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SOLAR/0010-82/06
(DE82019028)

Environmental Data for Sites in the National Solar Data Network

June 1982

U.S. DEPARTMENT OF ENERGY

NATIONAL SOLAR DATA PROGRAM

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SOLAR/0010-82/06
(DE82019028)
Distribution Category UC-59

JUNE 1982 ENVIRONMENTAL DATA

FOR SITES IN THE

NATIONAL SOLAR DATA NETWORK

PREPARED FOR

U.S. DEPARTMENT OF ENERGY
DE-AC01-79CS30027
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TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

ENVIRONMENTAL DATA

FOR

SITES IN THE NATIONAL SOLAR DATA NETWORK

INTRODUCTION

The Department of Energy's National Solar Data Network monitors solar energy systems in residential and commercial buildings. Instrumented solar research and development installations employing on-site microcomputers are linked via telephone lines to a Central Data Processing System (CDPS) located at Vitro Laboratories, Silver Spring, Maryland. Vitro collects, archives, analyzes, and reports upon data from this Network to determine the thermal performance of the solar systems.

The Network consists of: (1) sensors which measure key performance parameters at each site; (2) the microprocessor-based Site Data Acquisition Subsystem (SDAS); (3) a modem and telephone transmission interface; (4) the Central Data Processing System (CDPS). The collected data is transferred via telephone communications. At the Central Data Processing Facility, the collected data is processed, analyzed, evaluated and documented. Sensor data are collected and stored on a cassette tape in the SDAS.

Most on-site sensors are interrogated every five minutes and twenty seconds. Solar radiation and other parameters, which are subject to rapid variance, are sampled every 32 seconds and averaged over 320 seconds by the microprocessor. The CDPS communicates with each SDAS on a daily basis and retrieves the stored data. At the conclusion of data retrieval, the SDAS cassette is reset by command from the CDPS to continue data collection.

This report presents environmental information collected at the sites for the reporting month. Certain data are flagged or indicated to be invalid by the use of an asterisk (*). Only those sites for which a significant amount of the data are found to be valid are reported.

ORGANIZATION OF THE DATA

The environmental data for the NSDN are presented in the form of tables for each solar site. The solar sites are grouped into 12 zones, each of which consists of several adjacent states (as shown in Figure 1). The solar energy sites are listed in alphabetical sequence within each zone.

The tables provide available microclimate data for each reporting location in the NSDN as follows:

- Insolation. The insolation table presents total solar radiation in the plane of the collector (Figure 3). The total insolation represents the measured value of direct plus diffuse radiation at that orientation. Extraterrestrial radiation is calculated for the same plane of orientation outside the atmosphere. A simple ratio of these two values represents an atmospheric transmission index similar to a cloudiness index. The maximum insolation value occurring in the time-frame of sensor interrogation (320 seconds) and its time of occurrence are also shown for each day.

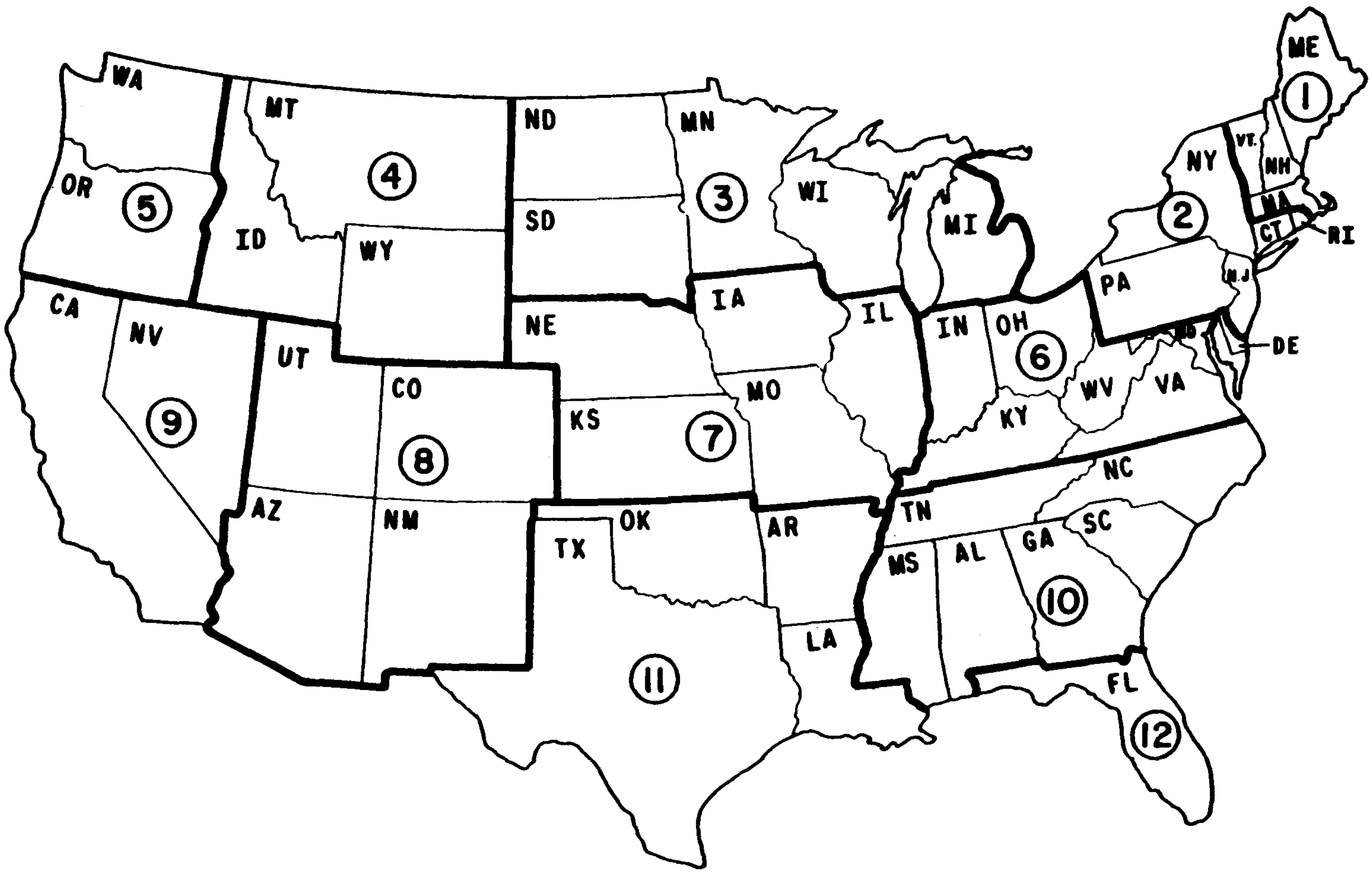
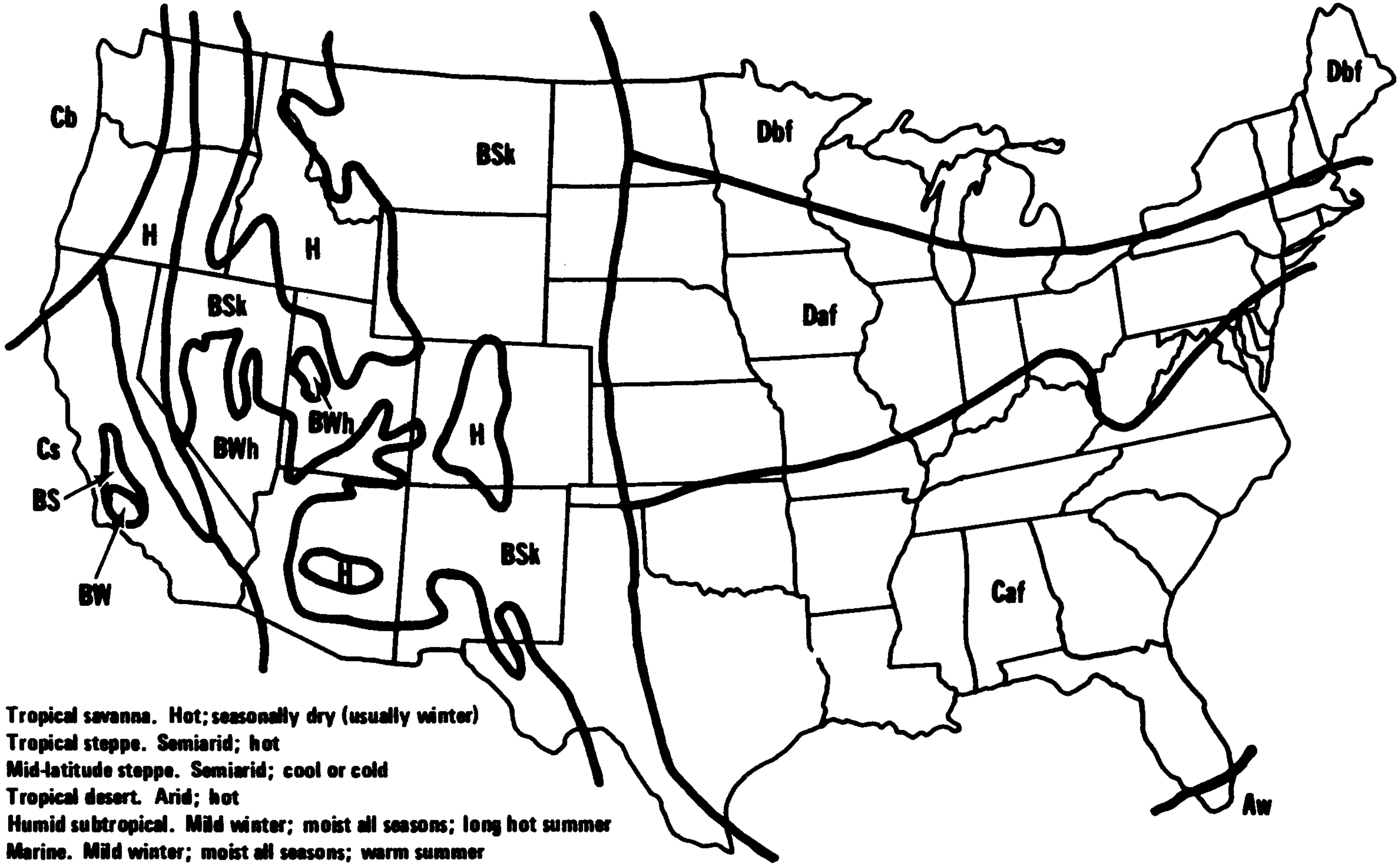


Figure 1. National Solar Data Program Zones



KEY

Aw	Tropical savanna. Hot; seasonally dry (usually winter)
BS	Tropical steppe. Semiarid; hot
BSk	Mid-latitude steppe. Semiarid; cool or cold
BWh	Tropical desert. Arid; hot
Caf	Humid subtropical. Mild winter; moist all seasons; long hot summer
Cb	Marine. Mild winter; moist all seasons; warm summer
Cs	Coastal Mediterranean. Mild winter; dry summer; short warm summer
Daf	Humid continental. Severe winter; moist all seasons; long, hot summer
Dbf	Humid continental. Severe winter; moist all seasons; short warm summer
H	Undifferentiated highland climates

Trewartha, G.T. The Earth's Problem Climates. University Wisconsin Press, Madison, WI, 1961.

Figure 2. Climate Zones

At selected NSDN sites, a shadowband apparatus is deployed with an EPPLEY PSP sensor to measure the diffuse component of incoming solar radiation. The table also shows a daily value for direct beam insolation based on subtraction of the diffuse values from the direct values. These values must be corrected for the amount of sky occluded by the shadowband.

- Temperature. The temperature tables give the average daytime, nighttime, maximum, and inlet-water temperatures at sites with DHW solar systems. Outdoor ambient temperature sensors are mounted near the collectors in appropriate radiation shields. The inlet-water temperatures are mass flow weighted to read values only when flow occurred. Additional tables are presented for some of these NSDN sites at which wind and/or relative humidity data are monitored.

- Wind. All of the passive and some of the active solar sites are equipped with wind sensors. These provide information for two wind tables. The first furnishes wind speed and direction. The second table correlates wind speed with time for each day.

- Humidity. The humidity table provides relative humidity values for day and night. It also gives values for the maximum and minimum humidity for each day and times of occurrence.

A technical discussion of the instruments used for measurement to obtain NSDN data on site environmental conditions follows.

A map illustrating the climate zones is provided in Figure 2 for comparison to NSDN zones and site location.

INSTRUMENTATION

Insolation

EPPLEY PSP pyranometers are used to measure the total solar radiant energy in the plane of the collection subsystem (Figure 3). A pyranometer measures the total amount of solar energy available. Also included are both the direct beam component and the diffuse component if a shadowband instrument is employed at the site to measure the diffuse component. Measurements are given in BTU/ft^2-day.

The addition of a shadowband to a pyranometer enables the instrument to detect only the diffuse portion of the sunlight by shielding the sensor from the direct rays of the sun (the beam component). The amount of beam radiation available is readily calculated by subtracting the diffuse radiation measurement from the total radiation measured by the unshaded standard pyranometer. This beam radiation measurement is useful when working with focusing solar collectors but must be corrected in user software for the amount of sky occluded by the band apparatus. When using the shadowband pyranometer, the accuracy of measurement depends on the correct adjustment of the shadowband to be certain that the sensor is shielded from the direct rays of the sun. The data reported in these summaries have been carefully screened to eliminate publication of invalid data. Thus, this publication may be employed to screen environmental data taken directly from NSDN magnetic tapes.

The EPPLEY PSP pyranometer used includes a circular multijunction wirewound thermopile. The receiver is circular, and coated with Parsons' black lacquer. The instrument has a pair of precision ground and polished hemispheres of Schott optical glass. The sensor head contains a desiccant which can be readily serviced. The clear glass employed transmits wavelengths of 285 to 2,800 nanometers. The temperature dependence is $\pm1\%$ over the range of $-4^{o}F$ to $140^{o}F$. The PSP has a response time of one second and a linearity of $\pm5\%$ over the range of the instrument. Field checking of instruments against calibrated standards indicates very good accuracy and drift resistance under normal deployment conditions.

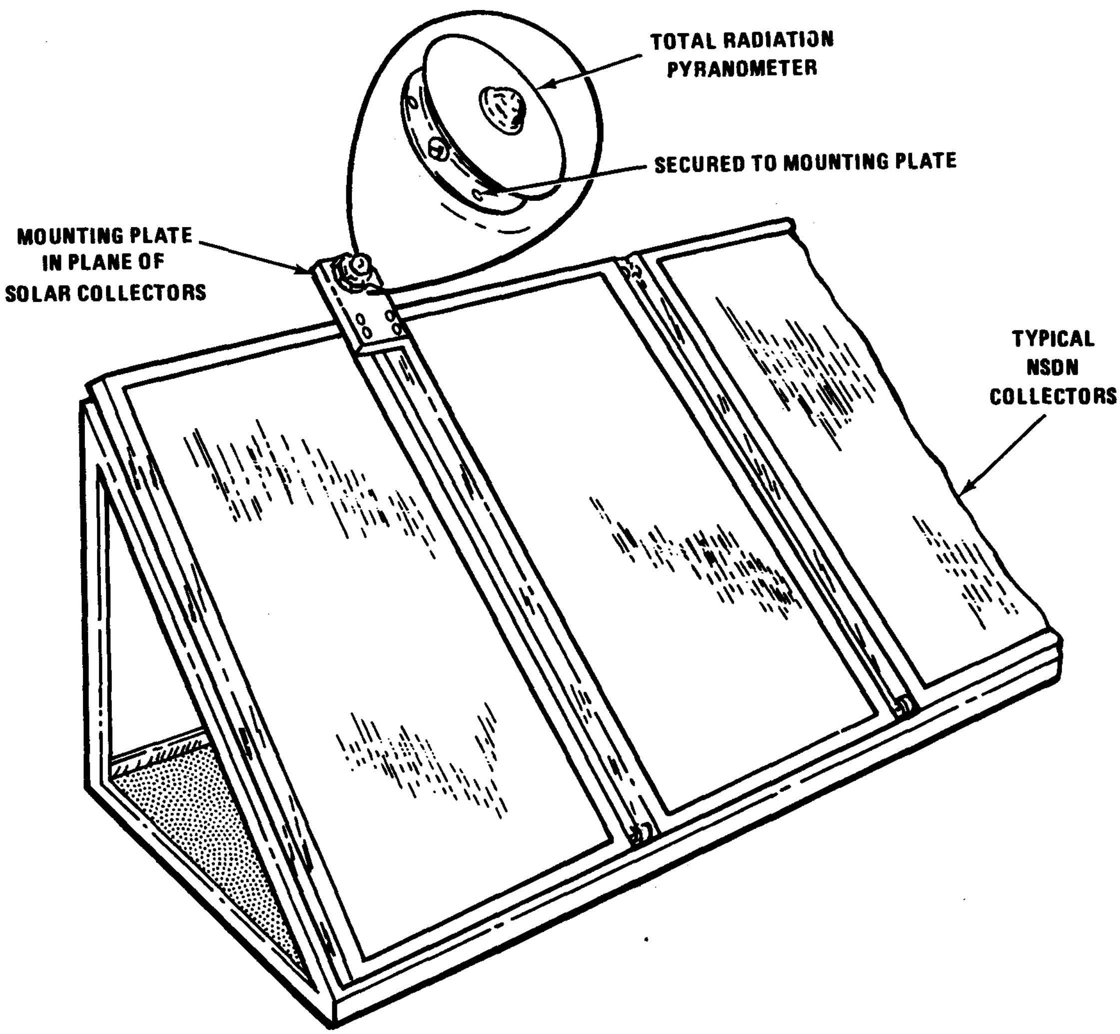


Figure 3. Measurement of Incoming Solar Radiation

Temperature

Ambient temperature sensors, (Minco Products S53) platinum Resistance Temperature Detector (RTD), housed in a WeatherMeasure Radiation Shield, (Figure 4) are used to monitor ambient dry bulb temperatures. Sensors are located away from extraneous heat sources. The sensors are sited to be close to the structure and collector array but beyond obvious radiative and convective influences.

The RTD's are connected to a bridge microboard in the SDAS and yield an output signal of 0-100 millivolts proportional to calibrated temperature ranges.

The RTD's are individually calibrated to National Bureau of Standards traceable standards at the factory. In addition, an electrical five-point check is done at the site in an attempt to take into account any deviation of the measurement system from nominal values due to sensor wire resistance.

The data processing software at the CDPS takes these checks and calibrations into account, using a third-order polynomial curve fit to convert digital data to temperature engineering units (^{o}F).

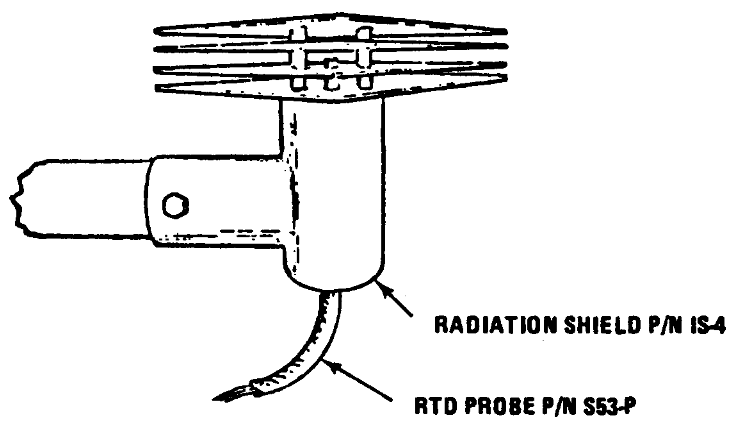


Figure 4. Temperature Sensor

Wind

Where monitored, wind speed and direction are detected by a Model W101-P-DC/360 (or W102-P-DC/360) sensor by the WeatherMeasure Corporation, Sacramento, California (Figure 5).

Wind speed is measured by a four-bladed propeller coupled to a DC generator. The balanced propeller is fabricated from a special low-density, fiberglass-reinforced plastic to yield maximum sensitivity and strength. Wind speeds below one mile per hour are not reported because these values are below the sensitivity of the instrument.

Dual-wiper, precious-metal slip rings are used to bring the wind speed analog output (15 volts DC at 100 miles per hour) to the base of the sensor from the 0-360° pivoting Skyvane, which doubles as a direction detector.

Wind direction is measured by means of a dual-wiper 1000-ohm potentiometer housed in the base of the sensor. It is attached to a stainless steel shaft which supports, and rotates with, the upper body assembly.

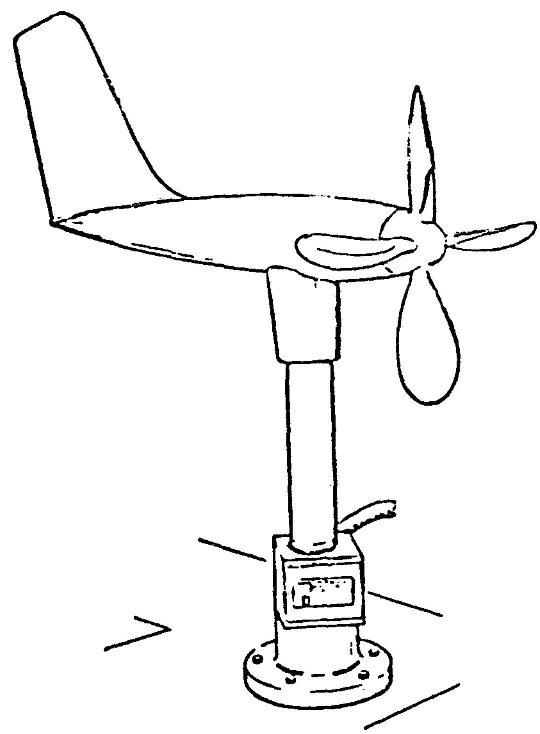


Figure 5. Typical Wind Speed-Direction Sensor

Relative Humidity

Relative humidity is measured by a WeatherMeasure Corporation Model HM111-P/HM14-P sensor (Figure 6). This measurement is of interest in monitoring atmospheric corrosion at active solar sites, and comfort levels at passive solar sites.

This solid-state sensor measures relative humidity over the full range of 0-100%. Response of the sensing element is linear within approximately 1%, from 0-80% relative humidity.

Sensor analog output is dependent on the capacitance change of a polymer thin-film capacitor under varying ambient water vapor conditions. The sensor element internally compensates for temperature. A one-micron-thick dielectric polymer layer absorbs water molecules through a thin metal electrode and causes a capacitance change proportional to water vapor pressure deficit. The thin polymer layer reacts with a time constant of one second to 90% humidity change at 68°F. Probe electronics generate linear analog output to the SDAS.

For use outdoors, a sintered filter is used over the probe to reduce the sulphur dioxide absorbed and eliminate small particles. The small pore size of the filter gives good protection to the sensor from acid or particulate degradation. The time constant of the sensor, however, is increased to several seconds.

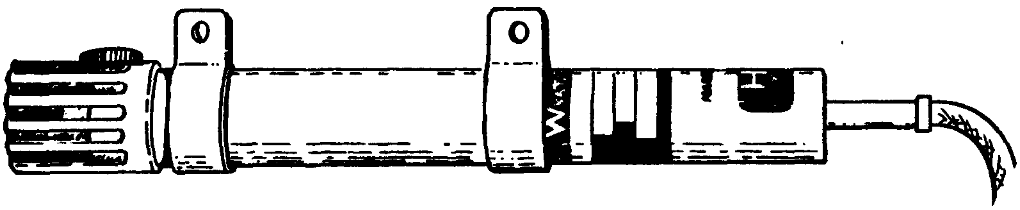


Figure 6. Relative Humidity Probe

OTHER PUBLICATIONS

These environmental data reports will be issued monthly and will include all sites which are transmitting valid data at the time of publication.

Previous reports are:

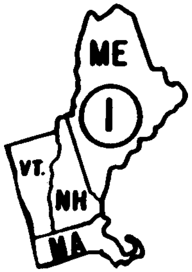
SOLAR/0010-78/09, September 1978
SOLAR/0010-78/10, October 1978
SOLAR/0010-78/11, November 1978
SOLAR/0010-78/12, December 1978
SOLAR/0010-79/01, January 1979
SOLAR/0010-79/02, February 1979
SOLAR/0010-79/03, March 1979
SOLAR/0010-79/04, April 1979
SOLAR/0010-79/05, May 1979
SOLAR/0010-79/06, June 1979
SOLAR/0010-79/07, July 1979
SOLAR/0010-79/08, August 1979
SOLAR/0010-79/09, September 1979
SOLAR/0010-79/12, December 1979
SOLAR/0010-80/01, January 1980
SOLAR/0010-80/02, February 1980
SOLAR/0010-80/03, March 1980
SOLAR/0010-80/04, April 1980
SOLAR/0010-80/05, May 1980
SOLAR/0010-80/06, June 1980
SOLAR/0010-80/07, July 1980
SOLAR/0010-80/08, August 1980
SOLAR/0010-80/09, September 1980
SOLAR/0010-80/10, October 1980
SOLAR/0010-80/11, November 1980
SOLAR/0010-80/12, December 1980
SOLAR/0010-81/01, January 1981
SOLAR/0010-81/02, February 1981
SOLAR/0010-81/03, March 1981
SOLAR/0010-81/04, April 1981
SOLAR/0010-81/05, May 1981
SOLAR/0010-81/06, June 1981
SOLAR/0010-81/07, July 1981
SOLAR/0010-81/08, August 1981
SOLAR/0010-81/09, September 1981
SOLAR/0010-81/10, October 1981
SOLAR/0010-81/11, November 1981
SOLAR/0010-81/12, December 1981
SOLAR/0010-82/01, January 1982
SOLAR/0010-82/02, February 1982
SOLAR/0010-82/03, March 1982
SOLAR/0010-82/04, April 1982
SOLAR/0010-82/05, May 1982

NATIONAL SOLAR DATA NETWORK

ENVIRONMENTAL DATA TABLES

* denotes data missing due to sensor failure or transmission problems.
N.A. denotes data for this parameter not measured at this site.
E denotes value estimated from available data.

ZONE 1



ENVIRONMENTAL SUMMARY REPORT

SITE: CATHEDRAL SQUARE
BURLINGTON, VERMONT

REPORT PERIOD: 82/ 6
SITE NUMBER: 168

LATITUDE: 44.00 DEG NORTH
LONGITUDE: 73.00 DEG WEST

AZIMUTH: 42 DEG
PYRANOMETER TILT: 44 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1131.	N.A.	N.A.	305.	11:55	3187.	35.
2	1942.	N.A.	N.A.	314.	13:16	3185.	61.
3	1710.	N.A.	N.A.	294.	14:48	3183.	54.
4	273.	N.A.	N.A.	68.	12:49	3184.	9.
5	354.	N.A.	N.A.	82.	8:33	3182.	11.
6	304.	N.A.	N.A.	71.	12:49	3181.	10.
7	1020.	N.A.	N.A.	277.	12:25	3179.	32.
8	1418.	N.A.	N.A.	305.	14:37	3179.	45.
9	2015.	N.A.	N.A.	303.	13:27	3179.	63.
10	1641.	N.A.	N.A.	320.	14: 6	3177.	52.
11	458.	N.A.	N.A.	175.	16:46	3175.	14.
12	1577.	N.A.	N.A.	300.	13:12	3175.	50.
13	499.	N.A.	N.A.	122.	10:51	3173.	16.
14	1236.	N.A.	N.A.	317.	13: 2	3173.	39.
15	1345.	N.A.	N.A.	269.	11:59	3173.	42.
16	534.	N.A.	N.A.	184.	10:32	3173.	17.
17	1838.	N.A.	N.A.	314.	12:43	3173.	58.
18	1664.	N.A.	N.A.	303.	13: 5	3173.	52.
19	1549.	N.A.	N.A.	303.	13: 0	3173.	49.
20	1102.	N.A.	N.A.	325.	14: 7	3170.	35.
21	551.	N.A.	N.A.	286.	14:50	3170.	17.
22	1606.	N.A.	N.A.	339.	12:45	3169.	51.
23	603.	N.A.	N.A.	345.	13:26	3169.	19.
24	1838.	N.A.	N.A.	345.	13: 1	3171.	58.
25	287.	N.A.	N.A.	141.	11:37	3170.	9.
26	1891.	N.A.	N.A.	308.	13: 2	3170.	60.
27	1918.	N.A.	N.A.	320.	13:39	3169.	61.
28	1845.	N.A.	N.A.	317.	12:48	3169.	58.
29	239.	N.A.	N.A.	51.	12:35	3168.	8.
30	1984.	N.A.	N.A.	334.	13:15	3170.	63.
MEAN	1212.	N.A.	N.A.			3175.	
STANDARD DEVIATION	634.	N.A.	N.A.			6.	

ENVIRONMENTAL SUMMARY REPORT

SITE: CATHEDRAL SQUARE
BURLINGTON, VERMONT

REPORT PERIOD: 82/ 6
SITE NUMBER: 168

LATITUDE: 44.00 DEG NORTH
LONGITUDE: 73.00 DEG WEST

AZIMUTH: 42 DEG
PYRANOMETER TILT: 44 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	70.	71.	69.	76.	16: 6	63.	21:47	56.
2	65.	65.	64.	72.	16:28	58.	6:46	55.
3	59.	60.	57.	66.	16:19	49.	23:57	53.
4	54.	55.	54.	63.	17:37	45.	3:52	51.
5	60.	61.	59.	63.	6:52	55.	0: 1	51.
6	57.	58.	56.	64.	13: 5	53.	6:46	52.
7	62.	63.	61.	73.	17:24	54.	4:27	51.
8	66.	66.	65.	78.	16:29	57.	4:57	52.
9	70.	73.	68.	84.	15:14	54.	4:13	54.
10	73.	75.	71.	87.	16:19	57.	4: 2	55.
11	64.	65.	63.	69.	0: 3	58.	23:52	57.
12	66.	68.	64.	75.	15:26	56.	1:50	58.
13	57.	58.	55.	64.	0: 8	50.	21:31	59.
14	59.	60.	59.	70.	16:46	52.	3: 7	59.
15	64.	67.	62.	77.	14:34	54.	3:26	56.
16	67.	68.	66.	75.	16:56	60.	0:20	56.
17	65.	65.	65.	77.	16:54	59.	6:21	54.
18	67.	70.	65.	79.	14: 4	57.	4:11	54.
19	68.	73.	64.	82.	14:41	57.	4:23	55.
20	62.	61.	63.	69.	16:41	57.	8:12	56.
21	60.	60.	59.	66.	15: 1	54.	8:10	59.
22	62.	66.	58.	77.	14: 0	51.	3:54	59.
23	59.	59.	59.	69.	13:47	55.	6: 0	58.
24	66.	69.	63.	77.	12:35	54.	4:38	58.
25	63.	62.	64.	69.	12:51	55.	8: 3	58.
26	66.	67.	65.	75.	15:31	55.	23:58	60.
27	67.	69.	65.	81.	14: 6	50.	3:15	59.
28	75.	78.	71.	87.	15:28	61.	4:30	58.
29	66.	67.	65.	69.	0: 0	62.	23:52	58.
30	66.	69.	64.	74.	13:26	57.	22:57	57.
MEAN	64.	66.	63.					56.
STANDARD DEVIATION	4.8	5.5	4.3					2.7

ENVIRONMENTAL SUMMARY REPORT

SITE: CONTEMPORARY SYSTEMS
WALPOLE, NEW HAMPSHIRE

REPORT PERIOD: 82/ 6
SITE NUMBER: 234

LATITUDE: 43.07 DEG NORTH
LONGITUDE: 72.45 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 65 DEG

TIME ZONE: EASTERN
ALTITUDE: 315 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	369.	N.A.	N.A.	88.	12:23	2109.	17.
2	1300.	N.A.	N.A.	309.	11:50	2102.	62.
3	1131.	N.A.	N.A.	280.	10:45	2095.	54.
4	1480.	N.A.	N.A.	266.	11:48	2088.	71.
5	140.	N.A.	N.A.	28.	12: 4	2084.	7.
6	154.	N.A.	N.A.	34.	11:15	2078.	7.
7	259.	N.A.	N.A.	62.	8:33	2072.	13.
8	1599.	N.A.	N.A.	303.	12:16	2069.	77.
9	1875.	N.A.	N.A.	269.	11:39	2064.	91.
10	1770.	N.A.	N.A.	263.	11:34	2059.	86.
11	900.	N.A.	N.A.	232.	9:10	2055.	44.
12	1273.	N.A.	N.A.	241.	10:46	2051.	62.
13	192.	N.A.	N.A.	31.	11:26	2047.	9.
14	813.	N.A.	N.A.	212.	14:12	2044.	40.
15	1290.	N.A.	N.A.	235.	11:52	2042.	63.
16	487.	N.A.	N.A.	212.	10:32	2039.	24.
17	721.	N.A.	N.A.	224.	13: 3	2037.	35.
18	1549.	N.A.	N.A.	275.	11:32	2036.	76.
19	1188.	N.A.	N.A.	232.	12:36	2034.	58.
20	1707.	N.A.	N.A.	283.	12:14	2036.	84.
21	1067.	N.A.	N.A.	263.	11:43	2035.	52.
22	1575.	N.A.	N.A.	283.	12:15	2035.	77.
23	1009.	N.A.	N.A.	283.	11:37	2035.	50.
24	1555.	N.A.	N.A.	297.	11:37	2034.	76.
25	1277.	N.A.	N.A.	263.	11: 0	2035.	63.
26	577.	N.A.	N.A.	144.	14:44	2036.	28.
27	1711.	N.A.	N.A.	258.	12:40	2038.	84.
28	1691.	N.A.	N.A.	255.	12:19	2040.	83.
29	208.	N.A.	N.A.	108.	9:51	2043.	10.
30	1702.	N.A.	N.A.	286.	11:40	2045.	83.
MEAN	1086.	N.A.	N.A.			2054.	
STANDARD DEVIATION	565.	N.A.	N.A.			23.	

ENVIRONMENTAL SUMMARY REPORT

SITE: CONTEMPORARY SYSTEMS
WALPOLE, NEW HAMPSHIRE

REPORT PERIOD: 82/ 6
SITE NUMBER: 234

LATITUDE: 43.07 DEG NORTH
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AZIMUTH: -5 DEG
PYRANOMETER TILT: 65 DEG

TIME ZONE: EASTERN
ALTITUDE: 315 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	67.	70.	65.	73.	15:13	63.	3:35	66.
2	66.	71.	62.	82.	17:27	50.	23:56	66.
3	59.	68.	52.	72.	10:35	43.	4:23	65.
4	61.	68.	56.	74.	14:49	50.	3:39	65.
5	55.	55.	55.	58.	0: 4	53.	5:13	68.
6	55.	56.	55.	61.	13: 7	53.	0:57	68.
7	54.	54.	53.	59.	8:49	51.	22:31	66.
8	63.	70.	57.	82.	17: 4	49.	4:39	66.
9	64.	74.	56.	87.	17:20	48.	3:55	66.
10	67.	78.	57.	87.	16:59	44.	3:55	66.
11	62.	70.	55.	75.	16:17	45.	4: 5	66.
12	61.	69.	55.	76.	12:22	47.	4:28	69.
13	51.	52.	51.	54.	0: 1	49.	22:13	68.
14	58.	65.	53.	75.	18: 2	48.	4:21	65.
15	66.	74.	59.	83.	13:54	50.	2:39	67.
16	69.	74.	65.	80.	10:38	61.	23:52	66.
17	66.	70.	63.	85.	17:29	58.	23:27	66.
18	68.	76.	62.	85.	17:51	56.	23:59	65.
19	68.	76.	61.	82.	12: 4	55.	1:19	68.
20	63.	68.	59.	74.	17:29	47.	23:58	71.
21	59.	65.	54.	75.	16:47	45.	2:17	68.
22	64.	74.	57.	79.	16: 5	48.	2: 2	67.
23	62.	68.	57.	75.	17:13	49.	23:59	67.
24	63.	72.	55.	82.	18:17	45.	3:37	67.
25	67.	76.	59.	85.	15:22	48.	2:38	68.
26	68.	73.	64.	82.	18:28	55.	23:32	69.
27	68.	76.	62.	86.	17:12	50.	4:15	72.
28	74.	81.	69.	88.	14:32	62.	4:35	69.
29	69.	70.	68.	76.	10:28	61.	23:48	70.
30	67.	74.	62.	85.	17:27	51.	23:51	69.
MEAN	63.	70.	59.					67.
STANDARD DEVIATION	5.2	7.2	4.7					1.7

ENVIRONMENTAL SUMMARY REPORT

SITE: CONTEMPORARY SYSTEMS
WALPOLE, NEW HAMPSHIRE

REPORT PERIOD: 82/ 6
SITE NUMBER: 234

LATITUDE: 43.07 DEG NORTH
LONGITUDE: 72.45 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 65 DEG

TIME ZONE: EASTERN
ALTITUDE: 315 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	24.	3.	24.	5.	11.	24.	17:59
2	14.	4.	16.	7.	22.	24.	11:55
3	*	2.	*	3.	13.	*	13: 9
4	13.	3.	12.	6.	16.	19.	15:16
5	19.	4.	19.	4.	10.	19.	23: 5
6	19.	5.	19.	5.	21.	19.	7: 5
7	19.	4.	19.	5.	15.	19.	9:11
8	18.	3.	18.	6.	14.	17.	13:26
9	*	2.	*	4.	11.	*	13:52
10	28.	3.	26.	4.	16.	33.	19:39
11	*	1.	*	1.	6.	*	11:40
12	36.	3.	36.	5.	15.	36.	18: 4
13	36.	3.	36.	4.	11.	36.	11:58
14	*	1.	*	2.	8.	*	17:14
15	*	2.	*	2.	9.	*	23:41
16	36.	3.	36.	4.	13.	36.	11:36
17	*	2.	*	3.	15.	*	8:36
18	*	1.	*	3.	9.	*	12:31
19	38.	2.	38.	4.	14.	38.	12:36
20	38.	4.	38.	7.	15.	38.	10:23
21	37.	3.	38.	7.	25.	38.	12:15
22	*	1.	*	3.	10.	*	15:17
23	35.	3.	35.	4.	13.	35.	12:31
24	35.	2.	35.	4.	14.	35.	14:33
25	*	2.	*	3.	11.	*	12:10
26	*	1.	*	1.	6.	*	3:11
27	35.	2.	35.	3.	10.	35.	16:13
28	35.	3.	35.	4.	10.	35.	2:11
29	*	2.	*	3.	16.	*	13:40
30	43.	4.	44.	6.	16.	35.	14:52
MEAN	30.	3.	30.	4.			
STANDARD DEVIATION	9.6	1.1	9.7	1.5			

ENVIRONMENTAL SUMMARY REPORT

SITE: CONTEMPORARY SYSTEMS
WALPOLE, NEW HAMPSHIRE

REPORT PERIOD: 82/ 6
SITE NUMBER: 234

LATITUDE: 43.07 DEG NORTH
LONGITUDE: 72.45 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 65 DEG

TIME ZONE: EASTERN
ALTITUDE: 315 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	13	11	0	0	0	0	0	0	0
2	15	5	4	0	0	0	0	0	0
3	19	5	0	0	0	0	0	0	0
4	16	7	1	0	0	0	0	0	0
5	8	16	0	0	0	0	0	0	0
6	11	13	0	0	0	0	0	0	0
7	11	12	1	0	0	0	0	0	0
8	15	9	0	0	0	0	0	0	0
9	19	5	0	0	0	0	0	0	0
10	17	6	1	0	0	0	0	0	0
11	24	0	0	0	0	0	0	0	0
12	12	10	2	0	0	0	0	0	0
13	15	9	0	0	0	0	0	0	0
14	24	0	0	0	0	0	0	0	0
15	21	3	0	0	0	0	0	0	0
16	12	12	0	0	0	0	0	0	0
17	18	6	0	0	0	0	0	0	0
18	21	3	0	0	0	0	0	0	0
19	18	4	2	0	0	0	0	0	0
20	10	11	3	0	0	0	0	0	0
21	18	2	2	2	0	0	0	0	0
22	21	3	0	0	0	0	0	0	0
23	17	7	0	0	0	0	0	0	0
24	18	5	1	0	0	0	0	0	0
25	20	4	0	0	0	0	0	0	0
26	24	0	0	0	0	0	0	0	0
27	18	6	0	0	0	0	0	0	0
28	15	9	0	0	0	0	0	0	0
29	21	3	0	0	0	0	0	0	0
30	13	8	2	0	0	0	0	0	1
AVERAGE	16.8	6.5	0.6	0.1	0.0	0.0	0.0	0.0	0.0
TOTAL	504	194	19	2	0	0	0	0	1

ENVIRONMENTAL SUMMARY REPORT

SITE: CONTEMPORARY SYSTEMS
WALPOLE, NEW HAMPSHIRE

REPORT PERIOD: 82/ 6
SITE NUMBER: 234

LATITUDE: 43.07 DEG NORTH
LONGITUDE: 72.45 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 65 DEG

TIME ZONE: EASTERN
ALTITUDE: 315 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	85.	78.	92.	97.	2:31	70.	13:48
2	70.	58.	79.	100.	2:57	24.	18: 4
3	69.	45.	88.	100.	3: 8	34.	12:11
4	60.	43.	73.	96.	0:53	35.	14:28
5	94.	98.	92.	100.	5:24	67.	0: 9
6	93.	84.	100.	100.	0: 4	55.	11:47
7	91.	89.	93.	100.	0: 3	57.	9:16
8	62.	40.	79.	100.	2:31	21.	18:24
9	61.	34.	83.	99.	3: 2	17.	11:23
10	55.	37.	70.	100.	1:20	23.	15: 2
11	61.	41.	76.	97.	4:21	32.	15:40
12	62.	49.	72.	97.	4:22	41.	14: 9
13	84.	79.	87.	100.	22:34	69.	0: 1
14	80.	65.	93.	100.	22:18	47.	18: 2
15	72.	52.	87.	100.	0:15	35.	14: 0
16	75.	63.	84.	99.	23:58	51.	11:52
17	87.	79.	94.	100.	0: 8	40.	17:45
18	73.	51.	91.	100.	0: 4	30.	12:36
19	78.	58.	93.	100.	0: 4	44.	13:19
20	62.	40.	79.	100.	0: 4	30.	15:21
21	83.	74.	89.	100.	2:17	41.	17:24
22	71.	45.	90.	100.	0: 4	31.	16:15
23	78.	61.	92.	100.	0: 5	42.	17:13
24	66.	43.	85.	100.	0: 4	26.	17:39
25	68.	47.	85.	100.	1:39	32.	14:50
26	81.	71.	90.	100.	22:18	45.	18:18
27	67.	46.	84.	100.	0: 4	34.	17:12
28	74.	58.	88.	100.	22:53	44.	14:21
29	97.	93.	100.	100.	0:40	78.	10:28
30	67.	44.	85.	100.	0: 4	21.	17:37
MEAN	74.	59.	86.				
STANDARD DEVIATION	11.	18.	8.				

ENVIRONMENTAL SUMMARY REPORT

SITE: KARASEK HOME
BLACKSTONE, MASSACHUSETTS

REPORT PERIOD: 82/ 6
SITE NUMBER: 26

LATITUDE: 42.10 DEG NORTH
LONGITUDE: 71.60 DEG WEST

AZIMUTH: 20 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	526.	N.A.	N.A.	97.	15:56	2963.	18.
2	1383.	N.A.	N.A.	296.	12:55	2959.	47.
3	1586.	N.A.	N.A.	296.	11:33	2955.	54.
4	1064.	N.A.	N.A.	289.	11:27	2951.	36.
5	215.	N.A.	N.A.	75.	11: 0	2948.	7.
6	142.	N.A.	N.A.	42.	13:46	2944.	5.
7	194.	N.A.	N.A.	42.	9:45	2941.	7.
8	1566.	N.A.	N.A.	328.	12:28	2938.	53.
9	1972.	N.A.	N.A.	283.	11:42	2936.	67.
10	1857.	N.A.	N.A.	286.	12:55	2933.	63.
11	1965.	N.A.	N.A.	315.	11:49	2931.	67.
12	1681.	N.A.	N.A.	260.	12: 1	2928.	57.
13	341.	N.A.	N.A.	117.	10: 8	2926.	12.
14	321.	N.A.	N.A.	78.	13:36	2925.	11.
15	1621.	N.A.	N.A.	279.	12:10	2923.	55.
16	1374.	N.A.	N.A.	244.	12: 1	2922.	47.
17	700.	N.A.	N.A.	231.	10:12	2920.	24.
18	1692.	N.A.	N.A.	289.	12:59	2919.	58.
19	515.	N.A.	N.A.	120.	8:37	2919.	18.
20	2022.	N.A.	N.A.	296.	12:11	2918.	69.
21	1052.	N.A.	N.A.	292.	11:56	2917.	36.
22	1292.	N.A.	N.A.	302.	13: 0	2917.	44.
23	1840.	N.A.	N.A.	302.	12: 8	2917.	63.
24	1725.	N.A.	N.A.	302.	11:25	2917.	59.
25	1927.	N.A.	N.A.	276.	12:58	2918.	66.
26	752.	N.A.	N.A.	247.	12:47	2918.	26.
27	1449.	N.A.	N.A.	299.	12:41	2919.	50.
28	1318.	N.A.	N.A.	260.	12:38	2920.	45.
29	398.	N.A.	N.A.	182.	9:27	2921.	14.
30	1829.	N.A.	N.A.	299.	12:10	2922.	63.
MEAN	1211.	N.A.	N.A.			2929.	
STANDARD DEVIATION	634.	N.A.	N.A.			14.	

ENVIRONMENTAL SUMMARY REPORT

SITE: KARASEK HOME
BLACKSTONE, MASSACHUSETTS

REPORT PERIOD: 82/ 6
SITE NUMBER: 26

LATITUDE: 42.10 DEG NORTH
LONGITUDE: 71.60 DEG WEST
AZIMUTH: 20 DEG
PYRANOMETER TILT: 45 DEG
TIME ZONE: EASTERN
ALTITUDE: 200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	64.	67.	62.	73.	15:35	59.	2:53	65.
2	64.	66.	62.	77.	17:54	53.	23:57	63.
3	64.	72.	56.	80.	7: 9	45.	4:18	64.
4	60.	65.	55.	74.	12:20	53.	23:48	64.
5	57.	59.	55.	63.	12:15	53.	1: 3	63.
6	53.	53.	53.	56.	0: 4	51.	17:24	59.
7	48.	47.	49.	52.	0: 4	47.	6:23	60.
8	55.	59.	52.	67.	13:37	46.	23:56	68.
9	60.	67.	54.	75.	18: 1	42.	2:30	61.
10	64.	73.	56.	79.	11:30	44.	23:56	63.
11	58.	66.	50.	72.	7:54	41.	3:35	61.
12	56.	62.	51.	69.	13:16	47.	1: 4	62.
13	51.	52.	49.	57.	10:40	47.	2:52	58.
14	52.	54.	50.	57.	18:18	44.	23:22	62.
15	65.	74.	58.	81.	16:15	42.	2:40	60.
16	70.	75.	66.	83.	14: 9	62.	3:32	62.
17	66.	69.	63.	78.	12:20	58.	21:56	66.
18	69.	75.	64.	82.	14: 3	58.	0:30	64.
19	64.	69.	60.	76.	9: 4	56.	3:44	60.
20	63.	67.	58.	71.	18: 3	49.	23:55	61.
21	60.	64.	56.	75.	14: 4	46.	3: 7	67.
22	66.	72.	60.	79.	13: 6	51.	4:33	67.
23	66.	70.	62.	74.	15:36	56.	22:38	64.
24	64.	71.	58.	75.	7:42	52.	22:42	65.
25	68.	75.	62.	81.	8:15	47.	4: 2	68.
26	70.	74.	66.	83.	13:25	60.	23:59	65.
27	70.	75.	64.	81.	7:59	58.	4:58	66.
28	69.	74.	65.	82.	14:56	58.	3:21	62.
29	70.	73.	67.	80.	9:48	64.	0:38	64.
30	70.	76.	65.	83.	8:10	60.	23:59	66.
MEAN	63.	67.	58.					63.
STANDARD DEVIATION	6.4	7.8	5.7					2.7

ENVIRONMENTAL SUMMARY REPORT

SITE: WILLIAMSON HOME
IPSWICH, MASSACHUSETS

REPORT PERIOD: 82/ 6
SITE NUMBER: 241

LATITUDE: 42.40 DEG NORTH
LONGITUDE: 70.90 DEG WEST

AZIMUTH: 30 DEG
PYRANOMETER TILT: 58 DEG

TIME ZONE: EASTERN
ALTITUDE: 100 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	978.	N.A.	N.A.	265.	12: 9	2601.	38.
2	774.	N.A.	N.A.	265.	11:48	2595.	30.
3	1278.	N.A.	N.A.	265.	11:32	2592.	49.
4	1248.	N.A.	N.A.	265.	11:54	2587.	48.
5	117.	N.A.	N.A.	30.	11: 6	2582.	5.
6	206.	N.A.	N.A.	38.	10:53	2577.	8.
7	261.	N.A.	N.A.	59.	10: 7	2572.	10.
8	996.	N.A.	N.A.	246.	11:39	2568.	39.
9	1575.	N.A.	N.A.	254.	12:11	2564.	61.
10	1518.	N.A.	N.A.	259.	12:35	2561.	59.
11	1576.	N.A.	N.A.	265.	11:44	2557.	62.
12	1307.	N.A.	N.A.	232.	12:22	2554.	51.
13	200.	N.A.	N.A.	54.	10:40	2551.	8.
14	293.	N.A.	N.A.	59.	14:14	2549.	12.
15	1270.	N.A.	N.A.	213.	13:19	2547.	50.
16	827.	N.A.	N.A.	192.	13: 9	2545.	33.
17	251.	N.A.	N.A.	92.	16:21	2543.	10.
18	1288.	N.A.	N.A.	259.	12:27	2542.	51.
19	498.	N.A.	N.A.	127.	10:46	2541.	20.
20	1642.	N.A.	N.A.	251.	12: 8	2540.	65.
21	656.	N.A.	N.A.	246.	12:24	2539.	26.
22	1178.	N.A.	N.A.	254.	12:35	2539.	46.
23	1174.	N.A.	N.A.	262.	12:40	2539.	46.
24	1291.	N.A.	N.A.	281.	12: 4	2540.	51.
25	1444.	N.A.	N.A.	235.	11:54	2540.	57.
26	392.	N.A.	N.A.	116.	11:27	2541.	15.
27	1440.	N.A.	N.A.	248.	11:41	2543.	57.
28	887.	N.A.	N.A.	203.	13:35	2544.	35.
29	249.	N.A.	N.A.	138.	10:14	2546.	10.
30	1400.	N.A.	N.A.	281.	12:27	2548.	55.
MEAN	940.	N.A.	N.A.			2556.	
STANDARD DEVIATION	504.	N.A.	N.A.			19.	

ENVIRONMENTAL SUMMARY REPORT

SITE: WILLIAMSON HOME
IPSWICH, MASSACHUSETS

REPORT PERIOD: 82/ 6
SITE NUMBER: 241

LATITUDE: 42.40 DEG NORTH
LONGITUDE: 70.90 DEG WEST

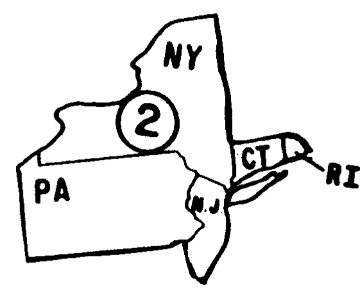
AZIMUTH: 30 DEG
PYRANOMETER TILT: 58 DEG

TIME ZONE: EASTERN
ALTITUDE: 100 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	61.	65.	58.	75.	12:36	54.	2: 7	61.
2	59.	60.	59.	74.	17:40	51.	23:58	68.
3	63.	70.	56.	83.	15:32	46.	4:41	72.
4	58.	63.	54.	72.	10:40	52.	21:41	70.
5	53.	54.	52.	58.	11:17	50.	5:41	68.
6	51.	50.	51.	53.	18:58	48.	4:58	66.
7	47.	46.	48.	50.	2:10	45.	8:31	64.
8	54.	57.	50.	67.	12:27	43.	23:55	64.
9	62.	67.	57.	82.	16: 0	41.	2:19	61.
10	63.	70.	57.	79.	10:16	44.	23:42	74.
11	55.	61.	49.	71.	11: 1	41.	3:52	64.
12	52.	55.	48.	62.	10:41	46.	4:44	67.
13	49.	50.	48.	54.	10:40	46.	3:56	61.
14	51.	52.	50.	56.	16:44	43.	23:45	64.
15	61.	65.	58.	78.	13:57	41.	4:12	69.
16	71.	75.	66.	88.	13:20	63.	1:25	70.
17	63.	64.	62.	70.	10:34	57.	23:49	71.
18	68.	74.	64.	91.	13:31	57.	0: 0	75.
19	61.	66.	57.	74.	12: 6	55.	19:18	73.
20	64.	69.	61.	79.	14:10	52.	23:46	74.
21	59.	63.	55.	79.	15: 4	47.	4: 8	73.
22	63.	66.	60.	76.	14: 1	53.	4: 8	72.
23	66.	69.	62.	81.	13:55	54.	23:58	71.
24	65.	71.	60.	82.	14: 6	50.	3:58	68.
25	70.	74.	66.	89.	14:39	49.	4:20	*
26	68.	71.	66.	80.	12:58	58.	23:39	71.
27	64.	69.	60.	79.	12:23	53.	4:38	72.
28	69.	72.	66.	88.	13:35	57.	3:57	72.
29	65.	64.	66.	69.	12:28	59.	7:38	73.
30	69.	74.	65.	88.	13:52	54.	22: 8	73.
MEAN	61.	64.	58.					69.
STANDARD DEVIATION	6.7	7.9	6.1					4.2

ZONE 2



ENVIRONMENTAL SUMMARY REPORT

SITE: GILL HARROP
BIG FLATS, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 92

LATITUDE: 44.05 DEG NORTH
LONGITUDE: 77.21 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 860 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	226.	N.A.	N.A.	189.	7:54	970.	23.
2	634.	N.A.	N.A.	135.	11: 4	963.	66.
3	228.	N.A.	N.A.	122.	10:45	956.	24.
4	382.	N.A.	N.A.	142.	11:25	948.	40.
5	23.	N.A.	N.A.	19.	9:39	942.	2.
6	329.	N.A.	N.A.	84.	12: 2	935.	35.
7	612.	N.A.	N.A.	126.	11: 6	929.	66.
8	584.	N.A.	N.A.	151.	11:36	925.	63.
9	666.	N.A.	N.A.	113.	11:14	917.	73.
10	212.	N.A.	N.A.	61.	10:29	914.	23.
11	454.	N.A.	N.A.	145.	12: 6	910.	50.
12	179.	N.A.	N.A.	68.	10:14	906.	20.
13	43.	N.A.	N.A.	16.	14:13	902.	5.
14	590.	N.A.	N.A.	135.	11:51	898.	66.
15	515.	N.A.	N.A.	119.	10:40	896.	57.
16	39.	N.A.	N.A.	32.	8:31	894.	4.
17	547.	N.A.	N.A.	139.	11:10	892.	61.
18	652.	N.A.	N.A.	116.	11:25	891.	73.
19	532.	N.A.	N.A.	129.	11:52	890.	60.
20	526.	N.A.	N.A.	126.	11:30	889.	59.
21	368.	N.A.	N.A.	93.	9:56	889.	41.
22	346.	N.A.	N.A.	119.	11:57	889.	39.
23	523.	N.A.	N.A.	135.	11:48	889.	59.
24	574.	N.A.	N.A.	139.	12: 1	890.	65.
25	644.	N.A.	N.A.	119.	12:37	890.	72.
26	293.	N.A.	N.A.	81.	10:29	892.	33.
27	511.	N.A.	N.A.	113.	13: 3	894.	57.
28	709.	N.A.	N.A.	129.	11:13	895.	79.
29	204.	N.A.	N.A.	77.	14:54	898.	23.
30	456.	N.A.	N.A.	132.	11:27	902.	51.
MEAN	420.	N.A.	N.A.			910.	
STANDARD DEVIATION	202.	N.A.	N.A.			25.	

ENVIRONMENTAL SUMMARY REPORT

SITE: GILL HARROP
BIG FLATS, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 92

LATITUDE: 44.05 DEG NORTH
LONGITUDE: 77.21 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 860 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	67.	74.	63.	81.	13:14	56.	23:54	N.A.
2	61.	70.	56.	76.	16:56	47.	4:47	N.A.
3	52.	56.	49.	65.	10:34	44.	4:50	N.A.
4	61.	67.	57.	71.	12: 8	52.	0: 0	N.A.
5	58.	59.	58.	59.	15:15	56.	0:35	N.A.
6	59.	63.	57.	65.	13:54	55.	22:47	N.A.
7	63.	71.	59.	77.	15:28	54.	23:22	N.A.
8	62.	68.	59.	76.	17:23	53.	1:36	N.A.
9	66.	76.	59.	83.	16:50	51.	2: 5	N.A.
10	62.	66.	59.	70.	10:45	55.	3:25	N.A.
11	63.	69.	59.	76.	14:52	47.	23:50	N.A.
12	56.	63.	52.	68.	10:14	46.	0:54	N.A.
13	56.	57.	56.	58.	15:27	54.	23:11	N.A.
14	64.	73.	59.	79.	15:56	51.	23:46	N.A.
15	65.	75.	60.	80.	14:24	44.	4:39	N.A.
16	66.	66.	66.	73.	8:10	60.	23:59	N.A.
17	66.	72.	62.	79.	16:14	55.	23:58	N.A.
18	65.	76.	59.	83.	14:48	51.	3: 5	N.A.
19	65.	76.	58.	81.	12:56	53.	2:48	N.A.
20	60.	67.	56.	72.	15:14	46.	5: 7	N.A.
21	63.	68.	60.	73.	16: 9	51.	23:53	N.A.
22	57.	67.	52.	73.	10:37	45.	3:21	N.A.
23	61.	66.	57.	73.	15: 5	50.	4:56	N.A.
24	62.	72.	56.	77.	17:16	46.	5: 8	N.A.
25	65.	77.	58.	83.	13:20	44.	3:51	N.A.
26	66.	71.	63.	76.	10:45	59.	22:29	N.A.
27	67.	75.	63.	83.	15:27	56.	4:16	N.A.
28	72.	84.	66.	90.	15:29	62.	4:47	N.A.
29	69.	72.	68.	80.	17:13	64.	22: 1	N.A.
30	66.	72.	62.	76.	10: 7	53.	23:54	N.A.
MEAN	63.	70.	59.					N.A.
STANDARD DEVIATION	4.3	6.3	4.1					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: GILL HARROP
BIG FLATS, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 92

LATITUDE: 44.05 DEG NORTH
LONGITUDE: 77.21 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 860 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	*	1.	*	2.	7.	*	23: 6
2	168.	3.	163.	5.	10.	167.	10:16
3	*	1.	*	2.	9.	*	11:17
4	*	1.	*	2.	5.	*	12:56
5	231.	2.	232.	3.	6.	234.	22:27
6	210.	4.	221.	4.	8.	208.	2:21
7	198.	3.	199.	5.	9.	204.	17:46
8	*	2.	*	2.	6.	*	11: 9
9	*	1.	*	2.	6.	*	20:34
10	*	1.	*	2.	6.	*	14:40
11	*	2.	*	2.	6.	*	21:10
12	*	1.	*	1.	5.	*	0: 1
13	*	1.	*	1.	4.	*	17:35
14	166.	2.	157.	3.	8.	177.	11:56
15	*	1.	*	2.	7.	*	23:28
16	*	1.	*	1.	7.	*	6:14
17	*	1.	*	0.	7.	*	0:15
18	*	1.	*	1.	7.	*	19:57
19	*	2.	*	3.	10.	*	16:40
20	97.	2.	92.	3.	7.	50.	10: 0
21	98.	3.	91.	5.	9.	101.	10: 6
22	*	1.	*	2.	7.	*	15:14
23	127.	2.	128.	4.	9.	173.	12:52
24	168.	2.	167.	3.	7.	193.	12:39
25	*	1.	*	2.	6.	*	9:46
26	*	1.	*	2.	7.	*	16:21
27	*	0.	*	0.	4.	*	22:34
28	*	1.	*	1.	17.	*	17:22
29	*	0.	*	0.	9.	*	10:54
30	177.	2.	185.	4.	13.	156.	14:50
MEAN	164.	2.	164.	2.			
STANDARD DEVIATION	44.8	0.9	48.8	1.4			

ENVIRONMENTAL SUMMARY REPORT

SITE: GILL HARROP
BIG FLATS, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 92

LATITUDE: 44.05 DEG NORTH
LONGITUDE: 77.21 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 860 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	24	0	0	0	0	0	0	0	0
2	12	12	0	0	0	0	0	0	0
3	23	1	0	0	0	0	0	0	0
4	24	0	0	0	0	0	0	0	0
5	24	0	0	0	0	0	0	0	0
6	8	16	0	0	0	0	0	0	0
7	14	10	0	0	0	0	0	0	0
8	22	2	0	0	0	0	0	0	0
9	22	2	0	0	0	0	0	0	0
10	24	0	0	0	0	0	0	0	0
11	22	2	0	0	0	0	0	0	0
12	24	0	0	0	0	0	0	0	0
13	24	0	0	0	0	0	0	0	0
14	20	4	0	0	0	0	0	0	0
15	22	2	0	0	0	0	0	0	0
16	21	3	0	0	0	0	0	0	0
17	24	0	0	0	0	0	0	0	0
18	21	3	0	0	0	0	0	0	0
19	21	3	0	0	0	0	0	0	0
20	21	3	0	0	0	0	0	0	0
21	16	8	0	0	0	0	0	0	0
22	24	0	0	0	0	0	0	0	0
23	20	4	0	0	0	0	0	0	0
24	22	2	0	0	0	0	0	0	0
25	24	0	0	0	0	0	0	0	0
26	23	1	0	0	0	0	0	0	0
27	24	0	0	0	0	0	0	0	0
28	23	1	0	0	0	0	0	0	0
29	24	0	0	0	0	0	0	0	0
30	17	6	0	0	0	0	0	0	1
AVERAGE	21.1	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	634	85	0	0	0	0	0	0	1

ENVIRONMENTAL SUMMARY REPORT

SITE: GILL HARROP
BIG FLATS, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 92

LATITUDE: 44.05 DEG NORTH
LONGITUDE: 77.21 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 860 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	82.	73.	87.	92.	5:17	60.	13:14
2	61.	42.	72.	95.	5: 3	31.	18: 0
3	76.	60.	85.	92.	23:33	38.	10:50
4	74.	59.	82.	92.	1:14	50.	11:31
5	90.	92.	89.	95.	20:19	81.	4:35
6	85.	77.	90.	93.	2:53	68.	13: 0
7	73.	59.	81.	91.	5:32	46.	16:48
8	72.	58.	80.	91.	1:57	48.	16:45
9	65.	47.	76.	94.	2:59	36.	17:17
10	73.	59.	81.	89.	23:49	47.	10:50
11	68.	54.	76.	90.	0: 5	33.	15:18
12	76.	70.	80.	89.	4:49	59.	11:50
13	79.	78.	80.	85.	23:59	74.	11:11
14	61.	41.	72.	87.	4:10	31.	17:27
15	62.	48.	69.	94.	5:22	37.	14:40
16	78.	82.	75.	93.	21:24	52.	0:27
17	70.	52.	80.	94.	4:10	38.	17: 2
18	67.	46.	78.	94.	6: 1	34.	16:13
19	70.	51.	81.	93.	5:12	40.	12:45
20	58.	42.	67.	89.	5:28	34.	15:25
21	64.	52.	71.	88.	1:33	41.	16:52
22	76.	59.	86.	93.	5:56	40.	10:42
23	65.	50.	73.	94.	2:42	41.	13: 2
24	57.	38.	69.	94.	5:40	28.	17:21
25	60.	41.	71.	91.	5:43	35.	14:50
26	73.	64.	77.	86.	22:45	49.	10:45
27	75.	61.	83.	89.	2:45	50.	15:38
28	73.	50.	86.	95.	20:34	38.	15:18
29	84.	81.	85.	94.	5:54	57.	17:18
30	64.	51.	72.	93.	3:21	39.	18:44
MEAN	71.	58.	78.				
STANDARD DEVIATION	8.	14.	6.				

ENVIRONMENTAL SUMMARY REPORT

SITE: KALIN HOME
LONG ISLAND, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 246

LATITUDE: 40.80 DEG NORTH
LONGITUDE: 73.40 DEG WEST

AZIMUTH: -6 DEG
PYRANOMETER TILT: 34 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	605.	N.A.	N.A.	209.	12:26	3215.	19.
2	2037.	N.A.	N.A.	310.	11: 6	3212.	63.
3	1985.	N.A.	N.A.	304.	10:28	3210.	62.
4	1032.	N.A.	N.A.	330.	11:45	3208.	32.
5	165.	N.A.	N.A.	52.	13:21	3206.	5.
6	197.	N.A.	N.A.	75.	14:30	3205.	6.
7	373.	N.A.	N.A.	206.	12:40	3203.	12.
8	1431.	N.A.	N.A.	323.	11:27	3201.	45.
9	1144.	N.A.	N.A.	284.	10:21	3199.	36.
10	1551.	N.A.	N.A.	320.	12: 9	3198.	48.
11	1037.	N.A.	N.A.	343.	10:40	3196.	32.
12	1378.	N.A.	N.A.	248.	12: 0	3195.	43.
13	128.	N.A.	N.A.	36.	9:55	3194.	4.
14	689.	N.A.	N.A.	193.	10:41	3193.	22.
15	1965.	N.A.	N.A.	278.	11:49	3192.	62.
16	1830.	N.A.	N.A.	252.	11:23	3191.	57.
17	1448.	N.A.	N.A.	314.	11:42	3190.	45.
18	1410.	N.A.	N.A.	291.	12:51	3189.	44.
19	294.	N.A.	N.A.	85.	14:43	3189.	9.
20	2188.	N.A.	N.A.	304.	11:15	3188.	69.
21	1543.	N.A.	N.A.	297.	10:50	3188.	48.
22	1768.	N.A.	N.A.	297.	11:21	3188.	55.
23	1987.	N.A.	N.A.	314.	11: 7	3187.	62.
24	2050.	N.A.	N.A.	314.	11:48	3187.	64.
25	2233.	N.A.	N.A.	304.	11:17	3187.	70.
26	1626.	N.A.	N.A.	265.	11:25	3187.	51.
27	1646.	N.A.	N.A.	252.	11:11	3188.	52.
28	1478.	N.A.	N.A.	248.	12:10	3188.	46.
29	167.	N.A.	N.A.	69.	8:49	3188.	5.
30	1187.	N.A.	N.A.	294.	10:28	3189.	37.
MEAN	1286.	N.A.	N.A.			3195.	
STANDARD DEVIATION	673.	N.A.	N.A.			9.	

ENVIRONMENTAL SUMMARY REPORT

SITE: KALIN HOME
LONG ISLAND, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 246

LATITUDE: 40.80 DEG NORTH
LONGITUDE: 73.40 DEG WEST

AZIMUTH: -6 DEG
PYRANOMETER TILT: 34 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	65.	67.	61.	77.	12:26	60.	23:49	63.
2	71.	81.	61.	92.	14: 7	52.	23:54	67.
3	68.	79.	56.	87.	10: 2	46.	4:36	66.
4	65.	70.	59.	85.	12: 1	57.	23:29	66.
5	61.	62.	60.	66.	13:37	57.	2:46	66.
6	58.	60.	57.	63.	14:35	53.	21: 5	66.
7	55.	56.	54.	63.	12:40	52.	22:32	64.
8	66.	74.	57.	89.	15:27	51.	23:53	65.
9	70.	86.	54.	97.	13:17	47.	3:27	65.
10	70.	85.	55.	103.	13: 2	48.	4:18	66.
11	63.	69.	57.	84.	11:22	50.	23:54	66.
12	57.	63.	49.	72.	12:16	45.	2:34	64.
13	52.	53.	51.	54.	11:41	49.	5:36	65.
14	62.	69.	55.	80.	16:44	52.	23:56	65.
15	70.	83.	57.	92.	13:15	47.	4:12	66.
16	72.	80.	64.	89.	12:22	61.	3: 7	67.
17	76.	84.	67.	96.	13:18	63.	2:46	66.
18	75.	84.	66.	98.	13:28	63.	4:40	69.
19	66.	68.	64.	75.	17:12	62.	4:45	66.
20	72.	82.	63.	91.	14:16	56.	23:41	67.
21	69.	77.	60.	86.	12:26	54.	2:37	68.
22	72.	82.	62.	91.	9:24	55.	4:26	68.
23	71.	81.	61.	91.	11:49	56.	3:53	68.
24	71.	83.	58.	95.	12:46	50.	4:27	68.
25	70.	81.	59.	90.	11:22	49.	4:30	68.
26	76.	84.	67.	96.	10:48	61.	4: 8	68.
27	74.	82.	65.	91.	10: 1	63.	23:32	69.
28	75.	83.	67.	97.	11:33	63.	0:47	69.
29	69.	70.	68.	74.	9: 0	66.	4: 5	69.
30	75.	84.	65.	98.	10:49	61.	21:50	69.
MEAN	68.	75.	60.					67.
STANDARD DEVIATION	6.4	9.5	4.9					1.7

ENVIRONMENTAL SUMMARY REPORT

SITE: SOUTH BRIDGE TOWER
NEW YORK, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 206

LATITUDE: 40.00 DEG NORTH
LONGITUDE: 74.00 DEG WEST

AZIMUTH: -14 DEG
PYRANOMETER TILT: 41 DEG

TIME ZONE: EASTERN
ALTITUDE: 137 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	281.	N.A.	N.A.	85.	12:16	2996.	9.
2	2064.	N.A.	N.A.	296.	13:40	2992.	69.
3	1058.	N.A.	N.A.	272.	13: 8	2988.	35.
4	831.	N.A.	N.A.	282.	12:35	2985.	28.
5	87.	N.A.	N.A.	54.	12:30	2981.	3.
6	82.	N.A.	N.A.	27.	10: 7	2978.	3.
7	300.	N.A.	N.A.	194.	10:56	2975.	10.
8	1541.	N.A.	N.A.	320.	13:29	2973.	52.
9	1789.	N.A.	N.A.	272.	12:42	2970.	60.
10	902.	N.A.	N.A.	214.	15:50	2967.	30.
11	512.	N.A.	N.A.	150.	10:24	2965.	17.
12	1053.	N.A.	N.A.	221.	12:27	2963.	36.
13	36.	N.A.	N.A.	27.	11:24	2961.	1.
14	1287.	N.A.	N.A.	289.	11:42	2959.	43.
15	1698.	N.A.	N.A.	286.	13:11	2958.	57.
16	1368.	N.A.	N.A.	252.	12:38	2957.	46.
17	1123.	N.A.	N.A.	303.	13: 5	2955.	38.
18	1492.	N.A.	N.A.	255.	12:46	2954.	51.
19	475.	N.A.	N.A.	177.	14:11	2954.	16.
20	1656.	N.A.	N.A.	289.	13:42	2953.	56.
21	1150.	N.A.	N.A.	279.	12:10	2952.	39.
22	1220.	N.A.	N.A.	276.	14: 5	2952.	41.
23	1688.	N.A.	N.A.	289.	13: 3	2952.	57.
24	1623.	N.A.	N.A.	303.	13: 8	2952.	55.
25	1232.	N.A.	N.A.	262.	12:21	2953.	42.
26	1391.	N.A.	N.A.	238.	12:37	2953.	47.
27	1284.	N.A.	N.A.	218.	13: 0	2954.	43.
28	1182.	N.A.	N.A.	211.	13:16	2955.	40.
29	126.	N.A.	N.A.	102.	16: 6	2956.	4.
30	951.	N.A.	N.A.	248.	15:25	2957.	32.
MEAN	1049.	N.A.	N.A.			2964.	
STANDARD DEVIATION	574.	N.A.	N.A.			13.	

ENVIRONMENTAL SUMMARY REPORT

SITE: SOUTH BRIDGE TOWER
NEW YORK, NEW YORK

REPORT PERIOD: 82/ 6
SITE NUMBER: 206

LATITUDE: 40.00 DEG NORTH
LONGITUDE: 74.00 DEG WEST

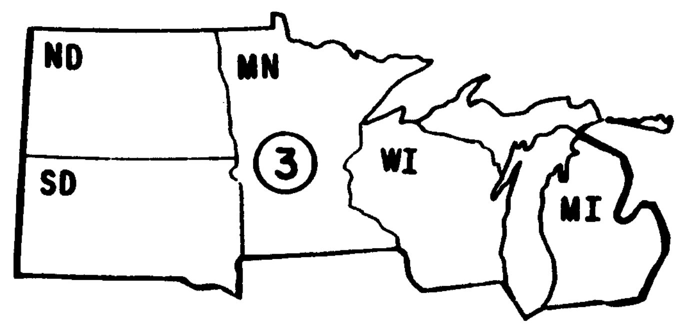
AZIMUTH: -14 DEG
PYRANOMETER TILT: 41 DEG

TIME ZONE: EASTERN
ALTITUDE: 137 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	66.	66.	66.	69.	14:24	63.	6: 4	55.
2	70.	72.	68.	78.	16:14	63.	6:29	56.
3	72.	74.	71.	75.	10: 7	66.	20:36	56.
4	68.	70.	66.	74.	12:35	62.	23:31	56.
5	64.	65.	63.	68.	10:59	62.	1: 2	56.
6	62.	63.	62.	64.	14:44	58.	21:51	56.
7	61.	61.	60.	63.	11:50	58.	23:55	56.
8	65.	67.	63.	73.	15:42	57.	1:36	56.
9	72.	75.	70.	80.	15:22	62.	5:45	56.
10	72.	75.	68.	80.	16: 1	64.	23:40	56.
11	68.	70.	67.	72.	12:22	64.	22:19	56.
12	63.	64.	62.	67.	9:31	57.	21:58	56.
13	57.	57.	58.	60.	6: 4	56.	9:26	56.
14	64.	65.	63.	72.	16:56	56.	5:42	56.
15	75.	78.	72.	81.	14:42	67.	4:56	57.
16	77.	81.	74.	86.	14: 4	71.	23: 8	57.
17	77.	78.	75.	82.	13: 5	71.	3:34	58.
18	77.	78.	76.	83.	14: 0	73.	23:58	58.
19	72.	73.	72.	77.	17:55	68.	7:47	58.
20	72.	72.	73.	77.	18:46	66.	6:54	58.
21	76.	77.	75.	82.	14:50	70.	4:22	58.
22	76.	78.	73.	80.	10:11	66.	23:52	58.
23	72.	73.	70.	78.	16: 4	65.	0:35	59.
24	73.	74.	71.	79.	16:42	64.	5: 8	59.
25	77.	79.	74.	81.	12:48	70.	1:51	59.
26	80.	82.	77.	85.	14:19	73.	5:41	59.
27	77.	79.	75.	82.	10:52	70.	22:36	60.
28	77.	79.	75.	82.	14:25	71.	2: 4	60.
29	75.	74.	75.	78.	0: 6	73.	14: 9	60.
30	75.	78.	73.	82.	16:13	70.	5: 5	60.
MEAN	71.	73.	70.					57.
STANDARD DEVIATION	5.8	6.4	5.4					1.4

ZONE 3



ENVIRONMENTAL SUMMARY REPORT

SITE: ARNO KAHN
DULUTH, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 143

LATITUDE: 47.00 DEG NORTH
LONGITUDE: 92.00 DEG WEST

AZIMUTH: 12 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	633.	N.A.	N.A.	156.	10:21	1153.	55.
2	1026.	N.A.	N.A.	203.	12: 6	1145.	90.
3	1045.	N.A.	N.A.	165.	12:11	1137.	92.
4	773.	N.A.	N.A.	174.	11:55	1130.	68.
5	900.	N.A.	N.A.	159.	11:52	1123.	80.
6	713.	N.A.	N.A.	159.	13:22	1116.	64.
7	440.	N.A.	N.A.	106.	11:39	1111.	40.
8	813.	N.A.	N.A.	177.	12:25	1106.	74.
9	415.	N.A.	N.A.	141.	10:34	1099.	38.
10	1018.	N.A.	N.A.	162.	11:28	1095.	93.
11	615.	N.A.	N.A.	153.	13:26	1090.	56.
12	901.	N.A.	N.A.	183.	11:22	1087.	83.
13	985.	N.A.	N.A.	162.	11:27	1083.	91.
14	654.	N.A.	N.A.	171.	12:38	1079.	61.
15	939.	N.A.	N.A.	174.	11:50	1076.	87.
16	752.	N.A.	N.A.	174.	11:51	1074.	70.
17	753.	N.A.	N.A.	174.	11:35	1073.	70.
18	755.	N.A.	N.A.	183.	11:50	1071.	70.
19	430.	N.A.	N.A.	136.	9:51	1070.	40.
20	602.	N.A.	N.A.	183.	10:54	1069.	56.
21	953.	N.A.	N.A.	168.	12: 4	1069.	89.
22	817.	N.A.	N.A.	159.	10:53	1069.	76.
23	522.	N.A.	N.A.	147.	12:37	1069.	49.
24	396.	N.A.	N.A.	139.	13: 0	1070.	37.
25	993.	N.A.	N.A.	171.	11:39	1071.	93.
26	901.	N.A.	N.A.	159.	12: 2	1071.	84.
27	752.	N.A.	N.A.	174.	11:59	1074.	70.
28	400.	N.A.	N.A.	121.	9:53	1076.	37.
29	959.	N.A.	N.A.	159.	12: 1	1079.	89.
30	976.	N.A.	N.A.	159.	10:52	1083.	90.
MEAN	761.	N.A.	N.A.			1091.	
STANDARD DEVIATION	209.	N.A.	N.A.			25.	

ENVIRONMENTAL SUMMARY REPORT

SITE: ARNO KAHN
DULUTH, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 143

LATITUDE: 47.00 DEG NORTH
LONGITUDE: 92.00 DEG WEST

AZIMUTH: 12 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	55.	60.	53.	64.	13:44	46.	4:10	57.
2	51.	56.	48.	62.	11:41	37.	23:47	55.
3	52.	63.	45.	69.	14:30	33.	3:33	57.
4	59.	69.	52.	84.	18: 9	36.	3:30	56.
5	57.	68.	51.	74.	11:47	37.	4:17	55.
6	62.	65.	60.	77.	14:51	50.	3:19	58.
7	65.	65.	65.	75.	12:59	60.	23:51	57.
8	62.	67.	60.	77.	15:32	55.	21:13	54.
9	53.	53.	54.	59.	22: 5	50.	7:43	54.
10	62.	63.	61.	76.	17:17	48.	23: 4	56.
11	66.	73.	62.	80.	15:26	51.	23:59	54.
12	61.	65.	58.	71.	17: 8	46.	2:50	51.
13	69.	75.	65.	83.	14:46	54.	23:26	46.
14	67.	72.	64.	80.	13:26	52.	3:18	56.
15	61.	65.	58.	78.	15:23	42.	23:59	57.
16	57.	68.	51.	73.	12:54	37.	4:20	56.
17	57.	62.	55.	70.	14:58	47.	23:59	56.
18	55.	62.	50.	73.	13:26	40.	4:59	56.
19	57.	65.	53.	69.	10:12	45.	0: 6	50.
20	63.	67.	61.	78.	15: 4	53.	0: 3	56.
21	62.	68.	58.	78.	14:59	46.	23:49	57.
22	61.	68.	56.	75.	16: 2	44.	1: 4	57.
23	60.	64.	58.	76.	17:17	51.	0:44	57.
24	67.	74.	63.	88.	14:42	51.	23:50	59.
25	59.	64.	56.	76.	16:11	44.	23:55	57.
26	57.	67.	50.	83.	13:25	37.	4:21	55.
27	67.	78.	61.	88.	16:42	43.	1:38	52.
28	63.	74.	57.	81.	9:58	49.	4:20	54.
29	63.	69.	60.	76.	15:34	48.	23: 3	54.
30	65.	74.	59.	89.	9:54	43.	3:54	53.
MEAN	61.	67.	57.					55.
STANDARD DEVIATION	4.7	5.6	5.2					2.5

ENVIRONMENTAL SUMMARY REPORT

SITE: ARNO KAHN
DULUTH, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 143

LATITUDE: 47.00 DEG NORTH
LONGITUDE: 92.00 DEG WEST

AZIMUTH: 12 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	111.	7.	111.	9.	22.	125.	14: 5
2	210.	5.	215.	6.	13.	299.	13:52
3	316.	2.	324.	5.	11.	313.	13: 4
4	7.	2.	7.	4.	11.	320.	10:55
5	283.	3.	308.	4.	15.	274.	15: 5
6	302.	6.	302.	7.	20.	8.	19:36
7	67.	7.	66.	8.	22.	45.	10:31
8	224.	4.	142.	3.	13.	230.	21:18
9	259.	6.	268.	7.	22.	115.	23:22
10	110.	9.	114.	12.	30.	115.	10:51
11	94.	4.	83.	7.	18.	127.	9:24
12	131.	6.	127.	10.	22.	116.	12:15
13	117.	6.	118.	9.	20.	128.	7:20
14	26.	2.	12.	3.	12.	55.	16:38
15	175.	5.	172.	7.	16.	147.	12:33
16	5.	2.	16.	4.	16.	46.	9: 8
17	250.	4.	253.	6.	16.	288.	13:27
18	*	1.	*	3.	9.	*	10:29
19	96.	3.	89.	4.	11.	48.	14:23
20	134.	4.	148.	4.	14.	128.	15:20
21	148.	5.	147.	8.	16.	111.	10:12
22	269.	2.	271.	4.	10.	324.	13:49
23	268.	3.	274.	2.	8.	243.	20:24
24	99.	5.	76.	6.	20.	114.	13:22
25	249.	4.	261.	7.	16.	283.	9:10
26	274.	2.	280.	4.	10.	268.	14:45
27	104.	3.	94.	5.	15.	132.	14:29
28	222.	2.	223.	2.	8.	204.	13:32
29	242.	4.	263.	5.	13.	283.	11:24
30	160.	3.	149.	4.	11.	131.	10:58
MEAN	171.	4.	169.	6.			
STANDARD DEVIATION	91.4	1.8	96.3	2.5			

ENVIRONMENTAL SUMMARY REPORT

SITE: ARNO KAHN
DULUTH, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 143

LATITUDE: 47.00 DEG NORTH
LONGITUDE: 92.00 DEG WEST

AZIMUTH: 12 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	5	9	10	0	0	0	0	0	0
2	10	14	0	0	0	0	0	0	0
3	15	9	0	0	0	0	0	0	0
4	18	6	0	0	0	0	0	0	0
5	18	6	0	0	0	0	0	0	0
6	2	15	7	0	0	0	0	0	0
7	5	10	9	0	0	0	0	0	0
8	12	12	0	0	0	0	0	0	0
9	9	7	7	1	0	0	0	0	0
10	6	2	13	3	0	0	0	0	0
11	13	9	2	0	0	0	0	0	0
12	9	5	10	0	0	0	0	0	0
13	7	6	11	0	0	0	0	0	0
14	18	6	0	0	0	0	0	0	0
15	9	13	2	0	0	0	0	0	0
16	17	7	0	0	0	0	0	0	0
17	12	11	1	0	0	0	0	0	0
18	22	2	0	0	0	0	0	0	0
19	21	3	0	0	0	0	0	0	0
20	15	9	0	0	0	0	0	0	0
21	8	9	7	0	0	0	0	0	0
22	19	5	0	0	0	0	0	0	0
23	22	2	0	0	0	0	0	0	0
24	11	7	5	1	0	0	0	0	0
25	13	9	2	0	0	0	0	0	0
26	19	5	0	0	0	0	0	0	0
27	13	11	0	0	0	0	0	0	0
28	22	2	0	0	0	0	0	0	0
29	14	10	0	0	0	0	0	0	0
30	18	5	0	0	0	0	0	0	1
AVERAGE	13.4	7.5	2.9	0.2	0.0	0.0	0.0	0.0	0.0
TOTAL	402	226	86	5	0	0	0	0	1

ENVIRONMENTAL SUMMARY REPORT

SITE: ARNO KAHN
DULUTH, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 143

LATITUDE: 47.00 DEG NORTH
LONGITUDE: 92.00 DEG WEST

AZIMUTH: 12 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	67.	56.	73.	100.	4:42	45.	13:38
2	63.	47.	73.	100.	2:16	29.	17:52
3	61.	35.	78.	100.	0: 8	22.	12:54
4	63.	40.	78.	100.	0: 0	29.	17: 0
5	61.	42.	72.	100.	0: 1	32.	12:13
6	67.	68.	67.	100.	10:26	39.	15: 7
7	77.	71.	81.	100.	2:33	61.	16:26
8	69.	55.	78.	98.	3:46	43.	15:37
9	95.	94.	96.	100.	4:11	79.	1:40
10	59.	42.	70.	100.	0: 5	27.	16:50
11	60.	42.	71.	100.	22: 7	32.	9:40
12	54.	34.	67.	100.	0: 5	24.	16:58
13	52.	36.	61.	100.	22:15	26.	15:23
14	71.	53.	83.	100.	18:35	42.	9:47
15	70.	56.	79.	100.	0: 1	35.	15:55
16	68.	46.	82.	100.	0: 4	36.	12:59
17	74.	67.	78.	100.	0:19	44.	16:39
18	75.	56.	87.	100.	0:25	38.	12:48
19	82.	54.	100.	100.	0: 1	38.	10: 7
20	81.	72.	86.	100.	0: 3	40.	15:14
21	73.	58.	82.	100.	0: 0	38.	15: 5
22	73.	59.	82.	100.	0: 0	43.	16:53
23	69.	64.	72.	94.	1: 0	53.	13:25
24	83.	87.	80.	100.	3:57	56.	14:58
25	68.	52.	77.	100.	0: 0	37.	17:21
26	71.	56.	80.	100.	0: 0	44.	15:33
27	67.	53.	76.	100.	0: 2	29.	16:10
28	79.	49.	98.	100.	0: 4	31.	10: 3
29	73.	55.	84.	100.	0: 3	35.	16:22
30	61.	34.	77.	100.	0: 1	26.	13:32
MEAN	70.	54.	79.				
STANDARD DEVIATION	9.	15.	9.				

ENVIRONMENTAL SUMMARY REPORT

SITE: EROS DATA CENTER
SIOUX FALLS, SOUTH DAKOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 247

LATITUDE: 43.75 DEG NORTH
LONGITUDE: 96.85 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 35 DEG

TIME ZONE: CENTRAL
ALTITUDE: 1670 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	2383.	N.A.	N.A.	336.	13: 5	3266.	73.
2	1606.	N.A.	N.A.	363.	12: 5	3264.	49.
3	2494.	N.A.	N.A.	330.	12:21	3260.	77.
4	2407.	N.A.	N.A.	346.	11:46	3258.	74.
5	1379.	N.A.	N.A.	343.	12:13	3256.	42.
6	1267.	N.A.	N.A.	343.	13:28	3255.	39.
7	2400.	N.A.	N.A.	386.	11: 5	3253.	74.
8	1736.	N.A.	N.A.	389.	13:23	3252.	53.
9	1338.	N.A.	N.A.	366.	14:26	3251.	41.
10	2418.	N.A.	N.A.	320.	12:20	3250.	74.
11	1146.	N.A.	N.A.	350.	13:22	3248.	35.
12	2400.	N.A.	N.A.	386.	12:18	3247.	74.
13	2511.	N.A.	N.A.	320.	13: 3	3246.	77.
14	435.	N.A.	N.A.	172.	16:39	3245.	13.
15	2376.	N.A.	N.A.	333.	13:33	3244.	73.
16	2373.	N.A.	N.A.	320.	12:56	3243.	73.
17	1946.	N.A.	N.A.	346.	13:12	3243.	60.
18	1843.	N.A.	N.A.	409.	12:46	3242.	57.
19	2127.	N.A.	N.A.	353.	11:36	3242.	66.
20	2395.	N.A.	N.A.	340.	12:14	3241.	74.
21	2093.	N.A.	N.A.	343.	13:56	3241.	65.
22	2461.	N.A.	N.A.	317.	12:14	3240.	76.
23	2238.	N.A.	N.A.	356.	12:43	3240.	69.
24	1318.	N.A.	N.A.	340.	11: 1	3240.	41.
25	2304.	N.A.	N.A.	330.	12: 9	3240.	71.
26	*	N.A.	N.A.	*	*:*	3240.	*
27	2179.	N.A.	N.A.	356.	13:48	3240.	67.
28	2375.	N.A.	N.A.	313.	12: 8	3240.	73.
29	763.	N.A.	N.A.	188.	16:35	3240.	24.
30	2017.	N.A.	N.A.	356.	12:28	3241.	62.
MEAN	1956.	N.A.	N.A.			3247.	
STANDARD DEVIATION	568.	N.A.	N.A.			8.	

ENVIRONMENTAL SUMMARY REPORT

SITE: EROS DATA CENTER
SIOUX FALLS, SOUTH DAKOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 247

LATITUDE: 43.75 DEG NORTH
LONGITUDE: 96.85 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 35 DEG

TIME ZONE: CENTRAL
ALTITUDE: 1670 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	59.	65.	51.	75.	16:17	43.	4:37	92.
2	55.	58.	51.	65.	14:29	46.	5:15	89.
3	58.	63.	52.	71.	16:42	44.	4:53	86.
4	60.	66.	54.	75.	15:46	45.	4:26	87.
5	62.	65.	59.	74.	14:31	50.	4:45	92.
6	68.	72.	64.	84.	15:25	58.	23:46	96.
7	61.	64.	57.	71.	16: 4	52.	5: 1	95.
8	61.	66.	57.	75.	15:20	50.	3:26	93.
9	55.	54.	56.	61.	18:20	49.	8:39	71.
10	62.	68.	56.	75.	15:43	49.	5:11	71.
11	64.	69.	59.	78.	16:50	52.	4:20	88.
12	63.	68.	56.	75.	16:13	51.	5: 1	93.
13	68.	75.	61.	86.	15:48	47.	4:50	97.
14	63.	63.	63.	72.	17:27	60.	9:11	94.
15	62.	65.	59.	71.	16:45	54.	4:55	89.
16	67.	74.	60.	81.	15:25	51.	5: 1	89.
17	66.	70.	61.	76.	15:36	57.	4:34	93.
18	60.	63.	56.	69.	12:46	50.	23:58	83.
19	62.	67.	57.	76.	16: 3	45.	3:47	72.
20	62.	66.	58.	72.	15:42	52.	4:46	75.
21	64.	70.	58.	76.	15:26	53.	3:42	76.
22	66.	73.	59.	81.	15:20	49.	4: 9	96.
23	72.	80.	63.	88.	15:55	55.	4:30	74.
24	70.	76.	64.	87.	11:12	58.	23:28	65.
25	64.	68.	60.	77.	16: 9	52.	5:31	67.
26	63.	69.	59.	80.	16:31	52.	4:31	97.
27	74.	80.	67.	91.	16:28	57.	5: 8	97.
28	77.	84.	70.	93.	15:25	62.	4:18	68.
29	63.	64.	62.	73.	17:44	56.	6: 0	67.
30	64.	67.	62.	75.	16:50	57.	7:40	69.
MEAN	64.	68.	59.					84.
STANDARD DEVIATION	5.1	6.3	4.3					11.1

ENVIRONMENTAL SUMMARY REPORT

SITE: ISAKSON HOME
ANOKA, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 242

LATITUDE: 45.15 DEG NORTH
LONGITUDE: 93.45 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 62 DEG

TIME ZONE: CENTRAL
ALTITUDE: 870 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1748.	N.A.	N.A.	272.	12:43	2335.	75.
2	1760.	N.A.	N.A.	272.	12:27	2330.	76.
3	1570.	N.A.	N.A.	278.	12:11	2324.	68.
4	1631.	N.A.	N.A.	284.	11:32	2318.	70.
5	1486.	N.A.	N.A.	269.	12:25	2312.	64.
6	629.	N.A.	N.A.	250.	12:23	2306.	27.
7	888.	N.A.	N.A.	215.	13:14	2301.	39.
8	1466.	N.A.	N.A.	259.	11:45	2296.	64.
9	407.	N.A.	N.A.	190.	14:35	2294.	18.
10	1756.	N.A.	N.A.	265.	12: 8	2290.	77.
11	1451.	N.A.	N.A.	275.	12:44	2286.	63.
12	1720.	N.A.	N.A.	262.	12: 7	2282.	75.
13	1292.	N.A.	N.A.	281.	13: 7	2279.	57.
14	453.	N.A.	N.A.	153.	15:20	2276.	20.
15	1678.	N.A.	N.A.	269.	12:41	2273.	74.
16	1496.	N.A.	N.A.	265.	13: 6	2271.	66.
17	1090.	N.A.	N.A.	237.	11:14	2269.	48.
18	651.	N.A.	N.A.	150.	9: 3	2268.	29.
19	807.	N.A.	N.A.	237.	11: 0	2267.	36.
20	1183.	N.A.	N.A.	275.	12:17	2266.	52.
21	1385.	N.A.	N.A.	275.	12:10	2265.	61.
22	1369.	N.A.	N.A.	272.	12: 2	2265.	60.
23	1462.	N.A.	N.A.	256.	12:45	2265.	65.
24	626.	N.A.	N.A.	231.	10:33	2266.	28.
25	1672.	N.A.	N.A.	262.	12:19	2267.	74.
26	1570.	N.A.	N.A.	265.	12: 3	2268.	69.
27	1578.	N.A.	N.A.	259.	12:46	2270.	70.
28	1382.	N.A.	N.A.	278.	12:31	2272.	61.
29	1481.	N.A.	N.A.	269.	12:22	2274.	65.
30	1692.	N.A.	N.A.	265.	13:23	2276.	74.
MEAN	1313.	N.A.	N.A.			2284.	
STANDARD DEVIATION	418.	N.A.	N.A.			21.	

ENVIRONMENTAL SUMMARY REPORT

SITE: ISAKSON HOME
ANOKA, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 242

LATITUDE: 45.15 DEG NORTH
LONGITUDE: 93.45 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 62 DEG

TIME ZONE: CENTRAL
ALTITUDE: 870 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	56.	64.	49.	70.	14:14	42.	4:26	64.
2	53.	61.	47.	66.	13:20	36.	3:39	70.
3	56.	65.	49.	73.	14:30	37.	4:59	69.
4	60.	70.	51.	76.	14:33	41.	4:38	70.
5	64.	72.	57.	78.	13:40	45.	4:46	70.
6	62.	63.	62.	69.	13:38	55.	7:52	67.
7	62.	64.	60.	67.	13:30	57.	23:12	70.
8	63.	69.	58.	76.	15: 7	47.	4:48	70.
9	60.	65.	56.	75.	8:17	49.	23:13	67.
10	58.	65.	53.	71.	15:30	44.	4: 6	69.
11	62.	75.	52.	83.	13:54	42.	3:57	71.
12	60.	66.	55.	71.	14:47	50.	23:14	70.
13	66.	75.	58.	82.	13:34	51.	0:34	67.
14	60.	63.	57.	67.	16:30	50.	2:22	71.
15	61.	65.	57.	70.	13:19	50.	23:43	68.
16	64.	73.	56.	82.	14: 4	42.	4:15	70.
17	63.	67.	60.	72.	14:58	54.	23:30	70.
18	57.	62.	53.	66.	16: 4	46.	4:29	71.
19	57.	64.	51.	70.	11:48	43.	5: 3	69.
20	58.	62.	55.	69.	15:50	52.	0:26	63.
21	59.	66.	54.	72.	13:57	49.	4:54	67.
22	61.	69.	54.	74.	15: 4	45.	4:32	70.
23	68.	74.	64.	84.	14:21	52.	0: 2	69.
24	67.	69.	66.	73.	13:18	56.	23:53	68.
25	62.	69.	57.	73.	12:51	50.	23:42	71.
26	63.	72.	55.	77.	14:11	43.	4:30	72.
27	71.	80.	64.	85.	14:33	54.	4:19	70.
28	71.	84.	60.	91.	14: 7	54.	21:35	70.
29	64.	69.	59.	75.	14: 9	55.	2: 7	72.
30	64.	72.	57.	76.	13:28	50.	4: 1	71.
MEAN	62.	68.	56.					69.
STANDARD DEVIATION	4.2	5.5	4.6					2.1

ENVIRONMENTAL SUMMARY REPORT

SITE: UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 131

LATITUDE: 45.00 DEG NORTH
LONGITUDE: 93.00 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: CENTRAL
ALTITUDE: 834 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	2232.	1536.*	696.*	319.	12:15	3006.	74.
2	2148.	534.	1614.	305.	11:33	3002.	72.
3	1799.	505.	1294.	322.	12:27	2999.	60.
4	1829.	665.	1163.	342.	12:33	2995.	61.
5	1964.	542.	1422.	325.	12:33	2992.	66.
6	903.	453.	451.	309.	12:26	2989.	30.
7	1508.	740.	767.	302.	11:21	2986.	50.
8	1695.	557.	1137.	289.	13:26	2983.	57.
9	555.	407.	148.	218.	14:20	2981.	19.
10	2242.	335.	1907.	302.	11:53	2978.	75.
11	1993.	550.	1444.	332.	12:19	2976.	67.
12	2194.	316.	1878.	302.	12: 8	2974.	74.
13	1940.	463.	1477.	322.	12:55	2972.	65.
14	581.	413.	168.	198.	15:11	2970.	20.
15	1672.	482.	1190.	319.	11:58	2969.	56.
16	1763.	575.	1187.	302.	12:14	2968.	59.
17	1515.	725.	790.	312.	12:14	2966.	51.
18	1052.	655.	397.	232.	10: 4	2965.	35.
19	1135.	568.	567.	285.	12: 6	2965.	38.
20	1097.	517.	580.	319.	12:53	2964.	37.
21	1944.	493.	1451.	315.	11:57	2963.	66.
22	1688.	561.	1126.	315.	13: 2	2963.	57.
23	1846.	558.	1287.	325.	13:12	2963.	62.
24	649.	485.	165.	235.	14:19	2963.	22.
25	2183.	380.	1803.	299.	11:53	2964.	74.
26	1972.	823.	1148.	302.	12: 3	2964.	67.
27	2064.	620.	1445.	292.	12:24	2965.	70.
28	1892.	714.	1179.	309.	12:53	2966.	64.
29	1715.	737.	978.	305.	12:25	2967.	58.
30	1934.	606.	1328.	299.	11:57	2968.	65.
MEAN	1657.	551.E	1106.E			2975.	
STANDARD DEVIATION	502.	218.	500.			13.	

E DENOTES ESTIMATED VALUE.

ENVIRONMENTAL SUMMARY REPORT

SITE: UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 131

LATITUDE: 45.00 DEG NORTH
LONGITUDE: 93.00 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: CENTRAL
ALTITUDE: 834 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	63.	72.	54.	77.	13:56	48.	3:57	N.A.
2	60.	68.	52.	76.	14:50	44.	4:36	N.A.
3	62.	70.	54.	81.	13:47	44.	4:21	N.A.
4	66.	75.	57.	82.	13:16	48.	3:55	N.A.
5	69.	77.	61.	85.	13:59	52.	4:33	N.A.
6	64.	66.	63.	76.	13:14	57.	7:40	N.A.
7	65.	68.	63.	74.	15:42	59.	3:48	N.A.
8	70.	77.	63.	87.	15:28	52.	4:14	N.A.
9	63.	67.	60.	77.	7:40	52.	23:24	N.A.
10	65.	73.	57.	80.	15:32	50.	4: 1	N.A.
11	69.	79.	58.	90.	14:27	48.	4:20	N.A.
12	68.	75.	61.	80.	14:48	56.	4:40	N.A.
13	73.	82.	64.	93.	14:26	56.	5:11	N.A.
14	66.	69.	62.	73.	15:43	58.	23:21	N.A.
15	66.	71.	61.	81.	15:37	55.	23:58	N.A.
16	69.	78.	61.	86.	15:32	50.	4:25	N.A.
17	69.	74.	64.	80.	14:16	57.	23:58	N.A.
18	63.	69.	57.	75.	10:30	51.	3:52	N.A.
19	62.	69.	55.	79.	12:38	48.	4:22	N.A.
20	61.	64.	57.	76.	15:22	53.	23: 6	N.A.
21	66.	75.	58.	82.	14:43	51.	3:38	N.A.
22	69.	78.	59.	88.	14:48	50.	4:35	N.A.
23	76.	83.	68.	95.	15:32	57.	0:14	N.A.
24	70.	69.	70.	76.	16:48	62.	23:55	N.A.
25	69.	76.	62.	83.	15:47	56.	4:11	N.A.
26	70.	77.	63.	87.	15: 5	53.	3:37	N.A.
27	81.	89.	73.	98.	14:10	65.	5: 7	N.A.
28	79.	91.	66.	100.	13:30	55.	22:55	N.A.
29	68.	74.	62.	84.	13: 8	56.	0: 5	N.A.
30	72.	80.	64.	86.	13:12	57.	3:53	N.A.
MEAN	68.	74.	61.					N.A.
STANDARD DEVIATION	5.0	6.5	4.7					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 131

LATITUDE: 45.00 DEG NORTH
LONGITUDE: 93.00 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: CENTRAL
ALTITUDE: 834 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	277.	3.	272.	4.	13.	268.	15: 5
2	*	2.	*	2.	8.	*	22:50
3	*	1.	*	1.	6.	*	17:31
4	*	0.	*	1.	6.	*	13:48
5	*	1.	*	1.	10.	*	16:23
6	*	2.	*	3.	12.	*	16:15
7	265.	4.	266.	5.	18.	290.	8: 9
8	*	1.	*	1.	6.	*	16:22
9	262.	3.	257.	3.	18.	273.	14:31
10	281.	2.	280.	4.	10.	289.	16:41
11	*	1.	*	2.	8.	*	17:28
12	301.	2.	301.	3.	12.	271.	12: 8
13	*	2.	*	3.	10.	*	11: 3
14	*	0.	*	1.	5.	*	12:41
15	*	2.	*	2.	9.	*	8:19
16	*	1.	*	1.	8.	*	13:45
17	*	2.	*	2.	8.	*	13:28
18	*	1.	*	1.	8.	*	10: 9
19	*	1.	*	2.	9.	*	11:18
20	287.	2.	291.	3.	14.	281.	12:42
21	*	2.	*	3.	12.	*	14: 0
22	*	1.	*	1.	6.	*	14:54
23	*	0.	*	1.	3.	*	11:47
24	*	2.	*	1.	9.	*	20:11
25	*	2.	*	2.	8.	*	17:13
26	*	1.	*	2.	7.	*	7:58
27	*	1.	*	1.	9.	*	17:22
28	*	1.	*	1.	11.	*	19: 1
29	*	1.	*	2.	6.	*	9:24
30	*	1.	*	1.	6.	*	15:31
MEAN	279.	1.	278.	2.			
STANDARD DEVIATION	14.2	0.8	16.4	1.1			

ENVIRONMENTAL SUMMARY REPORT

SITE: UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA

REPORT PERIOD: 82/ 6
SITE NUMBER: 131

LATITUDE: 45.00 DEG NORTH
LONGITUDE: 93.00 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 45 DEG

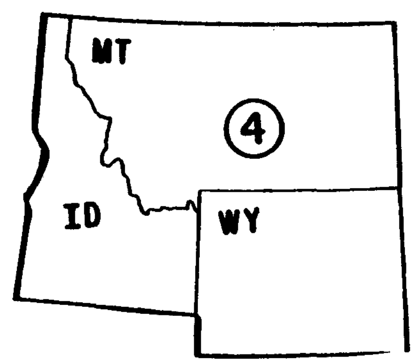
TIME ZONE: CENTRAL
ALTITUDE: 834 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	15	9	0	0	0	0	0	0	0
2	23	1	0	0	0	0	0	0	0
3	24	0	0	0	0	0	0	0	0
4	24	0	0	0	0	0	0	0	0
5	24	0	0	0	0	0	0	0	0
6	22	2	0	0	0	0	0	0	0
7	14	10	0	0	0	0	0	0	0
8	24	0	0	0	0	0	0	0	0
9	16	7	1	0	0	0	0	0	0
10	20	4	0	0	0	0	0	0	0
11	24	0	0	0	0	0	0	0	0
12	20	4	0	0	0	0	0	0	0
13	24	0	0	0	0	0	0	0	0
14	24	0	0	0	0	0	0	0	0
15	23	1	0	0	0	0	0	0	0
16	24	0	0	0	0	0	0	0	0
17	24	0	0	0	0	0	0	0	0
18	24	0	0	0	0	0	0	0	0
19	24	0	0	0	0	0	0	0	0
20	23	1	0	0	0	0	0	0	0
21	24	0	0	0	0	0	0	0	0
22	24	0	0	0	0	0	0	0	0
23	24	0	0	0	0	0	0	0	0
24	24	0	0	0	0	0	0	0	0
25	24	0	0	0	0	0	0	0	0
26	24	0	0	0	0	0	0	0	0
27	24	0	0	0	0	0	0	0	0
28	24	0	0	0	0	0	0	0	0
29	24	0	0	0	0	0	0	0	0
30	23	0	0	0	0	0	0	0	1
AVERAGE	22.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	679	39	1	0	0	0	0	0	1

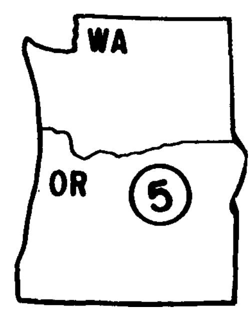
ZONE 4

NO VALID DATA

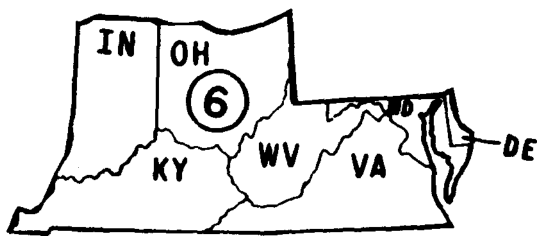


ZONE 5

NO VALID DATA



ZONE 6



ENVIRONMENTAL SUMMARY REPORT

SITE: CARTER COUNTY
GRAYSON, KENTUCKY

REPORT PERIOD: 82/ 6
SITE NUMBER: 244

LATITUDE: 38.30 DEG NORTH
LONGITUDE: 82.95 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 46 DEG

TIME ZONE: EASTERN
ALTITUDE: 1200 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	749.	N.A.	N.A.	188.	15:24	2718.	28.
2	1894.	N.A.	N.A.	296.	11:39	2716.	70.
3	1373.	N.A.	N.A.	260.	10:52	2711.	51.
4	874.	N.A.	N.A.	249.	10:54	2706.	32.
5	1002.	N.A.	N.A.	221.	12: 9	2701.	37.
6	1400.	N.A.	N.A.	293.	11:10	2697.	52.
7	1641.	N.A.	N.A.	257.	10:55	2693.	61.
8	1179.	N.A.	N.A.	263.	12:32	2689.	44.
9	1340.	N.A.	N.A.	257.	12:20	2686.	50.
10	650.	N.A.	N.A.	155.	15:35	2682.	24.
11	1926.	N.A.	N.A.	274.	11:22	2682.	72.
12	767.	N.A.	N.A.	166.	12:47	2679.	29.
13	1322.	N.A.	N.A.	299.	11:43	2676.	49.
14	*	N.A.	N.A.	*	*:*	2674.	*
15	1825.	N.A.	N.A.	257.	11:42	2672.	68.
16	748.	N.A.	N.A.	180.	10:18	2670.	28.
17	1208.	N.A.	N.A.	299.	11:51	2669.	45.
18	1781.	N.A.	N.A.	299.	11:37	2667.	67.
19	714.	N.A.	N.A.	230.	10: 6	2666.	27.
20	1826.	N.A.	N.A.	313.	11:59	2666.	68.
21	1798.	N.A.	N.A.	288.	12: 8	2665.	67.
22	1567.	N.A.	N.A.	277.	11:33	2665.	59.
23	1841.	N.A.	N.A.	296.	12:21	2665.	69.
24	1866.	N.A.	N.A.	280.	12:52	2665.	70.
25	1876.	N.A.	N.A.	266.	11:43	2666.	70.
26	1371.	N.A.	N.A.	268.	11:59	2667.	51.
27	1278.	N.A.	N.A.	282.	11:57	2668.	48.
28	1409.	N.A.	N.A.	293.	11:47	2669.	53.
29	1275.	N.A.	N.A.	274.	11:59	2671.	48.
30	1291.	N.A.	N.A.	288.	12:45	2673.	48.
MEAN	1372.	N.A.	N.A.			2680.	
STANDARD DEVIATION	412.	N.A.	N.A.			17.	

ENVIRONMENTAL SUMMARY REPORT

SITE: CARTER COUNTY
GRAYSON, KENTUCKY

REPORT PERIOD: 82/ 6
SITE NUMBER: 244

LATITUDE: 38.30 DEG NORTH
LONGITUDE: 82.95 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 46 DEG

TIME ZONE: EASTERN
ALTITUDE: 1200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	69.	72.	67.	76.	15:30	61.	23:51	66.
2	68.	72.	64.	84.	18: 9	57.	5:38	68.
3	69.	74.	65.	85.	18:10	58.	5:10	68.
4	67.	70.	63.	77.	12:19	58.	5: 6	68.
5	68.	70.	65.	78.	18: 7	61.	23:59	68.
6	67.	71.	63.	80.	18: 1	55.	5:13	67.
7	70.	74.	66.	84.	14:39	57.	4:57	68.
8	71.	75.	67.	86.	13:25	65.	23:55	68.
9	72.	77.	68.	86.	16:30	61.	4:59	67.
10	72.	74.	70.	85.	18: 9	63.	23:56	67.
11	68.	73.	64.	85.	18: 7	55.	5:21	67.
12	69.	72.	66.	78.	13:35	62.	5:25	65.
13	71.	75.	68.	83.	16:47	63.	3:27	66.
14	59.	58.	60.	64.	0: 5	57.	6:13	66.
15	72.	78.	67.	88.	14:49	56.	5: 3	66.
16	72.	75.	69.	82.	12:48	65.	5:24	67.
17	71.	74.	68.	81.	14:52	64.	23:29	67.
18	72.	77.	68.	89.	18:22	61.	4:33	66.
19	68.	71.	65.	78.	11:37	61.	23:59	66.
20	67.	72.	63.	81.	16:23	56.	5:24	67.
21	72.	77.	68.	86.	16:30	61.	1:11	67.
22	70.	76.	66.	83.	16:37	60.	5:23	67.
23	69.	74.	65.	85.	18:24	58.	5:20	68.
24	68.	73.	63.	85.	18:28	53.	5:20	67.
25	72.	78.	67.	90.	16:20	55.	5:29	67.
26	74.	79.	69.	88.	15:27	64.	4:58	67.
27	76.	79.	72.	88.	15:25	65.	4:53	67.
28	75.	80.	71.	89.	13:45	67.	5: 6	68.
29	77.	80.	74.	88.	15:54	70.	6: 4	68.
30	74.	79.	71.	85.	18:32	64.	23:47	68.
MEAN	70.	74.	67.					67.
STANDARD DEVIATION	3.4	4.2	3.1					0.8

ENVIRONMENTAL SUMMARY REPORT

SITE: ROBERTS HOME
RESTON, VIRGINIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 243

LATITUDE: 38.90 DEG NORTH
LONGITUDE: 77.50 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 400 FEET

INSOLATION

DAY	TOTAL VERTICAL INSOLATION BTU/FT2	TOTAL HORIZONTAL INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS ------- EXT INS PERCENT
1	*	*	N.A.	*	*:*	715.	*
2	*	*	N.A.	*	*:*	707.	*
3	*	*	N.A.	*	*:*	700.	*
4	*	*	N.A.	*	*:*	694.	*
5	*	*	N.A.	*	*:*	686.	*
6	*	*	N.A.	*	*:*	681.	*
7	*	*	N.A.	*	*:*	674.	*
8	*	*	N.A.	*	*:*	670.	*
9	302.	1287.	N.A.	92.	13: 8	665.	45.
10	16.	99.	N.A.	27.	13:48	660.	2.
11	72.	309.	N.A.	24.	9:10	656.	11.
12	179.	537.	N.A.	52.	9:32	653.	27.
13	24.	135.	N.A.	15.	15:39	648.	4.
14	*	*	N.A.	*	*:*	646.	*
15	554.	1853.	N.A.	101.	11:33	643.	86.
16	626.	1858.	N.A.	104.	11:13	642.	98.
17	223.	765.	N.A.	85.	13:24	640.	35.
18	508.	1430.	N.A.	107.	11:53	638.	80.
19	422.	1329.	N.A.	98.	11: 0	637.	66.
20	446.	1598.	N.A.	101.	11:26	636.	70.
21	446.	1475.	N.A.	101.	12: 9	635.	70.
22	249.	767.	N.A.	85.	10:54	635.	39.
23	414.	1302.	N.A.	104.	11:37	636.	65.
24	420.	1382.	N.A.	107.	12:14	637.	66.
25	409.	1296.	N.A.	95.	11:18	638.	64.
26	415.	1311.	N.A.	95.	11:29	640.	65.
27	333.	1272.	N.A.	92.	11:35	642.	52.
28	427.	1477.	N.A.	95.	11:42	644.	66.
29	243.	978.	N.A.	92.	13:15	647.	38.
30	275.	1004.	N.A.	70.	13:24	650.	42.
MEAN	334.	1117.	N.A.			657.	
STANDARD DEVIATION	166.	511.	N.A.			24.	

ENVIRONMENTAL SUMMARY REPORT

SITE: ROBERTS HOME
RESTON, VIRGINIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 243

LATITUDE: 38.90 DEG NORTH
LONGITUDE: 77.50 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 400 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	*	*	*	*	*:*	*	*:*	N.A.
2	*	*	*	*	*:*	*	*:*	N.A.
3	*	*	*	*	*:*	*	*:*	N.A.
4	*	*	*	*	*:*	*	*:*	N.A.
5	*	*	*	*	*:*	*	*:*	N.A.
6	*	*	*	*	*:*	*	*:*	N.A.
7	*	*	*	*	*:*	*	*:*	N.A.
8	*	*	*	*	*:*	*	*:*	N.A.
9	77.	79.	73.	82.	16:12	66.	23:51	N.A.
10	62.	61.	63.	67.	0:39	59.	11:56	N.A.
11	64.	67.	62.	68.	16:28	59.	23:34	N.A.
12	61.	66.	58.	69.	12:28	56.	3:13	N.A.
13	59.	60.	58.	61.	12:43	57.	3:29	N.A.
14	*	*	*	*	*:*	*	*:*	N.A.
15	81.	81.	80.	83.	13:20	78.	19: 0	N.A.
16	80.	84.	73.	87.	12:44	69.	23: 5	N.A.
17	73.	77.	71.	80.	13:40	68.	23:16	N.A.
18	71.	77.	68.	80.	13:29	64.	23:58	N.A.
19	73.	80.	70.	83.	14: 6	60.	4:30	N.A.
20	69.	73.	67.	77.	17: 6	60.	6: 6	N.A.
21	71.	80.	67.	83.	13:50	61.	5:11	N.A.
22	69.	77.	65.	81.	10:59	58.	4:58	N.A.
23	66.	73.	63.	75.	13:24	56.	23:48	N.A.
24	65.	74.	61.	77.	17: 7	52.	5: 8	N.A.
25	71.	80.	67.	82.	14:46	57.	2:22	N.A.
26	76.	83.	72.	86.	12: 6	68.	3:50	N.A.
27	76.	83.	72.	87.	13:48	65.	4:33	N.A.
28	79.	87.	76.	90.	13:55	69.	5:22	N.A.
29	76.	80.	73.	86.	14:19	68.	23:55	N.A.
30	73.	78.	71.	81.	16:25	66.	23:59	N.A.
MEAN	71.	76.	68.					N.A.
STANDARD DEVIATION	6.3	7.3	5.8					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: ROBERTS HOME
RESTON, VIRGINIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 243

LATITUDE: 38.90 DEG NORTH
LONGITUDE: 77.50 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 400 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	*	*	*	*	*	*	*:*
2	*	*	*	*	*	*	*:*
3	*	*	*	*	*	*	*:*
4	*	*	*	*	*	*	*:*
5	*	*	*	*	*	*	*:*
6	*	*	*	*	*	*	*:*
7	*	*	*	*	*	*	*:*
8	*	*	*	*	*	*	*:*
9	*	0.	*	0.	3.	*	12:39
10	*	0.	*	0.	4.	*	8:28
11	*	0.	*	0.	2.	*	15:13
12	*	0.	*	1.	6.	*	13:53
13	*	0.	*	0.	3.	*	11:39
14	*	*	*	*	*	*	*:*
15	197.	2.	203.	3.	9.	153.	13: 9
16	*	1.	*	1.	12.	*	14:33
17	*	0.	*	0.	4.	*	7:11
18	*	0.	*	0.	3.	*	12:25
19	*	0.	*	0.	3.	*	15:21
20	*	0.	*	0.	5.	*	13:48
21	*	0.	*	0.	5.	*	1:43
22	*	0.	*	0.	5.	*	14:54
23	*	0.	*	0.	2.	*	11:11
24	*	0.	*	0.	2.	*	13:28
25	*	1.	*	1.	8.	*	14:36
26	*	0.	*	0.	4.	*	1:42
27	*	0.	*	0.	4.	*	16:44
28	*	0.	*	0.	6.	*	22: 1
29	*	0.	*	1.	6.	*	13:31
30	*	0.	*	0.	2.	*	10:39
MEAN	197.	0.	203.	0.			
STANDARD DEVIATION	******	0.5	******	0.6			

ENVIRONMENTAL SUMMARY REPORT

SITE: ROBERTS HOME
RESTON, VIRGINIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 243

LATITUDE: 38.90 DEG NORTH
LONGITUDE: 77.50 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 400 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	0	0	0	0	0	0	0	0	24
2	0	0	0	0	0	0	0	0	24
3	0	0	0	0	0	0	0	0	24
4	0	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	0	24
6	0	0	0	0	0	0	0	0	24
7	0	0	0	0	0	0	0	0	24
8	0	0	0	0	0	0	0	0	24
9	13	0	0	0	0	0	0	0	11
10	24	0	0	0	0	0	0	0	0
11	23	0	0	0	0	0	0	0	1
12	24	0	0	0	0	0	0	0	0
13	12	0	0	0	0	0	0	0	12
14	0	0	0	0	0	0	0	0	24
15	8	1	0	0	0	0	0	0	15
16	15	0	0	0	0	0	0	0	9
17	24	0	0	0	0	0	0	0	0
18	24	0	0	0	0	0	0	0	0
19	24	0	0	0	0	0	0	0	0
20	24	0	0	0	0	0	0	0	0
21	24	0	0	0	0	0	0	0	0
22	24	0	0	0	0	0	0	0	0
23	24	0	0	0	0	0	0	0	0
24	24	0	0	0	0	0	0	0	0
25	24	0	0	0	0	0	0	0	0
26	24	0	0	0	0	0	0	0	0
27	24	0	0	0	0	0	0	0	0
28	24	0	0	0	0	0	0	0	0
29	24	0	0	0	0	0	0	0	0
30	23	0	0	0	0	0	0	0	1
AVERAGE	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8
TOTAL	454	1	0	0	0	0	0	0	265

ENVIRONMENTAL SUMMARY REPORT

SITE: ROBERTS HOME
RESTON, VIRGINIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 243

LATITUDE: 38.90 DEG NORTH
LONGITUDE: 77.50 DEG WEST

AZIMUTH: -8 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 400 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	*	*	*	*	*:*	*	*:*
2	*	*	*	*	*:*	*	*:*
3	*	*	*	*	*:*	*	*:*
4	*	*	*	*	*:*	*	*:*
5	*	*	*	*	*:*	*	*:*
6	*	*	*	*	*:*	*	*:*
7	*	*	*	*	*:*	*	*:*
8	*	*	*	*	*:*	*	*:*
9	60.	57.	66.	75.	23:46	46.	14:42
10	88.	91.	86.	95.	23:24	70.	5: 0
11	87.	83.	89.	96.	5: 5	72.	18:14
12	80.	66.	87.	94.	23:50	56.	10:30
13	98.	99.	97.	100.	10:14	92.	16:38
14	*	*	*	*	*:*	*	*:*
15	52.	51.	54.	57.	19: 0	47.	13:14
16	64.	58.	78.	89.	20: 4	52.	13:10
17	75.	63.	80.	89.	23: 0	52.	13:45
18	67.	47.	77.	89.	3: 5	37.	13:29
19	64.	53.	70.	91.	5:18	41.	17:13
20	53.	39.	59.	74.	23:56	35.	13:54
21	63.	43.	73.	91.	6:26	34.	13:13
22	69.	51.	78.	91.	22: 1	40.	11:37
23	62.	44.	71.	90.	1:24	37.	15:43
24	62.	42.	72.	87.	5:56	35.	12:56
25	68.	52.	76.	87.	5: 2	47.	10:57
26	67.	48.	76.	91.	5:10	39.	13:21
27	74.	60.	80.	91.	5:53	49.	13:38
28	67.	51.	75.	88.	5:48	42.	13:34
29	80.	69.	85.	99.	15:55	50.	14: 3
30	70.	65.	73.	94.	1:10	48.	21:35
MEAN	70.	59.	76.				
STANDARD DEVIATION	11.	16.	10.				

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK I
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 213

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS ------- EXT INS PERCENT
1	1502.	N.A.	N.A.	293.	12: 6	3673.	41.
2	2370.	N.A.	N.A.	296.	11:45	3680.	64.
3	509.	N.A.	N.A.	203.	9:29	3686.	14.
4	245.	N.A.	N.A.	70.	9:29	3690.	7.
5	308.	N.A.	N.A.	153.	13:50	3695.	8.
6	897.	N.A.	N.A.	289.	10:41	3698.	24.
7	1712.	N.A.	N.A.	296.	11:44	3704.	46.
8	1844.	N.A.	N.A.	313.	13: 2	3706.	50.
9	2115.	N.A.	N.A.	299.	13:24	3710.	57.
10	58.	N.A.	N.A.	43.	14:14	3714.	2.
11	401.	N.A.	N.A.	90.	14:37	3715.	11.
12	322.	N.A.	N.A.	133.	9:17	3718.	9.
13	309.	N.A.	N.A.	143.	16: 3	3721.	8.
14	2215.	N.A.	N.A.	319.	12:50	3723.	59.
15	2078.	N.A.	N.A.	306.	12:20	3726.	56.
16	1612.	N.A.	N.A.	269.	12:22	3727.	43.
17	1055.	N.A.	N.A.	256.	9:48	3726.	28.
18	2231.	N.A.	N.A.	306.	12:21	3727.	60.
19	2043.	N.A.	N.A.	286.	11:44	3728.	55.
20	2115.	N.A.	N.A.	306.	12:23	3728.	57.
21	2085.	N.A.	N.A.	309.	12:11	3728.	56.
22	1509.	N.A.	N.A.	316.	11:38	3728.	40.
23	2281.	N.A.	N.A.	306.	12:39	3727.	61.
24	2378.	N.A.	N.A.	299.	11:54	3725.	64.
25	1975.	N.A.	N.A.	283.	12:19	3724.	53.
26	1681.	N.A.	N.A.	279.	12:24	3722.	45.
27	1601.	N.A.	N.A.	279.	12: 6	3722.	43.
28	1920.	N.A.	N.A.	263.	12: 5	3719.	52.
29	1056.	N.A.	N.A.	303.	13:14	3716.	28.
30	1232.	N.A.	N.A.	293.	13:54	3713.	33.
MEAN	1455.	N.A.	N.A.			3714.	
STANDARD DEVIATION	751.	N.A.	N.A.			16.	

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK I
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 213

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	73.	76.	69.	91.	13:47	65.	15:34	N.A.
2	69.	72.	64.	80.	16:44	59.	23:29	N.A.
3	63.	67.	58.	77.	9:23	54.	4:23	N.A.
4	61.	62.	60.	67.	17:29	57.	1:29	N.A.
5	62.	63.	61.	67.	18: 1	59.	5:56	N.A.
6	64.	66.	60.	72.	10:52	53.	4: 9	N.A.
7	66.	69.	63.	77.	15: 6	58.	5:21	N.A.
8	70.	73.	64.	83.	14:38	57.	4:58	N.A.
9	74.	78.	67.	92.	13:13	61.	5:28	N.A.
10	62.	60.	64.	69.	0: 9	58.	11:18	N.A.
11	64.	65.	62.	70.	15:19	59.	23:57	N.A.
12	59.	60.	57.	65.	9:17	56.	23:30	N.A.
13	57.	57.	56.	61.	16: 9	54.	10:49	N.A.
14	67.	72.	60.	80.	16:24	55.	3:47	N.A.
15	74.	78.	68.	88.	14:49	57.	4:40	N.A.
16	75.	78.	69.	90.	13:42	66.	20:38	N.A.
17	73.	76.	68.	83.	14:20	66.	4:38	N.A.
18	72.	76.	66.	84.	15: 1	62.	4:39	N.A.
19	74.	78.	67.	87.	14:45	60.	3:17	N.A.
20	68.	72.	64.	81.	16:50	57.	4:53	N.A.
21	72.	77.	65.	87.	13:26	58.	2:26	N.A.
22	71.	76.	64.	87.	11:44	58.	4:43	N.A.
23	69.	72.	63.	79.	15:14	59.	23:57	N.A.
24	68.	73.	59.	83.	15:22	51.	3:57	N.A.
25	73.	79.	64.	90.	14: 0	55.	5: 3	N.A.
26	77.	82.	69.	91.	13:28	64.	4:19	N.A.
27	77.	81.	70.	94.	14:35	63.	5:17	N.A.
28	80.	84.	74.	96.	14: 8	67.	4:11	N.A.
29	79.	81.	75.	89.	13:46	73.	1:47	N.A.
30	74.	76.	72.	83.	17: 6	67.	23:57	N.A.
MEAN	70.	73.	65.					N.A.
STANDARD DEVIATION	6.1	7.3	4.8					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK II
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 224

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: -9 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	580.	N.A.	N.A.	138.	9:37	743.	78.
2	652.	N.A.	N.A.	127.	10:47	735.	89.
3	179.	N.A.	N.A.	101.	9:16	729.	25.
4	108.	N.A.	N.A.	29.	9:30	721.	15.
5	134.	N.A.	N.A.	66.	13:52	715.	19.
6	394.	N.A.	N.A.	147.	10:37	709.	56.
7	594.	N.A.	N.A.	132.	10:21	703.	85.
8	616.	N.A.	N.A.	141.	10:19	698.	88.
9	664.	N.A.	N.A.	124.	11:47	692.	96.
10	26.	N.A.	N.A.	20.	14:11	688.	4.
11	171.	N.A.	N.A.	43.	13:55	685.	25.
12	141.	N.A.	N.A.	60.	9:18	680.	21.
13	139.	N.A.	N.A.	49.	16: 6	677.	21.
14	624.	N.A.	N.A.	124.	10:50	674.	93.
15	667.	N.A.	N.A.	124.	11:44	671.	99.
16	587.	N.A.	N.A.	124.	10:37	670.	88.
17	358.	N.A.	N.A.	121.	9:45	667.	54.
18	670.	N.A.	N.A.	124.	10:51	665.	101.
19	693.	N.A.	N.A.	130.	10:56	665.	104.
20	596.	N.A.	N.A.	138.	11:38	664.	90.
21	651.	N.A.	N.A.	127.	11:43	664.	98.
22	546.	N.A.	N.A.	138.	11:37	664.	82.
23	645.	N.A.	N.A.	132.	11: 5	664.	97.
24	616.	N.A.	N.A.	124.	10:43	664.	93.
25	670.	N.A.	N.A.	127.	10:58	665.	101.
26	620.	N.A.	N.A.	124.	11:46	668.	93.
27	518.	N.A.	N.A.	130.	12: 5	670.	77.
28	662.	N.A.	N.A.	118.	11: 3	672.	99.
29	403.	N.A.	N.A.	109.	11:17	675.	60.
30	348.	N.A.	N.A.	98.	8:52	677.	51.
MEAN	476.	N.A.	N.A.			684.	
STANDARD DEVIATION	217.	N.A.	N.A.			24.	

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK II
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 224

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: -9 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	73.	80.	70.	91.	14: 9	66.	15:35	N.A.
2	69.	74.	67.	85.	18:21	60.	23:19	N.A.
3	64.	71.	60.	77.	9:32	55.	4:13	N.A.
4	61.	63.	61.	67.	17:30	57.	1:22	N.A.
5	62.	64.	62.	71.	17:57	59.	0:10	N.A.
6	64.	69.	61.	72.	14: 0	54.	4: 0	N.A.
7	67.	72.	64.	79.	15:41	58.	5:12	N.A.
8	70.	78.	67.	87.	16:37	57.	4:45	N.A.
9	75.	82.	71.	93.	15:53	62.	5: 4	N.A.
10	63.	62.	64.	69.	0: 9	59.	11:15	N.A.
11	64.	67.	63.	70.	15:36	59.	23:47	N.A.
12	60.	63.	58.	67.	10:38	56.	23:31	N.A.
13	57.	57.	57.	61.	16: 6	54.	10:41	N.A.
14	67.	74.	63.	85.	18:29	55.	4:12	N.A.
15	74.	83.	70.	88.	15: 7	57.	4:47	N.A.
16	75.	83.	71.	90.	13:54	67.	20:40	N.A.
17	73.	79.	70.	82.	14:17	65.	4:45	N.A.
18	73.	80.	69.	90.	16:32	62.	4:36	N.A.
19	73.	82.	69.	86.	16:32	60.	4: 5	N.A.
20	69.	74.	67.	86.	18:45	57.	5: 4	N.A.
21	72.	81.	68.	87.	16: 5	59.	2:34	N.A.
22	72.	81.	67.	85.	13:18	59.	4:31	N.A.
23	69.	74.	66.	80.	16: 9	59.	23:58	N.A.
24	69.	76.	65.	91.	17:44	52.	3:47	N.A.
25	73.	83.	68.	91.	16:13	56.	2: 0	N.A.
26	78.	86.	74.	95.	17:33	65.	4:13	N.A.
27	78.	87.	73.	94.	16: 5	64.	5: 6	N.A.
28	81.	90.	76.	95.	13:59	68.	4: 5	N.A.
29	79.	84.	76.	88.	13:52	74.	23: 1	N.A.
30	75.	78.	74.	86.	18:33	68.	23:53	N.A.
MEAN	70.	76.	67.					N.A.
STANDARD DEVIATION	6.1	8.4	5.2					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK III
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 221

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: -9 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	564.	N.A.	N.A.	139.	9:38	743.	76.
2	628.	N.A.	N.A.	127.	10:27	735.	85.
3	164.	N.A.	N.A.	106.	9:26	729.	22.
4	71.	N.A.	N.A.	24.	9:30	721.	10.
5	102.	N.A.	N.A.	65.	13:51	715.	14.
6	371.	N.A.	N.A.	148.	10:37	709.	52.
7	578.	N.A.	N.A.	136.	10:13	703.	82.
8	603.	N.A.	N.A.	148.	10:20	698.	86.
9	657.	N.A.	N.A.	124.	10:29	692.	95.
10	12.	N.A.	N.A.	18.	14:16	688.	2.
11	140.	N.A.	N.A.	41.	13:56	685.	20.
12	110.	N.A.	N.A.	59.	9:19	680.	16.
13	103.	N.A.	N.A.	44.	16: 4	677.	15.
14	604.	N.A.	N.A.	121.	11:10	674.	90.
15	652.	N.A.	N.A.	124.	11:45	671.	97.
16	564.	N.A.	N.A.	124.	10:14	670.	84.
17	329.	N.A.	N.A.	121.	9:46	667.	49.
18	652.	N.A.	N.A.	121.	10:25	665.	98.
19	668.	N.A.	N.A.	127.	10:52	665.	101.
20	569.	N.A.	N.A.	139.	10:47	664.	86.
21	622.	N.A.	N.A.	124.	11:40	664.	94.
22	518.	N.A.	N.A.	139.	11:42	664.	78.
23	622.	N.A.	N.A.	130.	10:43	664.	94.
24	608.	N.A.	N.A.	121.	10:29	664.	92.
25	660.	N.A.	N.A.	130.	11: 1	665.	99.
26	605.	N.A.	N.A.	124.	11:49	668.	90.
27	496.	N.A.	N.A.	130.	12: 7	670.	74.
28	658.	N.A.	N.A.	118.	11: 0	672.	98.
29	387.	N.A.	N.A.	103.	11:18	675.	57.
30	316.	N.A.	N.A.	106.	8:54	677.	47.
MEAN	454.	N.A.	N.A.			684.	
STANDARD DEVIATION	222.	N.A.	N.A.			24.	

ENVIRONMENTAL SUMMARY REPORT

SITE: RYMARK III
FREDERICK, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 221

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 77.25 DEG WEST

AZIMUTH: -9 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: EASTERN
ALTITUDE: 290 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	73.	80.	69.	88.	12: 2	65.	5: 1	N.A.
2	69.	76.	65.	79.	12:29	57.	23:31	N.A.
3	63.	71.	59.	80.	9:16	53.	4:29	N.A.
4	61.	63.	60.	67.	17:19	56.	1:32	N.A.
5	63.	66.	61.	73.	14:34	59.	0:42	N.A.
6	64.	70.	61.	78.	10:48	52.	4: 5	N.A.
7	67.	76.	63.	83.	11:49	57.	5:23	N.A.
8	70.	80.	65.	86.	11: 2	56.	4:59	N.A.
9	74.	85.	68.	90.	11:49	60.	5:21	N.A.
10	62.	60.	62.	67.	0:21	58.	11:20	N.A.
11	64.	68.	62.	71.	13:56	57.	23:59	N.A.
12	59.	62.	58.	65.	9:19	56.	2:28	N.A.
13	57.	58.	56.	63.	16:10	54.	23:11	N.A.
14	67.	78.	62.	82.	10:12	54.	4:26	N.A.
15	73.	82.	68.	84.	15: 2	57.	4:57	N.A.
16	74.	82.	70.	88.	13:42	66.	23: 7	N.A.
17	72.	78.	69.	84.	9:51	64.	23:54	N.A.
18	73.	83.	67.	87.	10:52	60.	4:31	N.A.
19	74.	86.	68.	90.	10:47	58.	3:51	N.A.
20	68.	76.	64.	78.	9:48	54.	5:11	N.A.
21	71.	83.	66.	86.	12: 2	57.	0:57	N.A.
22	71.	82.	65.	87.	11:47	56.	5: 0	N.A.
23	68.	77.	64.	79.	10:54	56.	23:42	N.A.
24	67.	79.	61.	83.	11:28	49.	4:35	N.A.
25	72.	84.	65.	88.	13:30	53.	4:27	N.A.
26	76.	87.	71.	91.	12:31	63.	4:26	N.A.
27	76.	86.	71.	91.	13: 0	62.	4:26	N.A.
28	80.	91.	75.	96.	12:10	67.	4:23	N.A.
29	77.	84.	74.	88.	13:16	71.	22:52	N.A.
30	74.	79.	71.	85.	14: 3	65.	23:55	N.A.
MEAN	69.	77.	65.					N.A.
STANDARD DEVIATION	5.8	8.7	4.8					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: VITRO TEST SITE
ASPEN HILL, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 152

LATITUDE: 39.00 DEG NORTH
LONGITUDE: 77.15 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

INSOLATION

DAY	TOTAL HORIZONTAL INSOLATION BTU/FT2	TOTAL 45 DEG INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1915.	1708.	N.A.	318.	11:54	3675.	52.
2	2672.	2250.	N.A.	318.	11:40	3680.	73.
3	1378.	1178.	N.A.	255.	10: 2	3684.	37.
4	408.	331.	N.A.	115.	12:38	3690.	11.
5	510.	405.	N.A.	94.	13:26	3696.	14.
6	1178.	966.	N.A.	308.	10:55	3698.	32.
7	1763.	1479.	N.A.	343.	12:39	3703.	48.
8	1630.	1345.	N.A.	297.	11:48	3708.	44.
9	2183.	1849.	N.A.	311.	10:31	3710.	59.
10	262.	215.	N.A.	42.	10:55	3711.	7.
11	538.	435.	N.A.	91.	8:16	3715.	14.
12	826.	690.	N.A.	217.	12:56	3717.	22.
13	471.	381.	N.A.	98.	15: 7	3720.	13.
14	2374.	2032.	N.A.	343.	13:21	3723.	64.
15	2234.	1894.	N.A.	315.	12:35	3722.	60.
16	1811.	1594.	N.A.	304.	13: 1	3724.	49.
17	1559.	1283.	N.A.	301.	10:12	3726.	42.
18	2290.	2106.	N.A.	322.	11:45	3727.	61.
19	1999.	1704.	N.A.	311.	12:49	3727.	54.
20	2435.	1998.	N.A.	325.	12:38	3727.	65.
21	2392.	2051.	N.A.	325.	12:45	3727.	64.
22	1637.	1335.	N.A.	308.	11:16	3726.	44.
23	2460.	2041.	N.A.	322.	12: 6	3725.	66.
24	2487.	2086.	N.A.	325.	12:57	3725.	67.
25	2015.	1696.	N.A.	325.	12: 6	3723.	54.
26	2108.	1785.	N.A.	297.	12: 6	3721.	57.
27	1586.	1345.	N.A.	290.	12:47	3719.	43.
28	*	*	N.A.	*	*:*	3716.	*
29	1691.	1389.	N.A.	346.	13:28	3716.	46.
30	1690.	1344.	N.A.	276.	14:18	3712.	46.
MEAN	1672.	1411.	N.A.			3713.	
STANDARD DEVIATION	709.	611.	N.A.			15.	

ENVIRONMENTAL SUMMARY REPORT

SITE: VITRO TEST SITE
ASPEN HILL, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 152

LATITUDE: 39.00 DEG NORTH
LONGITUDE: 77.15 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	74.	77.	69.	87.	14:34	64.	23:59	68.
2	68.	72.	63.	79.	17:10	59.	23:50	69.
3	66.	71.	58.	78.	13:19	55.	4: 6	69.
4	61.	63.	59.	67.	12:43	56.	5:14	69.
5	63.	64.	60.	68.	16:48	58.	23:55	69.
6	62.	65.	58.	73.	15:22	53.	3:28	68.
7	65.	68.	61.	76.	15:35	57.	4:36	68.
8	68.	72.	63.	82.	16:36	56.	4:23	68.
9	74.	79.	66.	89.	15:30	60.	4:42	68.
10	62.	61.	63.	67.	0: 2	57.	9:51	67.
11	64.	66.	62.	69.	10:11	59.	23:57	68.
12	60.	62.	57.	69.	13: 1	55.	6:11	69.
13	57.	58.	56.	61.	15:12	55.	2:27	68.
14	66.	70.	59.	81.	16: 6	54.	2:56	67.
15	73.	77.	66.	85.	15:10	54.	4:38	66.
16	75.	78.	71.	88.	13:11	66.	22:42	66.
17	74.	77.	69.	85.	14:33	67.	4:50	66.
18	73.	77.	67.	90.	14:14	63.	5:13	67.
19	74.	78.	69.	87.	11:50	62.	4:11	70.
20	70.	72.	66.	80.	16: 6	60.	4:59	69.
21	74.	78.	68.	87.	14: 5	62.	5: 5	68.
22	73.	77.	65.	87.	11:22	61.	5: 6	69.
23	69.	72.	63.	79.	15: 8	57.	23:50	69.
24	68.	73.	59.	81.	14:49	52.	4:12	69.
25	73.	77.	67.	84.	13:42	59.	4:25	70.
26	78.	82.	72.	91.	12:49	67.	5:10	74.
27	78.	82.	72.	94.	13: 3	65.	4:38	74.
28	72.	71.	72.	74.	0: 9	70.	4:47	71.
29	79.	81.	74.	88.	14:22	71.	23:52	73.
30	74.	77.	70.	83.	10:24	66.	23:54	72.
MEAN	70.	73.	65.					69.
STANDARD DEVIATION	5.8	6.7	5.1					2.1

ENVIRONMENTAL SUMMARY REPORT

SITE: VITRO TEST SITE
ASPEN HILL, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 152

LATITUDE: 39.00 DEG NORTH
LONGITUDE: 77.15 DEG WEST
AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG
TIME ZONE: EASTERN
ALTITUDE: 200 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	305.	4.	305.	6.	26.	91.	16:26
2	84.	5.	87.	6.	19.	127.	8:54
3	246.	5.	254.	6.	21.	272.	13:46
4	187.	3.	174.	3.	12.	226.	19:50
5	200.	3.	211.	3.	16.	205.	6:51
6	85.	3.	74.	3.	12.	83.	11:16
7	98.	5.	95.	6.	13.	116.	17:22
8	*	2.	*	2.	8.	*	16:52
9	*	2.	*	2.	10.	*	18:52
10	252.	4.	259.	4.	13.	255.	2: 4
11	*	2.	*	2.	7.	*	12:13
12	246.	3.	250.	4.	13.	246.	13:39
13	183.	5.	189.	6.	20.	204.	8:16
14	89.	3.	87.	4.	14.	66.	16:38
15	310.	5.	308.	6.	17.	303.	15:53
16	303.	6.	294.	7.	20.	275.	18:47
17	41.	2.	43.	3.	9.	64.	11:53
18	50.	2.	34.	3.	9.	66.	7:34
19	82.	4.	86.	4.	16.	66.	21:53
20	90.	4.	90.	5.	13.	345.	14:51
21	348.	4.	4.	4.	14.	357.	15:30
22	323.	2.	320.	3.	12.	336.	16:15
23	75.	4.	75.	6.	16.	61.	16:12
24	93.	2.	93.	4.	14.	101.	11:48
25	317.	4.	320.	5.	17.	327.	12:11
26	*	2.	*	2.	10.	*	10:14
27	*	2.	*	2.	10.	*	15:11
28	*	1.	*	2.	5.	*	6:28
29	343.	4.	336.	5.	15.	336.	13:50
30	93.	3.	98.	4.	11.	61.	7:28
MEAN	185.	3.	170.	4.			
STANDARD DEVIATION	108.1	1.3	108.9	1.6			

ENVIRONMENTAL SUMMARY REPORT

SITE: VITRO TEST SITE
ASPEN HILL, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 152

LATITUDE: 39.00 DEG NORTH
LONGITUDE: 77.15 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	12	8	4	0	0	0	0	0	0
2	8	12	4	0	0	0	0	0	0
3	12	4	8	0	0	0	0	0	0
4	19	5	0	0	0	0	0	0	0
5	16	8	0	0	0	0	0	0	0
6	14	10	0	0	0	0	0	0	0
7	10	13	1	0	0	0	0	0	0
8	22	2	0	0	0	0	0	0	0
9	22	2	0	0	0	0	0	0	0
10	13	10	1	0	0	0	0	0	0
11	23	1	0	0	0	0	0	0	0
12	15	8	1	0	0	0	0	0	0
13	13	8	2	1	0	0	0	0	0
14	14	10	0	0	0	0	0	0	0
15	8	7	9	0	0	0	0	0	0
16	6	14	4	0	0	0	0	0	0
17	22	2	0	0	0	0	0	0	0
18	24	0	0	0	0	0	0	0	0
19	14	10	0	0	0	0	0	0	0
20	8	15	1	0	0	0	0	0	0
21	12	12	0	0	0	0	0	0	0
22	20	4	0	0	0	0	0	0	0
23	12	11	1	0	0	0	0	0	0
24	17	7	0	0	0	0	0	0	0
25	12	11	1	0	0	0	0	0	0
26	21	3	0	0	0	0	0	0	0
27	19	5	0	0	0	0	0	0	0
28	7	0	0	0	0	0	0	0	17
29	10	8	0	0	0	0	0	0	6
30	14	9	0	0	0	0	0	0	1
AVERAGE	14.6	7.3	1.2	0.0	0.0	0.0	0.0	0.0	0.8
TOTAL	439	219	37	1	0	0	0	0	24

ENVIRONMENTAL SUMMARY REPORT

SITE: VITRO TEST SITE
ASPEN HILL, MARYLAND

REPORT PERIOD: 82/ 6
SITE NUMBER: 152

LATITUDE: 39.00 DEG NORTH
LONGITUDE: 77.15 DEG WEST

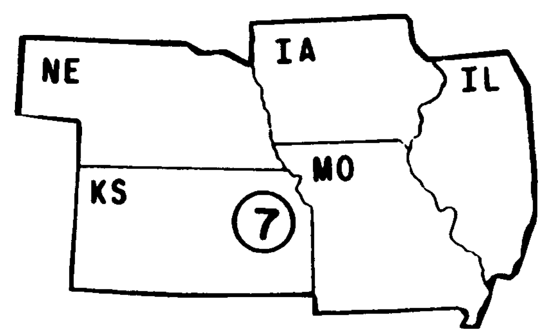
AZIMUTH: 0 DEG
PYRANOMETER TILT: 0 DEG

TIME ZONE: EASTERN
ALTITUDE: 200 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	63.	54.	75.	85.	23:11	34.	11:43
2	45.	33.	63.	80.	0: 4	20.	13:32
3	60.	48.	77.	94.	20:36	31.	15:38
4	76.	73.	80.	91.	22:14	61.	17:47
5	86.	84.	88.	93.	2:46	74.	18:30
6	69.	61.	82.	86.	2: 8	39.	12:31
7	59.	51.	72.	83.	0:15	34.	13:43
8	59.	51.	70.	83.	5:11	34.	12:42
9	47.	39.	60.	77.	5: 3	21.	14:15
10	75.	76.	74.	88.	20:31	54.	3:51
11	70.	69.	72.	84.	5:45	55.	23:41
12	59.	56.	63.	84.	23:57	39.	12:51
13	89.	90.	87.	97.	10:35	79.	16:32
14	54.	44.	70.	85.	2:45	21.	13:26
15	52.	45.	62.	77.	4:44	31.	11:21
16	59.	49.	75.	95.	19:51	0.	7:26
17	62.	52.	78.	89.	4:50	30.	14:38
18	49.	38.	67.	78.	2: 6	0.	8:54
19	49.	45.	56.	78.	5:10	23.	13:10
20	34.	26.	48.	57.	23:55	0.	11: 7
21	42.	33.	56.	82.	5:47	0.	7:29
22	47.	36.	63.	80.	23:11	19.	11:22
23	42.	34.	55.	77.	0:42	17.	13:32
24	39.	29.	54.	68.	4:28	14.	15:32
25	51.	45.	61.	70.	4:57	30.	12:11
26	47.	39.	61.	79.	5:26	19.	12:49
27	55.	49.	64.	76.	5: 5	32.	14:17
28	74.	76.	74.	79.	5:40	68.	7: 5
29	59.	56.	69.	76.	7: 2	32.	14: 0
30	58.	54.	65.	77.	4:51	37.	10: 2
MEAN	58.	51.	68.				
STANDARD DEVIATION	13.	16.	10.				

ZONE 7



ENVIRONMENTAL SUMMARY REPORT

SITE: BOND CONSTRUCTION
GLADSTONE, MISSOURI

REPORT PERIOD: 82/ 6
SITE NUMBER: 132

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 94.70 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 37 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	2116.	N.A.	N.A.	300.	13:45	3075.	69.
2	188.	N.A.	N.A.	63.	9:42	3072.	6.
3	574.	N.A.	N.A.	164.	13:27	3069.	19.
4	581.	N.A.	N.A.	197.	14:25	3066.	19.
5	1603.	N.A.	N.A.	320.	13:15	3063.	52.
6	1116.	N.A.	N.A.	227.	12: 8	3060.	36.
7	1806.	N.A.	N.A.	284.	12:35	3058.	59.
8	1301.	N.A.	N.A.	290.	12:25	3056.	43.
9	1681.	N.A.	N.A.	310.	14:35	3053.	55.
10	2083.	N.A.	N.A.	290.	13:54	3051.	68.
11	468.	N.A.	N.A.	147.	15:25	3049.	15.
12	1394.	N.A.	N.A.	337.	13: 1	3047.	46.
13	1714.	N.A.	N.A.	300.	13:53	3046.	56.
14	821.	N.A.	N.A.	204.	15:17	3044.	27.
15	958.	N.A.	N.A.	287.	14:47	3043.	31.
16	1929.	N.A.	N.A.	294.	13:49	3041.	63.
17	1828.	N.A.	N.A.	284.	14:19	3040.	60.
18	954.	N.A.	N.A.	300.	12:54	3040.	31.
19	1860.	N.A.	N.A.	304.	13:31	3039.	61.
20	1865.	N.A.	N.A.	274.	13:46	3038.	61.
21	1880.	N.A.	N.A.	284.	13:41	3038.	62.
22	1952.	N.A.	N.A.	274.	13: 8	3037.	64.
23	1040.	N.A.	N.A.	230.	15:18	3037.	34.
24	1783.	N.A.	N.A.	277.	13:35	3037.	59.
25	1270.	N.A.	N.A.	300.	12:51	3038.	42.
26	1376.	N.A.	N.A.	300.	13:12	3038.	45.
27	1056.	N.A.	N.A.	254.	13:27	3038.	35.
28	1485.	N.A.	N.A.	297.	13:41	3039.	49.
29	1887.	N.A.	N.A.	277.	13:12	3040.	62.
30	1261.	N.A.	N.A.	277.	13:23	3041.	41.
MEAN	1394.	N.A.	N.A.			3048.	
STANDARD DEVIATION	524.	N.A.	N.A.			12.	

ENVIRONMENTAL SUMMARY REPORT

SITE: BOND CONSTRUCTION
GLADSTONE, MISSOURI

REPORT PERIOD: 82/ 6
SITE NUMBER: 132

LATITUDE: 39.30 DEG NORTH
LONGITUDE: 94.70 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 37 DEG

TIME ZONE: CENTRAL
ALTITUDE: 800 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	60.	66.	55.	77.	16:46	45.	5:56	70.
2	58.	59.	56.	63.	12:22	52.	5:50	72.
3	59.	61.	57.	66.	13:37	54.	0:54	67.
4	60.	61.	58.	69.	14:30	54.	23:45	68.
5	64.	67.	60.	76.	16:27	50.	2:30	67.
6	72.	74.	70.	84.	15:47	61.	2:25	74.
7	76.	79.	73.	85.	15: 4	65.	7:52	72.
8	74.	79.	70.	89.	15: 5	62.	23:48	72.
9	69.	74.	64.	85.	13:41	58.	23:55	70.
10	66.	73.	60.	84.	16: 2	47.	5:20	71.
11	60.	61.	59.	66.	15:41	56.	2:42	68.
12	66.	70.	62.	82.	16:39	55.	1:33	78.
13	71.	76.	65.	85.	14:36	55.	4: 7	79.
14	71.	72.	70.	82.	16:59	58.	4:12	80.
15	69.	70.	67.	84.	15: 3	60.	23:46	79.
16	68.	72.	63.	81.	16:28	56.	5:11	80.
17	71.	76.	66.	85.	15:17	54.	5:48	82.
18	72.	76.	68.	86.	12:54	60.	23:50	82.
19	69.	74.	63.	83.	15:12	55.	5:20	82.
20	73.	78.	68.	90.	16:58	63.	6:19	80.
21	75.	82.	68.	94.	16:42	57.	5:57	68.
22	74.	79.	68.	90.	17:24	59.	4:42	70.
23	71.	74.	68.	88.	16:32	59.	5:18	78.
24	76.	81.	71.	90.	14:34	61.	4: 6	77.
25	76.	79.	72.	89.	13:50	68.	23:42	72.
26	75.	78.	72.	94.	15:52	65.	6:11	78.
27	77.	79.	75.	89.	18: 9	69.	5:28	74.
28	80.	85.	75.	96.	16:42	66.	3:45	69.
29	84.	89.	78.	101.	17: 1	68.	3: 1	76.
30	76.	76.	75.	85.	17:55	68.	12:14	73.
MEAN	70.	74.	66.					74.
STANDARD DEVIATION	6.5	7.2	6.3					5.0

ENVIRONMENTAL SUMMARY REPORT

SITE: LO-CAL
CHAMPAIGN, ILLINOIS

REPORT PERIOD: 82/ 6
SITE NUMBER: 223

LATITUDE: 40.05 DEG NORTH
LONGITUDE: 88.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 750 FEET

INSOLATION

DAY	TOTAL VERTICAL INSOLATION BTU/FT2	TOTAL HORIZONTAL INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	831.	2232.	N.A.	160.	11:48	739.	*
2	739.	1727.	N.A.	151.	11: 5	732.	*
3	861.	2022.	N.A.	145.	10:56	725.	*
4	244.	509.	N.A.	69.	10:17	717.	*
5	793.	1845.	N.A.	154.	11:26	711.	*
6	761.	1965.	N.A.	126.	11:44	704.	*
7	355.	830.	N.A.	123.	13:21	699.	*
8	441.	983.	N.A.	123.	13: 2	694.	*
9	364.	758.	N.A.	91.	14:51	688.	*
10	795.	2289.	N.A.	126.	11:24	684.	*
11	681.	1485.	N.A.	135.	11:19	679.	*
12	663.	1460.	N.A.	138.	10:15	676.	*
13	783.	2297.	N.A.	126.	11:36	673.	*
14	808.	2216.	N.A.	129.	11:58	670.	*
15	385.	812.	N.A.	145.	11:33	668.	*
16	490.	1054.	N.A.	132.	10:37	665.	*
17	813.	2155.	N.A.	148.	11:45	663.	*
18	653.	1334.	N.A.	154.	12: 9	661.	*
19	716.	1709.	N.A.	151.	12: 9	660.	*
20	750.	1825.	N.A.	132.	12: 8	660.	*
21	786.	2187.	N.A.	126.	11:41	660.	*
22	786.	1970.	N.A.	145.	11:29	660.	*
23	795.	2193.	N.A.	132.	12:47	660.	*
24	780.	2191.	N.A.	123.	11:26	660.	*
25	802.	1876.	N.A.	141.	11:59	661.	*
26	599.	1272.	N.A.	141.	11:49	663.	*
27	827.	1799.	N.A.	135.	12: 7	666.	*
28	*	*	N.A.	123.	14:34	668.	*
29	*	*	N.A.	173.	11:59	670.	*
30	*	*	N.A.	167.	11:46	673.	*
MEAN	677.E	1666.E	N.A.			680.	
STANDARD DEVIATION	208.*	615.*	N.A.			24.	

E DENOTES ESTIMATED VALUE.

ENVIRONMENTAL SUMMARY REPORT

SITE: LO-CAL
CHAMPAIGN, ILLINOIS

REPORT PERIOD: 82/ 6
SITE NUMBER: 223

LATITUDE: 40.05 DEG NORTH
LONGITUDE: 88.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 750 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	61.	64.	59.	69.	16:20	53.	5: 1	65.
2	63.	71.	59.	75.	14:22	51.	3:38	65.
3	59.	66.	56.	71.	15:39	49.	3:10	65.
4	56.	57.	55.	60.	16:14	51.	5:26	65.
5	64.	72.	60.	78.	17: 2	49.	2:49	64.
6	68.	77.	64.	83.	15:28	54.	4:41	64.
7	71.	71.	71.	81.	16:39	64.	4:32	64.
8	72.	75.	71.	81.	15:26	65.	4:44	64.
9	71.	74.	70.	80.	14:14	65.	3:42	65.
10	65.	70.	63.	78.	17: 0	52.	5: 5	65.
11	67.	76.	63.	79.	12:55	54.	5: 0	65.
12	67.	71.	65.	77.	16:29	59.	23:57	65.
13	67.	74.	64.	79.	16:30	56.	1: 6	65.
14	69.	78.	65.	82.	14:38	52.	5:12	65.
15	69.	76.	67.	85.	11:49	59.	23:55	65.
16	58.	60.	57.	67.	16:45	51.	23:30	65.
17	65.	72.	61.	82.	17: 5	47.	3:30	65.
18	70.	77.	66.	85.	16: 4	57.	3:18	65.
19	62.	65.	61.	72.	17:45	55.	5:19	65.
20	66.	75.	61.	79.	13:17	51.	4:36	65.
21	66.	72.	62.	78.	15:30	53.	4: 3	65.
22	67.	72.	64.	76.	16:39	58.	0: 8	65.
23	65.	74.	61.	79.	14:29	52.	4:44	65.
24	68.	77.	64.	84.	16:25	53.	4:26	65.
25	73.	81.	69.	90.	16:10	56.	3: 5	65.
26	75.	80.	72.	89.	13:57	64.	6:34	65.
27	78.	85.	75.	91.	15:19	68.	4:42	65.
28	74.	78.	72.	86.	15:38	68.	23:56	65.
29	74.	83.	69.	92.	15:22	63.	23:54	65.
30	66.	71.	63.	76.	16: 2	58.	5: 9	65.
MEAN	67.	73.	64.					65.
STANDARD DEVIATION	5.1	6.3	5.0					0.3

ENVIRONMENTAL SUMMARY REPORT

SITE: LO-CAL
CHAMPAIGN, ILLINOIS

REPORT PERIOD: 82/ 6
SITE NUMBER: 223

LATITUDE: 40.05 DEG NORTH
LONGITUDE: 88.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 750 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	127.	6.	123.	6.	15.	120.	3:14
2	*	2.	*	1.	18.	*	22:22
3	218.	7.	224.	7.	15.	205.	2:22
4	217.	6.	210.	7.	13.	210.	13:34
5	213.	3.	218.	2.	10.	253.	22:27
6	309.	4.	333.	3.	9.	332.	18:35
7	350.	3.	355.	3.	16.	356.	10:57
8	*	2.	*	2.	9.	*	11:37
9	101.	2.	72.	1.	18.	134.	23:55
10	129.	6.	134.	6.	13.	144.	2:46
11	*	1.	*	1.	5.	*	23:41
12	*	1.	*	1.	5.	*	7:41
13	*	2.	*	2.	7.	*	6:16
14	*	2.	*	1.	8.	*	20:52
15	357.	4.	67.	2.	14.	231.	23:49
16	190.	6.	174.	7.	18.	224.	2: 8
17	*	2.	*	3.	8.	*	12:33
18	33.	3.	32.	4.	11.	136.	19:59
19	147.	5.	144.	7.	14.	141.	8: 4
20	68.	5.	60.	9.	18.	7.	10:48
21	110.	3.	105.	5.	9.	102.	16:24
22	161.	4.	142.	4.	11.	134.	14:52
23	291.	2.	298.	2.	7.	279.	15:43
24	348.	3.	358.	5.	10.	330.	12:57
25	7.	2.	21.	3.	8.	14.	8:31
26	280.	2.	308.	2.	6.	237.	5:14
27	333.	3.	348.	5.	11.	35.	19:35
28	*	1.	*	2.	8.	*	12:31
29	151.	2.	97.	2.	10.	136.	16:58
30	197.	5.	198.	7.	13.	209.	12:44
MEAN	197.	3.	183.	4.			
STANDARD DEVIATION	105.2	1.7	110.1	2.3			

ENVIRONMENTAL SUMMARY REPORT

SITE: LO-CAL
CHAMPAIGN, ILLINOIS

REPORT PERIOD: 82/ 6
SITE NUMBER: 223

LATITUDE: 40.05 DEG NORTH
LONGITUDE: 88.25 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 750 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	6	11	7	0	0	0	0	0	0
2	20	0	4	0	0	0	0	0	0
3	0	21	3	0	0	0	0	0	0
4	3	19	2	0	0	0	0	0	0
5	15	9	0	0	0	0	0	0	0
6	10	14	0	0	0	0	0	0	0
7	16	8	0	0	0	0	0	0	0
8	24	0	0	0	0	0	0	0	0
9	20	3	1	0	0	0	0	0	0
10	7	12	5	0	0	0	0	0	0
11	24	0	0	0	0	0	0	0	0
12	24	0	0	0	0	0	0	0	0
13	24	0	0	0	0	0	0	0	0
14	19	5	0	0	0	0	0	0	0
15	15	8	1	0	0	0	0	0	0
16	8	9	7	0	0	0	0	0	0
17	24	0	0	0	0	0	0	0	0
18	17	7	0	0	0	0	0	0	0
19	8	13	3	0	0	0	0	0	0
20	11	7	6	0	0	0	0	0	0
21	13	11	0	0	0	0	0	0	0
22	12	12	0	0	0	0	0	0	0
23	23	1	0	0	0	0	0	0	0
24	15	9	0	0	0	0	0	0	0
25	22	2	0	0	0	0	0	0	0
26	23	1	0	0	0	0	0	0	0
27	17	7	0	0	0	0	0	0	0
28	23	1	0	0	0	0	0	0	0
29	20	4	0	0	0	0	0	0	0
30	5	18	0	0	0	0	0	0	1
AVERAGE	15.6	7.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	468	212	39	0	0	0	0	0	1

ENVIRONMENTAL SUMMARY REPORT

SITE: LO-CAL
CHAMPAIGN, ILLINOIS

REPORT PERIOD: 82/ 6
SITE NUMBER: 223

LATITUDE: 40.05 DEG NORTH
LONGITUDE: 88.25 DEG WEST

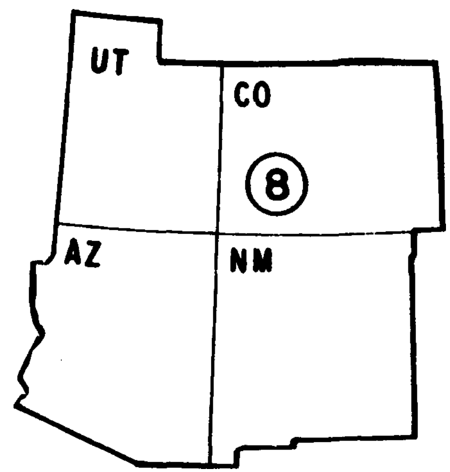
AZIMUTH: 0 DEG
PYRANOMETER TILT: 90 DEG

TIME ZONE: CENTRAL
ALTITUDE: 750 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	67.	56.	72.	100.	0: 2	38.	16:31
2	61.	47.	69.	94.	5:51	38.	13:18
3	61.	53.	65.	82.	3:21	40.	15:39
4	79.	78.	80.	91.	6: 8	67.	0: 6
5	59.	50.	64.	84.	5:45	32.	17:34
6	51.	43.	55.	70.	1: 2	33.	16: 0
7	73.	79.	70.	98.	12:12	53.	15:29
8	67.	59.	71.	97.	2:25	46.	15:47
9	79.	79.	79.	99.	4:46	54.	17:21
10	47.	38.	51.	71.	5:31	26.	17:27
11	45.	29.	54.	79.	23:41	25.	11:19
12	72.	60.	77.	100.	0:50	40.	17: 1
13	44.	28.	52.	84.	1:33	17.	17: 2
14	40.	27.	46.	68.	5:50	22.	15:32
15	76.	70.	79.	95.	20:16	51.	12: 0
16	72.	67.	75.	97.	0:43	47.	17:44
17	66.	51.	74.	100.	4:45	33.	17: 5
18	72.	55.	80.	100.	20:47	40.	16:36
19	70.	56.	76.	100.	1:29	36.	16: 9
20	61.	48.	67.	100.	5:13	30.	17:28
21	52.	36.	60.	81.	5:55	25.	17:12
22	55.	46.	59.	86.	6:42	27.	17:21
23	49.	37.	54.	70.	5: 0	25.	14:34
24	50.	37.	57.	78.	6: 2	28.	16:30
25	55.	44.	60.	76.	5:45	35.	16:15
26	60.	52.	64.	79.	4:42	38.	15:22
27	61.	53.	65.	76.	5:30	42.	15:30
28	82.	72.	86.	100.	18:15	52.	16:26
29	100.	100.	100.	100.	0: 1	100.	0: 1
30	97.	96.	98.	100.	0: 5	85.	16: 2
MEAN	64.	55.	69.				
STANDARD DEVIATION	15.	19.	13.				

ZONE 8



ENVIRONMENTAL SUMMARY REPORT

SITE: CUSHING HOME
MURRAY, UTAH

REPORT PERIOD: 82/ 6
SITE NUMBER: 240

LATITUDE: 41.50 DEG NORTH
LONGITUDE: 111.80 DEG WEST

AZIMUTH: -5 DEG
PYRANOMETER TILT: 52 DEG

TIME ZONE: MOUNTAIN
ALTITUDE: 4200 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1193.	N.A.	N.A.	306.	13:28	2614.	46.
2	1681.	N.A.	N.A.	296.	13:42	2608.	64.
3	1771.	N.A.	N.A.	299.	12:58	2603.	68.
4	1815.	N.A.	N.A.	289.	11:57	2597.	70.
5	1176.	N.A.	N.A.	302.	11:52	2592.	45.
6	1736.	N.A.	N.A.	346.	12:59	2588.	67.
7	1721.	N.A.	N.A.	286.	12: 8	2586.	67.
8	2017.	N.A.	N.A.	282.	12:25	2581.	78.
9	1972.	N.A.	N.A.	279.	12:27	2578.	76.
10	1934.	N.A.	N.A.	272.	12:22	2574.	75.
11	1828.	N.A.	N.A.	275.	13: 2	2571.	71.
12	1386.	N.A.	N.A.	309.	12:47	2568.	54.
13	1634.	N.A.	N.A.	299.	12:30	2565.	64.
14	1763.	N.A.	N.A.	299.	12:58	2562.	69.
15	1828.	N.A.	N.A.	302.	13: 6	2560.	71.
16	*	N.A.	N.A.	*	*:*	2558.	*
17	*	N.A.	N.A.	*	*:*	2556.	*
18	*	N.A.	N.A.	*	*:*	2555.	*
19	*	N.A.	N.A.	*	*:*	2554.	*
20	*	N.A.	N.A.	*	*:*	2553.	*
21	*	N.A.	N.A.	*	*:*	2553.	*
22	*	N.A.	N.A.	*	*:*	2553.	*
23	*	N.A.	N.A.	*	*:*	2553.	*
24	*	N.A.	N.A.	*	*:*	2553.	*
25	*	N.A.	N.A.	*	*:*	2554.	*
26	*	N.A.	N.A.	*	*:*	2555.	*
27	*	N.A.	N.A.	*	*:*	2556.	*
28	*	N.A.	N.A.	*	*:*	2558.	*
29	*	N.A.	N.A.	*	*:*	2559.	*
30	1385.	N.A.	N.A.	296.	13:16	2562.	54.
MEAN	1677.*	N.A.	N.A.			2569.	
STANDARD DEVIATION	260.*	N.A.	N.A.			18.	

ENVIRONMENTAL SUMMARY REPORT

SITE: CUSHING HOME
MURRAY, UTAH

REPORT PERIOD: 82/ 6
SITE NUMBER: 240

LATITUDE: 41.50 DEG NORTH
LONGITUDE: 111.80 DEG WEST

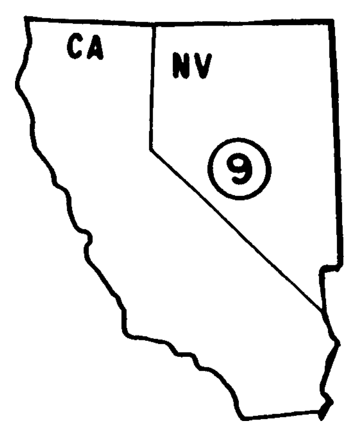
AZIMUTH: -5 DEG
PYRANOMETER TILT: 52 DEG

TIME ZONE: MOUNTAIN
ALTITUDE: 4200 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE		MIN TEMPERATURE		INLET WATER TEMPERATURE
				VALUE	TIME HR:MN	VALUE	TIME HR:MN	
1	62.	67.	57.	79.	7:20	47.	23:41	72.
2	65.	79.	52.	89.	10: 8	40.	4:56	73.
3	66.	80.	53.	93.	11:27	42.	3:55	75.
4	68.	80.	57.	92.	8:13	45.	23: 9	72.
5	53.	64.	44.	86.	10:43	38.	3:36	73.
6	60.	74.	47.	87.	10:24	35.	4:13	73.
7	64.	75.	54.	82.	15:25	39.	4:27	71.
8	64.	76.	54.	87.	9:35	44.	23:16	73.
9	65.	82.	50.	95.	13:47	34.	4:57	72.
10	71.	90.	54.	103.	11:34	39.	4:54	73.
11	74.	92.	57.	106.	13:18	43.	3:50	76.
12	71.	82.	61.	92.	11:59	49.	3:16	76.
13	71.	83.	62.	93.	8:25	55.	23:47	73.
14	70.	86.	59.	95.	10:50	50.	3:42	75.
15	74.	91.	57.	105.	12:29	51.	3:27	75.
16	72.	93.	57.	109.	12:28	50.	4:18	76.
17	73.	90.	59.	109.	10:30	49.	5: 5	77.
18	71.	80.	65.	99.	12:34	62.	5:10	74.
19	79.	97.	57.	107.	12:18	51.	5:17	74.
20	69.	86.	61.	108.	14: 0	55.	3:46	82.
21	80.	92.	67.	95.	12:15	65.	21:14	78.
22	90.	100.	70.	110.	10:28	60.	1:46	82.
23	64.	*	64.	73.	18:18	57.	1:13	82.
24	82.	93.	68.	111.	12:41	51.	4:53	78.
25	64.	83.	60.	91.	7:54	56.	23:49	81.
26	70.	93.	55.	108.	10:29	49.	4:31	76.
27	60.	77.	59.	79.	6:45	51.	4:47	82.
28	91.	96.	74.	99.	8:13	73.	0: 4	77.
29	85.	92.	78.	94.	14:24	76.	1:33	87.
30	76.	86.	58.	105.	9:32	53.	3:44	80.
MEAN	71.	85.	59.					76.
STANDARD DEVIATION	8.7	8.8	7.4					3.9

ZONE 9



ENVIRONMENTAL SUMMARY REPORT

SITE: EL TORO LIBRARY
EL TORO, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 173

LATITUDE: 33.68 DEG NORTH
LONGITUDE: 117.70 DEG WEST

AZIMUTH: -30 DEG
PYRANOMETER TILT: 19 DEG

TIME ZONE: PACIFIC
ALTITUDE: 135 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	2052.	N.A.	N.A.	345.	12:23	3449.	59.
2	1887.	N.A.	N.A.	355.	11:19	3450.	55.
3	2264.	N.A.	N.A.	294.	11:39	3447.	66.
4	1914.	N.A.	N.A.	305.	10:35	3447.	56.
5	2165.	N.A.	N.A.	301.	10:52	3451.	63.
6	2084.	N.A.	N.A.	298.	12:15	3448.	60.
7	2179.	N.A.	N.A.	294.	12: 7	3448.	63.
8	2115.	N.A.	N.A.	294.	11:38	3448.	61.
9	2176.	N.A.	N.A.	291.	11:29	3448.	63.
10	1551.	N.A.	N.A.	334.	11:46	3448.	45.
11	1781.	N.A.	N.A.	294.	12: 3	3448.	52.
12	1006.	N.A.	N.A.	298.	13:39	3448.	29.
13	2079.	N.A.	N.A.	301.	11:26	3448.	60.
14	763.	N.A.	N.A.	179.	15:54	3448.	22.
15	1558.	N.A.	N.A.	316.	11:25	3447.	45.
16	352.	N.A.	N.A.	97.	11:30	3447.	10.
17	323.	N.A.	N.A.	57.	9:55	3447.	9.
18	382.	N.A.	N.A.	108.	13:38	3447.	11.
19	830.	N.A.	N.A.	115.	13:43	3446.	24.
20	930.	N.A.	N.A.	154.	12:39	3443.	27.
21	423.	N.A.	N.A.	83.	10:49	3443.	12.
22	481.	N.A.	N.A.	79.	9:59	3442.	14.
23	789.	N.A.	N.A.	111.	13:31	3445.	23.
24	1341.	N.A.	N.A.	334.	12:57	3445.	39.
25	1863.	N.A.	N.A.	291.	10:37	3444.	54.
26	2075.	N.A.	N.A.	287.	11:36	3444.	60.
27	2223.	N.A.	N.A.	294.	11:42	3443.	65.
28	1920.	N.A.	N.A.	294.	12:22	3443.	56.
29	1316.	N.A.	N.A.	262.	11: 3	3442.	38.
30	1668.	N.A.	N.A.	388.	11:37	3441.	48.
MEAN	1483.	N.A.	N.A.			3446.	
STANDARD DEVIATION	674.	N.A.	N.A.			2.	

ENVIRONMENTAL SUMMARY REPORT

SITE: EL TORO LIBRARY
EL TORO, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 173

LATITUDE: 33.68 DEG NORTH
LONGITUDE: 117.70 DEG WEST

AZIMUTH: -30 DEG
PYRANOMETER TILT: 19 DEG

TIME ZONE: PACIFIC
ALTITUDE: 135 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	65.	71.	57.	78.	11:41	52.	4:45	N.A.
2	63.	68.	57.	76.	14:42	54.	0:50	N.A.
3	66.	73.	58.	80.	10:51	54.	0:23	N.A.
4	65.	71.	58.	80.	12:38	55.	0:43	N.A.
5	65.	71.	58.	77.	10:36	55.	4:49	N.A.
6	64.	70.	57.	82.	13: 3	54.	2: 9	N.A.
7	65.	70.	58.	78.	11:35	56.	1:14	N.A.
8	65.	71.	59.	79.	16:10	56.	23:44	N.A.
9	64.	70.	56.	78.	11:24	54.	1:46	N.A.
10	63.	67.	57.	78.	13:54	55.	23:19	N.A.
11	63.	68.	58.	77.	11:47	55.	0:29	N.A.
12	63.	66.	59.	77.	13:44	58.	3:20	N.A.
13	65.	70.	60.	75.	14: 6	59.	1:44	N.A.
14	64.	67.	60.	76.	15:59	58.	4:58	N.A.
15	66.	70.	61.	80.	12:51	60.	5:55	N.A.
16	63.	64.	61.	70.	11:30	59.	23:51	N.A.
17	61.	63.	59.	66.	13:28	58.	23:36	N.A.
18	60.	62.	59.	66.	13:43	57.	3:58	N.A.
19	65.	69.	61.	75.	14:47	58.	1:22	N.A.
20	66.	70.	62.	76.	12:49	61.	21:37	N.A.
21	63.	65.	60.	72.	13:13	58.	2:41	N.A.
22	62.	65.	60.	68.	15:30	57.	3:21	N.A.
23	65.	69.	61.	75.	13:31	60.	20:27	N.A.
24	67.	71.	61.	83.	13:55	60.	1:10	N.A.
25	67.	73.	61.	84.	14:11	57.	23:57	N.A.
26	68.	76.	60.	89.	13:17	55.	5: 7	N.A.
27	70.	78.	62.	88.	13:50	60.	5:12	N.A.
28	67.	71.	61.	82.	15: 2	60.	5: 4	N.A.
29	64.	68.	61.	73.	11: 8	59.	3:55	N.A.
30	66.	71.	60.	79.	11:42	57.	23:58	N.A.
MEAN	65.	69.	59.					N.A.
STANDARD DEVIATION	2.1	3.5	1.6					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: LA QUINTA MOTOR INN
LAS VEGAS, NEVADA

REPORT PERIOD: 82/ 6
SITE NUMBER: 245

LATITUDE: 36.15 DEG NORTH
LONGITUDE: 115.10 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 46 DEG

TIME ZONE: PACIFIC
ALTITUDE: 2020 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	*	N.A.	N.A.	*	*:*	2634.	*
2	3513.	N.A.	N.A.	293.	14: 1	2631.	134.
3	2311.	N.A.	N.A.	289.	12:39	2625.	88.
4	2578.	N.A.	N.A.	296.	12:44	2620.	98.
5	2114.	N.A.	N.A.	293.	12:28	2615.	81.
6	2122.	N.A.	N.A.	293.	12:25	2611.	81.
7	*	N.A.	N.A.	*	*:*	2606.	*
8	*	N.A.	N.A.	*	*:*	2602.	*
9	*	N.A.	N.A.	*	*:*	2598.	*
10	1477.	N.A.	N.A.	279.	12:39	2595.	57.
11	1908.	N.A.	N.A.	286.	12:51	2591.	74.
12	1572.	N.A.	N.A.	324.	12:51	2588.	61.
13	2075.	N.A.	N.A.	293.	12:50	2586.	80.
14	2027.	N.A.	N.A.	279.	12:40	2583.	78.
15	2005.	N.A.	N.A.	279.	12:28	2581.	78.
16	2122.	N.A.	N.A.	286.	13: 3	2579.	82.
17	2110.	N.A.	N.A.	435.	10:37	2577.	82.
18	2055.	N.A.	N.A.	446.	11:45	2576.	80.
19	1872.	N.A.	N.A.	453.	12:44	2575.	73.
20	2019.	N.A.	N.A.	422.	11: 6	2574.	78.
21	1868.	N.A.	N.A.	300.	12:56	2574.	73.
22	2234.	N.A.	N.A.	401.	9:58	2574.	87.
23	2102.	N.A.	N.A.	408.	12:21	2574.	82.
24	1935.	N.A.	N.A.	352.	13:20	2574.	75.
25	2087.	N.A.	N.A.	293.	12:55	2575.	81.
26	2417.	N.A.	N.A.	411.	12: 7	2576.	94.
27	2035.	N.A.	N.A.	289.	12:38	2577.	79.
28	2100.	N.A.	N.A.	293.	12:32	2578.	81.
29	2171.	N.A.	N.A.	467.	10:48	2580.	84.
30	2051.	N.A.	N.A.	411.	15:24	2582.	79.
MEAN	2111.	N.A.	N.A.			2590.	
STANDARD DEVIATION	361.	N.A.	N.A.			19.	

ENVIRONMENTAL SUMMARY REPORT

SITE: LA QUINTA MOTOR INN
LAS VEGAS, NEVADA

REPORT PERIOD: 82/ 6
SITE NUMBER: 245

LATITUDE: 36.15 DEG NORTH
LONGITUDE: 115.10 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 46 DEG

TIME ZONE: PACIFIC
ALTITUDE: 2020 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	*	*	*	*	*:*	*	*:*	*
2	86.	86.	0.	87.	14: 2	85.	14: 7	*
3	84.	85.	83.	92.	14:36	65.	6:53	65.
4	79.	86.	75.	88.	16:33	67.	4: 7	65.
5	73.	76.	70.	85.	14:32	63.	5:48	65.
6	73.	79.	68.	88.	15:10	55.	4:18	64.
7	70.	*	70.	76.	21:27	65.	3:47	69.
8	67.	*	67.	72.	0:18	60.	5: 0	*
9	*	*	*	*	*:*	*	*:*	*
10	83.	83.	84.	97.	17:16	64.	6:18	65.
11	84.	91.	79.	101.	16: 3	64.	5:29	64.
12	84.	88.	81.	95.	13: 7	76.	6: 1	64.
13	79.	81.	78.	87.	15:51	71.	5:33	64.
14	82.	86.	78.	95.	15:42	68.	4:23	66.
15	86.	90.	82.	99.	17:32	69.	5:28	65.
16	89.	95.	83.	103.	16:36	71.	4:54	65.
17	89.	96.	84.	*	13:33	74.	4:52	69.
18	83.	89.	78.	*	11:45	70.	5:22	68.
19	81.	86.	77.	*	9: 5	67.	1:48	66.
20	88.	93.	84.	*	11: 6	33.	19: 6	66.
21	87.	92.	83.	*	19:20	70.	5:30	67.
22	88.	92.	84.	*	9:58	67.	5:12	66.
23	87.	92.	83.	*	19:28	50.	19:12	66.
24	87.	91.	84.	*	2:50	33.	2: 2	67.
25	88.	93.	84.	*	1:20	73.	5:42	65.
26	91.	95.	87.	*	10:36	33.	12:23	66.
27	91.	97.	87.	*	1: 6	74.	5:32	64.
28	88.	92.	85.	*	14:19	78.	4:49	66.
29	83.	86.	79.	*	9:49	29.	8:50	67.
30	76.	77.	75.	*	5:12	7.	21:16	65.
MEAN	83.	88.	80.					66.
STANDARD DEVIATION	6.4	5.8	5.7					1.4

ENVIRONMENTAL SUMMARY REPORT

SITE: OAKMEAD
SANTA CLARA, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 197

LATITUDE: 37.20 DEG NORTH
LONGITUDE: 121.55 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS ------- EXT INS PERCENT
1	979.	N.A.	N.A.	330.	12: 8	2717.	36.
2	1567.	N.A.	N.A.	281.	11: 7	2711.	58.
3	1927.	N.A.	N.A.	268.	11:38	2706.	71.
4	1900.	N.A.	N.A.	268.	12: 4	2702.	70.
5	1944.	N.A.	N.A.	268.	11:32	2697.	72.
6	1954.	N.A.	N.A.	268.	12:24	2693.	73.
7	1776.	N.A.	N.A.	268.	11:45	2689.	66.
8	1893.	N.A.	N.A.	262.	12:19	2687.	70.
9	1853.	N.A.	N.A.	259.	11:27	2684.	69.
10	1715.	N.A.	N.A.	262.	11:41	2680.	64.
11	1497.	N.A.	N.A.	281.	11:41	2677.	56.
12	1700.	N.A.	N.A.	275.	12:23	2674.	64.
13	1863.	N.A.	N.A.	259.	11:39	2672.	70.
14	1850.	N.A.	N.A.	255.	11:36	2669.	69.
15	1822.	N.A.	N.A.	255.	11:39	2667.	68.
16	1795.	N.A.	N.A.	255.	12:27	2666.	67.
17	1763.	N.A.	N.A.	255.	12:22	2664.	66.
18	1784.	N.A.	N.A.	262.	12:15	2663.	67.
19	1656.	N.A.	N.A.	259.	11:48	2662.	62.
20	1294.	N.A.	N.A.	275.	12:16	2661.	49.
21	1300.	N.A.	N.A.	252.	12:21	2661.	49.
22	1482.	N.A.	N.A.	259.	11:52	2660.	56.
23	1802.	N.A.	N.A.	259.	12:14	2660.	68.
24	1380.	N.A.	N.A.	285.	11:46	2661.	52.
25	1766.	N.A.	N.A.	259.	11:40	2661.	66.
26	1839.	N.A.	N.A.	262.	11:29	2662.	69.
27	1838.	N.A.	N.A.	291.	12: 2	2663.	69.
28	1242.	N.A.	N.A.	288.	13:44	2665.	47.
29	721.	N.A.	N.A.	226.	13:57	2666.	27.
30	1044.	N.A.	N.A.	223.	14:56	2668.	39.
MEAN	1632.	N.A.	N.A.			2676.	
STANDARD DEVIATION	318.	N.A.	N.A.			17.	

ENVIRONMENTAL SUMMARY REPORT

SITE: OAKMEAD
SANTA CLARA, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 197

LATITUDE: 37.20 DEG NORTH
LONGITUDE: 121.55 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	57.	62.	53.	72.	10:27	49.	23: 4	71.
2	56.	61.	52.	70.	13: 5	48.	0:46	71.
3	57.	64.	50.	69.	11:32	43.	5:14	72.
4	58.	63.	53.	68.	13:56	49.	5: 8	67.
5	59.	67.	51.	77.	11:26	46.	3:48	72.
6	58.	66.	51.	72.	9:18	47.	1:24	74.
7	59.	66.	53.	77.	12:33	48.	0:14	71.
8	61.	70.	53.	84.	12:35	46.	4:56	71.
9	61.	67.	55.	76.	11:16	53.	4:41	72.
10	59.	64.	55.	71.	11:25	54.	4:54	70.
11	58.	63.	54.	70.	11:46	52.	2:42	70.
12	60.	66.	54.	74.	12:23	52.	23:51	70.
13	61.	67.	55.	77.	9:58	48.	3:55	71.
14	65.	73.	58.	83.	12: 8	52.	5: 1	72.
15	66.	74.	59.	82.	11:12	55.	4:21	70.
16	65.	72.	59.	82.	12: 0	55.	3: 7	72.
17	65.	71.	60.	83.	10:52	57.	4:46	72.
18	65.	72.	59.	85.	14:28	56.	4:31	69.
19	65.	70.	60.	79.	11:32	58.	2: 7	71.
20	63.	67.	59.	74.	13:41	57.	20: 0	75.
21	63.	68.	59.	77.	14:19	57.	4:53	72.
22	65.	70.	60.	79.	13:22	58.	6: 0	71.
23	65.	71.	60.	79.	13:29	57.	4:14	72.
24	66.	72.	61.	78.	14:26	58.	1:34	72.
25	68.	74.	63.	82.	11:56	60.	23:50	72.
26	71.	80.	63.	93.	11:34	58.	1:37	72.
27	68.	73.	63.	79.	13:59	59.	22:31	79.
28	64.	68.	59.	79.	12:29	58.	3:19	73.
29	60.	64.	57.	71.	13:57	54.	23:44	71.
30	62.	67.	57.	74.	14: 8	52.	3:12	71.
MEAN	62.	68.	57.					72.
STANDARD DEVIATION	3.8	4.3	3.8					2.0

ENVIRONMENTAL SUMMARY REPORT

SITE: OAKMEAD
SANTA CLARA, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 197

LATITUDE: 37.20 DEG NORTH
LONGITUDE: 121.55 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

WIND: SPEED IN MPH-DIRECTION IN DEGREES

DAY	AVG WIND DIRECTION	AVG WIND SPEED	DAYTIME DIRECTION	DAYTIME SPEED	MAXIMUM WIND SPEED	MAXIMUM WIND DIRECTION	TIME HR:MN
1	274.	3.	272.	3.	9.	299.	18: 6
2	297.	2.	299.	2.	8.	290.	4:43
3	299.	2.	315.	2.	9.	299.	17:30
4	291.	3.	295.	3.	10.	296.	14: 1
5	*	1.	*	1.	9.	*	14:17
6	*	1.	*	2.	11.	*	14:22
7	*	2.	*	2.	8.	*	15:40
8	*	1.	*	2.	8.	*	15: 4
9	*	1.	*	2.	8.	*	15:53
10	*	1.	*	2.	8.	*	16:39
11	*	2.	*	1.	7.	*	0:50
12	*	1.	*	1.	9.	*	14:53
13	*	1.	*	2.	7.	*	15: 7
14	*	2.	*	2.	9.	*	14:58
15	*	1.	*	1.	7.	*	15:55
16	*	1.	*	1.	6.	*	17:31
17	*	2.	*	2.	9.	*	23:29
18	157.	3.	165.	4.	10.	171.	10: 7
19	194.	2.	*	2.	9.	320.	18:23
20	*	1.	*	1.	9.	*	15:17
21	*	1.	*	1.	5.	*	15:23
22	*	1.	*	2.	7.	*	17:38
23	*	2.	*	1.	6.	*	5:34
24	*	1.	*	1.	8.	*	17:17
25	*	1.	*	1.	8.	*	19:50
26	*	1.	*	1.	7.	*	14:14
27	*	2.	*	2.	7.	*	15:24
28	*	2.	*	2.	11.	*	17:28
29	*	2.	*	2.	23.	*	10:29
30	270.	3.	275.	3.	11.	295.	18:40
MEAN	269.	2.	270.	2.			
STANDARD DEVIATION	58.5	0.6	53.9	0.7			

ENVIRONMENTAL SUMMARY REPORT

SITE: OAKMEAD
SANTA CLARA, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 197

LATITUDE: 37.20 DEG NORTH
LONGITUDE: 121.55 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 45 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

WIND: NUMBER OF HOURS IN EACH VELOCITY INTERVAL

DAY	0-3 MPH	4-7 MPH	8-12 MPH	13-18 MPH	19-24 MPH	25-31 MPH	32-38 MPH	ABOVE 38	MISSING HOURS
1	19	5	0	0	0	0	0	0	0
2	23	1	0	0	0	0	0	0	0
3	19	5	0	0	0	0	0	0	0
4	18	6	0	0	0	0	0	0	0
5	24	0	0	0	0	0	0	0	0
6	24	0	0	0	0	0	0	0	0
7	24	0	0	0	0	0	0	0	0
8	24	0	0	0	0	0	0	0	0
9	24	0	0	0	0	0	0	0	0
10	24	0	0	0	0	0	0	0	0
11	24	0	0	0	0	0	0	0	0
12	24	0	0	0	0	0	0	0	0
13	24	0	0	0	0	0	0	0	0
14	24	0	0	0	0	0	0	0	0
15	24	0	0	0	0	0	0	0	0
16	24	0	0	0	0	0	0	0	0
17	21	3	0	0	0	0	0	0	0
18	17	7	0	0	0	0	0	0	0
19	23	1	0	0	0	0	0	0	0
20	24	0	0	0	0	0	0	0	0
21	24	0	0	0	0	0	0	0	0
22	24	0	0	0	0	0	0	0	0
23	24	0	0	0	0	0	0	0	0
24	24	0	0	0	0	0	0	0	0
25	24	0	0	0	0	0	0	0	0
26	24	0	0	0	0	0	0	0	0
27	22	2	0	0	0	0	0	0	0
28	24	0	0	0	0	0	0	0	0
29	22	2	0	0	0	0	0	0	0
30	15	8	0	0	0	0	0	0	1
AVERAGE	22.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	679	40	0	0	0	0	0	0	1

ENVIRONMENTAL SUMMARY REPORT

SITE: SAN ANSELMO SCHOOL
SAN JOSE, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 145

LATITUDE: 37.21 DEG NORTH
LONGITUDE: 121.54 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 40 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1613.	N.A.	N.A.	343.	12:15	2905.	56.
2	1545.	N.A.	N.A.	297.	11:20	2901.	53.
3	1971.	N.A.	N.A.	282.	11:45	2897.	68.
4	1856.	N.A.	N.A.	282.	11:52	2893.	64.
5	2000.	N.A.	N.A.	289.	12: 8	2889.	69.
6	1996.	N.A.	N.A.	286.	11:50	2885.	69.
7	1807.	N.A.	N.A.	286.	11:55	2882.	63.
8	1944.	N.A.	N.A.	282.	11:57	2879.	68.
9	1859.	N.A.	N.A.	279.	12:29	2876.	65.
10	1859.	N.A.	N.A.	272.	11:55	2873.	65.
11	1560.	N.A.	N.A.	297.	11:43	2871.	54.
12	1794.	N.A.	N.A.	275.	12:10	2868.	63.
13	1933.	N.A.	N.A.	282.	12: 9	2866.	67.
14	1876.	N.A.	N.A.	275.	12: 8	2864.	65.
15	1870.	N.A.	N.A.	272.	12: 4	2862.	65.
16	1827.	N.A.	N.A.	272.	12: 4	2861.	64.
17	1898.	N.A.	N.A.	272.	12: 3	2860.	66.
18	1797.	N.A.	N.A.	279.	12:19	2858.	63.
19	1675.	N.A.	N.A.	275.	11:57	2858.	59.
20	1558.	N.A.	N.A.	272.	11:55	2857.	55.
21	1523.	N.A.	N.A.	268.	11:49	2856.	53.
22	1766.	N.A.	N.A.	275.	12: 9	2856.	62.
23	1805.	N.A.	N.A.	272.	12:25	2856.	63.
24	1474.	N.A.	N.A.	300.	11:45	2856.	52.
25	1788.	N.A.	N.A.	272.	12: 0	2857.	63.
26	1658.	N.A.	N.A.	272.	11:44	2857.	58.
27	1874.	N.A.	N.A.	286.	13:18	2858.	66.
28	1168.	N.A.	N.A.	307.	12:33	2859.	41.
29	1101.	N.A.	N.A.	311.	13:55	2860.	38.
30	1063.	N.A.	N.A.	275.	12:14	2862.	37.
MEAN	1715.	N.A.	N.A.			2869.	
STANDARD DEVIATION	252.	N.A.	N.A.			15.	

ENVIRONMENTAL SUMMARY REPORT

SITE: SAN ANSELMO SCHOOL
SAN JOSE, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 145

LATITUDE: 37.21 DEG NORTH
LONGITUDE: 121.54 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 40 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	59.	64.	53.	71.	14:13	51.	0: 2	N.A.
2	57.	62.	52.	70.	14:37	47.	23:52	N.A.
3	57.	65.	49.	72.	12:44	41.	5: 0	N.A.
4	58.	63.	53.	69.	14: 5	49.	4:35	N.A.
5	61.	70.	52.	79.	13:39	45.	4:51	N.A.
6	59.	67.	50.	74.	12: 6	45.	3:20	N.A.
7	59.	68.	51.	81.	13:58	44.	2:46	N.A.
8	63.	73.	54.	89.	13:59	46.	2:19	N.A.
9	63.	72.	55.	80.	12:51	47.	2:42	N.A.
10	62.	68.	56.	75.	12: 6	55.	0: 8	N.A.
11	60.	64.	55.	71.	12:58	53.	4:37	N.A.
12	62.	69.	54.	76.	13:30	51.	2:50	N.A.
13	63.	72.	53.	82.	12:14	46.	4:57	N.A.
14	67.	76.	59.	89.	13:39	51.	3:10	N.A.
15	70.	80.	59.	93.	12:20	51.	4:47	N.A.
16	68.	77.	59.	89.	14:12	52.	3:48	N.A.
17	66.	74.	58.	89.	13:50	54.	1:45	N.A.
18	67.	74.	59.	86.	14:21	56.	0:51	N.A.
19	67.	74.	60.	86.	12:51	57.	2:37	N.A.
20	66.	72.	60.	82.	13:26	58.	3:52	N.A.
21	67.	73.	60.	84.	13:35	57.	2:30	N.A.
22	67.	75.	60.	88.	14: 1	55.	23:37	N.A.
23	67.	76.	59.	89.	13:56	55.	0: 9	N.A.
24	68.	75.	61.	84.	12:44	57.	0:25	N.A.
25	70.	77.	64.	86.	13:20	60.	1:58	N.A.
26	73.	82.	64.	94.	12:53	57.	4:32	N.A.
27	70.	76.	63.	81.	14:44	60.	21: 8	N.A.
28	64.	69.	59.	79.	13:37	58.	21:37	N.A.
29	62.	66.	58.	73.	14: 6	55.	3: 3	N.A.
30	63.	68.	58.	76.	14: 1	52.	2:38	N.A.
MEAN	64.	71.	57.					N.A.
STANDARD DEVIATION	4.3	5.1	4.1					N.A.

ENVIRONMENTAL SUMMARY REPORT

SITE: SAN ANSELMO SCHOOL
SAN JOSE, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 145

LATITUDE: 37.21 DEG NORTH
LONGITUDE: 121.54 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 40 DEG

TIME ZONE: PACIFIC
ALTITUDE: 0 FEET

RELATIVE HUMIDITY IN PER CENT

DAY	RELATIVE HUMIDITY	DAYTIME REL HUM	NIGHTTIME REL HUM	MAXIMUM HUMIDITY VALUE	MAXIMUM HUMIDITY TIME HR:MN	MINIMUM HUMIDITY VALUE	MINIMUM HUMIDITY TIME HR:MN
1	24.	24.	23.	27.	10:23	20.	19:17
2	22.	23.	21.	25.	11:41	20.	20:35
3	22.	24.	21.	28.	13:32	18.	5:11
4	21.	22.	20.	25.	12: 3	19.	7:52
5	21.	21.	22.	24.	21:12	19.	5:23
6	24.	25.	24.	27.	18:30	20.	3:20
7	26.	28.	24.	33.	11:50	21.	3:39
8	26.	27.	25.	34.	9:22	20.	15: 9
9	30.	32.	28.	37.	11:36	24.	2:58
10	30.	32.	28.	36.	12:32	26.	20:48
11	28.	28.	27.	31.	12:10	26.	11:33
12	27.	27.	27.	29.	18: 7	25.	3:27
13	28.	28.	29.	33.	19:10	24.	5:39
14	34.	36.	33.	37.	10:11	30.	1: 7
15	36.	37.	35.	40.	8:47	31.	3:25
16	36.	37.	36.	39.	12:20	33.	5: 8
17	36.	38.	35.	40.	10:16	34.	23:26
18	35.	36.	35.	37.	7:36	34.	4:13
19	35.	34.	36.	37.	19:36	34.	10:16
20	36.	35.	36.	38.	20:17	34.	12: 1
21	41.	42.	41.	48.	20:21	37.	2:35
22	42.	42.	41.	46.	7:42	38.	23:10
23	39.	40.	38.	43.	9:51	36.	3:31
24	41.	41.	41.	43.	21:26	38.	0: 9
25	40.	39.	41.	43.	0:38	37.	13:14
26	42.	41.	42.	47.	23:49	39.	3:33
27	44.	44.	44.	47.	0:26	41.	23:58
28	37.	35.	38.	41.	0: 9	33.	15:24
29	43.	45.	41.	50.	13: 2	38.	0:17
30	44.	44.	43.	51.	12:46	39.	3:31
MEAN	33.	33.	32.				
STANDARD DEVIATION	8.	7.	8.				

ENVIRONMENTAL SUMMARY REPORT

SITE: STEVENS HOME
RANCHO SANTA FE, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 248

LATITUDE: 32.75 DEG NORTH
LONGITUDE: 117.00 DEG WEST

AZIMUTH: 25 DEG
PYRANOMETER TILT: 34 DEG

TIME ZONE: PACIFIC
ALTITUDE: 175 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	*	N.A.	N.A.	*	*:*	3044.	*
2	*	N.A.	N.A.	*	*:*	3040.	*
3	*	N.A.	N.A.	*	*:*	3037.	*
4	*	N.A.	N.A.	*	*:*	3034.	*
5	*	N.A.	N.A.	*	*:*	3031.	*
6	*	N.A.	N.A.	*	*:*	3028.	*
7	*	N.A.	N.A.	*	*:*	3025.	*
8	1524.	N.A.	N.A.	285.	12: 2	3022.	50.
9	1928.	N.A.	N.A.	306.	12:51	3020.	64.
10	1436.	N.A.	N.A.	296.	12:44	3018.	48.
11	1511.	N.A.	N.A.	310.	11:39	3016.	50.
12	1220.	N.A.	N.A.	314.	12: 6	3014.	40.
13	1916.	N.A.	N.A.	299.	12: 2	3012.	64.
14	1409.	N.A.	N.A.	303.	13: 4	3010.	47.
15	875.	N.A.	N.A.	245.	12:20	3009.	29.
16	251.	N.A.	N.A.	40.	10: 2	3008.	8.
17	295.	N.A.	N.A.	61.	9: 6	3006.	10.
18	419.	N.A.	N.A.	126.	12: 0	3005.	14.
19	1014.	N.A.	N.A.	303.	12:59	3005.	34.
20	227.	N.A.	N.A.	50.	12:53	3004.	8.
21	*	N.A.	N.A.	*	*:*	3004.	*
22	*	N.A.	N.A.	*	*:*	3003.	*
23	*	N.A.	N.A.	*	*:*	3003.	*
24	*	N.A.	N.A.	*	*:*	3003.	*
25	*	N.A.	N.A.	*	*:*	3004.	*
26	*	N.A.	N.A.	*	*:*	3004.	*
27	*	N.A.	N.A.	*	*:*	3005.	*
28	*	N.A.	N.A.	*	*:*	3005.	*
29	*	N.A.	N.A.	*	*:*	3006.	*
30	*	N.A.	N.A.	*	*:*	3007.	*
MEAN	1079.*	N.A.	N.A.			3014.	
STANDARD DEVIATION	617.*	N.A.	N.A.			12.	

ENVIRONMENTAL SUMMARY REPORT

SITE: STEVENS HOME
RANCHO SANTA FE, CALIFORNIA

REPORT PERIOD: 82/ 6
SITE NUMBER: 248

LATITUDE: 32.75 DEG NORTH
LONGITUDE: 117.00 DEG WEST

AZIMUTH: 25 DEG
PYRANOMETER TILT: 34 DEG

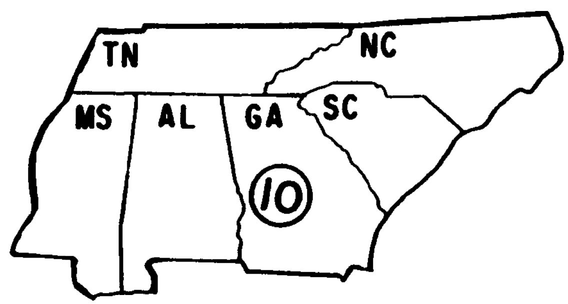
TIME ZONE: PACIFIC
ALTITUDE: 175 FEET

TEMPERATURES IN DEGREES F

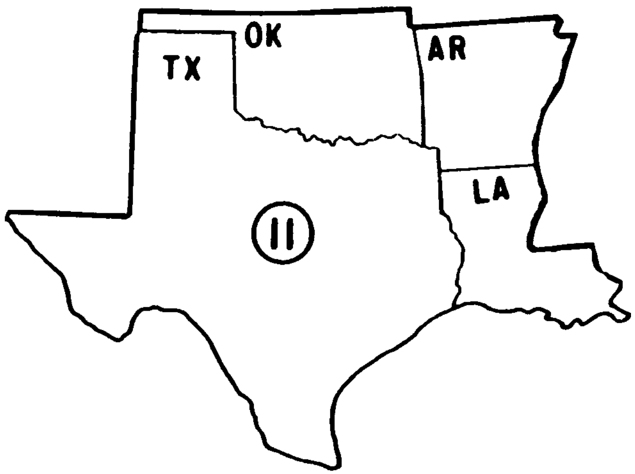
DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	*	*	*	*	*:*	*	*:*	*
2	*	*	*	*	*:*	*	*:*	*
3	*	*	*	*	*:*	*	*:*	*
4	*	*	*	*	*:*	*	*:*	*
5	*	*	*	*	*:*	*	*:*	*
6	*	*	*	*	*:*	*	*:*	*
7	*	*	*	*	*:*	*	*:*	*
8	65.	67.	55.	75.	9:15	50.	23:23	84.
9	61.	67.	55.	76.	10:11	48.	4:24	86.
10	62.	66.	58.	75.	13:48	53.	21:11	79.
11	63.	67.	58.	74.	11:34	54.	20:43	82.
12	63.	65.	60.	72.	13:58	57.	19:34	86.
13	64.	69.	60.	74.	13:59	55.	20:18	90.
14	64.	68.	60.	76.	12:37	58.	2:26	85.
15	64.	67.	62.	74.	12:20	60.	2:56	86.
16	61.	62.	60.	65.	9:35	59.	23:22	81.
17	60.	61.	59.	63.	13:17	57.	21:49	81.
18	60.	61.	59.	67.	12:22	56.	4: 2	85.
19	64.	67.	61.	74.	12: 6	59.	4:22	87.
20	62.	63.	61.	67.	12:53	59.	23:55	85.
21	61.	63.	59.	64.	15:32	59.	1:31	86.
22	*	*	*	*	*:*	*	*:*	*
23	59.	59.	59.	61.	23:57	59.	4:27	87.
24	62.	64.	61.	68.	9:17	60.	2: 0	73.
25	*	*	*	*	*:*	*	*:*	*
26	*	*	*	*	*:*	*	*:*	*
27	*	*	*	*	*:*	*	*:*	*
28	*	*	*	*	*:*	*	*:*	*
29	73.	73.	0.	74.	12:13	72.	12:18	82.
30	63.	71.	58.	74.	14: 4	53.	22:31	96.
MEAN	63.*	66.*	59.*					84.*
STANDARD DEVIATION	3.0	3.6	1.9					4.7

ZONE 10

NO VALID DATA



ZONE 11



ENVIRONMENTAL SUMMARY REPORT

SITE: CRAFTSMAN ENTERPRISES
DALLAS, TEXAS

REPORT PERIOD: 82/ 6
SITE NUMBER: 249

LATITUDE: 32.75 DEG NORTH
LONGITUDE: 96.70 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 27 DEG

TIME ZONE: CENTRAL
ALTITUDE: 551 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	2167.	N.A.	N.A.	300.	11:45	3182.	68.
2	1056.	N.A.	N.A.	303.	12:38	3180.	33.
3	1584.	N.A.	N.A.	325.	12:11	3177.	50.
4	1678.	N.A.	N.A.	341.	11:29	3175.	53.
5	1894.	N.A.	N.A.	281.	11:56	3173.	60.
6	1808.	N.A.	N.A.	284.	11:37	3168.	57.
7	1967.	N.A.	N.A.	290.	12:11	3166.	62.
8	1901.	N.A.	N.A.	316.	12: 8	3164.	60.
9	1012.	N.A.	N.A.	252.	13:31	3163.	32.
10	1617.	N.A.	N.A.	290.	11:36	3161.	51.
11	967.	N.A.	N.A.	293.	12:41	3159.	31.
12	1261.	N.A.	N.A.	313.	11:48	3158.	40.
13	1904.	N.A.	N.A.	274.	12:44	3157.	60.
14	1986.	N.A.	N.A.	300.	12:10	3155.	63.
15	1037.	N.A.	N.A.	258.	13:59	3154.	33.
16	1470.	N.A.	N.A.	281.	13:44	3153.	47.
17	1959.	N.A.	N.A.	271.	11:53	3152.	62.
18	1869.	N.A.	N.A.	281.	11:31	3152.	59.
19	809.	N.A.	N.A.	252.	14: 1	3151.	26.
20	1372.	N.A.	N.A.	278.	12: 4	3150.	44.
21	1516.	N.A.	N.A.	300.	11:37	3150.	48.
22	1641.	N.A.	N.A.	316.	12:41	3150.	52.
23	*	N.A.	N.A.	*	*:*	3150.	*
24	1633.	N.A.	N.A.	293.	12:23	3149.	52.
25	1646.	N.A.	N.A.	306.	12:50	3150.	52.
26	1824.	N.A.	N.A.	290.	12:44	3150.	58.
27	1513.	N.A.	N.A.	278.	10:52	3150.	48.
28	1481.	N.A.	N.A.	300.	12:15	3150.	47.
29	1579.	N.A.	N.A.	287.	12:22	3151.	50.
30	1800.	N.A.	N.A.	293.	12:26	3152.	57.
MEAN	1585.	N.A.	N.A.			3158.	
STANDARD DEVIATION	349.	N.A.	N.A.			10.	

ENVIRONMENTAL SUMMARY REPORT

SITE: CRAFTSMAN ENTERPRISES
DALLAS, TEXAS

REPORT PERIOD: 82/ 6
SITE NUMBER: 249

LATITUDE: 32.75 DEG NORTH
LONGITUDE: 96.70 DEG WEST

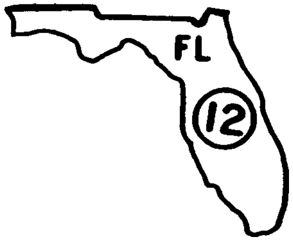
AZIMUTH: 0 DEG
PYRANOMETER TILT: 27 DEG

TIME ZONE: CENTRAL
ALTITUDE: 551 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	69.	74.	64.	84.	16:54	54.	5:29	74.
2	76.	79.	73.	90.	15: 7	63.	0:11	75.
3	82.	85.	78.	93.	15:17	72.	5:31	75.
4	75.	78.	73.	89.	17:26	66.	6:17	76.
5	80.	84.	76.	94.	16:49	65.	4:54	76.
6	85.	87.	82.	95.	13:45	75.	5: 0	*
7	85.	88.	81.	96.	13:21	73.	6:27	78.
8	84.	87.	81.	93.	15:20	75.	4:59	76.
9	82.	84.	80.	91.	16:27	73.	5:17	77.
10	84.	88.	81.	96.	14:59	75.	5: 4	78.
11	78.	84.	72.	94.	14:44	65.	18:27	75.
12	75.	79.	71.	87.	15:48	66.	4:45	77.
13	79.	84.	74.	94.	15: 3	64.	4:52	78.
14	84.	88.	81.	93.	16:48	75.	5:11	77.
15	83.	86.	79.	93.	14:41	73.	21:48	76.
16	77.	81.	73.	90.	15: 4	67.	4:39	74.
17	80.	87.	74.	95.	15:59	64.	4:24	76.
18	82.	86.	78.	99.	16:46	69.	5:19	76.
19	78.	80.	77.	90.	13:45	71.	5: 2	80.
20	82.	86.	78.	94.	12:31	70.	4:46	83.
21	79.	80.	78.	95.	16:20	66.	5:35	78.
22	83.	87.	79.	97.	14:17	72.	5:40	76.
23	84.	92.	81.	97.	17: 0	74.	4:57	83.
24	79.	81.	76.	92.	17:17	66.	3: 8	78.
25	79.	82.	76.	92.	16:50	65.	4:39	78.
26	84.	90.	77.	98.	16:34	70.	5: 6	77.
27	83.	86.	80.	95.	18:14	73.	4:44	*
28	83.	88.	78.	97.	14: 1	72.	23:59	80.
29	84.	88.	79.	95.	15:45	72.	0:52	80.
30	82.	87.	77.	97.	15:54	70.	17:46	79.
MEAN	81.	85.	77.					77.
STANDARD DEVIATION	3.6	4.0	3.9					2.3

ZONE 12



ENVIRONMENTAL SUMMARY REPORT

SITE: FLORIDA SOLAR ENERGY CENTER
CAPE CANAVERAL, FLORIDA

REPORT PERIOD: 82/ 6
SITE NUMBER: 235

LATITUDE: 28.40 DEG NORTH
LONGITUDE: 80.70 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 15 DEG

TIME ZONE: EASTERN
ALTITUDE: 50 FEET

INSOLATION

DAY	TOTAL INSOLATION BTU/FT2	TOTAL DIFF INSOLATION BTU/FT2	TOTAL DIR INSOLATION BTU/FT2	MAXIMUM TOTAL INSOLATION VALUE BTU/HR/FT2	MAXIMUM TOTAL INSOLATION TIME HR:MN	EXTRATERRESTRIAL INSOLATION BTU/FT2	TTL INS / EXT INS PERCENT
1	1795.	N.A.	N.A.	316.	13: 3	3380.	53.
2	986.	N.A.	N.A.	271.	11:10	3379.	29.
3	1411.	N.A.	N.A.	271.	11:24	3379.	42.
4	1642.	N.A.	N.A.	310.	13: 1	3378.	49.
5	1570.	N.A.	N.A.	337.	11:58	3378.	46.
6	1988.	N.A.	N.A.	286.	12: 5	3374.	59.
7	2197.	N.A.	N.A.	295.	11:59	3374.	65.
8	2094.	N.A.	N.A.	292.	11:57	3373.	62.
9	2100.	N.A.	N.A.	280.	12: 7	3373.	62.
10	1908.	N.A.	N.A.	274.	12:42	3372.	57.
11	1452.	N.A.	N.A.	286.	11:55	3372.	43.
12	1602.	N.A.	N.A.	286.	11:55	3371.	48.
13	1991.	N.A.	N.A.	289.	11:50	3368.	59.
14	1948.	N.A.	N.A.	289.	11:59	3367.	58.
15	2126.	N.A.	N.A.	289.	12:13	3367.	63.
16	1331.	N.A.	N.A.	304.	11:21	3366.	40.
17	496.	N.A.	N.A.	90.	8:27	3366.	15.
18	1133.	N.A.	N.A.	319.	13:28	3365.	34.
19	1896.	N.A.	N.A.	322.	11:31	3365.	56.
20	1010.	N.A.	N.A.	337.	12:24	3365.	30.
21	1656.	N.A.	N.A.	316.	11:41	3364.	49.
22	1922.	N.A.	N.A.	298.	12:40	3364.	57.
23	1254.	N.A.	N.A.	292.	11:48	3364.	37.
24	1345.	N.A.	N.A.	286.	11:55	3363.	40.
25	1788.	N.A.	N.A.	307.	12:11	3363.	53.
26	1789.	N.A.	N.A.	289.	11:17	3363.	53.
27	2094.	N.A.	N.A.	283.	12:10	3362.	62.
28	2212.	N.A.	N.A.	298.	11:53	3362.	66.
29	2166.	N.A.	N.A.	313.	12:35	3362.	64.
30	1544.	N.A.	N.A.	301.	12:33	3362.	46.
MEAN	1681.	N.A.	N.A.			3369.	
STANDARD DEVIATION	422.	N.A.	N.A.			6.	

ENVIRONMENTAL SUMMARY REPORT

SITE: FLORIDA SOLAR ENERGY CENTER
CAPE CANAVERAL, FLORIDA

REPORT PERIOD: 82/ 6
SITE NUMBER: 235

LATITUDE: 28.40 DEG NORTH
LONGITUDE: 80.70 DEG WEST

AZIMUTH: 0 DEG
PYRANOMETER TILT: 15 DEG

TIME ZONE: EASTERN
ALTITUDE: 50 FEET

TEMPERATURES IN DEGREES F

DAY	AVERAGE TEMP	DAYTIME TEMP	NIGHTTIME TEMP	MAX TEMPERATURE VALUE	MAX TEMPERATURE TIME HR:MN	MIN TEMPERATURE VALUE	MIN TEMPERATURE TIME HR:MN	INLET WATER TEMPERATURE
1	82.	85.	78.	92.	16:20	77.	19:59	N.A.
2	79.	81.	77.	85.	11:47	76.	4:57	N.A.
3	79.	81.	78.	84.	11:24	75.	6:11	N.A.
4	81.	82.	78.	87.	11:36	77.	17:13	N.A.
5	81.	83.	79.	86.	9:34	77.	0:46	N.A.
6	86.	88.	83.	95.	12:59	79.	5:18	N.A.
7	85.	89.	81.	94.	14:29	78.	22: 7	N.A.
8	83.	87.	80.	93.	13:38	75.	5:51	N.A.
9	83.	85.	80.	91.	11:40	77.	5:22	N.A.
10	84.	87.	81.	96.	13: 4	78.	5: 0	N.A.
11	84.	86.	81.	95.	13:36	79.	5:47	N.A.
12	83.	85.	81.	92.	13:52	77.	4:54	N.A.
13	84.	86.	81.	91.	13:36	77.	5:36	N.A.
14	84.	87.	81.	93.	13:46	78.	2: 8	N.A.
15	84.	86.	82.	90.	11: 4	79.	5:35	N.A.
16	83.	84.	81.	88.	11:31	80.	13:29	N.A.
17	79.	79.	78.	85.	9:57	75.	18:40	N.A.
18	79.	80.	78.	85.	15:25	74.	0:16	N.A.
19	82.	84.	80.	89.	14: 0	78.	5:33	N.A.
20	80.	81.	79.	85.	15:14	78.	10:27	N.A.
21	82.	84.	80.	88.	11:51	78.	0:56	N.A.
22	83.	85.	81.	88.	13:28	79.	0:34	N.A.
23	82.	83.	79.	92.	14:23	76.	16:47	N.A.
24	80.	82.	77.	92.	13:52	73.	15:49	N.A.
25	80.	83.	78.	89.	12:53	76.	2:45	N.A.
26	81.	83.	79.	89.	13:57	76.	2:24	N.A.
27	83.	86.	80.	90.	12:37	77.	5:36	N.A.
28	85.	87.	82.	91.	11:59	79.	2:45	N.A.
29	86.	88.	83.	92.	13:33	80.	5:40	N.A.
30	84.	87.	81.	96.	13:48	80.	5: 1	N.A.
MEAN	82.	84.	80.					N.A.
STANDARD DEVIATION	2.1	2.6	1.6					N.A.

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