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Ultimate Heat Sink Thermal Performance and Water Utilization: Measurements on Cooling and Spray Ponds

Prepared by G. F. Athey, R. K. Hadlock, O. B. Abbey

Pacific Northwest Laboratory
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The NRC Technical contract monitor for this program of measurements is Dr. Robert F. Abbey, Jr. It is with pleasure that we indicate his wisdom and enthusiasm as contributions throughout the duration of the measurement program.

ABSTRACT

A data acquisition research program, entitled "Ultimate Heat Sink Performance Field Experiments," has been brought to completion. The primary objective is to obtain the requisite data to characterize thermal performance and water utilization for cooling ponds and spray ponds at elevated temperature. Such data are useful for modeling purposes, but the work reported here does not contain modeling efforts within its scope.

The water bodies which have been studied are indicative of nuclear reactor ultimate heat sinks, components of emergency core cooling systems. The data reflect thermal performance and water utilization for meteorological and solar influences which are representative of worst-case combinations of conditions.

Constructed water retention ponds, provided with absolute seals against seepage, have been chosen as facilities for the measurement programs; the first pond was located at Raft River, Idaho, and the second at East Mesa, California. The data illustrate and describe, for both cooling ponds and spray ponds, thermal performance and water utilization as the ponds cool from an initially elevated temperature. To obtain the initial elevated temperature, it has been convenient to conduct the measurements at geothermal sites having large supplies and delivery rates of hot geothermal fluid.

The data are described and discussed in the text, and presented in the form of data volumes as appendices.

SUMMARY

The Atmospheric Sciences Department of Battelle, Pacific Northwest Laboratories, has brought to completion a data acquisition program for the U.S. Nuclear Regulatory Commission entitled, "Ultimate Heat Sink Performance Field Experiments." The primary objective was to obtain the requisite data, useful for modeling needs, to characterize thermal performance and water utilization for cooling ponds and spray ponds at elevated temperature. The work reported here does not contain modeling efforts within its scope.

The water bodies which have been studied are indicative of nuclear reactor ultimate heat sinks, components of emergency core cooling systems. The data reflect thermal performance and water utilization for meteorological and solar influences which are representative of worst-case combinations of conditions. In these ways, the project is responsive to U.S. Nuclear Regulatory Commission Regulatory Guide 1.27 "Ultimate Heat Sink for Nuclear Power Plants."

Constructed water retention ponds, provided with absolute seals against seepage, were chosen as facilities for the measurement programs. The data quantify thermal performance and water utilization as the ponds cool from an initially elevated temperature. Measurements were conducted at geothermal sites where large supplies and delivery rates of hot geothermal fluid were used to obtain initial elevated pond temperatures.

The high-quality data are described and discussed in the text and presented in the form of data volumes as appendices. The format is of convenience for calculational purposes; the data are also available in raw forms including recording to digital magnetic tape. Procedures in the field, laboratory, and computer are responsive to NRC Order No. 60-80-195, "RSP Policy and Standard Practice for Reporting Uncertainties in Reactor-Safety-Research Results."

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INTRODUCTION

The objective of the reported research was to produce a data base usable in assessing models applicable to cooling ponds and spray ponds proposed for use as ultimate heat sinks in nuclear power plant emergency core cooling systems. The need derived from concern that certain elements of thermal performance and water utilization are not adequately predictable and that further information was required for proper design of performance tests to meet U.S. Nuclear Regulatory Commission criteria. Regulatory Guide 1.27 exhibits the criteria relevant to the data acqusition program.

The Guide discusses worst-case combinations of controlling parameters for thermal performance and water utilization. Considerations are based on time-scales of one day, five days, and thirty days and their combination. The measurement programs were designed to enable quantitative assessment of all heat and moisture transfer over time periods sufficient in duration to allow extrapolation, based firmly in the data and physical principle, to the time scales associated with the criteria.

Ultimate heat sinks in active emergency core cooling systems are not available for study and therefore analogs are indicated for actual measurement programs. Initially, several different kinds of facilities were considered as candidates for data acquisition efforts. A general description of historical work and various facilities has been reported by Drake, 1975. A further report has been issued by Battelle (Hadlock, 1976) which exhibits a search for proper measurement sites and the results of a preliminary proof experiment on a small-load Battelle spray pond. Some of the candidate sites were hot ponds at Yellowstone National Park, Savannah River Laboratory, Idaho National Engineering Laboratory, and various industrial and utility facilities. As stated in another reporting of the program activity (Hadlock and Abbey, 1978), the decision for usable measurement sites was made in favor of geothermal facilities. Institutional difficulties and the need for an adequately surveyable thermally hot pond eliminated the other possible facilities.

The data resulting from this measurement effort were obtained at two geothermal sites--Raft River in Southern Idaho and East Mesa in Southern California near the border with Mexico. Ponds were constructed at the sites, suitable for intensive and comprehensive data collection programs. Measurements on sealed ponds were conducted at Raft River during July and October 1978 and at East Mesa during September and October 1979 and June and July 1981. Summer and fall observations enabled examination with various conditions imposed on the ponds. The data are site-specific but of generic applicability because of the variety of meteorological influences encountered.

Presented in this report are data volumes which exhibit the thermal performance and water utilization of cooling ponds at Raft River and East Mesa and of a spray system fitted to the East Mesa pond. The high quality data are described and discussed and are usable for performance modeling purposes.

CONCLUSIONS AND RECOMMENDATIONS

An array of high-quality data representative of the thermal performance and water utilization of cooling ponds and spray ponds has been obtained and documented. The ponds considered were geothermal fluid retention basins constructed to serve as analogs of ultimate heat sinks as components of reactor emergency core cooling systems. The data are of sufficient quality, quantity and applicability for use in modeling of ultimate heat sink performance.

Measurements show that a cooling pond, approaching one acre in surface area and at an elevated temperature, is capable of losing tens of megawatts of heat to its surroundings. The primary heat transfer process is evaporation, with lesser contributions by sensible and radiative transfer. At pond temperatures in excess of $\sim$35°C, pond performance is not significantly influenced by combinations of meteorological influences. Below 35°C, pond response to ambient conditions, e.g. solar loading or high winds, becomes more apparent. Cooling performance of the system can be substantially enhanced through activation of a spray system.

Success in obtaining the requisite pond performance and meteorological data is highly involved with the choice of surveyable sites. Also, measurements must be performed on sealed ponds isolated from sources and sinks of water. The Raft River site and especially the East Mesa site, provided facilities to make the required measurements under a variety of conditions. The data presented are useful as examples of near worst-case conditions for pond performance and water utilization.

Because of the limited opportunities for measurements with sprays using very hot water (>50°C), it is believed that further spray studies would be useful. It is expected that the data could be obtained at East Mesa if the geothermal wells are reactivated. In addition or as an alternative, the data could be obtained at an actual reactor in the situation of planned shutdown when resident core heat would be handled through the ultimate heat sink incorporating spray devices.

SITE AND FACILITY DESCRIPTION

Geothermal testing sites generally have requisite amounts and necessary flow rates of thermally hot water for the rapid filling of cooling and spray ponds. The Raft River Geothermal Field Operations Facility, a U.S. Department of Energy (Idaho National Engineering Laboratory) facility near Malta, Idaho, was chosen as the site for measurements reported previously (Hadlock and Abbey, 1978). Data were obtained for a retention pond which was not sealed against seepage into the soil below during two experiments. Therefore, it has not been possible to describe, with precision, water utilization in the form of evaporation from that pond. However, the thermal performance of the unsealed pond is properly indicated by the data reported in Appendix A.

A new, sealed pond was constructed at the Raft River site in early summer, 1978. Pond construction was accomplished by EG&G Idaho, Inc., site manager for DOE, and Palco Linings, Inc., of Indio, California. Description of this pond and related information are contained in Table 1. The essentially square pond was constructed by excavation and the placing of the displaced soil in berms to form the pond periphery. The berms extended less than two meters above grade and one half meter or less above nominal pond surface when the pond was filled to an approximate depth of 1.7 meters. Berm slope, interior to the pond, reduced the pond volume from that of a rectangular solid to the resulting volume shown in Table 1. There were no obstacles to wind flow over the pond, with the exception of the elevated berms. Surrounding terrain was essentially flat with mountain ridges at distances of 10 kilometers or more. Vegetation consisted of short grasses and sagebrush with heights ranging to about one meter.

TABLE 1. Physical Description of Sealed Cooling Pond at Raft River, Idaho

Water Surface Area:	Nominal 2840 m^2
Water Volume:	Nominal 3864 m^3
Depth (at pond center):	Nominal 1.7 m
Altitude (mean sea level):	1480 m

The nearly square pond was lined with a layered plastic sandwich containing a nylon scrim for resistance to tearing stress. The filling (and drain) pipe which entered the pond, near pond center from below, was sealed to the liner. It was not considered necessary to cover the liner with a protective layer of soil. The filling pipe terminated in a "T" structure which enabled introduction of water, for most of a filling episode, below the rising water surface in the pond. This enabled a maximum conservation of heat during pond filling and a maximum possible pond temperature at the beginning of a measurement episode.

Experiments RR2 Cool I and RR2 Hot I (terminology identifying data experiments listed in the Appendices) were completed without problems. However, soon after the beginning of RR2 Hot II it was determined that a liner rupture had occurred during pond filling. RR2 Hot II was terminated, the pond was drained, and the liner was discovered to have torn along a seam over a distance of approximately four meters. The leak was detectable in the pond surface elevation data, vertical temperature gradient in the soil below the liner, and from casual observation, i.e., visible seepage through the lower part of the berm. The torn liner was repaired and the pond was refilled for RR2 Hot III. This experiment and RR2 Hot IV proceeded with no difficulty; the leak had been successfully repaired as evidenced by the visual observations, the water surface elevation, and the under-liner temperature data. Shortly before the planned initiation of RR Hot V, the pipe "T" failed and the liner ruptured along the entirety of a pond radius. The uncontrolled boiling and flashing water entering the pond at a rate of about 800 gallons per minute caused major erosion of the underlying soil and the liner was forced to the pond surface. The event terminated activity at Raft River for 1978.

It was intended to repair the pond, repair the pond liner, redesign the pipe "T," and install a spray system to make the Raft River pond suitable for spray thermal performance and water utilization measurements. However, it was not possible to make satisfactory arrangements with EG&G, Idaho, for this kind of facility at Raft River.

Various kinds of information led to consideraton of the National Geothermal Test Facility (DOE - San Francisco Operations) at East Mesa, near El Centro, California, as the proper spray pond site for further measurements. WESTEC Services, Inc., site manager for DOE, contracted to prepare a sealed pond incorporating a spray system for the 1979 measurement program. The work was completed in late summer of 1979 with measurements initiated in mid-September. The nominal description of this pond and related information is contained in Table 2. The nearly square pond was fitted with a plastic liner provided and installed by Palco Linings, Inc. prior to installation of the spray system. Between these operations a one-foot layer of soil was distributed and compacted over the liner. A drain pipe, coming from under the liner, was located at pond center, terminating slightly above the surface of the soil layer in an anti-swirl structure. The pond is filled through a pipe perforated along its top surface and located near pond bottom. Below-surface filling accomplishes maximum possible pond temperature at the beginning of a measurement episode. No evidence, either visual or quantitative, indicates any leak during the duration of measurements at East Mesa during 1979 and 1981. The experiments were conducted with no discernable difficulty with the exception that filling rates available from the geothermal wells were not sufficient to raise initial temperatures to desired values.

The sealed East Mesa pond has essentially the appearance of the Raft River sealed pond. It is slightly larger, of similar depth and has similar berm configuration (Figure 1). One difference is with the layer of soil over

TABLE 2. Physical Description of Sealed Spray/Cooling Pond at East Mesa, California

Water Surface Area:	Nominal 3259 m^2
Water Volume:	Nominal 4884 m^3
Depth (at pond center):	Nominal 1.5 m + 0.3 m mud
Altitude (mean sea level):	11 m
Number of Spray Nozzles:	64
Spray System Pump Capacity:	Nominal 3280 gallons per minute (0.207 m^3 s^{-1})

FIGURE 1. A Photograph of East Mesa Cooling/Spray Pond with Water Retention Pond in Background. View is looking WSW.

the liner at East Mesa; this provides liner protection and is not at variance with experiment objectives. Another is that the East Mesa pond is located adjacent to a larger pond near equilibrium temperature, i.e., responding only to meteorological and solar influences. The presence of this second pond was taken into account by instrumenting the study pond around its periphery--the data show what the study pond actually experiences in meteorological influences. A major difference is that the East Mesa pond is equipped with a spray system. The surrounding terrain is quite flat and mesquite grows to heights of two meters--but not above berm top elevation.

Spray nozzles were purchased from Spray Engineering Company, Burlington, Massachusetts and Nashua, New Hampshire, (ramp-bottom nozzle #1751) and 64 of these were installed by WESTEC on piping, designed by WESTEC, and responsive to Sprayco published specifications (Spray Engineering Co., 1977). Nozzles were located at five-foot elevation above nominal water surface and arranged in a rectangular array of sixteen clusters of four nozzles each. The layout of the spray nozzles and pond features is exhibited in Figure 2. Water was withdrawn during spray measurement episodes through the pond drain pipe by a large-capacity irrigation pump and returned to the pond through the nozzles. The pumping capacity was determined to be constant and at a rate very slightly smaller than that required for a full spray pattern per Sprayco specifications. The spray rate was measured by WESTEC (May 1981) to be 97% of the Sprayco-required rate of 3392 gallons per minute. Observation of the spray pattern dimensions, by visual comparison with known spray piping dimensions, indicates essential correspondence with the described pattern (Spray Engineering Co., 1977).

A comprehensive survey of the East Mesa pond was conducted by WESTEC following the 1981 experiments. The data obtained are adequate to enable a careful calculation of pond water volume for the range of applicable pond depths. In the horizontal, the pond was determined to be square to within 3% for shore dimensions of approximately 202 feet (61.5 m). Elevations were obtained at 41 locations over the essentially flat bottom and on the side slopes comprising the remainder of the pond bottom. An idealized (square) representation of the pond is exhibited in Figure 2. The survey was accomplished after pond draining and drying. A representative pond water depth was determined to be 1.5 m on top of 0.3 m of mud; this contrasts with a previously indicated 1.7 m of water as nominal water depth (Hadlock and Abbey, 1981).

The mud at pond bottom, above the liner, participates thermally in the process of heat exchange from the pond to the surroundings. It is reasonable to consider that the mud behaves, thermally, like water. This consideration takes into account the relative amounts of water and soil comprising the mud and the thermal capacities of each. The data indicate that lag times associated with mud cooling, due to different transfer coefficients, can be considered as a second order effect in calculations of total pond thermal performance. For the East Mesa pond, pond water depths are taken to be actual water depths plus 0.3 m in calculations of pond water volume. For the Raft River pond, with no mud above the liner, no such consideration is required.

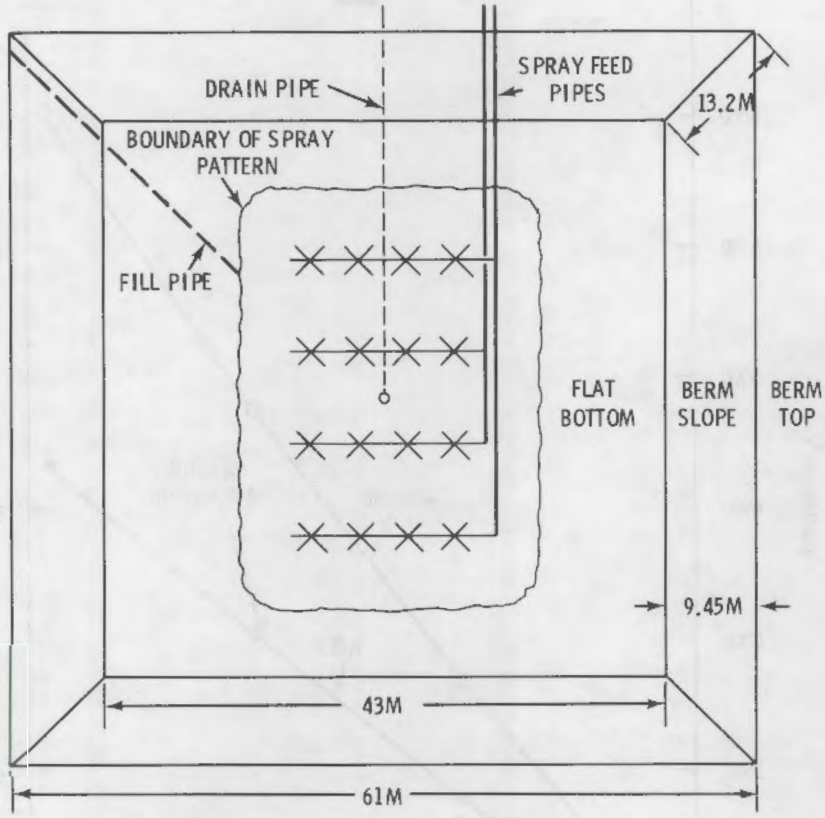

FIGURE 2. Diagram of the East Mesa Spray Pond Showing Approximate Major Dimensions and Pipe Locations. The wavy line delineates the pond surface directly distorted by spray water.

Figure 3 exhibits a staging curve by incorporating the survey data and the following assumptions:

- the pond dimensions, varying very slightly from those of a regular geometric figure, have been averaged to produce, for calculation, a regular geometric figure.
- The pond has the idealized shape of an inverted truncated pyramid.
- Water depth is shown as the apparent (actual) water depth. The contribution of the mud over the liner, however, has been included in the calculations of volume.

The information in the figure is representative and useful for consideration of all experiments performed at East Mesa. For precision calculations of water utilization, the apparent depth plus 0.3 m must be corrected for the changing water temperatures of the pond, stilling wells and connecting tubing.

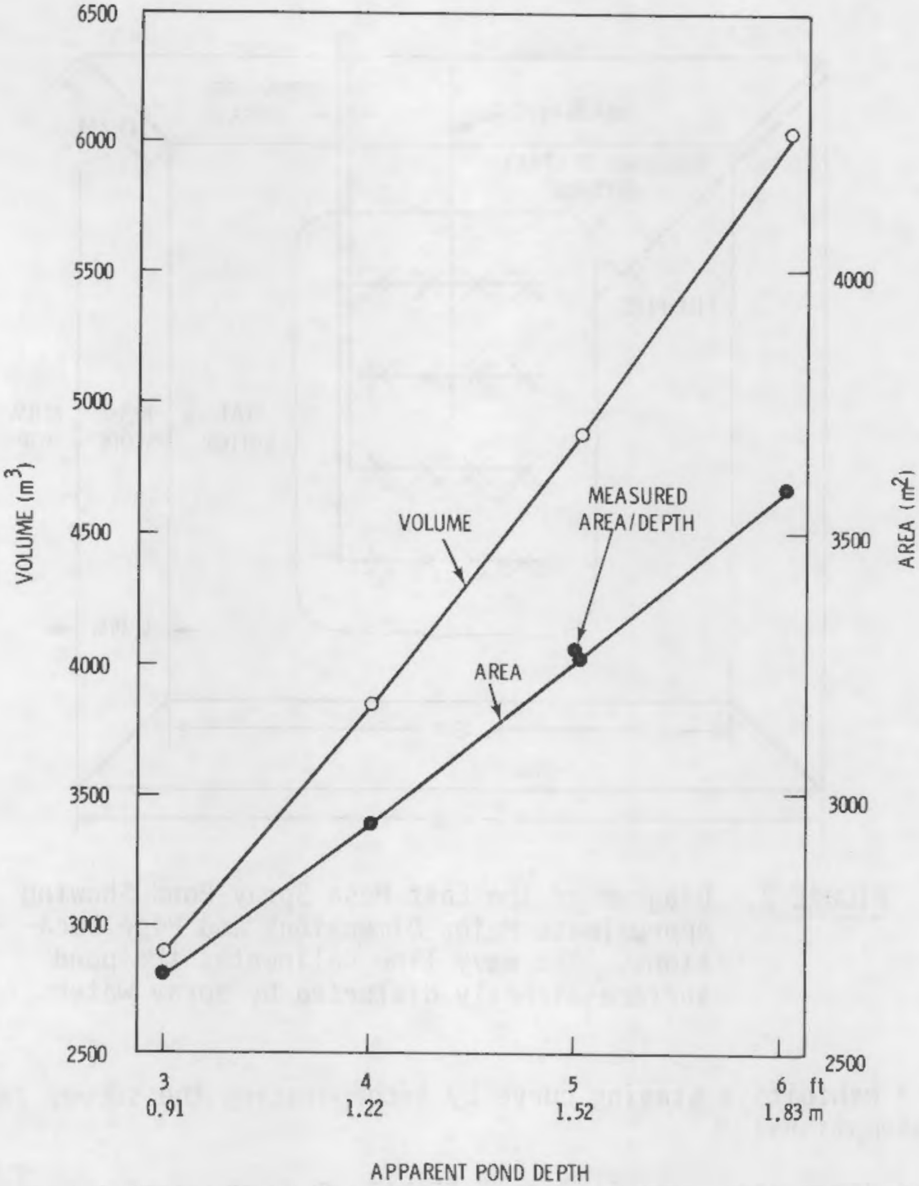

FIGURE 3. Water Surface Area and Volume of Water Plus Mud as a Function of Apparent Water Depth for East Mesa Pond. The apparent depth is that which would be obtained through use of a dipstick in the pond, with no corrections for temperature effects.

The figure indicates pond volume and water surface area as a function of apparent depth (the depth of water that would be obtained by reading a calibrated stick placed vertically in the water with the bottom of the stick touching the mud on the flat horizontal pond floor). However, the volume has been calculated taking into account the equivalent 0.3 m of water (0.3 m of mud). The volume and area are slightly nonlinear functions of depth because of the solid geometry involved. Also indicated on the figure is a confirmation of the representativeness of the data; an actual measurement of the surface area, for a known depth is shown. The actual value corresponds with the curve (idealized) value to within 0.5%.

The curves in the figure were constructed from equations prepared from the survey data. Volume of water and mud and surface area of water may be calculated for any required value of apparent water depth from the following expressions where h is the apparent water depth in meters:

$$\text{Volume (meters}^3) = 601.07 + 2098.52h + 423.77h^2 + 28.53h^3$$

$$\text{Area (meters}^2) = 1848.14 + 795.375h + 85.575h^2.$$

In summary:

- the data of Table 1 are representative of the Raft River sealed pond and no more complete data are available because the pond was destroyed prior to intended survey procedures.
- The data of Table 2 are representative of the East Mesa sealed pond. Mud over the liner must be taken into account in consideration of pond thermal performance. It is reasonable to consider that 0.3 m of mud behaves thermally as 0.3 m of water.
- Apparent pond depth is the depth of water that would be determined by reading a calibrated stick placed in the water, bottom on the mud. Figure 3 has this measure as its abcissa.
- Figure 3 exhibits the calculated pond volume (including 0.3 m mud) and water surface area as a function of apparent depth.
- For precision calculations relating to water utilization in particular, apparent depth data must be corrected for changing water temperatures. For example, the pond volume shrinks in result of decreasing temperature in addition to any change of volume due to evaporation. Further discussion of such temperature effects on pond volume is contained elsewhere in this report.

The geothermal fluid at both sites contains dissolved minerals and trace elements. It has been determined, by reference to tables in the CRC Handbook of Chemistry and Physics (Chemical Rubber Publ. Co., 1955) that the presence of these dissolved substances does not change thermodynamic properties of the fluid in any important way (less than 0.2%) from those of distilled or tap water. This conclusion has been verified by the WESTEC East Mesa onsite chemistry laboratory through reference to and consideration of relevant available literature (International Critical Tables, 1928). The properties considered include specific gravity, surface tension, specific heat, heat of evaporation, vapor pressure, and thermal conductivity. Table 3 lists some of the more

TABLE 3. Concentrations of Dissolved Minerals and Trace Elements in the Geothermal Fluid at Raft River and East Mesa

Constituent	Raft River (ppm)	East Mesa (ppm)
Cl^{-}	750	1400
CO_3^{--}	(a)	150
HCO_3^{-}	50	600
Ca^{++}	50	2
Na^{+}	450	1200
SO_4^{--}	60	(a)

(a) unknown, not available

concentrated and relevant chemical concentrations of the Raft River and the East Mesa geothermal fluid. During the time required to conduct an experiment series, these concentrations increased slightly due to a small concentrated residue remaining in the pond at completion of pond draining for each experiment. No oils or other evaporation- suppressing chemicals were in contact with pond water at any time at either site.

INSTRUMENTATION AND QUALITY ASSURANCE

The objective of the work at Raft River and East Mesa was to acquire high-quality data usable for the assessment of models predicting the thermal performance and water utilization of ultimate heat sinks. The accomplishment of this required the continuous monitoring of pond temperature and water surface elevation as well as the meteorological conditions influencing these quantities. Characteristic procedure has been to monitor the appropriate physical quantities as the pond cooled from an initial elevated temperature. To assure the quality and reliability of the obtained data, a series of before-and-after calibrations of sensors and systems have been performed; where applicable, reference standards were employed.

INSTRUMENTATION

Table 4 lists measurement instruments deployed at both the Raft River and the East Mesa ponds. Substantial description has been reported previously (Hadlock and Abbey, 1981). As many as 12 pond thermistors have been put into place for any given experiment. The harsh environment caused a reduction to as few as 9 operational for water temperature measurements at some times. These failures, not affecting the representativeness of the data, were due to extreme water turbulence in pond filling, and pressure and temperature impacts on the tiny bead sensor mountings. Under-liner thermistors have survived more than a year at East Mesa with no indication of degradation of signals representative of under-liner soil temperatures.

The pond surface elevation was determined with respect to an arbitrary reference level, by manual reading of water levels in stilling wells using hook gauges (Figure 4). The wells were located on the outside slope of a berm and connected to the pond water by approximately 35 m of flexible plastic tubing; the internal diameter of the tubing ranges from 1 to 2 cm. There were several advantages to this method. First, it was not necessary to risk personnel contacting the hot water, and therefore, readings could be obtained without the pressures of urgency and difficulty. Second, the long connecting tubes effectively smoothed fluctuations due to wave action at the pond surface; the tubes terminated at pond bottom along a line bisecting the pond area. Finally, three such systems were used, with tubes terminating on a line usually parallel to the wind direction so that pond tilt by persistent wind was taken into account. Pond tilt is not trivial; for persistent wind of 2-3 m s^{-1}, surface elevation may differ by centimeters from edge to opposite edge of the pond.

Total downward solar radiation (direct and diffuse) was measured with an Eppley precision pyranometer located within 10 m of pond edge. Net radiation, for all wavelengths, was measured over the pond surface with a dual hemisphere Fritschen-type radiometer. It has not been necessary to clean the protective domes of these sensors beyond normal maintenance procedures. The net radiometer over the pond surface does collect a film of deposited salts but essentially equally for upper and lower surfaces. Thus, the differentially measured

TABLE 4. Instrumentation Common to Raft River and East Mesa

Item	Comments
Pond Thermistors (Yellow Springs Instruments 44006)	9 to 12 thermistors in water at 3 levels (bottom, mid and near sfc.) and at 3 to 4 locations
Under-Liner Thermistors (YSI 44006)	5 in vertical line over 50 cm, top thermistor in contact with liner
Hook Gauges/Stilling Wells (Science Associates)	3 along pond centerline
Pyranometers (Eppley)	On roof of mobile laboratory, adjacent to pond
Net Radiometers (Fritschen type)	Over pond surface, between pond corner and pond center (1 m height), or on boom from raft
Aspirated Wet and Dry Thermistors (YSI 44006)	7 or 8; 2 on reference tower (1.5 m and 10 m), 2 on raft (1.5 m and 3 m), 3 or 4 pond edges (1.5 m)
3-Component Wind Speed (Direction) Sensors (R.M. Young, Gill)	6 or 7; 2 on reference tower (1.5 m and 10 m), 1 on raft (1.5 m), 3 or 4 pond edges (1.5 m)
Monostatic Acoustic Sounder (Radian)	50 meters from pond, stability indication to 600 m above ground
Rain Gauges (Various manufacturers)	4 wedges at pond corners, 2 tipping buckets, other large gauges
Barometer	High-resolution digital display in mobile laboratory or microbarograph
Whole-Sky Camera	Recording of cloud cover
Logging/Recording System (Metrodata/Digidata/ Kennedy)	All electrical signals continuously digitized and tape recorded at 2 or 5-second intervals

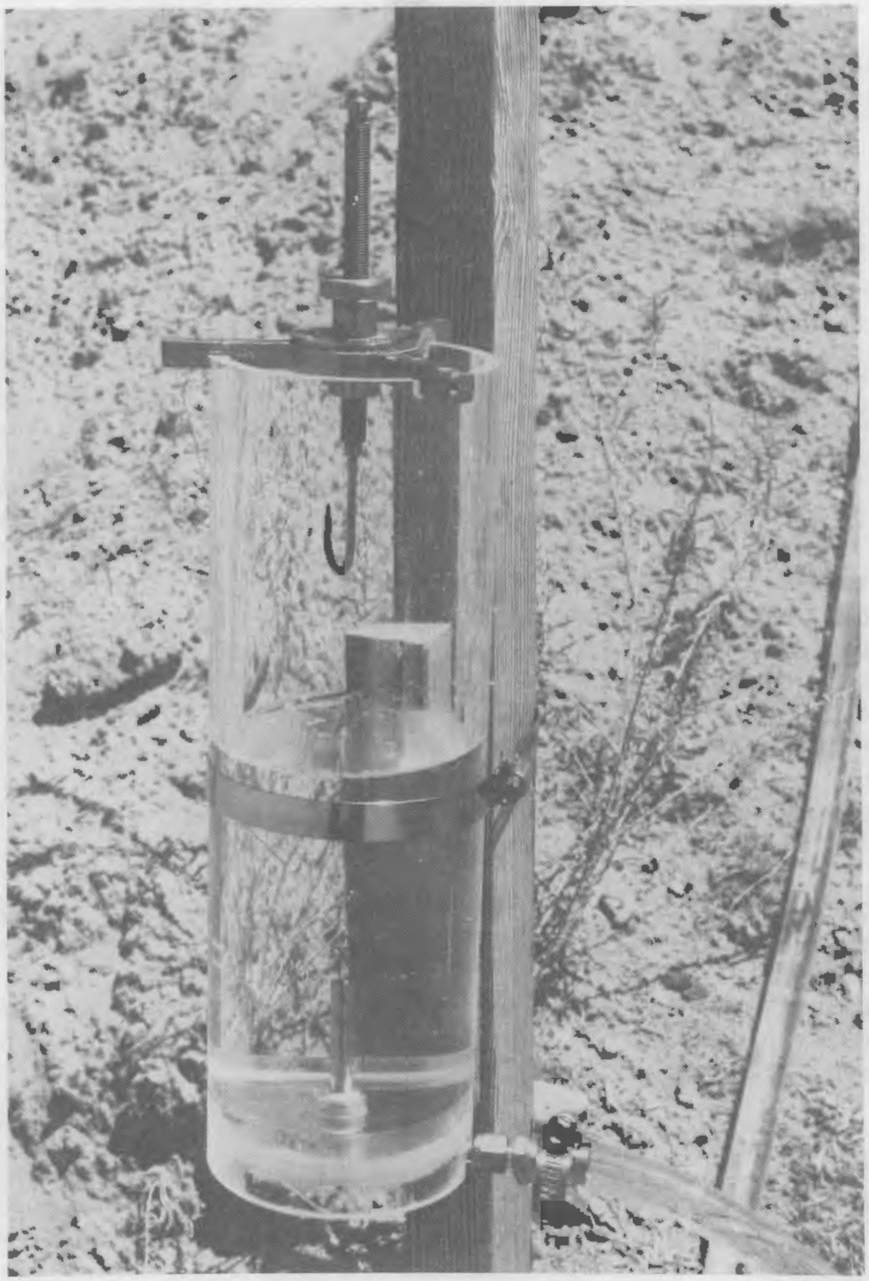

FIGURE 4. Photograph of a Hook Gauge in Place on a Plexiglass Stilling Well. The plastic tubing to the right runs over the berm and into the cooling pond.

radiation is not significantly perturbed. This is verified by no apparent change in performance before and after cleaning.

Air temperatures and humidities were measured by use of aspirated bead thermistors (dry and wet-wicked). The nested aspirator tubes functioned as solar radiation shields and were constructed in-house. The remote reference tower was located approximately 100 m from the pond to provide an undisturbed data base for comparison purposes. Wind speed, and thereby wind direction, was measured at the reference tower with 3 orthogonal propellers at each height. These temperature and wind sensors were also located on short towers around the pond periphery (Figure 5) and on a towable raft located near pond center; this raft is described in detail in Hadlock and Abbey, 1978.

A monostatic acoustic sounder enabled the acquisition of qualitative information concerning thermal structure on a vertical scale of hundreds of meters above the ground surface. The information was collected as a facsimile record with the intensity of display related to the strength of signal returned from air exhibiting thermal turbulence and for transition from one turbulence intensity to another, i.e., layering. This system was used at the sites considering that ponds at elevated temperature may be influenced by convection suppression on a scale somewhat larger than characteristic pond dimensions.

Precipitation of any form would affect the information contained in water utilization data in an important way. Operational and research-type rain gauges were deployed but there was a total absence of precipitation at both sites during all measurement activity except during Raft River 1 (1977). A digital barometer was used to obtain surface pressure at appropriate time intervals; the data are required for psychrometric conversions of dry and wet air temperatures. Cloud cover, affecting radiative exchange, was monitored with a camera equipped with a fisheye lens. The sky was photographed at 1/2-hour intervals. These photographs merely back up the actual radiative data.

With the exception of pond surface elevation, acoustic, precipitation, barometric, and photographic data, all sensor signals were recorded with a data logger connected to a 7-track digital tape recorder. Complete multichannel scans, including time information and reference system voltages were acquired in a small fraction of a second and recorded at 2 or 5-second intervals during the observation periods.

Table 5 lists instrumentation added for the East Mesa 1 (1979) experiments. Much of it was used for spray monitoring. Additionally, there was interest in definition of the quantitative thermal structure to 70 m above and near the pond as well as in examination of temperature detail at the water-air interface.

The tethered-balloon telemetry system enabled vertical profiling to provide additional data representing the over-pond temperature and wind environment. A typical profile, to a height of 70 m, was accomplished in 8 minutes with 12 levels recorded in this height range. Profiles were also obtained in the descent mode to complement the ascent profiles. The data obtained are reference data and do not represent the thermal plume of the pond. However, a balloon-borne package for dry and wet aspirated temperatures was located over pond center at a height of 15 m over the sprays through multi-tethering. The signals were returned to the data logger via a light-weight cable. These data are representative of thermal plume for very light wind conditions and a pond surface warmer than environment.

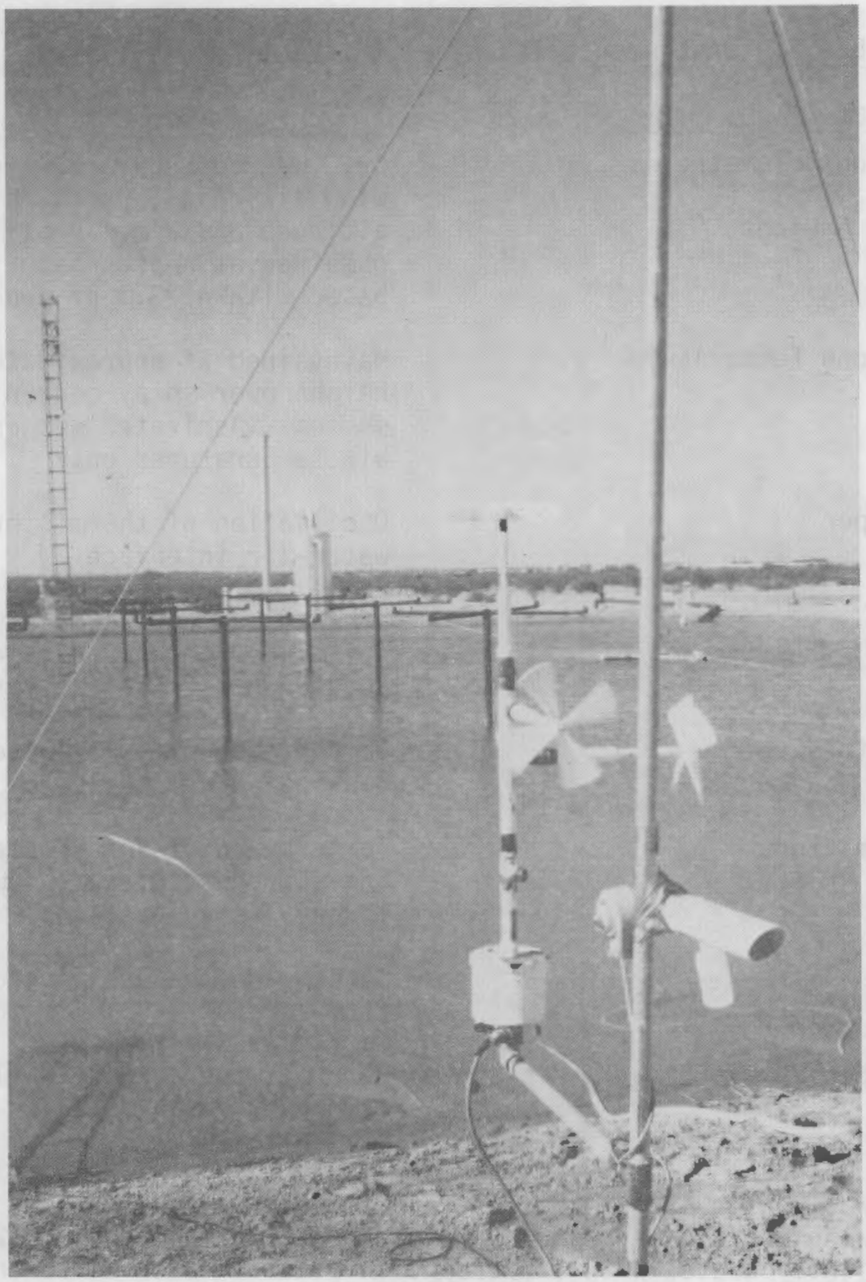

FIGURE 5. Photograph of East Mesa Pond Showing Location and Instrumentation of a Berm Tower

TABLE 5. Instrumentation Added for East Mesa 1 (1979)

Item	Comments
Tethered Balloon Telemetry System (A.I.R., Inc., Ambient Analysis)	Dry, wet temperature, wind speed, wind direction, pressure to altitude of 70 m. Profiles obtained at appropriate times, based within 20 m of pond edge
Over-Pond Balloon Temperature Package (YSI/in-house)	Maintained at approximately 15 m height over spray center of spray system. Aspirated wet and dry air temperatures only
Thermistor Dipper (YSI/in-house)	Oscillation of thermistor through water-air interface
Towable Floats (YSI/in-house)	Dry and wet air temperature at 0.5 m aboave water-air interface. Located near spray pattern
Nozzle Thermistors (YSI)	Temperature of spray water leaving spray nozzles
Collector Thermistors (YSI)	Temperature of spray water returning to pond surface. Towable through spray pattern
Drift Array	Detect and measure liquid drift from sprays
Strip-Chart Recorder	Record dipper, towable float temperatures

A device was constructed to oscillate a thermistor bead through the water-air interface with a cycle period of 5 minutes and an amplitude of 12.7 cm. The bead was lightly coated with a hydrophobic plastic material so that, when leaving the water, the indicated temperature of the bead was not affected by evaporation of water from the bead surface.

Aspirated thermistors, for wet and dry air temperatures 0.5 m above the water surface were located on towable small floats, in shields specially designed to minimize passage of liquid water drops past or onto the thermistors. These sensors were positioned from shore in locations of interest near the spray pattern (pond surface disturbed by falling drops). Three of the spray nozzles were equipped with thermistors in contact with the nozzle metal and heavily insulated from the surroundings. These sensors indicate the temperature of spray water leaving the nozzles. The temperature of the spray water, as it returns to the pond, is indicated by identical thermistors, located in three collection funnels mounted on towable floats. The funnels were insulated on exterior surfaces and chosen of a size to assure, in the spray pattern, a a continuous flow of spray water past the thermistors located in the funnel necks. It has been possible to tow these devices in and out of the spray pattern so as to produce some description of temperature variation in the sprays. This information is not complete; data for hot (>60°C) sprays is required.

For the wind speeds encountered at East Mesa, a maximum of 3.4 m s^{-1} (half hour average), drift was barely detectable from the spray system. An array of 30 sensitive-paper collecting stations was placed on the berms and downwind to distances of 30 meters. Additionally, 2 high-volume samplers were located on the berms up and downwind from the spray pattern. Dissolved salts in the geothermal water assist in the utilization of these sampling techniques. Drift from the sprays must, in part, evaporate prior to reaching the samplers. Drift can be of consequence in consideration of active spray water utilization.

Table 6 lists measurement instruments added to the East Mesa 2 (1981) experiment. These additional sensors were deployed to further define the energy budget of the physical system and improve the water utilization measurements.

TABLE 6. Instrumentation Added for East Mesa 2 (1981)

Item	Comments
Soil Temperature Thermistors (YSI)	Four sensors located in sandy soil ∿5 meters away from the berm at depths of 1, 3, 5 and 7 centimeters
Silicon-Cell Pyrometers w/Shadow Ring (Lambda)	Located next to pond net radiometer at ∿1 m above water surface. Used to define diffuse component of solar input
Stilling Well and Tubing Thermistors (Figure 6) (YSI)	Five sensors spaced between a stilling well and the pond to monitor temperature. Useful in temperature corrections to pond depth
Barograph (Weather Measure)	Provides continuous record of atmospheric pressure

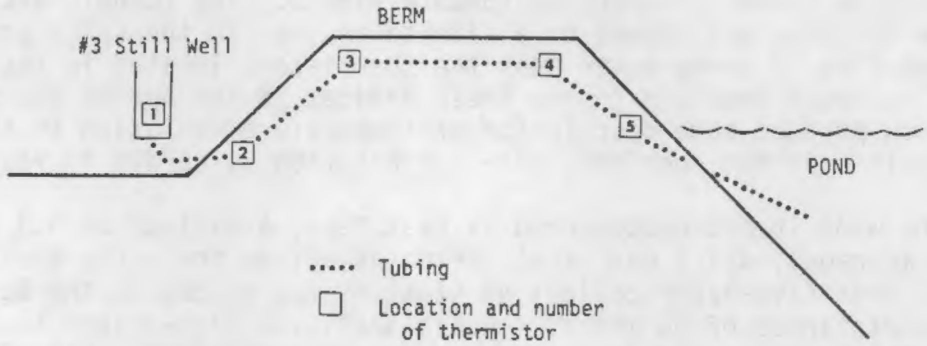

FIGURE 6. Diagram Showing Location of the 5 Thermistors Used During East Mesa 2 to Measure Stilling Well and Tubing Temperatures. Tubing was buried in the berm to a depth of 10-15 centimeters.

QUALITY ASSURANCE

It is the purpose and essence of quality assurance to define and implement adequate procedures of sensor and system calibration, of procurement and measurement operations responsive to objectives, of responsiveness to events going wrong (with corrective action), and to document all of the above. The bulk of documentation for Raft River and East Mesa data collection is contained in sets of real-time notes which exhibit a day-to-day diary of all related activity. Necessary attention is with data accuracy, resolution and representativeness. Table 7 indicates information relating to these criteria. Of prime importance is the water thermistor, hook gauge, radiometer, and electronics system accuracy and representativeness.

Thermistors in water and soil indicate the actual temperature (within 0.1°C) of the medium in which they are immersed. When applying the thermistors in electronic circuitry, care was taken to assure less than 0.002°C self-heating by design of low voltage bridges. The excitation voltages were provided by mercury cells with extreme stability and the excitation voltages were recorded continuously along with the sensor signals.

The hook gauges are mechanical devices similar to micrometers in operation and design. The scales are engraved in metal and, after setting, it is merely a matter of reading the scales. At each time of reading, at least two stilling well level measurements were made. In this way repeatability, a portion of representativeness, was established. Additionally, representativeness was further assured, as previously described by design to eliminate effects of pond tilt due to persistent wind and also wave effects. However, spatial and temporal temperature variation in the measurement system must be considered further.

System end-to-end checks, in the field, are the "bottom line" of a procedure to assure an accurate (not necessarily representative) data collection

TABLE 7. Listing of Sensor/System Performance Checks

Item	Comments
Thermistors (water, soil)	Calibrated in controlled water bath before and after application. Accuracy 0.1°C. Resolution 0.02°C. Representativeness absolute.
Thermistors (air)	Intercompared in controlled laboratory air before application. Accuracy 0.1°C. Resolution 0.02°C. Representativeness 0.5°C (dry), 1.0°C (wet).
Hook Gauges	No calibration required. Resolution 0.001 cm. Repeatability 0.002 cm.
Pyranometers	Factory calibration prior to application.
Net Radiometers	Factory calibration prior to application. Intercomparison procedure after application.
Wind Sensors	Wind tunnel performance check prior to application. Bearing maintenance, new factory propellers.
Acoustic Sounder	No calibration required.
Barometer and Barograph	Before and after application check against standard mercury barometer.
Tethered-Balloon System	Factory calibration and intercomparisons.
Digital Recording System	Application of known voltages. Accuracy and resolution 0.001 volt.
Strip Chart Recording System	Application of known voltages.
Sensor-to-Recorder System (includes cables)	Application of known voltages and resistances. Synchronous motor on wind sensors.
Software for Data Averaging	Application of dummy data to computer programs.
Overall System Accuracy	Same as sensor accuracy.

system. Precision resistors were temporarily substituted for thermistors, divided mercury cells for voltage sensors, and synchronous motors for anemometer propellers. Sensor signal correction data may then be applied as and if required; the actual sensors are, generally, calibrated independently. Redundancy of sensors also assures data validity.

MEASUREMENT SCHEDULE

The data discussed in the following sections and presented in the appendices were obtained during four separate measurement programs; two at Raft River, Idaho, and two at East Mesa, California. The names, dates, starting times and durations of individual experiments are listed in Table 8. Also indicated is spray system usage at East Mesa.

Details for the first three programs, called Raft River 1 (RR1), Raft River 2 (RR2) and East Mesa 1 (EM1) have been discussed in earlier publications (Hadlock and Abbey, 1978 and 1981).

The East Mesa 2 (EM2) program was started on June 10, 1981. Initial intent had been to run two groups of cooling experiments--with and without sprays. Because of technical problems with the geothermal wells, the cooling pond (no sprays) experiments were conducted first using somewhat limited flow rates of geothermal fluid. Pond temperatures much above 50°C were not attained because of reduced available flow. However, pond cooling from those levels was monitored for six cycles (I - VI). When it became clear that greater flow rates would not be obtainable, the spray portion of the program was cancelled.

TABLE 8. Measurement Schedule at Raft River and East Mesa

Experiment	Dates	Start Hour	Duration	Sprays?
RR1 - I	27-29 April 77	1000	48 hours	No
RR1 - II	01-04 May 77	1000	72 hours	No
RR2 Cool I	25-27 July 78	0830	48.5 hours	No
RR2 Hot I	30 July-01 August 78	1430	44.5 hours	No
RR2 Hot II (leak)	03-04 August 78	1100	16.5 hours	No
RR2 Hot III	08-10 August 78	1830	37.5 hours	No
RR2 Hot IV	04-06 October 78	1930	43 hours	No
EM1 Cool I	16-20 September 79	0630	99.5 hours	Yes
EM1 Warm I	22-24 September 79	1330	43 hours	Yes
EM1 Warm II	27 September 79	0130	20.5 hours	Yes
EM1 Warm III	01-02 October 79	0830	24 hours	Yes
EM2 - I	16-18 June 81	1600	44 hours	No
EM2 - II	20-22 June 81	1500	48 hours	No
EM2 - III	23-25 June 81	1800	48 hours	No
EM2 - IV	27-29 June 81	0900	48 hours	No
EM2 - V	30 June-2 July 81	1900	48 hours	No
EM2 - VI	04-05 July 81	0700	24 hours	No

MEASUREMENT SCHEDULE

The data discussed in the following sections and presented in the appendices were obtained during four separate measurement programs: two at Raft River, Idaho, and two at East Mesa, California. The names, dates, starting times and durations of individual experiments are listed in Table 6. Also indicated is spray system usage at East Mesa.

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EM1 Cool I	16-20 September 79	0630	99.5 hours	Yes
EM1 Warm I	22-24 September 79	1330	43 hours	Yes
EM1 Warm II	27 September 79	0130	20.5 hours	Yes
EM1 Warm III	01-02 October 79	0830	24 hours	Yes
EM2 - I	16-18 June 81	1600	44 hours	No
EM2 - II	20-22 June 81	1500	48 hours	No
EM2 - III	23-25 June 81	1800	48 hours	No
EM2 - IV	27-29 June 81	0900	48 hours	No
EM2 - V	30 June-2 July 81	1900	48 hours	No
EM2 - VI	04-06 July 81	0700	24 hours	No

DATA DESCRIPTION

Four data volumes (Appendices A-D) present the primary information obtained in the measurement programs. The information from Raft River and East Mesa 1 has appeared in previous reports (Hadlock and Abbey, 1978 and 1981) but is included here for completeness.

In each program, additional data, e.g. atmospheric pressure, underliner temperature, soil temperature, etc., were collected and are not reported in the data volumes. However, where appropriate and useful, such information is included in the data discussion.

Table 9 shows a symbol key for the data volumes from Raft River and East Mesa 1. Most entries are half-hour averages of 1.96 second (RR1) or 5 second (RR2 and EM1) data. The averages are centered around the quarter hours and the times presented are the end of the period. The surface elevation values are averages of the instantaneous readings of several hook gauges.

Table 10 shows a symbol key for the data volume from East Mesa 2. The information is similar to that in the previous volumes with the following differences:

1. no standard deviation is given for mean pond temperature

2. a stilling well temperature is given

3. radiation values are reported as a flux (Wm^{-2}) and not as power (megawatts) for pond total surface

4. wind speeds are given only for the East berm tower and the remote tower

5. the temperatures at the berm towers were not averaged together to give a "periphery" value; instead only East berm temperatures are reported.

6. averages are centered around the half hours and the times presented are the center of the period.

TABLE 9. Key to Data Volume for Raft River and East Mesa 1-- Appendices A, B and C

Raft River	Times are Mountain Daylight Time (24 hour scale)
$\bar{T}$	mean bulk pond temperature, average of 9-12 thermistors (°C)
s	standard deviation of mean temperature data (°C)
Sfc.	pond surface elevation with arbitrary reference height, average for three gauges (cm)
Rad Down	total downward radiation over entire pond surface (calculated in megawatts)
Rad Net	net radiation over cooling pond, negative is net upward radiation (calculated in megawatts)
W/S	wind speed ($m\ s^{-1}$); one level on raft, two on reference tower. Average of 3 (RR) and 4 (EM) berm sensors is listed for "periphery"
Tw	wet bulb air temperature (°C), average for periphery as for W/S
Td	dry bulb air temperature (°C), averaging for periphery as for Tw

East Mesa	Times are Pacific Daylight Time (24 hour scale) Symbols are same as Raft River except:
$\bar{T}s$	(Coll) - mean funnel (spray collection) temperature (°C) (Noz) - mean nozzle (spray production) temperature (°C)
Rad Net	(Quiet) - measured over undisturbed pond surface (megawatts) (Spray) - measured over sprays, 2 m above maximum spray height height (megawatts) (Ball) - starting with EM Warm I, over-pond 15 m above sprays, balloon dry and wet bulb temperatures are listed as a "top" level under "periphery"

TABLE 10. Key to Data Volume for East Mesa 2--
Appendix D

All times are Pacific Daylight Time (24 hour scale)

$\bar{T}$	Mean bulk pond temperature (°C); an average of 9-12 thermistors
Sfc Elevation	Pond surface elevation (cm) with arbitrary reference height; average of three hook gauges
Stillwell $\bar{T}$	mean water temperature (°C) inside stilling wells at time of sfc elevation reading
Shortwave Incoming	Solar radiative flux, direct and diffuse (W/m^2)
Net All-Wave	Net radiative flux over pond (W/m^2)
Wind Speeds	Speeds (m/sec) at East berm tower (1.5 above ground level) and remote tower (4.8 m agl)
Air Temperatures	Dry and wet bulb temperatures (°C) for: East berm tower (1.2 m agl) pond tower (raft) (1.0 m agl) (2.0 m agl) remote tower (4.8 m agl) (9.0 m agl)

TABLE 10. Key to Data Volume for East Mesa 2--
Appendix D

All times are Pacific Daylight time (24 hour scale)

T	Mean bulk pond temperature (°C); an average of 9-12 thermistors
Sfc Elevation	Pond surface elevation (cm) with arbitrary reference height; average of three hook gauges
Stillwell T	mean water temperature (°C) inside stilling wells at time of sfc elevation reading
Shortwave Incoming	Solar radiative flux, direct and diffuse (W/m^2)
Net All-Wave	Net radiative flux over pond (W/m^2)
Wind Speeds	Speeds (m/sec) at East berm tower (1.5 above ground level) and remote tower (4.8 m agl)
Air Temperatures	Dry and wet bulb temperatures (°C) for: East berm tower (1.2 m agl) pond tower (raft) (1.0 m agl) (2.0 m agl) remote tower (4.8 m agl) (9.0 m agl)

DATA DISCUSSION

The two most important indicators of pond performance are discussed first, i.e., changes in bulk pond temperature and changes in pond surface elevation. The need for correction in the elevation measurements is explained with an example. Next, the meteorological influences on the pond are summarized. Finally, three aspects of air-water interaction are discussed: temperature and moisture plume, spray effects, and energy budgets.

POND PERFORMANCE

Table 11 summarizes the 17 separate pond cooling experiments. The table contains initial and final bulk pond temperatures, decrease in surface elevation over the period (uncorrected) and air temperature range encountered. The pond temperatures help characterize each experiment. There were only two very hot (>70°C) experiments (RR2 - Hot II and Hot IV) and the first was terminated by a leak. However, a variety of conditions were encountered during the measurement program.

The pond bulk temperature is an average of as many as 12 thermistors arranged in vertical chains. These are located near pond center (or just outside the spray pattern) and at the center of each side of the pond at about where the berm slope levels off to become the flat pond bottom. At no time at Raft River or at East Mesa has any substantial temperature stratification been observed in either the vertical or horizontal during measurement episodes except for an interface temperature departure. This is indicated by the small magnitude of the temperature standard deviation displayed in the Raft River data appendix. The data show a similar invariance for East Mesa; a standard deviation is not listed in the East Mesa appendix.

It is important to be able to assert that the ponds do not leak. There is evidence that leaks have not existed at either site except during RR Hot II:

1. Observation--with the exception mentioned, no moisture has been observed on the outside of any berm at any time. A leak of consequence, say to amount to 10% of observed water loss, would produce a depth decrease of about 0.6 cm in 24 hours. This translates to about 19 m^3 over 24 hours--a flow through a berm that would be detected casually.

2. Procedure--WESTEC personnel have "topped off" the East Mesa pond during the summer of 1980 (no rain) at an average rate of about 0.3 cm/day (in amounts of about 10 cm at a time). This is reasonable based on expected summer evaporation only.

3. Under-Liner Temperatures--during all experiments, vertical temperature gradients in the soil below the liner are as expected depending on experiment history and instantaneous pond temperature. During RR Hot II, the gradient became essentially zero as would be expected (increased thermal conductivity, but more importantly, advection of water at bulk

TABLE 11. Summary of the Seventeen Pond Cooling Experiments

Measurement Program	Expt. No.	Initial Pond $\bar{T}$ (°C)	Final Pond $\bar{T}$ (°C)	Decrease in sfc Elevation (cm)	Duration (hr)	Air Temp. Range (°C)
RR1	I	47.4	27.0	--	48	4.5 - 11.8
RR1	II	50.5	25.5	--	72	5.9 - 13.6
RR2	Cool I	24.9	24.3	1.79	48.5	11.7 - 35.5
RR2	Hot I	61.1	31.5	9.18	44.5	10.9 - 34.8
RR2	Hot II (leak)	70.8	42.5	>5.80	16.5	10.7 - 32.4
RR2	Hot III	53.5	31.5	>6.63	37.5	9.1 - 34.6
RR2	Hot IV	71.8	31.4	11.46	43	0.4 - 24.0
EM1	Cool I	41.9	24.6	9.97	99.5	20.5 - 40.7
EM1	Warm I	51.9	23.4	10.31	43	21.5 - 41.7
EM1	Warm II	47.2	28.7	6.32	20.5	20.1 - 38.7
EM1	Warm III	47.5	25.7	6.97	24	19.3 - 38.8
EM2	I	45.8	33.4	4.14	44	19.3 - 45.3
EM2	II	45.9	34.5	4.78	48	24.0 - 44.3
EM2	III	50.0	35.7	5.39	48	25.3 - 44.3
EM2	IV	50.9	32.4	6.14	48	25.6 - 41.2
EM2	V	48.0	34.1	5.42	48	22.2 - 40.0
EM2	VI	45.8	37.5	3.10	24	28.7 - 43.7

pond temperature past all of the thermistors). The Raft River thermistor chain recovered within hours after liner repair. No such event occurred at East Mesa.

4. Low-Evaporation Measurement--during early December 1980, the East Mesa pond level was monitored with a result of no more than 1 mm/24 hours water loss. This puts an upper limit on a hypothetical (small) leak. More likely, there is no leak since 1 mm/24 hours is a reasonable (by comparison with simultaneous pan data) expectation for evaporation in winter at East Mesa.

Water surface elevation entries in the data volumes are averages for three stilling well systems. Attention to the representativeness of these data as indicative of evaporation from the pond is required. The elevation data may be affected by wind acting on the pond surface to produce a tilt. This would adversely affect the elevation data although sensors were located so as to minimize the potential effect. Elevation data are also affected by changing temperatures exterior to the pond, causing expansion or contraction of a portion of the measurement system and the fluid it contains. It is wise, with respect to making calculations utilizing these data, to choose a time interval with similar conditions of wind and ambient temperature at beginning and end. An appropriate interval is 24 hours. If this interval is chosen, usually the described effects on the data may safely be neglected.

However, a remaining and important effect of temperature change on the surface elevation data must be taken into account prior to using the data as indicative of evaporation. It is necessary to describe and discuss the measurement system in more detail. Figure 7 shows two representations of possible measurement systems. An "ideal" system is represented by the upper drawing and the actually deployed system by the lower drawing. Consider the ideal system, i.e., as if the tube connecting the stilling well goes through the pond berm into the pond water. Aside from the effects described previously, the gauge in the well will accurately indicate the pond surface elevation. If water leaves the pond through evaporation or other processes such as seepages, the gauge will indicate these changes. If the pond shrinks in depth by cooling, the gauge will not indicate the shrinking due to the cooling per se; it responds to weight (mass) change in the pond only. This would be a useful configuration at the pond sites. However, it has not been convenient to insert measurement system tubes through the pond liner. The risk of producing leaks would likely outweigh advantages.

The actual configuration of the measurement systems is illustrated by the lower drawing. Here, the tube comes out of the pond water, over the berm, and into the stilling well. It is important that the filled tube, essentially a static syphon, has no leaks. If a sufficient amount of air enters the tube, the measurement system will cease to function. Again, the system will indicate changes of pond level due to mass changes in the pond. But in addition the system will indicate an apparent water loss from the pond as the pond and the exposed right-hand side of the tube cools during an experiment. As the pond cools, the water volume shrinks and the elevation of the water surface decreases. This is exhibited in addition to real water loss due to evaporation. In order that hydrostatic balance remains, the left side of the system must become "longer." This happens in result of a water surface elevation decrease in the well; there is a tiny exchange of water between well and pond.

If the stilling well-pond system were isothermal during experiments, changes in pond elevation would be accurately represented by hook gauge measurements in the actual system. However, parts of the system (stilling well and pond) change in temperature over ∿25°C (25 to 50°C). The tubing temperature has a range of ∿30°C (30 to 60°C). Pond temperatures generally decrease, but show afternoon heating at lower bulk temperatures (<35°C). The impact of these temperature changes on determination of apparent vs. actual water volume must be given attention.

Consider changes of pond volume over two arbitrary time intervals of 1 hour and 24 hours. The following calculated values of apparent actual water loss are obtained from data of EM2, Experiment 4. Apparent value was

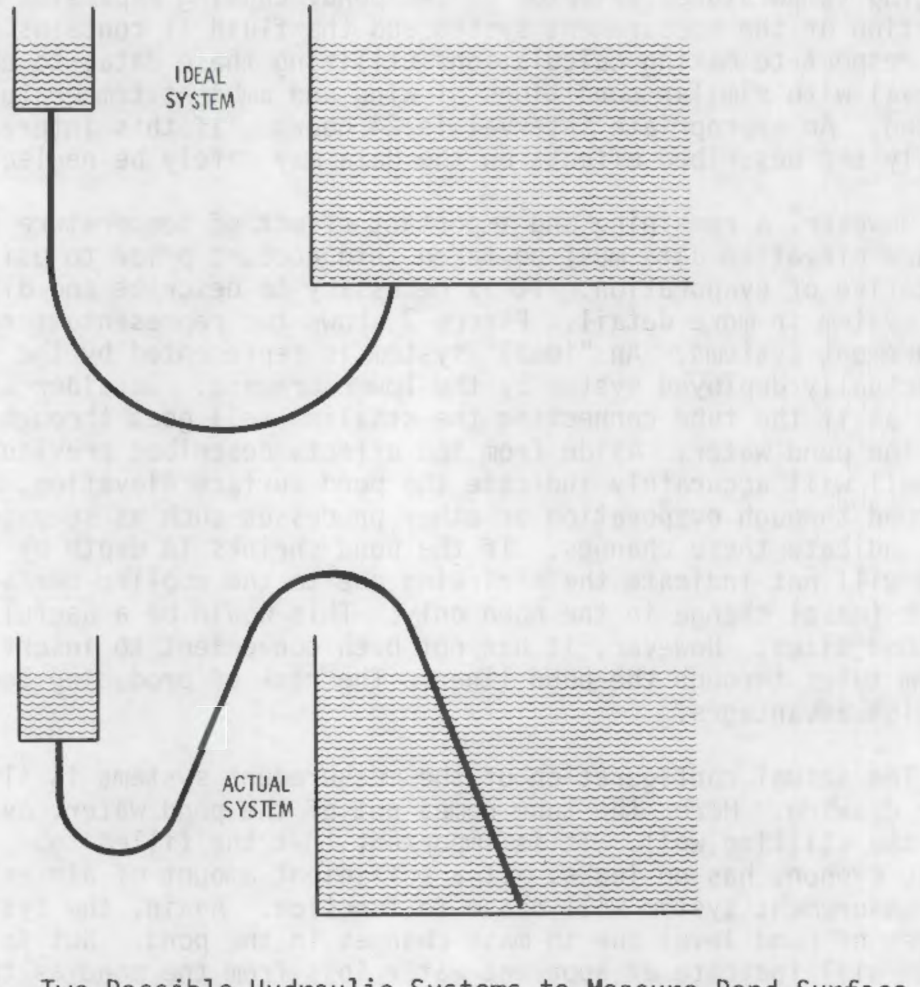

FIGURE 7. Two Possible Hydraulic Systems to Measure Pond Surface Elevation. The lower example represents that used at Raft River and East Mesa.

calculated directly from measured surface elevations using the relationship discussed earlier. Corrections to volume were made using data on water volume and density changes with temperature (Kell, 1967).

	Apparent Volume (m^3)	Actual Volume (m^3)	Water Loss Apparent (m^3)	Water Loss Actual (m^3)	Error Due to Temperature Change ΔV (m^3)	Error Due to Temperature Change Δh (m^3)
Initial	4727.6	4727.6	--	--	--	--
1 hr	4718.3	4719.8	9.3	7.8	1.5	0.08
24 hr	4581.5	4608.7	140.0	118.9	21.1	0.82

As indicated, significant error can be made in pond volume calculations from elevation measurements and, thus, in water utilization calculations unless corrections are made for temperature-related changes in volume.

The stilling wells undergo a much greater diurnal change in temperature than does the pond, largely due to direct solar influence. If a well water water volume of 1600 cm^3 is assumed, a 0.9% increase in volume will be observed as temperature increases from 25 to 50°C. This translates into a water level change in the stilling well of 0.0227 cm. A similar calculation for the tubing can be done. Such thermally induced indications of pond volume changes are based on maximum temperature changes of the stilling well and tubing. Figure 6 shows the location of thermistors used to monitor the system. Figure 8 shows a representative 24 hours of system component temperatures. If water utilization is determined over a period of maximum heating or cooling, temperature corrections for stilling well and tubing are important. However, over the 1 hour period which is the standard measurement interval, changes in water volume would be slight and below the resolution of the hook gauges. Similarly, for calculations over a 24 hour period, temperatures have moved through a complete diurnal cycle and differences are again small.

Temperature corrections must be made for pond volume as determined from surface elevations for all the data. No corrections to elevations have been displayed in the data volumes. Table 12 illustrates the total error possible. It shows the apparent and correct volume changes over each of the East Mesa 2 experiments. In terms of thermal performance, an error of water utilization of $\sim$20 m^3 over 2 days represents $\sim$0.5 megawatts.

Figure 9 illustrates water utilization for the first twenty-four hour period of EM2-I. As the upper graph shows, water loss is large in the first several hours and then becomes somewhat stable. The fluctuations apparent in the loss rates are attributed to variations in wind and other meteorological influences. The curves show a slight diurnal effect, with rate of water loss increasing late in the afternoon.

It is useful to summarize the importance of the corrections required to achieve meaningful information of changing real pond volume, i.e., water loss through evaporation only.

- During the experiments, the pond cools from higher temperatures to lower temperatures and, therefore, a portion of the measured surface elevation change is not indicative of water loss. The pond shrinks in result of the decreasing temperature of measuring system configuration results in showing the thermal portion as well as that due to evaporation. Correction to the surface elevation data is required for any time period considered for calculations.

- During the experiments, the stilling wells and connecting tubing experience temperature change. The important part of this change is the

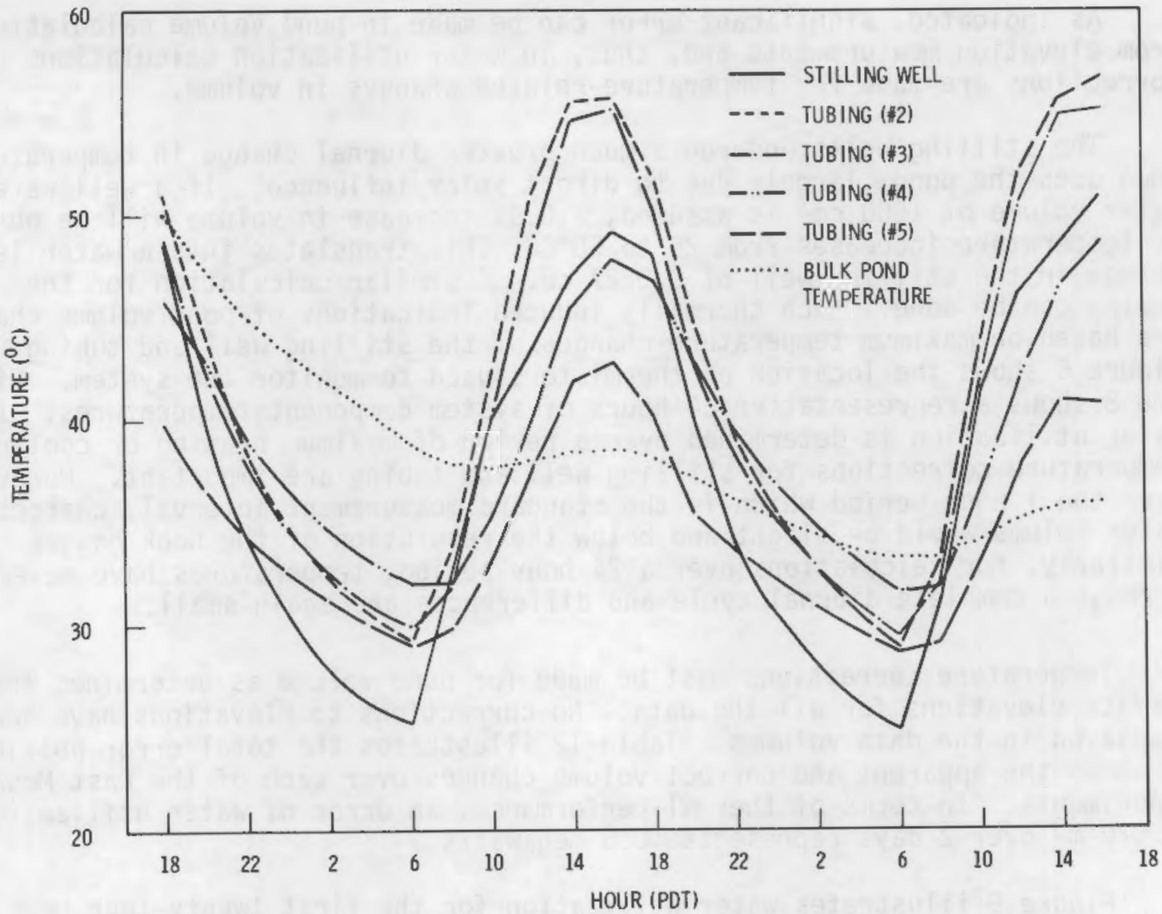

FIGURE 8. Temperatures of Stilling Well, Tubing and Pond on June 22-25, 1981 (EM2 - Experiment 3)

TABLE 12. Initial Pond Depth and Depth Change Over the Experimental Periods of East Mesa 2 (1981)

Expt. No.	Initial Depth (m)	Depth Change (cm)	Measured Volume Loss (m^3)	Corrected Volume Loss (m^3)
1	1.48	4.141	145.7	123.9
2	1.49	4.784	168.6	148.3
3	1.48	5.389	189.2	162.8
4	1.49	6.135	215.8	182.3
5	1.59	5.424	197.D	170.0
6	1.65	3.099	115.1	97.8

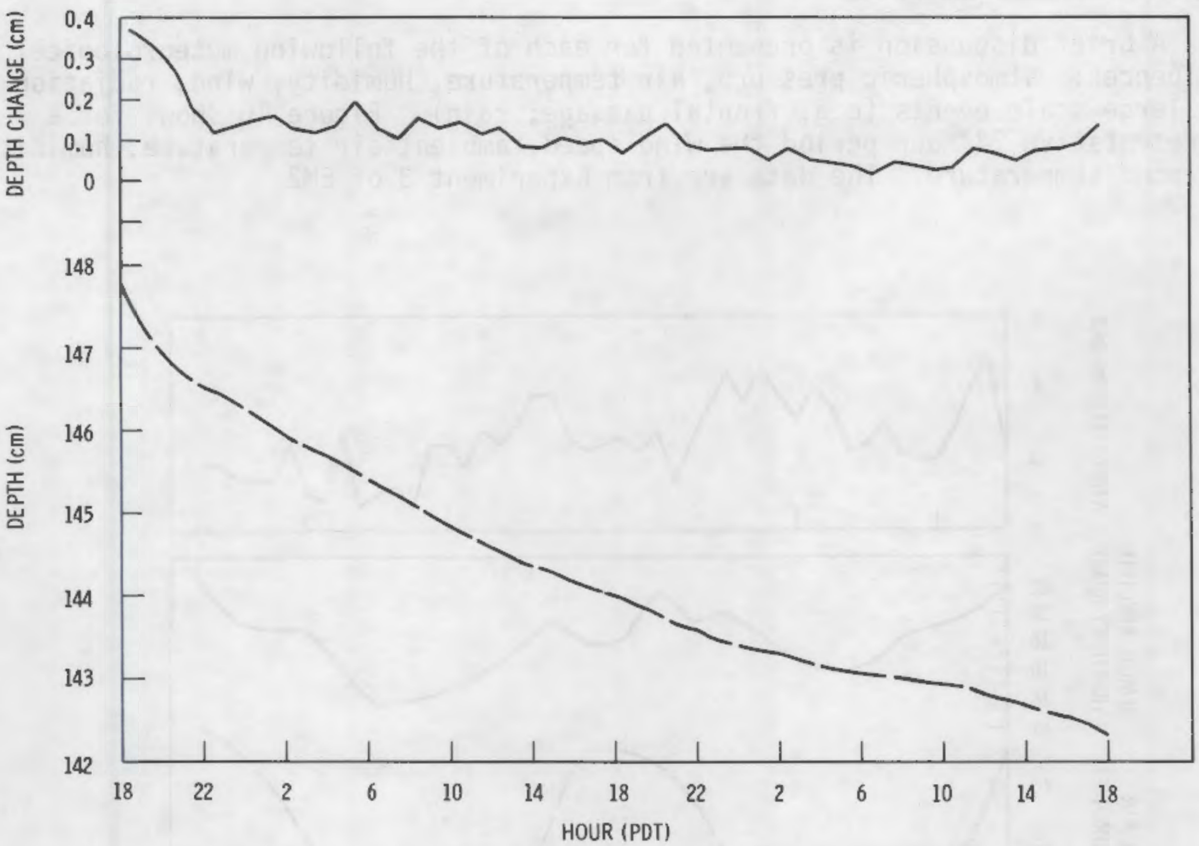

FIGURE 9. Pond Depth (apparent) and Depth Change Per Hour for June 16, 1981 (EM2-1). The data have not been corrected for temperature variation.

effect of the diurnal oscillation of ambient air temperature and direct thermal loading from the sun. If calculations will involve water loss over an hour, corrections to apparent elevation change of the pond must be made, especially at times of maximum hourly temperature changes. However, if it is desired to examine evaporative water loss over a twenty-four hour period, thermal conditions of the measuring system at beginning and end are sufficiently similar that these effects may be neglected.

- Representative indication of the relative magnitudes of thermal effects on indicated pond surface elevation are given in the tables. Depending on the exact calculational or modeling purpose at hand, the data of surface elevation in the appendices must be corrected for the thermal effects.

METEOROLOGICAL INFLUENCES

A brief discussion is presented for each of the following meteorological influences: atmospheric pressure, air temperature, humidity, wind, radiation and large-scale events (e.g. frontal passage; rain). Figure 10 shows for a representative 24 hour period the wind speed, ambient air temperature, humidity and pond temperature. The data are from Experiment 3 of EM2.

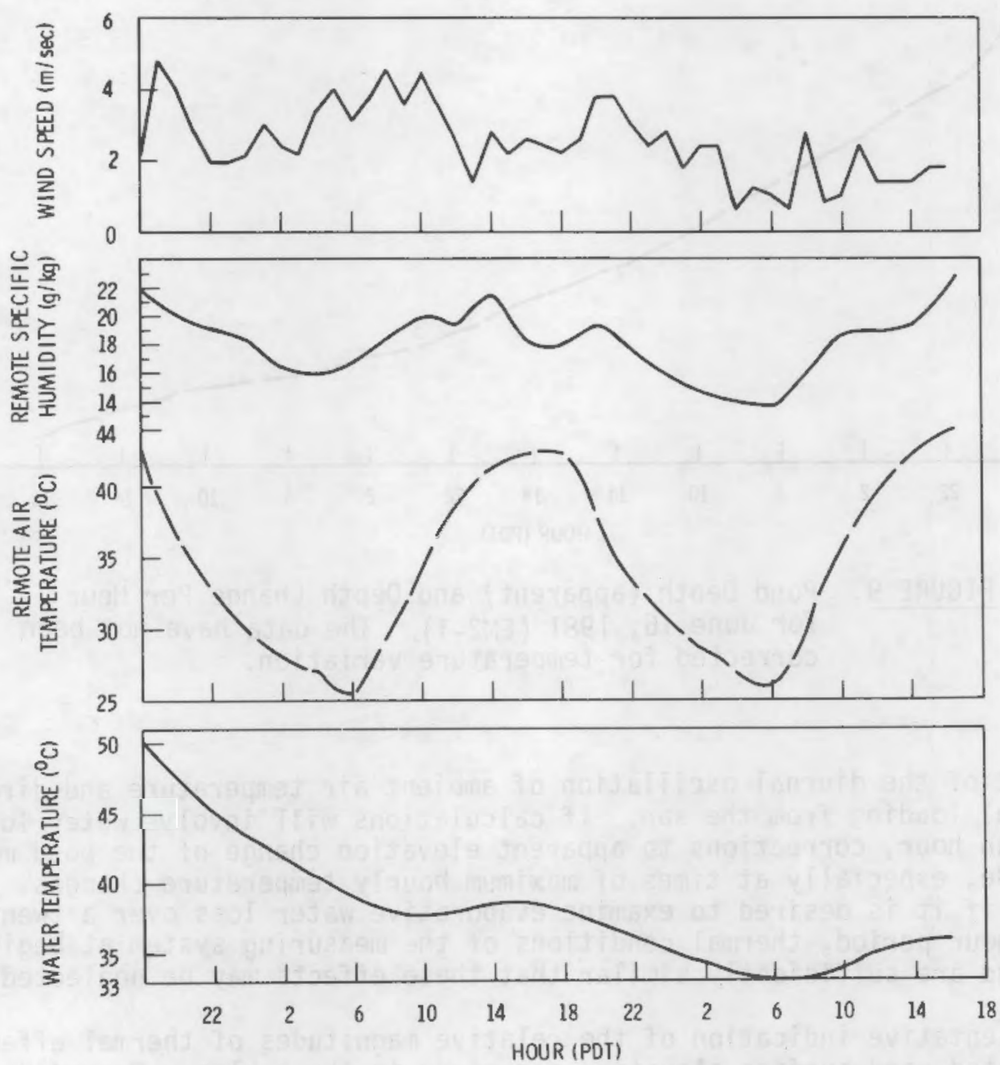

FIGURE 10. Pond and Atmospheric Conditions for EM2 - Experiment 3. Plots are Based on 1/2 hour averages of 5-second data.

Atmospheric Pressure

Atmospheric pressure data are necessary for psychrometric calculations. However, large changes in pressure were not observed during any experiments. Pressure data showed expected daily variations and were influenced by large-scale meteorological events. Hourly values of pressure are not available for the Raft River or East Mesa 1 experiments. A range of applicable pressures for each program is given below:

Raft River 1 - 840 - 860 mb

Raft River 2 - 840 - 860 mb

East Mesa 1 - 1000 - 1020 mb

Table 13 gives a summary of pressures during East Mesa 2. The data were extracted from microbarograph charts for this experiment series. It is not considered that the pressure data detail is of first-order importance for calculations or modeling purposes.

Air Temperature

Dry and wet-bulb temperatures are presented in the data volumes. In all cases air temperatures are available for at least 3 locations: over pond, berm and at the remote tower. Given this information, it is possible to examine the temperature gradient above the pond as it controls sensible heat transfer. Figure 11 shows air temperature (remote) and pond bulk temperature for a 24 hour period during EM2 - I. At night, heat transfer by conduction is away from the pond. However, at mid-day, the gradient is reversed. With a warmer pond, this would be an unlikely occurrence. Figure 12 shows a similar example from RR2 - Hot IV. The pond is hotter but air temperatures are also much lower. Conduction is always away from the pond. An important aspect of cooling pond performance is the temperature difference between the pond surface and the ambient air.

Table 14 shows pond influence on air temperature. The data illustrate a 4 hour period when the wind was steady from one direction. Air temperatures downwind of the pond are greater than upwind values due to sensible heat transfer from the pond surface at temperatures exceeding 43°C.

Humidity

Humidity is not directly expressed in the data volumes. Such information can be calculated from the wet bulb temperature and the wet bulb depression. The humidity gradient over the pond controls evaporative losses. Figures 13 and 14 show the remote specific humidity (q_a) and the saturation specific (q_s) humidity for air at the pond temperature. While it is the specific humidity

TABLE 13. Atmospheric Pressures During East Mesa 2, 1981 (millibars)

Date	June																July			
Time	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4
(PDT)MT	--	1008	1004	999	--	1002	1002	1002	1000	999	1002	1002	1000	999	1001	1002	1003	1004	1005	1001
2	--	1008	1004	1000	--	1003	1002	1002	1000	1000	1002	1003	1001	999	1001	1002	1003	1004	1005	1002
4	--	1008	1003	1000	--	1003	1003	1002	1000	1001	1003	1004	1002	999	1001	1002	1003	1004	1006	1003
6	--	1009	1003	1001	--	1003	1004	1002	1002	1002	1004	1004	1002	1000	1001	1002	1004	1005	1006	1004
8	--	1009	1004	1004	--	1005	1005	1003	1003	1004	1005	--	1003	1003	1003	1004	1005	1006	1007	1006
10	--	1008	1004	1003	--	1004	1004	1004	1002	1004	1005	--	1003	1004	1004	1004	1005	1006	1008	--
12	--	1008	1002	1002	--	1004	1003	1003	1000	1003	1004	994	1001	1003	1003	1004	1004	1005	1007	--
14	--	1005	1001	1001	1004	1004	1002	1001	999	1001	1003	994	1001	1001	1003	1002	1002	1004	1005	1006
16	1009	1003	999	1002	1001	1000	1000	999	997	1000	1001	994	998	1001	1002	1000	1001	1002	1003	--
18	1007	1002	997	--	1000	999	999	999	997	999	999	995	997	999	1001	1000	1000	1002	1002	--
20	1007	1002	997	--	1000	999	999	998	997	999	999	996	997	999	1000	1000	1001	1002	1000	--
22	1008	1003	998	--	1002	1001	1001	999	998	1001	1001	999	998	1001	1000	1002	1002	1004	1001	--

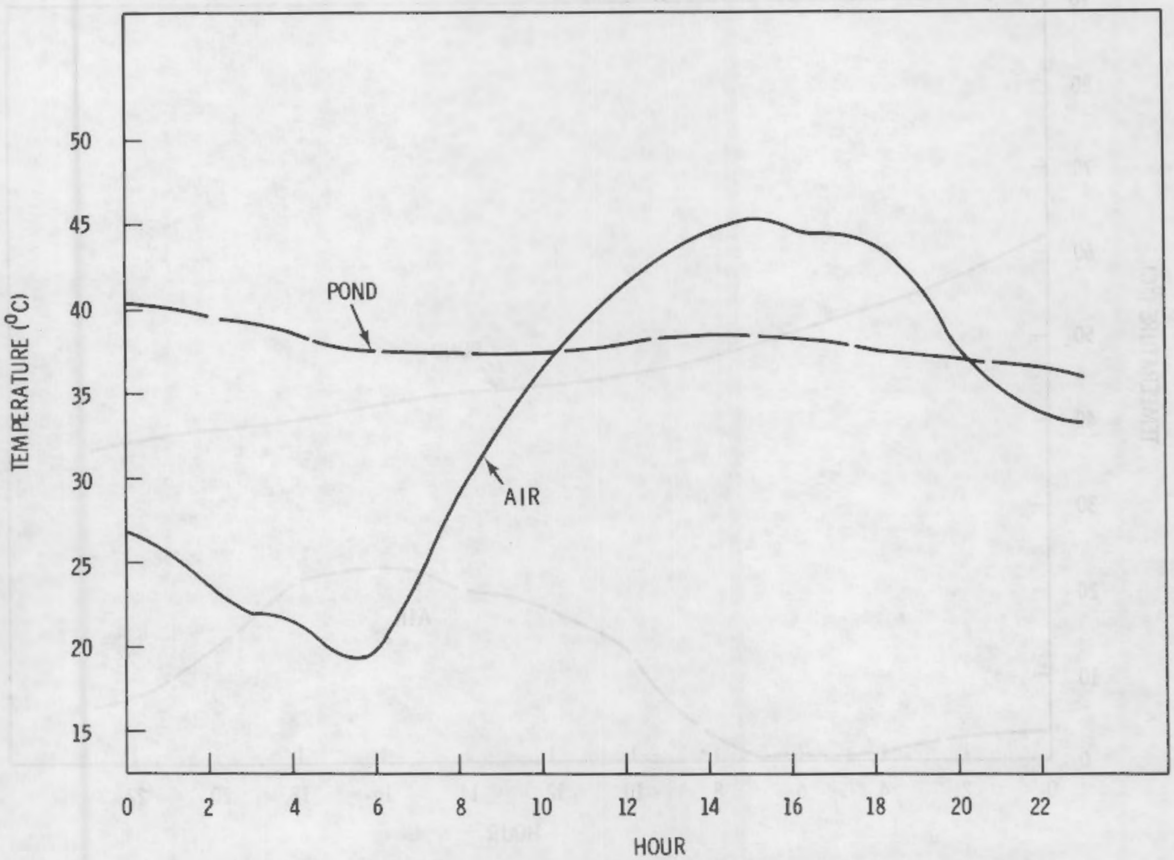

FIGURE 11. Air Temperature and Pond Bulk Temperature for East Mesa on June 17, 1981 (EM2 - I)

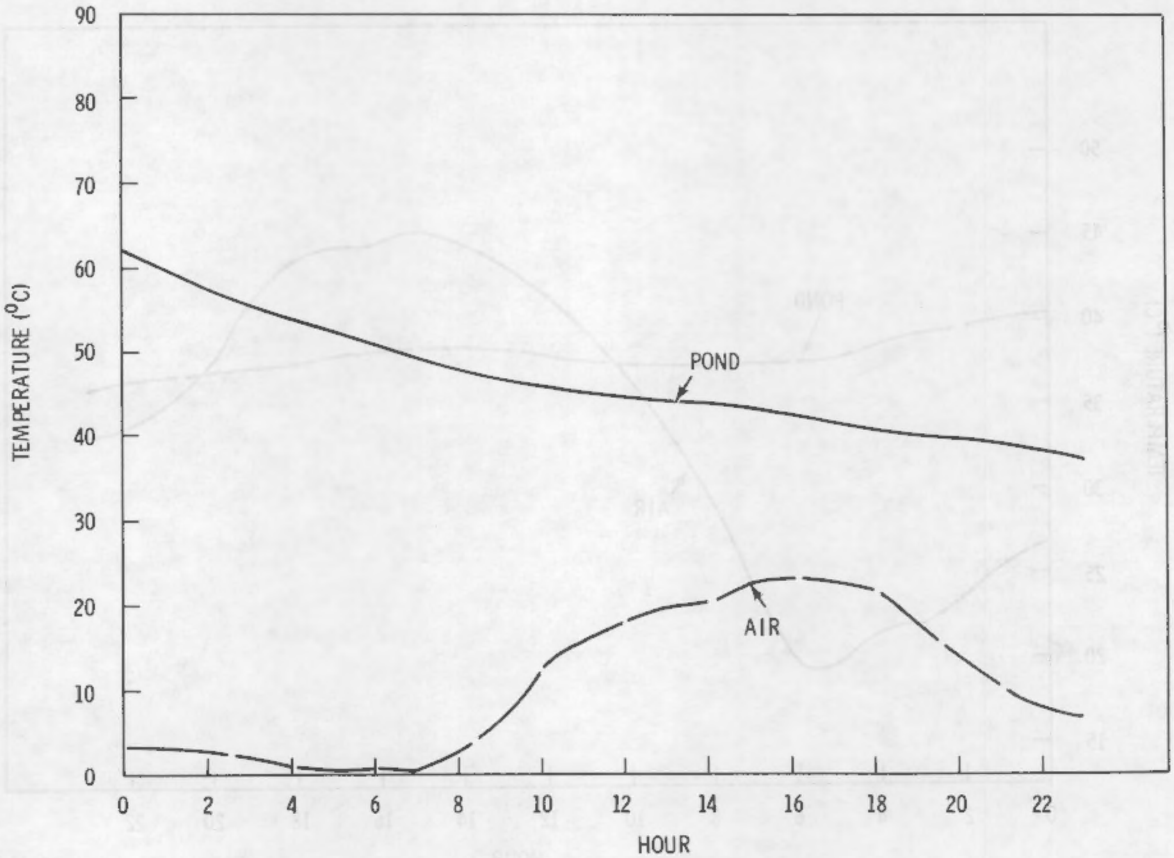

FIGURE 12. Air Temperature and Pond Bulk Temperature at Raft River on October 5, 1978 (RR2 - Hot IV)

TABLE 14. Air Temperatures and Specific Humidities Upwind Vs. Downwind of the Pond

East Mesa 2 - Experiment 1   1/2 Hour Averages

Conditions: Winds Blowing W to E at ~4 m/sec
Pond Temperature ~45.5°C

Time (PDT)	West Berm (upwind) T (°C)	West Berm (upwind) q (g/kg)	East Berm (downwind) T (°C)	East Berm (downwind) q (g/kg)
1600	39.9	12.2	41.2	17.3
1630	39.6	12.8	40.8	18.1
1700	39.6	12.6	40.6	17.8
1730	39.3	12.5	40.3	17.6
1800	39.1	11.9	40.0	16.8
1830	38.5	12.5	39.4	17.6
1900	37.1	12.5	37.9	17.2
1930	35.3	11.9	35.9	16.0

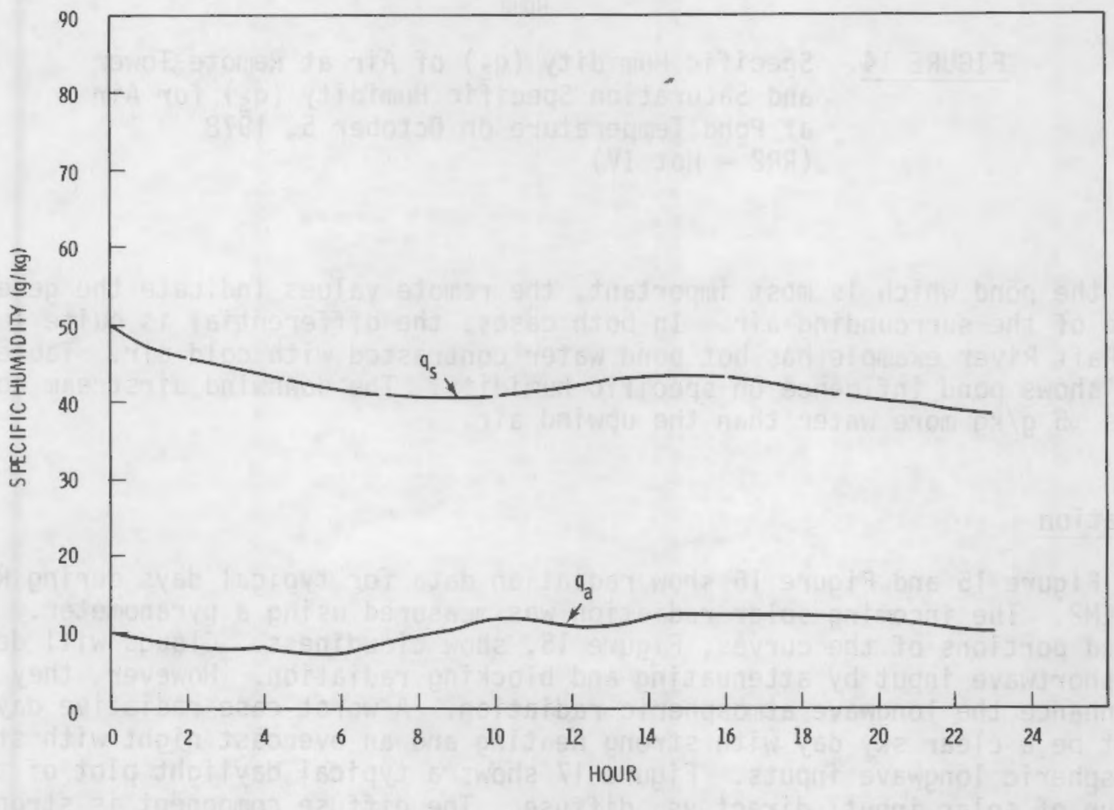

FIGURE 13. Specific Humidity (q_a) of Air at Remote Tower and Saturation Specific Humidity (q_s) for Air at Pond Temperature on June 17, 1981 (EM2 - 1)

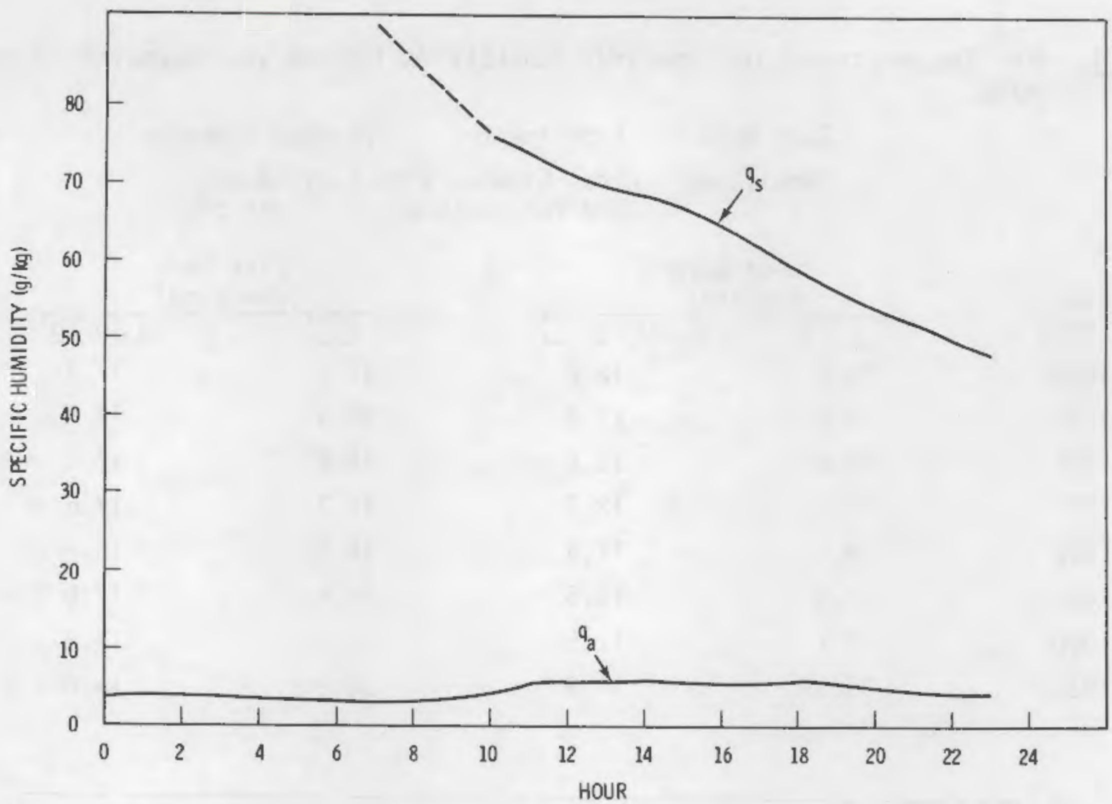

FIGURE 14. Specific Humidity (q_a) of Air at Remote Tower and Saturation Specific Humidity (q_s) for Air at Pond Temperature on October 5, 1978 (RR2 - Hot IV)

over the pond which is most important, the remote values indicate the general state of the surrounding air. In both cases, the differential is quite large. The Raft River example has hot pond water contrasted with cold air. Table 14 also shows pond influence on specific humidity. The downwind airstream contains ~5 g/kg more water than the upwind air.

Radiation

Figure 15 and Figure 16 show radiation data for typical days during RR2 and EM2. The incoming solar radiation was measured using a pyranometer. The jagged portions of the curves, Figure 15, show cloudiness. Clouds will decrease the shortwave input by attenuating and blocking radiation. However, they tend to enhance the longwave atmospheric radiation. A worst-case radiative day might be a clear sky day with strong heating and an overcast night with strong atmospheric longwave inputs. Figure 17 shows a typical daylight plot of the makeup of solar input; direct vs. diffuse. The diffuse component is strongly controlled by cloudiness and other light scattering material in the air.

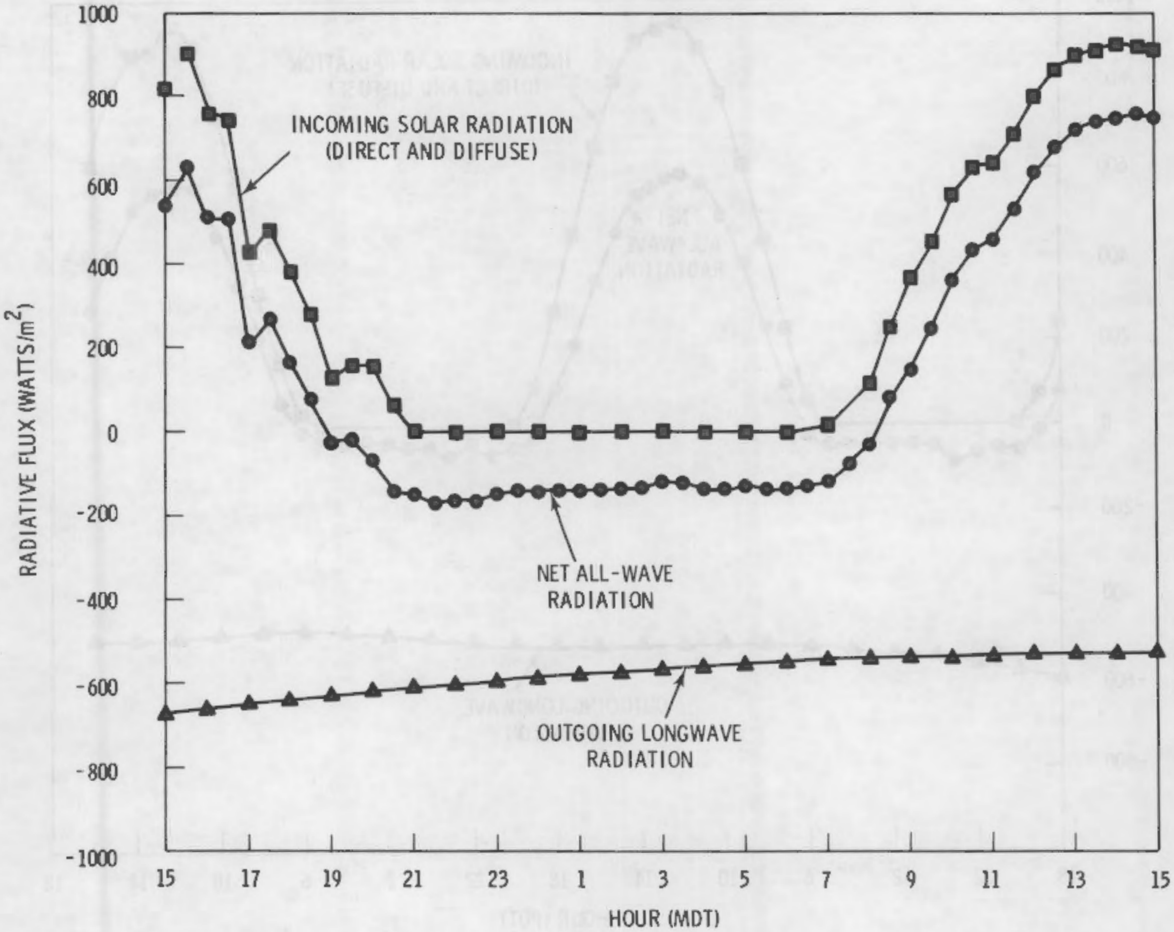

FIGURE 15. Radiation Budget for RR2 - Hot I on July 30-31, 1978

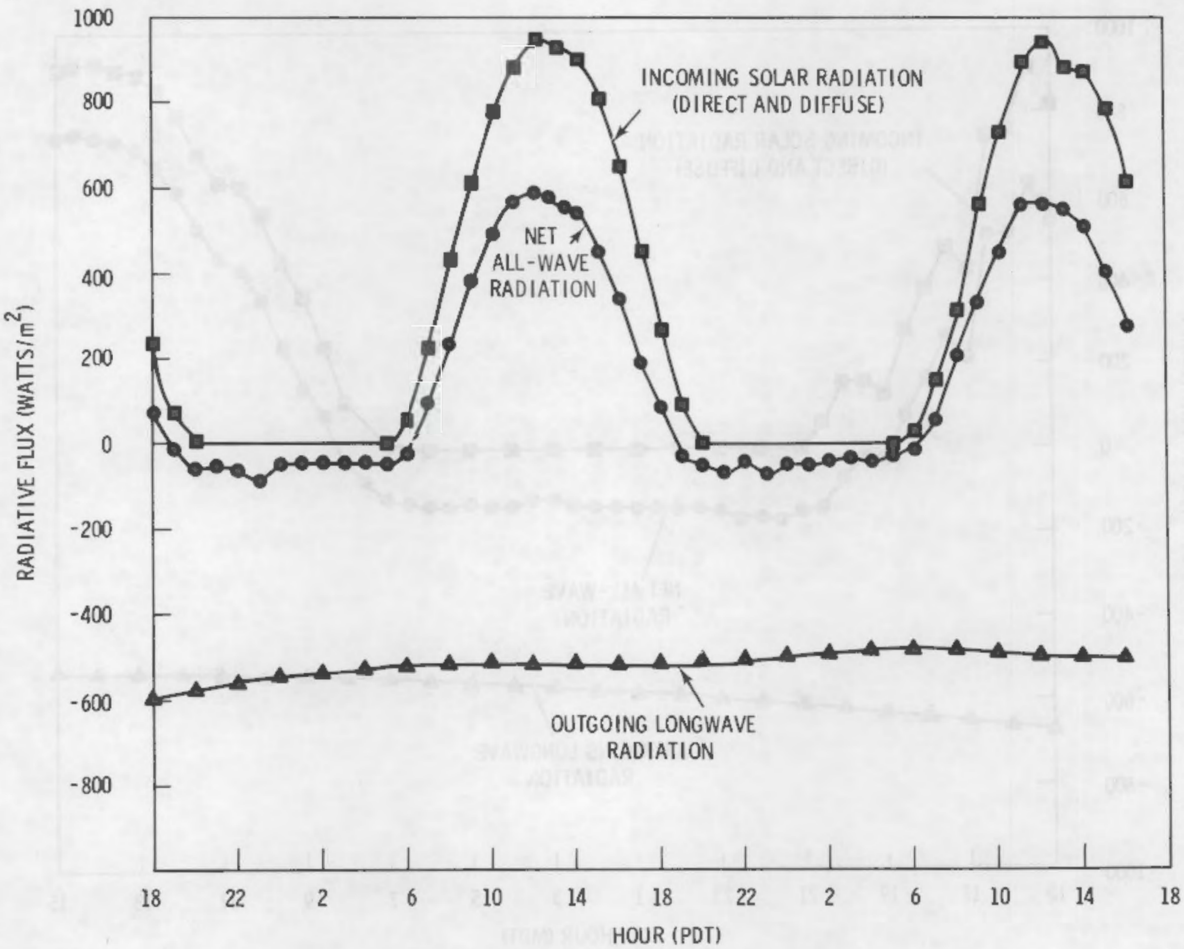

FIGURE 16. Radiation Budget for East Mesa 2 on June 23-25, 1981.

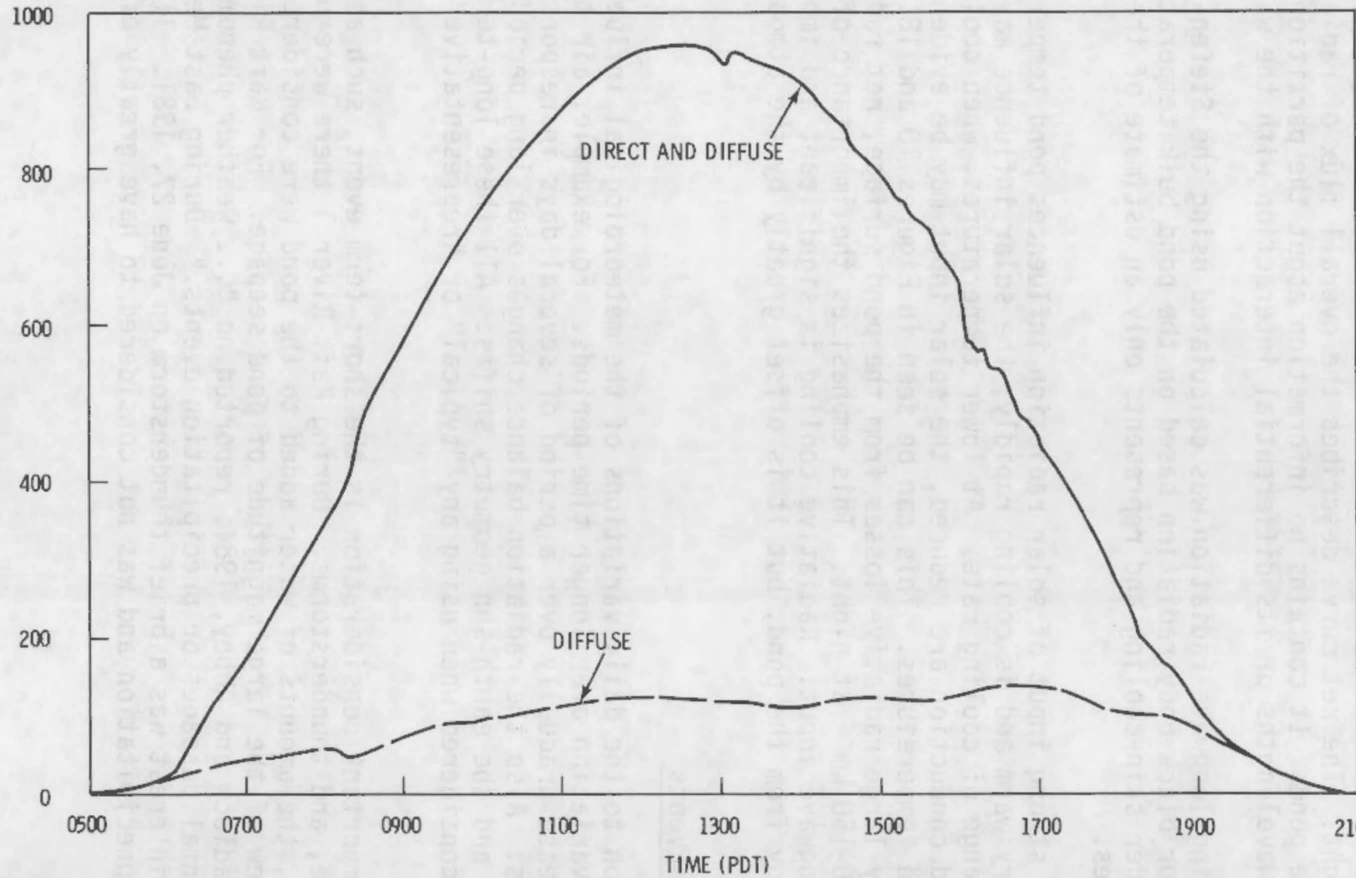

FIGURE 17. Radiative Solar Flux Components, Direct Vs. Diffuse for June 17, 1981, EM2 - 1.

During EM2, smoke from local agricultural burning occasionally effected a decrease in total incoming solar but an increase in the diffuse component.

Net radiation was measured over the pond surface and includes both short and longwave components. The curve tracks with the solar curve, but becomes negative at night. The net curve describes the overall flux of radiation influencing the pond. It contains no information about the partitioning of the energy by wavelengths or its differential interaction with the water.

The outgoing longwave radiation was calculated using the Stefen-Boltzman relationship for black body radiation based on the pond bulk temperature. It does not consider skin-cooling and represents only an estimate of the infrared radiative losses.

The daily strong input of solar radiation influences pond temperature. If the pond is very warm and is cooling rapidly, the solar influence may show up as merely a change of cooling rate. At lower temperatures, when cooling by evaporation and conduction are reduced, the solar input may be evidenced in increasing pond temperatures. This can be seen in Figures 10 and 18. Despite the continually large radiative losses from the pond surface, net radiation is usually only 50-150 Wm^{-2} at night. This emphasizes the importance of the atmospheric longwave input. Radiative cooling is significant and important to losses of energy from the pond, but it is offset greatly by the atmospheric radiation.

Meteorological Events

In addition to the daily variations of the meteorological influences, there is also variation over longer time periods. For example, air temperatures may increase gradually over a period of several days in response to synoptic events. Also the radiation balance changes over long periods as air quality varies and the earth-sun geometry shifts. All these long-term variations must be considered when using any "typical" or "representative" data in analysis.

Another important consideration is the short-term event, such as rain, frontal passage, and thunderstorms. During Raft River 1 there were periods of rain. However, the amounts of water added to the pond were considered insignificant in view of the large magnitude of pond seepage. For Raft River 2 and East Mesa 1, Hadlock and Abbey, 1981, reported no "... weather phenomena such as storms, frontal passages or precipitation events." During East Mesa 2, the only event of interest was a brief thunderstorm on June 27, 1981. It produced no measurable precipitation and was not considered to have greatly effected the pond.

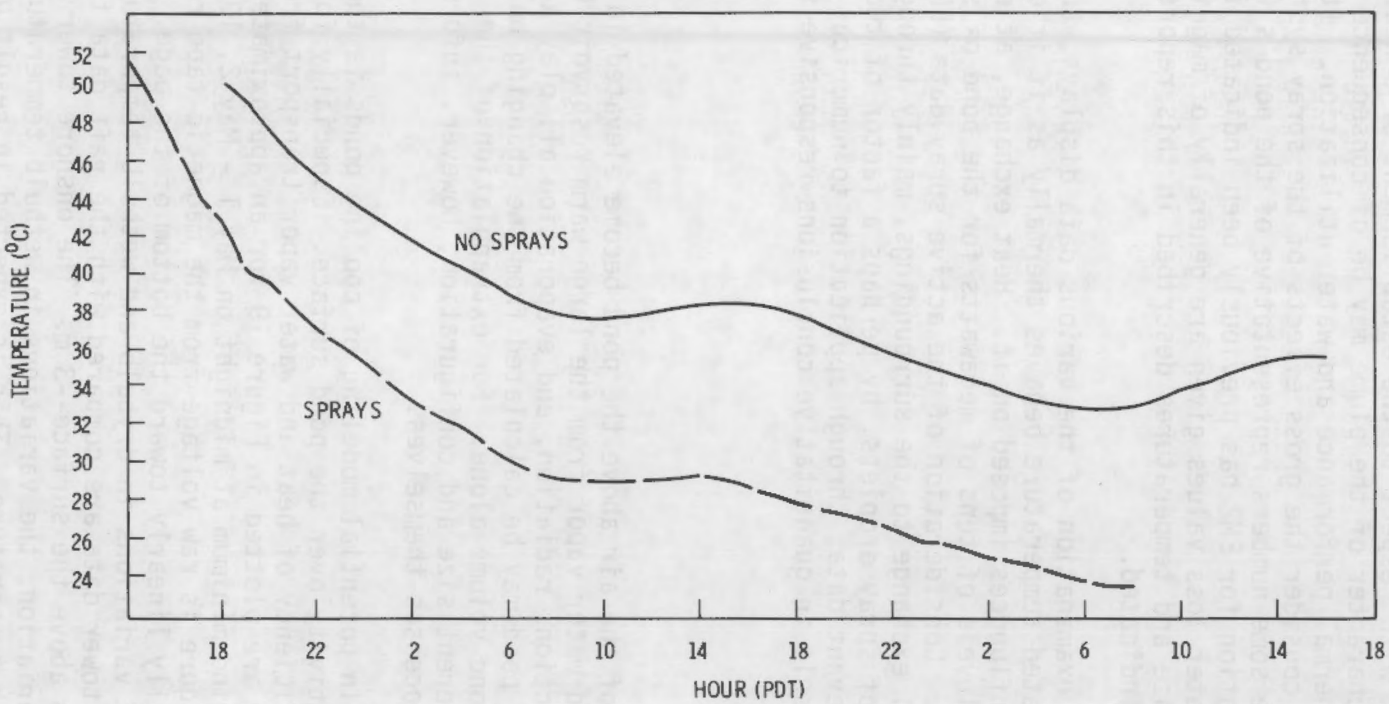

FIGURE 18. A Comparison of Bulk Pond Temperature Changes at East Mesa With and Without Sprays. Initial pond temperatures were similar, but the spray experiment started ~4 hours earlier (thus the offset curves).

AIR-WATER INTERACTIONS

The pond interacts with the surroundings through exchange of heat and water; the exchange with the air above the pond is, aside from radiative transfer to air and space, of most interest with respect to the establishment of a heat and moisture plume. The physical character of the plume may be of consequence in the efficiency of the pond's thermal performance and water utilization. It is of further interest to briefly consider the gross effects of the spray system in this context and to indicate some numbers representative of the pond's thermal performance. Water utilization for EM2 has previously been indicated in Table 12 and elsewhere. The water loss values given are generally of magnitudes associated with ponds of the size and temperatures described in this report for the meteorological conditions indicated.

It is recognized, through examination of the various data displays, that the pond at substantially elevated temperature behaves thermally as if it does not "see" the meteorological influences imposed on it. Heat exchange, at elevated temperature proceeds at levels of tens of megawatts for the pond of surface area approaching one acre. Consideration of the active spray data (EM1) shows an enhancement of thermal exchange to the surroundings, mainly through increased partial evaporation of spray droplets, by perhaps a factor of two. Careful examination of the relevant data, through application to numerical models of performance, will result in quantitative conclusions responsive to user needs.

Heat and Moisture Plume

Temperature and moisture of the air above the pond become elevated in result of transport of heat and water vapor from the large warm reservoir below. Processes of conduction, convection, radiation, and evaporation all play a role. The thermal performance of the pond may be calculated from the changing bulk temperature and the changing pond volume alone. For extrapolation of the results to other ponds of different size and configuration, however, information is required to describe the processes themselves.

One item of significance in potential modeling of cooling ponds is the establishment of convective activity over the pond surface. Especially for light wind conditions, the efficiency of heat and water vapor transport from pond to air is affected. Data are plotted in Figure 19 for an approximately 150 second period during the wind minimum at midnight on May 1 - May 2, 1977 (RR1). The ordinate of the figure is raw voltage from the magnetic tape record, temperature increases essentially linearly toward the bottom of the page. An indication of the magnitude of variations in drybulb and wetbulb temperature is given. The onshore "East" tower data are compared with the raft data for essentially the same elevation above the surface--3 m. The onshore tower displays data with very modest variation; the variations in wetbulb temperature are less than those for drybulb temperature. This is expected in result of the longer time-constant for the wet-wicked thermistor. On the raft, however, the variations on the short-term are very much larger, of the order of Celsius degrees. Again, wetbulb variations are smaller as expected considering the difference in the sensors. It is possible, however, that some of the difference might be attributable to a real difference in the structure of temperature and moisture convection from the pond surface. The character of the data displayed in the 150 s time-segment is representative of that for longer periods of time, up to hours in duration, for extremely light wind conditions. Examination of the longer records, and Figure 19, indicates a periodicity in the temperature data. Inspection suggests that this period is of the order of one minute.

The data (1.96 s intervals) for an approximate half-hour period were analyzed for contributions to this apparent periodicity through application of a Fast Fourier Transform (FFT) technique. This technique enables the identification of spectral amplitudes. The results are displayed in Figures 20 and 21. These results will not be overly interpreted because of the various philosophical and technical assumptions required in application to time-series data. The data were at least partially detrended prior to analysis.

The horizontal axis of the figures represents period in seconds. Spectral amplitude in millivolts, with indication of the corresponding temperature scale, is indicated in the vertical. The onshore data do not display much of interest beyond, as expected, larger amplitudes for the drybulb data throughout the spectrum. The raw data suggest a "noise" contribution of period between 6 and 8 s, there is some evidence of this in the spectral data. These indications are interpreted as some evidence of the validity of the statistical techniques in this application. The large amplitude at the long-period end of the spectrum probably represents residual trend in the data to which the FFT is applied. Small amplitude enhancement is seen at periods of 13, 17, and 85 seconds.

The raw data require that the amplitude spectra be, by comparison, more spectacular over the pond surface. Figure 21 indicates the amplitudes are larger overall and there exists a well-defined amplitude enhancement between 36 and 85 seconds. Both drybulb and wetbulb variations have a substantial contribution (periodic) at about one minute intervals.

These results may be interpreted as evidence of periodicity in the way warm, moist air leaves the pond surface under very low wind conditions. Similar analyses for the case of high wind speeds indicate no such amplitude enhancement. The spectral amplitudes are very much smaller as would be expected, and the "noise" amplitude becomes, relatively, very much larger.

It is envisioned that a layer of air near the pond surface bocomes heated through absorption of thermal radiation by enhanced water vapor content and by convection from the surface on a small space-scale (on the order of cm or 10's of cm). Some direct conduction of heat also occurs. After a time, conditions become critical for overturning convection on a larger space-scale (on the order of meters) and there is a rising of warm, moist air from near the pond surface and past the raft sensors at an altitude above surface of 3 m. This condition might be quantiatively described by a critical Rayleigh number specific to a layer of air influenced by a lower heated rigid boundary with a free boundary at the top.

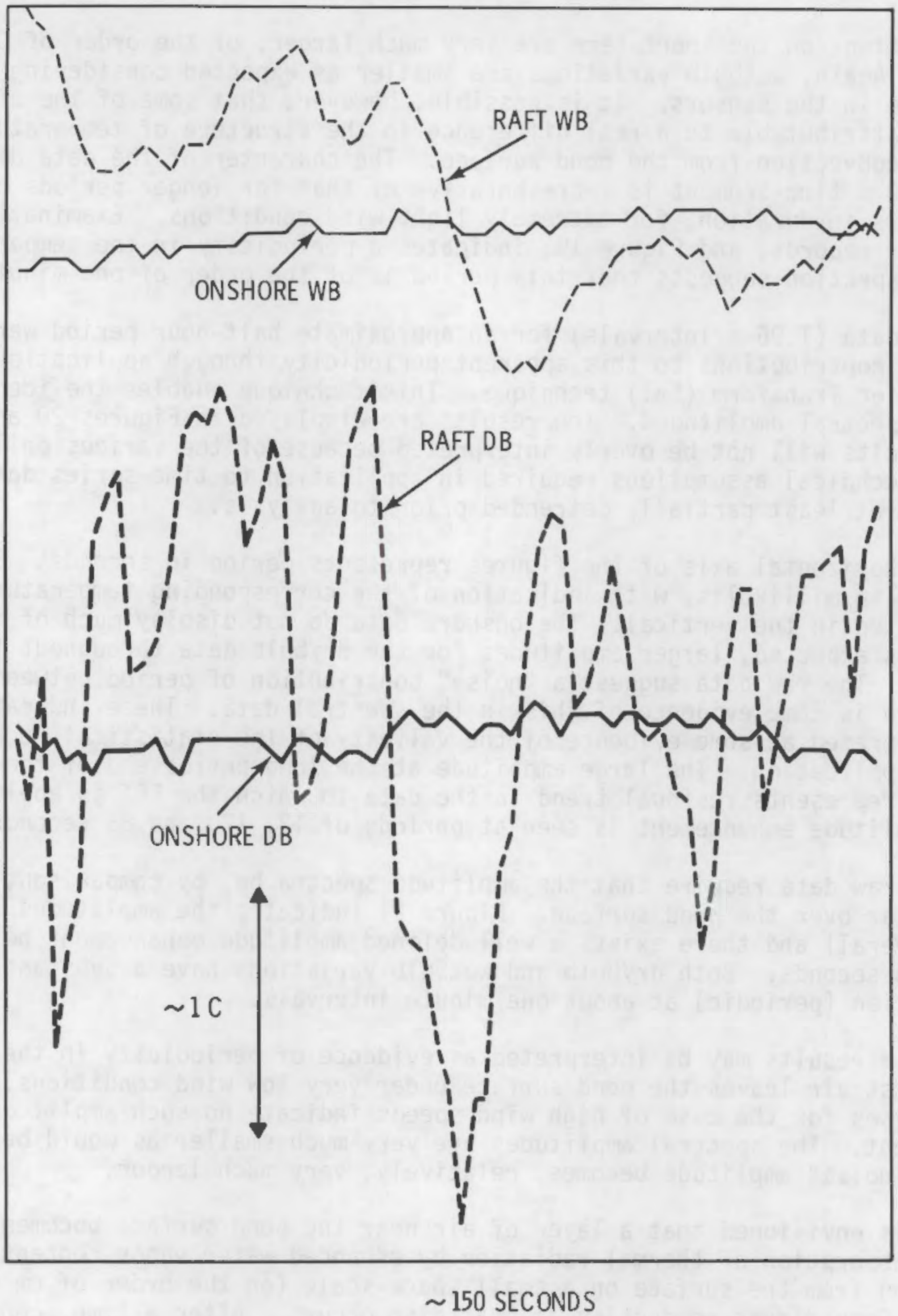

FIGURE 19. A Comparison of Wetbulb and Drybulb Data Over and Near the Pond for Light Wind Conditions. The vertical scale is indicated by the double-ended arrow at lower left. Temperature increases toward the bottom of the page.

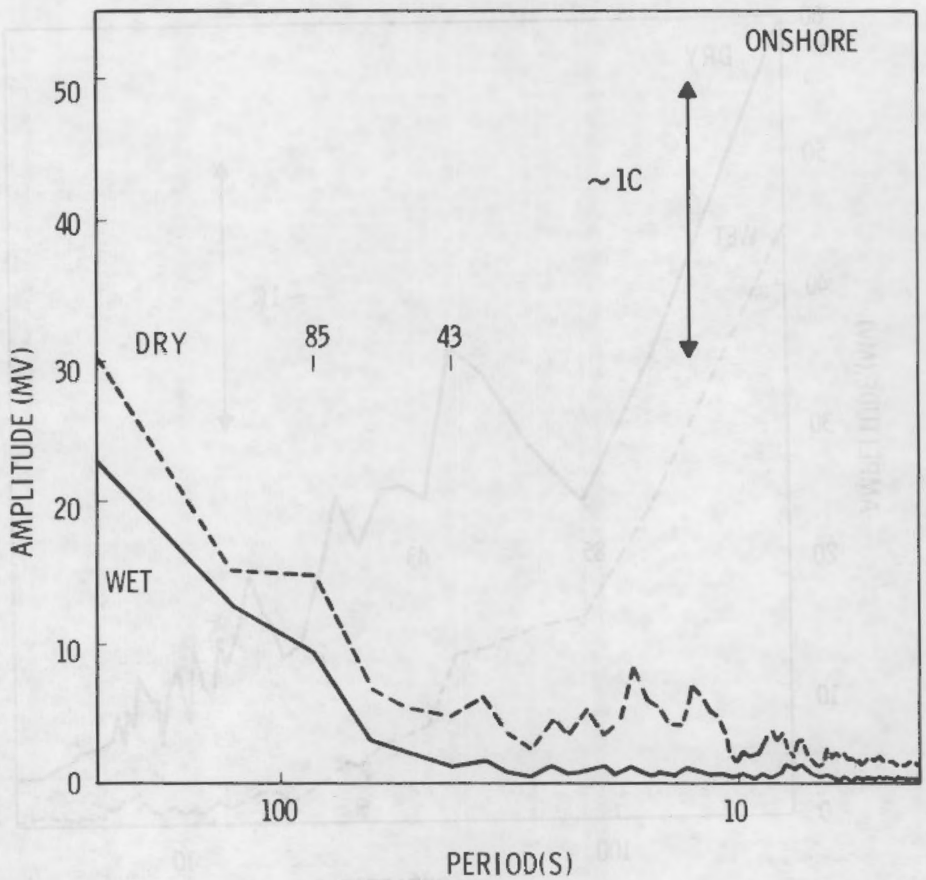

FIGURE 20. Spectral Amplitudes for Time-Series Temperature Data (near pond tower). The data of Figure 19 are representative of that used in the FFT procedure. The amplitude scale is indicated just to the right of the page center.

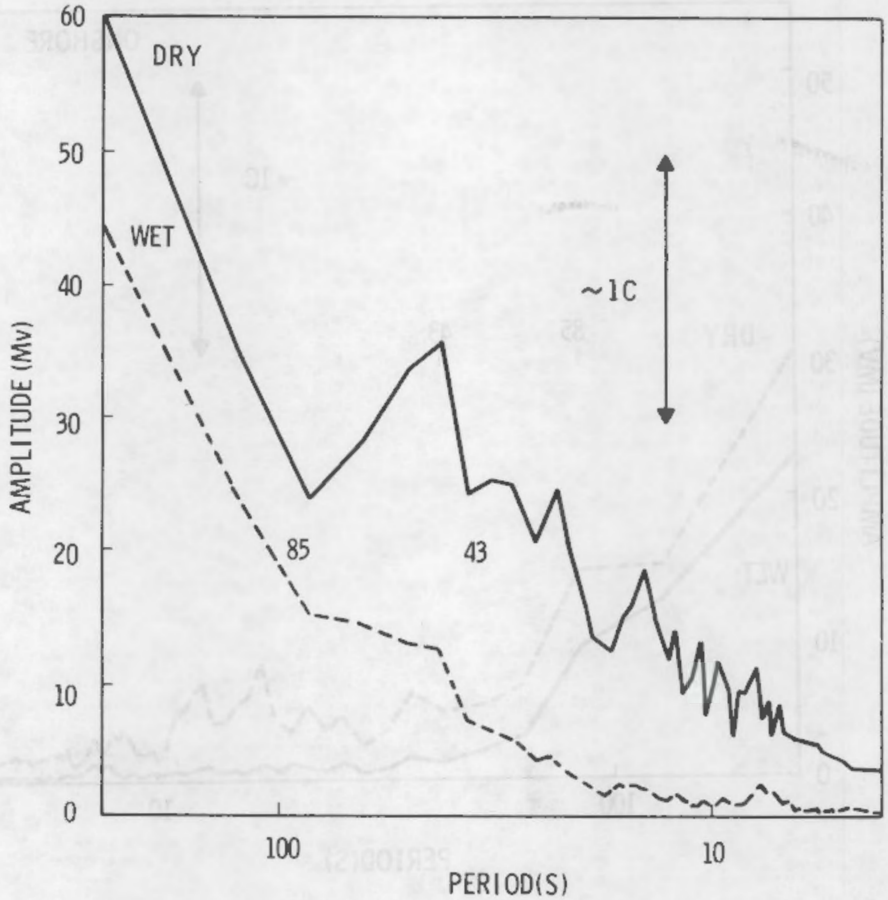

FIGURE 21. Spectral Amplitudes for Time-Series Temperature Data (raft tower). The data of Figure 19 are representative of that used in the FFT procedure. The amplitude scale is indicated just to the right of the page center.

Once this bodily transport has occurred, conditions are ripe for the formation of another warm, moist layer near the water surface and the process repeats as long as the conditions do not change significantly. As a layer convectively rises, other air must flow in to take its place over the pond. It is believed that Figure 20 indicates this. The modest amplitude enhancement at 85 s period could represent the response by the ambient air near the ground.

This process is likely less efficient as a heat transfer mechanism than that which will occur when the wind is blowing. For appreciable wind, there is always a ready supply of relatively cool, dry air to transfer by evaporation and conduction. Loss of heat by the pond due to radiative exchange would probably be enhanced also. There would be less back radiation with less water vapor directly above the pond (it has been blown away).

For the case of low wind conditions, especially, it becomes useful to know what happens to the rising air after it leaves the immediate vicinity of the pond surface, say above the 3 m level. It has been found that the acoustic sounding data, while useful in defining stability in the surrounding atmosphere, does not indicate pond influence. First, the lowest 30 m of the atmosphere are not assessed because of electronic gating requirements in the system. It is anticipated that these 30 m are probably the most interesting with respect to convective structure. Entrainment and probably high winds above this height would soon destroy any convective plume or thermal. Second, techniques are not conveniently available to assess the air directly in the vertical above pond center.

Similar results have been obtained from application of the Fast Fourier technique to data from EM2. Time series of approximately one hour of 5-second data were chosen for minimal wind at maximum pond temperature. In the amplitude spectra, for both dry and wet bulb temperatures over the pond at a height above surface of 3 m, amplitude enhancement is obtained near a period of one minute. No such enhancement was obtained for temperature data acquired simultaneously at the remote reference tower. This information is considered to be indicative of plume structure over the pond, independent of site, and by contrast with locations remote from the pond. It is also important that the spectra are similar for different frequencies of data acquisition.

Other organizations, listed in the acknowledgments of this report, participated so as to enhance aspects of understanding of the moisture from the pond. It has been indicated to Battelle by Computer Genetics Corporation, that their preliminary examination of their data may exhibit complementary detail of the physical structure of the plume and aspects of plume dynamics. Such research results will be published elsewhere and publication will indicate the cooperative arrangement among the various organizations and the Nuclear Regulatory Commission.

Spray Effects

It has been demonstrated that activation of the East Mesa spray system substantially enhances the rate at which heat is transferred to the surroundings from the pond. This is illustrated, for a typical example, in the data exhibited in Figure 18. At the same time, as is indicated in the data volume for EM1, water utilization is increased substantially. A large increase in water leaving the pond through evaporation (not drift) from droplets is achieved. Recognition of a trade-off in enhanced thermal performance vs. water utilization is important in conclusions drawn from modeling results derived from the data.

Previously (Hadlock and Abbey, 1981), consideration has been made of aspects of the effects of activating the spray system at East Mesa. Temperature and relative humidities for activated sprays are listed in Table 15. The spray field can cause mechanically/thermally induced air circulation to account for the data, for example, of 0300 EM1 Warm II. There exists a substantial inversion in the ambient air and the wind speed is very low, essentially at the limit of detection. Apparently the raft dry thermistors near the sprays are experiencing air drawn in from over the desert surface. Both raft wet bulbs indicate enhanced relative humidity due to the evaporating pond and the nearby sprays. The average periphery temperature and relative humidity both are consistent with the conditions. The pond is at an elevated temperature, producing a temperature/moisture plume over its surface. The vertical or nearly vertical plume is detected by balloon sensors; the dry bulb is elevated and to an extent greater than that represented by the inversion in the ambient air. Relative humidity at the balloon does not imply a deficiency in moisture content. The air at the balloon has been heated through at least 3°C; the wet bulb depression is correspondingly larger.

Spray nozzle temperatures are less than pond bulk temperatures because of cooling which occurs in the piping connecting the pond drain, the pump and the nozzles. The difference in temperature is very small when the bulk pond temperature is less than the ambient temperature. The difference (cooling) is only partly apparent in the respect of 0.1°C accuracy in the thermistors and partially real considering that the water circulating in the piping has a residence time in the ambient air about 1/2 its residence time either submerged in the pond or in pipes buried in the cool earth at 3 meter depth.

For the cases illustrated in Table 15, average spray cooling, from nozzles to collectors, ranges from 10.3°C to 2.1°C. The larger cooling as expected, is for pond water of higher temperature than that of the ambient air. However, it is interesting that, for essentially no spray volume ventilation from ambient wind, the spray cooling remains large (0300 EM1 Warm II). Also, this is occurring at night with relatively high relative humidities. At elevated temperature, above say 35°C, the pond (sprays or not) does not substantially "see" the ambient meteorology, or the solar influence.

TABLE 15. Temperature and Relative Humidity Vs. Pond Influences (Sprays)

Pond Warmer than Ambient (Daytime) 1500 9/22/79 EM1 Warm I, W/S (1.5 m) = 1.6 m s^{-1}			Pond Cooler than Ambient (Daytime) 1400 9/27/79 EM1 Warm II, W/S (1.5 m) = 2.3 m s^{-1}		
Pond	48.9°C		Ref Bot	37.3°C	(36%)
Nozzle	47.4		Raft Top	36.8	(46)
Ref Bot	41.2	(30%)	Ref Top	36.3	(53)
Ref Top	40.0	(48)	Balloon	36.2	(41)
Periphery	39.4	(46)	Periphery	35.6	(51)
Balloon	38.7	(34)	Raft Bot	35.4	(50)
Raft Top	38.0	(52)	Pond	32.0	
Raft Bot	37.7	(54)	Nozzle	31.7	
Collector	37.1		Collector	28.0	

Pond Warmer than Ambient (Nighttime) D300 9/27/79 EM1 Warm II, W/S (1.5) = 0.3 m s^{-1}			Pond Cooler than Ambient (Nighttime) 2000 9/23/79 EM1 Warm I, W/S (1.5 m) = 0.7 m s^{-1}		
Pond	43.7°C		Balloon	36.0°C	(40%)
Nozzle	42.2		Ref Top	34.4	(53)
Collector	33.6		Ref Bot	31.1	(49)
Balloon	29.3	(57%)	Periphery	28.8	(67)
Ref Top	26.7	(71)	Raft Top	28.2	(75)
Raft Bot	26.1	(67)	Rafe Bot	27.3	(78)
Raft Top	25.8	(71)	Pond	27.2	
Periphery	24.8	(65)	Nozzle	26.8	
Ref Bot	23.5	(59)	Collector	24.7	

Energy Exchange

A simplified energy budget for a pond isolated from mass sources and sinks can be described by the equation:

$$\Delta Q_S = Q_R + Q_H + Q_E + Q_G$$

where ΔQ_S = net change in pond energy storage (thermal performance)

Q_R = net radiative exchange

Q_H = net sensible heat exchange to atmosphere

Q_E = latent heat exchange

Q_G = heat conduction to underlying soil

For all quantities a positive value indicates an energy gain by the pond and a negative value represents an energy loss. It is recognized that any of the quantities with the probable exception of Q_E, may vary between positive and negative values.

The energy exchange of the pond with its surroundings can be described for any interval of time. However, this interval must be of sufficient duration to minimize any lag effects in the pond-atmosphere system and in the measurement system. An appropriate duration is 24 hours.

Over the selected interval, the net change in pond energy storage (ΔQ_S) is described by the change in bulk pond temperature. This gain or loss of energy is controlled by the four primary exchange processes listed previously. During any interval, the relative magnitude of each process may change. For example, radiative inputs are strong during the daylight hours, but become negative at night.

Heat transfer to the under-liner soil (Q_G) depends on the soil conductivity and the temperature gradient. Figure 22 shows representative under-liner soil temperatures for the 48 hours of EM2 Experiment 3. Heat is conducted into the soil from the pond for the first 12 hours. However, the magnitude of the energy loss by the pond is small. Assuming dry sandy soil with a thermal conductivity of 0.3 $Wm^{-1}C^{-1}$, the heat flux from pond to soil at experiment initiation is about 40 W/m^2. Twelve hours later, the heat transfer approaches zero as seen by the 10-cm data; the pond, of course, has cooled significantly during this time interval. At later times, the exchange is from the soil to the pond. Over the duration of an experiment, the net time-integrated exchange becomes insignificant with respect to the other components of the balance equation.

The net radiative exchange (Q_R) has been discussed in an earlier section. It is sufficient to summarize the major parts:

First, net radiation is strongly positive during daylight and dominates the energy budget. Second, incoming solar radiation is absorbed through the water column, not simply at the surface. Finally, at night longwave radiative losses are great but are offset strongly by longwave atmospheric inputs.

The latent heat exchange depends primarily upon the humditiy gradient above the pond. Dry air flow over the pond increases evaporation. Similarly, warmer pond water increases the saturation specific humidity at the surface and speeds evaporation. The approximate magnitude of hourly average latent heat fluxes can be calculated from pond temperature and water loss data. At the onset of an experiment, Q_E values may exceed 2000 W/m^2. This flux rate decreases rapidly as the pond cools, with nominal values being 2D0-700 W/m^2 for a warm pond.

Sensible heat exchange (Q_H) depends primarily upon the temperature gradient between water and air. Cold air flow over the pond surface will increase Q_H by causing the water-air temperature profile to become more lapse. In both latent and sensible exchanges, greater wind speeds will enhance pond energy losses by advecting heat and moisture away from the interface.

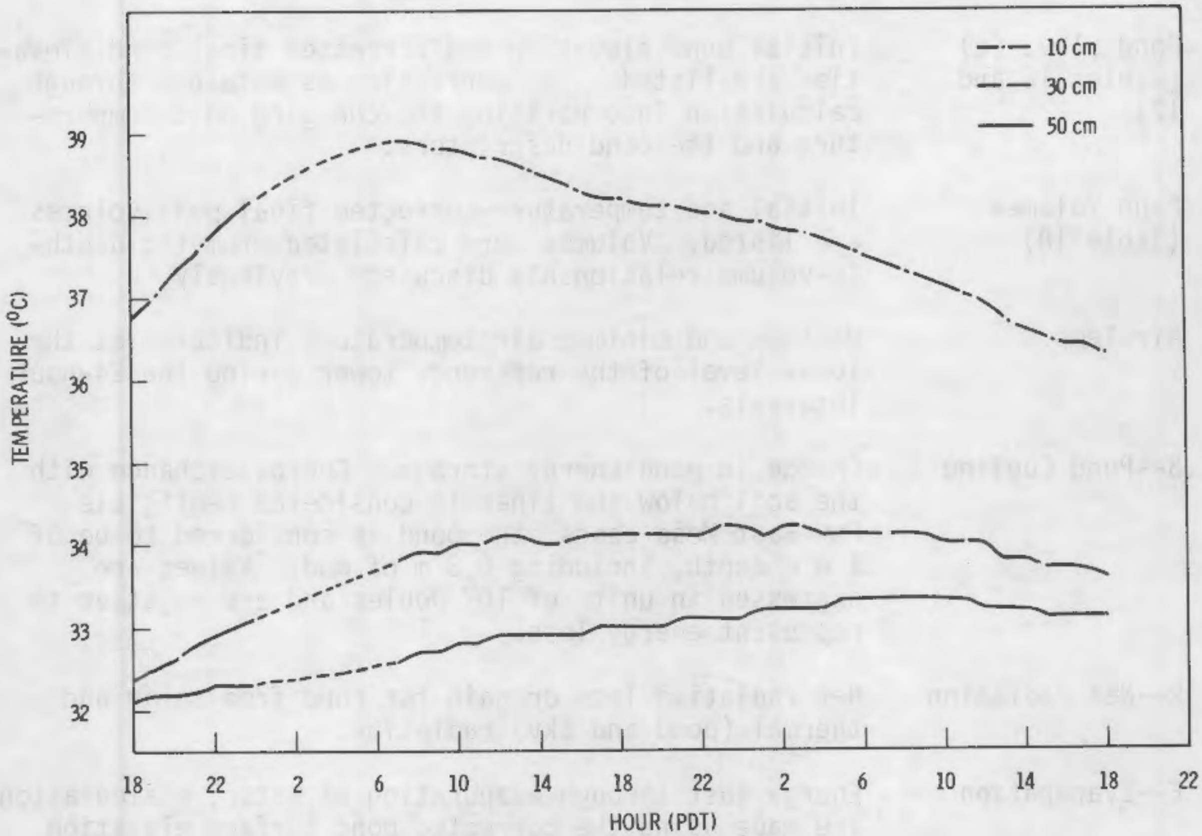

FIGURE 22. Under-Liner Soil Temperatures for EM2 Experiment 3. Dashes indicate missing but interpolated data.

Nominal calculations have been made for 24-hour intervals available from the Raft River and East Mesa 1 data contained in the appendices. The results are exhibited in Tables 16, 17 and 18 and are meant to be illustrative only. Among these examples, there exists a wide variety of pond temperatures and air temperatures relative to pond temperatures. Cooling pond examples are shown as well as spray pond examples. Each East Mesa example has similar wind and air temperature at beginning and end; the pond elevation data need only be corrected in the respect of pond cooling during experiments. The Raft River examples have some substantial wind differences from beginning to end.

The columns of data in the tables require further description:

1. Pond Temp. Initial pond temperature and final pond temperature are listed. Change in pond energy storage is calculated using these values, specific heats, and the pond descriptors previously listed.

2. Pond Elev. Initial pond elevation and final pond elevation are listed. These are uncorrected values obtained directly with the measurement systems and then averaged.

3. Pond Elev. (c) (Tables 16 and 17) — Initial pond elevation and corrected final pond elevation are listed. The correction is obtained through calculation incorporating the changing pond temperature and the pond descriptors.

4. Pond Volumes (Table 18) — Initial and temperature-corrected final pond volumes are listed. Volumes were calculated from the depth-to-volume relationship discussed previously.

5. Air Temp. — Maximum and minimum air temperature indicated at the lower level of the reference tower during the 24-hour intervals.

6. S--Pond Cooling — Change in pond energy storage. Energy exchange with the soil below the liner is considered negligible. For East Mesa cases, the pond is considered to be of 1.8 m depth, including 0.3 m of mud. Values are expressed in units of 10^9 Joules and are negative to represent energy loss.

7. R--Net Radiation — Net radiative loss or gain for pond from solar and thermal (pond and sky) radiation.

8. E--Evaporation — Energy lost through evaporation of water. Calculations are made using the corrected pond surface elevation or pond volume data. Values are expressed in units of 10^9 Joules.

9. H--Sensible Heat Transfer — Energy lost in results of thermal exchange between air and water. Values are expressed in units of 10^9 Joules. Calculated as residual from previous budget components.

Hadlock and Abbey, 1981, present similar tables for Raft River 2 and East Mesa 1. They discuss the use of Bowen ratios for estimating sensible heat transfer. Further, they present loss-to-gain ratios as a means of describing the energy budget.

In the present evaluation, sensible heat loss (H) is calculated as a residual from the other budget components. The magnitudes of H seem large with respect to the measured evaporation for the East Mesa experiments. Calculated sensible heat losses were about 40% of the latent heat loss. High pond temperatures causing strong temperature differentials and creating unstable atmospheric conditions may be the cause.

The effect of sprays is illustrated in Table 17. Experiments Warm I and III show the largest energy losses. Enhanced evaporation and conduction are achieved by the increased water-air content. Values for S and E are 40-50 percent greater than in similar experiments (EM2) without sprays.

The three tables give good indications of the magnitude of the energy transfers under varying environmental conditions. They also illustrate the partitioning of the energy between the three dominant exchange processes: radiation, evaporation and conduction.

TABLE 16. Energy Budgets for Raft River 2 Experiments

Experiment	Pond Temp. (°C)	Pond Elev. (cm)	Pond Elev. (c) (cm)	Air Temp. Range (°C)	S ($x10^9$J)	R ($x10^9$J)	E ($x10^9$J)	H ($x10^9$J)
RR2 Cool I 7/25-7/26 1100-1100	25.4 24.2	7.47 6.39	7.47 6.40	35.4 11.7	-19.1	56.4	71.7	-3.8
RR2-Cool I 7/26-7/27 0800-0800	23.8 24.3	6.55 5.68	6.55 5.66	35.6 16.1	+8.0	63.1	-59.6	4.5
RR2-Hot I 7/30-7/31 1600-1600	58.4 39.5	10.28 3.40	10.28 5.20	33.6 10.9	-300.5	31.7	-340.3	8.10
RR2 Hot I 7/31-8/1 1000-1000	41.3 31.4	4.80 1.05	4.80 1.80	34.8 13.3	-157.4	44.8	-201.0	-1.2
RR2 Hot III 8/8-8/9 2000-2000	50.5 35.8	5.85 0.20	5.85 1.47	34.6 9.1	-233.7	40.6	-293.5	19.2
RR2-Hot IV 10/5-10.6 1000-1000	45.7 31.0	6.47 2.00	6.47 3.16	23.1 1.2	-233.7	9.3	-221.8	-21.2

TABLE 17. Energy Budgets for East Mesa 1 Experiments

Experiment	Pond Temp. (°C)	Pond Elev. (cm)	Pond Elev. (c) (cm)	Air Temp. Range (°C)	S ($x10^9$J)	R ($x10^9$J)	E ($x10^9$J)	H ($x10^9$J)
EM1 Cool I 9/16-9/17 0700-0700	41.8 35.7	14.66 11.77	14.66 12.33	35.8 20.5	-229.1	42.0	-177.2	-93.9
EM2 Cool I 9/17-9/18 0700-0700	35.7 33.1	11.77 10.21	11.77 10.43	35.6 21.5	-113.2	46.8	-101.9	-58.1
EM2-Cool I 9/18-9/19	33.1 31.7	10.21 8.96	10.21 9.07	39.1 21.5	-79.7	43.8	-86.7	-36.8
EM2-Cool I Sprays 9/19-9/20 1000-1000	31.8 24.6	8.58 4.69	8.58 5.20	40.7 20.8	-294.5	99.5	-257.1	-86.9
EM1-Warm I Sprays 9/22-9/23 1400-1400	51.3 29.4	13.76 6.36	13.76 8.46	41.3 21.5	-676.1	35.8	-403.1	-308.8
EM1-Warm I Sprays 9/23-9/24 0700-0700	29.6 23.4	7.51 3.89	7.51 4.30	41.7 21.5	-265.4	44.7	-244.1	-66.0
EM1-Warm III Sprays 10/1-10/2 0830-0830	47.5 25.7	13.89 6.85	13.89 8.78	38.8	-662.9	37.1	-388.7	-308.8

TABLE 18. Energy Budgets for East Mesa 2 Experiments

Experiment	Pond Temp. (°C)	Pond Elev. (cm)	Pond Volume (corrected) (m^3)	Air Temp. Range (°C)	S_g ($x10^9$J)	R (10^9J)	E ($x10^9$J)	H ($x10^9$J)
1 6/16-6/17 1600-1600	45.8 38.3	8.03 5.38	4727.6 4648.2	46.2 19.4	-252.4	41.8	-190.6	-102.2
2 6/20-6/21 1600-1600	46.4 38.3	7.83 5.03	4763.0 4679.5	44.8 26.6	-269.3	41.1	-200.4	-110.0
3 6/23-6/24 1800-1800	50.0 38.0	7.70 3.98	4727.6 4620.5	43.0 25.4	-377.6	40.0	-257.0	-160.6
4 6/27-6/28 0900-0900	50.9 36.6	7.58 3.43	4763.0 4645.0	41.5 26.2	-437.5	--	-283.2	--
5 6/30-7/1 1900-1900	48.0 38.2	7.54 4.13	5123.7 5019.5	40.2 24.4	-346.6	43.3	-250.1	-139.8
6 7/4-7/5 0700-0700	45.8 37.5	6.08 2.99	5345.5 5248.6	44.2 28.7	-310.1	46.5	-232.6	-124.0

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APPENDIX A

RAFT RIVER 1 - EXPERIMENTS I AND II

RAFT RIVER 1 (1977) - EXPERIMENT I

					Raft				"East"				"North"				"West"				Reference			
Date Time	$\bar{T}$	s	Rad Down	Rad Net	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td
	C	C	Mw	Mw	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C
4/27 1000	50.5	.66	1.4	0.4	1.8	036	7.3	13.9	2.5	009	9.0	13.8	2.3	021	6.4	14.4	2.0	010	8.4	16.0	2.6	028	9.1	10.3
								24.1	0.1		8.8	13.6	-0.1		7.1	13.9	0.0		9.5	15.4	-0.2		9.2	10.3
								22.0			8.2	13.3			5.8	13.3			8.4	14.8	2.8	025	9.0	10.5
																					-0.1			
4/27 1030	50.3	.28	1.7	0.5	2.2	029	7.7	14.5	2.7	010	9.1	14.2	2.2	024	6.7	15.0	2.3	013	8.4	16.1	2.8	016	9.3	10.5
								24.4	0.1		8.9	14.0	0.0		7.5	14.4	-0.1		9.4	15.4	0.0		9.3	10.4
								22.2			8.2	13.7			6.1	13.9			8.3	15.0	2.9	014	9.2	10.7
																					0.0			
4/27 1100	49.8	.16	1.9	0.7	2.7	029	8.2	15.5	2.5	022	8.8	15.0	2.4	038	7.5	16.4	2.3	027	9.8	17.8	2.7	043	9.7	11.0
								24.2	0.1		9.0	14.8	0.0		8.2	15.6	0.0		10.7	17.1	-0.2		9.7	10.8
								22.1			8.7	14.5			6.7	15.0			9.7	16.8	2.8	040	9.3	11.0

4/27 1130	49.3	.31	2.0	0.8	2.2	054	8.7	16.2	2.4	041	8.7	15.9	2.4	049	8.0	17.2	2.2	027	10.3	18.4	2.9	052	9.9	11.3
								24.6	0.1		9.2	15.6	0.0		8.8	16.4	0.0		11.3	17.9	-0.3		9.9	11.3
								22.0			9.1	15.3			7.2	15.7			10.4	17.8	2.9	049	9.5	11.3

4/27 1200	49.0	.27	2.1	0.8	2.2	022	8.9	16.7	2.4	003	9.7	16.3	2.0	016	8.3	17.7	2.0	004	10.7	19.5	2.6	012	10.2	11.7
								25.2	0.1		9.9	16.1	-0.1		9.2	17.0	-0.1		11.7	18.6	-0.2		10.2	11.5
								22.0			9.7	15.9			7.6	16.4			10.5	18.1	2.8	012	9.8	11.5

4/27 1230	48.7	.40	2.0	0.9	2.2	000	9.5	17.6	2.0	016	10.2	17.3	1.7	030	8.8	18.7	1.8	012	11.5	20.5	2.2	019	10.3	11.9
								25.8	0.1		10.6	17.1	0.0		9.8	18.0	0.0		12.6	19.8	0.0		10.3	11.8
								23.6			10.4	16.8			8.1	17.5			11.2	19.2	2.4	016	9.9	11.8

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/27	48.4	.39	1.8	0.7	2.2	022	9.6	18.1	2.2	028	10.4	18.0	2.1	039	8.8	18.9	1.9	024	10.9	20.0	2.5	026	10.5	12.2
1300								26.3	0.1		10.7	17.7	0.0		9.8	18.3	0.0		12.2	19.6	-0.2		10.5	12.1
								25.1			11.0	17.4			8.2	17.7			11.2	19.4	2.6	026	10.2	12.1
4/27	48.2	.19	1.8	0.8	1.8	065	10.0	19.0	2.6	059	9.9	19.0	2.6	059	9.6	20.2	2.6	054	12.1	20.8	3.2	062	10.8	12.4
1330								27.2	0.0		10.8	18.7	0.0		10.6	19.4	0.0		13.4	20.8	-0.3		10.8	12.3
								25.9			11.5	18.4			8.7	18.6			12.1	20.5	3.3	061	10.3	12.3
4/27	47.8	.06	2.1	0.9	2.2	054	10.4	19.8	2.3	040	10.2	19.7	2.3	063	10.0	21.0	2.1	050	13.0	22.1	2.9	065	11.1	12.7
1400								27.9	0.0		11.2	19.5	0.0		11.1	20.2	0.0		14.2	21.9	-0.4		11.1	12.7
								26.6			12.1	19.2			9.2	19.6			12.8	21.5	3.1	065	10.7	12.7
4/27	47.6	.06	1.5	0.7	1.8	000	10.7	20.3	1.8	035	11.2	20.3	1.7	047	10.2	21.3	1.6	026	13.2	23.1	2.1	045	11.3	13.0
1430								27.9	0.1		12.0	20.1	0.0		11.4	20.7	0.0		14.4	22.5	-0.2		11.3	12.8
								26.9			12.7	19.8			9.5	20.1			13.0	22.0	2.2	043	10.8	12.8
4/27	47.4	.11	1.3	0.5	1.8	054	10.8	20.6	2.1	033	11.0	20.6	2.1	046	10.1	21.4	1.8	036	11.8	21.3	2.2	043	11.3	13.1
1500								28.0	0.1		11.9	20.3	0.0		11.4	20.7	0.0		13.1	20.9	-0.2		11.4	12.9
								27.0			12.7	20.0			9.4	20.2			11.5	20.5	2.3	041	10.8	13.0
4/27	46.8	.10	1.2	0.4	2.7	000	10.7	20.8	3.0	005	11.9	20.8	2.5	018	10.0	21.4	2.5	007	11.1	21.5	3.1	011	11.3	13.0
1530								27.8	0.1		12.4	20.5	-0.1		11.3	20.8	-0.1		12.8	21.0	-0.1		11.4	12.9
								27.1			12.8	20.2			9.4	20.3			11.2	20.4	3.3	008	10.8	13.0
4/27	46.7	.26	1.1	0.4	2.7	000	10.6	20.7	3.4	007	11.7	20.8	2.8	018	10.0	21.3	2.9	013	11.0	21.3	3.2	012	11.3	13.0
1600								21.0	0.1		12.2	20.5	-0.1		11.3	20.8	-0.1		12.7	20.9	0.0		11.4	12.9
								18.8			12.7	20.2			9.4	20.1			11.1	20.3	3.6	009	10.8	13.0
4/27	46.2	.24	1.0	0.3	2.7	018	10.5	20.6	3.2	022	11.4	20.7	2.9	030	9.9	21.1	2.8	024	10.9	21.1	3.4	020	11.3	13.0
1630								19.4	0.1		12.0	20.5	-0.1		11.1	20.5	-0.1		12.6	20.8	0.1		11.3	12.8
								17.2			12.6	20.2			9.3	20.1			11.1	20.3	3.7	015	10.8	13.0

RAFT RIVER I (1977) - EXPERIMENT I (contd)

4/27	46.1	.27	0.7	0.2	2.7	000	10.5	20.6	3.1	005	11.8	20.8	2.5	018	9.8	21.1	2.5	008	10.8	21.1	3.4	005	11.3	13.0
1700								19.7	0.2		12.4	20.5	-0.1		11.2	20.7	-0.1		12.5	20.7	0.1		11.3	12.8
								17.6			12.8	20.2			9.3	20.3			11.0	20.2	3.8	002	10.8	13.0
4/27	45.4	.28	0.4	0.0	2.2	000	10.2	20.2	2.7	008	11.6	20.4	2.3	022	9.4	20.2	2.3	008	10.3	20.3	2.8	011	11.1	12.8
1730								18.2	0.1		12.2	20.2	-0.1		10.7	20.0	-0.1		12.1	20.1	0.0		11.2	12.8
								16.1			12.6	20.0			9.0	19.8			10.6	19.8	3.2	009	10.7	12.8
4/27	44.8	.27	0.2	-0.1	2.2	000	10.1	20.0	2.6	002	11.7	20.4	2.0	016	9.1	19.8	2.2	000	10.0	19.9	2.9	002	11.1	12.7
1800								17.5	0.2		12.2	20.2	-0.1		10.5	19.7	-0.1		11.9	19.8	0.0		11.2	12.7
								15.4			12.6	19.9			8.9	19.6			10.5	19.5	3.3	000	10.7	12.8
4/27	44.1	.25	0.1	-0.2	2.2	018	9.8	19.6	2.2	014	11.0	19.8	1.9	028	8.7	19.1	1.9	015	9.6	19.2	2.4	015	10.9	12.6
1830								15.8	0.1		11.7	19.7	-0.1		10.1	19.1	0.0		11.5	19.3	0.0		11.1	12.6
								13.6			12.2	19.5			8.6	19.1			10.2	19.1	2.8	011	10.5	12.7
4/27	43.8	.23	0.0	-0.2	2.2	018	9.7	19.1	2.2	008	11.1	19.4	1.8	025	8.4	18.5	1.6	008	9.4	18.6	2.3	009	10.7	12.4
1900								15.4	0.1		11.6	19.3	-0.1		9.8	18.5	0.0		11.2	18.7	0.0		10.8	12.4
								13.3			12.0	19.1			8.4	18.6			9.9	18.6	2.8	007	10.3	12.5
4/27	43.2	.20	0.0	-0.2	2.2	000	8.9	17.9	2.3	001	11.0	18.5	1.8	019	7.8	17.2	1.8	001	8.7	17.4	3.1	003	10.4	12.0
1930								14.6	0.1		11.3	18.3	-0.1		9.1	17.3	-0.1		10.4	17.5	0.0		10.6	12.1
								12.3			11.5	18.0			7.9	17.5			9.3	17.4	3.8	002	10.1	12.2
4/27	42.8	.21	0.0	-0.3	1.8	353	8.4	16.8	2.3	349	10.5	17.4	1.5	007	7.2	16.0	1.8	349	8.0	16.2	3.2	351	10.2	11.7
2000								13.7	0.2		10.8	17.2	0.0		8.4	16.1	-0.1		19.7	16.4	0.2		10.2	11.7
								11.4			11.0	17.0			7.3	16.3			8.6	16.2	4.0	350	9.8	11.7
4/27	42.4	.21	0.0	-0.3	1.8	342	8.0	16.0	2.3	341	10.1	16.8	1.3	000	6.8	15.2	1.8	341	7.6	15.4	3.1	341	9.0	10.6
2030								12.6	0.2		10.3	16.5	0.0		8.0	15.3	-0.1		9.3	15.6	0.1		9.2	10.6
								10.2			10.4	16.3			6.9	15.5			8.2	15.5	4.1	343	8.7	10.8

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/27	42.0	.20	0.0	-0.2	1.3	342	8.0	15.1	0.5	014	8.3	15.0	0.7	079	6.6	14.2	0.3	022	8.5	14.8	0.6	027	9.3	10.6
2100								10.9	0.1		9.0	15.0	0.0		7.6	14.2	0.1		9.6	14.9	0.0		9.4	10.6
								8.0			9.6	15.1			6.6	14.4			8.4	14.7	1.1	023	9.0	10.8

4/27	41.7	.24	0.0	-0.2	0.4	V	8.1	14.0	0.2	234	6.5	12.8	0.5	094	6.0	12.5	0.3	232	7.7	13.2	0.7	170	8.9	10.1
2130								8.8	0.0		7.4	13.0	0.0		7.1	12.7	0.1		8.9	13.5	0.0		9.1	10.2
								5.5			8.1	13.2			6.7	13.3			8.2	13.6	0.9	136	8.7	10.5

4/27	41.4	.20	0.0	-0.2	0.4	295	6.8	13.3	1.0	287	7.3	12.8	0.7	308	5.9	12.0	1.3	289	5.5	11.1	1.4	276	8.5	9.7
2200								9.0	0.0		7.8	12.9	0.0		7.1	12.2	0.0		7.0	11.7	0.0		9.0	10.2
								----			8.2	13.1			6.2	13.2			6.9	12.8	0.7	262	8.7	10.4

4/27	40.9	.24	0.0	-0.2	0.9	281	6.8	12.8	0.8	267	6.7	12.5	1.0	255	8.1	13.3	1.1	271	5.8	11.6	2.0	255	8.6	9.8
2230								8.4	0.0		7.3	12.5	0.1		8.4	13.1	0.0		7.1	11.9	0.0		8.9	10.0
								----			7.6	12.5			6.5	12.9			6.4	12.1	2.2	241	8.6	10.3

4/27	40.6	.23	0.0	-0.2	0.4	288	7.0	13.2	0.8	311	7.3	13.0	0.5	306	6.4	12.5	1.0	303	5.9	12.0	1.4	291	8.7	9.9
2300								9.7	0.1		7.9	13.0	0.1		7.2	12.5	0.0		7.3	12.3	0.0		8.9	10.1
								6.4			8.2	13.1			5.9	12.8			6.5	12.5	1.4	274	8.6	10.3

4/27	40.0	.21	0.0	-0.2	0.9	281	7.6	14.7	0.8	278	7.8	14.4	0.8	265	8.1	14.8	1.1	277	6.9	13.5	1.7	269	9.2	10.6
2330								9.2	0.1		8.5	14.5	0.1		8.8	14.7	0.0		8.3	13.8	0.0		9.4	10.7
								6.1			9.0	14.5			7.1	14.7			7.5	14.0	2.0	262	9.0	10.9

4/28	39.5	.19	0.0	-0.2	0.4	V	7.1	13.3	0.8	298	7.3	13.1	0.4	280	7.2	13.2	0.9	290	6.3	12.3	1.3	279	8.8	10.0
0000								8.0	0.1		7.9	13.1	0.1		8.0	13.2	0.0		7.6	12.6	0.0		8.9	10.1
								----			8.2	13.2			6.6	13.3			6.8	12.7	1.3	264	8.6	10.4

4/28	39.6	.16	0.0	-0.2	0.4	V	7.0	12.4	0.3	296	6.8	11.9	0.2	332	6.3	11.7	0.6	299	5.5	10.7	1.0	225	8.3	9.4
0030								7.5	0.1		7.5	12.0	0.0		7.3	11.9	0.0		6.8	11.2	0.0		8.5	9.5
								----			7.9	12.1			6.2	12.1			6.2	11.5	1.4	221	8.2	9.7

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	39.2	.21	0.0	-0.2	0.4	V	6.7	12.2	0.4	039	6.2	11.3	0.5	059	5.5	11.0	0.4	006	6.1	10.9	0.5	091	8.4	9.5
0100								8.2	0.0		6.9	11.5	0.0		6.5	11.2	0.0		7.2	11.4	0.0		8.5	9.6
								---			7.5	11.9			5.7	11.8			6.7	11.8	0.7	106	8.2	9.7

4/28	38.8	.23	0.0	-0.2	0.9	V	6.5	12.4	0.4	268	6.3	11.8	0.3	228	6.7	12.2	0.7	272	6.3	11.5	1.0	244	8.4	9.6
0130								7.5	0.0		7.1	12.0	0.1		7.4	12.1	0.0		7.4	11.7	0.0		8.6	9.7
								----			7.6	12.2			6.0	12.2			6.6	11.8	1.1	228	8.3	10.0

4/28	38.5	.17	0.0	-0.2	0.4	V	6.0	11.6	0.7	293	6.6	11.7	0.3	273	6.0	11.3	0.9	288	5.5	10.7	1.3	272	8.3	9.4
0200								7.0	0.1		7.1	11.7	0.1		6.6	11.2	0.0		6.6	10.9	0.0		8.5	9.6
								----			7.4	11.8			5.4	11.4			5.9	11.1	1.4	263	8.3	9.9

4/28	38.2	.22	0.0	-0.2	0.9	V	5.8	11.1	0.7	282	6.1	10.8	0.4	269	5.7	10.6	0.9	282	4.7	9.5	1.2	267	8.0	9.1
0230								6.1	0.0		6.6	10.9	0.1		6.4	10.6	0.0		6.0	10.1	0.0		8.3	9.3
								----			6.9	11.1			5.2	10.9			5.6	10.5	1.3	254	8.1	9.6
																					0.0			
4/28	37.9	.22	0.0	-0.2	0.9	V	4.9	9.8	1.0	276	5.4	9.7	0.9	271	5.4	9.9	1.1	280	4.4	8.8	2.3	271	7.6	8.6
0300								5.5	0.1		5.8	9.7	0.1		5.8	9.7	0.0		5.4	9.0	0.0		7.9	8.9
								----			6.0	9.8			4.6	9.9			4.8	9.1	2.5	264	7.8	9.3

4/28	37.4	.22	0.0	-0.2	0.9	V	5.2	10.4	0.8	284	5.7	10.1	0.7	284	5.4	10.2	1.0	288	4.6	9.3	1.9	267	7.8	8.7
0330								5.6	0.1		6.2	10.2	0.1		6.0	10.2	0.0		5.7	9.6	0.0		8.0	9.0
								----			6.3	10.2			4.9	10.5			5.1	9.8	2.1	254	7.8	9.3

4/28	37.2	.22	0.0	-0.2	0.4	V	5.4	9.3	0.3	214	4.1	8.2	0.4	180	5.5	9.2	0.6	243	4.7	8.3	0.9	215	7.3	8.1
0400								----	0.0		4.8	8.4	0.1		6.0	9.2	0.1		5.6	8.7	0.0		7.5	8.2
								----			5.3	8.7			4.9	9.2			5.1	8.9	0.9	215	7.2	8.4

4/28	36.7	.17	0.0	-0.2	0.9	V	5.1	10.0	0.9	296	6.1	10.0	0.6	316	4.3	9.0	1.0	297	3.9	8.3	1.2	289	7.4	8.3
0430								----	0.1		6.4	10.0	0.1		5.3	9.3	0.0		5.1	8.8	0.0		7.7	8.6
								----			6.5	10.1			4.5	9.8			4.8	9.4	1.2	280	7.4	8.8

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	36.7	.28	0.0	-0.2	0.9	V	5.6	10.1	0.6	219	5.4	9.7	0.6	187	5.4	9.7	0.6	239	5.2	9.1	1.5	210	7.5	8.4
0500								5.4	0.0		5.9	9.8	0.1		5.9	9.8	0.0		6.2	9.6	0.0		7.7	8.5
								----			6.2	9.9			4.9	9.9			5.5	9.7	1.9	206	7.5	8.8

4/28	36.4	.28	0.0	-0.2	0.4	V	4.8	9.6	1.4	312	5.9	9.9	0.9	324	4.4	9.2	1.2	309	4.7	9.0	1.9	310	7.5	8.4
0530								6.5	0.1		6.1	9.8	0.0		5.1	9.2	0.0		5.6	9.2	0.0		7.6	8.5
								----			6.0	9.7			4.1	9.3			5.0	9.1	2.2	304	7.6	9.0

4/28	35.9	.30	0.0	-0.2	0.0	V	6.0	10.3	0.2	074	4.7	9.0	0.6	069	3.9	8.7	0.3	009	4.9	9.1	0.1	123	7.4	8.3
0600								----	0.0		5.4	9.3	0.0		4.8	9.0	0.0		5.9	9.5	0.0		7.5	8.4
								----			5.9	9.6			4.2	9.4			5.4	9.6	0.3	121	7.3	8.5

4/28	35.5	.27	0.1	-0.2	0.4	230	5.7	10.6	0.6	245	5.2	10.0	0.7	237	6.6	11.1	0.8	253	5.2	9.6	1.4	257	7.8	8.8
0630								----	0.0		5.9	10.1	0.2		7.1	11.0	0.0		6.2	9.9	0.0		7.9	8.9
								----			6.3	10.3			5.7	10.8			5.5	10.0	1.5	268	7.7	9.1

4/28	35.3	.27	0.1	-0.1	0.4	V	6.0	10.7	0.7	201	4.9	9.9	0.9	181	6.7	11.1	0.7	221	5.9	10.1	1.0	217	7.8	8.7
0700								----	0.0		5.8	10.0	0.2		7.1	10.9	0.0		6.7	10.2	0.0		7.9	8.8
								----			6.2	10.2			5.9	10.8			5.8	10.1	0.7	229	7.7	9.1
4/28	35.3	.24	0.3	-0.1	0.4	V	6.6	11.6	0.4	135	5.3	10.6	0.7	130	6.1	11.4	0.3	169	6.6	11.2	0.4	150	8.1	9.1
0730								6.8	0.0		6.2	10.7	0.1		6.8	11.2	0.1		7.5	11.3	0.0		8.1	9.1
								----			6.7	10.9			5.7	11.2			6.6	11.1	0.6	118	7.8	9.2

4/28	35.1	.24	0.3	0.0	0.9	V	6.9	12.6	0.6	097	6.0	11.4	0.8	100	6.2	11.9	0.4	095	6.9	11.8	0.4	149	8.4	9.4
0800								8.5	0.0		6.8	11.5	0.1		7.0	11.6	0.1		7.8	11.9	0.0		8.4	9.4
								5.8			7.3	11.5			5.9	11.7			6.9	11.7	0.4	142	8.1	9.4

4/28	34.9	.26	0.4	0.0	1.8	043	7.1	13.4	0.6	036	6.5	12.1	0.8	069	6.3	12.5	0.5	031	7.2	12.4	1.2	009	8.6	9.7
0830								----	0.0		7.3	12.2	0.0		7.3	12.3	0.0		8.1	12.5	0.0		8.7	9.7
								----			7.7	12.2			6.1	12.2			7.2	12.2	1.3	009	8.3	9.7

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	34.6	.24	0.6	0.1	1.3	000	7.2	13.8	2.1	018	7.6	13.7	1.9	029	6.6	13.9	1.8	016	7.4	13.8	2.2	023	8.8	10.1
0900								10.5	0.1		8.2	13.6	0.0		7.9	13.6	0.0		8.6	13.7	0.0		8.9	10.0
								8.1			8.4	13.5			6.3	13.4			7.5	13.4	2.4	019	8.5	10.1
4/28	34.4	.28	1.2	0.4	1.3	079	8.2	15.1	1.7	075	7.7	14.8	1.8	078	7.9	15.7	1.6	071	9.2	15.5	2.1	078	9.5	10.8
0930								12.9	0.0		8.6	14.7	0.0		8.9	15.3	0.1		10.1	15.3	-0.1		9.6	10.7
								10.3			9.1	14.6			7.4	14.9			8.9	15.0	2.2	076	9.1	10.8
4/28	34.2	.29	1.6	0.6	1.3	090	9.1	16.8	1.8	089	8.6	16.6	1.9	087	9.5	17.8	1.7	083	10.3	17.1	2.1	087	10.2	11.6
1000								14.0	0.0		9.6	16.6	0.0		10.1	17.3	0.1		11.2	16.9	-0.1		10.2	11.5
								11.5			10.3	16.3			8.4	16.8			9.9	16.7	2.3	085	9.7	11.5
4/28	34.0	.29	1.8	0.8	1.3	072	10.0	17.8	1.1	084	9.5	17.8	1.4	086	10.6	18.8	1.0	081	10.9	18.3	1.4	079	10.6	12.1
1030								14.2	0.0		10.6	17.7	0.0		11.1	18.3	0.1		11.9	18.0	-0.1		10.6	12.0
								11.8			11.2	17.5			9.3	17.9			10.7	17.8	1.5	079	10.2	12.1
4/28	33.9	.31	1.8	0.8	1.3	072	10.5	19.2	1.6	068	10.2	19.1	1.7	077	11.2	20.4	1.4	073	11.7	19.7	1.9	073	11.0	12.6
1100								15.5	0.0		11.4	19.0	0.0		11.8	19.8	0.1		12.7	19.4	-0.1		11.0	12.5
								13.4			11.9	18.8			9.8	19.4			11.4	19.2	1.9	072	10.5	12.5
4/28	34.1	.28	2.0	0.9	1.8	086	11.3	21.0	2.3	082	10.6	20.9	2.3	082	11.7	22.2	2.2	080	12.4	21.2	2.8	079	11.5	13.2
1130								16.7	-0.1		12.0	20.7	0.0		12.5	21.5	0.1		13.6	21.0	-0.1		11.5	13.1
								14.6			12.8	20.4			10.4	20.9			12.2	20.9	2.9	078	10.9	13.1
4/28	34.0	.29	1.5	0.7	1.3	083	11.2	21.3	1.3	072	10.6	21.2	1.5	085	11.5	22.2	1.3	078	12.2	21.5	1.4	079	11.6	13.4
1200								16.4	0.0		12.2	21.1	0.0		12.5	21.7	0.1		13.6	21.4	-0.1		11.6	13.3
								14.6			13.0	21.0			10.3	21.3			12.2	21.3	1.5	081	11.1	13.3
4/28	33.7	.28	1.2	0.5	1.3	V	11.2	21.6	0.8	141	10.8	21.9	1.2	141	12.0	22.4	0.7	176	12.1	22.1	1.3	176	11.5	13.3
1230								15.3	0.0		12.5	21.8	0.1		12.8	22.0	0.1		13.8	22.0	0.0		11.5	13.2
								13.6			13.3	21.6			11.1	21.7			12.3	21.7	1.5	170	11.0	13.3

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	33.5	.30	1.1	0.4	1.8	173	11.3	21.8	2.3	174	11.0	22.4	2.7	170	12.6	22.6	2.2	182	12.5	22.3	3.1	177	11.5	13.3
1300								13.1	0.0		12.6	22.2	0.3		13.2	22.2	0.2		14.1	22.2	-0.2		11.6	13.3
								13.0			13.4	21.9			11.3	21.9			12.4	21.9	3.4	174	11.0	13.3

4/28	33.4	.26	1.3	0.7	2.7	108	11.7	22.3	1.4	107	11.4	22.5	1.6	108	12.3	23.1	1.2	107	12.8	22.7	1.5	098	11.7	13.5
1330								16.3	0.0		13.0	22.3	0.1		13.2	22.6	0.1		14.3	22.5	-0.1		11.7	13.4
								14.7			13.7	22.1			11.4	22.2			12.8	22.2	1.5	102	11.1	13.4

4/28	33.4	.28	1.4	0.7	1.3	180	11.8	22.1	1.9	159	11.6	22.9	2.1	155	13.0	23.2	1.4	165	13.2	22.9	2.5	163	11.8	13.6
1400								15.8	0.0		13.2	22.7	0.2		13.7	22.7	0.2		14.6	22.7	-0.2		11.8	13.5
								14.0			14.0	22.5			11.8	22.4			13.0	22.4	2.7	159	11.2	13.5

4/28	----	---	0.7	---	1.8	V	----	----	---	---	----	----	---	---	----	----	---	---	----	----	2.0	048	11.6	13.4
1430								----	---		----	----	---	---	----	----	---		----	----	-0.1		11.6	13.3
								----			----	----			----	----			----	----	2.2	050	11.1	13.3

4/28	----	---	0.5	---	3.1	000	----	----	---	---	----	----	---	---	----	----	---	---	----	----	3.7	024	11.4	13.1
1500								----	---		----	----	---		----	----	---		----	----	0.0		11.4	13.0
								----			----	----			----	----			----	----	4.1	020	10.9	13.0

4/28	----	---	1.0	---	3.1	072	----	----	---	---	----	----	---	---	----	----	---	---	----	----	3.3	073	11.5	13.3
1530								----	---		----	----	---		----	----	---		----	----	-0.2		11.6	13.2
								----			----	----			----	----			----	----	3.6	073	11.0	13.2

4/28	----	---	1.4	---	2.7	090	----	----	---	---	----	----	---	---	----	----	---	---	----	----	2.7	069	11.8	13.5
1600								----	---		----	----	---		----	----	---		----	----	-0.1		11.8	13.5
								----			----	----			----	----			----	----	2.9	070	11.2	13.5

4/28	----	---	0.6	---	2.2	054	----	----	---	---	----	----	---	---	----	----	---	---	----	----	1.8	058	11.6	13.4
1630								----	---		----	----	---		----	----	---		----	----	-0.2		11.7	13.3
								----			----	----			----	----			----	----	1.9	057	11.1	13.3

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	----	---	0.4	---	1.3	036	----	----	---	---	----	----	---	---	----	----	---	---	----	----	2.3	020	11.4	13.2
1700								----	---		----	----	---		----	----	---		----	----	0.0		11.5	13.2
								----			----	----			----	----			----	----	2.4	017	11.0	13.2

4/28	----	---	0.3	---	2.2	000	----	----	---	---	----	----	---	---	----	----	---	---	----	----	2.0	006	11.4	13.2
1730								----	---		----	----	---		----	----	---		----	----	0.0		11.5	13.1
								----			----	----			----	----			----	----	2.2	002	10.9	13.1

4/28	----	---	0.4	---	1.8	000	----	----	---	---	----	----	---	---	----	----	---	---	----	----	1.6	020	11.4	13.1
1800								----	---		----	----	---		----	----	---		----	----	0.0		11.5	13.1
								----			----	----			----	----			----	----	1.7	018	10.9	13.1

4/28	----	---	0.4	---	1.3	063	----	----	---	---	----	----	---	---	----	----	---	---	----	----	2.4	086	11.5	13.3
1830								----	---		----	----	---		----	----	---		----	----	-0.1		11.6	13.2
								----			----	----			----	----			----	----	2.5	087	11.1	13.3

4/28	----	---	0.2	---	0.9	115	----	----	---	---	----	----	---	---	----	----	---	---	----	----	0.8	144	11.4	13.1
1900								----	---		----	----	---		----	----	---		----	----	0.0		11.5	13.1
								----			----	----			----	----			----	----	0.9	139	10.9	13.1

4/28	----	---	0.0	---	0.4	167	----	----	---	---	----	----	---	---	----	----	---	---	----	----	0.7	172	11.1	12.7
1930								----	---		----	----	---		----	----	---		----	----	0.0		11.2	12.7
								----			----	----			----	----			----	----	0.7	160	10.7	12.8

4/28	----	---	0.0	---	0.9	297	----	----	---	---	----	----	---	---	----	----	---	---	----	----	1.3	289	9.7	10.9
2000								----	---		----	----	---		----	----	---		----	----	0.0		10.2	11.6
								----			----	----			----	----			----	----	0.5	266	9.9	12.0

4/28	----	---	0.0	---	0.9	305	----	----	---	---	----	----	---	---	----	----	---	---	----	----	0.7	315	7.8	9.0
2030								----	---		----	----	---		----	----	---		----	----	0.0		8.1	9.2
								----			----	----			----	----			----	----	1.1	313	7.8	9.6

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/28	30.3	.25	0.0	-0.2	0.4	V	6.5	11.5	0.6	223	5.9	10.8	0.8	216	7.3	11.9	1.0	248	6.5	10.8	1.3	219	8.6	9.6
2100								----	0.0		6.7	10.9	0.1		7.5	11.6	0.0		7.4	11.2	0.0		8.8	9.8
								----			7.1	11.3			6.2	11.5			6.8	11.5	1.2	214	8.5	10.1

4/28	30.0	.25	0.0	-0.2	0.9	290	5.4	10.4	1.1	297	6.2	10.3	1.1	310	5.0	9.9	1.5	300	4.8	9.1	2.3	279	8.1	9.1
2130								----	0.1		6.5	10.3	0.0		5.7	10.0	0.0		5.7	9.4	0.0		8.6	9.7
								----			6.5	10.5			5.6	11.5			5.5	10.1	2.1	265	8.4	10.0

4/28	29.8	.23	0.0	-0.2	0.9	290	5.1	9.8	0.7	298	5.5	9.5	0.5	321	4.6	9.0	1.2	302	4.3	8.3	1.1	280	7.6	8.5
2200								----	0.1		6.0	9.5	0.0		5.2	9.0	0.0		5.2	8.6	0.0		7.9	8.8
								----			6.0	9.6			4.7	9.7			5.1	9.4	1.0	273	7.8	9.2

4/28	29.5	.23	0.0	-0.2	0.4	260	4.8	8.9	0.7	267	5.0	8.6	1.1	257	5.8	9.5	1.4	270	4.1	7.8	2.0	256	7.6	8.5
2230								----	0.0		5.3	8.6	0.1		5.8	9.2	0.0		5.0	8.3	0.0		7.8	8.6
								----			5.6	9.0			4.5	9.1			4.7	8.8	2.4	242	7.7	9.0

4/28	29.5	.22	0.0	-0.2	0.4	234	4.8	8.6	0.6	199	4.0	6.9	0.8	190	5.6	9.1	0.6	229	4.0	7.2	1.3	215	7.3	8.0
2300								----	0.0		4.2	7.1	0.1		5.8	8.9	0.0		4.7	7.6	0.0		7.5	8.3
								----			4.7	7.7			5.0	8.9			4.3	7.8	1.6	227	7.4	8.6

4/28	29.4	.18	0.0	-0.2	0.4	216	4.0	6.9	0.8	220	3.3	5.7	1.2	213	5.1	7.7	1.1	247	3.3	5.8	2.2	214	7.0	7.6
2330								----	0.0		3.4	5.6	0.1		4.9	7.3	0.0		3.9	6.2	0.0		7.2	7.9
								----			3.8	6.2			3.8	7.3			3.7	6.5	2.6	206	7.0	8.2

4/29	29.3	.19	0.0	-0.2	0.4	234	3.7	7.3	0.7	266	3.7	6.2	1.1	255	4.7	7.9	1.4	269	3.1	6.2	2.0	253	6.9	7.6
0000								----	0.0		3.6	5.9	0.1		4.7	7.6	0.0		3.9	6.7	0.0		7.0	7.7
								----			3.7	6.1			3.6	7.6			3.7	7.1	2.4	239	6.9	8.0

4/29	29.1	.19	0.0	-0.2	0.4	220	3.6	7.6	1.3	194	3.0	6.1	1.8	185	5.0	8.1	1.2	202	4.1	7.0	2.3	225	6.9	7.6
0030								----	0.0		3.4	6.2	0.2		4.9	7.7	0.0		4.6	7.1	0.0		7.0	7.7
								----			3.8	6.7			3.8	7.5			3.8	6.9	2.9	226	6.8	7.9

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/29	28.2	.22	0.0	-0.2	0.4	228	4.0	7.5	0.7	233	2.9	5.2	1.0	226	5.1	8.0	1.1	248	3.4	6.4	2.0	230	6.8	7.5
0100								----	0.0		3.1	5.4	0.2		5.2	7.8	0.0		4.1	6.7	0.0		6.9	7.6
								----			3.5	6.1			4.2	7.6			3.7	6.9	2.5	221	6.8	7.8

4/29	28.2	.22	0.0	-0.2	0.4	241	3.9	7.3	1.2	228	3.1	5.5	1.5	227	5.0	8.0	1.3	237	3.6	6.6	2.9	240	6.8	7.5
0130								----	0.0		3.3	5.7	0.2		4.9	7.6	0.0		4.2	6.8	0.0		6.9	7.6
								----			3.7	6.3			3.8	7.4			3.7	6.8	3.6	231	6.7	7.8

4/29	28.3	.23	0.0	-0.2	1.3	241	3.8	7.3	1.8	230	3.4	6.1	2.6	236	5.4	8.3	2.0	239	3.7	6.8	3.5	239	6.8	7.4
0200								----	0.0		3.6	6.3	0.4		5.0	7.8	-0.1		4.3	7.0	0.0		6.8	7.5
								----			4.0	6.7			3.8	7.4			3.8	7.0	4.3	233	6.7	7.7

4/29	27.9	.26	0.0	-0.2	1.3	245	3.4	6.9	1.4	245	3.2	5.6	2.4	249	5.0	7.8	2.2	254	3.4	6.3	3.3	252	6.7	7.4
0230								----	0.0		3.3	5.8	0.3		4.7	7.3	-0.1		4.0	6.6	0.0		6.8	7.4
								----			3.7	6.1			3.5	7.0			3.5	6.6	4.0	246	6.6	7.5

4/29	27.6	.25	0.0	-0.2	0.9	252	3.1	6.2	1.2	244	3.1	5.4	2.0	245	4.5	7.0	1.7	253	2.9	5.6	3.2	248	6.3	6.9
0300								----	0.0		3.2	5.4	0.3		4.1	6.5	0.0		3.5	5.8	0.0		6.4	6.9
								----			3.3	5.6			3.0	6.3			3.0	5.8	3.8	240	6.2	7.1

4/29	27.3	.26	0.0	-0.2	0.9	234	2.7	5.5	1.3	228	2.3	4.4	1.6	229	4.0	6.2	1.3	239	2.5	4.8	3.1	239	5.9	6.5
0330								----	0.0		2.4	4.5	0.2		3.7	5.8	0.0		3.0	5.1	0.0		6.0	6.5
								----			2.7	4.9			2.7	5.6			2.6	5.0	3.9	236	5.9	6.7

4/29	27.1	.23	0.0	-0.2	0.4	234	2.6	5.3	1.2	233	2.1	4.1	1.6	231	4.0	6.1	1.4	241	2.5	4.7	3.0	238	5.9	6.5
0400								----	0.0		2.3	4.2	0.2		3.7	5.7	0.0		3.0	5.0	0.0		6.0	6.5
								----			2.5	4.6			2.6	5.4			2.5	4.9	3.7	232	5.9	6.7

4/29	27.0	.23	0.0	-0.2	0.4	248	2.3	4.8	1.0	253	2.2	3.9	1.6	253	3.5	5.5	1.6	241	2.0	4.1	2.7	248	5.8	6.3
0430								----	0.0		2.2	3.9	0.2		3.3	5.1	0.0		2.5	4.4	0.0		5.9	6.3
								----			2.3	4.1			2.3	4.9			2.2	4.4	3.6	235	5.8	6.6

RAFT RIVER I (1977) - EXPERIMENT I (contd)

4/29	26.8	.22	0.0	-0.2	0.9	243	2.1	4.8	1.2	248	2.2	3.9	2.0	237	3.7	5.7	1.6	246	2.1	4.2	3.5	244	5.7	6.2
0500								----	0.0		2.2	3.9	0.3		3.2	5.2	0.0		2.5	4.4	0.0		5.8	6.2
								----			2.3	4.2			2.2	4.8			2.1	4.4	4.0	238	5.6	6.4

4/29	26.4	.23	0.0	-0.2	0.4	240	1.9	4.3	1.0	235	1.6	3.1	1.5	233	3.1	5.0	1.2	241	1.8	3.7	3.1	240	5.4	5.9
0530								----	0.0		1.6	3.3	0.2		2.8	4.6	0.0		2.3	4.0	0.0		5.5	5.9
								----			1.8	3.6			1.9	4.4			1.9	3.9	3.8	231	5.4	6.2

4/29	26.3	.23	0.0	-0.2	0.9	240	2.0	4.5	1.2	238	1.8	3.5	1.8	237	3.4	5.3	1.5	245	2.0	4.0	3.2	243	5.5	6.0
0600								----	0.0		1.8	3.5	0.3		3.0	4.9	0.0		2.4	4.2	0.0		5.6	6.0
								----			1.9	3.8			2.1	4.6			2.0	4.2	3.9	236	5.4	6.2

4/29	26.0	.23	0.1	-0.1	0.9	234	3.1	6.0	1.7	224	3.7	6.2	2.2	219	4.9	7.2	1.9	219	3.7	6.1	3.1	234	5.7	6.3
0630								----	0.0		3.6	6.1	0.4		4.3	6.7	0.0		4.0	6.2	0.0		5.8	6.2
								----			3.6	6.1			3.3	6.3			3.3	5.9	3.7	227	5.6	6.4

4/29	26.1	.23	0.2	-0.1	1.3	225	4.1	7.7	2.0	216	4.8	8.1	2.6	219	5.9	8.8	2.2	217	4.9	7.9	3.4	224	6.8	7.5
0700								----	0.0		4.9	8.0	0.4		5.5	8.4	0.0		5.3	8.0	-0.1		6.9	7.5
								----			4.9	7.9			4.4	7.9			4.5	7.7	3.9	219	6.6	7.5

4/29	26.1	.24	0.5	0.1	1.3	238	6.3	11.1	1.8	232	7.6	12.0	2.4	235	7.7	12.0	1.8	239	7.1	11.5	3.0	243	8.3	9.2
0730								----	0.0		7.7	11.9	0.4		7.6	11.7	0.0		7.7	11.6	0.0		8.3	9.1
								----			7.7	11.8			6.4	11.3			6.9	11.4	3.2	239	8.0	9.1

4/29	25.9	.25	0.7	0.2	1.3	234	7.9	13.8	1.5	231	9.7	15.3	2.2	234	9.2	14.7	1.8	238	9.0	14.5	2.7	242	9.2	10.3
0800								----	0.0		10.0	15.2	0.3		9.3	14.4	0.0		9.6	14.5	0.0		9.2	10.2
								----			9.9	14.9			8.0	14.1			8.6	14.2	2.8	238	8.8	10.2

4/29	25.8	.25	0.8	0.2	1.3	216	9.7	16.4	1.3	190	11.1	17.7	1.5	185	10.7	17.3	1.3	192	11.1	17.1	1.9	200	10.2	11.5
0830								----	0.0		11.6	17.8	0.2		11.0	17.0	0.1		11.6	17.1	-0.1		10.3	11.4
								----			11.7	17.4			9.7	16.8			10.4	16.7	2.2	192	9.9	11.4

RAFT RIVER 1 (1977) - EXPERIMENT I (contd)

4/29	25.6	.29	1.1	0.4	3.1	144	11.6	19.0	4.4	143	12.8	20.4	4.0	136	12.2	19.8	3.7	138	13.9	19.8	5.2	145	11.3	12.6
0900								----	-0.1		12.9	20.0	0.2		12.9	19.5	0.4		13.9	19.6	-0.3		11.3	12.4
								----			13.4	19.7			11.5	19.2			12.6	19.3	5.7	143	10.8	12.4

4/29	25.6	.43	1.3	0.6	4.5	135	12.1	20.0	5.2	137	13.1	21.5	4.8	127	12.7	20.9	4.4	129	14.3	20.8	6.4	129	11.5	12.9
0930								----	-0.1		13.5	21.0	0.2		13.6	20.7	0.5		14.5	20.6	-0.4		11.5	12.7
								----			14.1	20.7			12.0	20.1			13.1	20.2	7.2	128	11.0	12.7

4/29	25.5	.43	1.5	0.7	5.8	130	12.5	20.7	6.4	130	13.2	22.0	5.9	120	13.2	21.9	5.6	122	14.7	21.4	7.6	126	11.7	13.1
1000								----	-0.1		13.9	21.6	0.2		14.3	21.9	0.6		14.8	21.2	-0.5		11.7	13.0
								----			14.6	21.5			12.4	20.9			13.4	20.9	8.6	123	11.1	12.9

RAFT RIVER 1 (1977) - EXPERIMENT 2

					Raft				"East"				"North"				"West"				Reference			
Date Time	$\bar{T}$	s	Rad Down	Rad Net	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td	W/S	W/D	Tw	Td
	C	C	Mw	Mw	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C	ms^{-1}	deg	C	C
5/1	47.4	.37	0.5	0.3	4.0	252	9.4	14.0	3.8	252	10.5	14.8	6.4	254	13.4	16.0	5.1	254	9.8	14.6	7.2	258	9.6	10.4
1030								22.9	0.2		10.5	14.7	0.7		11.7	14.9	-0.2		10.7	14.5	0.0		9.6	10.3
								19.6			10.4	14.3			10.0	14.3			9.8	14.1	7.8	256	9.3	10.3
																					-0.1			
5/1	46.8	.35	0.5	0.0	4.9	252	9.2	13.6	4.3	249	9.7	14.0	6.8	250	13.0	15.5	5.4	252	9.5	13.9	8.0	256	9.6	10.4
1100								22.1	0.1		9.9	14.0	0.8		11.5	14.5	-0.3		10.4	13.9	0.0		9.6	10.3
								18.6			10.0	13.8			9.8	14.0			9.6	13.6	8.9	254	9.3	10.3
																					-0.2			
5/1	46.1	.33	0.4	0.0	5.8	252	8.7	12.9	4.4	249	9.1	13.1	7.2	252	12.4	14.7	5.8	253	8.9	13.0	8.4	257	4.4	10.1
1130								21.5	0.2		9.4	13.1	0.8		10.8	13.6	-0.3		9.8	13.0	0.0		9.4	10.0
								18.3			9.5	13.0			9.3	13.2			9.0	12.7	9.4	255	9.1	10.0
																					-0.2			
5/1	45.5	.36	0.4	0.0	4.9	270	8.9	13.1	4.0	268	9.6	13.5	5.7	262	12.3	14.9	5.0	265	9.0	13.2	7.6	269	9.3	10.1
1200								21.9	0.2		9.6	13.3	0.6		10.7	13.8	-0.2		9.9	13.3	0.1		9.3	10.0
								19.0			9.6	13.2			9.2	13.3			9.1	12.9	8.3	266	9.1	10.0
																					-0.1			
5/1	44.9	.43	0.4	0.0	4.5	259	8.8	13.2	3.5	253	9.5	13.7	6.0	254	12.2	14.9	5.1	255	8.9	13.3	7.0	259	9.4	10.2
1230								21.4	0.2		9.7	13.6	0.7		10.9	13.9	-0.3		9.8	13.3	0.0		9.4	10.1
								18.6			9.7	13.4			9.2	13.4			9.0	13.0	8.0	257	9.1	10.1
																					-0.2			
5/1	44.3	.27	0.5	0.1	4.0	227	9.2	14.1	3.5	197	9.0	14.2	4.2	202	12.2	15.6	3.9	205	10.0	14.3	5.2	202	9.5	10.4
1300								20.5	0.0		9.4	14.1	0.5		11.0	14.7	0.0		10.5	14.2	-0.2		9.5	10.4
								18.5			9.8	14.0			9.5	14.2			9.4	13.8	5.7	200	9.2	10.4
																					-0.3			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/1	43.9	.15	0.6	0.6	4.5	162	10.2	16.1	5.2	154	10.0	16.5	5.3	152	11.4	16.9	4.5	150	13.4	17.3	7.2	156	10.0	11.0
1330								23.1	-0.1		10.4	16.2	0.3		11.3	16.4	0.4		13.0	16.7	-0.4		9.9	10.9
								20.9			10.9	15.9			9.9	15.8			11.2	16.0	7.8	153	9.6	10.8
																					-0.2			
5/1	43.7	.12	1.0	0.5	4.0	162	10.3	16.5	2.0	156	9.9	17.0	2.3	156	11.7	17.6	1.8	162	12.3	17.4	4.2	170	10.2	11.3
1400								23.0	-0.1		10.4	16.8	0.2		11.5	17.0	0.1		12.6	17.1	-0.3		10.2	11.2
								22.3			11.1	16.6			10.2	16.7			11.2	16.7	4.8	167	9.8	11.2
																					-0.1			
5/1	43.5	.12	1.1	0.5	2.2	198	10.4	17.5	3.3	189	9.9	17.8	3.7	187	12.6	18.6	3.1	201	11.5	18.1	4.6	198	10.3	11.6
1430								24.0	0.0		10.4	17.5	0.4		12.0	17.9	0.0		12.3	17.9	-0.1		10.3	11.5
								23.2			11.1	17.2			10.4	17.5			11.0	17.4	5.0	195	9.9	11.5
																					-0.1			
5/1	43.2	.13	1.3	0.8	2.2	216	10.5	18.0	3.4	202	10.5	18.9	3.8	203	13.2	19.4	3.5	206	11.7	19.0	4.8	211	10.5	11.8
1500								25.3	0.0		10.9	18.5	0.5		12.6	18.6	0.0		12.7	18.7	-0.1		10.5	11.7
								24.4			11.6	18.0			10.9	18.2			11.2	18.1	5.2	208	10.0	11.7
																					-0.1			
5/1	42.8	.17	1.3	0.1	3.6	184	10.3	17.2	5.2	151	10.0	17.4	5.0	147	11.3	17.8	4.2	149	13.1	18.3	6.8	153	10.4	11.6
1530								23.3	-0.1		10.6	17.2	0.3		11.6	17.4	0.4		13.1	17.8	-0.4		10.4	11.5
								22.6			11.3	17.1			10.1	17.0			11.4	17.2	7.6	149	10.0	11.5
																					-0.2			
5/1	42.2	.21	0.5	-0.1	6.7	162	9.3	12.1	6.7	157	9.1	12.0	7.0	157	10.3	12.6	5.9	157	11.9	13.2	10.0	162	9.2	9.7
1600								23.1	-0.2		9.4	11.9	0.4		10.0	12.2	0.5		11.2	12.7	-0.6		9.2	9.6
								19.6			9.5	11.9			9.0	11.9			9.9	12.1	11.1	159	9.0	9.7
																					-0.4			
5/1	41.8	.19	0.1	-0.1	2.7	198	9.1	10.9	2.3	169	9.0	10.4	2.8	166	10.5	11.6	1.9	176	11.0	11.6	3.5	176	8.9	9.2
1630								19.9	0.0		9.1	10.4	0.2		9.9	11.1	0.2		10.6	11.4	-0.2		8.9	9.2
								18.1			9.0	10.5			9.0	10.8			9.6	10.8	3.9	172	8.8	9.2
																					-0.1			
5/1	41.7	.18	0.5	0.2	0.9	234	9.4	11.5	0.8	235	9.6	11.5	0.9	218	10.5	12.2	0.8	233	10.0	11.6	1.1	230	9.1	9.5
1700								18.1	0.0		9.6	11.4	0.2		10.1	11.8	0.0		10.1	11.6	-0.1		9.1	9.4
								16.9			9.4	11.4			9.4	11.6			9.4	11.2	1.1	228	8.9	9.5
																					-0.1			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/1	41.5	.18	0.4	0.4	1.3	V	9.8	12.8	1.4	138	9.8	12.9	1.6	131	10.1	13.0	1.2	140	11.2	13.3	1.8	154	9.4	10.0
1730								20.4	0.0		9.9	12.8	0.1		10.0	12.7	0.2		11.2	13.1	-0.1		9.4	9.9
								19.2			9.9	12.6			9.2	12.5			10.4	12.8	2.0	152	9.2	9.9
																					0.0			
5/1	41.3	.23	0.2	0.1	0.9	V	9.6	12.9	0.8	223	9.7	13.0	1.0	219	10.7	13.5	0.9	233	10.2	12.9	1.4	241	9.3	9.9
1800								19.2	0.0		9.9	12.9	0.2		10.4	13.1	0.0		10.5	12.9	0.0		9.3	9.9
								18.6			9.8	12.8			9.6	12.9			9.7	12.5	1.4	235	9.1	9.9
																					0.0			
5/1	41.1	.23	0.1	-0.1	0.4	234	10.1	12.9	0.6	210	9.7	12.6	0.8	206	11.1	13.5	0.8	232	10.1	12.5	0.9	228	9.3	9.9
1830								19.3	0.0		10.0	12.6	0.2		11.0	13.2	0.0		10.5	12.6	0.0		9.4	9.9
								18.8			10.0	12.6			10.2	13.1			9.8	12.3	1.1	224	9.2	10.0
																					0.0			
5/1	40.9	.25	0.0	-0.2	0.4	252	9.9	13.0	0.6	266	9.9	12.8	0.4	261	10.2	12.9	0.7	277	10.0	12.0	0.9	276	9.3	10.0
1900								18.4	0.1		10.1	12.8	0.1		10.4	12.8	0.0		9.9	12.2	0.0		9.4	9.9
								18.1			10.1	12.7			9.7	12.8			9.4	12.1	0.9	271	9.2	10.0
																					0.0			
5/1	40.6	.33	0.0	-0.2	4.5	V	8.6	11.0	2.5	248	8.7	10.8	4.1	249	10.1	11.9	3.4	253	9.3	10.7	5.3	253	8.8	9.3
1930								20.2	0.1		8.9	10.9	0.5		9.5	11.3	-0.1		9.1	10.8	0.0		8.8	9.3
								18.2			8.8	10.9			8.7	11.2			8.5	10.5	5.8	251	8.7	9.3
																					-0.1			
5/1	40.1	.31	0.0	-0.2	3.1	252	7.6	8.7	1.4	270	8.5	9.0	1.6	257	8.7	9.6	1.5	269	7.6	8.1	2.3	270	8.1	8.3
2000								19.9	0.1		8.3	8.9	0.2		8.1	8.8	-0.1		7.6	8.2	0.0		8.1	8.3
								17.8			7.9	8.9			7.4	8.7			7.1	7.9	2.7	267	8.0	8.3
																					0.0			
5/1	39.9	.28	0.0	-0.2	1.3	000	8.1	8.8	1.4	003	8.8	8.7	1.0	031	7.2	8.2	1.1	000	7.6	8.0	1.7	013	8.0	8.1
2030								20.7	0.1		8.6	9.1	0.0		7.3	8.1	0.0		7.7	8.3	0.0		8.0	8.1
								19.6			8.1	9.1			7.2	8.3			7.3	8.1	2.2	008	7.9	8.2
																					0.0			
5/1	39.8	.25	0.0	-0.2	0.9	072	7.8	8.6	1.2	094	7.1	7.3	1.3	094	7.0	7.9	1.1	087	8.6	8.8	1.7	093	7.9	8.0
2100								20.0	0.0		7.3	8.0	0.0		7.1	7.8	0.1		8.3	8.8	-0.1		7.9	8.0
								18.6			7.2	8.2			7.0	8.1			7.8	8.1	2.2	090	7.8	8.1
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/1	39.6	.26	0.0	-0.2	0.4	V	7.8	8.2	0.7	207	7.2	7.8	0.8	194	8.4	9.1	0.7	226	8.0	8.1	1.2	213	7.8	8.0
2130								17.4	0.0		7.3	7.7	0.1		8.1	8.5	0.0		7.8	8.2	0.0		7.8	8.0
								15.5			7.1	7.9			7.8	8.7			7.4	7.7	1.5	198	7.8	8.0
																					0.0			
5/1	39.4	.26	0.0	-0.2	0.4	288	7.5	7.9	1.2	286	8.1	8.3	0.8	296	7.6	8.2	1.0	291	6.8	7.0	1.9	282	7.8	7.9
2200								18.3	0.1		7.8	8.2	0.0		7.4	7.7	0.0		6.9	7.1	0.0		7.8	7.9
								16.2			7.3	8.1			7.0	8.0			6.6	7.1	2.1	274	7.8	8.2
																					0.0			
5/1	39.2	.28	0.0	-0.2	0.9	276	6.9	7.2	1.4	287	7.5	7.6	1.1	292	7.2	7.9	1.3	289	6.2	6.3	2.6	286	7.6	7.7
2230								18.9	0.1		7.2	7.5	0.1		7.0	7.3	0.0		6.3	6.4	0.0		7.7	7.8
								16.4			6.7	7.5			6.5	7.4			6.1	6.5	2.9	277	7.7	8.2
																					0.0			
5/1	39.0	.30	0.0	-0.2	1.3	306	6.0	6.3	1.8	311	7.5	7.5	1.0	324	5.7	6.3	1.3	309	5.4	5.5	1.8	310	7.2	7.2
2300								19.9	0.1		7.1	7.2	0.0		5.6	6.0	0.0		5.6	5.7	0.0		7.3	7.3
								17.6			6.5	7.1			5.4	6.2			5.4	5.7	2.0	305	7.3	7.4
																					0.0			
5/1	38.8	.27	0.0	-0.2	0.4	V	6.9	7.2	0.3	134	6.0	6.4	0.6	121	6.3	7.1	0.1	183	6.3	6.3	0.5	142	7.2	7.3
2330								17.6	0.0		6.1	6.2	0.1		6.3	6.7	0.1		6.3	6.5	0.0		7.3	7.3
								15.7			5.9	6.5			6.2	7.1			6.1	6.3	0.6	128	7.3	7.4
																					0.0			
5/2	38.6	.26	0.0	-0.2	0.0	V	7.2	7.4	0.2	169	5.6	6.2	0.6	120	5.8	6.4	0.4	257	5.6	5.6	0.5	185	7.0	7.1
0000								16.6	0.0		5.8	6.0	0.1		6.0	6.2	0.1		5.8	6.0	0.0		7.1	7.2
								15.0			5.7	6.5			6.1	6.8			5.6	5.9	0.7	174	7.1	7.3
																					0.0			
5/2	38.5	.28	0.0	-0.2	0.0	V	6.8	6.9	0.4	160	5.3	6.0	0.8	138	5.9	6.6	0.5	214	5.3	5.3	1.0	178	6.9	6.9
0030								16.3	0.0		5.4	5.9	0.1		5.9	6.1	0.1		5.6	5.7	0.0		7.0	7.0
								14.5			5.4	6.1			5.9	6.6			5.4	5.7	1.4	179	7.0	7.2
																					0.0			
5/2	38.4	.26	0.0	-0.2	0.0	V	6.7	6.8	0.3	213	5.7	6.4	0.5	168	6.7	7.3	0.5	248	5.7	5.7	1.0	199	7.1	7.2
0100								16.6	0.0		5.8	6.3	0.1		6.6	6.9	0.0		6.0	6.0	0.0		7.2	7.2
								14.7			5.7	6.5			6.5	7.2			5.7	5.9	1.3	192	7.2	7.3
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/2	38.2	.27	0.0	-0.2	0.0	V	6.6	6.7	0.2	223	5.8	6.4	0.3	141	6.0	6.6	0.4	253	5.0	5.0	0.6	207	6.9	6.9
0130								16.2	0.0		5.8	6.2	0.1		6.1	6.3	0.0		5.4	5.5	0.0		7.0	7.0
								14.4			5.7	6.5			6.2	6.7			5.2	5.5	0.8	205	7.0	7.1
																					0.0			
5/2	38.0	.30	0.0	-0.2	0.0	V	6.3	6.4	0.4	236	5.5	6.0	0.5	205	6.5	6.9	0.7	261	4.9	4.9	0.8	225	6.8	6.9
0200								16.3	0.0		5.6	6.0	0.1		6.3	6.5	0.0		5.2	5.2	0.0		6.9	6.9
								14.3			5.4	6.2			6.2	6.7			5.0	5.3	1.2	210	6.9	7.0
																					0.0			
5/2	37.9	.30	0.0	-0.2	0.4	V	5.4	5.5	1.2	306	6.5	7.2	0.7	326	4.8	5.3	1.1	308	4.1	4.1	1.6	304	6.7	6.8
0230								18.3	0.1		6.3	6.3	0.0		4.8	5.0	0.0		4.3	4.5	0.0		6.9	7.1
								16.1			5.8	6.4			4.9	5.4			4.5	4.9	1.5	305	7.0	7.3
																					0.0			
5/2	37.7	.30	0.0	-0.2	0.4	V	5.0	5.2	0.4	283	5.0	5.7	0.2	014	4.2	4.8	0.5	304	3.9	3.9	0.5	300	6.3	6.4
0300								17.3	0.0		4.9	5.0	0.0		4.3	4.5	0.0		4.0	4.2	0.0		6.4	6.5
								15.3			4.6	5.4			4.2	4.9			4.0	4.4	0.7	302	6.5	6.7
																					0.0			
5/2	37.5	.29	0.0	-0.2	0.4	270	4.2	4.3	0.8	273	4.5	5.2	1.0	270	4.9	5.5	1.2	279	2.9	2.9	1.7	265	6.1	6.1
0330								16.2	0.0		4.3	4.4	0.1		4.7	4.9	0.0		3.1	3.3	0.0		6.3	6.4
								13.8			3.9	4.7			4.3	5.1			3.2	3.5	1.8	252	6.5	6.7
																					0.0			
5/2	37.4	.30	0.0	-0.2	0.4	281	3.8	3.9	0.8	271	3.8	4.6	0.7	267	4.3	5.2	1.0	279	2.2	2.2	1.6	267	5.9	5.9
0400								15.8	0.0		3.7	3.9	0.1		4.1	4.2	0.0		2.5	2.6	0.0		6.1	6.1
								13.6			3.5	4.3			3.9	4.6			2.6	2.9	1.8	259	6.1	6.3
																					0.0			
5/2	37.2	.29	0.0	-0.2	0.4	270	3.5	3.6	0.6	262	3.0	3.8	0.6	265	3.9	5.0	0.9	272	1.6	1.6	1.2	273	5.6	5.7
0430								15.4	0.0		3.1	3.1	0.1		3.8	4.0	0.0		1.9	2.1	0.0		5.8	5.9
								13.1			3.0	3.7			3.6	4.4			2.2	2.5	1.3	276	5.8	6.0
																					0.0			
5/2	----	---	----	----	0.0	V	----	----	----	---	----	----	----	----	----	----	----	---	----	----	0.5	234	5.3	5.4
0500								----	----		----	----	----		----	----	----		----	----	0.0		5.4	5.4
								----			----	----			----	----			----	----	0.6	252	5.4	5.6
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/2	----	---	----	----	0.0	V	----	----	----	---	----	----	----	---	----	----	----	---	----	----	1.3	234	5.4	5.4
0530								----	----		----	----	----		----	----	----		----	----	0.0		5.5	5.5
								----			----	----			----	----			----	----	1.2	234	5.5	5.7
																					0.0			
5/2	----	---	----	----	0.4	295	----	----	----	---	----	----	----	---	----	----	----	---	----	----	1.7	281	5.1	5.2
0600								----	----		----	----	----		----	----	----		----	----	0.0		5.4	5.5
								----			----	----			----	----			----	----	1.7	275	5.5	5.7
																					0.0			
5/2	----	----	0.1	----	0.0	V	----	----	----	---	----	----	----	---	----	----	----	---	----	----	1.2	270	5.6	5.7
0630								----	----		----	----			----	----			----	----	0.0		5.6	5.7
								----			----	----			----	----			----	----	1.5	281	5.7	5.9
																					0.0			
5/2	----	----	0.3	----	0.0	V	----	----	----	---	----	----	----	---	----	----	----	---	----	----	1.0	229	6.4	6.5
0700								----	----		----	----	----		----	----	----		----	----	0.0		6.4	6.5
								----			----	----			----	----			----	----	0.9	241	6.4	6.6
																					0.0			
5/2	36.3	.27	0.4	0.0	0.0	V	6.7	7.9	1.0	021	7.0	7.6	1.0	035	6.4	7.2	0.8	028	7.1	7.9	0.2	208	7.3	7.5
0730								20.8	0.0		7.1	7.7	0.0		6.5	7.5	0.0		7.2	7.9	0.0		7.3	7.4
								20.3			6.7	7.6			6.4	7.5			6.7	7.5	0.1	217	7.2	7.5
																					0.0			
5/2	36.3	.25	0.6	0.1	0.4	029	7.1	8.4	1.3	021	7.4	8.1	1.3	037	6.9	7.7	1.2	018	7.4	8.4	1.2	020	7.6	7.8
0800								21.8	0.0		7.2	8.1	0.0		6.9	8.1	0.0		7.4	8.3	0.0		7.6	7.8
								21.2			7.1	8.1			6.6	8.1			6.7	7.9	1.4	016	7.5	7.8
																					0.1			
5/2	36.2	.29	0.9	0.2	1.3	054	7.2	9.2	2.2	049	7.4	8.9	2.3	055	7.4	8.1	2.0	046	8.0	9.6	2.5	051	7.9	8.3
0830								22.0	0.0		7.6	8.9	0.0		7.4	9.1	0.0		8.2	9.5	-0.1		7.9	8.2
								21.5			7.1	8.8			6.9	8.9			7.5	9.1	2.7	047	7.8	8.3
																					0.0			
5/2	36.1	.30	1.1	0.3	0.9	065	7.8	10.2	1.7	050	8.0	9.9	1.9	055	8.0	10.5	1.6	043	8.6	10.5	2.1	056	8.3	8.8
0900								22.7	0.0		7.9	9.8	0.0		8.1	10.1	0.0		9.7	10.4	-0.1		8.3	8.7
								22.4			7.7	9.7			7.5	10.0			8.0	10.0	2.2	052	8.2	8.7
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/2	36.0	.28	1.3	0.5	1.3	036	8.1	11.0	2.0	029	8.5	10.9	2.0	038	8.4	11.6	1.8	028	8.9	11.5	2.2	041	8.6	9.1
0930								24.2	0.1		8.5	10.8	0.0		8.6	11.1	0.0		9.1	11.3	-0.1		8.6	9.0
								22.8			8.3	10.6			7.8	10.8			8.3	10.8	2.3	038	8.4	9.1
																					0.0			
5/2	36.0	.27	1.5	0.6	1.3	036	8.5	11.9	2.1	034	8.8	11.7	2.1	038	8.9	12.7	2.0	030	9.4	12.5	2.5	043	8.9	9.5
1000								24.9	0.0		8.7	11.6	0.0		9.2	12.1	0.0		9.6	12.2	-0.1		8.9	9.4
								24.9			8.7	11.3			8.2	11.7			8.8	11.7	2.6	039	8.6	9.4
																					0.0			
5/2	36.0	.21	1.7	0.8	1.8	036	8.7	12.5	2.0	019	9.0	12.3	2.0	032	9.2	13.4	1.9	020	9.7	13.4	2.3	020	9.1	9.9
1030								25.3	0.1		9.0	12.1	0.0		9.5	12.8	0.0		10.0	13.0	0.0		9.1	9.7
								25.3			9.0	12.0			8.4	12.4			9.1	12.5	2.4	018	8.9	9.8
																					0.0			
5/2	36.0	.19	1.8	0.8	1.8	054	9.0	13.3	2.0	039	9.2	13.2	2.1	051	9.4	14.3	1.8	042	10.0	14.1	2.5	052	9.4	10.3
1100								25.5	0.0		9.3	13.0	0.0		9.8	13.6	0.0		10.4	13.7	-0.2		9.4	10.2
								25.4			9.4	12.8			8.6	13.2			9.5	13.3	2.6	051	9.1	10.2
																					-0.1			
5/2	35.8	.19	1.0	0.2	1.3	V	8.5	12.9	0.5	000	8.7	12.9	0.5	057	8.9	13.4	0.4	018	9.3	13.3	0.8	023	9.2	10.1
1130								22.2	0.0		9.0	12.8	0.1		9.3	13.1	0.0		9.9	13.1	-0.1		9.3	10.0
								22.2			9.1	12.7			8.3	12.9			9.0	12.8	0.8	016	9.0	10.1
																					-0.1			
5/2	35.6	.27	0.3	0.1	1.8	288	8.4	11.4	1.7	283	9.1	11.6	1.5	288	9.4	11.9	1.8	292	9.3	11.4	2.5	294	8.9	9.4
1200								21.9	0.1		9.1	11.5	0.2		9.2	11.5	-0.1		9.4	11.3	0.1		8.9	9.4
								20.7			8.9	11.3			8.3	11.4			8.6	11.0	2.7	203	8.6	9.4
																					0.0			
5/2	35.5	.36	0.4	0.3	1.8	252	8.4	11.3	1.9	303	9.0	11.4	1.3	292	9.5	11.8	1.7	296	9.3	11.3	2.2	300	8.9	9.4
1230								21.7	0.1		8.9	11.3	0.2		9.2	11.4	-0.1		9.4	11.3	0.0		8.9	9.3
								20.5			8.8	11.2			8.4	11.3			8.6	11.0	2.3	297	8.6	9.4
																					0.0			
5/2	35.4	.33	0.7	0.2	1.3	V	9.0	12.3	1.6	286	9.5	12.4	1.2	278	9.9	12.9	1.5	278	10.0	12.6	2.3	282	9.3	9.9
1300								21.8	0.1		9.5	12.3	0.2		9.8	12.4	0.0		10.3	12.5	0.0		9.2	9.8
								20.9			9.5	12.2			8.8	12.2			9.4	12.2	2.3	282	9.0	9.8
																					0.0			

5/2	35.4	.30	0.6	0.2	0.9	V	9.5	13.3	1.1	251	9.6	13.3	1.2	244	10.3	13.9	1.3	257	10.1	13.5	1.8	258	9.5	10.3
1330								21.1	0.0		9.9	13.3	0.2		10.4	13.5	0.0		10.6	13.5	0.0		9.5	10.2
								22.1			10.0	13.2			9.3	13.4			9.8	13.2	1.9	256	9.3	10.2
																					-0.1			
5/2	35.2	.32	0.6	0.2	1.8	281	9.2	13.3	2.3	307	9.9	13.5	1.7	302	10.0	13.9	2.0	303	10.2	13.7	2.8	309	9.6	10.3
1400								22.8	0.2		9.9	13.3	0.1		10.2	13.6	-0.1		10.6	13.6	0.1		9.5	10.2
								23.4			9.9	13.2			9.1	13.4			9.7	13.2	2.8	308	9.3	10.2
																					0.0			
5/2	35.1	.34	0.5	0.1	1.8	V	9.2	13.0	1.8	261	9.3	12.9	2.2	256	10.5	13.8	2.1	262	9.6	12.9	2.9	268	9.4	10.2
1430								21.6	0.1		9.6	12.9	0.3		10.3	13.3	-0.1		10.2	12.9	0.0		9.4	10.1
								21.5			9.7	12.8			9.2	13.1			9.4	12.7	3.1	266	9.2	10.1
																					-0.1			
5/2	35.2	.24	0.9	0.5	0.9	079	9.6	14.2	1.1	077	9.5	13.8	1.2	083	9.8	14.3	1.0	072	10.3	14.1	1.3	083	9.8	10.6
1500								22.3	0.0		9.8	13.8	0.0		10.2	14.0	0.1		10.8	14.1	-0.1		9.8	10.6
								24.0			10.0	13.7			9.2	14.0			10.0	13.8	1.4	083	9.5	10.6
																					0.0			
5/2	35.2	.21	1.0	0.7	1.3	V	9.8	15.5	1.3	072	9.9	15.3	1.6	076	10.1	15.9	1.3	071	10.7	15.6	1.4	064	10.0	11.1
1530								24.6	0.0		10.2	15.2	0.0		10.7	15.5	0.1		11.4	15.5	-0.1		10.1	11.0
								26.7			10.5	15.0			9.4	15.3			10.5	15.3	1.5	062	9.7	11.1
																					0.0			
5/2	35.2	.19	1.1	0.4	0.9	V	10.0	15.6	0.5	330	10.0	15.5	0.1	351	10.5	16.2	0.6	306	10.7	15.9	0.5	313	10.1	11.2
1600								24.7	0.0		10.5	15.5	0.1		11.1	15.9	0.0		11.4	15.8	0.0		10.1	11.1
								25.1			10.7	15.4			9.7	15.7			10.5	15.5	0.5	313	9.8	11.1
																					0.0			
5/2	35.1	.21	1.3	0.7	2.2	281	10.3	16.1	3.7	277	10.7	16.4	4.1	269	11.6	17.3	3.9	272	11.8	17.1	5.4	274	10.3	11.4
1630								25.5	0.2		11.1	16.3	0.5		11.8	16.7	-0.2		12.2	16.9	0.1		10.2	11.2
								25.7			11.4	16.2			10.4	16.7			11.0	16.3	5.8	273	9.9	11.2
																					-0.1			
5/2	34.9	.25	1.1	0.5	4.0	281	9.9	15.9	3.9	281	10.2	16.1	4.1	274	11.2	17.2	4.0	276	11.3	16.8	5.4	283	10.2	11.4
1700								24.1	0.2		10.5	16.0	0.4		11.4	16.6	-0.2		11.7	16.6	0.1		10.2	11.2
								25.4			10.9	15.9			10.1	16.4			10.6	16.1	5.7	282	9.8	11.2
																					-0.1			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/2	34.7	.28	0.5	0.1	2.7	277	9.5	15.4	2.1	279	9.7	15.5	2.2	272	10.5	16.3	2.4	274	10.4	15.7	3.4	276	10.0	11.1
1730								21.8	0.1		10.1	15.5	0.3		10.8	15.8	-0.1		11.0	15.6	0.0		10.0	11.0
								24.2			10.5	15.4			9.6	15.6			10.0	15.3	3.6	275	9.6	11.0
																					-0.1			
5/2	34.5	.31	0.3	0.0	1.8	270	9.3	15.0	1.8	271	9.5	15.1	2.3	261	10.4	15.7	2.2	267	9.9	15.0	3.1	270	9.8	10.9
1800								21.9	0.1		9.8	15.0	0.3		10.6	15.3	-0.1		10.6	15.0	0.0		9.8	10.8
								23.7			10.2	15.0			9.3	15.1			9.7	14.8	3.3	268	9.8	10.9
																					0.0			
5/2	34.4	.33	0.2	-0.1	0.9	277	9.0	14.6	1.5	290	9.4	14.7	1.4	281	9.6	15.0	1.6	283	9.6	14.5	2.5	281	9.7	10.7
1830								22.1	0.1		9.7	14.7	0.1		10.0	14.7	-0.1		10.3	14.6	0.0		9.7	10.7
								23.4			10.0	14.6			8.9	14.6			9.5	14.4	2.6	281	9.4	10.7
																					0.0			
5/2	34.3	.33	0.1	-0.1	0.9	306	8.9	13.8	0.5	352	9.0	13.6	0.5	041	8.8	13.6	0.5	347	9.6	13.6	0.7	001	9.4	10.4
1900								22.3	0.1		9.3	13.7	0.0		9.4	13.5	0.0		10.0	13.7	0.0		9.5	10.3
								22.6			9.7	13.7			8.5	13.6			9.2	13.5	0.8	000	9.2	10.4
																					0.0			
5/2	34.2	.35	0.0	-0.2	1.3	065	8.3	12.3	2.2	042	8.3	12.0	2.1	049	7.9	11.9	1.9	036	9.0	12.1	2.6	047	9.0	9.8
1930								21.2	0.0		8.6	12.1	0.0		8.5	11.9	0.0		9.3	12.2	-0.1		8.6	9.1
								21.8			8.9	12.1			8.0	12.1			8.6	12.0	2.9	043	8.5	9.2
																					0.0			
5/2	34.0	.37	0.0	-0.2	1.3	043	7.8	10.7	2.4	025	8.0	10.7	2.3	035	7.3	10.3	2.2	023	8.1	10.4	2.4	030	8.6	9.1
2000								20.2	0.1		8.2	10.6	0.0		7.8	10.3	0.0		8.4	10.5	0.0		8.6	9.1
								20.6			8.2	10.6			7.4	10.6			7.9	10.4	2.8	023	8.5	9.2
																					0.0			
5/2	33.8	.33	0.0	-0.2	0.9	018	7.2	9.3	1.7	006	7.9	9.5	1.5	027	6.7	8.8	1.3	004	7.3	8.9	2.3	011	8.2	8.6
2030								20.3	0.1		7.9	9.4	0.0		7.0	8.8	0.0		7.6	9.0	0.0		8.3	8.6
								20.3			7.7	9.4			6.8	9.1			7.2	8.9	3.0	009	8.1	8.7
																					0.0			
5/2	33.6	.35	0.0	-0.2	0.4	000	6.3	8.1	1.5	317	7.4	8.5	0.6	347	5.9	7.6	1.1	314	6.2	7.4	2.3	337	7.8	8.1
2100								19.3	0.1		7.2	8.4	0.0		6.1	7.6	0.0		6.5	7.6	0.1		7.9	8.2
								18.1			6.8	8.3			5.9	7.9			6.2	7.6	3.0	343	7.8	8.3
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/2	33.5	34	0.0	-0.2	0.4	306	5.7	6.6	1.7	305	6.3	7.0	0.8	315	5.3	6.6	1.1	299	5.0	5.9	2.6	307	6.9	7.1
2130								18.6	0.2		6.2	6.9	0.1		5.4	6.5	0.0		5.3	6.1	0.0		7.1	7.3
								16.8			5.7	6.8			5.0	6.7			5.0	6.0	3.2	320	7.2	7.7
																					0.0			
5/2	33.4	.36	0.0	-0.2	0.4	313	5.3	6.7	1.5	303	6.3	7.0	0.8	312	5.3	6.7	1.1	301	5.1	6.0	2.6	304	7.1	7.3
2200								18.8	0.1		6.2	7.0	0.0		5.4	6.6	0.0		5.4	6.2	0.0		7.2	7.4
								17.2			5.8	6.9			5.0	6.7			5.2	6.2	3.3	318	7.3	7.9
																					0.0			
5/2	33.3	.33	0.0	-0.2	0.4	302	4.8	6.1	1.4	297	5.5	6.3	1.1	303	4.8	6.0	1.1	297	4.5	5.2	2.9	295	6.8	7.1
2230								18.7	0.1		5.4	6.3	0.0		4.8	5.8	0.0		4.8	5.5	0.0		7.0	7.3
								16.9			5.2	6.3			4.5	6.0			4.6	5.5	3.1	301	7.3	7.9
																					0.0			
5/2	33.2	.33	0.0	-0.2	0.4	288	4.6	5.8	1.2	280	4.9	5.7	1.0	279	5.2	6.1	1.2	281	4.3	5.0	2.4	282	6.5	6.8
2300								18.1	0.1		4.8	5.7	0.1		5.0	5.9	0.0		4.6	5.2	0.0		6.7	6.9
								16.2			4.7	5.7			4.5	5.9			4.4	5.3	3.0	276	6.8	7.3
																					0.0			
5/2	33.1	.30	0.0	-0.2	0.4	299	4.9	6.3	1.5	286	5.4	6.2	1.4	289	5.4	6.6	1.5	288	4.8	5.6	2.7	285	6.7	6.9
2330								19.2	0.0		5.2	6.1	0.1		5.3	6.4	0.0		5.1	5.8	0.0		6.9	7.1
								17.3			5.0	6.1			4.9	6.4			4.9	5.9	3.4	275	7.0	7.5
																					0.0			
5/3	33.0	.28	0.0	-0.2	0.4	V	4.6	5.6	0.6	199	4.3	5.2	0.8	186	5.3	6.1	0.6	215	4.7	5.2	1.1	215	6.4	6.6
0000								17.5	0.0		4.4	5.2	0.2		5.1	5.9	0.1		4.9	5.4	0.0		6.5	6.6
								15.8			4.4	5.3			4.8	5.9			4.5	5.2	1.1	226	6.5	6.8
																					0.0			
5/3	32.8	.29	0.0	-0.2	0.0	V	4.8	5.9	0.4	206	4.3	5.2	0.8	172	5.1	6.0	0.5	232	4.7	5.3	1.3	194	6.5	6.7
0030								17.1	0.0		4.4	5.3	0.1		5.0	6.0	0.0		4.8	5.4	0.0		6.6	6.8
								15.7			4.4	5.4			4.8	6.0			4.4	5.3	1.8	182	6.5	7.0
																					0.0			
5/3	32.7	.31	0.0	-0.2	0.0	V	5.1	6.1	0.2	237	4.6	5.7	0.4	220	5.0	6.0	0.6	260	4.8	5.4	1.0	225	6.6	6.8
0100								17.8	0.0		4.8	5.6	0.1		5.0	5.9	0.0		5.0	5.6	0.0		6.6	6.8
								16.4			4.7	5.6			4.7	6.0			4.7	5.5	1.5	210	6.6	6.9
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	32.6	.32	0.0	-0.2	0.0	V	5.0	5.8	0.4	203	4.4	5.1	0.6	186	5.3	6.1	0.5	232	4.8	5.2	1.0	215	6.5	6.7
0130								17.2	0.0		4.5	5.2	0.1		5.2	5.9	0.1		4.9	5.3	0.0		6.6	6.7
								15.8			4.5	5.3			5.0	6.0			4.6	5.2	1.0	221	6.6	6.8
																					0.0			
5/3	32.5	.31	0.0	-0.2	0.0	V	4.8	5.6	0.7	253	4.7	5.3	0.7	281	5.2	5.8	0.9	268	4.2	4.6	1.5	254	6.5	6.7
0200								17.7	0.0		4.8	5.4	0.1		5.0	5.7	0.0		4.4	4.9	0.0		6.6	6.8
								15.9			4.7	5.5			4.7	5.8			4.3	5.0	1.8	246	6.6	7.0
																					0.0			
5/3	32.4	.31	0.0	-0.2	0.0	V	4.9	5.8	0.8	232	4.6	5.4	1.1	229	5.7	6.3	1.0	254	4.6	5.1	2.1	238	6.7	6.9
0230								18.0	0.0		4.8	5.5	0.2		5.4	6.1	0.0		4.8	5.2	0.0		6.7	6.9
								16.3			4.7	5.6			5.0	6.0			4.5	5.2	2.7	233	6.7	7.0
																					0.0			
5/3	32.3	.28	0.0	-0.2	0.0	V	4.9	5.8	0.7	244	4.6	5.3	0.7	229	5.3	6.1	0.7	256	4.6	5.0	1.5	250	6.6	6.8
0300								18.1	0.0		4.8	5.4	0.1		5.1	5.9	0.0		4.7	5.2	0.0		6.7	6.8
								16.3			4.7	5.5			4.9	6.0			4.4	5.1	1.9	249	6.6	7.0
																					0.0			
5/3	32.2	.31	0.0	-0.2	0.0	V	5.1	6.2	0.6	265	5.1	5.9	0.8	248	5.6	6.5	0.8	265	4.6	5.2	1.5	258	6.7	6.9
0330								17.9	0.0		5.0	6.0	0.1		5.5	6.3	0.0		4.9	5.5	0.0		6.8	6.9
								16.3			5.0	5.9			5.1	6.3			4.7	5.5	1.9	252	6.7	7.0
																					0.0			
5/3	32.1	.29	0.0	-0.2	0.0	V	4.7	5.7	0.6	275	4.7	5.4	0.2	265	4.8	5.7	0.6	276	4.3	4.8	1.1	290	6.5	6.6
0400								17.4	0.0		4.7	5.4	0.1		4.8	5.6	0.0		4.5	5.0	0.0		6.5	6.7
								16.0			4.6	5.5			4.5	5.7			4.2	5.0	1.4	300	6.6	7.0
																					0.0			
5/3	32.0	.30	0.0	-0.2	0.0	V	5.0	6.2	0.3	255	4.5	5.4	0.1	172	4.8	5.8	0.6	269	4.3	5.0	0.6	233	6.6	6.8
0430								17.3	0.0		4.6	5.6	0.1		5.0	5.9	0.0		4.7	5.6	0.0		6.7	6.9
								16.0			4.7	5.8			5.0	6.3			4.6	5.7	0.7	224	6.6	7.0
																					0.0			
5/3	31.8	.33	0.0	-0.2	0.0	V	4.4	5.1	0.4	233	3.9	4.5	0.5	200	4.8	5.4	0.6	165	3.7	4.1	1.1	224	6.2	6.4
0500								16.8	0.0		4.1	4.6	0.1		4.8	5.4	0.0		3.9	4.4	0.0		6.3	6.4
								15.4			4.0	4.7			4.6	5.5			3.8	4.4	1.6	221	6.3	6.6
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	31.8	.33	0.0	-0.2	0.0	V	3.9	4.5	0.5	220	3.5	4.0	0.7	204	4.5	5.1	0.7	247	3.5	3.7	1.3	213	6.0	6.1
0530								17.1	0.0		3.6	4.1	0.1		4.3	4.8	0.0		3.6	3.9	0.0		6.0	6.1
								15.4			3.5	4.2			4.1	4.9			3.5	3.9	1.8	205	6.1	6.3
																					0.0			
5/3	31.7	.32	0.0	-0.1	0.0	V	4.4	5.0	0.3	176	3.7	4.2	0.5	162	4.6	5.3	0.3	228	4.0	4.4	1.3	252	6.1	6.2
0600								16.4	0.0		3.8	4.4	0.1		4.7	5.2	0.0		4.2	4.5	0.0		6.2	6.3
								15.3			3.8	4.5			4.6	5.4			3.9	4.3	1.5	234	6.2	6.4
																					0.0			
5/3	31.6	.29	0.0	-0.1	0.0	V	4.8	5.5	0.4	235	4.4	5.0	0.6	210	5.1	5.8	0.5	257	4.4	4.8	1.2	238	6.4	6.5
0630								17.6	0.0		4.5	5.1	0.1		5.0	5.6	0.0		4.6	5.0	0.0		6.4	6.6
								16.2			4.4	5.1			4.8	5.7			4.3	5.9	1.5	234	6.4	6.7
																					0.0			
5/3	31.5	.31	0.1	0.0	0.0	V	5.4	6.3	0.4	236	5.1	5.9	0.5	212	5.7	6.5	0.6	252	5.3	5.8	0.8	250	6.7	6.9
0700								18.1	0.0		5.2	5.9	0.1		5.6	6.4	0.0		5.4	5.9	0.0		6.8	6.9
								16.9			5.1	5.9			5.3	6.4			5.0	5.7	0.9	254	6.7	7.1
																					0.0			
5/3	31.5	.28	0.2	0.0	0.0	V	6.9	8.5	0.5	201	6.2	7.9	0.8	178	6.8	8.5	0.5	208	7.1	8.3	0.8	245	7.3	7.6
0730								19.0	0.0		6.4	7.9	0.1		6.8	8.3	0.0		7.3	8.4	0.0		7.3	7.6
								18.5			6.5	8.0			6.4	8.3			6.7	8.1	0.8	245	7.2	7.7
																					0.0			
5/3	31.4	.27	0.4	0.0	0.0	V	6.8	8.8	0.5	191	6.4	8.4	0.7	177	7.1	9.1	0.5	219	7.2	8.7	0.7	205	7.7	8.1
0800								19.1	0.0		6.6	8.5	0.1		7.2	8.9	0.0		7.3	8.8	0.0		7.8	8.1
								18.8			6.7	8.5			6.8	8.9			6.8	8.5	0.6	212	7.6	8.1
																					0.0			
5/3	31.4	.27	0.6	0.2	0.0	V	7.1	9.8	0.3	094	6.8	9.4	0.7	097	6.7	9.6	0.1	044	7.4	9.6	0.0	058	8.1	8.7
0830								19.4	0.0		7.0	9.4	0.0		7.1	9.5	0.1		7.7	9.7	0.0		8.1	8.6
								20.8			7.1	9.5			6.6	9.6			7.1	9.4	0.1	025	7.9	8.6
																					0.0			
5/3	31.4	.26	0.9	0.3	0.4	072	7.6	11.0	1.1	078	7.5	10.5	1.3	081	7.6	11.0	1.0	072	8.5	10.8	1.3	077	8.6	9.2
0900								21.2	0.0		7.7	10.5	0.0		7.9	10.8	0.1		8.5	10.8	-0.1		8.6	9.2
								23.4			7.9	10.5			7.4	10.8			7.9	10.6	1.4	076	8.4	9.2
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	31.5	.22	1.2	0.5	0.9	090	8.3	11.9	1.6	076	8.2	11.5	1.8	078	8.6	12.3	1.5	072	9.4	12.0	2.0	079	9.0	9.7
0930								22.5	0.0		8.3	11.4	0.0		8.7	11.9	0.1		9.3	11.9	-0.1		9.0	9.6
								25.2			8.4	11.3			8.1	11.8			8.6	11.6	2.0	076	8.8	9.7
																					-0.1			
5/3	31.6	.17	1.4	0.6	1.3	182	8.7	13.1	1.5	054	8.8	13.0	1.7	058	9.2	13.9	1.5	049	10.1	13.5	1.6	057	9.3	10.2
1000								23.4	0.0		9.0	12.8	0.0		9.5	13.4	0.1		10.0	13.3	-0.1		9.3	10.1
								26.4			9.2	12.7			8.6	13.1			9.1	12.9	1.6	053	9.1	10.1
																					0.0			
5/3	31.6	.16	1.1	0.5	1.3	090	9.1	13.9	2.0	075	9.0	13.6	2.1	072	9.5	14.5	1.8	065	10.3	14.0	2.6	071	9.5	10.5
1030								25.1	0.0		9.2	13.5	0.0		9.7	14.0	0.1		10.3	13.9	-0.2		9.6	10.4
								26.1			9.5	13.3			8.8	13.7			9.5	13.6	2.7	070	9.3	10.4
																					-0.1			
5/3	31.5	.17	0.9	0.4	1.8	054	9.6	14.4	2.8	026	9.3	14.1	2.8	037	9.7	15.0	2.5	029	10.6	15.0	2.8	026	9.6	10.6
1100								25.1	0.1		9.5	14.0	-0.1		10.0	14.5	0.0		10.7	14.8	-0.1		9.6	10.5
								26.2			9.8	13.8			9.0	14.2			9.8	14.3	3.0	021	9.3	10.5
																					0.0			
5/3	31.3	.25	0.5	0.1	3.1	036	8.9	13.5	3.9	008	9.6	13.5	3.5	019	9.0	13.8	3.4	011	9.8	13.9	4.6	013	9.4	10.2
1130								23.3	0.2		9.4	13.4	-0.1		9.5	13.5	-0.1		10.1	13.7	0.0		9.4	10.2
								24.4			9.6	13.3			8.6	13.4			9.2	13.3	5.2	010	9.1	10.2
																					0.0			
5/3	31.2	.22	0.6	0.3	3.1	036	9.0	13.6	4.1	017	9.2	13.5	3.9	026	9.2	14.0	3.8	020	10.0	13.9	4.4	026	9.4	10.3
1200								22.0	0.2		9.4	13.4	-0.1		9.6	13.6	-0.1		10.2	13.7	-0.1		9.4	10.2
								24.7			9.6	13.3			8.7	13.4			9.3	13.3	4.8	020	9.2	10.2
																					0.0			
5/3	31.0	.21	0.7	0.1	3.6	043	8.9	13.1	4.4	031	9.0	13.0	4.5	037	9.1	13.3	4.1	031	9.9	13.4	4.9	036	9.4	10.2
1230								21.0	0.1		9.3	13.0	-0.1		9.4	13.0	-0.1		10.1	13.3	-0.1		9.5	10.1
								23.8			9.5	12.9			8.7	12.9			9.3	13.0	5.4	032	9.2	10.2
																					0.0			
5/3	30.9	.20	0.3	0.1	4.5	036	8.4	11.6	5.3	020	8.6	11.6	4.9	026	8.4	11.7	4.8	021	9.2	11.8	5.7	027	8.9	9.5
1300								24.4	0.2		8.7	11.5	-0.1		8.7	11.5	-0.1		9.3	11.7	-0.1		9.0	9.5
								22.4			8.8	11.4			8.1	11.5			8.7	11.4	6.5	022	8.7	9.5
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	30.8	.17	0.5	0.3	3.6	029	8.4	10.8	4.5	026	8.6	10.6	4.1	032	8.6	10.9	4.1	025	9.1	11.0	4.7	035	8.7	9.2
1330								22.4	0.1		8.6	10.6	-0.1		8.6	10.7	-0.1		9.2	10.9	-0.1		8.7	9.1
								21.9			8.6	10.5			8.1	10.7			8.5	10.6	5.0	030	8.6	9.1
																					0.0			
5/3	30.7	.17	0.8	0.3	4.0	016	8.3	11.6	4.5	024	8.5	11.4	4.3	030	8.4	11.9	4.1	023	9.1	12.0	5.1	029	8.8	9.4
1400								22.7	0.1		8.5	11.4	-0.1		8.6	11.6	-0.1		9.2	11.8	-0.1		8.8	9.3
								23.4			8.6	11.3			8.0	11.4			8.5	11.4	5.5	023	8.4	9.3
																					0.0			
5/3	30.5	.17	0.6	0.2	4.5	029	7.7	11.7	5.3	008	8.1	11.5	4.6	018	7.8	11.9	4.4	013	8.6	11.9	6.3	010	8.7	9.4
1430								25.5	0.3		8.1	11.5	-0.1		8.1	11.6	-0.2		8.8	11.8	0.0		8.7	9.3
								23.1			8.2	11.3			7.4	11.5			8.0	11.4	7.1	006	8.4	9.3
																					0.1			
5/3	30.4	.19	0.3	0.0	2.7	025	6.7	10.2	3.1	014	7.0	10.1	2.8	027	6.8	10.3	2.6	016	7.5	10.3	3.6	015	8.1	8.8
1500								20.9	0.1		7.1	10.1	-0.1		7.1	10.1	-0.1		7.7	10.3	0.0		8.1	8.7
								21.8			7.2	10.0			6.5	10.1			7.0	10.0	4.1	012	7.9	8.7
																					0.0			
5/3	30.4	.21	0.3	0.1	1.3	V	7.3	11.0	0.2	302	7.4	10.8	0.5	231	7.8	11.3	0.6	268	7.9	11.0	0.5	262	8.5	9.2
1530								20.3	0.0		7.5	10.8	0.2		7.9	11.1	0.0		8.3	11.1	0.0		8.5	9.1
								22.0			7.7	10.8			7.1	11.1			7.6	10.8	0.7	264	8.3	9.2
																					0.0			
5/3	30.3	.25	0.2	0.0	1.3	152	7.0	10.7	1.0	336	7.2	10.6	0.8	317	7.5	11.0	1.0	312	7.6	10.7	1.3	325	8.3	9.0
1600								20.4	0.1		7.4	10.6	0.2		7.6	10.7	-0.1		8.0	10.7	-0.1		8.3	9.0
								21.5			7.6	10.6			6.9	10.7			7.3	10.5	1.5	324	8.1	9.0
																					0.0			
5/3	30.0	.29	0.1	-0.1	3.1	000	5.7	6.9	4.4	344	6.5	7.2	2.9	356	5.7	6.7	3.6	346	6.2	6.8	4.8	355	7.3	7.6
1630								21.7	0.4		6.3	7.1	0.0		5.7	6.7	-0.3		6.3	6.9	0.1		7.3	7.5
								20.3			6.0	7.0			5.5	6.9			5.8	6.7	5.4	354	7.2	7.6
																					0.0			
5/3	29.8	.38	0.1	0.0	2.2	000	5.1	6.2	3.4	343	5.9	6.5	2.3	356	5.1	6.0	2.6	345	5.7	6.1	4.3	345	6.8	7.0
1700								21.6	0.3		5.7	6.4	0.0		5.0	5.9	-0.2		5.7	6.2	0.2		6.8	7.0
								20.0			5.3	6.3			4.9	6.2			5.2	6.0	4.8	344	6.7	7.0
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	29.6	.45	0.2	-0.1	1.3	324	4.6	6.0	1.6	300	5.1	6.0	1.4	295	4.9	6.0	1.6	292	5.1	5.7	2.6	297	6.6	6.8
1730								20.6	0.1		5.0	5.9	0.1		4.7	5.8	-0.1		5.1	5.8	0.0		6.6	6.8
								18.7			4.8	5.9			4.4	5.9			4.7	5.6	2.9	296	6.5	6.9
																					0.0			
5/3	29.5	.38	0.0	-0.1	2.2	281	4.3	5.4	2.2	279	4.7	5.4	2.5	271	5.1	5.9	2.4	274	4.6	5.1	3.7	275	6.4	6.6
1800								21.0	0.1		4.7	5.4	0.3		4.7	5.5	-0.1		4.7	5.2	0.0		6.4	6.6
								18.2			4.4	5.3			4.2	5.4			4.3	5.0	4.0	273	6.3	6.6
																					0.0			
5/3	29.5	.38	0.0	-0.1	1.3	245	4.3	5.3	1.6	204	4.4	5.0	2.0	198	5.2	5.9	1.7	212	4.7	5.1	3.0	196	6.1	6.2
1830								18.8	0.0		4.4	5.0	0.3		4.7	5.5	0.0		4.7	5.2	-0.1		6.1	6.2
								17.3			4.2	5.0			4.3	5.4			4.3	4.9	3.3	195	6.0	6.2
																					0.0			
5/3	29.3	.41	0.0	-0.1	1.3	176	4.2	5.0	1.8	143	4.3	4.8	2.1	139	4.5	5.6	1.5	141	5.3	5.5	2.5	148	6.2	6.3
1900								20.5	0.0		4.3	4.8	0.1		4.3	5.0	0.2		5.1	5.4	-0.1		6.2	6.3
								18.5			4.2	4.9			4.0	5.0			4.5	5.0	2.8	145	6.1	6.3
																					-0.1			
5/3	29.3	.39	0.0	-0.1	1.3	104	4.2	5.1	1.6	090	4.2	4.8	1.7	085	4.0	4.8	1.4	081	5.0	5.3	2.0	090	6.2	6.3
1930								20.3	0.0		4.2	4.8	0.0		4.0	4.7	0.1		4.9	5.2	-0.1		6.2	6.3
								18.9			4.1	4.9			3.9	5.0			4.4	4.9	2.5	090	6.2	6.4
																					0.0			
5/3	29.2	.34	0.0	-0.1	0.4	V	4.2	5.2	0.4	257	4.2	4.9	0.5	240	4.5	5.3	0.6	267	4.4	4.8	1.0	259	6.3	6.4
2000								18.7	0.0		4.3	4.9	0.1		4.3	5.1	0.0		4.5	5.0	0.0		6.3	6.4
								17.4			4.2	5.0			4.0	5.2			4.2	4.8	1.1	253	6.2	6.5
																					0.0			
5/3	29.1	.33	0.0	-0.1	0.4	274	3.9	5.1	1.5	281	4.4	5.2	1.4	269	4.6	5.5	1.5	275	4.1	4.6	2.0	281	6.2	6.4
2030								19.0	0.1		4.3	5.1	0.2		4.3	5.2	0.0		4.3	4.8	0.0		6.2	6.4
								17.3			4.1	5.1			3.9	5.2			3.9	4.7	2.6	276	6.1	6.5
																					0.0			
5/3	28.9	.36	0.0	-0.1	2.2	288	3.8	5.0	3.8	299	4.4	5.1	3.2	294	4.1	5.1	3.0	295	4.0	4.6	5.2	297	6.2	6.4
2100								24.6	0.3		4.2	5.1	0.1		4.0	4.9	-0.2		4.2	4.8	0.2		6.2	6.4
								18.6			4.0	5.0			3.7	5.0			3.9	4.7	6.0	297	6.1	6.5
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/3	28.8	.33	0.0	-0.1	2.7	306	3.6	5.0	2.9	301	4.3	5.1	2.4	297	3.9	5.0	2.4	296	3.9	4.5	3.9	301	6.1	6.3
2130								23.8	0.3		3.8	5.0	0.1		3.8	4.9	-0.1		4.1	4.8	0.1		6.1	6.3
								18.6			3.8	4.5			3.5	5.0			3.7	4.7	4.6	301	6.0	6.4
																					0.0			
5/3	28.7	.35	0.0	-0.1	1.8	295	3.6	5.4	1.5	291	4.1	5.3	1.2	283	4.1	5.6	1.3	285	3.8	4.8	2.3	284	6.1	6.5
2200								20.2	0.1		3.5	5.6	0.1		4.0	5.5	0.0		4.0	5.0	0.0		6.2	6.5
								17.5			3.7	4.8			3.6	5.6			3.6	5.0	2.6	285	6.1	6.6
																					0.0			
5/3	28.7	.32	0.0	-0.1	0.0	V	4.0	5.2	0.4	163	3.7	4.6	0.8	146	4.0	5.1	0.4	208	4.1	4.8	0.7	186	6.0	6.3
2230								18.8	0.0		3.4	5.1	0.1		3.9	5.0	0.1		4.3	5.0	0.0		6.1	6.3
								16.8			4.0	4.8			3.7	5.1			3.9	4.8	0.8	187	6.0	6.3
																					0.0			
5/3	28.6	.32	0.0	-0.1	0.0	V	3.9	5.0	0.6	110	3.7	4.4	0.8	107	3.6	4.6	0.5	102	4.5	5.0	0.7	136	6.0	6.2
2300								19.4	0.0		3.0	4.6	0.0		3.7	4.6	0.1		4.6	5.1	0.0		6.0	6.2
								17.7			4.4	5.0			3.5	4.9			4.2	4.9	0.9	131	5.9	6.3
																					0.0			
5/3	28.5	.34	0.0	-0.2	0.4	324	3.6	4.5	0.2	054	3.5	4.0	0.4	091	3.3	4.1	0.2	323	3.7	4.1	0.3	100	5.8	5.9
2330								19.6	0.0		2.7	4.1	0.1		3.4	4.1	0.0		3.9	4.3	0.0		5.8	6.0
								17.2			3.6	4.1			3.3	4.5			3.5	4.1	0.7	105	5.8	6.1
																					0.0			
5/4	28.4	.36	0.0	-0.2	0.4	317	1.9	2.8	1.6	321	2.9	3.2	0.9	341	1.4	2.1	1.3	319	1.9	2.1	2.3	320	5.2	5.3
0000								20.0	0.1		2.7	3.0	0.0		1.5	2.2	0.0		2.0	2.3	0.0		5.4	5.6
								17.0			2.3	3.1			1.7	2.8			1.8	2.4	2.3	320	5.5	5.9
																					0.0			
5/4	28.3	.34	0.0	-0.1	0.0	270	1.8	2.9	1.2	308	2.6	3.0	0.7	329	1.6	2.4	1.0	308	1.7	2.0	1.9	298	4.9	5.1
0030								20.4	0.1		2.4	3.0	0.0		1.6	2.4	0.0		1.8	2.2	0.0		5.1	5.4
								16.5			2.2	3.1			1.6	3.0			1.6	2.3	2.1	294	5.2	5.7
																					0.0			
5/4	28.2	.32	0.0	-0.1	0.4	152	2.4	3.8	0.7	139	2.5	3.5	0.8	226	2.9	4.1	0.8	248	2.4	3.1	1.5	244	5.3	5.6
0100								20.0	0.0		2.5	3.6	0.2		2.7	3.9	0.0		2.6	3.3	0.0		5.4	5.6
								15.8			2.5	3.7			2.4	4.0			2.3	3.3	1.7	242	5.3	5.7
																					0.0			

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/4 0130	28.1	.32	0.0	-0.1	0.9	288	2.4	3.5 19.3 16.3	1.4 0.0	243	2.6 2.6 2.5	3.3 3.4 3.4	2.2 0.3	244	3.3 2.9 2.5	4.1 3.7 3.7	1.9 -0.1	250	2.5 2.7 2.4	3.0 3.2 3.1 -0.1	2.9 0.0 3.5	251 248	5.3 5.4 5.3	5.5 5.5 5.6
5/4 0200	28.0	.35	0.0	-0.1	0.9	284	2.3	3.4 19.6 16.6	1.1 0.1	285	2.7 2.7 2.5	3.3 3.3 3.3	0.8 0.1	273	2.7 2.5 2.2	3.5 3.3 3.4	1.2 0.0	281	2.3 2.5 2.2	2.7 3.0 2.9	1.6 0.0 1.7 0.0	292 286	5.2 5.2 5.2	5.4 5.4 5.5
5/4 0230	27.9	.32	0.0	-0.1	0.4	216	2.0	3.3 20.0 16.0	1.0 0.0	275	2.3 2.2 2.1	3.2 3.2 3.2	1.0 0.1	268	2.6 2.4 2.0	3.6 3.4 3.5	1.2 0.0	274	2.0 2.2 1.9	2.6 2.9 2.8	1.7 0.0 2.1 0.0	274 274	5.1 5.1 5.0	5.3 5.3 5.5
5/4 0300	27.9	.34	0.0	-0.2	0.0	V	1.6	2.6 19.7 15.5	0.3 0.0	206	1.4 1.4 1.5	1.9 2.0 2.3	0.5 0.1	169	1.9 1.8 1.6	2.6 2.5 2.8	0.4 0.0	248	1.4 1.6 1.4	1.8 2.0 2.0	1.0 0.0 1.3 0.0	211 211	4.8 4.9 4.9	5.0 5.1 5.2
5/4 0330	27.7	.36	0.0	-0.2	0.4	V	1.4	2.3 20.1 15.5	0.6 0.1	292	1.7 1.7 1.5	2.2 2.3 2.3	0.4 0.1	295	1.3 1.3 1.1	2.1 2.1 2.3	0.7 0.0	290	1.0 1.3 1.0	1.4 1.7 1.7	1.0 0.0 1.2 0.0	275 264	4.5 4.6 4.5	4.7 4.7 4.8
5/4 0400	27.7	.32	0.0	-0.2	0.0	V	1.3	2.7 20.3 15.5	0.8 0.0	256	1.5 1.5 1.5	2.4 2.5 2.6	1.0 0.2	244	2.0 1.8 1.4	3.1 2.9 3.0	1.1 0.0	258	1.2 1.5 1.3	2.0 2.3 2.3	1.6 0.0 2.0 0.0	254 247	4.7 4.8 4.7	4.9 5.0 5.1
5/4 0430	27.6	.35	0.0	-0.1	0.4	V	1.1	2.4 20.4 16.2	1.3 0.1	301	1.7 1.6 1.4	2.4 2.4 2.4	0.9 0.0	305	1.3 1.2 0.9	2.2 2.1 2.4	1.2 0.0	300	1.2 1.3 1.1	1.7 1.9 1.9	2.1 0.0 2.2 0.0	292 293	4.5 4.6 4.5	4.7 4.8 5.0
5/4 0500	27.5	.35	0.0	-0.1	0.4	324	1.3	2.9 20.3 16.2	0.8 0.1	296	1.7 1.7 1.7	2.9 2.9 3.0	0.3 0.1	276	1.5 1.4 1.2	2.8 2.7 3.0	0.8 0.0	286	1.3 1.6 1.2	2.2 2.5 2.5	1.0 0.0 1.1 0.0	287 288	4.7 4.8 4.7	5.0 5.1 5.2

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/4 0530	27.4	.34	0.0	-0.2	0.4	306	1.2	2.8 20.9 15.9	0.8 0.1	308	1.7 1.6 1.6	2.8 2.8 2.9	0.4 0.0	341	0.9 1.0 0.8	2.2 2.3 2.7	0.7 0.0	303	1.0 1.2 0.9	1.9 2.2 2.2	0.6 0.0 1.0 0.0	317 296	4.5 4.6 4.5	4.8 4.8 5.0
5/4 0600	27.2	.37	0.0	-0.2	0.9	306	0.4	2.1 24.1 15.8	1.3 0.1	307	1.0 0.9 0.9	2.1 2.1 2.2	0.8 0.0	327	0.3 0.4 0.0	1.9 1.9 2.3	1.1 0.0	302	0.1 0.7 0.4	1.2 1.6 1.7	1.4 0.0 1.6 0.0	332 328	4.4 4.4 4.3	4.7 4.7 4.9
5/4 0630	27.2	.35	0.1	-0.2	0.4	270	0.3	2.0 23.9 15.6	1.1 0.1	294	0.8 0.7 0.6	1.9 1.9 2.0	0.7 0.1	286	0.6 0.6 0.3	1.9 1.9 2.1	1.1 0.0	289	0.1 0.6 0.3	1.2 1.5 1.5	1.6 0.0 1.7 0.0	281 281	4.2 4.3 4.2	4.5 4.6 4.7
5/4 0700	27.2	.31	0.2	-0.1	0.4	288	1.4	3.1 24.1 16.0	0.5 0.0	273	1.6 1.5 0.6	2.9 3.0 2.0	0.3 0.1	241	1.8 1.7 2.0	3.3 3.2 4.6	0.6 0.0	268	1.7 1.9 2.3	2.8 3.0 4.3	---- ---- ---- ----	--- ---	---- ---- ----	---- ---- ----
5/4 0730	27.2	.27	0.6	0.0	0.9	263	1.9	4.3 24.7 17.8	1.3 0.1	272	2.6 2.1 2.7	4.4 4.8 4.8	1.6 0.2	265	2.7 2.6 2.0	4.8* 4.6 4.6	1.6 -0.1	272	2.8 2.9 2.3	4.4 4.5 4.3	---- ---- ---- ----	--- ---	---- ---- ----	---- ---- ----
5/4 0800	27.2	.26	1.0	0.3	1.3	266	2.6	5.0 24.7 19.0	2.0 0.1	250	3.5 3.3 3.2	5.4 5.4 5.3	3.2 0.5	252	3.7 3.4 2.7	5.8 5.5 5.4	2.7 -0.1	257	3.7 3.7 3.0	5.5 5.5 5.1	---- ---- ---- ----	--- ---	---- ---- ----	---- ---- ----
5/4 0830	27.1	.25	0.8	0.2	1.8	252	2.1	4.4 24.0 18.6	2.1 0.1	269	2.6 2.5 2.5	4.5 4.5 4.4	2.8 0.4	262	3.0 2.7 2.1	5.0 4.7 4.6	2.6 -0.1	266	2.9 3.0 2.4	4.6 4.6 4.3	---- ---- ---- ----	--- ---	---- ---- ----	---- ---- ----
5/4 0900	27.2	.21	0.8	0.3	1.3	000	2.5	4.8 21.9 19.3	1.3 0.1	257	3.1 2.9 2.9	5.0 5.0 4.9	1.7 0.3	249	3.2 3.0 2.4	5.3 5.0 5.0	1.6 0.0	258	3.4 3.4 2.7	5.2 5.1 4.7	---- ---- ----	--- ---	---- ---- ----	---- ---- ----

RAFT RIVER 1 (1977) - EXPERIMENT 2 (contd)

5/4	27.0	.23	1.0	0.1	1.3	036	3.1	5.6	1.9	043	2.6	4.6	1.9	051	2.5	4.9	1.7	044	3.2	4.9	----	---	----	----
0930								22.0	0.0		2.5	4.6	0.0		2.5	4.6	0.0		3.2	4.8	----		----	----
								19.7			2.5	4.5			2.0	4.7			2.5	4.5	----	---	----	----
																					----			
5/4	27.0	.26	0.5	0.2	0.9	000	2.8	5.6	1.3	350	2.3	4.6	0.9	011	2.3	5.0	1.1	352	2.8	4.9	----	---	----	----
1000								21.7	0.1		2.3	4.6	0.1		2.4	4.7	0.0		2.9	4.8	----		----	----
								19.4			2.4	4.5			1.9	4.8			2.2	4.5	----	---	----	----
																					----			

APPENDIX B

RAFT RIVER 2 DATA VOLUME

RAFT RIVER 2 (1978) - COOL I

Date Time	T	s	Sfc.	Rad Down	Rad Net	Raft W/S	Raft Tw	Raft Td	Periphery W/S	Periphery Tw	Periphery Td	Reference W/S	Reference Tw	Reference Td
	C	C	CM	Mw	Mw	ms^{-1}	C	C	ms^{-1}	C	C	ms^{-1}	C	C
07/25/78 0830	24.9	.08	--	.82	.59	1.1	16.1 (Bot)	21.9	1.6	15.4	23.2	1.5	15.3 (Bot)	22.8
							14.1 (Top)	21.7					15.9 (Top)	22.3
0900	24.9	.09	--	1.05	.75	1.0	17.0	25.5	1.6	17.5	26.1	1.3	17.0	25.5
							16.3	24.5					18.6	25.4
0930	25.0	.11	--	1.32	1.00	1.1	19.4	27.7	1.6	18.8	29.1	1.5	18.9	28.7
							17.6	27.4					20.8	28.8
1000	25.1	.12	--	1.58	1.26	1.3	19.7	28.6	1.3	19.1	30.0	1.1	19.0	29.7
							17.8	28.5					21.4	30.4
1030	25.3	.16	--	1.83	1.49	1.9	20.4	28.9	2.0	19.4	30.2	1.8	19.4	29.7
							18.4	29.0					21.1	30.0
1100	25.4	.17	7.47	2.04	1.70	1.8	20.7	29.6	1.8	19.7	31.0	1.6	20.0	30.8
							18.8	29.9					22.0	31.2
1130	25.6	.20	--	2.23	1.89	1.8	20.8	30.3	1.9	19.9	31.9	1.8	20.3	31.5
							19.3	30.8					22.3	32.1
1200	25.7	.19	7.50	2.39	2.05	2.5	21.9	31.5	3.0	20.4	32.2	2.8	20.7	32.0
							19.8	31.7					21.5	31.6

RAFT RIVER 2 (1978) - COOL I (contd)

1230	25.9	.19	--	2.43	2.17	3.5	20.6 20.0	33.0 32.1	4.1	20.7	32.5	3.7	21.0 21.4	32.6 31.6
1300	26.0	.20	7.51	2.51	2.26	2.1	22.3 20.2	32.1 32.2	2.6	20.9	32.8	2.0	21.4 22.3	33.2 32.4
1330	26.2	.19	--	2.60	2.34	1.8	22.4 20.2	32.9 33.0	2.2	21.1	33.7	1.8	21.5 22.3	33.9 33.0
1400	26.3	.20	7.41	2.64	2.37	4.2	22.8 20.1	33.9 33.7	4.4	21.4	34.9	4.0	21.7 22.5	35.2 33.9
1430	26.5	.21	--	2.61	2.35	3.2	23.0 20.1	34.0 33.8	3.5	21.3	35.1	3.2	21.6 22.9	35.2 34.2
1500	26.7	.22	7.41	2.46	2.25	3.7	23.3 20.8	34.1 33.8	4.0	21.5	35.3	3.2	22.1 23.3	35.2 34.5
1530	26.8	.21	--	2.42	2.21	4.3	23.3 20.2	34.4 34.1	4.5	21.4	35.1	4.1	21.9 22.4	35.4 34.0
1600	26.9	.21	7.23	2.33	2.06	5.4	23.2 20.1	34.3 34.0	5.9	21.1	34.8	5.5	21.6 21.8	35.0 33.5
1630	26.9	.20	--	2.20	1.90	5.3	23.1 20.0	34.2 33.9	5.4	21.3	34.9	5.0	21.7 22.1	35.1 33.5
1700	27.0	.18	--	2.00	1.70	4.5	22.7 19.7	33.7 33.5	4.5	21.1	34.7	4.4	21.4 22.2	34.7 33.4
1730	27.0	.17	--	1.76	1.48	4.3	22.5 19.5	33.4 33.1	4.5	20.8	34.3	4.2	21.1 21.9	34.4 33.0

RAFT RIVER 2 (1978) - COOL I (contd)

1800	26.9	.13	--	1.51	1.22	4.3	22.6 19.6	33.4 33.2	4.3	20.8	34.2	4.1	21.2 22.0	34.2 33.1
1830	26.9	.11	--	1.25	.95	4.2	22.3 19.4	33.0 32.9	4.5	20.4	33.0	4.2	20.9 21.6	33.6 32.6
1900	26.8	.10	--	.97	.67	4.2	22.0 19.2	32.6 32.4	4.3	20.2	33.0	4.0	20.6 21.4	33.1 32.1
1930	26.6	.10	--	.71	.40	4.6	21.9 19.0	32.4 32.2	4.8	19.9	32.4	4.5	20.3 21.0	32.4 31.7
2000	26.5	.12	--	.45	.16	3.8	21.7 18.8	31.8 31.9	4.0	19.4	31.7	3.8	19.8 20.9	31.8 31.2
2030	26.3	.12	--	.21	-.06	2.7	21.3 18.7	21.1 31.3	3.0	18.7	30.5	2.7	19.0 20.5	30.5 30.3
2100	26.2	.11	--	0	-.11	1.7	18.8 16.8	27.8 28.3	2.3	16.9	27.6	1.8	17.1 18.8	27.5 28.0
2130	26.0	.10	--	0	-.13	0.7	17.3 15.8	25.1 26.1	1.0	16.0	25.5	0.9	16.2 17.7	25.6 26.4
2200	26.0	.12	--	0	-.13	0.6	16.7 15.5	23.9 25.7	1.0	15.5	24.9	0.8	16.0 17.9	25.4 26.7
2230	25.9	.10	--	0	-.14	0.4	15.6 15.3	22.2 25.3	0.4	15.0	23.9	0.6	15.1 16.3	23.5 23.0
2300	25.8	.11	--	0	-.14	0.1	14.6 13.7	20.8 22.4	0.3	13.6	21.3	0.5	13.5 15.7	20.9 22.3

RAFT RIVER 2 (1978) - COOL I (contd)

2330	25.7	.11	--	0	-.15	0.7	13.8 12.7	19.6 20.9	1.4	12.6	19.9	1.1	12.3 14.1	19.2 20.4
0000	25.6	.11	--	0	-.16	0.5	13.5 12.2	19.3 20.0	1.1	12.1	19.1	0.8	11.7 13.6	18.1 19.6
07/26/78 0030	25.5	.13	--	0	-.16	0.5	12.5 11.2	17.1 17.7	1.2	11.1	16.8	1.0	10.8 12.5	16.1 17.7
0100	25.4	.12	--	0	-.16	0.8	11.5 10.3	15.4 15.8	1.7	10.4	15.2	1.2	10.1 11.9	14.7 16.4
0130	25.2	.11	--	0	-.16	1.0	11.7 10.4	16.1 16.2	2.1	10.3	15.6	1.4	10.1 11.6	14.9 16.3
0200	25.1	.12	--	0	-.15	0.9	12.0 10.6	16.6 16.8	1.8	10.6	16.1	1.4	10.3 11.8	15.5 16.8
0230	25.0	.14	--	0	-.15	0.8	12.3 10.9	17.2 17.5	1.7	10.7	16.6	1.4	10.7 12.1	16.3 17.4
0300	24.9	.14	--	0	-.15	0.9	12.1 10.8	16.8 17.1	1.8	10.7	16.5	1.2	10.4 11.9	15.6 16.8
0330	24.8	.11	--	0	-.16	0.8	11.3 10.2	15.3 16.0	1.5	10.0	15.1	1.4	9.9 11.3	14.8 15.9
0400	24.6	.10	--	0	-.16	0.4	10.8 10.5	14.8 17.2	1.1	9.6	15.0	1.1	9.6 11.8	14.8 17.0
0430	24.5	.10	--	0	-.15	0.9	10.5 10.1	14.5 16.3	1.5	9.4	14.6	1.2	9.3 12.2	14.1 17.4

RAFT RIVER 2 (1978) - COOL I (contd)

0500	24.4	.11	6.67	0	-.16	0.4	10.6 9.6	14.3 15.0	1.1	9.1	13.8	1.0	9.0 10.8	13.4 15.0
0530	24.3	.11	--	0	-.16	0.7	9.8 8.9	13.3 14.2	1.4	8.6	13.1	1.3	8.3 10.1	12.5 14.0
0600	24.2	.13	6.67	0	-.16	1.4	9.8 8.9	13.3 13.9	2.2	8.5	12.8	1.7	8.4 10.1	12.3 14.1
0630	24.0	.16	--	.01	-.16	1.5	9.3 8.4	12.6 12.8	2.3	8.2	12.1	1.7	8.1 9.3	11.7 12.7
0700	23.9	.16	6.61	.06	-.11	1.0	9.9 8.8	13.2 13.6	1.6	8.8	13.2	1.4	8.5 9.9	12.4 13.8
0730	23.8	.12	--	.27	.06	1.2	11.7 10.2	15.4 15.2	1.7	11.0	16.1	1.5	10.5 11.6	15.3 16.1
0800	23.8	.11	6.55	.53	.31	0.9	13.3 11.8	18.0 17.8	1.3	12.9	19.1	1.1	12.7 13.2	18.8 18.0
0830	23.9	.12	--	.80	.56	0.6	15.8 14.1	21.1 20.9	0.9	15.4	22.7	1.0	15.2 16.4	22.2 22.0
0900	23.9	.10	6.46	1.19	.86	2.1	17.2 15.5	24.0 23.6	2.3	16.6	24.4	1.8	16.2 16.9	24.0 23.7
0930	24.0	.11	--	1.33	1.00	2.4	17.4 15.6	24.7 24.5	2.4	16.7	24.7	2.3	16.2 17.0	25.0 24.5
1000	24.0	.11	--	1.58	1.27	3.1	18.3 16.3	25.7 25.8	3.2	17.3	26.3	2.8	17.0 17.5	26.7 25.5

RAFT RIVER 2 (1978) - COOL I (contd)

1030	24.1	.13	--	1.82	1.50	2.7	18.9 16.9	26.7 26.8	2.9	17.7	27.3	2.3	17.9 18.4	27.4 26.7
1100	24.2	.16	6.39	2.04	1.70	2.8	19.6 17.8	26.9 27.1	3.1	18.8	28.2	3.0	18.9 19.3	27.7 27.0
1130	24.4	.18	--	2.21	1.92	2.7	20.2 18.5	28.4 28.9	2.9	19.1	29.4	2.8	19.4 19.9	29.4 28.7
1200	24.5	.18	6.35	2.30	2.08	3.6	21.1 19.0	29.7 29.9	3.7	19.5	30.0	3.2	19.7 20.1	30.3 29.3
1230	24.6	.20	--	2.41	2.20	3.7	21.5 19.4	30.6 30.7	3.8	20.0	30.8	3.3	20.1 20.4	31.2 30.1
1300	24.8	.20	6.22	2.51	2.30	3.3	21.8 19.6	31.0 31.1	3.4	20.2	31.4	2.9	20.5 21.0	32.1 31.0
1330	25.1	.16	--	2.60	2.37	2.3	22.0 20.0	31.8 32.0	2.6	20.7	32.2	2.2	21.0 21.7	33.0 32.1
1400	25.3	.18	6.21	2.64	2.38	2.6	22.9 20.6	33.1 32.9	2.8	21.4	33.2	2.7	21.7 22.3	33.6 32.7
1430	25.6	.20	--	2.63	2.36	3.0	23.5 20.8	33.8 33.4	3.5	21.4	33.7	3.2	21.6 22.5	33.8 33.2
1500	25.7	.21	6.19	2.54	2.30	2.6	23.7 20.8	34.2 33.9	3.2	21.4	34.7	2.8	21.9 22.9	34.4 33.8
1530	26.0	.23	--	2.39	2.16	2.6	23.9 21.0	34.6 34.3	3.2	21.8	34.7	2.6	22.1 23.2	34.7 34.2

RAFT RIVER 2 (1978) - COOL I (contd)

1600	26.2	.24	6.17	2.37	2.10	2.4	24.0 21.0	35.0 34.6	2.8	22.0	35.3	2.5	22.2 23.3	35.2 34.6
1630	26.4	.23	--	2.18	1.90	1.7	23.8 20.8	35.0 34.6	2.0	21.9	35.2	1.7	22.0 23.4	35.2 35.1
1700	26.5	.19	--	1.99	1.71	2.2	23.9 20.8	35.3 34.9	2.4	21.9	35.4	2.1	22.1 23.3	35.6 35.2
1730	26.6	.15	--	1.78	1.50	2.2	23.9 20.8	35.3 35.0	2.6	22.0	35.5	2.3	22.2 23.1	35.5 35.0
1800	26.5	.13	--	.91	.72	2.4	23.3 20.4	34.4 34.1	2.9	21.5	34.5	2.7	21.8 22.6	34.4 34.1
1830	26.5	.12	--	.87	.67	2.0	23.1 20.1	34.6 34.4	2.2	21.0	34.6	2.1	21.4 22.4	34.4 34.1
1900	26.4	.11	--	.48	.38	2.9	22.4 19.6	33.8 33.8	3.1	20.4	34.0	2.4	20.6 21.7	34.2 33.8
1930	26.3	.10	--	.36	.30	1.5	22.1 19.6	32.3 32.3	1.8	20.4	32.5	1.8	20.6 21.5	32.0 31.9
2000	26.3	.11	--	.19	.14	0.2	21.5 19.2	31.0 31.1	0.4	19.9	31.2	0.2	20.0 21.2	31.1 30.4
2030	26.2	.10	--	.13	.07	0.5	21.3 18.9	31.1 31.5	0.4	19.4	31.1	0.3	19.6 20.7	31.0 30.4
2100	26.2	.10	--	0	-.04	0.8	19.6 17.9	28.3 29.6	0.8	18.0	28.8	0.7	18.3 19.9	28.7 28.9

RAFT RIVER 2 (1978) - COOL I (contd)

2130	26.1	.09	--	0	-.08	1.4	18.1	26.4	1.5	16.5	26.7	1.3	17.0	26.9
							16.6	27.7					18.9	27.4
2200	26.0	.09	--	0	-.09	1.5	17.2	25.2	1.9	15.5	25.2	1.6	15.7	25.1
							15.5	26.1					17.5	26.0
2230	25.9	.08	--	0	-.08	1.6	16.5	24.1	1.8	14.9	24.1	1.5	15.2	24.2
							15.1	25.4					17.6	26.0
2300	25.8	.09	--	0	-.10	0.9	15.3	21.9	1.1	13.8	22.5	1.0	13.8	22.0
							14.0	23.9					16.0	23.7
2330	25.7	.11	--	0	-.11	1.3	14.3	20.7	1.2	13.1	21.4	1.2	13.5	21.4
							14.4	24.5					16.7	25.0
0000	25.6	.08	--	0	-.10	0.6	15.2	22.1	0.9	14.0	22.7	0.8	14.1	22.4
							13.9	23.3					16.3	24.4
07/27/78 0030	25.5	.08	--	0	-.08	0.1	15.2	21.9	0.2	13.9	22.6	0.3	13.7	22.0
							13.9	23.5					16.0	23.5
0100	25.4	.09	--	0	-.09	0.4	14.5	20.9	0.4	13.3	21.4	0.5	13.3	21.0
							13.4	22.4					15.4	22.7
0130	25.3	.11	--	0	-.10	0.5	14.6	21.0	0.7	13.5	21.6	0.5	13.4	21.0
							13.6	22.6					15.2	22.0
0200	25.3	.11	--	0	-.06	0.6	16.0	22.8	1.0	14.6	23.0	0.9	14.6	22.7
							14.6	23.7					16.2	23.6
0230	25.2	.11	--	0	-.04	0.5	16.7	23.8	0.6	15.3	23.7	0.3	15.3	23.7
							15.2	24.4					16.4	23.3

RAFT RIVER 2 (1978) - COOL I (contd)

0300	25.1	.11	--	0	-.10	0.4	14.2 12.7	19.2 19.7	0.8	12.9	19.3	0.3	12.9 14.3	18.9 20.2
0330	25.0	.11	--	0	-.11	1.1	13.8 12.6	19.2 20.0	1.5	12.4	19.1	1.3	12.4 13.9	18.8 19.8
0400	24.9	.11	--	0	-.09	1.0	13.9 12.7	19.3 20.5	1.5	12.5	19.3	1.0	12.3 14.3	18.9 20.5
0430	24.8	.09	--	0	-.03	1.0	14.4 13.1	19.9 20.7	1.5	13.0	19.8	1.0	12.6 14.4	18.8 20.5
0500	24.7	.09	--	0	-.09	1.0	14.5 13.1	19.9 20.3	1.6	13.2	19.7	1.3	12.9 14.6	19.1 20.5
0530	24.6	.10	--	0	-.12	1.1	13.9 12.6	18.6 18.9	1.6	12.5	18.3	1.3	12.4 13.8	17.8 19.0
0600	24.5	.10	--	0	-.12	1.1	12.9 12.2	17.3 18.5	1.5	11.8	17.3	1.2	11.6 13.3	16.7 18.3
0630	24.4	.10	--	0	-.12	0.6	12.7 12.0	16.9 18.2	1.2	11.7	17.2	1.0	11.6 13.3	16.7 18.0
0700	24.3	.10	--	.04	-.08	0.7	12.8 12.0	16.7 17.7	1.3	11.7	16.8	1.0	11.4 13.2	16.1 17.9
0730	24.3	.11	--	.25	.08	0.8	13.7 12.3	17.5 17.4	1.3	13.1	18.3	1.0	12.7 13.5	17.6 18.1
0800	24.3	.10	5.68	.52	.33	1.9	16.4 14.7	21.8 21.7	2.3	15.6	22.7	1.9	15.4 15.9	22.2 22.1
0830	24.2	.12	--	.77	.55	1.9	18.6 16.8	25.2 25.1	2.2	17.8	26.2	1.8	17.7 18.3	26.1 25.6
0900	24.3	.13	--	1.06	.79	0.9	19.8 17.7	27.4 27.1	1.1	19.1	28.7	0.7	19.0 20.5	28.7 28.5

RAFT RIVER 2 (1978) - HOT I

Date Time	T	s	Sfc.	Rad Down	Rad Net	Raft W/S	Raft Tw	Raft Td	Periphery W/S	Periphery Tw	Periphery Td	Reference W/S	Reference Tw	Reference Td
	C	C	CM	Mw	Mw	ms^{-1}	C	C	ms^{-1}	C	C	ms^{-1}	C	C
07/30/78														
1430	61.1	.34	-----			1.1	24.3 (Bot)	33.4	1.3	22.1	32.5	1.0	20.6 (Bot)	32.2
							21.1 (Top)	32.4				1.4	23.5 (Top)	31.8
1500	60.0	.24	-----	2.33	1.54	2.0	24.8	34.3	1.9	22.3	33.2	1.6	21.4	33.1
							21.4	33.3				1.7	24.1	32.7
1530	59.3	.34	-----	2.57	1.80	1.1	24.8	34.7	1.1	22.7	33.8	0.8	21.7	33.7
							21.6	33.8				1.0	24.4	33.1
1600	58.4	.30	10.28	2.16	1.45	2.2	24.8	34.6	2.4	22.1	33.5	2.0	21.9	33.6
							21.4	33.6				2.2	24.4	32.7
1630	57.5	.46	-----	2.12	1.44	1.4	24.3	34.3	1.6	21.8	33.3	1.7	21.2	33.5
							21.1	33.4				---	23.8	32.5
1700	56.8	.25	10.25	1.22	.61	1.6	23.6	33.9	1.9	22.3	33.3	1.8	21.3	32.9
							20.9	33.1				2.2	24.0	32.4
1730	56.0	.23	-----	1.37	.77	2.4	24.1	34.0	2.3	22.2	33.4	2.1	21.2	32.9
							20.8	33.1				---	23.8	32.5
1800	55.3	.24	9.93	1.08	.47	1.4	24.0	33.8	1.3	22.0	33.2	1.1	21.3	32.9
							21.1	33.0				---	23.9	32.5
1830	54.7	.24	-----	.79	.22	1.6	23.9	33.5	1.7	22.3	32.7	1.4	21.5	32.4
							21.0	32.8				1.5	23.8	32.0

RAFT RIVER 2 (1978) - HOT I (contd)

1900	53.9	.30	9.52	.36	-.07	2.7	22.9	32.4	2.9	21.0	31.6	2.4	20.1	31.2
							19.8	31.7				---	22.7	31.0
1930	53.3	.42	-----	.50	-.05	3.5	22.9	33.1	3.9	20.9	32.1	3.4	19.9	31.8
							19.8	32.4				---	22.8	31.6
2000	52.7	.44	9.02	.45	-.19	4.0	23.5	33.5	4.7	20.9	31.9	4.2	19.9	31.6
							20.1	32.7				---	22.8	31.4
2030	52.3	.36	-----	.18	-.41	2.9	22.7	32.0	3.7	20.3	30.8	3.1	19.3	30.4
							19.6	31.3				---	22.2	30.6
2100	51.7	.25	8.57	0	-.42	1.6	20.5	28.6	2.3	18.4	27.7	1.9	17.5	27.3
							17.7	28.0				---	20.5	28.2
2130	51.1	.25	-----	0	-.49	0.4	19.4	26.4	0.6	16.3	24.7	0.4	16.2	24.0
							17.8	26.0				0.3	18.5	25.3
2200	50.6	.63	8.31	0	-.47	1.0	18.7	24.3	0.9	15.3	22.4	0.8	15.1	22.0
							16.2	23.9				0.8	17.6	23.8
2230	50.1	.25	-----	0	-.48	1.8	18.1	23.0	1.9	14.5	21.0	1.9	14.4	20.7
							15.4	22.5				2.1	17.8	23.7
2300	49.5	.21	8.05	0	-.42	1.7	17.1	22.3	2.0	13.8	20.5	1.8	17.1	22.3
							14.6	22.0				2.2	17.4	23.5
2330	48.9	.23	-----	0	-.40	1.5	16.8	21.8	2.1	13.2	20.0	1.5	13.2	19.9
							14.1	21.6				3.0	17.0	23.4
0000	48.4	.22	-----	0	-.41	1.0	15.7	20.7	1.6	12.3	18.8	1.3	12.2	18.2
07/31/78 0030	48.0	.23	-----	0	-.40	1.2	15.1	20.0	1.5	12.2	18.4	1.1	11.8	17.6
							12.6	19.8				1.9	14.6	20.2

RAFT RIVER 2 (1978) - HOT I (contd)

0100	47.5	.22	-----	0	-.40	1.6	14.9 12.6	18.5 18.2	1.9	12.1	16.9	1.6 1.9	11.8 14.1	16.2 18.6
0130	47.0	.26	-----	0	-.40	1.4	14.5 12.3	17.8 17.3	1.8	12.0	16.2	1.3 1.9	11.5 13.4	15.5 17.4
0200	46.5	.22	-----	0	-.39	1.3	14.2 11.8	17.9 17.6	1.7	11.3	16.3	1.4 2.2	11.2 13.3	15.6 17.7
0230	46.2	.23	-----	0	-.38	1.2	13.8 11.4	18.1 17.8	1.6	10.5	16.3	1.2 2.1	10.4 13.0	15.4 17.8
0300	45.7	.25	-----	0	-.34	1.7	13.6 11.5	17.6 17.2	2.0	11.2	16.2	1.6 2.3	11.0 12.8	15.6 16.9
0330	45.2	.30	-----	0	-.35	1.2	13.9 11.9	17.4 16.7	1.6	11.5	15.8	1.2 1.9	11.3 12.8	15.5 16.6
0400	44.8	.37	-----	0	-.38	0.6	13.6 12.0	17.7 17.4	0.9	11.8	16.5	0.4 1.1	10.9 12.5	15.7 16.9
0430	44.3	.21	-----	0	-.38	0.1	12.8 11.2	15.8 15.6	0.3	10.6	14.2	0.2 0.0	10.0 11.4	13.7 15.1
0500	43.9	.24	-----	0	-.36	1.4	11.8 9.9	14.5 13.8	1.7	9.2	12.7	1.6 2.2	9.2 10.7	12.5 14.0
0530	43.5	.25	-----	0	-.38	1.0	12.0 9.9	15.0 14.6	1.4	9.0	13.0	1.2 2.0	8.9 11.3	12.8 15.4
0600	43.2	.24	-----	0	-.38	1.0	11.4 9.5	14.6 14.4	1.2	8.4	12.8	1.1 1.5	8.4 10.5	12.5 14.6
0630	42.8	.23	-----	0	-.36	1.5	11.4 9.5	13.3 12.8	2.0	9.4	11.9	1.5 1.1	8.5 9.9	10.9 12.6

RAFT RIVER 2 (1978) - HOT I (contd)

0700	42.5	.23	-----	.02	-.34	0.7	11.6	13.8	0.9	8.9	12.0	0.8	8.7	11.5
							10.0	13.3				1.0	10.0	13.3
0730	42.2	.24	-----	.19	-.22	1.2	11.6	14.3	1.4	9.7	13.4	1.1	9.5	12.9
							10.0	13.8				1.2	11.2	14.3
0800	41.9	.24	-----	.33	-.09	1.2	12.1	16.7	1.4	12.0	16.4	1.2	11.7	15.8
							11.9	16.2				1.4	12.3	15.8
0830	41.7	.28	-----	.72	.24	1.4	15.0	19.2	1.5	14.2	19.5	1.5	13.7	18.9
							13.6	18.8				---	14.2	18.2
0900	41.5	.27	5.02	1.04	.42	0.7	17.1	23.0	0.7	16.6	23.0	0.7	15.8	22.3
							15.7	22.3				0.5	17.1	21.8
0930	41.5	.29	-----	1.27	.71	1.2	17.4	24.6	1.4	17.2	24.5	1.1	16.4	23.8
							16.0	23.9				1.3	18.1	23.4
1000	41.3	.31	4.80	1.61	1.04	2.0	17.7	25.4	2.5	17.4	25.7	2.1	16.5	25.0
							16.2	25.0				2.5	18.4	24.6
1030	41.1	.29	-----	1.79	1.24	2.6	18.5	25.8	3.1	18.1	26.2	2.7	17.4	25.5
							16.8	25.4				3.2	19.1	25.0
1100	40.9	.31	4.59	1.82	1.30	3.6	19.0	27.1	3.7	18.5	27.2	3.2	18.1	26.9
							17.6	26.9				---	19.8	26.0
1130	40.7	.35	-----	2.01	1.50	3.3	19.2	27.6	3.5	18.5	27.8	3.1	18.2	27.6
							17.9	27.6				---	20.1	26.7
1200	40.5	.39	4.50	2.28	1.76	3.5	19.9	28.7	3.7	19.0	28.5	3.3	18.7	28.7
							18.4	28.5				---	20.7	27.7
1230	40.4	.31	-----	2.45	1.93	3.8	20.4	29.8	3.8	19.5	29.4	3.2	19.2	29.5
							18.9	29.4				---	21.2	28.4

RAFT RIVER 2 (1978) - HOT I (contd)

1300	40.3	.28	3.92	2.55	2.04	3.6	20.7 19.2	30.2 30.0	3.6	19.8	29.9	3.2 ---	19.6 21.7	30.3 29.1
1330	40.3	.27	-----	2.59	2.10	3.0	21.0 19.6	30.9 30.7	3.1	20.3	30.6	2.9 ---	20.0 22.2	31.0 29.8
1400	40.1	.28	3.68	2.63	2.14	3.3	21.8 20.2	32.5 31.9	3.5	20.9	31.7	3.4 ---	20.5 23.0	31.6 30.7
1430	40.0	.26	-----	2.61	2.15	3.0	22.2 20.2	31.1 32.4	3.3	20.7	32.2	2.7 ---	20.5 23.2	32.5 31.6
1500	40.0	.31	3.49	2.59	2.12	1.9	22.2 20.1	33.2 32.5	2.2	20.9	32.8	2.1 ---	20.9 23.7	33.0 32.3
1530	39.8	.24	-----	1.87	1.44	2.8	22.0 20.0	33.0 32.4	3.3	21.1	32.8	2.8 ---	20.9 23.7	32.7 32.1
1600	39.5	.17	3.40	1.74	1.33	2.7	21.8 19.9	32.9 32.4	3.1	20.9	32.5	2.7 ---	20.8 23.5	32.6 32.0
1630	39.3	.09	-----	.91	.59	2.3	21.8 20.0	32.1 31.7	2.7	20.9	31.9	2.3 ---	20.7 23.2	31.6 31.3
1700	39.1	.19	3.24	1.97	1.52	3.7	22.9 20.9	34.7 34.2	3.9	21.7	34.0	3.3 ---	21.5 24.3	34.4 33.3
1730	39.0	.15	-----	1.75	1.27	2.0	22.6 20.5	34.4 33.9	2.4	21.7	34.7	2.2 ---	21.7 24.4	34.7 33.7
1800	38.6	.17	2.85	1.47	1.00	6.5	22.0 19.9	34.4 33.9	6.6	21.1	34.6	6.0 ---	21.4 24.0	34.8 33.7
1830	38.1	.16	-----	1.20	.72	5.6	21.7 19.6	33.9 33.5	5.8	19.4	33.9	5.6 ---	20.9 23.6	34.1 33.1

RAFT RIVER 2 (1978) - HOT I (contd)

1900	37.6	.16	2.61	.91	.44	5.4	21.4 19.4	33.4 33.0	5.7	20.4	33.2	5.5 ---	20.7 23.3	33.3 32.6
1930	37.1	.10	-----	.62	.18	5.0	20.9 18.9	32.5 32.1	5.6	19.8	32.1	5.3 ---	19.7 22.6	32.1 31.7
2000	36.5	.09	2.32	.43	.07	4.5	20.8 18.9	31.5 32.2	5.1	19.4	30.9	4.9 ---	19.4 22.1	30.9 30.6
2030	32.3	.09	-----	.10	-.09	1.8	19.7 18.1	29.5 29.3	2.0	18.7	29.2	1.9 ---	18.5 21.3	29.2 29.3
2100	36.0	.12	2.30	0	-.16	1.2	18.6 17.1	27.0 27.0	1.4	17.6	26.6	1.2 ---	17.3 20.0	26.2 27.4
2130	35.8	.15	-----	0	-.18	1.3	18.5 17.0	28.0 28.2	1.4	17.2	27.5	1.4 ---	17.2 20.3	27.5 28.4
2200	35.6	.15	2.21	0	-.18	1.4	17.5 16.1	26.3 26.6	1.7	16.3	25.9	1.5 ---	16.5 19.9	26.2 27.7
2230	35.4	.18	-----	0	-.20	1.6	17.1 15.7	25.7 25.9	1.8	15.8	25.1	1.6 2.3	16.0 18.8	25.2 26.2
2300	35.2	.13	2.11	0	-.22	3.3	17.3 15.9	26.6 26.7	3.4	16.1	26.0	3.0 3.8	16.4 19.3	25.9 27.0
2330	34.9	.12	-----	0	-.22	1.3	17.0 15.5	26.6 26.5	1.5	15.8	25.9	1.1 1.8	16.0 18.9	25.9 26.8
0000	34.6	.16	2.00	0	-.24	1.3	16.0 14.6	23.6 23.6	1.5	14.9	23.1	1.1 1.8	14.4 16.9	22.3 23.2

RAFT RIVER 2 (1978) - HOT I (contd)

08/01/78														
0030	34.4	.17	-----	0	-.24	1.0	14.0	19.5	1.5	12.8	18.8	1.0	12.4	18.2
							12.9	19.7				0.8	15.6	19.9
0100	34.2	.14	2.00	0	-.25	0.4	14.7	21.0	0.7	13.2	20.4	0.5	13.1	20.3
							13.5	21.5				0.7	15.9	22.1
0130	34.0	.09	-----	0	-.26	0.5	13.1	19.4	0.8	13.0	18.6	0.5	12.4	17.8
							12.9	19.4				0.4	14.7	19.8
0200	33.8	.11	1.89	0	-.25	0.7	14.1	20.4	0.7	12.6	20.1	0.6	12.6	19.7
							13.3	21.8				0.7	16.1	22.8
0230	33.6	.10	-----	0	-.25	1.2	13.7	20.1	1.3	12.7	20.6	1.3	12.0	19.0
							13.2	22.5				1.3	16.3	23.1
0300	33.4	.14	1.62	0	-.26	1.9	12.5	18.5	2.2	11.2	17.9	1.8	10.9	17.3
							12.0	20.0				2.4	14.7	20.6
0330	33.1	.16	-----	0	-.26	2.7	12.7	19.3	3.2	11.4	18.7	2.7	11.1	18.1
							12.2	20.9				4.0	15.7	22.6
0400	32.8	.15	1.40	0	-.26	2.5	11.9	18.4	3.2	10.6	17.5	2.3	10.4	16.7
							10.9	18.6				4.2	14.1	20.1
0430	32.6	.19	-----	0	-.26	1.6	11.2	17.2	2.0	9.7	16.2	0.8	9.5	15.7
							10.0	17.7				1.8	12.4	18.0
0500	32.4	.16	1.29	0	-.28	0.6	11.2	17.2	0.7	9.8	16.4	0.4	9.7	15.8
							9.9	17.4				0.5	12.7	18.3
0530	32.2	.13	-----	0	-.28	0.9	10.2	15.2	1.0	9.2	14.6	1.0	8.5	13.5
							9.3	15.9				1.0	11.3	16.2
0600	32.0	.09	1.20	0	-.27	1.3	10.2	15.2	1.5	8.9	14.8	1.2	8.4	13.6
							9.5	16.4				1.8	11.8	17.3

RAFT RIVER 2 (1978) - HOT I (contd)

0630	31.8	.13	-----	.01	-.27	1.2	9.7	14.7	1.5	8.3	13.9	1.4	8.0	13.3
							9.0	15.6				1.9	11.6	16.8
0700	31.6	.11	1.11	.05	-.24	0.3	9.9	14.6	0.4	9.1	14.7	0.4	8.7	14.3
							9.0	15.6				0.1	11.5	16.7
0730	31.4	.09	-----	.26	-.12	0.9	11.8	17.2	1.0	11.1	17.8	1.0	10.4	16.6
							10.4	17.2				1.2	12.8	18.2
0800	31.3	.10	1.19	.53	.18	0.3	12.9	18.7	0.3	12.8	19.1	0.1	11.8	17.7
							11.6	18.4				0.2	13.6	18.8
0830	31.3	.09	-----	.81	.43	1.3	14.1	22.0	1.4	13.9	22.3	1.1	13.3	22.1
							12.7	21.7				---	15.4	21.7
0900	31.2	.15	1.10	1.06	.66	1.4	14.8	23.4	1.5	14.8	23.6	1.4	14.0	23.5
							13.5	23.0				---	16.5	23.1
0930	31.3	.17	-----	1.34	.87	1.7	15.3	24.2	1.9	15.5	24.4	1.4	15.3	24.2
							14.2	23.8				---	17.4	23.8
1000	31.4	.28	-----	1.59	1.14	2.2	15.6	24.5	2.5	15.6	25.0	2.1	15.0	25.0
							14.4	24.5				---	17.5	24.3
1030	31.4	.27	-----	1.83	1.39	2.4	16.3	25.3	2.6	16.2	25.9	2.4	15.7	25.9
							15.1	25.4				---	18.0	25.0
1100	31.5	.29	-----	2.01	1.57	2.1	16.5	25.8	2.2	16.6	26.7	1.9	16.4	26.9
							15.6	26.1				---	18.9	26.1

RAFT RIVER 2 (1978) - HOT II (LEAK)

Date Time	$\bar{T}$	s	Sfc.	Rad Down	Rad Net	Raft W/S	Raft Tw	Raft Td	Periphery W/S	Periphery Tw	Periphery Td	Reference W/S	Reference Tw	Reference Td
	C	C	CM	Mw	Mw	ms^{-1}	C	C	ms^{-1}	C	C	ms^{-1}	C	C
08/03/78														
1100	70.8	.12	5.80	2.00	1.16	2.6	21.3 (Bot)	25.0	3.0	18.9	24.7	2.7	16.1 (Bot)	23.4
							16.7 (Top)	24.1				3.2	17.7 (Top)	22.8
1130	69.2	.22	5.31	2.18	1.34	2.5	21.3	26.0	2.7	18.6	25.4	2.5	16.5	24.6
							17.0	25.2				3.0	18.3	23.9
1200	67.7	.23	4.84	2.34	1.50	2.7	21.8	27.4	2.7	18.7	26.4	2.3	17.2	26.1
							17.8	26.8				---	19.3	25.4
1230	66.1	.27	4.36	2.47	1.67	3.6	21.6	28.3	3.6	19.0	27.2	3.2	17.6	27.0
							17.8	27.4				---	19.6	25.9
1300	64.6	.22	3.85	2.55	1.78	3.4	22.5	29.5	3.6	19.3	28.2	3.2	18.3	28.3
							18.7	28.7				---	20.4	27.0
1330	63.3	.25	3.42	2.58	1.85	3.8	22.4	30.6	3.9	20.0	29.4	3.4	18.8	29.4
							19.0	29.6				---	21.0	28.0
1400	61.9	.21	3.09	2.55	1.88	3.0	22.7	31.3	3.2	20.1	29.9	2.9	19.1	30.1
							19.3	30.2				---	21.6	28.9
1430	61.0	.20	2.70	2.51	1.85	2.7	22.9	32.0	2.8	20.2	30.4	2.4	19.2	30.5
							19.6	31.0				---	22.1	29.6
1500	60.1	.23	2.36	2.48	1.82	3.1	23.0	32.9	3.2	20.1	31.4	2.9	19.5	31.4
							19.5	31.7				3.2	22.4	30.4

RAFT RIVER 2 (1978) - HOT II (LEAK) (contd)

1530	58.8	.18	2.00	2.39	1.74	4.0	22.7 19.1	32.7 31.6	4.3	20.5	31.5	3.7 3.9	19.5 22.3	31.4 30.3
1600	57.8	.21	1.77	2.24	1.62	3.6	22.6 19.1	32.9 31.8	3.9	20.4	31.8	3.4 3.9	19.5 22.4	31.5 30.6
1630	56.8	.21	1.34	2.05	1.48	4.1	22.8 19.4	33.4 32.3	4.3	20.6	32.2	3.8 3.4	19.8 22.8	32.3 31.1
1700	55.7	.14	1.09	1.88	1.30	4.5	22.5 19.1	33.4 32.3	4.9	20.4	32.2	4.1 4.4	19.8 22.9	32.2 31.2
1730	54.8	.16	.69	1.70	1.10	4.4	22.4 19.0	33.4 32.3	4.5	20.2	32.3	3.9 ---	19.6 22.7	32.4 31.3
1800	53.8	.14	.51	1.46	.85	3.6	21.9 18.7	32.9 31.9	4.0	20.2	32.0	3.5 4.1	19.5 22.6	31.6 30.9
1830	52.9	.12	-----	1.23	.58	3.3	21.7 18.4	33.4 32.5	3.6	19.8	32.5	3.1 ---	19.1 22.5	32.1 31.3
1900	52.0	.09	-----	.97	.29	3.9	21.3 17.7	33.4 32.5	4.5	18.9	32.4	4.2 ---	18.2 22.1	32.2 31.6
1930	51.0	.15	-----	.72	-.01	3.9	20.9 17.4	33.1 32.2	4.5	18.4	31.8	4.0 ---	17.8 21.8	31.6 31.2
2000	50.1	.16	-----	.47	-.26	3.2	21.2 17.4	32.5 31.6	3.8	18.1	30.8	3.4 ---	17.5 21.4	30.6 30.5
2030	49.4	.26	-----	.19	-.40	2.4	20.3 16.9	30.5 30.0	2.9	17.4	28.9	2.5 ---	16.8 20.6	28.7 29.1
2100	48.8	.28	-----	0	-.41	1.9	16.4 13.5	24.5 24.1	2.4	13.6	23.2	2.0 2.4	14.4 17.8	23.7 25.2

RAFT RIVER 2 (1978) - HOT II (LEAK) (contd)

2130	48.2	.22	-----	0	-.42	2.3	14.7	22.4	2.8	12.0	21.1	2.2	12.8	21.5
							12.0	22.0				3.5	16.4	23.5
2200	47.6	.25	-----	0	-.41	1.4	14.6	21.5	1.7	11.6	20.1	1.5	12.4	20.3
							11.9	21.3				2.3	16.1	22.9
2230	47.2	.21	-----	0	-.41	1.2	14.6	21.1	1.5	11.6	19.6	1.0	10.9	18.5
							12.1	21.2				2.0	14.9	21.4
2300	46.8	.24	-----	0	-.40	1.3	13.4	19.3	1.7	10.6	17.9	1.1	10.1	16.9
							10.9	19.1				1.9	13.3	19.1
2330	46.3	.25	-----	0	-.40	1.3	12.3	17.6	1.7	10.0	16.2	1.3	9.2	15.5
							9.7	17.0				1.2	11.6	16.6
0000	45.9	.22	-----	0	-.40	1.6	11.0	15.7	2.1	8.4	14.1	1.5	8.0	13.6
							8.7	15.1				1.6	10.6	15.4
08/04/78														
0030	45.3	.21	-----	0	-.40	1.9	10.5	15.4	2.4	8.1	14.0	1.9	7.9	13.7
							8.3	14.8				2.1	10.2	14.8
0100	44.6	.30	-----	0	-.39	1.7	10.2	15.0	2.1	7.4	13.3	1.6	7.4	12.9
							7.9	14.4				2.7	9.7	14.3
0130	44.1	.26	-----	0	-.39	1.8	10.2	15.1	2.3	7.6	13.5	1.6	7.5	13.2
							8.0	14.5				2.8	9.7	14.3
0200	43.7	.26	-----	0	-.38	1.4	9.9	14.0	1.6	7.2	12.5	1.3	6.8	11.8
							7.7	13.8				1.5	9.7	14.2
0230	43.3	.25	-----	0	-.38	1.1	9.8	13.8	1.4	6.8	12.2	1.2	6.4	11.3
							7.5	13.5				1.4	9.2	13.6

RAFT RIVER 2 (1978) - HOT II (LEAK)

0300	42.9	.28	-----	0	-.38	1.9	9.2	13.2	2.5	6.6	11.8	1.9	6.5	11.2
							7.0	12.8				2.8	9.1	13.3
0330	42.5	.26	-----	0	-.37	1.4	8.8	12.7	1.9	6.3	11.2	1.5	6.2	10.7
							6.6	12.3				2.4	8.1	12.0

RAFT RIVER 2 (1978) - HOT III

Date Time	$\bar{T}$ C	s C	Sfc. CM	Rad Down Mw	Rad Net Mw	Raft W/S ms^{-1}	Raft Tw C	Raft Td C	Periphery W/S ms^{-1}	Periphery Tw C	Periphery Td C	Reference W/S ms^{-1}	Reference Tw C	Reference Td C
08/08/78 1830	53.5	.21	6.63	1.02	.45	4.2	22.4 (Bot)	33.6	4.9	20.4	32.7	4.4	19.8 (Bot)	32.7
							19.5 (Top)	32.7				5.5	23.5 (Top)	31.8
1900	52.7	.21	6.34	.84	.22	3.9	21.7	33.2	4.3	19.6	32.4	3.9	19.8	32.4
							18.8	32.3				5.1	23.1	31.6
1930	51.7	.30	6.09	.61	-.04	4.2	21.1	32.6	4.6	18.7	31.6	4.3	19.4	31.7
							18.2	31.8				5.5	22.5	31.1
2000	50.5	.41	5.85	.40	-.28	3.2	20.9	32.3	3.7	17.9	30.6	3.5	17.5	30.4
							17.6	31.4				4.4	21.6	30.3
2030	50.1	.27	5.69	.13	-.40	2.0	19.2	29.6	2.3	16.5	28.3	1.9	15.6	28.0
							16.1	29.2				2.8	20.1	28.6
2100	49.5	.32	5.58	0	-.44	1.8	17.0	25.9	2.4	15.0	25.4	1.7	13.8	24.7
							14.2	25.8				3.2	18.7	26.8
2130	49.0	.43	5.44	0	-.46	0.6	15.6	22.6	0.6	12.6	21.3	0.6	11.9	20.5
							12.9	22.5				0.8	16.3	23.1
2200	48.6	.29	5.28	0	-.46	1.5	13.5	20.2	1.5	10.0	18.5	1.2	9.8	17.8
							11.1	20.2				2.0	13.9	20.2
2230	48.1	.28	5.18	0	-.46	1.0	13.0	18.5	1.2	9.3	17.0	1.0	8.6	15.5
							10.5	18.7				1.5	12.5	18.4

RAFT RIVER 2 (1978) - HOT III (contd)

2300	47.7	.26	5.02	0	-.46	0.9	11.5	17.2	1.1	8.1	15.3	0.9	7.5	14.4
							9.6	17.3				1.5	11.8	17.6
2330	47.2	.24	4.90	0	-.45	1.2	11.0	15.7	1.5	7.7	14.0	1.0	7.0	12.7
							8.6	15.5				2.1	10.5	15.6
0000	46.7	.25	4.78	0	-.45	1.4	10.1	15.1	1.9	7.0	13.3	1.3	7.0	12.8
							7.8	14.5				2.7	9.8	14.6
08/09/78														
0030	46.3	.24	-----	0	-.43	1.6	10.0	14.9	2.1	7.1	13.3	1.5	7.1	12.7
							7.8	14.4				3.0	9.8	14.4
0100	45.9	.23	4.51	0	-.43	1.9	9.7	14.6	2.3	7.1	13.1	1.8	7.1	12.8
							7.6	14.0				3.1	9.5	13.9
0130	45.3	.28	-----	0	-.42	1.9	9.6	14.4	2.2	6.9	12.8	1.8	6.8	12.5
							7.3	13.7				3.0	9.1	13.5
0200	44.6	.27	4.40	0	-.42	1.5	9.6	14.1	1.9	6.7	12.5	1.6	6.6	12.2
							7.3	13.6				2.7	9.2	13.8
0230	44.2	.21	-----	0	-.40	1.7	9.2	13.5	1.9	6.2	11.9	1.6	6.1	11.3
							7.0	13.2				2.6	9.2	13.7
0300	43.7	.25	4.08	0	-.40	2.0	8.8	13.1	2.4	6.2	11.6	1.9	6.0	11.1
							6.6	12.4				3.1	8.2	12.3
0330	43.3	.24	-----	0	-.39	1.8	8.5	12.6	2.3	5.8	11.2	1.9	5.8	10.8
							6.3	12.3				3.4	8.6	12.9
0400	42.9	.22	3.81	0	-.39	1.6	8.7	13.0	2.0	6.0	11.4	1.6	6.0	11.1
							6.7	12.7				2.9	8.9	13.3
0430	42.6	.22	-----	0	-.39	1.4	8.6	12.7	1.9	5.8	11.1	1.4	5.8	10.6
							6.4	12.1				2.7	8.3	12.4

RAFT RIVER 2 (1978) - HOT III (contd)

0500	42.3	.21	3.64	0	-.38	1.2	9.0 7.1	13.1 13.1	1.3	6.2	11.5	1.1 1.9	5.9 9.0	11.0 13.4
0530	41.9	.22	-----	0	-.38	1.6	8.7 6.6	12.8 12.7	2.0	5.8	11.2	1.6 2.6	5.6 9.3	10.6 13.8
0600	41.6	.24	3.44	0	-.38	1.6	8.3 6.2	12.2 11.9	2.0	5.7	10.8	1.5 2.7	5.2 7.8	9.9 11.8
0630	41.2	.26	-----	0	-.38	2.0	7.3 5.6	10.9 10.4	2.5	5.2	9.6	1.9 3.4	5.0 7.0	9.1 10.5
0700	40.8	.24	3.19	.01	-.34	1.8	7.2 5.4	10.9 10.2	2.2	5.0	9.5	1.7 2.9	4.9 6.8	9.1 10.2
0730	40.5	.20	-----	.20	-.26	1.1	8.7 6.9	12.8 12.2	1.3	7.1	12.4	1.0 1.9	6.5 8.7	11.6 13.0
0800	40.2	.21	3.01	.46	.02	1.5	10.9 9.1	16.1 15.4	1.5	9.8	16.4	1.2 1.8	9.4 11.0	15.8 15.6
0830	40.0	.18	-----	.73	.28	1.6	12.6 11.1	18.9 18.3	1.7	12.0	19.5	1.3 1.9	11.6 13.2	19.1 18.3
0900	39.9	.19	2.82	.99	.54	1.4	14.6 13.1	22.1 21.5	1.5	14.3	22.8	1.4 1.7	13.6 15.8	22.2 21.5
0930	39.8	.16	-----	1.26	.76	1.1	15.6 14.4	24.6 24.3	1.2	15.6	25.7	1.0 1.1	15.0 18.1	25.3 24.8
1000	39.7	.20	2.60	1.50	1.02	0.7	16.5 15.2	26.1 25.9	0.8	16.5	27.2	0.6 0.7	15.9 19.4	26.9 26.5
1030	39.7	.18	-----	1.74	1.27	1.9	17.3 16.0	26.8 26.6	2.2	17.1	27.6	2.0 2.3	16.3 19.6	26.8 26.5

RAFT RIVER 2 (1978) - HOT III (contd)

1100	39.6	.25	2.41	1.95	1.52	2.9	17.9	28.5	3.0	17.2	28.9	2.6	16.9	28.8
							16.5	28.5				3.1	20.4	28.1
1130	39.4	.26	-----	2.13	1.72	3.5	18.6	29.4	3.7	17.5	29.5	3.2	17.4	29.5
							17.1	29.3				3.8	20.8	28.6
1200	39.3	.27	2.13	2.30	1.86	3.9	19.0	30.2	3.9	18.0	30.0	3.5	17.8	30.0
							17.6	29.9				4.3	21.3	29.0
1230	39.0	.29	-----	2.42	2.00	3.8	19.3	30.8	3.9	18.4	30.6	3.6	18.4	30.8
							18.1	30.6				4.4	21.9	29.7
1300	38.9	.34	1.85	2.52	2.10	3.7	19.7	31.5	4.1	18.8	31.3	3.6	18.9	31.9
							18.4	31.2				4.2	22.6	30.7
1330	38.8	.32	-----	2.56	2.15	3.8	20.3	32.5	4.2	19.5	32.2	3.6	19.5	32.6
							19.1	32.1				4.3	23.1	31.3
1400	38.7	.29	1.64	2.52	2.16	4.4	21.1	33.8	4.6	20.0	33.0	4.1	19.8	33.4
							19.6	33.1				5.1	23.8	32.1
1430	38.4	.27	-----	2.05	1.74	4.3	21.0	33.4	4.7	19.7	32.7	4.2	19.7	33.2
							19.4	32.8				5.0	23.6	32.0
1500	38.2	.23	1.40	1.70	1.49	4.2	21.0	33.5	4.2	19.8	32.8	3.6	19.7	33.1
							19.4	32.9				4.6	23.7	32.0
1530	38.1	.32	-----	2.62	2.35	4.5	21.9	34.6	4.7	20.4	33.6	4.1	20.3	33.9
							20.2	33.9				5.1	24.2	32.6
1600	37.9	.20	1.13	1.64	1.35	4.0	21.2	33.8	4.2	20.0	33.0	3.7	20.1	33.4
							19.5	33.1				4.6	24.0	32.4
1630	37.7	.22	-----	1.73	1.48	3.2	20.9	33.4	3.5	19.9	33.0	3.3	19.7	33.0
							19.2	32.9				4.2	23.8	32.2

RAFT RIVER 2 (1978) - HOT III (contd)

1700	37.5	.27	.96	1.72	1.45	4.5	21.2 19.5	34.0 33.5	4.6	20.3	34.4	4.3 5.5	20.7 24.4	34.6 33.3
1730	37.2	.24	-----	.49	1.22	4.1	21.0 19.4	33.8 33.4	4.1	20.3	34.3	3.9 5.0	20.7 24.4	34.5 33.3
1800	37.0	.22	.62	1.26	.96	3.7	21.0 19.3	33.7 33.3	3.9	20.1	33.9	3.8 4.7	20.3 24.1	34.0 32.9
1830	36.7	.22	-----	1.03	.69	4.2	20.9 19.3	33.3 33.0	4.6	19.9	33.3	4.3 5.4	20.2 23.9	33.3 32.5
1900	36.4	.18	.44	.72	.36	3.4	20.4 18.9	32.5 32.1	3.4	19.5	32.5	3.2 4.1	19.9 23.5	32.6 31.9
1930	36.1	.17	-----	.52	.14	3.1	20.2 18.6	32.1 31.7	3.2	19.0	31.8	3.0 4.0	19.4 23.1	31.8 31.4
2000	35.8	.17	.20	.35	-.02	3.5	20.1 18.5	31.5 31.3	3.6	18.8	30.9	3.4 4.5	19.2 22.8	31.0 30.8
2030	35.5	.19	-----	.12	-.07	2.8	19.4 18.0	30.0 29.9	3.0	18.1	29.6	2.7 3.7	18.6 22.1	29.6 29.7
2100	35.3	.18	.05	0	-.18	1.8	17.8 16.6	27.4 27.5	2.2	16.7	27.1	1.9 3.1	17.0 20.8	27.2 28.2
2130	35.1	.17	-----	0	-.20	1.7	16.5 15.8	24.7 26.2	2.1	15.3	24.6	1.8 2.9	15.6 20.8	25.0 28.1
2200	35.0	.18	-----	0	-.21	1.2	15.5 14.8	22.7 23.7	1.5	14.5	22.5	1.1 1.6	14.2 18.6	21.9 24.8
2230	34.8	.18	-----	0	-.17	0.5	15.3 14.1	22.5 22.7	0.8	13.8	21.9	0.5 1.3	13.8 17.4	21.6 23.4

RAFT RIVER 2 (1978) - HOT III (contd)

2300	34.6	.18	-----	0	-.20	0.5	15.6 14.5	23.0 23.3	0.6	14.1	22.4	0.3 0.9	14.1 17.3	21.9 23.2
2330	34.4	.19	-----	0	-.20	0.4	14.2 13.2	20.1 20.1	0.6	13.3	19.6	0.4 0.9	12.7 15.4	18.8 20.3
0000	34.3	.16	-----	0	-.20	0.4	13.3 12.3	18.3 18.4	0.6	11.8	17.3	0.4 1.1	11.7 14.6	16.9 19.2
08/10/78 0030	34.1	.19	-----	0	-.20	1.9	12.9 11.9	18.5 18.4	2.5	12.0	18.0	2.0 3.5	11.1 14.4	17.1 19.1
0100	33.8	.19	-----	0	-.22	1.2	12.1 11.0	16.6 16.6	1.6	11.0	15.8	1.2 2.2	10.5 13.1	15.2 17.3
0130	33.6	.24	-----	0	-.22	0.5	11.8 10.8	16.6 16.1	0.9	9.9	14.9	0.7 1.9	9.8 12.5	14.6 16.7
0200	33.4	.27	-----	0	-.19	1.3	11.8 10.6	16.2 16.2	2.0	10.6	15.4	1.3 3.0	10.1 13.1	14.8 17.5
0230	33.2	.29	-----	0	-.14	0.8	11.8 10.8	16.3 16.4	1.1	10.2	15.3	0.7 1.5	10.3 13.1	15.3 17.4
0300	33.1	.26	-----	0	-.11	1.0	11.9 11.3	17.0 17.6	1.1	10.5	16.2	0.9 1.2	11.0 13.5	16.4 18.1
0330	33.0	.30	-----	0	-.12	0.9	13.6 12.7	18.6 18.8	1.0	12.2	17.7	0.9 1.6	12.0 14.6	17.3 19.2
0400	32.8	.26	-----	0	-.10	1.2	13.6 12.7	19.1 18.9	1.5	12.5	18.4	1.0 2.1	12.3 14.5	17.9 19.1
0430	32.6	.22	-----	0	-.11	0.6	13.8 13.0	19.4 19.2	0.8	12.4	18.5	0.5 1.2	12.2 14.4	18.2 19.0

RAFT RIVER 2 (1978) - HOT III (contd)

0500	32.5	.22	-----	0	-.09	0.5	13.4	18.7	0.6	12.1	17.9	0.6	12.2	17.9
							14.2	18.7				1.0	14.6	19.3
0530	32.3	.23	-----	0	-.11	0.3	13.6	19.2	0.3	12.7	18.8	0.2	12.5	18.5
							----	19.5				0.3	16.2	21.6
0600	32.2	.26	-----	0	-.16	0.7	12.3	18.8	0.9	12.3	18.2	0.6	13.7	18.1
							----	19.2				0.4	14.9	19.8
0630	32.0	.23	-----	0	-.09	2.0	13.9	20.6	2.3	12.9	20.2	2.1	13.5	20.5
							----	21.5				2.7	----	----
0700	31.9	.21	-----	.02	-.11	1.4	14.3	20.5	2.0	13.6	20.2	1.5	13.3	19.8
							----	20.4				2.6	15.9	20.7
0730	31.7	.26	-----	.10	-.04	0.5	13.2	18.2	0.7	12.2	17.7	0.5	12.0	17.4
							----	17.9				1.0	13.9	18.3
0800	31.5	.26	-----	.13	.01	2.1	13.9	19.8	2.5	12.9	19.4	2.0	13.0	19.1
							----	19.6				3.3	15.1	19.9

RAFT RIVER 2 (1978) - HOT IV

Date Time	$\overline{T}$	s	Sfc.	Rad Down	Rad Net	Raft			Periphery			Reference		
						W/S	Tw	Td	W/S	Tw	Td	W/S	Tw	Td
	C	C	CM	Mw	Mw	ms^{-1}	C	C	ms^{-1}	C	C	ms^{-1}	C	C
10/04/78														
1930	71.8	.33	-----	.04	-.59	2.7	14.4 (Bot)	16.3	3.0	10.7	15.1	2.5	7.3 (Bot)	14.2
							10.1 (Top)	15.2				3.7	8.8 (Top)	14.7
2000	71.8	.36	-----	0	-.60	0.7	14.5	15.3	0.9	8.7	13.0	0.6	6.1	11.9
							10.7	14.0				1.0	7.7	12.9
2030	71.9	.44	13.06	0	-.58	0.9	15.3	15.4	1.0	6.3	11.6	0.4	5.5	11.0
							12.5	14.3				0.5	7.5	12.6
2100	70.8	.27	12.72	0	-.58	1.3	13.8	14.0	1.4	4.4	9.3	0.9	4.2	9.0
							10.4	12.4				1.6	6.5	11.1
2130	69.4	.18	12.20	0	-.57	1.4	12.8	12.8	1.5	3.7	7.8	0.9	3.1	7.4
							9.2	11.1				2.0	5.8	10.1
2200	67.9	.29	11.80	0	-.57	1.3	11.1	11.2	1.5	2.9	6.9	1.0	2.7	6.7
							7.6	9.8				2.4	4.6	8.4
2230	66.3	.38	11.37	0	-.56	1.5	9.7	10.1	1.7	2.7	6.4	1.5	2.5	6.2
							6.2	8.5				3.2	3.9	7.2
2300	64.9	.32	11.01	0	-.55	1.3	8.9	9.0	1.6	2.1	5.4	1.5	2.0	5.3
							5.2	7.4				2.8	3.2	6.1
2330	63.4	.33	10.70	0	-.52	1.2	8.3	8.8	1.3	1.8	4.6	1.2	1.5	4.4
							5.4	6.8				2.5	2.5	5.0

RAFT RIVER 2 (1978) - HOT IV (contd)

0000	62.1	.29	10.51	0	-.49	1.5	7.7 4.7	8.2 6.1	1.3	1.3	3.8	0.9 2.1	.9 2.3	3.5 4.7
10/05/78 0030	60.9	.21	10.17	0	-.47	1.5	7.2 3.5	7.4 5.2	1.8	.4	3.0	1.4 2.9	.8 2.1	2.8 4.4
0100	59.8	.34	9.80	0	-.48	1.5	6.5 3.3	6.9 5.0	1.6	1.1	3.4	1.4 2.7	.8 1.9	3.3 4.1
0130	58.6	.18	9.57	0	-.48	1.4	6.1 3.0	6.6 4.6	1.4	.7	2.9	1.3 2.5	.5 1.5	2.8 3.6
0200	57.6	.22	9.34	0	-.49	1.5	6.3 3.1	6.7 5.2	1.4	.6	3.3	1.1 2.2	.4 1.6	3.0 4.1
0230	56.5	.30	9.06	0	-.49	1.6	5.7 2.5	5.9 4.4	1.7	.4	2.8	1.7 3.4	.2 1.4	2.6 3.5
0300	55.5	.15	8.83	0	-.47	1.3	5.4 2.5	5.4 4.0	1.5	.6	2.3	1.1 1.9	--- 1.0	2.1 3.0
0330	54.8	.28	8.63	0	-.45	1.5	4.6 1.5	4.6 2.8	1.4	---	1.0	1.1 2.1	--- .3	.7 2.1
0400	53.8	.31	8.43	0	-.45	1.5	4.0 1.1	4.0 2.7	1.6	---	.9	1.4 2.9	--- ---	1.0 2.0
0430	53.0	.23	-----	0	-.45	1.5	4.4 1.4	4.4 3.0	1.5	---	1.2	1.4 2.5	--- .7	1.3 2.5
0500	52.2	.23	8.04	0	-.44	1.8	3.4 .5	3.4 2.0	1.8	---	.4	1.5 2.5	--- ---	.4 1.3
0530	51.2	.24	-----	0	-.44	1.3	3.4 .7	3.4 2.2	1.4	--	.3	1.2 2.4	--- ---	--- 1.6

RAFT RIVER 2 (1978) - HOT IV (contd)

0600	50.5	.24	7.69	0	-.44	1.3	3.5 .8	3.5 2.8	1.5	---	.9	1.3 2.3	--- ---	.8 2.1
0630	49.9	.19	-----	0	-.45	1.1	3.7 1.2	4.0 3.1	1.4	---	1.0	1.1 2.2	--- .5	.5 2.8
0700	49.2	.23	7.39	0	-.44	1.5	3.0 .6	3.1 2.2	1.4	---	.4	1.3 2.5	--- ---	.4 1.8
0730	----	---	-----	0	----	---	--- ---	--- ---	---	---	---	1.2 2.0	--- ---	--- ---
0800	----	---	7.01	.05	----	---	--- ---	--- ---	---	---	---	1.6 2.9	--- ---	--- ---
0830	----	---	-----	.25	-.29	1.8	3.7 1.9	4.4 3.8	1.7	.8	3.1	1.6 2.5	.4 1.0	2.8 3.0
0900	----	---	6.78	.53	-.11	1.8	5.9 4.4	7.5 6.9	1.7	3.7	7.3	1.7 2.1	2.8 3.3	6.3 6.1
0930	46.3	.21	-----	.83	.15	1.8	7.0 5.8	9.6 9.2	1.7	6.4	9.9	1.6 1.9	4.2 5.0	8.9 8.6
1000	45.7	.23	6.47	1.11	.36	0.5	9.6 9.3	13.7 13.8	0.4	8.3	14.0	0.6 0.6	6.5 7.9	12.7 12.8
1030	45.5	.30	-----	1.37	.52	0.8	10.4 10.8	15.0 16.6	0.9	9.1	14.9	0.7 0.8	7.5 8.8	14.4 14.3
1100	45.1	.41	6.21	1.58	.71	1.0	11.1 10.7	16.0 16.1	1.0	10.0	17.0	0.8 1.0	8.5 9.6	15.6 15.3
1130	44.9	.43	-----	1.75	.89	1.5	11.5 11.1	17.0 17.1	1.5	11.2	18.2	1.4 1.8	9.2 10.5	16.9 16.9

RAFT RIVER 2 (1978) - HOT IV (contd)

1200	44.5	.40	5.91	1.90	1.01	1.8	12.1	18.1	1.8	11.7	19.1	1.8	9.7	18.0
							11.6	17.9				2.2	11.1	17.8
1230	44.1	.15	-----	2.00	1.12	1.8	12.6	18.8	1.9	12.0	19.6	1.7	10.1	18.7
							12.0	18.6				2.1	11.5	18.4
1300	44.0	.33	5.68	2.07	1.18	1.3	13.0	19.6	1.3	12.2	20.4	1.2	10.3	19.5
							12.4	19.3				1.5	11.9	19.4
1330	43.9	.29	-----	2.10	1.20	1.4	13.1	20.3	1.4	12.5	21.2	1.3	10.8	20.4
							12.8	20.0				1.6	12.4	20.2
1400	----	---	5.45	2.04	1.23	---	----	----	---	----	----	1.1	11.2	20.3
							----	----				1.5	12.8	20.2
1430	43.5	.31	-----	2.03	1.14	0.8	14.4	22.2	0.8	12.9	22.3	1.0	11.3	22.0
							13.9	21.6				1.2	13.3	21.9
1500	43.3	.27	5.31	1.92	1.07	1.6	14.5	22.7	1.7	12.5	22.3	2.0	11.7	22.5
							14.0	22.2				2.4	13.4	22.0
1530	42.9	.33	-----	1.80	.98	2.3	14.7	23.2	2.3	13.0	22.9	2.0	11.8	22.8
							14.2	22.6				2.5	13.4	22.1
1600	42.6	.33	5.10	1.63	.84	2.8	14.8	23.3	2.8	13.0	22.9	2.7	11.9	22.9
							14.3	22.8				3.3	13.5	22.2
1630	42.2	.34	-----	1.45	.67	2.7	15.0	23.6	3.0	12.9	20.8	2.7	12.0	23.1
							14.5	23.0				3.3	13.7	22.4
1700	41.8	.39	4.87	1.22	.46	3.1	14.9	23.2	3.2	12.9	22.7	2.9	11.8	22.7
							14.2	22.6				3.6	13.4	22.1
1730	41.4	.40	-----	.97	.21	3.1	14.8	23.0	3.3	12.8	22.5	3.0	11.6	22.4
							14.1	22.4				3.7	31.3	21.9

RAFT RIVER 2 (1978) - HOT IV (contd)

1800	40.9	.38	4.65	.71	.05	3.0	14.5	22.5	3.1	12.6	22.0	2.9	11.5	21.8
							13.8	21.9				3.7	13.1	21.4
1830	40.4	.35	-----	.45	-.23	2.1	14.1	21.5	2.3	12.3	20.9	2.1	11.2	20.5
							13.4	21.0				2.9	12.8	20.3
1900	40.1	.34	4.46	.16	-.30	1.7	12.6	19.0	1.6	11.2	18.2	1.4	9.6	17.7
							11.8	18.6				2.4	11.4	18.4
1930	39.7	.26	-----	0	-.32	1.3	11.6	16.9	1.3	9.4	15.9	1.2	8.2	15.7
							10.4	16.8				2.3	10.3	17.0
2000	39.3	.23	-----	0	-.32	0.4	10.7	15.5	0.5	8.3	14.4	0.4	7.2	14.1
							11.5	14.5				1.0	9.4	15.5
2030	39.0	.26	-----	0	-.32	1.5	9.2	13.0	1.6	6.0	11.4	1.5	5.8	11.8
							8.1	13.4				1.7	8.6	14.3
2100	38.7	.29	-----	0	-.32	1.9	8.1	11.4	1.9	4.9	9.6	1.8	4.9	10.3
							6.9	11.5				2.4	8.3	13.9
2130	38.3	.30	-----	0	-.32	1.7	7.2	10.2	1.5	4.3	8.5	1.1	4.1	8.8
							6.0	10.0				2.0	7.6	12.7
2200	37.9	.31	-----	0	-.32	1.4	6.9	9.6	1.6	3.9	7.9	1.4	3.6	8.0
							5.6	9.7				2.0	5.8	10.1
2230	37.7	.35	-----	0	-.32	1.4	6.5	8.8	1.6	3.4	7.2	1.4	3.2	7.4
							5.1	8.8				2.1	5.5	9.4
2300	37.3	.37	-----	0	-.32	1.2	6.0	8.1	1.3	2.9	6.3	1.4	2.9	6.7
							4.3	7.7				2.5	4.4	7.7
2330	37.1	.31	-----	0	-.31	1.1	5.2	6.9	1.3	2.1	5.1	1.2	1.8	5.0
							3.6	6.7				2.6	4.2	7.5

RAFT RIVER 2 (1978) - HOT IV (contd)

0000	36.7	.25	-----	0	-.31	1.6	4.7 3.2	6.5 6.2	1.6	2.0	4.9	1.5 3.1	1.8 3.6	5.0 6.5
10/06/78 0030	36.3	.25	-----	0	-.32	2.1	4.6 3.4	6.8 6.4	2.2	2.3	5.3	1.9 3.4	2.2 3.3	5.6 6.2
0100	35.9	.37	-----	0	-.31	1.9	4.2 3.0	6.2 5.9	2.0	1.9	4.8	2.0 3.5	1.9 3.0	5.2 5.8
0130	35.5	.37	-----	0	-.31	1.3	4.7 3.4	6.5 6.1	1.3	2.5	5.1	1.1 1.9	2.0 3.0	5.2 5.6
0200	35.2	.29	-----	0	-.30	1.4	4.4 3.0	5.8 5.5	1.4	2.1	4.5	1.4 2.5	1.4 3.0	4.2 5.7
0230	34.9	.36	-----	0	-.31	1.6	3.5 2.1	4.9 4.6	1.7	1.1	3.5	1.5 2.9	.9 2.5	3.6 5.0
0300	34.5	.31	-----	0	-.31	1.4	3.3 1.9	4.6 4.3	1.4	.6	2.9	1.6 2.8	.8 2.1	3.5 4.6
0330	34.3	.39	-----	0	-.31	1.6	3.5 2.3	5.2 4.8	1.8	1.0	3.6	1.8 3.4	1.1 2.2	4.0 4.6
0400	33.8	.32	-----	0	-.30	1.6	3.6 2.3	5.2 4.8	1.6	1.2	3.6	1.6 2.8	1.2 2.2	4.0 4.8
0430	33.5	.33	-----	0	-.30	1.2	3.4 2.0	4.7 4.3	1.2	1.0	3.2	1.0 2.3	.5 1.9	3.0 4.3
0500	33.2	.36	-----	0	-.29	1.5	2.9 1.7	4.1 4.1	1.5	.3	2.6	1.4 2.4	--- 2.0	2.7 4.4
0530	32.9	.40	-----	0	-.29	1.2	3.1 1.9	4.5 4.4	1.4	.5	3.0	1.1 2.1	--- 1.9	2.8 4.4

RAFT RIVER 2 (1978) - HOT IV (contd)

0600	32.6	.38	-----	0	-.29	0.8	2.5 1.2	3.4 3.1	0.8	---	1.8	0.7 1.5	--- 1.0	1.5 3.0
0630	32.3	.40	-----	0	-.29	1.2	1.9 .6	2.7 2.6	1.2	---	1.3	1.2 2.1	--- .9	1.2 2.9
0700	32.0	.38	-----	0	-.29	1.9	1.8 .7	2.9 2.9	1.9	---	1.7	1.8 3.3	--- 1.2	1.8 3.3
0730	31.7	.41	-----	0	-.28	1.2	1.6 .4	2.4 2.5	1.4	---	1.0	1.5 2.4	--- 1.0	1.2 3.1
0800	31.5	.38	2.33	.06	-.26	1.4	1.6 .4	2.5 2.4	1.4	---	.9	1.5 2.4	--- .8	1.3 2.9
0830	----	---	-----	.28	-.21	1.4	3.2 2.2	5.0 4.5	1.6	1.8	4.7	1.4 2.1	--- ---	--- ---
0900	31.2	.29	2.18	.55	.04	2.0	4.8 4.2	7.4 7.2	1.8	4.1	8.0	1.5 2.0	3.0 3.6	6.9 6.7
0930	31.0	.30	-----	.83	.31	1.7	6.6 6.4	10.3 10.3	1.6	6.1	11.2	1.5 1.8	5.0 5.9	10.3 9.9
1000	31.0	.29	2.00	1.10	.53	1.5	8.4 8.5	13.2 13.5	1.5	8.0	14.1	1.3 1.7	6.8 7.9	13.3 13.1
1030	30.9	.30	-----	1.34	.67	0.9	10.1 10.5	16.2 16.7	0.9	10.1	17.7	0.7 0.8	8.5 10.0	16.7 16.6
1100	31.0	.37	1.88	1.56	.86	0.5	11.1 11.5	17.6 18.0	0.4	11.7	19.9	0.5 0.4	9.5 10.9	18.1 17.9
1130	31.0	.39	-----	1.74	1.04	0.9	12.0 12.2	18.6 18.8	1.0	12.3	20.5	0.9 1.1	10.5 12.0	19.2 19.2

RAFT RIVER 2 (1978) - HOT IV (contd)

1200	31.1	.39	1.75	1.88	1.17	1.5	12.6	19.6	1.5	12.5	20.9	1.6	11.2	20.3
							12.8	19.8				2.0	12.7	20.2
1230	31.2	.44	-----	2.00	1.28	1.8	13.1	20.9	1.9	12.9	22.2	1.9	11.5	21.4
							13.2	20.8				2.2	13.2	21.3
1300	31.2	.48	1.60	2.07	1.33	1.3	13.8	21.8	1.4	13.4	23.1	1.3	11.9	22.4
							13.9	21.7				1.7	13.7	22.3
1330	31.3	.47	-----	2.10	1.35	1.6	14.2	22.7	1.7	13.9	24.0	1.7	12.4	23.4
							14.4	22.6				2.1	14.2	23.1
1400	31.4	.50	-----	2.08	1.33	1.5	14.6	23.4	1.7	13.8	24.1	1.5	12.6	23.9
							14.7	23.1				1.8	14.5	23.7
1430	----	---	-----	2.01	1.30	1.3	14.7	23.7	1.4	13.5	24.1	1.5	12.3	24.0
							14.8	23.5				1.7	14.4	23.8

EAST MESA 1 (1979) - COOL I

Date Time	$\overline{T}$ C	$\overline{Ts}$ C	Sfc. CM	Rad Down Mw	Rad Net Mw	Raft W/S ms^{-1}	Raft Tw C	Raft Td C	Periphery W/S ms^{-1}	Periphery Tw C	Periphery Td C	Reference W/S ms^{-1}	Reference Tw C	Reference Td C
09/16/79														
0630	41.9	---- (Coll)	-----	.05	-.45 (Quiet)	0.4	20.6 (Bot)	25.5	0.5	19.5	24.1	0.5	17.6 (Bot)	23.2
		---- (Noz)			---- (Spray)		20.1 (Top)	25.1				0.4	19.9 (Top)	24.7
0700	41.8	----	14.66	.19	-.30	0.2	21.1	27.2	0.3	20.4	26.2	0.3	18.5	25.3
		----			----		20.4	26.8				0.5	21.1	26.3
0730	41.7	----	14.55	.50	.07	0.6	21.7	27.9	0.5	21.0	26.8	0.5	19.6	26.9
		----			----		20.7	27.1				0.7	22.2	27.2
0800	41.7	----	14.47	.88	.44	0.9	22.3	28.4	0.9	21.5	27.5	0.8	20.0	27.4
		----			----		21.0	27.4				0.9	22.9	28.0
0830	41.6	----	14.38	1.26	.82	1.1	23.0	29.3	1.0	22.2	28.7	1.2	20.6	28.6
		----			----		21.5	28.2				1.4	23.6	29.0
0900	41.5	----	14.30	1.63	1.19	1.5	23.6	29.9	1.4	22.8	29.4	1.4	21.0	29.2
		----			----		21.7	28.7				1.7	23.9	29.3
0930	41.4	----	-----	1.96	1.51	1.0	23.8	30.2	0.9	23.4	29.9	0.8	21.4	30.0
		----			----		21.8	29.0				1.0	24.5	29.8
1000	41.3	----	14.16	2.26	1.82	1.9	24.2	31.0	1.8	23.7	31.0	1.7	21.8	31.0
		----			----		22.0	29.8				1.9	24.8	30.8
1030	41.2	----	-----	2.52	2.08	2.6	24.7	31.9	2.6	24.1	31.8	2.9	22.1	31.8
		----			----		22.4	30.7				3.4	25.0	31.4

EAST MESA 1 (1979) - COOL I (contd)

1100	41.2	----	14.01	2.73	2.30	3.3	24.9	32.3	3.2	24.3	32.2	3.6	22.2	32.1
		----			----		22.5	31.2				4.3	24.9	31.5
1130	41.0	----	-----	2.90	2.44	3.2	25.1	32.7	3.1	24.7	32.9	3.5	22.4	32.8
		----			----		22.7	31.7				4.1	25.2	32.1
1200	41.0	----	13.84	3.03	2.53	2.8	25.1	32.9	2.7	24.8	33.1	2.9	22.4	32.9
		----			----		22.9	31.9				3.5	25.2	32.1
1230	40.9	----	-----	3.10	2.55	2.1	25.0	33.1	2.2	25.2	33.5	2.7	22.9	33.7
		----			----		23.2	32.2				3.2	25.5	32.7
1300	40.8	----	13.74	3.00	2.52	2.3	25.0	33.4	2.4	25.4	33.7	2.8	23.2	34.0
		----			----		23.7	32.6				3.3	25.6	32.7
1330	40.7	----	-----	3.05	2.38	1.9	24.9	33.7	1.9	25.5	34.2	2.2	23.5	34.4
		----			----		23.9	32.9				2.5	26.0	33.5
1400	40.6	----	13.56	2.97	2.23	2.9	24.7	34.1	2.9	25.7	34.6	3.2	23.5	34.7
		----			----		24.6	33.5				3.8	26.1	33.7
1430	40.5	----	-----	2.79	2.01	2.5	24.5	34.0	2.4	25.8	34.8	2.7	23.6	35.1
		----			----		24.8	33.6				3.1	26.5	34.2
1500	40.4	----	13.37	2.61	1.78	3.4	25.0	34.5	3.2	26.2	35.3	3.3	24.0	35.8
		----			----		25.1	34.2				4.0	26.8	34.8
1530	40.3	----	-----	2.36	1.48	3.4	25.1	34.5	3.1	26.0	35.1	3.6	23.9	35.4
		----			----		25.1	34.1				4.2	26.7	34.6
1600	40.0	----	13.15	2.08	1.16	2.5	25.2	34.5	2.5	26.0	35.2	2.7	23.8	35.7
		----			----		25.3	34.2				3.1	27.0	35.0
1630	39.8	----	-----	1.75	.80	2.6	25.3	34.7	2.6	26.0	35.1	2.9	23.9	35.5
		----			----		25.4	34.4				3.5	26.9	34.7

EAST MESA 1 (1979) - COOL I (contd)

1700	39.7	---- ----	12.97	1.39	.45 ----	2.8	25.3 25.4	34.8 34.5	2.6	26.0	35.3	2.9 3.4	24.0 27.0	35.6 35.0
1730	39.4	---- ----	-----	1.00	.07 ----	2.3	25.2 25.3	34.8 34.4	2.4	25.7	34.9	2.5 3.0	23.9 26.9	35.4 35.0
1800	39.3	---- ----	12.81	.62	-.29 ----	0.6	24.8 25.1	34.5 34.2	0.6	25.4	34.4	0.8 0.9	23.5 26.8	34.8 34.7
1830	39.2	---- ----	-----	.28	-.35 ----	1.2	24.9 24.9	34.3 33.9	1.2	25.2	33.9	1.0 1.1	23.1 26.5	34.3 34.3
1900	39.0	---- ----	12.71	.07	-.30 ----	2.3	24.0 23.9	32.7 32.6	2.4	24.4	32.4	2.7 3.2	22.3 25.3	32.4 32.4
1930	38.7	---- ----	-----	.05	-.30 ----	1.6	23.3 23.3	31.6 31.6	1.7	23.6	31.3	1.9 2.5	21.7 24.6	31.1 31.4
2000	38.6	---- ----	12.66	0	-.31 ----	0.8	23.0 22.9	30.6 30.5	0.9	23.0	30.0	1.2 1.7	21.2 23.9	29.9 30.3
2030	38.4	---- ----	-----	0	-.31 ----	0.5	22.8 22.8	30.1 20.0	0.6	22.6	29.4	0.7 0.8	20.6 23.4	28.8 29.8
2100	38.3	---- ----	12.56	0	-.31 ----	1.1	22.7 22.6	29.8 29.8	1.0	22.4	29.1	1.6 2.2	20.5 23.8	28.7 30.1
2130	38.2	---- ----	-----	0	-.31 ----	0.9	22.4 22.4	29.3 29.3	1.0	22.1	28.6	1.3 1.9	20.4 23.7	28.3 29.9
2200	38.1	---- ----	12.45	0	-.32 ---	0.5	22.3 22.5	29.1 29.2	0.4	21.7	28.3	0.4 0.8	19.9 23.0	27.2 28.9
2230	38.1	---- ----	-----	0	-.32 ----	0.6	22.2 22.3	28.7 28.7	0.6	21.7	28.0	0.7 0.7	19.5 23.0	26.3 29.1

EAST MESA 1 (1979) - COOL I (contd)

2300	37.8	----	12.36	0	-.31	0.8	21.8	28.1	0.7	21.4	27.4	0.9	19.4	26.0
		----			----		21.8	28.1				0.9	23.1	28.9
2330	37.8	----	-----	0	-.31	0.8	21.3	27.1	0.8	21.0	26.6	1.3	19.3	25.9
		----			----		21.3	27.1				1.4	23.1	28.9
0000	37.6	----	12.28	0	-.31	0.7	21.2	27.1	0.7	20.9	26.5	0.9	19.2	25.6
		----			----		21.2	27.0				1.2	22.9	28.6
09/17/79 0030	37.5	----	-----	0	-.31	0.7	21.1	26.8	0.6	20.6	26.0	0.7	18.8	24.9
		----			----		21.1	26.7				1.0	22.4	28.0
0100	37.4	----	12.20	0	-.31	0.9	20.5	25.8	0.9	20.2	25.2	1.0	18.6	24.5
		----			----		20.5	25.7				1.6	22.1	27.3
0130	37.2	----	-----	0	-.31	1.4	20.4	25.9	1.5	20.3	25.3	1.7	18.7	24.6
		----			----		20.4	25.7				2.7	21.4	26.2
0200	37.0	----	12.12	0	-.32	1.0	20.3	25.7	1.0	20.0	25.1	1.4	18.5	24.4
		----			----		20.3	25.6				2.2	21.2	26.2
0230	36.9	----	-----	0	-.32	0.6	20.1	25.4	0.5	19.6	24.5	0.8	18.1	23.7
		----			----		20.3	25.4				1.4	20.9	25.8
0300	36.8	----	12.05	0	-.32	0.3	20.4	24.8	0.3	19.2	23.4	0.2	17.6	22.3
		----			----		20.5	24.7				0.6	20.4	25.1
0330	36.6	----	-----	0	-.33	0.6	19.7	24.8	0.7	19.2	23.9	0.8	17.5	22.5
		----			----		19.7	24.6				1.4	20.2	24.6
0400	36.5	----	11.98	0	-.32	0.5	19.5	25.3	0.5	18.6	22.2	0.5	17.4	21.4
		----			----		19.5	23.3				0.6	19.5	23.7
0430	36.4	----	-----	0	-.33	0.2	19.4	23.8	0.2	18.8	22.9	0.3	17.2	21.4
		----			----		19.6	23.8				0.8	19.6	23.7

EAST MESA 1 (1979) - COOL I (contd)

0500	36.3	----	11.91	0	-.33	0.6	19.4	24.2	0.6	18.8	23.2	0.7	16.9	21.4
		----			----		19.5	24.1				1.1	19.5	23.8
0530	36.0	----	-----	0	-.33	0.1	19.6	23.7	0.2	18.4	22.3	0.1	17.0	20.9
		----			----		19.7	23.6				0.4	19.1	23.3
0600	35.9	----	11.83	0	-.33	0.4	19.3	23.8	0.4	18.4	22.5	0.2	16.9	21.0
		----			----		19.3	23.6				0.9	19.2	23.3
0630	35.8	----	-----	0	-.33	0.3	19.1	22.9	0.4	18.1	21.6	0.4	16.7	20.5
		----			----		19.3	22.8				0.8	19.1	23.5
0700	35.7	----	11.77	.21	-.18	0.3	19.3	23.5	0.4	18.9	22.6	0.3	17.6	21.8
		----			----		19.2	23.2				0.6	19.8	23.6
0730	35.7	----	-----	.50	.18	0.3	20.5	25.3	0.2	19.8	24.2	0.1	18.7	23.7
		----			----		20.2	24.7				0.5	21.3	25.7
0800	35.6	----	11.68	.86	.55	0.4	21.4	26.9	0.3	20.9	26.3	0.4	20.1	27.0
		----			----		20.7	26.0				0.4	22.7	27.1
0830	35.7	----	-----	1.24	.93	0.6	22.1	28.3	0.6	21.9	28.1	0.7	20.7	28.6
		----			----		21.2	27.4				0.8	23.8	28.8
0900	35.7	----	11.60	1.60	1.29	0.8	22.6	28.9	0.8	22.5	28.9	1.0	20.9	29.1
		----			----		21.6	28.0				1.0	24.0	29.4
0930	35.7	----	-----	1.93	1.63	0.4	23.1	29.5	0.6	23.1	29.3	0.7	21.2	29.3
		----					21.9	28.4				0.9	24.3	29.4
1000	35.8	----	11.54	2.23	1.93	0.9	23.5	29.9	0.9	23.7	30.0	1.0	21.7	30.0
		----			----		22.2	28.8				1.1	24.7	29.7
1030	35.8	----	-----	2.48	2.16	0.1	24.1	30.6	0.2	24.1	31.1	0.3	22.2	31.4
		----			----		22.6	29.5				0.5	25.4	31.2

EAST MESA 1 (1979) - COOL I (contd)

1100	35.9	----	11.47	2.69	2.36	0.4	24.2	31.2	0.4	24.5	31.8	0.3	22.6	32.4
		----			----		22.6	30.1				0.3	25.7	32.1
1130	36.1	----	-----	2.86	2.51	0.7	24.4	31.8	0.8	24.9	32.4	0.2	22.7	33.1
		----			----		22.9	30.7				0.3	26.0	32.5
1200	36.1	----	-----	3.00	2.61	0.8	24.0	32.4	0.8	25.2	33.4	1.3	22.7	33.4
		----			----		23.4	31.5				1.5	25.9	32.9
1230	36.2	----	-----	3.09	2.63	1.0	24.8	32.9	1.1	25.4	33.3	1.1	23.3	34.2
		----			----		23.9	32.0				1.4	26.1	33.2
1300	36.3	----	11.38	3.10	2.49	1.0	25.0	33.4	1.0	25.7	34.3	1.1	23.8	34.8
		----			----		24.3	32.6				1.4	26.3	33.8
1330	36.4	----	-----	3.05	2.37	0.4	24.8	33.5	0.5	25.9	34.5	0.7	24.0	35.2
		----			----		24.4	32.7				0.8	26.7	34.4
1400	36.5	----	11.28	2.96	2.27	2.1	24.5	33.4	2.2	26.0	34.3	2.3	24.0	35.1
		----			----		24.5	32.8				2.5	26.7	34.2
1430	36.5	----	-----	2.80	2.10	2.4	24.4	33.2	2.4	26.0	34.2	2.4	24.0	35.2
		----			----		24.8	33.9				2.8	26.8	34.2
1500	36.5	----	11.19	2.59	1.87	2.0	24.7	33.4	2.2	26.3	34.5	2.3	24.3	35.4
		----			----		25.0	33.2				2.6	27.1	34.6
1530	36.4	----	-----	2.35	1.62	2.4	25.1	33.7	2.4	26.3	34.5	2.2	24.4	35.5
		----			----		25.3	33.5				2.5	27.3	34.7
1600	36.4	----	11.13	2.06	1.31	1.5	25.0	33.9	1.5	26.2	34.8	1.4	24.1	35.4
		----			----		25.5	33.7				1.7	27.3	34.7
1630	36.4	----	-----	1.72	.98	1.9	25.4	34.0	2.1	26.3	34.5	2.1	24.4	35.6
		----			----		25.6	33.7				2.3	27.4	34.9

EAST MESA 1 (1979) - COOL I (contd)

1700	36.3	----	10.98	1.35	.63	2.3	25.2	33.9	2.5	26.2	34.4	2.5	24.3	35.5
		----			----		25.4	33.7				2.8	27.3	34.9
1730	36.2	----	-----	.97	.29	2.0	25.3	34.0	2.1	26.0	34.3	2.1	24.1	35.3
		----			----		25.5	33.8				2.3	27.3	34.9
1800	36.0	----	10.91	.58	-.05	1.3	25.2	34.0	1.6	25.7	34.0	1.6	23.7	34.6
		----			----		25.3	33.7				1.8	26.9	34.6
1830	35.9	----	-----	.25	-.26	1.3	25.0	33.4	1.5	25.5	33.2	1.4	23.3	33.8
		----			----		25.1	33.2				1.8	26.4	33.8
1900	35.8	----	10.91	0	-.28	0.7	24.6	31.8	0.9	24.8	31.7	0.9	22.7	32.0
		----			----		24.6	31.9				1.6	25.5	32.5
1930	35.7	----	-----	0	-.30	0.5	24.0	30.8	0.7	24.0	30.6	0.8	21.7	30.3
		----			----		24.1	31.0				1.5	24.8	31.2
2000	35.6	----	10.91	0	-.30	0.4	23.0	29.7	0.5	22.9	29.2	0.5	21.2	28.9
		----			----		23.1	29.8				0.9	24.1	29.9
2030	35.5	----	-----	0	-.30	0.5	22.6	29.4	0.5	22.4	28.8	0.6	20.6	28.2
		----			----		22.7	29.5				0.9	23.4	29.5
2100	35.4	----	10.84	0	-.30	0.6	22.3	28.9	0.6	22.2	28.5	0.8	20.2	27.4
		----			----		22.3	29.1				0.6	23.3	29.4
2130	35.4	----	-----	0	-.31	0.8	21.7	28.0	0.9	21.7	27.6	1.3	20.0	27.1
		----			----		21.8	28.1				1.4	23.6	29.7
2200	35.2	----	10.77	0	-.29	1.3	21.5	27.9	1.3	21.5	27.4	1.9	20.0	27.5
		----			----		21.5	27.9				2.6	23.4	29.3
2230	35.0	----	-----	0	-.30	0.8	21.3	27.6	0.8	21.2	27.1	1.1	19.5	26.5
		----			----		21.4	27.6				1.6	22.8	28.3

EAST MESA 1 (1979) - COOL I (contd)

2300	34.9	---- ----	10.69	0	-.30 ----	0.8	21.1 21.2	27.2 27.2	0.9	20.9	26.6	1.2 1.5	19.2 22.7	25.8 28.1
2330	34.8	---- ----	-----	0	-.30 ----	0.8	21.1 21.2	27.0 27.0	0.8	20.6	26.1	1.2 1.3	19.1 22.4	25.5 27.7
0000	34.6	---- ----	10.64	0	-.32 ----	0.8	20.6 20.7	26.1 26.1	0.8	20.4	25.6	1.2 1.7	18.8 22.2	24.9 27.4
09/18/79 0030	34.6	---- ----	-----	0	-.33 ----	0.9	20.1 20.2	25.5 25.4	1.0	20.1	25.0	1.3 1.8	18.5 21.8	24.3 26.8
0100	34.5	---- ----	10.57	0	-.32 ----	1.3	20.3 20.3	25.6 25.5	1.3	20.1	25.0	1.3 2.0	18.5 21.5	24.2 26.2
0130	34.4	---- ----	-----	0	-.31 ----	1.5	20.0 20.1	25.3 25.1	1.5	20.0	24.7	1.9 2.7	18.5 20.6	24.1 24.9
0200	34.3	---- ----	10.49	0	-.30 ----	1.4	19.8 19.9	25.0 24.8	1.5	19.8	24.5	1.8 2.8	18.4 20.6	24.0 24.9
0230	34.2	---- ----	-----	0	-.30 ----	1.2	19.8 19.8	24.9 24.7	1.3	19.7	24.4	1.2 2.0	18.3 20.5	23.8 24.9
0300	34.0	---- ----	10.42	0	-.30 ----	1.6	19.4 19.4	24.4 24.2	1.7	19.4	23.9	2.1 3.2	18.1 20.6	23.5 25.1
0330	33.8	---- ----	-----	0	-.29 ----	1.3	19.3 19.3	24.2 24.1	1.5	19.2	23.8	2.0 3.0	18.0 20.6	23.5 25.2
0400	33.7	---- ----	10.32	0	-.29 ----	1.4	19.2 19.2	24.0 23.9	1.5	19.1	23.6	2.0 3.1	17.8 20.7	23.2 25.3
0430	33.6	---- ----	-----	0	-.29 ----	1.5	19.0 19.0	23.7 23.5	1.6	18.9	23.2	2.2 3.1	17.7 20.5	22.9 25.0

EAST MESA 1 (1979) - COOL I (contd)

0500	33.4	----	10.29	0	-.30	1.4	18.7	23.4	1.5	18.6	22.9	2.2	17.6	22.6
		----			----		18.8	23.2				3.3	20.1	24.3
0530	33.3	----	-----	0	-.29	1.2	18.6	23.2	1.4	18.5	22.7	1.9	17.4	22.5
		----			----		18.7	23.0				2.9	19.7	23.8
0600	33.2	----	10.24	0	-.30	0.7	18.5	22.9	0.8	18.5	22.3	1.1	17.1	21.9
		----			----		18.6	22.7				1.7	19.2	23.0
0630	33.2	----	-----	0	-.30	0.4	18.5	23.0	0.4	18.2	22.3	0.4	16.8	21.5
		----			----		18.7	22.9				0.8	18.9	22.8
0700	33.1	----	10.21	.19	-.20	0.5	19.0	23.4	0.5	18.5	22.3	0.5	17.0	21.5
		----			----		19.0	23.1				1.2	19.5	23.4
0730	33.0	----	-----	.49	.04	0.3	20.0	24.2	0.3	19.7	23.5	0.3	18.5	23.3
		----			----		19.8	23.6				0.1	20.7	24.1
0800	33.0	----	-----	.85	.35	0.6	21.1	25.6	0.8	21.0	25.1	0.6	19.9	25.1
		----			----		20.5	24.7				0.7	22.4	25.6
0830	33.0	----	-----	1.22	.69	0.7	22.0	26.8	0.9	22.0	26.3	0.8	20.7	26.4
		----			----		21.3	25.7				0.9	23.5	27.0
0900	33.2	----	10.21	1.58	1.07	1.0	22.9	28.1	1.0	23.2	27.9	0.9	21.8	28.1
		---			----		22.1	27.1				1.1	24.4	28.2
0930	33.3	----	-----	1.90	1.39	0.6	24.0	29.7	0.7	24.3	29.6	0.5	22.6	29.8
		----			----		23.0	28.7				0.7	25.7	29.9
1000	33.3	----	10.17	2.19	1.65	0.5	25.0	31.3	0.7	25.3	31.4	0.5	23.2	31.4
		----			----		23.7	30.1				0.6	22.8	31.6
1030	33.4	----	-----	2.44	1.92	0.5	25.6	32.3	0.6	26.1	32.8	0.5	24.1	33.2
		----			----		24.3	31.4				0.7	27.5	33.1

EAST MESA 1 (1979) - COOL I (contd)

1100	33.6	---- ----	10.12	2.67	2.15 ----	0.9	26.1 24.8	34.1 33.2	0.9	26.7	34.9	1.0 1.0	24.5 28.0	35.3 34.9
1130	33.6	---- ----	-----	2.86	2.33 ----	1.6	26.4 25.1	34.8 34.1	1.6	26.7	35.5	1.6 1.7	24.4 27.8	36.1 35.5
1200	33.7	---- ----	10.06	2.97	2.40 ----	1.5	26.5 25.3	35.0 34.3	1.4	27.1	36.2	1.7 2.0	24.4 27.9	36.4 35.9
1230	33.9	---- ----	-----	3.03	2.45 ----	1.6	26.5 25.6	35.4 34.8	1.7	27.3	36.5	2.0 2.1	25.1 28.1	37.4 36.4
1300	34.0	---- ----	9.96	3.05	2.43 ----	1.4	26.5 25.8	35.8 35.2	1.5	27.4	36.9	1.6 1.7	25.5 28.4	38.0 37.0
1330	34.1	---- ----	-----	3.03	2.33 ----	1.3	26.4 26.1	36.1 35.7	1.4	27.7	37.4	1.5 1.7	25.5 28.4	37.9 37.0
1400	34.2	---- ----	9.88	2.92	2.21 ----	0.8	26.2 26.2	36.2 35.8	0.8	27.9	37.6	1.1 1.2	25.6 28.8	38.2 37.6
1430	34.3	---- ----	-----	2.76	2.06 ----	1.1	25.9 26.5	36.1 36.0	1.0	28.0	37.7	1.3 1.4	25.7 29.1	38.4 38.0
1500	34.4	---- ----	9.81	2.57	1.85 ----	0.6	26.0 26.6	36.2 36.2	0.6	28.0	37.7	0.9 1.1	25.7 29.1	38.3 37.7
1530	34.4	---- ----	-----	2.32	1.57 ----	1.3	26.3 26.8	36.5 36.5	1.3	27.9	37.8	1.1 1.2	25.8 29.2	38.7 38.1
1600	34.4	---- ----	9.73	2.07	1.29 ----	0.5	26.3 26.9	36.5 36.5	0.5	28.0	37.8	0.7 0.8	25.7 29.5	39.0 38.4
1630	34.4	---- ----	-----	----	---- ----	1.5	26.4 27.0	36.9 36.9	1.5	28.0	38.0	2.1 2.4	25.7 29.3	39.0 38.5

EAST MESA 1 (1979) - COOL I (contd)

1700	34.3	---- ----	9.67	1.34	.59 ----	0.9	26.4 26.9	36.9 37.0	0.9	27.8	37.9	1.2 1.3	26.0 29.8	39.1 38.9
1730	34.3	---- ----	-----	.94	.26 ----	2.8	26.7 27.0	36.8 36.8	3.0	27.7	37.4	3.1 3.8	25.7 29.3	38.3 37.8
1800	34.1	---- ----	9.60	.56	-.07 ----	2.9	26.3 26.6	36.4 36.3	3.3	27.1	36.6	3.3 4.1	25.1 28.6	37.1 36.9
1830	33.8	---- ----	-----	.23	-.25 ----	2.4	25.7 25.9	35.5 35.5	2.5	26.5	35.6	2.5 3.0	24.4 27.8	35.9 35.8
1900	33.7	---- ----	9.56	0	-.27 ----	1.5	24.9 25.0	34.0 34.3	1.6	25.5	34.0	1.8 2.5	23.5 26.8	34.1 34.4
1930	33.6	---- ----	-----	0	-.33 ----	0.5	24.5 24.4	32.9 33.2	0.6	24.5	32.8	0.9 1.5	22.6 26.1	32.5 33.5
2000	33.6	---- ----	9.53	0	-.30 ----	0.3	24.3 24.2	32.0 32.3	0.4	24.3	31.9	0.8 1.2	22.0 25.6	31.5 32.9
2030	33.6	---- ----	-----	0	-.28 ----	0.1	24.3 24.3	31.3 31.7	0.1	24.3	31.1	0.0 0.4	22.7 25.2	30.5 32.3
2100	33.6	---- ----	9.49	0	-.28 ----	0.5	23.3 23.2	30.4 30.6	0.6	23.2	30.2	1.0 1.6	21.3 25.1	29.8 31.9
2130	33.5	---- ----	-----	0	-.28 ----	0.5	23.3 23.2	30.3 30.6	0.5	23.0	30.1	0.6 1.0	20.9 24.7	29.1 31.4
2200	33.4	---- ----	9.44	0	-.26 ----	0.4	22.6 22.7	29.5 29.7	0.5	22.7	29.3	0.8 1.1	20.9 24.9	28.6 31.7
2230	33.3	---- ----	-----	0	-.25 ----	0.3	22.6 22.6	29.3 29.5	0.4	22.5	29.0	0.7 0.9	20.6 24.6	28.0 31.3

EAST MESA 1 (1979) - COOL I (contd)

2300	33.3	---- ----	9.40	0	-.27 ----	0.8	22.1 22.0	28.5 28.6	0.8	22.0	28.1	1.3 1.9	20.3 24.5	27.8 31.1
2330	33.2	---- ----	-----	0	-.27 ----	1.0	21.7 21.8	28.2 28.3	1.2	21.9	28.0	1.6 2.7	20.3 23.8	27.7 29.9
0000	33.0	---- ----	9.34	0	-.27 ----	1.3	21.5 21.5	27.9 27.9	1.5	21.7	27.7	1.9 2.9	20.1 23.4	27.3 29.2
09/19/79 0030	33.0	---- ----	-----	0	-.27 ----	1.3	21.4 21.4	27.9 27.9	1.4	21.5	27.6	1.9 2.8	20.0 23.0	27.3 28.8
0100	32.9	---- ----	9.29	0	-.28 ----	1.2	21.4 21.5	28.1 28.2	1.4	21.6	27.8	1.7 2.7	19.9 22.9	27.3 28.7
0130	32.7	---- ----	-----	0	-.26 ----	1.3	21.6 21.7	28.6 28.8	1.3	21.9	28.3	1.7 2.8	20.1 23.2	27.7 29.2
0200	32.7	---- ----	9.22	0	-.26 ----	1.1	21.9 22.0	29.0 29.2	1.1	22.2	28.7	1.2 2.2	20.1 23.5	27.7 29.5
0230	32.5	---- ----	-----	0	-.25 ----	1.3	21.9 21.9	29.1 29.3	1.2	22.3	28.9	1.4 2.6	20.1 24.0	27.8 30.4
0300	32.5	---- ----	9.17	0	-.27 ----	0.7	21.7 21.7	28.3 28.4	0.8	21.7	27.7	0.8 1.7	19.7 23.0	26.8 28.7
0330	32.3	---- ----	-----	0	-.28 ----	1.4	21.4 21.5	28.2 28.3	1.3	21.7	27.9	1.4 2.3	19.7 22.8	27.1 28.5
0400	32.3	---- ----	9.12	0	-.28 ----	0.9	21.1 21.1	27.5 27.5	0.9	21.2	27.1	1.3 2.2	19.4 22.3	26.5 27.7
0430	32.2	---- ----	-----	0	-.28 ----	1.1	20.7 20.8	27.1 27.2	1.3	20.9	26.8	1.7 2.7	19.3 21.9	26.3 27.3

EAST MESA 1 (1979) - COOL I (contd)

0500	32.0	----	9.04	0	-.26	0.9	20.9	27.0	0.9	21.0	26.6	0.9	19.1	25.8
		----			----		20.9	27.0				1.7	21.8	27.0
0530	31.9	----	-----	0	-.19	1.5	20.4	25.6	1.7	20.7	25.4	1.7	19.6	25.2
		----			----		20.5	25.5				2.2	21.3	25.5
0600	31.8	----	9.00	0	-.24	0.4	20.4	25.1	0.5	20.4	24.7	0.5	19.0	24.2
		----			----		20.5	25.1				0.9	21.0	25.0
0630	31.7	----	-----	0	-.28	0.5	20.1	24.7	0.6	20.1	24.4	0.5	18.8	23.5
		----			----		20.3	24.7				1.1	20.9	24.8
0700	31.7	----	8.96	0	-.20	0.7	20.6	25.4	0.9	20.5	25.1	0.5	19.2	24.3
		----			----		20.5	25.2				1.2	21.5	25.4
0730	31.7	----	-----	.45	.05	0.1	22.0	26.3	0.2	21.6	25.5	0.1	20.2	25.1
		----			----		21.8	25.6				0.7	22.8	26.2
0800	31.7	----	-----	.80	.36	0.3	23.2	27.6	0.4	22.8	27.1	0.3	21.7	27.0
		----			----		22.7	26.8				0.4	24.4	27.6
0830	31.7	----	-----	1.18	.74	0.9	24.6	29.3	0.9	24.2	28.9	0.8	23.0	28.9
		----			----		23.2	28.3				0.9	25.7	29.3
0900	31.8	----	8.83	1.54	1.10	1.6	25.6	30.4	1.7	25.7	30.3	1.7	24.5	30.6
		----	Sprays On		----		24.4	29.5				1.9	26.9	30.6
0930	31.8	----	8.67	1.87	1.40	0.9	25.4	30.9	1.0	25.6	30.8	1.0	24.2	31.2
		----			1.03		24.0	30.1				1.2	26.9	31.2
1000	31.8	----	8.58	2.16	1.69	0.3	26.0	30.2	0.3	25.2	31.8	0.5	23.3	32.8
		----			1.29		24.3	29.5				0.5	26.6	32.8
1030	31.6	----	-----	2.42	1.97	1.4	24.9	27.1	1.9	24.9	33.3	2.3	23.3	34.6
		----			----		24.2	28.0				2.4	26.7	34.1

EAST MESA 1 (1979) - COOL I (contd)

1100	31.4	29.3 31.4	8.24	2.64	2.16 1.71	1.5	24.3 24.0	26.8 28.0	1.9	25.2	33.7	2.2 2.5	23.6 26.9	35.2 34.6
1130	31.1	26.8 31.1	-----	2.81	2.33 2.04	1.5	24.9 24.8	27.5 28.6	2.0	27.0	34.8	2.2 2.5	24.2 27.6	36.1 35.5
1200	30.8	28.4 30.8	7.98	2.93	2.42 2.19	0.9	26.1 25.4	29.0 30.1	1.1	26.5	35.0	1.8 2.1	24.3 27.9	36.5 36.1
1230	30.8	29.0 30.8	-----	3.02	2.51 2.30	1.0	26.6 25.9	29.9 31.2	1.2	26.9	35.8	1.5 1.7	25.1 28.2	37.4 36.6
1300	30.8	27.6 30.6	7.72	3.04	2.45 2.35	1.1	26.1 25.9	29.5 30.9	1.3	27.1	36.2	1.5 1.7	25.6 28.6	38.3 37.4
1330	30.6	27.4 30.6	-----	3.01	2.38 2.35	1.0	26.6 26.6	30.1 31.3	1.5	27.8	37.3	1.7 2.0	26.4 29.4	39.5 38.4
1400	30.5	28.0 30.5	7.40	2.89	2.24 2.25	0.9	27.5 27.9	31.6 33.4	0.8	28.3	38.2	1.0 1.1	27.4 30.8	40.7 40.1
1430	30.6	----	-----	2.75	2.11 2.29	1.7	25.4 26.4	34.5 35.9	1.6	28.2	38.8	1.8 2.2	26.5 29.9	39.4 38.7
1500	30.8	---- Sprays Off	7.67	2.55	1.91 2.15	1.6	26.4 26.3	36.9 37.3	1.6	28.0	38.8	2.3 2.6	26.5 29.8	39.6 39.0
1530	30.9	---- Sprays On	-----	2.28	1.59 1.76	0.1	26.9 26.9	33.5 34.5	0.3	28.1	37.6	0.6 0.7	26.5 30.1	39.7 39.2
1600	30.7	27.9 30.3	7.07	2.00	1.29 1.44	1.0	26.8 26.8	34.9 35.9	1.2	27.9	37.0	1.4 1.6	26.0 29.9	39.1 38.6
1630	30.4	27.7 30.4	-----	1.65	.96 1.13	2.8	27.1 26.7	36.9 37.0	2.9	26.8	36.4	2.9 3.3	26.2 29.9	38.9 38.3

EAST MESA 1 (1979) - COOL I (contd)

1700	30.1	26.9	6.72	1.27	.65	3.2	26.9	36.6	3.4	27.3	35.8	3.4	26.0	38.6
		30.2			.79		26.3	36.7				3.9	29.3	37.8
1730	29.8	26.7	-----	.89	.30	3.0	25.3	34.7	3.3	26.0	33.8	3.6	24.3	36.5
		29.8			.47		24.7	34.9				4.1	27.6	36.0
1800	29.4	26.7	6.48	.51	.05	2.1	24.9	34.1	2.4	25.3	32.3	2.7	23.7	35.5
		29.6			.14		24.5	34.3				3.1	27.2	35.3
1830	29.2	26.7	-----	.21	-.11	1.6	24.6	33.2	1.7	25.0	32.0	1.9	23.2	34.1
		29.4			-.06		24.2	33.4				2.5	26.5	34.1
1900	28.8	26.7	6.37	0	-.19	0.7	24.1	30.9	1.1	24.4	30.4	1.3	22.6	32.1
		28.8			-.16		23.6	31.5				2.0	25.4	32.2
1930	28.7	26.6	-----	0	-.19	0.5	24.0	26.5	0.3	23.9	27.9	0.5	21.8	30.5
		28.6			-.17		23.9	27.2				1.2	24.6	31.3
2000	28.6	26.4	6.26	0	-.18	0.5	23.6	26.7	0.3	23.6	27.6	0.1	21.5	29.4
		28.4			-.17		23.5	27.2				0.7	24.4	31.0
2030	28.4	26.2	-----	0	-.18	0.4	23.5	26.9	0.3	23.6	27.4	0.1	21.5	28.5
		28.2			-.17		23.5	27.5				0.5	24.3	30.9
2100	28.3	26.2	6.16	0	-.21	0.5	23.4	26.2	0.3	23.4	26.9	0.1	21.0	28.0
		28.0			-.17		23.4	26.8				0.6	24.0	30.5
2130	28.2	25.4	-----	0	-.18	0.9	22.7	25.3	0.6	21.8	26.7	1.0	20.0	27.4
		27.9			-.18		22.5	26.5				1.6	23.4	29.3
2200	27.9	25.2	6.04	0	-.18	0.9	22.7	25.0	0.4	21.6	26.1	0.6	19.5	26.7
		27.6			-.19		22.6	25.9				1.2	22.9	29.0
2230	27.7	25.2	-----	0	-.15	0.7	22.1	24.8	0.4	21.2	25.7	0.7	19.0	25.8
		27.7			-.19		21.9	25.6				1.6	22.5	28.5

EAST MESA 1 (1979) - COOL I (contd)

2300	27.5	25.3	5.91	0	-.16	0.5	21.9	24.7	0.3	21.6	25.1	0.4	18.9	25.6
		27.4			-.19		21.9	25.1				1.2	22.1	27.9
2330	27.4	25.2	-----	0	-.17	0.5	21.7	24.5	0.3	21.3	25.0	0.1	18.7	24.9
		27.2			-.20		21.6	25.0				0.3	21.7	27.1
0000	27.2	24.9	5.77	0	-.18	0.9	21.1	24.5	0.8	20.4	25.7	1.2	18.6	25.3
		26.9			-.19		20.9	25.6				1.8	22.1	28.1
09/20/79														
0030	26.9	24.9	-----	0	-.18	0.9	21.2	24.6	0.7	20.2	25.5	1.1	18.5	25.4
		26.8			-.18		21.0	25.9				1.9	22.5	28.6
0100	26.8	24.6	5.63	0	-.18	1.0	21.2	23.9	1.0	20.1	25.2	1.3	18.4	25.3
		26.5			-.18		21.1	24.9				2.3	22.2	28.0
0130	26.8	24.1	-----	0	-.19	0.9	21.2	22.6	1.2	19.6	24.7	1.3	18.1	24.5
		26.4			-.18		21.3	23.2				2.4	20.9	25.9
0200	26.4	23.8	5.47	0	-.18	0.7	21.1	22.7	0.9	19.2	24.0	0.9	17.8	23.9
		26.1			-.18		21.1	23.1				2.1	20.5	25.5
0230	26.3	23.9	-----	0	-.19	0.5	20.7	23.3	0.2	19.5	23.5	0.3	17.5	23.4
		25.9			-.19		20.8	23.7				0.9	20.4	25.3
0300	26.1	24.0	5.38	0	-.20	0.7	20.6	22.5	0.4	18.5	22.6	0.8	17.0	22.5
		25.7			-.18		20.5	22.7				1.3	20.1	25.0
0330	25.9	23.7	-----	0	-.19	0.6	20.8	22.6	0.2	18.6	22.4	0.2	16.8	21.9
		25.6			-.19		20.9	22.7				0.5	19.7	24.4
0400	25.8	23.4	5.28	0	-.17	0.7	20.4	22.2	0.4	18.1	22.1	0.6	16.6	21.6
		25.7			-.19		20.5	22.3				1.2	19.7	24.4
0430	25.7	23.1	-----	0	-.17	0.7	20.1	21.9	0.5	17.8	21.9	0.8	16.5	21.6
		25.5			-.19		20.1	22.0				1.7	19.3	23.6

EAST MESA 1 (1979) - COOL I (contd)

0500	25.5	23.2 25.2	5.16	0	-.18 -.19	0.7	19.4 19.3	21.5 21.7	0.6	17.9	21.7	1.1 1.8	16.5 18.9	21.6 23.1
0530	25.4	22.8 25.0	-----	0	-.20 -.19	0.6	19.8 19.8	21.8 22.1	0.5	17.8	22.0	0.6 0.7	16.4 18.6	21.4 22.7
0600	25.3	22.3 24.8	5.04	0	-.19 -.18	0.7	19.8 19.9	21.3 21.4	0.9	17.6	21.4	1.2 1.7	16.2 18.7	20.8 22.7
0630	24.9	22.2 24.6	-----	0	-.21 -.18	0.8	19.7 19.6	21.1 21.2	0.8	17.3	20.9	1.1 1.8	16.2 18.3	20.8 21.9
0700	24.7	22.1 24.7	4.91	.17	-.12 -.20	0.8	19.6 19.6	21.1 21.2	0.9	17.6	21.1	1.1 1.8	16.5 18.8	21.0 22.5
0730	24.6	22.5 24.5	-----	.45	.13 -.24	0.6	20.2 20.3	21.7 21.7	0.6	18.6	22.5	0.7 1.0	17.7 19.8	22.8 23.4
0800	24.5	22.8 24.4	4.82	.80	.45 -.03	0.8	20.9 20.6	22.6 22.4	0.5	20.3	24.1	0.7 0.6	19.2 21.7	25.3 25.7
0830	24.5	23.1 24.5	-----	1.16	.81 .27	0.8	21.8 21.1	23.6 23.5	0.6	21.5	25.8	0.9 0.8	20.4 23.3	27.7 28.0
0900	24.5	23.1 24.5	4.72	1.51	1.17 .57	0.7	22.3 21.3	24.5 25.0	0.4	22.4	26.8	0.4 0.3	21.2 24.6	30.0 30.2
0930	24.5	23.2 24.5	-----	1.83	1.50 .86	0.7	22.8 21.6	25.1 25.7	0.3	23.0	28.0	0.4 0.3	22.0 25.8	31.6 31.7
1000	24.6	23.4 24.6	4.69	2.12	1.79 1.15	0.4	23.5 22.2	26.1 27.3	0.4	23.7	28.5	0.2 0.2	22.7 26.6	32.7 32.9

EAST EAST MESA 1 (1979) - WARM I

Date Time	$\overline{T}$ C	$\overline{Ts}$ C	Sfc. CM	Rad Down Mw	Rad Net Mw	Raft W/S ms^{-1}	Raft Tw C	Raft Td C	Periphery W/S ms^{-1}	Periphery Tw C	Periphery Td C	Reference W/S ms^{-1}	Reference Tw C	Reference Td C
09/22/79 1330	51.9	40.1 (Coll) 48.0 (Noz)	14.10	2.96	1.80 (Quiet) 2.18 (Spray)	0.8	27.7 (Bot) 27.3 (Top)	37.7 37.1	0.8 (Ball)	28.0 24.6	38.4 37.5	0.7 0.8	25.3 (Bot) 29.0 (Top)	38.8 38.3
1400	51.3	37.4 46.8	13.76	2.88	1.68 2.12	0.4	28.7 28.7	37.9 37.5	0.4	28.2 25.0	39.1 38.0	0.4 0.3	25.8 29.9	40.2 39.6
1430	50.2	37.8 48.4	13.29	2.68	1.58 1.91	0.3	28.9 29.0	37.6 37.6	0.5	28.8 25.2	39.3 38.3	0.6 0.5	25.9 30.0	40.4 40.0
1500	48.9	37.1 47.4	12.81	2.50	1.43 1.74	1.6	29.1 29.2	37.7 38.0	1.6	29.0 25.3	39.4 38.7	1.8 1.9	26.6 30.2	41.2 40.6
1530	47.7	36.7 46.6	12.39	2.26	1.22 1.50	1.8	28.6 28.7	38.1 38.4	1.8	29.1 25.3	39.2 38.9	1.8 2.1	26.1 30.1	41.3 40.4
1600	46.5	36.9 45.7	12.03	1.95	.94 1.20	1.9	28.1 28.2	38.7 38.8	1.9	29.1 25.4	39.2 39.0	1.9 2.1	26.0 30.4	41.3 40.5
1630	45.5	36.0 44.5	11.65	1.62	.67 .92	1.9	27.6 27.6	38.9 38.7	2.0	28.8 25.3	39.0 38.8	2.1 2.4	25.8 27.9	40.7 40.2
1700	44.1	35.0 43.7	11.36	1.23	.32 .56	1.6	28.9 28.8	36.8 37.6	1.8	28.5 25.2	38.7 38.5	2.0 2.2	25.7 29.9	40.4 39.7
1730	43.4	35.4 42.8	-----	.85	-.01 .24	1.1	29.3 29.2	37.0 37.6	1.3	28.0 25.3	38.6 38.3	1.4 1.5	25.5 29.9	40.1 39.3

EAST MESA I (1979) - WARM I (contd)

1800	42.5	34.8	10.90	.48	-.23	1.8	27.9	36.6	1.7	27.9	38.8	1.9	24.9	38.8
		41.9			-.03		27.9	37.2		24.9	37.9	2.3	29.1	38.7
1830	41.5	33.5	-----	.17	-.32	1.9	27.9	34.7	2.0	27.2	36.6	2.3	24.1	37.5
		41.2			-.22		27.4	36.1		24.5	37.3	2.8	28.2	37.6
1900	40.9	33.7	10.41	0	-.37	0.7	29.3	34.8	0.9	25.8	35.1	1.2	22.8	35.0
		40.4			-.30		29.0	34.9		24.9	36.3	1.8	27.0	36.0
1930	40.3	33.2	-----	0	-.37	0.6	28.7	33.9	0.8	25.1	33.9	1.2	22.1	33.6
		39.8			-.29		28.5	33.9		24.2	35.0	2.0	26.5	35.0
2000	39.6	32.6	10.17	0	-.36	0.8	28.9	33.0	0.9	24.7	32.7	1.4	21.6	32.3
		39.1			-.29		28.8	33.0		23.7	35.0	2.1	25.9	34.0
2030	38.8	32.1	-----	0	-.35	0.8	27.0	32.0	1.1	24.4	32.0	1.4	21.8	31.9
		38.5			-.28		26.4	32.1		23.5	33.7	2.3	25.5	33.0
2100	38.3	31.6	9.81	0	-.34	1.0	27.3	31.4	1.1	24.3	31.5	1.5	21.8	31.4
		37.8			-.28		26.3	31.6		23.3	32.8	2.3	25.2	32.2
2130	37.7	31.2	-----	0	-.34	1.2	26.2	30.6	1.4	24.3	31.0	1.7	22.0	30.9
		37.4			-.29		25.2	30.9		23.5	32.1	2.5	25.1	31.6
2200	37.1	31.4	9.53	0	-.33	1.0	26.6	30.6	1.2	24.6	30.6	1.4	21.6	30.4
		36.8			-.27		26.0	30.8		24.1	31.7	2.2	25.4	31.1
2230	36.7	31.2	-----	0	-.33	0.5	26.7	31.0	0.5	23.9	29.8	0.7	22.1	29.1
		36.3			-.26		26.7	30.9		24.0	31.2	1.4	24.9	30.3
2300	36.2	30.2	9.23	0	-.32	0.6	27.9	30.6	0.5	24.0	29.3	0.9	22.1	28.8
		35.8			-.26		27.8	30.6		24.0	31.1	1.5	25.3	30.6
2330	35.7	31.0	-----	0	-.31	0.4	24.5	29.5	0.5	23.6	28.7	0.6	21.7	27.8
		35.2			-.26		24.8	29.6		23.1	30.1	1.2	24.5	29.7

EAST MESA 1 (1979) - WARM I (contd)

0000	35.4	30.0	8.97	0	-.29	0.4	25.4	29.3	0.3	23.1	28.0	0.4	21.1	27.0
		34.8			-.26		25.5	29.3		23.1	30.3	0.3	24.2	29.2
09/23/79														
0030	34.7	29.4	-----	0	-.30	1.0	26.2	28.7	1.1	23.1	28.7	1.3	21.4	28.1
		34.0			-.25		25.6	28.8		22.5	29.3	2.0	23.9	29.1
0100	34.2	29.6	8.73	0	-.30	0.5	25.3	28.9	0.3	22.3	27.8	0.3	20.8	26.9
		33.8			-.24		25.2	28.9		22.3	28.6	0.7	23.3	28.3
0130	33.9	28.0	-----	0	-.30	0.7	25.6	27.8	0.9	21.5	26.0	1.2	20.1	25.5
		33.3			-.22		25.6	27.7		21.9	27.9	1.7	22.7	27.3
0200	33.3	27.0	8.45	0	-.29	1.1	26.0	27.4	1.4	21.9	26.0	1.8	20.4	26.0
		32.9			-.22		25.8	27.3		21.9	27.9	2.8	22.7	27.0
0230	32.9	28.6	-----	0	-.29	0.5	23.6	26.7	0.4	20.6	25.0	0.3	19.7	24.8
		32.6			-.24		24.2	26.8		21.4	26.5	1.1	21.8	25.6
0300	32.5	28.2	8.30	0	-.28	0.4	22.8	26.4	0.3	20.6	24.8	0.2	19.1	23.7
		32.1			-.22		23.1	26.4		21.5	26.5	0.8	21.8	25.6
0330	32.2	27.8	-----	0	-.28	0.4	23.3	26.5	0.3	20.5	24.6	0.4	18.9	23.3
		31.8			-.22		23.4	26.6		21.6	26.8	0.7	21.7	25.6
0400	31.9	27.0	7.94	0	-.27	0.7	24.4	26.4	0.7	20.8	24.5	1.0	19.1	23.5
		31.3			-.22		24.3	26.3		21.5	26.8	1.8	22.0	25.9
0430	31.5	27.3	-----	0	-.28	0.5	22.7	25.5	0.4	20.0	23.7	0.3	18.7	22.9
		31.0			-.22		23.0	25.5		21.3	25.7	0.9	21.2	24.6
0500	31.0	27.2	-----	0	-.28	0.6	20.4	23.4	0.6	19.4	22.5	0.8	18.0	21.6
		30.7			-.20		20.9	23.5		20.6	24.1	1.3	20.6	23.5
0530	30.8	26.8	-----	0	-.28	0.4	22.3	24.6	0.5	19.8	22.9	0.4	18.4	21.7
		30.3			-.19		22.4	24.6		20.9	23.9	0.4	20.6	23.3

EAST MESA 1 (1979) - WARM I (contd)

0600	30.3	26.0	7.70	0	-.27	0.8	24.8	25.7	1.0	20.1	22.9	1.3	18.6	21.9
		29.8			-.20		24.6	25.4		21.3	24.7	2.0	21.3	24.1
0630	29.9	26.0	-----	0	-.26	0.7	23.6	24.9	0.6	20.1	22.8	0.9	18.6	21.8
		29.6			-.19		23.9	24.9		21.4	25.1	1.9	21.3	24.1
0700	29.6	25.9	7.51	.15	-.18	0.6	21.8	23.0	0.5	19.6	22.1	0.6	18.5	21.5
		29.3			-.20		22.3	23.8		20.7	24.1	1.2	20.4	22.8
0730	29.4	25.7	-----	.42	.08	0.8	23.1	24.7	0.8	20.6	23.6	1.0	19.8	23.6
		29.2			-.24		23.2	24.6		20.7	24.6	1.5	21.6	24.4
0800	29.2	26.2	7.33	.76	.40	0.7	24.0	25.9	0.8	22.2	25.9	0.8	21.4	26.4
		29.2			-.04		23.9	25.7		21.3	25.5	0.9	23.5	26.6
0830	29.2	26.7	-----	1.13	.78	0.7	23.9	27.4	1.0	23.8	28.4	1.0	22.7	28.9
		28.9			.26		23.5	27.3		23.4	27.6	1.0	25.5	29.3
0900	29.2	27.0	7.18	1.48	1.15	0.3	24.5	29.0	0.6	24.9	29.4	0.5	23.1	30.2
		29.2			.49		23.8	28.5		25.0	32.4	0.5	26.2	30.5
0930	29.1	27.0	-----	1.81	1.47	0.4	25.7	29.9	0.7	25.8	30.5	0.6	23.6	31.1
		28.8			.77		24.6	29.6		26.8	35.2	0.8	26.7	31.2
1000	29.1	27.0	7.06	2.10	1.75	0.6	25.8	31.1	0.9	26.3	31.5	0.9	24.4	32.3
		28.8			1.08		24.8	30.7		27.2	37.3	1.0	27.4	32.2
1030	29.1	27.1	-----	2.35	1.96	0.4	26.7	31.2	0.7	27.1	32.2	0.6	25.2	33.6
		28.8			1.36		25.7	31.0		26.3	34.5	0.8	28.2	33.3
1100	29.2	27.3	6.94	2.57	2.10	0.5	27.0	32.1	0.8	27.7	33.3	0.8	25.6	34.5
		28.8			1.53		26.0	31.9		25.8	34.3	1.0	28.6	34.2
1130	29.2	27.3	-----	2.74	2.19	0.8	27.5	33.1	1.0	27.8	34.2	1.2	26.0	35.8
		28.8			1.78		26.5	33.2		26.4	35.3	1.4	29.0	35.2

EAST MESA 1 (1979) - WARM I (contd)

1200	29.2	27.4 28.8	6.81	2.88	2.21 2.01	0.8	27.7 27.0	33.8 34.0	1.0	28.2 26.7	35.0 36.1	1.2 1.4	26.0 29.2	36.4 35.9
1230	----	----	-----	----	---- ----	---	----	----	---	----	----	--- ---	---- ----	---- ----
1300	----	----	6.59	----	---- ----	---	----	----	---	----	----	--- ---	---- ----	---- ----
1330	29.2	26.6 28.7	-----	2.93	2.05 2.21	0.8	26.6 26.8	31.0 33.4	0.5	28.2 26.5	37.0 38.3	0.6 0.8	26.2 29.8	39.5 39.0
1400	29.4	26.6 28.7	6.36	2.83	1.92 2.15	0.4	26.3 26.7	32.0 34.0	0.3	28.3 26.5	36.8 38.7	0.2 0.3	26.4 30.2	40.2 39.6
1430	29.2	26.4 28.5	-----	2.68	1.83 2.05	0.8	26.0 27.1	30.7 33.1	1.0	28.3 26.7	37.4 39.2	1.4 1.5	26.7 30.5	40.8 40.2
1500	29.0	26.5 28.8	6.05	2.49	1.66 1.89	1.2	25.1 26.4	30.3 33.0	1.4	28.5 26.7	38.1 39.4	1.7 1.8	26.7 30.4	41.3 40.8
1530	28.9	26.4 28.7	-----	2.21	1.40 1.63	1.2	25.5 26.9	29.9 32.8	1.4	28.5 26.9	37.9 40.1	1.4 1.5	26.6 31.0	41.4 40.8
1600	28.7	26.3 28.6	5.73	1.95	1.16 1.38	1.3	24.8 26.3	29.3 32.2	1.5	28.2 26.6	37.5 39.4	1.9 2.0	26.2 30.3	41.7 41.1
1630	28.5	26.1 28.5	-----	1.59	.84 1.05	2.3	25.3 26.6	32.8 35.4	2.4	27.8 26.6	37.4 39.4	2.7 3.1	26.0 30.4	41.4 40.7
1700	28.2	26.3 28.3	5.49	1.22	.51 .73	1.9	26.1 26.8	34.5 36.6	2.0	27.8 26.7	37.2 39.3	2.3 2.6	26.1 30.3	41.1 40.3
1730	28.1	26.0 28.1	-----	.84	.22 .41	1.4	26.3 26.8	33.5 35.9	1.6	27.4 26.4	36.7 38.9	1.8 2.1	25.7 29.8	39.6 39.4

EAST MESA 1 (1979) - WARM I (contd)

1800	27.9	25.7	5.37	.44	-.03	1.1	26.5	34.9	1.3	27.1	35.5	1.5	25.2	38.7
		27.9			.12		26.5	36.5		26.3	38.4	1.8	29.3	38.5
1830	27.7	25.4	-----	.14	-.14	0.6	26.0	32.1	0.7	26.2	35.0	1.0	24.3	36.6
		27.7			-.07		25.8	34.2		25.9	37.4	1.4	28.2	37.0
1900	27.6	24.7	5.29	0	-.18	0.6	25.1	29.5	0.4	25.0	29.8	0.5	23.4	34.2
		27.4			-.14		25.0	31.2		25.4	36.8	0.7	27.1	35.7
1930	27.4	24.6	-----	0	-.20	0.9	24.7	27.8	0.4	24.4	29.2	0.4	23.0	32.2
		27.2			-.15		24.7	29.7		24.7	36.0	0.8	26.3	34.7
2000	27.2	24.7	5.15	0	-.20	0.7	24.4	27.3	0.4	24.0	28.8	0.5	22.8	31.1
		26.8			-.14		24.6	28.2		24.7	36.0	1.2	26.3	34.4
2030	27.0	24.5	-----	0	-.17	0.5	24.2	27.9	0.2	24.1	28.1	0.1	22.2	30.1
		26.6			-.14		24.1	29.0		24.2	35.2	0.2	25.7	33.9
2100	26.9	24.3	5.00	0	-.18	0.6	23.4	27.3	0.4	23.5	28.0	0.5	21.7	29.6
		26.4			-.14		23.3	28.1		23.8	34.4	0.8	25.2	32.7
2130	26.7	24.1	-----	0	-.18	0.8	23.5	26.1	0.4	22.6	26.7	0.7	20.2	28.2
		26.3			-.16		23.4	26.6		23.9	33.7	0.3	24.4	31.3
2200	26.5	23.6	4.88	0	-.18	0.8	23.2	25.7	0.5	22.2	27.0	0.8	19.9	28.2
		26.0			-.16		23.1	26.7		23.2	33.3	0.6	24.5	31.9
2230	26.3	24.1	-----	0	-.18	0.0	23.1	26.3	0.4	22.8	26.7	0.4	20.5	27.7
		25.8			-.16		23.0	27.0		23.2	32.6	1.2	24.3	31.2
2300	25.9	24.0	4.77	0	-.18	0.5	23.3	26.9	0.3	22.9	26.6	0.2	20.5	27.0
		25.7			-.15		23.1	27.5		23.4	32.9	0.8	24.6	31.6
2330	26.0	24.1	-----	0	-.17	0.2	23.3	26.9	0.2	23.3	26.6	0.1	20.1	26.8
		25.7			-.15		23.2	27.6		23.6	32.9	0.8	24.8	31.8

0000	25.7	23.4	4.65	0	-.17	0.8	23.0	25.0	0.8	21.5	26.0	1.1	19.5	26.6
		25.4			-.15		22.9	25.8		23.2	32.1	0.8	24.3	31.0
09/24/79														
0030	25.6	23.3	-----	0	-.17	0.8	22.3	24.5	0.8	21.1	26.4	1.1	19.2	26.5
		25.3			-.15		22.0	25.7		22.7	31.1	1.8	24.0	30.3
0100	25.4	23.3	4.51	0	-.17	0.7	22.5	24.9	0.3	21.3	25.3	0.5	18.9	25.9
		25.2			-.16		22.3	25.5		22.4	30.5	0.8	23.0	28.9
0130	25.3	22.7	-----	0	-.16	0.8	21.8	24.0	0.7	20.0	24.7	1.2	18.5	25.0
		24.9			-.15		21.7	24.1		21.8	29.8	1.4	22.6	28.4
0200	25.0	22.3	4.42	0	-.15	0.8	21.6	23.3	1.1	19.8	24.7	1.5	18.4	25.2
		24.7			-.14		21.6	23.5		21.7	29.6	2.6	22.4	28.2
0230	24.8	22.2	-----	0	-.15	0.7	21.7	23.3	1.0	19.9	25.0	1.1	18.4	25.2
		24.6			-.14		21.7	23.5		22.2	30.1	2.4	22.2	27.8
0300	24.8	22.4	4.31	0	-.16	0.5	21.2	23.7	0.3	20.4	24.0	0.3	18.3	24.5
		24.3			-.16		21.0	23.9		20.4	27.7	0.9	20.8	25.9
0330	24.6	22.4	-----	0	-.16	0.4	20.3	23.3	0.4	19.7	23.2	0.6	17.8	22.9
		24.2			-.16		20.2	23.5		20.4	27.2	0.8	20.5	25.2
0400	24.4	22.2	4.21	0	-.17	0.5	20.4	22.9	0.4	19.1	22.8	0.8	17.2	22.2
		24.2			-.17		20.1	23.0		20.4	26.6	1.1	20.3	24.5
0430	24.2	22.0	-----	0	-.17	0.7	20.5	22.6	0.6	18.8	22.5	1.0	17.2	22.3
		24.0			-.17		20.2	22.8		19.8	26.1	1.5	17.7	23.9
0500	24.1	21.0	4.11	0	-.16	0.8	19.4	21.3	1.0	18.2	22.4	1.8	17.0	22.5
		23.7			-.16		19.4	21.5		19.4	28.6	2.5	19.8	24.4
0530	23.8	21.5	-----	0	-.15	0.7	19.7	22.7	0.6	19.4	23.5	0.8	17.9	23.9
		23.5			-.16		19.8	23.0		20.0	----	1.4	20.6	25.5

EAST MESA 1 (1979) - WARM I (contd)

0600	23.7	21.8	4.01	0	-.15	0.6	20.8	22.7	0.3	19.8	22.9	0.4	17.7	22.7
		23.4			-.17		20.6	23.0		20.5	----	0.8	20.4	24.9
0630	23.5	21.5	-----	----	-.16	0.4	20.2	22.3	0.4	19.0	22.5	0.8	17.2	22.1
		23.3			-.16		20.1	22.6		20.2	25.5	1.6	20.9	25.9
0700	23.4	21.4	3.89	.13	-.08	0.7	20.4	22.1	0.4	18.9	22.4	0.7	17.2	22.0
		23.2			-.15		20.4	22.2		21.3	30.3	1.2	21.0	25.9
0730	23.4	21.4	-----	.51	.29	0.9	21.0	22.6	0.6	20.5	24.4	1.0	19.2	25.1
		23.2			-.12		21.1	23.1		22.1	32.2	1.2	22.7	27.7
0800	23.4	22.1	3.79	.94	.69	0.6	22.1	24.3	0.4	22.7	27.3	0.4	21.5	28.6
		23.2			.17		22.2	25.4		22.5	31.2	0.6	24.4	29.3
0830	23.4	22.7	-----	1.48	1.22	0.7	23.4	25.2	0.5	24.6	29.2	0.5	23.6	31.5
		23.3			.62		23.6	26.5		24.1	32.5	0.6	26.8	31.9

EAST MESA 1 (1979) - WARM II

Date Time	T	Ts	Sfc.	Rad Down	Rad Net	Raft W/S	Raft Tw	Raft Td	Periphery W/S	Periphery Tw	Periphery Td	Reference W/S	Reference Tw	Reference Td
	C	C	CM	Mw	Mw	ms^{-1}	C	C	ms^{-1}	C	C	ms^{-1}	C	C
09/27/79 0130	47.2	31.2 (Coll)	14.11	0	-.40 (Quiet)	0.1	22.8 (Bot)	28.7	0.3	20.5	26.7	0.4	18.3 (Bot)	25.3
		42.0 (Noz)			-.32 (Spray)		22.3 (Top)	27.9	(Ball)	20.9	27.4	0.7	22.4 (Top)	28.3
0200	45.8	35.2	13.82	0	-.40	0.2	23.0	28.6	0.3	19.9	26.0	0.1	18.1	24.9
		43.9			-.36		23.8	27.7		20.2	26.7	0.8	22.7	28.2
0230	44.7	34.0	13.49	0	-.37	0.2	22.7	27.1	0.4	19.3	24.7	0.4	17.5	23.8
		43.1			-.32		22.7	26.7		22.5	28.0	0.5	22.1	27.4
0300	43.7	33.6	13.23	0	-.35	0.3	21.7	26.1	0.4	20.1	24.8	0.3	18.0	23.5
		42.2			-.35		21.7	25.8		22.7	29.3	0.9	21.7	26.7
0330	42.8	33.4	-----	0	-.36	0.2	21.6	26.4	0.3	19.7	24.4	0.3	17.8	22.9
		41.5			-.33		21.4	25.5		23.1	29.4	0.5	21.1	25.7
0400	42.0	33.0	12.78	0	-.33	0.2	21.9	25.8	0.3	19.1	23.3	0.2	17.3	22.2
		40.7			-.34		21.9	25.0		22.8	28.2	0.7	21.0	25.4
0430	41.1	32.7	-----	0	-.32	0.2	21.2	25.5	0.4	18.7	23.0	0.2	17.0	21.8
		40.0			-.28		21.5	24.7		23.6	27.8	0.6	20.6	25.0
0500	40.4	31.4	12.35	0	-.32	0.2	21.9	25.9	0.4	18.5	22.7	0.5	16.9	21.8
		39.0			-.32		21.8	24.8		22.4	27.5	0.3	20.8	24.9
0530	39.5	21.8	-----	0	-.32	0.8	21.4	25.5	0.7	19.0	23.6	0.6	16.8	21.8
		38.5			-.34		21.1	24.5		21.5	27.4	1.4	20.7	25.2

EAST MESA 1 (1979) - WARM II (contd)

0600	38.8	30.4	11.99	0	-.31	0.7	19.3	22.9	0.5	17.9	21.3	0.5	16.2	20.5
		37.7			-.35		19.8	22.9		22.2	26.4	0.1	19.5	23.6
0630	38.3	29.4	-----	0	-.29	0.6	21.1	20.4	0.5	17.4	20.9	0.8	15.8	20.1
		37.3			-.34		20.5	22.9		20.6	25.6	0.7	19.1	23.1
0700	37.5	28.9	11.61	.14	-.22	0.7	21.6	24.2	0.6	17.7	21.3	0.7	16.4	21.0
		36.8			-.36		22.5	24.1		20.0	25.5	1.2	19.2	22.9
0730	36.8	29.5	-----	.32	-.04	0.5	19.6	23.4	0.3	18.4	22.4	0.2	17.1	21.8
		35.9			-.27		20.4	23.3		21.3	25.5	0.5	19.4	23.0
0800	36.3	29.6	11.28	.70	.37	0.4	21.0	24.8	0.3	20.2	25.2	0.2	18.9	24.5
		35.7			-.09		22.0	26.2		20.6	26.1	0.3	21.4	24.9
0830	35.9	30.1	-----	.87	.61	0.5	22.4	26.3	0.7	22.6	27.0	0.6	20.6	26.1
		35.0			.18		24.0	29.2		21.7	27.0	0.7	22.9	26.5
0900	35.4	29.6	10.96	1.45	1.20	1.2	24.2	30.8	1.3	24.2	29.4	1.2	22.3	28.9
		34.8			.51		24.6	31.5		23.1	29.4	1.5	24.8	28.8
0930	34.8	28.4	-----	1.88	1.65	2.9	25.4	30.9	2.9	25.3	31.2	3.0	23.3	31.1
		35/5			.81		25.0	32.5		24.1	31.3	3.5	25.8	30.6
1000	34.3	27.7	10.60	1.97	1.75	3.3	25.8	31.8	3.2	25.6	31.8	3.4	23.7	32.3
		34.0			.97		25.1	33.0		24.4	32.1	3.9	26.2	31.5
1030	34.0	28.2	-----	2.38	2.18	2.9	26.7	32.8	2.9	26.5	33.3	3.0	24.6	33.5
		33.6			1.38		25.9	34.3		25.0	33.1	3.4	27.1	32.6
1100	33.6	27.8	10.25	2.51	2.28	3.4	26.7	33.2	3.4	26.4	33.5	3.7	24.5	34.0
		33.3			1.58		25.7	34.5		24.7	33.3	4.2	26.9	32.9
1130	33.2	27.7	-----	2.63	2.33	3.2	26.6	33.5	3.2	26.5	33.9	3.4	24.3	34.4
		33.0			1.74		25.6	34.5		24.6	33.5	3.8	26.9	33.3

EAST MESA 1 (1979) - WARM II (contd)

1200	33.0	28.1	9.90	2.79	2.43	2.5	26.9	34.3	2.6	26.7	34.5	2.9	24.5	35.3
		32.7			1.92		26.2	35.5		24.8	34.2	3.4	27.3	34.2
1230	32.6	27.7	-----	2.83	2.46	2.8	26.8	34.7	2.7	26.8	35.0	2.9	24.6	36.1
		32.4			2.03		26.2	35.7		24.9	35.0	3.3	27.4	34.8
1300	32.4	27.8	9.61	2.86	2.46	2.1	26.8	35.0	2.1	26.9	35.4	2.4	24.8	36.7
		32.0			2.10		26.6	36.4		25.0	35.6	2.9	27.7	35.5
1330	32.2	27.7	-----	2.91	2.44	2.4	26.8	35.3	2.5	27.0	35.5	2.5	24.9	37.3
		31.9			2.19		27.0	36.5		25.1	36.1	2.9	27.9	36.2
1400	32.0	28.0	9.24	2.75	2.23	2.3	26.7	35.4	2.4	27.1	35.6	2.5	25.0	37.3
		31.7			2.08		27.0	36.8		25.3	36.2	2.9	28.1	36.3
1430	31.8	28.5	-----	2.63	2.09	1.7	26.7	35.3	2.0	27.7	36.0	2.0	25.2	37.7
		31.5			1.97		27.7	37.4		25.4	36.4	2.3	28.6	37.2
1500	31.7	27.7	8.93	2.44	1.88	0.2	26.9	32.8	0.4	28.1	36.3	0.8	25.3	37.8
		31.3			1.70		29.1	38.1		25.5	36.8	0.9	28.9	37.3
1530	31.5	28.2	-----	2.14	1.56	0.4	27.1	31.7	0.6	28.2	36.9	0.8	25.8	38.7
		30.8			1.35		30.1	38.0		26.1	37.6	1.0	29.6	38.2
1600	31.2	28.2	8.69	1.60	1.09	1.0	27.5	35.4	1.3	28.1	36.5	1.2	25.6	38.3
		30.8			.90		28.9	38.3		26.1	37.2	1.6	29.3	38.0
1630	31.1	28.4	-----	1.34	.84	0.6	27.7	33.9	1.0	28.2	36.1	0.9	25.5	38.3
		30.9			.71		29.1	38.2		26.1	37.1	1.1	29.5	38.1
1700	31.0	28.0	8.49	0.94	.53	0.3	27.6	31.6	0.5	28.2	34.7	0.4	25.2	37.7
		30.5			.06		29.7	36.7		25.9	36.8	0.6	29.2	37.8
1730	30.8	27.7	-----	0.72	.34	0.4	27.0	30.6	0.3	27.6	33.4	0.1	25.0	37.5
		30.2			.34		29.5	36.0		25.6	36.5	0.2	28.0	37.4

EAST MESA 1 (1979) - WARM II (contd)

1800	30.5	27.6	8.36	0.35	.12	0.3	27.4	31.2	0.6	27.5	34.2	0.8	24.8	37.0
		29.9			.11		28.0	34.1		25.8	36.6	1.0	28.4	36.9
1830	30.3	27.3	-----	0.14	0	0.1	27.0	31.6	0.4	26.7	32.5	0.7	24.5	36.0
		29.7			-.06		26.9	31.8		25.6	36.2	0.9	27.9	36.2
1900	30.0	27.3	8.26	0	-.09	0.4	26.4	31.6	0.5	26.3	32.2	0.5	24.7	33.8
		29.5			-.12		25.7	31.2		25.5	35.9	1.2	27.3	35.3
1930	29.6	26.9	-----	0	-.10	0.3	26.5	30.6	0.4	26.1	30.4	0.1	24.2	32.8
		29.4			-.13		25.3	30.1		25.1	35.7	0.6	26.9	35.1
2000	29.4	26.8	8.10	0	-.09	0.5	26.6	29.1	0.3	26.1	29.3	0.1	23.5	31.5
		29.2			-.12		25.9	28.5		24.9	35.6	0.9	26.6	34.6
2030	29.3	26.6	-----	0	-.10	0.5	25.5	28.3	0.6	24.9	29.4	0.8	22.2	30.9
		28.9			-.15		24.8	27.6		23.8	32.3	1.3	26.0	33.3
2100	29.0	26.7	7.97	0	-.11	0.3	25.8	28.1	0.2	25.1	28.6	0.3	22.2	30.4
		28.8			-.16		24.8	27.2		----	----	0.8	25.3	32.0
2130	28.9	26.1	-----	0	-.09	0.7	24.1	28.8	0.4	23.9	28.4	1.0	21.0	29.7
		28.6			-.16		23.8	27.3		----	----	1.2	24.8	31.8
2200	28.7	26.9	7.79	0	-.07	0.1	24.2	28.2	0.4	23.9	28.1	0.5	21.2	29.4
		28.4			-.13		23.8	27.2		----	----	1.1	24.4	31.0

EAST MESA 1 (1979) - WARM III

Date Time	T̄ C	T̄s C	Sfc. CM	Rad Down Mw	Rad Net Mw	Raft W/S ms^{-1}	Raft Tw C	Raft Td C	Periphery W/S ms^{-1}	Periphery Tw C	Periphery Td C	Reference W/S ms^{-1}	Reference Tw C	Reference Td C
10/01/79 0830	47.5	33.2 (Coll)	13.89	1.10	.48 (Quiet)	1.3	29.3 (Bot)	31.4	1.4	21.1	25.7	1.4	19.7 (Bot)	25.6
		43.7 (Noz)			-.01 (Spray)		28.2 (Top)	30.5	(Ball)	20.6	25.3	1.4	22.1 (Top)	25.9
0900	46.2	34.3	13.58	1.43	.85	1.1	28.6	31.9	1.1	22.2	27.7	0.9	20.9	28.2
		45.7			.30		28.5	31.6		21.4	27.1	1.0	23.8	28.4
0930	45.1	35.0	13.32	1.77	1.20	0.4	28.1	33.6	0.5	23.1	29.0	0.5	21.5	29.1
		44.3			.73		27.4	33.3		22.9	28.6	0.5	24.9	29.4
1000	44.2	35.0	13.09	2.07	1.49	0.5	28.5	35.4	0.5	24.0	30.0	0.4	22.2	30.3
		43.0			.99		27.1	34.8		23.7	29.6	0.5	25.6	30.4
1030	43.5	34.9	-----	2.28	1.74	0.4	28.6	36.8	0.5	24.8	31.4	0.1	22.7	31.5
		42.3			1.21		26.8	35.7		23.8	30.4	0.2	26.0	31.5
1100	43.0	34.5	12.59	2.49	1.91	0.5	28.8	37.6	0.6	25.3	32.3	0.4	22.9	32.4
		41.9			1.39		27.0	36.2		24.1	31.3	0.6	26.2	32.1
1130	42.3	34.1	-----	2.65	2.06	0.9	28.1	37.0	0.9	25.7	33.1	0.9	23.0	33.1
		41.2			1.47		26.7	35.9		23.8	32.2	1.1	26.4	32.7
1200	41.7	34.1	12.17	2.75	2.10	0.3	29.3	37.9	0.4	26.4	34.5	0.1	23.4	34.8
		40.8			1.58		28.5	36.8		24.9	33.2	0.1	27.1	34.5
1230	41.3	33.7	-----	2.84	2.15	0.3	30.5	37.5	0.4	26.7	35.5	0.7	24.1	36.3
		39.8			1.73		30.3	37.1		24.9	34.1	0.5	27.5	35.7

EAST MESA 1 (1979) - WARM III (contd)

1300	40.8	33.3	11.73	2.86	2.08	0.4	28.2	37.3	0.6	27.0	35.9	0.3	24.4	37.0
		34.4			1.76		28.6	37.3		24.4	35.0	0.4	27.7	36.4
1330	40.3	32.8	-----	2.83	2.04	0.7	28.7	34.9	0.8	27.1	36.7	1.0	24.5	37.9
		39.1			1.86		29.4	36.7		24.3	35.6	0.9	27.8	37.0
1400	39.7	32.9	11.14	2.74	1.94	0.9	27.9	36.1	1.1	26.2	37.0	1.2	24.6	38.1
		38.9			1.77		28.7	37.6		24.7	36.1	1.3	28.2	37.6
1430	39.2	33.0	-----	2.57	1.80	0.5	28.6	35.9	0.4	27.5	37.1	0.9	24.6	38.0
		38.3			1.66		29.6	38.2		24.7	36.3	0.7	28.5	37.9
1500	38.5	32.2	10.64	2.36	1.59	1.7	27.6	36.4	1.8	28.0	37.4	1.8	25.0	38.7
		37.7			1.49		28.0	38.0		25.1	36.7	2.1	29.0	38.4
1530	37.9	32.1	-----	2.13	1.30	0.9	28.0	35.5	1.0	27.8	37.0	1.1	24.8	38.4
		37.4			1.28		28.8	37.8		25.0	36.7	1.2	28.8	38.0
1600	37.3	31.8	10.22	1.81	1.02	1.9	28.1	36.5	2.0	28.0	37.0	1.9	25.0	38.8
		36.8			1.03		27.9	38.1		25.0	36.7	2.2	29.2	38.4
1630	36.7	31.5	-----	1.49	.71	1.2	29.0	34.4	1.6	27.7	36.8	1.6	24.7	38.5
		36.4			.74		29.6	37.2		25.3	36.9	1.7	29.0	38.4
1700	36.3	30.4	9.81	1.13	.41	1.3	29.5	33.5	1.8	27.4	36.6	2.2	24.7	38.3
		35.8			.45		30.2	36.2		25.1	37.0	2.2	28.7	38.1
1730	35.5	29.5	-----	.75	.11	1.9	25.7	29.8	2.6	26.8	36.2	2.9	24.3	37.5
		35.2			.19		27.7	32.7		25.5	37.1	3.3	28.0	37.2
1800	34.8	29.1	9.30	.38	-.13	1.7	25.5	29.3	2.5	26.3	35.6	2.9	23.8	36.8
		34.6			-.03		27.4	31.8		24.8	36.3	3.2	27.6	36.6
1830	34.3	28.7	-----	.09	-.22	1.1	27.5	29.1	1.5	25.3	33.7	1.9	22.7	35.1
		34.1			-.22		27.4	30.6		24.0	35.1	2.2	26.6	35.2

EAST MESA 1 (1979) - WARM III (contd)

1900	33.6	29.4	9.15	0	-.25	0.7	25.6	28.7	0.6	24.8	32.0	1.3	21.4	32.8
		33.6			-.25		25.6	29.7		23.6	34.5	1.8	25.9	34.3
1930	33.4	29.1	-----	0	-.25	0.2	24.7	28.4	0.4	24.4	31.0	0.3	21.3	30.8
		32.8			-.24		24.7	29.1		23.2	33.3	0.4	24.8	32.7
2000	33.0	27.7	8.88	0	-.25	1.3	22.2	28.7	1.5	23.3	30.2	1.7	21.4	30.3
		32.0			-.26		21.6	28.7		22.7	31.3	2.4	24.3	31.0
2030	32.6	28.4	-----	0	-.25	1.0	24.5	28.1	1.2	23.2	30.1	1.2	21.5	29.9
		31.9			-.30		23.2	28.3		23.2	31.2	2.1	24.6	31.0
2100	32.1	28.0	8.67	0	-.25	0.6	25.1	27.6	0.5	22.6	28.7	1.0	20.2	28.4
		31.7			-.30		24.2	27.5		22.8	30.3	0.9	23.9	30.1
2130	31.8	27.5	-----	0	-.25	0.6	25.8	27.4	0.4	21.7	28.0	0.7	19.4	27.4
		31.4			-.30		25.1	27.0		22.8	30.8	1.3	23.9	30.3
2200	31.5	27.2	8.50	0	-.25	0.5	25.0	26.7	0.2	21.0	27.3	0.5	18.8	26.1
		31.2			-.29		24.9	26.5		22.6	30.5	1.1	23.4	29.8
2230	31.2	27.1	-----	0	-.24	0.4	22.1	25.2	0.7	21.5	26.0	0.8	19.0	25.2
		30.6			-.30		22.9	25.0		21.7	28.2	1.3	22.2	27.6
2300	31.0	26.9	8.30	0	-.24	0.3	21.3	24.5	0.5	21.2	26.1	0.5	19.5	25.5
		30.4			-.29		21.3	24.4		21.6	26.8	1.2	21.9	26.6
2330	30.7	26.6	-----	0	-.22	0.3	22.9	25.3	0.2	20.7	25.5	0.3	19.2	25.0
		30.2			-.30		22.3	25.0		21.9	27.0	0.3	21.8	26.5
0000	30.3	26.4	8.13	0	-.22	0.8	24.3	25.5	0.6	20.2	25.0	0.9	18.1	23.9
		29.8			-.30		23.5	25.2		21.8	28.1	0.7	22.4	27.7
10/02/79 0030	29.8	26.3	-----	0	-.24	0.8	23.8	24.8	0.7	19.9	24.8	1.0	17.8	23.6
		29.6			-.32		23.2	24.8		21.3	27.7	1.0	22.1	27.5

EAST MESA 1 (1979) - WARM III (contd)

0100	29.6	26.0	7.96	0	-.24	0.4	22.8	24.0	0.4	19.4	24.4	0.4	17.5	23.2
		29.2			-.30		22.3	24.0		21.4	27.4	0.9	21.7	26.6
0130	29.3	26.0	-----	0	-.23	0.9	20.8	23.9	1.1	20.5	26.0	0.9	17.8	23.8
		28.7			-.30		20.3	23.8		20.5	27.4	1.8	21.4	26.9
0200	29.0	25.2	7.76	0	-.23	1.0	19.4	23.8	1.2	19.8	24.7	1.4	18.4	24.5
		28.6			-.30		18.9	23.7		19.8	25.7	2.2	20.7	25.6
0230	28.7	24.8	-----	0	-.23	0.4	19.3	22.5	0.5	18.7	23.0	0.7	17.1	22.0
		28.4			-.30		19.4	22.4		19.6	23.6	0.8	19.5	23.8
0300	28.4	25.0	7.61	0	-.23	0.1	19.5	22.2	0.2	18.5	23.0	0.1	16.8	21.5
		28.0			-.29		19.5	22.2		20.0	24.0	0.6	19.7	23.9
0330	28.2	24.7	-----	0	-.22	0.1	19.7	22.0	0.3	18.1	22.0	0.3	16.3	20.7
		27.7			-.28		19.7	21.9		19.9	23.6	0.7	19.6	23.5
0400	27.9	24.3	7.47	0	-.20	0.6	19.1	21.6	0.8	19.2	22.5	0.8	16.8	20.8
		27.5			-.26		19.0	21.4		19.5	24.6	1.7	19.7	23.7
0430	27.6	24.4	-----	0	-.20	0.6	21.3	22.9	0.6	18.9	22.8	0.8	17.3	21.8
		27.3			-.26		20.6	22.6		20.1	24.4	0.8	20.1	23.9
0500	27.2	23.8	7.34	0	-.21	0.8	21.8	22.6	0.7	17.7	21.5	1.1	16.5	21.2
		27.0			-.27		21.1	22.2		19.2	23.6	1.8	18.9	22.7
0530	26.9	23.6	-----	0	-.21	0.7	21.0	21.9	0.6	17.1	21.1	0.9	15.9	20.9
		26.8			-.27		20.5	21.5		17.9	22.0	1.6	18.0	21.7
0600	26.7	23.4	7.19	0	-.20	0.4	19.9	21.2	0.2	16.9	21.1	0.2	15.5	20.1
		26.5			-.28		20.0	21.1		18.3	22.1	0.5	17.7	21.5
0630	26.4	23.4	-----	0	-.21	0.1	18.8	20.6	0.1	17.2	20.7	0.2	15.4	19.3
		26.0			-.27		18.7	20.3		18.9	22.4	0.3	18.0	21.7

EAST MESA 1 (1979) - WARM III (contd)

0700	26.2	23.1	7.03	.03	-.18	0.2	17.7	19.8	0.3	17.5	20.6	0.4	15.8	19.4
		25.5			-.25		17.4	19.7		19.0	23.2	0.8	18.0	21.3
0730	26.0	23.0	-----	.27	-.01	0.2	18.9	21.0	0.2	17.8	21.2	0.3	16.3	20.5
		25.5			-.26		18.8	21.0		18.7	22.7	0.4	18.6	22.0
0800	25.8	23.0	6.92	.56	.24	0.6	21.4	23.3	0.5	18.5	22.2	0.6	17.4	22.2
		25.6			-.16		21.0	23.2		18.6	22.6	0.6	19.6	22.9
0830	25.7	23.5	-----	1.06	.70	0.5	23.6	26.8	0.3	20.6	24.9	0.3	19.3	25.4
		25.8			.12		23.0	26.5		19.7	24.3	0.2	22.0	25.7

APPENDIX D

EAST MESA 2 (1981) - EXPERIMENTS 1 - 6

EAST MESA 2 (1981) - EXPERIMENT 1

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation W/m² Shortwave Incoming	Net All-Wave	Wind Speeds meters/sec East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
16 Jun 81													
1600	45.79	8.026	43.9	708.0	377.7	4.0	4.0	41.2	27.6	39.8	24.8	40.8	23.7
										40.4	24.1	40.9	23.9
1630	45.38			603.1	314.1	4.8	5.2	40.8	27.9	39.7	25.4	40.2	23.8
										40.2	24.3	40.2	23.9
1700	44.92	7.731	42.4	499.8	227.5	4.6	5.2	40.6	27.7	39.7	25.2	40.0	23.5
										40.1	24.2	40.0	23.6
1730	44.47			398.1	158.1	4.4	4.8	40.3	27.5	39.7	25.4	39.9	23.4
										40.1	24.3	39.8	23.4
1800	44.00	7.448	40.6	291.0	83.7	4.0	4.6	40.0	27.0	39.7	25.2	39.8	23.2
										40.0	24.0	39.7	23.2
1830	43.53			179.7	14.4	3.4	3.6	39.4	27.3	39.1	25.0	39.0	23.3
										39.1	23.9	38.9	23.2
1900	43.11	7.225	37.8	85.8	-52.5	3.0	3.0	37.9	26.7	37.7	24.4	37.5	23.0
										37.6	23.7	37.4	22.8
1930	42.71			15.2	-94.8	1.8	2.2	35.9	25.9	35.9	23.3	35.6	22.3
										35.6	23.2	35.6	22.0
2000	42.42	7.086	33.6	0.0	-96.7	1.0	2.0	32.3	23.2	32.8	21.9	32.4	21.4
										32.9	21.9	33.0	21.0
2030	42.16			0.0	-88.3	0.6	1.2	30.3	21.2	31.6	21.5	30.8	20.7
										31.8	21.0	31.2	20.4
2100	41.92	7.004	30.1	0.0	-85.5	0.4	0.6	29.5	20.9	31.2	21.6	30.0	20.5
										31.4	20.9	30.5	19.8
2130	41.69			0.0	-81.0	0.6	1.0	29.0	20.4	31.0	21.2	30.5	20.5
										31.0	20.5	31.2	19.9
2200	41.48	6.928	27.6	0.0	-76.9	0.6	1.2	28.6	19.9	30.3	20.7	30.3	19.9
										30.5	20.3	31.6	19.6
2230	41.23			0.0	-71.2	0.4	1.4	27.9	20.6	28.7	20.3	29.1	19.4
										28.4	20.6	31.0	19.0
2300	40.99	6.844	25.7	0.0	-69.0	0.8	2.4	28.9	20.5	29.5	19.8	29.6	19.1
										29.6	19.9	31.6	19.0
2330	40.71			0.0	-69.4	1.0	2.0	27.5	19.7	28.2	19.1	27.8	18.6
										28.1	19.2	29.5	18.3

EAST MESA 2 (1981) - EXPERIMENT 1 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation W/m² Shortwave Incoming	Radiation W/m² Net All-Wave	Wind Speeds meters/sec East Berm	Wind Speeds meters/sec Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
17 Jun 81													
0000	40.49	6.763	24.2	0.0	-65.6	0.8	2.4	27.0	20.1	27.0	18.6	26.7	18.1
										27.2	19.1	28.9	17.9
0030	40.25			0.0	-67.6	1.2	2.2	26.7	19.3	26.9	18.0	26.2	17.6
										27.2	18.3	27.0	17.0
0100	39.99	6.671	23.1	0.0	-66.1	0.8	1.6	26.0	18.9	26.3	17.9	25.6	17.4
										26.6	17.9	26.1	16.7
0130	39.76			0.0	-60.1	0.4	1.0	23.7	17.0	25.7	18.6	24.9	16.8
										26.0	18.3	25.7	16.4
0200	39.53	6.592	21.6	0.0	-58.3	0.6	1.2	22.4	15.8	24.6	16.8	23.6	16.1
										24.3	16.9	24.8	16.0
0230	39.31			0.0	-54.7	0.6	1.2	21.9	15.6	23.6	16.3	22.4	15.5
										23.7	16.2	23.1	15.1
0300	39.06	6.506	20.2	0.0	-57.3	0.4	1.4	21.6	15.7	23.5	16.6	22.1	15.2
										23.8	16.5	23.0	15.0
0330	38.85			0.0	-54.8	0.4	0.8	20.7	14.3	23.5	16.7	22.6	15.6
										23.4	16.4	23.4	15.6
0400	38.62	6.429	18.8	0.0	-53.6	0.6	0.8	20.2	14.2	22.7	15.7	21.6	15.1
										22.5	15.8	22.8	15.4
0430	38.37			0.0	-54.2	1.4	2.6	19.8	13.6	21.3	14.5	19.3	13.3
										21.6	14.9	20.8	13.8
0500	38.13	6.332	17.9	0.0	-52.2	1.0	1.6	19.9	13.9	21.5	14.8	19.8	13.5
										21.8	15.0	21.8	14.5
0530	37.86			11.1	-49.3	0.8	0.8	19.4	14.7	20.7	15.1	19.6	13.8
										20.9	15.3	21.0	13.9
0600	37.68	6.257	18.3	49.6	-34.2	0.6	1.0	19.4	13.4	21.4	14.8	19.8	13.6
										21.3	14.8	21.8	14.6
0630	37.52			124.3	7.7	0.4	0.6	21.4	15.1	23.6	16.6	21.3	14.7
										23.4	16.3	22.2	14.8
0700	37.44	6.218	22.5	219.7	71.5	0.4	0.6	24.2	17.2	25.3	17.2	23.8	16.1
										25.2	17.0	24.0	15.6
0730	37.42			324.4	124.6	0.6	0.4	27.3	19.1	27.9	18.6	27.0	17.7
										27.8	18.3	27.1	17.2
0800	37.41	6.189	29.2	426.8	216.9	1.6	1.8	29.9	21.2	30.0	19.9	29.2	19.1
										30.4	19.9	29.2	18.7

EAST MESA 2 (1981) - EXPERIMENT 1 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation W/m² Shortwave Incoming	Radiation W/m² Net All-Wave	Wind Speeds meters/sec East Berm	Wind Speeds meters/sec Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
17 Jun 81													
0830	37.35			530.0	303.5	2.2	3.0	32.0	22.5	31.8	20.9	31.2	20.3
										32.3	21.1	31.1	19.9
0900	37.26	6.113	34.7	627.8	378.3	3.0	3.6	33.7	23.3	33.4	21.7	32.9	20.9
										33.9	21.9	32.8	20.6
0930	37.25			703.3	433.0	2.6	3.2	34.3	24.1	33.8	22.2	33.7	21.7
										34.3	22.5	33.7	21.6
1000	37.31	5.999	38.3	790.3	483.7	2.2	2.6	35.8	25.5	34.9	22.9	35.2	22.6
										35.4	23.3	35.2	22.7
1030	37.42			858.6	504.3	2.2	2.4	37.6	26.7	36.2	23.6	37.0	23.4
										36.8	24.1	37.3	23.8
1100	37.57	5.922	42.5	911.5	544.1	1.8	1.8	39.4	26.9	37.7	23.7	38.9	23.5
										38.3	24.0	39.2	24.0
1130	37.71			941.8	555.8	1.2	1.4	40.6	26.8	38.7	23.9	40.1	23.4
										39.3	23.8	40.2	24.3
1200	37.88	5.846	45.6	961.1	557.5	1.2	1.4	42.6	27.5	39.8	24.5	41.4	23.6
										40.3	24.3	41.8	24.9
1230	38.03			960.3	558.4	1.4	1.4	43.0	27.4	40.5	24.9	42.2	23.9
										41.0	24.4	42.5	25.3
1300	38.21	5.713	47.5	955.9	542.4	1.4	1.4	44.2	28.3	41.3	25.2	43.3	24.3
										41.4	24.1	43.5	25.8
1330	38.33			952.5	545.5	2.0	2.8	45.4	28.9	42.3	25.8	44.3	25.1
										42.5	24.1	44.2	26.0
1400	38.39	5.659	48.9	947.2	515.0	2.2	2.2	45.5	29.0	42.7	26.1	44.6	25.2
										42.9	24.6	44.5	26.1
1430	38.38			892.9	481.6	2.2	2.8	45.9	29.2	43.0	26.6	45.2	25.7
										43.1	25.4	44.8	26.6
1500	38.38	5.503	49.6	793.8	401.1	2.0	2.8	46.2	29.4	43.3	26.8	45.3	25.6
										43.8	25.6	44.9	26.5
1530	38.33			751.4	383.1	2.8	3.2	45.9	29.3	43.4	26.6	44.8	25.4
										44.0	25.4	44.7	26.3
1600	38.31	5.384	49.8	655.2	324.6	2.0	2.2	45.6	29.1	43.4	26.7	44.8	25.4
										44.0	25.5	44.7	26.3
1630	38.22			525.8	242.2	2.0	2.6	45.2	28.9	43.2	26.7	44.6	25.3
										43.7	25.5	44.5	26.2

EAST MESA 2 (1981) - EXPERIMENT 1 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²)		Wind Speeds (meters/sec)		Air Temperatures (°C)					
								East Berm		Pond Tower		Remote Tower	
				Shortwave Incoming	Net All-Wave	East Berm	Remote Tower	dry	wet	dry	wet	dry	wet
17 Jun 81													
1700	38.07	5.281	49.7	438.5	171.4	2.6	2.4	45.4	29.1	43.5	26.8	44.4	25.3
										44.0	25.6	44.2	26.1
1730	37.82			344.8	115.2	2.6	2.4	44.7	28.7	43.5	26.6	44.1	25.2
										43.9	25.3	43.9	25.9
1800	37.63	5.125	48.4	247.7	55.6	2.0	2.6	44.1	28.5	43.2	26.5	43.7	25.0
										43.6	25.1	43.5	25.7
1830	37.43			137.0	-3.2	1.8	2.4	43.5	28.0	42.7	26.1	43.1	24.5
										43.0	24.8	42.9	25.2
1900	37.31	5.013	44.5	67.5	-53.0	1.2	1.8	41.8	27.9	41.2	25.9	41.5	24.4
										41.4	24.8	41.5	25.0
1930	37.15			6.0	-81.3	0.8	1.8	39.0	26.7	39.1	25.2	39.1	23.9
										38.9	24.3	39.9	24.4
2000	37.05	4.960	39.1	0.0	-89.9	0.8	2.2	36.4	24.9	37.0	24.2	37.4	23.0
										36.6	23.6	38.7	23.4
2030	36.93			0.0	-75.1	0.6	2.2	35.3	23.7	36.1	23.1	36.6	21.8
										35.5	22.9	37.3	22.5
2100	36.74	4.955	35.1	0.0	-70.3	2.8	4.2	35.2	24.6	35.6	23.3	35.6	22.1
										35.3	22.3	35.9	22.8
2130	36.54			0.0	-74.4	1.8	2.8	34.7	24.7	35.1	23.1	35.1	21.9
										34.7	22.3	35.5	22.5
2200	36.26	4.851	32.3	0.0	-71.7	2.8	4.2	33.2	22.9	33.9	22.3	33.8	21.1
										33.8	21.9	34.1	21.5
2230	35.26			0.0	-71.4	0.6	1.4	32.1	22.7	33.9	22.1	33.7	20.5
										32.5	21.5	33.3	21.0
2300	36.14	4.820	28.5	0.0	-68.9	0.6	1.4	32.6	22.6	33.0	21.5	33.2	20.6
										32.6	21.0	33.8	20.8
2330	35.99			0.0	-72.9	1.0	2.0	32.2	22.7	32.4	21.1	32.4	20.0
										32.3	20.6	32.6	20.3

EAST MESA 2 (1981) - EXPERIMENT 1 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
18 Jun 81													
0000	35.80	4.752	28.6	0.0	-67.0	2.0	3.4	31.5	22.7	31.5	20.7	31.3	19.2
										31.3	20.2	31.8	19.8
0030	35.61			0.0	-66.4	1.6	2.2	30.2	22.2	30.3	20.2	29.9	18.6
										30.2	19.7	30.2	19.2
0100	35.44	4.692	27.1	0.0	-64.6	1.2	2.0	29.0	20.3	29.5	19.6	29.1	18.4
										29.5	19.0	29.5	18.8
0130	35.27			0.0	-65.8	1.2	2.0	29.6	20.6	30.2	19.6	29.8	18.5
										30.2	19.1	30.3	18.8
0200	35.09	--	--	0.0	-64.8	1.2	2.2	29.0	20.6	29.3	19.2	28.9	18.4
										29.3	19.0	29.4	18.5
0230	34.93			0.0	-63.1	1.8	3.0	28.1	19.9	28.3	18.6	28.1	18.0
										28.3	18.3	28.6	18.2
0300	34.72	4.560	25.0	0.0	-64.0	2.0	3.4	27.6	19.0	27.7	18.1	27.8	17.6
										27.7	17.8	28.4	17.8
0330	35.52			0.0	-61.0	1.0	1.4	26.2	18.5	27.2	17.8	26.8	16.8
										26.8	17.4	27.7	17.2
0400	34.33	4.498	23.6	0.0	-59.8	1.6	2.8	24.1	16.5	25.2	16.4	25.1	15.5
										25.4	16.5	26.2	16.4
0430	34.14			0.0	-58.0	1.0	2.6	24.2	16.5	25.4	16.5	24.9	15.3
										25.6	16.3	25.4	15.9
0500	33.97	4.433	22.0	0.0	-60.1	0.8	2.0	23.5	16.5	24.7	16.6	23.8	15.4
										24.9	16.5	24.3	16.0
0530	33.81			8.5	-57.5	0.8	2.2	22.2	16.4	23.4	16.8	22.5	15.6
										23.6	16.6	23.0	16.1
0600	33.65	4.385	21.4	43.1	-41.9	1.4	3.0	22.7	17.0	23.8	17.1	23.0	16.0
										24.0	17.2	23.2	16.4
0630	33.53			115.2	-1.4	1.2	2.2	24.2	18.3	25.3	18.1	24.2	16.9
										25.3	18.2	24.1	17.1
0700	33.49	4.344	25.1	212.1	72.1	1.8	3.0	26.0	19.7	26.6	19.2	25.8	17.6
										26.9	19.4	25.7	18.4
0730	33.37			315.8	131.8	3.2	4.2	27.8	21.6	28.0	20.7	27.6	19.4
										28.5	20.8	27.5	20.1

EAST MESA 2 (1981) - EXPERIMENT I (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
18 Jun 81													
0800	33.16	4.306	29.7	418.3	214.5	4.2	5.2	27.8	21.6	27.6	20.6	27.5	20.7
										28.1	20.6	27.3	20.1
0830	33.06			519.3	295.3	4.4	5.8	--	--	--	--	--	--
										--	--	--	--
0900	33.00	4.205	34.8	610.1	349.3	4.4	5.8	32.0	24.7	31.1	23.2	31.3	27.4
										31.6	23.2	31.0	22.8
0930	33.02			694.1	429.0	4.4	6.0	--	--	--	--	--	--
										--	--	--	--
1000	--	4.071	38.1	765.8	470.3	5.2	5.8	--	--	--	--	--	--
										--	--	--	--
1030	33.22			137.4	489.0	3.8	4.8	36.5	26.9	34.7	24.7	35.6	25.4
										35.3	24.7	35.3	24.7
1100	33.29	3.984	40.3	126.7	544.9	4.0	5.2	38.1	27.4	36.0	25.0	36.9	26.2
										36.6	24.9	36.6	25.0
1130	33.40			168.8	558.9	4.0	5.0	38.8	27.6	36.7	25.1	38.0	27.4
										37.3	24.9	37.6	25.1

EAST MESA 2 (1981) - EXPERIMENT 2

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
20 Jun 81													
1500	--	8.019	47.3	812.8	451.1	2.8	3.0	--	--	--	--	--	--
										--	--	--	--
1530	45.92			729.7	406.6	2.4	2.8	42.7	28.9	43.3	31.7	--	--
										43.4	31.7	--	--
1600	46.38	7.828	48.4	669.4	390.8	1.4	2.2	44.9	29.9	46.1	34.0	--	--
										46.0	33.5	--	--
1630	46.13			550.0	245.7	1.6	1.6	44.3	29.8	46.0	--	44.2	28.4
										45.9	33.1	44.1	27.3
1700	45.74	7.689	48.9	454.7	133.8	2.4	2.8	44.8	30.0	46.0	--	44.3	28.5
										45.9	33.0	44.1	27.4
1730	45.39			350.4	131.6	2.2	2.6	44.5	30.0	45.8	--	44.2	28.4
										45.8	33.0	44.0	27.3
1800	44.96	7.495	48.2	252.3	89.2	2.6	3.6	44.3	29.5	45.2	--	43.8	28.2
										45.2	32.3	43.5	27.0
1830	44.46			151.3	31.8	3.2	4.4	43.6	29.2	44.4	--	43.2	28.0
										44.4	31.8	42.9	26.7
1900	43.90	7.243	44.8	72.1	-30.0	4.0	5.6	42.2	29.0	42.8	--	41.9	28.0
										42.8	31.1	41.7	26.7
1930	43.39			13.8	-63.9	3.4	4.6	40.0	28.3	40.5	--	39.8	27.5
										40.4	29.7	39.7	26.1
2000	42.94	6.987	39.9	0.0	-85.7	2.4	3.2	38.0	27.3	38.4	--	37.9	26.3
										38.2	28.0	37.9	24.9
2030	42.66			0.0	-63.7	1.6	2.4	35.7	26.7	35.6	--	35.5	25.7
										35.6	26.9	35.6	24.4
2100	42.37	6.887	35.9	0.0	-67.3	1.4	2.2	34.3	26.5	34.0	--	34.3	25.2
										33.8	26.1	34.6	24.0
2130	42.11			0.0	-68.6	1.6	2.2	34.7	26.2	33.8	--	34.4	24.9
										33.7	25.6	34.9	23.6
2200	41.84	6.814	33.2	0.0	-71.4	1.4	2.2	34.2	25.2	33.9	--	34.0	24.2
										33.9	25.5	34.2	22.8
2230	41.59			0.0	-71.7	1.4	2.6	32.5	24.2	32.8	--	32.3	23.6
										32.7	24.6	32.7	22.2
2300	41.35	6.728	31.1	0.0	-56.3	1.0	2.0	31.9	24.2	31.7	--	31.7	23.1
										31.5	24.2	32.0	21.7
2330	41.09			0.0	-55.9	1.2	2.0	31.4	23.9	31.0	--	31.0	22.8
										30.8	23.6	31.3	21.3

EAST MESA 2 (1981) - EXPERIMENT 2 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
21 Jun 81													
0000	40.87	6.654	29.5	0.0	-53.3	1.6	2.6	30.6	23.6	30.4	--	30.1	22.4
										30.1	23.1	30.4	20.8
0030	40.62			0.0	-57.9	2.0	2.6	30.7	23.3	30.3	--	30.3	22.2
										30.0	22.7	30.4	20.6
0100	40.27	6.566	28.1	0.0	-47.1	3.2	4.0	30.7	23.5	30.4	--	30.4	22.2
										30.3	22.8	30.4	20.4
0130	39.92			0.0	-73.7	3.4	4.6	31.0	23.5	30.6	--	30.6	22.2
										30.4	23.0	30.7	20.4
0200	39.47	6.384	27.2	0.0	-66.9	3.2	4.4	30.7	23.0	30.4	--	30.3	21.8
										30.3	23.0	30.4	20.1
0230	39.13			0.0	-61.6	3.0	3.6	30.2	22.6	30.0	--	29.7	21.6
										29.8	22.8	29.9	19.8
0300	38.60	6.257	26.6	0.0	-62.0	2.2	3.0	29.9	22.4	29.6	--	29.3	21.4
										29.4	22.6	29.5	19.5
0330	38.54			0.0	-53.8	1.0	1.4	28.4	21.1	28.8	--	28.1	20.9
										28.5	22.3	28.5	19.0
0400	38.31	6.189	25.8	0.0	-53.1	0.8	1.8	27.6	20.0	28.3	--	27.9	20.6
										27.9	21.5	28.3	18.8
0430	38.11			0.0	-73.0	1.0	1.8	27.8	20.2	28.0	--	27.9	20.5
										27.8	21.0	28.3	18.7
0500	37.90	6.091	25.2	0.0	-54.9	1.2	2.4	26.9	19.1	27.3	--	27.3	20.1
										27.1	20.4	28.4	18.6
0530	37.66			10.2	-59.9	0.8	2.0	26.6	19.0	27.2	--	27.2	20.2
										26.9	20.5	27.8	18.5
0600	37.65	6.036	24.9	44.8	-54.4	1.6	3.0	26.8	20.5	27.4	--	26.8	21.4
										27.5	21.8	26.9	19.4
0630	37.54			117.5	-8.9	2.4	3.6	27.9	21.5	28.9	--	27.6	22.2
										29.0	23.2	27.6	20.1
0700	37.34	5.961	28.3	209.3	75.6	3.4	5.0	28.9	22.7	30.0	--	28.5	23.3
										30.0	24.3	28.5	21.2
0730	37.17			313.0	139.3	3.0	4.6	30.2	23.8	30.9	--	29.6	24.1
										31.0	25.4	29.7	22.2
0800	37.12	5.854	32.5	410.9	208.3	2.2	3.2	31.8	25.0	33.0	--	31.1	25.2
										32.6	26.5	31.1	23.3

EAST MESA 2 (1981) - EXPERIMENT 2 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
21 Jun 81													
0830	37.11			511.4	326.9	2.6	3.4	33.3	26.2	34.2	--	32.5	26.2
										33.7	27.7	32.5	24.5
0900	37.12	5.772	36.9	602.1	378.6	2.8	3.6	34.8	27.1	35.3	--	33.9	26.8
										35.1	29.0	34.0	25.3
0930	37.16			680.6	408.8	2.6	3.4	36.4	27.5	36.6	--	35.5	27.1
										36.4	29.6	35.4	25.6
1000	37.41	5.701	40.6	759.2	480.7	2.6	3.2	38.1	28.0	36.7	--	37.2	24.9
										36.8	30.3	37.1	25.9
1030	37.45			825.7	474.8	2.4	2.8	38.9	28.2	37.1	--	38.0	25.3
										37.4	31.1	37.8	26.0
1100	37.61	5.602	43.2	879.8	511.2	2.4	3.4	40.1	28.6	38.1	--	38.9	24.7
										38.2	31.7	38.8	26.2
1130	37.70			920.2	552.8	2.4	3.4	40.5	28.8	38.4	--	39.4	24.8
										38.5	31.9	39.2	26.4
1200	37.85	5.477	44.6	940.9	553.4	2.0	2.8	41.3	29.0	39.1	--	39.9	25.0
										39.1	32.2	40.2	26.7
1230	37.99			934.3	571.6	2.4	2.8	42.0	29.1	39.7	--	40.9	25.8
										39.6	32.2	41.1	27.0
1300	38.15	5.386	45.5	919.7	548.5	2.6	3.2	42.2	29.5	40.4	--	41.5	26.4
										40.4	33.1	41.5	27.3
1330	38.11			943.3	560.4	2.4	3.8	43.0	30.0	41.3	--	42.3	27.3
										41.4	33.9	42.0	27.5
1400	38.06	5.223	46.4	924.2	533.6	2.6	3.0	43.5	30.2	41.7	31.1	42.6	27.7
										41.9	34.6	42.4	27.7
1430	38.15			881.0	480.3	2.0	2.4	43.2	30.1	41.7	31.4	42.9	27.9
										42.0	35.0	42.7	27.8
1500	38.20	5.110	47.9	791.6	377.3	1.8	2.2	43.8	30.3	42.2	32.1	43.4	28.1
										42.5	35.6	43.2	28.1
1530	38.24			750.5	365.6	2.4	2.6	43.6	30.2	42.5	32.3	43.5	28.2
										42.8	35.8	43.4	28.0
1600	38.25	5.025	49.0	667.8	312.2	3.0	3.8	44.4	30.9	43.1	--	43.6	28.9
										43.3	--	43.4	28.6
1630	38.14			582.4	294.2	3.6	4.6	44.1	30.9	42.9	--	43.5	29.2
										43.4	--	43.2	28.6

EAST MESA 2 (1981) - EXPERIMENT 2 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
21 Jun 81													
1700	37.94	4.879	49.1	486.6	210.5	3.6	4.8	44.0	30.8	43.2	--	43.3	29.0
										43.4	--	43.0	28.4
1730	37.68			382.2	165.4	4.4	6.2	43.5	30.6	42.8	--	42.7	29.0
										43.1	--	42.4	28.2
1800	37.44	4.701	47.7	290.3	95.4	4.8	6.8	42.5	30.0	42.0	--	41.9	28.7
										42.3	--	41.6	27.8
1830	36.99			186.0	36.7	3.2	7.0	41.3	29.6	40.9	--	40.8	28.6
										41.2	--	40.5	27.5
1900	36.64	4.505	43.7	103.7	-18.9	4.8	7.2	39.9	28.7	39.6	--	39.5	27.7
										39.8	--	39.3	26.6
1930	36.23			40.5	-58.8	4.4	6.6	38.2	27.7	38.1	--	38.0	27.2
										38.2	--	37.9	25.8
2000	35.92	4.391	38.1	15.0	-70.9	4.2	5.8	36.6	27.1	36.7	--	36.6	26.9
										36.6	--	36.5	25.5
2030	35.67			0.0	-49.4	3.2	5.2	35.2	26.5	35.4	--	35.2	26.4
										35.3	--	35.2	24.9
2100	35.46	4.240	34.3	0.0	-75.4	2.8	4.0	33.9	26.0	34.1	--	33.9	26.0
										34.0	--	33.9	24.5
2130	35.21			0.0	-68.8	2.4	3.4	32.9	25.6	33.1	--	32.9	25.4
										33.0	--	32.8	24.1
2200	34.99	4.162	31.9	0.0	-44.7	3.2	4.8	32.1	25.2	32.4	--	32.1	25.1
										32.2	--	32.1	23.8
2230	34.80			0.0	-58.2	1.8	2.6	31.3	24.9	31.7	--	31.3	25.1
										31.5	--	31.3	23.6
2300	34.64	4.098	29.9	0.0	-61.3	1.8	2.8	30.5	24.7	30.9	--	30.5	25.0
										30.7	--	30.5	23.6
2330	34.50			0.0	-63.5	1.4	2.2	30.1	24.1	30.4	--	30.1	24.4
										30.2	--	30.1	23.0

EAST MESA 2 (1981) - EXPERIMENT 2 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
22 Jun 81													
0000	34.38	4.071	28.7	0.0	-67.2	1.6	2.0	29.7	23.8	30.1	--	29.7	24.0
										29.9	--	29.8	22.6
0030	34.21			0.0	-63.3	1.2	2.2	29.4	23.4	29.8	--	29.5	23.7
										29.6	--	29.6	22.3
0100	34.02	4.025	27.6	0.0	-66.5	0.6	1.4	28.7	22.6	29.3	--	28.9	23.0
										29.1	--	29.1	21.7
0130	33.89			0.0	-58.0	0.8	1.4	28.2	22.4	28.7	--	28.4	22.6
										28.5	--	28.9	21.3
0200	33.84	3.993	26.4	0.0	-55.2	0.6	1.2	27.2	21.6	28.2	--	28.0	22.2
										28.1	--	28.3	20.9
0230	33.71			0.0	-50.3	0.4	1.2	26.9	21.3	27.7	--	27.4	22.0
										27.6	--	28.0	20.7
0300	33.59	3.974	25.3	0.0	-45.3	0.4	1.6	25.8	20.6	26.9	--	26.8	21.6
										26.8	--	27.5	20.5
0330	33.51			0.0	-55.6	0.6	1.6	25.7	20.6	26.6	--	26.0	21.3
										26.4	--	26.2	19.9
0400	33.36	3.919	24.4	0.0	-57.7	0.8	1.6	25.4	20.4	26.2	--	25.5	20.9
										26.0	--	25.9	19.7
0430	33.26			0.0	-52.3	1.2	2.4	25.0	20.2	25.7	--	24.8	20.5
										25.5	--	25.5	19.4
0500	33.10	3.891	23.4	0.0	-67.1	0.8	1.8	24.2	19.7	25.0	--	24.1	20.2
										24.8	--	24.6	18.9
0530	32.98			24.5	-35.7	1.0	2.0	23.8	19.5	24.6	--	24.0	20.3
										24.4	--	24.3	18.9
0600	32.93	3.863	23.7	61.1	-21.5	1.6	2.4	24.5	20.2	25.2	--	24.7	20.9
										25.1	--	24.8	19.4
0630	32.97			136.6	15.6	2.2	3.4	26.7	21.8	27.1	--	26.5	22.1
										27.3	--	26.5	20.5

EAST MESA 2 (1981) - EXPERIMENT 2 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Radiation (W/m²) Net All-Wave	Wind Speeds (meters/sec) East Berm	Wind Speeds (meters/sec) Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
22 Jun 81													
0700	32.88	3.853	26.8	227.7	76.9	3.6	4.8	28.0	23.0	28.1	--	27.7	23.3
										28.4	--	27.6	21.6
0730	32.80			332.0	131.1	4.2	6.0	29.1	24.0	29.0	--	28.7	24.3
										29.4	--	28.5	22.6
0800	32.74	3.786	31.4	431.3	210.2	4.2	5.8	30.4	25.4	30.1	--	29.7	25.5
										30.3	--	29.6	23.8
0830	32.77			530.6	303.6	4.2	5.6	31.5	26.2	31.0	--	30.9	26.2
										31.2	--	30.6	24.6
0900	32.82	3.736	35.5	622.2	359.0	4.0	5.6	32.9	27.1	32.1	--	32.0	27.1
										32.3	--	31.7	25.4
0930	32.94			705.1	413.6	3.8	5.0	34.3	27.7	33.2	--	33.4	27.6
										33.5	--	33.1	26.0
1000	33.07	3.661	38.9	786.2	422.3	3.4	4.4	35.6	28.1	34.2	29.5	34.6	27.8
										34.4	31.3	34.4	26.2
1030	33.22			839.6	444.6	3.0	3.6	36.9	28.6	35.3	30.2	36.2	28.3
										35.6	32.5	35.9	26.8
1100	33.43	3.579	41.9	882.8	507.5	2.6	3.2	38.3	26.9	36.4	30.6	37.3	28.4
										36.7	33.4	37.1	26.9
1130	33.61			912.5	520.8	2.8	3.4	39.5	29.5	37.3	31.5	38.4	28.8
										37.6	34.1	38.2	27.4
1200	33.80	3.502	44.0	941.2	560.4	2.6	3.6	40.1	29.7	37.8	31.8	38.7	28.9
										38.0	34.3	38.7	27.5
1230	33.93			908.7	582.7	3.0	3.8	40.9	29.8	38.6	32.0	39.5	29.0
										38.7	34.5	39.5	27.7
1300	34.11	3.416	44.7	924.1	575.5	2.8	3.6	41.4	30.0	39.3	32.3	40.5	29.3
										39.5	35.3	40.4	28.0
1330	34.22			922.3	568.2	3.2	3.8	42.0	30.2	40.1	33.2	41.2	29.6
										40.3	36.0	40.8	28.0
1400	34.35	3.324	45.8	909.7	536.3	2.8	3.6	42.7	30.6	40.7	33.8	41.7	29.8
										41.0	36.9	41.3	28.3
1430	34.44			861.6	491.2	3.0	4.0	42.8	31.0	41.0	34.3	42.0	30.4
										41.3	37.4	41.6	28.8
1500	34.54	3.235	47.3	804.7	445.3	3.0	3.8	42.7	31.2	41.1	34.7	41.9	30.5
										41.5	37.6	41.5	29.0

EAST MESA 2 (1981) - EXPERIMENT 3

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
23 Jun 81													
1800	50.04	7.700	47.9	230.8	69.4	2.2	2.4	43.0	31.2	43.0	--	42.5	30.2
										43.6	28.9	42.3	28.4
1830	49.80			156.5	35.5	3.0	4.0	42.7	30.7	42.9	--	42.2	30.1
										43.3	28.9	41.9	28.3
1900	49.08	7.330	44.6	74.0	-8.6	4.8	7.2	40.5	29.9	40.9	--	40.2	29.6
										41.0	28.4	39.9	27.9
1930	48.15			20.7	-56.7	5.2	7.2	37.8	28.7	38.4	--	37.7	28.4
										38.2	27.6	37.5	26.9
2000	47.32	6.964	39.7	0.0	-60.0	4.0	5.8	36.5	28.0	37.1	--	36.5	27.8
										36.9	27.1	36.4	26.3
2030	46.64			0.0	-58.3	4.0	5.4	35.7	27.4	36.3	--	35.6	27.2
										36.1	26.7	35.5	25.8
2100	45.96	6.681	36.2	0.0	-55.5	2.8	4.0	34.8	27.1	35.4	--	34.7	26.7
										35.2	26.5	34.7	25.4
2130	45.37			0.0	-39.6	2.0	3.0	33.8	26.6	34.6	--	33.8	26.5
										34.3	26.3	33.8	25.2
2200	44.96	6.502	33.5	0.0	-62.5	2.0	3.6	33.0	26.5	33.8	--	33.1	26.5
										33.6	26.2	33.1	25.2
2230	44.61			0.0	-47.4	2.2	3.6	32.2	26.1	33.1	--	32.2	26.2
										32.8	25.8	32.2	24.8
2300	44.27	6.382	31.7	0.0	-90.6	2.0	3.4	31.2	25.8	32.2	--	31.3	31.2
										31.9	25.6	31.2	24.6
2330	43.84			0.0	-55.2	2.2	3.2	30.5	25.6	31.4	--	30.5	25.7
										31.1	25.3	30.4	24.4
24 Jun 81													
0000	43.26	6.250	30.3	0.0	-47.4	2.2	3.6	29.7	25.1	30.7	--	29.7	25.2
										30.4	24.8	29.7	24.0
0030	43.08			0.0	-55.8	2.8	4.2	29.3	24.9	30.2	--	29.3	25.1
										30.0	24.6	29.3	23.9

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date	Pond	Sfc	Stillwell	Radiation (W/m^2)		Wind Speeds (meters/sec)		Air Temperatures (°C)					
	T	Flevation	T	Shortwave	Net			East Berm		Pond Tower		Remote Tower	
Time	(°C)	(cm)	(°C)	Incoming	All-Wave	East Berm	Remote Tower	dry	wet	dry	wet	dry	wet
24 Jun 81													
0100	42.68	6.103	28.7	0.0	-46.4	3.0	4.8	28.8	24.5	29.7	--	28.8	24.6
										29.5	24.1	28.8	23.4
0130	42.24			0.0	-62.9	3.0	4.2	28.3	24.0	29.2	--	28.3	24.1
										28.9	23.6	28.2	22.9
0200	41.72	5.941	27.7	0.0	-46.9	2.4	3.8	28.0	23.6	29.0	--	28.0	23.6
										28.7	23.2	28.0	22.4
0230	41.38			0.0	-44.8	2.4	3.8	27.7	23.2	28.6	--	27.7	23.3
										28.3	22.8	27.7	22.1
0300	40.88	5.814	26.8	0.0	-44.0	2.2	3.6	27.2	22.9	28.2	--	27.2	23.0
										27.9	22.6	27.3	21.8
0330	40.78			0.0	-23.4	2.8	4.0	27.0	22.8	27.9	--	27.0	22.8
										27.6	22.4	27.1	21.7
0400	40.44	5.694	26.1	0.0	-45.7	3.4	5.2	26.9	22.8	27.8	--	27.0	22.9
										27.5	22.4	27.0	21.8
0430	40.07			0.0	-51.4	4.2	6.0	26.6	23.0	27.4	--	26.6	23.1
										27.2	22.7	26.6	22.0
0500	39.62	5.556	25.5	0.0	-52.8	4.0	5.8	26.0	22.9	26.8	--	25.9	23.0
										26.5	22.8	25.9	22.0
0530	39.21			17.8	-47.5	3.6	5.0	25.4	22.8	26.2	--	25.3	22.8
										25.9	22.8	25.3	21.9
0600	38.80	5.360	25.2	55.2	-19.0	3.2	4.6	25.5	22.9	26.2	--	25.3	23.0
										26.1	23.0	25.2	22.0
0630	38.37			130.6	30.9	3.2	4.4	26.3	23.4	26.8	--	26.1	23.5
										27.0	23.5	25.9	22.4
0700	38.30	5.230	28.5	224.1	96.0	3.8	5.6	27.6	24.1	27.8	--	27.3	24.1
										28.1	23.9	27.1	23.0
0730	38.14			329.3	165.3	5.0	6.6	28.8	24.9	28.9	--	28.5	24.7
										29.3	24.5	28.3	23.6
0800	37.92	5.126	31.7	428.7	232.1	4.6	6.6	29.9	25.7	29.9	--	29.4	25.3
										30.2	25.1	29.2	24.2
0830	37.76			526.8	310.6	4.0	5.6	30.9	26.3	30.5	--	30.2	25.8
										30.8	25.6	30.0	24.7

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
24 Jun 81													
0900	37.69	4.970	35.5	616.6	379.2	3.6	5.2	32.4	27.0	31.6	--	31.5	26.3
										32.0	26.2	31.2	25.3
0930	37.69			700.1	437.1	4.0	5.6	33.9	27.6	32.9	--	33.0	26.8
										33.4	26.7	32.7	25.9
1000	37.68	4.838	38.7	780.5	493.0	4.4	6.0	35.1	28.3	33.9	--	34.3	27.4
										34.4	27.3	33.8	26.4
1030	37.69			839.9	521.9	4.4	5.8	36.3	28.8	34.9	--	35.4	27.8
										35.4	27.9	35.0	26.9
1100	37.76	4.693	40.9	893.7	565.1	3.6	4.8	37.7	29.3	36.1	--	36.8	28.1
										36.8	28.6	36.5	27.4
1130	37.87			930.8	591.9	3.2	4.2	39.1	29.8	37.1	--	37.7	28.1
										37.8	29.1	37.6	27.6
1200	37.96	4.577	43.3	945.7	584.5	2.6	3.2	40.0	30.0	37.8	--	38.5	28.1
										38.5	29.3	38.6	27.7
1230	38.06			935.2	581.4	2.0	2.6	40.9	30.2	38.5	--	39.5	28.5
										38.9	29.3	39.6	28.0
1300	38.27	4.446	45.4	926.3	563.5	1.4	1.8	40.8	30.0	38.7	--	40.4	29.3
										39.6	29.9	40.2	28.0
1330	38.41			913.6	543.8	1.8	2.2	41.6	30.6	39.6	--	40.9	30.0
										40.8	30.8	40.7	28.2
1400	38.43	4.359	46.9	904.6	541.2	2.8	3.2	41.2	30.2	39.8	--	41.2	29.8
										40.8	30.8	41.2	27.8
1430	38.52			869.0	504.4	2.4	2.6	41.8	29.9	--	--	41.6	30.1
										41.5	31.1	41.5	27.5
1500	38.52	4.276	47.6	812.3	447.8	2.2	2.6	42.0	30.6	--	--	41.7	30.8
										41.7	31.8	41.6	27.9
1530	38.56			744.0	412.1	2.0	2.4	41.9	30.4	40.6	27.3	41.8	29.9
										41.8	--	41.7	27.9

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
24 Jun 81 1600	38.52	4.170	48.6	649.0	337.2	2.6	2.4	42.5	30.5	41.6	27.3	42.2	28.3
										42.2	--	42.2	27.8
1630	38.42			558.7	277.4	2.6	2.6	42.4	30.7	41.6	27.6	42.6	28.6
										42.2	--	42.5	28.2
1700	38.30	4.080	48.5	456.1	192.7	2.4	2.4	42.5	30.6	41.8	27.5	42.5	28.3
										42.4	--	42.5	27.8
1730	38.18			363.5	145.8	2.2	2.4	42.3	30.5	41.6	27.6	42.5	28.3
										42.4	--	42.4	27.6
1800	37.96	3.981	47.7	273.0	84.5	2.2	2.2	42.3	30.5	41.9	27.6	42.3	28.2
										42.5	--	42.2	27.6
1830	37.80			173.4	22.2	2.0	2.2	42.4	30.4	42.1	27.7	42.1	28.3
										42.5	--	42.0	27.6
1900	37.64	3.910	45.2	87.8	-29.4	2.6	2.4	41.8	30.1	41.7	27.5	41.6	28.2
										41.9	--	41.4	27.4
1930	37.38			27.0	-49.1	4.0	6.0	40.0	29.7	39.9	27.6	39.9	28.2
										39.9	--	39.7	27.5
2000	37.05	3.799	39.9	0.0	-50.5	3.8	5.6	37.5	29.0	37.6	27.3	37.6	27.8
										37.4	--	37.5	27.2
2030	36.78			0.0	-68.0	3.6	5.2	36.1	28.3	36.2	26.8	36.1	27.1
										36.0	--	36.1	26.5
2100	36.54	3.660	36.3	0.0	-69.8	3.8	5.2	35.1	27.7	35.2	26.2	35.1	26.4
										35.0	--	35.0	25.9
2130	36.28			0.0	-59.4	3.8	5.6	34.3	27.3	34.5	25.9	34.4	26.0
										34.3	--	34.3	25.6
2200	35.97	3.569	33.8	0.0	-42.7	3.0	4.6	33.6	27.1	33.8	25.8	33.6	25.8
										33.6	--	33.6	25.5
2230	35.71			0.0	-32.6	2.0	3.2	32.6	26.9	32.8	25.9	32.5	25.8
										32.6	--	32.5	25.5
2300	35.47	3.493	32.3	0.0	-68.2	2.4	3.2	31.7	26.7	31.9	25.8	31.7	25.6
										31.8	--	31.6	25.4
2330	35.40			0.0	-46.9	3.4	4.8	31.1	25.9	31.4	24.9	31.1	24.7
										31.2	--	31.1	24.4

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
25 Jun 81													
0000	35.13	3.413	30.3	0.0	-51.5	2.8	4.0	30.7	25.3	31.1	24.2	30.7	24.0
										30.9	--	30.7	23.7
0030	34.80			0.0	-50.8	2.2	3.2	30.0	24.7	30.4	23.7	30.1	23.5
										30.2	--	30.1	23.2
0100	34.56	3.333	28.9	0.0	-53.3	1.8	2.8	29.4	24.2	29.8	23.2	29.5	23.0
										29.6	--	29.5	22.8
0130	34.36			0.0	-49.1	1.6	2.8	28.7	23.8	29.2	22.9	28.8	22.7
										29.0	--	28.9	22.4
0200	34.30	3.281	27.8	0.0	-43.3	2.4	3.8	28.4	23.7	28.9	22.7	28.4	22.4
										28.7	--	28.4	22.3
0230	34.15			0.0	-35.4	2.6	3.8	28.1	23.5	28.6	22.6	28.1	22.3
										28.4	--	28.2	22.2
0300	33.93	3.200	25.9	0.0	-36.4	2.4	3.6	27.9	23.6	28.4	22.6	28.0	22.4
										28.2	--	28.1	22.3
0330	33.60			0.0	-38.7	1.2	2.2	27.6	23.3	28.0	22.4	27.5	22.1
										27.8	--	27.7	22.1
0400	33.46	3.146	26.1	0.0	-42.3	0.6	1.4	26.8	22.7	27.4	22.1	26.8	21.6
										27.2	--	27.0	21.6
0430	33.32			0.0	-48.1	0.8	2.0	26.2	22.4	26.8	21.8	26.4	21.4
										26.6	--	26.6	21.5
0500	33.23	3.102	25.4	0.0	-32.4	1.2	2.2	26.0	22.3	26.6	21.6	26.1	21.2
										26.4	--	26.4	21.3
0530	33.15			10.0	-31.8	1.0	2.0	26.1	22.2	26.6	21.6	26.0	21.1
										26.4	--	26.3	21.2
0600	33.05	3.063	24.7	32.6	-8.3	1.0	1.8	25.9	22.1	26.4	21.4	25.8	20.9
										26.3	--	26.0	21.0
0630	33.00			61.8	10.1	0.6	1.0	25.9	22.1	26.5	21.6	25.8	20.9
										26.5	--	25.9	20.9
0700	33.04	3.042	25.9	148.0	57.2	0.6	1.0	27.3	23.1	27.9	22.4	27.3	21.7
										28.2	--	27.3	21.6

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
25 Jun 81													
0730	33.29			279.9	166.4	3.0	3.8	30.1	24.9	30.3	23.6	29.8	23.3
										30.5	--	29.8	23.2
0800	33.21	2.996	30.5	315.8	206.0	2.8	3.8	30.9	25.8	30.9	24.4	30.5	24.1
										31.1	--	30.5	24.0
0830	33.30			474.1	293.1	2.0	2.6	32.7	27.1	32.3	25.5	32.1	25.3
										32.7	--	32.2	25.3
0900	33.45	2.958	36.1	563.2	333.4	0.8	1.0	33.6	27.9	33.1	26.0	33.2	26.0
										33.7	--	33.2	26.0
0930	33.64			594.3	373.1	1.0	1.2	34.6	28.5	33.7	26.5	34.1	26.5
										34.5	--	34.2	26.5
1000	34.03	2.930	41.1	733.2	451.5	1.0	1.2	35.8	29.1	34.6	26.6	35.2	26.9
										35.4	--	35.3	26.9
1030	34.17			740.3	435.0	1.6	1.6	37.5	29.8	36.2	27.0	36.8	27.4
										36.8	--	36.6	27.4
1100	34.33	2.888	44.1	895.1	563.5	2.4	3.0	38.9	30.5	37.3	27.4	37.9	27.7
										37.8	--	37.5	27.7
1130	34.63			932.5	566.8	2.0	2.4	39.4	30.8	37.8	27.5	38.7	28.0
										38.3	--	38.5	28.0
1200	34.97	2.811	46.4	940.5	559.1	1.4	1.8	40.3	31.4	38.5	27.6	39.4	28.0
										39.2	--	39.6	28.2
1230	34.83			605.4	338.6	1.4	1.4	40.4	31.4	38.9	27.5	39.9	28.4
										39.3	--	39.8	28.3
1300	35.27	2.739	46.8	880.7	549.3	1.4	1.8	41.7	32.1	40.1	27.8	41.0	28.8
										40.6	--	40.7	28.5
1330	35.43			889.6	547.5	1.8	2.2	42.4	32.4	40.9	27.8	42.0	28.9
										41.5	--	41.6	28.5
1400	35.66	2.692	47.9	876.3	512.9	1.4	1.6	43.0	32.9	41.4	27.8	42.5	29.0
										42.1	--	42.1	28.6

EAST MESA 2 (1981) - EXPERIMENT 3 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
25 Jun 81													
1430	35.80			840.2	468.8	1.6	2.0	43.5	33.1	41.9	27.8	42.9	28.9
										42.7	--	42.7	28.4
1500	35.85	2.618	49.5	783.2	403.8	1.8	1.8	43.7	33.0	42.6	27.8	43.6	29.0
										43.3	--	43.4	28.5
1530	35.79			700.5	334.5	2.2	2.4	44.7	33.4	43.5	28.0	44.3	30.9
										44.2	--	44.0	28.6
1600	35.81	2.538	50.3	614.2	277.4	1.8	2.2	44.4	33.5	43.4	28.2	43.9	31.0
										--	--	43.7	28.6
1630	37.73			544.8	269.8	3.0	4.0	--	--	43.9	28.5	44.1	31.5
										--	23.2	43.8	28.7

EAST MESA 2 (1981) - EXPERIMENT 4

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
27 Jun 81													
0900	50.89	7.579	37.7	500.6	291.5	3.2	4.6	34.8	24.7	34.6	26.9	33.7	25.8
										34.8	25.4	33.5	25.7
0930	50.39			590.0	350.1	2.4	3.0	35.2	24.9	35.0	27.1	34.2	26.1
										35.3	25.8	34.1	26.0
1000	50.18	7.316	38.8	675.5	411.5	1.8	2.0	36.2	25.5	35.5	27.2	35.1	26.4
										36.2	26.1	35.1	26.4
1030	50.02			840.8	523.2	2.4	3.2	37.6	25.3	36.8	27.4	36.6	26.8
										37.3	26.3	36.2	26.7
1100	49.40	7.088	41.4	--	--	2.6	3.8	37.6	25.4	37.3	27.8	37.0	27.1
										37.7	26.5	36.6	27.0
1130	49.31			835.6	533.8	2.8	3.8	38.7	25.9	38.1	28.2	38.0	27.6
										38.6	26.9	37.6	27.6
1200	48.88	6.820	42.0	698.4	475.8	2.8	3.4	39.5	25.8	38.7	28.2	38.6	28.4
										39.0	26.8	38.3	27.6
1230	--			--	--	--	--	--	--	--	--	--	--
										--	--	--	--
1300	47.96	6.580	40.1	--	--	1.8	2.6	37.6.	25.1	37.6	27.6	37.4	27.3
										37.6	25.9	37.4	26.8
1330	48.10			672.8	443.0	2.0	3.2	39.9	25.9	39.6	28.7	39.4	28.2
										40.1	27.3	39.2	27.9
1400	48.03	6.438	41.8	741.7	498.2	3.4	4.4	41.0	26.2	40.2	28.8	40.0	29.0
										40.6	27.4	39.5	28.1
1430	47.67			662.6	404.1	2.2	3.2	40.7	26.1	40.1	28.6	40.2	28.8
										40.6	27.4	39.7	28.1
1500	47.31	6.227	43.1	538.6	314.0	2.6	3.6	41.3	26.1	40.8	28.8	40.7	28.9
										41.1	27.3	40.3	28.1
1530	47.05			486.3	318.1	2.6	4.0	41.5	26.1	41.0	28.9	41.2	29.1
										41.4	27.4	40.8	28.4
1600	46.65	5.909	43.5	432.2	209.7	2.8	3.6	41.4	26.0	41.2	28.8	40.8	28.7
										41.4	27.2	40.5	28.0

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
27 Jun 81													
1630	46.26			486.4	304.6	6.2	8.6	41.4	26.4	40.8	28.9	40.4	28.8
										41.1	27.5	40.0	28.3
1700	45.48	5.699	43.3	390.8	--	6.4	9.0	40.1	26.1	39.6	28.5	39.1	28.2
										39.7	26.9	38.7	27.7
1730	44.78			319.9	--	5.6	8.0	39.5	25.7	39.2	28.2	38.7	27.8
										39.3	26.6	38.3	27.4
1800	44.19	5.343	42.0	248.7	--	5.0	6.8	39.1	25.8	39.1	28.2	38.6	27.8
										39.2	26.7	38.2	27.4
1830	43.69			169.7	--	4.0	5.6	39.1	25.6	39.2	28.1	38.7	27.7
										39.3	26.5	38.4	27.4
1900	43.20	5.061	40.7	89.3	--	3.6	5.0	38.2	25.4	38.4	27.8	37.9	27.4
										38.4	26.2	37.7	27.1
1930	42.76			21.8	--	2.8	4.0	37.1	25.4	37.3	27.7	37.0	27.3
										37.3	26.1	36.8	27.0
2000	42.37	4.867	37.8	0.0	--	2.4	3.4	36.2	25.1	36.5	27.4	36.2	27.0
										36.4	25.8	36.1	26.8
2030	42.06			0.0	--	3.0	4.4	35.1	24.8	35.5	27.0	35.1	26.6
										35.3	25.5	35.0	26.3
2100	41.78	4.705	34.8	0.0	--	3.4	4.8	33.9	24.7	34.3	26.7	33.9	26.3
										34.1	25.3	33.8	26.0
2130	41.40			0.0	--	3.0	4.6	32.8	24.8	33.3	26.5	32.8	26.1
										33.1	25.3	32.7	25.9
2200	41.07	4.565	32.8	0.0	--	3.2	4.4	32.2	24.6	32.6	26.3	32.1	25.8
										32.5	25.0	32.1	25.6
2230	40.60			0.0	--	2.8	4.2	31.5	24.8	32.0	26.3	31.5	25.8
										31.8	25.1	31.4	25.6
2300	40.26	4.427	31.4	0.0	--	2.4	3.4	31.2	24.5	31.7	26.0	31.1	25.5
										31.5	24.8	31.1	25.3
2330	40.02			0.0	--	2.4	3.4	30.7	24.4	31.2	25.9	30.6	25.3
										31.0	24.7	30.6	25.1

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
28 Jun 81													
0000	39.94	4.325	30.3	0.0	--	2.4	3.6	30.0	24.7	30.4 30.3	26.0 24.9	29.9 29.8	25.5 25.3
0030	39.66			0.0	--	3.0	4.4	29.5	24.6	30.0 29.8	25.9 24.8	29.4 29.4	25.4 25.1
0100	39.24	4.223	28.9	0.0	-48.3	3.2	4.4	29.6	23.9	30.1 29.9	25.3 24.1	29.6 29.6	24.7 24.5
0130	38.92			0.0	-44.3	2.8	4.2	29.6	23.4	30.0 29.9	24.8 23.6	29.5 29.5	24.3 24.1
0200	38.59	4.087	28.1	0.0	-48.9	2.6	4.0	29.1	23.4	29.6 29.4	24.8 23.6	29.1 29.1	24.2 24.1
0230	38.43			0.0	-45.8	2.8	4.2	28.7	23.6	29.3 29.1	24.9 23.8	28.7 28.7	24.3 24.1
0300	38.22	3.972	27.4	0.0	-42.2	2.8	4.4	28.3	23.4	28.9 28.7	24.6 23.5	28.3 28.3	24.0 23.9
0330	37.92			0.0	-46.0	2.8	4.0	27.9	23.2	28.5 28.3	24.5 23.4	27.9 27.9	23.9 23.7
0400	37.56	3.830	26.8	0.0	-53.8	2.4	3.6	27.5	23.1	28.1 27.9	24.3 23.2	27.5 27.5	23.7 23.5
0430	37.32			0.0	-55.0	2.2	3.4	27.2	22.8	27.8 27.6	24.1 23.0	27.1 27.2	23.4 23.2
0500	37.03	3.777	26.1	0.0	-51.6	1.6	2.6	26.7	22.3	27.3 27.1	23.6 22.5	26.7 26.7	22.9 22.7
0530	36.88			--	-35.9	1.6	2.6	26.3	22.0	27.0 26.8	23.3 22.3	26.4 26.5	22.6 22.5
0600	36.77	3.703	25.4	--	-24.5	1.8	2.8	26.2	22.0	26.8 26.7	23.2 22.3	26.2 26.3	22.6 22.4
0630	36.72			--	-17.3	2.0	3.0	27.2	22.7	27.7 27.8	24.0 23.0	27.0 26.9	23.2 23.0
0700	36.81	3.645	28.1	--	58.5	3.0	4.2	28.5	23.6	28.7 28.8	24.8 23.9	28.0 27.9	24.1 23.9

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
28 Jun 81													
0730	36.76			--	137.6	4.2	5.6	29.6	24.2	29.4 29.6	25.3 24.4	28.9 28.7	24.6 24.4
0800	36.65	3.551	31.9	--	225.7	4.2	5.8	30.5	24.6	30.1 30.3	25.6 24.7	29.7 29.5	25.0 24.8
0830	36.58			--	289.5	4.0	5.4	31.3	24.9	30.6 30.8	25.8 24.9	30.3 30.0	25.4 25.1
0900	36.56	3.427	35.4	--	362.0	4.0	5.2	32.0	25.3	31.3 31.4	26.2 25.3	31.4 30.7	25.3 25.7
0930	36.56			655.8	399.6	4.0	5.2	32.9	25.6	32.2 32.4	26.6 25.8	32.2 31.8	26.3 26.2
1000	36.65	3.334	38.5	738.0	453.7	4.6	6.4	34.3	25.7	33.2 33.4	26.6 25.8	33.1 32.7	25.7 26.2
1030	36.63			801.6	499.5	4.6	6.4	35.3	25.8	33.9 34.2	26.7 26.0	34.0 33.5	26.3 26.4
1100	36.60	3.200	40.0	870.5	560.0	4.4	6.4	36.1	25.9	34.5 34.9	26.9 26.1	34.8 34.3	26.7 26.7
1130	36.65			917.8	586.7	4.6	6.0	36.9	26.1	35.1 35.4	27.1 26.2	35.5 35.1	27.0 26.9
1200	36.71	3.068	40.8	932.9	607.0	3.8	5.4	37.8	26.2	35.8 36.1	27.3 26.3	36.0 35.8	27.1 27.2
1230	36.77			928.1	616.9	3.8	5.0	38.3	26.0	36.2 36.6	27.1 26.0	36.8 36.6	27.2 27.3
1300	36.87	2.901	42.0	922.4	607.7	3.6	4.6	38.8	26.1	37.2 37.1	27.5 26.2	37.6 37.3	27.4 27.5
1330	36.95			924.0	592.1	3.0	4.0	39.0	25.8	37.6 38.0	27.6 26.5	38.2 37.7	27.6 27.6
1400	37.05	2.791	43.6	906.4	555.9	3.0	4.0	39.7	26.0	38.2 38.6	27.8 26.9	38.9 38.4	27.9 27.9
1430	37.02			--	512.1	4.2	4.2	40.2	26.4	38.8 39.2	28.2 27.3	39.0 38.7	28.0 28.0

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Radiation (W/m²) Net All-Wave	Wind Speeds (meters/sec) East Berm	Wind Speeds (meters/sec) Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
28 Jun 81													
1500	--	2.688	45.2	--	--	--	--	--	--	-- --	-- --	-- --	-- --
1530	--			--	--	--	--	--	--	-- --	-- --	-- --	-- --
1600	37.18	2.566	46.5	655.7	335.3	2.2	2.8	40.3	25.7	39.6 40.1	28.0 27.2	40.2 40.0	27.8 28.0
1630	37.09			541.2	295.4	3.0	4.0	40.6	25.8	39.8 40.1	28.0 27.2	39.8 39.5	27.7 27.8
1700	37.03	2.460	46.6	464.0	228.7	2.8	3.6	40.4	25.8	39.9 40.2	28.1 27.2	39.8 39.5	27.7 27.7
1730	36.90			338.1	151.1	4.0	5.0	40.0	25.9	39.6 39.8	28.2 27.3	39.5 39.1	27.8 27.7
1800	36.72	2.317	45.4	280.5	104.2	3.8	5.0	39.1	25.7	39.0 39.1	28.0 27.2	38.6 38.3	27.5 27.5
1830	36.51			201.1	59.6	3.6	4.8	38.9	25.2	38.9 39.0	27.6 26.8	38.4 38.1	27.0 27.0
1900	36.25	2.193	42.9	84.9	-21.0	3.8	5.4	37.7	24.7	37.6 37.7	27.0 26.1	37.4 37.2	26.6 26.5
1930	35.98			18.8	-60.2	3.0	4.6	36.0	24.4	36.0 35.9	26.6 25.6	36.0 35.8	26.3 26.1
2000	35.77	2.061	38.1	4.3	-70.2	2.4	3.6	35.0	24.1	35.0 34.9	26.1 25.2	35.0 34.9	25.9 25.7
2030	35.60			2.5	-66.6	1.8	3.0	34.1	23.9	34.2 34.0	25.8 24.9	34.2 34.1	25.5 25.4
2100	35.50	2.016	35.0	3.7	-58.8	1.6	2.6	33.4	23.6	33.5 33.3	25.5 24.6	33.4 33.4	25.2 25.0
2130	35.37			0.0	-52.0	1.0	1.8	33.0	23.4	33.2 33.0	25.4 24.5	33.1 33.1	25.0 24.8
2200	35.25	1.975	33.1	0.0	-47.5	1.2	1.8	32.7	23.2	32.8 32.7	25.2 24.3	32.7 32.7	24.8 24.6

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
28 Jun 81													
2230	35.18			0.0	-50.5	1.4	2.4	32.3	23.1	32.5	24.9	32.3	24.6
										32.3	24.1	32.4	24.4
2300	35.05	1.949	31.5	0.0	-51.7	1.2	2.2	31.9	23.0	32.1	24.8	31.3	24.5
										32.0	24.1	32.0	24.3
2330	35.05			0.0	-53.0	1.2	2.2	31.2	22.9	31.5	24.6	31.3	24.3
										31.4	23.9	31.4	24.2
29 Jun 81													
0000	34.90	1.908	30.1	0.0	-53.7	2.0	3.2	30.5	22.7	30.8	24.3	30.6	24.0
										30.7	23.6	30.6	23.9
0030	34.99			0.0	-54.4	2.4	3.8	29.9	23.2	30.2	24.5	29.9	24.2
										30.0	23.9	29.9	24.0
0100	34.95	1.845	28.7	0.0	-52.4	3.2	4.8	29.4	22.8	29.7	24.1	29.4	23.7
										29.6	23.5	29.4	23.5
0130	34.80			0.0	-49.2	3.2	4.6	29.0	22.5	29.4	23.8	29.1	23.4
										29.2	23.2	29.1	23.3
0200	--	1.784	27.7	0.0	-53.2	3.0	4.2	28.5	22.9	28.9	24.0	28.5	23.6
										28.7	23.4	28.5	23.4
0230	--			0.0	-52.5	3.0	4.2	27.8	22.7	28.2	23.7	27.8	23.3
										28.0	23.2	27.7	23.1
0300	--	1.685	26.8	0.0	-52.5	2.2	3.6	27.7	21.4	28.1	22.8	27.8	22.3
										28.0	22.2	27.8	22.1
0330	--			0.0	-51.5	2.0	3.0	27.3	20.7	27.7	22.2	27.3	21.7
										27.5	21.6	27.3	21.5
0400	--	1.629	25.9	0.0	-50.1	1.4	2.4	26.6	20.8	27.1	22.1	26.6	21.6
										26.9	21.5	26.7	21.5
0430	--			0.0	-48.9	1.4	2.6	26.1	20.7	26.4	21.9	26.0	21.5
										26.3	21.4	26.1	21.4
0500	--	1.593	24.8	0.0	-50.2	2.0	3.2	25.8	21.5	26.1	22.4	25.6	21.9
										25.9	21.8	25.6	21.8
0530	--			0.0	-45.5	2.2	3.6	25.9	21.6	26.4	22.6	26.0	22.1
										26.2	22.0	26.1	22.0

EAST MESA 2 (1981) - EXPERIMENT 4 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
29 Jun 81													
0600	--	1.518	24.7	25.1	-35.8	1.6	2.8	26.1	21.4	26.5	22.4	26.0	21.9
										26.4	21.9	26.0	21.8
0630	--			93.6	8.7	1.2	2.0	26.7	21.3	27.1	22.5	26.5	21.9
										27.3	22.2	26.4	21.7
0700	32.84	1.502	27.6	194.0	68.9	1.8	2.4	28.1	21.7	28.3	22.9	27.9	22.5
										28.7	22.7	27.7	22.3
0730	32.16			340.6	170.7	2.0	2.8	30.4	22.6	30.2	23.9	29.7	23.4
										30.5	23.7	29.8	23.2
0800	32.29	1.477	33.6	465.8	258.7	2.2	2.8	31.4	23.5	30.9	24.7	30.6	24.3
										31.2	24.5	30.6	24.2
0830	32.34			455.9	254.8	2.0	2.6	32.2	24.3	31.7	25.5	31.5	25.1
										32.0	25.3	31.4	24.9
0900	32.41	1.444	37.0	493.5	246.8	2.0	2.6	32.8	24.3	32.2	25.5	32.0	25.2
										32.4	25.3	32.0	25.1

EAST MESA 2 (1981) - EXPERIMENT 5

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
30 Jun 81													
1900	48.01	7.543	38.6	86.6	-28.7	4.4	4.8	38.0	24.9	37.8	27.3	37.6	25.6
										38.3	30.5	37.5	25.4
1930	47.42			25.5	-70.6	3.8	4.4	36.5	24.2	36.3	26.4	36.2	24.8
										36.5	29.2	36.1	24.5
2000	46.87	7.200	34.4	0.0	-78.7	2.8	3.2	34.7	23.4	34.7	25.6	34.5	23.9
										34.5	27.9	34.5	23.6
2030	44.43			0.0	-76.8	2.0	2.2	33.6	22.5	33.8	25.1	33.1	23.3
										33.5	27.4	33.1	23.0
2100	46.06	7.099	31.8	0.0	-70.0	2.0	2.4	33.0	22.3	33.2	24.6	32.5	22.8
										32.9	26.9	32.7	22.6
2130	45.69			0.0	-61.7	1.8	2.6	32.1	22.2	32:3	24.1	31.9	22.3
										32.1	26.2	32.0	22.2
2200	45.34	6.876	29.9	0.0	-68.9	2.0	2.4	31.4	21.8	31.6	23.8	30.8	21.9
										31.4	25.8	30.8	21.7
2230	44.98			0.0	-62.5	1.8	2.4	30.7	21.1	31.0	23.4	30.2	21.9
										30.7	25.4	30.3	21.5
2300	44.65	6.720	28.3	0.0	-68.3	0.8	1.2	30.3	20.3	31.0	23.3	30.1	21.7
										30.8	25.4	30.2	21.3
2330	44.36			0.0	-64.5	0.8	1.2	30.1	20.8	30.7	23.3	29.7	21.3
										30.5	25.3	29.9	21.1
1 Jul 81													
0000	44.13	6.627	27.2	0.0	-65.6	1.0	1.6	29.6	20.8	29.9	23.0	29.0	--
										29.8	24.9	29.3	20.7
0030	43.87			0.0	-61.3	1.4	2.4	28.4	20.0	28.8	22.1	27.9	--
										28.5	23.8	28.5	20.3
0100	43.57	6.529	26.2	0.0	-56.7	3.0	4.0	28.7	20.2	28.9	21.8	28.3	--
										28.6	23.5	28.7	20.0
0130	43.07			0.0	-62.8	3.6	4.2	29.4	20.1	29.4	21.8	28.8	--
										29.2	23.7	28.8	19.9
0200	42.63	6.323	25.5	0.0	-60.9	1.8	2.2	28.2	18.5	28.7	21.2	27.8	--
										28.5	23.3	27.9	19.3
0230	42.30			0.0	-56.8	1.4	2.0	29.0	18.0	29.9	21.5	29.2	--
										29.7	24.0	29.3	19.7
0300	42.01	6.193	24.9	0.0	-55.2	0.6	1.2	27.4	16.6	28.7	21.0	27.9	--
										28.6	23.4	28.5	19.2

EAST MESA 2 (1981) - EXPERIMENT 5 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Radiation (W/m^2) Net All-Wave	Wind Speeds (meters/sec) East Berm	Wind Speeds (meters/sec) Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
1 Jul 81													
0330	41.77			0.0	-52.4	0.4	0.6	26.0	17.0	27.5	20.9	26.4	--
										27.5	22.9	27.4	18.7
0400	41.56	6.084	24.0	0.0	-48.4	0.6	1.4	25.0	16.0	26.6	20.4	26.0	--
										26.5	22.2	26.9	19.0
0430	41.37			0.0	-51.6	0.6	1.8	24.4	17.2	25.9	20.6	24.8	--
										25.8	22.0	26.4	18.7
0500	41.11	5.998	23.1	0.0	-47.5	0.4	1.4	24.6	16.8	26.3	20.7	24.9	--
										26.2	22.2	25.7	18.9
0530	40.85			13.5	-41.7	2.0	3.6	24.9	17.8	26.0	20.6	25.2	--
										25.8	22.0	25.6	19.6
0600	40.60	5.918	23.2	51.2	-36.5	2.2	3.2	25.2	19.5	26.1	21.6	25.1	--
										26.0	22.8	24.9	20.2
0630	40.39			126.6	18.9	2.0	3.2	26.3	20.8	27.1	22.8	25.9	--
										27.2	24.2	25.9	21.4
0700	40.19	5.831	26.6	220.0	76.3	3.0	4.2	28.3	23.4	28.7	25.0	27.7	--
										28.8	26.2	27.7	23.7
0730	39.98			325.6	155.2	4.4	6.2	29.7	24.4	29.7	25.8	28.9	--
										29.8	27.1	28.8	24.6
0800	39.78	5.710	31.8	425.0	230.0	4.2	5.8	31.1	24.9	30.8	26.4	30.2	--
										30.9	27.8	30.0	25.3
0830	39.58			522.5	304.9	4.0	5.4	32.3	25.2	32.0	26.9	31.3	--
										32.0	28.0	31.1	25.7
0900	39.45	5.565	35.3	605.3	371.3	4.0	5.4	33.2	25.4	32.5	26.9	32.1	26.8
										32.7	28.0	31.8	25.9
0930	39.31			682.8	428.6	4.2	5.6	34.3	25.3	33.4	27.0	33.2	27.1
										33.6	28.4	32.8	26.1
1000	39.24	5.416	38.0	767.8	485.7	3.8	5.0	35.4	25.1	34.3	27.0	34.1	27.1
										34.5	28.8	33.9	26.0
1030	39.25			827.9	500.7	2.6	3.6	36.3	24.6	35.0	26.7	35.2	27.1
										35.4	29.4	35.0	26.0
1100	39.31	5.275	40.8	896.6	540.7	2.2	2.8	37.1	24.7	35.5	26.7	36.0	27.3
										36.0	29.9	35.8	26.2
1130	39.38			937.7	556.5	2.0	2.8	38.1	25.0	36.4	27.2	37.0	27.7
										36.8	30.5	37.0	26.6

EAST MESA 2 (1981) - EXPERIMENT 5 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
1 Jul 81													
1200	39.44	5.185	42.5	960.9	584.9	2.4	3.0	38.9	24.6	37.0	26.9	37.2	27.4
										37.4	30.7	37.4	26.2
1230	39.43			954.1	589.7	3.0	3.6	39.6	24.0	37.4	26.6	38.2	27.5
										37.7	30.2	38.2	26.1
1300	39.49	5.012	42.7	940.4	579.3	2.2	2.8	39.8	24.0	38.0	27.0	38.6	27.8
										38.1	30.7	38.5	26.3
1330	39.55			934.3	552.6	2.2	3.0	39.9	24.0	38.6	27.5	39.4	28.4
										39.1	31.7	39.0	26.6
1400	39.54	4.873	43.8	913.2	535.0	2.4	2.8	40.0	24.1	38.7	27.7	38.7	28.2
										39.1	32.1	38.4	26.6
1430	39.60			860.9	486.0	2.6	2.8	40.0	24.5	38.7	27.8	39.5	28.6
										39.2	32.4	39.2	27.0
1500	39.61	4.737	44.6	801.5	439.4	2.2	2.6	39.8	25.0	38.5	27.9	39.2	28.5
										39.2	32.5	39.0	26.9
1530	39.63			730.2	382.6	1.8	1.8	39.9	24.9	38.9	28.0	39.5	28.7
										39.5	32.8	39.3	27.2
1600	39.60	4.640	46.7	636.1	339.6	2.2	2.6	39.6	25.0	38.6	28.0	39.1	28.6
										39.2	32.8	39.1	27.1
1630	39.51			536.1	273.6	2.0	2.8	40.2	24.2	39.5	27.9	40.0	28.4
										40.0	33.0	39.8	26.8
1700	39.38	4.530	46.5	458.3	206.2	3.0	3.4	40.1	23.9	39.5	27.5	39.9	27.8
										40.1	32.6	39.9	26.2
1730	39.16			369.9	151.8	4.0	4.2	39.7	23.9	39.4	27.5	39.8	27.6
										40.0	32.4	39.8	25.9
1800	38.95	4.338	43.7	276.0	89.0	4.4	4.6	39.0	24.0	38.9	27.5	39.2	27.7
										39.6	32.1	39.2	26.1
1830	38.68			140.5	9.9	4.8	4.8	37.6	23.9	37.4	27.0	37.7	27.2
										37.9	--	37.6	25.7
1900	38.16	4.134	39.6	101.8	-23.9	5.0	5.4	36.0	23.3	35.9	26.1	36.0	26.2
										36.3	29.6	35.9	24.6
1930	37.83			34.5	-69.6	5.0	5.4	34.7	22.0	34.6	24.9	34.8	25.0
										34.7	28.2	34.7	23.4

EAST MESA 2 (1981) - EXPERIMENT 5 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
1 Jul 81 2000	37.38	3.940	34.2	7.8	-74.5	5.2	5.8	33.4	21.1	33.5 33.2	24.0 26.9	33.4 33.3	23.9 22.5
2030	37.04			5.5	-71.5	4.2	4.6	32.4	20.6	32.5 32.3	23.4 26.5	32.4 32.3	23.2 21.9
2100	36.73	3.748	30.2	7.0	-71.1	3.8	4.2	31.3	20.4	31.4 31.1	23.0 25.8	31.2 31.2	22.7 21.5
2130	36.41			7.5	-69.5	4.8	5.2	30.8	20.1	31.0 30.7	22.7 25.6	30.7 30.6	22.4 21.2
2200	36.06	3.612	28.1	5.6	-67.7	5.4	5.8	30.7	19.9	30.9 30.7	22.6 25.5	30.6 30.6	22.3 21.1
2230	35.65			0.0	-64.6	5.4	6.0	30.7	19.9	30.6 30.2	22.2 24.8	30.3 30.3	22.0 20.9
2300	35.30	3.446	27.0	0.0	-65.9	4.6	5.2	30.2	19.5	30.4 30.1	22.1 24.8	30.1 30.1	21.8 20.7
2330	35.03			0.0	-65.9	3.6	4.0	29.4	19.1	29.5 29.3	21.6 --	29.2 29.2	21.3 20.3
2 Jul 81 0000	34.79	3.336	26.1	0.0	-62.4	2.6	3.4	28.7	18.6	28.9 28.6	21.2 --	28.5 28.6	20.9 20.1
0030	34.58			0.0	-62.7	2.0	2.8	28.0	18.6	28.2 27.9	20.9 --	27.8 28.1	20.3 19.9
0100	34.43	3.254	25.2	0.0	-63.2	2.0	3.0	28.3	18.5	28.6 28.3	21.0 --	28.0 28.4	20.3 20.1
0130	34.25			0.0	-62.9	1.8	3.0	27.9	17.9	28.1 27.9	20.7 --	27.6 27.9	20.0 20.0
0200	34.10	3.185	24.4	0.0	-61.2	2.0	3.2	26.9	16.8	27.2 26.9	19.9 --	26.9 27.0	19.7 19.5
0230	33.91			0.0	-63.2	2.0	3.4	26.5	15.9	27.0 26.7	19.4 --	26.7 26.9	19.5 19.3
0300	33.71	3.114	23.5	0.0	-63.6	1.4	2.0	24.9	16.3	25.3 25.2	19.1 --	24.7 25.2	18.6 18.7

EAST MESA 2 (1981) - EXPERIMENT 5 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	wet	Pond Tower dry	wet	Remote Tower dry	wet
2 Jul 81													
0330	33.55			0.0	-61.3	0.4	1.4	23.1	16.6	23.9	19.1	23.1	18.5
										23.6	--	23.7	18.2
0400	33.41	3.011	22.5	0.0	-59.3	0.4	1.2	22.7	16.2	23.9	19.1	23.1	18.4
										23.6	--	23.8	18.2
0430	33.31			0.0	-58.3	0.4	1.2	23.2	16.5	24.2	19.3	23.1	18.3
										24.0	--	23.9	18.0
0500	33.19	2.986	21.2	0.0	-56.5	0.6	1.0	22.8	14.7	24.1	18.5	23.9	17.9
										24.0	--	24.5	18.1
0530	33.05			0.0	-50.2	0.6	1.4	21.5	14.0	22.5	17.7	22.2	17.2
										22.3	--	23.3	17.8
0600	32.96	2.948	20.7	42.9	-35.4	0.6	1.0	22.4	14.5	23.5	18.2	23.0	17.4
										23.5	--	23.5	17.5
0630	32.89			115.1	13.2	0.8	1.2	23.9	15.4	24.8	18.9	24.1	18.2
										25.2	--	24.8	18.8
0700	32.88	2.884	24.4	204.1	75.3	0.4	0.4	27.0	17.7	27.2	20.9	26.4	20.0
										27.7	--	26.6	20.3
0730	32.92			308.1	132.4	0.6	0.6	29.1	19.7	29.0	22.4	28.3	21.8
										29.4	--	28.4	22.1
0800	33.01	2.887	31.0	408.5	199.5	0.8	0.8	30.5	21.3	30.0	23.7	29.6	23.3
										30.5	--	29.7	23.7
0830	33.11			508.8	286.7	1.0	1.2	31.8	21.3	30.8	23.7	30.9	23.5
										31.4	--	31.0	--
0900	33.30	2.832	36.3	596.1	360.3	1.2	1.4	32.6	21.2	31.5	23.7	31.8	23.8
										32.1	--	31.7	--
0930	33.43			651.2	414.9	2.0	2.2	33.5	21.0	32.3	23.8	32.6	24.0
										32.7	--	32.4	--
1000	33.52	2.802	38.2	764.7	493.5	2.2	2.2	34.2	21.1	33.1	24.1	33.4	24.5
										33.5	--	33.1	--
1030	33.66			827.6	487.0	2.4	2.4	35.0	21.6	33.6	24.3	34.2	24.7
										34.2	--	34.1	--

EAST MESA 2 (1981) - EXPERIMENT 5 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m^2) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
2 Jul 81													
1100	33.84	2.738	41.1	890.5	529.7	2.0	2.2	35.6	21.8	34.0 34.7	24.6 --	34.8 34.7	24.9 --
1130	33.92			885.6	501.0	2.0	2.0	36.3	21.9	34.6 35.2	24.9 --	35.3 35.3	25.0 --
1200	34.06	2.702	42.3	925.5	554.4	2.0	2.2	36.7	21.9	34.9 35.3	25.0 --	35.7 35.8	25.3 --
1230	34.21			936.4	560.5	2.4	2.2	37.6	22.2	35.5 35.9	25.2 --	36.7 36.7	25.7 --
1300	34.32	2.677	42.6	930.0	549.0	3.2	2.4	38.5	22.3	36.8 36.7	25.8 --	37.5 37.4	26.0 --
1330	34.41			918.6	546.7	3.0	3.0	37.9	22.3	36.6 37.0	26.1 --	37.2 37.1	26.3 --
1400	34.61	2.582	43.4	909.6	503.1	2.4	1.8	38.3	22.0	37.1 37.5	26.2 --	37.9 37.8	26.7 --
1430	34.68			875.5	496.5	2.6	2.8	38.6	22.5	37.2 37.7	26.5 --	38.0 37.9	26.7 --
1500	34.73	2.497	44.2	828.9	459.2	3.4	3.2	38.8	22.8	37.5 38.0	26.8 --	38.1 38.0	26.9 --
1530	34.84			765.3	415.1	2.6	2.6	38.9	22.9	37.7 38.3	26.8 --	38.1 38.0	26.9 --
1600	34.82	2.406	44.5	675.0	355.7	3.0	2.8	39.2	22.7	38.3 38.7	27.1 --	38.3 38.2	27.0 --
1630	34.81			569.7	296.7	2.6	2.4	39.3	22.9	38.4 38.9	27.1 --	38.6 38.5	27.1 --
1700	34.80	2.321	44.8	476.5	225.9	2.6	2.6	39.4	22.8	38.6 39.0	27.2 --	38.6 38.4	27.2 --
1730	34.66			342.1	132.6	2.4	2.6	39.4	22.6	38.9 39.2	27.2 --	38.8 38.6	27.2 --
1800	34.53	2.218	43.6	252.8	77.6	2.6	2.8	39.3	22.6	38.9 39.2	27.3 --	38.7 38.5	27.1 --
1830	34.38			198.0	42.1	2.6	3.0	39.3	22.7	38.9 39.3	27.4 --	38.7 38.6	27.1 --
1900	34.11	2.119	41.6	92.3	-28.0	2.6	2.6	38.5	23.0	38.2 38.6	27.4 --	38.4 38.3	26.9 --

EAST MESA 2 (1981) - EXPERIMENT 6

Date	Pond	Sfc	Stillwell	Radiation (W/m^2)		Wind Speeds (meters/sec)		Air Temperatures (°C)					
	T	Elevation	T					East Berm		Pond Tower		Remote Tower	
Time	(°C)	(cm)	(°C)	Shortwave Incoming	Net All-Wave	East Berm	Remote Tower	dry	wet	dry	wet	dry	wet
4 Jul 81													
0700	45.75	6.084	31.8	189.5	61.5	4.4	4.6	29.8	22.5	30.4	25.5	29.3	24.2
										30.4	--	29.2	--
0730	45.23			291.3	117.2	4.8	3.2	30.9	24.0	31.2	26.6	30.2	25.5
										31.2	--	30.1	--
0800	44.85	5.894	34.1	392.2	170.8	5.2	5.6	31.8	24.8	31.8	27.3	30.9	26.2
										31.9	--	30.8	--
0830	44.48			440.3	240.9	4.6	5.0	32.8	25.2	32.9	27.9	32.0	26.8
										32.9	--	31.8	--
0900	44.22	5.701	36.2	544.3	335.4	4.6	4.6	33.9	25.7	33.7	28.2	33.0	27.4
										33.8	--	32.8	--
0930	44.06			649.2	410.9	4.6	4.6	35.8	26.3	35.4	29.0	34.8	28.3
										35.5	--	34.6	--
1000	43.87	5.514	39.7	734.1	464.9	4.6	4.4	37.3	26.4	36.4	29.2	36.2	28.7
										36.7	--	35.9	--
1030	43.71			792.8	491.2	4.2	4.2	38.4	26.4	37.3	29.4	37.3	29.0
										37.6	--	37.0	--
1100	43.63	5.335	42.0	863.3	530.0	3.4	3.2	39.2	26.0	38.0	29.4	38.2	29.0
										38.4	--	37.9	--
1130	43.59			908.2	552.1	4.0	3.4	40.5	26.2	38.9	29.7	39.2	29.3
										39.4	--	39.0	--
1200	43.48	5.179	43.9	922.9	566.4	4.0	3.6	41.5	26.2	39.9	30.0	40.0	29.5
										40.2	--	40.0	--
1230	43.37			918.0	562.5	4.6	4.2	42.1	26.0	40.2	29.8	40.7	29.0
										40.6	--	40.7	--
1300	43.31	5.008	44.9	908.7	543.6	3.6	2.8	42.5	25.9	41.0	29.9	41.3	29.7
										41.0	--	41.2	--
1330	43.29			908.5	525.5	3.0	2.2	42.8	25.9	41.4	30.4	42.0	30.3
										41.9	--	41.7	--
1400	43.29	4.868	46.1	890.8	517.3	3.2	2.8	43.3	26.5	42.1	31.1	42.6	30.9
										42.6	--	42.2	--

EAST MESA 2 (1981) - EXPERIMENT 6 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Radiation (W/m²) Net All-Wave	Wind Speeds (meters/sec) East Berm	Wind Speeds (meters/sec) Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
4 Jul 81 1430	43.30			852.7	486.3	3.0	2.4	42.9	26.8	42.0 42.6	30.9 --	42.4 42.4	30.7 --
1500	43.23	4.705	47.8	801.0	342.8	3.4	3.2	42.9	27.0	41.8 42.6	30.9 --	42.6 42.6	30.8 --
1530	43.12			735.7	405.0	3.4	2.8	43.1	27.1	42.2 42.8	31.0 --	43.0 42.9	30.9 --
1600	43.00	4.534	48.9	649.4	349.7	3.2	2.8	43.5	27.1	42.8 43.3	31.3 --	43.2 43.0	31.0 --
1630	42.84			528.1	279.7	3.2	2.8	43.6	26.7	43.0 43.6	31.1 --	43.3 43.3	30.8 --
1700	42.59	4.377	48.6	432.9	207.0	3.6	2.8	44.2	26.1	43.8 44.2	31.1 --	43.7 43.4	30.6 --
1730	42.33			345.2	155.7	4.0	3.6	44.0	26.0	43.8 44.2	31.1 --	43.4 43.2	30.5 --
1800	42.12	4.203	48.8	249.1	89.0	3.6	3.2	43.5	25.8	43.6 43.9	31.0 --	43.2 42.9	30.4 --
1830	41.83			154.6	29.8	3.4	2.8	43.1	25.6	43.3 43.7	30.9 --	42.8 42.6	30.1 --
1900	41.56	4.029	46.7	76.7	-25.9	3.6	3.0	42.1	25.7	42.3 42.6	30.6 --	41.8 41.6	29.9 --
1930	41.24			19.2	-54.5	4.8	4.8	40.6	25.7	40.7 40.7	30.3 --	40.5 40.4	29.8 --
2000	40.95	3.836	41.6	0.0	-62.4	4.4	4.2	39.0	26.0	39.2 39.0	30.1 --	39.1 39.0	29.6 --
2030	40.66			0.0	-58.8	3.8	3.6	37.4	25.9	37.5 37.4	29.3 --	37.3 37.3	28.7 --
2100	40.43	3.669	37.5	0.0	-53.5	2.4	2.8	36.4	25.9	36.4 36.3	28.8 --	36.3 36.3	28.1 --

EAST MESA 2 (1981) - EXPERIMENT 6 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
4 Jul 81													
2130	40.25			0.0	-57.5	1.8	2.0	35.4	26.6	35.5	28.5	35.3	27.6
										35.3	--	35.4	--
2200	40.06	3.592	35.1	0.0	-44.3	2.8	3.2	35.3	23.9	35.2	27.1	35.3	26.2
										35.1	--	35.3	--
2230	39.86			0.0	-44.1	2.0	2.0	34.4	23.4	34.4	26.7	34.3	25.7
										34.3	--	34.3	--
2300	39.69	3.505	33.3	0.0	-39.3	1.8	1.8	33.7	22.9	33.8	26.2	33.4	25.2
										33.7	--	33.4	--
2330	39.51			0.0	-37.2	2.0	2.2	33.0	22.5	33.2	25.8	32.8	24.8
										33.1	--	32.8	--
5 Jul 81													
0000	39.33	3.430	31.9	0.0	-35.0	1.4	1.8	32.9	22.8	33.0	25.9	32.8	24.9
										32.9	--	32.8	--
0030	39.24			0.0	-34.2	1.2	1.4	33.0	22.4	33.2	25.8	32.8	24.9
										33.0	--	32.8	--
0100	39.09	3.358	31.1	0.0	-36.5	1.4	1.6	32.6	22.0	32.8	25.4	32.4	24.7
										32.7	--	32.4	--
0130	38.93			0.0	-31.3	1.8	2.4	32.4	21.9	32.6	25.2	32.2	24.6
										32.4	--	32.2	--
0200	38.77	3.276	30.3	0.0	-35.1	1.6	2.0	32.0	21.8	32.2	25.0	31.7	24.3
										32.0	--	31.7	--
0230	38.62			0.0	-38.0	1.4	1.6	31.5	21.7	31.8	24.8	31.3	24.2
										31.6	--	31.3	--
0300	38.43	3.194	28.6	0.0	-34.8	1.2	1.6	31.2	22.0	31.4	24.9	31.0	24.0
										31.3	--	31.0	--
0330	38.28			0.0	-32.4	1.4	1.6	30.9	22.1	31.0	24.8	30.6	23.9
										30.9	--	30.7	--
0400	38.11	3.119	28.8	0.0	-35.4	1.2	1.2	30.1	21.9	30.4	24.6	29.8	23.6
										30.4	--	29.8	--
0430	37.96			0.0	-42.2	0.8	1.0	29.5	20.8	30.2	24.2	29.7	23.2
										30.1	--	29.7	--

EAST MESA 2 (1981) - EXPERIMENT 6 (contd)

Date Time	Pond T (°C)	Sfc Elevation (cm)	Stillwell T (°C)	Radiation (W/m²) Shortwave Incoming	Net All-Wave	Wind Speeds (meters/sec) East Berm	Remote Tower	Air Temperatures (°C) East Berm dry	East Berm wet	Pond Tower dry	Pond Tower wet	Remote Tower dry	Remote Tower wet
5 Jul 81													
0500	37.84	3.066	28.4	0.0	-44.4	0.6	0.6	29.0	20.3	29.9	24.1	29.4	23.0
										29.8	--	29.5	--
0530	37.66			5.1	-33.7	1.0	1.0	28.5	19.9	29.4	23.6	29.0	22.6
										29.3	--	29.3	--
0600	37.58	2.990	27.3	43.4	-19.2	0.8	1.0	28.7	20.0	29.4	23.5	28.7	22.4
										29.5	--	29.0	--
0630	37.52			115.7	26.0	1.4	1.6	30.0	20.7	30.4	24.0	29.6	23.0
										30.6	--	29.6	--
0700	37.49	2.985	30.0	178.7	65.0	1.8	2.0	31.3	21.6	31.6	25.0	31.0	24.1
										31.8	--	30.9	--

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16. ABSTRACT *(200 words or less)*

A data acquisition research program, entitled "Ultimate Heat Sink Performance Field Experiments," has been completed. The primary objective was to obtain the requisite data to characterize thermal performance and water utilization for cooling ponds and spray ponds at elevated temperatures. Such data are useful for modeling purposes; such modeling efforts were beyond the scope of the present study.

Constructed water retention ponds, provided with absolute seals against seepage, have been chosen as facilities fot the data collection program; the first pond was located at Raft River, Idaho, and the second at East Mesa, California. The data illustrate and describe, for both cooling ponds and spray ponds, thermal performance and water utilization as the ponds cool from an initially elevated temperature, nominally 130^{o}F. The data reflect thermal performance and water utilization for meteorological and solar influences which are representative of worst-case combinations of conditions. The data are described and discussed in the text and presented in the form of data volumes as appendices.

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