ATTACHMENT 3

CATAWBA NUCLEAR STATION

STANDBY NUCLEAR SERVICE WATER POND ANALYSIS

Ben L. Sill
July, 1995

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STANDBY NUCLEAR SERVICE WATER POND (SNSWP) ANALYSIS

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INTRODUCTION

The purpose of this analysis and report is to assess the adequacy of the computer model currently employed by Duke Power Company in the analysis of a loss of coolant accident (LOCA) at the Catawba Nuclear Station. This is done by examining how the pond performed in a recent physical test as well as by critiquing Duke Power Company's calculations and computer model. The combination of the computer model results with the physical test results provide ample evidence to assess the performance of the Catawba SNSWP during a LOCA.

HISTORY

Following meetings with Duke Power personnel, the list of questions below were drafted to summarize the primary topics of interest. These are:

a. Is the information contained in the Ryan and Harleman (ref. 1) reference with regard to the analysis of cooling ponds, Froude number criteria, etc., applicable to the Catawba SNSWP?

b. What is the applicability of: (i) a stratified model, (ii) a plug-flow model, (iii) a completely mixed model, or (iv) a "deep draft pond" model to the pond?

c. What is the upper limit (for Froude number) for which stratification will exist?

d. During an actual LOCA, will the Catawba SNSWP remain stratified as the current computer model predicts?

e. Is Duke's present withdrawal calculation acceptable?

f. Should a mixing routine be added at the discharge point to incorporate some initial mixing?

g. Is the current model representative, or should a different model be used?

PHYSICAL TEST

After initial discussions of the computer modeling effort at the Catawba SNSWP, it was learned that due to the SNSWP being aligned for cooling during a unit outage and associated RN valve work, it would be possible to conduct a prototype test in the pond. The use of the SNSWP as a cooling reservoir during the time period allowed the opportunity to perform physical testing to examine cooling effectiveness and stratification effects. This test would utilize approximately the same temperature rises (ΔT) as an actual LOCA, with a somewhat smaller flow rate. In order to obtain the maximum information from this test, an all day meeting was held with Duke personnel, both at the Environmental Laboratory and with station personnel at the Catawba SNSWP field site. It was decided that in addition to monitoring the thermal plume and flow rates in the pond, a dye tracer would be added to the discharge to gather data on plume movement and stratification. The dye is a conservative tracer, unlike the temperature which decreases due to surface losses, so that both methods have advantages.

The results of the Catawba SNSWP Physical Testing conducted during February, 1995 have been reported and analyzed by Duke Power in reference 2. The analysis here will refer to various parts of this report, including figure numbers and tables.

ANALYSIS

To facilitate the analysis of the SNSWP, the questions above will be addressed one at a time, with the same letter designation.

a. Applicability of the Ryan and Harleman study (ref. 1).

This work was completed by Pat Ryan in 1973, but is still one of the most comprehensive studies of cooling ponds and their behavior. It is built on Keith Stolzenbach's work (at M.I.T.) and the work of others which occurred in the 1960's and early '70's. This period was the height of interest in thermal discharges. Of the 149 items in the bibliography given in reference 1, more than 100 were dated during this period.

Although the bulk of cooling pond research occurred in the 1960's and 1970's, carefully conducted studies are as valid now as they were then. It is these studies which have helped to successfully answer questions such as: "When will the entire surface of a cooling pond be effective in the cooling process?", or "What are the conditions necessary for the formation of a cold water wedge?"

Over the twenty plus years which have elapsed since the publication of reference 1, many individual predictions have demonstrated the validity of the concepts embodied in the report. There is no reason to believe that the Ryan and Harleman study which serves are the basis for the Duke Power analysis of the Catawba SNSWP will lead to erroneous predictions.

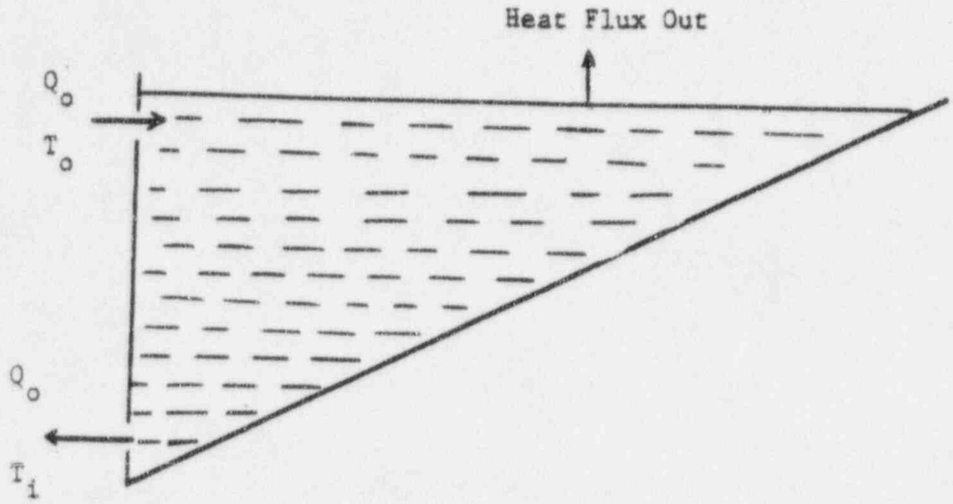
b. What is the applicability of (i) a stratified model, (ii) a plug flow model, (iii) completely mixed model, and (iv) "deep draft pond model" for this situation?

The physical test results (ref. 2) for both the dye tracer and for the temperature measurements indicate that the pond is stratified (see Figures 2, 5, 8, and 9, ref. 2). Froude number calculations for conditions during the physical test verify that the pond should be stratified. Froude number calculations performed by Duke for a LOCA also verify that the pond should be stratified.

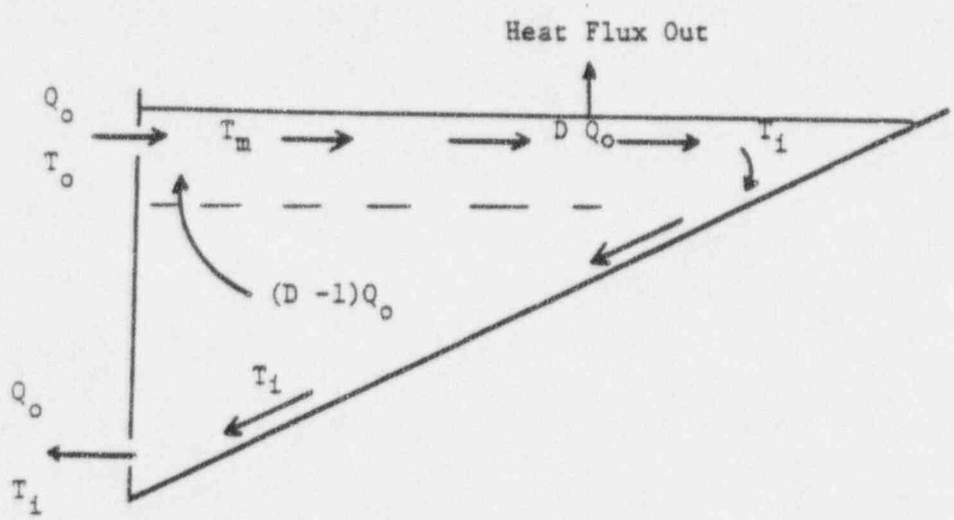
Since the pond is stratified, it is not possible to analyze it using a computer model based solely on plug flow ideas. It is also inappropriate to analyze the pond using a continuous stirred reactor (or completely mixed) approach and these will not be discussed further. The model used must include the ability to handle the fact that the pond is stratified.

Three options for a computer model of the Catawba SNSWP are:

i) <u>Present Duke model with horizontal layers</u>



ii) <u>Deep pond model as discussed in ref. 1 (a 2 layer model)</u>.



and finally, iii) Fully three dimensional finite element model.

An advantage of the "horizontal layer" model over the deep pond model is that it provides much more vertical detail. This detail is important when analyzing a lake which is not of great depth, and yet is still definitely stratified. The Duke model utilizes 20 layers over a maximum depth of 31 feet, giving adequate vertical definition of temperature and density distributions.

An advantage of the "deep pond" model is that it should apparently give a better analysis of the surface heat loss than the horizontal layer model. Upon closer examination however, this difference is not important. For the deep pond model, the temperature rise at the farthest reach of the pond is

$$\Delta T_{deep\ pond} = \Delta T_i \exp(-KA_p / \rho C_p Q) \qquad (1)$$

This is the temperature of the water which would work its way toward the intake and be withdrawn as cooling water since it is the least buoyant.

For the current Duke model, which will be called the "layer" model, the temperature of the top layer, after cooling for a time t_1 is,

$$\Delta T_{layer} = \Delta T_i \exp\left(\frac{-K t_1}{\rho C_p d}\right) \qquad (2)$$

By comparing these two expressions, it is seen that

$$\frac{\Delta T_{deep\ pond}}{\Delta T_{layer}} = \exp\left(\frac{KA_p}{\rho C_p Q}\left\{\frac{Q t_1}{d A_p} - 1\right\}\right) \qquad (3)$$

Now the temperature rise in each model will be the same if the argument in the exponent is zero, or if

$$t_1 = \frac{d\,A_p}{Q} \tag{4}$$

The way in which t_1 is computed in the layer model is by determining the time required to fill the surface layer. This is the same as the time represented by equation (4). Consequently, the layer model produces the same temperature as that in the deep pond model proposed by Ryan and Harleman, but the layer model provides much better detail of the vertical temperature structure in the pond since it is composed of many layers rather than just two as in the deep pond model.

Another reason to support the use of the layer model is that it provides a reasonably realistic description of the transport of fluid downward in the water column. The warm water rises to the surface, spreads over the pond surface, cools, ands then slowly is drawn downward by the discharge located in the deepest portion of the pond. The fact that this vertical movement occurs was verified by examining the movement of the dye during the physical test. As an example, both Figures 8 and 9 (reference 2) show that the maximum dye concentration moves downward in the water column over time. The layer model allows this movement to be tracked in a similar manner.

A fully three dimensional model can provide more detail than either of the above two models. However, for the Catawba SNSWP, the thermal structure varies vertically, but very little horizontally so that the need for such detail is minimal. This was demonstrated by the February 1995, dye and temperature study, and by

calculations of the appropriate Froude numbers at intake, discharge, and surface locations. For these reasons, a three dimensional model is not warranted.

Furthermore, the use of a three dimensional model requires many more input parameters than does a model such as the layer model. For example, for the layer model, only surface heat exchange coefficients and dilution factors are required, and these are easily computed or measured. However, for a three dimensional model, at least three and up to six or more values of diffusivity are required for near field and far field conditions. There is substantial uncertainty in the values of these parameters so that calibration of the model requires much field data, some of which could not be easily obtained without the occurrence of an actual LOCA. It is better to utilize a model such as the layer model which includes the most important features of the pond performance, and yet requires very few "free" coefficients.

As a final comment about these models, the term "deep draft pond" model is not commonly used. A search of the Ryan and Harleman report (ref. 1) was conducted and this term was not found. As a result, it may be that the NRC means something other than a deep pond model (as presented in ref. 1) when they refer to a "deep draft pond" model in their review of the Catawba SNSWP. If this is the case, any differences can be addressed after details of a "deep draft pond" model are communicated.

c. What is the upper limit of Froude number for which stratification will exist?

One of the premier fluid mechanics journals is the Journal of Fluid Mechanics. In 1959, Ellison and Turner published a paper in this Journal titled, Turbulent Entrainment in Stratified Flows (ref. 3), which helps to address this question. Their experimental study of a two layer flow indicated that no mixing occurred (i.e. the mixing entrainment coefficient was zero) for values of the Richardson number above 0.83. This translates into a Froude number of 1.1, with the characteristic length, the thickness of the upper layer. Their tests also concluded that the entrainment coefficient is reduced to 5% of the non-stratified value at Froude numbers below about 2.

There are many other references which indicate that little or no mixing occurs for Froude numbers below a value of 1 (see comments in ref.1). Investigators such as Lofquist (ref. 4), Lean and Whillock (ref. 5), and Ellison and Turner mentioned above show that mixing is quite small when Fr < 1, even when the Reynolds number is above the critical value (i.e. in the turbulent range).

The often quoted criteria is Fr = 0.7 for a cold water wedge to form. It is important to remember that this value was established for the movement of a heated discharge through a narrow channel (ref. 1) in which the discharge covered the entire width. For this situation, when the Froude number is less than 0.7, the discharge will lift from the bottom and move forward on top of a cooler, lower

layer (generally termed a cold water wedge). When a heated effluent is discharged into an open pond (eg, the Catawba SNSWP) without the restricting sides of a channel, it is free to spread laterally to some extent, and the bottom of the discharge rises from the pond bottom more easily than if it were confined in a channel. Thus for the Catawba SNSWP discharge geometry, a criteria of 0.7 is overly restrictive when evaluating plume behavior, and the discharge would be expected to rise to the surface for even larger values of the Froude number..

d. During an actual LOCA, will the Catawba SNSWP remain stratified as the current layer computer model indicates?

When a LOCA occurred, the pond hypolimnetic water would be withdrawn and after heat addition, the water would be discharged in the shallow ends of the lake, which after rising to the surface would begin to cool. As a result, in the early hours following a LOCA, the pond would certainly remain stratified. As stated earlier, this is shown by: 1) Physical testing results (both from the dye and temperature tracers, 2) Calculations of the Froude number and comparison with accepted criteria, 3) Results of the Duke layer model runs, and 4) The pond geometry with a "deep" intake and a "surface" discharge which physically separates the warm discharge from the cool intake, at least initially.

As time passes following the LOCA, the pond may destratify, depending on the heat rejection, the flow rates, the heat loss, and initial mixing that occurs in the vicinity of the discharge. In fact, the computer simulation indicates that for a

portion of the time following an accident, the pond is destratified. It should be remembered that as the pond begins to heat up after receiving the heated discharge, leading ultimately to an increase in intake temperature, the ΔT through the heat exchangers remains approximately constant so long as the heat load remains constant. This means that even as the overall pond temperature rises, the density differences which preserve the stratification tend to be maintained (both intake and discharge temperatures rise the same amount). Consequently, this effect tends to cause the pond to remain stratified longer than it would otherwise.

e. Is Duke's present withdrawal calculation acceptable?

Thermal discharges and stratified flows are often associated with industrial facilities such as power plants which utilize the pond water (through an intake) add heat, and discharge it to a pond. As a result, the performance of intakes have been studied extensively, particularly with respect to their ability to withdraw cool water from the hypolimnion without withdrawing warmer epilimnetic water. One of the classic studies of this situation was by Harleman at M.I.T. and Elder at T.V.A (ref. 6). Duke has utilized the criteria developed in this study as the basis for their withdrawal performance. There are no indications that this criteria is unsatisfactory so it is anticipated that the intake should perform as designed.

Using a range of initial conditions, equilibrium withdrawal thicknesses computed using reference 6 can vary from about 6 feet to 12 feet. The fact that the surface

plume is located approximately 20 feet above the top of the intake indicates that the intake should perform well.

f. Should a mixing routine be added at the discharge point to incorporate some initial mixing?

The amount of initial mixing that occurs can be determined from the physical test conducted in February of this year. There are several ways to do this, the most appropriate being those which utilize measurements which include dilution, and those which necessitate the fewest assumptions.

The most appropriate estimation of mixing is through the use of temperature measurements. By using measurements at the discharge, on the surface at a downstream location, and the intake temperature, the dilution can be determined directly. The basis for this is as follows:

* Energy conservation gives

$$\rho Q_{disch}\, C_p\, (T_{disch} - T_{ref}) + \rho Q_{mix}\, C_p\, (T_{intk} - T_{ref}) = \rho Q_{total}\, C_p\, (T_{mix} - T_{ref}) \tag{5}$$

* The total flow rate in the plume after mixing is

$$Q_{total} = Q_{disch} + Q_{mix} \tag{6}$$

*Defining the dilution D, in the same manner as ref. 1,

$$D = \frac{Q_{total}}{Q_{disch}} = \frac{Q_{mix} + Q_{disch}}{Q_{disch}} = \frac{Q_{mix}}{Q_{disch}} + 1 \tag{7}$$

* The above three equations (5, 6, and 7) can be combined to yield

$$D = \frac{T_{disch} - T_{intk}}{T_{mix} - T_{intk}} \tag{8}$$

The value of T_{mix} from the results of the physical test is 49.5 °F at the pond surface, above the intake location. This however, is not the proper value to use, since a simple calculation shows that the temperature will fall by between 4 and 5 °F due to surface cooling between the discharge point, and station I where T_{mix} was measured. Thus the proper value to use is 53.5 to 54.5 °F. Based on the physical test results, the other temperatures to be used in equation (8) are,

hypolimnetic temperature:	43 °F
discharge temperature:	60, 65, 59, 62 °F
avg. discharge temperature:	61.5 °F

These temperatures give a range of values for D of 1.61 to 1.76.

A second way in which the dilution can be determined is to use an expression in ref. 1 (eqn 6.37), which was established through numerous tests. This equation is,

$$D = 1.4\sqrt{(1+Fr_{disch}^2)}\left[\frac{h}{b}\right]^{1/4} \qquad (9)$$

The ratio of h/b is the aspect ratio of the discharge, or the height to width ratio. Note that since it is raised to a small power, changes in the aspect ratio are not too important. Additionally, if the Froude number of the discharge is small, changes will not greatly affect the value of the dilution. Using an aspect ratio of 5 ft to 40 ft, and a discharge Froude number of 0.7, gives a value for D of 1.02. If the Froude number were changed to 1, and the aspect ratio were doubled, the value of D would change from 1.02 to 1.41. It certainly seems reasonable, based on the

physical test results and on the equation recommended by Ryan and Harleman, that a value for D of 1.8 would be conservative.

One way in which to put dilution into a computer model is to add a near field mixing algorithm. This allows the dilution to be computed as a function of distance from the discharge (largest at the discharge point, and dropping to a very small value as the distance increases. For this to be effective, detail regarding the near field geometry would need to be included. Since the SNSWP discharges are in the shallow portions of the pond, the water available for mixing comes from near the surface (five feet depth or less). A simpler way in which to incorporate the effects of mixing is to use a two two stage pond model as suggested in reference 1 for situations in which the pond shape confines eddies generated by the inflow. This model combines a small "fully mixed area" followed by a "plug flow" analysis.

For the Duke "layer" model, this algorithm or one similar could be incorporated to include the effects of pond geometry and mixing on the discharge. It is not readily obvious that this change needs to be incorporated. Several simple calculations show the following:

1. Let Case A be where the surface layer is filled, allowed to cool as described earlier, and then mixed with the second layer below. Let Case B be where the

surface layer is filled, mixed with the layer below, and the layer of double thickness is allowed to cool. The resulting temperature in these two cases is nearly the same for a wide variation in initial conditions.

2. Let Case C be where the surface layer is filled, mixed with 80% of the second layer, and then allowed to cool. This thickened layer is then mixed with the remaining 20% of the lower layer. The temperature resulting in Case C is almost exactly the same as that obtained in Case B above.

3. Using the Two Stage model of reference 1 mentioned above, the temperatures obtained for a straightforward plug flow analysis for the surface layer (which the Duke layer model effectively uses) and a two stage model in which 5 acres are assumed to be fully mixed (thus incorporating mixing), are essentially identical.

These different ways of looking at the initial dilution suggest that for the situation at the Catawba SNSWP, results will not be substantially different from the present Duke results. Detailed calculations with the type of modifications suggested, would quantify the effect of mixing in the vicinity of the outfall.

We can also use the presence of dilution to determine an extreme upper limit on the rate at which hypolimnetic water is used. Although Froude number calculations and the results of the physical test indicate that the pond will remain

stratified, at least for the first portion of the period following a LOCA, we might assume that the water for dilution comes from the bottom of the pond and thus increases the rate at which the hypolimnion is depleted. This is not possible due to the fact that the outfall is in shallow water, but making such an assumption would give an extreme lower bound on the time until we expect to see any substantial change in intake temperature. The time required to circulate the entire pond with no mixing is,

$$t_{circ}(\text{days}) = \frac{V_{pond}(\text{acre}-\text{ft})}{Q(\text{cfs})}\,0.5 \qquad (10)$$

The pond volume is 434 acre-ft, and the discharge flow is 102.5 cfs for the first 4 hours and 51.25 thereafter. Using a conservative "average" flow of 60 cfs with the above volume, gives a recirculation time of 3.6 days, or about 87 hours. If there is initial mixing, and assuming that all the water used for mixing comes from the pond bottom, the expression becomes,

$$t_{circ}(\text{days}) = \left[\frac{V_{pond}(\text{acre}-\text{ft})}{Q(\text{cfs})}\right]\left[\frac{0.5}{D}\right]$$

If a conservative dilution of 1.8 is assumed, the recirculation time would be 2 days. Consequently, even with a conservative (large) value of initial mixing included, the time to recirculate the entire pond volume would be 48 hours, or nearly 4 times the minimum of 12.5 hours for the "no increase in temperature" requirement of the Catawba FSAR.

A second question which arises concerning mixing in the vicinity of the discharge is whether the values obtained from the physical test would be valid in an actual LOCA when the flow rates were higher. This question can be answered easily by resorting to standard analyses for the mixing of two dimensional turbulent jets.

As a turbulent discharge moves away from the discharge point, it mixes with ambient fluid in what is termed the "near field" when shear stresses are generated by the velocity of the discharge. The flow rate in such a discharge is thus a combination of the original discharge fluid and that which is entrained from the surrounding water. Since entrainment occurs continuously as the discharge moves along, the flow rate continues to increase for some distance as a result of this mixing. For a two dimensional jet, the flow rate in the jet as a function of distance downstream is given by,

$$Q_{total} = Q_{disch} \left(1 + c\frac{x}{b_o}\right) \tag{11}$$

where b_o is the initial half width of the discharge. At some distance downstream, the mixing effectively ceases. This distance is dependent on the initial size of the discharge, so that the term in brackets in equation (11) remains approximately constant, and the total flow rate at the end of shear induced mixing is approximately proportional to the discharge flow rate. Consequently, the ratio of

the total flow rate to the initial flow rate does not depend on the initial flow rate. This means that the ratio Q_{total} to Q_{disch} is constant, say k, or

$$\frac{Q_{total}}{Q_{disch}} = k = D \tag{12}$$

We thus conclude that the value of D established during the physical test at the Catawba SNSWP is valid for the reduced flow rate of the test, and can also be used to represent initial dilution for the higher flow rates of an actual LOCA simulation.

Thus, in answering this question regarding mixing of the discharge with ambient fluid, I would recommend including this mixing in the Duke layer model. This must be done in a manner which is sensitive to the limitations placed by the outfall geometry.

CONCLUSIONS

From all the evidence available, including computer modeling, a prototype physical test, and computations of important parameters governing pond performance, the Catawba SNSWP should perform as required in the handling of a LOCA. Specific conclusions are listed below:

1. The computer model employed in the analysis is adequate to analyze pond performance. It provides the capability of a stratified pond, and variable heat loading. The cooling time utilized for the upper layer yields the same temperature

as that obtained when using a two layer, deep pond model. The layers in the Duke model are mixed appropriately to prevent unstable situations. Examination of a previous sensitivity analysis of this model has shown that the results change very little with the number of layers for total of 20 layers or more.

2. The physical test clearly indicated that the pond would stratify upon the initiation of a thermal discharge. The test included two adverse situations: a) a prevailing wind which opposed the movement of the surface layer to the long arm of the lake, and b) heated discharge from the short arm (or near) discharge point only. Despite these two conditions, the pond performed as predicted. Analysis of the physical test data indicates that there is some mixing in the vicinity of the outfall. This mixing did not affect the movement of the plume to the surface or its movement over the entire surface of the pond for cooling. To be more realistic, the Duke layer model should be modified to include some initial mixing of the discharge.

3. Review of the criteria contained in ref. 1, along with the results from other studies, indicate that the approach Duke Power has used is consistent with good practice and should be representative of actual conditions which might occur during a LOCA. This is particularly true when it is realized that the modeling conditions utilized conservative assumptions at every turn.

NOMENCLATURE

A_p	total pond area
b	initial discharge dimension (horizontal)
c	constant in mixing equation (approximately 0.2)
C_p	specific heat of water
d	depth
D	dilution
Fr	Froude number
h	initial discharge dimension (vertical)
K	surface heat exchange coefficient
t	time
Q	volumetric flow rate
V	volume
x	distance from outfall
ΔT	temperature difference (from equilibrium temperature)
ρ	mass density of water

REFERENCES

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5. Lean, G.H. and A.Z. Whillock, The Behavior of a Warm Water Layer Flowing over Still Water, IAHR, 11th Congress, Leningrad, 1965.

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ATTACHMENT 4

ATTACHMENT 4

METEOROLOGICAL DATA FOR CATAWBA VS CHARLOTTE AIRPORT

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950630	100	70.9	70.2	68	67
950630	200	70.3	69.6	69	68
950630	300	70.0	69.1	68	68
950630	400	70.0	68.9	67	67
950630	500	69.6	68.9	68	68
950630	600	69.1	68.5	69	68
950630	700	69.1	68.9	70	68
950630	800	69.4	69.3	71	68
950630	900	69.8	69.3	73	68
950630	1000	70.7	69.1	75	68
950630	1100	71.6	69.3	75	69
950630	1200	72.7	69.1	78	68
950630	1300	75.7	69.1	81	67
950630	1400	78.4	68.9	80	67
950630	1500	80.4	68.2	80	66
950630	1600	79.9	68.7	79	69
950630	1700	79.3	69.4	79	70
950630	1800	79.2	69.8	79	68
950630	1900	79.7	70.0	78	69
950630	2000	79.0	70.3	77	69
950630	2100	78.3	71.6	76	70
950630	2200	77.2	72.9	75	71
950630	2300	75.6	73.0	74	71
950630	2400	74.5	72.7	73	71
[illegible]	100	74.1	70.7	73	70
950701	200	73.6	70.3	71	69
950701	300	72.7	70.2	71	69
950701	400	71.1	69.4	70	69
950701	500	70.3	68.7	69	68
950701	600	70.0	68.4	70	68
950701	700	69.8	68.2	71	68
950701	800	69.8	68.2	72	69
950701	900	70.7	68.5	74	69
950701	1000	72.9	69.1	77	68
950701	1100	75.7	69.3	78	68
950701	1200	76.8	68.4	79	68
950701	1300	77.9	67.3	80	67
950701	1400	78.4	68.5	81	68
950701	1500	79.7	69.3	83	67
950701	1600	81.5	68.2	84	66
950701	1700	82.0	68.5	69	66
950701	1800	75.0	67.8	69	68
950701	1900	68.9	67.6	69	68
950701	2000	69.3	67.6	69	68
950701	2100	70.2	68.5	70	68
950701	2200	69.3	68.7	69	67
950701	2300	68.9	68.5	68	68
950701	2400	68.0	68.0	68	68
950702	100	67.5	67.5	67	67
950702	200	66.9	66.9	67	67

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950702	300	66.7	66.7	66	66			
950702	400	66.9	66.6	66	66			
950702	500	66.7	66.4	66	66			
950702	600	66.4	66.0	66	65			
950702	700	67.3	66.2	68	65			
950702	800	67.6	66.6	70	65			
950702	900	70.2	66.6	74	63			
950702	1000	72.3	64.6	75	64			
950702	1100	73.9	64.6	79	63			
950702	1200	76.1	62.8	79	62			
950702	1300	77.7	59.4	80	63			
950702	1400	79.0	61.0	82	63			
950702	1500	80.6	62.6	82	63			
950702	1600	81.9	64.0	83	63			
950702	1700	82.2	64.9	82	63			
950702	1800	83.5	65.8	81	63			
950702	1900	82.0	66.4	81	64			
950702	2000	80.8	67.1	81	64			
950702	2100	79.7	68.0	76	66			
950702	2200	79.2	67.8	76	66			
950702	2300	78.3	68.2	76	66			
950702	2400	77.2	68.0	71	68			
950703	100	75.6	69.1	70	69			
950703	200	75.7	68.7	69	69			
950703	300	73.8	70.0	69	68			
950703	400	71.8	70.2	68	68			
950703	500	70.9	69.6	68	67			
950703	600	70.5	69.3	67	67			
950703	700	70.2	69.3	69	68			
950703	800	70.7	69.6	72	70			
950703	900	72.0	70.2	74	68			
950703	1000	72.9	70.3	76	69			
950703	1100	74.3	70.2	78	69			
950703	1200	78.1	70.3	80	70			
950703	1300	80.1	70.3	81	69			
950703	1400	81.3	69.8	82	68			
950703	1500	82.8	69.6	84	68			
950703	1600	83.8	68.7	84	68			
950703	1700	84.4	67.3	84	67			
950703	1800	84.7	65.8	84	66			
950703	1900	84.6	66.2	81	69			
950703	2000	81.0	68.7	77	69			
950703	2100	75.7	65.8	74	65			
950703	2200	75.0	67.3	75	65			
950703	2300	73.6	68.5	71	66			
950703	2400	72.7	68.9	72	67			
950704	100	72.7	69.1	71	66			
950704	200	72.7	69.1	70	67			
950704	300	72.1	69.3	70	67			
950704	400	70.9	69.8	69	68			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950704	500	69.6	69.6	68	68		
950704	600	68.9	68.9	68	68		
950704	700	68.9	68.9	69	69		
950704	800	68.9	68.9	70	69		
950704	900	69.3	69.3	71	66		
950704	1000	70.2	70.0	73	69		
950704	1100	71.2	70.7	75	70		
950704	1200	74.1	71.1	79	69		
950704	1300	77.4	70.2	79	69		
950704	1400	79.9	70.0	81	69		
950704	1500	81.5	69.8	84	69		
950704	1600	82.6	69.1	82	67		
950704	1700	83.3	69.8	82	67		
950704	1800	82.4	70.3	83	69		
950704	1900	83.1	70.7	81	67		
950704	2000	82.6	70.9	78	69		
950704	2100	81.1	71.6	77	70		
950704	2200	79.2	73.8	76	70		
950704	2300	79.0	73.6	75	70		
950704	2400	78.3	72.0	75	71		
950705	100	76.6	73.9	73	71		
950705	200	75.9	73.4	73	71		
950705	300	75.4	73.6	72	71		
950705	400	74.7	72.7	72	70		
950705	500	73.8	73.2	71	70		
950705	600	73.0	72.5	71	69		
950705	700	72.1	71.6	74	70		
950705	800	72.7	72.1	77	71		
950705	900	74.5	72.9	81	70		
950705	1000	75.7	73.0	85	68		
950705	1100	81.7	69.8	85	69		
950705	1200	84.2	69.3	87	69		
950705	1300	86.0	69.4	88	69		
950705	1400	87.1	69.3	88	70		
950705	1500	88.3	69.1	89	70		
950705	1600	89.2	68.4	90	69		
950705	1700	89.6	67.3	89	69		
950705	1800	89.8	68.5	88	71		
950705	1900	88.7	69.8	87	69		
950705	2000	88.2	70.7	85	71		
950705	2100	84.9	73.8	82	72		
950705	2200	82.2	75.2	81	72		
950705	2300	81.1	74.1	80	73		
950705	2400	79.9	74.3	78	73		
950706	100	79.3	73.2	78	72		
950706	200	78.6	73.0	77	72		
950706	300	77.5	73.4	76	72		
950706	400	76.8	72.7	75	72		
950706	500	76.6	72.9	75	72		
950706	600	76.5	72.9	75	72		

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950706	700	75.9	73.2	75	73
950706	800	75.9	73.4	78	73
950706	900	77.9	73.8	81	74
950706	1000	80.6	73.9	84	74
950706	1100	83.3	73.9	87	72
950706	1200	86.2	72.9	87	71
950706	1300	86.7	72.1	87	71
950706	1400	86.9	71.4	88	72
950706	1500	86.7	70.9	88	69
950706	1600	88.2	69.6	90	64
950706	1700	88.5	67.5	88	68
950706	1800	87.6	68.9	87	69
950706	1900	87.4	68.5	83	69
950706	2000	85.1	71.1	80	69
950706	2100	81.7	70.7	78	68
950706	2200	79.7	70.3	77	69
950706	2300	78.4	70.2	73	66
950706	2400	77.2	68.2	72	66
950707	100	75.7	68.5	71	67
950707	200	73.8	69.6	70	67
950707	300	71.8	69.4	69	66
950707	400	70.3	68.2	68	66
950707	500	69.4	67.6	67	66
950707	600	68.9	67.1	68	66
950707	700	68.5	67.6	68	67
950707	800	69.6	68.7	69	67
950707	900	70.9	68.5	72	68
950707	1000	71.2	68.9	74	69
950707	1100	72.0	69.1	76	69
950707	1200	74.5	69.4	80	69
950707	1300	77.7	69.3	86	68
950707	1400	80.6	67.5	86	68
950707	1500	82.9	67.5	85	66
950707	1600	84.7	67.5	86	66
950707	1700	85.8	66.6	84	65
950707	1800	85.8	66.0	85	64
950707	1900	85.3	66.6	83	65
950707	2000	84.0	68.5	82	65
950707	2100	82.0	69.3	77	68
950707	2200	81.1	69.4	77	68
950707	2300	79.2	70.5	76	68
950707	2400	77.4	69.1	76	68
950708	100	75.6	66.7	73	67
950708	200	73.4	67.3	72	64
950708	300	72.7	66.9	71	63
950708	400	72.3	66.2	70	59
950708	500	70.3	65.3	70	59
950708	600	69.4	64.0	69	60
950708	700	68.7	63.5	71	60
950708	800	69.8	64.0	74	60

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950708	900	72.7	65.1	74	60		
950708	1000	75.2	63.0	80	60		
950708	1100	78.1	59.9	81	56		
950708	1200	79.5	57.7	83	57		
950708	1300	80.1	59.4	84	59		
950708	1400	82.2	60.6	84	60		
950708	1500	83.1	60.6	85	62		
950708	1600	84.0	61.9	85	60		
950708	1700	84.2	60.6	85	57		
950708	1800	84.6	59.9	84	57		
950708	1900	84.6	60.3	83	56		
950708	2000	83.8	57.6	80	58		
950708	2100	80.8	63.1	78	59		
950708	2200	75.9	69.3	76	60		
950708	2300	75.2	65.5	76	60		
950708	2400	73.6	65.3	73	61		
950709	100	72.1	65.7	72	59		
950709	200	71.1	64.0	72	56		
950709	300	71.4	62.8	70	54		
950709	400	70.3	62.1	68	54		
950709	500	71.4	59.0	67	55		
950709	600	71.2	56.5	66	55		
950709	700	69.4	57.7	68	56		
950709	800	68.4	57.6	71	57		
950709	900	70.2	57.0	73	59		
950709	1000	72.7	58.6	77	58		
950709	1100	75.0	59.0	78	58		
950709	1200	77.2	59.7	81	60		
950709	1300	78.4	60.8	82	61		
950709	1400	80.2	62.1	82	62		
950709	1500	82.0	63.1	83	63		
950709	1600	82.9	63.1	84	63		
950709	1700	83.8	64.4	83	64		
950709	1800	83.1	64.6	81	62		
950709	1900	82.9	64.9	81	65		
950709	2000	82.4	65.1	77	66		
950709	2100	81.3	65.3	76	65		
950709	2200	79.2	67.3	74	66		
950709	2300	77.7	67.6	75	66		
950709	2400	76.3	67.5	73	66		
950710	100	75.6	67.8	72	66		
950710	200	74.8	67.3	72	66		
950710	300	74.5	67.8	72	66		
950710	400	74.5	67.6	70	66		
950710	500	72.9	68.0	68	65		
950710	600	70.5	68.4	69	65		
950710	700	69.3	67.8	70	66		
950710	800	68.7	67.3	74	67		
950710	900	72.3	67.6	78	68		
950710	1000	74.3	68.2	81	69		

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950710	1100	77.0	68.4	85	69			
950710	1200	79.7	66.7	86	67			
950710	1300	82.8	66.6	85	66			
950710	1400	85.3	64.6	87	65			
950710	1500	87.3	64.8	89	67			
950710	1600	88.2	63.3	90	67			
950710	1700	89.1	63.0	88	67			
950710	1800	88.7	63.7	87	66			
950710	1900	88.2	63.5	84	68			
950710	2000	86.4	64.6	82	68			
950710	2100	83.3	71.6	80	68			
950710	2200	82.2	69.8	80	68			
950710	2300	81.5	70.0	78	68			
950710	2400	79.2	71.4	77	70			
950711	100	78.1	71.6	76	71			
950711	200	77.5	72.1	75	71			
950711	300	76.5	72.1	74	71			
950711	400	75.7	71.8	73	71			
950711	500	74.7	71.6	73	71			
950711	600	74.1	71.4	74	71			
950711	700	73.8	71.2	75	71			
950711	800	75.2	70.9	78	70			
950711	900	76.6	70.9	82	69			
950711	1000	79.2	70.9	83	68			
950711	1100	82.0	69.6	87	66			
950711	1200	84.7	68.7	89	65			
950711	1300	85.8	67.8	89	67			
950711	1400	87.4	66.9	89	65			
950711	1500	88.5	64.9	90	64			
950711	1600	89.6	65.5	89	63			
950711	1700	89.8	62.8	90	61			
950711	1800	89.2	61.9	90	63			
950711	1900	89.1	62.2	87	61			
950711	2000	88.0	64.2	82	65			
950711	2100	86.0	65.3	82	66			
950711	2200	83.7	67.5	79	66			
950711	2300	81.3	68.2	78	67			
950711	2400	79.0	71.4	77	68			
950712	100	77.4	70.9	75	70			
950712	200	76.3	70.9	74	71			
950712	300	74.3	71.1	73	70			
950712	400	73.8	71.4	75	70			
950712	500	72.9	71.2	73	70			
950712	600	72.9	70.3	74	69			
950712	700	72.9	70.3	75	70			
950712	800	73.6	70.3	79	71			
950712	900	76.1	70.9	84	71			
950712	1000	79.3	71.2	87	70			
950712	1100	82.8	71.6	89	65			
950712	1200	85.3	67.6	90	65			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950712	1300	86.9	66.7	92	66			
950712	1400	88.3	66.7	89	67			
950712	1500	88.3	67.1	91	68			
950712	1600	87.6	68.0	90	67			
950712	1700	87.4	67.1	89	66			
950712	1800	87.6	66.6	88	66			
950712	1900	87.3	66.6	86	65			
950712	2000	85.5	66.9	82	64			
950712	2100	83.8	66.9	81	65			
950712	2200	82.9	66.9	79	66			
950712	2300	80.1	68.2	78	68			
950712	2400	78.1	69.4	76	68			
950713	100	76.3	70.7	74	68			
950713	200	75.0	71.1	73	68			
950713	300	74.1	71.1	72	68			
950713	400	73.6	70.5	72	68			
950713	500	73.2	70.2	71	68			
950713	600	71.6	69.3	71	68			
950713	700	71.1	68.7	73	69			
950713	800	72.3	69.3	77	69			
950713	900	75.6	71.1	81	69			
950713	1000	77.5	71.1	83	69			
950713	1100	79.0	70.7	86	67			
950713	1200	81.5	70.5	88	68			
950713	1300	84.6	69.8	88	67			
950713	1400	85.6	68.0	90	66			
950713	1500	87.1	65.8	89	65			
950713	1600	87.4	65.8	89	64			
950713	1700	87.4	65.7	88	64			
950713	1800	87.1	63.7	87	64			
950713	1900	86.9	64.0	84	67			
950713	2000	85.3	67.5	81	66			
950713	2100	83.5	67.3	78	66			
950713	2200	82.0	66.9	78	67			
950713	2300	79.3	68.2	76	67			
950713	2400	77.4	69.8	74	67			
950714	100	75.9	70.7	73	66			
950714	200	73.8	69.4	71	66			
950714	300	73.0	67.5	71	66			
950714	400	72.3	68.7	71	66			
950714	500	70.5	69.1	70	65			
950714	600	69.6	68.7	69	65			
950714	700	69.6	69.1	70	67			
950714	800	69.8	69.4	74	69			
950714	900	73.4	70.3	79	70			
950714	1000	77.7	71.6	82	68			
950714	1100	80.4	71.1	84	67			
950714	1200	82.9	68.2	87	65			
950714	1300	83.3	67.1	87	64			
950714	1400	85.6	64.2	90	64			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950714	1500	88.0	60.6	92	64
950714	1600	89.6	63.7	91	64
950714	1700	89.8	66.0	91	63
950714	1800	89.4	66.0	90	63
950714	1900	89.6	63.0	87	63
950714	2000	88.5	65.7	83	65
950714	2100	85.5	69.1	81	67
950714	2200	82.2	72.7	79	68
950714	2300	80.6	72.9	77	70
950714	2400	78.4	73.6	76	71
950715	100	76.6	73.0	75	71
950715	200	75.0	73.2	74	71
950715	300	73.9	72.5	73	71
950715	400	73.8	73.0	73	71
950715	500	73.2	73.0	73	71
950715	600	72.7	72.7	71	71
950715	700	72.5	72.5	74	72
950715	800	73.0	72.7	77	73
950715	900	74.7	73.2	82	73
950715	1000	77.9	73.8	84	73
950715	1100	81.3	73.6	86	73
950715	1200	84.0	72.9	89	70
950715	1300	85.6	72.5	90	70
950715	1400	87.8	70.5	89	70
950715	1500	88.7	70.3	93	71
950715	1600	90.7	70.0	91	69
950715	1700	91.6	70.0	92	70
950715	1800	92.1	70.2	90	70
950715	1900	91.6	69.6	89	69
950715	2000	90.7	68.0	87	69
950715	2100	87.8	71.4	85	71
950715	2200	84.2	75.6	82	71
950715	2300	81.5	77.9	81	71
950715	2400	80.2	75.4	79	71
950716	100	79.5	73.8	78	71
950716	200	79.0	73.0	77	71
950716	300	77.4	73.8	76	71
950716	400	77.0	72.5	75	71
950716	500	76.1	72.0	74	71
950716	600	75.4	72.7	74	71
950716	700	74.1	72.7	76	73
950716	800	74.3	72.1	80	72
950716	900	76.5	73.0	85	73
950716	1000	80.2	73.9	88	72
950716	1100	85.1	73.8	90	71
950716	1200	87.1	73.6	92	70
950716	1300	88.9	71.6	94	72
950716	1400	90.3	70.9	92	71
950716	1500	92.5	71.6	78	72
950716	1600	93.4	72.3	78	69

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950716	1700	88.5	71.8	73	70			
950716	1800	77.9	73.0	73	71			
950716	1900	75.0	72.3	72	72			
950716	2000	74.8	72.1	73	72			
950716	2100	73.2	72.9	72	72			
950716	2200	72.7	72.7	72	71			
950716	2300	73.0	73.0	72	71			
950716	2400	72.0	72.0	71	70			
950717	100	71.6	71.6	71	70			
950717	200	71.6	71.6	71	70			
950717	300	71.8	71.8	71	70			
950717	400	72.1	72.1	71	70			
950717	500	71.8	71.8	71	70			
950717	600	70.7	71.2	70	70			
950717	700	70.3	71.4	70	69			
950717	800	70.5		73	71			
950717	900			79	71			
950717	1000			81	71			
950717	1100			85	71			
950717	1200			87	70			
950717	1300			87	71			
950717	1400			91	68			
950717	1500	87.8	68.4	89	70			
950717	1600	89.2	68.4	90	71			
950717	1700	89.6	68.5	90	70			
950717	1800	89.2	70.0	89	69			
950717	1900	89.2	69.8	87	70			
950717	2000	88.0	70.5	85	71			
950717	2100	85.5	72.7	83	71			
950717	2200	84.4	71.4	82	71			
950717	2300	82.2	74.7	81	73			
950717	2400	80.4	74.5	79	73			
950718	100	78.8	73.8	78	73			
950718	200	78.1	73.4	76	73			
950718	300	77.5	73.8	76	73			
950718	400	76.5	73.2	75	72			
950718	500	75.2	72.5	75	71			
950718	600	74.5	72.5	74	71			
950718	700	74.3	72.7	75	72			
950718	800	74.3	72.0	79	71			
950718	900	77.7	71.4	82	70			
950718	1000	80.6	70.2	85	71			
950718	1100	82.8	70.7	88	72			
950718	1200	84.7	70.3	87	73			
950718	1300	86.7	70.2	87	71			
950718	1400	88.0	70.2	90	68			
950718	1500	88.9	69.3	89	68			
950718	1600	89.8	68.9	89	69			
950718	1700	89.8	69.1	90	70			
950718	1800	90.1	68.7	90	68			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950718	1900	90.1	68.7	88	67
950718	2000	89.2	70.3	83	72
950718	2100	84.4	74.1	80	72
950718	2200	80.1	73.8	78	72
950718	2300	77.7	73.0	76	72
950718	2400	76.6	71.8	76	70
950719	100	75.0	70.7	75	70
950719	200	73.8	70.2	74	70
950719	300	73.6	70.7	73	70
950719	400	73.4	70.3	72	69
950719	500	72.7	70.5	73	70
950719	600	72.1	70.2	74	65
950719	700	72.7	70.2	74	65
950719	800	73.8	69.4	77	65
950719	900	77.7	67.8	81	63
950719	1000	79.9	67.5	84	62
950719	1100	82.9	63.3	85	61
950719	1200	85.1	61.3	87	62
950719	1300	85.6	61.5	88	63
950719	1400	87.1	63.3	90	63
950719	1500	87.8	63.5	88	62
950719	1600	87.8	64.8	89	63
950719	1700	87.3	66.0	88	66
950719	1800	87.4	66.6	86	66
950719	1900	87.4	67.6	86	67
950719	2000	86.5	67.8	82	67
950719	2100	84.7	68.2	80	67
950719	2200	81.9	70.9	78	67
950719	2300	80.8	70.3	77	68
950719	2400	80.1	69.3	76	67
950720	100	79.9	68.5	76	67
950720	200	78.4	69.3	75	68
950720	300	77.5	70.0	75	67
950720	400	76.5	70.3	74	67
950720	500	75.7	70.0	73	67
950720	600	75.2	70.9	73	68
950720	700	74.3	71.4	74	69
950720	800	74.7	71.6	76	70
950720	900	76.5	73.6	79	73
950720	1000	79.9	74.5	80	74
950720	1100	81.1	74.8	77	73
950720	1200	76.1	73.2	75	72
950720	1300	73.6	73.4	77	72
950720	1400	77.0	74.1	82	73
950720	1500	81.7	75.0	86	73
950720	1600	84.9	76.1	88	73
950720	1700	85.3	76.6	86	73
950720	1800	84.6	76.3	85	75
950720	1900	81.0	78.1	83	74
950720	2000	80.2	77.9	81	74

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950720	2100	79.0	75.9	80	74			
950720	2200	77.9	75.7	78	73			
950720	2300	77.0	75.0	77	73			
950720	2400	76.5	74.7	76	73			
950721	100	77.0	73.8	77	73			
950721	200	76.8	74.3	77	74			
950721	300	77.0	75.2	77	74			
950721	400	76.1	74.8	76	73			
950721	500	75.7	74.1	75	72			
950721	600	75.6	73.2	75	72			
950721	700	74.8	73.2	75	73			
950721	800	75.6	73.9	78	74			
950721	900	77.7	74.8	80	74			
950721	1000	79.5	75.4	82	76			
950721	1100	80.8	75.6	86	76			
950721	1200	83.3	75.9	86	75			
950721	1300	84.9	75.7	88	74			
950721	1400	87.6	75.9	90	72			
950721	1500	89.2	73.8	91	71			
950721	1600	90.7	72.5	88	72			
950721	1700	91.4	71.6	77	71			
950721	1800	87.3	71.8	81	73			
950721	1900	82.4	71.1	78	73			
950721	2000	82.0	73.2	74	73			
950721	2100	79.9	74.5	75	74			
950721	2200	77.2	74.3	75	74			
950721	2300	76.5	74.7	74	73			
950721	2400	76.8	75.0	74	73			
950722	100	76.1	74.8	73	73			
950722	200	75.6	74.8	73	73			
950722	300	75.4	75.2	73	73			
950722	400	74.7	74.7	73	72			
950722	500	73.8	73.8	74	73			
950722	600	73.4	73.4	73	73			
950722	700	73.6	73.6	74	73			
950722	800	73.2	73.2	74	73			
950722	900	73.8	73.8	79	74			
950722	1000	75.9	73.9	82	74			
950722	1100	80.6	73.4	87	73			
950722	1200	83.7	71.1	87	70			
950722	1300	86.0	69.8	89	69			
950722	1400	87.8	69.4	89	68			
950722	1500	88.7	68.4	90	68			
950722	1600	89.2	68.5	90	68			
950722	1700	89.8	68.4	90	67			
950722	1800	90.0	69.1	88	67			
950722	1900	89.4	70.2	87	68			
950722	2000	88.2	70.9	86	70			
950722	2100	86.5	73.4	84	72			
950722	2200	84.9	75.2	74	72			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950722	2300	82.8	76.8	75	72			
950722	2400	81.9	74.7	75	73			
950723	100	79.5	74.3	75	73			
950723	200	77.2	73.4	74	72			
950723	300	75.9	73.0	73	72			
950723	400	74.7	72.5	73	71			
950723	500	73.8	72.0	72	71			
950723	600	72.9	71.4	73	71			
950723	700	72.3	71.2	74	72			
950723	800	73.0	71.2	77	72			
950723	900	77.2	71.6	81	72			
950723	1000	81.1	72.0	85	72			
950723	1100	84.6	72.0	88	71			
950723	1200	86.5	72.7	90	72			
950723	1300	88.7	73.2	92	72			
950723	1400	90.5	73.2	92	72			
950723	1500	92.1	72.9	93	71			
950723	1600	92.8	72.3	93	72			
950723	1700	93.0	71.4	93	70			
950723	1800	93.0	72.0	82	68			
950723	1900	90.0	73.2	83	68			
950723	2000	86.2	71.6	82	69			
950723	2100	84.0	71.4	81	72			
950723	2200	81.9	73.9	79	71			
950723	2300	78.6	73.6	77	72			
950723	2400	76.1	74.7	77	72			
950724	100	74.7	72.9	74	72			
950724	200	74.5	72.5	73	71			
950724	300	74.7	73.4	73	72			
950724	400	74.7	73.2	73	71			
950724	500	73.4	72.7	72	71			
950724	600	73.0	72.3	71	71			
950724	700	72.3	72.0	73	72			
950724	800	72.3	72.0	75	73			
950724	900			79	74			
950724	1000	79.2	73.0	84	74			
950724	1100	82.0	73.4	87	74			
950724	1200	85.3	73.4	90	73			
950724	1300	88.9	71.6	92	72			
950724	1400	90.9	71.6	92	72			
950724	1500	92.1	71.6	93	69			
950724	1600	93.2	70.0	94	68			
950724	1700	94.5	66.4	94	62			
950724	1800	94.8	64.2	93	64			
950724	1900	94.1	65.8	91	65			
950724	2000	92.7	68.5	83	68			
950724	2100	90.7	67.8	82	67			
950724	2200	86.5	69.4	81	68			
950724	2300	84.2	72.1	80	69			
950724	2400	82.0	71.8	78	71			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950725	100	80.2	71.4	78	71
950725	200	78.4	71.4	76	70
950725	300	77.4	71.4	75	70
950725	400	76.6	72.1	74	70
950725	500	75.6	72.9	74	70
950725	600	74.8	72.5	73	70
950725	700	73.0	71.8	74	71
950725	800	73.2	71.2	78	71
950725	900	76.3	72.0	83	73
950725	1000	79.3	72.5	86	72
950725	1100	82.6	72.9	89	70
950725	1200	86.5	72.3	91	68
950725	1300	89.2	70.9	93	68
950725	1400	91.4	69.4	95	66
950725	1500	93.0	68.7	93	66
950725	1600	93.9	68.2	94	68
950725	1700	94.5	64.8	94	69
950725	1800	94.5	65.5	93	67
950725	1900	94.1	68.4	91	67
950725	2000	92.5	70.0	87	70
950725	2100	89.8	70.7	86	73
950725	2200	87.1	72.7	84	73
950725	2300	84.7	72.1	82	71
950725	2400	82.8	70.9	82	68
950726	100	81.5	69.8	80	69
950726	200	79.9	70.3	75	70
950726	300	78.4	71.1	74	70
950726	400	77.9	71.1	73	69
950726	500	77.4	72.7	73	69
950726	600	76.3	73.2	72	70
950726	700	75.4	73.0	74	70
950726	800	75.4	72.7	76	71
950726	900	76.6	72.1	80	73
950726	1000	78.4	72.3	84	73
950726	1100	81.9	72.7	89	70
950726	1200	85.8	72.0	91	70
950726	1300	87.6	71.2	91	70
950726	1400	90.1	68.5	90	69
950726	1500	91.2	68.2	92	69
950726	1600	91.2	67.8	93	68
950726	1700	91.8	68.4	93	68
950726	1800	91.9	68.2	90	67
950726	1900	91.0	68.7	85	70
950726	2000	84.9	71.8	76	69
950726	2100	81.5	70.9	78	70
950726	2200	81.1	69.1	78	71
950726	2300	79.5	68.5	77	70
950726	2400	77.0	70.2	76	69
950727	100	75.6	70.2	75	68
950727	200	75.2	69.3	74	69

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950727	300	74.5	69.4	73	68			
950727	400	73.8	69.1	73	68			
950727	500	73.6	69.4	72	69			
950727	600	73.6	69.8	72	69			
950727	700	72.9	69.4	73	69			
950727	800	73.2	69.4	76	70			
950727	900	75.4	69.6	77	70			
950727	1000	76.6	70.0	78	71			
950727	1100	78.6	69.8	80	69			
950727	1200	79.7	68.9	82	69			
950727	1300	80.4	70.2	86	72			
950727	1400	84.0	71.1	87	72			
950727	1500	87.8	69.6	88	71			
950727	1600	86.9	70.5	76	71			
950727	1700	82.9	71.4	79	75			
950727	1800	81.5	71.1	71	69			
950727	1900	80.4	72.3	73	72			
950727	2000	78.1	71.8	73	72			
950727	2100	77.4	71.1	73	72			
950727	2200	76.8	71.1	74	72			
950727	2300	76.3	71.1	73	72			
950727	2400	75.9	71.1	73	70			
950728	100	75.6	70.0	73	71			
950728	200	74.5	70.3	73	71			
950728	300	74.1	70.7	73	71			
950728	400	74.1	71.4	73	71			
950728	500	74.3	72.1	73	71			
950728	600	74.5	72.5	73	72			
950728	700	74.1	72.9	73	72			
950728	800	74.5	73.2	75	73			
950728	900	76.6	73.4	79	73			
950728	1000	79.7	72.9	82	72			
950728	1100	81.7	71.2	84	70			
950728	1200	82.4	69.8	80	70			
950728	1300	78.1	72.3	80	69			
950728	1400	78.8	73.0	83	69			
950728	1500	84.4	70.3	83	70			
950728	1600	86.4	70.5	85	71			
950728	1700	83.3	71.6	73	72			
950728	1800	73.9	72.7	74	71			
950728	1900	73.4	72.0	74	72			
950728	2000	73.8	72.1	74	72			
950728	2100	74.7	71.8	74	72			
950728	2200	74.3	72.3	73	72			
950728	2300	75.0	72.9	73	72			
950728	2400	75.0	72.7	73	72			
950729	100	75.0	73.2	73	72			
950729	200	75.0	72.5	73	71			
950729	300	74.1	71.6	72	71			
950729	400	73.6	71.4	72	70			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950729	500	73.2	71.2	70	69		
950729	600	72.3	71.4	70	69		
950729	700	72.1	71.2	72	71		
950729	800	72.1	71.4	76	72		
950729	900	74.1	72.5	80	73		
950729	1000	76.1	73.0	82	72		
950729	1100	78.4	72.7	83	71		
950729	1200	82.2	71.1	85	70		
950729	1300	83.7	69.4	85	69		
950729	1400	86.4	68.9	88	68		
950729	1500	87.8	68.4	90	69		
950729	1600	88.2	68.0	89	68		
950729	1700	88.2	68.0	89	67		
950729	1800	88.2	67.3	90	67		
950729	1900	87.8	68.4	87	70		
950729	2000	84.9	70.2	83	69		
950729	2100	82.6	71.8	80	71		
950729	2200	80.2	71.1	78	70		
950729	2300	78.6	71.1	77	71		
950729	2400	77.4	71.6	76	71		
950730	100	75.7	71.6	75	70		
950730	200	74.5	70.7	74	70		
950730	300	73.2	70.3	74	68		
950730	400	73.0	69.6	75	68		
950730	500	73.2	70.0	72	68		
950730	600	72.5	70.9	71	69		
950730	700	72.1	69.8	74	70		
950730	800	72.9	69.4	80	71		
950730	900	76.3	69.3	84	69		
950730	1000	80.2	68.0	85	68		
950730	1100	82.0	68.4	88	68		
950730	1200	85.1	68.4	90	68		
950730	1300	87.1	67.5	90	68		
950730	1400	88.9	67.8	91	68		
950730	1500	90.1	67.3	92	69		
950730	1600	90.9	66.0	92	66		
950730	1700	91.6	65.5	92	66		
950730	1800	91.8	66.6	90	69		
950730	1900	91.0	69.1	87	70		
950730	2000	88.3	70.9	84	70		
950730	2100	85.3	70.9	83	70		
950730	2200	82.9	73.2	81	70		
950730	2300	81.5	73.4	80	70		
950730	2400	80.1	71.2	79	71		
950731	100	78.1	71.4	77	71		
950731	200	78.3	69.6	76	70		
950731	300	76.6	70.2	76	70		
950731	400	75.4	70.2	75	69		
950731	500	74.3	70.3	74	70		
950731	600	73.9	71.2	74	70		

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950731	700	73.9	71.2	76	71			
950731	800	74.5	71.4	79	72			
950731	900	75.9	71.2	82	73			
950731	1000	78.6	71.4	84	73			
950731	1100	83.8	71.6	87	72			
950731	1200	84.7	72.0	89	72			
950731	1300	82.8	71.6	87	72			
950731	1400	79.0	71.4	88	70			
950731	1500	83.5	72.5	82	71			
950731	1600	85.3	72.0	74	67			
950731	1700	81.1	71.2	73	70			
950731	1800	77.4	70.5	70	68			
950731	1900	68.9	68.2	71	69			
950731	2000	68.5	68.0	71	69			
950731	2100	69.4	68.0	70	69			
950731	2200	71.1	68.9	70	69			
950731	2300	71.2	69.4	70	68			
950731	2400	70.3	68.7	70	68			
950801	100	72.0	69.1	70	69			
950801	200	71.1	69.1	71	69			
950801	300	71.2	69.4	70	69			
950801	400	71.2	69.4	71	69			
950801	500	71.8	69.6	71	69			
950801	600	72.5	69.4	70	69			
950801	700	72.0	70.0	71	69			
950801	800	71.2	69.8	76	71			
950801	900	73.4	70.9	80	70			
950801	1000	76.6	70.2	84	70			
950801	1100	79.2	69.6	84	71			
950801	1200	82.4	70.3	88	70			
950801	1300	83.8	70.5	86	69			
950801	1400	85.8	70.5	87	70			
950801	1500	86.9	70.0	91	69			
950801	1600	87.8	69.6	88	70			
950801	1700	88.2	69.4	81	72			
950801	1800	87.3	69.3	86	73			
950801	1900	87.3	69.6	84	73			
950801	2000	86.4	68.0	82	71			
950801	2100	84.2	68.2	79	70			
950801	2200	81.7	69.6	78	69			
950801	2300	79.7	70.3	77	69			
950801	2400	78.4	71.1	76	69			
950802	100	77.2	71.6	75	70			
950802	200	76.6	72.0	73	70			
950802	300	75.6	73.6	73	69			
950802	400	74.7	72.7	72	69			
950802	500	74.1	71.8	72	70			
950802	600	73.0	71.4	71	70			
950802	700	73.2	71.4	74	71			
950802	800	73.8	71.2	79	72			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950802	900	75.6	71.6	80	70		
950802	1000	78.8	70.2	82	69		
950802	1100	80.4	68.2	83	69		
950802	1200	82.2	67.5	86	67		
950802	1300	84.4	68.4	88	67		
950802	1400	84.9	68.5	88	68		
950802	1500	86.7	66.4	90	67		
950802	1600	87.6	64.2	87	67		
950802	1700	87.6	65.7	85	68		
950802	1800	85.8	68.9	85	69		
950802	1900	83.8	70.7	79	70		
950802	2000	78.4	70.5	79	70		
950802	2100	79.3	69.8	78	70		
950802	2200	77.4	71.4	78	68		
950802	2300	76.5	72.0	76	69		
950802	2400	76.3	70.9	76	70		
950803	100	76.1	70.7	75	70		
950803	200	75.6	70.7	74	70		
950803	300	75.4	70.9	74	71		
950803	400	75.9	72.1	73	70		
950803	500	75.6	72.0	73	70		
950803	600	75.0	72.3	72	71		
950803	700	73.4	71.4	74	71		
950803	800	74.1	72.0	78	73		
950803	900	75.4	72.5	79	72		
950803	1000	77.7	73.4	81	72		
950803	1100	80.4	73.4	84	71		
950803	1200	82.4	72.7	86	71		
950803	1300	81.1	72.3	78	72		
950803	1400	79.9	71.2	80	74		
950803	1500	77.9	70.9	73	71		
950803	1600	72.3	69.8	74	72		
950803	1700	73.2	70.5	75	72		
950803	1800	74.3	70.9	75	71		
950803	1900	75.0	71.4	76	72		
950803	2000	75.4	71.6	74	71		
950803	2100	75.2	72.5	74	72		
950803	2200	75.6	72.1	73	72		
950803	2300	75.4	72.3	73	71		
950803	2400	75.4	72.7	72	70		
950804	100	74.5	72.3	72	70		
950804	200	74.1	71.8	72	70		
950804	300	74.8	71.2	72	70		
950804	400	74.1	70.9	71	69		
950804	500	73.9	70.7	71	69		
950804	600	73.4	71.1	70	70		
950804	700	73.0	71.2	73	72		
950804	800	73.4	72.1	76	73		
950804	900	75.2	73.2	79	73		
950804	1000	76.8	73.6	82	72		

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950804	1100	79.0	73.6	83	71			
950804	1200	81.1	72.5	84	71			
950804	1300	83.1	71.4	87	70			
950804	1400	84.6	70.7	87	69			
950804	1500	85.8	70.7	88	70			
950804	1600	86.9	70.7	89	69			
950804	1700	88.0	70.3	89	69			
950804	1800	88.3	70.2	88	69			
950804	1900	87.6	71.1	85	70			
950804	2000	80.6	73.4	78	74			
950804	2100	77.2	73.9	77	72			
950804	2200	76.5	73.8	76	72			
950804	2300	76.8	73.0	75	72			
950804	2400	75.9	74.7	75	72			
950805	100	75.4	74.7	75	73			
950805	200	75.0	74.3	74	73			
950805	300	74.5	73.8	74	72			
950805	400	73.8	72.7	74	72			
950805	500	73.2	72.5	73	73			
950805	600	73.0	72.9	74	72			
950805	700	73.4	73.0	74	72			
950805	800	73.9	72.9	75	71			
950805	900	74.3	73.0	75	72			
950805	1000	75.2	73.4	78	73			
950805	1100	76.3	73.2	80	72			
950805	1200	78.8	72.5	84	71			
950805	1300	82.4	70.9	85	71			
950805	1400	84.7	70.0	87	70			
950805	1500	85.6	69.8	87	69			
950805	1600	86.0	70.0	86	70			
950805	1700	86.4	70.2	86	69			
950805	1800	87.3	69.1	86	69			
950805	1900	87.3	68.4	84	70			
950805	2000	85.5	69.4	81	69			
950805	2100	82.8	69.4	79	69			
950805	2200	81.1	69.4	79	69			
950805	2300	79.9	69.4	78	69			
950805	2400	78.8	69.6	77	69			
950806	100	77.7	70.0	78	70			
950806	200	77.7	70.5	77	70			
950806	300	77.4	71.1	75	70			
950806	400	76.5	71.4	75	71			
950806	500	76.3	71.4	75	70			
950806	600	75.7	71.2	75	70			
950806	700	75.4	70.9	76	70			
950806	800	75.6	70.9	77	70			
950806	900	77.2	70.5	79	69			
950806	1000	79.2	70.3	82	70			
950806	1100	81.1	70.2	83	71			
950806	1200	82.9	70.7	85	72			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950806	1300	84.4	71.4	86	72			
950806	1400	85.1	71.8	88	72			
950806	1500	82.6	75.2	88	72			
950806	1600	86.4	72.7	89	71			
950806	1700	87.3	71.2	88	71			
950806	1800	86.0	72.7	87	71			
950806	1900	86.7	73.8	85	72			
950806	2000	85.5	73.2	83	72			
950806	2100	82.9	74.1	81	72			
950806	2200	81.3	73.6	81	72			
950806	2300	79.3	73.2	80	69			
950806	2400	79.7	73.4	79	69			
950807	100	79.3	71.6	78	69			
950807	200	79.5	69.6	78	67			
950807	300	78.6	69.6	77	67			
950807	400	78.3	70.3	75	67			
950807	500	76.8	71.1	74	68			
950807	600	77.4	69.4	73	68			
950807	700	76.3	68.9	74	68			
950807	800	75.7	68.7	77	69			
950807	900	75.6	69.3	79	68			
950807	1000	77.2	68.5	80	69			
950807	1100	78.8	68.2	78	68			
950807	1200	79.5	67.8	80	69			
950807	1300	80.4	67.8	83	70			
950807	1400	81.3	68.0	81	70			
950807	1500	80.8	68.2	82	69			
950807	1600	81.3	68.0	83	69			
950807	1700	80.4	69.1	82	67			
950807	1800	80.1	68.0	78	67			
950807	1900	80.2	67.3	77	65			
950807	2000	79.2	66.4	75	65			
950807	2100	78.6	66.2	74	64			
950807	2200	76.8	65.5	73	64			
950807	2300	75.4	64.6	72	64			
950807	2400	74.5	64.0	71	64			
950808	100	73.9	64.0	71	64			
950808	200	73.0	64.4	71	64			
950808	300	72.3	64.6	70	64			
950808	400	71.6	64.4	70	64			
950808	500	71.4	64.0	69	64			
950808	600	71.1	64.0	69	64			
950808	700	70.5	64.0	69	64			
950808	800	69.8	63.7	70	63			
950808	900	69.4	63.7	73	62			
950808	1000	70.3	63.0	73	60			
950808	1100	71.4	61.2	73	60			
950808	1200	72.1	60.3	75	61			
950808	1300	72.7	59.9	77	60			
950808	1400	74.3	59.4	77	60			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950808	1500	75.4	59.9	76	61
950808	1600	76.1	60.3	77	62
950808	1700	76.3	61.2	75	60
950808	1800	76.5	61.9	75	60
950808	1900	76.1	62.1	73	61
950808	2000	75.7	61.3	72	61
950808	2100	75.0	61.0	71	61
950808	2200	73.4	62.2	70	61
950808	2300	72.5	61.9	69	61
950808	2400	72.0	62.1	68	62
950809	100	71.6	62.1	68	61
950809	200	70.2	62.2	67	62
950809	300	69.3	62.1	66	62
950809	400	68.9	62.8	65	62
950809	500	68.0	63.0	65	62
950809	600	67.6	62.6	65	62
950809	700	67.3	62.4	66	62
950809	800	67.3	62.4	67	62
950809	900	67.5	63.0	70	64
950809	1000	69.1	63.5	73	65
950809	1100	71.1	64.4	76	64
950809	1200	73.6	64.8	75	65
950809	1300	76.3	64.0	78	65
950809	1400	77.0	64.0	79	63
950809	1500	78.4	64.0	78	64
950809	1600	80.2	63.5	81	64
950809	1700	80.2	63.7	79	65
950809	1800	80.4	63.9	79	65
950809	1900	79.7	64.8	78	65
950809	2000	79.3	65.5	75	66
950809	2100	78.6	66.0	74	66
950809	2200	77.4	66.4	74	66
950809	2300	76.6	66.7	72	66
950809	2400	75.2	66.9	71	66
950810	100	74.8	66.7	71	66
950810	200	72.7	67.1	70	66
950810	300	69.8	66.9	69	66
950810	400	70.0	67.5	68	66
950810	500	70.2	67.5	68	66
950810	600	69.3	67.1	68	66
950810	700	69.6	67.3	69	66
950810	800	68.0	66.2	73	67
950810	900	70.0	67.1	74	67
950810	1000	73.4	68.0	76	67
950810	1100	75.7	66.7	78	66
950810	1200	77.4	65.8	82	65
950810	1300	79.3	65.7	83	65
950810	1400	80.6	65.1	84	63
950810	1500	82.8	64.6	84	62
950810	1600	84.2	64.0	85	65

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950810	1700	85.1	63.9	84	65			
950810	1800	85.3	62.8	82	65			
950810	1900	84.6	63.5	81	66			
950810	2000	83.7	65.5	80	67			
950810	2100	81.7	67.1	78	68			
950810	2200	79.3	67.8	77	68			
950810	2300	77.5	68.2	76	68			
950810	2400	75.4	68.9	75	69			
950811	100	74.3	69.1	74	69			
950811	200	74.1	69.6	73	69			
950811	300	74.1	70.2	71	68			
950811	400	74.5	69.6	71	68			
950811	500	73.9	69.8	70	68			
950811	600	71.6	69.4	70	68			
950811	700	70.2	69.1	70	68			
950811	800	70.3	69.4	73	69			
950811	900	72.7	70.2	75	69			
950811	1000	73.8	70.0	79	69			
950811	1100	76.1	69.8	81	68			
950811	1200	80.1	68.4	82	69			
950811	1300	81.5	68.4	84	68			
950811	1400	83.5	68.5	85	68			
950811	1500	84.7	69.3	87	68			
950811	1600	86.0	68.0	87	68			
950811	1700	87.1	67.3	88	67			
950811	1800	86.9	68.0	85	65			
950811	1900	86.9	68.0	84	66			
950811	2000	86.2	68.7	81	67			
950811	2100	84.6	69.1	79	67			
950811	2200	82.8	69.3	79	67			
950811	2300	80.2	70.5	77	68			
950811	2400	78.1	72.7	73	69			
950812	100	76.3	72.7	74	68			
950812	200	73.6	71.2	75	70			
950812	300	73.6	70.7	73	69			
950812	400	72.9	70.7	71	68			
950812	500	73.4	70.3	72	69			
950812	600	72.9	71.1	71	68			
950812	700	72.9	71.8	74	71			
950812	800	72.3	71.4	77	71			
950812	900	75.0	71.6	81	71			
950812	1000	79.9	71.6	83	71			
950812	1100	83.5	71.8	86	71			
950812	1200	85.5	71.1	89	69			
950812	1300	87.1	70.9	90	66			
950812	1400	90.0	68.7	92	67			
950812	1500	91.6	68.2	93	67			
950812	1600	92.5	66.6	93	67			
950812	1700	92.3	67.3	93	66			
950812	1800	93.2	68.2	92	67			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950812	1900	92.5	68.7	90	66			
950812	2000	89.8	70.9	86	70			
950812	2100	86.7	71.6	85	70			
950812	2200	84.7	71.6	83	70			
950812	2300	83.3	70.9	82	70			
950812	2400	80.1	72.7	82	69			
950813	100	79.0	72.1	80	70			
950813	200	78.6	70.5	79	70			
950813	300	78.6	70.7	78	71			
950813	400	79.2	70.2	78	70			
950813	500	76.8	70.7	77	70			
950813	600	76.3	71.1	76	70			
950813	700	75.6	71.2	77	71			
950813	800	75.4	71.1	79	71			
950813	900	78.4	71.4	84	72			
950813	1000	82.6	72.1	87	71			
950813	1100	85.8	72.9	89	70			
950813	1200	88.7	71.2	91	68			
950813	1300	90.9	69.4	92	69			
950813	1400	92.8	69.6	92	69			
950813	1500	93.6	70.7	93	67			
950813	1600	93.9	71.4	94	68			
950813	1700	94.6	71.4	94	68			
950813	1800	94.5	72.3	93	68			
950813	1900	92.7	74.1	91	68			
950813	2000	90.5	75.0	87	71			
950813	2100	87.3	75.6	85	73			
950813	2200	85.3	75.4	85	71			
950813	2300	83.7	75.2	84	71			
950813	2400	81.7	75.0	82	71			
950814	100	80.1	74.5	80	72			
950814	200	79.0	73.9	80	72			
950814	300	78.8	73.8	79	72			
950814	400	78.1	73.4	78	71			
950814	500	77.5	73.2	78	72			
950814	600	77.2	73.2	77	72			
950814	700	76.5	73.2	77	73			
950814	800	76.5	73.4	82	74			
950814	900	79.5	74.3	87	73			
950814	1000	81.3	75.0	91	72			
950814	1100			93	71			
950814	1200	91.2	71.6	93	71			
950814	1300	92.3	69.8	95	68			
950814	1400	95.0	66.0	96	67			
950814	1500	95.9	66.0	96	63			
950814	1600	95.5	66.0	96	63			
950814	1700	96.3	65.8	96	66			
950814	1800	96.6	65.7	94	68			
950814	1900	95.9	64.9	92	69			
950814	2000	94.1	66.9	90	70			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950814	2100	90.0	70.3	88	71			
950814	2200	87.8	73.4	87	71			
950814	2300	86.0	73.0	84	72			
950814	2400	84.9	73.9	83	72			
950815	100	81.9	75.0	81	72			
950815	200	81.7	75.6	80	72			
950815	300	81.1	72.1	79	73			
950815	400	79.5	72.7	78	73			
950815	500	78.3	74.1	77	73			
950815	600	77.9	74.5	76	73			
950815	700	77.4	74.7	78	74			
950815	800	77.2	74.3	80	75			
950815	900	78.4	74.7	84	76			
950815	1000	80.6	75.4	88	76			
950815	1100	83.5	75.6	91	75			
950815	1200	86.2	75.0	91	74			
950815	1300	88.5	74.7	92	73			
950815	1400	90.3	73.8	94	73			
950815	1500	92.8	72.1	88	74			
950815	1600	88.2	71.6	80	76			
950815	1700	87.1	71.6	81	73			
950815	1800	83.5	74.7	84	74			
950815	1900	84.4	74.7	85	73			
950815	2000	84.0	74.1	82	75			
950815	2100	82.8	75.0	82	74			
950815	2200	82.9	74.8	81	74			
950815	2300	82.4	75.7	81	73			
950815	2400	81.1	76.6	79	73			
950816	100	80.8	76.8	79	73			
950816	200	79.2	76.8	79	73			
950816	300	78.1	75.4	77	73			
950816	400	77.5	75.4	77	73			
950816	500	78.3	75.0	76	73			
950816	600	78.1	74.1	75	72			
950816	700	76.3	73.6	77	73			
950816	800	76.3	73.6	78	74			
950816	900	77.7	73.8	81	74			
950816	1000	80.6	74.1	84	73			
950816	1100	82.9	73.2	86	73			
950816	1200	85.1	73.4	88	73			
950816	1300	86.9	72.9	90	73			
950816	1400	88.7	72.7	91	73			
950816	1500	89.6	72.5	92	72			
950816	1600	90.9	72.3	93	72			
950816	1700	92.1	72.0	92	72			
950816	1800	92.3	71.4	91	68			
950816	1900	91.8	71.6	89	68			
950816	2000	90.7	72.0	86	69			
950816	2100	88.3	72.5	86	68			
950816	2200	85.8	73.8	84	68			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950816	2300	83.3	74.7	83	68
950816	2400	82.2	74.3	80	69
950817	100	80.6	74.5	80	68
950817	200	78.8	72.1	79	70
950817	300	78.3	71.8	78	70
950817	400	78.3	71.4	77	71
950817	500	77.2	72.1	76	71
950817	600	76.3	72.3	75	71
950817	700	75.6	72.0	76	71
950817	800	74.8	72.3	80	71
950817	900	78.3	72.3	84	71
950817	1000	82.8	71.2	87	71
950817	1100	85.6	70.5	89	70
950817	1200	88.5	69.6	90	70
950817	1300	90.1	70.5	92	71
950817	1400	92.3	69.1	93	70
950817	1500	93.6	68.2	94	70
950817	1600	94.5	68.2	95	70
950817	1700	94.5	68.5	94	70
950817	1800	94.3	69.4	93	69
950817	1900	93.4	70.5	92	69
950817	2000	91.8	71.1	90	72
950817	2100	89.8	72.5	87	73
950817	2200	87.4	74.5	86	73
950817	2300	85.8	74.8	85	73
950817	2400	82.9	76.3	84	73
950818	100	81.5	75.4	82	74
950818	200	80.2	74.7	81	74
950818	300	79.9	73.8	79	74
950818	400	79.9	73.0	79	74
950818	500	79.5	73.4	78	73
950818	600	79.2	73.0	78	73
950818	700	78.6	73.0	78	71
950818	800	78.6	72.3	80	72
950818	900	80.1	72.3	83	73
950818	1000	82.0	73.0	87	73
950818	1100	84.4	73.9	91	73
950818	1200	86.7	74.3	94	73
950818	1300	89.8	73.8	93	72
950818	1400	92.7	71.8	94	69
950818	1500	94.3	68.4	95	69
950818	1600	95.4	67.1	96	65
950818	1700	95.2	69.3	95	67
950818	1800	95.4	68.7	91	70
950818	1900	93.2	70.2	86	70
950818	2000	88.2	71.6	75	70
950818	2100	86.4	72.1	73	73
950818	2200	76.1	73.4	73	72
950818	2300	73.8		73	71
950818	2400	73.2		72	71

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950819	100	73.4		72	71			
950819	200	73.0		72	71			
950819	300	72.3		72	72			
950819	400	72.7		72	72			
950819	500	73.2		72	71			
950819	600	73.8		72	71			
950819	700	72.1		72	72			
950819	800	72.5		75	72			
950819	900	73.8		75	72			
950819	1000	74.8		75	72			
950819	1100	76.5		77	73			
950819	1200	77.4		81	73			
950819	1300	79.0		80	72			
950819	1400	80.4		79	72			
950819	1500	79.3		82	71			
950819	1600	80.6		82	71			
950819	1700	81.0		81	71			
950819	1800	81.3		82	69			
950819	1900	81.0		79	68			
950819	2000	79.9		78	67			
950819	2100	79.3		77	68			
950819	2200	79.3		75	69			
950819	2300	78.4		75	71			
950819	2400	77.5		75	70			
950820	100	76.6		75	70			
950820	200	76.8		75	70			
950820	300	75.9		74	70			
950820	400	74.5		74	68			
950820	500	73.9		73	67			
950820	600	73.9		71	64			
950820	700	73.8		71	65			
950820	800	72.5		71	65			
950820	900	72.0		73	63			
950820	1000	72.1		73	63			
950820	1100	73.2		74	63			
950820	1200	75.4		74	63			
950820	1300	75.7		79	64			
950820	1400	77.4		83	66			
950820	1500	78.1		82	65			
950820	1600	79.7		83	66			
950820	1700	81.0		82	66			
950820	1800	81.3		81	66			
950820	1900	81.1		79	67			
950820	2000	80.4		78	67			
950820	2100	79.0		77	67			
950820	2200	77.9		76	68			
950820	2300	77.5		76	67			
950820	2400	77.2		77	66			
950821	100	76.1		76	68			
950821	200	76.3		74	68			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950821	300	75.9		75	68			
950821	400	75.7		75	67			
950821	500	74.8		74	68			
950821	600	74.5		74	69			
950821	700	74.1		74	69			
950821	800	73.9		74	71			
950821	900	73.9		77	70			
950821	1000	75.6		79	71			
950821	1100			80	71			
950821	1200			82	70			
950821	1300			85	71			
950821	1400	82.8		84	70			
950821	1500	83.1		85	70			
950821	1600	82.8		85	71			
950821	1700	83.5		84	70			
950821	1800	84.2		83	69			
950821	1900	82.4		80	68			
950821	2000	80.6		78	69			
950821	2100	79.2		78	69			
950821	2200	77.0		76	69			
950821	2300	75.6		76	70			
950821	2400	74.5		74	70			
950822	100	74.1		73	70			
950822	200	74.1		74	71			
950822	300	73.2		73	71			
950822	400	72.9		73	71			
950822	500	73.2		73	71			
950822	600	72.1		72	71			
950822	700	71.4		73	71			
950822	800	71.6		76	72			
950822	900	73.8		78	72			
950822	1000	77.2		83	72			
950822	1100	79.7		86	70			
950822	1200	82.6		88	69			
950822	1300	84.4		89	68			
950822	1400	86.5		90	69			
950822	1500	87.8		90	66			
950822	1600	88.5		89	64			
950822	1700	88.5		90	65			
950822	1800	89.1		88	66			
950822	1900	88.5		86	68			
950822	2000	87.6		84	68			
950822	2100	84.9		81	69			
950822	2200	83.1		80	69			
950822	2300	80.6		80	70			
950822	2400	78.6		77	70			
950823	100	77.9		78	70			
950823	200	78.8		75	70			
950823	300	76.5		73	70			
950823	400	75.0		73	69			

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)
950823	500	75.4		73	69
950823	600	75.4		72	68
950823	700	74.8		72	66
950823	800	74.3		73	63
950823	900	74.5		75	63
950823	1000	75.4		77	63
950823	1100	77.2		80	65
950823	1200	79.0		83	66
950823	1300	80.6		87	67
950823	1400	83.7		86	66
950823	1500	84.2		88	67
950823	1600	84.9		86	67
950823	1700	84.9		85	68
950823	1800	84.9		82	68
950823	1900	84.7		79	69
950823	2000	82.4		79	69
950823	2100	79.9		77	69
950823	2200	77.9		76	70
950823	2300	76.8		75	70
950823	2400	76.1		74	70
950824	100	74.8		74	70
950824	200	74.1		73	70
950824	300	73.6		73	70
950824	400	73.2		73	69
950824	500	73.0		72	70
950824	600	72.7		72	69
950824	700	72.9		73	69
950824	800	72.9		74	71
950824	900	73.8		78	70
950824	1000	75.2		81	70
950824	1100	77.2		84	69
950824	1200	79.5		87	69
950824	1300	81.3		88	67
950824	1400	82.9		80	67
950824	1500	79.0		78	71
950824	1600	74.5		83	68
950824	1700	76.3		83	68
950824	1800	78.1		82	68
950824	1900	78.3		81	69
950824	2000	74.1		78	69
950824	2100	73.8		77	69
950824	2200	73.2		77	70
950824	2300	73.6		76	70
950824	2400	74.1		74	70
950825	100	74.5		73	70
950825	200	72.9		73	70
950825	300	73.0		72	70
950825	400	73.0		72	70
950825	500	73.0		71	69
950825	600	73.6		71	70

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950825	700	73.4		75	71		
950825	800	73.6		77	71		
950825	900	74.8		81	70		
950825	1000	77.0		84	69		
950825	1100	79.5		84	68		
950825	1200	81.5		86	68		
950825	1300	83.3		88	67		
950825	1400	85.6		88	66		
950825	1500	86.9		90	67		
950825	1600	87.4		89	68		
950825	1700	86.4		87	70		
950825	1800	82.9		82	70		
950825	1900	79.7		79	70		
950825	2000	78.6		78	70		
950825	2100	77.7		78	71		
950825	2200	77.4		77	72		
950825	2300	77.7		76	72		
950825	2400	77.0		77	72		
950826	100	76.8		76	72		
950826	200	76.8		75	72		
950826	300	76.5		74	72		
950826	400	75.6		73	71		
950826	500	74.7		73	73		
950826	600	74.1		72	72		
950826	700	74.1		72	71		
950826	800	73.9		73	70		
950826	900	73.2		73	71		
950826	1000	72.7		73	72		
950826	1100	72.9		73	72		
950826	1200	73.2		74	71		
950826	1300	73.6		74	71		
950826	1400	73.6		74	72		
950826	1500	73.6		75	72		
950826	1600	74.1		74	72		
950826	1700	74.5		74	72		
950826	1800	73.9		74	72		
950826	1900	74.1		73	72		
950826	2000	74.8		73	72		
950826	2100	75.0		73	72		
950826	2200	74.5		73	72		
950826	2300	74.5		72	71		
950826	2400	73.8		72	72		
950827	100	73.8		72	71		
950827	200	73.4		71	71		
950827	300	73.0		71	71		
950827	400	73.0		71	70		
950827	500	72.5		71	70		
950827	600	71.6		72	70		
950827	700	72.9		73	72		
950827	800	73.4		73	72		

DATE--	TIME	CNS T(F)	CNS Td (F	CLT T (F)	CLT Tdew(F)
950827	900	73.0		73	69
950827	1000	73.8		76	74
950827	1100	75.2		77	74
950827	1200	76.5		80	79
950827	1300	76.3		77	76
950827	1400	73.9		76	75
950827	1500	72.7		74	73
950827	1600	73.4		73	72
950827	1700	73.2		74	72
950827	1800	73.0		74	72
950827	1900	74.1		74	71
950827	2000	73.6		74	70
950827	2100	73.2		73	70
950827	2200	73.0		73	70
950827	2300	72.9		74	70
950827	2400	72.3		73	72
950828	100	72.3		72	71
950828	200	72.3		73	70
950828	300	72.7		72	70
950828	400	72.5		72	69
950828	500	72.1		72	70
950828	600	72.3		72	70
950828	700	72.7		72	70
950828	800	73.2		73	69
950828	900	74.1		75	68
950828	1000	74.5		77	68
950828	1100	75.4		80	70
950828	1200	76.6		80	68
950828	1300	79.0		81	69
950828	1400	80.8		84	70
950828	1500	81.0		84	69
950828	1600	82.0		82	67
950828	1700	82.8		83	69
950828	1800	82.2		82	68
950828	1900	82.4		80	67
950828	2000	81.3		77	67
950828	2100	79.9		76	67
950828	2200	77.4		75	68
950828	2300	75.6		74	67
950828	2400	74.7		74	66
950829	100	75.4		73	66
950829	200	75.2		70	68
950829	300	73.6		70	66
950829	400	71.1		69	66
950829	500	70.2		69	66
950829	600	69.8		68	66
950829	700	69.4		69	66
950829	800	70.5		73	65
950829	900	71.2		77	66
950829	1000	73.2		79	66

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)		
950829	1100	75.7		82	66		
950829	1200	77.7		83	69		
950829	1300	79.9		85	68		
950829	1400	81.9		86	69		
950829	1500	83.7		86	67		
950829	1600	84.9		83	69		
950829	1700	86.2		87	67		
950829	1800	86.5		84	69		
950829	1900	86.2		84	67		
950829	2000	84.4		83	68		
950829	2100	80.6		82	68		
950829	2200	77.5		78	70		
950829	2300	75.7		77	70		
950829	2400	75.0		76	69		
950830	100	74.7		76	69		
950830	200	75.6		75	69		
950830	300	74.7		74	69		
950830	400	74.3		74	70		
950830	500	72.5		73	69		
950830	600	71.2		72	69		
950830	700	71.1		73	69		
950830	800	70.9		78	71		
950830	900	72.3		81	70		
950830	1000	75.9		83	68		
950830	1100	79.0		86	68		
950830	1200	81.5		86	67		
950830	1300	83.3		87	67		
950830	1400	83.5		84	67		
950830	1500	83.7		84	68		
950830	1600	84.2		84	68		
950830	1700	84.6		85	69		
950830	1800	84.7		83	69		
950830	1900	83.8		80	69		
950830	2000	82.0		80	68		
950830	2100	80.4		77	64		
950830	2200	79.2		79	73		
950830	2300	78.1		78	72		
950830	2400	77.0		78	71		
950831	100	76.1		77	70		
950831	200	75.7		76	71		
950831	300	76.1		76	71		
950831	400	75.2		74	72		
950831	500	74.5		73	71		
950831	600	73.9		73	70		
950831	700	72.9		74	69		
950831	800	72.5		75	69		
950831	900	73.6		77	69		
950831	1000	75.9		79	66		
950831	1100	79.0		81	63		
950831	1200	81.3		83	64		

DATE--	TIME	CNS T(F)	CNS Td (F)	CLT T (F)	CLT Tdew(F)			
950831	1300	82.6		84	65			
950831	1400	83.7		85	66			
950831	1500	84.2		84	66			
950831	1600	84.4		84	66			
950831	1700	84.6		83	67			
950831	1800	84.0		82	67			
950831	1900	82.6		79	67			
950831	2000	80.8		77	67			
950831	2100	78.6		76	67			
950831	2200	77.0		75	68			
950831	2300	75.7		74	68			
950831	2400	75.0		73	68			
950901	100	74.5		73	67			
950901	200	73.6		72	67			
950901	300	72.9		71	67			
950901	400	72.3		70	67			
950901	500	72.1		69	66			
950901	600	71.6		70	67			
950901	700	71.1		70	67			
950901	800	70.3		72	69			
950901	900	71.6		76	68			
950901	1000	74.5		79	69			
950901	1100	77.7		81	71			
950901	1200	79.5		33	71			
950901	1300	82.2		86	72			
950901	1400	84.6		87	71			
950901	1500	86.0		88	70			
950901	1600	86.7		86	70			
950901	1700	86.5		77	64			
950901	1800	[illegible]		70	69			
950901	1900	74.3		73	68			
950901	2000	73.8		71	68			
950901	2100	72.9		71	69			
950901	2200	70.5		70	68			
950901	2300	70.3		70	68			