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**Field Tests of a Vertical-Fluted-
Tube Condenser in the Prototype
Power Plant at the Raft River
Geothermal Test Site**

R. W. Murphy

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Engineering Technology Division

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IN THE PROTOTYPE POWER PLANT AT THE RAFT
RIVER GEOTHERMAL TEST SITE**

R. W. Murphy

Date Published - April 1983

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LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Operating parameter ranges for vertical-fluted-tube condenser tests at Raft River, September 1980–October 1981	28
2	Comparative condenser design and operating parameters	36
3	Condenser vapor space chemical composition determined from sample analysis by gas chromatograph during October 21, 1981, operation in direct-contact evaporator mode	43
B.1	Summary of experimental conditions and results from Wilson plots for R-600a condensing on vertical tube E	120

CONTENTS

	<u>Page</u>
LIST OF FIGURES	v
LIST OF TABLES	vii
NOMENCLATURE	ix
ACKNOWLEDGMENTS	xi
ABSTRACT	1
1. INTRODUCTION	1
2. EQUIPMENT AND FACILITIES	3
2.1 Prototype Power Plant	3
2.1.1 Surface evaporator	5
2.1.2 Direct-contact evaporator	5
2.1.3 Brine pump	6
2.1.4 Preflasher	6
2.1.5 Isobutane pumps	6
2.1.6 Turbine/generator	7
2.1.7 Vent condenser	7
2.1.8 Cooling tower	7
2.2 Vertical-Fluted-Tube Condenser	7
2.2.1 Shell	9
2.2.2 Water head	10
2.2.3 Tube bundle	10
2.2.4 General vessel information	13
2.2.5 Installation	14
2.2.6 Design point	14
2.3 Raft River Geothermal Test Site	17
3. INSTRUMENTATION AND SAMPLING	20
3.1 Prototype Power Plant	20
3.2 Condenser	20
3.2.1 Temperature	22
3.2.2 Pressure	22
3.2.3 Flow	22
3.2.4 Liquid level	23
3.3 Sampling	23
4. OPERATING PROCEDURES	24
4.1 Routine Procedures	24
4.2 Supplemental Procedures	25
5. DATA REDUCTION	27

	<u>Page</u>
6. TEST RESULTS	28
6.1 Surface Evaporator Operating Mode	28
6.2 Comparison with Horizontal-Smooth-Tube Condenser	34
6.3 Direct-Contact Evaporator Operating Mode	35
7. CONCLUSIONS	46
REFERENCES	47
APPENDIX A. CONDENSER FIELD TEST DATA	49
APPENDIX B. LABORATORY TEST DATA	119

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Flow schematic of prototype power plant	4
2	Sketch of vertical-fluted-tube condenser	8
3	Sample fluted tube length	11
4	Enlarged fluted tube cross section - type E profile ..	12
5	Condenser with instruments before installation	15
6	Prototype power plant with condenser installed	16
7	Map of Raft River Geothermal Test Site	18
8	Site 1 complex at Raft River	19
9	Condenser instrument arrangement	21
10	Condenser design performance locus	29
11	Condenser test performance, surface evaporator mode, shakedown	30
12	Vapor temperature profile, surface evaporator mode, shakedown	31
13	Condenser test performance, surface evaporator mode, after contaminant removal	33
14	Vapor temperature profile, surface evaporator mode, after contaminant removal	34
15	Condenser test performance, direct-contact evaporator mode, venting	37
16	Vapor temperature profile, direct-contact evaporator mode, venting	38
17	Condenser test performance, direct-contact evaporator mode, recovery from venting	39
18	Vapor temperature profile, direct-contact evaporator mode, recovery from venting	40
19	Condenser test performance, direct-contact evaporator mode, preflash variation	41

<u>Figure</u>		<u>Page</u>
20	Vapor temperature profile, direct-contact evaporator mode, preflash variation	42
21	Condenser test performance, direct-contact evaporator mode, venting with chemical analysis	43
22	Vapor temperature profile, direct-contact evaporator mode, venting with chemical analysis	44

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NOMENCLATURE

Symbols

c	specific heat at constant pressure
$\dot{m}$	mass flow rate
Q	heat load
T	temperature

Subscripts

in	inlet
lm	log mean
out	outlet
sat iso	saturation isobutane
w	water

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**FIELD TESTS OF A VERTICAL-FLUTED-TUBE CONDENSER
IN THE PROTOTYPE POWER PLANT AT THE RAFT
RIVER GEOTHERMAL TEST SITE**

R. W. Murphy

ABSTRACT

A vertical-fluted-tube condenser was designed, fabricated, and tested with isobutane as the shell-side working fluid in a binary prototype power plant at the Raft River Geothermal Test Site. After shakedown and contamination removal operations were completed, the four-pass water-cooled unit (with 102 outside-fluted Admiralty tubes) achieved performance predictions while operating with the plant surface evaporator on-line. A sample comparison shows that use of this enhanced condenser concept offers the potential for a reduction of about 65% from the size suggested by corresponding designs using conventional horizontal-smooth-tube concepts. Subsequent substitution of a direct-contact evaporator for the surface evaporator brought drastic reductions in system performance, the apparent consequence of high concentrations of noncondensable gases introduced by the brine/working-fluid interaction.

1. INTRODUCTION

That heat exchangers play a significant role in determining the economic feasibility of producing power from geothermal sources has been established by earlier studies.¹ For moderate temperature resources, optimizations using conventional component models suggest that (1) plants using a binary cycle are most likely to be cost-effective and (2) such plants require relatively large heat exchangers. The attractiveness of reducing the associated equipment investment led to an examination of heat transfer enhancement techniques. Oak Ridge National Laboratory (ORNL) tests showed that the use of vertical-fluted tubes offered the potential for major improvements in condenser performance with working fluids applicable to the binary cycle.^{2,3} However, it had not been demonstrated experimentally that such performance could be achieved in sizes and field situations more characteristic of practical geothermal power plants.

This report describes the design, fabrication, installation, and first-year operation of a vertical-fluted-tube condenser for a prototype geothermal power plant. Performance characteristics and parametric effects are examined, and sample data are used to generate a comparison between enhanced and conventional condensers.

2. EQUIPMENT AND FACILITIES

The test condenser was designed for and installed in a geothermal prototype power plant of the binary-cycle type located in south central Idaho. This section gives details of condenser design and fabrication, specifications of other primary components of the prototype power plant, and a description of the test site.

2.1 Prototype Power Plant

The prototype power plant was built by Idaho National Engineering Laboratory (INEL) for the U.S. Department of Energy (DOE) to investigate concepts that have the potential to enhance the commercial production of electrical power from moderate temperature geothermal resources.⁴ The modular nature of the plant allowed various components to be replaced by alternate components that perform equivalent functions but have unconventional or advanced design features. In this way, selected concepts could be tested in an operational environment that would, in many respects, resemble a practical power plant situation without incurring full-scale costs.

Designed for a nominal electrical output of 60 kW with isobutane as the primary working fluid, the plant was first operated in April 1978. After checkout testing, baseline runs were conducted to assess equipment capabilities in October and November 1978. Some automatic controls were then added, and trial continuous operation tests were conducted in November 1978. After further modification for automatic control and shutdown under hazardous conditions, the plant operated in automatic run mode from August 1979 to January 1980.⁵ Following system alterations, the original condenser was replaced by an enhanced condenser (described in Sect. 2.2), and a direct-contact evaporator was installed in parallel with the original surface evaporator in preparation for the tests (begun September 1980) reported here.^{6,7}

The plant provided for continuous circulation of and interaction among the brine, cooling water, and isobutane streams. Major components of the plant (Fig. 1) included surface and direct-contact evaporators,

Fig. 1. Flow schematic of prototype power plant.

brine and isobutane pumps, a preflasher, a turbine/generator, a vent condenser, and a cooling tower.

Isobutane liquid was pumped to the evaporator, where it was vaporized with heat from the brine. The vapor was then expanded, condensed, and returned for recycle.

Hot brine was pumped from the well to the evaporator, where heat was removed to vaporize isobutane. The spent brine then traveled to a holding pond for later pumping to reinjection wells.

Cooling water obtained from the cooling tower basin was pumped to the condenser. After absorbing heat from the condensing isobutane, the cooling water returned to the upper portion of the cooling tower to be cooled by the ambient air.

2.1.1 Surface evaporator

The surface evaporator was a shell-and-tube unit with 33 axially finned 0.75-in. U-tubes installed in the vertical position with U-bends up. Brine flow was on the tube side with both inlet and outlet at the bottom of the unit. Isobutane flow was on the shell side with the liquid inlet just above the tube sheet and the vapor outlet at the top of the unit. The shell and nozzles were made of carbon steel, the tube bundle of Admiralty, and the tube sheet of Muntz metal. Previously used as an after-cooler for a large air compressor, the unit had shell-side and tube-side pressure ratings of 2.69 and 1.14 MPa (390 and 165 psi), respectively, at 422 K (300°F).

2.1.2 Direct-contact evaporator

The direct-contact evaporator was a sieve tray column* with an inside diameter of 300 mm (12 in.) and an overall height of about 5 m (16 ft).

Brine was introduced near the top of the unit and flowed as the continuous medium (directed by baffles) toward a drain near the bottom of the unit. Isobutane entered the lower portion of the evaporator and rose through the brine - periodically encountering perforated plates (trays)

*Designed by E. Wahl of Wahl Company, Claremont, California.

intended to collect the liquid isobutane and release it in dispersed drop-let form for heating and vapor generation as the stream moved toward the outlet near the top of the unit. Seventeen preheater trays, two evaporator trays, and one drawoff tray were installed in the column. The perforation size was 3.18 mm (0.125 in.).

2.1.3 Brine pump

The pump used to boost the brine to the evaporator operating pressure during direct-contact mode operation had a rating of $2.84 \times 10^{-3} \text{ m}^3/\text{s}$ (45 gpm) at a head of 347 m (1140 ft). The associated motor was a 30-hp Westinghouse Mill and Chemical Life Line T-MAC (3 phase, 60 Hz, 3535 rpm, 460 V, and 36 A).

2.1.4 Preflasher

During direct-contact mode operation, a flash separator (Pennsylvania Separator Company model 1456) installed upstream of the brine pump was used as a brine preflasher in an attempt to control the dissolved gas concentration of the brine entering the evaporator.

2.1.5 Isobutane pumps

Two pumps, a boost pump and a feed pump, were arranged in series to provide the required liquid isobutane flow to the evaporators. The boost pump was a multistage centrifugal pump (Gould Pumps P/N BP7035-SC-03) rated originally at $3.41 \times 10^{-3} \text{ m}^3/\text{s}$ (54 gpm) at 2400 rpm and 32.9 m (108 ft) with a net positive suction head of 0.91 m (3.0 ft) but modified (by removing two of five stages) to provide a head of 19.8 m (65 ft) at rated conditions. This pump was driven by a belt reducer from the shaft connecting the turbine/gearbox to the motor/generator.

The feed pump was a Sundstrand Model LMW-322 rated at $2.71 \times 10^{-3} \text{ m}^3/\text{s}$ (43 gpm) at 17,100 rpm and 597 m (1,960 ft). The driver for this pump was a 50-hp Reliance explosion-proof motor (3 phase, 60 Hz, 230/460 V, and 120/60 A) with gearbox conversion from 3,550-rpm motor speed to 17,100-rpm pump speed.

2.1.6 Turbine/generator

The turbine was an axial flow unit fabricated specifically for the plant by Barber-Nichols Engineering Company. Its rated gross output was 79.8 kW at 2.158-MPa (313-psia) inlet pressure, 0.365-MPa (53-psia) outlet pressure, and 1.64 kg/s (1.30×10^4 lb_m/h) saturated (inlet) isobutane flow driving the induction motor/generator through a gearbox (Model EGG-501TGB). The associated electrical/mechanical energy conversion unit was a 100-hp Marathon Electric motor/generator (explosion proof, fan cooled, 3 phase, 60 Hz, 3560 rpm, 230/460 V, and 230/115 A).

2.1.7 Vent condenser

The vent condenser was an American Precision Industries (Basco Division) shell-and-tube heat exchanger connected to the vent line leading from the condenser. The single-pass Type 500 unit used for these tests had an Admiralty tube bundle with an outside area of 2.14 m² (23 ft²). Cooling-water flow was on the tube side [about 1.26×10^{-3} m³/s (20 gpm)] and working-fluid flow was on the shell side. The purpose of the vent condenser was to remove as much isobutane as possible from the condenser vent stream and to return it as liquid to the sump section of the condenser shell.

2.1.8 Cooling tower

A Marley mechanical-draft cross-flow cooling tower (Serial 13-1-600) was used to reject heat from the circulating cooling water to the ambient air. The tower fan was powered by a 5-hp motor (3 phase, 60 Hz, 1740 rpm, 220/440 V, and 13.7/6.85 A). The tower sump was fitted with a Johnston vertical turbine pump driven by a 30-hp General Electric motor (3 phase, 60 Hz, 1750 rpm, 230/460 V, and 77/38.5 A) to provide the cooling-water flow required for plant operation. Local shallow wells supplied makeup water as required.

2.2 Vertical-Fluted-Tube Condenser

The design for the vertical-fluted-tube condenser (Fig. 2) was based on earlier ORNL concepts and experiments but modified to satisfy constraints imposed by INEL for operation of the prototype power plant.

Fig. 2. Sketch of vertical-fluted-tube condenser.

Overall length and diameter restrictions resulted from a desire to minimize major structural changes by using the existing mounting configuration of the original condenser (a unit virtually identical to the surface evaporator described previously). Materials for construction were specified based on previous INEL compatibility tests. Penetrations were located so as to minimize interference with existing equipment.

A U-tube configuration was employed with cooling water on the tube side and working fluid on the shell side. The cooling-water flow arrangement was four passes from inlet to outlet - both through a water head at the top of the unit. Isobutane vapor entered the lower portion of the shell (crossing the tube bundle up to seven times), condensed on the outside tube surfaces, drained as liquid to the sump, and exited through the bottom of the shell.

2.2.1 Shell

The condenser shell was fabricated from 18-in. sched-40 SA-53 Grade B steel pipe with an 18-in. SA-234 steel weld cap welded to the bottom end and an 18-in. 300-lb SA-105 steel weld neck flange welded to the top end. Five shell penetrations with 300-lb SA-105 steel weld neck flanges provided for vapor entry (4 in.), pressure relief (2 in.), liquid bypass (2 in.), and liquid level measurement (two 1-1/2 in.). A port in the bottom cap fitted with 3-in. SA-53 Grade B steel pipe served as the condensate drain. Eight additional shell penetrations fitted with 1/4-in. 6000-lb steel full couplings provided access for ORNL shell-side temperature and pressure measurements. Two other 1/4-in. couplings, one each installed in the vapor entry port and the condensate drain, were employed for ORNL inlet and outlet working-fluid temperature measurements. Three 1/2-in. 6000-lb steel full couplings, one in the vapor entry port and two in the condensate drain were provided for instrument or other use by INEL. Mounting brackets made from 1/2-in. SA-515 steel plate were welded to the lower portion of the shell to match with the existing support fixture on the prototype power plant test stand. Lifting lugs were welded to the upper portion of the shell to facilitate installation of the unit.

2.2.2 Water head

The water head was made by welding an 18-in. SA-234 steel weld cap to an 18-in. 300-lb SA-105 steel weld neck flange. The 3/8-in. SA-515 Grade 70 steel plates were welded inside the cap to serve as pass partitions. A 3-in. 300-lb SA-105 steel weld neck flange with attached SA-53 Grade B steel pipe was used as the connection to the water supply penetration in the side wall of the cap. Four 1-1/2-in. SA-53 Grade B steel pipes connected the final pass plenum to a mixing header fabricated of 4-in. SA-53 Grade B steel pipe with 4-in. SA-234 steel weld caps. The water return connection to the mixing header consisted of a 3-in. 300-lb SA-105 steel weld neck flange with attached SA-53 Grade B steel pipe. Two 1/4-in. 6000-lb steel full couplings, one each installed in the water supply and water return connections, were employed for ORNL inlet and outlet water temperature measurements. Two 1/2-in. and three 1-in. 6000-lb steel full couplings were provided at various points in the water head assembly for instrument or other use by INEL. A forged steel Crosby No. 5 pad eye was welded to the 18-in. flange edge to facilitate water head assembly operations.

2.2.3 Tube bundle

The tube bundle was composed of 110 lengths of annealed Admiralty (ASME SB-111) tubing. Of these, 104 were externally fluted (by Grob, Inc.), 1-in.-OD, 16 BWG tubes with type E profiles (Figs. 3 and 4) intended to be the primary heat transfer surfaces. The remaining 6 positions, all on one side of the bundle, contained smooth, 1-in.-OD, 18 BWG tubes to serve as downcomers to channel condensate from the six upper baffles to the liquid sump area in the bottom section of the shell. The tube arrangement was triangular pitch on 1-1/4-in. centers.

Seven baffles fabricated from 3/8-in. SA-515 Grade 70 steel plate were arranged along the bundle length to guide the working-fluid vapor flow on its shell-side passes. The top six of these had 1/8-in. tapered steel edge strips to direct condensate flow to their respective downcomers and prevent condensate overflow to the sections below. Five tube support plates of 3/8-in. SA-515 Grade 70 steel were added along the bundle length to strip condensate from the tubes and reduce the potential for tube vibrations.

Fig. 3. Sample fluted tube length.

Fig. 4. Enlarged fluted tube cross section - type E profile.

The fluted tubes were fabricated with smooth intervals (see Fig. 3) corresponding to the baffle and support plate locations. During assembly, each tube was light-rolled with a long-reach tube expander into each baffle and support plate. Fifty-two of the fluted tubes had extra long smooth sections at one end to form the U-bends required to connect to the remaining 52 fluted tubes. After trimming and beveling, the tube pairs were silver-soldered to complete the connections. Six tie rods of 3/8-in. steel were spaced near the bundle periphery, threaded to mate with the tube sheet, and welded to each baffle and support plate to further strengthen the bundle assembly. The tube sheet was a 2-3/16-in.-thick, 28-in.-diam, SA-516 Grade 70 steel disk with grooved tube holes for roll-expander sealing. A 13/16-in. hole in the tube sheet served as a vent port leading to a length of 3/4-in. SA-106 steel pipe with associated 3/4-in. 300-lb SA-105 steel weld neck flange welded to form the interface required for installation. Two forged steel Crosby No. 5 pad eyes were welded to the periphery of the tube sheet to facilitate tube bundle insertion and removal operations. A 6-in.-diam 1/4-in. perforated steel plate was suspended from two 1/2-in. steel rods between the bottom two support plates to act as a flow deflector opposite the vapor inlet port of the shell when the condenser was assembled. Shrouds formed from 1/8-in. steel plate were placed on two sides of the bundle between each consecutive pair of baffle/support plates to minimize vapor bypass around the edges of the tube array. An Elliott 1-in. brass tube plug was placed in each of the six downcomer positions in the tube sheet to prevent leakage between the shell and tube sides. One 1/2- by 1-in. drainage slot was made in the downcomer side of each support

plate to channel condensate from that section down to the next lower one. Three similar 1/2- by 1-in. drainage slots were made in the bottom baffle to channel condensate to the liquid sump area because this bundle section was not served by a downcomer.

2.2.4 General vessel information

Two 1/16-in. Durabla asbestos gaskets, one between the water head and the tube sheet and one between the tube sheet and the shell, were used to prevent isobutane or cooling-water leakage to the surroundings. Twenty-four 1-1/4-in. SA-193 B-7 bolts with SA-194 2-H nuts made the flange and gasket assembly connections. Leak testing of the bundle after tube rolling operations showed that one U-bend between the third and fourth water-side passes had developed a leak. An Elliott 1-in. brass tube plug was placed in each end of the defective U-section to prevent leakage between the shell and tube sides of the condenser. This action effectively reduced the total working heat transfer area by 1.9% and increased the cooling-water velocity by 4.0% on the third and fourth water-side passes. The plugged bundle was then pressure-tested to 1.03 MPa (150 psi) with no further signs of leakage. Five gallons of Immulon, a rust inhibitor, was put in the shell before filling with water for hydrotesting. The shell was pressurized to 3.93 MPa (570 psi) with no evidence of leakage. The outside of the unit was given one primer coat (3.6 mils) of Speedhide Machinery and Equipment Primer and two finish coats (3.6 mils) of Lavax Semi-Gloss Machinery Enamel (Light Gray 23-61). Condenser construction was specified according to the American Society of Mechanical Engineers (ASME) 1977 Code with ASME certificate, national board registration, and Tubular Exchanger Manufacturers Association R standards. Estimated empty mass of the condenser was 2700 kg (6000 lb_m). The vessel name plate read as follows:

MAX PRES SHELL 375 PSI @ 300°F	.562 TK
MAX TEMP SHELL 300°F @ 375 PSI	.562 TK
MAX PRES TUBE 100 PSI @ 300°F	R=15
MAX TEMP TUBE 300°F @ 100 PSI	
BUILT 1980 SERIAL 256971	
NATIONAL BOARD NO. 45139	

2.2.5 Installation

After inspection and instrumentation port checks (Fig. 5), the condenser was lifted into position beside the surface evaporator and fastened to the main test stand of the prototype power plant (Fig. 6). The unit was mounted slightly off vertical ($\sim 1^\circ$) with the top tilted slightly to the east to promote the flow of condensate from the baffles toward the bundle downcomers. Isobutane system connections were made to the vapor inlet, condensate return, pressure relief, and vent flanges. Cooling-water system connections were made to the inlet and outlet water head flanges. Instruments were attached at appropriate ports. Electrical heaters were then strapped to the outside shell wall to provide freeze protection during cold weather operation. Next, a 3-in. layer of insulating cement was applied to the outside of the shell and covered with a layer of sheet metal. To complete the installation, the instrument leads were run to the power plant control room.

2.2.6 Design point

Design heat load, cooling-water flow, and cooling-water inlet temperature were chosen to be 586.1 kW (2.000×10^6 Btu/h), 1.893×10^{-2} m³/s (300.0 gpm), and 297.039 K (75.00°F), respectively. With the intended four-pass water-side arrangement, the assigned water flow was distributed among 27 working (heat transfer) tubes on the first and second passes [flow average velocity = 1.8194 m/s (5.969 ft/s)] and 24 working tubes (25 total - 1 plugged) on the third and fourth passes [flow average velocity = 2.0468 m/s (6.715 ft/s)]. The working heat transfer (fluted) length of the bundle was 4.061 m (13.32 ft), giving an effective shell-side heat transfer area of 52.604 m² (566.2 ft²) and a corresponding tube-side heat transfer area of 28.821 m² (310.2 ft²) with design heat fluxes of 1.1135×10^4 W/m² (3532 Btu/h·ft²) and 2.0323×10^4 W/m² (6447 Btu/h·ft²), respectively. The chosen heat load, cooling-water flow, and cooling-water inlet temperature implied a temperature rise of 7.428 K (13.37°F), an outlet temperature of 304.467 K (88.37°F), and an average temperature of 300.753 K (81.69°F) for the cooling water. From laboratory data² with R-600a condensing on the outside of Tube E, it was estimated

Fig. 5. Condenser with instruments before installation.

Fig. 6. Prototype power plant with condenser installed.

that the composite condensing heat transfer coefficient (shell side) for the design situation was $4610.9 \text{ W/m}^2\cdot\text{K}$ ($812.6 \text{ Btu/h}\cdot\text{ft}^2\cdot^\circ\text{F}$). From the Dittus-Boelter correlation,⁸ it was estimated that the corresponding turbulent forced-convection heat transfer coefficient (tube side) was $7385 \text{ W/m}^2\cdot\text{K}$ ($1301 \text{ Btu/h}\cdot\text{ft}^2\cdot^\circ\text{F}$). Thus, the overall heat transfer conductance (with no allowance for fouling or contaminants) at the design point was estimated to be $1.1344 \times 10^5 \text{ W/K}$ ($2.150 \times 10^5 \text{ Btu/h}\cdot^\circ\text{F}$) corresponding to an overall heat transfer coefficient of $2155.1 \text{ W/m}^2\cdot\text{K}$ ($379.8 \text{ Btu/h}\cdot\text{ft}^2\cdot^\circ\text{F}$) based on shell-side heat transfer area or $3933.4 \text{ W/m}^2\cdot\text{K}$ ($693.2 \text{ Btu/h}\cdot\text{ft}^2\cdot^\circ\text{F}$) based on tube-side heat transfer area. Such performance implies a log mean temperature difference of 5.167 K (9.30°F), shell-side temperature of 306.780 K (92.53°F), and related (saturation) condenser pressure of 444.06 kPa (64.41 psia) for design conditions.

2.3 Raft River Geothermal Test Site

The Raft River Geothermal Test Site, located near Malta, Idaho (Fig. 7), and operated for DOE by EG&G Idaho (as contractor at INEL), provided test pad space, geothermal brine and cooling-water access, utilities, and various support services during the experiments described in this report. Figure 8 gives a general view of the Site 1 complex including control and office building, well head, and prototype power plant test pad areas. The primary brine source well was RRG-1, but occasionally, because of other brine supply system requirements, it was necessary to use brine from wells RRG-2 and RRG-5. Brine supply temperatures ranged from 391 to 410 K (245 to 278°F) during the test period.

Fig. 7. Map of Raft River Geothermal Test Site.

Fig. 8. Site 1 complex at Raft River.

3. INSTRUMENTATION AND SAMPLING

The main emphasis in instrumentation for the tests described here was placed on measurement of variables required to determine condenser heat transfer performance under various operating conditions. Additional measurements were taken to characterize particular system conditions adequately and to document detailed parametric profiles, which might lead to mechanistic interpretations of observed performance trends.

3.1 Prototype Power Plant

Most measurements taken from the prototype power plant were of secondary importance in determining condenser performance. However, certain readings provided the opportunity to corroborate independently individual temperature, pressure, and flow measurements associated with the condenser. In addition, combinations of these variables were used to (1) generate heat balance comparisons, (2) ensure proper operation of plant components, (3) monitor safety-related conditions, and (4) judge the achievement of steady-state operation.

Temperature sensors included iron-constantan thermocouples and dial thermometers. Both mechanical dial gauges and electrical transmitter arrangements were employed as pressure monitors. Flowmeters included orifice, venturi, and turbine types.

3.2 Condenser

Instruments associated with the condenser (Fig. 9) were intended to provide data for heat transfer performance evaluation. Working-fluid pressure, cooling-water flow, and cooling-water temperatures were the primary measurements used to determine such performance. Secondary measurements of working-fluid vent flow, liquid level, and local temperatures were used to characterize particular operating conditions more completely.

Fig. 9. Condenser instrument arrangement.

3.2.1 Temperature

Two thermistors (Thermometrics Part S-10-4-wire) were intended for primary measurement [outlet (TM1) and inlet (TM2) water temperatures] during the condenser tests. Both the original units, 128 and 184, failed and were replaced before the end of the test period by units 281 (May 5, 1981) and 253 (October 20, 1981), respectively. Three other similar thermistors penetrated the condenser shell wall and provided temperature monitoring in selected parts of the vapor space. One (TM3) was positioned at the very top of the space, near the vent port (after seventh vapor flow pass). The second (TM4) was 180° around the shell and three baffles below the first, near the vapor flow turn between the fourth and fifth vapor flow passes. The third (TM5) was installed on the same side of the shell as the second but just beneath the third baffle below it, near the vapor inlet. All thermistors were wired to a switch box that permitted individual resistance readouts on a digital multimeter, Hewlett-Packard Model 3465A, in the control room.

Five Chromel-Alumel thermocouples were employed as secondary monitoring instruments - one (TC4) in the vapor inlet, one (TC6) in the condensate return, and three in the shell vapor space. Of the three shell thermocouples, one (TC2) was just beneath the second baffle from the top (180° from vent port), one (TC3) was between the first and second baffles above the vapor inlet (same side as vent port), and one (TC5) was just under the bottom baffle (180° from vent port). All thermocouples were connected to a Honeywell-Brown recorder for readout purposes.

3.2.2 Pressure

Working-fluid pressure was sensed through a pressure tap in the upper shell wall. The pressure indicator (PG) was a 0- to 200-psig Solfrunt U.S. Gauge unit.

3.2.3 Flow

Cooling-water flow was determined from measurements of pressure drop across a 5.77-cm (2.27-in.) orifice installed in the 3-in. line leading to

the condenser inlet. The resulting signals were conditioned and transmitted to the control room for readout.

An Erdco Seeflo Type 6SL2604 flowmeter was installed on the upper shell-side outlet of the vent condenser to monitor net working-fluid vent flow. This vane-type variable-orifice unit was factory-calibrated for a gas with a specific gravity of 10.28 at 83.5 psig, 60°F.

3.2.4 Liquid level

Because the bottom portion of the condenser shell served as a sump for the isobutane boost pump, it was necessary to maintain a liquid level high enough to meet the pump requirement for net positive suction head but low enough to avoid immersion of the tube bundle. An Ernst Gage Company Model E5-1128 liquid level indicator was attached to lower shell ports (LL) to provide the required monitoring capability. A Fisher transmitter was used to send the resulting signal to the control room readout station.

3.3 Sampling

During the operation in the direct-contact evaporator mode, a number of working-fluid samples were taken in an attempt to characterize the chemical composition of gas occupying the condenser vapor space under chosen conditions. For this purpose, stainless steel sample cylinders were attached to the condenser vent line. When the plant reached the selected operating point, the cylinder inlet and outlet valves were opened, purging the vent line and cylinder of their previous contents. With purging complete, the sample of vapor space gas was trapped by closing the cylinder valves.

Chemical analysis of the samples was accomplished using a Hewlett-Packard Model 5880A gas chromatograph. After calibration with known standards, the unit processed a portion of each sample to determine its detailed hydrocarbon, nitrogen, oxygen, water, and carbon dioxide content. Reproducibility checks of additional portions of a given sample showed good consistency.

Samples from certain other parts of the plant were taken and analyzed as needed to meet particular system assessment goals.

4. OPERATING PROCEDURES

A prerequisite for the acquisition of meaningful data for performance assessment of the vertical-fluted-tube condenser was proper operation of the prototype power plant. Procedures to accomplish this were developed as a combination of methods confirmed in earlier INEL experience with the plant and practices necessitated by system modification or particular test goals.

4.1 Routine Procedures

In general, the routine procedures employed in the tests reported here were very similar to those used during previous operation of the prototype power plant. The start sequence from standby condition began with checking the status of all auxiliary systems and preparing the brine and cooling-water supply systems for operation. After ignition of the flare pilot, the cooling tower fan and the cooling-water pump were activated, and the resulting flow adjusted to a nominal value of 1.89×10^{-2} m³/s (300 gpm). Next the isobutane boost and feed pumps were started with the associated flow initially bypassing the evaporator and returning to the sump in the bottom portion of the condenser shell. With the turbine isolated, a valve was opened slightly to begin hot brine feed to the evaporator. Then valves were adjusted to begin liquid isobutane feed to the evaporator and to reduce the complementary bypass flow. Brine and isobutane flows were increased gradually until the desired evaporator conditions were reached. When all plant systems were operating correctly, the cooling-water flow rate was adjusted to the desired test run value.

If test plans called for turbine operation, the turbine outlet valve was then opened and the turbine inlet valve opened very slightly, allowing a small flow of gas to warm up the turbine and associated piping. Next, the turbine inlet valve was gradually opened to full-open position as the turbine bypass was restricted until fully closed. As the turbine accelerated to operating speed, a clutch engaged to connect the shaft to the generator for power production.

After the plant settled out at the resulting point, small adjustments in the flows of brine, isobutane, and/or cooling water were made as required to more closely approximate the desired test situation. The plant was allowed to restabilize before a data set was taken.

Primary data included the following:

1. inlet and outlet water temperatures,
2. cooling-water flow, and
3. shell pressure.

Secondary data included the following:

1. shell temperatures (thermistors);
2. shell temperatures (thermocouples);
3. condensate return temperature;
4. vapor-feed temperature;
5. liquid level;
6. vent flow;
7. various temperature, pressure, and flow readings associated with the plant; and
8. local weather observations.

After the relevant data were recorded, appropriate system adjustments were made to bring the plant to the next desired operating point, and the data sequence described in the preceding paragraph was repeated.

Normal plant shutdown procedures started with isolation of the turbine (if in operation) followed by a gradual decrease in brine flow. Other operating parameters were adjusted manually to maintain plant balance until brine flow had ceased and isobutane flow was limited to the bypass. Next the isobutane pumps were shut down and the evaporator and condenser liquid levels allowed to equalize. Finally, the cooling-water pump and cooling tower fan were shut down.

4.2 Supplemental Procedures

The tests reported here were performed after major modifications of the prototype plant. In preparation for the test runs, the isobutane system piping and most components were hydrotested, flushed, and drained.

Next nitrogen was used to purge oxygen from the isobutane system and then to pressurize the underground isobutane storage tank to fill the plant liquid full (while venting each component at its high point). Then, after closing the vents, the condenser and evaporator were drained to operating levels by venting excess pressure from the storage tanks and turning on the vessel heaters. Finally, the drain valves were closed to complete the filling procedure. The plant was then started to check out the isobutane feed and control systems prior to the start of the test runs.

5. DATA REDUCTION

During some of the tests, partial data reduction was carried out in the field using a Hewlett-Packard Model 97 programmable calculator to give rough guidance for troubleshooting and trend assessment activities. Subsequently, all data were subjected to a more detailed and complete reduction using computer programs developed specifically to facilitate run-to-run performance comparisons (Appendix A).

Raw data were converted using instrument calibrations to give the fundamental quantities (temperatures, pressures, and flow rates) required for further manipulation. These fundamental quantities were then combined with fluid property values to put the results in forms (heat loads, temperature differences, or heat transfer coefficients) amenable to performance comparisons.

For the results presented in Chap. 6, the primary variables used for condenser performance comparisons are heat load and log mean temperature difference. Better performance implies a bigger heat load for a given temperature difference or a smaller temperature difference for a given heat load. Condenser heat load is determined from water-side measurements using the relation

$$Q = \dot{m}_w c_w (T_{wout} - T_{win}) \quad (5.1)$$

where the symbols are defined in the Nomenclature list at the beginning of this report. The appropriate (overall) working-fluid-to-water temperature difference is taken to be the log mean, that is

$$\Delta T_{lm} = (T_{wout} - T_{win}) / \ln \left[(T_{sat \text{ iso}} - T_{win}) / (T_{sat \text{ iso}} - T_{wout}) \right] \quad (5.2)$$

where $T_{sat \text{ iso}}$ is the pure isobutane (R-600a) saturation temperature associated with the measured shell pressure.^{9,10}

Estimated overall accuracies associated with the reduced data are $\pm 3\%$ heat load and $\pm 0.56 \text{ K}$ (1.0°F) log mean temperature difference.

6. TEST RESULTS

Because of the difficulty in completely characterizing any given field test situation and the large volume of data taken, an attempt has been made to distill, by example, the most consistent and important results into a relatively concise summary. Individual discussions are divided into two main groups according to the respective evaporator mode, surface or direct contact, because this distinction proved to be the most significant one encountered during the tests. Detailed data listings are relegated to Appendixes A and B. General operating ranges are summarized in Table 1.

Table 1. Operating parameter ranges for vertical-fluted-tube condenser tests at Raft River, September 1980–October 1981

Parameter	Range
Shell pressure, kPa (psia)	255–772 (37–112)
Isobutane saturation temperature, K (°F)	288.2–328.7 (59–132)
Average water temperature, K (°F)	284.3–311.5 (52–101)
Heat load, kW (Btu/h)	120–640 ($0.4\text{--}2.2 \times 10^6$)
Log mean temperature difference, K (°F)	2.2–22.2 (4–40)
Water flow, m ³ /s (gpm)	$0.461\text{--}1.987 \times 10^{-2}$ (73–315)

6.1 Surface Evaporator Operating Mode

In the surface evaporator operating mode, the working fluid is physically separated from the geothermal brine. Condenser design performance predictions were, of course, based on operation in this "clean" mode (i.e., one without water noncondensable gas contamination from the brine). Figure 10 shows the condenser design point prediction, $\Delta T_{lm} = 5.167$ K (9.30°F) at a heat load of 586.1 kW (2.000×10^6 Btu/h), with a water flow of 1.893×10^{-2} m³/s (300 gpm) and a water inlet temperature of 297.039 K (75.00°F). The locus of other predicted $Q - \Delta T_{lm}$ combinations for these fixed water flow and water inlet temperature conditions is also shown. As

Fig. 10. Condenser design performance locus.

noted earlier, these predictions are based on (1) laboratory data² for R-600a condensing outside tube E (Appendix B) and (2) the Dittus-Boelter forced-convection correlation⁸ - with no allowance for fouling or working-fluid contaminants. Water property values for viscosity, specific heat, and thermal conductivity were taken from Ref. 11, and those for density were taken from Ref. 12.

Three distinct periods were devoted to tests in the surface evaporator mode: September-October 1980, December 1980, and March 1981.

The first period was intended to be a shakedown sequence to map out operating ranges of heat load and water flow for the modified prototype

power plant and to permit instrument and turbine checkout. Typical early data (Fig. 11) indicated that measured condenser performance was poorer than predicted by the method outlined previously. In particular, at a heat load of 590 kW (2.0×10^6 Btu/h), the experimental log mean temperature difference was 8.3 K (15°F) as compared with a predicted value of 5.2 K (9°F). A second experimental observation was that upper vapor space temperatures were somewhat lower than the pure isobutane saturation temperatures corresponding to measured shell pressures. Sample data from vapor

Fig. 11. Condenser test performance, surface evaporator mode, shakedown.

space thermistors are presented in Fig. 12 as a plot of vapor superheat vs axial position in the condenser vapor space. From this plot it is clear that, while the lower vapor space approached the saturation temperature, the upper vapor space ran 2.8 to 5.0 K (5 to 9°F) below it. Such trends

Fig. 12. Vapor temperature profile, surface evaporator mode, shakedown.

may indicate the presence of noncondensable gases in the upper section of the condenser.

Other early observations included the presence of oil and water in the plant working-fluid traps. Limited periodic venting of the condenser and draining of the traps were undertaken to reduce the potential for working-fluid impurities to affect condenser performance.

The amount of oil found in the traps decreased gradually with time, but the amount of water remained fairly consistent. The net variation of noncondensable concentration with time was difficult to judge because of the competing effects of venting and working-fluid addition at irregular intervals. The latter operation led to the introduction of additional noncondensibles because the fill procedure required direct-contact pressurization of the isobutane storage tanks with nitrogen gas. Late in the first period (October 9-10, 1980), an attempt was made to remove any remaining oil, "washing" the outside of the condenser tube bundle by pumping liquid isobutane into the vent line at the top of the unit.

Although somewhat difficult to discern because of the wide range of parameter variations, the general trend of condenser performance seemed to be one of gradual improvement from September to October 1980.

The second period of surface evaporator mode operations occurred in December 1980. For this sequence the plant was supplied with a complete new charge of isobutane before startup, and no further additions were made during the period. A preliminary 1-h condenser vent procedure was undertaken to minimize noncondensable concentrations in the vapor space. Examination of the plant traps showed some water but no oil.

All performance data taken during this period are presented in Fig. 13. It is clear from the plot that the data cluster closely around the prediction locus — a distinct improvement over the first period results. Typical second period data from the vapor space thermistors are given in Fig. 14. These measurements vary little from the corresponding pure isobutane saturation temperature at any point.

After an initial hookup and trial of the direct-contact evaporator in January 1981, a third period of testing in the surface evaporator mode was conducted in March 1981 to map out plant operating ranges with the turbine running. Unfortunately, the outlet water thermistor gave erratic readings

Fig. 13. Condenser test performance, surface evaporator mode, after contaminant removal.

(later found to be caused by a cracked sheath) during this period. However, estimates from other plant instrumentation indicated that condenser performance was good but slightly below predicted levels. Vapor space thermistors showed the upper portion to be somewhat subcooled relative to the corresponding pure isobutane saturation temperature. During this period, the maximum electrical power output of 65 kW was achieved by the prototype power plant.

Fig. 14. Vapor temperature profile, surface evaporator mode, after contaminant removal.

6.2 Comparison with Horizontal-Smooth-Tube Condenser

As an illustration of the performance potential of the vertical-fluted-tube condenser demonstrated in the surface evaporator mode, a sample comparison with conventional heat exchanger practice was made based on

actual field conditions. Table 2 summarizes this comparison. The first column of the table gives as-built design parameters and sample data taken during December 1980 experiments involving the vertical-fluted-tube condenser. For comparison purposes, a conventional horizontal-smooth-tube condenser design was chosen with parameters in the first three table groups fixed at actual values for the vertical-fluted-tube condenser test. With the "heat exchanger duty" specified in this manner, the required size of the horizontal-smooth-tube condenser was calculated using the methods of Ref. 8. The final table group reflects this calculation. A comparison of the two table columns indicates that, for the conditions given, the horizontal-smooth-tube design is nearly three times the size of the vertical-fluted-tube design. In other words, the vertical-fluted-tube concept offers the potential of a 65% reduction in condenser size for the stated conditions. Although other comparison bases may be chosen, this example demonstrates clearly the promise of vertical-fluted-tube condensers under realistic power plant conditions.

6.3 Direct-Contact Evaporator Operating Mode

A first try at operating the plant in the direct-contact evaporator mode was made in January 1981. However, shakedown operation in this mode was not undertaken until April 1981. During this period, heat loads varied over a wide range, as emphasis was placed on determining column flooding points for the direct-contact evaporator. It was established that the plant would be limited to considerably less than design heat load if intolerable rates of isobutane carry-under were to be avoided in the evaporator. Although the outlet water thermistor continued to give erratic readings during this period, other plant instrumentation indicated that condenser performance was much poorer than the levels found in the surface evaporator mode tests. Subcooling of the upper vapor space was also generally much greater.

The second period of direct-contact operation, May-July 1981, included an examination of the effects of venting and brine preflash on condenser performance. Typical data (with the defective thermistor replaced)

Table 2. Comparative condenser design and operating parameters

Parameters	Vertical-fluted-tube condenser	Horizontal-smooth-tube condenser
Number of tubes	102	102
Number of water-side passes	4	4
Bundle pitch arrangement	Triangular	Triangular
Tube material	Admiralty	Admiralty
Tube inside diameter, mm (in.)	22.15 (0.872)	22.15 (0.872)
Tube outside diameter, mm (in.)	25.91 (1.020)	25.91 (1.020)
Shell size	18 in., sched. 40	18 in., sched. 40
Water flow, m ³ /s (gpm)	1.897×10^{-2} (301)	1.897×10^{-2} (301)
Water inlet temperature, K (°F)	289.02 (60.6)	289.02 (60.6)
Water outlet temperature, K (°F)	294.77 (70.9)	294.77 (70.9)
Shell pressure, Pa (psia)	333.0×10^3 (48.3)	333.0×10^3 (48.3)
Heat load, W (Btu/h)	456×10^3 (1.56×10^6)	456×10^3 (1.56×10^6)
Isobutane saturation temperature, K (°F)	296.59 (74.2)	296.59 (74.2)
Log mean temperature difference, K (°F)	4.05 (7.3)	4.05 (7.3)
Heat transfer conductance, W/K (Btu/h·°F)	1.13×10^5 (2.1×10^5)	1.13×10^5 (2.1×10^5)
Tube length, m (ft)	4.06 (13.3)	11.71 (38.4)
Bundle water-side area, m ² (ft ²)	28.82 (310)	83.14 (895)
Bundle isobutane-side area, m ² (ft ²)	52.60 (566)	97.26 (1047)
Overall heat transfer coefficient		
Based on water-side area, W/m ² ·K (Btu/h·ft ² ·°F)	3900 (690)	1350 (240)
Based on isobutane-side area, W/m ² ·K (Btu/h·ft ² ·°F)	2140 (380)	1160 (200)

given in Fig. 15 indicate that vapor space venting did significantly improve condenser performance, but that even several hours of vent operation did not achieve predicted ("clean") levels. Specific results show a reduction in log mean temperature difference from 22.2 to 5.0 K (40 to 9°F) at a heat load of ~410 kW (1.4×10^6 Btu/h). Corresponding changes in the vapor space temperature profiles are demonstrated in Fig. 16. Before venting began and early in the venting period, significant superheats of ~8.3 K (15°F) were noted in the lower vapor space, while even greater subcoolings

ORNL-DWG 82-6996 ETD

Fig. 15. Condenser test performance, direct-contact evaporator mode, venting.

Fig. 16. Vapor temperature profile, direct-contact evaporator mode, venting.

were found in the upper vapor space. Such a pattern may indicate that the presence of noncondensable gases during the period was sufficient to degrade heat transfer performance enough to prevent removal of the vapor superheat in early shell-side passes. Later in the venting period, with the presumed decrease in noncondensable gas concentration, performance

improved and all vapor space temperatures more closely approached the pure isobutane saturation temperature.

The reverse of the preceding process, which is "recovery" (actually degradation) of the condenser following the termination of venting operations, is illustrated in Figs. 17 and 18. Specific performance results in Fig. 17 show an increase in log mean temperature difference from 4.4 to 18.3 K (8 to 33°F) at a heat load of ~350 kW (1.2×10^6 Btu/h) over a 7-h

Fig. 17. Condenser test performance, direct-contact evaporator mode, recovery from venting.

Fig. 18. Vapor temperature profile, direct-contact evaporator mode, recovery from venting.

period. Figure 18 indicates a corresponding reversion in vapor space temperature profile.

Effects of various brine preflash pressure levels on condenser performance and vapor space temperatures are illustrated in Figs. 19 and 20. Figure 19 indicates that log mean temperature differences decreased from

Fig. 19. Condenser test performance, direct-contact evaporator mode, preflash variation.

22.2 to 7.8 K (40 to 14°F) at a heat load of ~380 kW (1.3×10^6 Btu/h) as increased brine throttling dropped preflasher outlet pressures from 361 to 309 kPa (52 to 45 psia). The associated data in Fig. 20 show that lower preflasher outlet pressures brought vapor space temperatures closer to the corresponding pure isobutane saturation temperatures.

The third period of direct-contact operation (October 1981) involved continued examination of condenser venting effects but with the addition of vapor sampling and composition analysis to ascertain more accurately the amounts of contaminants present. Data from two sample runs, the earlier just before condenser venting began and the later after 30 min of venting, are presented in Figs. 21 and 22. As noted in earlier figures,

Fig. 20. Vapor temperature profile, direct-contact evaporator mode, preflash variation.

venting brought about improved performance and more uniform vapor space temperatures. The corresponding vapor compositions, as determined from samples taken from the vent flow line, are listed in Table 3. This information clearly indicates that the pre-vent period of relatively poor performance and nonuniform vapor temperatures coincided with the period of

Fig. 21. Condenser test performance, direct-contact evaporator mode, venting with chemical analysis.

Table 3. Condenser vapor space chemical composition determined from sample analysis by gas chromatograph during October 21, 1981, operation in direct-contact evaporator mode

Species	Before vent ^a (wt %)	After 30-min vent ^b (wt %)
N ₂	12.841	0.017
CO ₂	5.422	0.040
H ₂ O	0.584	0.910
C ₁	0.720	0.384
C ₄	1.302	2.049
i-C ₄	79.130	96.448

^aSample time is 20:30.

^bSample time is 21:10.

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Fig. 22. Vapor temperature profile, direct-contact evaporator mode, venting with chemical analysis.

high noncondensable (nitrogen and carbon dioxide) concentrations and that the (relatively vigorous) venting procedure undertaken before the second point brought about reduced noncondensable concentrations as it improved condenser performance and vapor temperature profiles. Such results provide strong cause-and-effect evidence that noncondensable gases were important contributors to the generally poor direct-contact mode performance observed and that vigorous venting served to reduce significantly both their quantity and impact in the condenser.

7. CONCLUSIONS

From first-year field tests of a vertical-fluted-tube condenser designed and fabricated specifically for use in the prototype power plant at the Raft River Geothermal Test Site, the following major conclusions may be drawn:

1. In the surface evaporator mode, predicted performance levels were achieved after preliminary shakedown, and contaminant removal activities were undertaken.
2. Based on resulting data, a sample comparison shows that use of the vertical-fluted-tube concept in place of conventional horizontal smooth-tube design practice could reduce condenser size by 65%.
3. In the direct-contact evaporator mode, performance was much poorer.
4. Noncondensable gases apparently introduced into the system by the direct-contact evaporator collected in high concentrations in the condenser and were probably a major factor in the observed performance degradation.
5. Condenser venting reduced these concentrations and improved performance significantly.
6. Increased brine preflash also coincided with noticeable performance improvement.

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Appendix A
CONDENSER FIELD TEST DATA

PROGRAM VARIABLES
(* DENOTES RAW MEASUREMENT INPUTS)

A-----THERMISTOR CONSTANTS	PABS---SHELL ABSOLUTE PRESSURE
B-----THERMISTOR CONSTANTS	PATM---ATMOSPHERIC PRESSURE
C-----THERMISTOR CONSTANTS	PERB---PASS INSIDE PERIMETER
D-----ISOBUTANE TSAT CONSTANTS	PERF---PERFORMANCE RATIO
E-----ISOBUTANE TSAT CONSTANTS	PERI---TUBE INSIDE PERIMETER
F-----WATER DENSITY CONSTANTS	PERO---TUBE OUTSIDE PERIMETER
G-----WATER SPEC HEAT CONSTANTS	*PGAG---SHELL GAUGE PRESSURE
H-----COMPOS COEFF CONSTANTS	PRAN---WATER PRANDTL NUMBER
I-----INDEX	*PREF---PREFLASH MARKER/PRESSURE
J-----INDEX	REYN---WATER REYNOLDS NUMBER
N-----INDEX	SAMP---SAMPLE TAKEN MARKER
O-----WATER VISCOSITY CONSTANTS	SHPW---WATER SPECIFIC HEAT
P-----WATER THER COND CONSTANTS	TCTS---THERMOCOUPLE SUPERHEATS
*R-----THERMISTOR RESISTANCES	TDLM---LOG MEAN TEMP DIFFERENCE
BE-----BELOW LAB RANGE MESSAGE	TENS---DATE FIRST DIGIT
EG-----EG&G H/LAT USED MESSAGE	THAV---EG&G AVERAGE WATER TEMP
PI-----3.141592654	THRS---EG&G WATER TEMP RISE
PR-----PREFLASH MESSAGE	THTS---EG&G SUPERHEATS
SA-----SAMPLE TAKEN MESSAGE	TIME---COMBINED TIME MARKER
*TC-----THERMOCOUPLE TEMPS (GENL)	TMTS---THERMISTOR SUPERHEATS
*TH-----THERMOCOUPLE TEMPS (EG&G)	TSAT---ISOBUTANE SATURATION TEMP
TM-----THERMISTOR TEMPS	TUBE---NUMBER OF TUBES IN BUNDLE
TU-----TURBINE ON MESSAGE	TURB---TURBINE ON MARKER
VE-----VENT MESSAGE	TWAV---AVERAGE WATER TEMP FAHREN
AFEE---TUBE E AREA	TWRS---WATER TEMPERATURE RISE
AREI---BUNDLE INSIDE AREA	UAEX---MEAS HEAT TRANS CONDUCT
AREO---BUNDLE OUTSIDE AREA	UAPR---PRED HEAT TRANS CONDUCT
BELO---BELOW LAB RANGE MARKER	*VENT---VENT MARKER/FLOW
CNDW---WATER THERM CONDUCTIVITY	VISW---WATER VISCOSITY
DIAI---TUBE INSIDE DIAMETER	YEAR---CALENDAR YEAR
DNS*---WATER DENSITY	ANTWN---ISOBUTANE TSAT FUNCTION
EG&G---EG&G HEAT USED MARKER	CALTM---THERMISTOR TEMP FUNCTION
EQHT---TUBE E EQUIV HEAT LOAD	CHTM1---THERMISTOR 1 CHANGE
FLOM---WATER MASS FLOW	CHTM2---THERMISTOR 2 CHANGE
*FLOV---WATER VOLUME FLOW	CUBIC---ISOBUTANE TSAT FUNCTION
FLTH---BUNDLE FLUTED LENGTH	EXPFT---WATER VISCOSITY FUNCTION
HCMF---COMPOSITE COEFFICIENT	MONTH---MONTH OF YEAR
HOUR---TIME OF DAY	PLACE---LOCATION
HTLD---HEAT LOAD	POLFT---POLYNOMIAL FUNCTION
HWOB---WATER-SIDE COEFFICIENT	SMITH---WATER DENSITY FUNCTION
MODE---EVAPORATOR MODE	TWAVK---AVERAGE WATER TEMP KELVIN
ONES---DATE SECOND DIGIT	UNST1---THERMISTOR 1 UNSTABLE

ISN 0002
 ISN 0003
 ISN 0004

 ISN 0005
 ISN 0006
 ISN 0007
 ISN 0008
 ISN 0009

 ISN 0010

 ISN 0011

 ISN 0012
 ISN 0013
 ISN 0014

 ISN 0015
 ISN 0016

 ISN 0017
 ISN 0018
 ISN 0019
 ISN 0020
 ISN 0021
 ISN 0022
 ISN 0023
 ISN 0024
 ISN 0025
 ISN 0026
 ISN 0027
 ISN 0028
 ISN 0029
 ISN 0030
 ISN 0031
 ISN 0032
 ISN 0033
 ISN 0034
 ISN 0035
 ISN 0036
 ISN 0037
 ISN 0038

 ISN 0039
 ISN 0041
 ISN 0042

```

IMPLICIT REAL*8(A-H,O-Z)
INTEGER TENS,ONES, YEAR, HOUR, VENT, PREF, TURB, SAMP, EG$G, BELO
DIMENSION R(5), A(7), B(7), C(7), D(3), E(5), F(8), G(5), H(4), O(3), P(4),
1 TM(5), TC(6), TH(4), VE(2), PR(2), TU(4), SA(4), EG(4), BE(4), TMTS(5),
1 TCTS(6), THTS(4)
UNST1=8101280000D0
CHTM1=8105050000D0
CHTM2=8110200000D0
PATM=12.3D0
DATA A/-4.336734907D0,-4.228678565D0,-4.059011068D0,
1 -4.272363183D0,-4.164037485D0,-4.162269080D0,-4.113977660D0/
DATA B/3927.372065D0,3892.594094D0,3911.466872D0,
1 3908.235143D0,3933.640653D0,3940.039585D0,3925.546997D0/
DATA C/-14379218.96D0,-14143718.47D0,-14414684.95D0,
1 -14385347.05D0,-13550485.22D0,-14158724.90D0,-14179391.52D0/
DATA D/882.80D0,6.74808D0,240.00D0/
DATA E/882.80D0,5.03447D0,-33.16D0,292D0,3.22D-6/
DATA F/374.11D0,3.1975D0,-3.151548D0,-1.203374D-3,7.48908D-13,
1 .1342489D0,-3.946263D-3,.0160185D0/
DATA G/17.6611D0,-147914D0,6.08619D-4,-1.11867D-6,7.80297D-10/
DATA H/0.1674066748D+04,-0.3107774996D+00,0.4052749389D-04,
1 -0.2207308514D-08/
DATA O/0.030185D0,-2191.60D0,6.38605D5/
DATA P/-0.61694D0,7.17851D-3,-1.16700D-5,4.70358D-9/
DATA VE//,VENT//
DATA PR//,PREFLASH//
DATA TU//,TURBINE//,ON//
DATA SA//,SAMPLE T//,AKEN//
DATA EG//,EG$G HEA//,T USED//
DATA BE//,BELOW LA//,B RANGE//
AREE=1.605D0
TUBE=102.D0
FLTH=159.875D0/12D0
PERF=5.000D0/12D0
AREO=TUBE*FLTH*PERO
DIAI=.872D0/12D0
PI=3.141592654D0
PERI=PI*DIAI
PERB=PERI*26D0
AREI=TUBE*FLTH*PERI
5 WRITE(6,2000)
2000 FORMAT(1H1,128('-'))
N=0
8 READ(5,1000) PLACE,MONTH,TENS,ONES, YEAR, HOUR, MODE, R, PGAG, FLOW,
1 VENT, PREF, TURB, SAMP
IF(MONTH.EQ.0) GO TO 30
1000 FORMAT(A3,I2,X,2I1,I3,I5,A3,5F5.0,2F6.1,I4,I3,2I2)
READ(5,1100) TC,TH
  
```

```

1100 1100 FORMAT (19X,10F6.1)
      PABS=PGAG+PATM
      IF (PABS.LE.42.060D0) TSAT=ANTWN (PABS,D)
      IF (PABS.GT.42.060D0) TSAT=CUBIC (PABS,E)
      TIME=HOUR*1D0+ONES*1D4+TENS*1D5+MONTH*1D6+YEAR*1D8
      DO 100 I=1,5
      J=I
      IF (I.EQ.1.AND.TIME.GT.CHTM1) J=6
      IF (I.EQ.2.AND.TIME.GT.CHTM2) J=7
      TM(I)=CALTM(R(I),A(J),B(J),C(J))
      TMTS(I)=TM(I)-TSAT
100  CONTINUE
      DO 400 I=1,6
      TCTS(I)=TC(I)-TSAT
400  CONTINUE
      DO 500 I=1,4
      THTS(I)=TH(I)-TSAT
500  CONTINUE
      IF (TIME.LT.UNST1.OR.TIME.GT.CHTM1) GO TO 10
      EG$G=1
      TM(1)=TM(2)+TH(1)-TH(2)
      GO TO 11
10  EG$G=0
11  TWRS=TM(1)-TM(2)
      THRS=TH(1)-TH(2)
      TDLM=TWRS/DLOG((TSAT-TM(2))/(TSAT-TM(1)))
      DNSW=SMITH(TM(2),F)
      FLOW=DNSW*FLOW*COND*3.785412D-3/2.831685D-2
      TWAV=(TM(1)+TM(2))/2D0
      THAV=(TH(1)+TH(2))/2D0
      TWAVK=(TWAV+459.67D0)/1.8D0
      SHPW=POLET(TWAVK,G,5)/4.18400D0
      HTLD=FLOW*SHPW*TWRS
      UAEX=HTLD/TDLM
      EQHT=HTLD*AREE/AREO
      IF (EQHT.GE.3053D0) BELO=0
      IF (EQHT.LT.3053D0) BELO=1
      HCMP=POLET(EQHT,H,4)
      VISW=EXPFT(TWAVK,0,3)/.4133789D0
      REYN=4D0*FLOW/VISW/PEKB
      CNDW=POLET(TWAVK,P,4)/1.729577D0
      PRAN=VISW*SHPW/CNDW
      HWDB=.023D0*CNDW/DIAI*REYN**.8D0*PRAN**.4D0
      UAPR=1D0/(1D0/HCMP/AREO+1D0/HWDB/AREI)
      PERF=UAEX/UAPR
      WRITE(6,2100) PLACE,MONTH,TENS,ONES,YEAR,HOUR,MODE
2100 1100 FORMAT (1H,2X,A3,I2,'-',2I1,I3,I5,A3,' WATER WATER WATER WA
      1TER WATER WRKFL WRKFL WRKFL WRKFL INST WRKFL WRKFL')

```



```

ISN 0097      WRITE(6,2200)
ISN 0098      2200 FORMAT(1H,25X,'FLOW  TEMPIN  TEMPEX  TEMPRS  TEMPAV  PRESS  TMPS
ISN 0099      1T  TMPIN  TEMPEX  IDNT  TEMPSH  SUPHT')
ISN 0101      1 IF (VENT.LE.1) WRITE(6,2300) VE(VENT+1),FLOV,TM(2),TM(1),TWRS,TWAV,
ISN 0102      1 PGAG,TSAT,TH(3),TH(4),TH(3),THTS(3)
ISN 0104      2300 FORMAT(1H,3X,A8,13X,F5.1,4(2X,F6.2),3X,F5.1,3(2X,F5.1),' TH3',
ISN 0105      1 F6.1,F7.1)
ISN 0107      1 IF (VENT.GT.1) WRITE(6,2350) VENT,FLOV,TM(2),TM(1),TWRS,TWAV,PGAG,
ISN 0108      1 TSAT,TH(3),TH(4),TH(3),THTS(3)
ISN 0110      2350 FORMAT(1H,3X,'VENT =' ,I4,11X,F5.1,4(2X,F6.2),3X,F5.1,3(2X,F5.1),
ISN 0111      1 ' TH3',F6.1,F7.1)
ISN 0112      IF (PREF.LE.1) WRITE(6,2400) PR(PREF+1),TM(5),TMTS(5)
ISN 0113      2400 FORMAT(1H,3X,A8,83X,'TM5',X,F6.2,X,F5.1)
ISN 0114      1 IF (PREF.GT.1) WRITE(6,2450) PREF,TM(5),TMTS(5)
ISN 0115      2450 FORMAT(1H,3X,'PREFFLASH =' ,I3,78X,'TM5',X,F6.2,X,F5.1)
ISN 0116      WRITE(6,2500) TU(TURB*2+1),TU(TURB*2+2),TM(4),TMTS(4)
ISN 0117      2500 FORMAT(1H,3X,2A8,75X,'TM4',X,F6.2,X,F5.1)
ISN 0118      WRITE(6,2600) SA(SAMP*2+1),SA(SAMP*2+2),TM(3),TMTS(3)
ISN 0119      2600 FORMAT(1H,3X,2A8,6X,'HEAT  SAT  MEAS  WATER  WATER  C
ISN 0120      1OMP  PRED  PERFO  TM3',X,F6.2,X,F5.1)
ISN 0121      WRITE(6,2700) EG(EG$G*2+1),EG(EG$G*2+2),TH(4),THTS(4)
ISN 0122      2700 FORMAT(1H,3X,2A8,6X,'LOAD  LMTD  UA  REYN  NO  COEFF  C
ISN 0123      1CEFF  UA  RATIO  TH4',X,F5.1,2X,F5.1)
ISN 0124      WRITE(6,2800) BE(BELO*2+1),BE(BELO*2+2),HTLD,TDLM,UAEX,REYN,HWDB,
ISN 0125      1 HCMP,UAPR,PERF
ISN 0126      2800 FORMAT(1H,3X,2A8,4X,1PD9.3,X,0PF5.1,2X,1PD8.2,2X,D9.3,2X,0PF5.0,
ISN 0127      1 2X,F5.0,2X,1PD8.2,2X,0PF5.3)
ISN 0128      WRITE(6,2900)
ISN 0129      2900 FORMAT(1H,128('-'))
ISN 0130      N=N+1
ISN 0131      IF (N.EQ.6) GO TO 5
ISN 0132      GO TO 8
ISN 0133      30 WRITE(6,2999)
ISN 0134      2999 FORMAT(1H1)
ISN 0135      STOP
ISN 0136      END

```

ISN 0002
 ISN 0003
 ISN 0004
 ISN 0005
 ISN 0006
 ISN 0007
 ISN 0008
 ISN 0009
 ISN 0010

```

FUNCTION CALTM(R,A,B,C)
IMPLICIT REAL*8(A-H,O-Z)
PI=3.141592654D0
X=-B/C
Y=(DLOG(R)-A)/2D0/C/(X*X*X/27D0)**.5D0
Z=DARCOS(Y)/3D0+24D0/180D0*PI
CALTM=1.8D0/DCOS(Z)/(X/3D0)**.5D0/2D0-459.67D0
RETURN
END

```

ISN 0002
 ISN 0003
 ISN 0004
 ISN 0005
 ISN 0006
 ISN 0007
 ISN 0008
 ISN 0009

```

FUNCTION ANTWN(X,A)
IMPLICIT REAL*8(A-H,O-Z)
DIMENSION A(3)
X1=DLOG10(X*6894.757D0/133.3224D0)
Y=A(1)/(A(2)-X1)-A(3)
ANTWN=Y*1.8D0+32D0
RETURN
END

```

ISN 0002
 ISN 0003
 ISN 0004
 ISN 0005
 ISN 0006
 ISN 0007
 ISN 0008
 ISN 0009
 ISN 0010
 ISN 0011
 ISN 0012
 ISN 0013
 ISN 0014
 ISN 0016
 ISN 0018
 ISN 0019
 ISN 0020
 ISN 0021
 ISN 0022

```

FUNCTION CUBIC(Z,C)
IMPLICIT REAL*8(A-H,O-Z)
DIMENSION C(5)
Z1=DLOG10(Z)
P=C(3)-C(4)*2D0
Q=C(4)*C(4)-C(4)*C(3)*2D0+(C(2)-Z1)/C(5)
R=C(3)*C(4)*C(4)+(C(3)*(C(2)-Z1)-C(1))/C(5)
A=(Q*3D0-P*P)/3D0
B=(P*P*P*2D0-P*Q*9D0+R*27D0)/27D0
TEST=B*B/4D0+A*A/27D0
CAPA=(-B/2D0+TEST**.5D0)**(1D0/3D0)
CPB=-B/2D0-TEST**.5D0
IF(CPB.GE.0D0) CAPB=CPB**(1D0/3D0)
IF(CPB.LT.0D0) CAPB=-(-CPB)**(1D0/3D0)
X=CAPA+CAPB
Y=X-P/3D0
CUBIC=(Y-273.16D0)*1.8D0+32D0
RETURN
END

```

```

ISN 0002      FUNCTION SMITH(X,A)
ISN 0003      IMPLICIT REAL*8 (A-H,O-Z)
ISN 0004      DIMENSION A(8)
ISN 0005      X1=(X-32D0)/1.8D0
ISN 0006      Y=A(1)-X1
ISN 0007      UP=A(2)+A(3)*Y** (1D0/3D0)+A(4)*Y+A(5)*Y**4D0
ISN 0008      DN=1D0+A(6)*Y** (1D0/3D0)+A(7)*Y
ISN 0009      SMITH=DN/UP/A(8)
ISN 0010      RETURN
ISN 0011      END

```

```

ISN 0002      FUNCTION POLFT(X,A,M)
ISN 0003      IMPLICIT REAL*8 (A-H,O-Z)
ISN 0004      DIMENSION A(M)
ISN 0005      POLFT=0D0
ISN 0006      DO 200 K=1,M
ISN 0007      POLFT=POLFT+A(K)*X** (K-1)
ISN 0008      200 CONTINUE
ISN 0009      RETURN
ISN 0010      END

```

```

ISN 0002      FUNCTION EXPFT(X,A,M)
ISN 0003      IMPLICIT REAL*8 (A-H,O-Z)
ISN 0004      DIMENSION A(M)
ISN 0005      Y=0D0
ISN 0006      DO 300 K=1,M
ISN 0007      Y=Y+A(K)*X** (1-K)
ISN 0008      300 CONTINUE
ISN 0009      EXPFT=DEXP(Y)
ISN 0010      RETURN
ISN 0011      END

```

A.1 Data Reduction Program

A.2 Output Format

61/62

CONDITION MESSAGES

VENT(= XXX)-----CONDENSER VENT OPERATING(AT VAPOR FLOW = XXX SCFH)
PREFLASH(= XX)----BLINE PREFLASHER OPERATING(AT OUTLET PRESS = XX PSIG)
TURBINE ON-----POWER TURBINE OPERATING
SAMPLE TAKEN-----WORKING FLUID SAMPLE TAKEN FROM CONDENSER VENT LINE
EGSG HEAT USED----EGSG WATER TEMP RISE USED BECAUSE OF TM1 INSTABILITY
BELOW LAB RANGE--BUNDLE HEAT FLUX LESS THAN MINIMUM OF LAB TESTS

```

WATER FLOW-----WATER VOLUME FLOW (GPM)
WATER TEMPIN-----INLET WATER TEMPERATURE (DEG F)
WATER TEMPEX-----OUTLET WATER TEMPERATURE (DEG F)
WATER TEMPRS-----WATER TEMPERATURE RISE (DEG F)
WATER TEMPAV-----AVERAGE WATER TEMPERATURE (DEG F)
WRKKFL PRESS-----SHELL PRESSURE (PSIG)
WRKKFL TMPST-----PURE ISOBUTANE SATURATION TEMPERATURE (DEG F)
WRKKFL TMPIN-----INLET WORKING FLUID TEMPERATURE (DEG F)
WRKFL TEMPEX-----OUTLET WORKING FLUID TEMPERATURE (DEG F)
INST IDNT-----INSTRUMENT IDENTIFICATION SYMBOLS: TH3--INLET
                                                    TM5--LOWER BUNDLE
                                                    TM4--UPPER BUNDLE
                                                    TM3--TOP BUNDLE
                                                    TH4--OUTLET
WRKFL TEMPSH-----WORKING FLUID TEMPERATURES (DEG F)
WRKFL SUPHT-----WORKING FLUID SUPERHEATS (DEG F)
HEAT LOAD-----WATER-SIDE HEAT LOAD (BTU/H)
SAT LMTD-----LOG MEAN TEMPERATURE DIFFERENCE (DEG F)
MEAS UA-----MEASURED HEAT TRANSFER CONDUCTANCE (BTU/H/DEG F)
WATER REYN NO-----WATER REYNOLDS NUMBER
WATER COEFF-----WATER-SIDE HEAT TRANSFER COEFFICIENT (BTU/H/FT2/DEG F)
COMP COEFF-----COMPOSITE HEAT TRANSFER COEFFICIENT (BTU/H/FT2/DEG F)
PRED UA-----PREDICTED HEAT TRANSFER CONDUCTANCE (BTU/H/DEG F)
PERFO RATIO-----RATIO OF MEASURED TO PREDICTED CONDUCTANCE

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63/64

A.3 Data Listing

RR 9-17-80 1320 SE	WATER FLOW 300.0	WATER TEMPIN 56.91	WATER TEMPER 57.10	WATER TEMPER 0.19	WATER TEMPAV 57.00	WRKFL PRESS 26.0	WRKFL TMPST 60.4	WRKFL TMPIN 82.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 82.0	WRKFL SUPHT 21.6
	HEAT LOAD 2.807D	SAT LMTD 04	MEAS UA 8.22D	WATER REYN NO 03	WATER COEFF 3.613D	COMP COEFF 04	PRED UA 1114.	PERFO RATIO 1650.		TH4	*****	*****
BELOW LAB RANGE	2.807D	04	3.4	8.22D	03	3.613D	04	1114.	1650.	2.52D	05	0.033
RR 9-17-80 1350 SE	WATER FLOW 300.0	WATER TEMPIN 60.98	WATER TEMPER 61.06	WATER TEMPER 0.08	WATER TEMPAV 61.02	WRKFL PRESS 28.0	WRKFL TMPST 63.4	WRKFL TMPIN 82.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 82.0	WRKFL SUPHT 18.6
	HEAT LOAD 1.155D	SAT LMTD 04	MEAS UA 4.88D	WATER REYN NO 03	WATER COEFF 3.836D	COMP COEFF 04	PRED UA 1145.	PERFO RATIO 1664.		TH4	*****	*****
BELOW LAB RANGE	1.155D	04	2.4	4.88D	03	3.836D	04	1145.	1664.	2.58D	05	0.019
RR 9-17-80 1655 SE	WATER FLOW 315.0	WATER TEMPIN 65.29	WATER TEMPER 72.85	WATER TEMPER 7.57	WATER TEMPAV 69.07	WRKFL PRESS 42.0	WRKFL TMPST 81.5	WRKFL TMPIN 128.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 128.0	WRKFL SUPHT 46.5
	HEAT LOAD 1.191D	SAT LMTD 06	MEAS UA 9.86D	WATER REYN NO 04	WATER COEFF 4.518D	COMP COEFF 04	PRED UA 1255.	PERFO RATIO 1002.		TH4	*****	*****
	1.191D	06	12.1	9.86D	04	4.518D	04	1255.	1002.	2.31D	05	0.427
RR 9-17-80 1705 SE	WATER FLOW 315.0	WATER TEMPIN 67.87	WATER TEMPER 75.83	WATER TEMPER 7.96	WATER TEMPAV 71.85	WRKFL PRESS 46.0	WRKFL TMPST 86.1	WRKFL TMPIN 131.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 131.0	WRKFL SUPHT 44.9
	HEAT LOAD 1.252D	SAT LMTD 06	MEAS UA 9.05D	WATER REYN NO 04	WATER COEFF 4.693D	COMP COEFF 04	PRED UA 1276.	PERFO RATIO 983.		TH4	*****	*****
	1.252D	06	13.8	9.05D	04	4.693D	04	1276.	983.	2.31D	05	0.391
RR 9-17-80 1735 SE	WATER FLOW 310.0	WATER TEMPIN 71.68	WATER TEMPER 81.78	WATER TEMPER 10.10	WATER TEMPAV 76.73	WRKFL PRESS 52.0	WRKFL TMPST 92.4	WRKFL TMPIN 119.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 119.0	WRKFL SUPHT 26.6
	HEAT LOAD 1.562D	SAT LMTD 06	MEAS UA 1.03D	WATER REYN NO 05	WATER COEFF 4.927D	COMP COEFF 04	PRED UA 1298.	PERFO RATIO 901.		TH4	*****	*****
	1.562D	06	15.1	1.03D	05	4.927D	04	1298.	901.	2.25D	05	0.459
RR 9-17-80 1755 SE	WATER FLOW 305.0	WATER TEMPIN 72.16	WATER TEMPER 81.30	WATER TEMPER 9.13	WATER TEMPAV 76.73	WRKFL PRESS 52.0	WRKFL TMPST 92.4	WRKFL TMPIN 115.0	WRKFL TMPEX *****	INST IDNT TH3	WRKFL TEMPSH 115.0	WRKFL SUPHT 22.6
	HEAT LOAD 1.390D	SAT LMTD 06	MEAS UA 9.12D	WATER REYN NO 04	WATER COEFF 4.847D	COMP COEFF 04	PRED UA 1281.	PERFO RATIO 944.		TH4	*****	*****
	1.390D	06	15.2	9.12D	04	4.847D	04	1281.	944.	2.28D	05	0.400

RR 9-17-80 1850 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	310.0	73.08	83.09	10.01	78.09	52.0	92.4	116.0	*****	TH3	116.0	23.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	93.13	0.7
	1.549D 06	13.7	1.13D 05	5.014D 04	1308.	904.	2.26D 05	0.498		TM4	83.26	-9.2
										TM3	82.23	-10.2
										TH4	*****	*****
RR 9-17-80 1915 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	315.0	72.31	82.72	10.41	77.51	52.0	92.4	116.0	*****	TH3	116.0	23.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	92.33	-0.1
	1.636D 06	14.3	1.14D 05	5.058D 04	1321.	884.	2.25D 05	0.508		TM4	83.40	-9.0
										TM3	80.26	-12.2
										TH4	*****	*****
RR 9-18-80 1055 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	310.0	61.58	62.24	0.66	61.91	29.0	64.8	69.0	66.0	TH3	69.0	4.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	64.08	-0.8
BELOW LAB RANGE	1.024D 05	2.9	3.52D 04	4.016D 04	1182.	1587.	2.60D 05	0.135		TM4	62.01	-2.8
										TM3	64.69	-0.1
										TH4	66.0	1.2
RR 9-18-80 1230 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	315.0	68.58	74.55	5.97	71.56	40.0	79.2	129.0	80.0	TH3	129.0	49.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	81.11	1.9
BELOW LAB RANGE	9.393D 05	7.2	1.30D 05	4.674D 04	1274.	1092.	2.41D 05	0.540		TM4	72.07	-7.1
										TM3	77.07	-2.1
										TH4	80.0	0.8
RR 9-18-80 1320 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	310.0	72.66	82.44	9.78	77.55	52.0	92.4	141.0	91.0	TH3	141.0	48.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	66.42	-26.0
	1.513D 06	14.3	1.06D 05	4.979D 04	1304.	913.	2.27D 05	0.465		TM4	84.51	-7.9
										TM3	84.18	-8.2
										TH4	91.0	-1.4
RR 9-18-80 1350 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	307.5	76.69	89.57	12.88	83.13	59.0	99.3	147.6	96.0	TH3	147.6	48.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	99.14	-0.2
	1.974D 06	15.3	1.29D 05	5.301D 04	1338.	817.	2.19D 05	0.590		TM4	96.26	-3.1
										TM3	86.77	-12.5
										TH4	96.0	-3.3

RR 9-18-80 1415 SE	WATER FLOW 300.0	WATER TEMPIN 77.49	WATER TEMPER 90.35	WATER TEMPER 12.86	WATER TEMPAV 83.92	WRKFL PRESS 59.0	WRKFL TMPST 99.3	WRKFL TMPIN 148.7	WRKFL TMPEX 97.0	INST IDNT TH3	WRKFL TEMPSH 148.7	WRKFL SUPHT 49.4
	HEAT LOAD 1.923D	SAT LMTD 06	MEAS UA 1.33D	WATER REYN NO 05	WATER COEFF 5.222D	COMP COEFF 04	PRED UA 2.18D	PERFO RATIO 05				
										TM5	99.77	0.5
										TM4	97.00	-2.3
										TM3	88.36	-10.9
										TH4	97.0	-2.3
RR 9-18-80 1605 SE	WATER FLOW 311.6	WATER TEMPIN 70.79	WATER TEMPER 79.61	WATER TEMPER 8.82	WATER TEMPAV 75.20	WRKFL PRESS 48.0	WRKFL TMPST 88.2	WRKFL TMPIN 143.7	WRKFL TMPEX 86.0	INST IDNT TH3	WRKFL TEMPSH 143.7	WRKFL SUPHT 55.5
	HEAT LOAD 1.372D	SAT LMTD 06	MEAS UA 1.10D	WATER REYN NO 05	WATER COEFF 4.855D	COMP COEFF 04	PRED UA 2.29D	PERFO RATIO 05				
										TM5	87.69	-0.5
										TM4	77.67	-10.6
										TM3	80.70	-7.5
										TH4	86.0	-2.2
RR 9-18-80 1625 SE	WATER FLOW 295.1	WATER TEMPIN 72.36	WATER TEMPER 82.01	WATER TEMPER 9.65	WATER TEMPAV 77.19	WRKFL PRESS 50.0	WRKFL TMPST 90.4	WRKFL TMPIN 144.2	WRKFL TMPEX 82.0	INST IDNT TH3	WRKFL TEMPSH 144.2	WRKFL SUPHT 53.8
	HEAT LOAD 1.421D	SAT LMTD 06	MEAS UA 1.13D	WATER REYN NO 05	WATER COEFF 4.718D	COMP COEFF 04	PRED UA 2.24D	PERFO RATIO 05				
										TM5	90.40	0.0
										TM4	80.84	-9.5
										TM3	82.45	-7.9
										TH4	82.0	-8.4
RR 9-18-80 1640 SE	WATER FLOW 298.8	WATER TEMPIN 73.09	WATER TEMPER 83.16	WATER TEMPER 10.07	WATER TEMPAV 78.13	WRKFL PRESS 51.0	WRKFL TMPST 91.4	WRKFL TMPIN 144.9	WRKFL TMPEX 89.0	INST IDNT TH3	WRKFL TEMPSH 144.9	WRKFL SUPHT 53.5
	HEAT LOAD 1.501D	SAT LMTD 06	MEAS UA 1.19D	WATER REYN NO 05	WATER COEFF 4.836D	COMP COEFF 04	PRED UA 2.24D	PERFO RATIO 05				
										TM5	91.97	0.6
										TM4	82.39	-9.0
										TM3	83.53	-7.9
										TH4	89.0	-2.4
RR 9-19-80 1250 SE	WATER FLOW 310.2	WATER TEMPIN 72.52	WATER TEMPER 86.96	WATER TEMPER 14.44	WATER TEMPAV 79.74	WRKFL PRESS 57.0	WRKFL TMPST 97.4	WRKFL TMPIN 150.3	WRKFL TMPEX 96.0	INST IDNT TH3	WRKFL TEMPSH 150.3	WRKFL SUPHT 52.9
	HEAT LOAD 2.234D	SAT LMTD 06	MEAS UA 1.34D	WATER REYN NO 05	WATER COEFF 5.126D	COMP COEFF 04	PRED UA 2.11D	PERFO RATIO 05				
										TM5	97.82	0.4
										TM4	95.48	-1.9
										TM3	87.48	-9.9
										TH4	96.0	-1.4
RR 9-19-80 1305 SE	WATER FLOW 303.6	WATER TEMPIN 73.29	WATER TEMPER 87.70	WATER TEMPER 14.41	WATER TEMPAV 80.50	WRKFL PRESS 58.0	WRKFL TMPST 98.4	WRKFL TMPIN 153.0	WRKFL TMPEX 97.0	INST IDNT TH3	WRKFL TEMPSH 153.0	WRKFL SUPHT 54.6
	HEAT LOAD 2.182D	SAT LMTD 06	MEAS UA 1.30D	WATER REYN NO 05	WATER COEFF 5.065D	COMP COEFF 04	PRED UA 2.11D	PERFO RATIO 05				
										TM5	98.93	0.6
										TM4	94.09	-4.3
										TM3	88.48	-9.9
										TH4	97.0	-1.4

RR 9-19-80 1330 SE	WATER FLOW 304.4	WATER TEMPIN 73.85	WATER TEMPEX 88.45	WATER TEMPRS 14.60	WATER TEMPAV 81.15	WRKFL PRESS 59.0	WRKFL TMPST 99.3	WRKFL TMPIN 152.9	WRKFL TMPEX 97.0	INST IDNT TH3	WRKFL TEMP SH 152.9	WRKFL SUPHT 53.6
	HEAT LOAD 2.216D	SAT LMTD 06	MEAS UA 1.29D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1313.	PRED UA 774.	PERFO RATIO 2.11D				
RR 9-19-80 1400 SE	WATER FLOW 305.8	WATER TEMPIN 73.53	WATER TEMPEX 87.00	WATER TEMPRS 13.47	WATER TEMPAV 80.26	WRKFL PRESS 56.0	WRKFL TMPST 96.4	WRKFL TMPIN 154.3	WRKFL TMPEX 95.0	INST IDNT TH3	WRKFL TEMP SH 154.3	WRKFL SUPHT 57.9
	HEAT LOAD 2.055D	SAT LMTD 06	MEAS UA 1.35D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1311.	PRED UA 803.	PERFO RATIO 2.15D				
RR 9-22-80 1227 SE	WATER FLOW 300.0	WATER TEMPIN 69.86	WATER TEMPEX 83.20	WATER TEMPRS 13.34	WATER TEMPAV 76.53	WRKFL PRESS 50.0	WRKFL TMPST 90.4	WRKFL TMPIN 151.0	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMP SH 151.0	WRKFL SUPHT 60.6
	HEAT LOAD 1.998D	SAT LMTD 06	MEAS UA 1.58D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1263.	PRED UA 813.	PERFO RATIO 2.12D				
RR 9-22-80 1307 SE	WATER FLOW 303.3	WATER TEMPIN 70.25	WATER TEMPEX 83.54	WATER TEMPRS 13.30	WATER TEMPAV 76.89	WRKFL PRESS 50.0	WRKFL TMPST 90.4	WRKFL TMPIN 153.6	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMP SH 153.6	WRKFL SUPHT 63.2
	HEAT LOAD 2.013D	SAT LMTD 06	MEAS UA 1.64D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1277.	PRED UA 810.	PERFO RATIO 2.13D				
RR 9-22-80 1405 SE	WATER FLOW 302.7	WATER TEMPIN 68.48	WATER TEMPEX 79.28	WATER TEMPRS 10.80	WATER TEMPAV 73.88	WRKFL PRESS 45.0	WRKFL TMPST 85.0	WRKFL TMPIN 151.3	WRKFL TMPEX 82.0	INST IDNT TH3	WRKFL TEMP SH 151.3	WRKFL SUPHT 66.3
	HEAT LOAD 1.632D	SAT LMTD 06	MEAS UA 1.61D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1252.	PRED UA 885.	PERFO RATIO 2.19D				
RR 9-22-80 1422 SE	WATER FLOW 302.1	WATER TEMPIN 68.42	WATER TEMPEX 79.34	WATER TEMPRS 10.93	WATER TEMPAV 73.88	WRKFL PRESS 45.0	WRKFL TMPST 85.0	WRKFL TMPIN 152.3	WRKFL TMPEX 84.0	INST IDNT TH3	WRKFL TEMP SH 152.3	WRKFL SUPHT 67.3
	HEAT LOAD 1.648D	SAT LMTD 06	MEAS UA 1.63D	WATER REYN NO 05	WATER COEFF 04	COMP COEFF 1250.	PRED UA 882.	PERFO RATIO 2.18D				

RR 9-22-80 1455 SE	WATER FLOW 301.1	WATER TEMPIN 66.48	WATER TEMPER 73.98	WATER TEMPER 7.50	WATER TEMPAV 70.23	WRKFL PRESS 39.5	WRKFL TMPST 78.6	WRKFL TMPIN 147.1	WRKFL TMPEX 78.0	INST IDNT TH3	WRKFL TEMP SH 147.1	WRKFL SUPHT 68.5
	HEAT LOAD 1.128D 06	SAT LMTD 7.8	MEAS UA 1.45D 05	WATER REYN NO 4.388D 04	WATER COEFF 1219.	COMP COEFF 1023.	PRED UA 2.29D 05	PERFO RATIO 0.636		TH5	78.77	0.2
										TH4	72.33	-6.3
										TH3	75.17	-3.4
										TH4	78.0	-0.6
RR 9-22-80 1510 SE	WATER FLOW 302.0	WATER TEMPIN 65.29	WATER TEMPER 72.62	WATER TEMPER 7.33	WATER TEMPAV 68.96	WRKFL PRESS 38.0	WRKFL TMPST 76.8	WRKFL TMPIN 145.6	WRKFL TMPEX 76.0	INST IDNT TH3	WRKFL TEMP SH 145.6	WRKFL SUPHT 68.8
	HEAT LOAD 1.106D 06	SAT LMTD 7.2	MEAS UA 1.54D 05	WATER REYN NO 4.325D 04	WATER COEFF 1212.	COMP COEFF 1030.	PRED UA 2.29D 05	PERFO RATIO 0.673		TH5	77.51	0.8
										TH4	70.89	-5.9
										TH3	73.71	-3.0
										TH4	76.0	-0.8
RR 9-22-80 1540 SE	WATER FLOW 298.9	WATER TEMPIN 64.42	WATER TEMPER 71.84	WATER TEMPER 7.42	WATER TEMPAV 68.13	WRKFL PRESS 38.0	WRKFL TMPST 76.8	WRKFL TMPIN 144.9	WRKFL TMPEX 76.0	INST IDNT TH3	WRKFL TEMP SH 144.9	WRKFL SUPHT 68.1
	HEAT LOAD 1.108D 06	SAT LMTD 8.1	MEAS UA 1.37D 05	WATER REYN NO 4.232D 04	WATER COEFF 1196.	COMP COEFF 1029.	PRED UA 2.27D 05	PERFO RATIO 0.606		TH5	76.96	0.2
										TH4	70.62	-6.1
										TH3	73.17	-3.6
										TH4	76.0	-0.8
RR 9-22-80 1635 SE	WATER FLOW 300.0	WATER TEMPIN 59.45	WATER TEMPER 63.94	WATER TEMPER 4.48	WATER TEMPAV 61.70	WRKFL PRESS 30.0	WRKFL TMPST 66.2	WRKFL TMPIN 136.0	WRKFL TMPEX 67.0	INST IDNT TH3	WRKFL TEMP SH 136.0	WRKFL SUPHT 69.8
	HEAT LOAD 6.732D 05	SAT LMTD 4.2	MEAS UA 1.62D 05	WATER REYN NO 3.875D 04	WATER COEFF 1150.	COMP COEFF 1213.	PRED UA 2.35D 05	PERFO RATIO 0.689		TH5	84.84	18.6
BELOW LAB RANGE										TH4	61.97	-4.3
										TH3	66.20	-0.1
										TH4	67.0	0.8
RR 9-22-80 1655 SE	WATER FLOW 294.9	WATER TEMPIN 58.86	WATER TEMPER 63.09	WATER TEMPER 4.24	WATER TEMPAV 60.98	WRKFL PRESS 30.0	WRKFL TMPST 66.2	WRKFL TMPIN 136.1	WRKFL TMPEX 66.0	INST IDNT TH3	WRKFL TEMP SH 136.1	WRKFL SUPHT 69.9
	HEAT LOAD 6.255D 05	SAT LMTD 5.0	MEAS UA 1.26D 05	WATER REYN NO 3.769D 04	WATER COEFF 1129.	COMP COEFF 1238.	PRED UA 2.34D 05	PERFO RATIO 0.538		TH5	85.25	19.0
BELOW LAB RANGE										TH4	61.38	-4.9
										TH3	65.37	-0.9
										TH4	66.0	-0.2
RR 9-22-80 1710 SE	WATER FLOW 300.8	WATER TEMPIN 58.65	WATER TEMPER 62.87	WATER TEMPER 4.22	WATER TEMPAV 60.76	WRKFL PRESS 30.0	WRKFL TMPST 66.2	WRKFL TMPIN 134.9	WRKFL TMPEX 65.0	INST IDNT TH3	WRKFL TEMP SH 134.9	WRKFL SUPHT 68.7
	HEAT LOAD 6.360D 05	SAT LMTD 5.2	MEAS UA 1.22D 05	WATER REYN NO 3.833D 04	WATER COEFF 1146.	COMP COEFF 1233.	PRED UA 2.35D 05	PERFO RATIO 0.519		TH5	84.95	18.7
BELOW LAB RANGE										TH4	61.09	-5.2
										TH3	65.16	-1.1
										TH4	65.0	-1.2

RR 9-22-80 1730 SE	WATER FLOW 298.4	WATER TEMPIN 58.30	WATER TEMPEX 62.55	WATER TEMPRS 4.25	WATER TEMPAV 60.42	WRKFL PRESS 30.0	WRKFL TMPST 66.2	WRKFL TMPIN 135.1	WRKFL TMPEX 66.0	INST IDNT TH3	WRKFL TEMP SH 135.1	WRKFL SUPHT 68.9
										TM5	84.55	18.3
										TM4	60.74	-5.5
										TM3	64.88	-1.4
										TH4	66.0	-0.2
BELOW LAB RANGE	HEAT LOAD 6.352D	SAT LMTD 05	MEAS UA 1.14D	WATER REYN NO 05	WATER COEFF 3.783D	COMP COEFF 04	PRED UA 1136.	PERFO RATIO 1233.				
RR 9-22-80 1830 SE	WATER FLOW 151.9	WATER TEMPIN 69.21	WATER TEMPEX 96.33	WATER TEMPRS 27.12	WATER TEMPAV 82.77	WRKFL PRESS 63.0	WRKFL TMPST 103.0	WRKFL TMPIN 155.5	WRKFL TMPEX 100.0	INST IDNT TH3	WRKFL TEMP SH 155.5	WRKFL SUPHT 52.5
										TM5	103.76	0.7
										TM4	101.16	-1.9
										TM3	96.18	-6.8
										TH4	100.0	-3.0
	HEAT LOAD 2.056D	SAT LMTD 06	MEAS UA 16.7	WATER REYN NO 05	WATER COEFF 2.609D	COMP COEFF 04	PRED UA 760.	PERFO RATIO 803.				
RR 9-22-80 1845 SE	WATER FLOW 151.8	WATER TEMPIN 69.54	WATER TEMPEX 96.78	WATER TEMPRS 27.24	WATER TEMPAV 83.16	WRKFL PRESS 63.0	WRKFL TMPST 103.0	WRKFL TMPIN 155.1	WRKFL TMPEX 101.0	INST IDNT TH3	WRKFL TEMP SH 155.1	WRKFL SUPHT 52.1
										TM5	103.88	0.9
										TM4	101.22	-1.8
										TM3	96.90	-6.1
										TH4	101.0	-2.0
	HEAT LOAD 2.063D	SAT LMTD 06	MEAS UA 16.2	WATER REYN NO 05	WATER COEFF 2.620D	COMP COEFF 04	PRED UA 762.	PERFO RATIO 801.				
RR 9-23-80 1305 SE	WATER FLOW 151.5	WATER TEMPIN 69.99	WATER TEMPEX 89.54	WATER TEMPRS 19.55	WATER TEMPAV 79.76	WRKFL PRESS 54.0	WRKFL TMPST 94.4	WRKFL TMPIN 152.8	WRKFL TMPEX 92.0	INST IDNT TH3	WRKFL TEMP SH 152.8	WRKFL SUPHT 58.4
										TM5	94.57	0.1
										TM4	92.92	-1.5
										TM3	87.76	-6.7
										TH4	92.0	-2.4
	HEAT LOAD 1.478D	SAT LMTD 06	MEAS UA 12.2	WATER REYN NO 05	WATER COEFF 2.505D	COMP COEFF 04	PRED UA 745.	PERFO RATIO 921.				
RR 9-23-80 1320 SE	WATER FLOW 151.5	WATER TEMPIN 69.68	WATER TEMPEX 89.24	WATER TEMPRS 19.56	WATER TEMPAV 79.46	WRKFL PRESS 54.0	WRKFL TMPST 94.4	WRKFL TMPIN 152.6	WRKFL TMPEX 92.0	INST IDNT TH3	WRKFL TEMP SH 152.6	WRKFL SUPHT 58.2
										TM5	94.37	-0.1
										TM4	92.70	-1.7
										TM3	87.53	-6.9
										TH4	92.0	-2.4
	HEAT LOAD 1.478D	SAT LMTD 06	MEAS UA 12.5	WATER REYN NO 05	WATER COEFF 2.495D	COMP COEFF 04	PRED UA 744.	PERFO RATIO 921.				
RR 9-23-80 1417 SE	WATER FLOW 149.0	WATER TEMPIN 66.66	WATER TEMPEX 81.25	WATER TEMPRS 14.59	WATER TEMPAV 73.95	WRKFL PRESS 45.0	WRKFL TMPST 85.0	WRKFL TMPIN 150.9	WRKFL TMPEX 84.0	INST IDNT TH3	WRKFL TEMP SH 150.9	WRKFL SUPHT 65.9
										TM5	85.30	0.3
										TM4	83.22	-1.7
										TM3	79.45	-5.5
										TH4	84.0	-1.0
	HEAT LOAD 1.086D	SAT LMTD 06	MEAS UA 9.1	WATER REYN NO 05	WATER COEFF 2.284D	COMP COEFF 04	PRED UA 711.	PERFO RATIO 1037.				

RR 9-23-80 1458 SE	WATER FLOW 149.0	WATER TEMPIN 65.76	WATER TEMPEX 79.79	WATER TEMPRS 14.03	WATER TEMPAV 72.77	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 151.1	WRKFL TMPEX 82.5	INST IDNT TH3	WRKFL TEMPSH 151.1	WRKFL SUPHT 67.3
	HEAT LOAD 1.044D	SAT LMTD 06	MEAS UA 1.11D	WATER REYN NO 05	WATER COEFF 2.248D	COMP COEFF 04	PRED UA 705.	PERFO RATIO 1052.				
BELOW LAB RANGE												
RR 9-23-80 1511 SE	WATER FLOW 149.0	WATER TEMPIN 65.93	WATER TEMPEX 79.96	WATER TEMPRS 14.03	WATER TEMPAV 72.95	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 150.2	WRKFL TMPEX 82.5	INST IDNT TH3	WRKFL TEMPSH 150.2	WRKFL SUPHT 66.4
	HEAT LOAD 1.044D	SAT LMTD 06	MEAS UA 1.14D	WATER REYN NO 05	WATER COEFF 2.254D	COMP COEFF 04	PRED UA 706.	PERFO RATIO 1052.				
BELOW LAB RANGE												
RR 9-23-80 1655 SE	WATER FLOW 147.0	WATER TEMPIN 59.99	WATER TEMPEX 67.78	WATER TEMPRS 7.79	WATER TEMPAV 63.89	WRKFL PRESS 34.0	WRKFL TMPST 71.7	WRKFL TMPIN 165.3	WRKFL TMPEX 70.0	INST IDNT TH3	WRKFL TEMPSH 165.3	WRKFL SUPHT 93.6
	HEAT LOAD 5.726D	SAT LMTD 05	MEAS UA 8.07D	WATER REYN NO 04	WATER COEFF 1.960D	COMP COEFF 04	PRED UA 660.	PERFO RATIO 1267.				
BELOW LAB RANGE												
RR 9-23-80 1710 SE	WATER FLOW 147.0	WATER TEMPIN 59.81	WATER TEMPEX 67.60	WATER TEMPRS 7.79	WATER TEMPAV 63.71	WRKFL PRESS 33.5	WRKFL TMPST 71.0	WRKFL TMPIN 134.5	WRKFL TMPEX 70.0	INST IDNT TH3	WRKFL TEMPSH 134.5	WRKFL SUPHT 63.5
	HEAT LOAD 5.732D	SAT LMTD 05	MEAS UA 8.74D	WATER REYN NO 04	WATER COEFF 1.955D	COMP COEFF 04	PRED UA 659.	PERFO RATIO 1267.				
BELOW LAB RANGE												
RR 9-24-80 1040 SE	WATER FLOW 75.0	WATER TEMPIN 73.98	WATER TEMPEX 127.11	WATER TEMPRS 53.13	WATER TEMPAV 100.55	WRKFL PRESS 100.0	WRKFL TMPST 131.7	WRKFL TMPIN 154.1	WRKFL TMPEX 127.0	INST IDNT TH3	WRKFL TEMPSH 154.1	WRKFL SUPHT 22.4
	HEAT LOAD 1.986D	SAT LMTD 06	MEAS UA 9.44D	WATER REYN NO 04	WATER COEFF 1.586D	COMP COEFF 04	PRED UA 476.	PERFO RATIO 815.				
BELOW LAB RANGE												
RR 9-24-80 1115 SE	WATER FLOW 73.5	WATER TEMPIN 74.39	WATER TEMPEX 124.78	WATER TEMPRS 50.39	WATER TEMPAV 99.58	WRKFL PRESS 96.0	WRKFL TMPST 129.0	WRKFL TMPIN 159.5	WRKFL TMPEX 124.0	INST IDNT TH3	WRKFL TEMPSH 159.5	WRKFL SUPHT 30.5
	HEAT LOAD 1.846D	SAT LMTD 06	MEAS UA 9.37D	WATER REYN NO 04	WATER COEFF 1.538D	COMP COEFF 04	PRED UA 466.	PERFO RATIO 841.				
BELOW LAB RANGE												

RR 9-24-80 1250 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	73.5	71.64	110.22	38.58	90.93	75.0	113.3	158.7	110.0	TH3	158.7	45.4
										TM5	113.49	0.2
										TM4	111.90	-1.4
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	111.03	-2.3
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	110.0	-3.3
	1.414D 06	14.8	9.54D 04	1.394D 04	445.	937.		1.10D 05	0.870			
RR 9-24-80 1308 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	73.5	71.30	109.89	38.59	90.60	74.5	112.9	158.8	110.0	TH3	158.8	45.9
										TM5	113.25	0.3
										TM4	111.66	-1.2
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	110.00	-2.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	110.0	-2.9
	1.414D 06	14.7	9.62D 04	1.388D 04	444.	937.		1.09D 05	0.880			
RR 9-24-80 1403 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	73.5	67.55	94.64	27.09	81.10	57.0	97.4	152.2	94.5	TH3	152.2	54.8
										TM5	97.35	-0.0
										TM4	95.72	-1.7
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	91.98	-5.4
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	94.5	-2.9
BELOW LAB RANGE	9.938D 05	11.4	8.75D 04	1.236D 04	421.	1071.		1.08D 05	0.813			
RR 9-24-80 1530 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	73.0	64.13	79.17	15.04	71.65	42.0	81.5	138.0	80.0	TH3	138.0	56.5
										TM5	92.82	11.3
										TM4	79.28	-2.3
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	76.30	-5.2
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	80.0	-1.5
BELOW LAB RANGE	5.485D 05	7.5	7.27D 04	1.085D 04	396.	1281.		1.05D 05	0.692			
RR 9-24-80 1550 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	73.0	63.94	78.99	15.04	71.46	42.0	81.5	139.7	80.0	TH3	139.7	58.2
										TM5	90.17	8.6
										TM4	79.04	-2.5
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	75.96	-5.6
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	80.0	-1.5
BELOW LAB RANGE	5.486D 05	7.8	7.04D 04	1.082D 04	395.	1280.		1.05D 05	0.671			
RR 9-30-80 1450 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	234.0	78.86	95.16	16.31	87.01	60.0	100.2	153.5	98.0	TH3	153.5	53.3
VENT										TM5	100.27	0.0
										TM4	99.07	-1.2
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TM3	98.52	-1.7
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	98.0	-2.2
	1.901D 06	11.3	1.68D 05	4.230D 04	1099.	831.		1.98D 05	0.847			

RR 9-30-80 1540 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	234.0	79.30	95.49	16.19	87.39	60.5	100.7	153.3	98.0	TH3	153.3	52.6
										TH5	100.54	-0.2
										TH4	99.37	-1.3
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	98.76	-2.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	98.0	-2.7
	1.887D	06	11.5	1.64D	05	4.249D	04	1102.	833.	1.98D	05	0.830
RR 9-30-80 1703 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	292.0	79.90	93.18	13.28	86.54	58.0	98.4	156.3	96.0	TH3	156.3	57.9
										TH5	98.70	0.3
										TH4	97.48	-0.9
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	96.87	-1.5
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	96.0	-2.4
	1.931D	06	10.4	1.85D	05	5.247D	04	1309.	825.	2.17D	05	0.851
RR 9-30-80 1723 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	292.0	79.66	93.00	13.34	86.33	58.5	98.8	156.8	96.0	TH3	156.8	58.0
										TH5	98.50	-0.3
										TH4	97.27	-1.6
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	96.69	-2.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	96.0	-2.8
	1.941D	06	11.2	1.73D	05	5.234D	04	1307.	823.	2.17D	05	0.799
RR 9-30-80 1808 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	292.0	78.87	92.22	13.36	85.55	57.0	97.4	156.2	95.0	TH3	156.2	58.8
										TH5	97.66	0.3
										TH4	96.46	-0.9
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	95.87	-1.5
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	95.0	-2.4
	1.943D	06	10.5	1.86D	05	5.185D	04	1302.	823.	2.16D	05	0.858
RR 9-30-80 1822 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	292.0	78.98	92.29	13.31	85.63	57.0	97.4	156.5	95.0	TH3	156.5	59.1
										TH5	97.72	0.3
										TH4	96.55	-0.8
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	95.93	-1.5
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	95.0	-2.4
	1.937D	06	10.4	1.87D	05	5.190D	04	1302.	824.	2.17D	05	0.862
RR 10-01-80 1008 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	291.0	73.04	83.43	10.40	78.23	46.5	86.6	160.4	86.0	TH3	160.4	73.8
										TH5	87.39	0.8
										TH4	86.10	-0.5
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	85.65	-1.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	86.0	-0.6
	1.509D	06	7.2	2.11D	05	4.716D	04	1245.	913.	2.21D	05	0.953

RR 10-01-80 1024 SE	WATER FLOW 291.0	WATER TEMPIN 73.27	WATER TEMPEX 83.62	WATER TEMPRS 10.35	WATER TEMPAV 78.45	WRKFL PRESS 46.5	WRKFL TMPST 86.6	WRKFL TMPIN 160.4	WRKFL TMPEX 86.0	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 160.4 87.55 86.27 85.87 86.0	WRKFL SUPHT 73.8 0.9 -0.3 -0.7 -0.6
	HEAT LOAD 1.503D 06	SAT LMTD 6.9	MEAS UA 2.17D 05	WATER REYN NO 4.729D 04	WATER COEFF 1246.	COMP COEFF 915.	PRED UA 2.21D 05	PERFO RATIO 0.981				
RR 10-01-80 1120 SE	WATER FLOW 49.5	WATER TEMPIN 71.79	WATER TEMPEX 122.48	WATER TEMPRS 50.69	WATER TEMPAV 97.14	WRKFL PRESS 90.0	WRKFL TMPST 124.8	WRKFL TMPIN 168.5	WRKFL TMPEX 120.5	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 168.5 125.32 123.64 123.27 120.5	WRKFL SUPHT 43.7 0.5 -1.1 -1.5 -4.3
	HEAT LOAD 1.251D 06	SAT LMTD 16.1	MEAS UA 7.75D 04	WATER REYN NO 1.008D 04	WATER COEFF 335.	COMP COEFF 983.	PRED UA 8.76D 04	PERFO RATIO 0.884				
RR 10-01-80 1135 SE	WATER FLOW 49.5	WATER TEMPIN 71.69	WATER TEMPEX 122.95	WATER TEMPRS 51.26	WATER TEMPAV 97.32	WRKFL PRESS 90.0	WRKFL TMPST 124.8	WRKFL TMPIN 169.6	WRKFL TMPEX 120.5	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 169.6 125.61 124.01 123.65 120.5	WRKFL SUPHT 44.8 0.8 -0.8 -1.1 -4.3
	HEAT LOAD 1.265D 06	SAT LMTD 15.2	MEAS UA 8.32D 04	WATER REYN NO 1.010D 04	WATER COEFF 336.	COMP COEFF 979.	PRED UA 8.77D 04	PERFO RATIO 0.949				
RR 10-01-80 1242 SE	WATER FLOW 18.0	WATER TEMPIN 70.93	WATER TEMPEX 153.87	WATER TEMPRS 82.95	WATER TEMPAV 112.40	WRKFL PRESS 142.0	WRKFL TMPST 156.7	WRKFL TMPIN 177.7	WRKFL TMPEX 151.0	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 177.7 157.05 154.87 154.37 151.0	WRKFL SUPHT 21.0 0.3 -1.8 -2.4 -5.7
BELOW LAB RANGE	7.445D 05	24.3	3.06D 04	4.312D 03	161.	1178.	4.64D 04	0.658				
RR 10-01-80 1258 SE	WATER FLOW 18.0	WATER TEMPIN 71.01	WATER TEMPEX 154.13	WATER TEMPRS 83.12	WATER TEMPAV 112.57	WRKFL PRESS 142.0	WRKFL TMPST 156.7	WRKFL TMPIN 178.3	WRKFL TMPEX 151.0	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 178.3 157.32 155.13 154.63 151.0	WRKFL SUPHT 21.6 0.6 -1.6 -2.1 -5.7
BELOW LAB RANGE	7.460D 05	23.7	3.14D 04	4.320D 03	161.	1177.	4.65D 04	0.676				
RR 10-02-80 1026 SE	WATER FLOW 290.0	WATER TEMPIN 72.12	WATER TEMPEX 85.36	WATER TEMPRS 13.23	WATER TEMPAV 78.74	WRKFL PRESS 50.0	WRKFL TMPST 90.4	WRKFL TMPIN 156.5	WRKFL TMPEX 90.0	INST IDNT TH3 TH5 TH4 TH3 TH4	WRKFL TEMPSH 156.5 91.41 90.15 89.52 90.0	WRKFL SUPHT 66.1 1.1 -0.2 -0.8 -0.4
	HEAT LOAD 1.915D 06	SAT LMTD 10.2	MEAS UA 1.87D 05	WATER REYN NO 4.731D 04	WATER COEFF 1245.	COMP COEFF 828.	PRED UA 2.12D 05	PERFO RATIO 0.884				

RR 10-02-80 1044 SE	WATER FLOW 290.0	WATER TEMPIN 73.06	WATER TEMPEX 86.31	WATER TEMPRS 13.25	WATER TEMPAV 79.68	WRKFL PRESS 51.0	WRKFL TMPST 91.4	WRKFL TMPIN 156.5	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMPSH 156.5	WRKFL SUPHT 65.1
	HEAT LOAD 1.917D	SAT LMTD 06	MEAS UA 1.85D	WATER REYN NO 05	WATER COEFF 4.788D	COMP COEFF 04	PRED UA 2.12D	PERFO RATIO 05	0.873	TH5	92.12	0.7
										TH4	90.93	-0.5
										TH3	90.44	-1.0
										TH4	90.0	-1.4
RR 10-02-80 1153 SE	WATER FLOW 290.0	WATER TEMPIN 72.01	WATER TEMPEX 82.64	WATER TEMPRS 10.63	WATER TEMPAV 77.32	WRKFL PRESS 47.0	WRKFL TMPST 87.2	WRKFL TMPIN 123.0	WRKFL TMPEX 86.0	INST IDNT TH3	WRKFL TEMPSH 123.0	WRKFL SUPHT 35.8
TURBINE ON	HEAT LOAD 1.538D	SAT LMTD 06	MEAS UA 1.75D	WATER REYN NO 05	WATER COEFF 4.645D	COMP COEFF 04	PRED UA 2.19D	PERFO RATIO 05	0.798	TH5	87.30	0.1
										TH4	85.95	-1.2
										TH3	83.98	-3.2
										TH4	86.0	-1.2
RR 10-02-80 1201 SE	WATER FLOW 290.0	WATER TEMPIN 71.97	WATER TEMPEX 82.61	WATER TEMPRS 10.64	WATER TEMPAV 77.29	WRKFL PRESS 47.0	WRKFL TMPST 87.2	WRKFL TMPIN 122.8	WRKFL TMPEX 86.0	INST IDNT TH3	WRKFL TEMPSH 122.8	WRKFL SUPHT 35.6
TURBINE ON	HEAT LOAD 1.540D	SAT LMTD 06	MEAS UA 1.75D	WATER REYN NO 05	WATER COEFF 4.643D	COMP COEFF 04	PRED UA 2.19D	PERFO RATIO 05	0.796	TH5	87.29	0.1
										TH4	85.94	-1.2
										TH3	83.89	-3.3
										TH4	86.0	-1.2
RR 10-02-80 1240 SE	WATER FLOW 290.0	WATER TEMPIN 73.36	WATER TEMPEX 84.87	WATER TEMPRS 11.52	WATER TEMPAV 79.12	WRKFL PRESS 49.5	WRKFL TMPST 89.8	WRKFL TMPIN 125.7	WRKFL TMPEX 89.0	INST IDNT TH3	WRKFL TEMPSH 125.7	WRKFL SUPHT 35.9
TURBINE ON	HEAT LOAD 1.666D	SAT LMTD 06	MEAS UA 1.74D	WATER REYN NO 05	WATER COEFF 4.753D	COMP COEFF 04	PRED UA 2.18D	PERFO RATIO 05	0.798	TH5	89.99	0.2
										TH4	88.67	-1.2
										TH3	86.65	-3.2
										TH4	89.0	-0.8
RR 10-02-80 1348 SE	WATER FLOW 290.0	WATER TEMPIN 75.11	WATER TEMPEX 86.94	WATER TEMPRS 11.83	WATER TEMPAV 81.02	WRKFL PRESS 51.5	WRKFL TMPST 91.9	WRKFL TMPIN 126.8	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMPSH 126.8	WRKFL SUPHT 34.9
TURBINE ON	HEAT LOAD 1.711D	SAT LMTD 06	MEAS UA 1.76D	WATER REYN NO 05	WATER COEFF 4.870D	COMP COEFF 04	PRED UA 2.18D	PERFO RATIO 05	0.808	TH5	92.15	0.2
										TH4	90.78	-1.1
										TH3	89.07	-2.8
										TH4	90.0	-1.9
RR 10-02-80 1428 SE	WATER FLOW 290.0	WATER TEMPIN 75.52	WATER TEMPEX 87.40	WATER TEMPRS 11.88	WATER TEMPAV 81.46	WRKFL PRESS 52.0	WRKFL TMPST 92.4	WRKFL TMPIN 127.2	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMPSH 127.2	WRKFL SUPHT 34.8
TURBINE ON	HEAT LOAD 1.717D	SAT LMTD 06	MEAS UA 1.75D	WATER REYN NO 05	WATER COEFF 4.896D	COMP COEFF 04	PRED UA 2.18D	PERFO RATIO 05	0.804	TH5	92.32	-0.1
										TH4	91.09	-1.3
										TH3	90.79	-1.6
										TH4	90.0	-2.4

RR 10-02-80 1755 SE	WATER FLOW 290.0	WATER TEMPIN 75.37	WATER TEMPEX 87.25	WATER TEMPRS 11.89	WATER TEMPAV 81.31	WRKFL PRESS 52.0	WRKFL TMPST 92.4	WRKFL TMPIN 126.8	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMP SH 126.8	WRKFL SUPHT 34.4
TURBINE ON	HEAT LOAD 1.719D 06	SAT LMTD 10.0	MEAS UA 1.73D 05	WATER REYN NO 4.887D 04	WATER COEFF 1264.	COMP COEFF 867.	PRED UA 2.18D 05	PERFO RATIO 0.792		TM5 92.17		-0.3
										TM4 90.95		-1.5
										TM3 90.56		-1.9
										TH4 90.0		-2.4
RR 10-03-80 1115 SE	WATER FLOW 291.0	WATER TEMPIN 75.03	WATER TEMPEX 88.13	WATER TEMPRS 13.10	WATER TEMPAV 81.58	WRKFL PRESS 53.0	WRKFL TMPST 93.4	WRKFL TMPIN 157.0	WRKFL TMPEX 91.0	INST IDNT TH3	WRKFL TEMP SH 157.0	WRKFL SUPHT 63.6
	HEAT LOAD 1.900D 06	SAT LMTD 10.5	MEAS UA 1.80D 05	WATER REYN NO 4.921D 04	WATER COEFF 1269.	COMP COEFF 831.	PRED UA 2.14D 05	PERFO RATIO 0.841		TM5 93.57		0.1
										TM4 92.38		-1.1
										TM3 91.96		-1.5
										TH4 91.0		-2.4
RR 10-03-80 1310 SE	WATER FLOW 291.0	WATER TEMPIN 75.58	WATER TEMPEX 87.34	WATER TEMPRS 11.76	WATER TEMPAV 81.46	WRKFL PRESS 51.5	WRKFL TMPST 91.9	WRKFL TMPIN 126.9	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMP SH 126.9	WRKFL SUPHT 35.0
TURBINE ON	HEAT LOAD 1.706D 06	SAT LMTD 9.2	MEAS UA 1.85D 05	WATER REYN NO 4.913D 04	WATER COEFF 1268.	COMP COEFF 869.	PRED UA 2.19D 05	PERFO RATIO 0.845		TM5 92.04		0.1
										TM4 90.88		-1.0
										TM3 90.66		-1.3
										TH4 90.0		-1.9
RR 10-06-80 1127 SE	WATER FLOW 290.0	WATER TEMPIN 73.59	WATER TEMPEX 85.64	WATER TEMPRS 12.05	WATER TEMPAV 79.62	WRKFL PRESS 52.0	WRKFL TMPST 92.4	WRKFL TMPIN 197.0	WRKFL TMPEX 92.0	INST IDNT TH3	WRKFL TEMP SH 197.0	WRKFL SUPHT 104.6
	HEAT LOAD 1.743D 06	SAT LMTD 11.8	MEAS UA 1.48D 05	WATER REYN NO 4.784D 04	WATER COEFF 1252.	COMP COEFF 862.	PRED UA 2.16D 05	PERFO RATIO 0.683		TM5 93.71		1.3
										TM4 90.51		-1.9
										TM3 91.48		-0.9
										TH4 92.0		-0.4
RR 10-06-80 1300 SE	WATER FLOW 290.0	WATER TEMPIN 76.46	WATER TEMPEX 89.55	WATER TEMPRS 13.09	WATER TEMPAV 83.01	WRKFL PRESS 54.0	WRKFL TMPST 94.4	WRKFL TMPIN 154.7	WRKFL TMPEX 94.0	INST IDNT TH3	WRKFL TEMP SH 154.7	WRKFL SUPHT 60.3
	HEAT LOAD 1.893D 06	SAT LMTD 10.1	MEAS UA 1.88D 05	WATER REYN NO 4.992D 04	WATER COEFF 1276.	COMP COEFF 832.	PRED UA 2.15D 05	PERFO RATIO 0.875		TM5 95.27		0.8
										TM4 93.91		-0.5
										TM3 93.22		-1.2
										TH4 94.0		-0.4
RR 10-06-80 1440 SE	WATER FLOW 290.0	WATER TEMPIN 75.10	WATER TEMPEX 86.78	WATER TEMPRS 11.68	WATER TEMPAV 80.94	WRKFL PRESS 51.0	WRKFL TMPST 91.4	WRKFL TMPIN 126.6	WRKFL TMPEX 90.0	INST IDNT TH3	WRKFL TEMP SH 126.6	WRKFL SUPHT 35.2
TURBINE ON	HEAT LOAD 1.689D 06	SAT LMTD 9.3	MEAS UA 1.82D 05	WATER REYN NO 4.864D 04	WATER COEFF 1261.	COMP COEFF 873.	PRED UA 2.18D 05	PERFO RATIO 0.835		TM5 91.87		0.5
										TM4 90.57		-0.8
										TM3 90.20		-1.2
										TH4 90.0		-1.4

RR 10-06-80 1550 SE	WATER FLOW 290.0	WATER TEMPIN 74.71	WATER TEMPEX 85.99	WATER TEMPRS 11.28	WATER TEMPAV 80.35	WRKFL PRESS 50.0	WRKFL TMPST 90.4	WRKFL TMPIN 125.5	WRKFL TMPEX 89.0	INST IDNT TH3	WRKFL TEMP SH 125.5	WRKFL SUPHT 35.1
TURBINE ON	HEAT LOAD 1.631D 06	SAT LMTD 8.8	MEAS UA 1.85D 05	WATER REYN NO 4.828D 04	WATER COEFF 1257.	COMP COEFF 885.	PRED UA 2.19D 05	PERFO RATIO 0.841		TH5	90.80	0.4
										TH4	89.55	-0.8
										TH3	89.69	-0.7
										TH4	89.0	-1.4
RR 10-15-80 1340 SE	WATER FLOW 300.0	WATER TEMPIN 65.56	WATER TEMPEX 76.83	WATER TEMPRS 11.28	WATER TEMPAV 71.20	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 125.2	WRKFL TMPEX 83.0	INST IDNT TH3	WRKFL TEMP SH 125.2	WRKFL SUPHT 41.4
	HEAT LOAD 1.690D 06	SAT LMTD 11.7	MEAS UA 1.44D 05	WATER REYN NO 4.431D 04	WATER COEFF 1223.	COMP COEFF 873.	PRED UA 2.15D 05	PERFO RATIO 0.670		TH5	84.16	0.3
										TH4	75.94	-7.9
										TH3	76.05	-7.8
										TH4	83.0	-0.8
RR 10-15-80 1505 SE	WATER FLOW 300.0	WATER TEMPIN 65.09	WATER TEMPEX 77.15	WATER TEMPRS 12.05	WATER TEMPAV 71.12	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 124.9	WRKFL TMPEX 83.0	INST IDNT TH3	WRKFL TEMP SH 124.9	WRKFL SUPHT 41.1
	HEAT LOAD 1.807D 06	SAT LMTD 11.7	MEAS UA 1.54D 05	WATER REYN NO 4.427D 04	WATER COEFF 1222.	COMP COEFF 849.	PRED UA 2.12D 05	PERFO RATIO 0.729		TH5	84.14	0.3
										TH4	76.91	-6.9
										TH3	76.14	-7.7
										TH4	83.0	-0.8
RR 10-15-80 1620 SE	WATER FLOW 300.0	WATER TEMPIN 65.81	WATER TEMPEX 77.36	WATER TEMPRS 11.55	WATER TEMPAV 71.58	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 126.5	WRKFL TMPEX 82.0	INST IDNT TH3	WRKFL TEMP SH 126.5	WRKFL SUPHT 42.7
	HEAT LOAD 1.731D 06	SAT LMTD 11.3	MEAS UA 1.53D 05	WATER REYN NO 4.454D 04	WATER COEFF 1226.	COMP COEFF 864.	PRED UA 2.14D 05	PERFO RATIO 0.717		TH5	83.21	-0.6
										TH4	81.38	-2.4
										TH3	76.96	-6.9
										TH4	82.0	-1.8
RR 10-15-80 1645 SE	WATER FLOW 282.0	WATER TEMPIN 65.82	WATER TEMPEX 77.95	WATER TEMPRS 12.13	WATER TEMPAV 71.89	WRKFL PRESS 44.0	WRKFL TMPST 83.8	WRKFL TMPIN 126.0	WRKFL TMPEX 83.0	INST IDNT TH3	WRKFL TEMP SH 126.0	WRKFL SUPHT 42.2
	HEAT LOAD 1.708D 06	SAT LMTD 10.8	MEAS UA 1.58D 05	WATER REYN NO 4.204D 04	WATER COEFF 1169.	COMP COEFF 869.	PRED UA 2.09D 05	PERFO RATIO 0.755		TH5	84.08	0.2
										TH4	82.32	-1.5
										TH3	77.55	-6.3
										TH4	83.0	-0.8
RR 10-16-80 1115 SE	WATER FLOW 294.0	WATER TEMPIN 64.70	WATER TEMPEX 75.70	WATER TEMPRS 11.00	WATER TEMPAV 70.20	WRKFL PRESS 42.0	WRKFL TMPST 81.5	WRKFL TMPIN 134.1	WRKFL TMPEX 80.5	INST IDNT TH3	WRKFL TEMP SH 134.1	WRKFL SUPHT 52.6
	HEAT LOAD 1.616D 06	SAT LMTD 10.4	MEAS UA 1.56D 05	WATER REYN NO 4.284D 04	WATER COEFF 1196.	COMP COEFF 889.	PRED UA 2.14D 05	PERFO RATIO 0.729		TH5	82.04	0.5
										TH4	80.27	-1.3
										TH3	74.99	-6.6
										TH4	80.5	-1.0

RR 10-16-80 1243 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	65.63	77.30	11.67	71.46	43.0	82.7	130.2	82.0	TH3	130.2	47.5
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	83.10	0.4
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	81.83	-0.9
	1.714D 06	10.1	1.69D 05	4.358D 04	1205.	868.		2.12D 05	0.797	TH3	74.98	-7.7
RR 10-16-80 1400 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	66.51	78.55	12.04	72.53	44.5	84.4	126.0	84.0	TH3	126.0	41.6
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	84.45	0.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	83.15	-1.2
	1.768D 06	10.8	1.64D 05	4.421D 04	1213.	857.		2.12D 05	0.775	TH3	78.28	-6.1
RR 10-16-80 1510 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	66.58	78.08	11.50	72.33	43.8	83.6	129.4	83.0	TH3	129.4	45.8
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	83.76	0.2
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	82.27	-1.3
	1.688D 06	10.2	1.65D 05	4.410D 04	1212.	873.		2.14D 05	0.774	TH3	77.77	-5.8
RR 10-17-80 1240 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	61.25	70.41	9.16	65.83	38.0	76.8	131.7	75.0	TH3	131.7	54.9
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	77.06	0.3
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	69.84	-6.9
	1.347D 06	10.3	1.31D 05	4.031D 04	1163.	955.		2.16D 05	0.607	TH3	69.09	-7.7
RR 10-17-80 1340 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	62.64	71.87	9.23	67.25	39.0	78.0	131.4	78.0	TH3	131.4	53.4
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	78.45	0.5
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	71.35	-6.6
	1.357D 06	10.0	1.35D 05	4.113D 04	1174.	953.		2.17D 05	0.622	TH3	70.69	-7.3
RR 10-17-80 1410 SE	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	294.0	62.61	71.77	9.15	67.19	39.0	78.0	131.2	78.0	TH3	131.2	53.2
	HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO	TH5	78.33	0.3
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO	TH4	71.20	-6.8
	1.345D 06	10.1	1.33D 05	4.109D 04	1173.	956.		2.18D 05	0.612	TH3	70.65	-7.3

RR 12-16-80 1204 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	301.0	62.55	73.80	11.25	68.17	38.5	77.4	140.0	74.1	TH3	140.0	62.6
										TH5	78.37	1.0
										TH4	77.46	0.1
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	76.29	-1.1
	1.693D	06	7.9	2.14D	05	4.265D	04	1203.	872.	2.13D	05	1.007
RR 12-16-80 1223 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	301.0	62.46	73.66	11.20	68.06	38.5	77.4	140.3	76.0	TH3	140.3	62.9
										TH5	78.21	0.8
										TH4	77.30	-0.1
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	76.18	-1.2
	1.685D	06	8.1	2.09D	05	4.258D	04	1202.	874.	2.13D	05	0.984
RR 12-16-80 1400 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	280.6	62.99	74.71	11.72	68.85	38.5	77.4	141.2	74.3	TH3	141.2	63.8
										TH5	78.81	1.4
										TH4	78.02	0.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	77.08	-0.3
	1.644D	06	6.9	2.37D	05	4.014D	04	1142.	883.	2.07D	05	1.142
RR 12-16-80 1425 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	300.0	62.67	73.85	11.18	68.26	38.0	76.8	141.6	73.8	TH3	141.6	64.8
										TH5	78.09	1.3
										TH4	77.26	0.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	76.51	-0.2
	1.677D	06	7.1	2.37D	05	4.256D	04	1201.	875.	2.13D	05	1.113
RR 12-16-80 1537 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	300.6	63.75	76.17	12.42	69.96	40.0	79.2	139.1	77.2	TH3	139.1	59.9
										TH5	81.01	1.8
										TH4	80.20	1.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	79.65	0.5
	1.865D	06	7.6	2.45D	05	4.366D	04	1215.	838.	2.10D	05	1.167
RR 12-16-80 1628 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	300.7	60.56	70.92	10.36	65.74	36.0	74.3	143.8	70.7	TH3	143.8	69.5
										TH5	74.71	0.5
										TH4	73.94	-0.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	73.01	-1.3
	1.558D	06	7.3	2.12D	05	4.118D	04	1184.	902.	2.14D	05	0.994

RR 12-16-80 1720 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	300.6	54.91	62.34	7.43	58.63	28.5	64.1	140.8	61.1	TH3	140.8	76.7
										TH5	64.95	0.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	64.06	-0.1
	1.118D 06	4.5	2.48D 05	3.711D 04	1129.	1026.	2.18D 05	1.134		TH3	63.08	-1.0
										TH4	61.1	-3.0
RR 12-17-80 1052 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	300.0	62.07	73.20	11.13	67.64	38.5	77.4	140.0	73.5	TH3	140.0	62.6
										TH5	77.69	0.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	76.63	-0.7
	1.670D 06	8.6	1.95D 05	4.219D 04	1196.	877.	2.12D 05	0.918		TH3	75.85	-1.5
										TH4	73.5	-3.9
RR 12-17-80 1226 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	153.9	66.10	89.70	23.60	77.90	52.5	92.9	186.8	88.0	TH3	186.8	93.9
										TH5	94.29	1.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	93.34	0.4
	1.813D 06	11.2	1.62D 05	2.485D 04	747.	848.	1.56D 05	1.040		TH3	92.28	-0.7
										TH4	88.0	-4.9
RR 12-17-80 1343 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	153.8	63.99	83.65	19.66	73.82	46.0	86.1	148.2	83.1	TH3	148.2	62.1
										TH5	86.98	0.9
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	86.24	0.2
	1.511D 06	8.9	1.70D 05	2.354D 04	728.	913.	1.57D 05	1.082		TH3	85.46	-0.6
										TH4	83.1	-3.0
RR 12-17-80 1420 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	154.3	61.30	75.83	14.53	68.56	38.0	76.8	144.8	75.1	TH3	144.8	68.0
										TH5	78.20	1.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	77.46	0.7
	1.121D 06	5.2	2.17D 05	2.199D 04	707.	1025.	1.59D 05	1.362		TH3	76.67	-0.1
										TH4	75.1	-1.7
RR 12-17-80 1542 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	300.0	66.18	79.07	12.89	72.63	44.0	83.8	108.7	80.6	TH3	108.7	24.9
										TH5	84.50	0.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	83.67	-0.2
	1.932D 06	9.8	1.96D 05	4.518D 04	1234.	825.	2.10D 05	0.933		TH3	82.64	-1.2
										TH4	80.6	-3.2

RR 12-17-80 1625 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	298.7	64.64	75.89	11.25	70.27	40.0	79.2	130.2	76.3	TH3	130.2	51.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	79.88	0.7
	1.679D	06	7.6	2.22D	05	4.356D	04	1212.	875.	2.14D	05	1.038
RR 12-18-80 958 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	304.2	62.06	74.26	12.21	68.16	40.0	79.2	137.2	74.6	TH3	137.2	58.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	78.88	-0.3
	1.857D	06	9.8	1.90D	05	4.310D	04	1213.	839.	2.10D	05	0.903
RR 12-18-80 1132 SE VENT	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	287.5	66.76	79.17	12.41	72.96	42.5	82.1	135.9	78.6	TH3	135.9	53.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	83.24	1.1
	1.782D	06	7.5	2.37D	05	4.349D	04	1195.	854.	2.10D	05	1.129
RR 12-18-80 1300 SE VENT	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	289.0	66.76	79.28	12.51	73.02	43.0	82.7	138.9	79.4	TH3	138.9	56.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	83.36	0.7
	1.806D	06	8.1	2.22D	05	4.375D	04	1200.	849.	2.10D	05	1.060
RR 12-18-80 1430 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	297.9	66.74	78.97	12.24	72.86	43.0	82.7	138.1	79.4	TH3	138.1	55.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	83.27	0.6
	1.821D	06	8.4	2.17D	05	4.500D	04	1228.	846.	2.12D	05	1.021
RR 1-28-81 1510 DC VENT PREFLASH	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.4	49.20	55.80	6.60	52.50	48.5	88.8	176.8	82.1	TH3	176.8	88.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	131.34	42.6
	8.620D	05	36.2	2.38D	04	2.926D	04	964.	1124.	2.03D	05	0.117
EG&G HEAT USED BELOW LAB RANGE										TH4	51.00	-37.8
										TH3	47.13	-41.6
										TH4	82.1	-6.7

RR 1-28-81 1550 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.4	52.06	60.06	8.00	56.06	54.0	94.4	164.5	85.6	TH3	164.5	70.1
PREFLASH										TH5	115.36	20.9
										TH4	54.89	-39.6
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	50.74	-43.7
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	85.6	-8.8
	1.044D 06	38.3	2.73D 04	3.092D 04	989.	1052.	2.02D 05	0.135				
RR 3-17-81 1315 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	270.0	60.22	72.92	12.70	66.57	41.0	80.4	155.0	74.9	TH3	155.0	74.6
										TH5	79.53	-0.8
										TH4	78.13	-2.2
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	75.38	-5.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	74.9	-5.5
	1.715D 06	12.8	1.34D 05	3.741D 04	1092.	867.	2.00D 05	0.670				
RR 3-17-81 1422 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	268.5	59.54	71.74	12.20	65.64	38.5	77.4	115.9	71.8	TH3	115.9	38.5
										TH5	76.54	-0.8
TURBINE ON										TH4	75.30	-2.1
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	74.53	-2.8
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	71.8	-5.6
	1.639D 06	10.6	1.55D 05	3.672D 04	1080.	884.	2.01D 05	0.771				
RR 3-17-81 1446 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	269.2	59.09	70.79	11.70	64.94	38.0	76.8	115.3	71.2	TH3	115.3	38.5
										TH5	75.88	-0.9
TURBINE ON										TH4	74.69	-2.1
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	73.92	-2.8
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	71.2	-5.6
	1.576D 06	10.8	1.46D 05	3.645D 04	1078.	898.	2.02D 05	0.725				
RR 3-17-81 1555 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	269.1	59.30	70.70	11.40	65.00	38.0	76.8	115.2	71.4	TH3	115.2	38.4
										TH5	76.04	-0.7
TURBINE ON										TH4	74.86	-1.9
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	74.11	-2.7
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	71.4	-5.4
	1.535D 06	10.8	1.43D 05	3.647D 04	1078.	907.	2.03D 05	0.704				
RR 3-18-81 1146 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	300.4	64.56	76.66	12.10	70.61	43.5	83.3	122.1	79.0	TH3	122.1	38.8
										TH5	82.48	-0.8
TURBINE ON										TH4	79.96	-3.3
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	80.33	-2.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	79.0	-4.3
	1.816D 06	11.6	1.56D 05	4.402D 04	1220.	847.	2.12D 05	0.739				

RR 3-18-81 1252 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	300.2	63.27	73.07	9.80	68.17	40.0	79.2	116.6	74.9	TH3	116.6	37.4
TURBINE ON										TM5	78.30	-0.9
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	76.27	-2.9
	1.471D	06 10.2	1.44D 05	4.254D 04	1200.	923.	2.17D 05	0.661		TM3	76.21	-3.0
										TH4	74.9	-4.3
RR 3-18-81 1351 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	299.2	59.67	66.87	7.20	63.27	33.5	71.0	105.5	66.6	TH3	105.5	34.5
TURBINE ON										TM5	70.20	-0.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	68.76	-2.3
	1.078D	06 7.2	1.51D 05	3.954D 04	1160.	1040.	2.23D 05	0.674		TM3	66.67	-4.3
										TH4	66.6	-4.4
RR 3-18-81 1549 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	152.6	57.59	70.69	13.10	64.14	36.0	74.3	106.1	69.6	TH3	106.1	31.8
TURBINE ON										TM5	73.97	-0.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	72.56	-1.7
BELOW LAB RANGE	1.000D	06 8.5	1.18D 05	2.043D 04	681.	1068.	1.57D 05	0.752		TM3	71.37	-2.9
										TH4	69.6	-4.7
RR 3-18-81 1647 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	152.9	61.72	82.32	20.60	72.02	46.5	86.6	121.0	82.4	TH3	121.0	34.4
TURBINE ON										TM5	86.12	-0.5
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	84.70	-1.9
	1.574D	06 11.7	1.34D 05	2.285D 04	717.	898.	1.55D 05	0.868		TM3	83.79	-2.8
										TH4	82.4	-4.2
RR 3-18-81 1718 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	153.1	63.62	86.82	23.20	75.22	52.0	92.4	127.1	87.6	TH3	127.1	34.7
TURBINE ON										TM5	92.03	-0.4
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	90.70	-1.7
	1.774D	06 14.2	1.25D 05	2.387D 04	732.	855.	1.55D 05	0.809		TM3	89.86	-2.6
										TH4	87.6	-4.8
RR 3-19-81 1201 SE	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	301.3	65.57	76.57	11.00	71.07	42.5	82.1	119.3	77.5	TH3	119.3	37.2
TURBINE ON										TM5	81.53	-0.6
EG&G HEAT USED	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	80.20	-1.9
	1.656D	06 10.1	1.64D 05	4.442D 04	1226.	880.	2.16D 05	0.762		TM3	76.00	-6.1
										TH4	77.5	-4.6

RR 3-25-81 1410 SE	WATER FLOW 309.5	WATER TEMPIN 68.32	WATER TEMPEX 80.42	WATER TEMPRS 12.10	WATER TEMPAV 74.37	WRKFL PRESS 45.5	WRKFL TMPST 85.5	WRKFL TMPIN 123.6	WRKFL TMPEX 81.1	INST IDNT TH3	WRKFL TEMPSH 123.6	WRKFL SUPHT 38.1
TURBINE ON										TM5	85.79	0.3
EG&G HEAT USED	HEAT LOAD 1.870D	SAT LMTD 06	MEAS UA 9.9	WATER REYN NO 4.770D	WATER COEFF 04	COMP 837.	PRED 2.16D	PERFO 05	0.871	TM4	84.80	-0.7
										TM3	83.94	-1.6
										TH4	81.1	-4.4
RR 3-25-81 1500 SE	WATER FLOW 309.1	WATER TEMPIN 68.09	WATER TEMPEX 80.19	WATER TEMPRS 12.10	WATER TEMPAV 74.14	WRKFL PRESS 45.5	WRKFL TMPST 85.5	WRKFL TMPIN 123.6	WRKFL TMPEX 80.8	INST IDNT TH3	WRKFL TEMPSH 123.6	WRKFL SUPHT 38.1
TURBINE ON										TM5	85.46	-0.1
EG&G HEAT USED	HEAT LOAD 1.868D	SAT LMTD 06	MEAS UA 10.2	WATER REYN NO 4.749D	WATER COEFF 04	COMP 837.	PRED 2.16D	PERFO 05	0.848	TM4	84.44	-1.1
										TM3	83.57	-1.9
										TH4	80.8	-4.7
RR 3-25-81 1606 SE	WATER FLOW 309.1	WATER TEMPIN 68.08	WATER TEMPEX 80.88	WATER TEMPRS 12.80	WATER TEMPAV 74.48	WRKFL PRESS 46.0	WRKFL TMPST 86.1	WRKFL TMPIN 125.4	WRKFL TMPEX 81.5	INST IDNT TH3	WRKFL TEMPSH 125.4	WRKFL SUPHT 39.3
TURBINE ON										TM5	85.85	-0.2
EG&G HEAT USED	HEAT LOAD 1.976D	SAT LMTD 06	MEAS UA 10.3	WATER REYN NO 4.771D	WATER COEFF 04	COMP 817.	PRED 2.13D	PERFO 05	0.899	TM4	84.85	-1.2
										TM3	83.96	-2.1
										TH4	81.5	-4.6
RR 3-25-81 1700 SE	WATER FLOW 309.8	WATER TEMPIN 69.11	WATER TEMPEX 81.31	WATER TEMPRS 12.20	WATER TEMPAV 75.21	WRKFL PRESS 47.0	WRKFL TMPST 87.2	WRKFL TMPIN 125.9	WRKFL TMPEX 82.4	INST IDNT TH3	WRKFL TEMPSH 125.9	WRKFL SUPHT 38.7
TURBINE ON										TM5	86.83	-0.3
EG&G HEAT USED	HEAT LOAD 1.887D	SAT LMTD 06	MEAS UA 10.8	WATER REYN NO 4.828D	WATER COEFF 04	COMP 834.	PRED 2.16D	PERFO 05	0.807	TM4	85.82	-1.3
										TM3	84.93	-2.2
										TH4	82.4	-4.8
RR 3-25-81 1757 SE	WATER FLOW 309.2	WATER TEMPIN 68.81	WATER TEMPEX 81.21	WATER TEMPRS 12.40	WATER TEMPAV 75.01	WRKFL PRESS 46.5	WRKFL TMPST 86.6	WRKFL TMPIN 126.1	WRKFL TMPEX 82.0	INST IDNT TH3	WRKFL TEMPSH 126.1	WRKFL SUPHT 39.5
TURBINE ON										TM5	86.52	-0.1
EG&G HEAT USED	HEAT LOAD 1.914D	SAT LMTD 06	MEAS UA 10.4	WATER REYN NO 4.806D	WATER COEFF 04	COMP 828.	PRED 2.15D	PERFO 05	0.856	TM4	85.50	-1.1
										TM3	84.62	-2.0
										TH4	82.0	-4.6
RR 3-25-81 1900 SE	WATER FLOW 309.0	WATER TEMPIN 68.90	WATER TEMPEX 81.10	WATER TEMPRS 12.20	WATER TEMPAV 75.00	WRKFL PRESS 46.5	WRKFL TMPST 86.6	WRKFL TMPIN 126.2	WRKFL TMPEX 82.0	INST IDNT TH3	WRKFL TEMPSH 126.2	WRKFL SUPHT 39.6
TURBINE ON										TM5	87.12	0.5
EG&G HEAT USED	HEAT LOAD 1.882D	SAT LMTD 06	MEAS UA 10.5	WATER REYN NO 4.802D	WATER COEFF 04	COMP 834.	PRED 2.16D	PERFO 05	0.834	TM4	85.56	-1.1
										TM3	84.67	-1.9
										TH4	82.0	-4.6

RR 3-25-81 2000 SE	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	309.2	68.00	79.70	11.70	73.85	45.5	85.5	125.0	80.9	TH3	125.0	39.5
TURBINE ON										TM5	85.55	0.0
										TM4	84.55	-1.0
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	83.65	-1.9
	1.806D	06	10.6	1.70D	05	4.733D	04	1273.	849.	2.17D	05	0.786
RR 3-25-81 2100 SE	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	309.1	67.39	79.49	12.10	73.44	45.0	85.0	124.7	80.6	TH3	124.7	39.7
TURBINE ON										TM5	85.02	0.1
										TM4	84.07	-0.9
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	83.19	-1.8
	1.868D	06	10.4	1.80D	05	4.705D	04	1270.	837.	2.15D	05	0.838
RR 3-26-81 900 SE	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	304.0	64.11	76.61	12.50	70.36	43.0	82.7	122.1	78.2	TH3	122.1	39.4
TURBINE ON										TM5	82.79	0.1
										TM4	81.65	-1.0
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	80.73	-2.0
	1.899D	06	11.2	1.70D	05	4.440D	04	1230.	831.	2.11D	05	0.805
RR 3-26-81 1100 SE	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	304.0	65.37	78.57	13.20	71.97	43.5	83.3	123.3	78.8	TH3	123.3	40.0
TURBINE ON										TM5	84.05	0.8
										TM4	82.92	-0.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	82.03	-1.2
	2.005D	06	9.9	2.03D	05	4.538D	04	1242.	812.	2.10D	05	0.970
RR 4-09-81 1348 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	295.4	52.72	57.52	4.80	55.12	35.5	73.6	134.1	67.9	TH3	134.1	60.5
PREFLASH										TM5	95.33	21.7
										TM4	55.16	-18.5
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	58.16	-15.5
BELOW LAB RANGE	7.107D	05	18.4	3.86D	04	3.457D	04	1086.	1194.	2.25D	05	0.172
RR 4-09-81 1416 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	296.2	55.83	61.63	5.80	58.73	40.0	79.2	145.0	73.7	TH3	145.0	65.8
PREFLASH										TM5	79.42	0.2
										TM4	59.42	-19.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	64.42	-14.8
BELOW LAB RANGE	8.604D	05	20.3	4.23D	04	3.662D	04	1116.	1125.	2.24D	05	0.189

RR 4-09-81 1446 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	297.4	57.56	63.96	6.40	60.76	42.5	82.1	160.4	77.0	TH3	160.4	78.3
PREFLASH										TM5	85.29	3.2
										TM4	61.19	-20.9
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	66.06	-16.1
BELOW LAB RANGE	9.528D 05	21.2	4.49D 04	3.790D 04	1135.	1087.	2.24D 05	0.201		TH4	77.0	-5.1
RR 4-13-81 1139 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	297.0	51.38	54.38	3.00	52.88	29.5	65.5	144.3	60.6	TH3	144.3	78.8
PREFLASH										TM5	65.49	-0.1
										TM4	52.72	-12.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	52.14	-13.4
BELOW LAB RANGE	4.468D 05	12.6	3.54D 04	3.357D 04	1074.	1341.	2.32D 05	0.153		TH4	60.6	-4.9
RR 4-13-81 1210 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	297.4	52.92	55.82	2.90	54.37	31.0	67.6	145.1	61.7	TH3	145.1	77.5
PREFLASH										TM5	99.52	31.9
										TM4	54.34	-13.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	52.65	-15.0
BELOW LAB RANGE	4.323D 05	13.2	3.27D 04	3.441D 04	1086.	1350.	2.34D 05	0.140		TH4	61.7	-5.9
RR 4-13-81 1248 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	297.7	54.46	58.46	4.00	56.46	32.0	69.0	168.5	63.5	TH3	168.5	99.5
PREFLASH										TM5	78.97	10.0
										TM4	56.23	-12.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	53.88	-15.1
BELOW LAB RANGE	5.967D 05	12.4	4.80D 04	3.557D 04	1103.	1254.	2.31D 05	0.208		TH4	63.5	-5.5
RR 4-13-81 1313 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	297.0	55.36	59.66	4.30	57.51	33.5	71.0	155.2	64.4	TH3	155.2	84.2
PREFLASH										TM5	70.68	-0.3
										TM4	56.94	-14.1
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	55.99	-15.0
BELOW LAB RANGE	6.397D 05	13.4	4.78D 04	3.605D 04	1109.	1231.	2.30D 05	0.207		TH4	64.4	-6.6
RR 4-13-81 1339 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
	296.7	56.46	61.76	5.30	59.11	35.0	73.0	162.0	66.0	TH3	162.0	89.0
PREFLASH										TM5	72.28	-0.7
										TM4	61.65	-11.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	57.31	-15.7
BELOW LAB RANGE	7.875D 05	13.7	5.75D 04	3.689D 04	1121.	1158.	2.27D 05	0.253		TH4	66.0	-7.0

RR 4-13-81 1407 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH	281.4	58.07	64.77	6.70	61.42	35.0	73.0	162.5	67.3	TH3	162.5	89.5
										TM5	72.66	-0.3
										TM4	60.67	-12.3
										TM3	58.73	-14.2
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	67.3	-5.7
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	9.437D	05	11.2	8.41D	04	3.621D	04	1091.	1090.	2.19D	05	0.385
RR 4-13-81 1444 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH	282.3	60.45	67.95	7.50	64.20	35.0	73.0	167.3	67.0	TH3	167.3	94.3
										TM5	72.50	-0.5
										TM4	71.80	-1.2
										TM3	60.50	-12.5
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	67.0	-6.0
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.059D	06	8.2	1.29D	05	3.782D	04	1114.	1047.	2.18D	05	0.591
RR 4-13-81 1526 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	281.6	62.40	70.70	8.30	66.55	38.0	76.8	167.5	69.9	TH3	167.5	90.7
										TM5	75.91	-0.8
										TM4	75.03	-1.7
										TM3	62.59	-14.2
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	69.9	-6.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.169D	06	9.6	1.22D	05	3.900D	04	1129.	1009.	2.17D	05	0.560
RR 4-13-81 1558 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	282.7	63.62	72.12	8.50	67.87	40.5	79.8	170.0	73.2	TH3	170.0	90.2
										TM5	78.93	-0.8
										TM4	72.27	-7.5
										TM3	67.58	-12.2
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	73.2	-6.6
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.201D	06	11.4	1.06D	05	3.989D	04	1142.	999.	2.18D	05	0.485
RR 4-13-81 1630 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	282.1	63.78	73.08	9.30	68.43	43.0	82.7	172.5	75.7	TH3	172.5	89.8
										TM5	81.47	-1.2
										TM4	69.95	-12.7
										TM3	64.01	-18.7
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	75.7	-7.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.311D	06	13.7	9.54D	04	4.011D	04	1144.	965.	2.15D	05	0.443
RR 4-20-81 1230 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	299.6	56.40	61.20	4.80	58.80	35.0	73.0	118.9	73.1	TH3	118.9	45.9
										TM5	71.95	-1.0
										TM4	58.39	-14.6
										TM3	55.74	-17.2
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	73.1	0.1
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	7.202D	05	14.0	5.13D	04	3.708D	04	1127.	1190.	2.30D	05	0.223

RR 4-20-81 1330 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	299.2	59.07	65.87	6.80	62.47	42.0	81.5	133.8	81.9	TH3	133.8	52.3
PREFLASH										TH5	80.16	-1.4
										TH4	61.66	-19.9
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	66.88	-14.7
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	81.9	0.4
	1.018D	06	18.9	5.40D 04	3.909D 04	1154.	1062.	2.24D 05	0.241			
RR 4-21-81 1055 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	278.7	54.22	57.82	3.60	56.02	42.0	81.5	128.7	78.6	TH3	128.7	47.2
PREFLASH										TH5	79.99	-1.6
										TH4	55.48	-26.1
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	63.58	-18.0
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	78.6	-2.9
	5.028D	05	25.5	1.97D 04	3.307D 04	1043.	1307.	2.25D 05	0.088			
RR 4-23-81 1118 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	276.9	66.69	74.69	8.00	70.69	40.5	79.8	125.5	80.5	TH3	125.5	45.7
VENT PREFLASH										TH5	78.41	-1.4
										TH4	77.96	-1.8
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	67.39	-12.4
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	80.5	0.7
	1.107D	06	8.5	1.31D 05	4.061D 04	1143.	1030.	2.21D 05	0.593			
RR 4-23-81 1150 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	277.3	68.80	77.40	8.60	73.10	41.5	81.0	120.5	82.7	TH3	120.5	39.5
VENT PREFLASH										TH5	80.97	0.0
										TH4	80.56	-0.4
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	79.97	-1.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	82.7	1.7
	1.191D	06	7.0	1.70D 05	4.201D 04	1162.	1002.	2.20D 05	0.772			
RR 4-23-81 1244 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	276.6	70.20	79.50	9.30	74.85	46.5	86.6	117.1	87.3	TH3	117.1	30.5
PREFLASH										TH5	85.57	-1.0
										TH4	84.06	-2.6
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	70.89	-15.7
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	87.3	0.7
	1.284D	06	11.1	1.15D 05	4.289D 04	1172.	973.	2.19D 05	0.527			
RR 4-23-81 1314 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	276.5	71.36	81.96	10.60	76.66	51.0	91.4	131.1	91.1	TH3	131.1	39.7
PREFLASH										TH5	90.03	-1.4
										TH4	82.83	-8.6
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	72.26	-19.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	91.1	-0.3
	1.463D	06	14.1	1.04D 05	4.391D 04	1184.	925.	2.16D 05	0.481			

RR 4-23-81 1536 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	276.4	62.40	66.70	4.30	64.55	38.5	77.4	141.8	78.0	TH3	141.8	64.4
PREFLASH										TH5	102.67	25.3
										TH4	66.52	-10.9
										TH3	64.11	-13.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	78.0	0.6
BELOW LAB RANGE	5.944D 05	12.7	4.68D 04	3.721D 04	1098.	1255.	2.30D 05	0.203				
RR 4-23-81 1604 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.6	64.19	70.29	6.10	67.24	39.5	78.6	154.1	79.5	TH3	154.1	75.5
										TH5	77.20	-1.4
										TH4	68.56	-10.0
										TH3	65.82	-12.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	79.5	0.9
BELOW LAB RANGE	8.435D 05	11.1	7.62D 04	3.868D 04	1118.	1133.	2.25D 05	0.339				
RR 4-23-81 1627 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	277.3	66.69	74.89	8.20	70.79	42.5	82.1	144.3	81.5	TH3	144.3	62.2
										TH5	80.29	-1.8
										TH4	77.71	-4.4
										TH3	67.60	-14.5
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	81.5	-0.6
	1.136D 06	10.8	1.05D 05	4.073D 04	1145.	1020.	2.20D 05	0.478				
RR 4-23-81 1737 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.4	70.21	80.11	9.90	75.16	48.0	88.2	150.9	88.6	TH3	150.9	62.7
										TH5	87.14	-1.1
										TH4	77.84	-10.4
										TH3	78.50	-9.7
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	88.6	0.4
	1.366D 06	12.4	1.10D 05	4.304D 04	1173.	950.	2.17D 05	0.506				
RR 4-27-81 1140 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.5	56.88	61.08	4.20	58.98	33.0	70.4	111.1	72.2	TH3	111.1	40.7
										TH5	85.74	15.4
										TH4	58.86	-11.5
										TH3	56.35	-14.0
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	72.2	1.8
BELOW LAB RANGE	5.815D 05	11.2	5.17D 04	3.431D 04	1058.	1262.	2.25D 05	0.230				
RR 4-27-81 1245 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	276.3	60.21	66.31	6.10	63.26	34.0	71.7	135.3	72.3	TH3	135.3	63.6
PREFLASH										TH5	70.07	-1.6
										TH4	69.03	-2.6
										TH3	60.45	-11.2
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	72.3	0.6
BELOW LAB RANGE	8.433D 05	8.0	1.05D 05	3.652D 04	1088.	1133.	2.21D 05	0.475				

RR 4-27-81 1321 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	277.0	61.95	69.25	7.30	65.60	35.5	73.6	150.6	75.1	TH3	150.6	77.0
PREFLASH										TM5	72.92	-0.7
										TM4	72.49	-1.1
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	71.90	-1.7
BELOW LAB RANGE	1.011D 06	7.4	1.36D 05	3.785D 04	1107.	1064.	2.19D 05	0.622		TH4	75.1	1.5
RR 4-27-81 1433 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.5	65.09	75.19	10.10	70.14	43.0	82.7	150.9	84.0	TH3	150.9	68.2
										TM5	81.61	-1.1
										TM4	68.08	-14.6
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	65.28	-17.4
	1.395D 06	11.8	1.18D 05	4.026D 04	1138.	942.	2.12D 05	0.555		TH4	84.0	1.3
RR 4-27-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.1	65.53	76.13	10.60	70.83	47.0	87.2	159.8	88.1	TH3	159.8	72.6
										TM5	86.43	-0.7
										TM4	69.61	-17.6
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	75.04	-12.1
	1.462D 06	15.7	9.29D 04	4.058D 04	1142.	925.	2.11D 05	0.440		TH4	88.1	0.9
RR 4-28-81 1058 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	275.5	55.18	58.48	3.30	56.83	33.0	70.4	148.2	71.8	TH3	148.2	77.8
										TM5	110.19	39.8
										TM4	56.76	-13.6
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	56.39	-14.0
BELOW LAB RANGE	4.555D 05	13.5	3.39D 04	3.310D 04	1040.	1336.	2.26D 05	0.150		TH4	71.8	1.4
RR 4-28-81 1151 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.1	57.62	62.32	4.70	59.97	38.5	77.4	158.5	78.2	TH3	158.5	81.1
										TM5	106.78	29.4
										TM4	60.47	-16.9
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	58.72	-18.7
BELOW LAB RANGE	6.497D 05	17.3	3.76D 04	3.477D 04	1064.	1225.	2.24D 05	0.168		TH4	78.2	0.8
RR 4-28-81 1319 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	276.8	63.74	71.64	7.90	67.69	42.0	81.5	162.2	83.0	TH3	162.2	80.7
										TM5	80.78	-0.8
										TM4	66.72	-14.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	71.79	-9.8
	1.093D 06	13.5	8.12D 04	3.895D 04	1122.	1035.	2.18D 05	0.372		TH4	83.0	1.5

RR 4-28-81 1406 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	276.4	65.79	74.59	8.80	70.19	46.5	86.6	165.4	87.5	TH3	165.4	78.8
PREFLASH										TH5	86.09	-0.5
										TH4	69.61	-17.0
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH3	74.73	-11.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TH4	87.5	0.9
	1.215D	06	16.0	7.58D	04	4.026D	04	1138.	994.	2.17D	05	0.350
RR 4-29-81 1112 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	275.0	62.02	66.42	4.40	64.22	36.0	74.3	149.9	75.2	TH3	149.9	75.6
VENT										TH5	103.53	29.3
PREFLASH										TH4	64.14	-10.1
										TH3	66.77	-7.5
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	75.2	0.9
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	6.052D	05	9.9	6.13D	04	3.684D	04	1091.	1249.	2.29D	05	0.268
RR 4-29-81 1139 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	276.4	63.29	68.89	5.60	66.09	37.0	75.5	156.4	76.9	TH3	156.4	80.9
VENT										TH5	*****	*****
PREFLASH										TH4	66.23	-9.3
										TH3	69.09	-6.4
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	76.9	1.4
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	7.739D	05	9.1	8.47D	04	3.803D	04	1109.	1164.	2.26D	05	0.375
RR 4-29-81 1212 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	276.3	65.58	72.78	7.20	69.18	41.0	80.4	163.5	81.0	TH3	163.5	83.1
VENT										TH5	79.01	-1.4
PREFLASH										TH4	69.61	-10.8
										TH3	67.12	-13.3
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	81.0	0.6
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	9.941D	05	10.8	9.21D	04	3.969D	04	1130.	1071.	2.22D	05	0.415
RR 4-29-81 1304 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	275.7	67.46	75.16	7.70	71.31	46.0	86.1	166.4	86.9	TH3	166.4	80.3
VENT										TH5	84.95	-1.1
PREFLASH										TH4	70.89	-15.2
										TH3	75.31	-10.8
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	86.9	0.8
BELOW LAB RANGE	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.060D	06	14.4	7.36D	04	4.078D	04	1144.	1046.	2.22D	05	0.332
RR 4-29-81 1348 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPER	TEMPER	TEMPER	PRESS	TEMPST	TEMPIN	TEMPER	IDNT	TEMPST	SUPHT
	276.5	68.26	76.56	8.30	72.41	49.5	89.8	166.5	90.5	TH3	166.5	76.7
VENT										TH5	88.64	-1.2
PREFLASH										TH4	72.16	-17.7
										TH3	77.51	-12.3
EG&G HEAT USED	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TH4	90.5	0.7
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.146D	06	17.1	6.71D	04	4.151D	04	1154.	1016.	2.21D	05	0.304

RR 4-29-81 1429 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	276.2	69.69	78.39	8.70	74.04	52.5	92.9	166.0	93.9	TH3	166.0	73.1
										TM5	91.75	-1.2
										TM4	74.03	-18.9
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	79.16	-13.8
	1.200D 06	18.6	6.47D 04	4.238D 04	1165.	999.	2.20D 05	0.293		TH4	93.9	1.0
RR 4-29-81 1554 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	275.4	63.45	66.65	3.20	65.05	42.0	81.5	147.4	80.6	TH3	147.4	65.9
										TM5	118.54	37.0
										TM4	67.71	-13.8
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	65.25	-16.3
BELOW LAB RANGE	4.407D 05	16.4	2.68D 04	3.733D 04	1098.	1345.	2.35D 05	0.114		TH4	80.6	-0.9
RR 4-29-81 1630 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	275.5	63.60	67.40	3.80	65.50	44.0	83.8	149.4	82.5	TH3	149.4	65.6
										TM5	118.03	34.2
										TM4	67.51	-16.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	65.44	-18.4
BELOW LAB RANGE	5.235D 05	18.3	2.87D 04	3.759D 04	1102.	1295.	2.33D 05	0.123		TH4	82.5	-1.3
RR 4-29-81 1752 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	275.1	65.09	69.59	4.50	67.34	45.0	85.0	158.1	83.7	TH3	158.1	73.1
										TM5	116.79	31.8
										TM4	68.86	-16.1
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	66.99	-18.0
BELOW LAB RANGE	6.188D 05	17.5	3.53D 04	3.852D 04	1113.	1242.	2.32D 05	0.153		TH4	83.7	-1.3
RR 4-29-81 1824 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	276.0	66.15	71.25	5.10	68.70	46.0	86.1	161.5	84.4	TH3	161.5	75.4
										TM5	114.10	28.0
										TM4	69.78	-16.3
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	67.82	-18.2
BELOW LAB RANGE	7.034D 05	17.2	4.08D 04	3.938D 04	1126.	1198.	2.31D 05	0.177		TH4	84.4	-1.7
RR 4-29-81 1901 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	275.6	66.42	71.52	5.10	68.97	40.0	79.2	159.6	84.9	TH3	159.6	80.4
										TM5	112.39	33.2
										TM4	70.10	-9.1
EG&G HEAT USED	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	68.08	-11.1
BELOW LAB RANGE	7.023D 05	10.0	7.03D 04	3.947D 04	1127.	1199.	2.31D 05	0.305		TH4	84.9	5.7

RR 5-12-81 1450 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH	279.9	60.79	67.69	6.90	64.24	43.0	82.7	163.5	80.0	TH3	163.5	80.8
										TM5	82.86	0.2
										TM4	63.38	-19.3
										TM3	67.65	-15.0
										TH4	80.0	-2.7
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
BELOW LAB RANGE	9.658D 05	18.2	5.30D 04	3.751D 04	1107.	1082.	2.20D 05	0.241				
RR 5-13-81 1140 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	251.4	62.69	72.00	9.31	67.35	45.0	85.0	157.4	83.1	TH3	157.4	72.4
										TM5	84.00	-1.0
										TM4	66.29	-18.7
										TM3	71.20	-13.8
										TH4	83.1	-1.9
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.171D 06	17.2	6.81D 04	3.521D 04	1036.	1008.	2.06D 05	0.331				
RR 5-13-81 1240 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	251.8	64.83	74.69	9.86	69.76	51.0	91.4	169.2	89.3	TH3	169.2	77.8
										TM5	91.23	-0.2
										TM4	68.46	-22.9
										TM3	73.27	-18.1
										TH4	89.3	-2.1
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.240D 06	21.3	5.83D 04	3.647D 04	1053.	987.	2.06D 05	0.283				
RR 5-13-81 1340 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	251.6	65.44	74.87	9.43	70.16	54.0	94.4	169.2	92.2	TH3	169.2	74.8
										TM5	94.73	0.3
										TM4	69.57	-24.9
										TM3	75.44	-19.0
										TH4	92.2	-2.2
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.185D 06	24.0	4.94D 04	3.664D 04	1055.	1004.	2.08D 05	0.238				
RR 5-18-81 1600 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH	254.7	66.80	75.52	8.72	71.16	40.0	79.2	156.1	78.4	TH3	156.1	76.9
										TM5	78.87	-0.3
										TM4	78.36	-0.8
										TM3	75.40	-3.8
										TH4	78.4	-0.8
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.109D 06	7.2	1.55D 05	3.760D 04	1072.	1029.	2.12D 05	0.731				
RR 5-18-81 1640 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	255.0	66.74	75.45	8.71	71.09	44.0	83.8	153.3	81.7	TH3	153.3	69.5
										TM5	81.31	-2.5
										TM4	71.76	-12.1
										TM3	72.90	-10.9
										TH4	81.7	-2.1
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	1.109D 06	12.2	9.07D 04	3.761D 04	1073.	1029.	2.12D 05	0.428				

RR 5-18-81 1720 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	66.83	75.50	8.67	71.16	45.0	85.0	156.0	84.0	TH3	156.0	71.0
PREFLASH										TM5	84.01	-0.9
										TM4	70.55	-14.4
										TM3	70.36	-14.6
										TH4	84.0	-1.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.105D	06	13.3	8.29D 04	3.764D 04	1073.	1031.	2.12D 05	0.391			
RR 5-18-81 1800 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.4	66.89	75.55	8.66	71.22	48.0	88.2	159.5	86.0	TH3	159.5	71.3
PREFLASH										TM5	87.08	-1.2
										TM4	69.57	-18.7
										TM3	68.86	-19.4
										TH4	86.0	-2.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.105D	06	16.6	6.64D 04	3.773D 04	1075.	1030.	2.12D 05	0.313			
RR 5-19-81 1100 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT PREFLASH	254.4	66.40	76.24	9.83	71.32	41.0	80.4	160.9	80.2	TH3	160.9	80.5
										TM5	79.91	-0.5
										TM4	78.71	-1.7
										TM3	79.58	-0.8
										TH4	80.2	-0.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.250D	06	8.1	1.55D 05	3.763D 04	1072.	984.	2.08D 05	0.743			
RR 5-19-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	254.4	67.41	77.52	10.12	72.46	43.0	82.7	164.5	85.2	TH3	164.5	81.8
PREFLASH										TM5	84.74	2.0
										TM4	74.79	-7.9
										TM3	76.16	-6.5
										TH4	85.2	2.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.286D	06	9.3	1.38D 05	3.822D 04	1080.	973.	2.08D 05	0.661			
RR 5-19-81 1300 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	254.6	68.08	77.98	9.91	73.03	51.0	91.4	168.8	89.7	TH3	168.8	77.4
PREFLASH										TM5	90.07	-1.3
										TM4	72.48	-18.9
										TM3	76.80	-14.6
										TH4	89.7	-1.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.260D	06	17.9	7.03D 04	3.854D 04	1084.	981.	2.09D 05	0.336			
RR 5-19-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	254.2	66.93	76.44	9.52	71.69	52.5	92.9	153.7	91.1	TH3	153.7	60.8
PREFLASH										TM5	92.55	-0.4
										TM4	70.99	-21.9
										TM3	76.96	-16.0
										TH4	91.1	-1.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.208D	06	20.9	5.78D 04	3.779D 04	1074.	996.	2.10D 05	0.276			

RR	5-19-81	1500	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				253.8	66.13	75.77	9.64	70.95	56.5	96.9	160.5	94.9	TH3	160.5	63.6
													TM5	96.17	-0.7
													TM4	70.49	-26.4
													TM3	77.71	-19.2
													TH4	94.9	-2.0
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				1.223D	06	25.7	4.76D 04	3.736D 04	1068.	992.	2.08D 05	0.229			
RR	5-19-81	1600	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				254.7	65.55	75.05	9.50	70.30	61.0	101.2	162.0	97.4	TH3	162.0	60.8
													TM5	100.77	-0.4
													TM4	70.25	-30.9
													TM3	68.30	-32.9
													TH4	97.4	-3.8
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				1.209D	06	30.6	3.95D 04	3.716D 04	1067.	996.	2.09D 05	0.189			
RR	5-19-81	1700	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				254.6	65.51	74.32	8.80	69.92	60.5	100.7	162.7	98.8	TH3	162.7	62.0
													TM5	114.10	13.4
													TM4	70.82	-29.9
													TM3	67.34	-33.4
													TH4	98.8	-1.9
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				1.120D	06	30.6	3.66D 04	3.695D 04	1064.	1025.	2.10D 05	0.174			
RR	5-19-81	1800	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				254.8	66.26	75.50	9.24	70.88	64.5	104.4	165.3	101.1	TH3	165.3	60.9
													TM5	116.65	12.3
													TM4	71.56	-32.8
													TM3	68.51	-35.9
													TH4	101.1	-3.3
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				1.176D	06	33.3	3.54D 04	3.747D 04	1071.	1007.	2.10D 05	0.168			
RR	6-10-81	1600	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				233.8	63.73	71.22	7.49	67.47	36.0	74.3	187.1	72.2	TH3	187.1	112.8
													TM5	96.05	21.8
													TM4	72.74	-1.5
													TM3	72.36	-1.9
													TH4	72.2	-2.1
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				8.760D	05	6.0	1.45D 05	3.280D 04	978.	1118.	2.05D 05	0.708			
RR	6-16-81	1100	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
				234.6	65.27	74.75	9.48	70.01	44.5	84.4	166.5	82.7	TH3	166.5	82.1
													TM5	83.20	-1.2
													TM4	69.51	-14.9
													TM3	73.81	-10.6
													TH4	82.7	-1.7
				HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO				
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
				1.112D	06	13.8	8.03D 04	3.409D 04	997.	1028.	2.02D 05	0.397			

RR 6-16-81 1130 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	235.2	65.22	72.67	7.44	68.95	39.0	78.0	168.0	77.3	TH3	168.0	90.0
PREFLASH										TM5	80.91	2.9
										TM4	71.93	-6.0
										TM3	72.07	-5.9
										TH4	77.3	-0.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	8.749D 05	8.5	1.03D 05	3.368D 04	992.	1119.	2.07D 05	0.497				
RR 6-16-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT	234.9	64.57	72.44	7.87	68.51	37.0	75.5	156.5	75.7	TH3	156.5	81.0
PREFLASH										TM5	75.43	-0.1
										TM4	74.62	-0.9
										TM3	72.13	-3.4
										TH4	75.7	0.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	9.239D 05	6.2	1.49D 05	3.344D 04	989.	1098.	2.05D 05	0.726				
RR 6-16-81 1300 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	234.3	64.66	72.59	7.93	68.63	42.0	81.5	164.2	81.0	TH3	164.2	82.7
										TM5	100.40	18.9
										TM4	68.54	-13.0
										TM3	74.02	-7.5
										TH4	81.0	-0.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	9.289D 05	12.5	7.43D 04	3.340D 04	987.	1096.	2.05D 05	0.362				
RR 6-16-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	235.5	64.82	73.25	8.44	69.03	46.0	86.1	171.6	85.0	TH3	171.6	85.5
										TM5	94.61	8.6
										TM4	68.88	-17.2
										TM3	73.62	-12.4
										TH4	85.0	-1.1
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	9.928D 05	16.7	5.95D 04	3.377D 04	994.	1071.	2.04D 05	0.291				
RR 6-16-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	234.9	64.49	72.79	8.30	68.64	48.0	88.2	168.7	86.4	TH3	168.7	80.5
										TM5	111.95	23.7
										TM4	68.44	-19.8
										TM3	73.26	-15.0
										TH4	86.4	-1.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	9.748D 05	19.3	5.05D 04	3.350D 04	989.	1078.	2.04D 05	0.247				
RR 6-16-81 1600 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	235.0	64.21	72.55	8.34	68.38	49.5	89.8	166.4	87.9	TH3	166.4	76.6
										TM5	115.09	25.3
										TM4	70.25	-19.6
										TM3	67.48	-22.3
										TH4	87.9	-1.9
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	9.802D 05	21.2	4.63D 04	3.339D 04	988.	1076.	2.04D 05	0.227				

RR 6-16-81 1700 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	235.4	63.81	72.16	8.35	67.98	49.5	89.8	167.7	87.5		TH3 167.7	77.9
PREFLASH											TH5 117.17	27.3
											TH4 70.00	-19.8
											TH3 66.87	-23.0
											TH4 87.5	-2.3
BELOW LAB RANGE	9.823D 05	21.6	4.55D 04	3.326D 04	987.	1075.	2.04D 05	0.223				
RR 6-24-81 1100 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	268.1	59.73	65.82	6.08	62.78	43.5	83.3	165.0	81.2		TH3 165.0	81.7
PREFLASH											TH5 103.88	20.6
											TH4 63.40	-19.9
											TH3 66.41	-16.9
											TH4 81.2	-2.1
BELOW LAB RANGE	8.162D 05	20.3	4.01D 04	3.518D 04	1059.	1145.	2.18D 05	0.184				
RR 6-24-81 1130 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.9	63.51	72.92	9.41	68.21	50.0	90.4	171.5	88.4		TH3 171.5	81.1
PREFLASH											TH5 91.23	0.9
											TH4 68.84	-21.5
											TH3 73.17	-17.2
											TH4 88.4	-2.0
	1.260D 06	21.8	5.78D 04	3.798D 04	1096.	980.	2.11D 05	0.274				
RR 6-24-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	268.5	64.83	73.61	8.77	69.22	52.5	92.9	168.8	90.9		TH3 168.8	75.9
PREFLASH											TH5 92.87	-0.1
											TH4 70.05	-22.9
											TH3 76.12	-16.8
											TH4 90.9	-2.0
	1.177D 06	23.4	5.02D 04	3.860D 04	1105.	1006.	2.14D 05	0.235				
RR 6-24-81 1230 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	268.2	64.40	75.48	11.08	69.94	50.5	90.9	175.2	88.9		TH3 175.2	84.3
VENT PREFLASH											TH5 92.82	1.9
											TH4 70.55	-20.3
											TH3 76.26	-14.6
											TH4 88.9	-2.0
	1.485D 06	20.4	7.26D 04	3.894D 04	1109.	919.	2.07D 05	0.351				
RR 6-24-81 1300 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	268.1	65.43	76.52	11.09	70.97	47.0	87.2	156.5	85.4		TH3 156.5	69.3
VENT PREFLASH											TH5 86.57	-0.6
											TH4 71.82	-15.3
											TH3 76.31	-10.9
											TH4 85.4	-1.8
	1.486D 06	15.5	9.57D 04	3.948D 04	1116.	919.	2.08D 05	0.460				

RR 6-24-81 1330 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT PREFLASH	268.2	65.81	78.50	12.69	72.15	45.0	85.0	145.6	83.4	TH3	145.6	60.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	84.29	-0.7
	1.701D	06	11.7	1.46D	05	4.013D	04	1125.	870.	2.04D	05	0.713
RR 6-24-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT PREFLASH	268.1	66.42	77.90	11.48	72.16	45.0	85.0	169.2	82.8	TH3	169.2	84.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	84.00	-1.0
	1.537D	06	11.9	1.29D	05	4.012D	04	1124.	907.	2.08D	05	0.623
RR 6-24-81 1430 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	267.5	67.15	78.10	10.95	72.62	45.0	85.0	180.1	83.0	TH3	180.1	95.1
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	84.40	-0.6
	1.463D	06	11.5	1.28D	05	4.028D	04	1125.	925.	2.09D	05	0.609
RR 6-24-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	268.4	67.81	79.10	11.28	73.46	47.5	87.7	168.2	85.8	TH3	168.2	80.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	88.10	0.4
	1.512D	06	13.5	1.12D	05	4.086D	04	1134.	913.	2.09D	05	0.537
RR 6-24-81 1530 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	267.5	68.55	79.14	10.59	73.84	49.5	89.8	161.3	87.9	TH3	161.3	71.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	92.82	3.0
	1.414D	06	15.4	9.19D	04	4.094D	04	1134.	937.	2.12D	05	0.434
RR 6-24-81 1600 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	267.9	67.72	78.27	10.55	73.00	51.0	91.4	169.6	89.0	TH3	169.6	78.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	93.57	2.2
	1.411D	06	17.9	7.89D	04	4.054D	04	1129.	938.	2.11D	05	0.374

RR 6-24-81 1630 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	268.2	67.98	78.80	10.81	73.39	54.0	94.4	176.3	91.6		TH3 176.3	81.9
PREFLASH											TM5 96.27	1.8
											TM4 74.47	-20.0
											TM3 79.06	-15.4
											TH4 91.6	-2.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.448D 06	20.6	7.04D 04	4.080D 04	1133.	928.	2.11D 05	0.334				
RR 6-24-81 1700 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.9	69.41	79.84	10.43	74.63	56.0	96.4	179.7	93.6		TH3 179.7	83.3
PREFLASH											TM5 104.95	8.5
											TM4 75.06	-21.4
											TM3 80.41	-16.0
											TH4 93.6	-2.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.395D 06	21.4	6.53D 04	4.143D 04	1141.	942.	2.13D 05	0.307				
RR 6-24-81 1730 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.7	68.35	79.78	11.43	74.07	58.0	98.4	170.5	95.6		TH3 170.5	72.1
PREFLASH											TM5 104.59	6.2
											TM4 75.25	-23.1
											TM3 82.36	-16.0
											TH4 95.6	-2.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.528D 06	23.8	6.41D 04	4.109D 04	1136.	909.	2.09D 05	0.307				
RR 6-24-81 1800 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.7	68.36	78.95	10.59	73.66	58.5	98.8	166.3	96.6		TH3 166.3	67.5
PREFLASH											TM5 108.50	9.7
											TM4 75.13	-23.7
											TM3 81.44	-17.4
											TH4 96.6	-2.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.416D 06	24.8	5.71D 04	4.087D 04	1133.	937.	2.11D 05	0.270				
RR 6-24-81 1830 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.4	68.31	79.18	10.86	73.74	59.5	99.8	163.5	97.2		TH3 163.5	63.7
PREFLASH											TM5 115.41	15.6
											TM4 75.32	-24.5
											TM3 81.60	-18.2
											TH4 97.2	-2.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.451D 06	25.7	5.65D 04	4.087D 04	1133.	928.	2.11D 05	0.269				
RR 6-24-81 1900 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	267.4	67.93	78.72	10.79	73.32	61.0	101.2	169.1	97.8		TH3 169.1	67.9
PREFLASH											TM5 117.60	16.4
											TM4 75.78	-25.4
											TM3 73.32	-27.9
											TH4 97.8	-3.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.441D 06	27.5	5.24D 04	4.064D 04	1130.	930.	2.10D 05	0.249				

RR 6-25-81 1000 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
PREFLASH	267.6	62.48	71.30	8.82	66.89	40.5	79.8	186.9	78.2	TH3	186.9	107.1
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	116.03	36.2
	1.180D	06	12.4	9.54D	04	3.724D	04	1086.	1006.	2.12D	05	0.451
RR 6-25-81 1100 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	267.1	64.94	73.97	9.04	69.46	39.5	78.6	183.4	76.9	TH3	183.4	104.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	111.32	32.7
	1.206D	06	8.3	1.45D	05	3.852D	04	1102.	997.	2.13D	05	0.680
RR 6-25-81 1145 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH	264.4	66.05	75.22	9.17	70.64	38.5	77.4	184.0	76.2	TH3	184.0	106.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	114.08	36.7
	1.211D	06	5.5	2.20D	05	3.875D	04	1101.	995.	2.13D	05	1.033
RR 7-01-81 1100 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
PREFLASH	251.2	65.68	73.27	7.59	69.47	41.0	80.4	163.4	78.5	TH3	163.4	83.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	112.33	32.0
BELOW LAB RANGE	9.524D	05	10.4	9.12D	04	3.623D	04	1049.	1087.	2.13D	05	0.428
RR 7-01-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH = 33	253.3	88.68	100.46	11.78	94.57	65.0	104.8	170.1	102.7	TH3	170.1	65.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	106.65	1.8
	1.483D	06	9.0	1.65D	05	4.998D	04	1219.	920.	2.19D	05	0.753
RR 7-01-81 1330 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMP SH	WRKFL SUPHT
VENT PREFLASH = 33	252.4	71.52	83.70	12.18	77.61	46.5	86.6	165.1	93.2	TH3	165.1	78.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM5	85.63	-1.0
	1.534D	06	7.4	2.07D	05	4.058D	04	1107.	908.	2.06D	05	1.007

RR	7-01-81	1400	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				251.5	71.10	82.67	11.58	76.89	48.5	88.8	169.2	93.7	TH3	169.2	80.4
													TM5	86.62	-2.2
													TM4	86.08	-2.7
													TM3	83.51	-5.3
													TH4	93.7	4.9
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.453D	06	10.9	1.34D 05	4.006D 04	1099.	927.	2.07D 05	0.646			
RR	7-01-81	1430	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				252.0	71.30	83.02	11.72	77.16	48.0	88.2	168.8	94.3	TH3	168.8	80.6
													TM5	86.63	-1.6
													TM4	85.60	-2.6
													TM3	81.39	-6.8
													TH4	94.3	6.1
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.474D	06	9.9	1.48D 05	4.028D 04	1103.	922.	2.07D 05	0.717			
RR	7-01-81	1500	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				252.2	70.87	82.83	11.97	76.85	48.0	88.2	175.9	94.3	TH3	175.9	87.7
													TM5	87.69	-0.5
													TM4	86.17	-2.1
													TM3	81.08	-7.2
													TH4	94.3	6.1
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.506D	06	10.2	1.47D 05	4.015D 04	1101.	914.	2.06D 05	0.714			
RR	7-01-81	1530	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				251.7	70.34	82.31	11.98	76.32	48.0	88.2	170.0	93.8	TH3	170.0	81.8
													TM5	87.49	-0.7
													TM4	80.62	-7.6
													TM3	80.40	-7.8
													TH4	93.8	5.6
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.505D	06	10.8	1.39D 05	3.980D 04	1096.	915.	2.05D 05	0.677			
RR	7-01-81	1600	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				251.7	70.54	81.93	11.38	76.24	49.0	89.3	166.9	95.0	TH3	166.9	77.6
													TM5	88.64	-0.7
													TM4	81.29	-8.0
													TM3	80.38	-8.9
													TH4	95.0	5.7
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.430D	06	12.2	1.17D 05	3.975D 04	1096.	933.	2.07D 05	0.567			
RR	7-01-81	1630	DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
				FLOW	TEMPIN	TEMPER	TEMPRS	TEMPAV	PRESS	TMPST	TMPIIN	TMPEX	IDNT	TEMPSH	SUPHT
				252.1	69.90	81.98	12.08	75.94	49.0	89.3	165.7	95.6	TH3	165.7	76.4
													TM5	88.55	-0.8
													TM4	80.76	-8.5
													TM3	81.55	-7.8
													TH4	95.6	6.3
				HEAT	SAT	MEAS	WATER	WATER	COMP		PRED	PERFO			
				LOAD	LMTD	UA	REYN NO	COEFF	COEFF		UA	RATIO			
				1.520D	06	12.4	1.23D 05	3.966D 04	1095.	911.	2.05D 05	0.598			

RR 7-01-81 1700 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	252.3	69.98	81.26	11.29	75.62	48.5	88.8	167.2	95.0	TH3	167.2	78.4
										TM5	88.35	-0.4
PREFLASH = 33	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	80.69	-8.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	80.52	-8.3
	1.421D	06	12.3	1.16D	05	3.953D	04	1094.	936.	2.07D	05	0.559
										TH4	95.0	6.2
RR 7-01-81 1800 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	252.1	70.67	82.07	11.40	76.37	50.5	90.9	165.8	95.6	TH3	165.8	74.9
										TM5	89.04	-1.8
PREFLASH = 32	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	81.66	-9.2
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	81.35	-9.5
	1.434D	06	13.7	1.04D	05	3.989D	04	1098.	932.	2.07D	05	0.505
										TH4	95.6	4.7
RR 7-06-81 1300 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	259.6	73.87	84.84	10.97	79.36	57.0	97.4	167.8	92.0	TH3	167.8	70.4
										TM5	95.33	-2.1
PREFLASH = 39	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	79.27	-18.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	83.69	-13.7
	1.420D	06	17.5	8.13D	04	4.268D	04	1144.	936.	2.13D	05	0.383
										TH4	92.0	-5.4
RR 7-06-81 1530 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	260.3	74.75	86.16	11.41	80.46	52.0	92.4	175.0	90.4	TH3	175.0	82.6
										TM5	91.49	-0.9
VENT = 30 PREFLASH = 34	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	89.83	-2.6
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	89.34	-3.1
	1.481D	06	11.0	1.35D	05	4.340D	04	1154.	920.	2.12D	05	0.635
										TH4	90.4	-2.0
RR 7-06-81 1600 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	259.6	75.00	86.20	11.20	80.60	51.5	91.9	172.0	89.8	TH3	172.0	80.1
										TM5	91.15	-0.8
VENT = 30 PREFLASH = 34	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	89.56	-2.4
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	89.28	-2.6
	1.450D	06	10.3	1.40D	05	4.336D	04	1152.	928.	2.13D	05	0.660
										TH4	89.8	-2.1
RR 7-06-81 1630 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	260.3	76.16	87.05	10.89	81.61	52.0	92.4	169.3	90.4	TH3	169.3	76.9
										TM5	91.70	-0.7
VENT = 30 PREFLASH = 34	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM4	89.62	-2.6
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM3	89.90	-2.5
	1.413D	06	9.8	1.44D	05	4.402D	04	1161.	938.	2.15D	05	0.669
										TH4	90.4	-2.0

RR 7-06-81 1700 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT = 30	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH = 34	260.0	75.98	87.25	11.27	81.61	51.5	91.9	172.2	90.0	TH3	172.2	80.3
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	92.62	0.7
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	90.02	-1.9
	1.461D 06	9.2	1.59D 05	4.398D 04	1160.	925.	2.13D 05	0.747		TM3	90.99	-0.9
										TH4	90.0	-1.9
RR 7-06-81 1730 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT = 30	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH = 34	260.2	74.61	86.31	11.70	80.46	51.0	91.4	185.6	89.2	TH3	185.6	94.2
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	93.40	2.0
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	89.45	-1.9
	1.519D 06	9.8	1.55D 05	4.338D 04	1153.	911.	2.11D 05	0.733		TM3	90.36	-1.0
										TH4	89.2	-2.2
RR 7-06-81 1800 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT = 30	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH = 34	260.0	75.73	86.56	10.83	81.14	51.0	91.4	180.4	89.7	TH3	180.4	89.0
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	95.33	3.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	89.58	-1.8
	1.404D 06	9.2	1.52D 05	4.372D 04	1157.	940.	2.14D 05	0.710		TM3	90.82	-0.6
										TH4	89.7	-1.7
RR 7-07-81 1300 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREFLASH	260.8	66.69	76.87	10.17	71.78	41.0	80.4	159.8	80.0	TH3	159.8	79.4
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	79.48	-0.9
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	79.06	-1.3
	1.325D 06	7.5	1.77D 05	3.882D 04	1097.	962.	2.09D 05	0.847		TM3	78.94	-1.4
										TH4	80.0	-0.4
RR 7-07-81 1330 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	260.5	66.74	77.61	10.87	72.17	43.0	82.7	162.1	82.3	TH3	162.1	79.4
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	81.63	-1.1
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	80.59	-2.1
	1.414D 06	9.5	1.49D 05	3.899D 04	1099.	937.	2.08D 05	0.717		TM3	69.38	-13.3
										TH4	82.3	-0.4
RR 7-07-81 1400 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
PREFLASH = 35	FLOW	TEMPIN	TEMPEX	TEMPRS	TEMPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
	259.9	67.19	77.83	10.64	72.51	44.0	83.8	159.1	83.5	TH3	159.1	75.3
	HEAT	SAT	MEAS	WATER	WATER	COMP	PRED	PERFO		TM5	83.25	-0.6
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO		TM4	76.05	-7.8
	1.381D 06	10.4	1.32D 05	3.907D 04	1099.	946.	2.08D 05	0.636		TM3	69.57	-14.3
										TH4	83.5	-0.3

RR 7-07-81 1430 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.2	67.22	77.43	10.21	72.33	46.0	86.1	161.7	84.4	TH3	161.7	75.6
PREFLASH = 35										TM5	84.34	-1.7
										TM4	74.41	-11.7
										TM3	69.42	-16.6
										TH4	84.4	-1.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.327D 06	13.1	1.01D 05	3.902D 04	1099.	961.	2.10D 05	0.484				
RR 7-07-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.1	67.86	77.99	10.13	72.93	48.0	88.2	167.0	87.2	TH3	167.0	78.8
PREFLASH = 35										TM5	87.42	-0.8
										TM4	74.86	-13.4
										TM3	69.83	-18.4
										TH4	87.2	-1.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.316D 06	14.7	8.93D 04	3.932D 04	1102.	964.	2.10D 05	0.425				
RR 7-07-81 1530 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	259.9	68.13	78.46	10.33	73.30	49.5	89.8	166.4	88.2	TH3	166.4	76.6
PREFLASH = 35										TM5	88.90	-0.9
										TM4	75.12	-14.7
										TM3	70.08	-19.7
										TH4	88.2	-1.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.340D 06	16.0	8.39D 04	3.948D 04	1104.	957.	2.10D 05	0.400				
RR 7-07-81 1600 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	259.8	68.04	77.75	9.71	72.89	51.5	91.9	160.9	88.6	TH3	160.9	69.0
PREFLASH = 35										TM5	92.15	0.2
										TM4	72.83	-19.1
										TM3	77.61	-14.3
										TH4	88.6	-3.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.260D 06	18.6	6.77D 04	3.926D 04	1101.	981.	2.11D 05	0.320				
RR 7-07-81 1630 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	259.9	67.93	78.80	10.87	73.36	52.0	92.4	179.5	90.5	TH3	179.5	87.1
PREFLASH = 35										TM5	91.55	-0.9
										TM4	75.24	-17.2
										TM3	70.32	-22.1
										TH4	90.5	-1.9
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.411D 06	18.5	7.61D 04	3.952D 04	1105.	938.	2.08D 05	0.365				
RR 7-07-81 1700 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.0	67.42	77.97	10.54	72.70	52.0	92.4	167.9	90.2	TH3	167.9	75.5
PREFLASH = 37										TM5	91.66	-0.8
										TM4	74.90	-17.5
										TM3	70.04	-22.4
										TH4	90.2	-2.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.369D 06	19.3	7.11D 04	3.918D 04	1101.	949.	2.09D 05	0.340				

RR 7-07-81 1730 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.2	67.31	77.44	10.13	72.38	53.5	93.9	161.3	90.9	TH3	161.3	67.4
PREFLASH = 37										TM5	93.40	-0.5
										TM4	72.17	-21.8
										TM3	75.89	-18.1
										TH4	90.9	-3.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.316D	06	21.2	6.22D 04	3.905D 04	1099.	964.	2.10D 05	0.296			
RR 7-07-81 1800 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.0	67.46	77.52	10.06	72.49	54.0	94.4	159.4	91.7	TH3	159.4	65.0
PREFLASH = 37										TM5	92.49	-2.0
										TM4	71.81	-22.6
										TM3	76.86	-17.6
										TH4	91.7	-2.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.307D	06	21.6	6.06D 04	3.908D 04	1099.	967.	2.10D 05	0.288			
RR 7-08-81 930 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	259.8	55.90	66.10	10.20	61.00	58.5	98.8	186.8	94.4	TH3	186.8	88.0
PREFLASH										TM5	116.63	17.8
										TM4	59.62	-39.2
										TM3	54.37	-44.5
										TH4	94.4	-4.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.327D	06	37.6	3.53D 04	3.322D 04	1021.	961.	2.00D 05	0.176			
RR 7-08-81 1000 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.0	59.19	69.29	10.10	64.24	62.0	102.1	174.7	97.6	TH3	174.7	72.6
PREFLASH = 40										TM5	116.75	14.6
										TM4	63.72	-38.4
										TM3	59.07	-43.0
										TH4	97.6	-4.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.313D	06	37.6	3.49D 04	3.485D 04	1043.	965.	2.03D 05	0.172			
RR 7-08-81 1100 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.0	60.80	70.59	9.78	65.69	64.5	104.4	169.3	99.2	TH3	169.3	64.9
PREFLASH = 40										TM5	119.01	14.6
										TM4	66.34	-38.0
										TM3	61.98	-42.4
										TH4	99.2	-5.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.272D	06	38.5	3.31D 04	3.558D 04	1053.	977.	2.05D 05	0.161			
RR 7-08-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	260.1	61.26	71.12	9.86	66.19	66.5	106.1	168.3	100.3	TH3	168.3	62.2
PREFLASH = 40										TM5	120.39	14.3
										TM4	67.54	-38.6
										TM3	63.58	-42.6
										TH4	100.3	-5.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	1.282D	06	39.7	3.23D 04	3.584D 04	1057.	974.	2.06D 05	0.157			

RR 7-08-81 1230 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 80	259.7	62.40	73.00	10.60	67.70	57.0	97.4	180.3	95.4	TH3	180.3	82.9
PREFLASH = 40										TM5	112.80	15.4
										TM4	66.81	-30.6
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	73.72	-23.7
	1.376D 06	29.4	4.68D 04	3.656D 04	1066.	948.	2.05D 05	0.229		TH4	95.4	-2.0
RR 7-08-81 1300 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 80	260.4	64.05	74.66	10.62	69.35	45.0	85.0	175.7	84.6	TH3	175.7	90.7
PREFLASH = 40										TM5	83.96	-1.0
										TM4	68.79	-16.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	74.86	-10.1
	1.382D 06	15.0	9.23D 04	3.750D 04	1079.	946.	2.06D 05	0.448		TH4	84.6	-0.4
RR 7-08-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 50	259.5	65.46	76.52	11.06	70.99	43.0	82.7	177.7	80.9	TH3	177.7	95.0
PREFLASH = 40										TM5	82.25	-0.4
										TM4	80.50	-2.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	79.46	-3.2
	1.433D 06	10.8	1.33D 05	3.822D 04	1087.	932.	2.06D 05	0.646		TH4	80.9	-1.8
RR 7-08-81 1430 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 50	259.7	65.93	77.11	11.18	71.52	42.5	82.1	176.6	80.8	TH3	176.6	94.5
PREFLASH = 40										TM5	82.09	-0.0
										TM4	80.60	-1.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	81.13	-1.0
	1.450D 06	9.5	1.52D 05	3.852D 04	1092.	928.	2.06D 05	0.738		TH4	80.8	-1.3
RR 7-08-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 50	259.1	66.83	77.96	11.13	72.39	43.0	82.7	175.6	81.5	TH3	175.6	92.9
PREFLASH = 40										TM5	82.83	0.1
										TM4	81.38	-1.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	82.23	-0.5
	1.440D 06	9.2	1.56D 05	3.889D 04	1096.	931.	2.07D 05	0.757		TH4	81.5	-1.2
RR 10-13-81 1235 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH	252.0	50.54	57.72	7.18	54.13	31.0	67.6	160.0	71.0	TH3	160.0	92.4
										TM5	68.80	1.2
										TM4	64.93	-2.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	49.67	-18.0
BELOW LAB RANGE	9.072D 05	13.2	6.88D 04	2.905D 04	950.	1105.	2.00D 05	0.343		TH4	71.0	3.4

RR 10-13-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	50.12	57.08	6.95	53.60	31.0	67.6	159.0	70.0	TH3	159.0	91.4
PREFLASH = 48										TM5	68.43	0.8
										TM4	54.64	-13.0
										TM3	49.54	-18.1
										TH4	70.0	2.4
BELOW LAB RANGE	8.785D	05	13.8	6.39D	04	2.881D	04	947.	1117.	2.01D	05	0.319
RR 10-13-81 1415 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	51.81	60.13	8.32	55.97	35.0	73.0	166.0	75.0	TH3	166.0	93.0
PREFLASH = 49										TM5	73.86	0.9
										TM4	57.18	-15.8
										TM3	49.79	-23.2
										TH4	75.0	2.0
BELOW LAB RANGE	1.051D	06	16.7	6.31D	04	2.989D	04	962.	1050.	1.99D	05	0.317
RR 10-13-81 1445 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	53.06	61.63	8.56	57.35	38.0	76.8	169.0	77.0	TH3	169.0	92.2
PREFLASH = 50										TM5	77.07	0.3
SAMPLE TAKEN										TM4	57.73	-19.0
										TM3	51.03	-25.7
										TH4	77.0	0.2
	1.081D	06	19.1	5.66D	04	3.052D	04	972.	1039.	1.99D	05	0.284
RR 10-13-81 1520 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	54.83	62.38	7.55	58.60	40.0	79.2	173.0	77.0	TH3	173.0	93.8
PREFLASH = 51										TM5	78.55	-0.6
										TM4	58.47	-20.7
										TM3	52.04	-27.1
										TH4	77.0	-2.2
BELOW LAB RANGE	9.531D	05	20.3	4.68D	04	3.110D	04	980.	1087.	2.03D	05	0.230
RR 10-13-81 1540 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	54.36	62.49	8.13	58.43	41.0	80.4	176.0	78.0	TH3	176.0	95.6
PREFLASH = 51										TM5	79.93	-0.4
										TM4	58.80	-21.6
										TM3	52.79	-27.6
										TH4	78.0	-2.4
BELOW LAB RANGE	1.026D	06	21.7	4.73D	04	3.102D	04	979.	1059.	2.02D	05	0.235
RR 10-13-81 1600 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	53.71	62.19	8.49	57.95	42.0	81.5	168.0	79.0	TH3	168.0	86.5
PREFLASH = 52										TM5	81.26	-0.3
										TM4	58.25	-23.3
										TM3	53.48	-28.1
										TH4	79.0	-2.5
BELOW LAB RANGE	1.071D	06	23.3	4.59D	04	3.080D	04	976.	1042.	2.00D	05	0.229

RR 10-14-81 925 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	66.06	67.53	1.47	66.80	32.0	69.0	67.0	51.0	TH3	67.0	-2.0
PREFLASH = 74										TM5	68.22	-0.8
										TM4	71.22	2.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	67.29	-1.7
BELOW LAB RANGE	1.851D 05	2.1	8.70D 04	3.501D 04	1034.	1522.	2.34D 05	0.372		TH4	51.0	-18.0
RR 10-14-81 955 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	66.15	67.69	1.53	66.92	32.0	69.0	67.0	51.0	TH3	67.0	-2.0
PREFLASH = 74										TM5	68.18	-0.8
										TM4	70.82	1.8
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	67.71	-1.3
BELOW LAB RANGE	1.931D 05	2.0	9.69D 04	3.507D 04	1035.	1516.	2.34D 05	0.415		TH4	51.0	-18.0
RR 10-14-81 1245 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	52.42	57.59	5.17	55.00	32.5	69.7	173.0	70.0	TH3	173.0	103.3
PREFLASH = 55										TM5	69.41	-0.3
										TM4	57.15	-12.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	53.16	-16.5
BELOW LAB RANGE	6.529D 05	14.5	4.49D 04	2.944D 04	956.	1224.	2.08D 05	0.216		TH4	70.0	0.3
RR 10-14-81 1310 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	53.54	61.12	7.58	57.33	37.0	75.5	193.0	75.0	TH3	193.0	117.5
PREFLASH = 56										TM5	75.92	0.4
										TM4	58.16	-17.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	54.41	-21.1
BELOW LAB RANGE	9.569D 05	17.9	5.34D 04	3.051D 04	971.	1085.	2.02D 05	0.264		TH4	75.0	-0.5
RR 10-14-81 1335 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	54.73	62.18	7.45	58.45	37.5	76.1	186.0	75.0	TH3	186.0	109.9
PREFLASH = 57										TM5	112.80	36.7
										TM4	59.47	-16.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	54.25	-21.9
BELOW LAB RANGE	9.409D 05	17.4	5.40D 04	3.103D 04	979.	1092.	2.04D 05	0.265		TH4	75.0	-1.1
RR 10-14-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	55.05	63.50	8.44	59.27	40.0	79.2	171.0	78.0	TH3	171.0	91.8
PREFLASH = 55										TM5	79.08	-0.1
										TM4	60.61	-18.6
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM3	54.99	-24.2
BELOW LAB RANGE	1.065D 06	19.6	5.43D 04	3.141D 04	985.	1044.	2.01D 05	0.270		TH4	78.0	-1.2

RR 10-14-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	56.06	64.03	7.97	60.05	44.0	83.8	168.0	81.0	TH3	168.0	84.2
PREFLASH = 56										TM5	83.50	-0.3
										TM4	60.16	-23.7
										TM3	56.13	-27.7
										TH4	81.0	-2.8
BELOW LAB RANGE	1.006D 06	23.6	4.27D 04	3.178D 04	990.	1066.	2.04D 05	0.210				
RR 10-14-81 1530 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	56.59	63.92	7.33	60.26	45.0	85.0	181.0	82.0	TH3	181.0	96.0
PREFLASH = 56										TM5	83.49	-1.5
										TM4	60.51	-24.4
										TM3	55.49	-29.5
										TH4	82.0	-3.0
BELOW LAB RANGE	9.255D 05	24.5	3.77D 04	3.187D 04	991.	1098.	2.06D 05	0.184				
RR 10-14-81 1550 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	56.74	64.43	7.69	60.59	46.0	86.1	180.0	82.0	TH3	180.0	93.9
PREFLASH = 54										TM5	84.98	-1.1
										TM4	60.94	-25.1
										TM3	56.14	-29.9
										TH4	82.0	-4.1
BELOW LAB RANGE	9.699D 05	25.3	3.84D 04	3.203D 04	993.	1080.	2.05D 05	0.187				
RR 10-14-81 1625 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	56.31	63.92	7.61	60.11	40.0	79.2	176.0	78.0	TH3	176.0	96.8
PREFLASH = 54										TM5	78.97	-0.2
										TM4	59.91	-19.3
SAMPLE TAKEN										TM3	55.77	-23.4
										TH4	78.0	-1.2
BELOW LAB RANGE	9.598D 05	18.8	5.10D 04	3.181D 04	990.	1084.	2.05D 05	0.249				
RR 10-14-81 1645 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	55.35	64.26	8.91	59.81	34.0	71.7	181.0	70.0	TH3	181.0	109.3
VENT = 80										TM5	70.91	-0.8
PREFLASH = 53										TM4	63.08	-8.6
										TM3	56.87	-14.8
										TH4	70.0	-1.7
	1.125D 06	11.3	9.96D 04	3.166D 04	988.	1024.	2.00D 05	0.497				
RR 10-14-81 1715 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	56.02	63.76	7.74	59.89	31.0	67.6	181.0	67.0	TH3	181.0	113.4
VENT = 80										TM5	67.62	-0.0
PREFLASH = 53										TM4	66.78	-0.9
										TM3	65.63	-2.0
										TH4	67.0	-0.6
BELOW LAB RANGE	9.765D 05	7.1	1.38D 05	3.170D 04	989.	1078.	2.04D 05	0.678				

RR 10-14-81 1730 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 80	252.0	55.50	63.74	8.25	59.62	31.0	67.6	181.0	68.0	TH3	181.0	113.4
PREFLASH = 54										TH5	89.57	21.9
										TH4	65.88	-1.8
										TH3	63.30	-4.3
										TH4	68.0	0.4
BELOW LAB RANGE	1.041D 06	7.3	1.43D 05	3.158D 04	987.	1053.	2.02D 05	0.709				
RR 10-15-81 1000 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 54	252.0	51.57	59.24	7.67	55.40	35.0	73.0	180.0	73.0	TH3	180.0	107.0
										TH5	73.62	0.6
										TH4	59.06	-13.9
										TH3	52.64	-20.3
										TH4	73.0	0.0
BELOW LAB RANGE	9.690D 05	17.3	5.60D 04	2.963D 04	959.	1080.	2.00D 05	0.280				
RR 10-15-81 1030 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 54	252.0	52.18	60.20	8.02	56.19	38.0	76.8	179.0	75.0	TH3	179.0	102.2
										TH5	76.59	-0.2
										TH4	58.68	-18.1
										TH3	52.38	-24.4
										TH4	75.0	-1.8
BELOW LAB RANGE	1.013D 06	20.3	4.99D 04	2.999D 04	964.	1064.	2.00D 05	0.250				
RR 10-15-81 1045 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 54	252.0	52.12	60.23	8.11	56.17	39.0	78.0	181.0	75.0	TH3	181.0	103.0
										TH5	77.20	-0.8
										TH4	57.96	-20.0
										TH3	51.76	-26.2
										TH4	75.0	-3.0
BELOW LAB RANGE	1.024D 06	21.6	4.75D 04	2.998D 04	964.	1059.	2.00D 05	0.238				
RR 10-15-81 1110 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 54	252.0	52.88	60.53	7.65	56.71	36.0	74.3	180.0	72.0	TH3	180.0	105.7
										TH5	74.90	0.6
										TH4	58.36	-15.9
										TH3	52.60	-21.7
										TH4	72.0	-2.3
BELOW LAB RANGE	9.661D 05	17.3	5.59D 04	3.022D 04	967.	1082.	2.01D 05	0.278				
RR 10-15-81 1130 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 54	252.0	52.78	60.29	7.51	56.53	36.0	74.3	180.0	73.0	TH3	180.0	105.7
										TH5	110.19	35.9
										TH4	57.43	-16.8
										TH3	51.78	-22.5
										TH4	73.0	-1.3
BELOW LAB RANGE	9.484D 05	17.5	5.43D 04	3.014D 04	966.	1089.	2.02D 05	0.269				

RR 10-15-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	252.0	52.19	59.25	7.07	55.72	36.0	74.3	179.0	74.0	TH3	179.0	104.7
PREFLASH = 44										TM5	112.80	38.5
										TM4	56.53	-17.7
										TM3	50.57	-23.7
										TH4	74.0	-0.3
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	8.923D 05	18.3	4.87D 04	2.977D 04	961.	1112.	2.02D 05	0.241				
RR 10-19-81 1235 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	60.81	66.15	5.34	63.48	34.0	71.7	158.0	75.0	TH3	158.0	86.3
PREFLASH = 35										TM5	72.80	1.1
										TM4	70.89	-0.8
										TM3	61.22	-10.5
										TH4	75.0	3.3
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	6.807D 05	7.9	8.62D 04	3.380D 04	1022.	1209.	2.17D 05	0.398				
RR 10-19-81 1300 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	61.84	66.20	4.36	64.02	35.0	73.0	152.0	74.0	TH3	152.0	79.0
PREFLASH = 36										TM5	72.26	-0.7
										TM4	67.03	-5.9
										TM3	62.08	-10.9
										TH4	74.0	1.0
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	5.558D 05	8.8	6.33D 04	3.406D 04	1026.	1276.	2.21D 05	0.287				
RR 10-19-81 1320 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	62.00	66.64	4.64	64.32	35.0	73.0	164.0	75.0	TH3	164.0	91.0
PREFLASH = 36										TM5	73.00	0.0
										TM4	66.50	-6.5
										TM3	62.44	-10.5
										TH4	75.0	2.0
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	5.921D 05	8.4	7.01D 04	3.421D 04	1028.	1256.	2.20D 05	0.318				
RR 10-19-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	63.22	70.26	7.03	66.74	40.0	79.2	162.0	80.0	TH3	162.0	82.8
PREFLASH = 35										TM5	79.51	0.3
										TM4	69.38	-9.8
										TM3	63.40	-15.8
										TH4	80.0	0.8
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	8.967D 05	12.1	7.41D 04	3.541D 04	1044.	1110.	2.14D 05	0.347				
RR 10-19-81 1530 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	65.44	72.98	7.53	69.21	43.0	82.7	175.0	81.0	TH3	175.0	92.3
PREFLASH = 35										TM5	81.54	-1.2
										TM4	72.63	-10.1
										TM3	65.79	-16.9
										TH4	81.0	-1.7
BELOW LAB RANGE	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
	9.598D 05	13.1	7.31D 04	3.665D 04	1060.	1084.	2.14D 05	0.341				

RR 10-19-81 1610 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	67.15	76.72	9.57	71.93	50.0	90.4	203.0	89.0	TH3	203.0	112.6
PREFLASH = 50										TH5	92.01	1.7
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	82.86	-7.5
	1.219D	06	18.0	6.77D	04	3.804D	04	1079.	993.	2.10D	05	0.323
RR 10-19-81 1645 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	65.18	73.05	7.87	69.12	44.0	83.8	188.0	83.0	TH3	188.0	104.2
PREFLASH = 56										TH5	122.33	38.5
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	75.00	-8.8
	1.003D	06	14.4	6.98D	04	3.660D	04	1060.	1067.	2.13D	05	0.328
RR 10-20-81 1420 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	61.06	68.17	7.11	64.62	46.0	86.1	197.0	83.0	TH3	197.0	110.9
PREFLASH = 34										TH5	120.26	34.2
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	65.21	-20.9
	9.065D	05	21.2	4.27D	04	3.436D	04	1030.	1106.	2.12D	05	0.202
RR 10-20-81 1500 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	61.83	68.78	6.95	65.30	48.0	88.2	198.0	86.0	TH3	198.0	109.8
PREFLASH = 52										TH5	123.63	35.4
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	64.80	-23.4
	8.869D	05	22.8	3.90D	04	3.470D	04	1034.	1114.	2.13D	05	0.183
RR 10-20-81 1510 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	61.92	68.97	7.05	65.44	48.0	88.2	205.0	86.0	TH3	205.0	116.8
VENT = 30										TH5	124.76	36.5
PREFLASH = 60										TH4	64.93	-23.3
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	70.89	-17.4
	8.996D	05	22.6	3.98D	04	3.477D	04	1035.	1109.	2.12D	05	0.187
RR 10-20-81 1525 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
	255.0	62.32	69.42	7.11	65.87	46.0	86.1	202.0	84.0	TH3	202.0	115.9
VENT = 30										TH5	124.51	38.4
PREFLASH = 60										TH4	65.02	-21.0
	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH3	70.07	-16.0
	9.064D	05	20.0	4.54D	04	3.498D	04	1038.	1106.	2.13D	05	0.213

RR 10-20-81 1540 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 30	255.0	62.25	69.53	7.29	65.89	44.0	83.8	184.0	81.0	TH3	184.0	100.2
PREFLASH = 60										TM5	101.00	17.2
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	64.53	-19.3
BELOW LAB RANGE	9.290D 05	17.7	5.25D 04	3.499D 04	1038.	1096.	2.12D 05	0.248		TH3	69.47	-14.4
										TH4	81.0	-2.8
RR 10-20-81 1600 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 30	255.0	62.08	68.87	6.79	65.48	42.0	81.5	180.0	80.0	TH3	180.0	98.5
PREFLASH = 55										TM5	79.71	-1.8
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	66.09	-15.5
BELOW LAB RANGE	8.660D 05	15.8	5.47D 04	3.478D 04	1035.	1123.	2.13D 05	0.256		TH3	63.45	-18.1
										TH4	80.0	-1.5
RR 10-21-81 1130 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 60	255.0	52.23	60.22	7.99	56.23	31.0	67.6	205.0	70.0	TH3	205.0	137.4
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	70.29	2.6
BELOW LAB RANGE	1.021D 06	10.9	9.34D 04	3.036D 04	973.	1061.	2.01D 05	0.465		TH4	56.16	-11.5
										TH3	52.70	-14.9
										TH4	70.0	2.4
RR 10-21-81 1200 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 45	255.0	53.66	61.63	7.98	57.64	32.0	69.0	210.0	70.0	TH3	210.0	141.0
PREFLASH = 60										TM5	71.07	2.1
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	58.30	-10.7
BELOW LAB RANGE	1.019D 06	10.9	9.37D 04	3.102D 04	983.	1061.	2.02D 05	0.463		TH3	53.91	-15.1
										TH4	70.0	1.0
RR 10-21-81 1225 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 45	255.0	54.53	61.68	7.15	58.10	33.0	70.4	205.0	71.0	TH3	205.0	134.6
PREFLASH = 60										TM5	119.50	49.2
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	58.17	-12.2
BELOW LAB RANGE	9.133D 05	11.9	7.68D 04	3.123D 04	986.	1103.	2.05D 05	0.374		TH3	61.62	-8.7
										TH4	71.0	0.6
RR 10-21-81 1245 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 45	255.0	54.95	62.42	7.47	58.68	33.0	70.4	213.0	70.0	TH3	213.0	142.6
PREFLASH = 50										TM5	82.99	12.6
	HEAT LOAD	SAT LMTD	NEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TH4	59.86	-10.5
BELOW LAB RANGE	9.547D 05	11.3	8.48D 04	3.151D 04	990.	1086.	2.05D 05	0.414		TH3	56.25	-14.1
										TH4	70.0	-0.4

RR 10-21-81 1305 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 45	255.0	55.63	63.12	7.49	59.37	32.0	69.0	215.0	69.0	TH3	215.0	146.0
PREFLASH = 50										TM5	79.91	10.9
										TM4	63.49	-5.5
										TM3	55.92	-13.1
										TH4	69.0	-0.0
BELOW LAB RANGE	9.561D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		9.1	1.05D 05	3.183D 04	995.	1086.	2.05D 05	0.510				
RR 10-21-81 1330 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 80	255.0	56.12	63.10	6.98	59.61	30.0	66.2	213.0	66.0	TH3	213.0	146.8
PREFLASH = 50										TM5	99.87	33.6
										TM4	65.16	-1.1
										TM3	64.05	-2.2
										TH4	66.0	-0.2
BELOW LAB RANGE	8.915D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		6.0	1.49D 05	3.195D 04	996.	1112.	2.07D 05	0.720				
RR 10-21-81 1345 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	56.04	62.19	6.15	59.11	29.0	64.8	213.0	66.0	TH3	213.0	148.2
										TM5	142.77	77.9
										TM4	63.98	-0.9
										TM3	61.29	-3.5
										TH4	66.0	1.2
BELOW LAB RANGE	7.849D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		5.1	1.53D 05	3.171D 04	993.	1159.	2.10D 05	0.732				
RR 10-21-81 1400 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.73	60.69	4.96	58.21	30.0	66.2	200.0	64.0	TH3	200.0	133.8
										TM5	130.38	64.1
										TM4	60.67	-5.6
										TM3	60.61	-5.6
										TH4	64.0	-2.2
BELOW LAB RANGE	6.332D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		7.8	8.14D 04	3.128D 04	987.	1234.	2.13D 05	0.383				
RR 10-21-81 1525 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 55	255.0	52.99	58.58	5.59	55.78	31.0	67.6	171.0	68.0	TH3	171.0	103.4
										TM5	73.52	5.9
										TM4	56.52	-11.1
										TM3	53.27	-14.4
										TH4	68.0	0.4
BELOW LAB RANGE	7.146D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		11.6	6.14D 04	3.015D 04	970.	1192.	2.08D 05	0.295				
RR 10-21-81 1605 DC	WATER FLOW	WATER TEMPIN	WATER TEMPEX	WATER TEMPRS	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 40	255.0	55.08	61.48	6.40	58.28	32.0	69.0	174.0	*****	TH3	174.0	105.0
PREFLASH = 50										TM5	69.52	0.5
										TM4	58.79	-10.2
										TM3	55.09	-13.9
										TH4	*****	*****
BELOW LAB RANGE	8.173D 05	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO			
		10.4	7.86D 04	3.132D 04	987.	1144.	2.08D 05	0.378				

RR 10-21-81 1630 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
VENT = 40	255.0	55.67	61.77	6.10	58.72	31.0	67.6	171.0	66.0	TH3	171.0	103.4
PREFLASH = 50										TM5	87.49	19.9
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	61.33	-6.3
BELOW LAB RANGE	7.795D 05	8.6	9.10D 04	3.152D 04	990.	1161.	2.09D 05	0.435		TM3	61.18	-6.5
										TH4	66.0	-1.6
RR 10-21-81 1700 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.57	61.63	6.06	58.60	31.0	67.6	163.0	68.0	TH3	163.0	95.4
										TM5	93.91	26.3
										TM4	61.62	-6.0
										TM3	61.48	-6.2
										TH4	68.0	0.4
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	7.743D 05	8.7	8.91D 04	3.147D 04	989.	1164.	2.09D 05	0.426				
RR 10-21-81 1715 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.72	61.80	6.09	58.76	32.0	69.0	166.0	69.0	TH3	166.0	97.0
										TM5	93.91	24.9
										TM4	61.62	-7.4
										TM3	62.11	-6.9
										TH4	69.0	-0.0
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	7.774D 05	9.9	7.82D 04	3.154D 04	990.	1162.	2.09D 05	0.373				
RR 10-21-81 1730 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.69	62.16	6.47	58.92	32.0	69.0	168.0	69.0	TH3	168.0	99.0
										TM5	73.52	4.5
										TM4	59.23	-9.8
										TM3	56.31	-12.7
										TH4	69.0	-0.0
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	8.258D 05	9.7	8.49D 04	3.162D 04	991.	1140.	2.08D 05	0.407				
RR 10-21-81 1740 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.77	61.98	6.22	58.88	32.0	69.0	165.0	69.0	TH3	165.0	96.0
										TM5	72.52	3.5
										TM4	59.97	-9.0
										TM3	56.48	-12.5
										TH4	69.0	-0.0
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	7.937D 05	9.8	8.09D 04	3.160D 04	991.	1155.	2.09D 05	0.387				
RR 10-21-81 1800 DC	WATER FLOW	WATER TEMPIN	WATER TEMPER	WATER TEMPER	WATER TEMPAV	WRKFL PRESS	WRKFL TMPST	WRKFL TMPIN	WRKFL TMPEX	INST IDNT	WRKFL TEMPSH	WRKFL SUPHT
PREFLASH = 50	255.0	55.75	61.98	6.23	58.86	33.0	70.4	164.0	70.0	TH3	164.0	93.6
										TM5	77.98	7.6
										TM4	59.82	-10.5
										TM3	56.08	-14.3
										TH4	70.0	-0.4
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO				
BELOW LAB RANGE	7.957D 05	11.2	7.10D 04	3.159D 04	991.	1154.	2.09D 05	0.340				

RR 10-21-81 1825 DC	WATER FLOW 255.0	WATER TEMPIN 55.10	WATER TEMPEX 61.29	WATER TEMPRS 6.19	WATER TEMPAV 58.19	WRKFL PRESS 33.0	WRKFL TMPST 70.4	WRKFL TMPIN 169.0	WRKFL TMPEX 70.0	INST IDNT TH3	WRKFL TEMP SH 169.0	WRKFL SUPHT 98.6
PREFLASH = 45										TM5	95.33	25.0
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	59.42	-10.9
BELOW LAB RANGE	7.906D 05	11.9	6.65D 04	3.128D 04	987.	1156.	2.09D 05	0.319		TM3	55.51	-14.8
										TH4	70.0	-0.4
RR 10-21-81 1845 DC	WATER FLOW 255.0	WATER TEMPIN 54.25	WATER TEMPEX 60.54	WATER TEMPRS 6.30	WATER TEMPAV 57.39	WRKFL PRESS 32.0	WRKFL TMPST 69.0	WRKFL TMPIN 170.0	WRKFL TMPEX 69.0	INST IDNT TH3	WRKFL TEMP SH 170.0	WRKFL SUPHT 101.0
PREFLASH = 50										TM5	91.23	22.2
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	58.36	-10.6
BELOW LAB RANGE	8.045D 05	11.3	7.10D 04	3.090D 04	981.	1150.	2.07D 05	0.342		TM3	54.62	-14.4
										TH4	69.0	-0.0
RR 10-21-81 1915 DC	WATER FLOW 255.0	WATER TEMPIN 51.31	WATER TEMPEX 57.54	WATER TEMPRS 6.23	WATER TEMPAV 54.42	WRKFL PRESS 32.0	WRKFL TMPST 69.0	WRKFL TMPIN 166.0	WRKFL TMPEX 68.0	INST IDNT TH3	WRKFL TEMP SH 166.0	WRKFL SUPHT 97.0
PREFLASH = 50										TM5	104.95	35.9
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	53.80	-15.2
BELOW LAB RANGE	7.967D 05	14.4	5.55D 04	2.953D 04	961.	1154.	2.05D 05	0.271		TM3	58.57	-10.4
										TH4	68.0	-1.0
RR 10-21-81 1940 DC	WATER FLOW 255.0	WATER TEMPIN 50.77	WATER TEMPEX 56.94	WATER TEMPRS 6.16	WATER TEMPAV 53.86	WRKFL PRESS 32.0	WRKFL TMPST 69.0	WRKFL TMPIN 164.0	WRKFL TMPEX 67.0	INST IDNT TH3	WRKFL TEMP SH 164.0	WRKFL SUPHT 95.0
PREFLASH = 50										TM5	103.19	34.2
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	53.16	-15.8
BELOW LAB RANGE	7.881D 05	14.9	5.27D 04	2.927D 04	957.	1157.	2.04D 05	0.258		TM3	58.22	-10.8
										TH4	67.0	-2.0
RR 10-21-81 2030 DC	WATER FLOW 255.0	WATER TEMPIN 49.70	WATER TEMPEX 55.82	WATER TEMPRS 6.12	WATER TEMPAV 52.76	WRKFL PRESS 31.0	WRKFL TMPST 67.6	WRKFL TMPIN 162.0	WRKFL TMPEX 67.0	INST IDNT TH3	WRKFL TEMP SH 162.0	WRKFL SUPHT 94.4
PREFLASH = 50										TM5	103.19	35.5
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	52.28	-15.4
BELOW LAB RANGE	7.832D 05	14.7	5.34D 04	2.877D 04	950.	1160.	2.03D 05	0.262		TM3	57.32	-10.3
										TH4	67.0	-0.6
RR 10-21-81 2045 DC	WATER FLOW 255.0	WATER TEMPIN 49.84	WATER TEMPEX 56.19	WATER TEMPRS 6.35	WATER TEMPAV 53.02	WRKFL PRESS 29.0	WRKFL TMPST 64.8	WRKFL TMPIN 163.0	WRKFL TMPEX 62.0	INST IDNT TH3	WRKFL TEMP SH 163.0	WRKFL SUPHT 98.2
VENT = 90 PREFLASH = 50										TM5	62.95	-1.9
SAMPLE TAKEN	HEAT LOAD	SAT LMTD	MEAS UA	WATER REYN NO	WATER COEFF	COMP COEFF	PRED UA	PERFO RATIO		TM4	52.11	-12.7
BELOW LAB RANGE	8.119D 05	11.5	7.04D 04	2.889D 04	952.	1147.	2.03D 05	0.347		TM3	50.35	-14.5
										TH4	62.0	-2.8

RR 10-21-81 2100 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT = 90	FLOW	TEMPIN	TEMPEX	TEMPRS	TENPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREPLASH = 50	255.0	49.72	55.95	6.23	52.83	25.0	58.9	163.0	59.0	TH3	163.0	104.1
										TM5	59.45	0.6
										TM4	58.20	-0.7
										TM3	57.09	-1.8
										TM4	59.0	0.1
BELOW LAB RANGE	HEAT	SAT	NEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
	7.973D 05	5.5	1.45D 05	2.881D 04	950.	1153.	2.03D 05	0.716				
RR 10-21-81 2110 DC	WATER	WATER	WATER	WATER	WATER	WRKFL	WRKFL	WRKFL	WRKFL	INST	WRKFL	WRKFL
VENT = 90	FLOW	TEMPIN	TEMPEX	TEMPRS	TENPAV	PRESS	TMPST	TMPIN	TMPEX	IDNT	TEMPSH	SUPHT
PREPLASH = 50	255.0	49.78	56.00	6.21	52.89	25.0	58.9	164.0	59.0	TH3	164.0	105.1
										TM5	60.10	1.2
										TM4	58.28	-0.6
										TM3	57.22	-1.7
										TM4	59.0	0.1
SAMPLE TAKEN	HEAT	SAT	NEAS	WATER	WATER	COMP	PRED	PERFO				
	LOAD	LMTD	UA	REYN NO	COEFF	COEFF	UA	RATIO				
BELOW LAB RANGE	7.947D 05	5.4	1.47D 05	2.883D 04	951.	1154.	2.03D 05	0.721				

117/118

Appendix B

LABORATORY TEST DATA

Laboratory test results from experiments performed with isobutane (R-600a) condensing on the outside of a single vertical aluminum tube with type E flute profile are presented in Table B.1. Data were taken from Ref. 1. The Wilson-plot method² was used in determining composite condensing heat transfer coefficients and composite condensing temperature differences.

References

1. S. K. Combs, G. S. Mailen, and R. W. Murphy, *Condensation of Refrigerants on Vertical Fluted Tubes*, ORNL/TM-5848 (August 1978).
2. E. E. Wilson, "Basis for Rational Design of Heat Transfer Apparatus," *Trans. ASME* 37, 47 (1915).

Table B.1. Summary of experimental conditions and results from Wilson plots
for R-600a condensing on vertical tube E

Series of runs	Condenser heat load [W (Btu/h)]		Difference (%)	Vapor temperature [K (°F)]	Condensing temperature difference [K (°F)]	Condensing heat transfer coefficient [W/m²·K (Btu/h·ft²·°F)]
	Q_c	Q_w				
R-600A-001E to R-600A-004E	895 (3,053)	914 (3,120)	-2.2	298.7 (78.0)	1.0 (1.8)	5,898.0 (1,040.2)
R-600A-005E to R-600A-008E	1,376 (4,696)	1,394 (4,757)	-1.3	299.9 (80.1)	1.8 (3.3)	4,988.6 (879.8)
R-600A-009E to R-600A-012E	1,720 (5,870)	1,736 (5,925)	-0.9	303.1 (86.0)	2.5 (4.6)	4,535.0 (799.8)
R-600A-013E to R-600A-016E	2,196 (7,496)	2,182 (7,446)	0.7	301.1 (82.3)	3.7 (6.7)	3,923.6 (692.0)
R-600A-017E to R-600A-020E	2,685 (9,162)	2,681 (9,149)	0.1	304.1 (87.8)	6.3 (11.3)	2,863.3 (505.0)
R-600A-021E to R-600A-024E	3,009 (10,269)	2,995 (10,222)	0.5	307.9 (94.5)	8.5 (15.2)	2,385.0 (420.6)
R-600A-025E to R-600A-028E	3,678 (12,553)	3,724 (12,711)	-1.3	313.9 (105.4)	12.8 (23.0)	1,931.7 (340.7)
R-600A-029E to R-600A-032E	3,338 (11,392)	3,332 (11,372)	0.2	311.7 (101.4)	10.9 (19.7)	2,047.9 (361.2)
R-600A-033E to R-600A-036E	2,459 (8,393)	2,453 (8,372)	0.2	303.6 (86.9)	4.9 (8.8)	3,366.7 (593.8)

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