 |
| 0900 | -8.1 | -14.4 | 61 | 204 | 1.7 | 198 | 4.4 | 032 |
| 1200 | -5.0 | -15.0 | 46 | 234 | 1.1 | 222 | 3.2 | 080 |
| 1500 | -7.9 | -15.0 | 57 | 239 | 1.1 | 190 | 4.4 | 035 |
| 1800 | -9.6 | -15.0 | 65 | 201 | 2.7 | 214 | 5.1 | 001 |
| 2100 | -10.1 | -15.1 | 67 | 200 | 2.9 | 189 | 5.1 | 001 |
| 2400 | -11.9 | -16.5 | 69 | 197 | 2.5 | 205 | 4.4 | 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 | ***** | ***** | ** | 160 | 3.0 | 179 | 4.4 | *** |
| 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 KUSIHA CREEK 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 | -10.0 | -16.4 | 60 | 225 | 1.8 | 230 | 3.2 | 001 |
| 0600 | -8.0 | -14.7 | 59 | 129 | 1.0 | 091 | 7.0 | 001 |
| 0900 | -7.2 | -16.2 | 49 | 113 | 4.1 | 121 | 8.9 | 078 |
| 1200 | -1.3 | -12.4 | 43 | 125 | 1.9 | 100 | 5.1 | 088 |
| 1500 | -1.3 | -11.0 | 48 | 177 | 1.3 | 202 | 4.4 | 048 |
| 1800 | -1.6 | -9.8 | 54 | 159 | 1.7 | 188 | 4.4 | 002 |
| 2100 | .1 | -10.8 | 44 | 138 | 1.0 | 113 | 3.8 | 001 |
| 2400 | -.5 | ***** | 42 | 353 | .2 | 184 | 5.7 | 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 | .3 | ***** | ** | 110 | 3.3 | 115 | 7.0 | *** |
| 0600 | -2.5 | -13.5 | 43 | 110 | 1.9 | 094 | 7.6 | 002 |
| 0900 | 0.0 | -14.1 | 34 | 133 | 2.0 | 120 | 8.3 | 055 |
| 1200 | 3.7 | -16.2 | 22 | 265 | .9 | 274 | 3.8 | 137 |
| 1500 | 5.4 | -12.3 | 27 | 158 | 1.0 | 119 | 10.8 | 071 |
| 1800 | 2.4 | ***** | ** | 107 | 6.3 | 097 | 10.8 | *** |
| 2100 | ***** | ***** | 35 | 119 | 6.1 | 094 | 15.2 | 002 |
| 2400 | ***** | ***** | ** | 189 | 3.7 | 147 | 6.3 | *** |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING MARCH , 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 | -2.5 | -14.1 | 41 | 177 | 3.1 | 133 | 5.7 | 001 |
| 0600 | -7.1 | -14.9 | 54 | 200 | 2.2 | 179 | 5.1 | 004 |
| 0900 | -1.6 | -13.9 | 39 | 187 | 2.2 | 203 | 3.8 | *** |
| 1200 | 2.0 | -12.4 | 34 | 202 | 1.5 | 192 | 3.8 | 120 |
| 1500 | .6 | -7.3 | 56 | 216 | 1.0 | 214 | 3.2 | 068 |
| 1800 | -3.0 | -6.9 | 78 | 159 | 1.3 | 131 | 3.2 | 002 |
| 2100 | ***** | ***** | 76 | 203 | 1.9 | 215 | 3.8 | 001 |
| 2400 | ***** | ***** | ** | 190 | 2.8 | 193 | 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 | -8.2 | ***** | ** | 180 | 2.6 | 193 | 3.8 | *** |
| 0600 | ***** | ***** | ** | 173 | 2.7 | 157 | 5.7 | *** |
| 0900 | ***** | ***** | ** | 165 | 3.5 | 178 | 4.4 | *** |
| 1200 | -2.5 | -11.6 | 50 | 161 | 2.1 | 145 | 3.8 | 114 |
| 1500 | -1.4 | -11.4 | 47 | 174 | 1.3 | 138 | 3.2 | 072 |
| 1800 | -6.7 | -12.3 | 65 | 212 | 1.7 | 196 | 3.8 | 003 |
| 2100 | ***** | ***** | ** | 201 | 1.9 | 213 | 3.8 | *** |
| 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 | -2.7 | -17.6 | 31 | 196 | 1.1 | 176 | 3.2 | 117 |
| 1500 | -2.6 | -15.8 | 36 | 231 | 1.1 | 250 | 2.5 | 080 |
| 1800 | -5.7 | -13.6 | 54 | 189 | 1.0 | 143 | 3.8 | 005 |
| 2100 | ***** | ***** | ** | 107 | 3.0 | 067 | 7.0 | *** |
| 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 | -7.9 | -19.3 | 40 | *** | **** | *** | **** | 091 |
| 1200 | -5.0 | -18.6 | 34 | 183 | 1.5 | 208 | 3.2 | 124 |
| 1500 | -4.7 | -15.2 | 44 | 213 | 1.5 | 215 | 3.2 | 061 |
| 1800 | -6.0 | -13.7 | 55 | 156 | 1.2 | 190 | 2.5 | 004 |
| 2100 | -5.9 | -12.3 | 61 | 136 | 2.1 | 111 | 4.4 | 001 |
| 2400 | -8.1 | -12.1 | 73 | 096 | 4.6 | 095 | 9.5 | *** |

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 | -10.1 | -13.7 | 75 | 192 | 1.4 | 096 | 3.8 | 001 |
| 0600 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 0900 | -4.4 | ***** | ** | 199 | 2.8 | 186 | 5.1 | *** |
| 1200 | -4.7 | -12.7 | 54 | 198 | 2.7 | 147 | 4.4 | 105 |
| 1500 | -3.3 | -9.8 | 61 | 142 | 1.3 | 109 | 7.0 | 063 |
| 1800 | -4.8 | -9.0 | 73 | 110 | 3.9 | 096 | 7.0 | 004 |
| 2100 | -5.3 | -9.6 | 72 | 171 | 1.6 | 139 | 5.1 | 001 |
| 2400 | -6.2 | -9.5 | 78 | 183 | 1.7 | 194 | 4.4 | 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 | -6.8 | -9.7 | 80 | 191 | 4.1 | 186 | 5.7 | 001 |
| 0600 | -7.5 | -10.2 | 81 | 188 | 4.6 | *** | 6.3 | 003 |
| 0900 | -6.1 | -10.0 | 74 | 196 | 3.7 | 187 | 5.1 | 062 |
| 1200 | -3.4 | -9.7 | 62 | 229 | 2.4 | 208 | 3.8 | 114 |
| 1500 | -4.0 | -9.7 | 65 | 241 | 3.4 | 229 | 5.1 | 082 |
| 1800 | -5.7 | -10.2 | 71 | 208 | 2.4 | 240 | 3.8 | 005 |
| 2100 | -7.1 | ***** | ** | 192 | 3.0 | 181 | 5.1 | 001 |
| 2400 | ***** | ***** | ** | 205 | 2.6 | 184 | 4.4 | *** |

DAY 25

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RAD MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | -10.3 | ***** | ** | 188 | 2.4 | *** | 4.4 | *** |
| 0600 | -11.5 | -14.5 | 79 | 171 | 2.6 | 152 | 4.4 | 005 |
| 0900 | ***** | ***** | 49 | 180 | 2.3 | 160 | 4.4 | 125 |
| 1200 | -2.0 | -11.4 | 49 | 229 | 1.8 | 174 | 4.4 | 131 |
| 1500 | -2.4 | -9.4 | 59 | 088 | 2.0 | 022 | 7.6 | 086 |
| 1800 | -5.3 | -9.6 | 72 | 130 | 2.6 | 146 | 6.3 | 006 |
| 2100 | -6.7 | -10.6 | 74 | 203 | 2.2 | 184 | 5.1 | 001 |
| 2400 | -7.3 | -11.0 | 75 | 195 | 1.9 | 196 | 4.4 | 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 | -6.8 | -10.2 | 77 | 199 | 2.3 | 198 | 4.4 | 001 |
| 0600 | -5.9 | -9.2 | 78 | 210 | 1.3 | 201 | 3.8 | 004 |
| 0900 | -4.3 | -9.2 | 69 | 198 | 1.2 | 204 | 2.5 | 055 |
| 1200 | -2.3 | -9.5 | 58 | 224 | 2.0 | 221 | 4.4 | 081 |
| 1500 | -2.1 | -8.9 | 60 | 224 | 1.6 | 230 | 3.2 | 052 |
| 1800 | -2.2 | -7.4 | 68 | 179 | 1.3 | 177 | 3.2 | 004 |
| 2100 | -3.9 | -6.4 | 83 | 185 | 1.9 | 180 | 3.2 | 001 |
| 2400 | -4.4 | -6.9 | 83 | 178 | 2.2 | 188 | 3.2 | 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 | -3.4 | -5.6 | 85 | 176 | .3 | 172 | 3.8 | 001 |
| 0600 | -3.3 | ***** | 86 | 100 | .4 | 146 | 1.9 | 006 |
| 0900 | -1.8 | ***** | 69 | 200 | .4 | 106 | 1.3 | 042 |
| 1200 | .1 | -7.5 | 57 | 279 | .7 | 289 | 1.9 | 092 |
| 1500 | 1.0 | -8.4 | 50 | 166 | .8 | 140 | 3.2 | 095 |
| 1800 | -4.4 | -8.4 | 74 | 202 | 2.3 | 203 | 3.8 | 008 |
| 2100 | -8.2 | -10.8 | 82 | 165 | 2.4 | 146 | 4.4 | 001 |
| 2400 | -8.9 | -12.6 | 75 | 161 | 2.9 | 147 | 5.1 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING MARCH , 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 | -9.3 | -13.5 | 72 | 180 | 2.1 | 163 | 3.2 | 001 |
| 0600 | -9.7 | -14.2 | 70 | 202 | 1.7 | 152 | 3.8 | 004 |
| 0900 | -5.0 | -15.2 | 45 | 181 | 2.0 | 168 | 3.2 | 105 |
| 1200 | -.8 | -13.5 | 38 | 151 | 1.7 | 144 | 3.8 | 136 |
| 1500 | -.5 | -12.3 | 41 | 179 | .9 | 238 | 2.5 | 078 |
| 1800 | -4.0 | -10.1 | 63 | 204 | 1.6 | 214 | 3.2 | 007 |
| 2100 | -6.7 | -11.3 | 70 | 169 | 2.2 | 164 | 3.8 | 001 |
| 2400 | -8.1 | -12.7 | 70 | 172 | 2.3 | 151 | 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 | -9.5 | -13.8 | 71 | 167 | 2.5 | 156 | 4.4 | 001 |
| 0600 | ***** | ***** | 69 | 179 | 2.0 | 174 | 3.8 | 007 |
| 0900 | -6.4 | -15.2 | 50 | 187 | 1.9 | 192 | 3.8 | 077 |
| 1200 | -2.4 | -13.7 | 42 | 231 | 1.2 | 244 | 2.5 | *** |
| 1500 | -2.5 | -11.4 | 51 | 103 | 2.0 | 105 | 5.1 | 096 |
| 1800 | -6.0 | -11.0 | 68 | 176 | 2.4 | 158 | 4.4 | 007 |
| 2100 | -12.5 | -15.4 | 79 | 172 | 2.4 | 150 | 5.1 | 001 |
| 2400 | -11.0 | -14.6 | 75 | 181 | 2.1 | 152 | 4.4 | 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 | -11.4 | -15.3 | 73 | 191 | 2.6 | 198 | 5.1 | 001 |
| 0600 | -11.8 | -16.2 | 70 | 198 | 2.7 | 179 | 4.4 | 008 |
| 0900 | -8.6 | -17.5 | 49 | 205 | 2.3 | 177 | 5.1 | 113 |
| 1200 | -3.4 | -13.8 | 45 | 220 | 1.8 | 219 | 3.2 | *** |
| 1500 | -2.1 | -13.7 | 41 | 214 | 1.3 | 223 | 2.5 | 085 |
| 1800 | -4.7 | -12.5 | 55 | 196 | 1.9 | 181 | 4.4 | 006 |
| 2100 | -6.5 | -12.3 | 64 | 164 | 2.8 | 165 | 4.4 | 001 |
| 2400 | -6.1 | -9.9 | 75 | 142 | 1.6 | 138 | 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 | -7.3 | ***** | 83 | 050 | .5 | 074 | 3.2 | 001 |
| 0600 | -7.6 | ***** | 86 | 202 | 1.2 | 220 | 4.4 | 011 |
| 0900 | -4.7 | -12.7 | 54 | 316 | 3.6 | 288 | 8.9 | 100 |
| 1200 | -4.2 | -14.0 | 47 | 314 | 2.6 | 321 | 7.6 | 106 |
| 1500 | -3.4 | -15.2 | 40 | 206 | 1.9 | 204 | 3.8 | 087 |
| 1800 | -7.6 | -13.3 | 64 | 176 | 1.8 | 141 | 3.8 | 012 |
| 2100 | -12.6 | -15.5 | 79 | 181 | 2.4 | 155 | 4.4 | 001 |
| 2400 | -10.5 | -14.1 | 75 | 194 | 1.9 | *** | 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 KOSINA CREEK WEATHER STATION
DATA TAKEN DURING MARCH , 1981

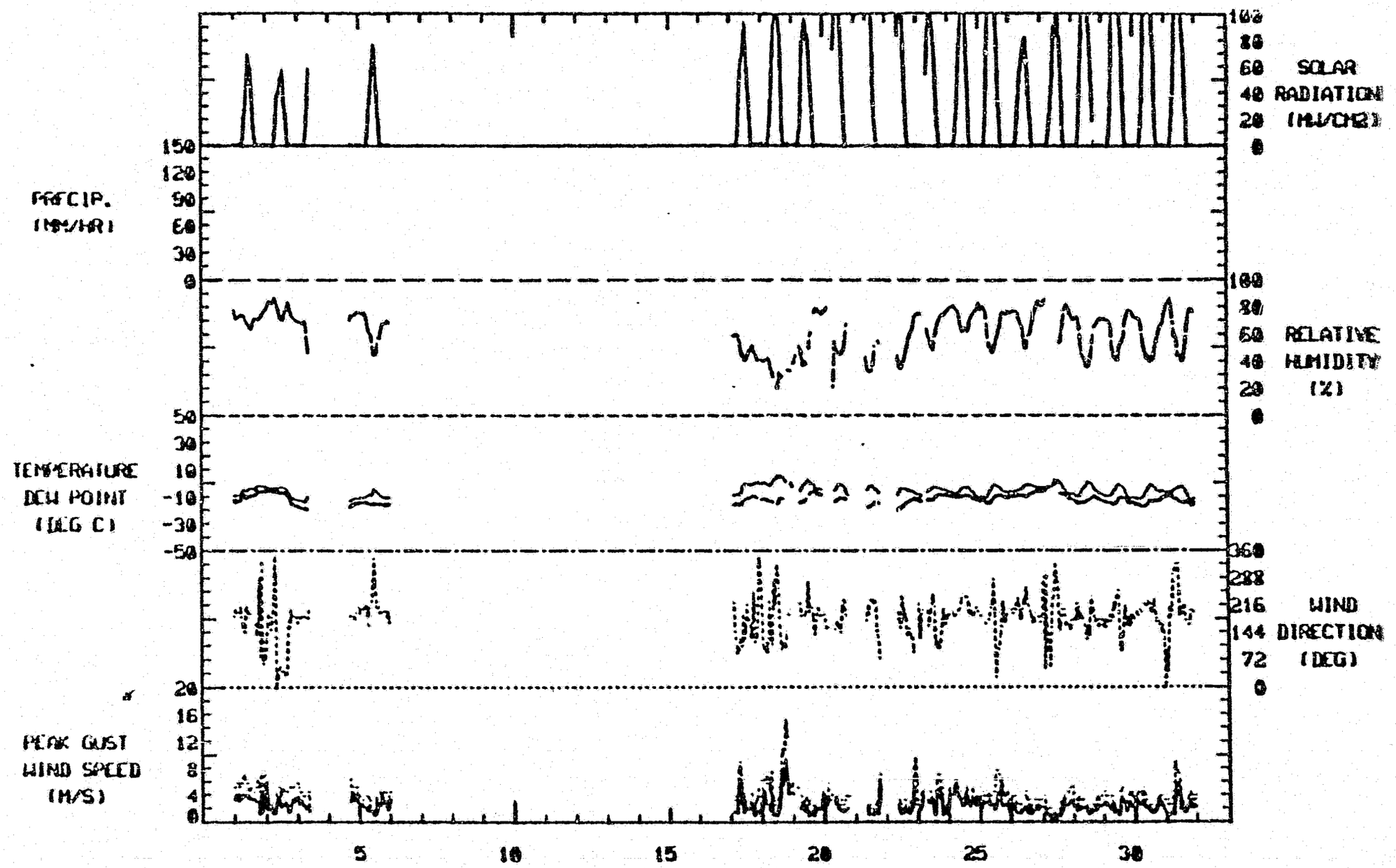
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | -1.4 | -11.9 | -6.6 | 176 | 2.3 | 3.5 | 098 | 7.6 | SSW | 72 | -9.4 | **** | 3730 | 01 |
| 02 | -2.5 | -12.9 | -7.7 | 112 | .7 | 2.6 | 081 | 7.0 | S | 78 | -9.4 | **** | 3658 | 02 |
| 03 | ***** | -15.4 | ***** | *** | **** | 2.5 | 174 | 5.7 | S | 65 | -19.1 | **** | 2571 | 03 |
| 04 | -11.3 | -13.4 | -12.4 | *** | **** | 3.3 | 348 | 6.3 | S | 74 | -15.9 | **** | 249 | 04 |
| 05 | -3.7 | -13.2 | -8.5 | 207 | 2.0 | 2.2 | 214 | 5.1 | SSW | 65 | -15.0 | **** | 4398 | 05 |
| 06 | ***** | ***** | ***** | *** | **** | 3.2 | 179 | 4.4 | SE | 68 | ***** | **** | 240 | 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 | 1.2 | -2.5 | -.6 | 134 | 1.4 | 2.2 | 121 | 8.9 | ESE | 49 | -13.1 | **** | 6353 | 17 |
| 18 | 6.8 | -2.5 | 2.2 | 120 | 2.5 | 3.8 | 094 | 15.2 | E | 34 | -14.0 | **** | 9468 | 18 |
| 19 | 3.2 | -7.8 | -2.3 | 191 | 1.7 | 2.0 | 133 | 5.7 | SSW | 59 | -11.6 | **** | 8214 | 19 |
| 20 | -.2 | -10.0 | -5.1 | 180 | 1.8 | 2.2 | 157 | 5.7 | SSE | 57 | -11.8 | **** | 13525 | 20 |
| 21 | -.4 | -9.6 | -5.0 | *** | **** | 1.6 | 067 | 7.0 | SW | 43 | -15.7 | **** | 15758 | 21 |
| 22 | -3.3 | -9.0 | -6.2 | *** | **** | 2.1 | 095 | 9.5 | SE | 51 | -15.2 | **** | 11931 | 22 |
| 23 | -1.7 | -10.2 | -6.0 | 167 | 1.8 | 2.5 | 109 | 7.0 | SSW | 68 | -10.7 | **** | 7978 | 23 |
| 24 | -2.7 | -11.2 | -7.0 | 206 | 3.0 | 3.2 | *** | 6.3 | SSW | 73 | -9.9 | **** | 8855 | 24 |
| 25 | -.4 | -12.5 | -6.4 | 173 | 1.6 | 2.6 | 022 | 7.6 | SSW | 66 | -11.1 | **** | 12223 | 25 |
| 26 | -.8 | -7.1 | -4.0 | 199 | 1.7 | 1.8 | 198 | 4.4 | SSW | 71 | -8.5 | **** | 6085 | 26 |
| 27 | 2.7 | -9.5 | -3.4 | 177 | 1.1 | 1.6 | 147 | 5.1 | S | 73 | -8.9 | **** | 7123 | 27 |
| 28 | 3.1 | -11.8 | -4.3 | 179 | 1.7 | 1.9 | 152 | 3.8 | SSE | 59 | -12.8 | **** | 10151 | 28 |
| 29 | 1.1 | -13.6 | -6.3 | 172 | 1.8 | 2.3 | 105 | 5.1 | S | 63 | -13.6 | **** | 9286 | 29 |
| 30 | -1.2 | -13.1 | -7.2 | 191 | 1.9 | 2.2 | 198 | 5.1 | SSW | 58 | -13.9 | **** | 10367 | 30 |
| 31 | -1.1 | -14.0 | -7.6 | 235 | .9 | 2.3 | 288 | 8.9 | S | 65 | -14.1 | **** | 8444 | 31 |
| MONTH | 6.8 | -15.4 | -5.5 | 178 | 1.5 | 2.5 | 094 | 15.2 | SSW | 62 | -12.7 | **** | 160606 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL ****
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.7

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 KOSINA CREEK WEATHER STATION

DATA START: 01 MARCH , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING MARCH , 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 | .20 | .85 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 1.11 |
| NNE | .13 | .65 | .59 | 0.00 | 0.00 | 0.00 | 0.00 | 1.37 |
| NE | .26 | 1.11 | .39 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 |
| ENE | .13 | .46 | .46 | .13 | 0.00 | 0.00 | 0.00 | 1.18 |
| E | .07 | .78 | 1.83 | .78 | .13 | 0.00 | 0.00 | 3.59 |
| ESE | .46 | 1.11 | 2.29 | .33 | 0.00 | 0.00 | 0.00 | 4.18 |
| SE | .13 | 3.85 | 2.42 | 0.00 | 0.00 | 0.00 | 0.00 | 6.40 |
| SSE | .78 | 8.30 | 2.81 | 0.00 | 0.00 | 0.00 | 0.00 | 11.89 |
| S | .65 | 14.63 | 6.47 | 0.00 | 0.00 | 0.00 | 0.00 | 21.75 |
| SSW | .52 | 16.39 | 5.88 | 0.00 | 0.00 | 0.00 | 0.00 | 22.80 |
| SW | 1.31 | 11.43 | 1.05 | 0.00 | 0.00 | 0.00 | 0.00 | 13.78 |
| WSW | .91 | 2.74 | .46 | 0.00 | 0.00 | 0.00 | 0.00 | 4.11 |
| W | .33 | .85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.18 |
| WNW | .65 | 1.18 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 1.89 |
| NW | .33 | .33 | .52 | .13 | 0.00 | 0.00 | 0.00 | 1.31 |
| NNW | .26 | 1.05 | .20 | 0.00 | 0.00 | 0.00 | 0.00 | 1.50 |
| CALM | | | | | | | | .20 |
| TOTAL | 7.12 | 65.71 | 25.47 | 1.37 | .13 | 0.00 | 0.00 | 100.00 |

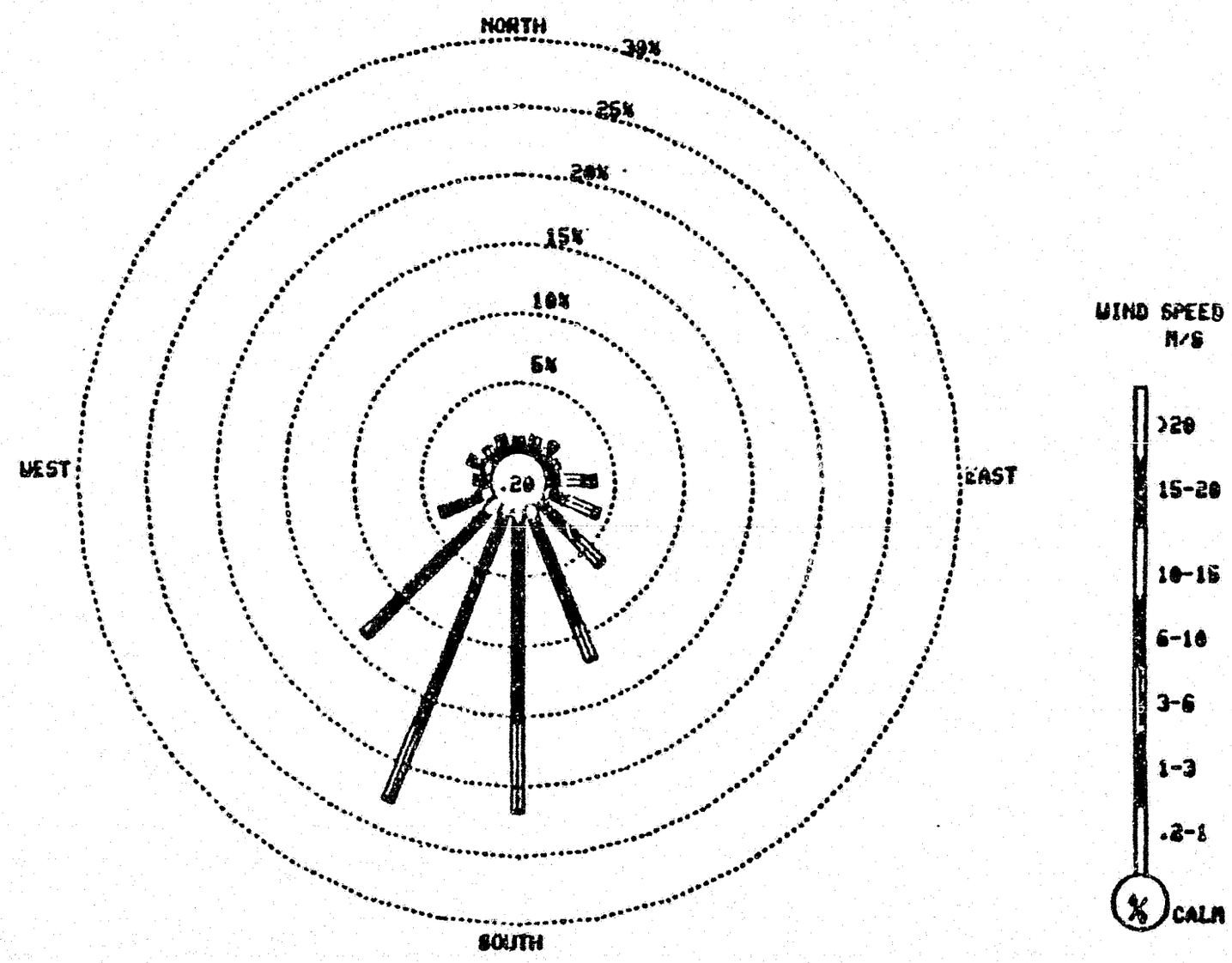
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1531 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

MARCH, 1981




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 KOSINA CREEK 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 | -9.7 | -12.2 | 82 | 204 | 2.1 | 204 | 3.8 | 001 |
| 0600 | -8.9 | -11.8 | 80 | 190 | 2.4 | 195 | 3.2 | 014 |
| 0900 | -6.7 | -11.0 | 72 | 190 | 1.5 | 167 | 2.5 | 078 |
| 1200 | -2.9 | -11.5 | 52 | 185 | 1.6 | 189 | 3.2 | *** |
| 1500 | -2.3 | -11.7 | 49 | 200 | 1.3 | 218 | 2.5 | 135 |
| 1800 | -6.1 | -9.0 | 80 | 195 | 1.5 | 213 | 2.5 | 011 |
| 2100 | -6.7 | -8.8 | 85 | 173 | 1.6 | 188 | 3.2 | 001 |
| 2400 | -8.4 | ***** | 85 | 190 | 1.7 | 169 | 3.2 | 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 | -7.9 | -10.2 | 84 | 154 | 1.3 | 121 | 3.8 | 001 |
| 0600 | -7.9 | -9.9 | 86 | 079 | .4 | 359 | 3.2 | 013 |
| 0900 | -5.1 | -11.5 | 61 | 029 | 1.9 | 344 | 4.4 | *** |
| 1200 | -1.9 | -13.0 | 43 | 117 | 3.0 | 125 | 4.4 | *** |
| 1500 | -3.2 | -13.3 | 46 | 257 | 4.2 | 252 | 10.8 | 107 |
| 1800 | -6.0 | -12.6 | 60 | 238 | 1.3 | 278 | 8.9 | 011 |
| 2100 | -9.9 | -14.8 | 68 | 181 | 2.5 | 189 | 5.7 | 001 |
| 2400 | ***** | ***** | ** | 168 | 2.6 | 185 | 4.4 | *** |

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 | -13.4 | -17.4 | 72 | 175 | 2.2 | 176 | 4.4 | 001 |
| 0600 | -12.8 | -18.3 | 64 | 179 | 2.4 | 155 | 4.4 | 021 |
| 0900 | -8.1 | -20.4 | 37 | 184 | 1.9 | *** | 4.4 | 119 |
| 1200 | -5.8 | -19.6 | 33 | 193 | 1.1 | 155 | 2.5 | *** |
| 1500 | -5.4 | -16.4 | 42 | 235 | 1.8 | 242 | 3.2 | 102 |
| 1800 | -10.0 | -16.4 | 60 | 219 | 2.2 | 207 | 3.8 | 012 |
| 2100 | -14.4 | -19.4 | 66 | 166 | 3.0 | 146 | 5.7 | 001 |
| 2400 | -13.5 | -18.9 | 64 | 171 | 2.5 | 161 | 5.1 | 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 | -12.9 | -18.5 | 63 | 189 | 1.5 | 173 | 3.2 | 001 |
| 0600 | -13.9 | -19.3 | 64 | 207 | .9 | 138 | 1.9 | 026 |
| 0900 | -8.6 | ***** | 29 | 206 | .9 | 148 | 2.5 | 124 |
| 1200 | -2.4 | ***** | 20 | 228 | .7 | 238 | 1.9 | *** |
| 1500 | -1.6 | ***** | 23 | 178 | .7 | 172 | 1.9 | 112 |
| 1800 | -7.4 | -18.0 | 43 | 232 | 3.3 | 232 | 7.0 | 017 |
| 2100 | ***** | ***** | ** | 173 | 2.9 | 174 | 5.1 | *** |
| 2400 | -12.3 | -19.6 | 55 | 178 | 3.5 | 190 | 5.7 | 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 | -13.5 | -20.3 | 57 | 169 | 2.4 | 180 | 3.8 | 001 |
| 0600 | ***** | ***** | 53 | 175 | 1.8 | 151 | 3.8 | 026 |
| 0900 | -10.8 | ***** | ** | 167 | 1.6 | 157 | 3.8 | *** |
| 1200 | ***** | ***** | ** | 170 | 1.0 | *** | 2.5 | *** |
| 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 KUSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |

DA 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 KUSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 KOSINA CREEK 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 | 5.0 | -7.3 | 41 | 176 | 1.7 | 183 | 4.4 | 024 |
| 2100 | 2.2 | -5.3 | 58 | 165 | 1.2 | 162 | 3.8 | 001 |
| 2400 | 1.3 | -4.2 | 67 | 169 | 1.5 | 160 | 3.2 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING APRIL , 1981

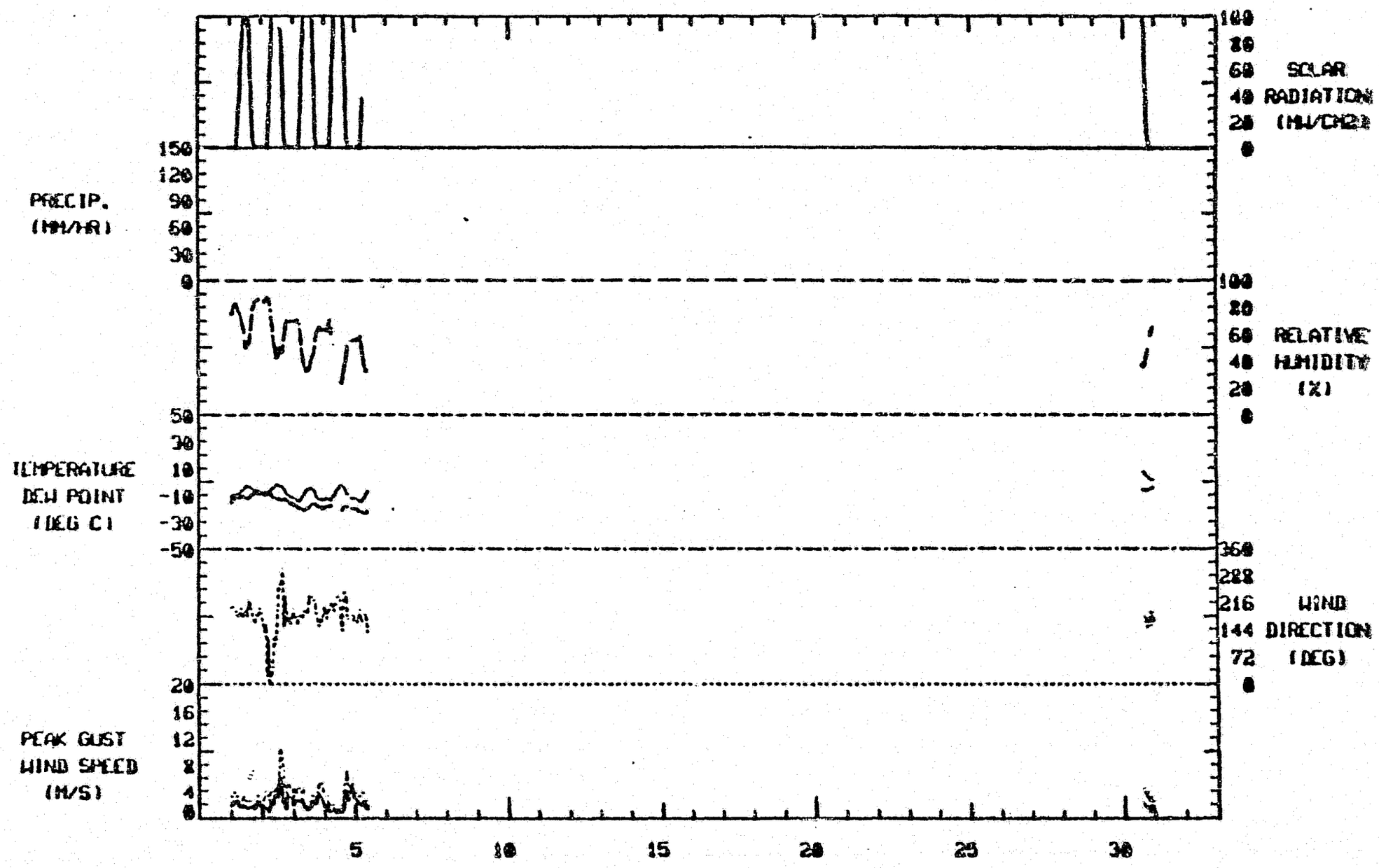
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | -2.3 | -12.2 | -7.3 | 191 | 1.7 | 1.8 | 204 | 3.8 | SSW | 74 | -10.9 | **** | 8230 | 01 |
| 02 | -1.5 | -12.5 | -7.0 | 181 | .9 | 2.6 | 252 | 10.8 | SSE | 65 | -12.2 | **** | 6321 | 02 |
| 03 | -4.2 | -15.8 | -10.0 | 188 | 2.0 | 2.2 | 146 | 5.7 | SSE | 53 | -18.4 | **** | 9565 | 03 |
| 04 | -1.6 | -15.0 | -8.3 | 199 | 1.5 | 1.8 | 232 | 7.0 | S | 49 | -18.8 | **** | 9578 | 04 |
| 05 | ***** | ***** | ***** | *** | **** | 2.0 | 180 | 3.8 | SSE | 49 | -20.3 | **** | 7028 | 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 | 7.7 | -4.1 | 1.8 | *** | **** | 1.6 | 183 | 4.4 | SSE | 51 | -5.6 | 0.0 | 6357 | 30 |
| MONTH | 7.7 | -15.8 | -6.2 | 191 | 1.5 | 2.0 | 252 | 10.8 | S | 57 | -14.4 | 0.0 | 47078 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 4.4
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 KOSINA CREEK WEATHER STATION

DATA START: 01 APRIL , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KUSINA CREEK 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 | 0.00 | .46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .46 |
| NNE | .23 | 1.37 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.60 |
| NE | .23 | .68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .91 |
| ENE | .23 | .46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .68 |
| E | 0.00 | .46 | .46 | 0.00 | 0.00 | 0.00 | 0.00 | .91 |
| ESE | 0.00 | 1.14 | .68 | 0.00 | 0.00 | 0.00 | 0.00 | 1.83 |
| SE | 0.00 | 4.57 | 1.60 | 0.00 | 0.00 | 0.00 | 0.00 | 6.16 |
| SSE | 1.37 | 16.21 | 3.65 | 0.00 | 0.00 | 0.00 | 0.00 | 21.23 |
| S | 1.83 | 16.21 | 4.34 | 0.00 | 0.00 | 0.00 | 0.00 | 22.37 |
| SSW | 2.05 | 18.26 | .68 | 0.00 | 0.00 | 0.00 | 0.00 | 21.00 |
| SW | 2.05 | 10.50 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 13.70 |
| WSW | 1.83 | 1.83 | 1.60 | .23 | 0.00 | 0.00 | 0.00 | 5.48 |
| W | .46 | .23 | 1.37 | .46 | 0.00 | 0.00 | 0.00 | 2.51 |
| WNW | 0.00 | .23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .23 |
| NW | 0.00 | 0.00 | .23 | 0.00 | 0.00 | 0.00 | 0.00 | .23 |
| NNW | 0.00 | .68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .68 |
| CALM | | | | | | | | 0.00 |
| TOTAL | 10.27 | 73.29 | 15.75 | .68 | 0.00 | 0.00 | 0.00 | 100.00 |

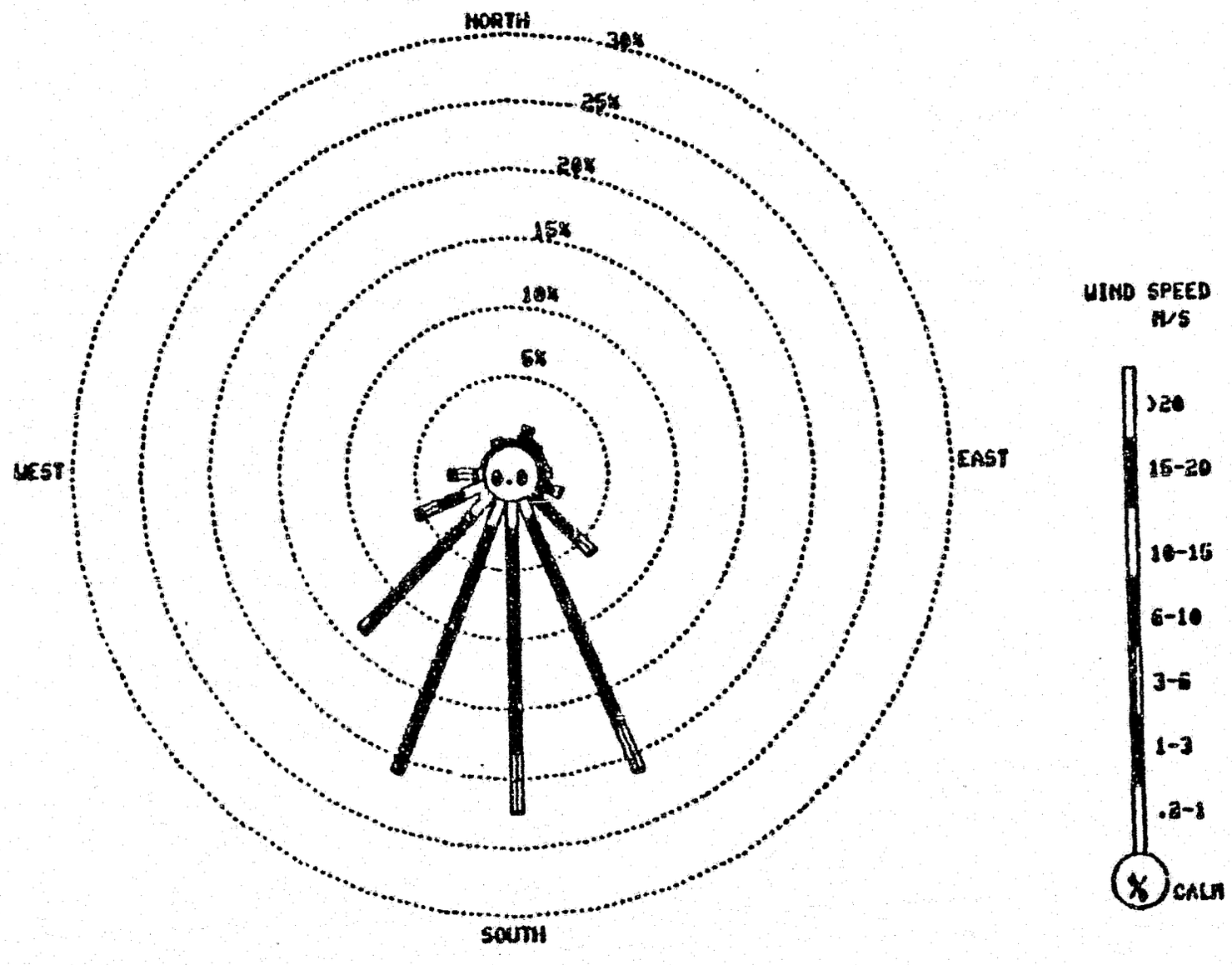
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

438 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

APRIL, 1981




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA CREEK 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 | **** | **** | **** | **** | **** | 07 |
| 08 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 08 |
| 09 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 09 |
| 10 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 10 |
| 11 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 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 | .4 | 0.0 | 0.0 | 1.6 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 13 |
| 14 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .6 | .4 | 0.0 | 1.6 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14 |
| 15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .4 | .8 | 0.0 | .6 | .4 | 15 |
| 16 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | .2 | .4 | .8 | .2 | .2 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 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 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | .2 | 0.0 | .2 | 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 KOSINA CREEK 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 | 1.5 | -3.1 | 73 | 201 | .5 | 358 | 3.8 | 001 |
| 0600 | 1.9 | -2.5 | 73 | 356 | 1.8 | 016 | 4.4 | 073 |
| 0900 | 4.1 | -2.8 | 61 | 355 | 2.6 | 009 | 4.4 | 138 |
| 1200 | 4.4 | -2.8 | 60 | 358 | 3.6 | 011 | 7.0 | 114 |
| 1500 | 3.7 | -3.2 | 61 | 337 | 4.3 | 334 | 7.6 | 061 |
| 1800 | 2.6 | -3.8 | 63 | 337 | 4.4 | 325 | 7.6 | 029 |
| 2100 | 1.6 | -3.4 | 70 | 330 | 3.3 | 328 | 6.3 | 001 |
| 2400 | -.2 | -4.3 | 74 | 100 | .2 | 265 | 3.2 | 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 | -2.0 | -6.3 | 73 | 148 | 2.1 | 138 | 3.2 | 001 |
| 0600 | 1.1 | -8.3 | 50 | 149 | 1.6 | 143 | 3.2 | 084 |
| 0900 | 4.1 | -6.6 | 46 | 357 | .4 | 357 | [illegible] | *** |
| 1200 | 6.2 | -6.2 | 41 | 341 | 1.8 | 352 | 5.1 | *** |
| 1500 | 6.4 | -7.0 | 38 | 274 | 2.5 | 003 | 6.3 | *** |
| 1800 | 4.9 | -5.0 | 49 | 281 | 1.6 | 236 | 5.1 | 052 |
| 2100 | .6 | -4.7 | 68 | 017 | 2.7 | 021 | 5.7 | 001 |
| 2400 | -2.0 | -5.2 | 79 | 161 | .8 | 300 | 3.2 | 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 | -3.1 | [illegible] | 79 | 165 | 1.8 | 179 | 3.2 | 001 |
| 0600 | -.8 | -5.1 | 73 | 172 | 1.5 | 145 | 3.8 | 044 |
| 0900 | 4.4 | ***** | 53 | 238 | .5 | 180 | 1.9 | 092 |
| 1200 | 4.6 | -3.8 | 55 | 095 | 3.8 | 107 | 6.3 | 083 |
| 1500 | 6.7 | -5.4 | 42 | 107 | 6.3 | 102 | 8.9 | 114 |
| 1800 | 5.4 | -5.1 | 47 | 119 | 5.2 | 116 | 8.3 | 030 |
| 2100 | 2.0 | -6.0 | 56 | 348 | 2.4 | 331 | 7.0 | 001 |
| 2400 | 1.2 | -6.0 | 59 | 089 | 2.7 | 086 | 9.5 | 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 | -.4 | -5.5 | 69 | 212 | 1.2 | 224 | 5.1 | 001 |
| 0600 | 2.1 | -6.4 | 54 | 177 | 1.3 | 138 | 3.2 | 075 |
| 0900 | 4.3 | -5.1 | 51 | 123 | 2.9 | 118 | 6.3 | *** |
| 1200 | 7.1 | -5.1 | 42 | 137 | [illegible] | 129 | 6.3 | *** |
| 1500 | 6.0 | -5.5 | 44 | 109 | [illegible] | 096 | 10.2 | 085 |
| 1800 | 4.9 | -5.0 | 49 | 098 | [illegible] | 097 | 8.9 | 041 |
| 2100 | 2.8 | -[illegible] | 58 | 099 | 3.3 | 095 | 6.3 | 001 |
| 2400 | -1.6 | -[illegible] | 75 | 170 | 1.4 | 185 | 3.2 | 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 | -2.5 | -5.9 | 78 | 181 | 1.8 | 167 | 3.2 | 001 |
| 0600 | 0.0 | -4.9 | 70 | 164 | 2.3 | 159 | 3.8 | 053 |
| 0900 | 6.1 | -4.5 | 47 | 116 | .7 | 142 | 3.8 | *** |
| 1200 | 7.1 | -5.1 | 42 | 024 | 2.1 | 008 | 4.4 | 136 |
| 1500 | 9.3 | -4.4 | 38 | 339 | 1.7 | 345 | 4.4 | *** |
| 1800 | 7.1 | -4.8 | 43 | 248 | 3.0 | 234 | 5.1 | 031 |
| 2100 | 2.8 | -3.2 | 65 | 358 | .8 | 014 | 3.2 | 001 |
| 2400 | .7 | -3.5 | 74 | 193 | 1.3 | 222 | 3.2 | 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 | 0.0 | -4.1 | 74 | 177 | 2.0 | 169 | 3.2 | 001 |
| 0600 | 3.1 | -3.6 | 62 | 182 | 2.0 | 184 | 3.2 | 061 |
| 0900 | 8.9 | -4.1 | 40 | 177 | 1.4 | 181 | 3.2 | 140 |
| 1200 | 11.3 | -6.2 | 29 | 086 | 1.2 | 040 | 5.1 | *** |
| 1500 | 15.2 | -5.4 | 24 | 005 | 1.3 | 052 | 5.1 | *** |
| 1800 | 12.8 | -5.9 | 27 | 315 | 2.7 | 339 | 4.4 | 052 |
| 2100 | 6.3 | -3.5 | 50 | 283 | 1.1 | 203 | 5.1 | 001 |
| 2400 | 2.8 | -4.1 | 61 | 186 | 2.2 | 181 | 4.4 | 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 | .7 | [illegible] | [illegible] | 191 | 2.1 | 212 | 3.2 | 001 |
| 0600 | 6.0 | -4.3 | [illegible] | 189 | 1.7 | 208 | 3.8 | 076 |
| 0900 | 12.7 | -6.4 | 26 | 119 | 1.0 | 058 | 4.4 | *** |
| 1200 | 14.4 | -6.6 | 23 | 145 | 2.7 | 119 | 6.3 | *** |
| 1500 | 15.4 | -8.9 | 18 | 145 | 1.8 | 083 | 6.3 | *** |
| 1800 | 13.8 | -10.2 | 18 | 051 | 4.6 | 054 | 7.6 | 051 |
| 2100 | ***** | ***** | ** | 050 | 4.5 | 050 | 6.3 | *** |
| 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 KOSINA CREEK WEATHER STATION
DATA TAKEN DURING MAY , 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 | 8.6 | -2.2 | 47 | 334 | 1.1 | 358 | 3.8 | 029 |
| 2100 | 6.5 | ***** | 55 | 339 | 1.1 | 324 | 2.5 | 001 |
| 2400 | 3.8 | -2.5 | 64 | 190 | 1.4 | 208 | 2.5 | 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 | 1.9 | -2.7 | 72 | 199 | 1.3 | 159 | 2.5 | 002 |
| 0600 | 8.3 | ***** | 42 | 205 | 1.1 | 200 | 2.5 | 089 |
| 0900 | 10.0 | -4.2 | 37 | 099 | 3.3 | 102 | 6.3 | *** |
| 1200 | 12.3 | -5.4 | 29 | 107 | 4.1 | 113 | 7.6 | *** |
| 1500 | 11.9 | -5.7 | 29 | 079 | 4.1 | 057 | 8.3 | 087 |
| 1800 | 10.8 | -5.0 | 33 | 074 | 3.9 | 051 | 8.9 | 023 |
| 2100 | 8.2 | -3.5 | 44 | 090 | 1.5 | 085 | 6.3 | 001 |
| 2400 | 6.2 | -4.4 | 47 | 183 | 1.3 | 201 | 3.2 | 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 | 2.6 | -3.6 | 64 | 182 | 1.3 | 150 | 3.8 | 002 |
| 0600 | 6.7 | -3.7 | 48 | 178 | 1.0 | 181 | 2.5 | 086 |
| 0900 | 9.1 | -3.3 | 42 | 009 | 2.6 | 018 | 4.4 | *** |
| 1200 | 10.2 | -2.9 | 40 | 047 | 2.2 | 018 | 5.7 | 124 |
| 1500 | 9.3 | 1.8 | 60 | 040 | 1.3 | 014 | 9.5 | 083 |
| 1800 | 5.2 | 2.5 | 83 | 163 | 1.9 | 061 | 9.5 | 010 |
| 2100 | 4.4 | 1.2 | 80 | 205 | 3.0 | 211 | 7.0 | 001 |
| 2400 | 3.5 | .8 | 83 | 186 | 2.7 | 191 | 5.1 | 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 | 2.4 | -.2 | 83 | 184 | 1.9 | 190 | 3.8 | 002 |
| 0600 | 4.6 | ***** | 77 | 192 | 1.1 | 202 | 3.2 | 053 |
| 0900 | 7.8 | 2.4 | 69 | 004 | 1.9 | 353 | 3.8 | 097 |
| 1200 | 11.2 | -1.4 | 42 | 019 | 2.0 | 031 | 4.4 | 095 |
| 1500 | 6.1 | 2.7 | 79 | 157 | 1.5 | 153 | 11.4 | 022 |
| 1800 | 8.9 | 2.6 | 65 | 231 | 4.0 | 240 | 8.9 | 113 |
| 2100 | 6.8 | 1.2 | 68 | 211 | 2.4 | 194 | 5.1 | 006 |
| 2400 | 4.5 | .2 | 74 | 192 | 1.7 | 211 | 3.2 | 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 | 2.6 | -.9 | 78 | 177 | 1.5 | 162 | 2.5 | 001 |
| 0600 | 5.0 | -.3 | 69 | 208 | 1.2 | 184 | 2.5 | 071 |
| 0900 | 7.7 | 1.5 | 65 | 004 | 1.3 | 001 | 3.8 | 066 |
| 1200 | 11.1 | .4 | 48 | 005 | 2.3 | 030 | 4.4 | 096 |
| 1500 | 9.3 | .1 | 53 | 285 | 1.8 | 263 | 7.0 | 048 |
| 1800 | 7.3 | 1.5 | 67 | 190 | 5.3 | 195 | 8.9 | 041 |
| 2100 | 5.3 | 2.3 | 81 | 139 | 2.7 | 073 | 9.5 | 002 |
| 2400 | 3.7 | 1.4 | 85 | 157 | 1.4 | 233 | 3.2 | 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 | 1.9 | -.4 | 85 | 160 | 1.8 | 147 | 3.8 | 001 |
| 0600 | 5.4 | .1 | 69 | 168 | 1.9 | 176 | 3.2 | 066 |
| 0900 | 9.8 | -1.4 | 46 | 184 | 1.0 | 183 | 2.5 | *** |
| 1200 | 12.1 | -2.6 | 36 | 057 | [illegible] | 107 | 3.8 | 092 |
| 1500 | 10.3 | -1.5 | 44 | 107 | [illegible] | 163 | 8.3 | 088 |
| 1800 | 11.1 | -2.8 | 38 | 117 | 2.1 | 078 | 7.6 | 052 |
| 2100 | 6.3 | .1 | 65 | 216 | 5.1 | 229 | 8.3 | 007 |
| 2400 | 4.3 | -.4 | 72 | 198 | 3.8 | 196 | 7.6 | 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 | 3.1 | -1.1 | 74 | 145 | 1.0 | 120 | 3.8 | 001 |
| 0600 | 4.5 | -1.0 | 68 | 099 | 1.0 | 045 | 3.2 | 041 |
| 0900 | 9.4 | .7 | 55 | 031 | 2.6 | 025 | 5.1 | *** |
| 1200 | 11.8 | -2.2 | 38 | 273 | 3.1 | 249 | 7.6 | *** |
| 1500 | 11.7 | -5.4 | 30 | 261 | 2.8 | 309 | 7.0 | 063 |
| 1800 | 10.5 | -3.0 | 39 | 301 | .8 | 258 | 6.3 | 031 |
| 2100 | 8.0 | -.8 | 54 | 198 | 3.6 | 189 | 6.3 | 004 |
| 2400 | 5.7 | .2 | 68 | 166 | 1.1 | 193 | 7.0 | 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 | 3.9 | 1.2 | 83 | 034 | 1.4 | 084 | 3.8 | 001 |
| 0600 | 3.5 | .8 | 83 | 027 | 1.3 | 025 | 4.4 | 004 |
| 0900 | 6.0 | ***** | 71 | 181 | 1.0 | 202 | 3.2 | 105 |
| 1200 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 1500 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 1800 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 2100 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 2400 | ***** | ***** | ** | *** | **** | *** | **** | *** |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING MAY , 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 KOSINA CREEK WEATHER STATION
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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 | 9.4 | 2.9 | 64 | 003 | 2.3 | 356 | 6.3 | 030 |
| 1800 | 10.5 | 2.3 | 57 | 346 | 2.5 | 339 | 5.1 | 068 |
| 2100 | 8.7 | -2.1 | 47 | 026 | 1.5 | 084 | 5.7 | 007 |
| 2400 | 6.8 | -3.6 | 48 | 124 | 3.2 | 119 | 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 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 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 KUSINA CREEK WEATHER STATION
DATA TAKEN DURING MAY , 1981

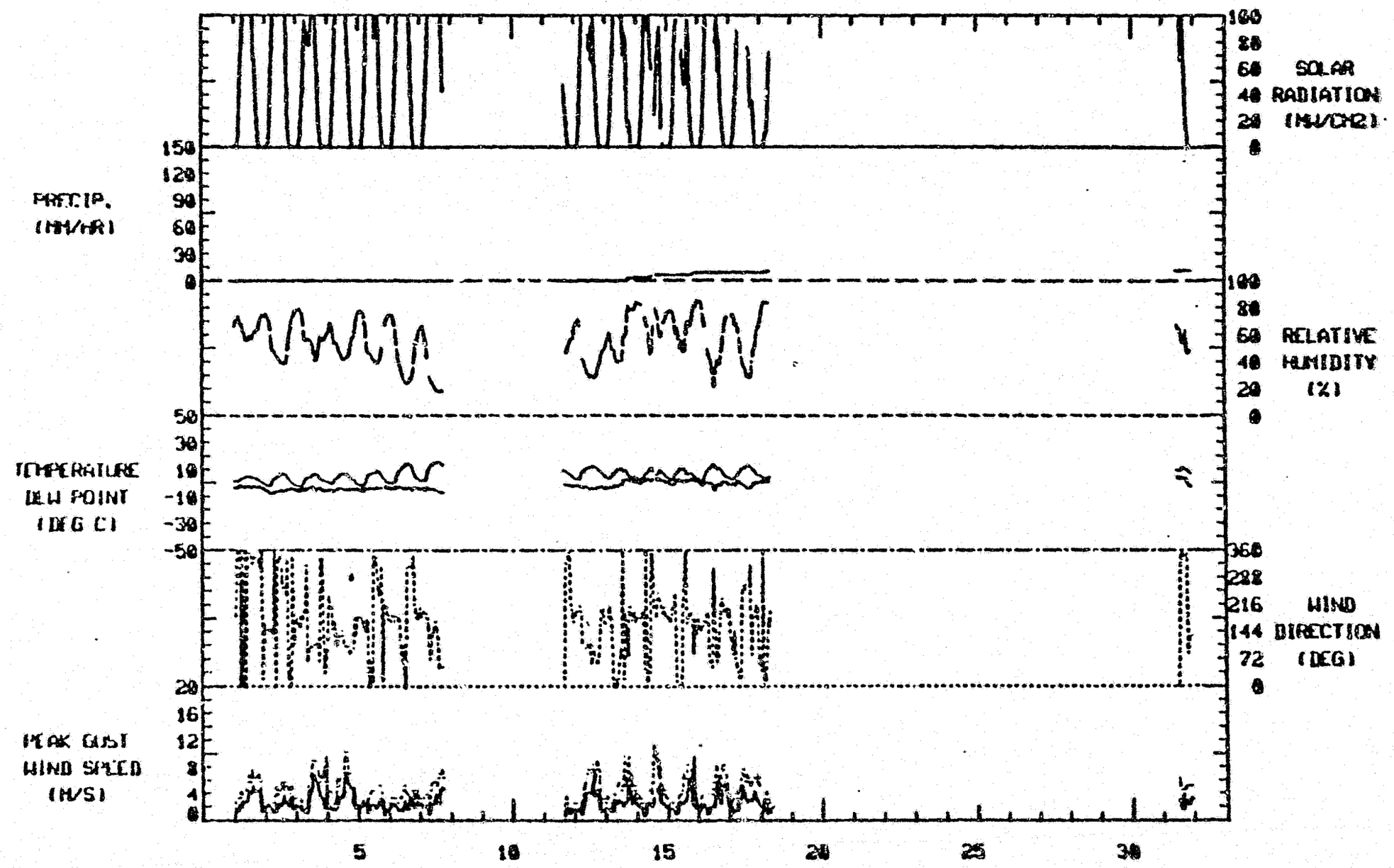
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | P'VAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 5.2 | -1.2 | 2.0 | 344 | 2.4 | 2.9 | 334 | 7.6 | NNW | 65 | -3.2 | 0.0 | 11185 | 01 |
| 02 | 7.5 | -4.0 | 1.8 | 309 | .3 | 2.2 | 003 | 6.3 | SE | 55 | -6.2 | 0.0 | 8589 | 02 |
| 03 | 6.8 | -3.1 | 1.9 | 109 | 2.2 | 3.3 | 086 | 9.5 | ESE | 60 | -5.4 | 0.0 | 11125 | 03 |
| 04 | 7.1 | -1.2 | 3.0 | 121 | 2.6 | 3.3 | 096 | 10.2 | E | 55 | -5.3 | 0.0 | 10737 | 04 |
| 05 | 9.3 | -2.8 | 3.2 | 215 | .4 | 2.0 | 234 | 5.1 | SSE | 57 | -4.5 | 0.0 | 10962 | 05 |
| 06 | 15.2 | -.8 | 7.2 | 205 | .6 | 2.1 | 040 | 5.1 | S | 46 | -4.6 | 0.0 | 9453 | 06 |
| 07 | ***** | ***** | ***** | 123 | 1.3 | 2.7 | 054 | 7.6 | NE | 36 | -6.8 | 0.0 | 12880 | 07 |
| 08 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 08 |
| 09 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 09 |
| 10 | 15.6 | -.3 | 7.7 | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 10 |
| 11 | 9.2 | 4.9 | 7.1 | *** | **** | 1.4 | 358 | 3.8 | N | 53 | -2.3 | 0.0 | 2926 | 11 |
| 12 | 13.3 | 1.8 | 7.5 | 102 | 2.0 | 2.8 | 051 | 8.9 | E | 42 | -4.4 | 0.0 | 9339 | 12 |
| 13 | 11.6 | 2.6 | 7.1 | 157 | .6 | 2.6 | 014 | 9.5 | SSW | 59 | -.9 | 4.0 | 10362 | 13 |
| 14 | 12.7 | 1.8 | 7.3 | 211 | 1.0 | 2.5 | 153 | 11.4 | SSW | 70 | 1.1 | 3.0 | 10995 | 14 |
| 15 | 12.3 | 2.1 | 7.2 | 164 | .9 | 2.7 | 073 | 9.5 | SSW | 68 | .7 | 2.2 | 8931 | 15 |
| 16 | 14.8 | .9 | 7.8 | 176 | 1.6 | 2.9 | 163 | 8.3 | SSE | 57 | -1.1 | .2 | 9508 | 16 |
| 17 | 13.8 | 1.8 | 7.8 | 236 | .7 | 2.8 | 249 | 7.6 | WSW | 53 | -1.6 | 0.0 | 7579 | 17 |
| 18 | ***** | ***** | ***** | *** | **** | 1.5 | 025 | 4.4 | N | 81 | 1.0 | 1.8 | 4360 | 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 | 11.7 | 6.5 | 9.1 | *** | **** | 2.7 | 356 | 6.3 | N | 57 | -.1 | .4 | 11087 | 31 |
| MONTH | 15.6 | -4.0 | 5.8 | 137 | .6 | 2.5 | 153 | 11.4 | SSW | 57 | -2.7 | 11.6 | 150019 | |

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

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 KOSINA CREEK WEATHER STATION

DATA START: 01 MAY , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK 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 | .30 | 7.63 | 1.65 | 0.00 | 0.00 | 0.00 | 0.00 | 9.57 |
| NNE | .22 | 4.11 | 1.20 | 0.00 | 0.00 | 0.00 | 0.00 | 5.53 |
| NE | .15 | 2.54 | 1.94 | .22 | 0.00 | 0.00 | 0.00 | 4.86 |
| ENE | .30 | 1.94 | 1.05 | .22 | 0.00 | 0.00 | 0.00 | 3.52 |
| E | .07 | 1.65 | 3.74 | .60 | 0.00 | 0.00 | 0.00 | 6.06 |
| ESE | .22 | 1.80 | 3.22 | 1.27 | 0.00 | 0.00 | 0.00 | 6.51 |
| SE | .60 | 4.71 | 1.80 | .07 | 0.00 | 0.00 | 0.00 | 7.18 |
| SSE | .52 | 9.20 | 1.12 | .07 | 0.00 | 0.00 | 0.00 | 10.92 |
| S | .37 | 8.90 | 1.12 | .22 | 0.00 | 0.00 | 0.00 | 10.62 |
| SSW | .75 | 7.78 | 3.07 | .30 | 0.00 | 0.00 | 0.00 | 11.89 |
| SW | 1.05 | 3.96 | 1.12 | .07 | 0.00 | 0.00 | 0.00 | 6.21 |
| WSW | .22 | 2.09 | 1.80 | .15 | 0.00 | 0.00 | 0.00 | 4.26 |
| W | .22 | 1.12 | .90 | 0.00 | 0.00 | 0.00 | 0.00 | 2.24 |
| WNW | .07 | 1.12 | .30 | 0.00 | 0.00 | 0.00 | 0.00 | 1.50 |
| NW | .07 | 2.77 | .90 | 0.00 | 0.00 | 0.00 | 0.00 | 3.74 |
| NNW | .22 | 2.39 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 5.39 |
| CALM | | | | | | | | 0.00 |
| TOTAL | 5.39 | 63.72 | 27.67 | 3.22 | 0.00 | 0.00 | 0.00 | 100.00 |

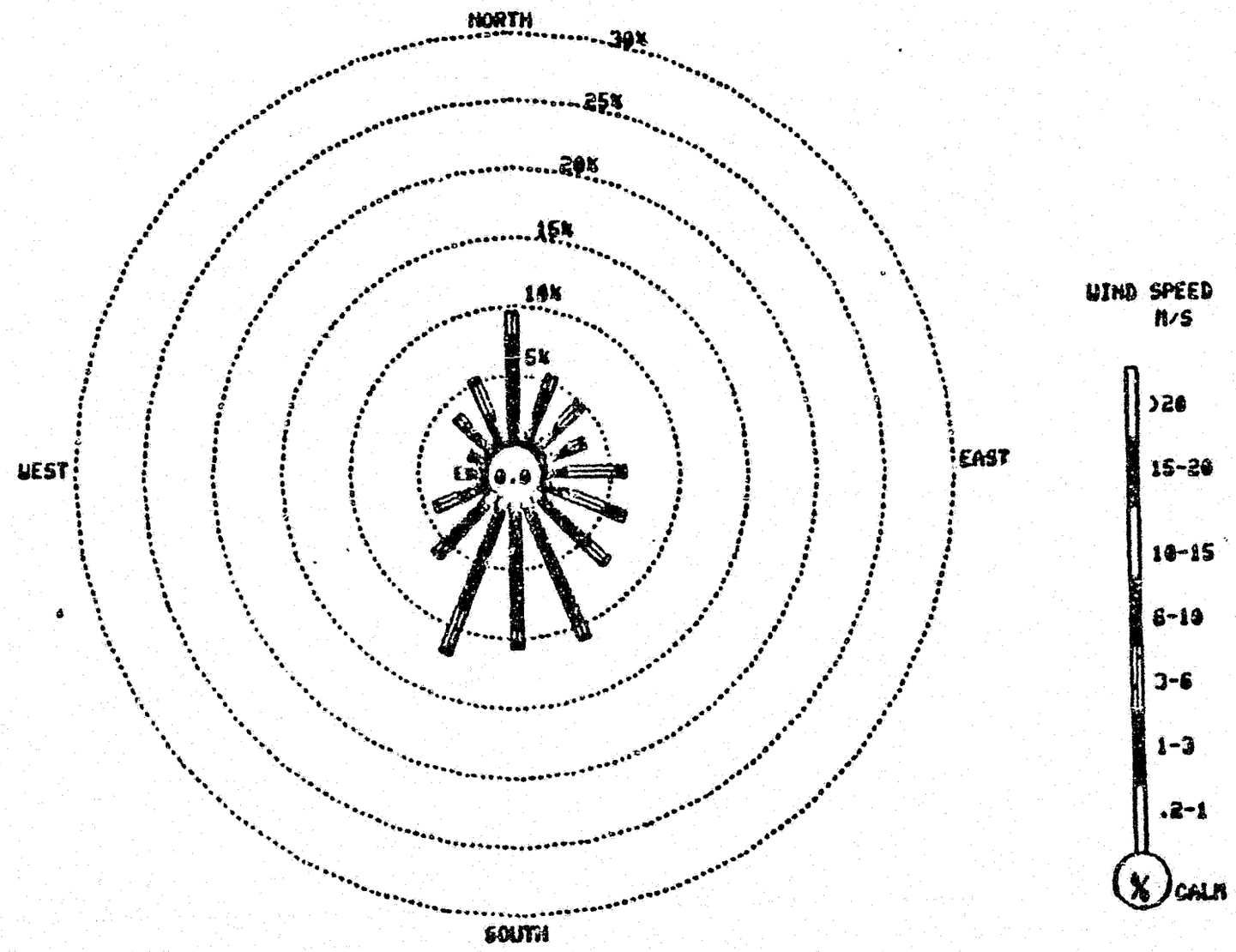
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1337 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

MAY, 1981




WIND ROSE PLOT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KUSINA CREEK 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 | 4.2 | .2 | 0.0 | .6 | .2 | .2 | 0.0 | 02 |
| 03 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 03 |
| 04 | 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 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 04 |
| 05 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 05 |
| 06 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 06 |
| 07 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 07 |
| 08 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 08 |
| 09 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 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 | 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 | 2.4 | 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 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 14 |
| 15 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 15 |
| 16 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 16 |
| 17 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 17 |
| 18 | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | 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 | 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 | .2 | 1.0 | .4 | .4 | .4 | .8 | 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 | 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 | .2 | 1.0 | 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 | **** | **** | 1.8 | 0.0 | .2 | 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 | .2 | 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 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .6 | 1.0 | 1.2 | 1.6 | 1.6 | .8 | .8 | .8 | .4 | 1.0 | 1.2 | 1.0 | 1.6 | 1.0 | .2 | .4 | .2 | 0.0 | 27 |
| 28 | .2 | 0.0 | 0.0 | .2 | 1.2 | .4 | .2 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | .4 | .2 | .6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 1.2 | .8 | 28 |
| 29 | 1.2 | .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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 1.2 | 1.4 | 29 |
| 30 | 0.0 | .4 | 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 | 30 |

R&H CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA CREEK WEATHER STATION
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 | 5.2 | -3.2 | 55 | 104 | 4.3 | 086 | 8.3 | 007 |
| 0600 | 6.5 | -1.7 | 56 | 082 | 4.0 | 091 | 8.3 | 072 |
| 0900 | 9.4 | -2.4 | 44 | 066 | 4.5 | 098 | 8.3 | *** |
| 1200 | 13.9 | -4.4 | 28 | 107 | 4.0 | 107 | 8.9 | *** |
| 1500 | 13.8 | -10.2 | 18 | 118 | 6.7 | 123 | 10.8 | *** |
| 1800 | 12.2 | -10.2 | 20 | 103 | 5.4 | 118 | 8.9 | 068 |
| 2100 | 6.3 | -1.2 | 59 | 061 | 3.0 | 103 | 6.3 | 004 |
| 2400 | 1.9 | -1.8 | 77 | 340 | 1.2 | 009 | 3.8 | 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 | 0.0 | -3.6 | 77 | 202 | 1.7 | 203 | 3.6 | 013 |
| 0600 | 5.7 | -1.3 | 61 | 216 | .9 | 206 | 3.2 | 117 |
| 0900 | 8.1 | -.5 | 55 | 009 | 3.4 | 005 | 6.3 | 091 |
| 1200 | 12.1 | -4.2 | 32 | 335 | 3.1 | 290 | 7.6 | *** |
| 1500 | 13.3 | -5.9 | 26 | 323 | 2.1 | 247 | 7.6 | *** |
| 1800 | 5.4 | 2.7 | 83 | 227 | 4.6 | 137 | 10.8 | 019 |
| 2100 | 5.3 | 1.5 | 77 | 175 | 2.2 | 142 | 6.3 | 002 |
| 2400 | 4.4 | 1.7 | 83 | 211 | 1.7 | 226 | 5.1 | 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 | 3.5 | ***** | 84 | 137 | .4 | 147 | 2.5 | 005 |
| 0600 | 5.3 | 1.4 | 76 | 290 | .6 | 298 | 1.9 | 058 |
| 0900 | 10.0 | -4.5 | 36 | 048 | 1.9 | 101 | 8.3 | *** |
| 1200 | 10.6 | -6.4 | 30 | 103 | 4.9 | 104 | 9.5 | 120 |
| 1500 | 12.3 | -5.4 | 29 | 110 | 3.9 | 113 | 8.3 | 073 |
| 1800 | 8.8 | -.1 | 54 | 053 | 2.4 | 116 | 7.6 | 040 |
| 2100 | 6.0 | .7 | 69 | 360 | 1.2 | 241 | 5.1 | 006 |
| 2400 | 2.1 | -.9 | 81 | 013 | .7 | 027 | 4.4 | 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 | 3.3 | .1 | 80 | 164 | 1.2 | 149 | 3.2 | 007 |
| 0600 | 4.3 | 1.3 | 81 | 351 | 1.2 | 019 | 2.5 | 033 |
| 0900 | 7.4 | .1 | 60 | 319 | .8 | 218 | 3.2 | 063 |
| 1200 | 11.9 | -1.7 | 39 | 321 | 1.0 | 002 | 5.1 | 136 |
| 1500 | ***** | ***** | ** | 199 | 1.9 | 208 | 9.5 | *** |
| 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 KOSINA CREEK WEATHER STATION
DATA TAKEN DURING JUNE , 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 | 9.9 | -5.4 | 34 | 039 | 1.2 | 009 | 3.8 | 063 |
| 1200 | 11.9 | -13.2 | 16 | 006 | .4 | 268 | 5.1 | 083 |
| 1500 | 13.5 | -17.6 | 10 | 187 | .9 | 206 | 5.7 | 061 |
| 1800 | 13.1 | -13.9 | 14 | 097 | .4 | 321 | 5.7 | 020 |
| 2100 | 9.3 | -8.0 | 29 | 359 | 2.3 | 020 | 5.7 | 004 |
| 2400 | 2.9 | -5.9 | 53 | 144 | 1.5 | 128 | 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 | 2.6 | -5.6 | 55 | 178 | 1.9 | 189 | 3.8 | 005 |
| 0600 | 7.1 | ***** | 40 | 195 | 1.0 | 165 | 2.5 | 031 |
| 0900 | 11.5 | -5.2 | 31 | 019 | 1.3 | 011 | 2.5 | 036 |
| 1200 | 13.1 | -7.1 | 24 | 042 | 2.5 | 057 | 10.8 | 047 |
| 1500 | 11.4 | -2.2 | 39 | 039 | 2.0 | 061 | 8.9 | 012 |
| 1800 | 7.3 | 2.1 | 70 | 183 | 1.4 | 195 | 12.1 | 024 |
| 2100 | 5.3 | 1.9 | 79 | 013 | 2.8 | 024 | 7.0 | 002 |
| 2400 | 3.6 | .8 | 82 | 199 | 1.4 | 235 | 2.5 | 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 | 1.5 | -2.3 | 76 | 180 | 1.3 | 173 | 3.2 | 006 |
| 0600 | 8.9 | ***** | 45 | 193 | 1.2 | 156 | 3.8 | 036 |
| 0900 | 11.5 | -.1 | 45 | 009 | 2.8 | 016 | 5.1 | 066 |
| 1200 | 14.6 | -6.4 | 23 | 353 | 1.4 | 308 | 5.7 | 097 |
| 1500 | 15.7 | -12.7 | 13 | 307 | 1.2 | 231 | 9.5 | 020 |
| 1800 | 15.9 | -9.2 | 17 | 340 | 1.8 | 332 | 5.1 | 029 |
| 2100 | 11.3 | -6.2 | 29 | 337 | 1.1 | 314 | 5.7 | 004 |
| 2400 | 6.1 | -3.1 | 52 | 125 | 2.7 | 121 | 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 | 3.6 | -5.5 | 52 | 153 | 2.1 | 138 | 3.8 | 005 |
| 0600 | 9.1 | -6.5 | 33 | 228 | .5 | 356 | 3.2 | 035 |
| 0900 | 14.7 | -6.9 | 22 | 008 | 1.8 | 357 | 3.8 | 066 |
| 1200 | 19.4 | -15.7 | 08 | 065 | 2.3 | 111 | 8.9 | 083 |
| 1500 | 20.3 | -20.4 | 05 | 094 | 4.0 | 140 | 8.9 | 067 |
| 1800 | 15.7 | -20.0 | 07 | 122 | 4.1 | 088 | 8.9 | 011 |
| 2100 | 11.6 | -3.5 | 35 | 026 | 1.5 | 181 | 7.0 | 002 |
| 2400 | 5.3 | -1.7 | 61 | 124 | 2.3 | 135 | 5.1 | 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 | 4.6 | -3.1 | 58 | 117 | .8 | 138 | 3.2 | 005 |
| 0600 | 8.3 | -2.5 | 47 | 051 | .5 | 032 | 3.2 | 034 |
| 0900 | 14.5 | -4.4 | 27 | 022 | 2.8 | 022 | 7.0 | 065 |
| 1200 | 16.0 | -4.7 | 24 | 015 | 5.8 | 019 | 8.3 | 077 |
| 1500 | ***** | ***** | ** | 003 | 4.1 | 019 | 8.3 | *** |
| 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 KUSINA CREEK WEATHER STATION
DATA TAKEN DURING JUNE , 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 | 15.0 | -7.9 | 20 | 061 | 1.9 | 083 | 5.1 | 067 |
| 1200 | 17.2 | -18.9 | 07 | 348 | 2.9 | 309 | 8.3 | 079 |
| 1500 | 16.8 | -12.8 | 12 | 325 | 4.5 | 032 | 10.2 | 073 |
| 1800 | 15.9 | -12.6 | 13 | 109 | 4.5 | 110 | 8.9 | 012 |
| 2100 | 12.5 | -6.1 | 27 | 136 | 1.2 | 098 | 8.9 | 003 |
| 2400 | 5.6 | -2.1 | 58 | 201 | 1.9 | 154 | 3.8 | 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 | 2.8 | -5.2 | 56 | 197 | 2.0 | 229 | 3.2 | 005 |
| 0600 | 9.8 | ***** | 40 | 215 | .9 | 235 | 2.5 | 030 |
| 0900 | 13.3 | -4.5 | 29 | 001 | 1.7 | 006 | 3.2 | 044 |
| 1200 | 16.9 | -10.8 | 14 | 010 | 2.3 | 027 | 5.7 | 066 |
| 1500 | 18.7 | -19.5 | 06 | 355 | 1.4 | 012 | 5.1 | 057 |
| 1800 | 13.1 | -6.6 | 25 | 253 | 5.7 | 253 | 11.4 | 004 |
| 2100 | 10.2 | -.1 | 49 | 252 | 3.3 | 267 | 8.9 | 002 |
| 2400 | 8.4 | 3.0 | 69 | 028 | 2.3 | 065 | 5.7 | 000 |

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 | 7.1 | 4.0 | 81 | 021 | 2.3 | 003 | 5.1 | 001 |
| 0600 | 7.7 | 5.0 | 83 | 010 | 1.0 | 018 | 3.2 | 004 |
| 0900 | 9.9 | 2.9 | 62 | 314 | .2 | 239 | 5.1 | 036 |
| 1200 | 11.4 | 2.1 | 53 | 259 | 2.5 | 238 | 8.3 | 039 |
| 1500 | 11.9 | 2.0 | 51 | 259 | 6.1 | 256 | 12.1 | 060 |
| 1800 | 11.9 | 1.1 | 48 | 253 | 7.3 | 247 | 12.1 | 031 |
| 2100 | 8.9 | 1.5 | 60 | 263 | 3.5 | 259 | 10.2 | 002 |
| 2400 | 7.9 | 2.9 | 71 | 091 | .7 | 236 | 3.8 | 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 | 7.7 | 5.3 | 74 | 080 | 1.0 | 328 | 4.4 | 001 |
| 0600 | 10.0 | 3.0 | 62 | 268 | 3.5 | 252 | 8.9 | 017 |
| 0900 | 12.3 | 1.8 | 49 | 274 | 2.4 | 257 | 8.3 | 036 |
| 1200 | 15.6 | -.7 | 33 | 359 | 2.3 | 353 | 6.3 | 054 |
| 1500 | 14.8 | -3.2 | 29 | 328 | 3.7 | 337 | 8.9 | 020 |
| 1800 | 15.4 | -4.6 | 25 | 321 | 3.4 | 316 | 6.3 | 016 |
| 2100 | 11.6 | -1.0 | 42 | 006 | 2.2 | 307 | 5.1 | 003 |
| 2400 | 6.8 | 2.2 | 73 | 074 | .2 | 000 | 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 | 3.8 | -.3 | 75 | 212 | 1.4 | 225 | 3.2 | 004 |
| 0600 | 10.3 | ***** | 47 | 197 | 1.1 | 193 | 2.5 | 032 |
| 0900 | 13.6 | -1.3 | 36 | 016 | 1.7 | 359 | 3.2 | 063 |
| 1200 | 16.3 | -.5 | 32 | 052 | 2.3 | 007 | 5.7 | 079 |
| 1500 | 16.1 | -3.5 | 26 | 090 | 4.7 | 074 | 10.2 | 058 |
| 1800 | 14.0 | -1.7 | 34 | 068 | 1.5 | 290 | 8.9 | 034 |
| 2100 | 9.7 | 3.1 | 64 | 221 | 1.9 | 252 | 8.3 | 002 |
| 2400 | 7.2 | 2.4 | 72 | 136 | 1.3 | 126 | 5.7 | 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 | .3 | 74 | 148 | 1.8 | 146 | 3.8 | 002 |
| 0600 | 9.0 | 2.9 | 66 | 357 | .3 | 016 | 4.4 | 029 |
| 0900 | 13.1 | 1.0 | 44 | 024 | 2.6 | 028 | 6.3 | 031 |
| 1200 | 15.3 | -.6 | 34 | 277 | 3.4 | 263 | 9.5 | 033 |
| 1500 | 16.4 | -2.8 | 27 | 266 | 5.4 | 254 | 10.2 | 057 |
| 1800 | 11.9 | -2.1 | 38 | 265 | 6.4 | 256 | 10.8 | 006 |
| 2100 | ***** | ***** | ** | 342 | 3.9 | 359 | 8.3 | *** |
| 2400 | 9.0 | 3.1 | 67 | 176 | 3.0 | 194 | 6.3 | 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 | 7.7 | 3.1 | 73 | 294 | 1.3 | 255 | 8.3 | 002 |
| 0600 | 8.3 | 3.5 | 72 | 026 | 2.2 | 009 | 5.1 | 012 |
| 0900 | ***** | ***** | ** | 028 | 2.9 | 040 | 5.1 | *** |
| 1200 | 14.2 | -.0 | 38 | 030 | 2.0 | 030 | 5.7 | 083 |
| 1500 | 16.1 | -.7 | 32 | 284 | 2.1 | 255 | 8.9 | 062 |
| 1800 | 13.9 | -1.0 | 36 | 259 | 5.7 | 257 | 9.5 | 016 |
| 2100 | 11.1 | 2.0 | 54 | 258 | 3.5 | 253 | 8.9 | 001 |
| 2400 | 8.7 | 1.5 | 61 | 180 | 1.0 | 048 | 6.3 | 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 | 8.0 | 2.2 | 67 | 124 | .5 | 211 | 5.1 | 002 |
| 0600 | 7.7 | 2.5 | 70 | 041 | 3.2 | 029 | 6.3 | 012 |
| 0900 | 6.9 | 3.5 | 79 | 029 | 3.9 | 035 | 5.7 | 012 |
| 1200 | 6.5 | 3.1 | 79 | 027 | 4.6 | 031 | 7.0 | 021 |
| 1500 | 6.4 | 3.0 | 79 | 026 | 4.6 | 026 | 7.6 | 009 |
| 1800 | 7.5 | 3.3 | 75 | 027 | 3.7 | 023 | 7.6 | 013 |
| 2100 | 6.0 | 2.9 | 81 | 034 | 2.6 | 034 | 5.1 | 001 |
| 2400 | 5.5 | 3.0 | 84 | 035 | 2.2 | 056 | 3.8 | 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 | 4.8 | 1.9 | 82 | 040 | 2.2 | 040 | 4.4 | 001 |
| 0600 | 4.8 | 1.9 | 82 | 024 | 2.1 | 030 | 3.8 | 003 |
| 0900 | 4.2 | 1.0 | 80 | 026 | 2.8 | 029 | 5.1 | 012 |
| 1200 | 4.6 | 1.6 | 81 | 018 | 2.9 | 023 | 5.7 | 015 |
| 1500 | 4.9 | .8 | 75 | 010 | 1.6 | 012 | 3.2 | 018 |
| 1800 | 3.1 | .8 | 85 | 354 | 2.0 | 342 | 3.8 | 004 |
| 2100 | 2.3 | ***** | 87 | 359 | 1.4 | 002 | 3.2 | 001 |
| 2400 | 2.0 | ***** | 83 | 204 | .4 | 253 | 1.3 | 001 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KUSINA CREEK 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 | 1.3 | ***** | 85 | 228 | .2 | 206 | 1.3 | 001 |
| 0600 | 1.7 | ***** | 82 | 336 | .1 | 343 | 1.9 | 007 |
| 0900 | 4.0 | ***** | 74 | 062 | .2 | 158 | 1.9 | 021 |
| 1200 | 7.3 | -1.2 | 55 | 013 | 1.8 | 019 | 3.8 | 040 |
| 1500 | 7.5 | 1.9 | 68 | 005 | 2.8 | 017 | 5.7 | 070 |
| 1800 | 6.5 | -1.5 | 57 | 356 | 3.7 | 355 | 8.3 | 011 |
| 2100 | 4.4 | -.5 | 71 | 033 | 3.7 | 038 | 8.3 | 001 |
| 2400 | 3.0 | -.2 | 80 | 345 | .6 | 037 | 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 | 2.3 | -.5 | 82 | 155 | 1.0 | 136 | 2.5 | 002 |
| 0600 | 4.6 | ***** | 68 | 161 | .8 | 138 | 2.5 | 022 |
| 0900 | 7.2 | .1 | 61 | 333 | .7 | 206 | 1.9 | 025 |
| 1200 | 7.9 | -2.3 | 49 | 141 | 2.4 | 139 | 7.6 | 025 |
| 1500 | 9.8 | -3.6 | 39 | 154 | 4.4 | 139 | 9.5 | 030 |
| 1800 | 6.8 | 2.4 | 74 | 136 | 2.7 | 142 | 9.5 | 008 |
| 2100 | 5.5 | 1.4 | 75 | 013 | 2.6 | 017 | 5.7 | 001 |
| 2400 | 1.8 | -1.2 | 81 | 005 | 2.0 | 349 | 5.1 | 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 | .9 | -.9 | 88 | 029 | 2.9 | 037 | 5.1 | 002 |
| 0600 | 1.5 | -1.8 | 79 | 005 | .9 | 010 | 4.4 | 013 |
| 0900 | 5.6 | -1.2 | 62 | 006 | 1.9 | 004 | 5.1 | 059 |
| 1200 | 8.5 | -9.1 | 28 | 283 | 4.2 | 276 | 9.5 | 090 |
| 1500 | 9.5 | -6.9 | 31 | 275 | 3.0 | 267 | 9.5 | 067 |
| 1800 | 2.8 | -1.6 | 73 | 344 | 2.8 | 032 | 11.4 | 013 |
| 2100 | 2.6 | -1.1 | 77 | 358 | 2.2 | 032 | 7.0 | 002 |
| 2400 | 1.8 | -1.9 | 77 | 197 | 1.2 | 214 | 3.2 | 000 |

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KUSINA CREEK WEATHER STATION
DATA TAKEN DURING JUNE , 1981

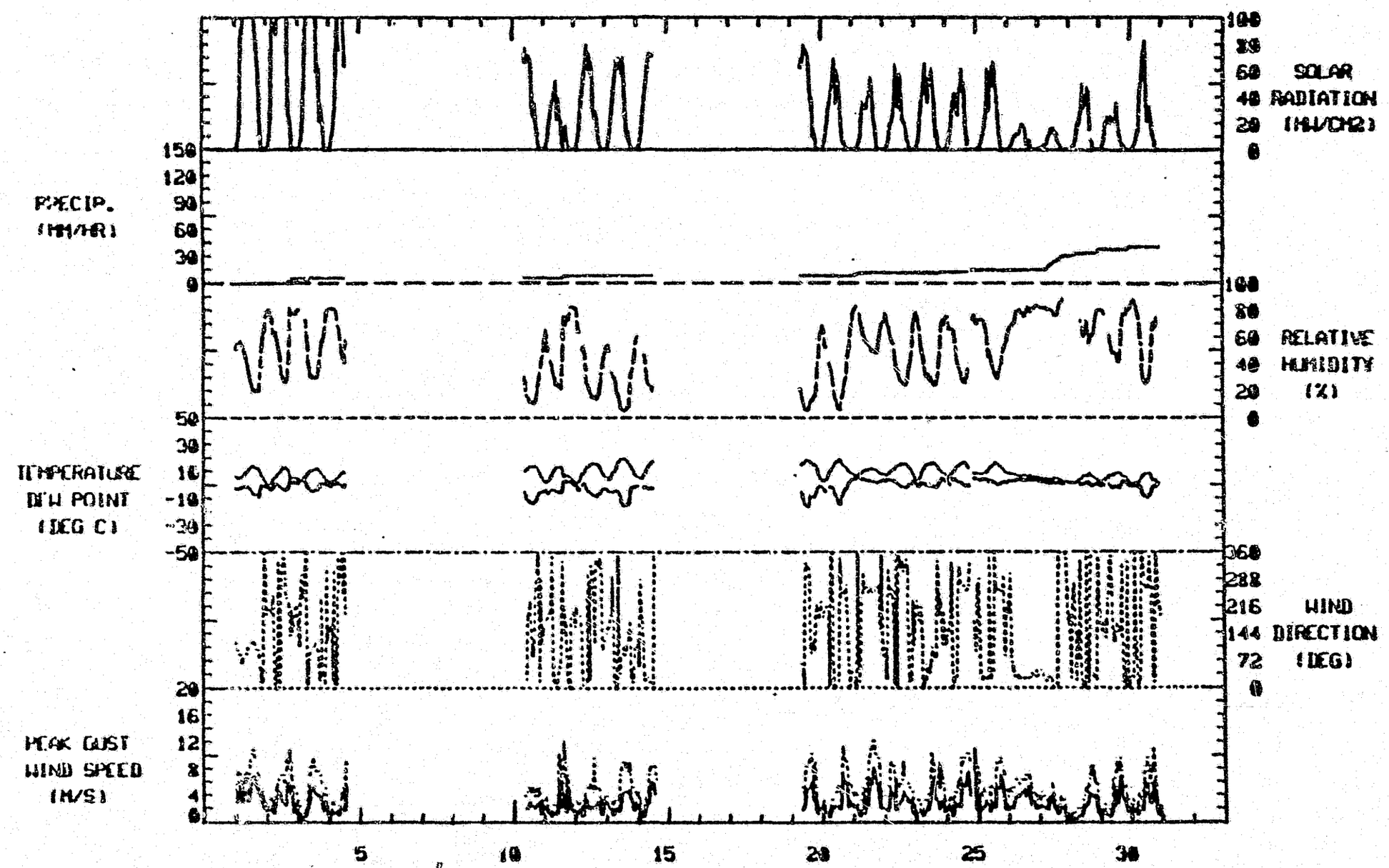
| DAY | MAX. TEMP. DEG C | MIN. TEMP. DEG C | MEAN TEMP. DEG C | RES. WIND DIR. DEG | RES. WIND SPD. M/S | AVG. WIND SPD. M/S | MAX. GUST DIR. DEG | MAX. GUST SPD. M/S | PEVAL DIR. | MEAN RH % | MEAN DP DEG C | PRECIP MM | DAY'S SOLAR ENERGY WH/SQM | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 15.1 | 1.9 | 8.5 | 096 | 3.7 | 4.4 | 123 | 10.8 | E | 43 | -4.4 | 0.0 | 10570 | 01 |
| 02 | 13.6 | -.6 | 6.5 | 260 | .9 | 3.0 | 137 | 10.8 | SSW | 60 | -1.2 | 5.4 | 9778 | 02 |
| 03 | 12.3 | 2.1 | 7.2 | 081 | 1.5 | 2.7 | 104 | 9.5 | ESE | 53 | -2.2 | .2 | 9818 | 03 |
| 04 | ***** | ***** | ***** | *** | **** | 1.9 | 208 | 9.5 | N | 68 | -.1 | .2 | 12254 | 04 |
| 05 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 05 |
| 06 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 06 |
| 07 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 07 |
| 08 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 08 |
| 09 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 09 |
| 10 | 14.5 | 2.9 | 8.7 | 059 | .3 | 2.2 | 206 | 5.7 | NW | 22 | -10.7 | 0.0 | 8856 | 10 |
| 11 | 13.9 | .7 | 7.3 | 060 | .5 | 2.3 | 195 | 12.1 | NNE | 53 | -2.2 | 2.4 | 4263 | 11 |
| 12 | 16.6 | .9 | 8.8 | 004 | .4 | 2.2 | 231 | 9.5 | N | 39 | -5.7 | 0.0 | 7525 | 12 |
| 13 | 20.7 | 3.4 | 12.1 | 099 | 1.6 | 2.8 | 111 | 8.9 | NNE | 27 | -10.0 | 0.0 | 7063 | 13 |
| 14 | ***** | ***** | ***** | *** | **** | 3.0 | 019 | 8.3 | NNE | 37 | -3.6 | 0.0 | 9609 | 14 |
| 15 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 15 |
| 16 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 16 |
| 17 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 17 |
| 18 | ***** | ***** | ***** | *** | **** | **** | *** | **** | MSG | ** | ***** | **** | *** | 18 |
| 19 | 18.8 | 4.3 | 11.5 | 031 | .6 | 3.4 | 032 | 10.2 | ESE | 20 | -10.1 | 0.0 | 10042 | 19 |
| 20 | 19.4 | 1.7 | 10.6 | 285 | 1.1 | 2.7 | 253 | 11.4 | N | 35 | -6.3 | 0.0 | 5935 | 20 |
| 21 | 12.6 | 6.9 | 9.8 | 267 | 2.2 | 3.5 | 256 | 12.1 | WSW | 63 | 2.7 | 3.4 | 4423 | 21 |
| 22 | 17.0 | 6.5 | 11.8 | 321 | 1.7 | 2.9 | 252 | 8.9 | N | 48 | .1 | 0.0 | 5068 | 22 |
| 23 | 16.5 | 3.4 | 10.0 | 098 | .9 | 2.5 | 074 | 10.2 | SW | 48 | -.3 | 1.2 | 6360 | 23 |
| 24 | 17.0 | 4.3 | 10.6 | 264 | 1.8 | 3.8 | 258 | 10.8 | W | 52 | .3 | 2.0 | 5702 | 24 |
| 25 | 16.3 | 7.1 | 11.7 | 297 | 1.2 | 3.3 | 257 | 9.5 | NNE | 53 | 1.2 | **** | 8255 | 25 |
| 26 | 9.4 | 5.5 | 7.4 | 032 | 3.1 | 3.4 | 026 | 7.6 | NNE | 77 | 2.9 | .2 | 1908 | 26 |
| 27 | 5.5 | 1.9 | 3.7 | 014 | 1.8 | 2.0 | 023 | 5.7 | NNE | 82 | 1.3 | 15.6 | 1528 | 27 |
| 28 | 9.2 | 1.0 | 5.1 | 013 | 1.5 | 2.0 | 355 | 8.3 | NNE | 68 | -.3 | 5.8 | 4143 | 28 |
| 29 | 9.8 | 2.1 | 5.9 | 123 | 1.0 | 2.6 | 139 | 9.5 | SE | 64 | -.5 | 4.4 | 3195 | 29 |
| 30 | 9.5 | -.1 | 4.5 | 328 | 1.5 | 2.9 | 032 | 11.4 | NNE | 61 | -3.1 | .6 | 5590 | 30 |
| MONTH | 20.7 | -.6 | 8.5 | 018 | .5 | 2.8 | 195 | 12.1 | NNE | 51 | -2.5 | 41.4 | 141883 | |

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.8

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




KOSINA CREEK WEATHER STATION

DATA START: 01 JUNE , 1981

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA CREEK WEATHER STATION
DATA TAKEN DURING JUNE , 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 | .70 | 8.88 | 2.80 | 0.00 | 0.00 | 0.00 | 0.00 | 12.38 |
| NNE | .27 | 9.69 | 7.70 | .48 | 0.00 | 0.00 | 0.00 | 18.14 |
| NE | .22 | 4.20 | 1.45 | .05 | 0.00 | 0.00 | 0.00 | 5.92 |
| ENE | .22 | 1.51 | .91 | .22 | 0.00 | 0.00 | 0.00 | 2.85 |
| E | .27 | 1.99 | 3.39 | .43 | 0.00 | 0.00 | 0.00 | 6.08 |
| ESE | .11 | 2.10 | 2.91 | .65 | 0.00 | 0.00 | 0.00 | 5.76 |
| SE | .48 | 2.56 | 1.24 | .65 | 0.00 | 0.00 | 0.00 | 4.95 |
| SSE | .86 | 2.96 | .38 | .22 | 0.00 | 0.00 | 0.00 | 4.41 |
| S | .70 | 3.18 | .16 | .05 | 0.00 | 0.00 | 0.00 | 4.09 |
| SSW | .86 | 3.82 | .27 | .22 | 0.00 | 0.00 | .05 | 5.22 |
| SW | .86 | 3.23 | .54 | .11 | 0.00 | 0.00 | 0.00 | 4.74 |
| WSW | .48 | 1.61 | 2.58 | 2.26 | 0.00 | 0.00 | 0.00 | 6.94 |
| W | .59 | 1.18 | 2.48 | .97 | 0.00 | 0.00 | 0.00 | 5.22 |
| WNW | .81 | 1.99 | .75 | 0.00 | 0.00 | 0.00 | 0.00 | 3.55 |
| NW | .59 | 1.94 | 1.61 | 0.00 | 0.00 | 0.00 | 0.00 | 4.14 |
| NNW | .59 | 3.28 | 1.51 | 0.00 | 0.00 | 0.00 | 0.00 | 5.38 |
| CALM | | | | | | | | .20 |
| TOTAL | 8.61 | 54.14 | 30.68 | 6.30 | 0.00 | 0.00 | .05 | 100.00 |

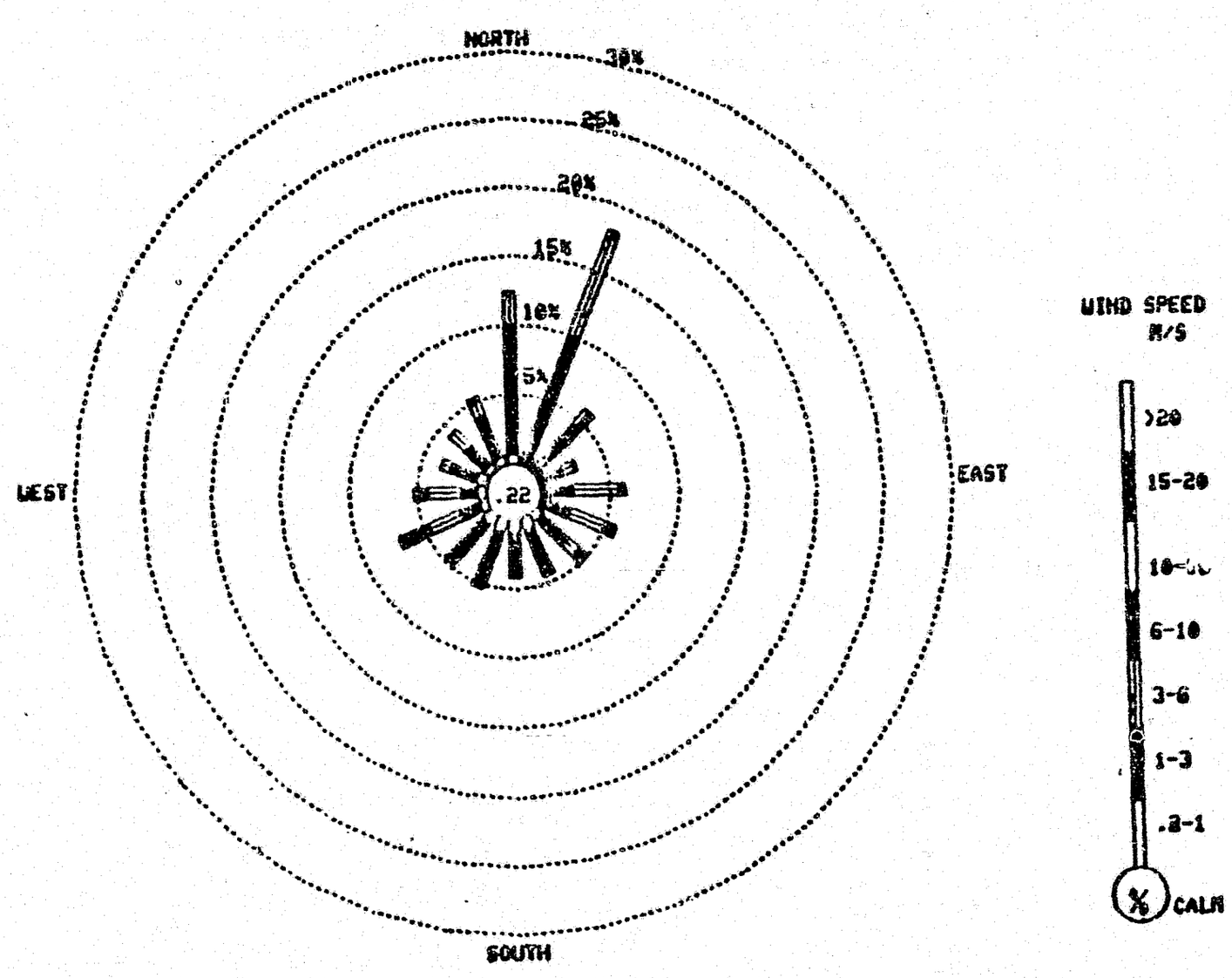
NOTE: ALL FREQUENCIES EXPRESSED IN PERCENT.

1858 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

SUSITNA HYDROELECTRIC PROJECT

KOSINA CREEK WEATHER STATION

JUNE, 1981




WIND ROSE PLOT

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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 | .2 | .2 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | **** | 1 |
| 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 | 0.0 | 0.0 | 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 | .4 | 5 |
| 6 | .4 | 0.0 | .2 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | 3.0 | 1.4 | 0.0 | 0.0 | 7 |
| 8 | .6 | 0.0 | 0.0 | 0.0 | .4 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | .4 | .4 | .2 | .2 | .2 | .6 | 1.0 | 1.8 | 1.2 | 1.2 | 1.0 | 9 |
| 10 | 1.2 | 1.2 | .4 | 1.4 | 1.2 | 1.0 | .4 | .2 | .2 | .2 | 1.0 | 2.0 | 1.0 | .8 | 1.4 | .4 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 10 |
| 11 | 2.0 | .6 | 0.0 | .4 | .8 | .6 | 1.0 | .4 | 0.0 | .8 | 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 | 11 |
| 12 | 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 | 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 | .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 | 14 |
| 15 | 0.0 | .4 | .4 | .4 | .2 | 0.0 | 0.0 | .4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .4 | .2 | .2 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 15 |
| 16 | 0.0 | 0.0 | 0.0 | .2 | 1.4 | 1.0 | .6 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 16 |
| 17 | 5.4 | 1.0 | .2 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | .8 | 0.0 | .4 | .2 | 1.2 | 1.0 | 0.0 | .2 | .4 | .2 | 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 | .4 | 18 |
| 19 | .2 | .8 | .2 | .2 | .6 | 0.0 | .2 | 2.2 | 1.8 | .6 | .4 | .2 | .2 | .2 | .6 | 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 | .8 | 1.2 | .8 | .4 | 0.0 | 0.0 | .6 | 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 | .4 | 1.2 | .4 | 22 |
| 23 | .8 | .4 | .2 | 1.0 | .2 | 1.6 | 1.2 | .4 | .6 | 0.0 | 0.0 | 0.0 | .6 | 0.0 | 1.0 | .4 | .2 | 0.0 | 0.0 | 1.8 | .6 | .6 | 0.0 | .4 | 23 |
| 24 | .2 | .4 | .4 | 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 | .2 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .4 | 6.0 | 2.2 | .8 | .2 | 0.0 | .2 | 0.0 | 0.0 | .2 | 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 | .4 | .6 | .6 | .4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28 |
| 29 | 0.0 | .8 | .4 | .2 | 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 | 29 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .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 | 30 |
| 31 | **** | 0.0 | 0.0 | 0.0 | .2 | .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 | 31 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | 1.8 | -1.6 | 78 | 227 | 1.7 | 245 | 3.8 | 5 |
| 0600 | 6.4 | -3.3 | 50 | 239 | 1.2 | 225 | 2.5 | 64 |
| 0900 | 9.8 | -7.5 | 29 | 136 | 1.3 | 101 | 7.0 | 82 |
| 1200 | 9.4 | -7.0 | 31 | 097 | 5.4 | 100 | 8.9 | 34 |
| 1500 | 7.3 | -3.6 | 46 | 095 | 5.7 | 093 | 9.5 | 17 |
| 1800 | 5.3 | ***** | 70 | 058 | 1.5 | 085 | 7.0 | 6 |
| 2100 | 3.7 | .7 | 81 | 192 | 1.3 | 206 | 2.5 | 1 |
| 2400 | ***** | ***** | ** | *** | **** | 213 | 3.2 | *** |

### 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 | ***** | ***** | ** | *** | **** | 168 | 1.9 | *** |
| 0600 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 0900 | ***** | ***** | ** | *** | **** | *** | **** | *** |
| 1200 | ***** | ***** | ** | *** | **** | 321 | 8.9 | *** |
| 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 | 5.6 | -7.4 | 39 | 316 | 4.7 | 318 | 7.6 | 2 |
| 0600 | 6.9 | -7.3 | 36 | 321 | 3.4 | 323 | 7.8 | 16 |
| 0900 | 10.2 | -8.6 | 26 | 330 | 5.5 | 320 | 8.9 | 4[illegible] |
| 1200 | 11.6 | -10.1 | 21 | 321 | 5.0 | 323 | 8.3 | 57 |
| 1500 | 11.8 | -11.8 | 18 | 320 | 4.7 | 314 | 8.3 | 30 |
| 1800 | 11.5 | -12.8 | 17 | 328 | 4.2 | 329 | 7.6 | 2[illegible] |
| 2100 | 9.4 | -11.9 | 21 | 323 | 4.6 | 321 | 7.0 | [illegible] |
| 2400 | 4.4 | -8.8 | 38 | 283 | .6 | 322 | 5.7 | 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 | -6.6 | 51 | 164 | 2.1 | 146 | 4.4 | 3 |
| 0600 | 9.3 | ***** | 29 | 166 | 1.0 | 179 | 2.5 | 32 |
| 0900 | 11.9 | -8.1 | 24 | 024 | 2.4 | 028 | 5.1 | 67 |
| 1200 | 13.3 | -9.2 | 20 | 005 | 2.7 | 347 | 7.6 | 66 |
| 1500 | 13.4 | -11.2 | 17 | 278 | 3.6 | 266 | 8.3 | 43 |
| 1800 | 11.8 | -9.3 | 22 | 256 | 5.2 | 252 | 9.5 | 15 |
| 2100 | 8.7 | -3.9 | 41 | 266 | 3.4 | 247 | 7.0 | 2 |
| 2400 | 7.0 | ***** | 55 | 008 | 1.5 | 001 | 5.1 | 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 | 7.3 | -1.7 | 53 | 308 | 1.2 | 263 | 9.5 | 2 |
| 0600 | 7.1 | -.6 | 58 | 007 | 1.7 | 020 | 5.7 | 9 |
| 0900 | 7.7 | .7 | 61 | 353 | 2.5 | 333 | 5.1 | 16 |
| 1200 | 11.5 | -6.1 | 29 | 314 | 3.2 | 286 | 7.6 | 35 |
| 1500 | 11.8 | -4.9 | 31 | 289 | 4.3 | 283 | 9.5 | 26 |
| 1800 | 8.4 | 1.1 | 60 | 002 | 2.3 | 278 | 7.6 | 4 |
| 2100 | 7.1 | 3.4 | 77 | 352 | 1.1 | 340 | 3.2 | 1 |
| 2400 | 6.2 | 3.4 | 82 | 215 | .4 | 066 | 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 | RA MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 5.7 | ***** | 83 | 211 | .5 | 247 | 1.9 | [illegible] |
| 0600 | 6.3 | 3.6 | 83 | 179 | 1.0 | 166 | 2.5 | 4 |
| 0900 | 7.7 | 3.9 | 77 | 011 | 1.4 | 014 | 3.2 | 14 |
| 1200 | 8.3 | 3.8 | 73 | 022 | 2.5 | 010 | 5.7 | 1[illegible] |
| 1500 | 10.9 | 1.1 | 51 | 017 | 2.8 | 015 | 7.0 | 16 |
| 1800 | 11.8 | -.5 | 43 | 279 | 3.9 | 261 | 8.3 | 12 |
| 2100 | 9.2 | ***** | 55 | 247 | 3.9 | 256 | 7.6 | [illegible] |
| 2400 | 7.2 | ***** | 64 | 148 | 1.0 | 132 | 3.8 | [illegible] |

### 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 | 6.4 | 1.8 | 72 | 197 | 1.2 | 220 | 2.5 | 2 |
| 0600 | 8.2 | ***** | 65 | 220 | .7 | 221 | 1.9 | 20 |
| 0900 | 9.5 | 4.2 | 69 | 013 | 2.8 | 018 | 5.1 | 37 |
| 1200 | 12.7 | -2.1 | 36 | 000 | 1.9 | 237 | 8.3 | 50 |
| 1500 | 12.2 | -3.3 | 34 | 269 | 5.4 | 259 | 8.3 | 19 |
| 1800 | 6.6 | 3.4 | 80 | 264 | 3.3 | 238 | 9.5 | 3 |
| 2100 | 3.2 | .4 | 82 | 357 | 4.6 | 343 | 8.3 | 1 |
| 2400 | 3.4 | .5 | 81 | 019 | .6 | 346 | 5.1 | 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 | 2.9 | -.0 | 81 | 178 | 1.6 | 206 | 2.5 | 1 |
| 0600 | 4.3 | ***** | 79 | 180 | .5 | 152 | 1.[illegible] | 6 |
| 0900 | 5.7 | ***** | 78 | 255 | .3 | 204 | 1.3 | 7 |
| 1200 | 7.5 | 3.2 | 74 | 346 | 1.1 | 004 | 2.5 | 20 |
| 1500 | 9.0 | 4.3 | 72 | 353 | 1.5 | 358 | 3.2 | 21 |
| 1800 | 9.8 | 4.6 | 70 | 352 | 1.6 | 358 | 3.2 | 13 |
| 2100 | 9.0 | 5.4 | 78 | 001 | 1.4 | 354 | 3.2 | 1 |
| 2400 | 8.5 | 4.9 | 78 | 349 | .9 | 003 | 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 | RA MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 7.8 | 4.6 | 80 | 002 | 1.3 | 352 | 2.5 | [illegible] |
| 0600 | 7.9 | ***** | 78 | 008 | 1.1 | 017 | 2.5 | [illegible] |
| 0900 | 7.5 | 5.3 | 86 | 015 | 2.0 | 022 | 3.8 | 4 |
| 1200 | 9.7 | 4.3 | 69 | 006 | 2.6 | 004 | 4.4 | 33 |
| 1500 | 9.4 | 5.8 | 78 | 009 | 2.8 | 006 | 4.4 | 2[illegible] |
| 1800 | 8.3 | 4.7 | 78 | 019 | 3.9 | 022 | 6.3 | 1[illegible] |
| 2100 | 7.7 | 4.8 | 82 | 014 | 2.7 | 017 | 4.4 | 1 |
| 2400 | 7.0 | ***** | 85 | 003 | 1.7 | 010 | 3.8 | [illegible] |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | 6.6 | ***** | 77 | 170 | .7 | 140 | 3.2 | 1 |
| 0600 | 6.8 | 3.3 | 78 | 170 | .5 | 123 | 3.2 | 9 |
| 0900 | 8.5 | 3.8 | 72 | 279 | .9 | 307 | 3.2 | 15 |
| 1200 | 9.3 | 5.1 | 75 | 033 | 1.3 | 084 | 5.1 | 12 |
| 1500 | 9.5 | 6.4 | 81 | 351 | 1.5 | 332 | 3.2 | 13 |
| 1800 | 9.6 | 6.9 | 83 | 355 | 1.5 | 352 | 2.5 | 6 |
| 2100 | 9.1 | 6.2 | 82 | 343 | 1.6 | 345 | 3.2 | 1 |
| 2400 | 7.9 | ***** | 84 | 002 | .6 | 356 | 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 | 6.8 | 6.0 | 95 | 015 | 1.1 | 011 | 3.2 | 1 |
| 0600 | 7.3 | 6.2 | 93 | 014 | 1.8 | 024 | 3.2 | 6 |
| 0900 | 8.2 | 4.1 | 75 | 020 | 3.2 | 017 | 5.1 | 24 |
| 1200 | 9.3 | 4.9 | 74 | 028 | 4.0 | 035 | 5.7 | 25 |
| 1500 | 10.8 | 4.1 | 63 | 021 | 3.7 | 010 | 6.3 | 19 |
| 1800 | 10.1 | 3.9 | 65 | 038 | 4.1 | 042 | 8.9 | 17 |
| 2100 | 8.6 | 3.5 | 70 | 035 | 3.2 | 038 | 6.3 | 1 |
| 2400 | 7.3 | ***** | 76 | 009 | .9 | 018 | 3.8 | 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 | 6.6 | 3.2 | 79 | 170 | .8 | 128 | 2.5 | 1 |
| 0600 | 8.5 | ***** | 74 | 209 | .6 | 201 | 1.9 | 11 |
| 0900 | 9.0 | 4.5 | 73 | 010 | 2.9 | 023 | 5.1 | 29 |
| 1200 | 11.0 | 5.4 | 68 | 015 | 3.7 | 018 | 6.3 | 35 |
| 1500 | 11.3 | 4.6 | 63 | 016 | 4.4 | 021 | 7.0 | 28 |
| 1800 | 10.2 | 4.0 | 65 | 024 | 4.5 | 022 | 7.6 | 6 |
| 2100 | 9.4 | 3.8 | 68 | 027 | 2.7 | 033 | 5.7 | 2 |
| 2400 | 6.8 | ***** | 77 | 004 | 1.0 | 031 | 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 | 5.5 | 2.0 | 78 | 215 | .7 | 195 | 2.5 | 1 |
| 0600 | 7.1 | 3.5 | 78 | 128 | .1 | 213 | 1.9 | 5 |
| 0900 | 8.6 | 4.3 | 74 | 004 | 2.2 | 008 | 4.4 | 20 |
| 1200 | 9.8 | 4.2 | 68 | 018 | 3.2 | 022 | 5.7 | 32 |
| 1500 | 9.9 | 4.5 | 69 | 015 | 3.9 | 017 | 6.3 | 18 |
| 1800 | 9.8 | 4.2 | 68 | 017 | 3.3 | 019 | 5.7 | 12 |
| 2100 | 8.9 | 4.2 | 72 | 018 | 2.2 | 023 | 3.8 | 1 |
| 2400 | 7.9 | 4.0 | 76 | 321 | .2 | 356 | 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 | 7.5 | 3.9 | 78 | 188 | .8 | 150 | 2.5 | 1 |
| 0600 | 8.8 | ***** | 74 | 174 | .6 | 218 | 2.5 | 12 |
| 0900 | 9.8 | 5.0 | 72 | 002 | 2.2 | 355 | 4.4 | 21 |
| 1200 | 10.1 | 4.1 | 66 | 019 | 4.0 | 023 | 6.3 | 23 |
| 1500 | 10.1 | 4.5 | 68 | 021 | 3.3 | 024 | 5.7 | 20 |
| 1800 | 9.7 | 4.9 | 72 | 018 | 3.1 | 015 | 4.4 | 8 |
| 2100 | 8.5 | 4.7 | 77 | 020 | 2.7 | 026 | 4.4 | 1 |
| 2400 | 7.8 | 5.3 | 84 | 018 | 2.2 | 018 | 4.4 | 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 | 7.5 | 5.9 | 90 | 013 | 1.5 | 015 | 2.5 | 1 |
| 0600 | 8.7 | 5.5 | 80 | 015 | .2 | 067 | 3.8 | 15 |
| 0900 | 10.4 | 5.0 | 69 | 102 | 3.9 | 099 | 5.7 | 26 |
| 1200 | 11.7 | 5.6 | 66 | 083 | 4.2 | 089 | 6.3 | 18 |
| 1500 | 12.8 | 6.0 | 63 | 091 | 4.7 | 089 | 7.6 | 13 |
| 1800 | 12.0 | 7.0 | 71 | 081 | 4.9 | 083 | 8.9 | 6 |
| 2100 | 11.4 | 6.6 | 72 | 049 | 2.3 | 058 | 7.0 | 1 |
| 2400 | 10.6 | 6.0 | 73 | 126 | .1 | 156 | 4.4 | 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 | 10.0 | 5.4 | 73 | 084 | 3.2 | 089 | 5.7 | 1 |
| 0600 | 9.8 | 6.4 | 79 | 200 | .2 | 089 | 3.8 | 6 |
| 0900 | 12.6 | 6.3 | 65 | 274 | .5 | 228 | 1.9 | 30 |
| 1200 | 13.7 | 6.9 | 63 | 013 | 2.0 | 014 | 4.4 | 30 |
| 1500 | 14.5 | 5.9 | 56 | 011 | 4.0 | 013 | 7.6 | 24 |
| 1800 | 13.3 | 6.2 | 62 | 014 | 3.6 | 022 | 6.3 | 10 |
| 2100 | 11.4 | 6.6 | 72 | 015 | 3.2 | 016 | 5.7 | 1 |
| 2400 | 10.4 | 6.6 | 77 | 357 | 1.5 | 010 | 3.8 | 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 | 9.5 | 7.1 | 85 | 016 | 1.8 | 023 | 3.8 | 1 |
| 0600 | 9.9 | 7.2 | 83 | 006 | 1.4 | 005 | 3.2 | 14 |
| 0900 | 11.7 | 7.1 | 73 | 006 | 1.9 | 000 | 3.2 | 29 |
| 1200 | 14.4 | 5.0 | 53 | 009 | 2.8 | 003 | 4.4 | 85 |
| 1500 | 13.2 | 7.5 | 68 | 001 | 2.5 | 336 | 5.7 | 21 |
| 1800 | 12.1 | 7.1 | 71 | 013 | 2.0 | 027 | 5.1 | 5 |
| 2100 | 10.5 | 6.9 | 78 | 002 | 1.6 | 002 | 4.4 | 1 |
| 2400 | 9.3 | 6.0 | 80 | 357 | 1.4 | 000 | 3.2 | 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 | 8.8 | 5.7 | 81 | 022 | 1.7 | 358 | 3.8 | 1 |
| 0600 | 9.1 | 5.5 | 78 | 032 | 1.5 | 046 | 3.2 | 12 |
| 0900 | 11.5 | 4.3 | 61 | 025 | 3.4 | 019 | 6.3 | 22 |
| 1200 | 13.3 | 2.8 | 49 | 017 | 4.4 | 024 | 8.9 | 22 |
| 1500 | 15.7 | 1.7 | 39 | 347 | 2.4 | 032 | 7.5 | 48 |
| 1800 | 10.5 | 4.9 | 68 | 016 | 3.1 | 047 | 10.2 | 11 |
| 2100 | 9.1 | 4.9 | 75 | 030 | 3.7 | 038 | 5.7 | 1 |
| 2400 | 7.9 | 5.0 | 82 | 022 | 2.8 | 033 | 4.4 | 1 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | 7.4 | 5.2 | 86 | 019 | 2.3 | 023 | 3.8 | 1 |
| 0600 | 7.6 | 6.2 | 91 | 017 | 2.2 | 020 | 3.8 | 3 |
| 0900 | 8.3 | 6.7 | 90 | 010 | 1.6 | 013 | 3.2 | 15 |
| 1200 | 11.1 | 4.2 | 62 | 002 | 1.5 | 005 | 3.2 | 48 |
| 1500 | 11.2 | 5.1 | 66 | 006 | 1.9 | 353 | 5.1 | 36 |
| 1800 | 10.9 | 5.1 | 67 | 024 | 3.4 | 028 | 5.7 | 11 |
| 2100 | 9.4 | 4.5 | 71 | 038 | 3.0 | 038 | 5.7 | 1 |
| 2400 | 8.2 | 4.4 | 77 | 025 | 1.7 | 041 | 3.8 | 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 | 8.2 | ***** | 81 | 352 | .8 | 323 | 1.9 | 1 |
| 0600 | 9.3 | 5.1 | 75 | 354 | .6 | 350 | 1.9 | 8 |
| 0900 | 10.2 | 5.8 | 74 | 356 | 1.7 | 350 | 3.2 | 15 |
| 1200 | 10.2 | 6.0 | 75 | 009 | 3.2 | 020 | 5.7 | 26 |
| 1500 | 11.1 | 5.9 | 70 | 022 | 4.0 | 026 | 5.7 | 24 |
| 1800 | 10.6 | 5.6 | 71 | 027 | 3.6 | 032 | 5.7 | 7 |
| 2100 | 9.3 | 4.6 | 72 | 033 | 2.0 | 022 | 4.4 | 1 |
| 2400 | 7.6 | 3.9 | 77 | 051 | 1.5 | 080 | 3.8 | 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 | 7.8 | ***** | 78 | 049 | 1.1 | 058 | 3.2 | 1 |
| 0600 | 9.4 | 4.7 | 72 | 025 | 1.8 | 013 | 2.5 | 2 |
| 0900 | 12.7 | 3.9 | 55 | 017 | 1.8 | 027 | 5.1 | 4 |
| 1200 | 14.2 | 3.0 | 47 | 025 | 2.8 | 027 | 5.7 | 24 |
| 1500 | 15.3 | 1.7 | 40 | 017 | 2.2 | 042 | 7.0 | 24 |
| 1800 | 13.8 | ***** | 48 | 076 | .9 | 051 | 5.1 | 1 |
| 2100 | 11.3 | 3.1 | 57 | 048 | 2.2 | 035 | 4.4 | 1 |
| 2400 | 9.4 | 3.6 | 67 | 068 | 1.5 | 038 | 5.1 | 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 | 8.5 | ***** | 73 | 112 | 1.1 | 128 | 3.2 | 1 |
| 0600 | 9.6 | ***** | 71 | 136 | .1 | 092 | 1.9 | 11 |
| 0900 | 12.7 | 3.7 | 54 | 015 | 2.3 | 033 | 5.7 | 43 |
| 1200 | 12.6 | 3.3 | 53 | 019 | 4.0 | 028 | 6.3 | 13 |
| 1500 | 13.2 | 3.3 | 51 | 022 | 3.2 | 022 | 5.7 | 22 |
| 1800 | 13.0 | 4.5 | 56 | 018 | 2.6 | 018 | 5.1 | 31 |
| 2100 | 10.5 | 4.9 | 68 | 021 | 3.1 | 029 | 5.7 | 1 |
| 2400 | 9.1 | 6.2 | 82 | 024 | 1.7 | 038 | 3.2 | 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 | 8.5 | 5.9 | 84 | 023 | .4 | 354 | 1.9 | 1 |
| 0600 | 9.1 | ***** | 81 | 199 | .4 | 189 | 1.9 | 4 |
| 0900 | 11.7 | ***** | 65 | 230 | .6 | 205 | 1.9 | 27 |
| 1200 | 13.3 | 5.3 | 58 | 034 | .3 | 006 | 2.5 | 18 |
| 1500 | 12.7 | 7.2 | 69 | 007 | 1.4 | 349 | 5.1 | 41 |
| 1800 | 12.0 | 7.2 | 72 | 013 | 3.4 | 354 | 5.7 | 9 |
| 2100 | 10.7 | ***** | 79 | 020 | 1.4 | 017 | 3.8 | 1 |
| 2400 | 10.0 | ***** | 81 | 215 | .5 | 204 | 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 | 9.8 | ***** | 82 | 190 | .1 | 160 | 1.3 | [illegible] |
| 0600 | 10.3 | ***** | 85 | 355 | 1.1 | 010 | 1.9 | 6 |
| 0900 | 12.3 | 6.2 | 66 | 061 | 1.3 | 097 | 7.0 | 3[illegible] |
| 1200 | 13.4 | 5.4 | 58 | 087 | 5.0 | 086 | 7.6 | 2[illegible] |
| 1500 | 13.9 | 3.0 | 48 | 098 | 6.8 | 107 | 10.8 | 21 |
| 1800 | 13.0 | 1.9 | 47 | 100 | 6.8 | 102 | 10.2 | 9 |
| 2100 | 10.1 | 4.7 | 69 | 062 | 2.8 | 091 | 7.6 | [illegible] |
| 2400 | 9.3 | ***** | 72 | 011 | .7 | 359 | 4.4 | [illegible] |

### 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 | 9.2 | 4.7 | 73 | 130 | .7 | 093 | 3.2 | 1 |
| 0600 | 9.2 | 4.8 | 74 | 116 | 1.5 | 140 | 3.8 | 6 |
| 0900 | 11.0 | 4.7 | 63 | 084 | 1.8 | 092 | 3.8 | 21 |
| 1200 | 12.5 | 5.0 | 60 | 089 | 2.9 | 085 | 5.7 | 36 |
| 1500 | 9.9 | 5.5 | 74 | 080 | 2.6 | 100 | 5.7 | 11 |
| 1800 | 9.6 | 5.6 | 76 | 022 | 2.9 | 027 | 5.7 | 5 |
| 2100 | 8.6 | 4.1 | 73 | 045 | 2.1 | 056 | 4.4 | 1 |
| 2400 | 7.6 | ***** | 77 | 039 | 1.2 | 042 | 3.8 | 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 | 6.9 | ***** | 80 | 334 | .3 | 038 | 1.9 | 1 |
| 0600 | 8.5 | ***** | 73 | 026 | .6 | 302 | 1.9 | 15 |
| 0900 | 10.2 | 4.0 | 65 | 006 | 2.0 | 009 | 3.8 | 29 |
| 1200 | 13.6 | -.9 | 37 | 311 | 2.6 | 282 | 7.0 | 53 |
| 1500 | 14.1 | -1.3 | 35 | 292 | 4.5 | 281 | 7.6 | 36 |
| 1800 | 13.3 | -.8 | 38 | 306 | 2.6 | 349 | 8.9 | 11 |
| 2100 | 11.1 | 1.6 | 52 | 026 | 1.8 | 041 | 5.1 | 1 |
| 2400 | 8.2 | 2.5 | 67 | 083 | 1.6 | 041 | 3.8 | 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 | 7.3 | ***** | 76 | 273 | .1 | 112 | 2.5 | [illegible] |
| 0600 | 8.5 | ***** | 72 | 341 | .4 | 033 | 2.5 | 1[illegible] |
| 0900 | 12.9 | 1.5 | 46 | 017 | 2.2 | 042 | 5.1 | 62 |
| 1200 | 14.4 | .9 | 40 | 016 | 3.9 | 028 | 6.3 | 27 |
| 1500 | 14.9 | 1.0 | 39 | 357 | 3.8 | 010 | 7.0 | 3[illegible] |
| 1800 | 13.9 | 1.1 | 42 | 349 | 3.7 | 012 | 7.0 | 2[illegible] |
| 2100 | 11.2 | 3.0 | 57 | 034 | 3.7 | 022 | 8.3 | 1 |
| 2400 | 9.2 | 4.1 | 70 | 100 | 1.6 | 063 | 3.8 | [illegible] |

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | 6.6 | 3.1 | 78 | 173 | .7 | 123 | 2.5 | 1 |
| 0600 | 9.4 | 4.3 | 70 | 196 | 1.0 | 155 | 2.5 | 12 |
| 0900 | 14.2 | 1.0 | 41 | 006 | 1.5 | 022 | 3.8 | 57 |
| 1200 | 14.4 | -.2 | 37 | 012 | 2.5 | 009 | 5.7 | 29 |
| 1500 | 9.7 | 8.1 | 90 | 005 | 4.2 | 026 | 7.0 | 6 |
| 1800 | 9.1 | 4.8 | 74 | 032 | 3.2 | 025 | 5.7 | 7 |
| 2100 | 8.8 | 4.3 | 73 | 030 | 2.5 | 025 | 5.1 | 1 |
| 2400 | 8.2 | 4.6 | 78 | 046 | 1.4 | 031 | 3.2 | 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 | 7.8 | ***** | 81 | 306 | .2 | 140 | 2.5 | 1 |
| 0600 | 8.6 | ***** | 77 | 134 | .3 | 190 | 2.5 | 8 |
| 0900 | 10.5 | 3.1 | 60 | 019 | 3.1 | 015 | 6.3 | 38 |
| 1200 | 12.7 | -1.7 | 37 | 019 | 3.3 | 029 | 7.6 | 25 |
| 1500 | 14.1 | -1.7 | 34 | 300 | 2.1 | 277 | 7.0 | 75 |
| 1800 | 13.9 | -5.4 | 26 | 279 | 4.2 | 274 | 8.9 | 25 |
| 2100 | 10.5 | -1.6 | 43 | 331 | 2.3 | 307 | 8.3 | 1 |
| 2400 | 8.3 | 1.5 | 62 | 092 | 1.2 | 323 | 4.4 | 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 | 6.0 | 1.8 | 74 | 017 | .8 | 018 | 3.8 | 1 |
| 0600 | 7.3 | ***** | 74 | 192 | .4 | 165 | 1.9 | 9 |
| 0900 | 10.2 | 3.3 | 62 | 011 | 1.1 | 002 | 3.8 | 33 |
| 1200 | 12.7 | 2.5 | 50 | 022 | 3.8 | 019 | 6.3 | 38 |
| 1500 | 13.6 | -1.3 | 36 | 349 | 2.8 | 012 | 7.0 | 1[illegible] |
| 1800 | 12.2 | -.4 | 42 | 295 | 2.0 | 303 | 5.7 | 7 |
| 2100 | 10.5 | .5 | 50 | 115 | .5 | 127 | 5.1 | 1 |
| 2400 | 8.8 | 2.4 | 64 | 079 | 1.1 | 048 | 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 | 6.0 | 1.8 | 74 | 017 | .8 | 018 | 3.8 | 1 |
| 0600 | 7.3 | ***** | 74 | 192 | .4 | 165 | 1.9 | 9 |
| 0900 | 10.2 | 3.3 | 62 | 011 | 1.1 | 002 | 3.8 | 33 |
| 1200 | 12.7 | 2.5 | 50 | 022 | 3.8 | 019 | 6.3 | 38 |
| 1500 | 13.6 | -1.3 | 36 | 349 | 2.8 | 012 | 7.0 | 19 |
| 1800 | 12.2 | -.4 | 42 | 295 | 2.0 | 303 | 5.7 | 7 |
| 2100 | 10.5 | .5 | 50 | 115 | .5 | 127 | 5.1 | 1 |
| 2400 | 8.8 | 2.4 | 64 | 079 | 1.1 | 048 | 3.8 | 1 |

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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 | 10.5 | -.5 | 5.0 | 120 | 1.5 | 2.7 | 093 | 9.5 | E | 69 | -3.1 | .6 | 5543 | 1 |
| 2 | 10.0 | 4.2 | 7.1 | 336 | 4.1 | 4.5 | 321 | 8.9 | NW | 50 | ***** | ***** | 3972 | 2 |
| 3 | 13.2 | 4.4 | 8.8 | 322 | 4.1 | 4.3 | 320 | 8.9 | NW | 27 | -9.9 | 0.0 | 5855 | 3 |
| 4 | 15.2 | 2.0 | 8.6 | 284 | 1.3 | 3.1 | 252 | 9.5 | WSW | 31 | -8.0 | 0.0 | 6280 | 4 |
| 5 | 12.6 | 6.2 | 9.4 | 326 | 1.7 | 2.6 | 263 | 9.5 | NNE | 55 | -.9 | .6 | 2618 | 5 |
| 6 | 12.8 | 5.7 | 9.3 | 302 | .7 | 2.4 | 261 | 8.3 | NNE | 67 | 2.3 | 1.6 | 3198 | 6 |
| 7 | 13.7 | 3.2 | 8.5 | 311 | 1.5 | 3.2 | 238 | 9.5 | NNE | 63 | .6 | 5.0 | 3763 | 7 |
| 8 | 10.2 | 2.6 | 6.4 | 346 | .5 | 1.2 | 358 | 3.2 | N | 76 | 3.3 | 1.2 | 2053 | 8 |
| 9 | 10.2 | 7.0 | 8.6 | 011 | 2.3 | 2.3 | 022 | 6.3 | N | 79 | 4.7 | 8.2 | 2233 | 9 |
| 10 | 9.9 | 6.2 | 8.1 | 351 | .7 | 1.3 | 084 | 5.1 | N | 79 | 5.3 | 14.4 | 1683 | 10 |
| 11 | 12.7 | 6.5 | 9.6 | 026 | 2.7 | 2.8 | 042 | 8.9 | NNE | 76 | 4.6 | 7.0 | 3758 | 11 |
| 12 | 11.4 | 6.0 | 8.7 | 019 | 2.2 | 2.7 | 022 | 7.6 | NNE | 71 | 4.1 | .6 | 3335 | 12 |
| 13 | 10.9 | 5.2 | 8.1 | 013 | 1.8 | 2.2 | 017 | 6.3 | NNE | 73 | 4.1 | 0.0 | 2450 | 13 |
| 14 | 10.6 | 7.1 | 8.9 | 019 | 2.0 | 2.4 | 023 | 6.3 | NNE | 73 | 4.6 | .4 | 2913 | 14 |
| 15 | 13.2 | 7.5 | 10.4 | 080 | 2.5 | 3.0 | 083 | 8.9 | E | 74 | 6.0 | 2.8 | 2425 | 15 |
| 16 | 15.5 | 9.4 | 12.5 | 021 | 1.9 | 2.5 | 013 | 7.6 | NNE | 68 | 6.4 | 3.6 | 3635 | 16 |
| 17 | 15.3 | 9.3 | 12.3 | 007 | 1.9 | 2.0 | 336 | 5.7 | N | 74 | 6.9 | 13.0 | 3613 | 17 |
| 18 | 15.7 | 7.9 | 11.8 | 019 | 2.8 | 3.3 | 047 | 10.2 | NNE | 67 | 4.4 | .4 | 4423 | 18 |
| 19 | 12.4 | 7.3 | 9.9 | 020 | 2.2 | 2.2 | 028 | 5.7 | NNE | 76 | 5.1 | 8.4 | 3003 | 19 |
| 20 | 11.1 | 7.6 | 9.4 | 019 | 2.1 | 2.2 | 020 | 5.7 | NNE | 75 | 5.4 | 3.8 | 2668 | 20 |
| 21 | 16.0 | 6.9 | 11.5 | 036 | 1.6 | 2.0 | 042 | 7.0 | NE | 59 | 3.3 | 0.0 | 3918 | 21 |
| 22 | 13.8 | 7.6 | 10.7 | 024 | 2.1 | 2.4 | 028 | 6.3 | NNE | 63 | 4.1 | 2.0 | 3440 | 22 |
| 23 | 14.0 | 8.4 | 11.2 | 009 | .7 | 1.3 | 354 | 5.7 | NNE | 74 | 6.6 | 12.6 | 2920 | 23 |
| 24 | 14.4 | 9.2 | 11.8 | 086 | 2.8 | 3.3 | 107 | 10.8 | E | 66 | 4.7 | 1.2 | 3145 | 24 |
| 25 | 13.0 | 7.6 | 10.3 | 069 | 1.7 | 2.2 | 085 | 5.7 | E | 71 | 4.9 | 10.4 | 2738 | 25 |
| 26 | 15.3 | 6.3 | 10.8 | 330 | 1.4 | 2.2 | 349 | 8.9 | WNW | 56 | .8 | 0.0 | 4705 | 26 |
| 27 | 16.0 | 6.6 | 11.3 | 014 | 2.1 | 2.6 | 022 | 8.3 | NNE | 54 | 1.9 | 0.0 | 5098 | 27 |
| 28 | 15.5 | 5.4 | 10.5 | 021 | 1.6 | 2.3 | 026 | 7.0 | NNE | 68 | 3.8 | 2.0 | 3225 | 28 |
| 29 | 16.2 | 7.7 | 12.0 | 338 | 1.3 | 2.7 | 274 | 8.9 | NNE | 54 | .1 | 1.6 | 4930 | 29 |
| 30 | 14.4 | 5.7 | 10.1 | 007 | 1.1 | 2.0 | 012 | 7.0 | NNE | 56 | 1.1 | .6 | 3488 | 30 |
| 31 | 14.4 | 5.7 | 10.1 | 007 | 1.1 | 2.0 | 012 | 7.0 | NNE | 56 | 1.1 | .6 | 3488 | 31 |
| MONTH | 16.2 | -.5 | 9.7 | 011 | 1.4 | 2.5 | 107 | 10.8 | NNE | 65 | 2.6 | 102.6 | 110508 | |

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

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

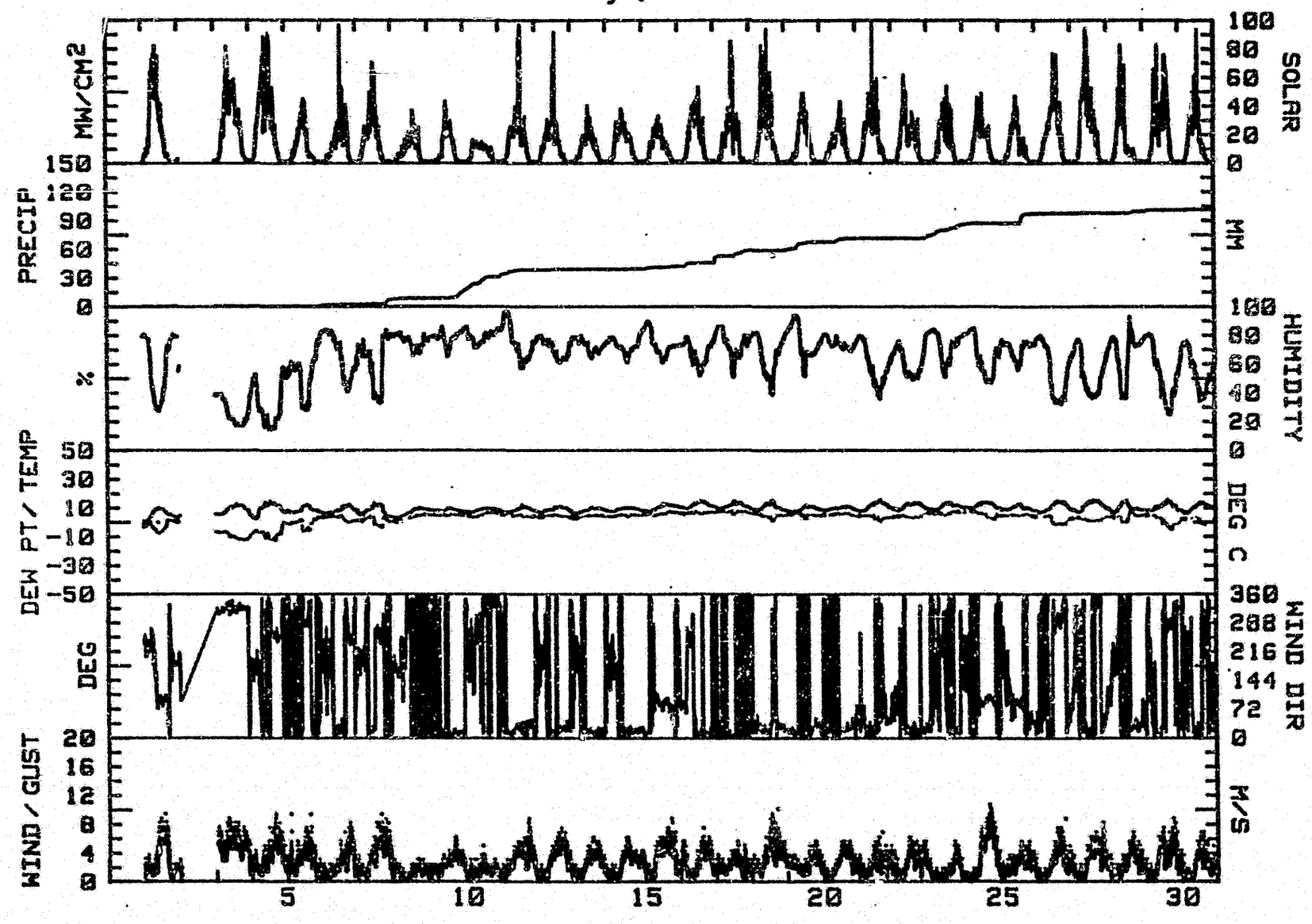
**** SEE NOTES AT THE BACK OF THIS REPORT ****

R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA WEATHER STATION

July, 1981



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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 | 1.28 | 12.26 | 4.12 | 0.00 | 0.00 | 0.00 | 0.00 | 17.67 |
| NNE | 1.28 | 12.33 | 13.61 | .17 | 0.00 | 0.00 | 0.00 | 27.40 |
| NE | 1.25 | 3.89 | 1.86 | .03 | 0.00 | 0.00 | 0.00 | 7.03 |
| ENE | .98 | 1.76 | .84 | 0.00 | 0.00 | 0.00 | 0.00 | 3.58 |
| E | .57 | 1.49 | 2.94 | .51 | 0.00 | 0.00 | 0.00 | 5.51 |
| ESE | .47 | 1.49 | .47 | .37 | 0.00 | 0.00 | 0.00 | 2.80 |
| SE | .57 | 1.18 | .10 | 0.00 | 0.00 | 0.00 | 0.00 | 1.86 |
| SSE | .74 | 1.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.30 |
| S | .84 | 1.86 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.70 |
| SSW | .71 | 1.96 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.67 |
| SW | 1.28 | 1.18 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 2.53 |
| WSW | 1.66 | .95 | 1.18 | .17 | 0.00 | 0.00 | 0.00 | 3.95 |
| W | 1.15 | .54 | 2.06 | .07 | 0.00 | 0.00 | 0.00 | 3.82 |
| WNW | .61 | .64 | 1.25 | .03 | 0.00 | 0.00 | 0.00 | 2.53 |
| NW | .98 | 1.45 | 3.21 | .30 | 0.00 | 0.00 | 0.00 | 5.95 |
| NNW | 1.15 | 3.75 | 2.36 | .17 | 0.00 | 0.00 | 0.00 | 7.43 |
| CALM | | | | | | | | .27 |
| TOTAL | 15.54 | 48.28 | 34.09 | 1.82 | 0.00 | 0.00 | 0.00 | 100.00 |

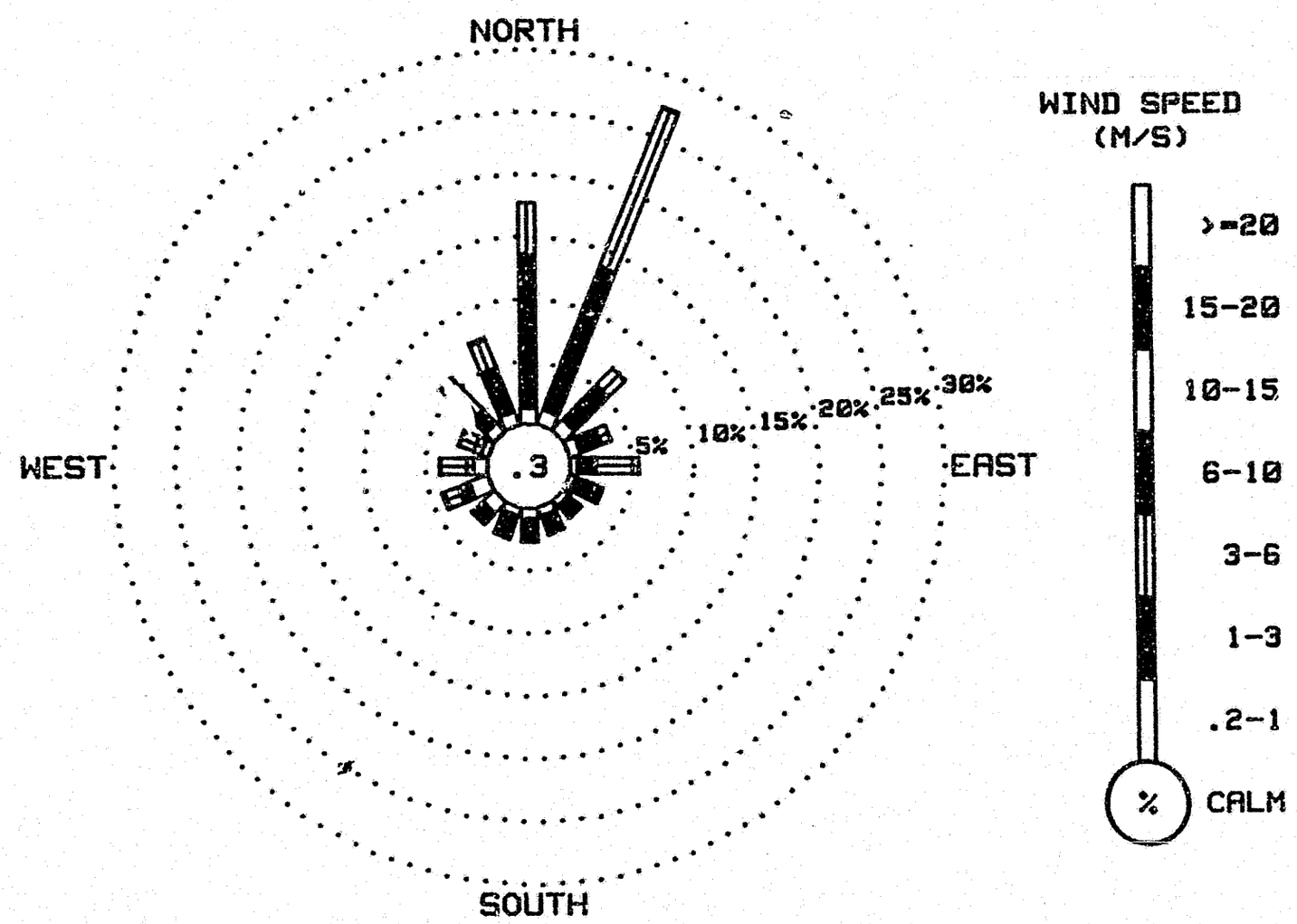
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2960 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA WEATHER STATION

July, 1981




WIND ROSE PLOT

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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 | 0.0 | 0.0 | 0.0 | .2 | .2 | 0.0 | .8 | 0.0 | 1.0 | .4 | .2 | .2 | 0.0 | .2 | 0.0 | 0.0 | .2 | .4 | 0.0 | .8 | 1.2 | .4 | 1 |
| 2 | .6 | 2.0 | 1.6 | .8 | .4 | 1.2 | .8 | .6 | .4 | .2 | .2 | 0.0 | 0.0 | .2 | 1.8 | 0.0 | 0.0 | 0.0 | .2 | .2 | .2 | .2 | .4 | 0.0 | 2 |
| 3 | .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 | 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 | .2 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5 |
| 6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | 0.0 | 0.0 | 0.0 | 1.2 | .8 | .4 | 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 | .2 | 2.6 | 0.0 | .8 | .2 | 2.6 | .6 | .2 | .6 | 0.0 | .8 | 8 |
| 9 | .4 | .2 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 1.2 | 0.0 | .2 | 0.0 | 0.0 | .4 | 1.2 | 0.0 | 0.0 | .2 | 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 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .8 | 0.0 | 0.0 | 10 |
| 11 | 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 | .2 | .4 | .4 | .6 | .2 | 0.0 | .2 | 11 |
| 12 | 0.0 | .2 | .4 | .2 | .2 | 0.0 | 0.0 | 0.0 | .2 | .6 | 1.0 | .4 | .4 | .4 | .4 | .2 | 0.0 | .2 | .4 | .6 | .6 | 1.2 | 1.2 | .2 | 12 |
| 13 | .2 | .4 | .4 | .4 | .4 | .2 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | .8 | 1.4 | 1.8 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | .2 | 1.6 | .4 | .4 | .2 | 13 |
| 14 | 1.6 | .2 | 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 | .2 | 0.0 | .4 | 0.0 | 0.0 | 14 |
| 15 | .4 | 0.0 | 0.0 | .4 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 0.0 | 1.6 | 2.6 | 3.4 | 1.0 | .8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| 16 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .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 | 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 | .2 | 0.0 | 17 |
| 18 | 0.0 | .2 | .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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18 |
| 19 | .2 | 0.0 | .4 | .8 | .4 | .6 | 0.0 | .2 | .4 | 0.0 | 0.0 | .4 | 1.0 | .2 | .4 | .2 | 0.0 | 0.0 | 0.0 | .2 | .4 | 0.0 | 0.0 | 0.0 | 19 |
| 20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | 1.0 | 1.4 | .2 | .2 | 0.0 | .4 | .8 | 1.2 | 1.6 | 1.4 | 1.2 | 3.0 | .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 | .6 | .2 | 3.0 | 2.6 | .2 | 0.0 | .2 | 0.0 | 21 |
| 22 | 0.0 | 0.0 | .2 | 0.0 | 0.0 | .2 | .2 | .2 | .6 | .4 | .2 | .4 | 0.0 | .2 | .4 | .6 | 0.0 | .2 | .2 | 0.0 | .2 | 0.0 | .2 | 0.0 | 22 |
| 23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23 |
| 24 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24 |
| 25 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25 |
| 26 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26 |
| 27 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28 |
| 29 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 29 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | 30 |
| 31 | .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 | 31 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 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 | 8.4 | 5.5 | 82 | 356 | 1.1 | 350 | 3.2 | 1 |
| 0600 | 8.5 | 5.1 | 79 | 058 | 1.1 | 106 | 3.8 | 4 |
| 0900 | 10.1 | 4.3 | 67 | 088 | 2.3 | 055 | 6.3 | 44 |
| 1200 | 11.4 | 5.1 | 65 | 075 | 3.1 | 088 | 6.3 | 16 |
| 1500 | 11.9 | 5.4 | 64 | 078 | 3.3 | 080 | 7.0 | 13 |
| 1800 | 11.1 | 2.9 | 57 | 052 | 1.4 | 063 | 4.4 | 6 |
| 2100 | 8.5 | 4.0 | 73 | 335 | .8 | 295 | 3.2 | 1 |
| 2400 | 7.2 | ***** | 78 | 234 | .2 | 049 | 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 | 7.2 | ***** | 74 | 288 | .9 | 257 | 3.2 | 1 |
| 0600 | 7.2 | 3.5 | 77 | 325 | 1.1 | 296 | 5.1 | 3 |
| 0900 | 9.0 | 2.4 | 63 | 339 | 1.0 | 000 | 3.2 | 26 |
| 1200 | 11.1 | 2.9 | 57 | 346 | 1.8 | 351 | 4.4 | 52 |
| 1500 | 10.0 | 3.6 | 64 | 006 | 2.8 | 356 | 5.7 | 26 |
| 1800 | 9.8 | ***** | 65 | 343 | .6 | 322 | 4.4 | 10 |
| 2100 | 9.0 | 4.5 | 73 | 197 | 1.1 | 202 | 1.9 | 1 |
| 2400 | 7.8 | 4.0 | 77 | 175 | 1.3 | 188 | 2.5 | 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 | 7.7 | 3.6 | 75 | 174 | 1.6 | 178 | 2.5 | 1 |
| 0600 | 8.3 | 2.8 | 68 | 185 | 1.2 | 178 | 2.5 | 1[illegible] |
| 0900 | 12.4 | 1.1 | 46 | 187 | .3 | 017 | 3.2 | 6[illegible] |
| 1200 | 15.3 | -3.2 | 28 | 117 | 1.3 | 111 | 5.1 | 68 |
| 1500 | 15.2 | -3.8 | 27 | 105 | 3.7 | 110 | 7.6 | 31 |
| 1800 | 13.7 | -4.1 | 29 | 099 | 3.8 | 093 | 7.[illegible] | 1[illegible] |
| 2100 | 11.1 | -.8 | 44 | 130 | 2.2 | 123 | 4.4 | [illegible] |
| 2400 | 8.5 | ***** | 52 | 185 | 1.1 | 152 | 3.2 | 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 | 4.1 | -2.1 | 64 | 196 | 1.6 | 177 | 3.2 | 1 |
| 0600 | 7.5 | -4.1 | 44 | 197 | 1.8 | 165 | 3.2 | 27 |
| 0900 | 13.2 | -7.0 | 24 | 131 | 1.4 | 070 | 5.7 | 53 |
| 1200 | 16.2 | -8.9 | 17 | 089 | 4.4 | 077 | 10.8 | 69 |
| 1500 | 16.7 | -9.3 | 16 | 079 | 6.0 | 079 | 10.8 | 54 |
| 1800 | 15.2 | -11.3 | 15 | 078 | 7.3 | 084 | 10.8 | 18 |
| 2100 | 10.6 | -6.4 | 30 | 075 | 5.1 | 078 | 10.8 | 2 |
| 2400 | 9.7 | -3.0 | 41 | 163 | 1.4 | 111 | 4.4 | 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 | 5.0 | -2.8 | 57 | 161 | 1.7 | 141 | 4.4 | 1 |
| 0600 | 9.4 | ***** | 37 | 175 | .8 | 166 | 4.4 | 13 |
| 0900 | 13.4 | -1.5 | 36 | 089 | 4.0 | 082 | 7.6 | 29 |
| 1200 | 14.4 | -1.4 | 34 | 100 | 6.4 | 102 | 10.2 | 81 |
| 1500 | 12.2 | 2.4 | 51 | 102 | 7.5 | 114 | 10.8 | 14 |
| 1800 | 13.9 | -2.2 | 33 | 097 | 5.1 | 100 | 8.9 | 9 |
| 2100 | 11.9 | -3.2 | 35 | 094 | 5.7 | 107 | 8.9 | 2 |
| 2400 | 8.4 | .6 | 58 | 098 | 4.1 | 087 | 10.8 | 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 | RA[illegible] MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 7.8 | 2.3 | 68 | 092 | 1.5 | 099 | 5.1 | [illegible] |
| 0600 | 10.2 | .5 | 51 | 103 | 3.8 | 105 | 7.6 | 29 |
| 0900 | 10.7 | -.8 | 45 | 104 | 4.6 | 086 | 8.9 | 2[illegible] |
| 1200 | 13.8 | -1.9 | 34 | 116 | 4.4 | 109 | 8.3 | 2[illegible] |
| 1500 | 15.1 | -3.9 | 27 | 103 | 6.8 | 098 | 10.2 | 3[illegible] |
| 1800 | 13.2 | -4.1 | 30 | 116 | 5.1 | 095 | 8.9 | 1[illegible] |
| 2100 | 9.4 | -.2 | 51 | 089 | 8.2 | 092 | 12.1 | [illegible] |
| 2400 | 8.1 | .8 | 60 | 097 | 6.2 | 087 | 12.1 | [illegible] |

### 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 | 8.3 | 1.3 | 61 | 106 | 3.9 | 101 | 7.0 | 1 |
| 0600 | 8.6 | 2.0 | 63 | 107 | 2.5 | 105 | 5.7 | 2 |
| 0900 | 10.3 | 2.7 | 59 | 091 | 4.6 | 095 | 9.5 | 8 |
| 1200 | 10.7 | 3.3 | 60 | 102 | 6.4 | 097 | 11.4 | 24 |
| 1500 | 11.0 | 1.8 | 53 | 102 | 6.5 | 104 | 10.2 | 8 |
| 1800 | 9.9 | 3.5 | 64 | 095 | 6.5 | 097 | 9.5 | 6 |
| 2100 | 9.2 | 2.8 | 64 | 112 | 4.7 | 115 | 8.9 | 1 |
| 2400 | 8.2 | 1.4 | 62 | 118 | 2.8 | 104 | 7.6 | 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 | 8.5 | 1.9 | 63 | 163 | 1.0 | 096 | 5.1 | 1 |
| 0600 | 9.2 | 2.8 | 64 | 130 | 2.3 | 131 | 5.7 | 8 |
| 0900 | 11.5 | 2.3 | 53 | 097 | 3.9 | 091 | 7.0 | 20 |
| 1200 | 13.3 | 1.9 | 46 | 090 | 4.8 | 086 | 7.6 | 30 |
| 1500 | 10.7 | 4.7 | 66 | 088 | 5.6 | 079 | 10.2 | 13 |
| 1800 | 10.4 | 3.9 | 64 | 095 | 4.8 | 088 | 9.5 | 2 |
| 2100 | 8.2 | 3.9 | 74 | 020 | 2.0 | 098 | 5.7 | 1 |
| 2400 | 7.7 | ***** | 76 | 351 | .5 | 349 | 2.5 | 0 |

### DAY 09

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RA[illegible] MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 6.8 | ***** | 79 | 027 | .9 | 044 | 2.5 | 1 |
| 0600 | 7.8 | ***** | 71 | 310 | .5 | 326 | 3.2 | 1[illegible] |
| 0900 | 11.1 | 2.4 | 55 | 083 | 1.0 | 074 | 5.7 | 5[illegible] |
| 1200 | 11.9 | 3.2 | 55 | 081 | 5.2 | 080 | 8.3 | 65 |
| 1500 | 12.9 | 1.2 | 45 | 030 | 3.6 | 087 | 8.9 | 5[illegible] |
| 1800 | 9.3 | 4.8 | 73 | 020 | 5.0 | 029 | 8.3 | [illegible] |
| 2100 | 8.2 | 3.5 | 72 | 022 | 2.5 | 032 | 5.7 | 1 |
| 2400 | 7.5 | 4.1 | 79 | 346 | 1.2 | 354 | 3.2 | 1 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 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 | 7.5 | ***** | 78 | 265 | .2 | 200 | 1.9 | 1 |
| 0600 | 7.8 | 2.9 | 71 | 075 | .3 | 132 | 2.5 | 6 |
| 0900 | 11.2 | 1.7 | 52 | 111 | 2.8 | 091 | 6.3 | 69 |
| 1200 | 12.7 | .0 | 42 | 078 | 4.7 | 104 | 10.8 | 45 |
| 1500 | 9.9 | 4.1 | 67 | 099 | 6.1 | 108 | 11.4 | 13 |
| 1800 | 9.7 | 1.9 | 58 | 022 | 5.2 | 027 | 7.6 | 11 |
| 2100 | 7.4 | 1.3 | 65 | 022 | 4.1 | 027 | 7.6 | 1 |
| 2400 | 6.0 | 2.6 | 79 | 015 | 2.9 | 003 | 7.6 | 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 | 5.6 | 2.6 | 81 | 009 | .5 | 349 | 1.9 | 1 |
| 0600 | 5.6 | 2.1 | 78 | 008 | 1.3 | 012 | 2.5 | 7 |
| 0900 | 9.7 | 1.6 | 57 | 358 | 1.5 | 010 | 3.8 | 47 |
| 1200 | 10.4 | -.5 | 47 | 009 | 3.7 | 016 | 6.3 | 61 |
| 1500 | 11.1 | -1.8 | 41 | 001 | 3.1 | 007 | 6.3 | 27 |
| 1800 | 9.0 | 1.0 | 57 | 081 | 2.3 | 092 | 7.0 | 3 |
| 2100 | 7.1 | ***** | 71 | 137 | 1.3 | 125 | 5.1 | 1 |
| 2400 | 6.0 | ***** | 71 | 159 | 1.1 | 138 | 3.8 | 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 | 4.8 | 1.5 | 79 | 015 | 1.0 | 014 | 5.1 | 1 |
| 0600 | 6.0 | .2 | 66 | 348 | 2.1 | 349 | 5.7 | 8 |
| 0900 | 6.8 | 1.1 | 67 | 066 | 2.2 | 077 | 6.3 | 11 |
| 1200 | 8.0 | 1.4 | 63 | 096 | 4.7 | 091 | 8.3 | 20 |
| 1500 | 9.4 | 2.5 | 62 | 088 | 3.1 | 096 | 7.0 | 12 |
| 1800 | 7.3 | 3.9 | 79 | 222 | .7 | 152 | 5.1 | 4 |
| 2100 | 5.7 | 3.5 | 86 | 360 | 2.7 | 359 | 4.4 | 1 |
| 2400 | 5.3 | 3.5 | 88 | 003 | 2.3 | 349 | 5.1 | 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 | 4.4 | 1.1 | 79 | 023 | 2.1 | 019 | 3.2 | 1 |
| 0600 | 4.8 | 1.3 | 78 | 003 | 1.1 | 021 | 2.5 | 8 |
| 0900 | 7.4 | -1.3 | 54 | 349 | .7 | 082 | 2.5 | 33 |
| 1200 | 7.6 | 2.7 | 71 | 018 | 1.9 | 018 | 5.1 | 12 |
| 1500 | 8.6 | 1.3 | 60 | 004 | 3.2 | 017 | 5.1 | 54 |
| 1800 | 6.4 | 1.4 | 70 | 015 | 3.8 | 021 | 7.0 | 6 |
| 2100 | 3.8 | -.4 | 74 | 028 | 3.1 | 028 | 7.0 | 1 |
| 2400 | 3.4 | .6 | 82 | 017 | 2.1 | 023 | 5.1 | 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 | 2.8 | -.3 | 80 | 004 | 1.4 | 005 | 3.2 | 1 |
| 0600 | 3.4 | ***** | 77 | 247 | .4 | 343 | 1.3 | 3 |
| 0900 | 5.8 | -.0 | 66 | 094 | 1.6 | 088 | 6.3 | 18 |
| 1200 | 10.6 | -2.6 | 40 | 099 | 6.3 | 092 | 10.2 | 53 |
| 1500 | 8.1 | .1 | 57 | 110 | 5.7 | 105 | 10.2 | 21 |
| 1800 | 9.1 | -2.3 | 45 | 000 | 3.4 | 355 | 6.3 | 6 |
| 2100 | 5.6 | 1.4 | 74 | 036 | 1.5 | 000 | 5.7 | 1 |
| 2400 | 5.1 | ***** | 67 | 306 | .6 | 002 | 4.4 | 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 | 4.5 | -1.7 | 64 | 121 | .5 | 122 | 3.8 | 1 |
| 0600 | 3.7 | -.8 | 72 | 196 | 1.0 | 125 | 3.8 | 8 |
| 0900 | 5.1 | -.1 | 69 | 337 | 1.9 | 346 | 7.0 | 22 |
| 1200 | 2.2 | -.4 | 83 | 009 | 4.0 | 013 | 7.0 | 7 |
| 1500 | 1.0 | -2.2 | 79 | 016 | 2.9 | 022 | 6.3 | 15 |
| 1800 | 3.4 | -1.1 | 72 | 004 | 2.3 | 003 | 4.4 | 15 |
| 2100 | 2.3 | -1.5 | 76 | 025 | 1.8 | 010 | 5.1 | 1 |
| 2400 | 1.8 | -1.6 | 78 | 166 | .8 | 141 | 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 | .2 | -2.8 | 80 | 192 | 1.2 | 201 | 2.5 | 1 |
| 0600 | 1.2 | ***** | 74 | 150 | 1.8 | 142 | 4.4 | 8 |
| 0900 | 1.8 | -3.4 | 68 | 008 | 1.3 | 009 | 4.4 | 11 |
| 1200 | 4.8 | -8.8 | 37 | 271 | 3.1 | 259 | 10.2 | 70 |
| 1500 | 5.1 | -10.4 | 32 | 282 | 5.0 | 277 | 8.3 | 62 |
| 1800 | 4.3 | -10.0 | 35 | 323 | 3.5 | 308 | 7.0 | 14 |
| 2100 | 1.0 | -7.0 | 55 | 014 | .6 | 340 | 3.8 | 1 |
| 2400 | -1.1 | -7.4 | 62 | 179 | 1.7 | 155 | 3.8 | 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 | -3.6 | -9.2 | 65 | 204 | 1.7 | 150 | 3.2 | 1 |
| 0600 | -1.0 | -11.2 | 46 | 221 | 1.7 | 225 | 3.2 | 26 |
| 0900 | 6.0 | -9.2 | 33 | 091 | 1.5 | 081 | 7.0 | 54 |
| 1200 | 8.5 | -12.1 | 22 | 096 | 5.2 | 089 | 8.3 | 51 |
| 1500 | 9.5 | -11.2 | 22 | 097 | 4.4 | 098 | 7.6 | 29 |
| 1800 | 7.7 | -9.8 | 28 | 088 | 5.5 | 084 | 8.3 | 7 |
| 2100 | 5.3 | -6.1 | 44 | 104 | 3.1 | 087 | 6.3 | 1 |
| 2400 | 4.4 | -1.8 | 64 | 156 | 1.1 | 131 | 3.2 | 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 | 3.8 | -.0 | 76 | 145 | .9 | 144 | 1.9 | 1 |
| 0600 | 4.0 | .4 | 77 | 210 | .7 | 226 | 1.9 | 4 |
| 0900 | 6.9 | -.3 | 60 | 089 | 1.1 | 091 | 6.3 | 37 |
| 1200 | 9.7 | -.5 | 49 | 095 | 5.0 | 079 | 8.3 | 40 |
| 1500 | 8.6 | .6 | 57 | 092 | 6.1 | 087 | 8.3 | 24 |
| 1800 | 8.3 | 1.5 | 62 | 091 | 4.8 | 090 | 8.3 | 6 |
| 2100 | 7.0 | ***** | 69 | 041 | 1.1 | 050 | 3.8 | 1 |
| 2400 | 6.0 | ***** | 77 | 220 | .8 | 178 | 1.9 | 1 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 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 | 5.6 | 2.4 | 80 | 211 | 1.1 | 220 | 1.9 | 1 |
| 0600 | 6.4 | 2.5 | 76 | 181 | 1.0 | 145 | 2.5 | 6 |
| 0900 | 7.9 | 2.0 | 66 | 088 | 1.6 | 082 | 5.[illegible] | 24 |
| 1200 | 7.7 | 1.6 | 65 | 094 | 5.0 | 092 | 7.0 | 11 |
| 1500 | 9.1 | 2.9 | 65 | 094 | 3.1 | 099 | 5.7 | 13 |
| 1800 | 9.4 | 4.5 | 71 | 031 | 1.4 | 083 | 3.2 | 4 |
| 2100 | 7.2 | 3.8 | 79 | 350 | 2.0 | 337 | 5.1 | 1 |
| 2400 | 5.8 | .6 | 69 | 066 | 1.1 | 073 | 5.7 | 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 | 6.0 | .8 | 69 | 152 | .3 | 027 | 5.1 | 1 |
| 0600 | 6.7 | 1.3 | 68 | 100 | 1.9 | 112 | 5.1 | 4 |
| 0900 | 8.1 | 1.7 | 64 | 072 | 3.0 | 068 | 7.0 | 13 |
| 1200 | 8.2 | 2.5 | 67 | 074 | 4.2 | 074 | 9.5 | 15 |
| 1500 | 9.9 | 1.8 | 57 | 058 | 5.9 | 055 | 10.8 | 16 |
| 1800 | 8.7 | ***** | 61 | 053 | 2.7 | 053 | 6.3 | 2 |
| 2100 | 6.9 | 2.8 | 75 | 215 | 1.2 | 189 | 4.4 | 1 |
| 2400 | 5.7 | 1.1 | 72 | 031 | .7 | 219 | 4.4 | 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 | 5.9 | 1.8 | 75 | 178 | .9 | 122 | 3.8 | 1 |
| 0600 | 6.2 | .2 | 65 | 156 | 1.4 | 138 | 4.4 | [illegible] |
| 0900 | 9.3 | -1.8 | 46 | 095 | 3.2 | 081 | 7.0 | [illegible] |
| 1200 | 14.2 | -5.6 | 25 | 118 | 4.8 | 094 | 8.3 | 62 |
| 1500 | 12.8 | -7.9 | 23 | 139 | 4.5 | 143 | 8.3 | 7 |
| 1800 | 7.1 | 1.4 | 67 | 355 | 2.1 | 043 | 8.3 | [illegible] |
| 2100 | 5.2 | .6 | 72 | 213 | 1.0 | 128 | 5.7 | [illegible] |
| 2400 | 5.1 | 1.2 | 76 | 002 | .4 | 158 | 2.5 | 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 | 4.9 | 1.0 | 76 | 178 | .9 | 175 | 1.9 | 1 |
| 0600 | 5.1 | 1.6 | 78 | 052 | .9 | 024 | 3.2 | 3 |
| 0900 | 6.0 | 1.6 | 73 | 013 | 2.2 | 019 | 3.2 | 15 |
| 1200 | 6.9 | 1.7 | 69 | 007 | 2.6 | 011 | 3.8 | 20 |
| 1500 | 7.2 | 2.1 | 70 | 004 | 3.1 | 346 | 4.4 | 25 |
| 1800 | 6.8 | 2.1 | 72 | 015 | 3.1 | 021 | 5.1 | 4 |
| 2100 | 5.6 | 1.4 | 74 | 034 | 2.2 | 029 | 4.4 | 0 |
| 2400 | 5.0 | ***** | 73 | 049 | 1.4 | 030 | 3.2 | 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 | 3.6 | -.0 | 77 | 169 | 1.2 | 162 | 2.5 | 1 |
| 0600 | 4.2 | .5 | 77 | 177 | 1.3 | 158 | 2.5 | 7 |
| 0900 | 8.8 | ***** | 53 | 181 | .5 | 190 | 2.5 | 30 |
| 1200 | 11.6 | -3.9 | 34 | 007 | 2.2 | 355 | 4.4 | 47 |
| 1500 | 13.5 | -4.3 | 29 | 039 | 2.1 | 052 | 5.7 | 53 |
| 1800 | 12.3 | -3.7 | 33 | 045 | 2.6 | 033 | 6.3 | 15 |
| 2100 | 6.0 | -1.4 | 59 | 335 | 1.4 | 345 | 3.2 | 1 |
| 2400 | 3.3 | -1.4 | 71 | 221 | 1.5 | 213 | 3.2 | 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 | -2.8 | 73 | 194 | 1.9 | 208 | 3.2 | [illegible] |
| 0600 | 5.2 | -3.9 | 52 | 185 | 2.0 | 193 | 3.2 | 17 |
| 0900 | 10.4 | -3.4 | 38 | 205 | .6 | 176 | 2.5 | 49 |
| 1200 | 16.1 | -7.6 | 19 | 313 | .5 | 249 | 3.8 | 5[illegible] |
| 1500 | 16.4 | -9.5 | 16 | 009 | 2.3 | 037 | 6.3 | 3[illegible] |
| 1800 | 13.9 | -7.0 | 23 | 359 | 3.1 | 001 | 5.1 | 7 |
| 2100 | 8.1 | ***** | 51 | 342 | 1.2 | 016 | 4.4 | [illegible] |
| 2400 | 5.2 | -2.4 | 58 | 186 | 1.1 | 171 | 2.5 | [illegible] |

### 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 | 6.2 | -.3 | 63 | 181 | 1.4 | 157 | 2.5 | 1 |
| 0600 | 9.2 | -.4 | 51 | 183 | 1.2 | 145 | 2.5 | 6 |
| 0900 | 15.1 | -7.8 | 20 | 165 | .9 | 203 | 2.5 | 27 |
| 1200 | 18.2 | -10.8 | 13 | 004 | 1.8 | 005 | 4.4 | 58 |
| 1500 | 19.6 | -7.8 | 15 | 001 | 3.3 | 358 | 5.7 | 41 |
| 1800 | 17.2 | -2.6 | 26 | 004 | 3.4 | 007 | 5.7 | 7 |
| 2100 | 11.2 | 2.5 | 55 | 320 | .7 | 010 | 3.8 | 1 |
| 2400 | 9.1 | 2.9 | 65 | 202 | 1.2 | 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 | 6.8 | 1.6 | 69 | 192 | 1.9 | 202 | 3.2 | 1 |
| 0600 | 11.0 | 1.2 | 51 | 195 | 2.1 | 179 | 3.8 | 18 |
| 0900 | 18.5 | .5 | 30 | 160 | .8 | 136 | 3.2 | 48 |
| 1200 | 23.5 | -2.2 | 18 | 050 | .9 | 007 | 5.1 | 50 |
| 1500 | 24.6 | -6.8 | 12 | 044 | 2.4 | 053 | 5.7 | 41 |
| 1800 | 22.4 | -6.5 | 14 | 358 | 1.6 | 101 | 3.8 | 10 |
| 2100 | 16.0 | .4 | 35 | 100 | 1.9 | 106 | 5.1 | 1 |
| 2400 | 13.4 | 4.8 | 56 | 097 | 1.9 | 112 | 4.4 | 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 | 10.0 | ***** | 69 | 093 | 1.1 | 100 | 3.8 | [illegible] |
| 0600 | 10.8 | ***** | 46 | 200 | .8 | 107 | 1.9 | 1[illegible] |
| 0900 | 14.2 | 2.4 | 45 | 008 | 1.5 | 353 | 3.8 | 45 |
| 1200 | 19.6 | 1.0 | 29 | 011 | 2.4 | 015 | 4.4 | 57 |
| 1500 | 23.5 | -4.7 | 15 | 353 | 2.5 | 015 | 4.4 | [illegible] |
| 1800 | 22.9 | -5.2 | 15 | 346 | 2.1 | 346 | 4.4 | [illegible] |
| 2100 | 15.3 | 1.7 | 40 | 313 | 1.2 | 327 | 3.8 | 1 |
| 2400 | 9.9 | 4.1 | 67 | 305 | .5 | 011 | 2.5 | [illegible] |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | 8.3 | ***** | 76 | 230 | .7 | 262 | 1.9 | 1 |
| 0600 | 7.9 | 4.1 | 77 | 219 | 1.2 | 225 | 2.5 | 4 |
| 0900 | 14.3 | 4.3 | 51 | 284 | .3 | 008 | 3.2 | 49 |
| 1200 | 18.8 | 3.3 | 36 | 001 | 2.4 | 000 | 3.8 | 40 |
| 1500 | 23.6 | -5.5 | 14 | 355 | 1.5 | 007 | 3.8 | 39 |
| 1800 | 21.5 | -7.2 | 14 | 338 | 2.0 | 350 | 3.8 | 8 |
| 2100 | 13.5 | -2.6 | 33 | 354 | 1.4 | 312 | 5.1 | 1 |
| 2400 | 9.7 | 1.6 | 57 | 185 | 1.3 | 150 | 3.2 | 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 | 6.1 | 1.5 | 72 | 201 | 1.1 | 153 | 2.5 | 1 |
| 0600 | 5.6 | ***** | 75 | 231 | 1.0 | 214 | 2.5 | 5 |
| 0900 | 8.9 | 6.3 | 84 | 351 | 1.6 | 003 | 3.2 | 15 |
| 1200 | 11.9 | 4.4 | 60 | 014 | 2.1 | 041 | 4.4 | 24 |
| 1500 | 13.8 | 3.0 | 48 | 014 | 4.1 | 010 | 7.0 | 38 |
| 1800 | 11.9 | 3.2 | 55 | 017 | 4.6 | 020 | 7.0 | 7 |
| 2100 | 9.0 | 4.5 | 73 | 020 | 2.4 | 019 | 7.0 | 0 |
| 2400 | 8.8 | 4.6 | 75 | 021 | 1.5 | 027 | 3.8 | 0 |

### DAY 30

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RAD MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 8.9 | 4.6 | 74 | 015 | 2.1 | 039 | 3.8 | 1 |
| 0600 | 8.8 | 4.3 | 73 | 016 | 2.1 | 026 | 4.4 | [illegible] |
| 0900 | 10.6 | 3.0 | 59 | 013 | 2.6 | 020 | 5.7 | 23 |
| 1200 | 12.5 | 1.1 | 46 | 019 | 3.5 | 021 | 5.7 | 35 |
| 1500 | 11.9 | .6 | 46 | 024 | 4.7 | 026 | 7.0 | 18 |
| 1800 | 10.8 | 1.4 | 55 | 025 | 5.4 | 026 | 7.6 | [illegible] |
| 2100 | 8.3 | 3.2 | 70 | 025 | 3.7 | 026 | 7.6 | 1 |
| 2400 | 7.4 | 2.3 | 70 | 031 | 2.1 | 028 | 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 | 7.4 | 1.9 | 68 | 029 | 2.2 | 020 | 5.1 | 1 |
| 0600 | 7.3 | .8 | 63 | 024 | 1.5 | 244 | 7.0 | 5 |
| 0900 | 10.1 | -4.4 | 36 | 010 | 3.0 | 015 | 7.0 | 46 |
| 1200 | 12.5 | -17.3 | 11 | 334 | 5.3 | 340 | 10.8 | 57 |
| 1500 | 14.3 | -21.2 | 7 | 337 | 5.1 | 349 | 8.9 | 40 |
| 1800 | 12.4 | -19.8 | 9 | 318 | 3.5 | 322 | 6.3 | 8 |
| 2100 | 6.8 | -13.5 | 22 | 323 | 2.2 | 314 | 6.3 | 2 |
| 2400 | 3.1 | -10.7 | 36 | 182 | 2.5 | 191 | 5.1 | 2 |

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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 | 12.1 | 7.2 | 9.7 | 065 | 1.4 | 2.0 | 080 | 7.0 | ENE | 71 | 4.8 | 6.2 | 1990 | 1 |
| 2 | 11.4 | 7.0 | 9.2 | 334 | .7 | 1.5 | 358 | 5.7 | N | 69 | 3.5 | 12.0 | 2930 | 2 |
| 3 | 17.0 | 6.0 | 11.5 | 128 | 1.6 | 2.2 | 110 | 7.6 | ESE | 47 | -.6 | .2 | 5640 | 3 |
| 4 | 17.1 | 2.0 | 9.6 | 094 | 2.8 | 3.8 | 077 | 10.8 | ENE | 32 | -6.7 | 0.0 | 6520 | 4 |
| 5 | 14.6 | 4.0 | 9.3 | 101 | 4.2 | 4.6 | 114 | 10.8 | E | 42 | -1.6 | .4 | 4040 | 5 |
| 6 | 15.6 | 7.7 | 11.7 | 102 | 5.0 | 5.2 | 092 | 12.1 | ESE | 45 | -1.0 | 0.0 | 4025 | 6 |
| 7 | 11.3 | 7.9 | 9.6 | 103 | 4.7 | 4.8 | 097 | 11.4 | ESE | 61 | 2.3 | 3.0 | 1293 | 7 |
| 8 | 14.3 | 6.7 | 10.5 | 092 | 2.7 | 3.4 | 079 | 10.2 | E | 62 | 2.9 | 8.6 | 2695 | 8 |
| 9 | 13.5 | 6.8 | 10.2 | 037 | 2.1 | 2.9 | 087 | 8.9 | N | 67 | 3.2 | 4.2 | 3758 | 9 |
| 10 | 13.8 | 6.0 | 9.9 | 059 | 2.6 | 3.5 | 108 | 11.4 | NNE | 63 | 1.7 | 1.0 | 3473 | 10 |
| 11 | 11.9 | 5.1 | 8.5 | 027 | 1.2 | 2.1 | 092 | 7.0 | N | 62 | .4 | 2.4 | 4263 | 11 |
| 12 | 9.7 | 4.5 | 7.1 | 049 | 1.5 | 2.6 | 091 | 8.3 | N | 72 | 2.1 | 9.0 | 1878 | 12 |
| 13 | 9.9 | 3.4 | 6.7 | 015 | 2.2 | 2.4 | 021 | 7.0 | NNE | 71 | 1.0 | 10.4 | 3530 | 13 |
| 14 | 11.1 | 2.7 | 6.9 | 077 | 1.7 | 3.0 | 092 | 10.2 | N | 63 | -.8 | 2.8 | 2860 | 14 |
| 15 | 5.6 | .4 | 3.0 | 011 | 1.3 | 2.2 | 346 | 7.0 | NNE | 74 | -1.1 | 10.4 | 1863 | 15 |
| 16 | 6.0 | -2.4 | 1.8 | 278 | 1.2 | 2.8 | 259 | 10.2 | SSE | 57 | -6.4 | 1.0 | 3895 | 16 |
| 17 | 9.8 | -5.0 | 2.4 | 107 | 2.4 | 3.3 | 089 | 8.3 | E | 41 | -9.3 | .2 | 4995 | 17 |
| 18 | 10.0 | 3.5 | 6.8 | 096 | 2.2 | 2.8 | 079 | 8.3 | E | 66 | .4 | 1.0 | 3463 | 18 |
| 19 | 10.2 | 5.3 | 7.8 | 084 | 1.3 | 2.2 | 092 | 7.0 | E | 71 | 2.7 | 5.8 | 2088 | 19 |
| 20 | 10.0 | 5.5 | 7.8 | 069 | 2.1 | 2.9 | 055 | 10.8 | ENE | 66 | 1.7 | 13.2 | 1725 | 20 |
| 21 | 16.1 | 4.3 | 10.2 | 123 | 1.5 | 2.9 | 094 | 8.3 | SE | 55 | -1.9 | 6.8 | 4210 | 21 |
| 22 | 7.5 | 4.3 | 5.9 | 020 | 1.8 | 2.2 | 021 | 5.1 | NNE | 73 | 1.5 | 4.4 | 2173 | 22 |
| 23 | 14.1 | 2.1 | 8.1 | 038 | .5 | 1.9 | 033 | 6.3 | SSE | 54 | -2.1 | 0.0 | 3968 | 23 |
| 24 | 17.4 | -.1 | 8.7 | 317 | .3 | 1.9 | 037 | 6.3 | N | 42 | -4.9 | 0.0 | 5188 | 24 |
| 25 | 19.6 | 5.7 | 12.7 | 356 | .5 | 1.9 | 358 | 5.7 | N | 38 | -3.3 | 0.0 | 4450 | 25 |
| 26 | 24.7 | 5.0 | 14.9 | 103 | .7 | 2.0 | 053 | 5.7 | ESE | 37 | -1.2 | 0.0 | 5145 | 26 |
| 27 | 23.7 | 7.6 | 15.7 | 356 | 1.1 | 1.7 | 015 | 4.4 | N | 41 | .0 | 0.0 | 5130 | 27 |
| 28 | 23.7 | 6.0 | 14.9 | 330 | .7 | 1.7 | 312 | 5.1 | N | 45 | -.3 | 0.0 | 4043 | 28 |
| 29 | 14.5 | 4.8 | 9.7 | 011 | 1.8 | 2.4 | 010 | 7.0 | NNE | 67 | 3.8 | 0.0 | 3183 | 29 |
| 30 | 14.4 | 7.4 | 10.9 | 022 | 3.3 | 3.3 | 026 | 7.6 | NNE | 61 | 2.6 | .2 | 3038 | 30 |
| 31 | 14.4 | 3.1 | 8.8 | 341 | 2.3 | 3.5 | 340 | 10.8 | NW | 34 | -9.7 | .4 | 4928 | 31 |
| MONTH | 24.7 | -5.0 | 9.0 | 067 | 1.4 | 2.8 | 092 | 12.1 | N | 56 | -.5 | 103.6 | 112374 | |

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

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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 | .37 | 9.64 | 3.97 | 0.00 | 0.00 | 0.00 | 0.00 | 13.98 |
| NNE | .57 | 6.92 | 5.78 | .13 | 0.00 | 0.00 | 0.00 | 13.41 |
| NE | .34 | 3.16 | .74 | .13 | 0.00 | 0.00 | 0.00 | 4.37 |
| ENE | .47 | 2.49 | 2.35 | .60 | 0.00 | 0.00 | 0.00 | 5.91 |
| E | .27 | 1.68 | 7.59 | 3.93 | .03 | 0.00 | 0.00 | 13.51 |
| ESE | .44 | 2.62 | 4.27 | 1.61 | 0.00 | 0.00 | 0.00 | 8.94 |
| SE | .74 | 2.99 | .97 | .07 | 0.00 | 0.00 | 0.00 | 4.77 |
| SSE | .74 | 3.73 | .24 | 0.00 | 0.00 | 0.00 | 0.00 | 4.70 |
| S | .54 | 4.30 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 4.91 |
| SSW | .94 | 4.03 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 5.04 |
| SW | 1.04 | 3.80 | .10 | 0.00 | 0.00 | 0.00 | 0.00 | 4.94 |
| WSW | .97 | 1.75 | .17 | .10 | 0.00 | 0.00 | 0.00 | 2.99 |
| W | .74 | .84 | .17 | .13 | 0.00 | 0.00 | 0.00 | 1.88 |
| WNW | .64 | .91 | .30 | 0.00 | 0.00 | 0.00 | 0.00 | 1.85 |
| NW | .47 | 1.04 | .81 | 0.00 | 0.00 | 0.00 | 0.00 | 2.32 |
| NNW | .77 | 4.17 | 1.14 | .20 | 0.00 | 0.00 | 0.00 | 6.28 |
| CALM | | | | | | | | .20 |
| TOTAL | 10.05 | 54.07 | 28.73 | 6.92 | .03 | 0.00 | 0.00 | 100.00 |

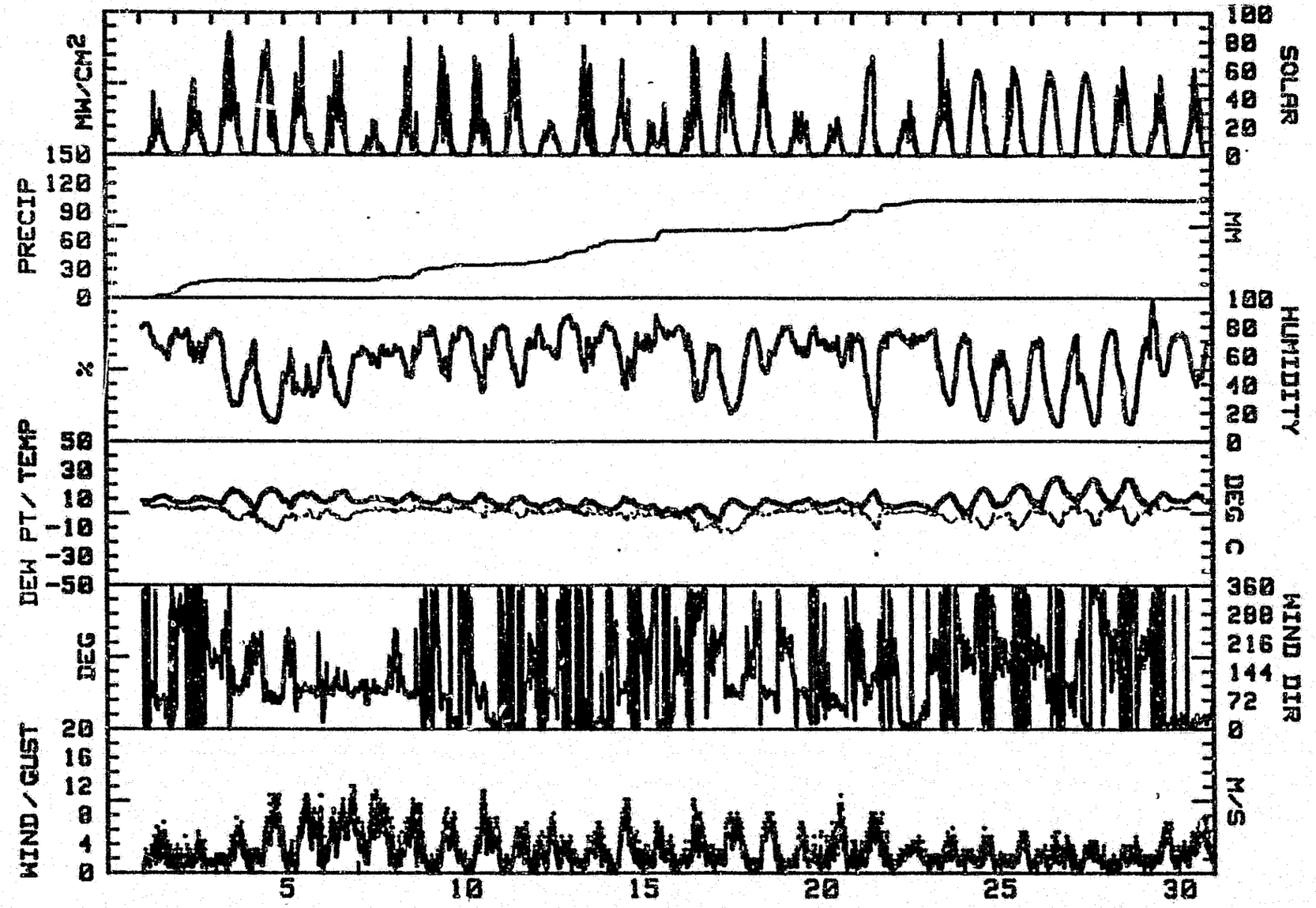
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2976 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA WEATHER STATION

August, 1981

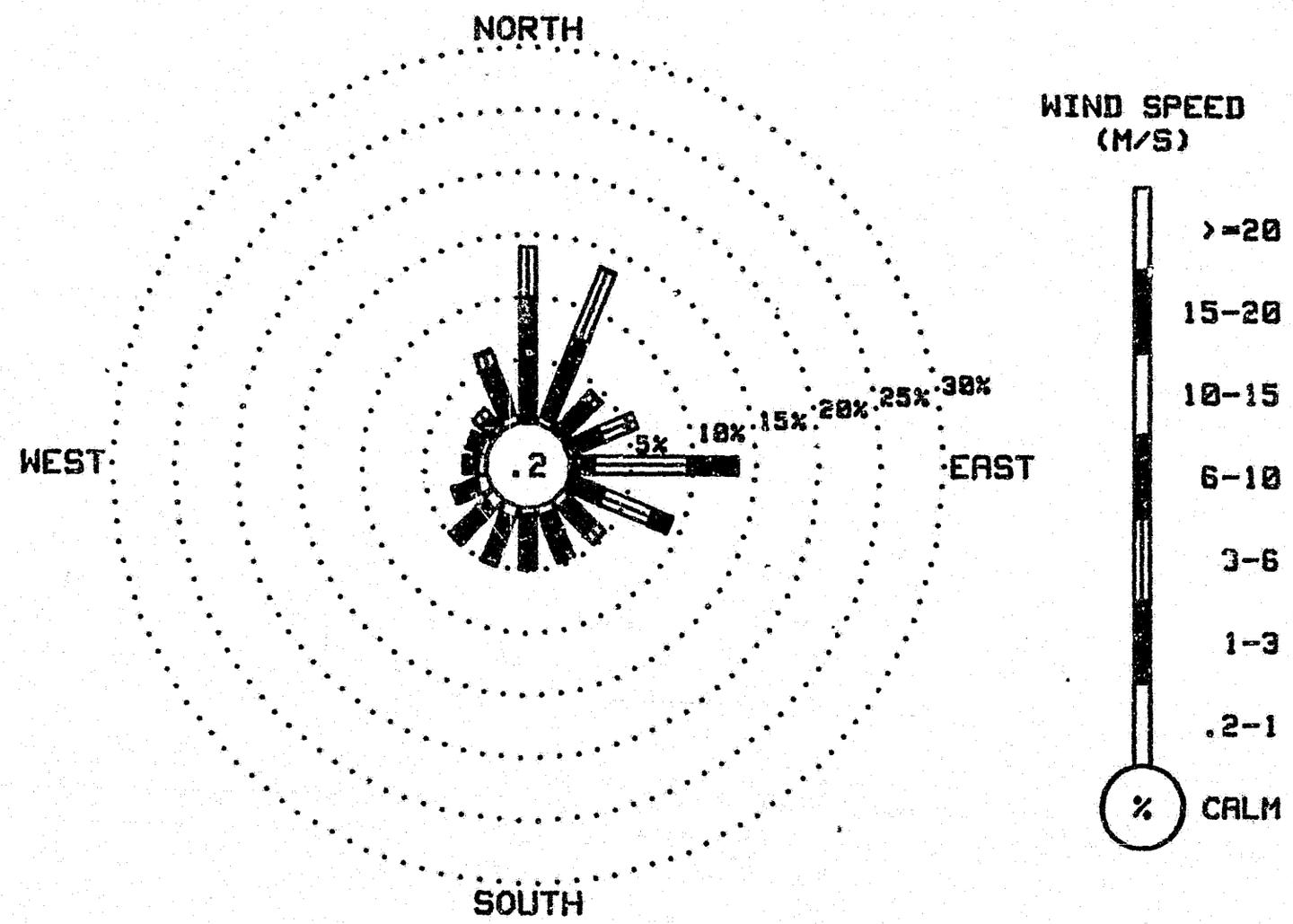


R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA WEATHER STATION

August, 1981




WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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 | .8 | 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 | .6 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 5 |
| 6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .4 | 0.0 | .2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7 |
| 8 | 0.0 | 0.0 | .2 | 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 | 0.0 | 0.0 | 0.0 | 8 |
| 9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .4 | 0.0 | .2 | .8 | .8 | 1.2 | .4 | .2 | 9 |
| 10 | 0.0 | .2 | .2 | .2 | 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 | 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 | .6 | .2 | 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 | 1.2 | .4 | .2 | 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 | .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 | 14 |
| 15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .2 | .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 | 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 | .2 | .2 | 0.0 | 0.0 | 0.0 | 18 |
| 19 | 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 | .4 | 1.2 | 1.0 | 3.2 | 1.2 | 1.0 | 1.4 | .8 | .4 | .4 | 1.4 | 19 |
| 20 | 1.4 | .2 | .2 | .4 | .4 | .4 | .2 | .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 | 20 |
| 21 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21 |
| 22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22 |
| 23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23 |
| 24 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24 |
| 25 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25 |
| 26 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26 |
| 27 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 27 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28 |
| 29 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 29 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 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 | 2.0 | -10.6 | 39 | 189 | 2.1 | 206 | 4.4 | 1 |
| 0600 | 3.8 | -11.9 | 31 | 196 | 1.7 | 193 | 3.8 | 15 |
| 0900 | 10.1 | -18.1 | 12 | 089 | .4 | 155 | 3.2 | 43 |
| 1200 | 14.3 | -21.2 | 7 | 009 | 2.0 | 012 | 4.4 | 58 |
| 1500 | 16.6 | -21.2 | 6 | 352 | 2.1 | 354 | 4.4 | 40 |
| 1800 | 15.1 | -20.7 | 7 | 349 | 2.3 | 351 | 3.2 | 8 |
| 2100 | 7.3 | -13.1 | 22 | 134 | 2.1 | 134 | 5.1 | 3 |
| 2400 | 4.8 | -8.8 | 37 | 161 | 2.1 | 133 | 3.8 | 2 |

### 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 | 4.0 | -6.7 | 46 | 191 | 1.2 | 163 | 3.2 | 1 |
| 0600 | 5.1 | -3.4 | 54 | 214 | 1.2 | 192 | 3.2 | 3 |
| 0900 | 9.0 | -1.2 | 49 | 094 | .4 | 006 | 5.1 | 20 |
| 1200 | 10.0 | .6 | 52 | 014 | 3.8 | 017 | 6.3 | 30 |
| 1500 | 10.2 | .5 | 51 | 019 | 4.2 | 016 | 7.0 | 20 |
| 1800 | 9.5 | -.7 | 49 | 016 | 3.9 | 003 | 8.3 | 4 |
| 2100 | 6.5 | .4 | 65 | 041 | 2.0 | 035 | 4.4 | 1 |
| 2400 | 6.0 | ***** | 64 | 111 | 1.0 | 118 | 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 | 5.9 | -.3 | 64 | 135 | 1.4 | 156 | 3.2 | [illegible] |
| 0600 | 5.8 | -.2 | 65 | 152 | 1.6 | 147 | 3.8 | [illegible] |
| 0900 | 8.9 | -.4 | 52 | 348 | .2 | 140 | 2.5 | 20 |
| 1200 | 10.7 | -3.5 | 37 | 000 | 2.7 | 351 | 5.1 | 12 |
| 1500 | 11.7 | -4.6 | 32 | 102 | .8 | 112 | 5.1 | 2[illegible] |
| 1800 | 9.6 | ***** | 40 | 104 | 2.0 | 094 | 5.7 | [illegible] |
| 2100 | 8.3 | -1.5 | 50 | 201 | .9 | 244 | 1.9 | 1 |
| 2400 | 6.8 | .1 | 62 | 191 | 1.0 | 183 | 2.5 | [illegible] |

### DAY 04

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RAD MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 4.5 | -1.5 | 65 | 154 | 1.2 | 151 | 2.5 | 1 |
| 0600 | 5.9 | -4.3 | 48 | 147 | 2.0 | 147 | 3.8 | 10 |
| 0900 | 8.3 | -5.0 | 39 | 133 | 1.1 | 091 | 5.7 | 42 |
| 1200 | 8.5 | -3.1 | 44 | 092 | 5.7 | 096 | 8.9 | 31 |
| 1500 | 9.2 | -1.9 | 46 | 085 | 5.1 | 098 | 7.6 | 18 |
| 1800 | 7.7 | .2 | 59 | 087 | 5.4 | 075 | 8.3 | 3 |
| 2100 | 6.9 | 1.2 | 67 | 091 | 3.6 | 096 | 7.0 | 1 |
| 2400 | 6.6 | 1.0 | 67 | 102 | 3.2 | 086 | 5.7 | 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 | 6.5 | 1.1 | 68 | 149 | 1.0 | 107 | 5.7 | 0 |
| 0600 | 6.4 | ***** | 72 | 265 | .6 | 299 | 2.5 | 4 |
| 0900 | 8.1 | -.9 | 53 | 094 | 4.1 | 086 | 7.0 | 40 |
| 1200 | 10.0 | -3.4 | 39 | 092 | 6.0 | 093 | 8.9 | 51 |
| 1500 | 12.6 | -6.0 | 27 | 111 | 5.2 | 099 | 8.9 | 15 |
| 1800 | 8.0 | -1.3 | 52 | 108 | 3.1 | 253 | 9.5 | 2 |
| 2100 | 5.5 | -1.4 | 61 | 185 | 1.5 | 237 | 4.4 | 1 |
| 2400 | 6.2 | -1.0 | 60 | 142 | 1.4 | 119 | 6.3 | 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 | 4.9 | -1.1 | 65 | 143 | 1.7 | 122 | 4.4 | [illegible] |
| 0600 | 5.1 | -.9 | 65 | 184 | 1.2 | 116 | 3.8 | 4 |
| 0900 | 8.2 | -2.5 | 47 | 131 | 2.3 | 096 | 5.1 | 1[illegible] |
| 1200 | 8.4 | -3.5 | 43 | 104 | 4.7 | 113 | 9.5 | 2[illegible] |
| 1500 | 9.6 | -2.5 | 43 | 106 | 5.4 | 112 | 8.3 | 16 |
| 1800 | 6.0 | -1.9 | 57 | 031 | 2.1 | 105 | 8.3 | [illegible] |
| 2100 | 5.3 | ***** | 56 | 356 | 1.2 | 027 | 5.7 | [illegible] |
| 2400 | 2.2 | -3.9 | 64 | 152 | 2.1 | 147 | 4.4 | 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 | .2 | -5.0 | 68 | 184 | 1.8 | 153 | 3.8 | 1 |
| 0600 | 2.9 | -4.1 | 60 | 200 | 1.7 | 174 | 3.8 | 7 |
| 0900 | 5.1 | -4.2 | 51 | 142 | 1.5 | 155 | 3.2 | 18 |
| 1200 | 7.5 | -5.0 | 41 | 062 | 1.0 | 070 | 4.4 | 17 |
| 1500 | 6.7 | .2 | 63 | 088 | 1.2 | 087 | 5.1 | 14 |
| 1800 | 5.6 | -2.7 | 55 | 113 | 1.9 | 119 | 5.1 | 3 |
| 2100 | 2.8 | -2.5 | 60 | 144 | 2.0 | 136 | 3.8 | 1 |
| 2400 | 2.3 | -2.4 | 71 | 184 | 1.5 | 176 | 3.2 | 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 | 2.6 | -2.3 | 70 | 152 | 1.9 | 135 | 4.4 | 1 |
| 0600 | 3.8 | -2.8 | 62 | 183 | 1.6 | 157 | 3.2 | 17 |
| 0900 | 8.5 | -4.8 | 39 | 194 | 1.1 | 196 | 2.5 | 48 |
| 1200 | 9.0 | -7.8 | 30 | 036 | 1.1 | 355 | 4.4 | 18 |
| 1500 | 10.5 | -8.3 | 26 | 063 | 1.3 | 071 | 5.1 | 38 |
| 1800 | 9.4 | ***** | 25 | 350 | .7 | 000 | 3.8 | 4 |
| 2100 | 3.8 | -9.0 | 39 | 202 | 1.2 | 209 | 3.2 | 1 |
| 2400 | 1.1 | -8.5 | 49 | 192 | 2.2 | 168 | 3.2 | 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 | 2.2 | -7.5 | 49 | 191 | 2.1 | 187 | 3.2 | [illegible] |
| 0600 | 3.1 | -6.6 | 49 | 191 | 2.0 | 209 | 3.2 | [illegible] |
| 0900 | 6.3 | -6.1 | 41 | 189 | .7 | 196 | 2.5 | 20 |
| 1200 | 11.1 | -8.3 | 25 | 334 | .5 | 300 | 2.5 | 33 |
| 1500 | 7.5 | -3.4 | 46 | 051 | 1.8 | 054 | 5.7 | [illegible] |
| 1800 | 5.4 | .0 | 68 | 000 | 2.3 | 005 | 3.8 | [illegible] |
| 2100 | 4.7 | ***** | 70 | 012 | 1.6 | 016 | 3.8 | 1 |
| 2400 | 3.9 | -.8 | 71 | 197 | .6 | 251 | 1.9 | [illegible] |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 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 | 3.5 | -1.4 | 70 | 188 | 1.3 | 166 | 1.9 | 1 |
| 0600 | 3.2 | -1.3 | 72 | 178 | .6 | 166 | 1.9 | 2 |
| 0900 | 4.6 | -.4 | 70 | 001 | .6 | 009 | 3.2 | 22 |
| 1200 | 8.6 | -4.7 | 39 | 009 | 2.3 | 013 | 4.4 | 50 |
| 1500 | 7.9 | -5.3 | 39 | 349 | 2.3 | 329 | 5.1 | 12 |
| 1800 | 6.6 | -4.6 | 45 | 329 | 3.2 | 344 | 5.1 | 2 |
| 2100 | 3.3 | ***** | 60 | 245 | .3 | 314 | 5.1 | 1 |
| 2400 | 2.8 | -4.2 | 60 | 174 | 1.4 | 159 | 3.8 | 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 | 1.6 | -5.3 | 60 | 174 | 1.4 | 155 | 3.2 | 1 |
| 0600 | 3.2 | ***** | 59 | 204 | .9 | 224 | 2.5 | 3 |
| 0900 | 4.9 | ***** | 58 | 236 | .2 | 187 | 1.9 | 16 |
| 1200 | 7.9 | -5.7 | 38 | 002 | 2.1 | 356 | 3.8 | 23 |
| 1500 | 8.6 | -4.0 | 41 | 342 | .6 | 205 | 5.1 | 22 |
| 1800 | 6.6 | -1.3 | 57 | 357 | 1.7 | 353 | 3.8 | 2 |
| 2100 | 4.3 | -1.7 | 65 | 168 | .5 | 134 | 3.8 | 1 |
| 2400 | 3.0 | ***** | 71 | 184 | .3 | 336 | 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 | 3.0 | -1.9 | 70 | 179 | 1.1 | 200 | 2.5 | |
| 0600 | 2.2 | -3.3 | 67 | 144 | 1.8 | 130 | 3.8 | |
| 0900 | 6.0 | -6.4 | 41 | 128 | .6 | 131 | 2.5 | 26 |
| 1200 | 7.0 | -6.8 | 37 | 099 | 2.5 | 114 | 5.7 | 30 |
| 1500 | 9.1 | -7.7 | 30 | 103 | 3.5 | 085 | 6.3 | 2 |
| 1800 | 7.1 | -9.5 | 30 | 091 | 2.9 | 072 | 6.3 | |
| 2100 | 3.8 | -8.4 | 41 | 120 | 2.3 | 101 | 5.7 | 1 |
| 2400 | 3.9 | -7.1 | 45 | 192 | 1.1 | 082 | 6.3 | 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 | -6.9 | 59 | 222 | 1.6 | 225 | 3.8 | 1 |
| 0600 | -.6 | -7.3 | 62 | 196 | 1.5 | 223 | 3.2 | 3 |
| 0900 | 4.9 | -7.7 | 40 | 172 | 1.6 | 130 | 4.4 | 26 |
| 1200 | 8.5 | -8.2 | 30 | 104 | 2.2 | 093 | 5.7 | 56 |
| 1500 | 7.9 | -9.6 | 28 | 073 | 4.3 | 077 | 7.0 | 4 |
| 1800 | 4.5 | -4.0 | 54 | 035 | 1.3 | 095 | 10.2 | 1 |
| 2100 | .8 | -4.0 | 70 | 186 | 1.1 | 235 | 3.2 | 1 |
| 2400 | .8 | -4.6 | 67 | 175 | 1.5 | 144 | 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 | -1.5 | -7.0 | 66 | 190 | 1.7 | 201 | 3.2 | 1 |
| 0600 | -1.8 | -7.3 | 66 | 177 | 1.8 | 179 | 3.2 | 3 |
| 0900 | 2.6 | -4.1 | 61 | 189 | 2.1 | 192 | 3.8 | 19 |
| 1200 | 7.8 | -10.6 | 26 | 187 | 1.6 | 172 | 3.2 | 36 |
| 1500 | 10.8 | -14.1 | 16 | 098 | 1.3 | 086 | 5.7 | 30 |
| 1800 | 7.1 | -13.3 | 22 | 090 | 5.0 | 087 | 8.3 | 3 |
| 2100 | 5.1 | -10.8 | 31 | 118 | 1.5 | 091 | 6.3 | 2 |
| 2400 | 4.5 | ***** | 48 | 189 | .9 | 133 | 3.2 | 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 | 3.7 | -5.5 | 51 | 127 | 2.2 | 124 | 5.1 | |
| 0600 | 3.4 | -4.3 | 57 | 102 | 3.4 | 088 | 6.3 | 1 |
| 0900 | 3.5 | -3.1 | 62 | 099 | 5.1 | 099 | 7.6 | 1 |
| 1200 | 6.8 | -3.5 | 48 | 083 | 3.3 | 090 | 6.3 | 2 |
| 1500 | 10.1 | -4.8 | 35 | 267 | 1.0 | 250 | 4.4 | 15 |
| 1800 | 8.1 | -5.5 | 38 | 002 | 1.5 | 004 | 4.4 | 2 |
| 2100 | 5.1 | ***** | 43 | 009 | 2.2 | 011 | 7.0 | |
| 2400 | 2.9 | -7.7 | 46 | 140 | 1.3 | 141 | 4.4 | |

### DAY 16

| HOUR NDNG | TEMP. DEG C | DEW POINT DEG C | RH % | WIND DIR. DEG. | WIND SPD. M/S | GUST DIR. DEG. | MAX. GUST M/S | RAD MW |
|---|---|---|---|---|---|---|---|---|
| 0300 | 1.2 | -5.2 | 62 | 204 | .8 | 269 | 2.5 | 1 |
| 0600 | 1.1 | -5.8 | 60 | 203 | 1.6 | 221 | 3.2 | 3 |
| 0900 | 6.6 | -7.9 | 35 | 191 | 1.1 | 119 | 5.1 | 45 |
| 1200 | 8.7 | -8.9 | 28 | 084 | 2.7 | 102 | 5.7 | 55 |
| 1500 | 9.3 | -9.8 | 25 | 091 | 3.0 | 079 | 7.6 | 15 |
| 1800 | 6.8 | -10.1 | 29 | 093 | 6.4 | 096 | 10.2 | 2 |
| 2100 | 5.3 | -10.2 | 32 | 095 | 7.1 | 095 | 10.2 | 2 |
| 2400 | 4.6 | -9.0 | 37 | 089 | 5.5 | 091 | 8.9 | 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 | 2.9 | -8.2 | 44 | 115 | 2.5 | 079 | 8.3 | 1 |
| 0600 | .1 | -7.6 | 56 | 181 | 2.4 | 169 | 5.1 | 2 |
| 0900 | 6.9 | -9.2 | 31 | 192 | 1.9 | 157 | 5.1 | 36 |
| 1200 | 9.8 | -13.5 | 18 | 104 | 2.7 | 102 | 5.7 | 47 |
| 1500 | 11.4 | -20.6 | 9 | 099 | 2.4 | 115 | 5.1 | 30 |
| 1800 | 8.4 | -18.5 | 13 | 020 | 1.9 | 024 | 4.4 | 3 |
| 2100 | 4.7 | -13.3 | 26 | 155 | .7 | 179 | 3.8 | 2 |
| 2400 | 6.0 | -10.0 | 31 | 077 | 1.2 | 066 | 8.9 | 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 | 4.7 | -6.9 | 43 | 060 | 4.6 | 087 | 10.2 | 1 |
| 0600 | 4.1 | ***** | 50 | 203 | .5 | 096 | 5.7 | |
| 0900 | 5.9 | -7.1 | 39 | 140 | .6 | 085 | 3.8 | 1 |
| 1200 | 6.9 | -7.7 | 35 | 093 | 2.1 | 104 | 4.4 | 10 |
| 1500 | 8.3 | -7.6 | 32 | 292 | 2.1 | 081 | 4.4 | 1 |
| 1800 | 7.3 | -7.7 | 34 | 082 | .9 | 064 | 3.2 | |
| 2100 | 5.4 | -2.9 | 55 | 138 | 1.6 | 133 | 3.8 | 1 |
| 2400 | 5.6 | ***** | 53 | 131 | 1.1 | 114 | 5.1 | 1 |

# R & M CONSULTANTS, INC.

## SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 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 | 5.2 | -3.1 | 55 | 166 | 1.4 | 131 | 3.8 | 1 |
| 0600 | 5.1 | -2.7 | 57 | 098 | 2.4 | 084 | 5.7 | 1 |
| 0900 | 5.6 | -2.7 | 55 | 099 | 2.9 | 075 | 7.6 | 5 |
| 1200 | 7.7 | -4.8 | 41 | 084 | 5.7 | 078 | 8.3 | 12 |
| 1500 | 6.0 | ***** | 57 | 103 | 2.1 | 097 | 7.0 | 4 |
| 1800 | 3.1 | -2.4 | 67 | 239 | 1.7 | 238 | 3.8 | 1 |
| 2100 | 3.2 | -2.1 | 68 | 153 | .6 | 221 | 2.5 | 1 |
| 2400 | 2.1 | -2.8 | 70 | 194 | 2.3 | 191 | 4.4 | 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 | 1.4 | -3.3 | 71 | 172 | 1.7 | 214 | 5.7 | 1 |
| 0600 | 1.2 | -3.3 | 72 | 173 | 1.4 | 143 | 3.2 | 1 |
| 0900 | 2.4 | -2.9 | 68 | 207 | 1.1 | 227 | 2.5 | 10 |
| 1200 | 4.8 | -3.7 | 54 | 198 | 1.8 | 212 | 3.8 | 18 |
| 1500 | 7.1 | -9.5 | 30 | 195 | 3.5 | 203 | 6.3 | 27 |
| 1800 | 4.8 | -6.5 | 44 | 204 | 2.1 | 187 | 5.1 | 1 |
| 2100 | 2.0 | -4.1 | 64 | 016 | 2.8 | 016 | 6.3 | 1 |
| 2400 | .4 | -7.8 | 54 | 193 | 1.2 | 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 | -7.4 | 56 | 196 | 1.4 | 196 | 3.2 | 1 |
| 0600 | .3 | ***** | 61 | 203 | .4 | 197 | 1.9 | 1 |
| 0900 | 4.5 | -10.5 | 33 | 242 | .5 | 263 | 1.9 | 38 |
| 1200 | 6.3 | -8.9 | 33 | 009 | 2.7 | 018 | 5.7 | 45 |
| 1500 | 5.5 | -9.6 | 33 | 333 | 3.9 | 355 | 6.3 | 16 |
| 1800 | 3.2 | -12.1 | 32 | 327 | 4.8 | 320 | 8.3 | 2 |
| 2100 | 2.6 | -13.0 | 31 | 318 | 4.8 | 320 | 8.3 | 2 |
| 2400 | 0.0 | -11.5 | 42 | 317 | 3.7 | 303 | 7.0 | 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 | -.2 | -10.2 | 47 | 139 | .4 | 146 | 3.2 | 1 |
| 0600 | -1.1 | -10.2 | 50 | 156 | .8 | 128 | 2.5 | 2 |
| 0900 | 2.7 | -12.9 | 31 | 183 | .6 | 174 | 1.9 | 36 |
| 1200 | 4.9 | -12.7 | 27 | 011 | 1.7 | 009 | 4.4 | 45 |
| 1500 | 6.2 | -14.6 | 21 | 002 | 1.3 | 320 | 3.8 | 25 |
| 1800 | 2.0 | -12.7 | 33 | 329 | 1.2 | 196 | 3.8 | 2 |
| 2100 | -1.3 | -11.5 | 46 | 182 | 2.3 | 170 | 5.1 | 1 |
| 2400 | -2.8 | -11.6 | 51 | 184 | 2.0 | 170 | 3.2 | 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 | -2.0 | ***** | 53 | 203 | 1.2 | 204 | 2.5 | 1 |
| 0600 | -2.3 | -9.0 | 60 | 241 | .6 | 306 | 1.9 | 1 |
| 0900 | 3.9 | ***** | 28 | 192 | 1.5 | 200 | 3.2 | 34 |
| 1200 | 4.9 | -11.4 | 30 | 355 | 1.9 | 353 | 4.4 | 25 |
| 1500 | 3.6 | -11.7 | 32 | 006 | 2.3 | 014 | 4.4 | 11 |
| 1800 | .6 | -6.7 | 58 | 016 | 3.3 | 015 | 5.1 | 1 |
| 2100 | -.3 | -4.5 | 73 | 294 | .3 | 017 | 3.2 | 1 |
| 2400 | -.3 | ***** | 78 | 088 | .1 | 188 | 1.9 | 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 | -.7 | ***** | 77 | 186 | .3 | 229 | 1.3 | 1 |
| 0600 | -.9 | ***** | 76 | 191 | .4 | 228 | 1.3 | 1 |
| 0900 | -.4 | -6.[illegible] | 63 | 023 | .4 | 015 | 2.5 | 6 |
| 1200 | -.7 | -9.6 | 51 | 005 | 1.8 | 339 | 4.4 | 8 |
| 1500 | -.1 | -11.9 | 41 | 318 | 5.7 | 311 | 10.2 | 38 |
| 1800 | -1.9 | -13.8 | 40 | 314 | 5.3 | 313 | 10.2 | 2 |
| 2100 | -1.7 | -14.3 | 38 | 327 | 5.3 | 322 | 10.2 | 2 |
| 2400 | -2.6 | -13.3 | 44 | 013 | 1.4 | 355 | 6.3 | 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 | -2.5 | -11.8 | 49 | 332 | 1.5 | 288 | 5.7 | 1 |
| 0600 | -2.5 | -11.0 | 52 | 291 | 2.9 | 284 | 7.0 | 1 |
| 0900 | -1.6 | -11.5 | 47 | 351 | 2.1 | 356 | 5.7 | 17 |
| 1200 | -.9 | -14.2 | 36 | 332 | 5.7 | 328 | 9.5 | 30 |
| 1500 | -1.3 | -15.7 | 33 | 319 | 6.0 | 320 | 8.9 | 18 |
| 1800 | -2.8 | -16.6 | 34 | 307 | 5.9 | 307 | 8.9 | 2 |
| 2100 | -6.7 | -17.9 | 41 | 245 | 1.9 | 306 | 7.6 | 1 |
| 2400 | -8.8 | -18.7 | 45 | 199 | 2.9 | 213 | 5.1 | 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 | -9.6 | -19.7 | 44 | 186 | 2.6 | 187 | 5.1 | 1 |
| 0600 | -10.1 | -20.1 | 44 | 181 | 2.7 | 189 | 3.8 | 2 |
| 0900 | -4.8 | -21.0 | 27 | 195 | 1.8 | 184 | 3.2 | 33 |
| 1200 | -1.7 | -21.2 | 21 | 217 | 1.4 | 213 | 2.5 | 43 |
| 1500 | -2.3 | -19.8 | 25 | 244 | 1.9 | 247 | 4.4 | 22 |
| 1800 | -7.0 | -19.4 | 37 | 237 | 2.4 | 250 | 3.8 | 2 |
| 2100 | -10.7 | -19.6 | 48 | 204 | 1.8 | 161 | 3.2 | 1 |
| 2400 | -11.5 | -20.6 | 47 | 186 | 1.9 | 156 | 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 | -12.2 | -21.5 | 46 | 182 | 2.1 | 165 | 4.4 | 1 |
| 0600 | -10.9 | -20.6 | 45 | 181 | 2.3 | 171 | 4.4 | 2 |
| 0900 | -5.4 | ***** | 17 | 193 | 1.2 | 161 | 3.8 | 36 |
| 1200 | -.7 | ***** | 15 | 238 | .9 | 241 | 1.9 | 42 |
| 1500 | -1.4 | -24.0 | 16 | 317 | .9 | 356 | 1.9 | 24 |
| 1800 | -5.8 | -17.7 | 39 | 243 | 1.2 | 250 | 2.5 | 2 |
| 2100 | -6.8 | -17.4 | 43 | 171 | 1.7 | 145 | 2.5 | 1 |
| 2400 | -8.3 | -16.0 | 54 | 195 | 1.2 | 188 | 2.5 | 1 |

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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 | -7.3 | -14.6 | 56 | 188 | 1.2 | 238 | 1.9 | 1 |
| 0600 | -8.0 | -14.8 | 58 | 220 | 1.5 | 235 | 3.2 | 1 |
| 0900 | -4.9 | -15.7 | 43 | 119 | 1.8 | 093 | 7.6 | 17 |
| 1200 | -2.0 | -18.6 | 27 | 106 | 4.4 | 115 | 7.6 | 47 |
| 1500 | -2.1 | -17.9 | 29 | 120 | 3.5 | 087 | 6.3 | 11 |
| 1800 | -3.7 | -17.4 | 34 | 062 | 3.8 | 057 | 7.6 | 2 |
| 2100 | -4.8 | -16.5 | 40 | 074 | 4.2 | 065 | 8.9 | 2 |
| 2400 | -8.4 | -18.3 | 45 | 137 | 1.6 | 135 | 3.8 | 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 | -9.4 | -19.2 | 45 | 160 | 2.2 | 145 | 3.8 | 1 |
| 0600 | -8.7 | -18.6 | 45 | 158 | 2.3 | 143 | 4.4 | 2 |
| 0900 | -4.0 | ***** | 37 | 181 | 1.0 | 167 | 3.2 | 17 |
| 1200 | -1.3 | -17.2 | 29 | 122 | 1.0 | 108 | 7.0 | 57 |
| 1500 | -1.9 | -16.6 | 32 | 123 | 3.3 | 121 | 6.3 | 13 |
| 1800 | -4.6 | -14.5 | 46 | 208 | 1.7 | 218 | 3.2 | 1 |
| 2100 | -7.8 | -15.7 | 53 | 171 | 2.1 | 142 | 3.8 | 1 |
| 2400 | -7.6 | -15.6 | 53 | 173 | 2.7 | 153 | 4.4 | 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 | -4.4 | -13.3 | 50 | 170 | 2.4 | 177 | 4.4 | |
| 0600 | -3.5 | -12.5 | 50 | 162 | 1.9 | 146 | 3.8 | |
| 0900 | .1 | -12.0 | 40 | 175 | .8 | 199 | 1.9 | 15 |
| 1200 | 1.7 | ***** | 30 | 242 | .5 | 215 | 3.2 | 25 |
| 1500 | 2.0 | -13.9 | 30 | 225 | 1.3 | 356 | 8.3 | 1[illegible] |
| 1800 | 0.0 | -14.5 | 33 | 322 | 5.7 | 341 | 10.2 | [illegible] |
| 2100 | -1.5 | -15.5 | 34 | 313 | 7.4 | 308 | 11.4 | 2 |
| 2400 | -2.6 | -16.4 | 34 | 328 | 9.0 | 323 | 13.3 | |

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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 | 16.6 | -.8 | 7.9 | 122 | .2 | 2.1 | 134 | 5.1 | N | 21 | -16.0 | 0.0 | 5145 | 1 |
| 2 | 11.7 | 2.3 | 7.0 | 026 | 1.4 | 2.5 | 003 | 8.3 | NNE | 52 | -1.9 | 0.0 | 2763 | 2 |
| 3 | 12.2 | 5.1 | 8.7 | 116 | .5 | 1.7 | 094 | 5.7 | SE | 51 | -1.7 | .8 | 2635 | 3 |
| 4 | 9.6 | 4.2 | 6.9 | 098 | 3.2 | 3.6 | 096 | 8.9 | E | 55 | -1.6 | 0.0 | 2778 | 4 |
| 5 | 12.7 | 5.2 | 9.0 | 110 | 2.5 | 3.3 | 253 | 9.5 | E | 54 | -1.8 | .8 | 3680 | 5 |
| 6 | 10.1 | 1.6 | 5.9 | 111 | 1.9 | 3.0 | 113 | 9.5 | ESE | 55 | -2.3 | 0.0 | 2085 | 6 |
| 7 | 7.6 | -.9 | 3.4 | 147 | 1.2 | 1.9 | 087 | 5.1 | SE | 60 | -3.1 | .6 | 1963 | 7 |
| 8 | 11.2 | 1.0 | 6.1 | 166 | .7 | 1.7 | 071 | 5.1 | SSW | 44 | -6.0 | .6 | 3308 | 8 |
| 9 | 11.1 | .8 | 6.0 | 071 | .1 | 1.7 | 054 | 5.7 | S | 53 | -4.4 | 4.2 | 1710 | 9 |
| 10 | 9.3 | 1.6 | 5.5 | 336 | .6 | 1.7 | 329 | 5.1 | N | 57 | -3.2 | 1.0 | 2480 | 10 |
| 11 | 8.8 | .7 | 4.8 | 337 | .2 | 1.4 | 205 | 5.1 | N | 57 | -3.0 | .8 | 2053 | 11 |
| 12 | 9.1 | 1.8 | 5.5 | 118 | 1.7 | 2.3 | 085 | 6.3 | ESE | 47 | -6.1 | 0.0 | 2270 | 12 |
| 13 | 9.1 | -2.0 | 3.6 | 131 | 1.0 | 2.2 | 095 | 10.2 | SSW | 51 | -6.7 | 1.8 | 3193 | 13 |
| 14 | 11.0 | -2.7 | 4.2 | 143 | 1.4 | 2.3 | 087 | 8.3 | S | 43 | -9.0 | .2 | 2760 | 14 |
| 15 | 10.8 | 2.6 | 6.7 | 089 | 1.7 | 2.7 | 099 | 7.6 | E | 48 | -4.9 | .6 | 2333 | 15 |
| 16 | 9.3 | .3 | 4.8 | 100 | 3.0 | 3.7 | 096 | 10.2 | E | 39 | -8.4 | 0.0 | 2778 | 16 |
| 17 | 11.4 | -.7 | 5.4 | 119 | 1.3 | 2.5 | 066 | 8.9 | ESE | 29 | -12.7 | 0.0 | 3653 | 17 |
| 18 | 9.0 | 3.6 | 6.3 | 093 | 1.4 | 2.1 | 087 | 10.2 | E | 41 | -6.6 | .4 | 1590 | 18 |
| 19 | 7.7 | 2.1 | 4.9 | 117 | 1.6 | 2.6 | 078 | 8.3 | E | 58 | -2.9 | 12.8 | 800 | 19 |
| 20 | 7.6 | .1 | 3.9 | 191 | 1.2 | 2.1 | 203 | 6.3 | SSW | 58 | -5.0 | 3.6 | 1985 | 20 |
| 21 | 6.3 | -.4 | 3.0 | 323 | 2.2 | 2.9 | 320 | 8.3 | NW | 41 | -10.5 | 0.0 | 2403 | 21 |
| 22 | 6.6 | -3.7 | 1.5 | 178 | .2 | 1.6 | 170 | 5.1 | S | 38 | -12.3 | 0.0 | 3098 | 22 |
| 23 | 4.9 | -3.3 | .8 | 354 | .6 | 1.6 | 015 | 5.1 | N | 51 | -9.6 | 0.0 | 2235 | 23 |
| 24 | -.1 | -2.8 | -1.5 | 326 | 2.4 | 2.9 | 311 | 10.2 | NW | 56 | -11.5 | 0.0 | 1275 | 24 |
| 25 | -.6 | -9.1 | -4.9 | 308 | 2.8 | 3.8 | 328 | 9.5 | NW | 42 | -14.4 | 0.0 | 2163 | 25 |
| 26 | -.6 | -12.0 | -6.3 | 204 | 1.9 | 2.1 | 187 | 5.1 | S | 36 | -20.0 | 0.0 | 3190 | 26 |
| 27 | -.3 | -14.1 | -7.2 | 198 | 1.2 | 1.6 | 165 | 4.4 | S | 34 | -20.3 | 0.0 | 3245 | 27 |
| 28 | -1.6 | -9.1 | -5.4 | 106 | 2.1 | 3.0 | 065 | 8.9 | SE | 42 | -16.5 | 0.0 | 2370 | 28 |
| 29 | -1.0 | -10.4 | -5.7 | 160 | 1.8 | 2.3 | 108 | 7.0 | SSE | 42 | -17.1 | 0.0 | 2125 | 29 |
| 30 | 2.7 | -6.8 | -2.1 | 308 | 2.2 | 3.9 | 323 | 13.3 | NW | 38 | -14.1 | 0.0 | 2058 | 30 |
| MONTH | 16.6 | -14.1 | 2.9 | 110 | .5 | 2.4 | 323 | 13.3 | SSW | 46 | -8.5 | 28.2 | 76018 | |

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

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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 | .63 | 4.72 | 1.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.35 |
| NNE | .80 | 3.54 | 2.08 | 0.00 | 0.00 | 0.00 | 0.00 | 6.42 |
| NE | .42 | 1.32 | .52 | .07 | 0.00 | 0.00 | 0.00 | 2.33 |
| ENE | .31 | 1.49 | 1.49 | .31 | 0.00 | 0.00 | 0.00 | 3.61 |
| E | .38 | 1.70 | 5.52 | 1.60 | 0.00 | 0.00 | 0.00 | 9.20 |
| ESE | .45 | 3.26 | 3.78 | .21 | 0.00 | 0.00 | 0.00 | 7.71 |
| SE | .73 | 5.90 | 1.25 | 0.00 | 0.00 | 0.00 | 0.00 | 7.88 |
| SSE | .80 | 7.95 | .28 | 0.00 | 0.00 | 0.00 | 0.00 | 9.03 |
| S | 1.25 | 9.65 | .45 | 0.00 | 0.00 | 0.00 | 0.00 | 11.35 |
| SSW | 1.46 | 9.34 | .90 | 0.00 | 0.00 | 0.00 | 0.00 | 11.70 |
| SW | 1.18 | 5.90 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 7.15 |
| WSW | .76 | 2.43 | .14 | 0.00 | 0.00 | 0.00 | 0.00 | 3.33 |
| W | .59 | .80 | .07 | 0.00 | 0.00 | 0.00 | 0.00 | 1.46 |
| WNW | .63 | 1.08 | .38 | .17 | 0.00 | 0.00 | 0.00 | 2.26 |
| NW | .52 | .94 | 1.77 | 1.67 | .07 | 0.00 | 0.00 | 4.97 |
| NNW | .56 | 2.26 | 1.28 | .56 | 0.00 | 0.00 | 0.00 | 4.65 |
| CALM | | | | | | | | .59 |
| TOTAL | 11.46 | 62.29 | 21.01 | 4.58 | .07 | 0.00 | 0.00 | 100.00 |

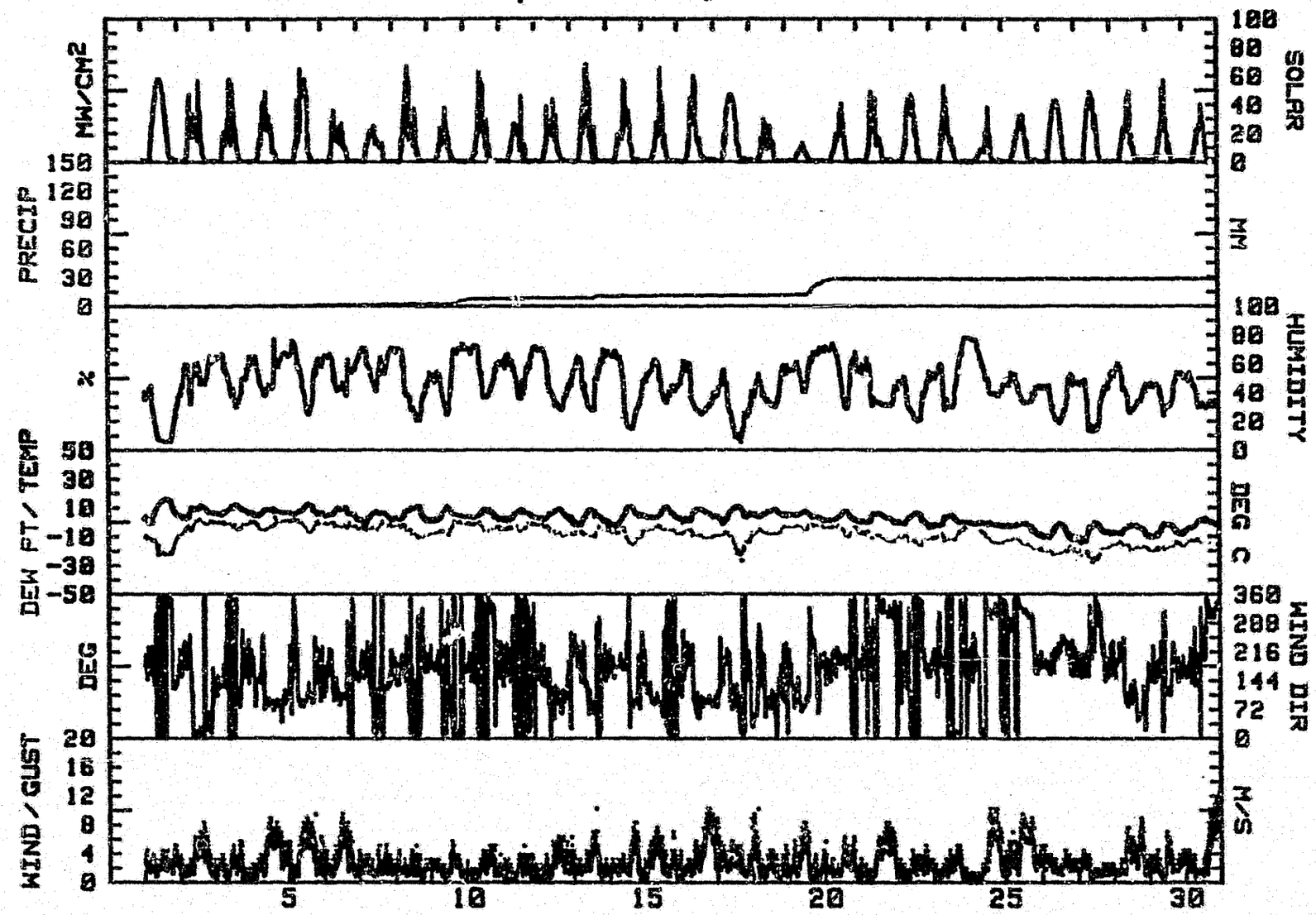
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2880 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA WEATHER STATION

September, 1981

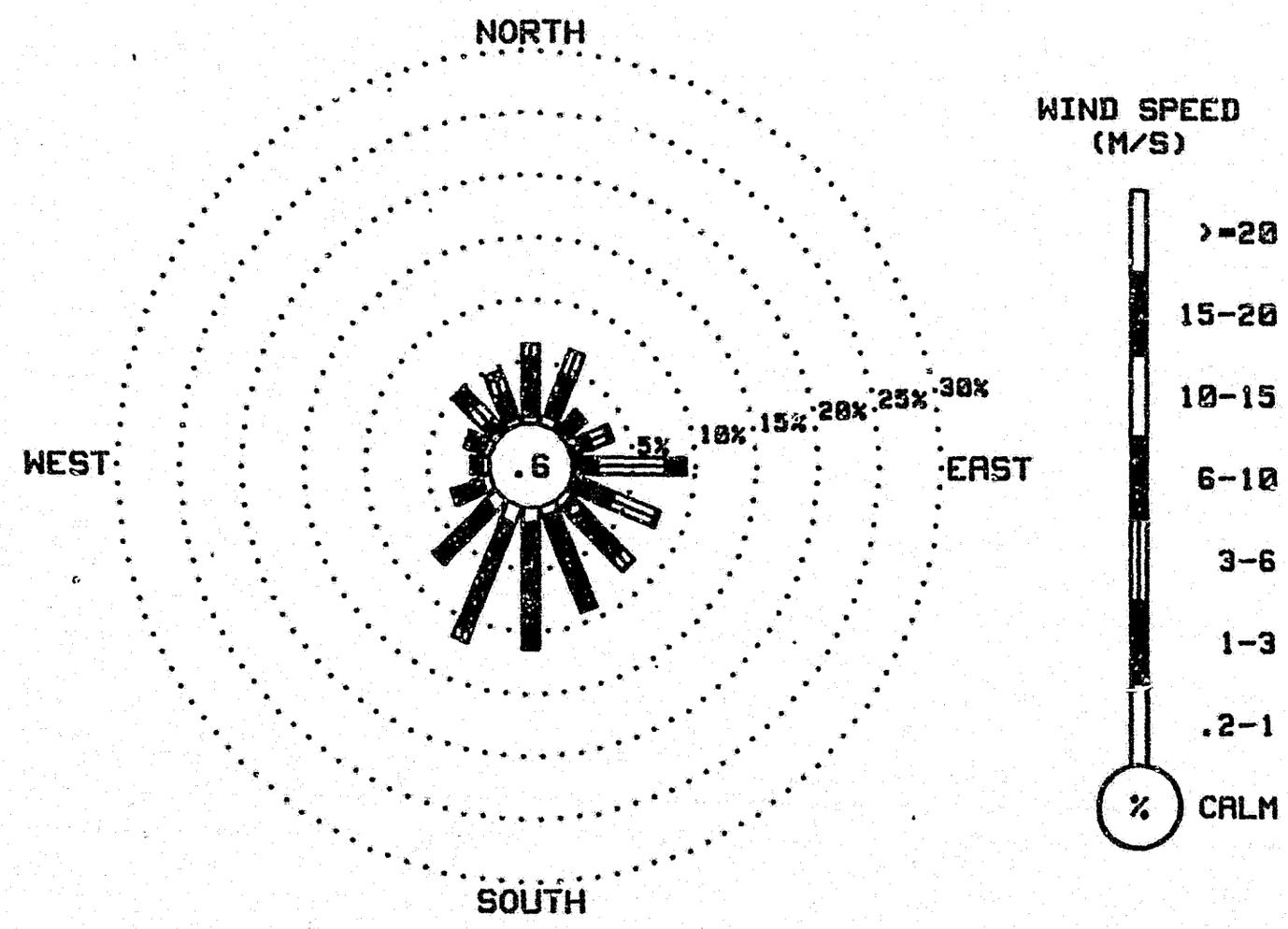


R&M CONSULTANTS, INC.

# SUSITNA HYDROELECTRIC PROJECT

## KOSINA 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 RECORD 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 |