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# AMPACITY DERATING OF CABLES ENCLOSED IN CONDUITS WITH THERMO-LAG® 330-1/770-1 UPGRADE ELECTRICAL RACEWAY FIRE BARRIER SYSTEM (ERFBS)

Project No. 11960-97337 & 97338

ELECTRICAL TEST TO DETERMINE THE AMPACITY DERATING OF AN ELECTRICAL RACEWAY FIRE BARRIER SYSTEM FOR CLASS 1E ELECTRICAL CIRCUITS

August 21, 1995

**Prepared For:**

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## *ABSTRACT*

*A 1" diameter steel conduit, designated as Item 7.6a, and a 4" diameter steel conduit, designated as Item 7.6b, each enclosed within a three-hour Thermo-Lag® 330-1 and Thermo-Lag® 770-1 fire protective envelope as described herein, were evaluated in accordance with the Tennessee Valley Authority TEST PLAN "Ampacity Derating Tests of Articles Protected with the TSI Thermo-Lag Electrical Raceway Fire Barrier System," yielding an ampacity derating value of 10% for the 1" conduit and 13% for the 4" conduit.*

The details, procedures and observations reported herein are correct and true within the limits of sound engineering practice. All specimens and test sample assemblies were produced, installed and tested under the surveillance of either Tennessee Valley Authority's or the testing laboratory's in-house Quality Assurance Program. This report describes the analysis of a distinct assembly and includes descriptions of the test procedure followed, the assembly tested, and all results obtained. All test data are on file and remain available for review by authorized persons.

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Project Manager

8/22/95
Date

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## INTRODUCTION

An Electrical Raceway Fire Barrier System (ERFBS) protects electrical components from the effects of fire. In doing so, it will reduce the inflow of energy into the system and maintain the internal temperature below maximum limits. These limits will ensure that the cable systems remain functional during a fire, and allow operators to maintain control of systems required for fire safe shutdown.

The addition of an ERFBS on a cable system will not only protect the contained cable from elevated temperatures associated with a fire, but will impede the heat dissipation associated with normal cable operation. The evaluation described herein will yield accurate and realistic values for the ampacity derating of cables when an ERFBS is installed on the cable system.

## OBJECTIVE

The objective of this project was to evaluate, through testing, the effects on ampacity for specific assemblies using a 3-hour ERFBS for redundant electrical systems.

## TEST PLAN CLARIFICATION

The entire program was carried out in accordance with the Tennessee Valley Authority (TVA), TEST PLAN, *Ampacity Derating Tests of Articles Protected with the TSI Thermo-Lag Fire Barrier System*, which may be found in Appendix B of this document. During the course of the test series, several items surfaced about which the Test Plan was vague or confusing. A *TVA/TSI Ampacity Test Plan Clarification* form was created to ensure that the intent of the Test Plan was followed. This form allowed additional explanation of items to resolve confusion. As items requiring clarification arose, sequentially numbered forms were used to document the intent of the document. Many of these clarification forms were later incorporated into Test Plan revisions and are documented in the back of the Test Plan included in Appendix B. The two forms which described discrepancies not suitable for inclusion as Test Plan revisions (Clarification Nos. 9 and 10) are included with the Test Plan in Appendix B. Both the Test Plan and the subsequent clarification forms encompass the entirety of this series of evaluations - both one and three hour - and portions of these documents may not apply directly to this individual evaluation, but may be pertinent to evaluations reported upon separately. For reasons of clarity and to reduce redundancy, many items discussed in the Test Plan have not been duplicated elsewhere in this document.

## TEST PROCEDURE

### TEST ENCLOSURE

The ampacity test enclosure was constructed within the confines of a room maintained at constant conditions of 73±5°F and 50±5% r.h. The ampacity enclosure was created by "boxing in" one corner of this room with two steel stud walls with 1-1/2 in. of polystyrene insulation lining the interior of the walls. The overall dimensions of the test enclosure were 19 ft. x 19 ft. x 12 ft. An entry door was provided in one metal stud wall and the adjacent metal stud wall was made to be removable to facilitate easier location of test articles. The remaining two walls, forming the corner of the larger, enclosing room, were constructed of 2x6 lumber with 5/8 in. Type X gypsum wallboard on each face and the stud cavities were filled with R-16 (nominal) mineral wool insulation. The ceiling of the test enclosure was constructed of 5/8 in. thick mineral fiber ceiling tiles (drop ceiling) insulated with a 12 in. depth of R-30 (nominal) mineral wool insulation. Four 1.5 kW heaters were disposed about the room to regulate ambient conditions. The operation of each heater was controlled by a separate thermostat to maintain conditions. Box fans were placed, as required, near the heaters in the room to gently stir the air and more evenly distribute the heat. A minimum of nine thermocouples were suspended from the ceiling and positioned in the horizontal plane of the test items, 12 in. away from various test items to monitor the ambient room temperatures. Polystyrene foam insulation in thicknesses of 1 in. or 1-1/2 in., was also placed on the floor of the room during several of the tests. Those tests whose baseline evaluation was conducted using the insulated floor, were also evaluated in the clad condition using the insulated floor. Six additional thermocouples were placed on the test enclosure walls (at least one thermocouple per wall surface) to monitor their surface temperature during several evaluations.

The test article baseline test was conducted first. Once the baseline system had attained equilibrium and all final measurements had been taken, the Thermo-Lag® ERFBS was applied to the system and allowed to cure for a minimum of thirty days. The ampacity test sequence was then conducted.

### THERMOCOUPLES

All temperatures monitored in this evaluations were measured with Type T, 24 gauge, Copper-Constantan electrically welded thermocouples formed from Copper and Constantan wires of "Special Limits of Error (±0.5°C)," and covered with Teflon FEP® insulation. All thermocouple wire was calibrated to ±0.5°C.

## DATA ACQUISITION SYSTEM

The outputs of the test article thermocouples and room control thermocouples were monitored by a data acquisition system consisting of a John Fluke Mfg. Co. Model HELIOS I 2289A Computer Front End, and an Apple Computer Co. Macintosh Classic microcomputer. The Computer Front End was connected to the RS422 Serial Interface Port of the Macintosh. The computer was programmed in Microsoft BASIC to command the HELIOS unit to sample the data input lines, receive and convert data into a digital format, and to manipulate the data for display on screen, the hard copy printout, and saving to hard disk. Two such computer systems were used during the evaluations (at times, both units were used simultaneously).

The computer program determined, and displayed, the average temperatures at each of the three positions on the test article. A linear regression analysis of the rate of change of temperature for the average of the thermocouples located in the center portion of the test article was then calculated at every time interval, for the preceding 60 minute period, based on the least-squares method. All individual data points and calculated values were saved on hard disk at one minute intervals. A record of individual location temperatures, maximum temperatures and rates of change of temperatures was printed at one minute intervals. Alterations in the number of articles being simultaneously evaluated and the varying number of thermocouples contained in each article necessitated modifications to the data collection program during the course of the testing series. The calculation routines, however, remained consistent.

Test data recorded during the equilibrium period is presented in Appendix F: TEST DATA.

## CURRENT CONTROL SYSTEM

The current flow through the test article was regulated using process control type devices. The available voltage for any test control circuit was 208 Vac single phase. A Silicon Controlled Rectifier (SCR) device (Halmar Robicon Group Model No. 140P-FK2-CL) was used to vary the voltage available to the primary side of a step-down transformer between 0 Vac and 208 Vac in proportion to a 4-20 mA control input. The test article was connected to the secondary side of the step-down transformer. A proportional-integral-derivative process controller (Honeywell Universal Digital Controller Model No. UDC 3002-0-000-1-00-XXXX) was responsible for generating the 4-20 mA signal fed to the SCR device, based on a voltage feedback loop. A current transformer (Flex-Core Model No. 58-151, 150:5 ratio; input amps: output amps) was fitted to one lead of the test article to monitor the current flow through the conductor. The output of the current transformer

was connected to a current transducer (Flex-Core Model No. CT5-005A) with a mA to mV converter (Flex-Core Model No. LRB-10000) to produce a 0-10 Vdc signal proportional to a 0-150 A current span in the sample conductor. This 0-10 Vdc signal is used as the "process variable" in the feedback loop to the controller. In essence, the above circuitry made up a constant-current device, insensitive to line voltage changes.

The current in any given system was driven to a level high enough to bring the conductor to 90°C as quickly as possible by increasing the output signal of the process controller via keypad commands. As the conductor temperature approached 90°C, the current level was reduced and the test article was given time to respond to current changes before another adjustment was made to the current. If an estimation of the final current flow was possible, the system would be adjusted to that current flow and allowed to climb to temperature. Adjustments would then be made to attain the desire maximum conductor temperature. During this time period, the controller was turned to "automatic" control and the "process variable set point" (the voltage output from the current transformer that represents the current level at which the controller will maintain the system) was adjusted to the same value as the displayed process variable (the controller varies its output in order the maintain the process variable at the level indicated by the set point).

This process of adjusting the controller output (and the control variable set point) and waiting for the system to stabilize (about 1/2 hour to about 2 hours for small articles and up to 6 hours to 8 hours for larger articles) was continued until the temperature parameters of the test article were within the specified limits. The controller was allowed to operate the system for a minimum of three hours. If, at the end of three hours, the system was still within the bounds of all specifications, final current and voltage measurements were taken and the system was deemed to be in equilibrium. The test article was considered to have reached equilibrium when a minimum of three hours had elapsed since the last adjustment (> 0.5%) to the system current, the maximum temperature at the center of the test article (location 2) is 90°C ±1°C and the rate of change of the average temperature of the center of the test article was within ±0.2°C per hour. Additionally, the test enclosure temperature must have been 40°C ±2°C and the average temperatures at each end of the test article must have been within ±4°C of the average temperature in the center of the test article. All conditions (with the exception of the rate of change of the average center temperature) were within these tolerances for at least three hours to satisfy the conditions of equilibrium. The rate of change of the average center temperature was required to be in tolerance for the last hour of the three hours at equilibrium.

## FINAL CURRENT MEASUREMENT

All final current measurements were performed using an AEMC Corporation AC Current Probe model SD602 connected to a John Fluke Digital Multimeter model 8062A. Calibration documentation for these devices can be found in Appendix G: Quality Assurance.

## TEST ARTICLES

### TEST ITEMS (GENERAL)

As with conduit materials installed at TVA's Nuclear Power Plants (NPP), the materials used in this test were subjected to on-site commercial grade dedication programs prior to acceptance and subsequent installation. The conduit used in this test was provided by TVA. These raceway items were provided to TVA by various vendors, and were similar in design and representative of those installed in TVA's NPPs.

Electrical cables used in these tests were also provided by TVA. Cables used were as follows:

| DESCRIPTION | DIAMETER (in.) | CROSS-SECTIONAL AREA ($in^2$) | WEIGHT (lbs/lin. ft.) |
|---|---|---|---|
| 4/C #10 AWG 600v | 0.603 | 0.286 | 0.300 |
| 3/C #6 AWG 600v | 0.735 | 0.424 | 0.446 |

The diameter and cross-sectional area listed herein represent the Laboratory's average of ten measurements of each cable type. The weight of the cable was taken for a length of cable approximately 12 ft. long and weight per linear foot was calculated.

### Thermo-Lag® 330-1 Materials

Thermo-Lag® 330-1 materials were supplied by Thermal Science, Inc. (TSI), St. Louis, MO. Each Thermo-Lag® 330-1 Pre-Formed Conduit Sections was 1-1/4 in. thick (nominal) by 36 in. long, with the Thermo-Lag® Stress Skin Type 330-69 monolithically adhered to the panel on both faces. Thermo-Lag® 330-1 was also supplied in 5 gallon pails (50 net lbs. per pail) as a trowel grade material.

### Thermo-Lag® 770-1 Materials

Thermo-Lag® 770-1 materials were supplied by TSI, St. Louis, MO. Each Thermo-Lag® 770-1 Mat was 3/8 in. thick (nominal) x 40 in. wide x 94 in. long, with a different size carbon fiber fabric mesh monolithically adhered to each face of the mat. One face was covered with a carbon fiber fabric having openings of 1 in. The other face was covered with a carbon fiber fabric having 15 openings per square inch. The 15 openings per square inch side was installed toward the surface of the protected item for each layer of material applied. Thermo-Lag® 770-1 was also supplied in 5 gallon pails (50 net lbs. per pail) as a trowel grade material.

### Other Materials

Materials used in conjunction with Thermo-Lag® components, but furnished by other vendors to TVA as commercial grade products included; 16 GA type 304 stainless steel annealed tie wire, 1/2 in. wide stainless steel banding and wing clips.

All Thermo-Lag® materials were measured, cut and installed onto the respective test assembly by Tennessee Valley Authority (TVA) craft personnel (insulators) using TVA drawings, procedures and specifications. The phases of installation and inspection were under direct supervision of TVA engineers. TVA quality control data sheets containing specific notes and details of the barrier installation on each of the test articles are contained in Appendix E.

## CONSTRUCTION OF TEST ARTICLES

The test items were constructed and tested on rolling carts constructed of 2 in. square steel tubing. The carts were fashioned such that the articles were supported 18 in. in from each end. Wooden or foam thermal breaks were placed between the test articles and the surfaces of the metal carts. These carts were also used after the installation of the ERFBS. The cable extending beyond the ends of the raceway items at each end of each article and the ends of the barrier systems were wrapped with fiberglass insulation during the ampacity testing.

### 7.6a SINGLE 1 in. CONDUIT

The assembly consisted of a 1" diameter galvanized, rigid steel conduit assembly into which was passed a single length of four conductor cable (4C/#10 AWG, Rockbestos (R), 600 V, 90NLC-74556B TYPE PXMJ MARK WFD-2 1990 OC-98).

The four separate conductors within the cable were connected into a single series circuit and the current source was then connected to the two free cable ends. The floor of the test enclosure was insulated for the baseline and clad evaluations of this system.

**Electrical Cables**

The table below shows the cable type used in this test article, the number of cables installed, the total cross-sectional area of cable and the percent of the total available area taken up by cable in this test article.

| CABLE TYPE | NUMBER PRESENT | CROSS-SECTIONAL AREA ($in^2$) | % OF TOTAL AREA* |
|---|---|---|---|
| 4C/#10 | 1 | 0.286 | 36.36 |

* The percent of total fill is based on the usable cross-sectional area of the conduit being 0.79 square inches.

**Thermocouple Placement**

24 gauge, Type T, Copper-Constantan electrically welded thermocouples (Special Limits of Error: ±0.5°C, purchased with lot traceability and calibration certifications) were attached in twelve places within the conduit assembly, by slicing through the jacket and insulation of the cable (down to bare conductor) and placing the thermojunction in direct contact with the top surface of the cable conductor and covering the slit with a double wrap of glass fiber reinforced electrical tape (Glass Cloth Electrical Tape, Class "B" Insulation, 1/2 in. wide, 3M Corporation, Item No. 27) for a minimum distance of 3-1/2 inches.

Of the thermocouples within the conduit assembly, four were located at the mid-point of the conduit, four were located 36 in. to the left of mid-point and four were located and 36 in. to the right of midpoint.

An additional, informational thermocouple was installed on the top surface of the conduit at the center of the test article.

**Barrier Material Installation Highlights**

Thermo-Lag® materials were installed as an upgraded system. The Thermo-Lag® 330-1 base materials were installed first, as follows:

The enclosure for the conduit was constructed from nominal 1-1/4 in. thick Pre-Formed Conduit Sections. The sections were dry-fit to the conduit and secured with stainless steel bands, spaced 12 in. o.c. and within 2 in. of panel butt joints. The joints and seams were then post-buttered with Thermo-Lag® 330-1 Trowel Grade material.

This completed the layer of Thermo-Lag® 330-1 base materials. The "Upgrade" of Thermo-Lag® 770-1 materials was then installed as follows:

The first layer of Thermo-Lag® 770-1 mat was cut to be wrapped around the conduit with a 3 in. overlap at the joining seam. A liberal coat of Thermo-Lag® 770-1 Trowel Grade was then applied to the interior surface of the blanket section to seal the joint and adhere the blanket to the previous layer of material. The cut blanket material was then wrapped around the conduit assembly. The wraps of mat were secured with stainless steel tie wire spaced 6 in. o.c., and within 2 in. of joints. The second layer of mat wraps was installed in the same manner as the first, with the butt joints staggered by 3 in. The second layer was also secured using stainless steel tie wire spaced 6 in. o.c., and within 2 in. of joints. The tie wires were coated with a layer of Thermo-Lag® 770-1 Trowel Grade. This completed the cladding of this test article.

Prior to testing, an additional thermocouple was installed at the top center of the ERFBS on the outside surface of the fire barrier.

## 7.6b SINGLE 4 in. CONDUIT

The assembly consisted of a 4" diameter galvanized, rigid steel conduit assembly into which was laid twelve passes of three conductor cable (3C/#6 AWG, Rockbestos®, 600 Volt, 21042-BL-017-Q TYPE PXMJ Mark WFA-65). The three separate conductors within each cable in the conduit were connected into series circuits and these were then connected into a single series circuit. The current source was then connected to the two free cable ends. The floor of the test enclosure was insulated for the baseline and clad evaluations of this system.

## Electrical Cables

The table below shows the cable type used in this test article, the number of cables installed, the total cross-sectional area of cable and the percent of the total available area taken up by cable in this test article.

| CABLE TYPE | NUMBER PRESENT | CROSS-SECTIONAL AREA ($in^2$) | % OF TOTAL AREA* |
|---|---|---|---|
| 3C/#6 | 12 | 5.088 | 39.9 |

* The percent of total fill is based on the usable cross-sectional area of the conduit being 12.76 square inches.

## Thermocouple Placement

24 gauge, Type T, Copper-Constantan electrically welded thermocouples (Special Limits of Error: ±0.5°C, purchased with lot traceability and calibration certifications) were attached in thirty-six places within the conduit assembly, by slicing through the jacket and insulation of the cable (down to bare conductor) and placing the thermojunction in direct contact with the top surface of the cable conductor and covering the slit with a double wrap of glass fiber reinforced electrical tape (Glass Cloth Electrical Tape, Class "B" Insulation, 1/2 in. wide, 3M Corporation, Item No. 27) for a minimum distance of 3-1/2 inches.

Of the thermocouples within the conduit assembly, twelve were located at the mid-point of the conduit, twelve were located 36 in. to the left of mid-point and twelve were located and 36 in. to the right of midpoint. At each location, one thermocouple was installed in each of the twelve cables at that location.

An additional, informational thermocouple was installed on the top surface of the conduit at the center of the test article.

## Barrier Material Installation Highlights

Thermo-Lag® materials were installed as an upgraded system. The Thermo-Lag® 330-1 base materials were installed first, as follows:

The enclosure for the conduit was constructed from nominal 1-1/4 in. thick Pre-Formed Conduit Sections. The sections were dry-fit to the conduit and secured with stainless steel bands, spaced 12 in. o.c. and within 2 in. of panel butt joints. The joints and seams were then post-buttered with Thermo-Lag® 330-1 Trowel Grade material.

This completed the layer of Thermo-Lag® 330-1 base materials. The "Upgrade" of Thermo-Lag® 770-1 materials was then installed as follows:

The first layer of Thermo-Lag® 770-1 mat was cut to be wrapped around the conduit with a 3 in. overlap at the joining seam. A liberal coat of Thermo-Lag® 770-1 Trowel Grade was then applied to the interior surface of the blanket section to seal the joint and adhere the blanket to the previous layer of material. The cut blanket material was then wrapped around the conduit assembly. The wraps of mat were secured with stainless steel tie wire spaced 6 in. o.c., and within 2 in. of joints. The second layer of mat wraps was installed in the same manner as the first, with the butt joints staggered by 3 in. The second layer was also secured using stainless steel tie wire spaced 6 in. o.c., and within 2 in. of joints. The tie wires were coated with a layer of Thermo-Lag® 770-1 Trowel Grade. This completed the cladding of this test article.

Prior to testing, an additional thermocouple was installed at the top center of the ERFBS on the outside surface of the fire barrier.

## TEST RESULTS

### DETERMINATION OF AMPACITY DERATING FACTOR

The completed test specimen was placed in the Laboratory's test enclosure (along with other articles reported on under separate cover) and the thermocouples connected to the data acquisition system and their outputs verified. The entire ampacity test sequence was conducted from August 16, 1994, to April 27, 1995, by Herbert W. Stansberry II, project manager, with the following results:

| TEST ITEM | EQU. VOLTAGE (VOLTS) | EQU. CURRENT (AMPS) | EQU. TEMP (°C) | ROOM TEMP (°C) | CORRECTED CURRENT (AMPS) | PERCENT DERATING* |
|---|---|---|---|---|---|---|
| 7.6a Baseline | 2.08 | 32.64 | 90.2 | 40.2 | 32.65 | -- |
| 7.6a with ERFBS (upgrade) | 1.88 | 29.54 | 89.3 | 39.8 | 29.66 | 10 |
| 7.6b Baseline | 7.88 | 29.59 | 90.6 | 39.2 | 29.21 | -- |
| 7.6b with ERFBS (upgrade) | 6.82 | 25.85 | 90.5 | 39.3 | 25.56 | 13 |

* The values presented for percent derating are rounded to the next highest integer in all cases to ensure conservatism and ease of use.

The equilibrium current and voltage values are single-point measurements performed after the system was at equilibrium. The Equ. Temp (equilibrium conductor temperature at the hottest location), and the Room Temp are reported as 60 minute average values. The Corrected Current values are those calculated in accordance with P 848/D14 IEEE Standard Procedure for the Determination of the Ampacity Derating of Fire Protected Cables*, which corrects these current values to a room temperature of 40°C and a conductor temperature of 90°C.

$$* \qquad I' = I \sqrt{\frac{(Tc' - Ta') \times (\alpha + Tc)}{(Tc - Ta) \times (\alpha + Tc')}}$$

where

| | | |
|---|---|---|
| I | test current at equilibrium, amperes | |
| Tc | hottest conductor temperature at center at equilibrium, °C | |
| Ta | measured enclosure ambient temperature, °C | |
| I' | normalized current, amperes | |
| Tc' | normalized conductor temperature | = 90°C |
| Ta' | normalized ambient temperature | = 40°C |
| $\alpha$ | 234.5 for copper | |

Several other factors were monitored during the test procedure for informational purposes. Included among these were the additional thermocouples previously mentioned, surface emissivity of each distinctly different surface of the test article before and after cladding, and fire barrier material thicknesses.

## SURFACE EMISSIVITY

All emissivity measurements were made with the test article at its equilibrium temperature. The surface emissivity measurements were made using a Mikron model No. M80AL-2FH Serial No. 52449. This device has a target zone diameter of 1/4 in. at a target distance of 2 in. The surface emissivity of the test article was measured at nine points on each different surface type. For the baseline evaluations, these surface types included conduit outer surfaces. For the clad article evaluations, the emissivity of the outer surface of the fire barrier materials was measured at nine locations. At each of the nine locations for each surface type, the surface temperature was measured using a thermocouple connected to a handheld thermocouple reader. The emissivity adjustment on the emissivity gun was varied until the temperature registered by the emissivity gun was consistent with that measured by the thermocouple. The number displayed on the emissivity adjustment was recorded as the surface emissivity for that location. The average emissivity of the nine locations was calculated and is reported in the table on the following page.

| Test Article | Surface Type (Baseline Evaluation) | Measured Emissivity |
|---|---|---|
| 7.6a | Galvanized Steel Conduit Surface | 0.48 |
| 7.6b | Galvanized Steel Conduit Surface | 0.69 |
| **Test Article** | **Surface Type (Clad Evaluation)** | **Measured Emissivity** |
| 7.6a | Fire Barrier Surface | 0.99 |
| 7.6b | Fire Barrier Surface | 0.99 |

## FIRE BARRIER MATERIAL THICKNESS

After completing the ampacity evaluation of the article with the fire barrier material installed, the barrier system thicknesses were measured and recorded by measuring the barrier circumference, calculating the overall diameter, subtracting the conduit outer diameter and dividing by two. The thickness (or depth of material) was measured at positions 1, 2 and 3 (relative to cable conductor thermocouple positions). In some cases, additional destructive analysis was performed to investigate the occurrence of air gaps between barrier layers. The following tables outline the thickness data taken from each of the test articles:

### Test Article 7.6a
### (Thermo-Lag® 770-1 Blanket and 330-1 Pre-Shaped Conduit Sections)

| Location of Measurement | Thickness (in.) |
|---|---|
| Position 1 | 3.036 |
| Position 2 | 2.756 |
| Position 3 | 2.837 |

* These dimensions include air gaps which formed between layers on the bottom of the barrier system. These air gaps were: 1) between conduit and 330-1 layer; Pos. 1 - 0.125 in., Pos. 2 - 0.25 in., Pos. 3 - 0.25 in., 2) between 330-1 layer and inner 770-1 layer; Pos. 1 - 0.25 in., Pos. 2 - 0.125 in., Pos. 3 - 0.5 in., 3) between inner 770-1 layer and outer 770-1 layer; Pos. 1 - 1 in., Pos. 2 - 0 in., Pos. 3 - 0.25 in.

**Test Article 7.6b**
**(Thermo-Lag® 770-1 Blanket and 330-1 Pre-Shaped Conduit Sections)**

| Location of Measurement | Thickness (in.) |
|---|---|
| Position 1 | 2.605 |
| Position 2 | 2.645 |
| Position 3 | 2.645 |

# Appendix A

# CONSTRUCTION DRAWINGS

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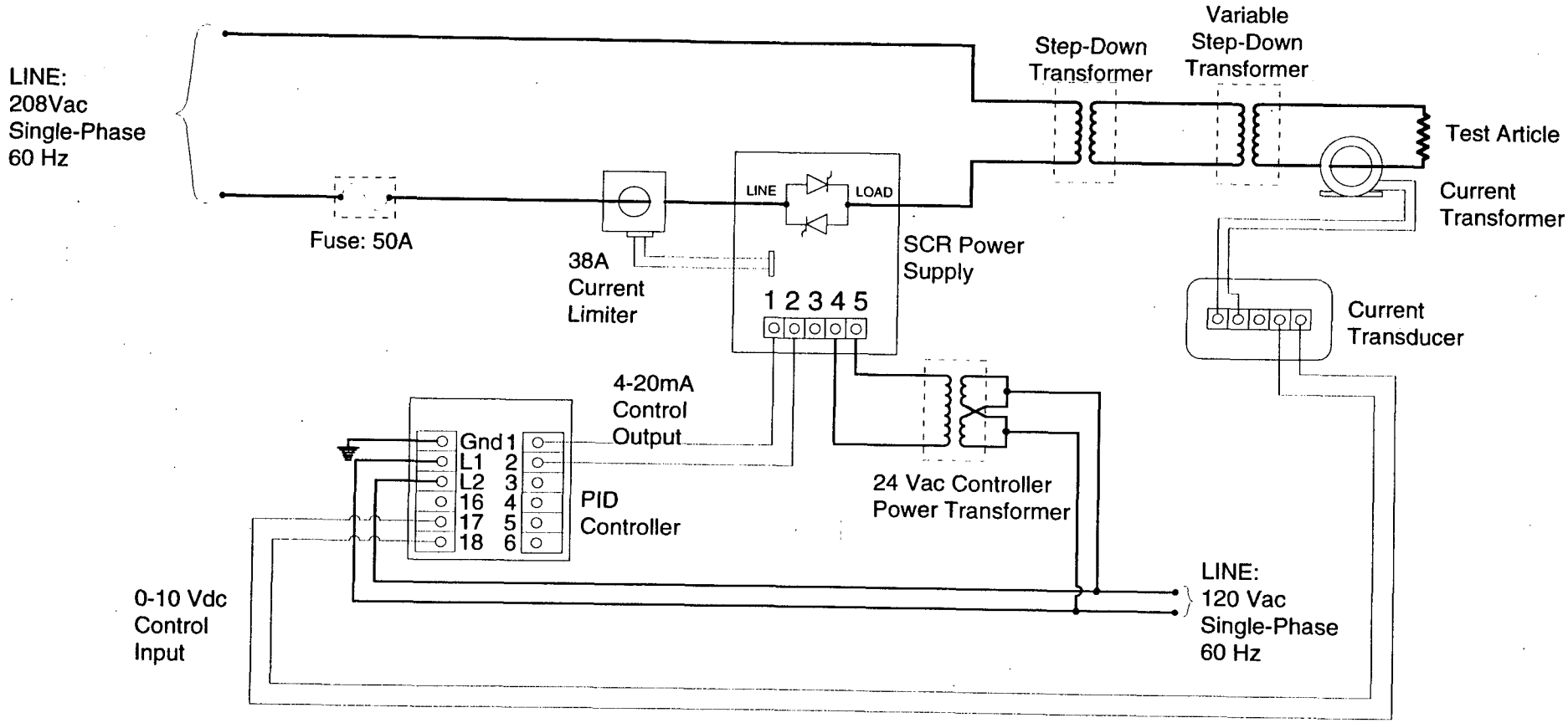
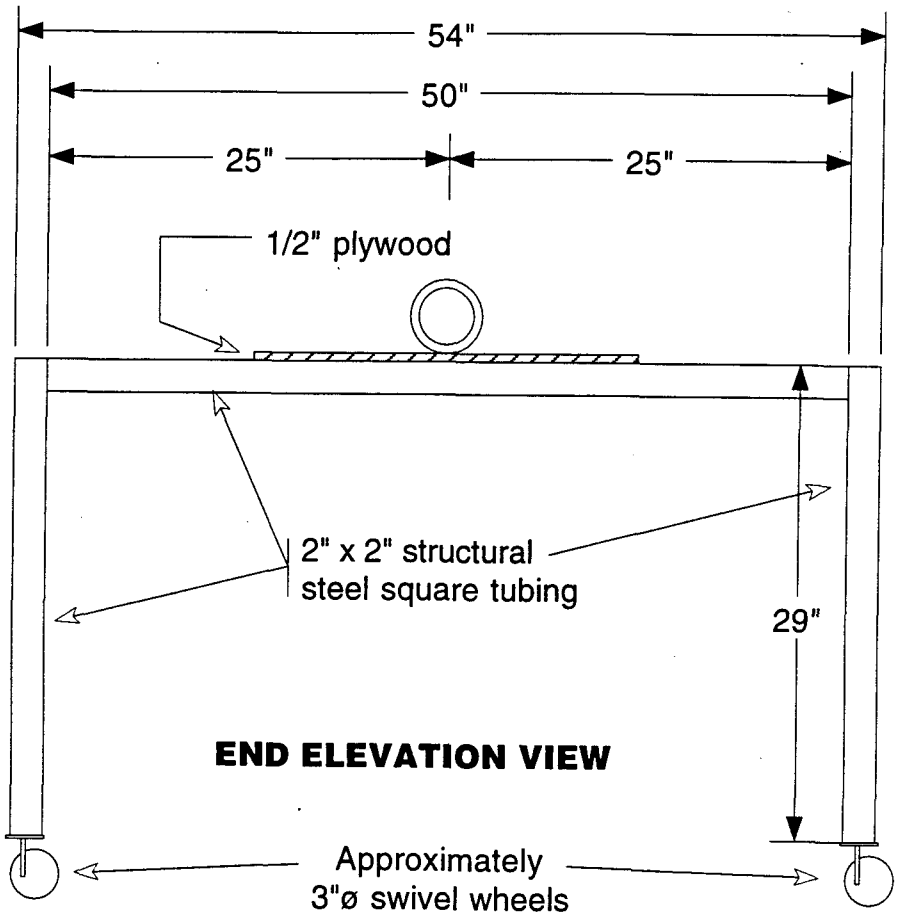
# CURRENT CONTROL CIRCUITRY




| |
|---|
| OMEGA POINT LABORATORIES, INC.<br>Project No.97337 & 97338 |
| TVA / TSI |
| Fig. 1 Typical current control system |




NOTE:
The conduits will be supported at locations 18" from each end. The supports will consist of 2" x 2" structural steel tubing positioned as shown and insulated from the conduits by a 2" wide by 24" long piece of 1/2" plywood. An identical rack will be constructed for 7.6a 1" conduit (7.6b 4" conduit shown).

| |
|---|
| OMEGA POINT LABORATORIES, INC.<br>Project No. 97737&97738 |
| TVA / TSI |
| Fig. 2 Conduit Support System<br>End Elevation View |

Scale: 1"=1'

# Appendix B

# TEST PLAN

OMEGA POINT LABORATORIES

B43 950517 003 QA RECORDS 18

May 16, 1995

Those listed

SUPPLEMENTAL AMPACITY TESTING - REVISION 5, APPENDIX R FIRE BARRIERS

Attached is Revision 5 of the Ampacity Test Plan for use in performing the TVA-TSI sponsored tests of Thermo-Lag wrapped configurations which are outside the scope of our original program. The purpose of this revision is to delete specimen 7.6b2. That assembly was a single 4" conduit which was to be wrapped with five layers of 770-1. Based on the results of the fire testing of the 3-hour upgrade, TVA and TSI deemed that the qualification of the five-layer 770-1 system was not warranted. OPL has been informed that all three-hour work is now complete, and that they may begin assembly of the final ampacity reports for that material. This revision will keep the test plan consistent with the actual program scope.

If you have questions regarding the above comments, please call Kent Brown at 751-8227.

RCWilliams

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Attachment
RCW:KWB:DM
cc: RIMS, CST 13B-C

users6/xxx7d/memo/kwb

# AMPACITY DERATING TESTS OF ARTICLES PROTECTED WITH THE TSI THERMO-LAG ELECTRICAL RACEWAY FIRE BARRIER SYSTEM

Revision 5, May 1995

## 1.0 SCOPE

### 1.1 GENERAL

1.1.1 This test plan describes the methods and guidelines for performing tests which identify the ampacity derating values for TSI Electrical Raceway Fire Barrier Systems (ERFBS) one hour rated, protected trays, grouped conduits and grouped trays and for three hour protected trays and single conduits. The plan covers assembly of the test setup, installation of the ERFBS, instrumentation requirements, performance of the tests and documentation requirements.

### 1.2 CHANGES TO THE TEST PLAN

1.2.1 At TVA's option, the testing of any assembly or assemblies may be terminated prior to commencement or at any stage of the test sequence.

1.2.2 Changes to this test plan may be made in writing through formal revision to the plan or by notations in the Omega Point Lab official test log which are signed by the TVA Corporate Engineering Cable Specialist (or his designee), the responsible Omega Point Test Engineer and the Omega Point QC Engineer.

## 2.0 OBJECTIVE

The objective of these tests is to obtain the data necessary to establish derating factors for TSI ERFBS applied to single and grouped raceways (both trays and conduits). The subject configurations are based on those fire tested in accordance with the document entitled, "One Hour Fire Endurance Tests of Articles Protected with the TSI Thermo-Lag Fire Barrier System" (Ref. 4.1). Ampacity tests shall be conducted based on methodologies identified in draft 14 of IEEE Standard P-848, "Procedure for the Determination of the Ampacity Derating of Fire Protected Cables" (Ref. 4.2). The results of the test will allow determination of a single derating factor for each configuration of fire barrier material.

## 3.0 ACCEPTANCE CRITERIA

There are no pass/fail criteria for this test. The cables shall be maintained at a equilibrium temperature of 90°C in both their baseline and wrapped conditions to establish the ampacity values which will be used to calculate the derating factor for each configuration.

## 4.0 REFERENCES

4.1 TVA-TSI Fire Endurance Program Test Plan entitled, "One Hour Fire Endurance Tests of Articles Protected with the TSI Thermo-Lag Fire Barrier System".

4.2 IEEE P-848 Draft 14, "Procedure for the Determination of the Ampacity Derating of Fire Protected Cables", April 15, 1994 B44 940428 001.

4.3 ANSI N45.2.2, "Packaging, Storage, and Handling of Items for Nuclear Power Plants", 1972 edition.

## 5.0 RESPONSIBILITIES

5.1 TENNESSEE VALLEY AUTHORITY (TVA) shall:

a. Establish the criteria, guidelines drawings (as required), etc., to govern the configuration of the test items.

b. Provide the electrical raceway materials (e.g., cable, cable trays, conduits, fittings).

c. Provide specific Thermo-Lag installation procedures and work package documentation for each test.

d. Establish the criteria, guidelines, drawings (final), recommendations, hold points, etc., to govern the installation of the Thermo-Lag ERFBS to the test articles.

e. Provide personnel to install the Thermo-Lag fire barrier systems.

f. Provide test scoping documents to OPL to define the configurations to be tested and the methodologies for configurations not covered by IEEE P-848.

5.2 THERMAL SCIENCE, INC (TSI) shall:

5.2.1 Provide the Thermo-Lag materials (330-1 and 770-1, 1.25" and 5/8" thick, preformed, ribbed and flat board, trowel grade material), stress skin, stainless steel tie wire and bands.

5.2.2 Make the necessary arrangements with, and provide adequate funding for Omega Point Laboratories (OPL) to perform the tests.

5.3 OMEGA POINT LABORATORIES, INC. (OPL)

5.3.1 Prepare and assemble the test trays, conduits, cables, test enclosure, power supplies, supports and insulation and provide all required test instrumentation in accordance with its Appendix B Quality Assurance and Quality Control Program and other applicable procedures.

5.3.2 Provide written calibration documentation of all thermocouples, data acquisition systems, surface emissivity instrumentation and other measuring devices used in the program.

5.3.3 Provide computer generated drawings of the electrical raceways which clearly indicate critical dimensions, thermocouple locations, etc. Critical dimensions are those specified in P-848 including raceway length, raceway-to-raceway spacing, placement of thermocouples, thermal breaks, room size and spacing from the test chamber.

5.3.4 Provided this test plan and IEEE P-848 provide sufficient guidance for the performance of these tests, no separate OPL test plan is required. OPL shall coordinate all phases of the ampacity test preparation. (CLARIFICATION NO. 1)

5.3.5 Supply miscellaneous hardware and personnel to assemble the test article raceway

configurations in accordance with TVA's installation procedures and directions, including those contained in IEEE P-848 (TVA's directions will serve to resolve any questions or discrepancies identified during the test). Also supply QC personnel to witness and document the above process.

5.3.6 Provide Thermo-Lag storage temperature and moisture content records.

5.3.7 Supply QC personnel to witness and document the installation of the Thermo-Lag ERFBS materials to the test articles and attendant instrumentation on each test article.

5.3.8 Notify TVA and TSI within three (3) working days of completion of each test specimen.

5.3.9 Conduct the baseline and wrapped ampacity tests.

5.3.10 Document the test parameters, including test steps and procedure changes made during the tests, and provide a formal, detailed written report of the test program and test results.

5.3.11 Ensure that all anomalies identified during the performance of these tests are immediately brought to the attention of TVA's Corporate Engineering Cable Specialist or his designee. The anomalies and resulting dispositions shall be clearly documented in the logbook and the test report.

## 6.0 PREREQUISITES

### 6.1 GENERAL TEST CONFIGURATIONS

The electrical raceway configurations to be tested to assess the derating effect of the ERFBS are as listed on Appendix 1. All tests will be conducted in an enclosure as specified by P-848. The enclosure shall ensure an even temperature and limit drafts on the test assemblies. Measurement of the ambient temperature within the enclosure shall be in accordance with P-848.

In order to address the concern for radiative heat transfer to the enclosure walls, the temperature of the inner surface of the walls shall be measured at a rate consistent with section 8 of the test plan and at the elevation specified in section 4.4.1 of P848 for ambient thermocouples. Thermocouples shall be placed on the wall adjacent to the specimen's midpoint and in the vertical plane of the specimen on the end wall. Because this requirement is being added after the tests are in progress, it will only apply to the baseline and wrapped tests of assemblies 7.6 and 7.7 and to the wrapped tests of all other assemblies (CLARIFICATION 7).

The floor of the test chamber shall be insulated to limit radiative heat transfer from the test specimens. If necessary for personnel access, an uninsulated path around the specimens may be maintained. The test log shall stipulate the type, manufacturer and thickness of the insulation used. Because this requirement is being added after the tests are in progress, it will apply to the baseline and wrapped tests of assemblies 7.6 and 7.7. The wrapped tests for all other assemblies will be conducted with a bare floor (ie the same configuration as their respective baseline) (CLARIFICATION 8).

## 6.2 TRACEABILITY REQUIREMENTS

To ensure that the materials used in these tests are representative of those in actual use, or to be used at TVA facilities, all aspects of traceability as required by the OPL QA Program shall be applied.

Except as noted below, all instruments used in these tests shall be calibrated and evidence of that calibration to NIST standards shall be documented. Instruments used in measuring surface emissivity shall be calibrated in accordance with the manufacturer's instructions but need not be traceable to NIST.

## 6.3 DIMENSIONED DRAWINGS

Final as-constructed, dimensioned drawings will be prepared by OPL.

## 6.4 SHIPPING, RECEIVING, MATERIAL INSPECTIONS

OPL will make a visual inspection of all materials for damage and record lot numbers and expiration dates of materials as applicable. OPL will also record jacket legend information on all cable specimens and vendor part numbers or TVA mark numbers for other TVA supplied items.

Thermo-Lag bulk grade materials are shipped under "protective service" with an in-transit temperature chart recorder included with each shipment in an identifiable container. That container reads "RECORDER IN HERE". The chart tape produced by this recorder shall be inspected by OPL personnel upon arrival of the shipment to insure that the temperature limitations of 32° F to 100° F were not exceeded.

Thermo-Lag fire barrier materials shall be stored off the ground when not in use. The materials shall be stored in a totally enclosed and weather protected area when not in use (ANSI N45.2.2, level B or better). The bulk grade (trowel grade) material shall be maintained within the temperature limits of 32° F to 100° F as verified by the chart recorder.

Prior to application of the bulk grade material, OPL will verify that the expiration date of the products have not passed. All bulk product expiration dates are good through the end of the expiration date month.

## 6.5 THERMOCOUPLE INSTALLATION

All thermocouples used in this test program shall be provided and installed by OPL, with QC surveillance by OPL personnel. The thermocouple wires shall be calibrated (by lot number) prior to installation and/or use, and applicable quality control documentation records generated. All thermocouples shall meet the requirements of IEEE P-848 Draft 14.

The thermocouples shall be placed in accordance with IEEE P-848 and at other locations as specified by TVA.

## 6.6 INSTALLATION OF CABLES

The electrical cables shall be installed in their raceways in accordance with IEEE P-848 and drawings

or procedures provided by TVA.

6.7 INSTALLATION OF THE ERFBS

Thermo-Lag ERFBS shall be installed by TVA craft personnel in accordance with applicable specifications, design drawings and procedures provided by TVA. Details of the ERFBS configurations including fasteners, orientation of structural ribs, etc., shall be documented in the final test report.

6.8 PRETEST INSPECTION

6.8.1 Written approval of the construction, assembly, installation and instrumentation of each test assembly will be supplied by OPL prior to performance of each ampacity test (a sign-off sheet for this purpose will be supplied by OPL and included in the final report).

6.8.2 Ampacity testing of the protected assemblies shall not commence until the Thermo-Lag ERFBS attains a moisture meter reading that does not exceed 20 when using a meter with a scale of 0-100 such as a Delmhorst Model DP or equivalent, or 30 days has elapsed since completion of the ERFBS installation.

6.9 EMISSIVITY MEASUREMENTS

6.9.1 Emissivity measurements shall be performed using a device which has a target zone diameter of equal or smaller size than the specimen being evaluated. The final test report shall include a description of the emissivity gun utilized and a description of its target zone.

6.9.2 Prior to taking emissivity readings, the surfaces to be measured shall first be wiped clean of surface dust.

6.9.3 The emissivity of each target (cable, conduit, tray, ERFBS, etc) shall be measured at locations and at a rate consistent with that specified for conduit in section 4.2.3 of P-848. Care shall be taken to ensure that the location evaluated is representative of the specimen surface (has not been scuffed, does not have a stenciled label, etc).

6.9.4 Specimen surface temperatures shall be measured with a thermocouple and those readings used to set the emissivity gun.

6.9.5 When emissivity measurements are made on conduit specimens, the manufacturer's name and year of manufacture shall be recorded, where this data can be identified.

6.9.6 The emissivity readings shall be recorded for information only.

6.10 CABLE DIAMETER - TRAY TESTS ONLY

The diameter of the 3/c #6 AWG cable used in test assemblies 7.1 (7.2) and 7.3 shall be documented. The diameter shall be determined by taking at least 10 readings for each test assembly from any undistorted section of the test cable including the "pigtail" portions (where the power supply connections are made but prior to the jacket cut-back) (CLARIFICATION 6).

6.11 THERMO-LAG THICKNESS

Following completion of the wrapped ampacity tests, the thickness of the Thermo-Lag shall be determined. Where the ERFBS consists of trowel grade over the board material, the material may be removed and cross-sectioned with a saw. Where a layer of trowel grade was applied under the board material, the determination shall be made "in-place" by drilling or chipping the TSI to expose the underlying raceway. The average thickness for single conduits with pre-butt.red-preformed sections may be made by measuring the OD of the Thermo-Lag, subtracting the conduit OD and dividing by two. The frequency for thickness measurements shall be as follows per specimen (CLARIFICATION 11);

| | |
|---|---|
| Single conduits - | at locations 1, 2 and 3 (per Figure 4-2 of P-848) |
| Boxed conduits - | at locations 1, 2 and 3 on each surface (per Figure 4-2 of P-848) |
| Single tray - | at locations 1, 2 and 3 on each surface (per Figure 4-2 of P-848) |
| - | if a top cover is installed, the thickness shall be measured at 3 evenly spaced places at locations 1, 2 and 3 (per Figure 4-2 of P-848) |
| Triple tray - | same as the single tray except that side thickness shall be determined at each side rail and in the gap |

6.12 EQUILIBRIUM

Because IEEE P-848 does not clearly specify the conditions which define equilibrium, the following shall be used for the purpose of the subject tests:

| | | |
|---|---|---|
| 1. | Hot spot, location 2 - | 90°C ± 1°C |
| 2. | Temperature difference, locations 1 and 3 versus 2 - | ± 4°C |
| 3. | Ambient - | 40°C ± 2°C |
| 4. | Time since the last current adjustment, minimum - | 3 hours |
| 5. | Rate of change at location 2 - | <0.2°C/hr |

For the purpose of these tests, criteria 1, 2 and 3 shall be met for three hours (during which criteria 4 is satisfied). During the last hour, criterion 5 must be satisfied for equilibrium to be declared (CLARIFICATION 4).

## 7.0 TEST SEQUENCE AND PROCEDURE

7.1 SINGLE COVERED TRAY WRAPPED WITH ONE-HOUR 5/8" ERFBS (CLARIFICATION 5)

7.1.1 **General**

7.1.1.1 The configuration to be tested is shown as Assembly 7.1 in Appendix 1 and consists of a single ladder tray. For the tests on the protected assembly, a solid sheet steel cover will be placed on the tray and the assembly will be wrapped with a 5/8" layer of Thermo-Lag 330-1. Trowel grade material will be applied between the cover and the Thermo-Lag 330-1(CLARIFICATION 5).

7.1.1.2 The tests shall be performed following IEEE P-848 draft 14, unless directed otherwise by this document or in writing by the TVA Corporate Engineering Cable Specialist.

7.1.1.3 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.1.1.4 In order to maintain a uniform tightly packed bundle, wooden blocks may be placed across the cable mass (and under the siderail flange). The blocks shall be placed as close to the ends of the cable mass as is feasible (CLARIFICATION 3).

7.1.2 **Instrumentation**

7.1.2.1 The cables shall be instrumented in the locations required by Figure 4-1 of P-848. Routing of the thermocouple leads shall be per P-848.

7.1.2.2 The surface temperature of the bare cables shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the middle cable on the top and bottom surfaces of the mass, at location 2 (per Figure 4-1 of P-848). These thermocouples shall be left in place during the wrapped test.

7.1.2.3 The surface temperature of the tray siderails shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the outer surface of both siderails at midheight, at location 2 (per Figure 4-1 of P-848). These thermocouples shall be left in place during the wrapped test.

7.1.2.4 The surface temperature of the fire wrap material shall also be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the inner and outer surfaces of the wrap on both the top and bottom of the tray at location 2 (per Figure 4-2 of P-848) and over both siderail locations measured in 7.1.2.3. The thermocouples shall be placed at the mid point of the Thermo-Lag 330-1 enclosure.

7.1.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of the cable mass and the tray siderails shall be determined.

7.1.4 **Wrapped Evaluation**

Prior to installation of the sheet steel cover, its emissivity shall be determined.

The wrapped tray shall be tested to establish the cable ampacity when protected with the ERFBS. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

## 7.2 SINGLE TRAY WRAPPED WITH THREE-HOUR ERFBS (TWO CONFIGURATIONS)

### 7.2.1 General

7.2.1.1 The configurations to be tested are shown as Assemblies 7.2 and 7.2B in Appendix 1. Assembly 7.2 consists of a single ladder tray wrapped with a single layer of 1.25" Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. Assembly 7.2B consists of the same single ladder tray wrapped with five layers of Thermo-Lag 770-1. The baseline ampacity is determined by test assembly 7.1.

7.2.1.2 The tests shall be performed following IEEE P-848 draft 14, unless directed otherwise by this document or in writing by the TVA Corporate Engineering Cable Specialist.

7.2.1.3 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.2.1.4 In order to maintain a uniform tightly packed bundle, wooden blocks may be placed across the cable mass (and under the siderail flange). The blocks shall be placed as close to the ends of the cable mass as is feasible (CLARIFICATION 3).

### 7.2.2 Instrumentation

Instrumentation requirements are identical to those specified in section 7.1.2.

### 7.2.3 Baseline Evaluation

The baseline current and the cable and tray surface emissivities for the unwrapped tray are those values determined by the tests outlined in section 7.1.3.

### 7.2.4 Wrapped Evaluations

The wrapped tray shall be tested to establish the cable ampacity when protected with the ERFBS configurations described above. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

## 7.3 MULTIPLE TRAYS WITHIN A COMMON 5/8" ERFBS (ONE-HOUR)

### 7.3.1 General

7.3.1.1 The configuration to be tested is shown as Assembly 7.3 in Appendix 1 and consists of a single stack of three open top ladder trays. For the protected test, the stack shall be wrapped with a 5/8" layer of Thermo-Lag 330-1 board.

7.3.1.2 IEEE P-848 does not include a provide guidance for ampacity testing of multiple trays within a common enclosure. In general, the tests will adhere to P-848 guidance for single tray

testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable Specialist.

7.3.1.3 All trays shall be loaded with the number and size of cables as specified in Appendix 1, for Assembly 3. The cables in the top two trays are intended to represent power trays and will be connected in a single series circuit. The cables in the bottom tray are intended to represent cables which serve a control function only and thus, shall not be energized.

7.3.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.3.1.5 The trays shall be arranged such that the nominal distance from the top of the siderail of one tray to the top of the siderail of the next higher or lower tray is 12". Supports for each tray shall be provided per Figure 4-4 of P-848. The horizontal member of the support shall be fabricated from a material of low thermal conductivity (such as wood or fiberglass). Alternately, a metallic support member may be used provided that a thermal break is placed between the tray and the support member per paragraph 4.2.4 of P-848. Vertical members may be fabricated from any material suitable for the load. A minimum of 12" shall be maintained between the outer surface of the tray or wrapped enclosure and the vertical support members (exclusive of any insulation added to the support). The support structure (both horizontal and vertical members) shall be insulated for a minimum of 18" from the trays or enclosure (as applicable).

7.3.1.6 In order to maintain a uniform tightly packed bundle, wooden blocks may be placed across the cable mass (and under the siderail flange). The blocks shall be placed as close to the ends of the cable mass as is feasible (CLARIFICATION 3).

7.3.2 **Instrumentation**

7.3.2.1 The cables in each of the top two trays shall be instrumented in the locations required by Figure 4-1 of P-848. Routing of the thermocouple leads shall be per P-848.

7.3.2.2 The surface temperature of the bare cables shall be measured in each tray. The thermocouples (type T, special grade) shall be placed in intimate contact with the top and bottom surfaces of the cable mass at location 2 (per Figure 4-1 of P-848). These thermocouples shall be left in place during the wrapped test.

7.3.2.3 The surface temperature of the tray siderails shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the outer surface of both siderails of each tray at midheight, at location 2 (per Figure 4-1 of P-848). These thermocouples shall be left in place during the wrapped test.

7.3.2.4 The surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the inner and outer surfaces of the wrap on both the top and bottom of the enclosure at location 2 (per Figure 4-1 of P-848). Additional thermocouples shall be placed on the inner and outer surfaces of both sides of the enclosure at location 2 midway between the top of the bottom tray and the bottom of the middle tray and the top of the middle tray and the bottom of the top tray.

7.3.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of the cable mass (in the hottest tray) and the tray siderails shall be determined.

7.3.4 **Wrapped Evaluation**

The wrapped trays shall be tested to establish the cable ampacity when protected with the ERFBS. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

7.4 MULTIPLE CONDUITS IN A SINGLE ROW WITHIN A COMMON 5/8" ERFBS (ONE-HOUR)

7.4.1 **General**

7.4.1.1 The configurations to be tested are shown as Assembly 7.4 in Appendix 1 and consists of a single row of three conduits. For the protected test, the row shall be wrapped with a 5/8" layer of Thermo-Lag 330-1 board.

7.4.1.2 IEEE P-848 does not provide guidance for ampacity testing of multiple conduits within a common enclosure. In general, the tests will adhere to P-848 guidance for single conduit testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable Specialist.

7.4.1.3 All conduits shall be loaded with the number and size of cables as specified in Appendix 1. The cables will be connected in a single series circuit.

7.4.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.4.1.5 A nominal one-half diameter spacing shall be provided between adjacent conduits. The spacing may be established by wooden spacers installed between the conduits at the support points shown in Figure 4-4 of P-848. The conduits and spacers may be held together using a strapping material of a low thermal conductivity (CLARIFICATION 2). The structure for maintaining separation (and the associated hardware) shall be enclosed within the Thermo-Lag 330-1 when the assembly is wrapped.

7.4.2 **Instrumentation**

7.4.2.1 The cables in each conduit shall be instrumented in the locations required by Figure 4-2 of P-848. Routing of the thermocouple leads shall be per P-848.

7.4.2.2 The surface temperature of the conduits shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the top surface of the conduits at location 2 (per Figure 4-2 of P-848). These thermocouples shall be left in place during the

wrapped test.

7.4.2.3 The inner and outer surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the center of the top, bottom and both side surfaces of the wrap at location 2 (per Figure 4-2 of P-848).

7.4.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of each conduit shall be measured.

7.4.4 **Wrapped Evaluation**

The wrapped conduits shall be tested to establish the cable ampacity when protected with the ERFBS. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

7.5 MULTIPLE CONDUITS IN A DOUBLE ROW WITHIN A COMMON 5/8" ERFBS (ONE-HOUR)

7.5.1 **General**

7.5.1.1 The configuration to be tested is shown as Assembly 7.5 in Appendix 1 and consists of a double row of three conduits. For the protected test, the rows shall be wrapped with a 5/8" layer of Thermo-Lag 330-1 board.

7.5.1.2 IEEE P-848 does not include a provide guidance for ampacity testing of multiple conduits within a common enclosure. In general, the tests will adhere to P-848 guidance for single conduit testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable Specialist.

7.5.1.3 All conduits shall be loaded with the number and size of cables as specified in Appendix 1, for Assembly 5. The cables will be connected in a single series circuit.

7.5.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.5.1.5 A nominal one-half diameter spacing shall be provided between adjacent conduits. The spacing may be established by wooden spacers installed between the conduits at the support points shown in Figure 4-4 of P-848. The conduits and spacers may be held together using a strapping material of a low thermal conductivity (CLARIFICATION 2). The structure for maintaining separation (and the associated hardware) shall be enclosed within the Thermo-Lag 330-1 when the assembly is wrapped. Supports for the entire assembly shall be provided per Figure 4-4 of P-848.

7.5.2 **Instrumentation**

7.5.2.1 The cables in each conduit shall be instrumented in the locations required by Figure 4-2 of P-848. Routing of the thermocouple leads shall be per P-848.

7.5.2.2 The surface temperature of the conduits shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the top surface of the conduits at location 2 (per Figure 4-2 of P-848). These thermocouples shall be left in place during the wrapped test.

7.5.2.3 The inner and outer surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the center of the top, bottom and both side surfaces of the wrap at location 2 (per Figure 4-2 of P-848).

7.5.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of each conduit shall be measured.

7.5.4 **Wrapped Evaluation**

The wrapped conduits shall be tested to establish the cable ampacity when protected with the ERFBS. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

7.6 SINGLE CONDUITS WITHIN A THREE-HOUR ERFBS ENCLOSURE

7.6.1 **General**

7.6.1.1 The configurations to be tested are shown as Assembly 7.6 in Appendix 1 and consist of single 1" and 4" conduits, respectively. For the protected test, the conduits shall be wrapped with a three hour ERFBS.

Assembly 7.6a consists of a single 1" conduit wrapped with a single layer of 1.25" Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. Assembly 7.6a2 consists of the same 1" conduit wrapped with five layers of Thermo-Lag 770-1.

Assembly 7.6b consists of a single 4" conduit wrapped with a single layer of 1.25" Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. The assembly originally designated as 7.6b2, the same 4" conduit wrapped with five layers of Thermo-Lag 770-1, has been deleted from the scope of the test program.

7.6.1.2 The tests will adhere to P-848 guidance for conduit testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable

Specialist.

7.6.1.3 The conduits shall be loaded with the number and size of cables as specified in Appendix 1. The cables will be connected in a single series circuit.

7.6.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.6.1.5 The floor of the test enclosure shall be insulated per section 6.1 (CLARIFICATION 8).

7.6.2 **Instrumentation**

7.6.2.1 The cables in each conduit shall be instrumented in the locations required by Figure 4-2 of P-848. Routing of the thermocouple leads shall be per P-848.

7.6.2.2 The surface temperature of the conduits shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the top surface of the conduits at location 2 (per Figure 4-2 of P-848). These thermocouples shall be left in place during the wrapped test.

7.6.2.3 The surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the center of the top and bottom surfaces of the wrap at location 2 (per Figure 4-2 of P-848).

7.6.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of each conduit shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

7.6.4 **Wrapped Evaluations**

The wrapped conduits shall be tested to establish the cable ampacity when protected with the ERFBS configurations described above. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1 (CLARIFICATION 7).

7.7 SINGLE CONDUIT WITHIN A 5/8" ERFBS MOUNTED ON UNISTRUT (ONE-HOUR)

7.7.1 **General**

7.7.1.1 The configurations to be tested are shown as Assembly 7.7 in Appendix 1. The baseline tests for both assemblies shall be performed on a (the same) single 1" conduit. For the protected test, the conduit shall be wrapped with one hour Thermo-Lag 330-1 ERFBS panels mounted on a Unistrut frame.

7.7.1.2 The tests will adhere to P-848 guidance for conduit testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable Specialist.

7.7.1.3 The conduits shall be loaded with the number and size of cables as specified in Appendix 1. The cables will be connected in a single series circuit.

7.7.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.7.1.5 The floor of the test enclosure shall be insulated per section 6.1.

7.7.2 **Instrumentation**

7.7.2.1 The cables in each conduit shall be instrumented in the locations required by Figure 4-2 of P-848. Routing of the thermocouple leads shall be per P-848.

7.7.2.2 The surface temperature of the conduits shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the top surface of the conduits at location 2 (per Figure 4-2 of P-848). These thermocouples shall be left in place during the wrapped test.

7.7.2.3 The inner and outer surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the center of the top, bottom and both side surfaces of the wrap at location 2 (per Figure 4-2 of P-848).

7.7.3 **Baseline Evaluation**

A baseline experiment shall be conducted to establish the cable ampacity in the unwrapped condition. When the system has reached equilibrium, the surface emissivity of the conduit shall be measured.

Enclosure wall temperature measurements are required per section 6.1.

7.7.4 **Wrapped Evaluations**

The wrapped conduits shall be tested to establish the cable ampacity when protected with the ERFBS configurations described above. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1.

7.8 MULTIPLE CONDUITS WITHIN A 5/8" ERFBS MOUNTED ON UNISTRUT (ONE-HOUR)

7.8.1 **General**

7.8.1.1 The configuration to be tested is shown as Assembly 7.8 in Appendix 1. The baseline ampacity is determined by test assembly 7.5. For the protected test, the conduit shall be

wrapped with the one hour Thermo-Lag 330-1 ERFBS panels mounted on a Unistrut frame constructed for Assembly 7.7. Prior to mounting the conduit bank in the ERFBS enclosure, all Thermo-Lag 330-1 applied during the wrapped portion of the tests for assembly 7.5 shall be removed. Care shall be exercised so that the removal of the Thermo-Lag 330-1 does not alter the surface emissivity of the conduits. Photographs shall be taken to document any remaining residue.

7.8.1.2 The tests will adhere to P-848 guidance for conduit testing. Additional guidance is provided by this document or may be provided in writing by the TVA Corporate Engineering Cable Specialist.

7.8.1.3 The conduits shall be loaded with the number and size of cables as specified in Appendix 1. The cables will be connected in a single series circuit.

7.8.1.4 The potential required to power the test specimens shall be measured across the specimen cables only (exclusive of the leads to the power supply) and recorded for each test.

7.8.2 **Instrumentation**

7.8.2.1 The cables in each conduit shall be instrumented in the locations required by Figure 4-2 of P-848. Routing of the thermocouple leads shall be per P-848.

7.8.2.2 The surface temperature of the conduits shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the top surface of the conduits at location 2 (per Figure 4-2 of P-848). These thermocouples shall be left in place during the wrapped test.

7.8.2.3 The inner and outer surface temperature of the fire wrap material shall be measured. The thermocouples (type T, special grade) shall be placed in intimate contact with the center of the top, bottom and both side surfaces of the wrap at location 2 (per Figure 4-2 of P-848).

7.8.3 **Baseline Evaluation**

The baseline current for the unwrapped conduits is that value as determined by the tests outlined in section 7.5.3.

7.8.4 **Wrapped Evaluations**

The wrapped conduits shall be tested to establish the cable ampacity when protected with the ERFBS enclosure constructed for Assembly 7.7. When the system has reached equilibrium, the surface emissivity of the wrap shall be measured.

Enclosure wall temperature measurements are required per section 6.1.

## 8.0 DATA SYSTEMS

During the ampacity test period, all thermocouples in assemblies 7.1,7.2, 7.6 and 7.7 will be scanned at one minute intervals or less. All thermocouples in assemblies 7.3, 7.4, 7.5 and 7.8 will be scanned at two minute

intervals or less. All thermocouple and current data channels and tabulated data (ie rate of temperature change) shall be saved to disk at two minute intervals (minimum). Key data (current, average and maximum temperatures for each cross section, chamber ambient and rate of temperature change) shall be printed at two minute intervals.

## 9.0 REPORT

The report shall contain for permanent record all information pertaining to the test including the test plan, laboratory notebook, all raw data, interpretations, and observations. The report shall provide the documentation of all the above parameters and evidence of calibration to NIST standards for equipment used in obtaining this data (including before and after calibration of thermocouples), and appropriate resolution of any test anomalies. The report shall itemize all deviations taken from IEEE P-848 draft 14. All calculations, conclusions or interpretations shall have been checked and approved by authorized individuals certified by the testing organization to be knowledgeable of the techniques used.

9.1 OPL shall submit a report on the results of the test in sufficient detail to summarize the total testing activity. The report shall include as a minimum the data required by section 6 of IEEE P-848 and the following:

a. Special surface temperature and emissivity data.
b. Circuit potential data for each test.
c. A chronological log (Event Log) of all activities from receipt of materials through final test report.
d. A copy of the test plan and fire barrier installation procedures provided by TVA.

9.2 OPL shall submit six copies of the final report to TVA and one copy to TSI.

Prepared by Kent W Brown Date 5/16/95

Checked / Verified by [illegible] Date 5/16/95

Approved by _____ Date _____

## Revision Log

| | | |
|---|---|---|
| R0 | 04/07/1994 | Initial issue. |
| R1 | June 1994 | |
| | Section 1.0 | Added a provision to allow TVA to terminate the testing of any assembly or assemblies at any stage of the program. |
| | Section 2.0 | Editorial change only. |
| | Section 4.2 | Updated the RIMS number and document date. |
| | Section 6.9 | Added section. |
| | Section 7.1 | Added "One-Hour" to section title. |
| | Section 7.1.2 | Added additional thermocouples for surface temperature measurement of the cable mass, ERFBS and tray siderails. |
| | Section 7.1.3 | Added requirement to check emissivity of the tray siderails. |
| | Section 7.1.4 | Added requirement to measure tray cover emissivity. |
| | Section 7.2 | Added entire section and renumbered subsequent sections as required. |
| | Section 7.3 | Added "One-Hour" to the section title and added instrumentation. |
| | Section 7.4 | Added section and added instrumentation. |
| | Section 7.5 | Added section. |
| | Section 7.6 | Added section. |
| | Appendix 1 | Added Assemblies 3, 4, 5, 6 and 7. Changed the conduit size for multiple conduits within a single enclosure from 4" to 1". |
| R2 | July 1994 | |
| | Section 1.0 | Renumbered the section to reflect the addition of subsection 1.2. |
| | Section 6.2 | Clarified calibration requirements for emissivity instruments. |
| | Section 7.3.1.5 | Added paragraph to describe tray support arrangement. |
| | Section 7.4.1.5 | Added paragraph to describe required conduit spacing. |

| | | |
|---|---|---|
| | Section 7.5.1.5 | Added paragraph to describe conduit spacing and support requirements. |
| | Section 8.0 | Changed the frequency of data scanning, tabulation, printing and saving to disk to two minute intervals (maximum) on all multiple raceway enclosures. These arrangements are outside the scope of P-848. The rates have been adjusted in acknowledgement of the greater number of thermocouples to be scanned and the corresponding calculations to be performed when multiple raceway configurations are tested. |
| | Appendix 1 | Revised the sketches for Assemblies 3 and 5 to provide typical support details. |
| R3 | November 1994 | |
| | General | Clarified the type of Thermo-Lag materials used (ie 330-1 or 770-1) where appropriate. |
| | 5.2.1 | Added the 1.25" thickness to the list of materials being supplied by TSI and deleted the 3/8" thick material since it is not being used in any of the ampacity tests.. |
| | 5.3.4 | Per Clarification 1, noted that P-848 and the TVA test plan provided sufficient guidance to perform the tests and deleted the requirement for a separate OPL test plan. |
| | 6.1 | Per Clarification 7, added a requirement to measure the temperature of the surface of the test chamber walls. |
| | 6.1 | Per Clarification 8, added a requirement to insulate the floor of the test enclosure for assemblies 7.6 and 7.7. |
| | 6.10 | Per Clarification 6, added a requirement to measure the actual diameter of the cables used in the tray tests (7.1, 7.2 and 7.3). |
| | 6.11 | Per Clarification 11, added a requirement to determine the thickness of the Thermo-Lag following completion of the ampacity tests. |
| | 6.12 | Per Clarification 4, specified the conditions of equilibrium. |
| | 7.1 | Per Clarification 5, Revised the description of assembly 7.1 . |
| | 7.1.1.1 | Per Clarification 5, Revised the description of assembly 7.1 . |
| | 7.1.1.4 | Per Clarification 3, permitted the installation of wooden blocks at the ends of the tray assembly to enable the cables to be kept in a neat uniform fill. |
| | 7.1.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature. |

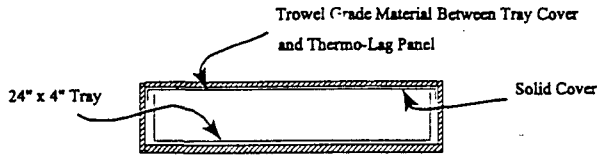
| | |
|---|---|
| 7.2 | Changed the section title to reflect that two configurations will be tested. |
| 7.2.1.1 | Added a description of the two configurations to be tested. |
| 7.2.1.4 | Per Clarification 3, permitted the installation of wooden blocks at the ends of the tray assembly to enable the cables to be kept in a neat uniform fill. |
| 7.2.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature. Also changed the title and text of the section to reflect that multiple configurations are to be tested. |
| 7.3.1.1 | Updated the assembly number. |
| 7.3.1.6 | Per Clarification 3, permitted the installation of wooden blocks at the ends of the tray assembly to enable the cables to be kept in a neat uniform fill. |
| 7.3.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature. |
| 7.4.1.1 | Updated the assembly number. |
| 7.4.1.5 | Per Clarification 2, changed the description of the conduit supports and spacers to match that used in the tests. |
| 7.4.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature. |
| 7.5.1.1 | Updated the assembly number and correct a typo. |
| 7.5.1.5 | Per Clarification 2, changed the description of the conduit supports and spacers to match that used in the tests. |
| 7.5.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature. |
| 7.6.1.1 | Updated the assembly number and expanded the description of the test fixtures. |
| 7.6.1.5 | Per Clarification 8, added a requirement to insulate the floor of the test enclosure. |
| 7.6.3 | Per Clarification 7, added a requirement to measure enclosure wall temperature. |
| 7.6.4 | Per Clarification 7, added a requirement to measure enclosure wall temperature and changed the section title to reflect plural evaluations. |
| 7.7 | Added this section to describe tests of enclosures mounted on Unistrut |

| | | |
|---|---|---|
| | | frames. |
| | 7.8 | Added this section to provide assessment of multiple conduits within a common enclosure which is mounted on a Unistrut frame. |
| | 8.0 | Updated assembly numbers and added assembly 7.8. |
| | Appendix 1 | Revised the numbering sequence for all assemblies and added assemblies 7.7 and 7.8. Deleted the 3/8" wrap from assembly 7.1B. Added detail for the wrap for assemblies 7.2 and 7.6. Added notes to figures 7.2 and 7.6 to indicate that the Thermo-Lag depiction was typical. Added the spacers in the sketch of 7.4. Added reference to IEEE P-848 requirements for cable sizing to figures 7.4, 7.5 and 7.6. |
| R4 | January 1995 | |
| | General | Revised specimen numbers throughout the document to correspond to numbers already in use by OPL so that this plan will be consistent with numbers which will appear in the final report photos. |
| | Appendix 1 | Revised the dimension of the large box used in Assemblies 7.7 and 7.8 to 30" x 30" from 36" x 36". Also revised the description of the three hour Thermo-Lag 770-1 system from seven layers to five layers to be consistent with the body of the document and with the actual three hour design. |
| | May 1995 | |
| R5 | 7.6.1.1 | Deleted assembly 7.6b2 from the scope of the test program. |
| | Appendix 1 | Deleted assembly 7.6b2 from the scope of the test program. |

# APPENDIX 1
# TEST CONFIGURATIONS

| | | |
|---|---|---|
| 1. | Assembly 7.1 | (Baseline) Single open top 24" x 4" ladder back tray in free air. |
| | Assembly 7.1 | Single open top 24" x 4" ladder back tray with a solid tray cover, protected with 5/8" Thermo-Lag 330-1. |
| 2. | Assembly 7.2 | Single open top 24" x 4" ladder back tray, protected with a three-hour ERFBS consisting of one layer of 1.25" Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. |
| | Assembly 7.2B | Single open top 24" x 4" ladder back tray, protected with a three-hour ERFBS consisting of five layers of Thermo-Lag 770-1. |
| 3. | Assembly 7.3 | (Baseline) Three open top 24" x 4" ladder back trays in free air. |
| | Assembly 7.3 | Three open top 24" x 4" ladder back trays within the same enclosure made of 5/8" Thermo-Lag 330-1. |
| 4. | Assembly 7.4 | (Baseline) A single row of three 1" rigid steel conduits in free air. |
| | Assembly 7.4 | A single row of three 1" rigid steel conduits within the same enclosure made of 5/8" Thermo-Lag 330-1. |
| 5. | Assembly 7.5 | (Baseline) Two rows of three 1" rigid steel conduits in free air. |
| | Assembly 7.5 | Two rows of three 1" rigid steel conduits within the same enclosure made of 5/8" Thermo-Lag 330-1. |
| 6. | Assembly 7.6a | (Baseline) A single 1" rigid steel conduit in free air. |
| | Assembly 7.6a | A single 1" rigid steel conduit protected with a three-hour ERFBS consisting of one layer of 1.25"Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. |
| | Assembly 7.6a2 | A single 1" rigid steel conduit protected with a three-hour ERFBS consisting of five layers of Thermo-Lag 770-1. |
| | Assembly 7.6b | (Baseline) A single 4" rigid steel conduit in free air. |
| | Assembly 7.6b | A single 4" rigid steel conduit protected with a three-hour ERFBS consisting of one layer of 1.25" Thermo-Lag 330-1 and two layers of Thermo-Lag 770-1. |
| | Assembly 7.6b2 | ~~A single 4" rigid steel conduit protected with a three-hour ERFBS consisting of five layers of Thermo-Lag 770-1~~. DELETED. |
| 7. | Assembly 7.7 | (Baseline) A single 1" rigid steel conduit in free air. |
| | Assembly 7.7A | A single 1" rigid steel conduit protected with a one-hour Thermo-Lag 330-1 ERFBS mounted on a Unistrut frame. |
| | Assembly 7.7B | A single 1" rigid steel conduit protected with a one-hour Thermo-Lag 330-1 ERFBS mounted on a Unistrut frame. |
| 8. | Assembly 7.8 | Two rows of three 1" rigid steel conduits mounted in enclosure 7.7B. |

Assembly 7.1



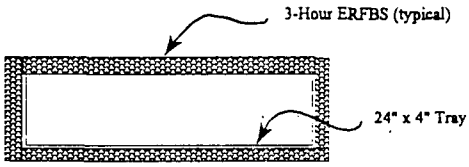

Single Tray Wrapped with 5/8" Thermo-Lag
For Illustration Only: Thermo-Lag Installation Details are Governed
by Other Drawings and Procedures

Cable Size: Per IEEE P-848, draft 14
96 - 3/c 6 AWG, 32 per layer

Tray Size: 24" x 4" x 12'

Thermo-Lag 330-1Thickness: 5/8"

Assemblies 7.2 & 7.2B



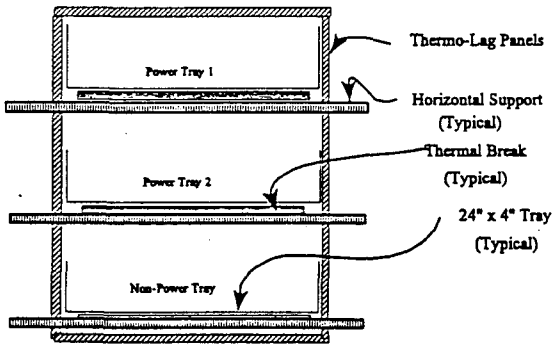

Single Tray Enclosed with a Three-Hour Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are Governed
by Other Drawings and Procedures

Cable Size: Per IEEE P-848, draft 14
96 - 3/c 6 AWG, 32 per layer

Tray Size: 24" x 4" x 12'

Thermo-Lag Thickness:
7.2 - 1.25" Thermo-Lag 330-1 w/2 layers of 770-1 wrap
7.2B - Five layers of Thermo-Lag 770-1 wrap

Assembly 7.3

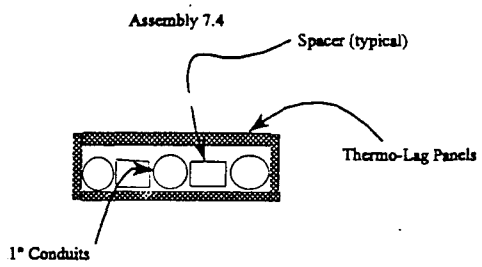



Multiple Trays Within a Common Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are
Governed by Other Drawings and Procedures

Cable Size: All trays, per IEEE P-848, draft 14,
96 - 3/c 6 AWG, 32 per layer

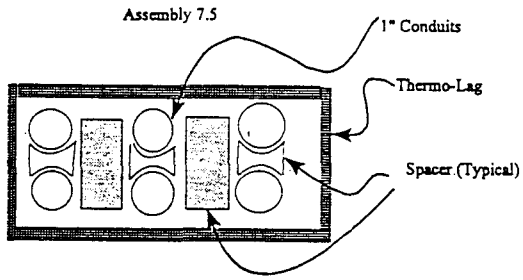
Tray Size: 24" x 4" x 12'

Thermo-Lag 330-1Thickness: 5/8"




Multiple Conduits Within a Common Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are
Governed by Other Drawings and Procedures

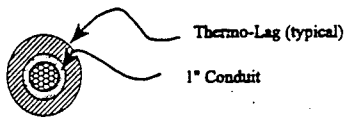
| | |
|---|---|
| Cable Size: | Per IEEE P-848, draft 14, 1-4/c #10 AWG |
| Conduit Size: | 1" x 12' |
| Thermo-Lag 330-1Thickness: | 5/8" |




Multiple Rows of Conduits Within a Common Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are
Governed by Other Drawings and Procedures

| | |
|---|---|
| Cable Size: | Per IEEE P-848, draft 14, 1-4/c #10 AWG |
| Conduit Size: | 1" x 12' |
| Thermo-Lag 330-1Thickness: | 5/8" |

Assembly 7.6a & 7.6a2




A Single 1" Conduit Within a Three-Hour Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are
Governed by Other Drawings and Procedures

Cable Size: Per IEEE P-848, draft 14, 1-4/c #10 AWG

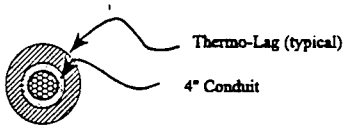
Conduit Size: 1" x 12'

Thermo-Lag Thickness:

7.6a - 1.25" Thermo-Lag 330-1 w/2 layers of 770-1 wrap

7.6a2 - Five layers of Thermo-Lag 770-1 wrap

Assembly 7.6b




A Single 4" Conduit Within a Three-Hour Thermo-Lag Enclosure
For Illustration Only: Thermo-Lag Installation Details are
Governed by Other Drawings and Procedures

Cable Size: Per IEEE P-848, draft 14, 12-3/c #6 AWG

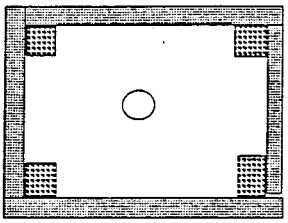
Conduit Size: 4" x 12'

Thermo-Lag Thickness:

7.6b - 1.25" Thermo-Lag 330-1 w/2 layers of 770-1 wrap

7.6b2 - DELETED

Assemblies 7.7A and 7.7B



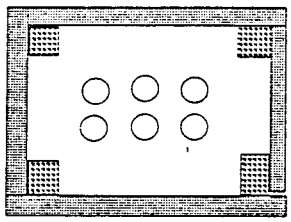
A Single 1" Conduit Protected with a 1-Hour ERFBS Mounted on a Unistrut Frame. For Illustration Only. Thermo-Lag Installation Details are Governed by Other Drawings and Procedures.

| | |
|---|---|
| Cable Size: | Per IEEE P-848, draft 14, 1-4/c #10 AWG |
| Conduit Size: | 1" x 12' |
| Thermo-Lag 330-1 Thickness: | 5/8" |

Enclosure Size (as measured over the Unistrut):

| | |
|---|---|
| 7.7A | 4.75" x 4.75" |
| 7.7B | 30" x 30" |

Assembly 7.8



Two Rows of Three 1" Conduits Protected with a 1-Hour ERFBS Mounted on a Unistrut Frame. For Illustration Only. Thermo-Lag Installation Details are Governed by Other Drawings and Procedures

| | |
|---|---|
| Cable Size: | Per IEEE P-848, draft 14, 1-4/c #10 AWG |
| Conduit Size: | 1" x 12' |
| Thermo-Lag 330-1 Thickness: | 5/8" |

Enclosure Size (as measured over the Unistrut): 30" x 30"

TVA/TSI AMPACITY TEST PLAN CLARIFICATION NO.: 9

Test Plan Revision No.: 2 Section No.: 7.3

Requirements: The purpose of this clarification is to document a change on the length of the cable specimens in the non-powered (bottom) tray during installation of the Therme-Lag (ie after completion of the baseline tests).

Clarification and Discussion: Following completion of its baseline ampacity test, assembly 7.3 was wrapped with its Therme-Lag barrier. During barrier installation it was inadvertently decided to cut the cable ends in the bottom tray, flush with the end of the tray. That tray was not powered during the baseline tests but was loaded with cables to simulate a control tray. The lengths removed (up to 6") were all in the overhang region, which is outside of the 12' "test section" per P-E4E. This is regarded as being of no impact on the ACF determined by the tests since; 1) the segments were in a non-powered tray, 2) the segments were very short, 3) the segments were not in the 12' "test section" 4) any effect of their removal would be conservative (ie their cooling effect would have been present during the baseline tests but not during the wrapped test).

TVA Representative: Herb W. Brown Date: 9/15/94

OPL Engineering Rep.: [signature] Date: 9/15/94

OPL QA/QC Rep.: Constance A. Humphrey Date: 9/15/94

cc: K.W. Brown, TVA
Rubin Feldman, TSI

TVA/TSI AMPACITY TEST PLAN CLARIFICATION NO.: 10

Test Plan Revision No.: 2 Section No.: 7.3

Requirements: The purpose of this clarification sheet is to document one aspect of the sequence of barrier installation on assembly 7.3.

Clarification and Discussion: During the installation of the Therme-Lag barrier, a decision was made to raise the bottom tray of the assembly (a non-powered tray) 1-1/2", to facilitate the insertion of the Therme-Lag and a sheet of plywood (the P-84E required thermal break and a means of distributing the weight of the tray to the barrier without crushing it). The result was a reduction in the size of the gap between the middle and bottom trays from 8" (as required) to 6 1/2". When this was determined to be an unacceptable change to the configuration which had been baseline tested, the extra plywood was removed, leaving only the original (baseline) plywood thermal break between the tray and its support (thus restoring the original spacing). The Therme-Lag extends up to the horizontal support but does not enclose it. Per section 7.3.1.5, the support structure will be insulated prior to testing. The Therme-Lag on the side of the enclosure was patched following the correction in tray spacing.

TVA Representative: Brent (C) Brown Date: 9/15/94

OPL Engineering Rep.: Hubert W. Stanton II Date: 9/15/94

OPL QA/QC Rep.: Constance A. Humphrey Date: 9/15/94

cc: K.W. Brown, TVA
Rubin Feldman, TSI

# Appendix C

# THERMOCOUPLE LOCATIONS

OMEGA POINT LABORATORIES

# THERMOCOUPLE PLACEMENT LOG - PROJECT NO. 97337

NOTE:
This Log is to be used to document the precise location of the thermocouples located on each test item. The back of this sheet may be used for any necessary drawings or schematics.

Project #: 97337

Test Item #: Assembly 7.6a

Item: 1" Diameter Conduit

| TC Number | Description of exact physical location |
|---|---|
| | |
| 1-4 | On cable conductor, 36" from free end of conduit. |
| 5-8 | On cable conductor, at midpoint of conduit (36" from TC# 1-4). |
| 9-12 | On cable conductor, 36 " from instr. end of conduit (36" from TC# 5-8). |
| | |
| 13 | In center of top surface of conduit. |
| | |
| 14 | On exterior surface of cladding, in center of top of envelope. |
| 15 | On exterior surface of cladding, in center of bottom of envelope. |

# THERMOCOUPLE PLACEMENT LOG - PROJECT NO. 97338

NOTE:
This Log is to be used to document the precise location of the thermocouples located on each test item. The back of this sheet may be used for any necessary drawings or schematics.

Project #: 97338

Test Item #: Assembly 7.6b

Item: 4" Diameter Conduit

| TC Number | Description of exact physical location |
|---|---|
| | |
| 1-12 | On cable conductor, 36" from free end of conduit. |
| 13-24 | On cable conductor, at midpoint of conduit (36" from TC# 1-12). |
| 25-36 | On cable conductor, 36 " from instr. end of conduit (36" from TC# 13-24). |
| | |
| 27 | In center of top surface of conduit. |
| | |
| 38 | On exterior surface of cladding, in center of top of envelope. |
| 39 | On exterior surface of cladding, in center of bottom of envelope. |

# Appendix D

# TEST DATA

NOTE: Data presented herein represents data collected during equilibrium conditions only. Additional, and unnecessary, data from before and after the equilibrium time period of three hours has intentionally been omitted.

OMEGA POINT LABORATORIES

Assembly 7.6a

OPL Project No. 97337

Thermocouple Locations are shown in Appendix C

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:34:09 | 9/16/94 | 39.6 | 39.7 | 39.9 | 39.6 | 39.8 | 39.8 | 39.7 | 39.8 | 39.7 | 39.7 | | 39.0 | 39.8 | 39.6 | 38.7 | 39.4 |
| 8:35:09 | 9/16/94 | 39.7 | 39.6 | 39.9 | 39.8 | 39.9 | 39.8 | 39.8 | 39.7 | 39.8 | 39.8 | | 39.2 | 39.8 | 39.6 | 38.6 | 39.7 |
| 8:36:09 | 9/16/94 | 39.8 | 40.0 | 40.0 | 40.0 | 40.1 | 40.1 | 39.9 | 39.9 | 40.1 | 40.0 | | 39.1 | 40.3 | 40.2 | 38.7 | 39.5 |
| 8:37:09 | 9/16/94 | 39.9 | 39.9 | 40.0 | 39.9 | 40.0 | 40.0 | 39.8 | 39.8 | 39.9 | 39.9 | | 39.1 | 39.9 | 39.7 | 38.8 | 39.5 |
| 8:38:09 | 9/16/94 | 39.8 | 39.8 | 40.0 | 39.7 | 39.9 | 40.0 | 39.8 | 39.9 | 40.0 | 39.9 | | 39.0 | 39.8 | 39.7 | 38.7 | 39.8 |
| 8:39:09 | 9/16/94 | 39.7 | 39.8 | 39.8 | 39.6 | 39.7 | 39.8 | 39.7 | 39.8 | 39.9 | 39.8 | | 39.0 | 40.3 | 40.2 | 38.7 | 39.5 |
| 8:40:09 | 9/16/94 | 39.9 | 39.9 | 39.9 | 40.3 | 40.0 | 39.8 | 39.9 | 40.0 | 40.1 | 40.0 | | 39.4 | 40.0 | 39.8 | 38.6 | 39.5 |
| 8:41:09 | 9/16/94 | 40.0 | 40.0 | 40.0 | 39.9 | 40.1 | 39.9 | 40.0 | 40.0 | 40.0 | 40.0 | | 39.2 | 39.9 | 39.7 | 38.9 | 39.9 |
| 8:42:09 | 9/16/94 | 39.8 | 39.8 | 40.0 | 39.8 | 39.9 | 40.0 | 39.8 | 39.9 | 40.0 | 39.9 | | 39.1 | 40.2 | 40.1 | 38.8 | 39.5 |
| 8:43:09 | 9/16/94 | 39.8 | 39.8 | 39.9 | 39.8 | 39.9 | 40.0 | 39.9 | 39.8 | 40.1 | 39.9 | | 39.1 | 39.9 | 39.8 | 38.6 | 39.5 |
| 8:44:09 | 9/16/94 | 39.8 | 39.8 | 40.0 | 40.0 | 40.1 | 39.9 | 39.7 | 39.8 | 39.9 | 39.9 | | 39.3 | 39.9 | 39.7 | 38.7 | 39.8 |
| 8:45:09 | 9/16/94 | 39.9 | 39.9 | 40.0 | 40.2 | 40.3 | 40.0 | 40.0 | 39.9 | 40.1 | 40.0 | | 39.3 | 40.3 | 40.3 | 38.8 | 39.5 |
| 8:46:09 | 9/16/94 | 39.9 | 40.0 | 40.2 | 40.1 | 40.1 | 40.3 | 40.0 | 40.0 | 40.2 | 40.1 | | 39.2 | 40.2 | 40.0 | 38.8 | 39.7 |
| 8:47:09 | 9/16/94 | 39.9 | 39.9 | 40.3 | 39.9 | 40.1 | 40.2 | 40.0 | 40.0 | 40.4 | 40.1 | | 39.2 | 39.9 | 39.8 | 38.7 | 40.0 |
| 8:48:09 | 9/16/94 | 39.7 | 39.7 | 39.9 | 39.7 | 39.9 | 39.8 | 39.8 | 39.9 | 39.9 | 39.8 | | 39.1 | 40.3 | 40.1 | 38.8 | 39.6 |
| 8:49:09 | 9/16/94 | 39.7 | 39.9 | 39.9 | 40.7 | 40.1 | 39.9 | 39.9 | 40.0 | 40.1 | 40.0 | | 39.2 | 40.2 | 40.1 | 38.7 | 39.4 |
| 8:50:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.0 | 40.1 | 40.3 | 40.1 | 40.1 | 40.4 | 40.1 | | 39.3 | 40.0 | 39.9 | 38.9 | 40.1 |
| 8:51:09 | 9/16/94 | 39.8 | 40.0 | 40.0 | 39.8 | 39.9 | 40.0 | 39.9 | 39.9 | 40.2 | 39.9 | | 39.2 | 40.1 | 40.0 | 38.8 | 39.6 |
| 8:52:09 | 9/16/94 | 39.8 | 39.8 | 40.0 | 39.9 | 40.0 | 39.9 | 39.8 | 39.9 | 39.9 | 39.9 | | 39.2 | 40.6 | 40.4 | 38.7 | 39.4 |
| 8:53:09 | 9/16/94 | 39.9 | 39.9 | 40.0 | 39.8 | 40.1 | 40.0 | 39.8 | 40.0 | 40.1 | 40.0 | | 39.2 | 39.9 | 39.8 | 38.7 | 39.9 |
| 8:54:09 | 9/16/94 | 40.0 | 39.9 | 40.1 | 40.1 | 40.2 | 40.2 | 40.0 | 40.0 | 40.2 | 40.1 | | 39.4 | 40.1 | 39.9 | 38.8 | 39.6 |
| 8:55:09 | 9/16/94 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 40.1 | 40.0 | 40.0 | 40.2 | 40.1 | | 39.3 | 40.3 | 40.6 | 38.8 | 39.5 |
| 8:56:09 | 9/16/94 | 40.0 | 39.9 | 40.1 | 39.9 | 40.1 | 40.4 | 40.0 | 40.0 | 40.2 | 40.1 | | 39.3 | 40.0 | 39.8 | 38.8 | 40.1 |
| 8:57:09 | 9/16/94 | 39.9 | 39.8 | 40.1 | 39.7 | 39.9 | 40.1 | 39.9 | 39.9 | 40.1 | 39.9 | | 39.2 | 40.1 | 39.9 | 38.7 | 39.6 |
| 8:58:09 | 9/16/94 | 39.8 | 39.9 | 39.9 | 41.0 | 40.3 | 39.9 | 39.9 | 39.9 | 40.0 | 40.1 | | 39.3 | 40.3 | 40.5 | 38.7 | 39.4 |
| 8:59:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.2 | 40.3 | 40.3 | 40.2 | 40.2 | 40.3 | 40.2 | | 39.3 | 40.1 | 40.0 | 38.9 | 40.1 |
| 9:00:09 | 9/16/94 | 39.9 | 39.9 | 40.2 | 39.9 | 40.0 | 40.1 | 40.0 | 40.1 | 40.3 | 40.0 | | 39.3 | 40.0 | 39.8 | 39.0 | 39.7 |
| 9:01:09 | 9/16/94 | 39.7 | 40.1 | 40.0 | 39.9 | 39.9 | 40.0 | 39.8 | 40.0 | 40.1 | 39.9 | | 39.2 | 40.4 | 40.2 | 38.7 | 39.4 |
| 9:02:09 | 9/16/94 | 39.9 | 40.0 | 40.0 | 39.8 | 40.0 | 40.1 | 39.9 | 40.0 | 40.2 | 40.0 | | 39.3 | 40.0 | 39.8 | 38.7 | 40.0 |
| 9:03:09 | 9/16/94 | 40.0 | 40.3 | 40.0 | 40.3 | 40.2 | 40.1 | 40.0 | 40.0 | 40.2 | 40.1 | | 39.5 | 40.1 | 39.9 | 38.8 | 39.6 |
| 9:04:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 40.1 | 40.1 | 40.2 | 40.0 | 40.1 | 40.2 | 40.1 | | 39.3 | 40.5 | 40.6 | 38.8 | 39.5 |
| 9:05:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 39.9 | 40.1 | 40.3 | 40.1 | 40.1 | 40.3 | 40.1 | | 39.3 | 40.1 | 40.0 | 38.9 | 40.1 |
| 9:06:09 | 9/16/94 | 39.9 | 40.0 | 40.1 | 39.8 | 39.9 | 40.3 | 39.9 | 39.9 | 40.3 | 40.0 | | 39.3 | 40.0 | 39.8 | 38.8 | 39.7 |
| 9:07:09 | 9/16/94 | 39.7 | 40.0 | 39.8 | 40.5 | 40.2 | 40.0 | 39.8 | 39.8 | 40.0 | 40.0 | | 39.3 | 40.3 | 40.5 | 38.7 | 39.5 |
| 9:08:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.3 | 40.3 | 40.2 | 40.1 | 40.1 | 40.3 | 40.2 | | 39.5 | 40.1 | 40.0 | 38.9 | 40.0 |
| 9:09:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 39.9 | 40.1 | 40.3 | 40.0 | 40.2 | 40.3 | 40.1 | | 39.4 | 40.1 | 39.9 | 39.0 | 39.8 |
| 9:10:09 | 9/16/94 | 39.9 | 39.9 | 40.2 | 40.0 | 40.0 | 40.0 | 39.9 | 40.0 | 40.1 | 40.0 | | 39.3 | 40.5 | 40.5 | 38.9 | 39.5 |
| 9:11:09 | 9/16/94 | 39.9 | 39.9 | 40.2 | 39.9 | 40.1 | 40.0 | 40.0 | 40.1 | 40.1 | 40.0 | | 39.3 | 40.0 | 39.9 | 38.9 | 39.8 |
| 9:12:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 40.1 | 40.1 | 40.0 | 40.0 | 40.1 | 40.2 | 40.1 | | 39.6 | 40.0 | 39.9 | 39.0 | 39.7 |
| 9:13:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 39.9 | 40.1 | 40.1 | 40.1 | 40.2 | 40.6 | 40.1 | | 39.3 | 40.5 | 40.5 | 38.8 | 39.6 |
| 9:14:09 | 9/16/94 | 40.1 | 40.0 | 40.1 | 40.1 | 40.3 | 40.1 | 40.1 | 40.0 | 40.2 | 40.1 | | 39.4 | 40.2 | 40.0 | 38.8 | 39.9 |
| 9:15:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 39.8 | 40.0 | 40.3 | 40.0 | 40.0 | 40.4 | 40.1 | | 39.3 | 40.0 | 39.9 | 38.8 | 39.8 |
| 9:16:09 | 9/16/94 | 39.8 | 39.9 | 39.8 | 39.8 | 40.1 | 40.0 | 39.8 | 39.9 | 40.0 | 39.9 | | 39.2 | 40.2 | 40.4 | 38.7 | 39.5 |
| 9:17:09 | 9/16/94 | 40.1 | 40.0 | 40.1 | 40.4 | 40.2 | 40.3 | 40.1 | 40.1 | 40.3 | 40.2 | | 39.5 | 40.2 | 40.1 | 38.8 | 39.9 |
| 9:18:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.0 | 40.2 | 40.5 | 40.1 | 40.2 | 40.3 | 40.2 | | 39.4 | 40.1 | 40.0 | 38.9 | 39.9 |
| 9:19:09 | 9/16/94 | 39.9 | 39.9 | 40.3 | 39.8 | 40.0 | 40.1 | 39.9 | 40.0 | 40.3 | 40.0 | | 39.3 | 40.5 | 40.3 | 38.8 | 39.6 |
| 9:20:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.0 | 40.1 | 40.1 | 40.1 | 40.1 | 40.1 | 40.1 | | 39.3 | 40.1 | 40.1 | 38.8 | 39.9 |
| 9:21:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.2 | 40.2 | 40.1 | 40.1 | 40.1 | 40.0 | 40.1 | | 39.6 | 40.1 | 39.9 | 38.8 | 39.7 |
| 9:22:09 | 9/16/94 | 40.0 | 39.9 | 40.4 | 40.0 | 40.1 | 40.1 | 40.0 | 40.1 | 40.2 | 40.1 | | 39.4 | 40.3 | 40.1 | 38.9 | 39.6 |
| 9:23:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.1 | 40.2 | 40.3 | 40.1 | 40.2 | 40.3 | 40.1 | | 39.4 | 40.4 | 40.5 | 38.8 | 39.9 |
| 9:24:09 | 9/16/94 | 40.1 | 40.2 | 40.2 | 40.0 | 40.2 | 40.2 | 40.1 | 40.0 | 40.3 | 40.1 | | 39.4 | 40.2 | 40.0 | 38.9 | 39.8 |
| 9:25:09 | 9/16/94 | 39.8 | 39.9 | 39.9 | 39.7 | 40.0 | 40.0 | 39.9 | 39.9 | 40.0 | 39.9 | | 39.3 | 39.9 | 39.8 | 38.9 | 39.5 |
| 9:26:09 | 9/16/94 | 40.0 | 40.1 | 40.0 | 40.3 | 40.2 | 40.1 | 40.1 | 40.1 | 40.3 | 40.1 | | 39.5 | 40.1 | 40.6 | 38.8 | 39.9 |
| 9:27:09 | 9/16/94 | 40.3 | 40.3 | 40.4 | 40.2 | 40.4 | 40.3 | 40.3 | 40.4 | 40.4 | 40.3 | | 39.5 | 40.2 | 40.1 | 39.0 | 39.9 |
| 9:28:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 39.8 | 40.1 | 40.1 | 40.1 | 40.1 | 40.2 | 40.1 | | 39.4 | 40.0 | 39.9 | 38.9 | 39.7 |
| 9:29:09 | 9/16/94 | 39.9 | 39.8 | 39.9 | 39.9 | 40.0 | 40.0 | 40.0 | 39.9 | 39.9 | 39.9 | | 39.3 | 40.1 | 40.2 | 38.8 | 40.0 |
| 9:30:09 | 9/16/94 | 40.0 | 40.2 | 40.2 | 40.1 | 40.3 | 40.2 | 40.0 | 40.1 | 40.2 | 40.2 | | 39.6 | 40.2 | 40.0 | 38.7 | 39.7 |
| 9:31:09 | 9/16/94 | 40.0 | 40.2 | 40.3 | 40.1 | 40.3 | 40.5 | 40.2 | 40.1 | 40.5 | 40.2 | | 39.5 | 40.1 | 39.9 | 38.8 | 39.6 |
| 9:32:09 | 9/16/94 | 40.0 | 40.2 | 40.0 | 39.9 | 40.1 | 40.1 | 40.1 | 40.0 | 40.2 | 40.1 | | 39.4 | 40.4 | 40.4 | 38.9 | 40.1 |
| 9:33:09 | 9/16/94 | 40.1 | 40.3 | 40.3 | 40.1 | 40.1 | 40.3 | 40.2 | 40.1 | 40.4 | 40.2 | 40.0 | 39.4 | 40.4 | 40.3 | 38.9 | 39.8 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Baseline Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:34:09 | 9/16/94 | 39.9 | 40.0 | 40.1 | 39.8 | 40.0 | 40.1 | 40.0 | 40.1 | 40.2 | 40.0 | 40.0 | 39.3 | 40.1 | 39.9 | 38.8 | 39.6 |
| 9:35:09 | 9/16/94 | 40.0 | 40.1 | 40.0 | 40.1 | 40.1 | 40.2 | 40.0 | 39.9 | 40.2 | 40.1 | 40.0 | 39.5 | 39.9 | 39.9 | 38.7 | 39.9 |
| 9:36:09 | 9/16/94 | 40.2 | 40.2 | 40.3 | 40.3 | 40.4 | 40.4 | 40.2 | 40.2 | 40.5 | 40.3 | 40.0 | 39.5 | 40.6 | 40.6 | 38.9 | 39.8 |
| 9:37:09 | 9/16/94 | 40.1 | 40.1 | 40.1 | 40.1 | 40.4 | 40.4 | 40.1 | 40.2 | 40.4 | 40.2 | 40.1 | 39.5 | 40.1 | 40.0 | 39.0 | 39.7 |
| 9:38:09 | 9/16/94 | 40.0 | 40.0 | 40.3 | 39.9 | 40.1 | 40.1 | 40.1 | 40.1 | 40.0 | 40.1 | 40.1 | 39.4 | 40.0 | 39.9 | 38.8 | 40.1 |
| 9:39:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 39.9 | 40.0 | 40.0 | 40.0 | 40.0 | 40.1 | 40.0 | 40.1 | 39.4 | 40.5 | 40.5 | 38.8 | 39.6 |
| 9:40:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.4 | 40.3 | 40.3 | 40.1 | 40.2 | 40.2 | 40.2 | 40.1 | 39.8 | 40.2 | 40.0 | 38.8 | 39.6 |
| 9:41:09 | 9/16/94 | 40.2 | 40.2 | 40.2 | 40.1 | 40.2 | 40.4 | 40.1 | 40.3 | 40.4 | 40.2 | 40.1 | 39.5 | 40.2 | 40.0 | 39.0 | 40.1 |
| 9:42:09 | 9/16/94 | 40.0 | 40.2 | 40.2 | 40.0 | 40.1 | 40.1 | 40.0 | 40.1 | 40.3 | 40.1 | 40.1 | 39.4 | 40.7 | 40.6 | 38.9 | 39.6 |
| 9:43:09 | 9/16/94 | 39.9 | 40.0 | 40.1 | 39.9 | 40.1 | 40.3 | 40.0 | 40.1 | 40.3 | 40.1 | 40.1 | 39.4 | 40.2 | 40.0 | 38.8 | 39.6 |
| 9:44:09 | 9/16/94 | 40.0 | 39.9 | 40.2 | 39.9 | 40.2 | 40.2 | 40.0 | 39.9 | 40.3 | 40.1 | 40.1 | 39.5 | 40.0 | 39.9 | 38.8 | 40.0 |
| 9:45:09 | 9/16/94 | 40.1 | 40.2 | 40.3 | 40.3 | 40.3 | 40.3 | 40.2 | 40.1 | 40.5 | 40.2 | 40.1 | 39.5 | 40.4 | 40.6 | 39.0 | 39.7 |
| 9:46:09 | 9/16/94 | 40.1 | 40.0 | 40.4 | 40.1 | 40.2 | 40.4 | 40.1 | 40.2 | 40.4 | 40.2 | 40.1 | 39.5 | 40.2 | 40.1 | 38.9 | 39.7 |
| 9:47:09 | 9/16/94 | 40.0 | 40.0 | 40.3 | 39.9 | 40.2 | 40.2 | 40.1 | 40.1 | 40.4 | 40.1 | 40.1 | 39.4 | 40.0 | 39.9 | 38.9 | 40.1 |
| 9:48:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 39.8 | 39.9 | 40.3 | 39.9 | 40.1 | 40.2 | 40.0 | 40.1 | 39.3 | 40.6 | 40.5 | 38.9 | 39.7 |
| 9:49:09 | 9/16/94 | 40.0 | 39.9 | 40.0 | 40.6 | 40.2 | 40.2 | 40.0 | 40.0 | 40.2 | 40.1 | 40.1 | 39.6 | 40.2 | 40.1 | 38.8 | 39.5 |
| 9:50:09 | 9/16/94 | 40.2 | 40.2 | 40.4 | 40.2 | 40.3 | 40.5 | 40.2 | 40.2 | 40.5 | 40.3 | 40.1 | 39.5 | 40.2 | 40.0 | 38.9 | 40.2 |
| 9:51:09 | 9/16/94 | 40.0 | 40.2 | 40.2 | 39.9 | 40.1 | 40.3 | 40.1 | 40.2 | 40.2 | 40.1 | 40.1 | 39.4 | 40.5 | 40.4 | 38.9 | 39.8 |
| 9:52:09 | 9/16/94 | 40.1 | 40.1 | 40.2 | 40.1 | 40.2 | 40.3 | 40.1 | 40.2 | 40.5 | 40.2 | 40.1 | 39.5 | 40.3 | 40.2 | 38.8 | 39.6 |
| 9:53:09 | 9/16/94 | 40.0 | 40.0 | 40.0 | 39.9 | 40.1 | 40.1 | 40.0 | 40.0 | 40.1 | 40.0 | 40.1 | 39.5 | 40.1 | 39.9 | 38.7 | 40.0 |
| 9:54:09 | 9/16/94 | 40.2 | 40.1 | 40.0 | 40.3 | 40.4 | 40.0 | 40.2 | 40.1 | 40.2 | 40.2 | 40.1 | 39.7 | 40.3 | 40.5 | 38.9 | 39.8 |
| 9:55:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.3 | 40.4 | 40.1 | 40.1 | 40.1 | 40.2 | 40.2 | 40.1 | 39.5 | 40.3 | 40.3 | 38.9 | 39.6 |
| 9:56:09 | 9/16/94 | 40.0 | 40.0 | 40.4 | 39.9 | 40.1 | 40.2 | 40.1 | 40.2 | 40.4 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.9 | 40.0 |
| 9:57:09 | 9/16/94 | 39.9 | 39.9 | 40.3 | 39.9 | 40.0 | 40.1 | 39.9 | 40.0 | 40.2 | 40.0 | 40.1 | 39.4 | 40.3 | 40.2 | 38.9 | 39.8 |
| 9:58:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.5 | 40.3 | 40.1 | 40.0 | 40.1 | 40.1 | 40.1 | 40.1 | 39.5 | 40.5 | 40.6 | 38.8 | 39.5 |
| 9:59:09 | 9/16/94 | 40.2 | 40.2 | 40.4 | 40.2 | 40.3 | 40.3 | 40.2 | 40.3 | 40.5 | 40.3 | 40.1 | 39.5 | 40.3 | 40.1 | 39.0 | 40.1 |
| 10:00:09 | 9/16/94 | 40.1 | 40.2 | 40.4 | 40.0 | 40.1 | 40.2 | 40.1 | 40.2 | 40.3 | 40.2 | 40.1 | 39.5 | 40.1 | 40.0 | 39.0 | 39.9 |
| 10:01:09 | 9/16/94 | 40.0 | 40.1 | 40.1 | 40.0 | 40.0 | 40.2 | 40.0 | 40.0 | 40.2 | 40.1 | 40.1 | 39.4 | 40.4 | 40.5 | 38.9 | 39.6 |
| 10:02:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 40.0 | 40.1 | 40.2 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.7 | 39.9 |
| 10:03:09 | 9/16/94 | 39.9 | 40.1 | 40.3 | 40.3 | 40.2 | 40.3 | 40.0 | 40.0 | 40.1 | 40.1 | 40.1 | 39.6 | 40.2 | 40.0 | 38.8 | 39.8 |
| 10:04:09 | 9/16/94 | 40.1 | 40.0 | 40.2 | 40.2 | 40.3 | 40.3 | 40.1 | 40.0 | 40.3 | 40.2 | 40.1 | 39.6 | 40.6 | 40.6 | 38.9 | 39.6 |
| 10:05:09 | 9/16/94 | 40.1 | 40.1 | 40.1 | 40.2 | 40.2 | 40.1 | 40.1 | 40.1 | 40.2 | 40.1 | 40.1 | 39.5 | 40.2 | 40.1 | 38.8 | 39.8 |
| 10:06:09 | 9/16/94 | 40.1 | 40.0 | 40.2 | 39.9 | 40.1 | 40.3 | 39.9 | 40.1 | 40.6 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.9 | 39.9 |
| 10:07:09 | 9/16/94 | 39.9 | 40.0 | 40.0 | 39.8 | 39.9 | 40.0 | 39.9 | 40.0 | 40.0 | 39.9 | 40.1 | 39.4 | 40.4 | 40.5 | 38.8 | 39.5 |
| 10:08:09 | 9/16/94 | 40.1 | 40.1 | 39.9 | 40.7 | 40.3 | 40.0 | 40.3 | 40.1 | 40.2 | 40.2 | 40.1 | 39.8 | 40.2 | 40.0 | 38.8 | 39.9 |
| 10:09:09 | 9/16/94 | 40.2 | 40.2 | 40.3 | 40.1 | 40.4 | 40.4 | 40.3 | 40.3 | 40.5 | 40.3 | 40.1 | 39.5 | 40.3 | 40.0 | 39.0 | 39.9 |
| 10:10:09 | 9/16/94 | 40.0 | 40.1 | 40.2 | 39.9 | 40.1 | 40.2 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 39.5 | 40.4 | 40.5 | 38.9 | 39.6 |
| 10:11:09 | 9/16/94 | 40.0 | 40.1 | 40.2 | 40.1 | 40.2 | 40.3 | 40.2 | 40.1 | 40.3 | 40.2 | 40.1 | 39.5 | 40.2 | 40.1 | 38.9 | 40.0 |
| 10:12:09 | 9/16/94 | 40.0 | 40.0 | 40.4 | 39.9 | 40.0 | 40.4 | 40.0 | 40.0 | 40.3 | 40.1 | 40.1 | 39.5 | 40.1 | 39.9 | 38.8 | 39.8 |
| 10:13:09 | 9/16/94 | 40.0 | 40.0 | 40.3 | 40.3 | 40.3 | 40.3 | 40.1 | 40.1 | 40.4 | 40.2 | 40.1 | 39.5 | 40.4 | 40.5 | 38.8 | 39.6 |
| 10:14:09 | 9/16/94 | 40.1 | 40.4 | 40.1 | 40.2 | 40.1 | 40.3 | 40.2 | 40.1 | 40.4 | 40.2 | 40.1 | 39.5 | 40.3 | 40.3 | 38.9 | 39.9 |
| 10:15:09 | 9/16/94 | 40.2 | 40.1 | 40.2 | 40.1 | 40.2 | 40.1 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 39.5 | 40.2 | 40.0 | 39.1 | 40.0 |
| 10:16:09 | 9/16/94 | 39.9 | 39.9 | 40.0 | 39.8 | 39.9 | 40.1 | 39.9 | 40.0 | 40.1 | 40.0 | 40.1 | 39.4 | 40.1 | 40.2 | 39.0 | 39.6 |
| 10:17:09 | 9/16/94 | 39.8 | 40.0 | 39.9 | 40.7 | 40.1 | 40.0 | 40.0 | 40.0 | 40.3 | 40.1 | 40.1 | 39.6 | 40.5 | 40.4 | 38.8 | 39.7 |
| 10:18:09 | 9/16/94 | 40.2 | 40.2 | 40.5 | 40.3 | 40.4 | 40.8 | 40.3 | 40.2 | 40.5 | 40.4 | 40.1 | 39.5 | 40.3 | 40.1 | 39.1 | 40.0 |
| 10:19:09 | 9/16/94 | 40.0 | 40.1 | 40.1 | 39.9 | 40.1 | 40.3 | 40.1 | 40.0 | 40.3 | 40.1 | 40.1 | 39.5 | 40.1 | 39.9 | 39.0 | 39.7 |
| 10:20:09 | 9/16/94 | 39.9 | 40.0 | 40.2 | 40.0 | 40.2 | 40.3 | 40.0 | 40.0 | 40.3 | 40.1 | 40.1 | 39.5 | 40.4 | 40.4 | 38.9 | 39.6 |
| 10:21:09 | 9/16/94 | 40.1 | 40.0 | 40.2 | 40.0 | 40.2 | 40.1 | 40.1 | 40.1 | 40.3 | 40.1 | 40.1 | 39.6 | 40.1 | 40.0 | 38.9 | 39.9 |
| 10:22:09 | 9/16/94 | 40.1 | 40.1 | 40.1 | 40.3 | 40.4 | 40.3 | 40.2 | 40.2 | 40.3 | 40.2 | 40.1 | 39.7 | 40.1 | 39.9 | 38.9 | 39.7 |
| 10:23:09 | 9/16/94 | 39.9 | 40.1 | 40.1 | 40.0 | 40.1 | 40.3 | 40.0 | 40.1 | 40.4 | 40.1 | 40.1 | 39.5 | 40.5 | 40.7 | 38.8 | 39.6 |
| 10:24:09 | 9/16/94 | 40.2 | 40.1 | 40.4 | 40.1 | 40.3 | 40.3 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 39.6 | 40.2 | 40.0 | 39.0 | 40.0 |
| 10:25:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 39.8 | 40.0 | 40.3 | 40.1 | 39.9 | 40.3 | 40.0 | 40.1 | 39.4 | 40.1 | 39.9 | 39.0 | 39.6 |
| 10:26:09 | 9/16/94 | 39.9 | 40.0 | 40.0 | 40.3 | 40.0 | 40.2 | 39.9 | 40.0 | 40.2 | 40.1 | 40.1 | 39.5 | 40.7 | 40.2 | 38.8 | 39.4 |
| 10:27:09 | 9/16/94 | 40.2 | 40.1 | 40.5 | 40.2 | 40.2 | 40.3 | 40.3 | 40.1 | 40.4 | 40.2 | 40.1 | 39.6 | 40.2 | 40.0 | 38.9 | 40.2 |
| 10:28:09 | 9/16/94 | 40.1 | 40.0 | 40.1 | 39.9 | 40.1 | 40.2 | 40.1 | 40.2 | 40.4 | 40.1 | 40.1 | 39.5 | 40.1 | 39.9 | 38.9 | 39.8 |
| 10:29:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 40.0 | 40.0 | 40.1 | 40.0 | 40.0 | 40.3 | 40.0 | 40.1 | 39.5 | 40.5 | 40.2 | 38.8 | 39.3 |
| 10:30:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 40.0 | 40.0 | 40.2 | 40.2 | 40.1 | 40.3 | 40.1 | 40.1 | 39.4 | 40.0 | 39.9 | 38.6 | 39.9 |
| 10:31:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 40.0 | 40.1 | 39.9 | 39.9 | 40.0 | 40.1 | 40.0 | 40.1 | 39.5 | 40.0 | 39.8 | 38.9 | 39.5 |
| 10:32:09 | 9/16/94 | 39.9 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.1 | 39.5 | 40.4 | 40.6 | 38.8 | 39.5 |
| 10:33:09 | 9/16/94 | 40.0 | 40.0 | 40.3 | 40.0 | 40.1 | 40.2 | 40.1 | 40.2 | 40.5 | 40.2 | 40.1 | 39.5 | 40.1 | 39.9 | 38.7 | 40.0 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Baseline Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:34:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 39.8 | 40.0 | 40.1 | 39.9 | 40.0 | 40.2 | 40.0 | 40.1 | 39.4 | 40.0 | 39.8 | 38.9 | 39.7 |
| 10:35:09 | 9/16/94 | 39.8 | 40.0 | 39.8 | 40.4 | 39.9 | 40.0 | 39.8 | 39.9 | 40.1 | 40.0 | 40.1 | 39.4 | 40.2 | 40.4 | 38.8 | 39.4 |
| 10:36:09 | 9/16/94 | 40.1 | 40.0 | 40.3 | 40.3 | 40.4 | 40.3 | 40.2 | 40.1 | 40.5 | 40.2 | 40.1 | 39.5 | 40.2 | 40.0 | 38.9 | 40.1 |
| 10:37:09 | 9/16/94 | 40.1 | 40.0 | 40.2 | 40.0 | 40.1 | 40.2 | 40.1 | 40.2 | 40.4 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 39.0 | 39.8 |
| 10:38:09 | 9/16/94 | 39.9 | 40.0 | 40.1 | 39.9 | 39.9 | 40.0 | 39.9 | 40.0 | 40.0 | 40.0 | 40.1 | 39.4 | 40.4 | 40.5 | 38.9 | 39.5 |
| 10:39:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.0 | 40.1 | 40.2 | 40.0 | 40.0 | 40.4 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.8 | 39.9 |
| 10:40:09 | 9/16/94 | 40.1 | 40.1 | 40.2 | 40.3 | 40.3 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 40.1 | 39.7 | 40.1 | 40.0 | 39.0 | 39.9 |
| 10:41:09 | 9/16/94 | 40.1 | 40.1 | 40.1 | 40.1 | 40.3 | 40.2 | 40.1 | 40.2 | 40.4 | 40.2 | 40.1 | 39.6 | 40.6 | 40.4 | 39.0 | 39.7 |
| 10:42:09 | 9/16/94 | 40.1 | 40.1 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 40.1 | 40.3 | 40.2 | 40.1 | 39.5 | 40.3 | 40.1 | 38.9 | 39.8 |
| 10:43:09 | 9/16/94 | 40.1 | 40.0 | 40.2 | 39.9 | 40.1 | 40.1 | 40.0 | 40.1 | 40.5 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.9 | 40.0 |
| 10:44:09 | 9/16/94 | 39.9 | 39.9 | 40.1 | 40.0 | 40.0 | 40.2 | 39.9 | 40.0 | 40.1 | 40.0 | 40.1 | 39.4 | 40.3 | 40.4 | 38.8 | 39.6 |
| 10:45:09 | 9/16/94 | 40.0 | 40.1 | 40.2 | 40.4 | 40.3 | 40.3 | 40.1 | 40.1 | 40.4 | 40.2 | 40.1 | 39.6 | 40.3 | 40.1 | 38.9 | 39.9 |
| 10:46:09 | 9/16/94 | 40.1 | 40.1 | 40.4 | 40.1 | 40.2 | 40.3 | 40.1 | 40.3 | 40.4 | 40.2 | 40.1 | 39.6 | 40.2 | 40.0 | 39.0 | 40.0 |
| 10:47:09 | 9/16/94 | 39.9 | 39.8 | 40.1 | 39.9 | 40.1 | 40.0 | 40.0 | 40.1 | 40.1 | 40.0 | 40.1 | 39.4 | 40.3 | 40.5 | 39.0 | 39.6 |
| 10:48:09 | 9/16/94 | 40.0 | 39.9 | 40.1 | 40.1 | 40.1 | 40.1 | 40.0 | 40.0 | 40.4 | 40.1 | 40.1 | 39.5 | 40.3 | 40.2 | 38.9 | 39.7 |
| 10:49:09 | 9/16/94 | 40.1 | 40.1 | 40.4 | 40.2 | 40.1 | 40.4 | 40.1 | 40.0 | 40.3 | 40.2 | 40.1 | 39.7 | 40.2 | 40.1 | 38.9 | 39.9 |
| 10:50:09 | 9/16/94 | 40.1 | 40.2 | 40.0 | 40.2 | 40.3 | 40.1 | 40.1 | 40.2 | 40.5 | 40.2 | 40.1 | 39.6 | 40.2 | 40.5 | 39.0 | 39.8 |
| 10:51:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 40.1 | 40.4 | 40.2 | 40.1 | 39.6 | 40.4 | 40.3 | 38.9 | 39.8 |
| 10:52:09 | 9/16/94 | 40.1 | 40.0 | 40.4 | 40.0 | 40.2 | 40.4 | 40.0 | 40.1 | 40.3 | 40.2 | 40.1 | 39.5 | 40.2 | 40.0 | 38.9 | 40.0 |
| 10:53:09 | 9/16/94 | 39.9 | 40.0 | 40.0 | 39.8 | 40.0 | 40.1 | 40.0 | 40.1 | 40.2 | 40.0 | 40.1 | 39.5 | 40.2 | 40.3 | 38.9 | 39.7 |
| 10:54:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.7 | 40.5 | 40.1 | 40.2 | 40.2 | 40.3 | 40.3 | 40.1 | 39.7 | 40.4 | 40.3 | 38.9 | 39.7 |
| 10:55:09 | 9/16/94 | 40.2 | 40.4 | 40.4 | 40.2 | 40.3 | 40.6 | 40.3 | 40.3 | 40.5 | 40.4 | 40.1 | 39.6 | 40.3 | 40.1 | 39.1 | 40.1 |
| 10:56:09 | 9/16/94 | 40.1 | 40.0 | 40.1 | 40.0 | 40.2 | 40.1 | 40.1 | 40.2 | 40.1 | 40.1 | 40.1 | 39.5 | 40.3 | 40.3 | 39.0 | 39.7 |
| 10:57:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.1 | 40.1 | 40.1 | 40.0 | 40.1 | 40.1 | 40.1 | 40.1 | 39.5 | 40.3 | 40.2 | 38.9 | 39.7 |
| 10:58:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 40.1 | 40.3 | 40.2 | 40.1 | 39.7 | 40.2 | 40.0 | 38.9 | 40.0 |
| 10:59:09 | 9/16/94 | 40.2 | 40.2 | 40.3 | 40.2 | 40.3 | 40.4 | 40.2 | 40.1 | 40.4 | 40.3 | 40.1 | 39.6 | 40.3 | 40.2 | 38.9 | 39.8 |
| 11:00:09 | 9/16/94 | 40.0 | 40.3 | 40.2 | 40.2 | 40.2 | 40.5 | 40.1 | 40.2 | 40.4 | 40.2 | 40.1 | 39.6 | 40.6 | 40.7 | 38.9 | 39.8 |
| 11:01:09 | 9/16/94 | 40.2 | 40.2 | 40.3 | 40.1 | 40.3 | 40.4 | 40.1 | 40.2 | 40.5 | 40.3 | 40.1 | 39.6 | 40.3 | 40.1 | 39.0 | 40.0 |
| 11:02:09 | 9/16/94 | 40.0 | 40.0 | 40.2 | 39.9 | 40.0 | 40.2 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 38.9 | 39.7 |
| 11:03:09 | 9/16/94 | 39.9 | 40.2 | 40.3 | 40.8 | 40.6 | 40.2 | 40.1 | 40.1 | 40.4 | 40.3 | 40.1 | 39.7 | 40.5 | 40.6 | 38.8 | 39.7 |
| 11:04:09 | 9/16/94 | 40.3 | 40.3 | 40.3 | 40.2 | 40.3 | 40.4 | 40.4 | 40.4 | 40.5 | 40.3 | 40.1 | 39.6 | 40.3 | 40.2 | 39.0 | 40.1 |
| 11:05:09 | 9/16/94 | 40.1 | 40.1 | 40.1 | 40.0 | 40.1 | 40.2 | 40.1 | 40.1 | 40.4 | 40.1 | 40.1 | 39.5 | 40.1 | 40.0 | 39.0 | 39.7 |
| 11:06:09 | 9/16/94 | 40.0 | 40.2 | 40.1 | 40.1 | 40.1 | 40.3 | 40.0 | 40.1 | 40.3 | 40.1 | 40.1 | 39.5 | 40.4 | 40.6 | 39.0 | 39.7 |
| 11:07:09 | 9/16/94 | 40.2 | 40.1 | 40.6 | 40.1 | 40.3 | 40.3 | 40.2 | 40.2 | 40.2 | 40.2 | 40.1 | 39.6 | 40.2 | 40.1 | 39.0 | 40.0 |
| 11:08:09 | 9/16/94 | 40.2 | 40.3 | 40.3 | 40.5 | 40.4 | 40.3 | 40.2 | 40.3 | 40.5 | 40.3 | 40.1 | 39.7 | 40.2 | 40.0 | 39.0 | 39.7 |
| 11:09:09 | 9/16/94 | 40.2 | 40.2 | 40.3 | 40.2 | 40.2 | 40.4 | 40.2 | 40.2 | 40.5 | 40.3 | 40.1 | 39.7 | 40.7 | 40.5 | 38.9 | 39.7 |
| 11:10:09 | 9/16/94 | 40.3 | 40.3 | 40.4 | 40.2 | 40.4 | 40.3 | 40.4 | 40.3 | 40.5 | 40.3 | 40.1 | 39.6 | 40.4 | 40.2 | 39.0 | 40.1 |
| 11:11:09 | 9/16/94 | 40.1 | 40.2 | 40.3 | 40.0 | 40.3 | 40.4 | 40.1 | 40.2 | 40.4 | 40.2 | 40.2 | 39.6 | 40.3 | 40.0 | 39.0 | 39.8 |
| 11:12:09 | 9/16/94 | 40.0 | 40.0 | 39.9 | 40.4 | 40.2 | 40.0 | 40.1 | 40.1 | 40.3 | 40.1 | 40.2 | 39.8 | 40.2 | 40.0 | 38.8 | 39.6 |
| 11:13:09 | 9/16/94 | 40.3 | 40.2 | 40.4 | 40.3 | 40.4 | 40.4 | 40.4 | 40.3 | 40.5 | 40.3 | 40.2 | 39.6 | 40.7 | 40.7 | 39.0 | 40.2 |
| 11:14:09 | 9/16/94 | 40.3 | 40.3 | 40.3 | 40.2 | 40.4 | 40.4 | 40.4 | 40.3 | 40.6 | 40.4 | 40.2 | 39.6 | 40.4 | 40.1 | 39.1 | 39.9 |
| 11:15:09 | 9/16/94 | 40.0 | 40.3 | 40.2 | 39.9 | 40.2 | 40.2 | 40.1 | 40.1 | 40.4 | 40.2 | 40.2 | 39.6 | 40.2 | 40.0 | 39.0 | 39.7 |
| 11:16:09 | 9/16/94 | 40.0 | 40.0 | 40.1 | 40.2 | 40.2 | 40.1 | 40.1 | 40.1 | 40.3 | 40.1 | 40.2 | 39.6 | 40.5 | 40.3 | 38.8 | 40.1 |
| 11:17:09 | 9/16/94 | 40.3 | 40.3 | 40.7 | 40.5 | 40.6 | 40.6 | 40.4 | 40.4 | 40.7 | 40.5 | 40.2 | 39.7 | 40.3 | 40.1 | 39.1 | 40.0 |
| 11:18:09 | 9/16/94 | 40.2 | 40.1 | 40.3 | 40.1 | 40.3 | 40.2 | 40.2 | 40.3 | 40.5 | 40.2 | 40.2 | 39.6 | 40.2 | 40.1 | 39.0 | 39.7 |
| 11:19:09 | 9/16/94 | 40.0 | 40.0 | 40.0 | 40.1 | 40.2 | 40.1 | 40.2 | 40.1 | 40.3 | 40.1 | 40.2 | 39.6 | 40.4 | 40.4 | 38.9 | 40.1 |
| 11:20:09 | 9/16/94 | 40.2 | 40.2 | 40.2 | 40.2 | 40.3 | 40.2 | 40.3 | 40.2 | 40.3 | 40.2 | 40.2 | 39.6 | 40.3 | 40.2 | 38.9 | 39.9 |
| 11:21:09 | 9/16/94 | 40.0 | 40.6 | 40.1 | 40.2 | 40.1 | 40.1 | 40.1 | 40.1 | 40.1 | 40.2 | 40.2 | 39.5 | 40.2 | 40.0 | 39.0 | 39.6 |
| 11:22:09 | 9/16/94 | 40.2 | 40.0 | 40.2 | 40.3 | 40.3 | 40.3 | 40.3 | 40.0 | 40.3 | 40.2 | 40.2 | 39.6 | 40.6 | 40.6 | 39.0 | 40.0 |
| 11:23:09 | 9/16/94 | 40.4 | 40.4 | 40.5 | 40.4 | 40.5 | 40.5 | 40.5 | 40.4 | 40.5 | 40.4 | 40.2 | 39.7 | 40.5 | 40.3 | 39.1 | 40.1 |
| 11:24:09 | 9/16/94 | 40.2 | 40.2 | 40.2 | 40.1 | 40.3 | 40.4 | 40.1 | 40.3 | 40.3 | 40.2 | 40.2 | 39.6 | 40.2 | 40.1 | 38.9 | 39.9 |
| 11:25:09 | 9/16/94 | 40.0 | 40.2 | 40.0 | 40.0 | 40.0 | 40.2 | 40.0 | 40.1 | 40.3 | 40.1 | 40.2 | 39.5 | 40.4 | 40.5 | 38.9 | 39.8 |
| 11:26:09 | 9/16/94 | 40.4 | 40.4 | 40.3 | 41.0 | 40.5 | 40.6 | 40.5 | 40.4 | 40.7 | 40.5 | 40.2 | 39.9 | 40.4 | 40.3 | 39.0 | 40.1 |
| 11:27:09 | 9/16/94 | 40.3 | 40.3 | 40.5 | 40.2 | 40.4 | 40.5 | 40.4 | 40.4 | 40.6 | 40.4 | 40.2 | 39.6 | 40.3 | 40.2 | 39.1 | 39.9 |
| 11:28:09 | 9/16/94 | 40.1 | 40.2 | 40.2 | 40.0 | 40.2 | 40.3 | 40.1 | 40.2 | 40.3 | 40.2 | 40.2 | 39.6 | 40.6 | 40.4 | 39.0 | 39.9 |
| 11:29:09 | 9/16/94 | 40.3 | 40.2 | 40.4 | 40.3 | 40.4 | 40.6 | 40.3 | 40.2 | 40.6 | 40.4 | 40.2 | 39.7 | 40.4 | 40.4 | 38.9 | 40.1 |
| 11:30:09 | 9/16/94 | 40.1 | 40.1 | 40.3 | 40.0 | 40.3 | 40.4 | 40.2 | 40.2 | 40.5 | 40.2 | 40.2 | 39.6 | 40.2 | 40.1 | 38.9 | 39.8 |
| 11:31:09 | 9/16/94 | 40.1 | 40.0 | 40.4 | 40.5 | 40.3 | 40.5 | 40.2 | 40.1 | 40.5 | 40.3 | 40.2 | 39.7 | 40.4 | 40.5 | 39.0 | 39.8 |
| 11:32:09 | 9/16/94 | 40.4 | 40.3 | 40.6 | 40.4 | 40.5 | 40.5 | 40.5 | 40.4 | 40.3 | 40.4 | 40.2 | 39.6 | 40.9 | 40.8 | 39.2 | 40.2 |
| 11:33:09 | 9/16/94 | 40.3 | 40.2 | 40.5 | 40.2 | 40.4 | 40.6 | 40.3 | 40.4 | 40.5 | 40.4 | 40.2 | 39.6 | 40.3 | 40.2 | 39.1 | 39.9 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Baseline Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:34:09 | 39.0 | 86.6 | 88.8 | 88.9 | 84.6 | 85.6 | 89.6 | 85.3 | 84.9 | 84.7 | 83.4 | 85.2 | 86.9 | 87.2 | 86.4 |
| 8:35:09 | 39.0 | 86.6 | 88.7 | 88.8 | 84.6 | 85.7 | 89.6 | 85.3 | 84.9 | 84.7 | 83.4 | 85.2 | 86.8 | 87.2 | 86.4 |
| 8:36:09 | 39.1 | 86.5 | 88.8 | 88.8 | 84.5 | 85.6 | 89.6 | 85.2 | 84.8 | 84.8 | 83.4 | 85.0 | 86.7 | 87.2 | 86.3 |
| 8:37:09 | 39.1 | 86.7 | 88.9 | 89.0 | 84.6 | 85.7 | 89.7 | 85.3 | 84.8 | 84.0 | 83.4 | 85.2 | 86.8 | 87.3 | 86.4 |
| 8:38:09 | 39.0 | 86.8 | 88.9 | 88.9 | 84.6 | 85.8 | 89.7 | 85.4 | 85.0 | 84.8 | 83.5 | 85.4 | 86.9 | 87.3 | 86.5 |
| 8:39:09 | 39.0 | 86.6 | 88.8 | 88.9 | 84.6 | 85.7 | 89.7 | 85.4 | 84.9 | 84.7 | 83.4 | 85.3 | 86.9 | 87.2 | 86.4 |
| 8:40:09 | 39.1 | 86.6 | 88.8 | 88.9 | 84.6 | 85.7 | 89.8 | 85.4 | 84.9 | 84.8 | 83.5 | 85.3 | 86.9 | 87.3 | 86.5 |
| 8:41:09 | 39.1 | 86.7 | 88.9 | 89.0 | 84.7 | 85.8 | 89.8 | 85.4 | 84.9 | 84.9 | 83.6 | 85.3 | 86.9 | 87.3 | 86.5 |
| 8:42:09 | 39.0 | 86.7 | 88.9 | 89.0 | 84.6 | 85.8 | 89.9 | 85.4 | 84.9 | 84.9 | 83.6 | 85.3 | 86.9 | 87.3 | 86.5 |
| 8:43:09 | 39.1 | 86.8 | 89.0 | 89.0 | 84.7 | 85.9 | 89.8 | 85.3 | 85.0 | 85.0 | 83.6 | 85.3 | 86.9 | 87.4 | 86.5 |
| 8:44:09 | 38.9 | 86.7 | 88.9 | 88.9 | 84.7 | 85.8 | 89.7 | 85.4 | 85.0 | 84.9 | 83.5 | 85.5 | 87.0 | 87.3 | 86.5 |
| 8:45:09 | 39.1 | 86.7 | 88.9 | 89.0 | 84.7 | 85.7 | 89.8 | 85.4 | 84.9 | 84.9 | 83.6 | 85.2 | 86.9 | 87.3 | 86.4 |
| 8:46:09 | 39.2 | 86.9 | 89.0 | 89.1 | 84.7 | 85.8 | 89.9 | 85.4 | 84.9 | 84.9 | 83.7 | 85.4 | 87.0 | 87.4 | 86.5 |
| 8:47:09 | 39.3 | 86.8 | 89.0 | 89.1 | 84.7 | 85.8 | 89.8 | 85.4 | 84.8 | 84.9 | 83.6 | 85.4 | 86.9 | 87.4 | 86.5 |
| 8:48:09 | 39.1 | 86.8 | 88.9 | 88.9 | 84.7 | 85.8 | 89.7 | 85.3 | 84.8 | 85.0 | 83.6 | 85.3 | 86.9 | 87.3 | 86.4 |
| 8:49:09 | 39.1 | 86.8 | 89.0 | 89.0 | 84.8 | 85.7 | 89.8 | 85.4 | 85.0 | 85.0 | 83.6 | 85.4 | 87.1 | 87.4 | 86.5 |
| 8:50:09 | 39.1 | 86.8 | 89.0 | 89.1 | 84.8 | 85.7 | 89.8 | 85.4 | 85.1 | 85.1 | 83.7 | 85.7 | 87.2 | 87.4 | 86.5 |
| 8:51:09 | 39.1 | 86.8 | 89.0 | 89.0 | 84.8 | 85.8 | 89.7 | 85.4 | 85.0 | 85.0 | 83.6 | 85.4 | 87.0 | 87.4 | 86.5 |
| 8:52:09 | 39.2 | 86.9 | 89.0 | 89.1 | 84.8 | 85.8 | 89.8 | 85.5 | 85.0 | 85.1 | 83.7 | 85.5 | 87.2 | 87.5 | 86.5 |
| 8:53:09 | 39.1 | 86.9 | 89.1 | 89.2 | 84.8 | 85.9 | 89.9 | 85.5 | 85.0 | 85.2 | 83.8 | 85.4 | 87.1 | 87.5 | 86.6 |
| 8:54:09 | 39.2 | 86.9 | 89.0 | 89.0 | 84.7 | 85.8 | 89.8 | 85.3 | 85.0 | 85.1 | 83.6 | 85.5 | 87.0 | 87.4 | 86.5 |
| 8:55:09 | 39.2 | 86.9 | 89.1 | 89.1 | 84.8 | 85.9 | 89.8 | 85.4 | 85.1 | 85.2 | 83.8 | 85.6 | 87.1 | 87.5 | 86.6 |
| 8:56:09 | 39.2 | 86.8 | 89.0 | 89.0 | 84.8 | 85.8 | 89.7 | 85.4 | 85.0 | 85.1 | 83.7 | 85.6 | 87.1 | 87.4 | 86.5 |
| 8:57:09 | 39.1 | 86.8 | 89.0 | 89.1 | 84.8 | 85.7 | 89.8 | 85.4 | 85.0 | 85.1 | 83.8 | 85.4 | 87.1 | 87.4 | 86.5 |
| 8:58:09 | 39.1 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.6 | 85.1 | 85.2 | 83.9 | 85.5 | 87.2 | 87.6 | 86.6 |
| 8:59:09 | 39.2 | 86.9 | 89.1 | 89.2 | 84.8 | 85.8 | 89.8 | 85.5 | 85.0 | 85.1 | 83.8 | 85.4 | 87.1 | 87.5 | 86.5 |
| 9:00:09 | 39.2 | 86.8 | 89.0 | 89.0 | 84.7 | 85.8 | 89.8 | 85.3 | 84.9 | 85.2 | 83.8 | 85.5 | 87.0 | 87.4 | 86.5 |
| 9:01:09 | 39.1 | 86.9 | 89.1 | 89.2 | 84.9 | 85.9 | 89.8 | 85.5 | 85.1 | 85.2 | 83.8 | 85.8 | 87.3 | 87.5 | 86.6 |
| 9:02:09 | 39.1 | 86.8 | 89.1 | 89.2 | 84.9 | 85.9 | 89.9 | 85.6 | 85.1 | 85.2 | 83.9 | 85.7 | 87.3 | 87.5 | 86.6 |
| 9:03:09 | 39.2 | 86.8 | 89.0 | 89.0 | 84.8 | 85.8 | 89.8 | 85.4 | 85.0 | 85.1 | 83.7 | 85.5 | 87.1 | 87.4 | 86.5 |
| 9:04:09 | 39.2 | 86.8 | 89.1 | 89.0 | 84.8 | 85.9 | 89.8 | 85.4 | 85.0 | 85.2 | 83.8 | 85.5 | 87.1 | 87.4 | 86.5 |
| 9:05:09 | 39.2 | 86.9 | 89.2 | 89.2 | 84.9 | 86.0 | 89.9 | 85.5 | 85.1 | 85.3 | 83.9 | 85.5 | 87.1 | 87.5 | 86.6 |
| 9:06:09 | 39.1 | 87.1 | 89.3 | 89.3 | 84.9 | 85.9 | 90.0 | 85.5 | 85.0 | 85.3 | 83.9 | 85.5 | 87.2 | 87.6 | 86.6 |
| 9:07:09 | 39.1 | 87.1 | 89.2 | 89.2 | 84.9 | 85.9 | 89.8 | 85.5 | 85.1 | 85.2 | 83.8 | 85.6 | 87.1 | 87.6 | 86.6 |
| 9:08:09 | 39.2 | 86.9 | 89.2 | 89.3 | 84.9 | 85.9 | 90.0 | 85.6 | 85.1 | 85.2 | 83.9 | 85.6 | 87.2 | 87.6 | 86.6 |
| 9:09:09 | 39.1 | 87.2 | 89.3 | 89.3 | 85.0 | 86.0 | 89.9 | 85.6 | 85.2 | 85.2 | 83.9 | 85.7 | 87.2 | 87.7 | 86.7 |
| 9:10:09 | 39.2 | 86.9 | 89.2 | 89.3 | 84.9 | 85.9 | 90.0 | 85.5 | 85.1 | 85.2 | 83.9 | 85.5 | 87.2 | 87.6 | 86.6 |
| 9:11:09 | 39.3 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 90.0 | 85.6 | 85.0 | 85.2 | 83.9 | 85.6 | 87.3 | 87.6 | 86.6 |
| 9:12:09 | 39.1 | 87.1 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.6 | 85.1 | 85.1 | 83.8 | 85.6 | 87.2 | 87.6 | 86.6 |
| 9:13:09 | 39.1 | 86.9 | 89.1 | 89.1 | 84.9 | 85.8 | 89.7 | 85.4 | 85.0 | 85.2 | 83.8 | 85.5 | 87.2 | 87.5 | 86.5 |
| 9:14:09 | 39.3 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.5 | 85.0 | 85.2 | 83.9 | 85.6 | 87.2 | 87.6 | 86.6 |
| 9:15:09 | 39.2 | 86.9 | 89.1 | 89.2 | 84.8 | 85.9 | 89.9 | 85.5 | 85.0 | 85.3 | 83.9 | 85.5 | 87.2 | 87.5 | 86.6 |
| 9:16:09 | 39.1 | 87.1 | 89.3 | 89.3 | 84.9 | 85.9 | 89.9 | 85.4 | 85.0 | 85.3 | 83.9 | 85.5 | 87.2 | 87.7 | 86.6 |
| 9:17:09 | 39.3 | 87.1 | 89.2 | 89.3 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.2 | 83.9 | 85.7 | 87.4 | 87.7 | 86.6 |
| 9:18:09 | 39.2 | 87.0 | 89.2 | 89.2 | 85.0 | 85.9 | 89.8 | 85.5 | 85.1 | 85.2 | 83.8 | 85.6 | 87.3 | 87.6 | 86.6 |
| 9:19:09 | 39.2 | 86.9 | 89.1 | 89.2 | 84.9 | 85.8 | 89.8 | 85.5 | 85.1 | 85.2 | 83.9 | 85.8 | 87.4 | 87.5 | 86.5 |
| 9:20:09 | 39.3 | 86.9 | 89.1 | 89.3 | 84.9 | 85.9 | 89.9 | 85.6 | 85.0 | 85.2 | 83.9 | 85.6 | 87.3 | 87.6 | 86.6 |
| 9:21:09 | 39.2 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.5 | 85.0 | 85.3 | 83.9 | 85.6 | 87.3 | 87.6 | 86.6 |
| 9:22:09 | 39.2 | 87.0 | 89.1 | 89.2 | 84.9 | 85.9 | 89.8 | 85.4 | 85.0 | 85.3 | 83.8 | 85.7 | 87.2 | 87.5 | 86.5 |
| 9:23:09 | 39.3 | 86.9 | 89.2 | 89.3 | 85.0 | 85.9 | 90.0 | 85.6 | 85.1 | 85.4 | 84.0 | 85.7 | 87.4 | 87.6 | 86.6 |
| 9:24:09 | 39.3 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.4 | 85.1 | 85.3 | 84.0 | 85.6 | 87.2 | 87.6 | 86.6 |
| 9:25:09 | 39.1 | 86.9 | 89.1 | 89.2 | 84.9 | 85.9 | 89.8 | 85.4 | 85.0 | 85.3 | 83.9 | 85.6 | 87.2 | 87.5 | 86.5 |
| 9:26:09 | 39.2 | 87.1 | 89.2 | 89.2 | 85.0 | 85.9 | 89.7 | 85.5 | 85.1 | 85.3 | 83.9 | 85.6 | 87.2 | 87.6 | 86.6 |
| 9:27:09 | 39.5 | 86.9 | 89.2 | 89.3 | 85.0 | 85.9 | 89.9 | 85.5 | 85.1 | 85.3 | 84.0 | 85.8 | 87.4 | 87.6 | 86.6 |
| 9:28:09 | 39.3 | 87.1 | 89.2 | 89.3 | 84.9 | 86.0 | 89.9 | 85.5 | 85.2 | 85.4 | 84.0 | 85.8 | 87.4 | 87.6 | 86.7 |
| 9:29:09 | 39.2 | 87.1 | 89.2 | 89.2 | 85.0 | 85.9 | 89.8 | 85.5 | 85.1 | 85.3 | 83.9 | 85.7 | 87.3 | 87.6 | 86.6 |
| 9:30:09 | 39.3 | 87.0 | 89.2 | 89.3 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.3 | 84.0 | 85.8 | 87.4 | 87.6 | 86.6 |
| 9:31:09 | 39.2 | 87.1 | 89.3 | 89.3 | 85.0 | 86.0 | 89.9 | 85.5 | 85.1 | 85.4 | 84.0 | 85.8 | 87.3 | 87.6 | 86.6 |
| 9:32:09 | 39.2 | 87.1 | 89.2 | 89.4 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.4 | 84.0 | 85.7 | 87.4 | 87.7 | 86.6 |
| 9:33:09 | 39.3 | 87.2 | 89.3 | 89.5 | 85.1 | 86.0 | 90.0 | 85.7 | 85.2 | 85.4 | 84.1 | 85.7 | 87.5 | 87.8 | 86.7 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:34:09 | 39.3 | 87.1 | 89.3 | 89.4 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.4 | 84.1 | 85.8 | 87.4 | 87.7 | 86.6 |
| 9:35:09 | 39.2 | 87.2 | 89.2 | 89.3 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.3 | 84.0 | 85.7 | 87.4 | 87.7 | 86.6 |
| 9:36:09 | 39.3 | 87.1 | 89.3 | 89.3 | 85.1 | 85.9 | 89.9 | 85.6 | 85.2 | 85.3 | 84.0 | 85.8 | 87.4 | 87.7 | 86.7 |
| 9:37:09 | 39.3 | 87.0 | 89.2 | 89.4 | 85.1 | 86.0 | 89.9 | 85.6 | 85.2 | 85.4 | 84.1 | 86.0 | 87.5 | 87.7 | 86.7 |
| 9:38:09 | 39.2 | 87.0 | 89.2 | 89.3 | 84.9 | 85.9 | 89.9 | 85.5 | 85.1 | 85.3 | 83.9 | 85.8 | 87.3 | 87.6 | 86.6 |
| 9:39:09 | 39.2 | 87.1 | 89.2 | 89.3 | 85.0 | 85.9 | 89.9 | 85.6 | 85.1 | 85.3 | 84.0 | 85.8 | 87.5 | 87.7 | 86.7 |
| 9:40:09 | 39.3 | 87.1 | 89.3 | 89.3 | 85.0 | 86.0 | 89.8 | 85.6 | 85.2 | 85.4 | 84.0 | 85.8 | 87.4 | 87.7 | 86.7 |
| 9:41:09 | 39.2 | 87.1 | 89.2 | 89.4 | 85.1 | 86.0 | 90.0 | 85.6 | 85.2 | 85.3 | 84.0 | 85.8 | 87.4 | 87.7 | 86.7 |
| 9:42:09 | 39.2 | 87.0 | 89.3 | 89.3 | 85.0 | 86.0 | 90.0 | 85.6 | 85.1 | 85.4 | 84.0 | 85.6 | 87.3 | 87.7 | 86.7 |
| 9:43:09 | 39.2 | 87.2 | 89.3 | 89.4 | 85.1 | 86.1 | 90.2 | 85.7 | 85.2 | 85.4 | 84.1 | 85.8 | 87.4 | 87.8 | 86.8 |
| 9:44:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.0 | 86.1 | 90.1 | 85.6 | 85.2 | 85.4 | 84.1 | 85.8 | 87.5 | 87.8 | 86.7 |
| 9:45:09 | 39.3 | 87.2 | 89.3 | 89.4 | 85.1 | 86.0 | 90.0 | 85.7 | 85.2 | 85.3 | 84.0 | 85.8 | 87.5 | 87.7 | 86.7 |
| 9:46:09 | 39.3 | 87.1 | 89.4 | 89.4 | 85.0 | 86.1 | 90.1 | 85.7 | 85.2 | 85.5 | 84.0 | 85.5 | 87.4 | 87.7 | 86.8 |
| 9:47:09 | 39.2 | 87.2 | 89.3 | 89.4 | 85.1 | 86.0 | 90.1 | 85.7 | 85.2 | 85.4 | 84.1 | 85.8 | 87.4 | 87.8 | 86.8 |
| 9:48:09 | 39.2 | 87.1 | 89.2 | 89.3 | 85.1 | 86.0 | 90.0 | 85.7 | 85.2 | 85.2 | 83.9 | 85.7 | 87.4 | 87.7 | 86.7 |
| 9:49:09 | 39.3 | 87.1 | 89.3 | 89.4 | 85.1 | 86.0 | 90.1 | 85.7 | 85.3 | 85.3 | 84.0 | 85.8 | 87.5 | 87.7 | 86.8 |
| 9:50:09 | 39.3 | 87.2 | 89.3 | 89.4 | 85.1 | 86.1 | 90.1 | 85.8 | 85.3 | 85.3 | 84.0 | 85.8 | 87.5 | 87.8 | 86.8 |
| 9:51:09 | 39.2 | 87.1 | 89.3 | 89.4 | 85.1 | 86.0 | 90.1 | 85.8 | 85.3 | 85.3 | 84.0 | 85.7 | 87.4 | 87.7 | 86.8 |
| 9:52:09 | 39.3 | 87.2 | 89.4 | 89.5 | 85.2 | 86.2 | 90.1 | 85.8 | 85.4 | 85.3 | 84.0 | 85.9 | 87.4 | 87.8 | 86.9 |
| 9:53:09 | 39.4 | 87.1 | 89.3 | 89.5 | 85.1 | 86.1 | 90.1 | 85.8 | 85.3 | 85.4 | 84.1 | 85.7 | 87.4 | 87.7 | 86.9 |
| 9:54:09 | 39.4 | 87.1 | 89.4 | 89.4 | 85.0 | 86.1 | 90.2 | 85.7 | 85.3 | 85.4 | 84.0 | 85.5 | 87.3 | 87.7 | 86.8 |
| 9:55:09 | 39.3 | 87.3 | 89.4 | 89.6 | 85.2 | 86.2 | 90.2 | 85.9 | 85.4 | 85.4 | 84.1 | 85.7 | 87.5 | 87.9 | 86.9 |
| 9:56:09 | 39.3 | 87.2 | 89.5 | 89.5 | 85.2 | 86.3 | 90.2 | 85.8 | 85.4 | 85.5 | 84.0 | 85.8 | 87.3 | 87.8 | 86.9 |
| 9:57:09 | 39.3 | 87.2 | 89.4 | 89.5 | 85.1 | 86.2 | 90.2 | 85.9 | 85.3 | 85.4 | 84.1 | 85.7 | 87.4 | 87.8 | 86.9 |
| 9:58:09 | 39.3 | 87.5 | 89.6 | 89.6 | 85.2 | 86.4 | 90.4 | 86.0 | 85.6 | 85.6 | 84.2 | 85.8 | 87.4 | 88.0 | 87.1 |
| 9:59:09 | 39.2 | 87.2 | 89.5 | 89.4 | 85.2 | 86.3 | 90.2 | 85.9 | 85.6 | 85.5 | 84.0 | 85.8 | 87.4 | 87.8 | 87.0 |
| 10:00:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.2 | 86.3 | 90.3 | 85.9 | 85.5 | 85.5 | 84.1 | 85.8 | 87.3 | 87.8 | 87.0 |
| 10:01:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.2 | 86.2 | 89.9 | 85.9 | 85.4 | 85.3 | 84.0 | 85.8 | 87.4 | 87.8 | 86.9 |
| 10:02:09 | 39.3 | 87.3 | 89.4 | 89.5 | 85.2 | 86.3 | 90.3 | 85.9 | 85.5 | 85.4 | 84.0 | 85.8 | 87.4 | 87.9 | 87.0 |
| 10:03:09 | 39.1 | 87.2 | 89.4 | 89.5 | 85.2 | 86.3 | 90.2 | 85.9 | 85.5 | 85.3 | 84.0 | 85.9 | 87.4 | 87.8 | 87.0 |
| 10:04:09 | 39.2 | 87.2 | 89.4 | 89.4 | 85.2 | 86.2 | 90.2 | 85.8 | 85.4 | 85.2 | 83.9 | 86.0 | 87.5 | 87.8 | 86.9 |
| 10:05:09 | 39.3 | 87.3 | 89.4 | 89.5 | 85.3 | 86.3 | 90.3 | 85.9 | 85.5 | 85.3 | 84.0 | 86.1 | 87.5 | 87.9 | 87.0 |
| 10:06:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.3 | 86.3 | 90.2 | 85.9 | 85.5 | 85.3 | 84.0 | 85.9 | 87.5 | 87.8 | 87.0 |
| 10:07:09 | 39.2 | 87.2 | 89.5 | 89.5 | 85.1 | 86.2 | 90.2 | 85.8 | 85.3 | 85.4 | 84.0 | 85.5 | 87.3 | 87.8 | 86.9 |
| 10:08:09 | 39.4 | 87.4 | 89.5 | 89.5 | 85.1 | 86.2 | 90.3 | 85.9 | 85.3 | 85.4 | 84.1 | 85.6 | 87.4 | 87.9 | 86.9 |
| 10:09:09 | 39.4 | 87.3 | 89.5 | 89.5 | 85.2 | 86.3 | 90.2 | 85.8 | 85.4 | 85.5 | 84.0 | 85.8 | 87.4 | 87.9 | 86.9 |
| 10:10:09 | 39.3 | 87.2 | 89.3 | 89.4 | 85.1 | 86.1 | 90.1 | 85.7 | 85.3 | 85.3 | 83.9 | 86.0 | 87.5 | 87.8 | 86.8 |
| 10:11:09 | 39.4 | 87.2 | 89.5 | 89.6 | 85.2 | 86.2 | 90.2 | 85.8 | 85.4 | 85.4 | 84.1 | 85.8 | 87.5 | 87.9 | 86.9 |
| 10:12:09 | 39.2 | 87.2 | 89.5 | 89.5 | 85.2 | 86.3 | 90.2 | 85.8 | 85.4 | 85.5 | 84.1 | 85.8 | 87.4 | 87.8 | 86.9 |
| 10:13:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.2 | 85.7 | 85.3 | 85.4 | 84.0 | 85.5 | 87.3 | 87.8 | 86.8 |
| 10:14:09 | 39.3 | 87.4 | 89.5 | 89.5 | 85.3 | 86.2 | 90.2 | 85.9 | 85.4 | 85.4 | 84.1 | 85.9 | 87.5 | 87.9 | 86.9 |
| 10:15:09 | 39.3 | 87.1 | 89.3 | 89.5 | 85.1 | 86.1 | 90.2 | 85.7 | 85.2 | 85.3 | 84.0 | 85.8 | 87.4 | 87.7 | 86.8 |
| 10:16:09 | 39.2 | 87.1 | 89.3 | 89.4 | 85.0 | 86.0 | 90.0 | 85.7 | 85.2 | 85.2 | 84.0 | 85.7 | 87.4 | 87.7 | 86.7 |
| 10:17:09 | 39.3 | 87.3 | 89.4 | 89.5 | 85.2 | 86.2 | 90.3 | 85.9 | 85.4 | 85.4 | 84.1 | 85.9 | 87.5 | 87.9 | 86.9 |
| 10:18:09 | 39.5 | 87.2 | 89.4 | 89.4 | 85.1 | 86.1 | 90.1 | 85.7 | 85.4 | 85.4 | 84.0 | 85.8 | 87.4 | 87.8 | 86.8 |
| 10:19:09 | 39.3 | 87.0 | 89.3 | 89.3 | 85.1 | 86.1 | 90.1 | 85.7 | 85.3 | 85.3 | 84.0 | 85.8 | 87.4 | 87.7 | 86.8 |
| 10:20:09 | 39.3 | 87.2 | 89.4 | 89.5 | 85.2 | 86.1 | 90.2 | 85.8 | 85.4 | 85.4 | 84.2 | 85.8 | 87.5 | 87.9 | 86.9 |
| 10:21:09 | 39.4 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.1 | 85.7 | 85.3 | 85.4 | 84.1 | 85.8 | 87.4 | 87.8 | 86.8 |
| 10:22:09 | 39.3 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.1 | 85.7 | 85.2 | 85.3 | 84.0 | 85.6 | 87.3 | 87.8 | 86.8 |
| 10:23:09 | 39.3 | 87.2 | 89.4 | 89.4 | 85.1 | 86.1 | 90.1 | 85.7 | 85.2 | 85.4 | 84.0 | 85.7 | 87.3 | 87.8 | 86.8 |
| 10:24:09 | 39.3 | 87.3 | 89.5 | 89.6 | 85.2 | 86.2 | 90.2 | 85.9 | 85.4 | 85.4 | 84.1 | 85.8 | 87.5 | 87.9 | 86.9 |
| 10:25:09 | 39.3 | 87.4 | 89.5 | 89.5 | 85.3 | 86.3 | 90.2 | 85.8 | 85.5 | 85.5 | 84.1 | 85.9 | 87.5 | 87.9 | 86.9 |
| 10:26:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.1 | 85.8 | 85.3 | 85.3 | 84.0 | 85.7 | 87.4 | 87.8 | 86.8 |
| 10:27:09 | 39.4 | 87.2 | 89.4 | 89.5 | 85.2 | 86.1 | 90.2 | 85.8 | 85.3 | 85.4 | 84.1 | 85.8 | 87.5 | 87.9 | 86.8 |
| 10:28:09 | 39.3 | 87.1 | 89.3 | 89.3 | 85.0 | 86.1 | 90.0 | 85.6 | 85.2 | 85.3 | 84.0 | 85.7 | 87.3 | 87.7 | 86.7 |
| 10:29:09 | 39.1 | 87.2 | 89.4 | 89.5 | 85.2 | 86.1 | 90.2 | 85.8 | 85.4 | 85.4 | 84.0 | 85.8 | 87.5 | 87.8 | 86.9 |
| 10:30:09 | 39.1 | 87.2 | 89.5 | 89.5 | 85.1 | 86.1 | 90.2 | 85.8 | 85.3 | 85.4 | 84.0 | 85.6 | 87.4 | 87.8 | 86.9 |
| 10:31:09 | 39.2 | 87.3 | 89.4 | 89.6 | 85.2 | 86.2 | 90.1 | 85.8 | 85.4 | 85.3 | 84.0 | 85.8 | 87.4 | 87.9 | 86.9 |
| 10:32:09 | 39.2 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.2 | 85.8 | 85.3 | 85.4 | 84.0 | 85.6 | 87.3 | 87.8 | 86.8 |
| 10:33:09 | 39.2 | 87.3 | 89.5 | 89.5 | 85.1 | 85.7 | 90.2 | 85.8 | 85.3 | 85.4 | 84.0 | 85.5 | 87.3 | 87.8 | 86.8 |

TVA/TSI Project No. 97337 Baseline Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:34:09 | 39.1 | 87.2 | 89.4 | 89.5 | 85.2 | 86.2 | 90.2 | 85.8 | 85.3 | 85.3 | 84.0 | 85.7 | 87.4 | 87.8 | 86.9 |
| 10:35:09 | 39.0 | 87.2 | 89.3 | 89.4 | 85.1 | 86.0 | 90.1 | 85.7 | 85.2 | 85.3 | 83.9 | 85.7 | 87.3 | 87.7 | 86.8 |
| 10:36:09 | 39.3 | 87.2 | 89.4 | 89.5 | 85.1 | 86.1 | 90.2 | 85.7 | 85.3 | 85.3 | 83.9 | 85.4 | 87.2 | 87.8 | 86.8 |
| 10:37:09 | 39.3 | 87.3 | 89.4 | 89.4 | 85.1 | 86.2 | 90.1 | 85.7 | 85.3 | 85.3 | 83.9 | 85.7 | 87.3 | 87.8 | 86.8 |
| 10:38:09 | 39.2 | 87.1 | 89.3 | 89.4 | 85.1 | 86.0 | 90.0 | 85.7 | 85.2 | 85.2 | 83.8 | 85.6 | 87.3 | 87.7 | 86.7 |
| 10:39:09 | 39.3 | 87.2 | 89.4 | 89.4 | 85.2 | 86.1 | 90.1 | 85.7 | 85.4 | 85.3 | 83.9 | 85.7 | 87.3 | 87.8 | 86.8 |
| 10:40:09 | 39.3 | 87.1 | 89.4 | 89.5 | 85.2 | 86.1 | 90.1 | 85.8 | 85.3 | 85.3 | 83.9 | 85.8 | 87.4 | 87.8 | 86.8 |
| 10:41:09 | 39.3 | 87.1 | 89.5 | 89.5 | 85.1 | 86.0 | 90.1 | 85.7 | 85.2 | 85.2 | 83.9 | 85.7 | 87.2 | 87.8 | 86.7 |
| 10:42:09 | 39.3 | 87.3 | 89.5 | 89.5 | 85.2 | 86.2 | 90.1 | 85.7 | 85.3 | 85.3 | 83.9 | 85.6 | 87.3 | 87.9 | 86.8 |
| 10:43:09 | 39.2 | 87.2 | 89.4 | 89.4 | 85.1 | 86.1 | 90.1 | 85.6 | 85.3 | 85.3 | 83.9 | 85.7 | 87.3 | 87.8 | 86.8 |
| 10:44:09 | 39.2 | 87.1 | 89.3 | 89.4 | 85.1 | 86.0 | 90.1 | 85.6 | 85.1 | 85.2 | 83.9 | 85.6 | 87.3 | 87.7 | 86.7 |
| 10:45:09 | 39.4 | 87.1 | 89.4 | 89.5 | 85.1 | 86.1 | 90.1 | 85.7 | 85.2 | 85.3 | 83.9 | 85.4 | 87.2 | 87.8 | 86.8 |
| 10:46:09 | 39.2 | 87.3 | 89.5 | 89.6 | 85.2 | 86.1 | 90.1 | 85.8 | 85.3 | 85.3 | 84.0 | 85.7 | 87.3 | 87.9 | 86.8 |
| 10:47:09 | 39.2 | 87.5 | 89.6 | 89.7 | 85.4 | 86.3 | 90.3 | 85.9 | 85.4 | 85.5 | 84.2 | 85.9 | 87.6 | 88.1 | 87.0 |
| 10:48:09 | 39.3 | 87.5 | 89.7 | 89.7 | 85.4 | 86.4 | 90.4 | 85.9 | 85.5 | 85.6 | 84.1 | 86.0 | 87.5 | 88.1 | 87.1 |
| 10:49:09 | 39.2 | 87.4 | 89.6 | 89.7 | 85.4 | 86.3 | 90.3 | 86.0 | 85.5 | 85.5 | 84.1 | 85.9 | 87.6 | 88.0 | 87.0 |
| 10:50:09 | 39.3 | 87.4 | 89.6 | 89.7 | 85.3 | 86.2 | 90.3 | 85.9 | 85.4 | 85.4 | 84.1 | 85.9 | 87.6 | 88.0 | 87.0 |
| 10:51:09 | 39.4 | 87.3 | 89.6 | 89.7 | 85.3 | 86.2 | 90.3 | 85.8 | 85.3 | 85.5 | 84.1 | 85.8 | 87.5 | 88.0 | 86.9 |
| 10:52:09 | 39.2 | 87.4 | 89.5 | 89.7 | 85.3 | 86.2 | 90.3 | 85.8 | 85.3 | 85.5 | 84.1 | 85.9 | 87.5 | 88.0 | 86.9 |
| 10:53:09 | 39.2 | 87.6 | 89.8 | 89.8 | 85.4 | 86.3 | 90.4 | 85.9 | 85.4 | 85.6 | 84.3 | 85.9 | 87.5 | 88.1 | 87.0 |
| 10:54:09 | 39.3 | 87.5 | 89.7 | 89.8 | 85.5 | 86.3 | 90.3 | 86.0 | 85.5 | 85.6 | 84.3 | 86.3 | 87.7 | 88.1 | 87.0 |
| 10:55:09 | 39.3 | 87.5 | 89.7 | 89.8 | 85.5 | 86.4 | 90.3 | 86.0 | 85.6 | 85.6 | 84.3 | 86.3 | 87.7 | 88.1 | 87.0 |
| 10:56:09 | 39.3 | 87.3 | 89.6 | 89.6 | 85.4 | 86.2 | 90.2 | 85.8 | 85.4 | 85.5 | 84.2 | 86.2 | 87.7 | 88.0 | 86.9 |
| 10:57:09 | 39.3 | 87.5 | 89.7 | 89.9 | 85.5 | 86.3 | 90.4 | 86.1 | 85.5 | 85.6 | 84.3 | 86.2 | 87.8 | 88.2 | 87.1 |
| 10:58:09 | 39.2 | 87.4 | 89.6 | 89.7 | 85.4 | 86.3 | 90.3 | 85.8 | 85.4 | 85.6 | 84.2 | 86.0 | 87.5 | 88.0 | 87.0 |
| 10:59:09 | 39.4 | 87.5 | 89.6 | 89.7 | 85.4 | 86.3 | 90.2 | 85.9 | 85.5 | 85.6 | 84.2 | 86.0 | 87.6 | 88.1 | 86.9 |
| 11:00:09 | 39.5 | 87.8 | 89.9 | 89.9 | 85.6 | 86.6 | 90.5 | 86.1 | 85.7 | 85.9 | 84.4 | 86.2 | 87.9 | 88.3 | 87.2 |
| 11:01:09 | 39.3 | 87.7 | 89.9 | 89.9 | 85.6 | 86.5 | 90.4 | 86.1 | 85.7 | 85.8 | 84.5 | 86.2 | 87.8 | 88.3 | 87.2 |
| 11:02:09 | 39.3 | 87.5 | 89.6 | 89.7 | 85.4 | 86.2 | 90.2 | 85.8 | 85.4 | 85.6 | 84.2 | 86.0 | 87.6 | 88.0 | 86.9 |
| 11:03:09 | 39.4 | 87.5 | 89.7 | 89.8 | 85.5 | 86.3 | 90.2 | 85.9 | 85.5 | 85.6 | 84.3 | 86.1 | 87.7 | 88.1 | 87.0 |
| 11:04:09 | 39.5 | 87.4 | 89.6 | 89.8 | 85.4 | 86.2 | 90.3 | 85.9 | 85.4 | 85.6 | 84.3 | 86.1 | 87.8 | 88.1 | 87.0 |
| 11:05:09 | 39.4 | 87.4 | 89.6 | 89.7 | 85.3 | 86.1 | 90.2 | 85.8 | 85.3 | 85.6 | 84.3 | 85.9 | 87.6 | 88.0 | 86.9 |
| 11:06:09 | 39.3 | 87.4 | 89.6 | 89.7 | 85.3 | 86.1 | 90.1 | 85.8 | 85.3 | 85.5 | 84.2 | 86.0 | 87.6 | 88.0 | 86.8 |
| 11:07:09 | 39.3 | 87.5 | 89.7 | 89.8 | 85.5 | 86.3 | 90.2 | 85.9 | 85.4 | 85.6 | 84.3 | 86.0 | 87.7 | 88.1 | 87.0 |
| 11:08:09 | 39.3 | 87.4 | 89.5 | 89.6 | 85.3 | 86.1 | 90.0 | 85.7 | 85.3 | 85.5 | 84.1 | 86.1 | 87.6 | 87.9 | 86.8 |
| 11:09:09 | 39.4 | 87.4 | 89.5 | 89.6 | 85.3 | 86.1 | 90.1 | 85.8 | 85.3 | 85.4 | 84.1 | 85.9 | 87.6 | 88.0 | 86.8 |
| 11:10:09 | 39.5 | 87.4 | 89.6 | 89.6 | 85.3 | 86.1 | 90.1 | 85.8 | 85.3 | 85.4 | 84.2 | 85.9 | 87.6 | 88.0 | 86.8 |
| 11:11:09 | 39.5 | 87.2 | 89.4 | 89.4 | 85.2 | 86.0 | 89.9 | 85.6 | 85.2 | 85.3 | 84.0 | 85.9 | 87.5 | 87.8 | 86.7 |
| 11:12:09 | 39.3 | 87.0 | 89.3 | 89.3 | 85.0 | 85.8 | 89.9 | 85.5 | 85.0 | 85.3 | 83.9 | 85.4 | 87.2 | 87.7 | 86.6 |
| 11:13:09 | 39.5 | 87.3 | 89.4 | 89.5 | 85.1 | 86.1 | 90.0 | 85.6 | 85.2 | 85.4 | 84.0 | 85.8 | 87.3 | 87.8 | 86.7 |
| 11:14:09 | 39.5 | 87.3 | 89.5 | 89.6 | 85.3 | 86.1 | 90.2 | 85.9 | 85.4 | 85.4 | 84.1 | 85.9 | 87.6 | 87.9 | 86.9 |
| 11:15:09 | 39.3 | 87.5 | 89.7 | 89.8 | 85.3 | 86.3 | 90.3 | 85.9 | 85.4 | 85.6 | 84.3 | 86.0 | 87.6 | 88.1 | 87.0 |
| 11:16:09 | 39.3 | 87.4 | 89.6 | 89.7 | 85.4 | 86.2 | 90.3 | 85.9 | 85.5 | 85.5 | 84.2 | 85.9 | 87.6 | 88.0 | 87.0 |
| 11:17:09 | 39.5 | 87.4 | 89.5 | 89.6 | 85.3 | 86.2 | 90.2 | 85.9 | 85.5 | 85.6 | 84.2 | 86.1 | 87.6 | 88.0 | 86.9 |
| 11:18:09 | 39.4 | 87.2 | 89.4 | 89.6 | 85.2 | 86.1 | 90.1 | 85.8 | 85.3 | 85.4 | 84.1 | 85.9 | 87.5 | 87.8 | 86.8 |
| 11:19:09 | 39.4 | 87.4 | 89.5 | 89.6 | 85.2 | 86.2 | 90.2 | 85.9 | 85.4 | 85.5 | 84.2 | 86.0 | 87.7 | 87.9 | 86.9 |
| 11:20:09 | 39.5 | 87.2 | 89.4 | 89.4 | 85.1 | 86.2 | 90.1 | 85.7 | 85.3 | 85.5 | 84.1 | 85.9 | 87.4 | 87.8 | 86.8 |
| 11:21:09 | 39.4 | 87.2 | 89.4 | 89.5 | 85.2 | 86.2 | 90.2 | 85.7 | 85.4 | 85.5 | 84.1 | 85.9 | 87.5 | 87.8 | 86.9 |
| 11:22:09 | 39.4 | 87.2 | 89.5 | 89.6 | 85.2 | 86.2 | 90.2 | 85.8 | 85.3 | 85.5 | 84.2 | 85.9 | 87.6 | 87.9 | 86.9 |
| 11:23:09 | 39.5 | 87.4 | 89.5 | 89.7 | 85.3 | 86.3 | 90.3 | 86.0 | 85.5 | 85.5 | 84.2 | 86.0 | 87.7 | 88.0 | 87.0 |
| 11:24:09 | 39.4 | 87.3 | 89.5 | 89.5 | 85.1 | 86.2 | 90.2 | 85.8 | 85.4 | 85.5 | 84.1 | 85.9 | 87.5 | 87.8 | 86.9 |
| 11:25:09 | 39.4 | 87.1 | 89.3 | 89.4 | 85.0 | 86.1 | 90.2 | 85.7 | 85.2 | 85.4 | 84.1 | 85.8 | 87.4 | 87.7 | 86.8 |
| 11:26:09 | 39.6 | 87.4 | 89.5 | 89.6 | 85.2 | 86.3 | 90.3 | 85.8 | 85.5 | 85.6 | 84.1 | 86.0 | 87.6 | 87.9 | 87.0 |
| 11:27:09 | 39.5 | 87.3 | 89.5 | 89.6 | 85.2 | 86.2 | 90.2 | 85.9 | 85.3 | 85.5 | 84.2 | 85.8 | 87.5 | 87.9 | 86.9 |
| 11:28:09 | 39.5 | 87.3 | 89.4 | 89.5 | 85.2 | 86.2 | 90.2 | 85.8 | 85.4 | 85.5 | 84.1 | 85.9 | 87.6 | 87.9 | 86.9 |
| 11:29:09 | 39.6 | 87.2 | 89.5 | 89.6 | 85.3 | 86.3 | 90.4 | 85.9 | 85.4 | 85.5 | 84.2 | 86.0 | 87.6 | 87.9 | 87.0 |
| 11:30:09 | 39.5 | 87.4 | 89.6 | 89.7 | 85.4 | 86.4 | 90.3 | 86.0 | 85.6 | 85.5 | 84.2 | 86.2 | 87.7 | 88.0 | 87.1 |
| 11:31:09 | 39.5 | 87.1 | 89.3 | 89.4 | 85.0 | 86.0 | 90.2 | 85.7 | 85.2 | 85.3 | 84.0 | 85.7 | 87.4 | 87.7 | 86.8 |
| 11:32:09 | 39.6 | 87.2 | 89.5 | 89.5 | 85.2 | 86.3 | 90.2 | 85.8 | 85.4 | 85.5 | 84.1 | 85.8 | 87.4 | 87.8 | 86.9 |
| 11:33:09 | 39.6 | 87.2 | 89.4 | 89.6 | 85.2 | 86.2 | 90.3 | 85.9 | 85.4 | 85.4 | 84.1 | 85.8 | 87.5 | 87.9 | 86.9 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 8:34:09 | | 85.0 | 89.6 | | 54.6 | 0.361 |
| 8:35:09 | | 85.0 | 89.6 | | 54.4 | 0.397 |
| 8:36:09 | | 85.0 | 89.6 | | 54.6 | 0.415 |
| 8:37:09 | | 84.9 | 89.7 | | 54.5 | 0.453 |
| 8:38:09 | | 85.1 | 89.7 | | 54.7 | 0.500 |
| 8:39:09 | | 85.1 | 89.7 | | 54.7 | 0.529 |
| 8:40:09 | | 85.1 | 89.8 | | 54.7 | 0.559 |
| 8:41:09 | | 85.2 | 89.8 | | 54.6 | 0.582 |
| 8:42:09 | | 85.2 | 89.9 | | 54.7 | 0.613 |
| 8:43:09 | | 85.2 | 89.8 | | 54.6 | 0.650 |
| 8:44:09 | | 85.3 | 89.7 | | 54.6 | 0.676 |
| 8:45:09 | | 85.1 | 89.8 | | 54.4 | 0.685 |
| 8:46:09 | | 85.2 | 89.9 | | 54.6 | 0.727 |
| 8:47:09 | | 85.2 | 89.8 | | 54.5 | 0.756 |
| 8:48:09 | | 85.2 | 89.7 | | 54.6 | 0.771 |
| 8:49:09 | | 85.3 | 89.8 | | 54.5 | 0.790 |
| 8:50:09 | | 85.4 | 89.8 | | 54.6 | 0.818 |
| 8:51:09 | | 85.3 | 89.7 | | 54.7 | 0.830 |
| 8:52:09 | | 85.4 | 89.8 | | 54.5 | 0.856 |
| 8:53:09 | | 85.4 | 89.9 | | 54.6 | 0.883 |
| 8:54:09 | | 85.3 | 89.8 | | 54.4 | 0.907 |
| 8:55:09 | | 85.4 | 89.8 | | 54.7 | 0.924 |
| 8:56:09 | | 85.4 | 89.7 | | 54.7 | 0.941 |
| 8:57:09 | | 85.4 | 89.8 | | 54.8 | 0.955 |
| 8:58:09 | | 85.5 | 89.9 | | 54.7 | 0.972 |
| 8:59:09 | | 85.4 | 89.8 | | 54.7 | 0.989 |
| 9:00:09 | | 85.4 | 89.8 | | 54.6 | 0.995 |
| 9:01:09 | | 85.6 | 89.8 | | 54.6 | 1.005 |
| 9:02:09 | | 85.5 | 89.9 | | 54.8 | 1.029 |
| 9:03:09 | | 85.4 | 89.8 | | 54.6 | 1.035 |
| 9:04:09 | | 85.4 | 89.8 | | 54.8 | 1.035 |
| 9:05:09 | | 85.5 | 89.9 | | 54.8 | 1.043 |
| 9:06:09 | | 85.5 | 90.0 | | 54.9 | 1.047 |
| 9:07:09 | | 85.4 | 89.8 | | 54.9 | 1.032 |
| 9:08:09 | | 85.5 | 90.0 | | 54.7 | 1.031 |
| 9:09:09 | | 85.5 | 89.9 | | 54.7 | 1.039 |
| 9:10:09 | | 85.4 | 90.0 | | 54.8 | 1.018 |
| 9:11:09 | | 85.5 | 90.0 | | 54.7 | 0.987 |
| 9:12:09 | | 85.4 | 89.9 | | 54.7 | 0.949 |
| 9:13:09 | | 85.4 | 89.7 | | 54.7 | 0.894 |
| 9:14:09 | | 85.5 | 89.9 | | 54.6 | 0.855 |
| 9:15:09 | | 85.5 | 89.9 | | 54.7 | 0.813 |
| 9:16:09 | | 85.5 | 89.9 | | 54.7 | 0.766 |
| 9:17:09 | | 85.5 | 89.9 | | 54.8 | 0.715 |
| 9:18:09 | | 85.5 | 89.8 | | 54.7 | 0.659 |
| 9:19:09 | | 85.6 | 89.8 | | 54.8 | 0.592 |
| 9:20:09 | | 85.5 | 89.9 | | 54.9 | 0.529 |
| 9:21:09 | | 85.5 | 89.9 | | 54.7 | 0.485 |
| 9:22:09 | | 85.5 | 89.8 | | 54.7 | 0.429 |
| 9:23:09 | | 85.6 | 90.0 | | 54.8 | 0.395 |
| 9:24:09 | | 85.5 | 89.9 | | 54.8 | 0.365 |
| 9:25:09 | | 85.5 | 89.8 | | 54.7 | 0.341 |
| 9:26:09 | | 85.5 | 89.7 | | 54.8 | 0.312 |
| 9:27:09 | | 85.6 | 89.9 | | 54.7 | 0.292 |
| 9:28:09 | | 85.6 | 89.9 | | 54.7 | 0.285 |
| 9:29:09 | | 85.5 | 89.8 | | 54.8 | 0.260 |
| 9:30:09 | | 85.6 | 89.9 | | 54.7 | 0.250 |
| 9:31:09 | | 85.6 | 89.9 | | 54.6 | 0.237 |
| 9:32:09 | | 85.6 | 89.9 | | 54.9 | 0.224 |
| 9:33:09 | 86.5 | 85.7 | 90.0 | 89.8 | 54.9 | 0.225 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 9:34:09 | 86.5 | 85.7 | 89.9 | 89.8 | 54.8 | 0.218 |
| 9:35:09 | 86.5 | 85.6 | 89.9 | 89.8 | 54.8 | 0.208 |
| 9:36:09 | 86.6 | 85.6 | 89.9 | 89.8 | 54.5 | 0.196 |
| 9:37:09 | 86.6 | 85.7 | 89.9 | 89.9 | 54.9 | 0.192 |
| 9:38:09 | 86.6 | 85.6 | 89.9 | 89.9 | 54.9 | 0.189 |
| 9:39:09 | 86.6 | 85.6 | 89.9 | 89.9 | 54.9 | 0.183 |
| 9:40:09 | 86.6 | 85.6 | 89.8 | 89.9 | 54.9 | 0.183 |
| 9:41:09 | 86.6 | 85.6 | 90.0 | 89.9 | 54.9 | 0.184 |
| 9:42:09 | 86.6 | 85.6 | 90.0 | 89.9 | 54.9 | 0.189 |
| 9:43:09 | 86.6 | 85.7 | 90.2 | 89.9 | 54.9 | 0.202 |
| 9:44:09 | 86.6 | 85.7 | 90.1 | 89.9 | 54.9 | 0.209 |
| 9:45:09 | 86.6 | 85.7 | 90.0 | 89.9 | 54.6 | 0.207 |
| 9:46:09 | 86.6 | 85.6 | 90.1 | 89.9 | 54.8 | 0.215 |
| 9:47:09 | 86.6 | 85.7 | 90.1 | 89.9 | 55.1 | 0.218 |
| 9:48:09 | 86.6 | 85.6 | 90.0 | 89.9 | 55.1 | 0.207 |
| 9:49:09 | 86.6 | 85.7 | 90.1 | 89.9 | 54.9 | 0.211 |
| 9:50:09 | 86.6 | 85.6 | 90.1 | 89.9 | 55.0 | 0.222 |
| 9:51:09 | 86.6 | 85.6 | 90.1 | 89.9 | 55.0 | 0.224 |
| 9:52:09 | 86.6 | 85.7 | 90.1 | 89.9 | 55.0 | 0.239 |
| 9:53:09 | 86.6 | 85.7 | 90.1 | 89.9 | 55.0 | 0.256 |
| 9:54:09 | 86.6 | 85.5 | 90.2 | 89.9 | 55.0 | 0.260 |
| 9:55:09 | 86.6 | 85.7 | 90.2 | 89.9 | 55.2 | 0.281 |
| 9:56:09 | 86.6 | 85.7 | 90.2 | 89.9 | 55.3 | 0.295 |
| 9:57:09 | 86.7 | 85.6 | 90.2 | 89.9 | 55.1 | 0.304 |
| 9:58:09 | 86.7 | 85.7 | 90.4 | 90.0 | 55.1 | 0.341 |
| 9:59:09 | 86.7 | 85.7 | 90.2 | 90.0 | 55.1 | 0.362 |
| 10:00:09 | 86.7 | 85.7 | 90.3 | 90.0 | 55.2 | 0.374 |
| 10:01:09 | 86.7 | 85.6 | 89.9 | 90.0 | 55.1 | 0.384 |
| 10:02:09 | 86.7 | 85.6 | 90.3 | 90.0 | 55.0 | 0.410 |
| 10:03:09 | 86.7 | 85.7 | 90.2 | 90.0 | 54.9 | 0.418 |
| 10:04:09 | 86.7 | 85.6 | 90.2 | 90.0 | 54.7 | 0.422 |
| 10:05:09 | 86.7 | 85.7 | 90.3 | 90.0 | 54.8 | 0.442 |
| 10:06:09 | 86.7 | 85.7 | 90.2 | 90.0 | 54.9 | 0.457 |
| 10:07:09 | 86.7 | 85.5 | 90.2 | 90.0 | 55.0 | 0.458 |
| 10:08:09 | 86.7 | 85.6 | 90.3 | 90.0 | 54.8 | 0.470 |
| 10:09:09 | 86.7 | 85.7 | 90.2 | 90.0 | 55.0 | 0.486 |
| 10:10:09 | 86.7 | 85.7 | 90.1 | 90.0 | 55.0 | 0.481 |
| 10:11:09 | 86.7 | 85.7 | 90.2 | 90.0 | 54.9 | 0.489 |
| 10:12:09 | 86.7 | 85.7 | 90.2 | 90.0 | 54.9 | 0.494 |
| 10:13:09 | 86.7 | 85.6 | 90.2 | 90.0 | 54.7 | 0.477 |
| 10:14:09 | 86.8 | 85.7 | 90.2 | 90.0 | 55.1 | 0.478 |
| 10:15:09 | 86.8 | 85.6 | 90.2 | 90.0 | 54.9 | 0.464 |
| 10:16:09 | 86.8 | 85.6 | 90.0 | 90.0 | 54.8 | 0.441 |
| 10:17:09 | 86.8 | 85.7 | 90.3 | 90.0 | 54.7 | 0.446 |
| 10:18:09 | 86.8 | 85.7 | 90.1 | 90.1 | 54.9 | 0.430 |
| 10:19:09 | 86.8 | 85.6 | 90.1 | 90.1 | 55.0 | 0.406 |
| 10:20:09 | 86.8 | 85.7 | 90.2 | 90.1 | 54.9 | 0.400 |
| 10:21:09 | 86.8 | 85.7 | 90.1 | 90.1 | 55.0 | 0.382 |
| 10:22:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.8 | 0.351 |
| 10:23:09 | 86.8 | 85.6 | 90.1 | 90.1 | 55.0 | 0.336 |
| 10:24:09 | 86.8 | 85.7 | 90.2 | 90.1 | 55.0 | 0.326 |
| 10:25:09 | 86.8 | 85.7 | 90.2 | 90.1 | 55.1 | 0.313 |
| 10:26:09 | 86.8 | 85.6 | 90.1 | 90.1 | 55.1 | 0.290 |
| 10:27:09 | 86.8 | 85.7 | 90.2 | 90.1 | 55.0 | 0.273 |
| 10:28:09 | 86.8 | 85.6 | 90.0 | 90.1 | 54.7 | 0.250 |
| 10:29:09 | 86.8 | 85.7 | 90.2 | 90.1 | 55.1 | 0.230 |
| 10:30:09 | 86.8 | 85.6 | 90.2 | 90.1 | 55.1 | 0.215 |
| 10:31:09 | 86.8 | 85.6 | 90.1 | 90.1 | 54.8 | 0.200 |
| 10:32:09 | 86.8 | 85.6 | 90.2 | 90.1 | 54.9 | 0.183 |
| 10:33:09 | 86.8 | 85.6 | 90.2 | 90.1 | 54.9 | 0.163 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 10:34:09 | 86.8 | 85.6 | 90.2 | 90.1 | 54.9 | 0.146 |
| 10:35:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.9 | 0.118 |
| 10:36:09 | 86.8 | 85.5 | 90.2 | 90.1 | 54.9 | 0.099 |
| 10:37:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.9 | 0.082 |
| 10:38:09 | 86.8 | 85.5 | 90.0 | 90.1 | 55.0 | 0.050 |
| 10:39:09 | 86.8 | 85.6 | 90.1 | 90.1 | 54.9 | 0.029 |
| 10:40:09 | 86.8 | 85.6 | 90.1 | 90.1 | 54.9 | 0.009 |
| 10:41:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.7 | -0.018 |
| 10:42:09 | 86.8 | 85.5 | 90.1 | 90.2 | 54.8 | -0.040 |
| 10:43:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.8 | -0.055 |
| 10:44:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.7 | -0.082 |
| 10:45:09 | 86.8 | 85.5 | 90.1 | 90.1 | 54.7 | -0.102 |
| 10:46:09 | 86.8 | 85.6 | 90.1 | 90.2 | 54.8 | -0.114 |
| 10:47:09 | 86.9 | 85.8 | 90.3 | 90.2 | 54.8 | -0.112 |
| 10:48:09 | 86.9 | 85.8 | 90.4 | 90.2 | 54.9 | -0.107 |
| 10:49:09 | 86.9 | 85.8 | 90.3 | 90.2 | 54.9 | -0.102 |
| 10:50:09 | 86.9 | 85.8 | 90.3 | 90.2 | 54.7 | -0.096 |
| 10:51:09 | 86.9 | 85.7 | 90.3 | 90.2 | 54.7 | -0.099 |
| 10:52:09 | 86.9 | 85.8 | 90.3 | 90.2 | 54.9 | -0.096 |
| 10:53:09 | 86.9 | 85.8 | 90.4 | 90.2 | 54.7 | -0.084 |
| 10:54:09 | 86.9 | 86.0 | 90.3 | 90.2 | 54.8 | -0.075 |
| 10:55:09 | 86.9 | 86.0 | 90.3 | 90.2 | 55.0 | -0.053 |
| 10:56:09 | 86.9 | 85.9 | 90.2 | 90.2 | 54.7 | -0.042 |
| 10:57:09 | 86.9 | 86.0 | 90.4 | 90.2 | 54.8 | -0.017 |
| 10:58:09 | 86.9 | 85.8 | 90.3 | 90.2 | 54.8 | 0.010 |
| 10:59:09 | 86.9 | 85.8 | 90.2 | 90.2 | 54.7 | 0.029 |
| 11:00:09 | 86.9 | 86.1 | 90.5 | 90.2 | 54.7 | 0.074 |
| 11:01:09 | 86.9 | 86.1 | 90.4 | 90.2 | 54.7 | 0.102 |
| 11:02:09 | 86.9 | 85.8 | 90.2 | 90.2 | 54.7 | 0.115 |
| 11:03:09 | 86.9 | 85.9 | 90.2 | 90.2 | 54.5 | 0.134 |
| 11:04:09 | 86.9 | 85.9 | 90.3 | 90.2 | 54.7 | 0.145 |
| 11:05:09 | 86.9 | 85.8 | 90.2 | 90.2 | 54.8 | 0.152 |
| 11:06:09 | 86.9 | 85.8 | 90.1 | 90.2 | 54.8 | 0.155 |
| 11:07:09 | 86.9 | 85.9 | 90.2 | 90.2 | 54.9 | 0.163 |
| 11:08:09 | 86.9 | 85.8 | 90.0 | 90.2 | 54.8 | 0.159 |
| 11:09:09 | 86.9 | 85.7 | 90.1 | 90.2 | 54.9 | 0.158 |
| 11:10:09 | 86.9 | 85.8 | 90.1 | 90.2 | 54.9 | 0.148 |
| 11:11:09 | 86.9 | 85.7 | 89.9 | 90.2 | 54.9 | 0.131 |
| 11:12:09 | 86.9 | 85.5 | 89.9 | 90.2 | 54.9 | 0.106 |
| 11:13:09 | 86.9 | 85.6 | 90.0 | 90.2 | 55.1 | 0.089 |
| 11:14:09 | 86.9 | 85.8 | 90.2 | 90.2 | 55.1 | 0.096 |
| 11:15:09 | 86.9 | 85.9 | 90.3 | 90.2 | 55.2 | 0.099 |
| 11:16:09 | 86.9 | 85.8 | 90.3 | 90.2 | 55.0 | 0.093 |
| 11:17:09 | 86.9 | 85.9 | 90.2 | 90.2 | 55.0 | 0.108 |
| 11:18:09 | 86.9 | 85.7 | 90.1 | 90.2 | 55.0 | 0.097 |
| 11:19:09 | 86.9 | 85.8 | 90.2 | 90.2 | 55.1 | 0.094 |
| 11:20:09 | 86.9 | 85.7 | 90.1 | 90.2 | 55.0 | 0.089 |
| 11:21:09 | 86.9 | 85.7 | 90.2 | 90.2 | 55.2 | 0.081 |
| 11:22:09 | 86.9 | 85.8 | 90.2 | 90.2 | 55.2 | 0.070 |
| 11:23:09 | 86.9 | 85.8 | 90.3 | 90.2 | 55.1 | 0.072 |
| 11:24:09 | 86.9 | 85.7 | 90.2 | 90.2 | 55.2 | 0.075 |
| 11:25:09 | 86.9 | 85.7 | 90.2 | 90.2 | 55.2 | 0.072 |
| 11:26:09 | 86.9 | 85.8 | 90.3 | 90.2 | 55.1 | 0.073 |
| 11:27:09 | 86.9 | 85.8 | 90.2 | 90.2 | 55.1 | 0.072 |
| 11:28:09 | 86.9 | 85.8 | 90.2 | 90.2 | 55.2 | 0.060 |
| 11:29:09 | 86.9 | 85.8 | 90.4 | 90.2 | 55.1 | 0.069 |
| 11:30:09 | 86.9 | 85.9 | 90.3 | 90.2 | 55.1 | 0.083 |
| 11:31:09 | 86.9 | 85.6 | 90.2 | 90.2 | 55.2 | 0.068 |
| 11:32:09 | 86.9 | 85.7 | 90.2 | 90.2 | 55.4 | 0.067 |
| 11:33:09 | 86.9 | 85.7 | 90.3 | 90.2 | 55.3 | 0.057 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:06:15 | 11/19/94 | 39.3 | 42.0 | 39.9 | 39.3 | 39.8 | 39.6 | 39.3 | 39.5 | 39.8 | 39.8 | | 38.1 | 37.8 | 37.9 | 40.0 | 37.3 |
| 9:07:15 | 11/19/94 | 39.4 | 40.4 | 39.8 | 39.4 | 39.5 | 39.7 | 39.0 | 39.6 | 39.8 | 39.6 | | 38.1 | 37.8 | 38.0 | 40.2 | 37.4 |
| 9:08:15 | 11/19/94 | 39.3 | 39.4 | 39.2 | 39.4 | 39.2 | 39.5 | 39.5 | 39.4 | 39.5 | 39.4 | | 38.1 | 37.8 | 37.9 | 39.9 | 37.3 |
| 9:09:15 | 11/19/94 | 39.1 | 41.4 | 39.7 | 39.3 | 39.1 | 39.4 | 38.9 | 39.3 | 39.4 | 39.5 | | 38.1 | 37.8 | 37.8 | 40.1 | 37.2 |
| 9:10:15 | 11/19/94 | 39.3 | 39.9 | 39.5 | 39.2 | 39.2 | 39.4 | 39.1 | 39.4 | 39.6 | 39.4 | | 38.1 | 37.8 | 37.9 | 39.9 | 37.2 |
| 9:11:15 | 11/19/94 | 39.4 | 43.1 | 40.3 | 39.4 | 39.2 | 39.7 | 39.3 | 39.6 | 39.9 | 40.0 | | 38.2 | 37.8 | 37.9 | 40.2 | 37.3 |
| 9:12:15 | 11/19/94 | 39.4 | 41.3 | 39.5 | 39.4 | 39.5 | 39.7 | 39.0 | 39.8 | 40.0 | 39.7 | | 38.2 | 37.8 | 38.0 | 40.2 | 37.4 |
| 9:13:15 | 11/19/94 | 39.5 | 39.8 | 39.6 | 39.4 | 39.4 | 39.6 | 39.1 | 39.6 | 39.8 | 39.5 | | 38.2 | 37.8 | 37.9 | 40.3 | 37.4 |
| 9:14:15 | 11/19/94 | 39.4 | 40.1 | 39.3 | 39.2 | 39.0 | 39.4 | 39.2 | 39.3 | 39.4 | 39.4 | | 38.1 | 37.8 | 37.9 | 40.1 | 37.3 |
| 9:15:15 | 11/19/94 | 39.2 | 39.9 | 39.6 | 39.0 | 39.4 | 39.4 | 38.8 | 39.5 | 39.6 | 39.4 | | 38.1 | 37.8 | 37.9 | 39.2 | 37.2 |
| 9:16:15 | 11/19/94 | 39.0 | 39.4 | 39.2 | 39.1 | 39.1 | 39.3 | 39.1 | 39.5 | 39.6 | 39.3 | | 38.1 | 37.8 | 37.9 | 39.4 | 37.2 |
| 9:17:15 | 11/19/94 | 39.2 | 42.2 | 39.8 | 38.8 | 39.3 | 39.4 | 38.9 | 39.3 | 39.7 | 39.6 | | 38.1 | 37.9 | 38.0 | 40.0 | 37.3 |
| 9:18:15 | 11/19/94 | 39.2 | 39.5 | 39.3 | 39.2 | 39.2 | 39.5 | 39.5 | 39.5 | 39.6 | 39.4 | | 38.1 | 37.9 | 38.0 | 39.8 | 37.3 |
| 9:19:15 | 11/19/94 | 39.1 | 39.1 | 39.1 | 38.9 | 39.0 | 39.2 | 38.8 | 39.1 | 39.3 | 39.1 | | 38.1 | 37.8 | 37.8 | 39.9 | 37.3 |
| 9:20:15 | 11/19/94 | 39.0 | 41.0 | 39.8 | 38.9 | 39.2 | 39.2 | 38.9 | 39.2 | 39.4 | 39.4 | | 38.0 | 37.8 | 37.8 | 40.0 | 37.2 |
| 9:21:15 | 11/19/94 | 39.2 | 40.5 | 39.8 | 39.1 | 39.4 | 39.3 | 39.0 | 39.3 | 39.5 | 39.5 | | 38.1 | 37.9 | 37.9 | 39.9 | 37.3 |
| 9:22:15 | 11/19/94 | 39.2 | 40.7 | 39.8 | 39.1 | 39.3 | 39.4 | 39.4 | 39.5 | 39.7 | 39.6 | | 38.1 | 37.8 | 37.9 | 40.0 | 37.3 |
| 9:23:15 | 11/19/94 | 39.3 | 41.9 | 40.1 | 39.3 | 39.3 | 39.6 | 38.9 | 39.6 | 39.9 | 39.8 | | 38.2 | 37.8 | 37.9 | 40.1 | 37.4 |
| 9:24:15 | 11/19/94 | 39.3 | 39.8 | 39.5 | 39.1 | 39.3 | 39.6 | 39.3 | 39.5 | 39.7 | 39.5 | | 38.2 | 37.9 | 38.0 | 39.6 | 37.3 |
| 9:25:15 | 11/19/94 | 39.0 | 39.5 | 38.9 | 38.9 | 38.8 | 39.3 | 39.0 | 39.4 | 39.4 | 39.1 | | 38.1 | 37.8 | 37.9 | 38.7 | 37.1 |
| 9:26:15 | 11/19/94 | 38.8 | 39.2 | 39.1 | 38.7 | 38.6 | 39.0 | 38.7 | 39.0 | 39.3 | 38.9 | | 38.0 | 37.8 | 37.7 | 39.2 | 37.0 |
| 9:27:15 | 11/19/94 | 39.0 | 40.6 | 39.4 | 38.8 | 39.2 | 39.3 | 38.7 | 39.0 | 39.2 | 39.2 | | 38.1 | 37.8 | 37.8 | 39.6 | 37.1 |
| 9:28:15 | 11/19/94 | 39.1 | 40.2 | 39.6 | 38.9 | 39.1 | 39.3 | 39.1 | 39.3 | 39.5 | 39.4 | | 38.1 | 37.8 | 37.8 | 39.7 | 37.1 |
| 9:29:15 | 11/19/94 | 39.1 | 41.5 | 39.6 | 39.0 | 39.3 | 39.5 | 38.6 | 39.3 | 39.5 | 39.5 | | 38.1 | 37.9 | 37.9 | 39.8 | 37.2 |
| 9:30:15 | 11/19/94 | 39.3 | 40.6 | 39.6 | 39.1 | 39.5 | 39.6 | 39.3 | 39.4 | 39.8 | 39.6 | | 38.1 | 37.9 | 38.0 | 40.0 | 37.3 |
| 9:31:15 | 11/19/94 | 39.3 | 39.4 | 39.4 | 39.2 | 38.9 | 39.4 | 38.9 | 39.3 | 39.5 | 39.3 | | 38.1 | 37.9 | 38.0 | 39.7 | 37.2 |
| 9:32:16 | 11/19/94 | 39.0 | 38.9 | 39.1 | 39.0 | 38.8 | 39.2 | 39.5 | 39.2 | 39.2 | 39.1 | | 38.1 | 37.8 | 38.0 | 38.7 | 37.0 |
| 9:33:15 | 11/19/94 | 38.8 | 40.1 | 39.1 | 38.8 | 38.9 | 39.0 | 38.6 | 39.1 | 39.1 | 39.1 | | 38.1 | 37.8 | 37.9 | 39.3 | 37.0 |
| 9:34:15 | 11/19/94 | 39.0 | 39.9 | 39.9 | 38.8 | 39.6 | 39.2 | 38.9 | 39.2 | 39.4 | 39.3 | | 38.1 | 37.8 | 37.9 | 39.7 | 37.1 |
| 9:35:15 | 11/19/94 | 39.2 | 40.4 | 39.9 | 39.2 | 39.3 | 39.3 | 38.9 | 39.3 | 39.7 | 39.5 | | 38.1 | 37.9 | 38.0 | 39.9 | 37.2 |
| 9:36:15 | 11/19/94 | 39.3 | 41.2 | 40.3 | 39.4 | 39.7 | 39.6 | 39.5 | 39.6 | 39.7 | 39.8 | | 38.2 | 37.9 | 38.0 | 40.1 | 37.3 |
| 9:37:15 | 11/19/94 | 39.2 | 39.4 | 39.5 | 39.2 | 39.3 | 39.6 | 38.8 | 39.6 | 39.7 | 39.4 | | 38.2 | 37.9 | 38.0 | 39.9 | 37.3 |
| 9:38:15 | 11/19/94 | 39.3 | 40.5 | 39.4 | 39.4 | 40.0 | 39.4 | 39.3 | 39.4 | 39.5 | 39.6 | | 38.2 | 37.9 | 37.9 | 39.9 | 37.3 |
| 9:39:15 | 11/19/94 | 39.3 | 39.9 | 39.3 | 39.3 | 39.3 | 39.4 | 38.9 | 39.4 | 39.6 | 39.4 | | 38.2 | 37.9 | 37.9 | 40.0 | 37.2 |
| 9:40:15 | 11/19/94 | 39.4 | 40.4 | 40.2 | 39.0 | 39.8 | 39.6 | 39.2 | 39.5 | 39.7 | 39.6 | | 38.1 | 37.9 | 37.9 | 40.0 | 37.3 |
| 9:41:15 | 11/19/94 | 39.2 | 39.7 | 39.4 | 39.1 | 39.2 | 39.5 | 39.1 | 39.6 | 39.9 | 39.4 | | 38.2 | 37.9 | 38.1 | 38.9 | 37.2 |
| 9:42:15 | 11/19/94 | 39.0 | 39.3 | 39.2 | 39.1 | 39.1 | 39.4 | 39.1 | 39.4 | 39.6 | 39.3 | | 38.1 | 37.9 | 38.0 | 39.5 | 37.1 |
| 9:43:15 | 11/19/94 | 38.9 | 38.8 | 38.9 | 38.8 | 38.6 | 39.1 | 38.7 | 39.1 | 39.2 | 38.9 | | 38.1 | 37.9 | 37.8 | 39.6 | 37.1 |
| 9:44:15 | 11/19/94 | 38.6 | 42.1 | 39.1 | 38.7 | 39.0 | 39.0 | 38.9 | 39.1 | 38.9 | 39.3 | | 38.0 | 37.9 | 37.8 | 39.7 | 37.0 |
| 9:45:15 | 11/19/94 | 38.8 | 39.7 | 39.1 | 38.8 | 38.9 | 39.0 | 38.9 | 39.2 | 39.3 | 39.1 | | 38.1 | 37.8 | 37.8 | 39.8 | 37.0 |
| 9:46:15 | 11/19/94 | 39.1 | 41.0 | 39.9 | 39.1 | 39.5 | 39.4 | 38.8 | 39.4 | 39.5 | 39.5 | | 38.1 | 37.8 | 37.9 | 39.9 | 37.1 |
| 9:47:15 | 11/19/94 | 39.2 | 40.7 | 39.7 | 39.2 | 39.4 | 39.5 | 39.3 | 39.5 | 39.7 | 39.6 | | 38.2 | 37.9 | 38.0 | 40.0 | 37.2 |
| 9:48:15 | 11/19/94 | 39.2 | 39.5 | 39.5 | 39.0 | 39.2 | 39.5 | 38.9 | 39.4 | 39.6 | 39.3 | | 38.2 | 37.9 | 37.9 | 39.8 | 37.2 |
| 9:49:15 | 11/19/94 | 39.1 | 38.9 | 39.0 | 39.3 | 38.9 | 39.4 | 39.2 | 39.4 | 39.5 | 39.2 | | 38.2 | 37.9 | 37.9 | 39.7 | 37.1 |
| 9:50:15 | 11/19/94 | 38.8 | 39.5 | 38.9 | 38.8 | 38.6 | 39.0 | 38.9 | 39.2 | 39.2 | 39.0 | | 38.2 | 37.8 | 37.8 | 38.7 | 36.9 |
| 9:51:15 | 11/19/94 | 38.8 | 39.9 | 39.3 | 38.6 | 39.1 | 39.0 | 38.9 | 39.2 | 39.3 | 39.1 | | 38.1 | 37.8 | 38.0 | 39.3 | 36.9 |
| 9:52:15 | 11/19/94 | 39.0 | 40.5 | 39.6 | 38.9 | 39.2 | 39.2 | 38.8 | 39.0 | 39.5 | 39.3 | | 38.1 | 37.8 | 37.9 | 39.5 | 37.0 |
| 9:53:15 | 11/19/94 | 39.3 | 42.0 | 39.8 | 38.9 | 39.8 | 39.4 | 39.2 | 39.2 | 39.5 | 39.7 | | 38.1 | 37.9 | 37.9 | 39.9 | 37.2 |
| 9:54:15 | 11/19/94 | 39.3 | 40.1 | 39.6 | 39.1 | 39.4 | 39.6 | 39.0 | 39.5 | 39.7 | 39.5 | | 38.2 | 37.9 | 38.0 | 39.9 | 37.3 |
| 9:55:15 | 11/19/94 | 39.3 | 39.3 | 39.4 | 39.4 | 39.1 | 39.4 | 39.2 | 39.3 | 39.5 | 39.3 | | 38.2 | 37.9 | 37.9 | 40.0 | 37.2 |
| 9:56:15 | 11/19/94 | 39.0 | 40.1 | 39.1 | 38.8 | 38.9 | 39.3 | 38.7 | 39.2 | 39.2 | 39.1 | | 38.1 | 37.8 | 37.9 | 39.8 | 37.2 |
| 9:57:15 | 11/19/94 | 39.1 | 41.0 | 39.8 | 38.7 | 39.2 | 39.3 | 39.2 | 39.3 | 39.3 | 39.4 | | 38.1 | 37.8 | 37.9 | 39.8 | 37.1 |
| 9:58:15 | 11/19/94 | 39.2 | 41.1 | 39.5 | 39.2 | 39.3 | 39.4 | 39.0 | 39.4 | 39.7 | 39.5 | | 38.2 | 37.9 | 37.9 | 40.0 | 37.2 |
| 9:59:15 | 11/19/94 | 39.4 | 42.1 | 40.1 | 39.2 | 39.8 | 39.6 | 39.2 | 39.6 | 39.8 | 39.8 | | 38.1 | 37.9 | 38.0 | 40.1 | 37.2 |
| 10:00:15 | 11/19/94 | 39.6 | 41.3 | 39.8 | 39.3 | 39.9 | 39.7 | 39.2 | 39.6 | 39.9 | 39.8 | | 38.2 | 38.0 | 38.0 | 40.1 | 37.4 |
| 10:01:15 | 11/19/94 | 39.3 | 40.0 | 39.6 | 39.4 | 39.6 | 39.7 | 39.4 | 39.7 | 39.9 | 39.6 | | 38.2 | 37.9 | 38.1 | 40.1 | 37.4 |
| 10:02:15 | 11/19/94 | 39.4 | 39.4 | 39.2 | 39.3 | 39.1 | 39.5 | 38.9 | 39.4 | 39.6 | 39.3 | | 38.2 | 37.9 | 38.0 | 40.0 | 37.3 |
| 10:03:15 | 11/19/94 | 39.1 | 42.1 | 39.5 | 39.2 | 39.2 | 39.4 | 39.2 | 39.3 | 39.4 | 39.6 | | 38.1 | 37.9 | 37.9 | 40.0 | 37.2 |
| 10:04:15 | 11/19/94 | 39.3 | 40.4 | 39.8 | 39.1 | 39.4 | 39.4 | 38.7 | 39.5 | 39.6 | 39.5 | | 38.2 | 37.9 | 38.1 | 39.8 | 37.3 |
| 10:05:15 | 11/19/94 | 39.1 | 40.1 | 39.4 | 39.2 | 39.3 | 39.5 | 39.2 | 39.5 | 39.8 | 39.5 | 39.4 | 38.2 | 37.9 | 38.1 | 38.9 | 37.1 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:06:15 | 11/19/94 | 39.0 | 42.7 | 39.5 | 39.0 | 39.4 | 39.4 | 38.9 | 39.4 | 39.7 | 39.7 | 39.4 | 38.2 | 37.9 | 38.1 | 39.7 | 37.1 |
| 10:07:15 | 11/19/94 | 39.3 | 41.5 | 40.1 | 38.9 | 39.8 | 39.5 | 39.2 | 39.3 | 39.7 | 39.7 | 39.4 | 38.1 | 37.9 | 38.0 | 40.0 | 37.3 |
| 10:08:15 | 11/19/94 | 39.4 | 40.5 | 39.6 | 39.2 | 39.4 | 39.6 | 39.1 | 39.5 | 39.9 | 39.6 | 39.4 | 38.2 | 37.9 | 38.1 | 40.1 | 37.3 |
| 10:09:15 | 11/19/94 | 39.2 | 39.3 | 39.3 | 38.9 | 39.0 | 39.3 | 39.3 | 39.4 | 39.4 | 39.3 | 39.4 | 38.2 | 37.9 | 38.0 | 39.9 | 37.2 |
| 10:10:15 | 11/19/94 | 39.2 | 40.2 | 39.2 | 38.9 | 38.9 | 39.2 | 38.6 | 39.2 | 39.2 | 39.2 | 39.4 | 38.2 | 37.9 | 37.9 | 39.9 | 37.2 |
| 10:11:15 | 11/19/94 | 39.1 | 40.4 | 39.6 | 38.9 | 39.3 | 39.3 | 39.3 | 39.2 | 39.5 | 39.4 | 39.4 | 38.1 | 37.9 | 37.9 | 39.8 | 37.1 |
| 10:12:15 | 11/19/94 | 39.2 | 41.9 | 39.6 | 39.0 | 39.3 | 39.6 | 38.8 | 39.3 | 39.6 | 39.6 | 39.4 | 38.2 | 37.9 | 38.0 | 39.7 | 37.2 |
| 10:13:15 | 11/19/94 | 39.3 | 42.2 | 40.0 | 39.2 | 39.7 | 39.5 | 39.3 | 39.6 | 39.8 | 39.8 | 39.4 | 38.2 | 37.9 | 38.0 | 40.1 | 37.3 |
| 10:14:15 | 11/19/94 | 39.5 | 40.5 | 39.7 | 39.3 | 39.6 | 39.7 | 39.0 | 39.7 | 39.9 | 39.7 | 39.4 | 38.3 | 38.0 | 38.1 | 40.1 | 37.4 |
| 10:15:15 | 11/19/94 | 39.4 | 39.9 | 39.6 | 39.3 | 39.7 | 39.7 | 39.3 | 39.6 | 39.8 | 39.6 | 39.4 | 38.2 | 37.9 | 38.0 | 40.1 | 37.4 |
| 10:16:15 | 11/19/94 | 39.3 | 39.7 | 39.1 | 39.1 | 39.0 | 39.3 | 38.8 | 39.3 | 39.4 | 39.2 | 39.4 | 38.2 | 37.9 | 37.9 | 39.9 | 37.2 |
| 10:17:15 | 11/19/94 | 39.3 | 39.9 | 39.4 | 39.2 | 39.4 | 39.3 | 39.1 | 39.3 | 39.4 | 39.4 | 39.4 | 38.2 | 37.9 | 37.9 | 40.0 | 37.2 |
| 10:18:15 | 11/19/94 | 39.3 | 40.5 | 39.9 | 39.0 | 39.3 | 39.5 | 38.7 | 39.3 | 39.7 | 39.5 | 39.4 | 38.2 | 38.0 | 38.0 | 39.9 | 37.2 |
| 10:19:15 | 11/19/94 | 39.4 | 41.1 | 40.0 | 39.4 | 39.5 | 39.6 | 39.4 | 39.7 | 39.7 | 39.8 | 39.4 | 38.2 | 38.0 | 38.0 | 40.2 | 37.3 |
| 10:20:16 | 11/19/94 | 39.5 | 41.8 | 40.2 | 39.2 | 39.6 | 39.8 | 39.0 | 39.7 | 39.9 | 39.9 | 39.4 | 38.3 | 38.0 | 38.1 | 40.0 | 37.4 |
| 10:21:15 | 11/19/94 | 39.4 | 40.4 | 39.7 | 38.9 | 39.7 | 39.8 | 39.3 | 39.6 | 39.9 | 39.6 | 39.4 | 38.2 | 38.0 | 38.2 | 40.2 | 37.5 |
| 10:22:15 | 11/19/94 | 39.4 | 39.3 | 39.3 | 39.2 | 39.1 | 39.5 | 39.0 | 39.4 | 39.5 | 39.3 | 39.4 | 38.2 | 38.0 | 38.0 | 39.9 | 37.3 |
| 10:23:15 | 11/19/94 | 39.2 | 42.1 | 39.5 | 39.2 | 39.4 | 39.5 | 39.5 | 39.5 | 39.5 | 39.7 | 39.4 | 38.2 | 37.9 | 38.0 | 40.1 | 37.2 |
| 10:24:15 | 11/19/94 | 39.3 | 40.1 | 39.6 | 39.2 | 39.3 | 39.5 | 39.3 | 39.3 | 39.6 | 39.5 | 39.4 | 38.2 | 37.9 | 38.0 | 39.9 | 37.2 |
| 10:25:15 | 11/19/94 | 39.4 | 42.5 | 40.3 | 39.2 | 39.9 | 39.6 | 39.0 | 39.5 | 39.8 | 39.9 | 39.4 | 38.2 | 37.9 | 38.0 | 40.0 | 37.3 |
| 10:26:15 | 11/19/94 | 39.1 | 43.8 | 39.8 | 39.3 | 39.6 | 39.7 | 39.5 | 39.5 | 39.7 | 40.0 | 39.5 | 38.2 | 38.0 | 38.1 | 40.2 | 37.4 |
| 10:27:15 | 11/19/94 | 39.5 | 40.4 | 39.7 | 39.3 | 39.7 | 39.8 | 38.9 | 39.7 | 39.8 | 39.6 | 39.5 | 38.3 | 38.0 | 38.2 | 40.1 | 37.5 |
| 10:28:15 | 11/19/94 | 39.3 | 39.4 | 39.3 | 39.2 | 39.4 | 39.6 | 39.1 | 39.6 | 39.7 | 39.4 | 39.5 | 38.2 | 38.0 | 38.0 | 39.9 | 37.3 |
| 10:29:15 | 11/19/94 | 39.3 | 40.0 | 39.1 | 39.2 | 39.2 | 39.3 | 38.7 | 39.3 | 39.5 | 39.3 | 39.5 | 38.2 | 38.0 | 37.9 | 39.9 | 37.2 |
| 10:30:15 | 11/19/94 | 39.3 | 39.9 | 40.0 | 38.9 | 39.3 | 39.4 | 39.3 | 39.5 | 39.6 | 39.5 | 39.5 | 38.2 | 37.9 | 37.9 | 40.0 | 37.2 |
| 10:31:15 | 11/19/94 | 39.3 | 40.6 | 39.7 | 39.2 | 39.4 | 39.6 | 38.9 | 39.5 | 39.9 | 39.6 | 39.5 | 38.2 | 38.0 | 38.0 | 40.0 | 37.3 |
| 10:32:15 | 11/19/94 | 39.5 | 40.4 | 40.2 | 39.5 | 40.1 | 39.7 | 39.2 | 39.7 | 39.9 | 39.8 | 39.5 | 38.3 | 38.0 | 38.1 | 40.2 | 37.3 |
| 10:33:15 | 11/19/94 | 39.5 | 41.6 | 39.8 | 39.3 | 39.9 | 39.8 | 39.2 | 39.6 | 40.0 | 39.8 | 39.5 | 38.3 | 38.0 | 38.1 | 40.1 | 37.6 |
| 10:34:15 | 11/19/94 | 39.6 | 39.9 | 39.7 | 39.3 | 39.7 | 39.8 | 39.5 | 39.6 | 39.9 | 39.7 | 39.5 | 38.3 | 38.0 | 38.1 | 40.3 | 37.5 |
| 10:35:15 | 11/19/94 | 39.4 | 39.3 | 39.1 | 39.2 | 39.0 | 39.4 | 38.8 | 39.4 | 39.5 | 39.2 | 39.5 | 38.2 | 38.0 | 38.0 | 40.0 | 37.3 |
| 10:36:15 | 11/19/94 | 39.2 | 43.2 | 39.7 | 39.2 | 39.4 | 39.3 | 39.4 | 39.4 | 39.5 | 39.8 | 39.5 | 38.2 | 38.0 | 38.0 | 40.1 | 37.2 |
| 10:37:15 | 11/19/94 | 39.1 | 41.8 | 39.6 | 39.0 | 39.4 | 39.4 | 38.8 | 39.4 | 39.6 | 39.6 | 39.5 | 38.3 | 38.0 | 38.0 | 40.0 | 37.3 |
| 10:38:15 | 11/19/94 | 39.3 | 42.4 | 39.9 | 39.3 | 39.9 | 39.7 | 39.2 | 39.6 | 39.9 | 39.9 | 39.5 | 38.2 | 38.0 | 38.1 | 40.1 | 37.4 |
| 10:39:15 | 11/19/94 | 39.5 | 40.6 | 39.7 | 39.3 | 39.5 | 39.8 | 39.2 | 39.7 | 39.8 | 39.7 | 39.5 | 38.3 | 38.0 | 38.1 | 40.0 | 37.4 |
| 10:40:15 | 11/19/94 | 39.5 | 39.7 | 39.5 | 39.4 | 39.3 | 39.6 | 38.9 | 39.6 | 39.8 | 39.5 | 39.5 | 38.3 | 38.0 | 38.1 | 40.2 | 37.4 |
| 10:41:15 | 11/19/94 | 39.3 | 39.4 | 39.1 | 39.1 | 38.9 | 39.3 | 38.9 | 39.2 | 39.4 | 39.2 | 39.5 | 38.3 | 38.0 | 37.9 | 39.9 | 37.2 |
| 10:42:15 | 11/19/94 | 39.2 | 42.2 | 39.6 | 39.0 | 39.5 | 39.4 | 38.9 | 39.3 | 39.5 | 39.6 | 39.5 | 38.2 | 37.9 | 38.0 | 39.9 | 37.2 |
| 10:43:15 | 11/19/94 | 39.3 | 42.0 | 40.0 | 39.2 | 39.4 | 39.5 | 39.4 | 39.4 | 39.7 | 39.8 | 39.5 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 10:44:15 | 11/19/94 | 39.3 | 42.6 | 39.6 | 39.4 | 39.7 | 39.6 | 39.3 | 39.4 | 39.8 | 39.8 | 39.5 | 38.3 | 38.0 | 38.1 | 40.2 | 37.4 |
| 10:45:15 | 11/19/94 | 39.4 | 41.2 | 39.8 | 39.4 | 39.6 | 39.8 | 39.2 | 39.7 | 39.8 | 39.8 | 39.5 | 38.3 | 38.0 | 38.1 | 40.2 | 37.4 |
| 10:46:15 | 11/19/94 | 39.4 | 39.8 | 39.7 | 39.3 | 39.4 | 39.7 | 39.5 | 39.6 | 39.8 | 39.6 | 39.5 | 38.4 | 38.0 | 38.1 | 40.0 | 37.4 |
| 10:47:15 | 11/19/94 | 39.3 | 40.0 | 39.1 | 39.2 | 39.1 | 39.5 | 38.9 | 39.4 | 39.5 | 39.3 | 39.5 | 38.3 | 38.0 | 38.0 | 39.9 | 37.3 |
| 10:48:15 | 11/19/94 | 39.3 | 40.7 | 40.0 | 39.2 | 39.7 | 39.5 | 39.2 | 39.5 | 39.6 | 39.6 | 39.5 | 38.2 | 38.0 | 38.0 | 40.1 | 37.3 |
| 10:49:15 | 11/19/94 | 39.4 | 40.7 | 39.9 | 39.3 | 39.3 | 39.5 | 39.1 | 39.5 | 39.8 | 39.6 | 39.5 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 10:50:15 | 11/19/94 | 39.5 | 42.8 | 40.3 | 39.2 | 40.2 | 39.7 | 39.2 | 39.7 | 39.8 | 40.1 | 39.6 | 38.3 | 38.0 | 38.1 | 40.3 | 37.4 |
| 10:51:15 | 11/19/94 | 39.4 | 40.7 | 39.5 | 39.1 | 39.5 | 39.7 | 39.3 | 39.7 | 39.8 | 39.6 | 39.6 | 38.3 | 38.1 | 38.1 | 40.1 | 37.5 |
| 10:52:15 | 11/19/94 | 39.5 | 39.6 | 39.5 | 39.2 | 39.4 | 39.6 | 39.1 | 39.5 | 39.8 | 39.5 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.4 |
| 10:53:15 | 11/19/94 | 39.3 | 40.2 | 39.4 | 39.2 | 39.2 | 39.5 | 39.2 | 39.4 | 39.7 | 39.4 | 39.6 | 38.3 | 38.0 | 38.0 | 40.0 | 37.3 |
| 10:54:15 | 11/19/94 | 39.4 | 40.6 | 39.9 | 39.3 | 39.4 | 39.6 | 38.7 | 39.6 | 39.7 | 39.6 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 10:55:15 | 11/19/94 | 39.4 | 40.3 | 39.7 | 39.3 | 39.4 | 39.7 | 39.2 | 39.7 | 39.8 | 39.6 | 39.6 | 38.3 | 38.0 | 38.1 | 39.9 | 37.3 |
| 10:56:15 | 11/19/94 | 39.5 | 40.7 | 40.2 | 39.5 | 39.6 | 39.8 | 39.1 | 39.7 | 40.0 | 39.8 | 39.6 | 38.3 | 38.0 | 38.1 | 40.1 | 37.4 |
| 10:57:15 | 11/19/94 | 39.4 | 39.5 | 39.5 | 39.3 | 39.4 | 39.7 | 39.3 | 39.7 | 39.8 | 39.5 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.4 |
| 10:58:15 | 11/19/94 | 39.3 | 39.4 | 39.4 | 39.1 | 39.2 | 39.4 | 38.9 | 39.3 | 39.4 | 39.3 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 10:59:15 | 11/19/94 | 39.4 | 39.6 | 39.6 | 39.1 | 39.3 | 39.5 | 39.3 | 39.4 | 39.6 | 39.4 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 11:00:15 | 11/19/94 | 39.4 | 40.3 | 39.9 | 38.9 | 39.6 | 39.7 | 38.8 | 39.4 | 39.8 | 39.5 | 39.6 | 38.2 | 38.0 | 38.1 | 39.9 | 37.3 |
| 11:01:15 | 11/19/94 | 39.4 | 41.4 | 40.0 | 39.3 | 40.0 | 39.8 | 39.4 | 39.6 | 39.8 | 39.9 | 39.6 | 38.3 | 38.1 | 38.1 | 40.2 | 37.4 |
| 11:02:15 | 11/19/94 | 39.5 | 40.8 | 40.2 | 39.0 | 39.7 | 39.9 | 38.9 | 39.7 | 40.1 | 39.7 | 39.6 | 38.3 | 38.1 | 38.2 | 40.0 | 37.5 |
| 11:03:15 | 11/19/94 | 39.6 | 39.8 | 39.8 | 39.3 | 39.8 | 39.9 | 39.3 | 39.6 | 40.0 | 39.7 | 39.6 | 38.3 | 38.1 | 38.2 | 40.1 | 37.5 |
| 11:04:15 | 11/19/94 | 39.4 | 39.5 | 39.4 | 39.3 | 39.2 | 39.6 | 38.9 | 39.4 | 39.5 | 39.3 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 11:05:15 | 11/19/94 | 39.1 | 43.8 | 39.7 | 39.1 | 39.4 | 39.3 | 39.3 | 39.4 | 39.5 | 39.9 | 39.6 | 38.3 | 38.0 | 38.0 | 39.9 | 37.2 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:06:15 | 11/19/94 | 39.3 | 40.5 | 39.5 | 39.2 | 39.3 | 39.3 | 39.1 | 39.4 | 39.7 | 39.5 | 39.6 | 38.3 | 38.0 | 38.0 | 39.9 | 37.3 |
| 11:07:15 | 11/19/94 | 40.2 | 42.0 | 39.6 | 38.6 | 39.3 | 39.5 | 39.0 | 39.3 | 39.6 | 39.7 | 39.6 | 38.3 | 38.0 | 38.2 | 40.1 | 37.3 |
| 11:08:16 | 11/19/94 | 39.3 | 42.0 | 39.5 | 39.1 | 39.7 | 39.4 | 39.4 | 39.4 | 39.6 | 39.7 | 39.6 | 38.3 | 38.0 | 38.1 | 39.9 | 37.2 |
| 11:09:15 | 11/19/94 | 39.4 | 40.8 | 39.5 | 39.3 | 39.5 | 39.6 | 39.0 | 39.5 | 39.8 | 39.6 | 39.6 | 38.2 | 38.0 | 38.1 | 40.0 | 37.2 |
| 11:10:15 | 11/19/94 | 39.0 | 39.2 | 39.4 | 39.3 | 38.9 | 39.5 | 39.6 | 39.4 | 39.7 | 39.3 | 39.6 | 38.3 | 38.0 | 38.0 | 40.0 | 37.2 |
| 11:11:15 | 11/19/94 | 39.2 | 39.8 | 39.4 | 39.2 | 39.0 | 39.4 | 39.0 | 39.3 | 39.4 | 39.3 | 39.6 | 38.3 | 38.0 | 38.0 | 39.8 | 37.1 |
| 11:12:15 | 11/19/94 | 39.3 | 40.7 | 39.9 | 39.2 | 39.8 | 39.4 | 39.4 | 39.4 | 39.7 | 39.6 | 39.6 | 38.2 | 38.0 | 38.0 | 40.0 | 37.2 |
| 11:13:15 | 11/19/94 | 39.3 | 41.1 | 39.8 | 39.1 | 39.6 | 39.6 | 39.2 | 39.5 | 39.9 | 39.7 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 11:14:15 | 11/19/94 | 39.6 | 41.4 | 40.4 | 39.5 | 39.9 | 39.7 | 39.5 | 39.8 | 39.8 | 40.0 | 39.6 | 38.4 | 38.1 | 38.2 | 40.1 | 37.3 |
| 11:15:15 | 11/19/94 | 39.5 | 40.4 | 39.8 | 39.2 | 39.6 | 39.8 | 39.2 | 39.8 | 39.8 | 39.7 | 39.6 | 38.4 | 38.0 | 38.2 | 40.2 | 37.4 |
| 11:16:15 | 11/19/94 | 39.4 | 39.7 | 39.4 | 39.0 | 39.4 | 39.7 | 39.5 | 39.7 | 39.7 | 39.5 | 39.6 | 38.3 | 38.0 | 38.1 | 40.0 | 37.3 |
| 11:17:15 | 11/19/94 | 39.4 | 39.9 | 39.4 | 39.1 | 39.2 | 39.3 | 39.0 | 39.4 | 39.5 | 39.4 | 39.6 | 38.3 | 38.0 | 38.2 | 40.1 | 37.3 |
| 11:18:15 | 11/19/94 | 39.4 | 40.5 | 39.9 | 39.3 | 39.4 | 39.5 | 39.4 | 39.6 | 39.7 | 39.6 | 39.6 | 38.3 | 38.0 | 38.0 | 40.0 | 37.3 |
| 11:19:15 | 11/19/94 | 39.4 | 42.8 | 40.3 | 39.2 | 39.7 | 39.7 | 39.1 | 39.7 | 40.1 | 40.0 | 39.6 | 38.3 | 38.0 | 38.2 | 40.2 | 37.4 |
| 11:20:15 | 11/19/94 | 39.6 | 41.4 | 40.0 | 39.6 | 39.8 | 39.8 | 39.6 | 39.8 | 40.0 | 39.9 | 39.6 | 38.4 | 38.1 | 38.1 | 40.1 | 37.4 |
| 11:21:15 | 11/19/94 | 39.7 | 41.5 | 40.1 | 39.6 | 39.5 | 39.9 | 39.6 | 39.8 | 40.1 | 40.0 | 39.6 | 38.4 | 38.1 | 38.2 | 40.4 | 37.5 |
| 11:22:15 | 11/19/94 | 39.7 | 39.8 | 39.7 | 39.5 | 39.3 | 39.7 | 39.5 | 39.6 | 39.8 | 39.6 | 39.6 | 38.4 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:23:15 | 11/19/94 | 39.6 | 42.0 | 39.6 | 39.5 | 39.4 | 39.6 | 39.4 | 39.6 | 39.6 | 39.8 | 39.6 | 38.3 | 38.1 | 38.1 | 40.3 | 37.4 |
| 11:24:15 | 11/19/94 | 39.4 | 41.0 | 39.5 | 39.3 | 39.3 | 39.5 | 39.5 | 39.6 | 39.7 | 39.6 | 39.6 | 38.3 | 38.1 | 38.1 | 40.1 | 37.3 |
| 11:25:15 | 11/19/94 | 39.5 | 42.1 | 40.2 | 39.1 | 40.4 | 39.7 | 39.3 | 39.7 | 39.7 | 40.0 | 39.6 | 38.3 | 38.0 | 38.1 | 40.3 | 37.4 |
| 11:26:15 | 11/19/94 | 39.6 | 42.0 | 39.9 | 39.5 | 39.7 | 39.7 | 39.2 | 39.9 | 40.0 | 39.9 | 39.6 | 38.4 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:27:15 | 11/19/94 | 39.7 | 40.2 | 39.8 | 38.9 | 39.8 | 39.8 | 39.6 | 39.7 | 39.8 | 39.7 | 39.6 | 38.3 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:28:15 | 11/19/94 | 39.4 | 39.7 | 39.3 | 39.3 | 39.1 | 39.6 | 38.9 | 39.4 | 39.6 | 39.4 | 39.6 | 38.3 | 38.1 | 38.1 | 40.0 | 37.4 |
| 11:29:15 | 11/19/94 | 39.4 | 41.5 | 40.2 | 39.2 | 39.9 | 39.6 | 39.4 | 39.6 | 39.5 | 39.8 | 39.6 | 38.3 | 38.1 | 38.1 | 40.1 | 37.3 |
| 11:30:15 | 11/19/94 | 39.5 | 41.7 | 39.7 | 39.4 | 39.5 | 39.7 | 39.4 | 39.6 | 40.0 | 39.8 | 39.6 | 38.4 | 38.1 | 38.1 | 40.1 | 37.4 |
| 11:31:15 | 11/19/94 | 39.4 | 43.3 | 40.1 | 39.5 | 39.7 | 39.9 | 39.6 | 39.6 | 40.0 | 40.1 | 39.7 | 38.3 | 38.1 | 38.2 | 40.2 | 37.5 |
| 11:32:15 | 11/19/94 | 39.5 | 41.0 | 39.9 | 39.7 | 39.8 | 39.9 | 39.6 | 39.9 | 40.1 | 39.9 | 39.7 | 38.4 | 38.1 | 38.2 | 40.3 | 37.5 |
| 11:33:15 | 11/19/94 | 39.6 | 39.7 | 39.5 | 39.4 | 39.5 | 39.6 | 39.9 | 39.6 | 39.8 | 39.6 | 39.7 | 38.4 | 38.1 | 38.1 | 40.2 | 37.4 |
| 11:34:15 | 11/19/94 | 39.5 | 40.3 | 39.4 | 38.9 | 39.5 | 39.6 | 39.2 | 39.3 | 39.5 | 39.5 | 39.7 | 38.4 | 38.1 | 38.1 | 40.4 | 37.4 |
| 11:35:15 | 11/19/94 | 39.4 | 40.8 | 39.8 | 39.3 | 39.5 | 39.5 | 39.7 | 39.5 | 39.7 | 39.7 | 39.7 | 38.4 | 38.1 | 38.2 | 40.1 | 37.3 |
| 11:36:15 | 11/19/94 | 39.5 | 41.6 | 40.2 | 39.1 | 39.8 | 39.6 | 39.2 | 39.5 | 40.0 | 39.8 | 39.7 | 38.3 | 38.0 | 38.1 | 40.1 | 37.4 |
| 11:37:15 | 11/19/94 | 39.5 | 43.1 | 40.3 | 39.4 | 39.8 | 39.9 | 39.5 | 39.8 | 40.1 | 40.2 | 39.7 | 38.4 | 38.1 | 38.1 | 40.3 | 37.5 |
| 11:38:15 | 11/19/94 | 39.6 | 41.5 | 39.9 | 39.5 | 39.7 | 39.9 | 39.5 | 39.9 | 40.1 | 39.9 | 39.7 | 38.4 | 38.1 | 38.3 | 40.5 | 37.7 |
| 11:39:15 | 11/19/94 | 39.6 | 39.9 | 39.6 | 39.4 | 39.4 | 39.8 | 39.8 | 39.8 | 39.8 | 39.7 | 39.7 | 38.4 | 38.1 | 38.2 | 40.3 | 37.5 |
| 11:40:15 | 11/19/94 | 39.4 | 41.0 | 39.6 | 39.4 | 39.3 | 39.5 | 39.4 | 39.4 | 39.5 | 39.6 | 39.7 | 38.4 | 38.1 | 38.2 | 40.3 | 37.4 |
| 11:41:15 | 11/19/94 | 39.4 | 40.8 | 39.6 | 39.3 | 39.4 | 39.5 | 39.5 | 39.5 | 39.7 | 39.6 | 39.7 | 38.3 | 38.1 | 38.1 | 40.0 | 37.3 |
| 11:42:15 | 11/19/94 | 39.6 | 42.9 | 40.3 | 39.5 | 40.0 | 39.8 | 39.4 | 39.6 | 39.9 | 40.1 | 39.7 | 38.4 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:43:15 | 11/19/94 | 39.5 | 42.0 | 39.7 | 39.5 | 39.6 | 39.9 | 39.2 | 39.7 | 40.1 | 39.9 | 39.7 | 38.4 | 38.2 | 38.2 | 40.2 | 37.6 |
| 11:44:15 | 11/19/94 | 39.8 | 42.5 | 40.4 | 39.3 | 40.2 | 39.9 | 39.7 | 39.9 | 40.1 | 40.2 | 39.7 | 38.4 | 38.2 | 38.3 | 40.4 | 37.7 |
| 11:45:15 | 11/19/94 | 39.7 | 40.1 | 39.9 | 39.3 | 39.5 | 40.1 | 39.4 | 40.0 | 40.1 | 39.8 | 39.7 | 38.5 | 38.2 | 38.3 | 40.4 | 37.6 |
| 11:46:15 | 11/19/94 | 39.5 | 39.6 | 39.7 | 39.8 | 39.5 | 39.8 | 39.8 | 39.9 | 39.9 | 39.7 | 39.7 | 38.5 | 38.1 | 38.2 | 40.3 | 37.5 |
| 11:47:15 | 11/19/94 | 39.6 | 40.6 | 39.7 | 39.5 | 39.4 | 39.7 | 39.3 | 39.7 | 39.8 | 39.7 | 39.7 | 38.4 | 38.2 | 38.2 | 40.2 | 37.4 |
| 11:48:15 | 11/19/94 | 39.6 | 41.2 | 40.1 | 39.5 | 39.8 | 39.7 | 39.4 | 39.8 | 39.9 | 39.9 | 39.7 | 38.4 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:49:15 | 11/19/94 | 39.6 | 43.2 | 40.0 | 39.7 | 39.9 | 39.8 | 39.6 | 39.7 | 40.0 | 40.2 | 39.7 | 38.5 | 38.2 | 38.3 | 40.4 | 37.6 |
| 11:50:15 | 11/19/94 | 39.7 | 41.8 | 39.8 | 39.7 | 39.8 | 40.0 | 39.6 | 39.9 | 40.1 | 40.0 | 39.7 | 38.5 | 38.1 | 38.3 | 40.2 | 37.6 |
| 11:51:15 | 11/19/94 | 39.2 | 39.5 | 39.8 | 39.6 | 39.4 | 39.7 | 39.9 | 39.6 | 39.9 | 39.6 | 39.7 | 38.5 | 38.1 | 38.3 | 40.4 | 37.5 |
| 11:52:15 | 11/19/94 | 39.5 | 39.9 | 39.4 | 39.4 | 39.2 | 39.6 | 38.9 | 39.7 | 39.8 | 39.5 | 39.7 | 38.4 | 38.1 | 38.2 | 40.1 | 37.4 |
| 11:53:15 | 11/19/94 | 39.5 | 42.1 | 39.7 | 39.5 | 39.6 | 39.6 | 39.3 | 39.5 | 39.6 | 39.8 | 39.7 | 38.4 | 38.1 | 38.1 | 40.3 | 37.3 |
| 11:54:15 | 11/19/94 | 39.6 | 42.6 | 39.8 | 39.6 | 39.8 | 39.8 | 39.4 | 39.7 | 40.1 | 40.0 | 39.7 | 38.5 | 38.2 | 38.2 | 40.3 | 37.5 |
| 11:55:15 | 11/19/94 | 39.6 | 41.5 | 40.2 | 39.5 | 39.8 | 39.8 | 39.5 | 39.9 | 40.1 | 40.0 | 39.7 | 38.5 | 38.1 | 38.2 | 40.3 | 37.6 |
| 11:56:16 | 11/19/94 | 39.7 | 40.0 | 39.9 | 39.4 | 39.6 | 39.9 | 39.3 | 39.9 | 40.0 | 39.7 | 39.7 | 38.5 | 38.2 | 38.3 | 40.4 | 37.5 |
| 11:57:15 | 11/19/94 | 39.5 | 40.2 | 39.3 | 39.3 | 39.3 | 39.6 | 39.0 | 39.5 | 39.5 | 39.5 | 39.7 | 38.4 | 38.2 | 38.1 | 40.1 | 37.4 |
| 11:58:15 | 11/19/94 | 39.3 | 42.9 | 39.8 | 39.3 | 39.9 | 39.6 | 39.7 | 39.6 | 39.7 | 40.0 | 39.7 | 38.4 | 38.1 | 38.2 | 40.2 | 37.4 |
| 11:59:15 | 11/19/94 | 39.5 | 40.9 | 40.1 | 39.5 | 39.7 | 39.8 | 39.0 | 39.7 | 39.9 | 39.8 | 39.8 | 38.4 | 38.2 | 38.2 | 40.3 | 37.5 |
| 12:00:15 | 11/19/94 | 39.7 | 42.4 | 40.2 | 39.6 | 40.1 | 39.9 | 39.6 | 39.8 | 40.0 | 40.2 | 39.8 | 38.5 | 38.2 | 38.2 | 40.3 | 37.6 |
| 12:01:15 | 11/19/94 | 39.7 | 40.5 | 39.8 | 39.7 | 39.8 | 40.0 | 39.3 | 39.8 | 40.0 | 39.8 | 39.8 | 38.5 | 38.2 | 38.3 | 40.3 | 37.6 |
| 12:02:15 | 11/19/94 | 39.5 | 39.6 | 39.5 | 39.5 | 39.4 | 39.8 | 39.6 | 39.7 | 39.7 | 39.6 | 39.8 | 38.6 | 38.2 | 38.2 | 40.1 | 37.4 |
| 12:03:15 | 11/19/94 | 39.4 | 40.8 | 39.5 | 39.2 | 39.4 | 39.6 | 39.3 | 39.5 | 39.6 | 39.6 | 39.8 | 38.5 | 38.1 | 38.2 | 40.4 | 37.4 |
| 12:04:15 | 11/19/94 | 39.4 | 41.3 | 39.8 | 39.2 | 39.5 | 39.6 | 39.5 | 39.7 | 39.8 | 39.8 | 39.8 | 38.4 | 38.1 | 38.2 | 40.0 | 37.4 |
| 12:05:15 | 11/19/94 | 39.5 | 41.9 | 40.0 | 39.5 | 39.9 | 39.8 | 39.6 | 39.6 | 39.8 | 40.0 | 39.8 | 38.5 | 38.1 | 38.3 | 40.4 | 37.5 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:06:15 | 37.5 | 86.5 | 87.0 | 86.9 | 83.7 | 87.4 | 89.2 | 86.1 | 85.4 | 86.7 | 86.4 | 86.7 | 88.8 | 86.0 | 87.0 |
| 9:07:15 | 37.6 | 86.5 | 87.1 | 86.9 | 83.4 | 87.5 | 89.4 | 86.1 | 85.3 | 86.9 | 86.4 | 86.7 | 88.7 | 86.0 | 87.1 |
| 9:08:15 | 37.5 | 86.5 | 87.2 | 87.1 | 83.3 | 87.4 | 89.5 | 86.1 | 85.1 | 87.0 | 86.5 | 86.3 | 88.6 | 86.0 | 87.0 |
| 9:09:15 | 37.4 | 86.4 | 86.9 | 87.1 | 83.6 | 87.2 | 89.2 | 86.3 | 85.2 | 86.6 | 86.5 | 87.0 | 89.1 | 86.0 | 87.0 |
| 9:10:15 | 37.5 | 86.5 | 87.0 | 86.8 | 83.1 | 87.5 | 89.3 | 86.0 | 85.3 | 86.9 | 86.4 | 86.7 | 88.7 | 85.9 | 87.0 |
| 9:11:15 | 37.5 | 86.4 | 87.0 | 87.2 | 83.6 | 87.3 | 89.2 | 86.4 | 85.2 | 86.6 | 86.5 | 86.9 | 89.1 | 86.0 | 87.0 |
| 9:12:15 | 37.7 | 86.5 | 87.1 | 86.9 | 83.5 | 87.4 | 89.2 | 86.1 | 85.3 | 86.8 | 86.4 | 86.7 | 88.8 | 86.0 | 87.0 |
| 9:13:15 | 37.6 | 86.5 | 87.1 | 87.0 | 83.4 | 87.5 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.4 | 88.6 | 86.0 | 87.0 |
| 9:14:15 | 37.5 | 86.5 | 87.0 | 86.9 | 83.6 | 87.4 | 89.2 | 86.1 | 85.4 | 86.8 | 86.3 | 86.7 | 88.8 | 86.0 | 87.0 |
| 9:15:15 | 37.5 | 86.4 | 87.3 | 87.2 | 83.3 | 87.6 | 89.5 | 86.1 | 85.2 | 87.0 | 86.6 | 86.3 | 88.6 | 86.1 | 87.1 |
| 9:16:15 | 37.3 | 86.4 | 87.0 | 87.2 | 83.6 | 87.2 | 89.3 | 86.3 | 85.3 | 86.6 | 86.5 | 87.0 | 89.3 | 86.1 | 87.0 |
| 9:17:15 | 37.5 | 86.4 | 87.2 | 87.3 | 83.5 | 87.2 | 89.8 | 86.4 | 85.1 | 86.7 | 86.7 | 87.0 | 89.1 | 86.1 | 87.1 |
| 9:18:15 | 37.5 | 86.5 | 87.1 | 87.0 | 83.5 | 87.4 | 89.2 | 86.1 | 85.4 | 86.8 | 86.4 | 86.7 | 88.8 | 86.0 | 87.1 |
| 9:19:15 | 37.4 | 86.4 | 87.2 | 87.3 | 83.4 | 87.3 | 89.6 | 86.3 | 85.1 | 86.8 | 86.7 | 86.8 | 88.9 | 86.1 | 87.1 |
| 9:20:15 | 37.4 | 86.4 | 87.1 | 87.0 | 83.4 | 87.5 | 89.4 | 86.1 | 85.4 | 86.9 | 86.4 | 86.7 | 88.7 | 86.0 | 87.1 |
| 9:21:15 | 37.4 | 86.5 | 87.2 | 87.1 | 83.3 | 87.5 | 89.5 | 86.0 | 85.2 | 87.0 | 86.5 | 86.5 | 88.7 | 86.0 | 87.1 |
| 9:22:15 | 37.4 | 86.3 | 87.2 | 87.3 | 83.2 | 87.2 | 89.5 | 86.4 | 85.0 | 86.7 | 86.7 | 86.7 | 89.0 | 86.0 | 87.0 |
| 9:23:15 | 37.6 | 86.4 | 87.1 | 87.0 | 83.5 | 87.4 | 89.3 | 86.2 | 85.4 | 86.8 | 86.4 | 86.7 | 88.9 | 86.0 | 87.1 |
| 9:24:15 | 37.5 | 86.4 | 87.0 | 87.2 | 83.6 | 87.2 | 89.4 | 86.4 | 85.2 | 86.6 | 86.6 | 87.0 | 89.2 | 86.1 | 87.0 |
| 9:25:15 | 37.3 | 86.5 | 87.1 | 87.0 | 83.5 | 87.5 | 89.1 | 86.1 | 85.4 | 86.9 | 86.5 | 86.5 | 88.8 | 86.0 | 87.0 |
| 9:26:15 | 37.2 | 86.6 | 87.2 | 87.0 | 83.4 | 87.5 | 89.5 | 86.1 | 85.3 | 87.0 | 86.6 | 86.4 | 88.7 | 86.1 | 87.1 |
| 9:27:15 | 37.3 | 86.5 | 87.2 | 87.0 | 83.6 | 87.5 | 89.3 | 86.2 | 85.5 | 86.8 | 86.4 | 86.8 | 88.9 | 86.1 | 87.1 |
| 9:28:15 | 37.3 | 86.5 | 87.1 | 87.3 | 83.6 | 87.2 | 89.5 | 86.5 | 85.3 | 86.6 | 86.6 | 87.1 | 89.3 | 86.1 | 87.1 |
| 9:29:15 | 37.4 | 86.6 | 87.3 | 87.1 | 83.4 | 87.6 | 89.4 | 86.1 | 85.3 | 87.1 | 86.5 | 86.6 | 88.7 | 86.1 | 87.1 |
| 9:30:15 | 37.5 | 86.5 | 87.0 | 87.1 | 83.6 | 87.5 | 89.3 | 86.3 | 85.5 | 86.9 | 86.5 | 86.8 | 89.0 | 86.1 | 87.1 |
| 9:31:15 | 37.4 | 86.5 | 87.1 | 87.1 | 83.9 | 87.5 | 89.4 | 86.3 | 85.5 | 86.9 | 86.5 | 86.8 | 89.0 | 86.2 | 87.2 |
| 9:32:16 | 37.2 | 86.5 | 86.9 | 87.2 | 83.7 | 87.4 | 89.3 | 86.4 | 85.5 | 86.9 | 86.6 | 87.0 | 89.2 | 86.1 | 87.1 |
| 9:33:15 | 37.2 | 86.6 | 87.1 | 87.2 | 83.7 | 87.4 | 89.3 | 86.3 | 85.5 | 86.8 | 86.5 | 87.2 | 89.2 | 86.1 | 87.1 |
| 9:34:15 | 37.3 | 86.4 | 87.3 | 87.5 | 83.5 | 87.3 | 89.8 | 86.4 | 85.1 | 87.0 | 86.9 | 86.6 | 89.1 | 86.2 | 87.1 |
| 9:35:15 | 37.3 | 86.6 | 87.2 | 87.1 | 83.5 | 87.6 | 89.5 | 86.2 | 85.4 | 87.1 | 86.6 | 86.8 | 88.8 | 86.1 | 87.1 |
| 9:36:15 | 37.5 | 86.6 | 87.1 | 87.2 | 83.7 | 87.4 | 89.4 | 86.4 | 85.5 | 86.8 | 86.6 | 87.2 | 89.3 | 86.2 | 87.2 |
| 9:37:15 | 37.5 | 86.5 | 87.3 | 87.5 | 83.6 | 87.3 | 89.6 | 86.5 | 85.2 | 86.9 | 86.9 | 86.9 | 89.2 | 86.2 | 87.2 |
| 9:38:15 | 37.5 | 86.6 | 87.1 | 87.2 | 83.7 | 87.4 | 89.4 | 86.4 | 85.5 | 86.8 | 86.6 | 87.2 | 89.3 | 86.1 | 87.2 |
| 9:39:15 | 37.4 | 86.5 | 87.3 | 87.4 | 83.5 | 87.4 | 89.7 | 86.5 | 85.2 | 86.9 | 86.9 | 86.9 | 89.1 | 86.2 | 87.2 |
| 9:40:15 | 37.5 | 86.6 | 87.1 | 87.2 | 83.7 | 87.2 | 89.4 | 86.4 | 85.4 | 86.7 | 86.7 | 87.2 | 89.5 | 86.2 | 87.1 |
| 9:41:15 | 37.4 | 86.2 | 87.3 | 87.3 | 83.3 | 87.4 | 89.6 | 86.2 | 85.2 | 87.1 | 86.7 | 86.6 | 88.8 | 86.0 | 87.1 |
| 9:42:15 | 37.4 | 86.3 | 87.3 | 87.4 | 83.3 | 87.5 | 89.8 | 86.4 | 85.2 | 87.0 | 86.9 | 86.6 | 88.9 | 86.1 | 87.2 |
| 9:43:15 | 37.2 | 86.4 | 87.4 | 87.4 | 83.4 | 87.4 | 89.7 | 86.4 | 85.2 | 87.0 | 86.9 | 86.6 | 89.0 | 86.1 | 87.2 |
| 9:44:15 | 37.2 | 86.3 | 87.3 | 87.3 | 83.4 | 87.5 | 89.8 | 86.4 | 85.2 | 87.0 | 86.9 | 86.6 | 88.9 | 86.1 | 87.2 |
| 9:45:15 | 37.2 | 86.4 | 87.0 | 87.2 | 83.7 | 87.5 | 89.3 | 86.4 | 85.5 | 86.9 | 86.6 | 87.1 | 89.2 | 86.1 | 87.2 |
| 9:46:15 | 37.3 | 86.5 | 87.1 | 87.2 | 83.8 | 87.4 | 89.4 | 86.5 | 85.5 | 86.8 | 86.7 | 87.3 | 89.3 | 86.1 | 87.2 |
| 9:47:15 | 37.4 | 86.5 | 87.3 | 87.5 | 83.5 | 87.4 | 89.8 | 86.5 | 85.2 | 87.0 | 86.9 | 86.9 | 89.2 | 86.2 | 87.2 |
| 9:48:15 | 37.4 | 86.5 | 87.2 | 87.1 | 83.8 | 87.6 | 89.4 | 86.3 | 85.6 | 87.0 | 86.6 | 86.9 | 89.0 | 86.2 | 87.2 |
| 9:49:15 | 37.3 | 86.4 | 87.4 | 87.3 | 83.4 | 87.6 | 89.7 | 86.2 | 85.3 | 87.2 | 86.7 | 86.7 | 88.9 | 86.1 | 87.2 |
| 9:50:15 | 37.2 | 86.6 | 87.3 | 87.1 | 83.6 | 87.7 | 89.6 | 86.2 | 85.5 | 87.1 | 86.6 | 86.9 | 88.9 | 86.2 | 87.2 |
| 9:51:15 | 37.1 | 86.6 | 87.3 | 87.1 | 83.6 | 87.7 | 89.5 | 86.2 | 85.4 | 87.1 | 86.6 | 86.9 | 88.9 | 86.2 | 87.2 |
| 9:52:15 | 37.2 | 86.5 | 87.3 | 87.5 | 83.5 | 87.4 | 89.8 | 86.5 | 85.2 | 87.0 | 86.9 | 86.9 | 89.2 | 86.2 | 87.2 |
| 9:53:15 | 37.3 | 86.5 | 87.1 | 87.3 | 83.8 | 87.4 | 89.4 | 86.5 | 85.5 | 86.8 | 86.7 | 87.2 | 89.2 | 86.2 | 87.2 |
| 9:54:15 | 37.4 | 86.7 | 87.1 | 87.2 | 83.8 | 87.5 | 89.4 | 86.4 | 85.5 | 86.9 | 86.7 | 87.2 | 89.2 | 86.2 | 87.2 |
| 9:55:15 | 37.4 | 86.5 | 87.5 | 87.3 | 83.5 | 87.7 | 89.7 | 86.4 | 85.3 | 87.2 | 86.7 | 86.5 | 88.9 | 86.2 | 87.3 |
| 9:56:15 | 37.3 | 86.6 | 87.2 | 88.0 | 83.7 | 87.4 | 89.6 | 86.6 | 85.4 | 86.8 | 86.8 | 87.2 | 89.4 | 86.4 | 87.2 |
| 9:57:15 | 37.3 | 86.5 | 87.2 | 87.6 | 83.6 | 87.3 | 89.3 | 86.7 | 85.3 | 86.8 | 86.9 | 86.9 | 89.4 | 86.2 | 87.1 |
| 9:58:15 | 37.4 | 86.5 | 87.3 | 87.6 | 83.7 | 87.3 | 89.8 | 86.6 | 85.2 | 86.9 | 86.9 | 86.9 | 89.2 | 86.3 | 87.2 |
| 9:59:15 | 37.5 | 86.6 | 87.2 | 87.2 | 83.5 | 87.6 | 89.5 | 86.3 | 85.6 | 87.0 | 86.6 | 86.8 | 89.0 | 86.1 | 87.2 |
| 10:00:15 | 37.6 | 86.5 | 87.3 | 87.4 | 83.4 | 87.4 | 89.8 | 86.4 | 85.1 | 87.0 | 86.8 | 86.9 | 89.1 | 86.1 | 87.2 |
| 10:01:15 | 37.6 | 86.5 | 87.3 | 87.1 | 83.8 | 87.6 | 89.4 | 86.3 | 85.5 | 86.9 | 86.6 | 86.9 | 89.0 | 86.2 | 87.2 |
| 10:02:15 | 37.5 | 86.5 | 87.3 | 87.4 | 83.6 | 87.3 | 89.8 | 86.5 | 85.2 | 86.9 | 86.8 | 86.9 | 89.2 | 86.2 | 87.2 |
| 10:03:15 | 37.4 | 86.5 | 87.4 | 87.4 | 83.6 | 87.3 | 89.9 | 86.4 | 85.1 | 86.9 | 86.8 | 87.0 | 89.2 | 86.2 | 87.2 |
| 10:04:15 | 37.5 | 86.5 | 87.3 | 87.2 | 83.4 | 87.4 | 89.7 | 86.1 | 85.2 | 87.0 | 86.7 | 86.4 | 88.9 | 86.1 | 87.1 |
| 10:05:15 | 37.3 | 86.4 | 87.1 | 87.0 | 83.5 | 87.6 | 89.3 | 86.1 | 85.5 | 87.0 | 86.5 | 86.6 | 88.8 | 86.0 | 87.1 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:06:15 | 37.3 | 86.4 | 87.1 | 87.3 | 83.6 | 87.2 | 89.5 | 86.5 | 85.2 | 86.7 | 86.7 | 86.9 | 89.2 | 86.1 | 87.1 |
| 10:07:15 | 37.4 | 86.4 | 87.2 | 87.3 | 83.3 | 87.3 | 89.6 | 86.4 | 85.0 | 86.8 | 86.7 | 86.7 | 89.0 | 86.0 | 87.1 |
| 10:08:15 | 37.5 | 86.4 | 87.1 | 87.0 | 83.5 | 87.5 | 89.3 | 86.1 | 85.4 | 87.0 | 86.5 | 86.7 | 88.8 | 86.0 | 87.1 |
| 10:09:15 | 37.4 | 86.5 | 87.0 | 87.2 | 83.7 | 87.4 | 89.3 | 86.3 | 85.3 | 86.7 | 86.5 | 87.0 | 89.2 | 86.1 | 87.1 |
| 10:10:15 | 37.4 | 86.4 | 87.3 | 87.1 | 83.3 | 87.4 | 89.5 | 86.2 | 85.2 | 87.0 | 86.6 | 86.4 | 88.5 | 86.0 | 87.1 |
| 10:11:15 | 37.3 | 86.4 | 87.1 | 87.0 | 83.4 | 87.5 | 89.4 | 86.0 | 85.2 | 87.0 | 86.5 | 86.5 | 88.6 | 86.0 | 87.0 |
| 10:12:15 | 37.4 | 86.3 | 87.1 | 87.3 | 83.7 | 87.1 | 89.5 | 86.4 | 85.1 | 86.6 | 86.7 | 86.6 | 89.0 | 86.1 | 87.0 |
| 10:13:15 | 37.5 | 86.3 | 86.9 | 87.1 | 83.6 | 87.3 | 89.1 | 86.2 | 85.3 | 86.6 | 86.4 | 86.9 | 89.0 | 86.0 | 87.0 |
| 10:14:15 | 37.6 | 86.5 | 87.0 | 86.9 | 83.5 | 87.4 | 89.2 | 86.1 | 85.4 | 86.7 | 86.3 | 86.8 | 88.8 | 85.9 | 87.0 |
| 10:15:15 | 37.6 | 86.3 | 86.9 | 87.4 | 83.4 | 87.1 | 89.6 | 86.4 | 85.0 | 86.8 | 86.8 | 86.5 | 89.0 | 86.0 | 87.0 |
| 10:16:15 | 37.4 | 86.3 | 87.2 | 87.4 | 83.3 | 87.3 | 89.6 | 86.2 | 85.0 | 86.8 | 86.7 | 86.4 | 88.7 | 86.0 | 87.0 |
| 10:17:15 | 37.4 | 86.4 | 87.1 | 86.9 | 83.3 | 87.5 | 89.4 | 86.0 | 85.3 | 86.9 | 86.4 | 86.4 | 88.6 | 85.9 | 87.0 |
| 10:18:15 | 37.4 | 86.3 | 87.2 | 87.1 | 83.2 | 87.3 | 89.5 | 86.2 | 85.1 | 87.0 | 86.6 | 86.4 | 88.6 | 86.0 | 87.0 |
| 10:19:15 | 37.5 | 86.4 | 86.9 | 86.9 | 83.6 | 87.3 | 89.1 | 86.2 | 85.4 | 86.7 | 86.3 | 86.9 | 88.9 | 85.9 | 87.0 |
| 10:20:16 | 37.6 | 86.3 | 87.2 | 87.2 | 83.3 | 87.2 | 89.6 | 86.1 | 85.0 | 86.8 | 86.7 | 86.3 | 88.7 | 86.0 | 87.0 |
| 10:21:15 | 37.7 | 86.3 | 87.2 | 87.0 | 83.2 | 87.4 | 89.5 | 86.0 | 85.1 | 86.9 | 86.5 | 86.4 | 88.6 | 85.9 | 87.0 |
| 10:22:15 | 37.5 | 86.3 | 86.8 | 86.9 | 83.6 | 87.2 | 89.1 | 86.2 | 85.3 | 86.6 | 86.4 | 86.9 | 89.0 | 85.9 | 87.0 |
| 10:23:15 | 37.5 | 86.3 | 87.0 | 87.2 | 83.5 | 87.1 | 89.3 | 86.3 | 85.1 | 86.5 | 86.5 | 86.9 | 89.1 | 86.0 | 87.0 |
| 10:24:15 | 37.5 | 86.3 | 87.0 | 86.9 | 83.9 | 87.3 | 89.2 | 86.1 | 85.3 | 86.7 | 86.3 | 86.6 | 88.7 | 86.0 | 87.0 |
| 10:25:15 | 37.5 | 86.3 | 87.0 | 87.3 | 83.4 | 87.1 | 89.4 | 86.3 | 85.1 | 86.6 | 86.6 | 86.6 | 89.0 | 86.0 | 87.0 |
| 10:26:15 | 37.6 | 86.3 | 86.9 | 87.2 | 83.5 | 87.1 | 89.2 | 86.3 | 85.2 | 86.6 | 86.5 | 86.9 | 89.1 | 86.0 | 87.0 |
| 10:27:15 | 37.7 | 86.4 | 87.0 | 86.9 | 83.4 | 87.4 | 89.0 | 86.1 | 85.3 | 86.8 | 86.3 | 86.4 | 88.7 | 85.9 | 86.9 |
| 10:28:15 | 37.6 | 86.4 | 87.1 | 87.0 | 83.3 | 87.4 | 89.4 | 86.0 | 85.2 | 86.9 | 86.5 | 86.3 | 88.5 | 86.0 | 87.0 |
| 10:29:15 | 37.4 | 86.4 | 87.0 | 86.9 | 83.3 | 87.4 | 89.2 | 86.0 | 85.3 | 86.9 | 86.3 | 86.6 | 88.6 | 85.9 | 87.0 |
| 10:30:15 | 37.4 | 86.5 | 86.9 | 86.8 | 83.5 | 87.4 | 89.1 | 86.1 | 85.3 | 86.8 | 86.2 | 86.8 | 88.8 | 85.9 | 87.0 |
| 10:31:15 | 37.5 | 86.5 | 86.9 | 86.9 | 83.5 | 87.3 | 89.1 | 86.2 | 85.3 | 86.7 | 86.3 | 86.8 | 88.9 | 85.9 | 87.0 |
| 10:32:15 | 37.6 | 86.4 | 86.9 | 86.9 | 83.4 | 87.3 | 89.1 | 86.1 | 85.3 | 86.7 | 86.3 | 86.6 | 88.7 | 85.9 | 86.9 |
| 10:33:15 | 37.7 | 86.4 | 87.0 | 87.2 | 83.5 | 87.0 | 89.3 | 86.3 | 85.1 | 86.5 | 86.5 | 86.7 | 89.1 | 86.0 | 87.0 |
| 10:34:15 | 37.7 | 86.3 | 87.1 | 87.2 | 83.4 | 87.0 | 89.4 | 86.3 | 84.9 | 86.6 | 86.6 | 86.5 | 88.9 | 86.0 | 86.9 |
| 10:35:15 | 37.5 | 86.5 | 86.9 | 87.1 | 83.6 | 87.2 | 89.1 | 86.3 | 85.2 | 86.5 | 86.3 | 86.8 | 89.0 | 86.0 | 86.9 |
| 10:36:15 | 37.4 | 86.4 | 87.0 | 86.8 | 83.3 | 87.4 | 89.3 | 86.0 | 85.2 | 86.8 | 86.4 | 86.4 | 88.5 | 85.9 | 87.0 |
| 10:37:15 | 37.5 | 86.3 | 86.8 | 87.0 | 83.5 | 87.2 | 89.1 | 86.1 | 85.2 | 86.6 | 86.4 | 86.8 | 88.9 | 85.9 | 86.9 |
| 10:38:15 | 37.6 | 86.3 | 87.1 | 87.2 | 83.3 | 87.0 | 89.4 | 86.3 | 84.9 | 86.6 | 86.6 | 86.6 | 88.9 | 86.0 | 86.9 |
| 10:39:15 | 37.7 | 86.4 | 87.0 | 86.9 | 83.3 | 87.3 | 89.2 | 86.0 | 85.3 | 86.7 | 86.3 | 86.5 | 88.7 | 85.9 | 86.9 |
| 10:40:15 | 37.6 | 86.3 | 87.2 | 87.0 | 83.3 | 87.2 | 89.4 | 86.0 | 85.0 | 86.8 | 86.5 | 86.3 | 88.6 | 85.9 | 86.9 |
| 10:41:15 | 37.4 | 86.2 | 87.2 | 86.9 | 83.2 | 87.4 | 89.4 | 86.0 | 85.1 | 86.9 | 86.5 | 86.4 | 88.6 | 85.9 | 87.0 |
| 10:42:15 | 37.4 | 86.3 | 86.8 | 87.0 | 83.5 | 87.2 | 89.1 | 86.2 | 85.3 | 86.6 | 86.3 | 86.9 | 89.0 | 85.9 | 86.9 |
| 10:43:15 | 37.5 | 86.2 | 86.9 | 87.3 | 83.3 | 87.1 | 89.5 | 86.3 | 84.9 | 86.7 | 86.7 | 86.5 | 88.9 | 85.9 | 86.9 |
| 10:44:15 | 37.6 | 86.3 | 87.1 | 86.9 | 83.2 | 87.4 | 89.3 | 85.9 | 85.1 | 86.9 | 86.4 | 86.5 | 88.6 | 85.9 | 86.9 |
| 10:45:15 | 37.6 | 86.4 | 87.0 | 86.9 | 83.5 | 87.4 | 89.1 | 86.1 | 85.4 | 86.7 | 86.3 | 86.8 | 88.8 | 85.9 | 87.0 |
| 10:46:15 | 37.6 | 86.4 | 86.9 | 86.9 | 83.5 | 87.3 | 89.1 | 86.1 | 85.3 | 86.7 | 86.3 | 86.8 | 88.9 | 85.9 | 87.0 |
| 10:47:15 | 37.5 | 86.3 | 87.1 | 87.3 | 83.3 | 87.1 | 89.4 | 86.3 | 85.0 | 86.7 | 86.6 | 86.6 | 88.9 | 86.0 | 87.0 |
| 10:48:15 | 37.5 | 86.4 | 86.9 | 87.1 | 83.6 | 87.2 | 89.2 | 86.2 | 85.2 | 86.5 | 86.5 | 87.0 | 89.2 | 86.0 | 87.0 |
| 10:49:15 | 37.5 | 86.5 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.3 | 86.9 | 86.3 | 86.7 | 88.7 | 85.9 | 87.0 |
| 10:50:15 | 37.7 | 86.5 | 87.1 | 86.9 | 83.3 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.5 | 88.6 | 86.0 | 87.0 |
| 10:51:15 | 37.6 | 86.4 | 86.9 | 87.0 | 83.6 | 87.3 | 89.2 | 86.4 | 85.3 | 86.6 | 86.4 | 86.9 | 89.0 | 86.0 | 87.0 |
| 10:52:15 | 37.6 | 86.5 | 87.1 | 86.9 | 83.3 | 87.4 | 89.3 | 86.0 | 85.2 | 86.8 | 86.4 | 86.5 | 88.6 | 86.0 | 87.0 |
| 10:53:15 | 37.5 | 86.5 | 86.9 | 86.9 | 83.5 | 87.4 | 89.1 | 86.1 | 85.4 | 86.7 | 86.3 | 86.8 | 88.8 | 85.9 | 87.0 |
| 10:54:15 | 37.5 | 86.4 | 87.2 | 87.1 | 83.2 | 87.3 | 89.4 | 86.1 | 85.1 | 86.9 | 86.5 | 86.3 | 88.6 | 86.0 | 87.0 |
| 10:55:15 | 37.6 | 86.3 | 87.0 | 87.2 | 83.4 | 87.0 | 89.3 | 86.3 | 85.1 | 86.5 | 86.4 | 86.9 | 89.1 | 86.0 | 86.9 |
| 10:56:15 | 37.6 | 86.5 | 87.1 | 86.9 | 83.3 | 87.4 | 89.2 | 86.0 | 85.1 | 86.8 | 86.2 | 86.3 | 88.5 | 86.0 | 86.9 |
| 10:57:15 | 37.6 | 86.3 | 87.0 | 87.2 | 83.3 | 87.2 | 89.5 | 86.2 | 84.9 | 86.7 | 86.6 | 86.6 | 88.8 | 86.0 | 87.0 |
| 10:58:15 | 37.5 | 86.3 | 87.0 | 86.9 | 83.3 | 87.3 | 89.2 | 86.0 | 85.3 | 86.7 | 86.3 | 86.6 | 88.7 | 85.9 | 87.0 |
| 10:59:15 | 37.5 | 86.4 | 87.0 | 86.8 | 83.3 | 87.4 | 89.2 | 86.0 | 85.3 | 86.8 | 86.4 | 86.6 | 88.7 | 85.9 | 87.0 |
| 11:00:15 | 37.5 | 86.4 | 87.0 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.3 | 86.9 | 86.4 | 86.6 | 88.6 | 85.9 | 87.0 |
| 11:01:15 | 37.6 | 86.4 | 87.2 | 87.0 | 83.2 | 87.4 | 89.4 | 86.0 | 85.1 | 86.9 | 86.5 | 86.3 | 88.5 | 85.9 | 87.0 |
| 11:02:15 | 37.7 | 86.4 | 87.0 | 86.9 | 83.4 | 87.4 | 89.2 | 86.0 | 85.1 | 86.8 | 86.3 | 86.3 | 88.5 | 85.9 | 86.9 |
| 11:03:15 | 37.7 | 86.2 | 87.1 | 87.2 | 83.4 | 87.1 | 89.4 | 86.3 | 85.0 | 86.6 | 86.6 | 86.7 | 89.0 | 86.0 | 87.0 |
| 11:04:15 | 37.6 | 86.2 | 87.0 | 87.2 | 83.5 | 87.0 | 89.4 | 86.4 | 85.1 | 86.5 | 86.6 | 86.5 | 89.0 | 86.0 | 87.0 |
| 11:05:15 | 37.5 | 86.3 | 87.2 | 87.0 | 83.2 | 87.4 | 89.5 | 86.0 | 85.1 | 86.9 | 86.4 | 86.5 | 88.5 | 85.9 | 87.0 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:06:15 | 37.5 | 86.3 | 86.9 | 87.1 | 83.5 | 87.1 | 89.2 | 86.3 | 85.1 | 86.4 | 86.4 | 86.8 | 89.0 | 85.9 | 86.9 |
| 11:07:15 | 37.5 | 86.1 | 86.9 | 87.1 | 83.3 | 87.0 | 89.4 | 86.2 | 84.9 | 86.5 | 86.4 | 86.7 | 88.8 | 85.8 | 86.9 |
| 11:08:16 | 37.5 | 86.1 | 87.1 | 87.0 | 83.2 | 87.2 | 89.4 | 86.1 | 84.9 | 86.6 | 86.5 | 86.4 | 88.6 | 85.9 | 86.9 |
| 11:09:15 | 37.5 | 86.0 | 86.9 | 87.1 | 83.4 | 87.0 | 89.3 | 86.3 | 85.1 | 86.5 | 86.6 | 86.8 | 89.0 | 85.8 | 86.9 |
| 11:10:15 | 37.5 | 86.0 | 86.7 | 86.8 | 83.5 | 87.2 | 89.0 | 86.1 | 85.3 | 86.7 | 86.3 | 86.7 | 88.9 | 85.7 | 86.9 |
| 11:11:15 | 37.4 | 86.2 | 87.1 | 87.0 | 83.1 | 87.2 | 89.5 | 86.1 | 84.9 | 86.8 | 86.5 | 86.3 | 88.6 | 85.9 | 86.9 |
| 11:12:15 | 37.5 | 86.2 | 87.0 | 87.0 | 83.2 | 87.2 | 89.4 | 86.0 | 85.0 | 86.9 | 86.5 | 86.2 | 88.6 | 85.8 | 86.9 |
| 11:13:15 | 37.6 | 86.2 | 86.9 | 87.1 | 83.4 | 87.1 | 89.2 | 86.3 | 85.0 | 86.5 | 86.5 | 86.8 | 89.0 | 85.9 | 86.9 |
| 11:14:15 | 37.6 | 86.3 | 86.9 | 87.0 | 83.5 | 87.0 | 89.2 | 86.3 | 85.2 | 86.4 | 86.5 | 86.8 | 89.0 | 85.9 | 86.9 |
| 11:15:15 | 37.7 | 86.2 | 86.9 | 87.2 | 83.5 | 87.0 | 89.4 | 86.3 | 85.1 | 86.5 | 86.5 | 86.4 | 89.0 | 85.9 | 87.0 |
| 11:16:15 | 37.6 | 86.3 | 86.7 | 86.9 | 83.5 | 87.3 | 89.1 | 86.1 | 85.3 | 86.7 | 86.3 | 86.7 | 88.8 | 85.8 | 86.9 |
| 11:17:15 | 37.5 | 86.3 | 87.0 | 87.2 | 83.5 | 87.0 | 89.3 | 86.3 | 85.0 | 86.5 | 86.5 | 86.7 | 89.0 | 86.0 | 86.9 |
| 11:18:15 | 37.5 | 86.4 | 87.0 | 86.8 | 83.4 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.3 | 86.6 | 88.7 | 85.9 | 87.0 |
| 11:19:15 | 37.6 | 86.4 | 87.0 | 87.2 | 83.5 | 87.1 | 89.3 | 86.4 | 85.0 | 86.5 | 86.5 | 86.8 | 89.1 | 86.0 | 86.9 |
| 11:20:15 | 37.7 | 86.4 | 87.0 | 86.9 | 83.5 | 87.4 | 89.2 | 86.1 | 85.4 | 86.7 | 86.3 | 86.7 | 88.7 | 85.9 | 87.0 |
| 11:21:15 | 37.7 | 86.5 | 87.0 | 86.9 | 83.6 | 87.3 | 89.1 | 86.2 | 85.3 | 86.7 | 86.3 | 86.8 | 88.9 | 86.0 | 87.0 |
| 11:22:15 | 37.7 | 86.3 | 87.1 | 87.2 | 83.4 | 87.2 | 89.5 | 86.3 | 85.0 | 86.7 | 86.6 | 86.6 | 88.9 | 86.0 | 87.0 |
| 11:23:15 | 37.6 | 86.4 | 86.9 | 87.1 | 83.6 | 87.2 | 89.2 | 86.3 | 85.3 | 86.6 | 86.4 | 86.9 | 89.0 | 86.0 | 87.0 |
| 11:24:15 | 37.6 | 86.5 | 86.8 | 87.0 | 83.6 | 87.3 | 89.2 | 86.2 | 85.3 | 86.8 | 86.4 | 86.8 | 88.9 | 86.0 | 87.0 |
| 11:25:15 | 37.6 | 86.6 | 87.0 | 87.1 | 83.6 | 87.0 | 89.3 | 86.3 | 85.2 | 86.6 | 86.5 | 87.0 | 89.1 | 86.1 | 87.0 |
| 11:26:15 | 37.7 | 86.5 | 87.1 | 87.0 | 83.4 | 87.5 | 89.4 | 86.0 | 85.4 | 86.9 | 86.4 | 86.5 | 88.6 | 86.0 | 87.1 |
| 11:27:15 | 37.7 | 86.5 | 87.3 | 87.0 | 83.3 | 87.4 | 89.4 | 86.0 | 85.2 | 87.0 | 86.5 | 86.4 | 88.6 | 86.0 | 87.0 |
| 11:28:15 | 37.6 | 86.5 | 87.2 | 87.0 | 83.4 | 87.5 | 89.4 | 86.0 | 85.3 | 86.9 | 86.4 | 86.5 | 88.6 | 86.0 | 87.0 |
| 11:29:15 | 37.5 | 86.5 | 87.0 | 86.9 | 83.5 | 87.4 | 89.2 | 86.0 | 85.4 | 86.8 | 86.3 | 86.6 | 88.7 | 86.0 | 87.0 |
| 11:30:15 | 37.6 | 86.4 | 87.0 | 87.3 | 83.5 | 87.1 | 89.4 | 86.4 | 85.1 | 86.6 | 86.6 | 86.7 | 89.1 | 86.0 | 87.0 |
| 11:31:15 | 37.7 | 86.4 | 86.9 | 87.1 | 83.6 | 87.1 | 89.2 | 86.3 | 85.2 | 86.6 | 86.5 | 86.9 | 89.0 | 86.0 | 87.0 |
| 11:32:15 | 37.8 | 86.3 | 87.2 | 87.2 | 83.5 | 87.1 | 89.5 | 86.3 | 85.0 | 86.6 | 86.6 | 86.8 | 89.0 | 86.1 | 87.0 |
| 11:33:15 | 37.7 | 86.5 | 87.0 | 86.9 | 83.4 | 87.4 | 89.2 | 86.1 | 85.3 | 86.8 | 86.4 | 86.7 | 88.7 | 85.9 | 87.0 |
| 11:34:15 | 37.6 | 86.5 | 86.9 | 87.1 | 83.6 | 87.5 | 89.2 | 86.2 | 85.3 | 86.6 | 86.4 | 86.9 | 88.9 | 86.0 | 87.1 |
| 11:35:15 | 37.5 | 86.5 | 87.3 | 87.1 | 83.3 | 87.4 | 89.5 | 86.1 | 85.1 | 87.0 | 86.5 | 86.3 | 88.5 | 86.0 | 87.0 |
| 11:36:15 | 37.6 | 86.4 | 87.2 | 87.1 | 83.3 | 87.5 | 89.5 | 86.1 | 85.1 | 86.9 | 86.6 | 86.3 | 88.6 | 86.0 | 87.1 |
| 11:37:15 | 37.7 | 86.4 | 86.9 | 86.9 | 83.5 | 87.4 | 89.2 | 86.1 | 85.3 | 86.8 | 86.3 | 86.7 | 88.8 | 85.9 | 87.0 |
| 11:38:15 | 37.8 | 86.3 | 87.2 | 87.3 | 83.4 | 87.2 | 89.5 | 86.3 | 85.0 | 86.7 | 86.7 | 86.6 | 88.9 | 86.0 | 87.0 |
| 11:39:15 | 37.8 | 86.4 | 87.0 | 86.9 | 83.4 | 87.4 | 89.3 | 86.1 | 85.3 | 86.8 | 86.4 | 86.6 | 88.7 | 85.9 | 87.0 |
| 11:40:15 | 37.6 | 86.4 | 87.2 | 87.1 | 83.2 | 87.3 | 89.5 | 85.8 | 85.0 | 86.8 | 86.6 | 86.3 | 88.6 | 86.0 | 86.9 |
| 11:41:15 | 37.5 | 86.4 | 86.9 | 87.2 | 83.6 | 87.1 | 89.2 | 86.3 | 85.2 | 86.5 | 86.5 | 86.9 | 89.1 | 86.0 | 87.0 |
| 11:42:15 | 37.7 | 86.5 | 87.0 | 86.9 | 83.6 | 87.4 | 89.1 | 86.2 | 85.4 | 86.7 | 86.3 | 86.9 | 88.9 | 86.0 | 87.0 |
| 11:43:15 | 37.8 | 86.3 | 87.1 | 87.3 | 83.5 | 87.1 | 89.4 | 86.4 | 85.1 | 86.6 | 86.6 | 86.7 | 89.1 | 86.0 | 87.0 |
| 11:44:15 | 37.9 | 86.4 | 86.9 | 87.1 | 83.6 | 87.2 | 89.2 | 86.3 | 85.3 | 86.6 | 86.4 | 86.9 | 89.0 | 86.0 | 87.0 |
| 11:45:15 | 37.9 | 86.6 | 87.1 | 86.9 | 83.4 | 87.5 | 89.3 | 86.0 | 85.4 | 86.9 | 86.3 | 86.7 | 88.7 | 86.0 | 87.0 |
| 11:46:15 | 37.8 | 86.3 | 87.2 | 87.4 | 83.3 | 87.2 | 89.6 | 86.2 | 84.9 | 86.6 | 86.7 | 86.5 | 88.9 | 86.1 | 87.0 |
| 11:47:15 | 37.6 | 86.3 | 87.1 | 87.3 | 83.4 | 87.2 | 89.6 | 86.3 | 85.0 | 86.8 | 86.7 | 86.5 | 88.9 | 86.0 | 87.0 |
| 11:48:15 | 37.7 | 86.4 | 87.2 | 87.0 | 83.4 | 87.5 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.6 | 88.6 | 86.0 | 87.0 |
| 11:49:15 | 37.8 | 86.3 | 87.2 | 87.3 | 83.4 | 87.2 | 89.5 | 86.3 | 85.0 | 86.7 | 86.7 | 86.6 | 88.9 | 86.0 | 87.0 |
| 11:50:15 | 37.8 | 86.4 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.3 | 86.9 | 86.4 | 86.6 | 88.7 | 86.0 | 87.0 |
| 11:51:15 | 37.8 | 86.3 | 87.1 | 87.3 | 83.4 | 87.1 | 89.4 | 86.3 | 85.0 | 86.6 | 86.7 | 86.6 | 89.0 | 86.0 | 87.0 |
| 11:52:15 | 37.6 | 86.3 | 87.1 | 87.3 | 83.5 | 87.1 | 89.5 | 86.4 | 85.0 | 86.6 | 86.7 | 86.6 | 89.0 | 86.0 | 87.0 |
| 11:53:15 | 37.6 | 86.3 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.4 | 88.6 | 85.9 | 87.0 |
| 11:54:15 | 37.7 | 86.3 | 87.2 | 87.1 | 83.3 | 87.3 | 89.5 | 86.2 | 85.0 | 86.9 | 86.6 | 86.3 | 88.6 | 86.0 | 87.0 |
| 11:55:15 | 37.8 | 86.3 | 86.9 | 87.0 | 83.5 | 87.1 | 89.2 | 86.3 | 85.2 | 86.5 | 86.5 | 87.0 | 89.2 | 86.0 | 86.9 |
| 11:56:16 | 37.8 | 86.4 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.6 | 88.6 | 85.9 | 87.0 |
| 11:57:15 | 37.6 | 86.4 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.5 | 88.6 | 85.9 | 87.0 |
| 11:58:15 | 37.6 | 86.6 | 87.2 | 87.1 | 83.3 | 87.4 | 89.4 | 86.0 | 85.1 | 86.9 | 86.5 | 86.3 | 88.5 | 86.0 | 87.0 |
| 11:59:15 | 37.7 | 86.4 | 87.2 | 86.9 | 83.3 | 87.4 | 89.4 | 86.0 | 85.2 | 86.9 | 86.5 | 86.3 | 88.5 | 86.0 | 87.0 |
| 12:00:15 | 37.8 | 86.4 | 87.1 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.3 | 86.9 | 86.3 | 86.5 | 88.6 | 85.9 | 87.0 |
| 12:01:15 | 37.8 | 86.4 | 87.0 | 86.9 | 83.4 | 87.4 | 89.3 | 86.0 | 85.2 | 86.9 | 86.4 | 86.7 | 88.7 | 85.9 | 87.0 |
| 12:02:15 | 37.7 | 86.4 | 87.1 | 86.9 | 83.5 | 87.4 | 89.2 | 86.1 | 85.3 | 86.8 | 86.3 | 86.7 | 88.7 | 86.0 | 87.0 |
| 12:03:15 | 37.5 | 86.4 | 87.0 | 87.2 | 83.5 | 87.1 | 89.3 | 86.3 | 85.2 | 86.5 | 86.5 | 86.8 | 89.1 | 86.0 | 87.0 |
| 12:04:15 | 37.5 | 86.5 | 87.0 | 86.9 | 83.5 | 87.4 | 89.3 | 86.1 | 85.3 | 86.8 | 86.4 | 86.6 | 88.8 | 86.0 | 87.0 |
| 12:05:15 | 37.7 | 86.3 | 87.2 | 87.3 | 83.4 | 87.1 | 89.4 | 86.3 | 85.0 | 86.7 | 86.6 | 86.6 | 89.0 | 86.1 | 87.0 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Exterior Top (°C) | Exterior Bottom (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|---|---|
| 9:06:15 | | 87.2 | 89.2 | | 61.4 | 41.6 | 39.9 | -0.108 |
| 9:07:15 | | 87.2 | 89.4 | | 61.4 | 41.7 | 39.9 | -0.098 |
| 9:08:15 | | 87.1 | 89.5 | | 61.2 | 41.7 | 39.8 | -0.093 |
| 9:09:15 | | 87.3 | 89.2 | | 61.4 | 41.7 | 39.8 | -0.092 |
| 9:10:15 | | 87.2 | 89.3 | | 61.4 | 41.7 | 39.9 | -0.087 |
| 9:11:15 | | 87.3 | 89.2 | | 61.4 | 41.8 | 39.9 | -0.073 |
| 9:12:15 | | 87.1 | 89.2 | | 61.4 | 41.7 | 39.9 | -0.068 |
| 9:13:15 | | 87.1 | 89.3 | | 61.3 | 41.8 | 39.9 | -0.061 |
| 9:14:15 | | 87.2 | 89.2 | | 61.3 | 41.8 | 39.8 | -0.060 |
| 9:15:15 | | 87.1 | 89.5 | | 61.3 | 41.7 | 39.7 | -0.056 |
| 9:16:15 | | 87.3 | 89.3 | | 61.4 | 41.6 | 39.7 | -0.057 |
| 9:17:15 | | 87.4 | 89.8 | | 61.3 | 41.7 | 39.8 | -0.046 |
| 9:18:15 | | 87.2 | 89.2 | | 61.4 | 41.8 | 39.8 | -0.047 |
| 9:19:15 | | 87.3 | 89.6 | | 61.3 | 41.7 | 39.8 | -0.043 |
| 9:20:15 | | 87.2 | 89.4 | | 61.4 | 41.7 | 39.7 | -0.037 |
| 9:21:15 | | 87.2 | 89.5 | | 61.3 | 41.7 | 39.8 | -0.035 |
| 9:22:15 | | 87.3 | 89.5 | | 61.3 | 41.8 | 39.8 | -0.033 |
| 9:23:15 | | 87.2 | 89.3 | | 61.4 | 41.7 | 39.9 | -0.029 |
| 9:24:15 | | 87.4 | 89.4 | | 61.4 | 41.8 | 39.9 | -0.027 |
| 9:25:15 | | 87.2 | 89.1 | | 61.3 | 41.7 | 39.7 | -0.028 |
| 9:26:15 | | 87.2 | 89.5 | | 61.3 | 41.7 | 39.7 | -0.023 |
| 9:27:15 | | 87.2 | 89.3 | | 61.4 | 41.7 | 39.7 | -0.018 |
| 9:28:15 | | 87.4 | 89.5 | | 61.3 | 41.7 | 39.8 | -0.012 |
| 9:29:15 | | 87.2 | 89.4 | | 61.3 | 41.7 | 39.8 | -0.005 |
| 9:30:15 | | 87.3 | 89.3 | | 61.4 | 41.7 | 39.9 | 0.004 |
| 9:31:15 | | 87.3 | 89.4 | | 61.4 | 41.8 | 39.8 | 0.017 |
| 9:32:16 | | 87.4 | 89.3 | | 61.4 | 41.7 | 39.7 | 0.018 |
| 9:33:15 | | 87.4 | 89.3 | | 61.4 | 41.7 | 39.7 | 0.027 |
| 9:34:15 | | 87.4 | 89.8 | | 61.2 | 41.7 | 39.7 | 0.029 |
| 9:35:15 | | 87.3 | 89.5 | | 61.4 | 41.7 | 39.9 | 0.030 |
| 9:36:15 | | 87.5 | 89.4 | | 61.5 | 41.8 | 39.9 | 0.040 |
| 9:37:15 | | 87.5 | 89.6 | | 61.3 | 41.7 | 39.8 | 0.048 |
| 9:38:15 | | 87.5 | 89.4 | | 61.5 | 41.8 | 39.9 | 0.058 |
| 9:39:15 | | 87.5 | 89.7 | | 61.3 | 41.9 | 39.8 | 0.073 |
| 9:40:15 | | 87.5 | 89.4 | | 61.5 | 41.8 | 39.9 | 0.077 |
| 9:41:15 | | 87.3 | 89.6 | | 61.3 | 41.8 | 39.8 | 0.077 |
| 9:42:15 | | 87.3 | 89.8 | | 61.3 | 41.7 | 39.9 | 0.091 |
| 9:43:15 | | 87.4 | 89.7 | | 61.3 | 41.8 | 39.8 | 0.102 |
| 9:44:15 | | 87.3 | 89.8 | | 61.3 | 41.8 | 39.7 | 0.116 |
| 9:45:15 | | 87.4 | 89.3 | | 61.5 | 41.7 | 39.8 | 0.122 |
| 9:46:15 | | 87.5 | 89.4 | | 61.4 | 41.7 | 39.8 | 0.130 |
| 9:47:15 | | 87.5 | 89.8 | | 61.3 | 41.7 | 39.8 | 0.138 |
| 9:48:15 | | 87.4 | 89.4 | | 61.4 | 41.8 | 39.9 | 0.154 |
| 9:49:15 | | 87.4 | 89.7 | | 61.3 | 41.8 | 39.9 | 0.167 |
| 9:50:15 | | 87.4 | 89.6 | | 61.4 | 41.8 | 39.7 | 0.183 |
| 9:51:15 | | 87.4 | 89.5 | | 61.4 | 41.7 | 39.8 | 0.190 |
| 9:52:15 | | 87.5 | 89.8 | | 61.3 | 41.7 | 39.8 | 0.197 |
| 9:53:15 | | 87.5 | 89.4 | | 61.5 | 41.8 | 39.8 | 0.205 |
| 9:54:15 | | 87.5 | 89.4 | | 61.5 | 41.8 | 39.8 | 0.215 |
| 9:55:15 | | 87.3 | 89.7 | | 61.3 | 41.8 | 39.8 | 0.226 |
| 9:56:15 | | 87.6 | 89.6 | | 61.5 | 41.8 | 39.8 | 0.235 |
| 9:57:15 | | 87.5 | 89.3 | | 61.4 | 41.8 | 39.8 | 0.238 |
| 9:58:15 | | 87.5 | 89.8 | | 61.4 | 41.8 | 39.8 | 0.245 |
| 9:59:15 | | 87.3 | 89.5 | | 61.5 | 41.8 | 39.9 | 0.248 |
| 10:00:15 | | 87.5 | 89.8 | | 61.3 | 41.8 | 39.9 | 0.247 |
| 10:01:15 | | 87.3 | 89.4 | | 61.4 | 41.8 | 40.0 | 0.252 |
| 10:02:15 | | 87.5 | 89.8 | | 61.4 | 41.9 | 39.9 | 0.250 |
| 10:03:15 | | 87.5 | 89.9 | | 61.4 | 41.8 | 39.9 | 0.242 |
| 10:04:15 | | 87.3 | 89.7 | | 61.3 | 41.8 | 39.9 | 0.228 |
| 10:05:15 | 87.1 | 87.2 | 89.3 | 89.5 | 61.5 | 41.8 | 39.9 | 0.217 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Exterior Top (°C) | Exterior Bottom (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|---|---|
| 10:06:15 | 87.1 | 87.4 | 89.5 | 89.5 | 61.4 | 41.7 | 39.9 | 0.201 |
| 10:07:15 | 87.1 | 87.3 | 89.6 | 89.5 | 61.4 | 41.8 | 39.9 | 0.188 |
| 10:08:15 | 87.1 | 87.2 | 89.3 | 89.5 | 61.4 | 41.8 | 39.9 | 0.173 |
| 10:09:15 | 87.1 | 87.3 | 89.3 | 89.5 | 61.5 | 41.9 | 39.9 | 0.152 |
| 10:10:15 | 87.1 | 87.1 | 89.5 | 89.5 | 61.3 | 41.8 | 39.8 | 0.134 |
| 10:11:15 | 87.1 | 87.2 | 89.4 | 89.5 | 61.4 | 41.8 | 39.8 | 0.113 |
| 10:12:15 | 87.1 | 87.2 | 89.5 | 89.5 | 61.4 | 41.8 | 39.8 | 0.088 |
| 10:13:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.5 | 41.8 | 39.9 | 0.064 |
| 10:14:15 | 87.1 | 87.2 | 89.2 | 89.5 | 61.4 | 41.8 | 40.0 | 0.040 |
| 10:15:15 | 87.1 | 87.3 | 89.6 | 89.5 | 61.3 | 41.9 | 40.0 | 0.026 |
| 10:16:15 | 87.1 | 87.2 | 89.6 | 89.5 | 61.3 | 41.9 | 39.8 | 0.001 |
| 10:17:15 | 87.1 | 87.1 | 89.4 | 89.5 | 61.4 | 41.9 | 39.9 | -0.011 |
| 10:18:15 | 87.1 | 87.1 | 89.5 | 89.5 | 61.3 | 41.8 | 39.9 | -0.031 |
| 10:19:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.5 | 41.8 | 39.9 | -0.051 |
| 10:20:16 | 87.1 | 87.1 | 89.6 | 89.5 | 61.2 | 41.8 | 40.0 | -0.072 |
| 10:21:15 | 87.1 | 87.1 | 89.5 | 89.5 | 61.3 | 41.8 | 40.0 | -0.090 |
| 10:22:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.5 | 41.9 | 39.8 | -0.118 |
| 10:23:15 | 87.1 | 87.2 | 89.3 | 89.5 | 61.4 | 41.9 | 39.9 | -0.139 |
| 10:24:15 | 87.1 | 87.1 | 89.2 | 89.5 | 61.4 | 41.8 | 39.9 | -0.162 |
| 10:25:15 | 87.1 | 87.2 | 89.4 | 89.5 | 61.3 | 41.9 | 39.9 | -0.185 |
| 10:26:15 | 87.1 | 87.3 | 89.2 | 89.5 | 61.4 | 41.9 | 40.0 | -0.204 |
| 10:27:15 | 87.1 | 87.0 | 89.0 | 89.5 | 61.4 | 41.8 | 40.0 | -0.223 |
| 10:28:15 | 87.1 | 87.1 | 89.4 | 89.5 | 61.3 | 41.8 | 40.0 | -0.238 |
| 10:29:15 | 87.1 | 87.1 | 89.2 | 89.5 | 61.4 | 41.9 | 39.9 | -0.252 |
| 10:30:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.4 | 41.9 | 39.9 | -0.264 |
| 10:31:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.4 | 41.8 | 39.9 | -0.275 |
| 10:32:15 | 87.1 | 87.1 | 89.1 | 89.5 | 61.4 | 41.9 | 40.0 | -0.289 |
| 10:33:15 | 87.1 | 87.2 | 89.3 | 89.5 | 61.3 | 41.8 | 39.9 | -0.300 |
| 10:34:15 | 87.1 | 87.2 | 89.4 | 89.5 | 61.3 | 41.9 | 40.0 | -0.314 |
| 10:35:15 | 87.1 | 87.2 | 89.1 | 89.5 | 61.5 | 41.9 | 39.9 | -0.325 |
| 10:36:15 | 87.1 | 87.1 | 89.3 | 89.4 | 61.3 | 41.9 | 39.9 | -0.330 |
| 10:37:15 | 87.1 | 87.2 | 89.1 | 89.4 | 61.4 | 41.8 | 39.9 | -0.342 |
| 10:38:15 | 87.1 | 87.2 | 89.4 | 89.4 | 61.3 | 41.8 | 40.0 | -0.348 |
| 10:39:15 | 87.1 | 87.0 | 89.2 | 89.4 | 61.4 | 41.9 | 40.0 | -0.350 |
| 10:40:15 | 87.1 | 87.0 | 89.4 | 89.4 | 61.3 | 42.0 | 40.0 | -0.361 |
| 10:41:15 | 87.1 | 87.1 | 89.4 | 89.4 | 61.3 | 41.9 | 39.9 | -0.370 |
| 10:42:15 | 87.1 | 87.2 | 89.1 | 89.4 | 61.4 | 41.8 | 39.9 | -0.371 |
| 10:43:15 | 87.1 | 87.2 | 89.5 | 89.4 | 61.3 | 41.9 | 39.9 | -0.372 |
| 10:44:15 | 87.1 | 87.1 | 89.3 | 89.4 | 61.4 | 41.9 | 40.0 | -0.372 |
| 10:45:15 | 87.1 | 87.2 | 89.1 | 89.4 | 61.4 | 41.9 | 40.0 | -0.368 |
| 10:46:15 | 87.1 | 87.2 | 89.1 | 89.4 | 61.4 | 41.9 | 40.0 | -0.362 |
| 10:47:15 | 87.0 | 87.2 | 89.4 | 89.4 | 61.3 | 41.9 | 39.9 | -0.357 |
| 10:48:15 | 87.0 | 87.3 | 89.2 | 89.4 | 61.4 | 41.8 | 40.0 | -0.347 |
| 10:49:15 | 87.0 | 87.2 | 89.3 | 89.4 | 61.3 | 42.0 | 40.0 | -0.332 |
| 10:50:15 | 87.0 | 87.1 | 89.3 | 89.4 | 61.3 | 41.9 | 40.0 | -0.317 |
| 10:51:15 | 87.0 | 87.2 | 89.2 | 89.4 | 61.4 | 41.9 | 40.0 | -0.300 |
| 10:52:15 | 87.0 | 87.1 | 89.3 | 89.4 | 61.3 | 41.9 | 40.0 | -0.288 |
| 10:53:15 | 87.0 | 87.2 | 89.1 | 89.4 | 61.4 | 41.9 | 39.9 | -0.274 |
| 10:54:15 | 87.0 | 87.1 | 89.4 | 89.4 | 61.2 | 41.9 | 39.9 | -0.261 |
| 10:55:15 | 87.0 | 87.2 | 89.3 | 89.4 | 61.4 | 41.9 | 39.9 | -0.244 |
| 10:56:15 | 87.0 | 87.0 | 89.2 | 89.3 | 61.3 | 41.9 | 40.0 | -0.229 |
| 10:57:15 | 87.0 | 87.2 | 89.5 | 89.3 | 61.3 | 42.0 | 40.0 | -0.221 |
| 10:58:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 41.9 | 40.0 | -0.203 |
| 10:59:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 42.0 | 40.0 | -0.184 |
| 11:00:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.3 | 41.8 | 40.0 | -0.165 |
| 11:01:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 41.9 | 40.0 | -0.148 |
| 11:02:15 | 87.0 | 87.0 | 89.2 | 89.3 | 61.3 | 41.8 | 40.0 | -0.130 |
| 11:03:15 | 87.0 | 87.2 | 89.4 | 89.3 | 61.3 | 42.0 | 40.0 | -0.112 |
| 11:04:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 41.9 | 39.9 | -0.103 |
| 11:05:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.3 | 41.9 | 40.0 | -0.090 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97337 Clad Evaluation

| Time of Day (hh:mm:sec) | 1 Hr Avg Avg Pos2 (°C) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Exterior Top (°C) | Exterior Bottom (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|---|---|
| 11:06:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 41.9 | 39.9 | -0.085 |
| 11:07:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.5 | 41.9 | 39.8 | -0.086 |
| 11:08:16 | 87.0 | 87.0 | 89.4 | 89.3 | 61.3 | 42.0 | 39.9 | -0.077 |
| 11:09:15 | 87.0 | 87.2 | 89.3 | 89.3 | 61.4 | 42.0 | 39.9 | -0.071 |
| 11:10:15 | 87.0 | 87.1 | 89.0 | 89.3 | 61.4 | 41.9 | 40.0 | -0.067 |
| 11:11:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.2 | 41.9 | 39.9 | -0.065 |
| 11:12:15 | 87.0 | 87.0 | 89.4 | 89.3 | 61.3 | 41.9 | 39.9 | -0.065 |
| 11:13:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 41.9 | 40.0 | -0.064 |
| 11:14:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 42.0 | 40.0 | -0.061 |
| 11:15:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 42.0 | 40.0 | -0.055 |
| 11:16:15 | 87.0 | 87.1 | 89.1 | 89.3 | 61.4 | 41.9 | 40.0 | -0.053 |
| 11:17:15 | 87.0 | 87.2 | 89.3 | 89.3 | 61.3 | 41.8 | 39.9 | -0.049 |
| 11:18:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 41.9 | 40.0 | -0.039 |
| 11:19:15 | 87.0 | 87.2 | 89.3 | 89.3 | 61.3 | 41.9 | 40.0 | -0.036 |
| 11:20:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 41.9 | 40.1 | -0.025 |
| 11:21:15 | 87.0 | 87.2 | 89.1 | 89.3 | 61.4 | 42.0 | 40.1 | -0.015 |
| 11:22:15 | 87.0 | 87.2 | 89.5 | 89.3 | 61.2 | 42.0 | 40.0 | -0.012 |
| 11:23:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 41.9 | 40.0 | -0.007 |
| 11:24:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 41.9 | 40.0 | -0.001 |
| 11:25:15 | 87.0 | 87.3 | 89.3 | 89.3 | 61.4 | 41.9 | 40.0 | 0.001 |
| 11:26:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 42.0 | 40.1 | 0.012 |
| 11:27:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 41.9 | 40.1 | 0.018 |
| 11:28:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 42.0 | 40.0 | 0.029 |
| 11:29:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 42.0 | 40.0 | 0.035 |
| 11:30:15 | 87.0 | 87.2 | 89.4 | 89.3 | 61.3 | 42.0 | 40.0 | 0.039 |
| 11:31:15 | 87.0 | 87.3 | 89.2 | 89.3 | 61.4 | 42.0 | 40.1 | 0.040 |
| 11:32:15 | 87.0 | 87.3 | 89.5 | 89.3 | 61.3 | 42.0 | 40.1 | 0.041 |
| 11:33:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 42.1 | 40.1 | 0.046 |
| 11:34:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.4 | 42.0 | 40.0 | 0.051 |
| 11:35:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.2 | 42.0 | 40.0 | 0.056 |
| 11:36:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.3 | 41.9 | 40.0 | 0.065 |
| 11:37:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 42.0 | 40.1 | 0.061 |
| 11:38:15 | 87.0 | 87.2 | 89.5 | 89.3 | 61.3 | 42.0 | 40.1 | 0.058 |
| 11:39:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.061 |
| 11:40:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.3 | 42.0 | 40.0 | 0.051 |
| 11:41:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.5 | 42.0 | 40.0 | 0.052 |
| 11:42:15 | 87.0 | 87.2 | 89.1 | 89.3 | 61.5 | 42.0 | 40.0 | 0.053 |
| 11:43:15 | 87.0 | 87.2 | 89.4 | 89.3 | 61.3 | 41.9 | 40.1 | 0.052 |
| 11:44:15 | 87.0 | 87.2 | 89.2 | 89.3 | 61.5 | 42.0 | 40.2 | 0.048 |
| 11:45:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.056 |
| 11:46:15 | 87.0 | 87.2 | 89.6 | 89.3 | 61.2 | 42.0 | 40.1 | 0.057 |
| 11:47:15 | 87.0 | 87.2 | 89.6 | 89.3 | 61.3 | 42.1 | 40.0 | 0.060 |
| 11:48:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.062 |
| 11:49:15 | 87.0 | 87.2 | 89.5 | 89.3 | 61.3 | 42.0 | 40.1 | 0.069 |
| 11:50:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.1 | 40.2 | 0.076 |
| 11:51:15 | 87.0 | 87.2 | 89.4 | 89.3 | 61.3 | 42.0 | 40.1 | 0.082 |
| 11:52:15 | 87.0 | 87.2 | 89.5 | 89.3 | 61.3 | 42.1 | 40.0 | 0.083 |
| 11:53:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.087 |
| 11:54:15 | 87.0 | 87.1 | 89.5 | 89.3 | 61.3 | 41.9 | 40.1 | 0.089 |
| 11:55:15 | 87.0 | 87.3 | 89.2 | 89.3 | 61.5 | 42.0 | 40.2 | 0.081 |
| 11:56:16 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.2 | 0.078 |
| 11:57:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.3 | 42.1 | 40.0 | 0.077 |
| 11:58:15 | 87.0 | 87.0 | 89.4 | 89.3 | 61.3 | 42.0 | 40.1 | 0.076 |
| 11:59:15 | 87.0 | 87.1 | 89.4 | 89.3 | 61.3 | 42.0 | 40.1 | 0.078 |
| 12:00:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.080 |
| 12:01:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.3 | 42.1 | 40.1 | 0.081 |
| 12:02:15 | 87.0 | 87.1 | 89.2 | 89.3 | 61.4 | 42.0 | 40.1 | 0.077 |
| 12:03:15 | 87.0 | 87.2 | 89.3 | 89.3 | 61.4 | 42.0 | 40.0 | 0.077 |
| 12:04:15 | 87.0 | 87.1 | 89.3 | 89.3 | 61.4 | 42.0 | 40.1 | 0.080 |
| 12:05:15 | 87.0 | 87.2 | 89.4 | 89.3 | 61.3 | 42.0 | 40.1 | 0.078 |

OMEGA POINT LABORATORIES

Assembly 7.6b

OPL Project No. 97338

Thermocouple Locations are shown in Appendix C

OMEGA POINT LABORATORIES

TVA/TSI | Project No. 97338 | Baseline Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:44:10 | 3/10/95 | 39.1 | 39.6 | 39.9 | 39.4 | 39.2 | 39.6 | 39.2 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.3 |
| 5:45:10 | 3/10/95 | 38.6 | 39.0 | 39.7 | 38.8 | 39.1 | 39.2 | 38.9 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.2 | 39.7 | 37.3 |
| 5:46:10 | 3/10/95 | 38.6 | 38.4 | 39.1 | 38.7 | 38.4 | 39.4 | 38.7 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.5 | 37.2 |
| 5:47:10 | 3/10/95 | 38.5 | 38.9 | 39.4 | 38.8 | 38.7 | 39.4 | 38.7 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.5 | 37.2 |
| 5:48:10 | 3/10/95 | 38.7 | 39.6 | 39.7 | 39.1 | 39.4 | 40.1 | 39.0 | 39.0 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.2 |
| 5:49:10 | 3/10/95 | 39.2 | 39.1 | 39.6 | 39.2 | 39.2 | 39.6 | 39.5 | 39.4 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.9 | 37.4 |
| 5:50:10 | 3/10/95 | 38.7 | 38.7 | 39.6 | 38.8 | 38.7 | 39.0 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.2 | 39.5 | 37.3 |
| 5:51:10 | 3/10/95 | 38.6 | 38.8 | 39.3 | 38.5 | 38.9 | 39.1 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.2 |
| 5:52:10 | 3/10/95 | 38.7 | 39.7 | 39.7 | 39.0 | 39.3 | 39.7 | 38.7 | 39.0 | 38.7 | 39.2 | | 37.5 | 37.6 | 38.1 | 39.8 | 37.2 |
| 5:53:10 | 3/10/95 | 39.1 | 39.2 | 39.7 | 39.3 | 39.0 | 39.4 | 39.4 | 39.4 | 38.7 | 39.2 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 5:54:10 | 3/10/95 | 38.9 | 38.6 | 39.4 | 39.0 | 38.8 | 39.3 | 39.0 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.8 | 37.4 |
| 5:55:10 | 3/10/95 | 38.7 | 38.6 | 39.3 | 38.9 | 38.6 | 39.1 | 38.9 | 39.1 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.3 |
| 5:56:10 | 3/10/95 | 38.9 | 38.9 | 39.5 | 39.0 | 38.7 | 39.4 | 39.2 | 39.2 | 38.8 | 39.1 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 5:57:10 | 3/10/95 | 39.0 | 39.6 | 39.8 | 39.3 | 38.9 | 39.7 | 39.2 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.8 | 37.3 |
| 5:58:10 | 3/10/95 | 39.0 | 39.5 | 39.4 | 39.0 | 39.1 | 40.0 | 39.2 | 39.2 | 38.8 | 39.2 | | 37.7 | 37.6 | 38.1 | 40.0 | 37.4 |
| 5:59:10 | 3/10/95 | 38.8 | 38.8 | 39.5 | 38.6 | 38.8 | 38.9 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.3 |
| 6:00:10 | 3/10/95 | 38.6 | 38.4 | 39.3 | 38.5 | 38.3 | 39.3 | 38.9 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:01:10 | 3/10/95 | 39.0 | 39.3 | 39.7 | 39.0 | 39.2 | 40.1 | 38.9 | 39.1 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.2 | 39.7 | 37.3 |
| 6:02:10 | 3/10/95 | 39.3 | 39.1 | 39.8 | 39.3 | 39.3 | 40.0 | 39.3 | 39.4 | 38.8 | 39.4 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:03:10 | 3/10/95 | 39.2 | 39.3 | 39.4 | 39.0 | 39.1 | 39.8 | 39.1 | 39.3 | 38.8 | 39.2 | | 37.7 | 37.6 | 38.1 | 40.0 | 37.4 |
| 6:04:10 | 3/10/95 | 38.7 | 38.5 | 38.9 | 39.3 | 38.4 | 39.0 | 38.8 | 38.9 | 38.7 | 38.8 | | 37.7 | 37.5 | 38.1 | 39.6 | 37.3 |
| 6:05:10 | 3/10/95 | 38.5 | 38.7 | 39.4 | 38.5 | 38.7 | 39.1 | 38.6 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.5 | 37.2 |
| 6:06:10 | 3/10/95 | 38.6 | 39.6 | 39.6 | 38.9 | 39.2 | 39.7 | 38.8 | 39.0 | 38.7 | 39.1 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:07:10 | 3/10/95 | 38.9 | 39.6 | 39.9 | 39.1 | 39.5 | 39.9 | 39.1 | 39.3 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.4 |
| 6:08:10 | 3/10/95 | 39.0 | 39.5 | 39.5 | 39.2 | 39.0 | 39.6 | 39.3 | 39.3 | 38.8 | 39.2 | | 37.6 | 37.5 | 38.1 | 39.9 | 37.4 |
| 6:09:10 | 3/10/95 | 38.7 | 38.5 | 39.3 | 39.2 | 38.5 | 39.4 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.3 |
| 6:10:10 | 3/10/95 | 38.6 | 38.9 | 39.3 | 39.1 | 38.5 | 39.3 | 39.0 | 39.3 | 38.7 | 39.0 | | 37.6 | 37.5 | 38.0 | 39.5 | 37.3 |
| 6:11:10 | 3/10/95 | 39.0 | 39.4 | 39.6 | 39.4 | 39.0 | 39.6 | 39.0 | 39.4 | 38.8 | 39.2 | | 37.6 | 37.7 | 38.1 | 39.7 | 37.3 |
| 6:12:10 | 3/10/95 | 39.0 | 39.4 | 39.8 | 39.5 | 39.4 | 39.1 | 39.4 | 39.4 | 38.7 | 39.3 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:13:10 | 3/10/95 | 39.0 | 38.8 | 39.5 | 38.8 | 38.7 | 39.7 | 38.9 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.4 |
| 6:14:10 | 3/10/95 | 38.8 | 38.6 | 39.1 | 38.8 | 38.6 | 39.5 | 39.0 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.3 |
| 6:15:10 | 3/10/95 | 38.8 | 39.1 | 39.4 | 38.8 | 39.0 | 39.4 | 38.8 | 38.7 | 38.7 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.5 | 37.3 |
| 6:16:10 | 3/10/95 | 38.9 | 39.4 | 39.9 | 39.1 | 39.1 | 39.6 | 39.1 | 39.3 | 38.7 | 39.2 | | 37.6 | 37.7 | 38.2 | 39.7 | 37.4 |
| 6:17:10 | 3/10/95 | 39.2 | 39.1 | 39.8 | 39.5 | 39.2 | 39.3 | 39.4 | 39.4 | 38.8 | 39.3 | | 37.6 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:18:10 | 3/10/95 | 38.8 | 38.6 | 39.4 | 39.2 | 38.7 | 39.1 | 39.0 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.2 | 39.6 | 37.3 |
| 6:19:10 | 3/10/95 | 38.6 | 38.5 | 39.1 | 38.7 | 38.4 | 39.1 | 38.9 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.3 |
| 6:20:10 | 3/10/95 | 38.7 | 39.2 | 39.5 | 39.0 | 39.2 | 39.5 | 38.8 | 39.2 | 38.8 | 39.1 | | 37.6 | 37.6 | 38.0 | 39.7 | 37.3 |
| 6:21:10 | 3/10/95 | 39.1 | 39.7 | 39.8 | 39.4 | 39.1 | 39.3 | 39.4 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.4 |
| 6:22:10 | 3/10/95 | 39.0 | 38.8 | 39.4 | 39.0 | 38.9 | 39.0 | 39.3 | 39.4 | 38.8 | 39.0 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.4 |
| 6:23:10 | 3/10/95 | 38.7 | 38.4 | 39.3 | 38.8 | 38.5 | 39.3 | 38.8 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.7 | 37.3 |
| 6:24:10 | 3/10/95 | 38.6 | 38.8 | 39.4 | 38.5 | 39.1 | 39.6 | 38.8 | 39.0 | 38.7 | 39.0 | | 37.6 | 37.6 | 38.0 | 39.5 | 37.3 |
| 6:25:10 | 3/10/95 | 38.9 | 39.5 | 39.8 | 39.0 | 39.0 | 39.7 | 39.0 | 39.1 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.2 |
| 6:26:10 | 3/10/95 | 39.1 | 39.0 | 39.7 | 39.3 | 38.9 | 39.9 | 39.3 | 39.3 | 38.7 | 39.3 | | 37.6 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:27:10 | 3/10/95 | 38.8 | 38.8 | 39.2 | 39.0 | 38.7 | 39.5 | 39.0 | 39.0 | 38.7 | 39.0 | | 37.7 | 37.5 | 38.1 | 39.7 | 37.4 |
| 6:28:10 | 3/10/95 | 38.5 | 38.7 | 39.3 | 38.5 | 38.7 | 38.7 | 39.0 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.7 | 37.2 |
| 6:29:10 | 3/10/95 | 38.5 | 39.5 | 39.8 | 38.7 | 39.1 | 39.4 | 38.5 | 39.0 | 38.7 | 39.0 | | 37.6 | 37.7 | 38.2 | 39.5 | 37.2 |
| 6:30:10 | 3/10/95 | 39.1 | 39.4 | 39.8 | 39.2 | 39.0 | 39.8 | 39.4 | 39.5 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.3 |
| 6:31:10 | 3/10/95 | 39.2 | 39.1 | 39.6 | 39.2 | 39.0 | 39.6 | 39.5 | 39.5 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:32:10 | 3/10/95 | 38.7 | 38.4 | 39.3 | 39.4 | 38.5 | 39.4 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.8 | 37.3 |
| 6:33:10 | 3/10/95 | 38.5 | 38.8 | 39.0 | 38.8 | 38.6 | 39.2 | 38.8 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.2 |
| 6:34:10 | 3/10/95 | 38.8 | 39.3 | 39.8 | 39.0 | 39.2 | 39.7 | 39.1 | 39.2 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.3 |
| 6:35:10 | 3/10/95 | 39.1 | 38.9 | 39.8 | 39.4 | 39.2 | 39.4 | 39.4 | 39.5 | 38.7 | 39.3 | | 37.8 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:36:10 | 3/10/95 | 38.8 | 38.9 | 39.6 | 39.2 | 38.9 | 39.1 | 39.2 | 39.1 | 38.7 | 39.0 | | 37.7 | 37.6 | 38.1 | 39.8 | 37.5 |
| 6:37:10 | 3/10/95 | 38.6 | 38.6 | 39.0 | 39.2 | 38.3 | 39.4 | 38.8 | 38.9 | 38.6 | 38.8 | | 37.7 | 37.5 | 38.0 | 39.5 | 37.3 |
| 6:38:10 | 3/10/95 | 38.7 | 39.0 | 39.6 | 38.8 | 38.8 | 39.0 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:39:10 | 3/10/95 | 38.8 | 39.4 | 39.9 | 39.3 | 39.4 | 39.9 | 39.0 | 39.2 | 38.8 | 39.3 | | 37.8 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:40:10 | 3/10/95 | 39.2 | 39.0 | 39.7 | 39.5 | 38.9 | 39.6 | 39.5 | 39.4 | 38.7 | 39.3 | | 37.6 | 37.5 | 38.2 | 39.9 | 37.4 |
| 6:41:10 | 3/10/95 | 38.7 | 38.7 | 39.5 | 38.7 | 38.8 | 39.1 | 38.8 | 39.1 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:42:10 | 3/10/95 | 38.6 | 38.5 | 39.2 | 38.7 | 38.5 | 39.6 | 38.7 | 39.0 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:43:10 | 3/10/95 | 38.8 | 39.0 | 39.7 | 39.0 | 39.3 | 39.8 | 39.1 | 39.1 | 38.7 | 39.2 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Baseline Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:44:10 | 3/10/95 | 39.1 | 39.6 | 39.9 | 39.4 | 39.2 | 39.6 | 39.2 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.3 |
| 5:45:10 | 3/10/95 | 38.6 | 39.0 | 39.7 | 38.8 | 39.1 | 39.2 | 38.9 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.2 | 39.7 | 37.3 |
| 5:46:10 | 3/10/95 | 38.6 | 38.4 | 39.1 | 38.7 | 38.4 | 39.4 | 38.7 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.5 | 37.2 |
| 5:47:10 | 3/10/95 | 38.5 | 38.9 | 39.4 | 38.8 | 38.7 | 39.4 | 38.7 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.5 | 37.2 |
| 5:48:10 | 3/10/95 | 38.7 | 39.6 | 39.7 | 39.1 | 39.4 | 40.1 | 39.0 | 39.0 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.2 |
| 5:49:10 | 3/10/95 | 39.2 | 39.1 | 39.6 | 39.2 | 39.2 | 39.6 | 39.5 | 39.4 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.9 | 37.4 |
| 5:50:10 | 3/10/95 | 38.7 | 38.7 | 39.6 | 38.8 | 38.7 | 39.0 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.2 | 39.5 | 37.3 |
| 5:51:10 | 3/10/95 | 38.6 | 38.8 | 39.3 | 38.5 | 38.9 | 39.1 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.2 |
| 5:52:10 | 3/10/95 | 38.7 | 39.7 | 39.7 | 39.0 | 39.3 | 39.7 | 38.7 | 39.0 | 38.7 | 39.2 | | 37.5 | 37.6 | 38.1 | 39.8 | 37.2 |
| 5:53:10 | 3/10/95 | 39.1 | 39.2 | 39.7 | 39.3 | 39.0 | 39.4 | 39.4 | 39.4 | 38.7 | 39.2 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 5:54:10 | 3/10/95 | 38.9 | 38.6 | 39.4 | 39.0 | 38.8 | 39.3 | 39.0 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.8 | 37.4 |
| 5:55:10 | 3/10/95 | 38.7 | 38.6 | 39.3 | 38.9 | 38.6 | 39.1 | 38.9 | 39.1 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.3 |
| 5:56:10 | 3/10/95 | 38.9 | 38.9 | 39.5 | 39.0 | 38.7 | 39.4 | 39.2 | 39.2 | 38.8 | 39.1 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 5:57:10 | 3/10/95 | 39.0 | 39.6 | 39.8 | 39.3 | 38.9 | 39.7 | 39.2 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.1 | 39.8 | 37.3 |
| 5:58:10 | 3/10/95 | 39.0 | 39.5 | 39.4 | 39.0 | 39.1 | 40.0 | 39.2 | 39.2 | 38.8 | 39.2 | | 37.7 | 37.6 | 38.1 | 40.0 | 37.4 |
| 5:59:10 | 3/10/95 | 38.8 | 38.8 | 39.5 | 38.6 | 38.8 | 38.9 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.3 |
| 6:00:10 | 3/10/95 | 38.6 | 38.4 | 39.3 | 38.5 | 38.3 | 39.3 | 38.9 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:01:10 | 3/10/95 | 39.0 | 39.3 | 39.7 | 39.0 | 39.2 | 40.1 | 38.9 | 39.1 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.2 | 39.7 | 37.3 |
| 6:02:10 | 3/10/95 | 39.3 | 39.1 | 39.8 | 39.3 | 39.3 | 40.0 | 39.3 | 39.4 | 38.8 | 39.4 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:03:10 | 3/10/95 | 39.2 | 39.3 | 39.4 | 39.0 | 39.1 | 39.8 | 39.1 | 39.3 | 38.8 | 39.2 | | 37.7 | 37.6 | 38.1 | 40.0 | 37.4 |
| 6:04:10 | 3/10/95 | 38.7 | 38.5 | 38.9 | 39.3 | 38.4 | 39.0 | 38.8 | 38.9 | 38.7 | 38.8 | | 37.7 | 37.5 | 38.1 | 39.6 | 37.3 |
| 6:05:10 | 3/10/95 | 38.5 | 38.7 | 39.4 | 38.5 | 38.7 | 39.1 | 38.6 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.5 | 37.2 |
| 6:06:10 | 3/10/95 | 38.6 | 39.6 | 39.6 | 38.9 | 39.2 | 39.7 | 38.8 | 39.0 | 38.7 | 39.1 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:07:10 | 3/10/95 | 38.9 | 39.6 | 39.9 | 39.1 | 39.5 | 39.9 | 39.1 | 39.3 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.4 |
| 6:08:10 | 3/10/95 | 39.0 | 39.5 | 39.5 | 39.2 | 39.0 | 39.6 | 39.3 | 39.3 | 38.8 | 39.2 | | 37.6 | 37.5 | 38.1 | 39.9 | 37.4 |
| 6:09:10 | 3/10/95 | 38.7 | 38.5 | 39.3 | 39.2 | 38.5 | 39.4 | 38.8 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.3 |
| 6:10:10 | 3/10/95 | 38.6 | 38.9 | 39.3 | 39.1 | 38.5 | 39.3 | 39.0 | 39.3 | 38.7 | 39.0 | | 37.6 | 37.5 | 38.0 | 39.5 | 37.3 |
| 6:11:10 | 3/10/95 | 39.0 | 39.4 | 39.6 | 39.4 | 39.0 | 39.6 | 39.0 | 39.4 | 38.8 | 39.2 | | 37.6 | 37.7 | 38.1 | 39.7 | 37.3 |
| 6:12:10 | 3/10/95 | 39.0 | 39.4 | 39.8 | 39.5 | 39.4 | 39.1 | 39.4 | 39.4 | 38.7 | 39.3 | | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:13:10 | 3/10/95 | 39.0 | 38.8 | 39.5 | 38.8 | 38.7 | 39.7 | 38.9 | 39.0 | 38.8 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.7 | 37.4 |
| 6:14:10 | 3/10/95 | 38.8 | 38.6 | 39.1 | 38.8 | 38.6 | 39.5 | 39.0 | 38.9 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.3 |
| 6:15:10 | 3/10/95 | 38.8 | 39.1 | 39.4 | 38.8 | 39.0 | 39.4 | 38.8 | 38.7 | 38.7 | 39.0 | | 37.6 | 37.6 | 38.1 | 39.5 | 37.3 |
| 6:16:10 | 3/10/95 | 38.9 | 39.4 | 39.9 | 39.1 | 39.1 | 39.6 | 39.1 | 39.3 | 38.7 | 39.2 | | 37.6 | 37.7 | 38.2 | 39.7 | 37.4 |
| 6:17:10 | 3/10/95 | 39.2 | 39.1 | 39.8 | 39.5 | 39.2 | 39.3 | 39.4 | 39.4 | 38.8 | 39.3 | | 37.6 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:18:10 | 3/10/95 | 38.8 | 38.6 | 39.4 | 39.2 | 38.7 | 39.1 | 39.0 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.2 | 39.6 | 37.3 |
| 6:19:10 | 3/10/95 | 38.6 | 38.5 | 39.1 | 38.7 | 38.4 | 39.1 | 38.9 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.3 |
| 6:20:10 | 3/10/95 | 38.7 | 39.2 | 39.5 | 39.0 | 39.2 | 39.5 | 38.8 | 39.2 | 38.8 | 39.1 | | 37.6 | 37.6 | 38.0 | 39.7 | 37.3 |
| 6:21:10 | 3/10/95 | 39.1 | 39.7 | 39.8 | 39.4 | 39.1 | 39.3 | 39.4 | 39.3 | 38.7 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.4 |
| 6:22:10 | 3/10/95 | 39.0 | 38.8 | 39.4 | 39.0 | 38.9 | 39.0 | 39.3 | 39.4 | 38.8 | 39.0 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.4 |
| 6:23:10 | 3/10/95 | 38.7 | 38.4 | 39.3 | 38.8 | 38.5 | 39.3 | 38.8 | 38.9 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.7 | 37.3 |
| 6:24:10 | 3/10/95 | 38.6 | 38.8 | 39.4 | 38.5 | 39.1 | 39.6 | 38.8 | 39.0 | 38.7 | 39.0 | | 37.6 | 37.6 | 38.0 | 39.5 | 37.3 |
| 6:25:10 | 3/10/95 | 38.9 | 39.5 | 39.8 | 39.0 | 39.0 | 39.7 | 39.0 | 39.1 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.2 |
| 6:26:10 | 3/10/95 | 39.1 | 39.0 | 39.7 | 39.3 | 38.9 | 39.9 | 39.3 | 39.3 | 38.7 | 39.3 | | 37.6 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:27:10 | 3/10/95 | 38.8 | 38.8 | 39.2 | 39.0 | 38.7 | 39.5 | 39.0 | 39.0 | 38.7 | 39.0 | | 37.7 | 37.5 | 38.1 | 39.7 | 37.4 |
| 6:28:10 | 3/10/95 | 38.5 | 38.7 | 39.3 | 38.5 | 38.7 | 38.7 | 39.0 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.7 | 37.2 |
| 6:29:10 | 3/10/95 | 38.5 | 39.5 | 39.8 | 38.7 | 39.1 | 39.4 | 38.5 | 39.0 | 38.7 | 39.0 | | 37.6 | 37.7 | 38.2 | 39.5 | 37.2 |
| 6:30:10 | 3/10/95 | 39.1 | 39.4 | 39.8 | 39.2 | 39.0 | 39.8 | 39.4 | 39.5 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.8 | 37.3 |
| 6:31:10 | 3/10/95 | 39.2 | 39.1 | 39.6 | 39.2 | 39.0 | 39.6 | 39.5 | 39.5 | 38.8 | 39.3 | | 37.7 | 37.6 | 38.2 | 39.9 | 37.4 |
| 6:32:10 | 3/10/95 | 38.7 | 38.4 | 39.3 | 39.4 | 38.5 | 39.4 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.8 | 37.3 |
| 6:33:10 | 3/10/95 | 38.5 | 38.8 | 39.0 | 38.8 | 38.6 | 39.2 | 38.8 | 39.0 | 38.6 | 38.8 | | 37.6 | 37.5 | 38.0 | 39.6 | 37.2 |
| 6:34:10 | 3/10/95 | 38.8 | 39.3 | 39.8 | 39.0 | 39.2 | 39.7 | 39.1 | 39.2 | 38.7 | 39.2 | | 37.6 | 37.6 | 38.1 | 39.6 | 37.3 |
| 6:35:10 | 3/10/95 | 39.1 | 38.9 | 39.8 | 39.4 | 39.2 | 39.4 | 39.4 | 39.5 | 38.7 | 39.3 | | 37.8 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:36:10 | 3/10/95 | 38.8 | 38.9 | 39.6 | 39.2 | 38.9 | 39.1 | 39.2 | 39.1 | 38.7 | 39.0 | | 37.7 | 37.6 | 38.1 | 39.8 | 37.5 |
| 6:37:10 | 3/10/95 | 38.6 | 38.6 | 39.0 | 39.2 | 38.3 | 39.4 | 38.8 | 38.9 | 38.6 | 38.8 | | 37.7 | 37.5 | 38.0 | 39.5 | 37.3 |
| 6:38:10 | 3/10/95 | 38.7 | 39.0 | 39.6 | 38.8 | 38.8 | 39.0 | 38.8 | 39.0 | 38.7 | 38.9 | | 37.7 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:39:10 | 3/10/95 | 38.8 | 39.4 | 39.9 | 39.3 | 39.4 | 39.9 | 39.0 | 39.2 | 38.8 | 39.3 | | 37.8 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:40:10 | 3/10/95 | 39.2 | 39.0 | 39.7 | 39.5 | 38.9 | 39.6 | 39.5 | 39.4 | 38.7 | 39.3 | | 37.6 | 37.5 | 38.2 | 39.9 | 37.4 |
| 6:41:10 | 3/10/95 | 38.7 | 38.7 | 39.5 | 38.7 | 38.8 | 39.1 | 38.8 | 39.1 | 38.7 | 38.9 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:42:10 | 3/10/95 | 38.6 | 38.5 | 39.2 | 38.7 | 38.5 | 39.6 | 38.7 | 39.0 | 38.7 | 38.8 | | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 6:43:10 | 3/10/95 | 38.8 | 39.0 | 39.7 | 39.0 | 39.3 | 39.8 | 39.1 | 39.1 | 38.7 | 39.2 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Baseline Evaluation

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:44:10 | 3/10/95 | 39.0 | 39.3 | 39.8 | 39.2 | 39.5 | 39.9 | 39.2 | 39.3 | 38.7 | 39.3 | 39.1 | 37.7 | 37.6 | 38.2 | 39.7 | 37.4 |
| 6:45:10 | 3/10/95 | 38.8 | 39.0 | 39.3 | 39.1 | 39.0 | 39.3 | 39.2 | 39.3 | 38.7 | 39.1 | 39.1 | 37.6 | 37.5 | 38.1 | 39.8 | 37.4 |
| 6:46:10 | 3/10/95 | 38.6 | 38.4 | 39.0 | 38.9 | 38.4 | 39.1 | 38.7 | 38.9 | 38.7 | 38.7 | 39.1 | 37.6 | 37.5 | 38.0 | 39.5 | 37.2 |
| 6:47:10 | 3/10/95 | 38.6 | 38.5 | 39.5 | 38.9 | 38.6 | 39.0 | 39.0 | 39.1 | 38.7 | 38.9 | 39.1 | 37.6 | 37.6 | 38.1 | 39.5 | 37.2 |
| 6:48:10 | 3/10/95 | 39.1 | 39.6 | 39.7 | 39.1 | 39.3 | 39.9 | 39.0 | 39.2 | 38.7 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.6 | 37.3 |
| 6:49:10 | 3/10/95 | 39.1 | 39.3 | 40.0 | 39.4 | 39.1 | 39.8 | 39.4 | 39.3 | 38.8 | 39.4 | 39.1 | 37.6 | 37.6 | 38.1 | 39.8 | 37.4 |
| 6:50:10 | 3/10/95 | 38.8 | 39.1 | 39.4 | 39.2 | 38.9 | 39.3 | 39.0 | 39.0 | 38.7 | 39.1 | 39.1 | 37.6 | 37.5 | 38.2 | 39.8 | 37.4 |
| 6:51:10 | 3/10/95 | 38.6 | 38.5 | 39.2 | 38.7 | 38.5 | 39.1 | 38.8 | 38.8 | 38.7 | 38.8 | 39.1 | 37.6 | 37.5 | 38.0 | 39.5 | 37.2 |
| 6:52:10 | 3/10/95 | 38.6 | 38.8 | 39.7 | 38.6 | 38.7 | 39.8 | 38.6 | 38.9 | 38.7 | 38.9 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 6:53:10 | 3/10/95 | 38.9 | 39.6 | 39.9 | 39.0 | 39.5 | 40.0 | 38.9 | 39.2 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.3 |
| 6:54:10 | 3/10/95 | 39.2 | 39.1 | 39.3 | 39.3 | 39.0 | 39.4 | 39.3 | 39.3 | 38.8 | 39.2 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.3 |
| 6:55:10 | 3/10/95 | 38.6 | 38.4 | 39.4 | 39.0 | 38.5 | 38.7 | 38.7 | 39.0 | 38.7 | 38.8 | 39.1 | 37.7 | 37.6 | 38.1 | 39.6 | 37.2 |
| 6:56:10 | 3/10/95 | 38.6 | 38.5 | 39.4 | 38.7 | 38.7 | 39.3 | 38.9 | 39.0 | 38.6 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.5 | 37.1 |
| 6:57:10 | 3/10/95 | 38.9 | 39.1 | 39.7 | 39.0 | 39.1 | 39.4 | 39.1 | 39.2 | 38.7 | 39.1 | 39.1 | 37.6 | 37.7 | 38.1 | 39.7 | 37.3 |
| 6:58:10 | 3/10/95 | 39.3 | 39.4 | 39.9 | 39.4 | 39.1 | 39.6 | 39.5 | 39.5 | 38.8 | 39.4 | 39.1 | 37.6 | 37.7 | 38.2 | 39.9 | 37.4 |
| 6:59:10 | 3/10/95 | 38.8 | 38.9 | 39.3 | 38.9 | 38.8 | 39.3 | 39.0 | 39.1 | 38.7 | 39.0 | 39.1 | 37.6 | 37.6 | 38.1 | 39.8 | 37.3 |
| 7:00:10 | 3/10/95 | 38.6 | 38.7 | 39.2 | 38.7 | 38.6 | 39.3 | 38.8 | 38.8 | 38.7 | 38.8 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.2 |
| 7:01:10 | 3/10/95 | 38.8 | 38.9 | 39.6 | 39.1 | 38.8 | 39.1 | 38.9 | 38.9 | 38.7 | 39.0 | 39.1 | 37.6 | 37.6 | 38.2 | 39.6 | 37.3 |
| 7:02:10 | 3/10/95 | 38.9 | 39.4 | 39.8 | 39.1 | 39.4 | 39.9 | 39.2 | 39.1 | 38.7 | 39.3 | 39.1 | 37.6 | 37.7 | 38.2 | 39.8 | 37.4 |
| 7:03:10 | 3/10/95 | 38.9 | 39.0 | 39.6 | 39.1 | 39.0 | 39.5 | 39.3 | 39.4 | 38.8 | 39.2 | 39.1 | 37.7 | 37.6 | 38.2 | 39.8 | 37.3 |
| 7:04:10 | 3/10/95 | 38.8 | 38.7 | 39.4 | 38.7 | 38.7 | 39.3 | 38.9 | 38.9 | 38.8 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.3 |
| 7:05:11 | 3/10/95 | 38.6 | 39.0 | 39.6 | 38.7 | 39.2 | 39.4 | 38.9 | 39.1 | 38.7 | 39.0 | 39.1 | 37.7 | 37.5 | 38.1 | 39.5 | 37.2 |
| 7:06:10 | 3/10/95 | 38.6 | 39.8 | 39.9 | 39.0 | 39.5 | 39.9 | 39.0 | 39.3 | 38.7 | 39.3 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.3 |
| 7:07:10 | 3/10/95 | 39.2 | 39.3 | 39.7 | 39.4 | 39.1 | 39.7 | 39.4 | 39.3 | 38.8 | 39.3 | 39.1 | 37.7 | 37.6 | 38.1 | 39.9 | 37.3 |
| 7:08:10 | 3/10/95 | 38.5 | 38.6 | 39.4 | 39.1 | 38.8 | 38.8 | 38.9 | 39.0 | 38.7 | 38.9 | 39.1 | 37.7 | 37.5 | 38.1 | 39.7 | 37.3 |
| 7:09:10 | 3/10/95 | 38.5 | 38.7 | 39.4 | 38.8 | 38.8 | 38.9 | 38.8 | 38.9 | 38.7 | 38.8 | 39.1 | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 7:10:10 | 3/10/95 | 38.7 | 39.1 | 39.7 | 38.9 | 38.9 | 39.9 | 38.9 | 39.1 | 38.7 | 39.1 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 7:11:10 | 3/10/95 | 39.2 | 39.2 | 39.9 | 39.5 | 39.1 | 39.4 | 39.4 | 39.4 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.1 | 40.0 | 37.4 |
| 7:12:10 | 3/10/95 | 39.0 | 39.5 | 39.6 | 39.3 | 39.2 | 39.7 | 39.2 | 39.0 | 38.8 | 39.3 | 39.1 | 37.6 | 37.6 | 38.2 | 39.9 | 37.5 |
| 7:13:10 | 3/10/95 | 38.9 | 38.6 | 39.2 | 38.8 | 38.6 | 39.3 | 38.9 | 38.9 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.4 |
| 7:14:10 | 3/10/95 | 38.8 | 38.8 | 39.5 | 38.5 | 38.5 | 39.7 | 38.8 | 38.9 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.5 | 37.4 |
| 7:15:10 | 3/10/95 | 39.0 | 38.8 | 39.8 | 39.2 | 38.8 | 39.6 | 39.2 | 39.2 | 38.8 | 39.2 | 39.1 | 37.6 | 37.7 | 38.2 | 39.8 | 37.3 |
| 7:16:10 | 3/10/95 | 39.4 | 39.0 | 39.9 | 39.5 | 38.9 | 39.5 | 39.4 | 39.3 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 40.0 | 37.4 |
| 7:17:10 | 3/10/95 | 38.9 | 38.8 | 39.5 | 38.8 | 39.2 | 38.9 | 39.0 | 39.0 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.4 |
| 7:18:10 | 3/10/95 | 38.8 | 38.4 | 39.4 | 38.7 | 38.7 | 39.4 | 38.8 | 39.0 | 38.7 | 38.9 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.2 |
| 7:19:10 | 3/10/95 | 38.7 | 38.9 | 39.6 | 38.9 | 39.0 | 39.3 | 38.9 | 39.0 | 38.7 | 39.0 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.2 |
| 7:20:10 | 3/10/95 | 39.0 | 39.9 | 39.8 | 39.0 | 39.2 | 40.1 | 39.1 | 39.2 | 38.8 | 39.3 | 39.1 | 37.6 | 37.6 | 38.2 | 39.6 | 37.3 |
| 7:21:10 | 3/10/95 | 39.3 | 38.9 | 39.4 | 39.2 | 39.0 | 39.7 | 39.5 | 39.4 | 38.8 | 39.2 | 39.1 | 37.7 | 37.6 | 38.2 | 39.9 | 37.4 |
| 7:22:10 | 3/10/95 | 38.6 | 38.7 | 39.1 | 39.2 | 38.6 | 39.1 | 38.8 | 39.0 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.4 |
| 7:23:10 | 3/10/95 | 38.5 | 38.9 | 39.4 | 38.9 | 38.5 | 39.3 | 38.8 | 39.0 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.0 | 39.6 | 37.2 |
| 7:24:10 | 3/10/95 | 38.9 | 39.4 | 39.6 | 39.2 | 39.3 | 39.5 | 39.1 | 39.2 | 38.7 | 39.2 | 39.1 | 37.6 | 37.6 | 38.1 | 39.8 | 37.2 |
| 7:25:10 | 3/10/95 | 39.0 | 39.6 | 39.9 | 39.5 | 39.4 | 39.5 | 39.1 | 39.2 | 38.7 | 39.3 | 39.1 | 37.6 | 37.7 | 38.3 | 39.8 | 37.3 |
| 7:26:10 | 3/10/95 | 38.8 | 38.9 | 39.5 | 38.9 | 38.8 | 39.0 | 38.9 | 39.0 | 38.7 | 39.0 | 39.1 | 37.7 | 37.5 | 38.0 | 39.7 | 37.3 |
| 7:27:10 | 3/10/95 | 38.6 | 38.8 | 39.2 | 38.6 | 38.6 | 39.1 | 38.9 | 38.9 | 38.7 | 38.8 | 39.1 | 37.6 | 37.5 | 38.0 | 39.6 | 37.1 |
| 7:28:10 | 3/10/95 | 38.9 | 39.2 | 39.7 | 38.7 | 39.2 | 39.6 | 38.7 | 39.1 | 38.7 | 39.1 | 39.1 | 37.6 | 37.6 | 38.2 | 39.4 | 37.3 |
| 7:29:10 | 3/10/95 | 39.0 | 39.3 | 39.9 | 39.0 | 39.2 | 39.7 | 39.0 | 39.3 | 38.8 | 39.2 | 39.1 | 37.6 | 37.7 | 38.3 | 39.8 | 37.4 |
| 7:30:10 | 3/10/95 | 39.3 | 39.0 | 39.9 | 39.5 | 39.0 | 39.4 | 39.5 | 39.6 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.3 | 40.1 | 37.5 |
| 7:31:10 | 3/10/95 | 38.9 | 38.9 | 39.4 | 38.9 | 39.0 | 39.4 | 39.1 | 39.3 | 38.8 | 39.1 | 39.1 | 37.8 | 37.6 | 38.1 | 40.0 | 37.4 |
| 7:32:10 | 3/10/95 | 38.7 | 38.5 | 39.5 | 38.8 | 38.6 | 39.0 | 38.9 | 39.0 | 38.7 | 38.9 | 39.1 | 37.7 | 37.6 | 38.1 | 39.7 | 37.3 |
| 7:33:10 | 3/10/95 | 38.5 | 38.9 | 39.4 | 38.6 | 39.2 | 39.4 | 38.7 | 38.9 | 38.7 | 38.9 | 39.1 | 37.7 | 37.5 | 38.1 | 39.6 | 37.2 |
| 7:34:10 | 3/10/95 | 38.7 | 39.4 | 39.7 | 39.1 | 39.0 | 39.9 | 39.0 | 39.1 | 38.7 | 39.2 | 39.1 | 37.7 | 37.7 | 38.1 | 39.7 | 37.3 |
| 7:35:10 | 3/10/95 | 39.1 | 39.6 | 39.9 | 39.5 | 39.2 | 39.6 | 39.5 | 39.5 | 38.8 | 39.4 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.5 |
| 7:36:10 | 3/10/95 | 38.9 | 38.8 | 39.3 | 39.1 | 38.8 | 39.6 | 39.1 | 38.9 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.4 |
| 7:37:10 | 3/10/95 | 38.6 | 38.5 | 39.3 | 38.8 | 38.4 | 39.7 | 38.9 | 38.9 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.1 | 39.6 | 37.2 |
| 7:38:10 | 3/10/95 | 38.7 | 39.2 | 39.6 | 38.7 | 39.0 | 39.2 | 38.5 | 38.8 | 38.7 | 38.9 | 39.1 | 37.7 | 37.6 | 38.1 | 39.5 | 37.2 |
| 7:39:10 | 3/10/95 | 38.9 | 39.4 | 39.8 | 39.3 | 39.5 | 39.6 | 39.0 | 39.2 | 38.7 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.7 | 37.3 |
| 7:40:10 | 3/10/95 | 39.2 | 39.3 | 39.6 | 39.4 | 39.1 | 39.6 | 39.4 | 39.4 | 38.7 | 39.3 | 39.1 | 37.7 | 37.7 | 38.1 | 39.8 | 37.4 |
| 7:41:10 | 3/10/95 | 38.8 | 38.7 | 39.3 | 39.0 | 38.7 | 39.2 | 39.0 | 39.0 | 38.7 | 38.9 | 39.1 | 37.6 | 37.6 | 38.1 | 39.8 | 37.4 |
| 7:42:10 | 3/10/95 | 38.5 | 38.7 | 39.3 | 38.5 | 38.7 | 39.3 | 38.7 | 38.8 | 38.7 | 38.8 | 39.1 | 37.6 | 37.5 | 38.1 | 39.7 | 37.2 |
| 7:43:10 | 3/10/95 | 38.9 | 39.6 | 39.7 | 39.1 | 39.2 | 39.7 | 38.7 | 38.8 | 38.8 | 39.2 | 39.1 | 37.6 | 37.7 | 38.1 | 39.6 | 37.4 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:44:10 | 3/10/95 | 39.1 | 39.3 | 39.9 | 39.2 | 39.1 | 39.9 | 39.3 | 39.4 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.4 |
| 7:45:10 | 3/10/95 | 38.9 | 39.1 | 39.5 | 39.3 | 39.0 | 39.0 | 39.3 | 39.2 | 38.8 | 39.1 | 39.1 | 37.7 | 37.6 | 38.2 | 39.8 | 37.4 |
| 7:46:10 | 3/10/95 | 38.7 | 38.4 | 39.3 | 38.7 | 38.6 | 39.3 | 38.8 | 38.8 | 38.7 | 38.8 | 39.1 | 37.7 | 37.5 | 38.2 | 39.6 | 37.2 |
| 7:47:10 | 3/10/95 | 38.5 | 38.7 | 39.4 | 38.7 | 38.9 | 40.2 | 38.7 | 39.0 | 38.7 | 39.0 | 39.1 | 37.6 | 37.6 | 38.1 | 39.5 | 37.3 |
| 7:48:10 | 3/10/95 | 39.1 | 39.3 | 39.8 | 39.2 | 39.1 | 39.8 | 39.3 | 39.3 | 38.8 | 39.3 | 39.1 | 37.6 | 37.7 | 38.2 | 39.8 | 37.3 |
| 7:49:10 | 3/10/95 | 39.4 | 39.4 | 39.7 | 39.5 | 39.3 | 39.6 | 39.5 | 39.5 | 38.8 | 39.4 | 39.1 | 37.7 | 37.7 | 38.2 | 40.0 | 37.4 |
| 7:50:10 | 3/10/95 | 38.6 | 38.6 | 39.4 | 39.1 | 38.7 | 39.0 | 38.9 | 39.0 | 38.7 | 38.9 | 39.1 | 37.7 | 37.6 | 38.0 | 39.6 | 37.3 |
| 7:51:10 | 3/10/95 | 38.7 | 38.9 | 39.3 | 38.6 | 38.5 | 39.1 | 38.9 | 38.9 | 38.7 | 38.9 | 39.1 | 37.6 | 37.5 | 38.0 | 39.7 | 37.2 |
| 7:52:10 | 3/10/95 | 38.9 | 39.2 | 39.5 | 38.9 | 39.3 | 39.7 | 38.7 | 39.0 | 38.8 | 39.1 | 39.1 | 37.6 | 37.6 | 38.1 | 39.7 | 37.3 |
| 7:53:10 | 3/10/95 | 39.1 | 39.8 | 40.0 | 39.4 | 39.6 | 39.8 | 39.1 | 39.2 | 38.8 | 39.4 | 39.1 | 37.7 | 37.7 | 38.3 | 39.6 | 37.4 |
| 7:54:10 | 3/10/95 | 39.3 | 39.2 | 39.9 | 39.3 | 39.2 | 39.6 | 39.5 | 39.5 | 38.8 | 39.4 | 39.1 | 37.7 | 37.7 | 38.2 | 39.9 | 37.4 |
| 7:55:10 | 3/10/95 | 38.8 | 38.8 | 39.2 | 39.1 | 38.8 | 39.5 | 38.9 | 38.9 | 38.8 | 39.0 | 39.1 | 37.6 | 37.5 | 38.0 | 39.8 | 37.3 |
| 7:56:10 | 3/10/95 | 38.8 | 38.8 | 39.3 | 38.9 | 38.6 | 39.1 | 39.1 | 39.0 | 38.7 | 38.9 | 39.1 | 37.6 | 37.6 | 38.0 | 39.6 | 37.3 |
| 7:57:10 | 3/10/95 | 38.7 | 39.0 | 39.6 | 38.8 | 38.9 | 40.1 | 38.6 | 38.8 | 38.8 | 39.0 | 39.1 | 37.6 | 37.6 | 38.1 | 39.5 | 37.3 |
| 7:58:10 | 3/10/95 | 39.1 | 39.5 | 40.1 | 39.5 | 39.1 | 39.7 | 39.3 | 39.4 | 38.8 | 39.4 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.4 |
| 7:59:10 | 3/10/95 | 39.1 | 39.1 | 39.7 | 39.3 | 38.9 | 39.2 | 39.4 | 39.4 | 38.8 | 39.2 | 39.1 | 37.7 | 37.6 | 38.1 | 39.9 | 37.4 |
| 8:00:10 | 3/10/95 | 38.7 | 38.6 | 39.4 | 39.5 | 38.6 | 39.4 | 39.0 | 38.9 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.1 | 39.7 | 37.4 |
| 8:01:10 | 3/10/95 | 38.6 | 38.9 | 39.4 | 39.0 | 39.0 | 39.5 | 38.8 | 38.9 | 38.7 | 39.0 | 39.1 | 37.7 | 37.5 | 38.1 | 39.7 | 37.3 |
| 8:02:10 | 3/10/95 | 38.8 | 39.6 | 39.8 | 39.0 | 39.4 | 40.1 | 38.8 | 39.1 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.3 |
| 8:03:10 | 3/10/95 | 39.1 | 39.4 | 40.0 | 39.4 | 39.0 | 39.5 | 39.3 | 39.3 | 38.8 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 40.0 | 37.4 |
| 8:04:10 | 3/10/95 | 38.9 | 39.2 | 39.5 | 39.1 | 39.0 | 39.2 | 39.0 | 39.2 | 38.8 | 39.1 | 39.1 | 37.7 | 37.6 | 38.1 | 39.9 | 37.4 |
| 8:05:10 | 3/10/95 | 38.7 | 38.5 | 39.1 | 38.8 | 38.5 | 39.3 | 38.8 | 39.0 | 38.7 | 38.8 | 39.1 | 37.6 | 37.6 | 38.0 | 39.7 | 37.3 |
| 8:06:10 | 3/10/95 | 38.8 | 38.8 | 39.6 | 38.7 | 38.6 | 39.7 | 38.9 | 39.0 | 38.8 | 39.0 | 39.1 | 37.6 | 37.6 | 38.1 | 39.5 | 37.3 |
| 8:07:10 | 3/10/95 | 39.0 | 39.6 | 39.7 | 39.1 | 39.5 | 39.8 | 38.7 | 39.0 | 38.9 | 39.3 | 39.1 | 37.7 | 37.7 | 38.3 | 39.7 | 37.3 |
| 8:08:10 | 3/10/95 | 39.3 | 39.3 | 39.8 | 39.4 | 39.2 | 39.6 | 39.3 | 39.3 | 38.9 | 39.3 | 39.1 | 37.7 | 37.7 | 38.2 | 39.8 | 37.4 |
| 8:09:10 | 3/10/95 | 38.9 | 38.5 | 39.4 | 39.0 | 38.6 | 39.4 | 39.1 | 39.0 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.1 | 39.6 | 37.3 |
| 8:10:10 | 3/10/95 | 38.5 | 38.8 | 39.1 | 38.7 | 39.0 | 39.3 | 38.9 | 39.0 | 38.7 | 38.9 | 39.1 | 37.7 | 37.5 | 38.1 | 39.6 | 37.3 |
| 8:11:10 | 3/10/95 | 38.7 | 39.0 | 39.6 | 39.1 | 38.8 | 40.2 | 39.1 | 39.1 | 38.8 | 39.2 | 39.1 | 37.7 | 37.7 | 38.2 | 39.7 | 37.4 |
| 8:12:10 | 3/10/95 | 39.0 | 39.2 | 39.9 | 39.4 | 39.1 | 40.0 | 39.3 | 39.4 | 38.9 | 39.3 | 39.1 | 37.9 | 37.7 | 38.2 | 39.9 | 37.5 |
| 8:13:10 | 3/10/95 | 39.3 | 39.2 | 39.9 | 39.6 | 39.2 | 39.6 | 39.7 | 39.6 | 38.9 | 39.4 | 39.1 | 37.8 | 37.8 | 38.2 | 39.9 | 37.6 |
| 8:14:11 | 3/10/95 | 38.7 | 38.5 | 39.4 | 39.1 | 38.7 | 39.2 | 39.1 | 39.1 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.2 | 39.8 | 37.5 |
| 8:15:10 | 3/10/95 | 38.8 | 39.3 | 39.5 | 38.7 | 39.0 | 39.2 | 39.1 | 39.2 | 38.8 | 39.1 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.4 |
| 8:16:10 | 3/10/95 | 39.0 | 39.4 | 39.8 | 39.0 | 39.5 | 40.1 | 38.7 | 39.3 | 38.9 | 39.3 | 39.1 | 37.8 | 37.7 | 38.2 | 39.8 | 37.5 |
| 8:17:10 | 3/10/95 | 39.2 | 39.7 | 40.2 | 39.4 | 39.5 | 40.3 | 39.4 | 39.5 | 38.9 | 39.6 | 39.1 | 37.8 | 37.8 | 38.4 | 40.0 | 37.6 |
| 8:18:10 | 3/10/95 | 39.0 | 39.5 | 39.7 | 38.8 | 39.2 | 39.5 | 39.0 | 39.3 | 38.9 | 39.2 | 39.1 | 37.8 | 37.7 | 38.2 | 40.0 | 37.6 |
| 8:19:10 | 3/10/95 | 38.9 | 38.6 | 39.5 | 39.0 | 38.7 | 39.5 | 38.9 | 39.1 | 38.8 | 39.0 | 39.1 | 37.7 | 37.6 | 38.1 | 39.8 | 37.6 |
| 8:20:10 | 3/10/95 | 38.8 | 39.0 | 39.7 | 38.9 | 39.1 | 40.1 | 38.8 | 39.2 | 38.9 | 39.2 | 39.1 | 37.7 | 37.8 | 38.2 | 39.8 | 37.6 |
| 8:21:10 | 3/10/95 | 39.5 | 40.1 | 40.1 | 39.7 | 39.7 | 40.1 | 39.3 | 39.2 | 39.0 | 39.6 | 39.1 | 37.9 | 37.8 | 38.3 | 39.9 | 37.6 |
| 8:22:10 | 3/10/95 | 39.4 | 39.5 | 39.8 | 39.8 | 39.5 | 39.5 | 39.7 | 39.6 | 39.0 | 39.5 | 39.1 | 37.8 | 37.8 | 38.3 | 40.1 | 37.7 |
| 8:23:10 | 3/10/95 | 38.8 | 39.2 | 39.7 | 39.2 | 39.1 | 39.0 | 39.4 | 39.4 | 38.9 | 39.2 | 39.1 | 37.8 | 37.7 | 38.3 | 39.7 | 37.6 |
| 8:24:10 | 3/10/95 | 38.7 | 39.3 | 39.6 | 38.9 | 39.1 | 39.7 | 39.2 | 39.3 | 38.9 | 39.2 | 39.1 | 37.8 | 37.7 | 38.3 | 39.8 | 37.6 |
| 8:25:10 | 3/10/95 | 39.2 | 39.5 | 40.0 | 39.5 | 39.3 | 39.6 | 39.0 | 39.3 | 39.0 | 39.4 | 39.1 | 37.8 | 37.8 | 38.2 | 39.9 | 37.7 |
| 8:26:10 | 3/10/95 | 39.5 | 40.1 | 40.1 | 39.5 | 39.3 | 40.0 | 39.5 | 39.7 | 39.0 | 39.6 | 39.1 | 37.9 | 37.9 | 38.5 | 39.9 | 37.7 |
| 8:27:10 | 3/10/95 | 39.3 | 39.3 | 39.8 | 39.4 | 39.2 | 39.3 | 39.7 | 39.6 | 39.0 | 39.4 | 39.2 | 37.9 | 37.7 | 38.3 | 40.0 | 37.8 |
| 8:28:10 | 3/10/95 | 38.8 | 38.7 | 39.4 | 39.5 | 38.8 | 39.2 | 39.3 | 39.2 | 38.9 | 39.1 | 39.2 | 37.9 | 37.7 | 38.3 | 39.8 | 37.6 |
| 8:29:10 | 3/10/95 | 39.0 | 38.9 | 39.8 | 38.9 | 39.1 | 40.4 | 39.2 | 39.4 | 39.0 | 39.3 | 39.2 | 37.8 | 37.8 | 38.3 | 39.9 | 37.6 |
| 8:30:10 | 3/10/95 | 39.2 | 39.6 | 39.9 | 39.3 | 39.5 | 40.1 | 39.2 | 39.5 | 39.1 | 39.5 | 39.2 | 37.9 | 37.9 | 38.4 | 39.9 | 37.6 |
| 8:31:10 | 3/10/95 | 39.5 | 39.4 | 40.1 | 39.5 | 39.3 | 39.8 | 39.6 | 39.6 | 39.0 | 39.6 | 39.2 | 37.8 | 37.9 | 38.4 | 40.0 | 37.7 |
| 8:32:10 | 3/10/95 | 38.9 | 38.8 | 39.7 | 39.3 | 38.9 | 39.4 | 39.3 | 39.4 | 39.1 | 39.2 | 39.2 | 37.9 | 37.8 | 38.3 | 39.8 | 37.7 |
| 8:33:10 | 3/10/95 | 39.0 | 39.5 | 39.5 | 39.3 | 39.0 | 39.6 | 39.0 | 39.2 | 39.0 | 39.2 | 39.2 | 37.9 | 37.8 | 38.3 | 39.9 | 37.7 |
| 8:34:10 | 3/10/95 | 39.0 | 39.7 | 40.0 | 39.2 | 39.5 | 39.9 | 39.2 | 39.4 | 39.0 | 39.4 | 39.2 | 37.9 | 37.8 | 38.4 | 39.9 | 37.6 |
| 8:35:10 | 3/10/95 | 39.4 | 39.3 | 40.0 | 39.6 | 39.2 | 39.5 | 39.8 | 39.7 | 39.1 | 39.5 | 39.2 | 38.0 | 37.9 | 38.4 | 40.1 | 37.7 |
| 8:36:10 | 3/10/95 | 39.3 | 38.9 | 39.8 | 39.4 | 39.1 | 39.3 | 39.7 | 39.7 | 39.1 | 39.4 | 39.2 | 37.9 | 37.8 | 38.4 | 40.0 | 37.6 |
| 8:37:10 | 3/10/95 | 39.2 | 39.0 | 39.3 | 39.2 | 38.9 | 39.6 | 39.4 | 39.4 | 39.0 | 39.2 | 39.2 | 37.9 | 37.8 | 38.3 | 39.8 | 37.7 |
| 8:38:10 | 3/10/95 | 39.0 | 39.0 | 39.7 | 39.2 | 38.9 | 39.8 | 39.0 | 39.4 | 39.1 | 39.2 | 39.2 | 37.9 | 37.8 | 38.3 | 39.7 | 37.6 |
| 8:39:10 | 3/10/95 | 39.4 | 39.7 | 40.0 | 39.5 | 39.4 | 39.7 | 39.5 | 39.6 | 39.0 | 39.5 | 39.2 | 37.9 | 37.9 | 38.4 | 39.9 | 37.7 |
| 8:40:10 | 3/10/95 | 39.4 | 39.4 | 40.3 | 39.7 | 39.2 | 40.2 | 39.6 | 39.6 | 39.1 | 39.6 | 39.2 | 37.9 | 37.9 | 38.5 | 40.0 | 37.8 |
| 8:41:10 | 3/10/95 | 39.1 | 39.2 | 39.8 | 39.4 | 39.3 | 39.3 | 39.3 | 39.4 | 39.1 | 39.3 | 39.2 | 38.0 | 37.9 | 38.4 | 40.1 | 37.7 |
| 8:42:10 | 3/10/95 | 38.9 | 38.9 | 39.6 | 39.3 | 39.0 | 39.7 | 39.1 | 39.3 | 39.0 | 39.2 | 39.2 | 38.0 | 37.8 | 38.3 | 39.9 | 37.6 |
| 8:43:10 | 3/10/95 | 39.3 | 39.6 | 40.2 | 39.4 | 39.7 | 39.8 | 39.1 | 39.3 | 39.1 | 39.5 | 39.2 | 37.9 | 37.9 | 38.4 | 39.9 | 37.7 |

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:44:10 | 37.1 | 82.9 | 77.9 | 85.0 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.4 |
| 5:45:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.4 |
| 5:46:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 5:47:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.4 |
| 5:48:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 5:49:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 5:50:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 5:51:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 5:52:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.5 |
| 5:53:10 | 37.1 | 82.9 | 77.9 | 85.0 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 5:54:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.5 |
| 5:55:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.5 |
| 5:56:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 5:57:10 | 37.1 | 82.9 | 77.9 | 85.0 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 5:58:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 5:59:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:00:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:01:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:02:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 6:03:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:04:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:05:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:06:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:07:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:08:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:09:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:10:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:11:10 | 37.0 | 82.8 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:12:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:13:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:14:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:15:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:16:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:17:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:18:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:19:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:20:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:21:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:22:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:23:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:24:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:25:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:26:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:27:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:28:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:29:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:30:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:31:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:32:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:33:10 | 37.0 | 82.8 | 77.8 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:34:10 | 37.1 | 82.8 | 77.8 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:35:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:36:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.0 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:37:10 | 36.9 | 82.8 | 77.8 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:38:10 | 37.0 | 82.8 | 77.8 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:39:10 | 37.1 | 82.8 | 77.8 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:40:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:41:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:42:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:43:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:44:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:45:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:46:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.0 | 73.7 | 89.0 | 79.7 | 90.2 | 78.5 | 77.4 | 84.4 |
| 6:47:10 | 36.9 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:48:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:49:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:50:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:51:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:52:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:53:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:54:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:55:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:56:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 6:57:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:58:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 6:59:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.7 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:00:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:01:10 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:02:10 | 37.1 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:03:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:04:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:05:11 | 37.0 | 82.8 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:06:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:07:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:08:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:09:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:10:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:11:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78:6 | 77.4 | 84.4 |
| 7:12:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:13:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:14:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:15:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:16:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:17:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:18:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:19:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:20:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:21:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:22:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:23:10 | 36.9 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:24:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:25:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:26:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:27:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:28:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.7 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:29:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:30:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:31:10 | 37.2 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.0 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:32:10 | 37.1 | 82.8 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:33:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:34:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:35:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:36:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:37:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:38:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.7 | 89.1 | 79.7 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:39:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:40:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:41:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:42:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:43:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:44:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:45:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:46:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:47:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:48:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:49:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:50:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:51:10 | 36.9 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:52:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.7 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:53:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:54:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:55:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 7:56:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:57:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:58:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 7:59:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:00:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:01:10 | 37.0 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:02:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:03:10 | 37.2 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:04:10 | 37.1 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:05:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:06:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:07:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:08:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:09:10 | 37.1 | 82.9 | 77.9 | 84.9 | 91.9 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:10:10 | 37.0 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 8:11:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:12:10 | 37.3 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:13:10 | 37.3 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:14:11 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.5 | 77.4 | 84.4 |
| 8:15:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:16:10 | 37.3 | 82.9 | 77.9 | 84.9 | 92.0 | 80.8 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:17:10 | 37.4 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:18:10 | 37.3 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.4 | 84.4 |
| 8:19:10 | 37.2 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:20:10 | 37.3 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:21:10 | 37.4 | 82.9 | 77.9 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:22:10 | 37.5 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:23:10 | 37.4 | 82.9 | 77.9 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:24:10 | 37.3 | 82.9 | 78.0 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:25:10 | 37.4 | 82.9 | 78.0 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:26:10 | 37.5 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:27:10 | 37.4 | 82.9 | 78.0 | 85.0 | 91.9 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:28:10 | 37.3 | 82.9 | 78.0 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:29:10 | 37.4 | 82.9 | 78.0 | 84.9 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:30:10 | 37.4 | 82.9 | 78.0 | 84.9 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:31:10 | 37.4 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.5 |
| 8:32:10 | 37.4 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:33:10 | 37.4 | 82.9 | 78.0 | 84.9 | 91.9 | 80.9 | 88.1 | 73.8 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.4 |
| 8:34:10 | 37.4 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.5 |
| 8:35:10 | 37.5 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 8:36:10 | 37.5 | 82.9 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.8 | 90.3 | 78.6 | 77.5 | 84.5 |
| 8:37:10 | 37.4 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 8:38:10 | 37.4 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.8 | 90.4 | 78.6 | 77.5 | 84.5 |
| 8:39:10 | 37.5 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.9 | 90.3 | 78.6 | 77.5 | 84.5 |
| 8:40:10 | 37.5 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.9 | 90.4 | 78.6 | 77.5 | 84.5 |
| 8:41:10 | 37.4 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.9 | 90.3 | 78.7 | 77.6 | 84.5 |
| 8:42:10 | 37.4 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.9 | 90.4 | 78.6 | 77.6 | 84.5 |
| 8:43:10 | 37.5 | 83.0 | 78.0 | 85.0 | 92.0 | 80.9 | 88.2 | 73.9 | 89.1 | 79.9 | 90.4 | 78.7 | 77.6 | 84.5 |

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:44:10 | 83.3 | 84.6 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:45:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:46:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:47:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.4 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 5:48:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:49:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:50:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.3 | 84.8 |
| 5:51:10 | 83.3 | 84.6 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:52:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 5:53:10 | 83.4 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:54:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:55:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 5:56:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 5:57:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:58:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 5:59:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.4 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 6:00:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 6:01:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.4 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 6:02:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 6:03:10 | 83.3 | 84.6 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 6:04:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:05:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.3 | 77.5 | 75.9 | 81.3 | 84.8 |
| 6:06:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.3 | 84.8 |
| 6:07:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 76.0 | 81.3 | 84.8 |
| 6:08:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:09:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:10:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:11:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:12:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:13:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:14:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:15:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 76.0 | 81.2 | 84.8 |
| 6:16:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 6:17:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:18:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:19:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:20:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:21:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:22:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:23:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:24:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:25:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:26:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:27:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:28:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:29:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:30:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:31:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:32:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:33:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:34:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:35:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:36:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:37:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:38:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.1 | 84.7 |
| 6:39:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:40:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:41:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:42:10 | 83.3 | 84.5 | 84.5 | 74.8 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:43:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |

TVA/TSI Project No. 97338 Baseline Evaluation

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:44:10 | 83.3 | 84.5 | 84.5 | 74.8 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:45:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:46:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:47:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:48:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:49:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:50:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:51:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:52:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:53:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.7 |
| 6:54:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:55:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:56:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:57:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:58:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 6:59:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:00:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:01:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:02:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:03:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:04:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:05:11 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:06:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:07:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:08:10 | 83.3 | 84.5 | 84.5 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:09:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:10:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:11:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:12:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:13:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:14:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:15:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:16:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:17:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:18:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:19:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:20:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:21:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:22:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:23:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:24:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:25:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:26:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:27:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:28:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:29:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.7 |
| 7:30:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:31:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:32:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:33:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:34:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:35:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:36:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:37:10 | 83.3 | 84.5 | 84.6 | 74.8 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:38:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:39:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:40:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:41:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:42:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:43:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:44:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:45:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:46:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:47:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:48:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:49:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:50:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:51:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:52:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:53:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:54:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:55:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:56:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:57:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:58:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 7:59:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:00:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:01:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:02:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:03:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:04:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:05:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.3 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:06:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:07:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:08:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:09:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.2 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:10:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:11:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:12:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:13:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 75.9 | 81.2 | 84.8 |
| 8:14:11 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:15:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:16:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:17:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:18:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:19:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:20:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:21:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:22:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:23:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:24:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:25:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.3 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:26:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:27:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.7 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:28:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.3 | 88.3 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:29:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 79.9 | 90.6 | 77.4 | 88.4 | 77.5 | 76.0 | 81.2 | 84.8 |
| 8:30:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:31:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:32:10 | 83.3 | 84.6 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:33:10 | 83.3 | 84.5 | 84.6 | 74.9 | 85.3 | 80.0 | 90.6 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:34:10 | 83.3 | 84.6 | 84.6 | 74.9 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:35:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:36:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:37:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:38:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:39:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:40:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:41:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:42:10 | 83.4 | 84.6 | 84.7 | 75.0 | 85.4 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |
| 8:43:10 | 83.4 | 84.6 | 84.6 | 75.0 | 85.3 | 80.0 | 90.7 | 77.4 | 88.4 | 77.6 | 76.0 | 81.2 | 84.8 |

TVA/TSI Project No. 97338 Baseline Evaluation

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5:44:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:45:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:46:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.7 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:47:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.1 | 85.7 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:48:10 | 87.7 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:49:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:50:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | |
| 5:51:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:52:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:53:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:54:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:55:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:56:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:57:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:58:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 5:59:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:00:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:01:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:02:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:03:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:04:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:05:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:06:10 | 87.6 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:07:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:08:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:09:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:10:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:11:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:12:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:13:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | |
| 6:14:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 83.0 | 82.2 | |
| 6:15:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:16:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:17:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:18:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:19:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:20:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:21:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:22:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:23:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:24:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:25:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:26:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:27:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | |
| 6:28:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:29:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:30:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:31:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:32:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:33:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:34:10 | 87.6 | 75.7 | 77.0 | 90.0 | 91.9 | 85.6 | 82.0 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:35:10 | 87.5 | 75.7 | 77.0 | 90.0 | 91.9 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:36:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.1 | 82.9 | 82.2 | |
| 6:37:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:38:10 | 87.6 | 75.7 | 77.0 | 90.0 | 91.9 | 85.6 | 82.0 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:39:10 | 87.6 | 75.6 | 77.0 | 90.0 | 91.9 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:40:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | |
| 6:41:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.0 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:42:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | |
| 6:43:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | 82.2 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Baseline Evaluation

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:44:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:45:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:46:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:47:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:48:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:49:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:50:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:51:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.2 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:52:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:53:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 82.9 | 82.2 | 82.2 |
| 6:54:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:55:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:56:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:57:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:58:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 6:59:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:00:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:01:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:02:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:03:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:04:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:05:11 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:06:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:07:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:08:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:09:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:10:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:11:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:12:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:13:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:14:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:15:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:16:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:17:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:18:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:19:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:20:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:21:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:22:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:23:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:24:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:25:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:26:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:27:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:28:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:29:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.0 | 83.0 | 82.2 | 82.2 |
| 7:30:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:31:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:32:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:33:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:34:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.5 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:35:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:36:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:37:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:38:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:39:10 | 87.7 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:40:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:41:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:42:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:43:10 | 87.6 | 75.6 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:44:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:45:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:46:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:47:10 | 87.6 | 75.7 | 77.0 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:48:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:49:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:50:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.0 | 83.0 | 82.2 | 82.2 |
| 7:51:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:52:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:53:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:54:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:55:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.5 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:56:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:57:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 82.9 | 82.2 | 82.2 |
| 7:58:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 7:59:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:00:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:01:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:02:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:03:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:04:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:05:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:06:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:07:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:08:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:09:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:10:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:11:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:12:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:13:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:14:11 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.8 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:15:10 | 87.7 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:16:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:17:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:18:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:19:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:20:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:21:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:22:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:23:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:24:10 | 87.7 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:25:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:26:10 | 87.6 | 75.7 | 77.0 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:27:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:28:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:29:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:30:10 | 87.6 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.2 | 82.2 |
| 8:31:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:32:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:33:10 | 87.7 | 75.7 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:34:10 | 87.7 | 75.8 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:35:10 | 87.7 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.7 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:36:10 | 87.7 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:37:10 | 87.7 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:38:10 | 87.7 | 75.7 | 77.1 | 90.0 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:39:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:40:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:41:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:42:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.1 | 89.9 | 79.6 | 83.1 | 83.0 | 82.3 | 82.2 |
| 8:43:10 | 87.7 | 75.8 | 77.1 | 90.1 | 92.0 | 85.6 | 82.2 | 89.9 | 79.6 | 83.1 | 83.1 | 82.3 | 82.2 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|
| 5:44:10 | 84.1 | 90.7 | | 56.9 | -0.040 |
| 5:45:10 | 84.1 | 90.7 | | 56.9 | -0.040 |
| 5:46:10 | 84.1 | 90.7 | | 57.0 | -0.038 |
| 5:47:10 | 84.1 | 90.7 | | 56.9 | -0.035 |
| 5:48:10 | 84.1 | 90.7 | | 56.8 | -0.034 |
| 5:49:10 | 84.1 | 90.7 | | 56.8 | -0.033 |
| 5:50:10 | 84.1 | 90.7 | | 57.0 | -0.029 |
| 5:51:10 | 84.1 | 90.6 | | 56.9 | -0.026 |
| 5:52:10 | 84.1 | 90.6 | | 56.9 | -0.024 |
| 5:53:10 | 84.1 | 90.6 | | 56.8 | -0.022 |
| 5:54:10 | 84.1 | 90.6 | | 57.0 | -0.021 |
| 5:55:10 | 84.1 | 90.6 | | 56.9 | -0.020 |
| 5:56:10 | 84.1 | 90.6 | | 56.9 | -0.019 |
| 5:57:10 | 84.1 | 90.7 | | 56.9 | -0.017 |
| 5:58:10 | 84.1 | 90.7 | | 56.9 | -0.016 |
| 5:59:10 | 84.1 | 90.7 | | 56.9 | -0.015 |
| 6:00:10 | 84.1 | 90.6 | | 56.8 | -0.013 |
| 6:01:10 | 84.1 | 90.7 | | 56.8 | -0.011 |
| 6:02:10 | 84.1 | 90.6 | | 56.8 | -0.011 |
| 6:03:10 | 84.1 | 90.7 | | 57.0 | -0.010 |
| 6:04:10 | 84.0 | 90.6 | | 56.9 | -0.011 |
| 6:05:10 | 84.0 | 90.7 | | 57.0 | -0.012 |
| 6:06:10 | 84.1 | 90.7 | | 56.9 | -0.011 |
| 6:07:10 | 84.1 | 90.6 | | 56.9 | -0.010 |
| 6:08:10 | 84.1 | 90.6 | | 56.9 | -0.010 |
| 6:09:10 | 84.1 | 90.6 | | 56.9 | -0.011 |
| 6:10:10 | 84.0 | 90.6 | | 56.8 | -0.012 |
| 6:11:10 | 84.0 | 90.6 | | 56.9 | -0.014 |
| 6:12:10 | 84.1 | 90.6 | | 57.0 | -0.016 |
| 6:13:10 | 84.0 | 90.6 | | 57.0 | -0.016 |
| 6:14:10 | 84.0 | 90.6 | | 57.0 | -0.018 |
| 6:15:10 | 84.0 | 90.6 | | 57.0 | -0.021 |
| 6:16:10 | 84.0 | 90.6 | | 57.0 | -0.024 |
| 6:17:10 | 84.0 | 90.6 | | 56.7 | -0.027 |
| 6:18:10 | 84.0 | 90.6 | | 56.8 | -0.030 |
| 6:19:10 | 84.0 | 90.6 | | 56.8 | -0.034 |
| 6:20:10 | 84.0 | 90.6 | | 56.9 | -0.037 |
| 6:21:10 | 84.0 | 90.6 | | 56.9 | -0.039 |
| 6:22:10 | 84.0 | 90.6 | | 56.8 | -0.041 |
| 6:23:10 | 84.0 | 90.6 | | 57.0 | -0.042 |
| 6:24:10 | 84.0 | 90.6 | | 56.8 | -0.044 |
| 6:25:10 | 84.0 | 90.6 | | 56.8 | -0.046 |
| 6:26:10 | 84.0 | 90.6 | | 56.9 | -0.049 |
| 6:27:10 | 84.0 | 90.6 | | 56.9 | -0.052 |
| 6:28:10 | 84.0 | 90.6 | | 56.9 | -0.055 |
| 6:29:10 | 84.0 | 90.6 | | 56.7 | -0.060 |
| 6:30:10 | 84.0 | 90.6 | | 56.7 | -0.061 |
| 6:31:10 | 84.0 | 90.6 | | 56.9 | -0.062 |
| 6:32:10 | 84.0 | 90.6 | | 56.9 | -0.062 |
| 6:33:10 | 84.0 | 90.6 | | 56.9 | -0.062 |
| 6:34:10 | 84.0 | 90.6 | | 56.8 | -0.062 |
| 6:35:10 | 84.0 | 90.6 | | 56.7 | -0.062 |
| 6:36:10 | 84.0 | 90.6 | | 56.8 | -0.065 |
| 6:37:10 | 84.0 | 90.6 | | 56.9 | -0.066 |
| 6:38:10 | 84.0 | 90.6 | | 56.9 | -0.068 |
| 6:39:10 | 84.0 | 90.6 | | 56.7 | -0.070 |
| 6:40:10 | 84.0 | 90.6 | | 56.7 | -0.072 |
| 6:41:10 | 84.0 | 90.6 | | 56.8 | -0.071 |
| 6:42:10 | 84.0 | 90.6 | | 56.8 | -0.071 |
| 6:43:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.071 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|
| 6:44:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.071 |
| 6:45:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.073 |
| 6:46:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.072 |
| 6:47:10 | 84.0 | 90.6 | 90.6 | 57.0 | -0.073 |
| 6:48:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.073 |
| 6:49:10 | 84.0 | 90.6 | 90.6 | 56.7 | -0.072 |
| 6:50:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.068 |
| 6:51:10 | 84.0 | 90.6 | 90.6 | 56.7 | -0.064 |
| 6:52:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.062 |
| 6:53:10 | 84.0 | 90.6 | 90.6 | 56.7 | -0.059 |
| 6:54:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.057 |
| 6:55:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.054 |
| 6:56:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.050 |
| 6:57:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.046 |
| 6:58:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.043 |
| 6:59:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.039 |
| 7:00:10 | 84.1 | 90.6 | 90.6 | 56.7 | -0.035 |
| 7:01:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.030 |
| 7:02:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.024 |
| 7:03:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.019 |
| 7:04:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.015 |
| 7:05:11 | 84.0 | 90.6 | 90.6 | 56.8 | -0.012 |
| 7:06:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.007 |
| 7:07:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.002 |
| 7:08:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.000 |
| 7:09:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.003 |
| 7:10:10 | 84.1 | 90.6 | 90.6 | 56.7 | 0.005 |
| 7:11:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.010 |
| 7:12:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.013 |
| 7:13:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.018 |
| 7:14:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.021 |
| 7:15:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.024 |
| 7:16:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.028 |
| 7:17:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.030 |
| 7:18:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.033 |
| 7:19:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.033 |
| 7:20:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.036 |
| 7:21:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.039 |
| 7:22:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.042 |
| 7:23:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.045 |
| 7:24:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.046 |
| 7:25:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.047 |
| 7:26:10 | 84.0 | 90.7 | 90.6 | 56.8 | 0.047 |
| 7:27:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.046 |
| 7:28:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.045 |
| 7:29:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.043 |
| 7:30:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.044 |
| 7:31:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.044 |
| 7:32:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.044 |
| 7:33:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.043 |
| 7:34:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.042 |
| 7:35:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.042 |
| 7:36:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.040 |
| 7:37:10 | 84.0 | 90.6 | 90.6 | 57.0 | 0.038 |
| 7:38:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.036 |
| 7:39:10 | 84.1 | 90.6 | 90.6 | 56.9 | 0.035 |
| 7:40:10 | 84.0 | 90.7 | 90.6 | 56.8 | 0.034 |
| 7:41:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.035 |
| 7:42:10 | 84.0 | 90.7 | 90.6 | 56.8 | 0.034 |
| 7:43:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.032 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|
| 7:44:10 | 84.0 | 90.7 | 90.6 | 56.7 | 0.030 |
| 7:45:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.029 |
| 7:46:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.028 |
| 7:47:10 | 84.1 | 90.6 | 90.6 | 56.7 | 0.025 |
| 7:48:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.022 |
| 7:49:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.021 |
| 7:50:10 | 84.0 | 90.7 | 90.6 | 56.9 | 0.020 |
| 7:51:10 | 84.0 | 90.7 | 90.6 | 56.7 | 0.019 |
| 7:52:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.017 |
| 7:53:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.017 |
| 7:54:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.014 |
| 7:55:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.012 |
| 7:56:10 | 84.0 | 90.6 | 90.6 | 56.8 | 0.009 |
| 7:57:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.007 |
| 7:58:10 | 84.0 | 90.6 | 90.6 | 56.7 | 0.004 |
| 7:59:10 | 84.0 | 90.7 | 90.6 | 56.8 | 0.003 |
| 8:00:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.003 |
| 8:01:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.001 |
| 8:02:10 | 84.1 | 90.6 | 90.6 | 56.8 | 0.001 |
| 8:03:10 | 84.0 | 90.6 | 90.6 | 56.9 | 0.001 |
| 8:04:10 | 84.0 | 90.7 | 90.6 | 56.8 | 0.000 |
| 8:05:10 | 84.0 | 90.6 | 90.6 | 57.0 | -0.002 |
| 8:06:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.003 |
| 8:07:10 | 84.0 | 90.6 | 90.6 | 56.8 | -0.005 |
| 8:08:10 | 84.0 | 90.6 | 90.6 | 56.9 | -0.007 |
| 8:09:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.009 |
| 8:10:10 | 84.1 | 90.6 | 90.6 | 56.9 | -0.009 |
| 8:11:10 | 84.0 | 90.7 | 90.6 | 56.9 | -0.009 |
| 8:12:10 | 84.1 | 90.6 | 90.6 | 56.8 | -0.007 |
| 8:13:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.007 |
| 8:14:11 | 84.1 | 90.6 | 90.6 | 57.0 | -0.006 |
| 8:15:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.006 |
| 8:16:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.003 |
| 8:17:10 | 84.1 | 90.6 | 90.6 | 56.9 | -0.002 |
| 8:18:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.002 |
| 8:19:10 | 84.1 | 90.6 | 90.6 | 57.0 | -0.001 |
| 8:20:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.002 |
| 8:21:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.005 |
| 8:22:10 | 84.1 | 90.6 | 90.6 | 56.9 | 0.007 |
| 8:23:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.010 |
| 8:24:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.012 |
| 8:25:10 | 84.1 | 90.6 | 90.6 | 56.9 | 0.013 |
| 8:26:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.015 |
| 8:27:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.016 |
| 8:28:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.016 |
| 8:29:10 | 84.1 | 90.6 | 90.6 | 57.0 | 0.017 |
| 8:30:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.019 |
| 8:31:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.022 |
| 8:32:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.025 |
| 8:33:10 | 84.1 | 90.6 | 90.6 | 56.9 | 0.026 |
| 8:34:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.028 |
| 8:35:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.032 |
| 8:36:10 | 84.1 | 90.7 | 90.6 | 56.9 | 0.035 |
| 8:37:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.038 |
| 8:38:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.041 |
| 8:39:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.045 |
| 8:40:10 | 84.1 | 90.7 | 90.6 | 57.1 | 0.050 |
| 8:41:10 | 84.1 | 90.7 | 90.6 | 57.1 | 0.056 |
| 8:42:10 | 84.1 | 90.7 | 90.6 | 57.0 | 0.062 |
| 8:43:10 | 84.1 | 90.7 | 90.6 | 57.1 | 0.067 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:23:52 | 4/27/95 | 38.9 | 38.9 | 38.9 | 39.6 | 38.5 | 38.8 | 39.4 | 38.6 | 38.8 | 39.0 | | 38.8 | 37.9 | 37.9 | 38.7 | 36.8 |
| 11:24:52 | 4/27/95 | 38.8 | 38.7 | 38.8 | 39.5 | 38.5 | 38.9 | 39.4 | 38.7 | 38.7 | 38.9 | | 38.8 | 38.0 | 37.9 | 38.7 | 37.0 |
| 11:25:52 | 4/27/95 | 38.7 | 38.8 | 38.8 | 39.5 | 38.5 | 38.9 | 39.4 | 38.9 | 38.7 | 38.9 | | 38.8 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:26:52 | 4/27/95 | 38.8 | 39.0 | 38.9 | 39.5 | 38.4 | 38.7 | 39.3 | 38.8 | 38.6 | 38.9 | | 38.9 | 37.9 | 37.9 | 38.7 | 36.9 |
| 11:27:52 | 4/27/95 | 38.7 | 38.7 | 38.8 | 40.0 | 38.4 | 38.7 | 39.9 | 38.7 | 38.8 | 39.0 | | 38.9 | 38.0 | 37.8 | 38.5 | 36.8 |
| 11:28:52 | 4/27/95 | 38.8 | 38.8 | 38.7 | 39.6 | 38.7 | 38.8 | 39.5 | 38.7 | 38.9 | 38.9 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:29:52 | 4/27/95 | 38.9 | 39.0 | 38.6 | 39.6 | 38.7 | 39.0 | 39.5 | 38.8 | 38.8 | 39.0 | | 38.9 | 38.0 | 38.0 | 38.6 | 36.8 |
| 11:30:52 | 4/27/95 | 38.8 | 38.9 | 39.1 | 39.6 | 38.5 | 39.0 | 39.6 | 38.7 | 38.8 | 39.0 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:31:52 | 4/27/95 | 38.9 | 39.0 | 38.7 | 39.5 | 38.7 | 38.9 | 39.4 | 38.7 | 38.6 | 38.9 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.7 |
| 11:32:52 | 4/27/95 | 38.8 | 39.2 | 39.1 | 39.7 | 38.4 | 38.8 | 39.5 | 38.9 | 39.0 | 39.0 | | 39.0 | 38.0 | 37.9 | 38.6 | 36.9 |
| 11:33:52 | 4/27/95 | 38.8 | 39.0 | 39.0 | 39.6 | 38.5 | 38.9 | 39.4 | 38.7 | 38.7 | 39.0 | | 39.0 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:34:52 | 4/27/95 | 38.8 | 38.5 | 39.0 | 39.5 | 38.5 | 38.9 | 39.4 | 38.8 | 38.8 | 38.9 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:35:52 | 4/27/95 | 38.8 | 39.1 | 38.7 | 39.7 | 38.4 | 38.9 | 39.5 | 38.9 | 38.6 | 39.0 | | 38.9 | 38.0 | 37.9 | 38.6 | 36.9 |
| 11:36:52 | 4/27/95 | 38.9 | 38.9 | 38.9 | 39.5 | 38.8 | 39.0 | 39.5 | 38.7 | 38.6 | 39.0 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:37:52 | 4/27/95 | 38.9 | 38.6 | 38.8 | 39.8 | 38.5 | 39.0 | 39.6 | 38.8 | 38.9 | 39.0 | | 38.9 | 38.0 | 38.0 | 38.7 | 36.9 |
| 11:38:52 | 4/27/95 | 39.0 | 39.1 | 39.2 | 39.7 | 38.6 | 38.8 | 39.6 | 38.8 | 38.4 | 39.0 | | 39.1 | 38.0 | 37.9 | 38.7 | 37.0 |
| 11:39:52 | 4/27/95 | 38.9 | 38.6 | 38.8 | 39.6 | 38.6 | 38.8 | 39.6 | 38.8 | 38.9 | 39.0 | | 39.0 | 38.0 | 38.0 | 38.7 | 36.9 |
| 11:40:52 | 4/27/95 | 38.8 | 38.9 | 38.8 | 39.5 | 38.7 | 38.9 | 39.7 | 38.8 | 38.7 | 39.0 | | 39.1 | 38.0 | 38.0 | 38.7 | 36.9 |
| 11:41:52 | 4/27/95 | 38.8 | 38.7 | 38.3 | 40.0 | 38.6 | 38.8 | 39.8 | 38.8 | 38.8 | 38.9 | | 38.9 | 38.0 | 37.9 | 38.7 | 36.9 |
| 11:42:52 | 4/27/95 | 38.8 | 38.5 | 38.4 | 39.6 | 38.5 | 39.0 | 39.7 | 38.9 | 38.8 | 38.9 | | 39.0 | 38.1 | 38.0 | 38.7 | 36.9 |
| 11:43:52 | 4/27/95 | 39.0 | 39.1 | 39.0 | 39.7 | 38.5 | 39.0 | 39.7 | 38.9 | 38.7 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.7 | 37.0 |
| 11:44:52 | 4/27/95 | 38.9 | 39.0 | 39.0 | 39.6 | 38.5 | 39.0 | 39.6 | 38.9 | 38.5 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.7 | 36.9 |
| 11:45:52 | 4/27/95 | 38.9 | 38.9 | 38.9 | 39.7 | 38.7 | 38.9 | 39.5 | 38.5 | 38.7 | 39.0 | | 39.0 | 38.1 | 37.9 | 38.7 | 36.9 |
| 11:46:52 | 4/27/95 | 38.8 | 38.9 | 38.8 | 39.8 | 38.6 | 39.0 | 40.1 | 38.7 | 38.7 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.7 | 36.8 |
| 11:47:52 | 4/27/95 | 39.0 | 39.2 | 39.2 | 39.7 | 38.7 | 38.9 | 39.6 | 38.9 | 39.1 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.8 | 36.9 |
| 11:48:52 | 4/27/95 | 39.0 | 39.0 | 39.1 | 39.6 | 38.6 | 38.8 | 39.4 | 38.8 | 38.8 | 39.0 | | 39.0 | 38.1 | 37.9 | 38.7 | 37.0 |
| 11:49:52 | 4/27/95 | 38.9 | 39.1 | 39.1 | 39.6 | 38.6 | 38.9 | 39.6 | 38.7 | 38.8 | 39.0 | | 39.0 | 38.0 | 38.0 | 38.7 | 36.9 |
| 11:50:52 | 4/27/95 | 38.9 | 39.1 | 39.0 | 39.7 | 38.7 | 38.9 | 39.5 | 38.8 | 38.6 | 39.0 | | 39.1 | 38.1 | 38.0 | 38.7 | 37.2 |
| 11:51:52 | 4/27/95 | 38.9 | 39.2 | 39.0 | 39.7 | 38.5 | 38.8 | 39.7 | 39.0 | 38.6 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.7 | 37.0 |
| 11:52:52 | 4/27/95 | 39.1 | 38.8 | 38.9 | 40.0 | 38.8 | 39.0 | 39.7 | 39.0 | 39.0 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.8 | 37.1 |
| 11:53:52 | 4/27/95 | 38.9 | 39.2 | 39.2 | 39.8 | 38.6 | 38.5 | 39.8 | 38.7 | 38.7 | 39.0 | | 39.2 | 38.1 | 38.0 | 38.7 | 37.1 |
| 11:54:52 | 4/27/95 | 39.0 | 38.9 | 39.1 | 39.7 | 38.7 | 39.0 | 39.5 | 38.9 | 38.7 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.7 | 37.0 |
| 11:55:52 | 4/27/95 | 38.8 | 38.8 | 38.7 | 39.7 | 38.4 | 38.9 | 39.5 | 38.9 | 38.7 | 38.9 | | 39.0 | 38.1 | 38.0 | 38.8 | 37.0 |
| 11:56:52 | 4/27/95 | 38.9 | 38.8 | 38.3 | 39.8 | 38.6 | 38.9 | 39.7 | 38.7 | 38.2 | 38.9 | | 39.0 | 38.1 | 38.0 | 38.7 | 37.0 |
| 11:57:52 | 4/27/95 | 39.0 | 39.1 | 39.0 | 39.9 | 38.9 | 38.8 | 39.9 | 38.9 | 39.0 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.8 | 36.9 |
| 11:58:52 | 4/27/95 | 39.1 | 39.2 | 39.1 | 39.7 | 38.5 | 39.0 | 39.7 | 39.0 | 38.8 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.8 | 37.0 |
| 11:59:52 | 4/27/95 | 39.0 | 38.9 | 39.1 | 39.8 | 38.7 | 39.0 | 39.7 | 38.7 | 38.4 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.8 | 37.2 |
| 12:00:52 | 4/27/95 | 39.0 | 39.2 | 39.1 | 39.6 | 38.8 | 39.0 | 39.6 | 38.8 | 38.6 | 39.1 | | 39.0 | 38.1 | 38.0 | 38.8 | 37.0 |
| 12:01:52 | 4/27/95 | 39.0 | 38.9 | 38.7 | 40.0 | 38.5 | 39.0 | 39.9 | 38.7 | 38.7 | 39.0 | | 39.0 | 38.1 | 38.0 | 38.9 | 37.2 |
| 12:02:52 | 4/27/95 | 38.9 | 39.1 | 38.8 | 39.8 | 38.5 | 38.9 | 39.8 | 38.8 | 38.9 | 39.1 | | 39.1 | 38.1 | 38.1 | 38.7 | 37.1 |
| 12:03:52 | 4/27/95 | 39.0 | 38.8 | 38.5 | 39.8 | 38.7 | 39.1 | 39.7 | 38.9 | 38.8 | 39.0 | | 39.1 | 38.1 | 38.0 | 38.8 | 37.1 |
| 12:04:52 | 4/27/95 | 39.1 | 38.6 | 38.6 | 39.8 | 38.8 | 38.9 | 39.7 | 38.9 | 38.7 | 39.0 | | 39.1 | 38.2 | 38.1 | 38.8 | 37.2 |
| 12:05:52 | 4/27/95 | 39.1 | 39.2 | 39.0 | 39.6 | 38.8 | 38.9 | 39.7 | 38.9 | 38.6 | 39.1 | | 39.1 | 38.1 | 38.0 | 38.8 | 37.2 |
| 12:06:52 | 4/27/95 | 39.0 | 38.7 | 38.6 | 40.1 | 39.0 | 38.9 | 39.8 | 38.6 | 38.5 | 39.0 | | 39.0 | 38.2 | 38.0 | 38.8 | 37.2 |
| 12:07:52 | 4/27/95 | 39.0 | 39.2 | 39.2 | 39.8 | 38.7 | 39.0 | 39.6 | 39.0 | 38.8 | 39.1 | | 39.1 | 38.2 | 38.1 | 38.8 | 37.1 |
| 12:08:52 | 4/27/95 | 39.1 | 39.1 | 39.2 | 40.0 | 38.7 | 39.0 | 39.7 | 38.7 | 38.6 | 39.1 | | 39.1 | 38.1 | 38.1 | 38.7 | 37.0 |
| 12:09:52 | 4/27/95 | 39.0 | 39.0 | 38.5 | 39.8 | 38.5 | 39.1 | 39.7 | 39.0 | 38.9 | 39.0 | | 39.1 | 38.1 | 38.0 | 38.8 | 37.0 |
| 12:10:52 | 4/27/95 | 39.1 | 38.7 | 38.8 | 39.6 | 38.6 | 39.0 | 39.5 | 38.9 | 38.7 | 39.0 | | 39.1 | 38.1 | 38.0 | 38.7 | 37.0 |
| 12:11:52 | 4/27/95 | 39.0 | 38.7 | 39.1 | 40.4 | 38.7 | 39.0 | 39.8 | 38.8 | 38.8 | 39.1 | | 39.1 | 38.2 | 38.0 | 38.7 | 37.2 |
| 12:12:52 | 4/27/95 | 39.1 | 39.0 | 38.9 | 39.8 | 38.8 | 39.3 | 39.7 | 38.9 | 38.7 | 39.1 | | 39.1 | 38.1 | 38.1 | 38.9 | 37.1 |
| 12:13:52 | 4/27/95 | 39.1 | 39.3 | 39.1 | 39.9 | 38.6 | 39.1 | 39.7 | 38.9 | 38.8 | 39.2 | | 39.1 | 38.2 | 38.1 | 38.8 | 37.1 |
| 12:14:52 | 4/27/95 | 39.2 | 39.0 | 39.0 | 39.7 | 38.9 | 39.1 | 39.6 | 39.0 | 38.6 | 39.1 | | 39.1 | 38.2 | 38.0 | 38.9 | 37.1 |
| 12:15:52 | 4/27/95 | 39.1 | 39.1 | 39.0 | 39.7 | 38.6 | 39.1 | 39.6 | 39.0 | 38.7 | 39.1 | | 39.1 | 38.2 | 38.1 | 38.8 | 37.1 |
| 12:16:52 | 4/27/95 | 39.1 | 39.0 | 38.6 | 40.3 | 38.8 | 39.0 | 39.8 | 39.0 | 39.0 | 39.2 | | 39.1 | 38.2 | 38.1 | 38.8 | 36.9 |
| 12:17:52 | 4/27/95 | 39.1 | 38.7 | 38.7 | 39.9 | 38.7 | 39.3 | 39.6 | 39.0 | 38.9 | 39.1 | | 39.2 | 38.2 | 38.1 | 38.8 | 37.0 |
| 12:18:52 | 4/27/95 | 39.1 | 39.2 | 39.2 | 39.7 | 38.8 | 39.1 | 39.6 | 38.8 | 38.9 | 39.2 | | 39.2 | 38.2 | 38.1 | 38.8 | 37.1 |
| 12:19:52 | 4/27/95 | 39.1 | 39.1 | 39.1 | 39.7 | 39.0 | 39.3 | 39.6 | 39.0 | 38.8 | 39.2 | | 39.1 | 38.2 | 38.1 | 38.9 | 37.0 |
| 12:20:52 | 4/27/95 | 39.1 | 38.7 | 38.9 | 39.7 | 38.6 | 39.1 | 39.6 | 38.9 | 38.5 | 39.0 | | 39.2 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:21:52 | 4/27/95 | 39.0 | 39.1 | 38.8 | 39.9 | 38.8 | 39.0 | 39.7 | 39.0 | 38.9 | 39.1 | | 39.1 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:22:52 | 4/27/95 | 39.2 | 38.9 | 39.0 | 39.6 | 38.9 | 39.2 | 39.6 | 38.9 | 39.0 | 39.1 | 39.0 | 39.1 | 38.2 | 38.1 | 38.8 | 37.1 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:23:52 | 4/27/95 | 39.1 | 39.1 | 38.9 | 39.9 | 38.8 | 39.2 | 39.8 | 39.1 | 38.8 | 39.2 | 39.0 | 39.2 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:24:52 | 4/27/95 | 39.0 | 38.7 | 38.8 | 39.8 | 38.8 | 39.1 | 39.8 | 38.8 | 38.9 | 39.1 | 39.0 | 39.2 | 38.2 | 38.1 | 38.8 | 37.0 |
| 12:25:52 | 4/27/95 | 39.2 | 38.8 | 38.9 | 39.8 | 38.7 | 39.2 | 39.7 | 38.9 | 38.8 | 39.1 | 39.0 | 39.1 | 38.2 | 38.1 | 38.8 | 37.2 |
| 12:26:52 | 4/27/95 | 38.9 | 38.9 | 38.7 | 39.8 | 38.7 | 39.1 | 39.6 | 38.9 | 38.9 | 39.1 | 39.0 | 39.2 | 38.2 | 38.1 | 38.8 | 37.0 |
| 12:27:52 | 4/27/95 | 39.0 | 38.9 | 39.0 | 40.2 | 38.7 | 39.2 | 39.9 | 39.1 | 39.1 | 39.2 | 39.1 | 39.2 | 38.3 | 38.1 | 38.8 | 37.1 |
| 12:28:52 | 4/27/95 | 39.0 | 39.0 | 38.7 | 39.8 | 38.7 | 38.9 | 39.8 | 38.8 | 39.0 | 39.1 | 39.1 | 39.2 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:29:52 | 4/27/95 | 39.1 | 38.8 | 38.8 | 39.8 | 38.8 | 39.3 | 39.7 | 39.0 | 39.1 | 39.2 | 39.1 | 39.1 | 38.2 | 38.1 | 38.9 | 37.2 |
| 12:30:52 | 4/27/95 | 39.0 | 39.2 | 39.2 | 39.9 | 38.7 | 38.8 | 39.8 | 38.5 | 38.5 | 39.1 | 39.1 | 39.3 | 38.2 | 38.1 | 38.9 | 37.2 |
| 12:31:52 | 4/27/95 | 39.1 | 39.0 | 38.5 | 39.8 | 38.6 | 39.1 | 39.7 | 38.9 | 38.8 | 39.1 | 39.1 | 39.1 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:32:52 | 4/27/95 | 39.1 | 39.2 | 39.2 | 40.0 | 38.8 | 39.0 | 39.8 | 39.0 | 39.0 | 39.2 | 39.1 | 39.2 | 38.2 | 38.1 | 38.7 | 37.1 |
| 12:33:52 | 4/27/95 | 39.1 | 39.0 | 39.1 | 39.9 | 38.9 | 39.2 | 39.7 | 39.0 | 39.1 | 39.2 | 39.1 | 39.3 | 38.2 | 38.1 | 38.9 | 37.0 |
| 12:34:52 | 4/27/95 | 39.2 | 39.3 | 39.3 | 39.8 | 38.9 | 39.2 | 39.6 | 39.0 | 38.8 | 39.2 | 39.1 | 39.3 | 38.2 | 38.1 | 38.9 | 37.1 |
| 12:35:52 | 4/27/95 | 39.1 | 39.2 | 39.2 | 39.8 | 38.7 | 38.8 | 39.6 | 39.0 | 38.5 | 39.1 | 39.1 | 39.2 | 38.2 | 38.1 | 38.8 | 37.2 |
| 12:36:52 | 4/27/95 | 39.0 | 38.6 | 39.2 | 39.8 | 38.5 | 38.8 | 39.9 | 39.0 | 38.6 | 39.0 | 39.1 | 39.2 | 38.3 | 38.1 | 38.9 | 37.2 |
| 12:37:52 | 4/27/95 | 39.0 | 39.1 | 39.0 | 40.6 | 38.8 | 38.9 | 40.2 | 38.9 | 39.1 | 39.3 | 39.1 | 39.2 | 38.2 | 38.1 | 38.9 | 37.0 |
| 12:38:52 | 4/27/95 | 38.9 | 38.9 | 38.9 | 39.8 | 38.7 | 39.0 | 39.7 | 39.0 | 39.0 | 39.1 | 39.1 | 39.2 | 38.2 | 38.1 | 39.0 | 37.0 |
| 12:39:52 | 4/27/95 | 39.0 | 39.3 | 39.3 | 39.8 | 38.7 | 39.0 | 39.7 | 38.9 | 38.7 | 39.2 | 39.1 | 39.2 | 38.2 | 38.2 | 38.9 | 37.1 |
| 12:40:52 | 4/27/95 | 38.9 | 39.2 | 39.3 | 39.7 | 38.6 | 38.9 | 39.7 | 38.6 | 38.8 | 39.1 | 39.1 | 39.2 | 38.2 | 38.1 | 38.8 | 37.0 |
| 12:41:52 | 4/27/95 | 39.0 | 39.2 | 39.0 | 39.8 | 38.6 | 39.0 | 39.7 | 39.0 | 38.9 | 39.1 | 39.1 | 39.2 | 38.2 | 38.2 | 38.9 | 37.0 |
| 12:42:52 | 4/27/95 | 39.0 | 39.2 | 39.1 | 40.1 | 38.4 | 39.1 | 40.1 | 39.1 | 38.7 | 39.2 | 39.1 | 39.1 | 38.3 | 38.1 | 38.9 | 37.1 |
| 12:43:52 | 4/27/95 | 39.1 | 38.8 | 38.9 | 39.8 | 39.1 | 39.0 | 39.8 | 39.0 | 39.1 | 39.2 | 39.1 | 39.2 | 38.2 | 38.1 | 38.9 | 37.0 |
| 12:44:52 | 4/27/95 | 39.1 | 39.2 | 39.3 | 39.8 | 38.5 | 38.9 | 39.6 | 39.1 | 39.1 | 39.2 | 39.1 | 39.3 | 38.3 | 38.1 | 38.9 | 37.2 |
| 12:45:52 | 4/27/95 | 39.1 | 39.1 | 38.9 | 39.9 | 38.5 | 39.0 | 39.8 | 38.8 | 38.7 | 39.1 | 39.1 | 39.2 | 38.2 | 38.1 | 38.8 | 37.2 |
| 12:46:52 | 4/27/95 | 39.1 | 39.1 | 39.0 | 39.7 | 38.7 | 39.1 | 39.7 | 39.0 | 38.9 | 39.1 | 39.1 | 39.3 | 38.3 | 38.1 | 38.9 | 37.0 |
| 12:47:52 | 4/27/95 | 39.2 | 39.0 | 38.7 | 39.6 | 38.8 | 39.0 | 39.6 | 39.0 | 38.9 | 39.1 | 39.1 | 39.2 | 38.3 | 38.2 | 38.9 | 37.0 |
| 12:48:52 | 4/27/95 | 39.0 | 39.0 | 39.3 | 40.0 | 38.8 | 39.2 | 39.8 | 39.1 | 38.9 | 39.2 | 39.1 | 39.2 | 38.3 | 38.2 | 38.8 | 37.1 |
| 12:49:52 | 4/27/95 | 39.1 | 39.3 | 39.4 | 40.0 | 38.8 | 39.1 | 39.8 | 38.9 | 38.9 | 39.2 | 39.1 | 39.3 | 38.2 | 38.1 | 38.9 | 37.3 |
| 12:50:52 | 4/27/95 | 39.2 | 39.3 | 39.0 | 39.8 | 38.7 | 39.1 | 39.8 | 38.9 | 38.8 | 39.2 | 39.1 | 39.2 | 38.3 | 38.1 | 38.9 | 37.1 |
| 12:51:52 | 4/27/95 | 39.2 | 39.2 | 39.2 | 39.8 | 38.9 | 39.2 | 39.7 | 39.1 | 38.8 | 39.2 | 39.1 | 39.2 | 38.3 | 38.1 | 38.9 | 37.2 |
| 12:52:52 | 4/27/95 | 39.0 | 39.1 | 39.2 | 39.9 | 38.6 | 38.9 | 39.8 | 38.8 | 38.9 | 39.1 | 39.1 | 39.3 | 38.3 | 38.1 | 38.9 | 37.2 |
| 12:53:52 | 4/27/95 | 39.2 | 39.0 | 39.1 | 39.9 | 38.8 | 39.2 | 39.7 | 38.9 | 39.2 | 39.2 | 39.1 | 39.2 | 38.3 | 38.2 | 38.9 | 37.0 |
| 12:54:52 | 4/27/95 | 39.1 | 39.1 | 38.9 | 39.7 | 38.9 | 39.0 | 39.6 | 39.0 | 39.1 | 39.2 | 39.1 | 39.3 | 38.3 | 38.2 | 38.9 | 37.2 |
| 12:55:52 | 4/27/95 | 39.0 | 39.1 | 39.2 | 40.0 | 38.6 | 39.0 | 39.8 | 39.2 | 39.0 | 39.2 | 39.1 | 39.2 | 38.3 | 38.2 | 38.9 | 37.1 |
| 12:56:52 | 4/27/95 | 39.1 | 39.2 | 39.0 | 40.0 | 38.7 | 39.1 | 39.8 | 38.8 | 38.7 | 39.2 | 39.1 | 39.2 | 38.3 | 38.1 | 38.9 | 37.2 |
| 12:57:52 | 4/27/95 | 39.2 | 38.9 | 39.2 | 39.8 | 38.8 | 39.0 | 39.7 | 38.9 | 38.7 | 39.1 | 39.1 | 39.3 | 38.3 | 38.1 | 38.9 | 37.1 |
| 12:58:52 | 4/27/95 | 38.9 | 39.2 | 39.2 | 40.2 | 38.9 | 38.9 | 39.8 | 39.0 | 39.0 | 39.2 | 39.1 | 39.2 | 38.3 | 38.2 | 38.8 | 37.1 |
| 12:59:52 | 4/27/95 | 39.1 | 39.3 | 38.9 | 39.9 | 38.8 | 39.0 | 39.7 | 39.0 | 39.2 | 39.2 | 39.1 | 39.3 | 38.3 | 38.2 | 38.9 | 37.2 |
| 13:00:52 | 4/27/95 | 39.1 | 39.3 | 39.3 | 39.8 | 38.8 | 38.9 | 39.7 | 39.0 | 38.8 | 39.2 | 39.1 | 39.3 | 38.3 | 38.1 | 38.9 | 37.1 |
| 13:01:52 | 4/27/95 | 39.0 | 39.1 | 38.8 | 39.8 | 38.7 | 39.0 | 39.8 | 39.0 | 38.8 | 39.1 | 39.1 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:02:52 | 4/27/95 | 39.1 | 39.3 | 38.9 | 39.8 | 38.9 | 39.1 | 39.7 | 39.0 | 39.1 | 39.2 | 39.1 | 39.2 | 38.3 | 38.2 | 38.8 | 37.0 |
| 13:03:52 | 4/27/95 | 39.1 | 39.2 | 38.8 | 40.7 | 38.9 | 39.2 | 40.2 | 39.0 | 39.1 | 39.4 | 39.1 | 39.2 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:04:52 | 4/27/95 | 39.0 | 39.3 | 39.2 | 40.0 | 39.0 | 39.2 | 40.0 | 39.0 | 39.0 | 39.3 | 39.1 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:05:52 | 4/27/95 | 39.1 | 39.3 | 39.2 | 39.9 | 38.9 | 39.2 | 39.9 | 39.1 | 38.9 | 39.3 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.2 |
| 13:06:52 | 4/27/95 | 39.1 | 39.4 | 39.0 | 40.0 | 38.8 | 39.0 | 39.9 | 39.0 | 38.7 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:07:52 | 4/27/95 | 39.1 | 39.1 | 38.5 | 39.8 | 38.8 | 39.0 | 39.8 | 38.9 | 38.7 | 39.1 | 39.2 | 39.2 | 38.3 | 38.2 | 38.9 | 37.2 |
| 13:08:52 | 4/27/95 | 39.1 | 38.7 | 39.0 | 40.0 | 38.7 | 39.0 | 40.0 | 39.0 | 39.2 | 39.2 | 39.2 | 39.2 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:09:52 | 4/27/95 | 39.1 | 38.9 | 39.0 | 39.8 | 39.0 | 39.2 | 39.5 | 38.9 | 39.0 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.2 |
| 13:10:52 | 4/27/95 | 39.1 | 38.8 | 38.9 | 39.9 | 38.7 | 39.2 | 39.7 | 39.0 | 39.1 | 39.2 | 39.2 | 39.2 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:11:52 | 4/27/95 | 39.1 | 39.3 | 39.3 | 39.8 | 38.8 | 39.0 | 39.7 | 39.1 | 39.1 | 39.3 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:12:52 | 4/27/95 | 39.0 | 39.4 | 39.2 | 39.8 | 38.7 | 38.8 | 39.7 | 39.1 | 38.7 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:13:52 | 4/27/95 | 39.1 | 39.1 | 39.1 | 39.7 | 38.9 | 39.0 | 39.7 | 39.1 | 39.0 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:14:52 | 4/27/95 | 39.1 | 39.2 | 39.2 | 40.0 | 38.7 | 39.0 | 39.9 | 39.0 | 39.0 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.0 |
| 13:15:52 | 4/27/95 | 39.0 | 39.3 | 39.1 | 40.0 | 38.7 | 39.1 | 39.8 | 39.1 | 39.2 | 39.3 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:16:52 | 4/27/95 | 39.1 | 39.1 | 39.1 | 39.9 | 38.8 | 39.0 | 39.9 | 39.1 | 39.2 | 39.3 | 39.2 | 39.2 | 38.3 | 38.2 | 38.8 | 37.1 |
| 13:17:52 | 4/27/95 | 39.1 | 39.3 | 39.3 | 39.9 | 38.7 | 39.0 | 39.9 | 39.1 | 38.9 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.3 |
| 13:18:52 | 4/27/95 | 39.2 | 39.0 | 38.9 | 40.0 | 38.8 | 39.0 | 39.9 | 39.2 | 39.0 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:19:52 | 4/27/95 | 39.2 | 39.1 | 39.0 | 39.9 | 39.0 | 39.2 | 39.9 | 39.2 | 39.1 | 39.3 | 39.2 | 39.2 | 38.4 | 38.2 | 39.0 | 37.1 |
| 13:20:52 | 4/27/95 | 39.3 | 39.4 | 39.1 | 40.1 | 38.8 | 39.0 | 39.9 | 39.2 | 39.0 | 39.3 | 39.2 | 39.3 | 38.3 | 38.2 | 39.0 | 37.1 |
| 13:21:52 | 4/27/95 | 39.2 | 39.4 | 39.2 | 40.0 | 38.7 | 39.2 | 39.7 | 39.0 | 38.9 | 39.3 | 39.2 | 39.4 | 38.4 | 38.2 | 39.0 | 37.1 |
| 13:22:52 | 4/27/95 | 39.2 | 39.1 | 39.1 | 39.8 | 38.9 | 39.2 | 39.8 | 39.2 | 38.7 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Date (mm/dd/yy) | Room #1 (°C) | Room #2 (°C) | Room #3 (°C) | Room #4 (°C) | Room #5 (°C) | Room #6 (°C) | Room #7 (°C) | Room #8 (°C) | Room #9 (°C) | Room Avg. (°C) | 1 Hr Avg Room (°C) | Wall #1 (°C) | Wall #2 (°C) | Wall #3 (°C) | Wall #4 (°C) | Wall #5 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:23:52 | 4/27/95 | 39.2 | 39.3 | 39.0 | 40.1 | 38.9 | 39.1 | 39.9 | 39.0 | 39.0 | 39.3 | 39.2 | 39.4 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:24:52 | 4/27/95 | 39.0 | 39.3 | 38.7 | 39.9 | 38.6 | 39.2 | 39.8 | 39.1 | 38.9 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.8 | 37.2 |
| 13:25:52 | 4/27/95 | 39.2 | 39.1 | 39.4 | 40.1 | 38.7 | 39.2 | 39.9 | 39.2 | 39.3 | 39.3 | 39.2 | 39.3 | 38.4 | 38.3 | 38.8 | 37.3 |
| 13:26:52 | 4/27/95 | 39.1 | 39.0 | 38.8 | 39.9 | 38.7 | 39.2 | 39.9 | 39.2 | 39.2 | 39.2 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.2 |
| 13:27:52 | 4/27/95 | 39.1 | 39.3 | 39.2 | 39.9 | 38.8 | 39.2 | 39.9 | 39.0 | 39.0 | 39.3 | 39.2 | 39.4 | 38.3 | 38.2 | 39.0 | 37.1 |
| 13:28:52 | 4/27/95 | 39.1 | 39.0 | 39.2 | 39.9 | 38.9 | 39.1 | 39.8 | 38.9 | 39.0 | 39.2 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.2 |
| 13:29:52 | 4/27/95 | 39.1 | 39.3 | 39.2 | 39.8 | 38.7 | 39.2 | 39.8 | 39.1 | 39.1 | 39.2 | 39.2 | 39.2 | 38.3 | 38.2 | 38.9 | 37.2 |
| 13:30:52 | 4/27/95 | 39.2 | 39.1 | 38.9 | 40.3 | 38.8 | 39.1 | 40.1 | 39.1 | 39.3 | 39.3 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.2 |
| 13:31:52 | 4/27/95 | 39.2 | 39.4 | 39.3 | 39.9 | 38.8 | 39.0 | 39.8 | 39.0 | 39.2 | 39.3 | 39.2 | 39.6 | 38.3 | 38.3 | 39.1 | 37.1 |
| 13:32:52 | 4/27/95 | 39.3 | 39.3 | 39.2 | 39.8 | 38.9 | 39.4 | 39.8 | 38.9 | 38.7 | 39.3 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.3 |
| 13:33:52 | 4/27/95 | 39.2 | 39.3 | 39.3 | 39.9 | 38.8 | 39.3 | 39.6 | 38.9 | 39.2 | 39.3 | 39.2 | 39.4 | 38.4 | 38.2 | 38.9 | 37.3 |
| 13:34:52 | 4/27/95 | 39.1 | 39.4 | 39.4 | 39.9 | 38.6 | 39.0 | 39.9 | 39.0 | 39.0 | 39.3 | 39.2 | 39.4 | 38.4 | 38.2 | 38.9 | 37.2 |
| 13:35:52 | 4/27/95 | 39.3 | 39.2 | 39.3 | 40.0 | 38.8 | 39.1 | 39.8 | 39.0 | 39.2 | 39.3 | 39.2 | 39.3 | 38.4 | 38.2 | 38.9 | 37.3 |
| 13:36:52 | 4/27/95 | 39.1 | 39.3 | 39.4 | 39.9 | 38.8 | 39.2 | 39.8 | 38.9 | 39.1 | 39.3 | 39.2 | 39.3 | 38.4 | 38.3 | 39.0 | 37.2 |
| 13:37:52 | 4/27/95 | 39.2 | 39.3 | 39.4 | 39.9 | 38.7 | 38.9 | 39.8 | 38.8 | 38.9 | 39.2 | 39.2 | 39.3 | 38.4 | 38.2 | 38.9 | 37.2 |
| 13:38:52 | 4/27/95 | 39.1 | 39.3 | 39.3 | 39.9 | 38.6 | 39.0 | 39.9 | 39.0 | 39.1 | 39.2 | 39.2 | 39.2 | 38.4 | 38.2 | 38.9 | 37.2 |
| 13:39:52 | 4/27/95 | 39.1 | 39.3 | 38.9 | 39.9 | 38.9 | 38.8 | 39.7 | 38.9 | 38.7 | 39.1 | 39.2 | 39.3 | 38.4 | 38.2 | 38.8 | 37.2 |
| 13:40:52 | 4/27/95 | 39.1 | 39.2 | 39.0 | 40.2 | 38.8 | 39.0 | 40.0 | 39.2 | 39.2 | 39.3 | 39.2 | 39.2 | 38.4 | 38.2 | 38.8 | 37.2 |
| 13:41:52 | 4/27/95 | 39.3 | 39.4 | 39.2 | 40.0 | 38.9 | 39.1 | 40.0 | 39.3 | 39.1 | 39.4 | 39.2 | 39.4 | 38.4 | 38.3 | 39.1 | 37.2 |
| 13:42:52 | 4/27/95 | 39.3 | 39.3 | 39.2 | 40.0 | 38.9 | 39.2 | 39.9 | 39.1 | 38.7 | 39.3 | 39.2 | 39.4 | 38.4 | 38.2 | 38.9 | 37.3 |
| 13:43:52 | 4/27/95 | 39.2 | 39.3 | 39.3 | 39.9 | 38.9 | 39.3 | 39.7 | 39.0 | 39.2 | 39.3 | 39.2 | 39.3 | 38.4 | 38.3 | 39.0 | 37.2 |
| 13:44:52 | 4/27/95 | 39.0 | 39.3 | 39.2 | 39.8 | 38.7 | 38.8 | 39.8 | 39.1 | 39.0 | 39.2 | 39.2 | 39.3 | 38.3 | 38.2 | 38.9 | 37.1 |
| 13:45:52 | 4/27/95 | 39.2 | 38.9 | 39.0 | 40.4 | 38.9 | 39.4 | 39.9 | 39.0 | 38.9 | 39.3 | 39.2 | 39.2 | 38.3 | 38.2 | 38.9 | 37.3 |
| 13:46:52 | 4/27/95 | 39.2 | 39.4 | 39.3 | 40.0 | 38.8 | 38.8 | 40.0 | 39.0 | 39.3 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.1 | 37.2 |
| 13:47:52 | 4/27/95 | 39.2 | 39.2 | 39.2 | 40.0 | 39.0 | 39.2 | 39.9 | 39.1 | 39.0 | 39.3 | 39.2 | 39.3 | 38.3 | 38.3 | 39.0 | 37.2 |
| 13:48:52 | 4/27/95 | 39.2 | 39.3 | 38.7 | 39.9 | 39.0 | 39.2 | 39.8 | 38.9 | 39.1 | 39.2 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.2 |
| 13:49:52 | 4/27/95 | 39.1 | 38.9 | 39.0 | 39.9 | 38.8 | 39.1 | 39.9 | 38.9 | 38.9 | 39.2 | 39.2 | 39.3 | 38.4 | 38.3 | 39.0 | 37.3 |
| 13:50:52 | 4/27/95 | 39.1 | 39.0 | 39.1 | 39.7 | 39.0 | 39.2 | 39.8 | 39.2 | 38.7 | 39.2 | 39.2 | 39.3 | 38.4 | 38.2 | 39.0 | 37.1 |
| 13:51:52 | 4/27/95 | 39.3 | 39.3 | 39.1 | 40.0 | 38.8 | 38.9 | 39.8 | 39.0 | 38.8 | 39.2 | 39.2 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 13:52:52 | 4/27/95 | 39.1 | 39.2 | 39.4 | 39.9 | 38.8 | 39.0 | 39.7 | 39.0 | 39.2 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.1 | 37.2 |
| 13:53:52 | 4/27/95 | 39.2 | 39.3 | 39.1 | 40.0 | 39.0 | 39.2 | 39.8 | 39.1 | 38.8 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.0 | 37.1 |
| 13:54:52 | 4/27/95 | 39.3 | 39.1 | 38.8 | 40.1 | 39.0 | 39.3 | 39.9 | 39.1 | 39.1 | 39.3 | 39.2 | 39.3 | 38.4 | 38.3 | 38.9 | 37.1 |
| 13:55:52 | 4/27/95 | 39.3 | 39.3 | 39.3 | 39.9 | 39.0 | 39.4 | 39.7 | 39.1 | 39.1 | 39.3 | 39.2 | 39.3 | 38.3 | 38.3 | 38.9 | 37.2 |
| 13:56:52 | 4/27/95 | 39.2 | 38.9 | 38.8 | 40.4 | 39.0 | 39.2 | 39.7 | 39.1 | 38.9 | 39.2 | 39.2 | 39.3 | 38.4 | 38.3 | 38.9 | 37.2 |
| 13:57:52 | 4/27/95 | 39.1 | 39.3 | 39.3 | 39.9 | 38.9 | 39.2 | 39.7 | 39.0 | 39.0 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.1 | 37.1 |
| 13:58:52 | 4/27/95 | 39.2 | 38.9 | 39.4 | 40.0 | 39.1 | 39.1 | 39.7 | 39.1 | 39.2 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.0 | 37.3 |
| 13:59:52 | 4/27/95 | 39.1 | 39.2 | 39.1 | 39.8 | 38.9 | 39.0 | 39.7 | 39.2 | 39.1 | 39.2 | 39.2 | 39.3 | 38.4 | 38.3 | 38.9 | 37.2 |
| 14:00:52 | 4/27/95 | 39.2 | 39.4 | 39.3 | 40.1 | 38.8 | 39.1 | 40.0 | 39.1 | 38.8 | 39.3 | 39.2 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:01:52 | 4/27/95 | 39.3 | 39.2 | 39.4 | 40.0 | 38.9 | 39.2 | 39.8 | 38.9 | 38.9 | 39.3 | 39.3 | 39.3 | 38.4 | 38.3 | 38.9 | 37.4 |
| 14:02:52 | 4/27/95 | 39.2 | 39.0 | 39.0 | 40.2 | 38.9 | 39.2 | 40.1 | 39.0 | 39.3 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:03:52 | 4/27/95 | 39.2 | 39.2 | 39.1 | 40.0 | 38.8 | 39.2 | 39.9 | 39.0 | 39.0 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:04:52 | 4/27/95 | 39.3 | 39.1 | 38.9 | 39.9 | 39.0 | 39.1 | 39.7 | 39.1 | 39.0 | 39.2 | 39.3 | 39.3 | 38.4 | 38.3 | 38.9 | 37.2 |
| 14:05:52 | 4/27/95 | 39.2 | 39.2 | 39.3 | 39.8 | 39.0 | 39.4 | 39.8 | 38.9 | 38.8 | 39.3 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:06:52 | 4/27/95 | 39.2 | 38.9 | 38.9 | 39.7 | 38.7 | 39.0 | 39.7 | 39.0 | 39.0 | 39.1 | 39.3 | 39.3 | 38.4 | 38.3 | 38.9 | 37.1 |
| 14:07:52 | 4/27/95 | 39.3 | 39.0 | 39.5 | 40.2 | 38.9 | 39.3 | 40.0 | 39.2 | 39.2 | 39.4 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:08:52 | 4/27/95 | 39.3 | 39.4 | 39.1 | 39.9 | 39.0 | 39.3 | 40.0 | 39.2 | 39.2 | 39.4 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.3 |
| 14:09:52 | 4/27/95 | 39.3 | 39.2 | 39.1 | 39.8 | 39.0 | 39.3 | 39.7 | 38.9 | 39.4 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 39.1 | 37.3 |
| 14:10:52 | 4/27/95 | 39.2 | 39.2 | 39.2 | 39.9 | 38.7 | 39.1 | 39.8 | 39.0 | 38.8 | 39.2 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:11:52 | 4/27/95 | 39.3 | 39.3 | 39.1 | 39.9 | 38.8 | 39.2 | 39.7 | 39.1 | 38.7 | 39.2 | 39.3 | 39.4 | 38.4 | 38.2 | 39.1 | 37.3 |
| 14:12:52 | 4/27/95 | 39.2 | 39.1 | 39.3 | 40.5 | 38.9 | 39.2 | 40.3 | 39.2 | 39.2 | 39.4 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:13:52 | 4/27/95 | 39.2 | 39.3 | 39.3 | 40.0 | 38.9 | 39.0 | 39.9 | 39.0 | 38.8 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:14:52 | 4/27/95 | 39.3 | 39.0 | 38.8 | 40.0 | 39.2 | 39.3 | 39.8 | 39.1 | 39.0 | 39.3 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.4 |
| 14:15:52 | 4/27/95 | 39.3 | 39.1 | 39.0 | 39.9 | 39.2 | 39.4 | 39.8 | 39.3 | 39.0 | 39.3 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.3 |
| 14:16:52 | 4/27/95 | 39.1 | 39.2 | 39.1 | 39.9 | 38.8 | 39.5 | 39.9 | 39.1 | 39.0 | 39.3 | 39.3 | 39.3 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:17:52 | 4/27/95 | 39.2 | 39.3 | 39.1 | 40.2 | 38.9 | 39.2 | 40.0 | 39.0 | 38.8 | 39.3 | 39.3 | 39.4 | 38.3 | 38.3 | 39.0 | 37.5 |
| 14:18:52 | 4/27/95 | 39.1 | 39.4 | 39.4 | 40.2 | 38.8 | 39.1 | 40.2 | 39.1 | 39.3 | 39.4 | 39.3 | 39.4 | 38.4 | 38.3 | 39.1 | 37.2 |
| 14:19:52 | 4/27/95 | 39.1 | 39.4 | 39.5 | 40.0 | 38.7 | 39.0 | 39.9 | 39.3 | 39.3 | 39.4 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.2 |
| 14:20:52 | 4/27/95 | 39.2 | 39.5 | 39.4 | 40.0 | 38.9 | 39.3 | 39.9 | 39.0 | 39.1 | 39.4 | 39.3 | 39.5 | 38.4 | 38.3 | 39.0 | 37.1 |
| 14:21:52 | 4/27/95 | 39.1 | 39.4 | 38.9 | 39.9 | 38.8 | 39.0 | 40.0 | 39.1 | 38.9 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 38.9 | 37.2 |
| 14:22:52 | 4/27/95 | 39.2 | 38.9 | 39.0 | 39.8 | 39.0 | 39.4 | 39.9 | 39.1 | 39.1 | 39.3 | 39.3 | 39.4 | 38.4 | 38.3 | 39.0 | 37.3 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:23:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:24:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:25:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.4 |
| 11:26:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.4 |
| 11:27:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:28:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:29:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:30:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:31:52 | 38.0 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:32:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:33:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:34:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.4 |
| 11:35:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:36:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:37:52 | 38.2 | 81.5 | 85.2 | 79.3 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 11:38:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:39:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 11:40:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:41:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:42:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:43:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 11:44:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 11:45:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.3 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 11:46:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.4 |
| 11:47:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:48:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.5 |
| 11:49:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:50:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.0 | 85.0 | 80.6 | 88.4 | 80.5 | 83.2 | 80.4 |
| 11:51:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 11:52:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 11:53:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 11:54:52 | 38.1 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:55:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:56:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:57:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 11:58:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 11:59:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.5 | 83.2 | 80.5 |
| 12:00:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 12:01:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:02:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:03:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 12:04:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:05:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:06:52 | 38.4 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:07:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 12:08:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 12:09:52 | 38.2 | 81.6 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:10:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:11:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:12:52 | 38.2 | 81.6 | 85.2 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:13:52 | 38.2 | 81.6 | 85.2 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:14:52 | 38.3 | 81.6 | 85.2 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:15:52 | 38.3 | 81.5 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.4 | 80.6 | 83.2 | 80.5 |
| 12:16:52 | 38.4 | 81.6 | 85.2 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:17:52 | 38.3 | 81.6 | 85.2 | 79.4 | 90.4 | 78.8 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:18:52 | 38.3 | 81.6 | 85.2 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:19:52 | 38.3 | 81.6 | 85.2 | 79.4 | 90.4 | 78.8 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:20:52 | 38.2 | 81.6 | 85.2 | 79.5 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:21:52 | 38.2 | 81.5 | 85.2 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.1 | 80.6 | 88.5 | 80.6 | 83.2 | 80.5 |
| 12:22:52 | 38.4 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:23:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:24:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.0 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:25:52 | 38.2 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:26:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:27:52 | 38.4 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.1 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:28:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:29:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:30:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:31:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:32:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:33:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:34:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:35:52 | 38.3 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:36:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:37:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:38:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:39:52 | 38.2 | 81.6 | 85.3 | 79.4 | 90.4 | 78.9 | 87.8 | 78.1 | 85.0 | 80.6 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:40:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:41:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.8 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:42:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:43:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:44:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:45:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:46:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:47:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:48:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:49:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:50:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:51:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:52:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:53:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:54:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:55:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:56:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:57:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:58:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 12:59:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:00:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.1 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:01:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:02:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.6 | 83.3 | 80.5 |
| 13:03:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.5 |
| 13:04:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:05:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:06:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:07:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:08:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:09:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:10:52 | 38.3 | 81.6 | 85.3 | 79.6 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.5 |
| 13:11:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.6 | 83.3 | 80.5 |
| 13:12:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:13:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.6 | 83.3 | 80.5 |
| 13:14:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:15:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.5 |
| 13:16:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:17:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:18:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:19:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:20:52 | 38.5 | 81.6 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:21:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:22:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.6 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | Wall #6 (°C) | TC # 1 (°C) | TC # 2 (°C) | TC # 3 (°C) | TC # 4 (°C) | TC # 5 (°C) | TC # 6 (°C) | TC # 7 (°C) | TC # 8 (°C) | TC # 9 (°C) | TC # 10 (°C) | TC # 11 (°C) | TC # 12 (°C) | TC # 13 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:23:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.5 |
| 13:24:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.5 |
| 13:25:52 | 38.5 | 81.6 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:26:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:27:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.6 | 83.3 | 80.5 |
| 13:28:52 | 38.4 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:29:52 | 38.2 | 81.6 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:30:52 | 38.5 | 81.7 | 85.3 | 79.5 | 90.5 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:31:52 | 38.4 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:32:52 | 38.4 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:33:52 | 38.3 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:34:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.5 |
| 13:35:52 | 38.4 | 81.6 | 85.3 | 79.5 | 90.4 | 78.9 | 87.9 | 78.2 | 85.1 | 80.7 | 88.5 | 80.7 | 83.3 | 80.6 |
| 13:36:52 | 38.3 | 81.6 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.3 | 80.6 |
| 13:37:52 | 38.3 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:38:52 | 38.2 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:39:52 | 38.3 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:40:52 | 38.6 | 81.7 | 85.4 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:41:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:42:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:43:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:44:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:45:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:46:52 | 38.4 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.7 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:47:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:48:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:49:52 | 38.4 | 81.7 | 85.3 | 79.5 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:50:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:51:52 | 38.5 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:52:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:53:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:54:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:55:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:56:52 | 38.6 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:57:52 | 38.5 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.1 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:58:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 13:59:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:00:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 87.9 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:01:52 | 38.4 | 81.7 | 85.3 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:02:52 | 38.5 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:03:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:04:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:05:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:06:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:07:52 | 38.5 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.2 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:08:52 | 38.5 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:09:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:10:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:11:52 | 38.2 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:12:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:13:52 | 38.3 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:14:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:15:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 87.9 | 78.3 | 85.2 | 80.8 | 88.6 | 80.7 | 83.4 | 80.6 |
| 14:16:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:17:52 | 38.5 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:18:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:19:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:20:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.1 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:21:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.0 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |
| 14:22:52 | 38.4 | 81.7 | 85.4 | 79.6 | 90.5 | 79.1 | 88.0 | 78.3 | 85.2 | 80.8 | 88.6 | 80.8 | 83.4 | 80.6 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:23:52 | 89.5 | 81.4 | 85.1 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:24:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:25:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:26:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:27:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:28:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:29:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:30:52 | 89.6 | 81.4 | 85.1 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:31:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:32:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:33:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:34:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:35:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:36:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:37:52 | 89.5 | 81.4 | 85.1 | 81.0 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:38:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:39:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:40:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:41:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:42:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:43:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:44:52 | 89.6 | 81.4 | 85.1 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:45:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:46:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:47:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:48:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:49:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:50:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:51:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:52:52 | 89.6 | 81.4 | 85.1 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:53:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:54:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:55:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:56:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 11:57:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.7 | 80.3 | 85.0 |
| 11:58:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 11:59:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:00:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:01:52 | 89.5 | 81.4 | 85.1 | 81.1 | 84.3 | 88.5 | 88.5 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:02:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:03:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:04:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:05:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:06:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:07:52 | 89.5 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:08:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:09:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:10:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:11:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:12:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.8 | 85.8 | 80.3 | 85.0 |
| 12:13:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:14:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:15:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:16:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:17:52 | 89.6 | 81.3 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:18:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:19:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.5 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:20:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:21:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:22:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.0 |

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:23:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:24:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:25:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:26:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:27:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:28:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:29:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:30:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:31:52 | 89.6 | 81.5 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:32:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:33:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:34:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:35:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:36:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:37:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:38:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:39:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:40:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:41:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:42:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.0 |
| 12:43:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.4 | 85.0 |
| 12:44:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:45:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:46:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:47:52 | 89.6 | 81.5 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:48:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:49:52 | 89.6 | 81.4 | 85.2 | 81.2 | 84.3 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:50:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:51:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.6 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:52:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.3 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.0 |
| 12:53:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:54:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:55:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:56:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.4 | 85.1 |
| 12:57:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:58:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 12:59:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:00:52 | 89.6 | 81.4 | 85.2 | 81.1 | 84.3 | 88.5 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:01:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:02:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.6 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:03:52 | 89.6 | 81.5 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:04:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:05:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:06:52 | 89.6 | 81.5 | 85.3 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:07:52 | 89.6 | 81.5 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:08:52 | 89.6 | 81.5 | 85.2 | 81.1 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:09:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:10:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.3 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:11:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.4 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:12:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:13:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:14:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:15:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:16:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:17:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:18:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:19:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:20:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:21:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:22:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | TC # 14 (°C) | TC # 15 (°C) | TC # 16 (°C) | TC # 17 (°C) | TC # 18 (°C) | TC # 19 (°C) | TC # 20 (°C) | TC # 21 (°C) | TC # 22 (°C) | TC # 23 (°C) | TC # 24 (°C) | TC # 25 (°C) | TC # 26 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:23:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:24:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.3 | 85.1 |
| 13:25:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:26:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:27:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:28:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:29:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:30:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:31:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:32:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:33:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.8 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:34:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:35:52 | 89.6 | 81.5 | 85.2 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:36:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:37:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:38:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:39:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.8 | 80.4 | 85.1 |
| 13:40:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:41:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:42:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:43:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.8 | 80.4 | 85.1 |
| 13:44:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.8 | 80.4 | 85.1 |
| 13:45:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:46:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:47:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:48:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:49:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 80.9 | 85.9 | 80.4 | 85.1 |
| 13:50:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:51:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:52:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:53:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:54:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:55:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.8 | 80.4 | 85.1 |
| 13:56:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:57:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.8 | 80.4 | 85.1 |
| 13:58:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 13:59:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:00:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.6 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:01:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:02:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:03:52 | 89.7 | 81.6 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:04:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:05:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:06:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.6 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:07:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:08:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:09:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:10:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.7 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:11:52 | 89.7 | 81.6 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:12:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:13:52 | 89.7 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:14:52 | 89.7 | 81.5 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:15:52 | 89.6 | 81.5 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:16:52 | 89.7 | 81.6 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:17:52 | 89.7 | 81.6 | 85.3 | 81.2 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:18:52 | 89.7 | 81.5 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:19:52 | 89.7 | 81.6 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:20:52 | 89.7 | 81.6 | 85.3 | 81.3 | 84.5 | 88.6 | 88.7 | 79.8 | 90.6 | 81.0 | 85.9 | 80.4 | 85.1 |
| 14:21:52 | 89.7 | 81.6 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.8 | 80.4 | 85.1 |
| 14:22:52 | 89.7 | 81.6 | 85.3 | 81.3 | 84.4 | 88.6 | 88.7 | 79.8 | 90.5 | 81.0 | 85.9 | 80.4 | 85.1 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:23:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:24:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:25:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:26:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:27:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:28:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:29:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.3 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:30:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 11:31:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:32:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.2 | 84.6 | |
| 11:33:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:34:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:35:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:36:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:37:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:38:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:39:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:40:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:41:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:42:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:43:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:44:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:45:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:46:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:47:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:48:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.3 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:49:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:50:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.2 | 84.6 | |
| 11:51:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.2 | 84.6 | |
| 11:52:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:53:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:54:52 | 88.9 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:55:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:56:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:57:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:58:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 11:59:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 12:00:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | |
| 12:01:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 12:02:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 12:03:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | |
| 12:04:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 12:05:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 12:06:52 | 89.0 | 80.3 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.0 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 12:07:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 12:08:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.6 | |
| 12:09:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | |
| 12:10:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | |
| 12:11:52 | 89.0 | 80.4 | 81.6 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | |
| 12:12:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | |
| 12:13:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | |
| 12:14:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | |
| 12:15:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 89.0 | 83.3 | 84.7 | |
| 12:16:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | |
| 12:17:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.6 | |
| 12:18:52 | 89.0 | 80.4 | 81.6 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | |
| 12:19:52 | 89.0 | 80.4 | 81.6 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.6 | |
| 12:20:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | |
| 12:21:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | |
| 12:22:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:23:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.6 |
| 12:24:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:25:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:26:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:27:52 | 89.0 | 80.4 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:28:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:29:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.6 |
| 12:30:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:31:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:32:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.1 | 89.0 | 83.3 | 84.7 | 84.6 |
| 12:33:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:34:52 | 89.0 | 80.3 | 81.7 | 86.5 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.6 |
| 12:35:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.6 |
| 12:36:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.6 |
| 12:37:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:38:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.7 |
| 12:39:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:40:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:41:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:42:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:43:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:44:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:45:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:46:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:47:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:48:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:49:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:50:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:51:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:52:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:53:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:54:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:55:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:56:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:57:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:58:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 12:59:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:00:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:01:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:02:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 88.9 | 83.3 | 84.7 | 84.7 |
| 13:03:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:04:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:05:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:06:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:07:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:08:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:09:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:10:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:11:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:12:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:13:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:14:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:15:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:16:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.3 | 84.7 | 84.7 |
| 13:17:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:18:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:19:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:20:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:21:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:22:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | TC # 27 (°C) | TC # 28 (°C) | TC # 29 (°C) | TC # 30 (°C) | TC # 31 (°C) | TC # 32 (°C) | TC # 33 (°C) | TC # 34 (°C) | TC # 35 (°C) | TC # 36 (°C) | Avg. Pos1 (°C) | Avg. Pos2 (°C) | 1 Hr Avg Avg Pos2 (°C) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:23:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:24:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:25:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:26:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:27:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:28:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:29:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:30:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:31:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:32:52 | 89.1 | 80.4 | 81.8 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:33:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:34:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:35:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:36:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:37:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:38:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:39:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:40:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:41:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:42:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:43:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.8 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:44:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:45:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:46:52 | 89.1 | 80.4 | 81.8 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:47:52 | 89.1 | 80.5 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:48:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:49:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:50:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:51:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:52:52 | 89.1 | 80.4 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:53:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:54:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:55:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:56:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:57:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 13:58:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 13:59:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 14:00:52 | 89.0 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.7 | 84.7 |
| 14:01:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:02:52 | 89.1 | 80.4 | 81.7 | 86.6 | 92.9 | 80.9 | 88.4 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:03:52 | 89.1 | 80.5 | 81.8 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:04:52 | 89.1 | 80.5 | 81.7 | 86.6 | 92.9 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:05:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:06:52 | 89.1 | 80.5 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:07:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.2 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:08:52 | 89.1 | 80.5 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:09:52 | 89.1 | 80.5 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:10:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:11:52 | 89.0 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:12:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:13:52 | 89.1 | 80.5 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:14:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:15:52 | 89.1 | 80.4 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.2 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:16:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.2 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:17:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.2 | 84.2 | 89.0 | 83.5 | 84.8 | 84.7 |
| 14:18:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:19:52 | 89.1 | 80.4 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:20:52 | 89.1 | 80.5 | 81.8 | 86.7 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.5 | 84.8 | 84.7 |
| 14:21:52 | 89.1 | 80.5 | 81.7 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.3 | 89.0 | 83.4 | 84.8 | 84.7 |
| 14:22:52 | 89.1 | 80.5 | 81.8 | 86.6 | 93.0 | 80.9 | 88.5 | 91.1 | 84.2 | 89.0 | 83.5 | 84.8 | 84.8 |

OMEGA POINT LABORATORIES

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Top Exterior (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 11:23:52 | 85.7 | 90.4 | | 64.9 | 43.5 | -0.041 |
| 11:24:52 | 85.7 | 90.4 | | 64.9 | 43.5 | -0.041 |
| 11:25:52 | 85.7 | 90.4 | | 64.9 | 43.6 | -0.040 |
| 11:26:52 | 85.7 | 90.4 | | 64.9 | 43.5 | -0.039 |
| 11:27:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.039 |
| 11:28:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.037 |
| 11:29:52 | 85.7 | 90.4 | | 64.9 | 43.6 | -0.035 |
| 11:30:52 | 85.8 | 90.4 | | 64.9 | 43.5 | -0.035 |
| 11:31:52 | 85.7 | 90.4 | | 64.9 | 43.6 | -0.034 |
| 11:32:52 | 85.8 | 90.4 | | 64.9 | 43.5 | -0.032 |
| 11:33:52 | 85.7 | 90.4 | | 64.9 | 43.6 | -0.031 |
| 11:34:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.030 |
| 11:35:52 | 85.7 | 90.4 | | 64.9 | 43.5 | -0.029 |
| 11:36:52 | 85.8 | 90.4 | | 64.9 | 43.5 | -0.028 |
| 11:37:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.027 |
| 11:38:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.025 |
| 11:39:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.024 |
| 11:40:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.023 |
| 11:41:52 | 85.8 | 90.4 | | 64.9 | 43.5 | -0.020 |
| 11:42:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.019 |
| 11:43:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.017 |
| 11:44:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.017 |
| 11:45:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.016 |
| 11:46:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.015 |
| 11:47:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.013 |
| 11:48:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.011 |
| 11:49:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.009 |
| 11:50:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.008 |
| 11:51:52 | 85.8 | 90.4 | | 64.9 | 43.6 | -0.006 |
| 11:52:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.006 |
| 11:53:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.005 |
| 11:54:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.005 |
| 11:55:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.004 |
| 11:56:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.003 |
| 11:57:52 | 85.7 | 90.4 | | 64.9 | 43.7 | -0.002 |
| 11:58:52 | 85.8 | 90.4 | | 64.9 | 43.7 | -0.001 |
| 11:59:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.000 |
| 12:00:52 | 85.8 | 90.5 | | 64.9 | 43.6 | 0.002 |
| 12:01:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.004 |
| 12:02:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.004 |
| 12:03:52 | 85.8 | 90.5 | | 64.9 | 43.8 | 0.005 |
| 12:04:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.009 |
| 12:05:52 | 85.7 | 90.4 | | 64.9 | 43.7 | 0.011 |
| 12:06:52 | 85.7 | 90.4 | | 64.9 | 43.8 | 0.010 |
| 12:07:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.009 |
| 12:08:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.011 |
| 12:09:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.013 |
| 12:10:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.015 |
| 12:11:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.017 |
| 12:12:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.019 |
| 12:13:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.020 |
| 12:14:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.022 |
| 12:15:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.025 |
| 12:16:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.027 |
| 12:17:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.027 |
| 12:18:52 | 85.8 | 90.4 | | 64.9 | 43.8 | 0.028 |
| 12:19:52 | 85.8 | 90.4 | | 64.9 | 43.7 | 0.028 |
| 12:20:52 | 85.8 | 90.4 | | 65.0 | 43.7 | 0.029 |
| 12:21:52 | 85.8 | 90.5 | | 65.0 | 43.8 | 0.031 |
| 12:22:52 | 85.8 | 90.5 | 90.4 | 64.9 | 43.7 | 0.034 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Top Exterior (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 12:23:52 | 85.8 | 90.4 | 90.4 | 64.9 | 43.7 | 0.035 |
| 12:24:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.7 | 0.036 |
| 12:25:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.038 |
| 12:26:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.038 |
| 12:27:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.038 |
| 12:28:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.039 |
| 12:29:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.7 | 0.041 |
| 12:30:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.042 |
| 12:31:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.043 |
| 12:32:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.7 | 0.043 |
| 12:33:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.045 |
| 12:34:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.7 | 0.045 |
| 12:35:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.045 |
| 12:36:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.045 |
| 12:37:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.046 |
| 12:38:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.047 |
| 12:39:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.047 |
| 12:40:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.049 |
| 12:41:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.049 |
| 12:42:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.050 |
| 12:43:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.050 |
| 12:44:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.049 |
| 12:45:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.049 |
| 12:46:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.050 |
| 12:47:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.050 |
| 12:48:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.051 |
| 12:49:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.051 |
| 12:50:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.050 |
| 12:51:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.049 |
| 12:52:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.050 |
| 12:53:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.051 |
| 12:54:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.049 |
| 12:55:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.050 |
| 12:56:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.8 | 0.050 |
| 12:57:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.048 |
| 12:58:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.048 |
| 12:59:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.048 |
| 13:00:52 | 85.8 | 90.4 | 90.4 | 65.0 | 43.9 | 0.048 |
| 13:01:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.048 |
| 13:02:52 | 85.8 | 90.4 | 90.4 | 65.0 | 44.0 | 0.048 |
| 13:03:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.049 |
| 13:04:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.050 |
| 13:05:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.049 |
| 13:06:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.048 |
| 13:07:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.047 |
| 13:08:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.047 |
| 13:09:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.047 |
| 13:10:52 | 85.8 | 90.5 | 90.4 | 65.0 | 44.0 | 0.047 |
| 13:11:52 | 85.8 | 90.4 | 90.4 | 65.1 | 43.9 | 0.047 |
| 13:12:52 | 85.8 | 90.5 | 90.4 | 65.1 | 44.0 | 0.048 |
| 13:13:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.048 |
| 13:14:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.049 |
| 13:15:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.048 |
| 13:16:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.8 | 0.048 |
| 13:17:52 | 85.8 | 90.5 | 90.4 | 65.0 | 43.9 | 0.047 |
| 13:18:52 | 85.8 | 90.5 | 90.4 | 65.0 | 44.0 | 0.048 |
| 13:19:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.047 |
| 13:20:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.047 |
| 13:21:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.048 |
| 13:22:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.049 |

OMEGA POINT LABORATORIES

TVA/TSI Project No. 97338 Clad Evaluation

| Time of Day (hh:mm:sec) | Avg. Pos3 (°C) | Max. Pos 2 (°C) | 1 Hr Avg Max Pos 2 (°C) | Conduit Surface (°C) | Top Exterior (°C) | Temp Slope (°C/Hr) |
|---|---|---|---|---|---|---|
| 13:23:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.050 |
| 13:24:52 | 85.8 | 90.5 | 90.5 | 65.0 | 44.0 | 0.051 |
| 13:25:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.051 |
| 13:26:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.052 |
| 13:27:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.051 |
| 13:28:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.051 |
| 13:29:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.052 |
| 13:30:52 | 85.8 | 90.5 | 90.5 | 65.0 | 43.9 | 0.052 |
| 13:31:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.054 |
| 13:32:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.8 | 0.055 |
| 13:33:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.056 |
| 13:34:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.056 |
| 13:35:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.056 |
| 13:36:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.056 |
| 13:37:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.058 |
| 13:38:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.058 |
| 13:39:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.059 |
| 13:40:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.060 |
| 13:41:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.060 |
| 13:42:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.062 |
| 13:43:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.063 |
| 13:44:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.063 |
| 13:45:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.8 | 0.064 |
| 13:46:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.065 |
| 13:47:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.8 | 0.066 |
| 13:48:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.066 |
| 13:49:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.066 |
| 13:50:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.067 |
| 13:51:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.067 |
| 13:52:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.068 |
| 13:53:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.070 |
| 13:54:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.070 |
| 13:55:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.071 |
| 13:56:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.071 |
| 13:57:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.070 |
| 13:58:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.069 |
| 13:59:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.1 | 0.068 |
| 14:00:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.066 |
| 14:01:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.1 | 0.067 |
| 14:02:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.067 |
| 14:03:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.069 |
| 14:04:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.070 |
| 14:05:52 | 85.8 | 90.5 | 90.5 | 65.1 | 43.9 | 0.071 |
| 14:06:52 | 85.8 | 90.6 | 90.5 | 65.1 | 44.0 | 0.072 |
| 14:07:52 | 85.9 | 90.5 | 90.5 | 65.1 | 44.0 | 0.072 |
| 14:08:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.1 | 0.073 |
| 14:09:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.1 | 0.074 |
| 14:10:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.0 | 0.073 |
| 14:11:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.1 | 0.073 |
| 14:12:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.0 | 0.073 |
| 14:13:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.1 | 0.072 |
| 14:14:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.072 |
| 14:15:52 | 85.8 | 90.5 | 90.5 | 65.1 | 44.0 | 0.071 |
| 14:16:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.1 | 0.071 |
| 14:17:52 | 85.9 | 90.5 | 90.5 | 65.1 | 44.1 | 0.072 |
| 14:18:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.1 | 0.072 |
| 14:19:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.1 | 0.073 |
| 14:20:52 | 85.9 | 90.6 | 90.5 | 65.2 | 44.0 | 0.074 |
| 14:21:52 | 85.8 | 90.5 | 90.5 | 65.2 | 44.0 | 0.073 |
| 14:22:52 | 85.9 | 90.5 | 90.5 | 65.2 | 43.9 | 0.074 |

OMEGA POINT LABORATORIES

# Appendix E

# QUALITY ASSURANCE

OMEGA POINT LABORATORIES

# Quality Assurance Statement

Omega Point Laboratories, Inc. is an independent, wholly owned company incorporated in the state of Texas, devoted to engineering, inspection, quality assurance and testing of building materials, products and assemblies. The company has developed and implemented a Quality Assurance Program designed to provide its clients with a planned procedure of order and document processing for inspection and testing services it provides to assure conformity to requirements, codes, standards and specifications. The Program is designed to meet the intent of ANSI N45.2 Quality Assurance Program Requirements for Nuclear Power Plants, and complies with the requirements of the ASME Code, SPPE, Military Standards and other less stringent programs. It is the Laboratory's intention to adhere strictly to this Program, to assure that the services offered to its clients remains of the highest quality and accuracy possible.

The overall responsibility of the supervision, operation and coordination of this Quality Assurance Program is that of the Quality Assurance Manager, a person not involved with the performance of the inspection or testing services, and who is under the full time employ of the Laboratory. This individual is responsible for implementing and enforcing all procedures presented in the Quality Assurance Manual and the Procedures Manual. All personnel involved with activities which fall under the scope of this Program are required to cooperate with the letter and intent of this Program.

All QA Surveillance documents remain on file at the Laboratory, and are available for inspection by authorized personnel in the performance of an on-site QA Audit. All materials, services and supplies used herein were obtained with appropriate QA Certifications of Compliance, which may be found in the following pages.

OMEGA POINT LABORATORIES

# Acceptability Documentation

OMEGA POINT LABORATORIES

# ACCEPTABILITY DOCUMENTATION

**TEST ASSEMBLY 7.6(a): PROJECT NO. 97337**

The following signatures attest to the review and acceptance of each attribute listed regarding the above-noted test article:

## I. CABLE TRAY/CONDUIT ASSEMBLY

C Humphrey — 9/13/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

## II. ELECTRICAL CABLE INSTALLATION

C Humphrey — 9/15/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

## III. THERMOCOUPLE INSTALLATION

C Humphrey — 9/15/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

**Omega Point Laboratories, Inc.**
16015 Shady Falls Road
Elmendorf, Texas 78112-9784
210-635-8100 / FAX: 210-635-8101
800-966-5253

## IV. AMPACITY BASELINE

Omega Point Laboratories, Inc. — Date: 9/16/94

TVA / TSI — Date: 1/4/95

## V. FIRE PROTECTION BARRIER

Omega Point Laboratories, Inc. — Date: 10/17/94

TVA / TSI — Date: 10/17/94

## VI. FINAL PRE-TEST INSPECTION

Omega Point Laboratories, Inc. — Date: 11/15/94

TVA / TSI — Date: 1/4/95

OMEGA POINT LABORATORIES

# ACCEPTABILITY DOCUMENTATION

## TEST ASSEMBLY 7.6(b): PROJECT NO. 97338

The following signatures attest to the review and acceptance of each attribute listed regarding the above-noted test article:

### I. CABLE TRAY/CONDUIT ASSEMBLY

H. Stansbury II — 9/12/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

### II. ELECTRICAL CABLE INSTALLATION

H. Stansbury II — 9/13/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

### III. THERMOCOUPLE INSTALLATION

H. Stansbury II — 9/13/94
Omega Point Laboratories, Inc. — Date

[illegible] — 9/19/94
TVA / TSI — Date

**Omega Point Laboratories, Inc.**
16015 Shady Falls Road
Elmendorf, Texas 78112-9784
210-635-8100 / FAX: 210-635-8101
800-966-5253

## IV. AMPACITY BASELINE

H. Stanley II
Omega Point Laboratories, Inc.

9/16/94
Date

Kent W Brown
TVA / TSI

1/4/95
Date

## V. FIRE PROTECTION BARRIER

H. Stanley II
Omega Point Laboratories, Inc.

10/19/94
Date

TVA / TSI

10/19/94
Date

## VI. FINAL PRE-TEST INSPECTION

H. Stanley II
Omega Point Laboratories, Inc.

11/12/94
Date

Kent W Brown
TVA / TSI

1/4/95
Date

OMEGA POINT LABORATORIES

# Event Log

OMEGA POINT LABORATORIES

# EVENT LOG

## TSI / TVA

Client # 11960

PROJECT NUMBERS:

97332 97335
97333 97336
97334 97337
97338

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112
1-800-966-5253

# EVENT LOG
## TVA/TSI

Client #11960

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Project #97336 (Assembly 7.5) Electrical cable in six conduits with 1 hour 5/8" ERFBS
Project #97337 (Assembly 7.6a) Electrical cable in single 1" conduit with 3 hour ERFBS
Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Purchase order no. 12382 Rev. 2 issued by Thermal Science, Inc is released to Omega Point Labs to begin project. | 8/2/94 | CH |
| The test plan for ampacity testing Rev. 2, dated July 27, 1994, drafted by TVA, provides project guidelines. | 8/2/94 | CH |
| Construction begins on ampacity room by OPL technicians. | 8/4 | CH |
| Frames to support trays and conduits constructed by OPL technicians. | 8/5 | CH |
| Construction begins on Test Assembly 7.1 with the installation of the electrical cable in the tray. | 8/8/94 | CH |
| Thermocouple placement starts on Assembly 7.1 by OPL technicians. | 8/9/94 | CH |
| OPL Quality Control manager verifies thermocouple location and cable type and layout on Assembly 7.1. | 8/9 | CH |

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## TVA/TSI

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Kent Brown, TVA project manager arrives at Omega Point Labs. | 8/9/94 | CH |
| Thermocouples are added to the tray rails and the top & bottom surface of assembly 7.1 and are verified by QA/QC. | 8/10/94 | CH |
| Construction is started on test assembly 7.4 by OPL technicians. | 8/10/94 | CH |
| Ampacity room is completed and heaters are placed inside to bring temperature up to desired level. | 8/10/94 | CH |
| Received seven (7) pieces of 1" steel conduit from TVA. Material for this project shipped previously has been received together with the fire testing project materials. | 8/10/94 | CH |
| OPL QA/QC verifies the thermocouple placement in the electrical cables of assembly 7.4. | 8/11/94 | CH |

# EVENT LOG

## TVA/TSI

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Installation of the thermocouples for Assembly 7.5 begins by OPL technician. | 8/11/94 | CH |
| Thermocouple installation is completed on Assembly 7.5. | 8/12/94 | CH |
| Thermocouple verification on Assembly 7.5 is completed by OPL QA/QC. | 8/15/94 | CH |
| Test assemblies 7.1 and 7.4 are mounted on the test frames in the ampacity chamber and are verified by OPL QA/QC. | 8/15/94 | CH |
| Kent Brown returns to Omega Point Labs. | 8/15 | CH |
| Three thermocouples are installed on Assembly 7.4 on the top center surface of each conduit and secured with fiberglass tape. These are verified by OPL QA/QC. | 8/15 | CH |
| Cable trays are mounted on the test assembly frame for Assembly 7.3 and the installation of the electrical | 8/15 | CH |

# EVENT LOG
## TVA/TSI

Client #11960



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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Cables begins by OPL technicians. | 8/15/94 | CH |
| Verification is made of the thermocouple locations on one tray for Assembly 7.3 by OPL QA/QC. | 8/16 | CH |
| Baseline test begins on Assembly 7.4 after connections are made to the power source and data acquisition equipment by Herb Stansberry OPL proj. mgr. | 8/16 | CH |
| Baseline test begins late afternoon on cable tray Assembly 7.1. | 8/16 | CH |
| Electrical cable and thermocouple installation continues on Assembly 7.3 by OPL technicians. | 8/17 | CH |
| The thermocouple placement verification is completed by OPL QA/QC for Assembly 7.3. | 8/18 | CH |
| Baseline tests of Assembly 7.1 and 7.4 are completed. | 8/18 | CH |

# EVENT LOG
## TVA/TSI

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Emissivity readings on assembly 7.1 and 7.4 are done by Kent Brown and Herb Hansberry. | 8/18/94 | CH |
| Room placement of assembly 7.1 and 7.4 are recorded by OPL QA/QC. | 8/18 | CH |
| Test assemblies 7.1 and 7.4 are removed from the test chamber and assemblies 7.3 and 7.5 are installed. | 8/19 | CH |
| Four thermocouples are added to the control tray on assembly 7.3 to measure surface temperature of the cables and tray rails. | 8/22 | CH |
| Danielle Cadinot, USNRC on site. | 8/22 | CH |
| OPL voltometer sent back to Fluke for recalibration | 8/22 | CH |
| Mark Adley, TVA is on site to manage TVA insulators. | 8/22 | CH |
| Danielle Cadinot, USNRC on site to witness insulation | 8/22 | CH |

# EVENT LOG

## TVA/TSI

Client #11960

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Project #97337 (Assembly 7.6a) Electrical cable in single 1" conduit with 3 hour ERFBS
Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| assembly 7.1 and 7.4 are brought to warehouse to begin insulation of Thermo-Lag by TVA installers. The metal cable tray cover is installed on Assembly 7.1. | 8/23/94 | CH |
| Two thermocouples are added to Assembly 7.4. The thermocouples are attached to the dress skin of the Thermo-Lag panels on the top and bottom of the assembly at the midway point on the inside surfaces. | 8/23 | CH |
| The entire group of three conduits are boxed as one unit with the Thermo-Lag panels and held with the stainless steel tie wire. The cables penetrate holes cut in the end of Thermo-Lag panels. Prebuttering of the conduit surfaces and the inside of the Thermo- | 8/23 | CH |

# EVENT LOG

## TVA/TSI

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| ITEM | DATE | INITIALS |
|---|---|---|
| Zag panel pieces has been done on Assembly 7.4. | 8/23 | CH |
| The stainless steel stress skin covers the entire boxed assembly 7.4 and is held with staples at overlap edges. This stress skin was applied over the skim coat of trowel grade material that was applied the previous day. | 8/24/94 | CH |
| Another layer of trowell grade was applied over the stress skin to completely cover thes assembly 7.4. | 8/24 | CH |
| Two thermocouples are added to the bottom surfaces of the Thermo-lag panels that cover assembly 7.1. These thermocouples are placed on the center-line at the midway point of the panels and are attached to the stress skin of the panels. | 8/25 | CH |

# EVENT LOG

## TVA/TSI

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| The repaired and recalibrated voltometer is received at OPC. The status of Assembly 7.3 is verified on the baseline test on that assembly and is complete. | 8/25/94 | CH |
| Assembly 7.5 continues it's baseline test in the ampacity chamber. | 8/25 | CH |
| Assembly 7.1 has been wrapped in the 5/8" Thermo-Lag 330-1 panel and given a skim coat of the trowel grade material. The weight of the loaded tray has caused cracking of the panel material where it is supported on the test frame. Mark Salley, TVA, has changed the plywood thermal break from 1/2" x 3" to 3/4" x 12" to better distribute the weight. The fractures of the Thermo-Lag panel has been repaired with trowel grade material. | 8/25 | CH |

# EVENT LOG

## TVA/TSI

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Assembly 7.5 baseline test is completed. | 8/26/94 | CH |
| OPC project manager, Herb Stansberry, performs the emissivity meter readings on Assembly 7.3 and 7.5. | 8/26 | CH |
| Test assembly 7.1 is wrapped in stainless steel stress skin and fastened at the over-flap areas with tie wire and stapled throughout. A final coat of the trowel grade material is applied over the stress skin. | 8/26 | CH |
| Test assemblies 7.3 and 7.5 are removed from the ampacity chamber and turned over to TVA installers. | 8/26 | CH |
| Insulation begins on assembly 7.5 by TVA. | 8/27 | CH |
| Four additional thermo-couples are attached to | 8/27 | CH |

# EVENT LOG
## TVA/TSI

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| ITEM | DATE | INITIALS |
|---|---|---|
| the inner surface of Thermo-Lag panel stress skin on the centerlines at the midway point. | 8/27/94 | CH |
| Final polishing of test assembly 7.1 is completed by TVA insulators and the curing process begins. | 8/27 | CH |
| Prebuttered Thermo-Lag panel sections are wrapped around the six conduits and held with stainless steel tie wire. | 8/27 | CH |
| Skim coat is applied to assembly 7.5 over the tie wires and the box ends are completed using strips of Thermo-Lag panel to fit between conduits and trowel grade material in the putty form. | 8/29 | CH |
| Final skim coat is applied to assembly 7.1 and the tie wires are installed. | 8/29 | CH |
| | 8/29/94 | CH |

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Assembly 7.5 has stress skin applied to the boxed test article | 8/29/94 | CH |
| Completed stress skin overlay on Assembly 7.5 and added the trowel grade skin coat of Thermo Lag. | 8/30 | CH |
| Assembly 7.3 Thermo Lag application started. A 12" piece of plywood 29" long is placed under the test article where it rests on the 2" tube steel section to keep from crushing the Thermo-Lag panels. | 8/30 | CH |
| The bottom tray of assembly 7.3 is raised up 1½" from the test frame due to ¾" plywood thickness and ¾" Thermo-Lag panel thickness. The Thermo-Lag panel ribs run parallel with the tray rungs and vertical on the side rails and held with tie wire. | 8/31 | CH |
| Cables have been trimmed | 8/31/94 | CH |

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| on the ends of the bottom tray (the tray without thermocouples) to allow the Thermo-Lag panels to box it in. | 8/31/94 | CH |
| Assembly 7.3 is wrapped in stress skin and fastened with staples and stitched at the overlaps every 6" with the stainless steel tie wire. This stress skin is then covered with the Thermo-Lag trowel grade material. | 9/1/94 | CH |
| | 9/1/94 | CH |
| Touch up of the skim coat is done on Assembly 7.3 and the final stainless steel tie wires are added. This assembly is completed. | 9/7/94 | CH |
| Smoothed the surface of assembly 7.5 and added the stainless steel tie wires at 6" max. spacing. | 9/7 | CH |
| Decision has ~~at~~ been made by Mark Salley, TVA that the Assembly 7.3 bottom cable | 9/8 | CH |

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| ITEM | DATE | INITIALS |
|---|---|---|
| should be dropped 1½" to the baseline configuration. (The additional plywood and the thickness of the Thermo-Lag panel had been placed under the tray and on top of the support.) The bottom of the box was cut and a 2" strip of the Thermo-Lag panel is added to close the gap between the side panels and the bottom section. The tray was lowered down to the frame support with only the original 3/8" thick fire two inch piece of plywood under it. The 2" strips were pre-buttered and attached to the assembly using tie wire at 6" maximum spacing. Stress skin with a 2" overlap was installed over a skim coat on the side strips and stapled. | 9/8/94 | CH |
| a final skim coat of | 9/8/94 | CH |

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| the trowel grade material is started on Assembly 7.3 | 9/8/94 | CH |
| The final finish coat of the Therm-Kag 330-1 trowel grade material completes Assembly 7.3. | 9/9/94 | CH |
| Kent Brown, TVA, on site to oversee the 3 hour ampacity testing. | 9/12/94 | CH |
| OPL technicians install thermocouples on the 12 electrical cables of Assembly 7.6b. | 9/12 | CH |
| QA/QC verification of the thermocouples in Assembly 7.6b is completed. | 9/13 | CH |
| OPL technicians install the thermocouples in the single 4/C #10 cable of Assembly 7.6a and QA/QC verifies. | 9/13 | CH |
| Electrical cables with thermocouples attached are pulled into Assembly 7.6(a) and 7.6(b) conduits. | 9/13 | CH |
| Assembly 7.6(a) and 7.6(b) are | 9/13/94 | CH |

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| ITEM | DATE | INITIALS |
|---|---|---|
| installed in the ampacity chamber. | 9/13/94 | CH |
| The floor of the ampacity chamber has been insulated with 1½" thick Dow Styrofoam. | 9/14/94 | CH |
| (6) Thermocouples are installed on the wall surfaces at test specimen height to read temperatures that could have a radiant affect. | 9/14 | CH |
| Assembly 7.6(a) and 7.6(b) have started baseline testing. | 9/14 | CH |
| Baseline testing continues on Assemblies 7.6(a) + 7.6(b). | 9/15 | CH |
| Baseline tests of assemblies 7.6(a) and 7.6(b) are completed this evening. | 9/16/94 | CH |
| Clad assemblies 7.1 and 7.4 are installed in the test chamber and testing is started by Herb Stansberry. | 9/16 | CH |
| | 9/28 | CH |
| Bert Spear, Florida Power Corp. is on site to witness ampacity testing. | 9/28 | CH |
| Kent Brown, TVA on site. | 10/1/94 | CH |

# EVENT LOG
## TVA/TSI

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| ITEM | DATE | INITIALS |
|---|---|---|
| The test of the cladded assembly 7.4 has been completed. | 10/1/94 | CH |
| Assembly 7.1 is completed and results documented by Herb Stansberry. | 10/3 | CH |
| Assemblies 7.3 and 7.5 are brought into the ampacity chamber and the cladded tests of these test articles is started. | 10/3 | CH |
| Testing continues of assembly 7.3 and 7.5. | 10/4 | CH |
| Assembly 7.1 depth measurements are taken by Herb Stansberry and witnessed by Kent Brown, TVA. All Thermo-Lag was then stripped from the test article by OPC technicians. | 10/5 | CH |
| Ronald Jenkins, US NRC on site to witness ampacity tests. | 10/6 | CH |
| Test assemblies 7.3 and 7.5 have been completed. | 10/6 | CH |

# EVENT LOG
## TVA/TSI

Client #11960

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This Log is to be used to document the date and item for each step during the completion of the ampacity derating test projects referenced below. The assigned project numbers and description for each of the test assemblies are:

Project #97332 (Assembly 7.1) Electrical cable in single tray with 1 hr. 5/8" & 3/8" ERFBS
Project #97333 (Assembly 7.2) Electrical cable in single tray with 3 hour ERFBS
Project #97334 (Assembly 7.3) Electrical cable in three trays with 1 hour 5/8" ERFBS
Project #97335 (Assembly 7.4) Electrical cable in three conduits with 1 hour 5/8" ERFBS
Project #97336 (Assembly 7.5) Electrical cable in six conduits with 1 hour 5/8" ERFBS
Project #97337 (Assembly 7.6a) Electrical cable in single 1" conduit with 3 hour ERFBS
Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| Ben Evans and Jim Hill of T.S.I. are on site to witness the 3 hour Thermo-Lag cladding of test articles. | 10/11/94 | CH |
| assembly 7.6(a) cladding is ~~done~~ started by TVA installers. | 10/12 | CH |
| J.J. Pierce, TVA oversees ampacity installation procedures. No prebuttering of the Thermo-Lag preshaped conduit sections is done before wrapping the single 1" conduit on assembly 7.6 (a). Trowel grade material is skimmed over joints after fastening with the stainless steel bands. | 10/12 | CH |
| Began installation of the 1" 3 hr. Thermo-Lag panel wrap over the single cable tray on assembly 7.2. All pieces are put on dry and then post buttered with the trowel grade material. | 10/12 | CH |
| | 10/12 | CH |
| The 770-1 blanket upgrade on assembly 7.6(a) is | 10/13 | CH |

# EVENT LOG
## TVA/TSI

Client #11960



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Project #97336 (Assembly 7.5) Electrical cable in six conduits with 1 hour 5/8" ERFBS
Project #97337 (Assembly 7.6a) Electrical cable in single 1" conduit with 3 hour ERFBS
Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| applied. The 770-Thermo-Lag trowel grade material is applied where the blanket overlaps ~~and~~ CH The system is held with stainless steel tie wire at 6" max. spacing. The second layer of this 770-blanket is applied by rotating seams and staggering joints. | 10/13/94 | CH |
| | 10/13 | CH |
| Assembly 7.2 Cable tray is wrapped with the 3 hr. Thermo-Lag. All joints and seams are post-troweled with the trowel grade 330-1. The panels are fastened to the tray with the ½" wide stainless steel bands. | 10/13 | CH |
| | 10/13 | CH |
| Assembly 7.6(a) is completed by adding Thermo-Lag 770-trowel grade material to joints, seams and tie wires. | 10/14 | CH |
| The Thermo-Lag 770 blanket is wrapped around the tray in two layers using a 3" overlap sealed with the | 10/14 | CH |
| | 10/14 | CH |

# EVENT LOG
## TVA/TSI

Client #11960 Page 19

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Project #97337 (Assembly 7.6a) Electrical cable in single 1" conduit with 3 hour ERFBS
Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| trowel grade material on | 10/14/94 | CH |
| test assembly 7.2. The | | |
| blanket is fastened with | | |
| the stainless steel tie | | |
| wire. The blanket sags | | |
| on the bottom surface. | 10/14 | CH |
| TVA insulators depart | 10/14 | |
| Omega Point this afternoon. | 10/14 | CH |
| New installers were sent by | 10/18 | S |
| TVA. Brian Gent & Rick Woody. | | |
| Tie wire was stapled to the | | |
| top of 7.2 to pull blanket | | |
| closer to the tie wire. Tie wires | | |
| were coated with 770-1 trowel | | |
| grade material. Assembly | | |
| 7.2 is complete. | 10/18 | S |
| Assembly 7.6b - preformed 4" | 10/18 | S |
| conduit pieces are attached with | | |
| 1/2" SS bands on 12" oc max spacing. | | |
| Post buttering of joints and seams | | |
| with bands 2" from each end | | |
| of joint. | | |
| Thermo-Lag 770-1 blanket (2 layers) were | 10/19 | S |
| installed over the 1¼" 330-1 Thermo Lag | | |
| preformed conduit sections on Assembly | | |
| 7.6b. Seams and joints are prebuttered | | |

# EVENT LOG
## TVA/TSI

Client #11960

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| and overlapped 3" min, 16 ga SS tie wires are placed 6" apart and within 2" of the end. | 10/19/94 | [illegible] |
| Installers removed the 770-1 Thermo-Lag blanket on assembly 7.2 due to excessive sagging. The 330-1 on 7.2 was left intact. The sagging problem was solved by using narrower sections of the 770-1 blanket. Pre buttering each section. SS tie wires were cross tied through each layer attaching to the 1/2" SS Bands. | 10/27/94 | [illegible] |
| Installers continue to work on 7.2. Sagging greatly reduced. The first layer of 770-1 blanket on 7.2 is completed at close of shift. | 10/28 | [illegible] |
| Installation of 2nd layer of 770-1 blanket on Assembly 7.2 begins. Pre buttering ~~of~~ out side of first layer and inside of 2nd layer of 770-1 blanket with 3" min over lap and is secured with SS tie wire. | 10/29 | [illegible] |
| Assembly 7.2 is completed again. This second attempt | 10/31/94 | CH |
| to wrap the cable tray to | 10/31 | CH |

# EVENT LOG
## TVA/TSI

Client #11960

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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| eliminate the 770-1 sagging | 10/31/94 | CH |
| has been successful | | |
| with the use of the SS | | |
| tie wires and banding. | 10/31 | CH |
| Assemblies 7.6a and 7.6b | 11/12 | CH |
| are moved from the ware- | | |
| house into the ampacity | | |
| testing area. | | |
| The ampacity testing began | 11/15/94 | CH |
| this morning on Assembly | | |
| 7.6a. This test article has | | |
| a layer of the Thermo-Lag | | |
| 330-1 ~~with~~ CH preformed | | |
| conduit with the Thermo- | | |
| Lag 770-1 blanket upgrade. | 11/15 | CH |
| Testing began on Assembly | 11/19 | CH |
| 7.6b today. This test article | | |
| consists of the baseline test | | |
| of a single 4" conduit ~~the~~ CH wrapped | | |
| in Thermo-Lag 330-1 done | | |
| previously. This was wrapped | | |
| again using the Thermo-Lag | | |
| 770-1 material for a 3hr | | |
| assembly. | | |
| Assembly 7.6a has completed | 11/20 | CH |
| it's ampacity testing and | | |

# EVENT LOG
## TVA/TSI

Client #11960



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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| is removed from the test chamber. | 11/20/94 | CH |
| Assembly 7.6(b) has completed ampacity testing and is removed from the test chamber. | 11/22 | CH |
| Herb Stansberry cuts into the Thermo-Lag insulation layers of 7.6(a) and 7.6(b) to measure the thickness and record the results. This process is witnessed by OPL QA personnel and a photo documentation is made. | 11/23 | CH |
| Assemblies 7.6(a) and 7.6(b) are stripped of all insulation and are turned over to the TVA installers for re-insulating under projects identified as 7.6(a-2) and 7.6(b-2). These are recorded on another Event Log for those projects. | 11/23 | CH |
| Assembly 7.2 is moved into the test chamber. | 11/23 | CH |
| The ampacity derating | 11/29 | CH |

# EVENT LOG
## TVA/TSI

Client #11960



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Project #97338 (Assembly 7.6b) Electrical cable in single 4" conduit with 3 hour ERFBS

| ITEM | DATE | INITIALS |
|---|---|---|
| test of assembly 7.2 begins. | 11/29/94 | CH |
| Assembly 7.2 is completed | 12/1 | |
| at 10:00 pm and removed | | |
| from the ampacity chamber. | | |
| Assembly 7.2 is stripped | 12/8 | CH |
| of the insulating material | | |
| and the thicknesses are | | |
| verified and documented | | |
| by OPL QA personnel. This | | |
| cable tray will now be | | |
| insulated again under | | |
| the project #097771, assembly | | |
| 7.2(b). | 12/8 | CH |

# ERFBS Installation Data

OMEGA POINT LABORATORIES

ATTACHMENT 1

DATA SHEET

10/12/94

RACEWAY ID 7.6(a) 1" CONDUIT WP/WR NO. 97337 AMPACITY

LOT/CONTRACT NO. TROWEL 94-08008 EXPIRATION DATE FEB 95

CRAFTSMAN J J Pierce DATE 10/12/94

QC INSPECTOR C Humphrey DATE 10/12/94

TYPICAL DRAWING NO. _____

MONITORING POINTS

| | FIRST LAYER | SECOND LAYER |
|---|---|---|
| FASTENER SPACING | | |
| SEAMS OFFSET | NA | |
| JOINTS OFFSET | NA | |
| 18" RULE | | |
| CIRCUMFERENCE | | |
| SURFACE APPEARANCE | | |
| MESH OVERLAPS | | |

REMARKS: 1" Preshaped Lot # 93-06046, 93-09045, 94-08021, 93-06008. Thickness measurements were from 1" min to 1½" max. Install dry with ½ stainless steel bands on 6" max spacing. Band placed within 2" of each end of each piece. Post buttered the joints and seams. Set the assembly aside to dry overnight.

ATTACHMENT 1

DATA SHEET

RACEWAY ID 7.6.a WP/WR NO. 97337 AMPACITY

LOT/CONTRACT NO. TROWEL 770 (94-09009) EXPIRATION DATE MAR 95

CRAFTSMAN JJ Pierce DATE 10/13/94

QC INSPECTOR C Humphrey DATE 10/13/94

TYPICAL DRAWING NO. _____

MONITORING POINTS

| | FIRST LAYER | SECOND LAYER |
|---|---|---|
| FASTENER SPACING | 6" max, within 2" joints | |
| SEAMS OFFSET | ~~NA~~ ~180° | |
| JOINTS OFFSET | ~~NA~~ 3" min | |
| 18" RULE | NA | |
| CIRCUMFERENCE | NA | |
| SURFACE APPEARANCE | NA | |
| MESH OVERLAPS | NA | |

REMARKS: 770 Blanket Lot 94-08026 applied as first layer of upgrade. Small mesh side goes to the inside. Began measuring & cutting pieces. Apply a thin coat of trowel (Lot 94-09009) where edges of blanket overlap. Secure blanket with 16ga. tie wire on 6" max spacing. Seams and joints are overlapped 3 inches. Second lay seams rotated 90°-180° from 1st layer and joints staggered by 3" min. Same steps as 1st layer.

ATTACHMENT 1

DATA SHEET

RACEWAY ID 7.6(a) 1" Amp WP/WR NO. 97337

LOT/CONTRACT NO. TRGWEL 94-09009 EXPIRATION DATE MAR 95

CRAFTSMAN J. Pierce DATE 10/14/94

QC INSPECTOR C. Humphrey DATE 10/14/94

TYPICAL DRAWING NO. _____

MONITORING POINTS

| | FIRST LAYER | SECOND LAYER |
|---|---|---|
| FASTENER SPACING | | |
| SEAMS OFFSET | NA | |
| JOINTS OFFSET | NA | |
| 18" RULE | | |
| CIRCUMFERENCE | | |
| SURFACE APPEARANCE | | |
| MESH OVERLAPS | | |

REMARKS: Applied trowel to joints and seams and tie wires. Configuration is complete.

PAGE 1 OF 1
3/13/95

ATTACHMENT 1

DATA SHEET

RACEWAY ID 4" CONDUIT - TEST SPECIMEN 7.6b WP/WR NO. _____

THERMO-LAG 330-1 TROWEL GRADE LOT NO. 94-12040 EXPIRATION DATE AUG 95

THERMO-LAG 330-1 BOARD MATERIAL LOT NO. N/A

THERMO-LAG 330-1 PREFORMED CONDUIT SECTION SIZE/LOT NO. * SEE BELOW

CRAFTSMAN OPL - K. HITCHCOCK, O. ESTRADA DATE 3/13/95

CRAFT FOREMAN K W BROWN DATE 3/13/95

TYPICAL DRAWING NO. _____

1.25" "3-HOUR" SECTIONS WERE USED AS FOLLOWS:
4 - F94-08021
3 - F92-08007
1 - F92-07050

MONITORING POINTS

| | FIRST LAYER | SECOND LAYER |
|---|---|---|
| FASTENER SPACING | 12" (2" @ JOINTS) | |
| SEAMS OFFSET | NA | |
| JOINTS OFFSET | 6" | |
| 16" RULE | N/A | |
| SURFACE APPEARANCE | | |
| MESH OVERLAPS | N/A | |

REMARKS: APPLIED SECTIONS OF 330-1 (1.25") TO 4" CONDUIT SPECIMEN 7.6b, STEEL BANDS & CLIPS APPLIED AS NOTED ABOVE. JOINTS WERE STAGGERED 6" AND POST BUTTERED WITH 330-1 MASTIC. APPROX DEPTH OF MASTIC ON THE SURFACE AT THE JOINTS, 1/16", APPROX WIDTH OF COATING AT JOINTS + SEAMS 1". ASSEMBLY SET ASIDE TO DRY OVERNIGHT BEFORE 770-1 APPLICATION.

(Use additional sheets as necessary)

C Humphrey 3/13/95

Kent W Brown 3/13/95

G-98 REV 1

PAGE ___ OF ___

ATTACHMENT 1

3/14/95

DATA SHEET

RACEWAY ID 4" CONDUIT - TEST SPECIMEN 7.6b WP/WR NO. _____

THERMO-LAG ~~330-1~~ 770-1 (WB) TROWEL GRADE LOT NO. 94-11033 EXPIRATION DATE AUG 95

THERMO-LAG ~~330-1~~ 770-1 ~~BOARD~~ BLANKET MATERIAL LOT NO. 95-01034 PANELS 3,4+5

THERMO-LAG 330-1 PREFORMED CONDUIT SECTION SIZE/LOT NO. N/A

CRAFTSMAN K. HITCHCOCK, O. ESTRADA DATE 3/14/95

CRAFT FOREMAN K W BROWN DATE 3/14/95

TYPICAL DRAWING NO. _____

1.25" LAYER OF 330-1 INSTALLED 3/13/95

MONITORING POINTS

| | FIRST LAYER | SECOND LAYER |
|---|---|---|
| FASTENER SPACING | 6" (2" @ JOINTS) 16 AWG 304 WIRE | SAME |
| SEAMS OFFSET | NA BUTTED TOGETHER | ROTATED 180° (3" OVERLAP) |
| JOINTS OFFSET | NA | MIN 6" |
| 18" RULE | N/A | NA |
| SURFACE APPEARANCE | | SMOOTHED W/ WET BRUSH |
| MESH OVERLAPS | N/A | N/A |

REMARKS: APPLIED TWO LAYERS OF 770-1 FLEXI-BLANKET TO CONDUIT SPECIMEN 7.6b. 16 AWG TIE WIRES INSTALLED AS NOTED ABOVE AND TAPPED FLAT. SKIM COAT OF 770-1 MASTIC APPLIED TO TOP OF 330-1 PREFORM AND UNDER SIDE OF FIRST 770-1 BLANKET. 770-1 ~~MASTER~~ MASTIC (WB) WORKED INTO SEAMS. TOP SIDE OF FIRST 770-1 LAYER AND UNDERSIDE OF SECOND 770-1 LAYER GIVEN A SKIM COAT OF 770-1. 770-1 MASTIC WORKED INTO THE OVERLAP JOINT TO LEAVE A SMOOTH PROFILE. OVERALL SPECIMEN GIVEN A SKIM COAT OF 770-1 MASTIC AND WET BRUSHED TO A SMOOTH APPEARANCE.

(Use additional sheets as necessary)

C Humphrey 3/14/95 Kent W Brown 3/14/95

Test Data Log

(the log has been included in its entirety and, therefore, may contain some information not directly related to the this report)

OMEGA POINT LABORATORIES

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSI
Project No: 97335 / 97332
Date: 8-16-94

Filename: TVA-Ampl / TVA-Ampl.1

Test Item Description:

System #1 7.1
System #2 7.4
System #3 7.4
System #4 7.4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 8-16-94 | 14:43:34 | 7.4 (3 conduits in a row) energized (TVA-Ampl) | HWS |
| | | 25.38 A | |
| | | sp = 1.45 | |
| | | out = 30.0 | |
| | 16:03:34 | Current increased to 28.03 A | HWS |
| | | sp = 1.72 | |
| | | out = 42.0 | |
| | 17:53:34 | 7.1 (single tray) energized (TVA-Amp 1.1) | |
| | | 26.30 A | |
| | | sp = 1.45 | |
| | | out = 45 | |
| | 17:57:34 | Current in 7.4 increased to 29.50 | HWS |
| | | sp = 1.90 | |
| | | out = 74.0 7.1 PP | |
| | 19:14:34 | Current in ~~7.4~~ increased → 30.05 | PP |
| | | sp = 1.53 | |
| | | out = ~~79.0%~~ 84.0% PP | |
| | 19:20:34 | sp = 1.98 7.4: Amps = 30.72 | PP |
| | | out = 74.0 | |
| 8-17-94 | 08:41:12 | Conduit controller holding low (1.92) | HWS |
| | | ~~adjusted to 1.98 sp~~ HWS – controller, SCR, + auto transformer | |
| | | adjusted | |
| | | Tray controller similar HWS | |
| | | 7.4 increased to ~~33.43 A~~ 33.43 A | HWS |
| | | sp = 2.06 | |
| | | out = 50 | |
| | | 7.1 increased to 30.12 A | HWS |
| | | sp = 1.62 | |
| | | out = 36.2 | |
| | 09:45:12 | 7.4 decreased to 32.47 A | HWS |
| | | sp = 1.97 | |
| | | out = 43.6 | |
| | | | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSI
Project No: 97335 / 97332
Date: 8-17-94

Filename: TVA-Amp1 / TVA-Amp11

Test Item Description:

System #1: 7.1
System #2: 7.4
System #3:
System #4:

| Date | Time | Observation | Technician |
|---|---|---|---|
| 8-17-94 | 10:35:12 | 7.4 adjusted to 32.46 | HWS |
| | | sp 1.95 | |
| | | out 41.4 | |
| | 10:35:12 | 7.1 adjusted to 30.10 | HWS |
| | | sp = 1.54 | |
| | | out = 34.1 | |
| | 12:03:17 | Both computers restarted / program mods | HWS |
| | | 7.1 as TVA-Amp1.2 energized at 12:08:22 | |
| | | 7.4 as TVA-Amp1.3 energized at 12:05:28 | |
| | 13:10:29 | 7.1 increased to 31.53A | HWS |
| | | sp = 1.70 | |
| | | out = 35.8 | |
| | 13:37:27 | 7.4 adjusted to 32.01 | HWS |
| | | sp = 1.91 | |
| | | out = 39.3 | |
| | 15:39:27 | 7.4 adjusted to 32.16 | HWS |
| | | sp = 1.93 | |
| | | out = 40.2 | |
| | 15:47:27 | 7.4 computer restarted / program mods | HWS |
| | | as TVA-Amp1.4 energized at 15:52:11 | |
| | 16:21:07 | 7.4 adjusted to 32.12 A | HWS |
| | | sp = 1.92 | |
| | | out = 39.5 | |
| | 16:55:07 | 7.1 adjusted to 31.03A | HWS |
| | | sp = 1.66 | |
| | | out = 35.2 | |
| | 16:56:07 | 7.4 adjusted to 32.30 | HWS |
| | | sp = 1.94 | |
| | | out = 40.0 | |
| | 17:42:08 | 7.4 adjusted to 31.69A | HWS |
| | | sp = 1.88 | |
| | | out = 37.2 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA/TSI
Project No: 97322 / 97335
Date: 8-17-94

Filename: TVA-Amp 1.4

Test Item Description:

System #1: 7.1
System #2: 7.4
System #3:
System #4:

| Date | Time | Observation | Technician |
|---|---|---|---|
| 8-17-94 | 17:43:07 | 7.1 adjusted to 29.73 | HWS |
| | | sp = 1.55 | |
| | | out = 33.5 | |
| ~~8-18-94~~ | ~~00:36:51~~ | ~~7.4 A = 31.61, V =~~ | HWS |
| | | | |
| 8-18-94 | 09:04:31 | 7.4 program restarted as TVA-Amp 1.5 | HWS |
| | | no other changes | |
| | 12:16:26 | Equilibrium declared on tray 7.1 | HWS |
| | | V = 59.05, A = 29.73 | |
| | | | |
| | 12:38:29 | Equilibrium declared on conduits 7.4 | HWS |
| | | V = 7.25, A = 31.65 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA ITSI
Project No: 97334 / 97336
Date: 8/20/94

Filename:
TVA-Amp 2.1
TVA - Amp 2.2

Test Item Description:

System #1 7.3
System #2 7.5
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 8/20/94 | 09:47:17 | 7.3 (vertical stack of 3 trays) energized | HWS |
| | | as TVA-Amp 2.1 | |
| | | A = 26.47 | |
| | | sp = 1.71 | |
| | | out = 50.0 | |
| | | 7.5 (2 stacked horizontal rows of 3 conduits) | HWS |
| | | energized as TVA-Amp 2.2 | |
| | | A = 28.45 | |
| | | sp = 1.86 | |
| | | out = 50.0 | |
| 8/21/94 | ~~8/~~ 12:05:11 | 7.3 A = 25.06, sp = 1.58, out = 44.7 | HWS |
| | | 7.5 A = 30.70, sp = 1.48, out = 60.7 | HWS |
| | 22:10:11 | 7.3 A = 22.02, sp = 1.54, out = 37.9 | HWS |
| | | 7.5 A = 28.42, sp = 1.93, out = 47.4 | HWS |
| | | (restarted as TVA-Amp 2.3 | |
| 8/23/94 | 08:31:11 | 7.3 A = 22.03, sp = 1.37, out = 45.1 | HWS |
| | 09:02:11 | 7.3 restarted as TVA-Amp 2.5 | HWS |
| 8/24/94 | 08:42:11 | 7.5 A = 29.02, sp = 1.86, out = 51.0 | HWS |
| | 13:32:35 | 7.3 A = 22.78, sp = 1.37, out = 41.2 | HWS |
| | | (restarted as TVA-Amp 2.6) | |
| | | 7.5 restarted as TVA-Amp 2.7 | HWS |
| | | A = 29.00 sp = 1.86, out = 51.0 | |
| 8/25/94 | 08:23:11 | 7.3 A = 23.44, sp = 1.47, out = 48.3 | HWS |
| | | 7.5 A = 29.72, sp = 1.91, out = 55.0 | |
| | 16:43:11 | ends of conduits in 7.5 wrapped | HWS |
| | | with fiberglass insulation | |
| | 16:49:11 | 7.3 reached equilibrium | HWS |
| | | A = 25.96, V = 100.42 | |
| | 17:46:11 | 7.5 A = 30.40, sp = 1.45, out = 43.6 | HWS |
| 8/26/94 | 00:37:11 | 7.5 A = 31.02, sp = 1.43, out = 30.4 | HWS |
| | 10:21:11 | 7.5 reach equilibrium | HWS |
| | | A = 30.46, V = 14.94 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA ITSI
Project No: 97337 / 97338
Date: 9/14/94

Filename: TVA-Amp 7.6-1

Test Item Description:

System #1 7.6 1"
System #2 7.6 4"
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 9-14-94 | 17:07:44 | 1" energized | |
| | | A= 31.15, sp=1.77, out= 30.0 | HWS |
| | | 4" energized | HWS |
| | | A= 23.34, sp=1.44, out= 30.0 | |
| 9-15-94 | 08:35:08 | 1" A= 32.01, sp= 1.98, out= 33.9 | HWS |
| | | 4" A= 27.05, sp= 1.73, out= 50.0 | |
| | 13:43:12 | Restarted as TVA-Amp 7.6-2 | HWS |
| | | 4" A= 28.44, sp= 1.81, out= 40.5 | HWS |
| | | 1" A= 31.45, sp= 1.88, out= 33.9 | |
| | 14:40:12 | 4" A= 30.76, sp= 1.46, out= 51.5 | HWS |
| | 14:45:12 | 1" A= 32.67, sp= 1.44, out= 35.9 | HWS |
| | 15:34:12 | 4" A= 32.35, sp= 1.81, out= 35.0 | HWS |
| | | 1" A= 32.45, sp= 1.93, out= 31.4 | |
| | 16:50:12 | 1" A= 33.00, sp= 1.47, out= 32.0 | HWS |
| | | 4" A= 32.5, sp= 1.86, out= 36.2 | |
| | 17:59:12 | 1" A= 32.60, sp= 1.44, out= 32.3 | HWS |
| | | 4" A= 32.40, sp= 1.85, out= 34.6 | |
| | 18:24:00 | Restarted as TVA-Amp 7.6-3 | HWS |
| | 18:59:59 | 4" A= 32.25, sp= 1.84, out= 34.9 | HWS |
| 9-16-94 | 08:21:08 | 4" A= 31.43, sp= 1.77, out= 36.8 | HWS |
| | | 1" A= 32.72, sp= 1.45, out= 32.5 | |
| | 10:34:08 | 4" A= 31.20, sp= 1.74, out= 34.8 | HWS |
| | 11:33:08 | 1" reached equilibrium | |
| | | A= 32.64, V= 2.08 sp= 1.44 out= 32.9 | HWS |
| | 12:57:08 | 4" A= 31.12, sp= 1.73, out= 34.6 | HWS |
| | 14:21:08 | 4" A= 30.94, sp= 1.72, out= 34.4 | HWS |
| | 16:04:08 | 4" A= 30.59, sp= 1.68, out= 32.6 | HWS |
| | 20:24:08 | 4" reached equilibrium | |
| | | A= 30.56, V= 7.45 sp= 1.68, out= 32.7 | HWS |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSI
Project No: 97332 / 97335
Date: 9/28/94

Filename: TVA-Clad 1.1

Test Item Description:

System #1: 7.1 Tray
System #2: 7.4 3 conduits
System #3:
System #4:

| Date | Time | Observation | Technician |
|---|---|---|---|
| 9-28-94 | ~~11:30:54~~ | 7.1 energized to 20.11 A | HWS |
| | 11:43:22 | sp = 1.25, out = 50 | |
| | | | |
| | 11:43:22 | 7.4 energized to 20.01 A | HWS |
| | | sp = 1.22, out = 50 | |
| | 14:33:21 | 7.4 A = 29.18 | HWS |
| | | sp = 1.80, out = 30.0 | |
| | 14:37:21 | 7.1 A = 24.44 | HWS |
| | | sp = 1.54, out = 60 | |
| | 17:16:21 | 7.4 A = 30.50 | HWS |
| | | sp = 1.86, out = 25.9 | |
| 9-29-94 | 08:42:10 | 7.4 A = 28.38 | HWS |
| | | sp = 1.62, out = 15.9 | |
| | | 7.1 A = 13.25 | HWS |
| | | sp = 0.81, out = 50. | |
| | 8:50:10 | 7.1 shut-off for cooling | HWS |
| | 10:24:10 | 7.4 A = 28.61 | HWS |
| | | sp = 1.70, out = 18.8 | |
| | 11:29:10 | 7.1 A = 13.39 re-energized | HWS |
| | | sp = 0.82 out = 50 | |
| | 12:59:10 | 7.4 A = 28.91 | HWS |
| | | sp = 1.72, out = 20.3 | |
| | 13:55:10 | 7.1 A = 15.05 | HWS |
| | | sp = 0.97, out = 71.5 | |
| | 16:34:10 | 7.4 A = 16.04 | HWS |
| | | sp = 1.01 out = 60.0 | |
| | 16:36:10 | 7.4 A = 29.05 | HWS |
| | | sp = 1.74 out = 22.5 | |
| 9-30-94 | 09:02:10 | 7.1 A = 17.52 | HWS |
| | | sp = 1.08 out = 59.8 | |
| | 12:44:10 | 7.1 reenergized to 17.00 A | HWS |
| | | sp = 1.11 out = 50.0 | |
| | 15:26:10 | 7.1 A = 18.06 sp = 1.18 out = 42.0 | HWS |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA/TSI
Project No: 97332 197335
Date: ~~9/31/94~~ 10/1/94

Filename: TVA-Clad 1.2

Test Item Description:

System #1 7.1 clad
System #2 7.4 clad
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| ~~9/31/94~~ | 09:49:10 | Insulation placed on ends of 7.1 tray | HWS |
| 10/1/94 | | 7.1 A = 18.40 sp = 1.20 out = 22.4 | HWS |
| | 9:52:10 | 7.4 A = 29.30 sp = 1.76 out = 23.1 | HWS |
| | | | |
| | 10:06:46 | Computer restarted as TVA-Clad 1.2 | HWS |
| | 10:38:45 | 7.1 reenergized A = 18.44 | HWS |
| | | sp = 1.11 out = 43.0 | |
| | 12:02:45 | 7.4 A = 29.15 sp = 1.74 out = 22.9 | HWS |
| | 13:12:45 | 7.1 A = 19.0 sp = 1.18 out = 50.0 | HWS |
| | 15:53:45 | 7.4 Equilibrium reached | HWS |
| | | A = 29.15 V = 6.66 | |
| | | sp = 1.74 out = 22.3 | |
| | 16:44:45 | 7.1 ends of sample wrapped w/insulation | HWS |
| | 14:03:45 | 7.1 A = 18.75 ~~sp = 1.16 out = 50.0~~ | HWS |
| | | sp = 1.17 out = 51.7 | |
| 10/2/94 | 09:06:11 | Computer restarted as TVA-Clad 1.3 | HWS |
| | 09:15:10 | 7.1 A = 17.92 sp = 1.10 out = 46.2 | HWS |
| | 15:33:10 | 7.1 A = 17.68 sp = 1.07 out = 42.5 | HWS |
| | 21:52:10 | 7.1 A = 17.50 sp = 1.05 out = 40.8 | HWS |
| 10/3/94 | 08:38:10 | 7.1 reached equilibrium | |
| | | A = 17.50 V = 35.09 | HWS |
| | | sp = 1.05 out = 40.7 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA HSI
Project No: 97334, 97336
Date: 10/4/94

Filename: Clad 7.3_7.5-1

Test Item Description:

System #1 7.3
System #2 7.5
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 10/4/94 | 14:51:14 | 7.5 conduits energized | |
| | | A= 28.47, sp = 1.73, out = 32.1 | HWS |
| | | 7.3 energized | |
| | | A = 15.16 sp = 0.98 out = 68.0 | HWS |
| | 15:04:00 | Computer started as Clad 7.3_7.5-1 | HWS |
| | 17:03:00 | 7.5 A = 24.50 sp = 1.45 out = 22.2 | HWS |
| 10/5/94 | 08:57:01 | 7.5 A = 23.64 sp = 1.41 out = 24.4 | HWS |
| | 09:05:00 | 7.3 A = 17.02 sp = 1.02 out = 39.4 | HWS |
| | 13:48:23 | 7.5 A = 23.34 sp = 1.37 out = 18.5 | HWS |
| 10/6/94 | 09:28:28 | ~~7.5~~ Computer restarted as Clad 7.3_7.5-2 | HWS |
| | 09:40:27 | 7.5 A = 23.15 sp = 1.35 out = 17.1 | HWS |
| | 13:41:48 | Computer restarted as Clad 7.3_7.5-3 | HWS |
| | 16:42:48 | 7.5 equilibrium reached on conduits | HWS |
| | | A = 23.15 V = 11.25 | |
| | | sp = 1.35 | |
| | | out = 16.8 | |
| | | 7.3 equilibrium reached on trays | HWS |
| | | A = 16.65 V = 64.97 | |
| | | sp = 1.02 | |
| | | out = 45.3 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TST
Project No: 97337 / 97338
Date: 11-15-94

Filename: 7.6_Clad-1

Test Item Description:

System #1 7.6b 4"
System #2 7.6a 1"
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 11-15-94 | 10:32:35 | 7.6a 1" + 4" data collection started as | HWS |
| | | Filename 7.6-Clad-1 (ends of both conduit | |
| | | wrapped with fiberglass insulation + EPS | |
| | | foam in place on floor) | |
| | 11:03:35 | 7.6a 1" energized to 23.58 A, sp = 1.42 | HWS |
| | | out = 21.1 | |
| | 15:31:35 | 7.6a 1" A = 26.0 sp = 1.66 out = 41.3 | HWS |
| 11-16-94 | 08:23:02 | 7.6a 1" A = 27.02 sp = 1.63 out = 25.5 | HWS |
| | 10:06:02 | 7.6a 1" A = 29.50 sp = 1.90 out = 57.7 | HWS |
| 11/17/94 | 08:35:59 | Restarted as Clad-7.6-2 | HWS |
| | | hardware problems - run postponed | |
| | ~~10:46:45~~ | Re 7.6a 1" reenergized to 29.56 A, sp = 1.89, | HWS |
| | ~~10:44:47~~ HWS | out = 47.0 program Clad-76-3 | |
| | | | |
| 11/18/94 | 08:34:14 | 7.6a 1" A = 29.54 sp = 1.87 out = 42.5 | HWS |
| | 08:48:14 | 7.6b 4" energized to A = 25.56 sp = 1.63 out = 73.5 | HWS |
| | 13:46:14 | grounded-open problem discovered in power | HWS |
| | | leads to computer - problem corrected by | |
| | | grounding computer equipment. | |
| | 13:49:14 | 7.6b 4" A = 25.62 sp = 1.57 out = 27.8 | HWS |
| | 13:56:54 | Computer restarted as 7.6-Clad-4 | HWS |
| | | (TC # 29 leads reversed & corrected) | |
| | 15:08:57 | Restarted as 7.6-Clad-5 | HWS |
| | | (computer hung up) | |
| | 17:05:55 | 7.6b 4" A = 30.02, sp = 1.77 out = 22.8 | HWS |
| 11/19/94 | 09:52:14 | 7.6b 4" A = 33.00 sp = 2.00 out = 27.7 | HWS |
| | 12:05:14 | 7.6a 1" reached equilibrium | HWS |
| | | A = 29.54 sp = 1.87 | |
| | | V = 1.88 out = 42.8 | |
| | 12:11:14 | 7.6b 4" A = 33.00 sp = 1.94 out = 54.5 | HWS |
| | 16:03:14 | 7.6b 4" A = 33.90 sp = 2.10 out = 65.4 | HWS |
| 11/21/94 | 08:32:14 | 7.6b 4" power restored A = 33.90 | HWS |
| | | sp = 1.98 out = 47.0 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSI
Project No: 97337 / 97338
Date: 11/21/94

Filename: Clud_76-5

Test Item Description:

System #1 7.6a 1"
System #2 7.6b 4"
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 11/21/94 | 08:46:15 | 7.6b 4" A: 34.10 sp = 2.01 out = 48.9 | HWS |
| | 09:31:14 | 7.6b 4" A = 34.10 sp = 2.05 out = 53.2 | HWS |
| | 11:25:14 | 7.6b 4" A = 34.10 sp = 2.11 out = 62.5 | HWS |
| | 12:26:14 | 7.6b 4" A = 34.18 sp = 2.14 out = 67.4 | HWS |
| | 16:20:42 | 7.6b 4" A = 33.96 sp = 2.14 out = 72.5 | |
| | | program name = Clud_7.6-6 | HWS |
| | 17:24:39 | 7.6b 4" A = 34.12 sp = 2.10 out 78.0 | HWS |
| | 18:22:39 | 7.6b 4" A = 34.10 sp = 2.08 out = 74.7 | HWS |
| 11/22/94 | 11:14:14 | 7.6b 4" A = 33.90 sp = 2.08 out = 78.1 | HWS |
| | | equilibrium v = 468 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA (TSI
Project No: 97333
Date: 11/29/94

Filename: 7.2 - Clad - 1

Test Item Description:

System #1 7.2 24" tray (3hr)
System #2
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 11/29/94 | 15:27:43 | 7.2 energized A = 12.18 Sp = .79 out = 60.0 | HWS |
| | 18:46:43 | 7.2 A = 17.03 sp = 1.08 out = 56.6 | HWS |
| | 23:46:43 | 7.2 A = 18.02 sp = 1.16 out = 65.0 | HWS |
| 11/30/94 | 13:32:13 | 7.2 A = 17.00 sp = 1.09 out = 66.8 | HWS |
| | 17:59:13 | 7.2 A = 16.77 sp = 1.06 out = 53.2 | HWS |
| 12/1/94 | 07:54:13 | 7.2 A = 16.00 sp = 0.97 out = 34.1 | HWS |
| | 14:47:13 | 7.2 A = 15.50 sp = 0.92 out = 26.6 | HWS |
| | 22:05:13 | 7.2 equilibrium declared | HWS |
| | | A = 15.51 sp = 0.92 | |
| | | V = 31.11 out = 24.8 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA ITST
Project No: 97768 / 97769
Date: 12-2-94

Filename: 7.7 ~~Clad~~ Base HWS -1

Test Item Description:

System #1 7.7
System #2
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 12/2/94 | 11:37:12 | 7.7 1" conduit energized A = 32.60 | HWS |
| | | SP 2.04 out = 36.1 | |
| | 15:01:16 | computer & power system restarted | HWS |
| | | after power failure | |
| | | A = 32.62 out = 49.9 sp = 2.09 | |
| | 17:36:14 | 7.7 1" conduit A = 33.57 | HWS |
| | | sp = 2.17 out = 63.7 | |
| 12/3/94 | 01:47:12 | 7.7 1" conduit A = 33.20 | HWS |
| | | Sp = 2.14 out = 63.0 | |
| | | | |
| 12/3/94 | ~~02:~~ 14:46:12 | 7.7 1" Conduit A = 33.20 V = 2.68 | KMH |
| | | SP = 2.13 Output 59.4 | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSI
Project No: ~~47337 14~~ 47766 / 47768
Date: 1-3-95

Filename: 7.6a 7.7a_Clad-1

Test Item Description:

System #1 7.6a-2 3hr 770 system
System #2 7.7a 1" in small box 1hr system
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 1-4-95 | 00:01:13 | 7.6a-2 energized at 33.16 A, sp = 2.08, out = 40.0 | HWS |
| 1-4-95 | 00:08:13 | 7.7a energized at 33.21 A, sp = 2.00, out = 33.9 | HWS |
| 1-4-95 | 09:01:43 | 7.7a A = 30.50 ~~SP~~ = Output = 30.5 | KMH. |
| | | SP = 1.81 | |
| 1-4-95 | 09:46:35 | Lost power / reenergized | KMH |
| 1-4-95 | 09:59:00 | Reenergized 7.7a. A = 30.37 sp = 1.91 out. 51.3 | KMH |
| 1-4-95 | 10:31:43 | 7.6a-2 A = 33.14 sp = 2.07 Outp: 52.4 | KMH |
| 1-4-95 | 11:14:43 | 7.7a A = 30.47 sp = 1.89 Outp.: 33.1 | KMH. |
| 1-4-95 | 13:36:43 | 7.7a A = 29.65 sp = 1.84 Outp.: 32.5 | KMH |
| 1-4-95 | 13:41:43 | 7.6a-2 A = 31.99 sp = 1.98 Outp = 46.5 | KMH |
| 1-5-95 | 09:10:13 | 7.7a A = 29.63 sp = 1.83 Outp = 30.6 | HWS |
| 1-5-95 | 12:54:13 | 7.7a A = 29.48 sp = 1.82 outp = 32.1 | HWS |
| 1-5-95 | 12:55:13 | 7.6a 2 A = 31.78 sp = 1.47 outp = 45.8 | HWS |
| 1-5-95 | 16:07:13 | 7.7a A = 29.37 sp = 1.81 outp = 31.1 | HWS |
| 1-5-95 | 16:09:13 | 7.6a 2 A = 31.65 sp = 1.95 outp = 43.4 | HWS |
| 1-5-95 | 21:31:13 | 7.7a A = 29.17 sp = 1.78 outp = 27.6 | HWS |
| 1-6-95 | 14:07:13 | 7.7a equilibrium declared | HWS |
| | | A = 29.17 sp = 1.79 out = 28.2 v = 2.300 | |
| 1-6-95 | 16:15:53 | Program restarted as 7.6a 2_7.7a_Clad-2 | HWS |
| 1-6-95 | 14:17:52 | 7.6a 2 Equilibrium declared | |
| | | A = 31.65 sp = 1.95 out = 41.8 v = 2.224 | HWS |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA/TSI
Project No: 97769 / 97767
Date: 1-7-95

Filename: 7.6b2_7.7B_Clad-1

Test Item Description:

System #1 7.7B 1" in large box 1hr
System #2 7.6b2 4" 3hr 770 system
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 1-7-95 | 13:28:54 | 7.7B energized A= 33.24 sp=2.13 outp=55.5 | HWS |
| | 13:32:54 | 7.6b2 energized A= 30.56 sp = 1.90 outp = 48.3 | HWS |
| | 14:11:54 | 7.7B A=32.23 sp=2.02 outp= 39.3 | HWS |
| | 18:09:54 | 7.7B A= 32.04 sp=2.00 outp=34.6 | HWS |
| | 18:11:54 | 7.6b2 A= 35.09 sp=2.02 outp=26.3 | HWS |
| | 21:05:54 | 7.6b2 A=36.05 sp=2.12 outp=31.0 | HWS |
| | 21:06:54 | 7.7B A=31.97 sp=1.98 outp=37.2 | HWS |
| 1-8-95 | 17:58:14 | 7.7B A=31.42 sp=1.45 outp=35.1 | HWS |
| | 18:00:14 | 7.6b2 A=37.55 sp=2.18 outp=28.8 | HWS |
| 1-9-95 | 08:43:14 | 7.6b2 A=40.04 sp=2.23 outp=23.9 | HWS |
| | 08:49:14 | 7.7B A=31.20 sp=1.93 outp=35.1 | HWS |
| | 10:31:14 | 7.6b2 A=45.00 sp=2.80 out=56.2 | HWS |
| | 11:56:14 | 7.7B A=31.20 equilibrium sp=1.94 out=37.4 V=2.536 | HWS |
| | | | |
| 1-9-95 | 11:59:44 | Program restarted as 7.6b2-7.7B-Clad-2 | HWS |
| | 17:58:44 | 7.6b2 A=47.00 sp=2.92 out=55.8 | HWS |
| 1-10-95 | 08:14:14 | 7.6b2 A=47.53 sp=3.00 out=80.1 | HWS |
| | 10:32:13 | 7.6b2 A=47.52 sp=2.96 out=58.6 | HWS |
| | 13:46:14 | 7.6b2 A=47.94 sp=3.03 out=70.3 | HWS |
| | | | |
| 1-11-95 | | program restarted as 7.6b2_Clad-1 | HWS |
| | 09:13:07 | 7.6b2 A=47.94 sp=3.01 out=63.4 | HWS |
| | 09:21:08 | 7.6b2 A=48.03 sp=2.71 out=27.5 | HWS |
| | 09:50:34 | Program restarted as 7.6b2_Clad-2 | HWS |
| | 09:51:36 | 7.6b2 A=48.00 sp=2.84 out=42.4 | HWS |
| | 10:43:36 | 7.6b2 A=48.00 sp=2.75 out=37.9 | KMH. |
| | 13:56:36 | 7.6b2 A=48.02 sp=3.00 out=59.7 | HWS |
| | 19:12:36 | 7.6b2 A=47.95 sp=2.96 out=58.1 | HWS |
| | ~19:00:00 | ends of conduit cables retaped to repair possible short circuited connections | HWS |
| | 19:31:36 | 7.6b2 A=30.60 sp=1.70 out=24.4 | HWS |
| | | (continued on next page) | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA ITSE
Project No: 97769 197767
Date: 1-12-95

Filename: 7.6b2_Clad-2

Test Item Description:

System #1 7.7B (equilibrated already)
System #2 7.6b2 4" 770 3hr
System #3
System #4

| Date | Time | Observation | | | | Technician |
|---|---|---|---|---|---|---|
| 1-12-95 | 01:46:14 | 7.6b2 | A=29.03 | Sp=1.64 | out= 25.9 | HWS |
| 1-12-95 | 09:53:14 | 7.6b2 | A=28.50 | Sp=1.59 | out=24.3 | KMH. |
| 1-12-95 | 14:23:59 | 7.6b2 | A=28.08 | sp=1.58 | out=24.9 | HWS |
| | 16:43:59 | 7.6b2 | A=28.10 | sp·1.57 | out=24.5 | HWS |
| | 19:37:59 | 7.6b2 | A=28.05 | sp=1.60 | out=28.9 | HWS |
| | 20:16:00 | 7.6b2 | A=28.05 | sp=1.77 | out=62.3 | HWS |
| | 21:28:59 | 7.6b2 | A=28.00 | sp=1.76 | out=62.7 | HWS |
| | 00:29:14 | 7.6b2 | A=28.00 | sp=1.76 | out=7.387 | HWS |
| | | | v=7.387 | equilibrium | declared | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA ITSI
Project No: 97770 197767
Date: 1-16-95

Filename: 7.8_7.2b_clad-1

Test Item Description:

System #1 7.8 - 6 conduits in the box
System #2 7.2b2 3hr 770 Hay
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 1-16-95 | 20:25:00 | 7.8 energized to A=30.72, out=80.5 | HWS |
| | | sp=1.48 | |
| | | 7.2b2 energized to A=24.5, out=84.2 | HWS |
| | | sp=1.52 | |
| 1-17-95 | 09:27:00 | 7.8 A=24.21, out=82.9, sp=1.89 | HWS |
| | | 7.2b2 A=22.94 out=73.1 sp=1.43 | HWS |
| 1-18-95 | 04:02:04 | Program started as 7.2b_Clad-1 | |
| | | 7.8 A=28.31, sp=1.76, out=47.4 | HWS |
| | 17:20:04 | 7.2b2 A=12.49, sp=0.79 out=69.0 | HWS |
| | 18:03:04 | 7.2b2 A=15.17, sp=0.96 out=71.8 | HWS |
| 1-19-95 | 04:40:22 | 7.2b2 A=15.76 sp=0.99 out=64.8 | HWS |
| | 04:45:22 | 7.8 A=28.46 sp=1.77 out=47.3 | HWS |
| | 14:19:22 | 7.2b2 A=16.64 sp=1.04 out=64 | HWS |
| | 15:44:22 | 7.8 A=28.4, sp=1.77, out=48.7 | |
| | | V=13.78 equilibrium declared | HWS |
| | 21:34:22 | 7.2b2 A=16.32 sp=1.01 out=56.3 | HWS |
| 1-20-95 | 08:37:22 | 7.2b2 A=16.00 sp=0.98 out=49.7 | HWS |
| | 11:51:22 | 7.2b2 A=15.84 sp=0.96 out=48.2 | HWS |
| | 16:16:22 | 7.2b2 A=15.75 sp=0.95 out=43.7 | HWS |
| 1-21-95 | 15:42:22 | 7.2b2 A=15.44 sp=0.91 out=35.8 | HWS |
| 1-23-95 | 11:50:22 | 7.2b2 A=15.37 sp=0.90 out=37.4 | HWS |
| | 18:07:22 | 7.2b2 A=15.35 sp=0.90 out=35.5 | |
| | | V=30.55 equilibrium declared | HWS |
| | | | |
| | | bottom external barrier TC fell off; | HWS |
| | | was reattached + computer run for | |
| | | informational data | |

# AMPACITY DERATING TEST DATA SHEET

Client: TVA / TSE
Project No: 97338
Date: 3-8-95

Filename: 7.6 - 3/8/95

Test Item Description:

System #1 7.6 b 4" Bare conduit (Rerun)
System #2
System #3
System #4

| Date | Time | Observation | Technician |
|---|---|---|---|
| 3-8-95 | 17:18:13 | 7.6b 4" baseline energized A = 31.85 | HWS |
| | | sp = 1.84 out = 29.3 | |
| | | | |
| | | | |
| 3-9-95 | 09:59:00 | ~~out = 29.7~~ KMH A = 29.70 | KMH. |
| | | SP = 1.81 out = 43.7 | |
| | | | |
| | 14:09:09 | A = 29.59 sp = 1.79 out = 41.4 | HWS |
| | 17:36:09 | A = 29.43 sp = 1.77 out = 40.4 | HWS |
| | | | |
| 3-10-95 | 08:43:09 | Equilibrium A = 29.59 sp = 1.78 out = 38.5 | HWS |
| | | V = 7.38 | |

# AMPACITY DERATING TEST DATA SHEET

Client: T-A/TCE
Project No: 97330
Date: 4-25-95

Filename: 7.6h 4-25-95

Test Item Description:

System #1: 7.6 h 330/770 system
System #2:
System #3:
System #4:

| Date | Time | Observation | Technician |
|---|---|---|---|
| 4-25-95 | 9:52:05 | System initiated at = 32.76 (minimal initial) | HWS |
| | | temporary "L-1" | |
| | 14:12:37 | 7.6h A= 27.05 sp= ~~1.76~~ 1.56 HWS | HWS |
| | HWS | out= 23.7 program name: 7.6h 4-25-95 | |
| 4-26-95 | 8:50:16 | 7.6h A= 26.51 sp= 1.42 out= 23.6 | HWS |
| | 11:10:33 | 7.6h A= 26.10 sp= 1.45 out= 23.1 | HWS |
| | 11:12:32 | program restarted at 7.6h 4-26-95 | HWS |
| | 15:19:30 | 7.6h A= ~~26.80~~ 25.00 HWS sp=1.42 out=22.7 | HWS |
| 4-27-95 | 10:10:53 | 7.6h program restarted as 7.6h 4-27-95 | HWS |
| | 14:22:51 | 7.6h equilibrium declared | HWS |
| | | v=6.924 A= 25.85 sp= 1.42 out= 22.3 | |

# Certifications of Calibration and Conformance for Equipment Used in Testing

OMEGA POINT LABORATORIES

**Omega Point Laboratories, Inc.**
16015 Shady Falls Rd..
Elmendorf, Texas 78112
800-966-5253 FAX 210-635-8101

# Certificate of Calibration

| | |
|---|---|
| Certification No.: | 92026 |
| Calibration Date: | 8-14-94 |
| Recalibration Date: | 1-14-95 |
| Manufacturer: | Omega Point Laboratories, Inc. |
| Model No.: | 100 Channel DAU |
| Serial No.: | 1041 |
| Equipment Description: | 100 Channel Data Acquisition System with Fluke Computer Front End |
| Calibration Sources: | Digicator Digital Calibrator, Model #CL-466, Serial #703297 |

**PERFORMANCE:**

Type T thermocouple verification resulted in deviations no greater than ±0.25 on all 100 channels

Calibration Performed/Approved by:

Herbert W. Stansberry II,
Fire Test Technologist

OMEGA POINT LABORATORIES

# Omega Point Laboratories, Inc.

16015 Shady Falls Rd..
Elmendorf, Texas 78112
800-966-5253 FAX 210-635-8101


## Certificate of Calibration

| | |
|---|---|
| Certification No.: | 92027 |
| Calibration Date: | 8-14-94 |
| Recalibration Date: | 1-14-95 |
| Manufacturer: | Omega Point Laboratories, Inc. |
| Model No.: | 200 Channel DAU |
| Serial No.: | 1042 |
| Equipment Description: | 200 Channel Data Acquisition System with Fluke Computer Front End , and extender chassis |
| Calibration Sources: | Digicator Digital Calibrator, Model #CL-466, Serial #703297 |

**PERFORMANCE:**

Type T thermocouple verification resulted in deviations no greater than ±0.25 on all 200 channels

Calibration Performed/Approved by:

Herbert W. Stansberry II,
Fire Test Technologist

OMEGA POINT LABORATORIES

# Omega Point Laboratories, Inc.

16015 Shady Falls Rd..
Elmendorf, Texas 78112
800-966-5253 FAX 210-635-8101


## Certificate of Calibration

| | |
|---|---|
| Certification No.: | 92028 |
| Calibration Date: | 1-13-95 |
| Recalibration Date: | 7-13-95 |
| Manufacturer: | Omega Point Laboratories, Inc. |
| Model No.: | 100 Channel DAU |
| Serial No.: | 1041 |
| Equipment Description: | 100 Channel Data Acquisition System with Fluke Computer Front End |
| Calibration Sources: | Digicator Digital Calibrator, Model #CL-466, Serial #703297 |

**PERFORMANCE:**

Type T thermocouple verification resulted in deviations no greater than ±0.25 on all 100 channels

Calibration Performed/Approved by:

Herbert W. Stansberry II,
Fire Test Technologist

OMEGA POINT LABORATORIES

**Omega Point Laboratories, Inc.**
16015 Shady Falls Rd..
Elmendorf, Texas 78112
800-966-5253 FAX 210-635-8101

# Certificate of Calibration

| | |
|---|---|
| Certification No.: | 92029 |
| Calibration Date: | 1-13-95 |
| Recalibration Date: | 7-13-95 |
| Manufacturer: | Omega Point Laboratories, Inc. |
| Model No.: | 200 Channel DAU |
| Serial No.: | 1042 |
| Equipment Description: | 200 Channel Data Acquisition System with Fluke Computer Front End , and extender chassis |
| Calibration Sources: | Digicator Digital Calibrator, Model #CL-466, Serial #703297 |

**PERFORMANCE:**

Type T thermocouple verification resulted in deviations no greater than ±0.25 on all 200 channels

Calibration Performed/Approved by:

Herbert W. Stansberry II,
Fire Test Technologist

OMEGA POINT LABORATORIES

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME Omega Point Labs
CLIENT/PROJECT NUMBER OPL Equip.
RECEIVED FROM Fluke
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1424 . OPL
DATE RECEIVED 8-25-94
DATE INSPECTED 8-25-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AEMC clamp on Current Probe | 1143Q | 1 | 1 | 0 | SN#-81521 | Y | X | Good | None | X | | | Calibration services and repair & calibration of Volt-Ohmmeter |
| Volt-Ohmmeter | 1143Q | 1 | 1 | 0 | SN#-4405196 | Y | Y | Good | None | X | | | |

FORM
1/29/93

# PURCHASE ORDER

Omega Point Laboratories, Inc.
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101



**Vendor:**

Bill Stitt
Fluke Technical Service Center
2104 Hutton Drive
Suite 112
Carrollton TX 75006

**PO Number:** 1143-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

**Bill To:**

Accounts Payable
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

**Ship To:**

Herb Stansberry II
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 8/22/94 | UPS Red Label | | 8/24/94 | |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| | Calibration Service | | | |
| 1. | AEMC Clamp-on Current Probe SN#815211 | 1 | | $0.00 |
| 2. | Volt-Ohmmeter SN#4405196 | 1 | | $0.00 |
| 3. | Repair of Volt-Ohmmeter | 1 | $143.00 | $143.00 |
| 4. | Expedite Service | 1 | | $0.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C. Patton
Date 8-22-94

**Special Instructions**

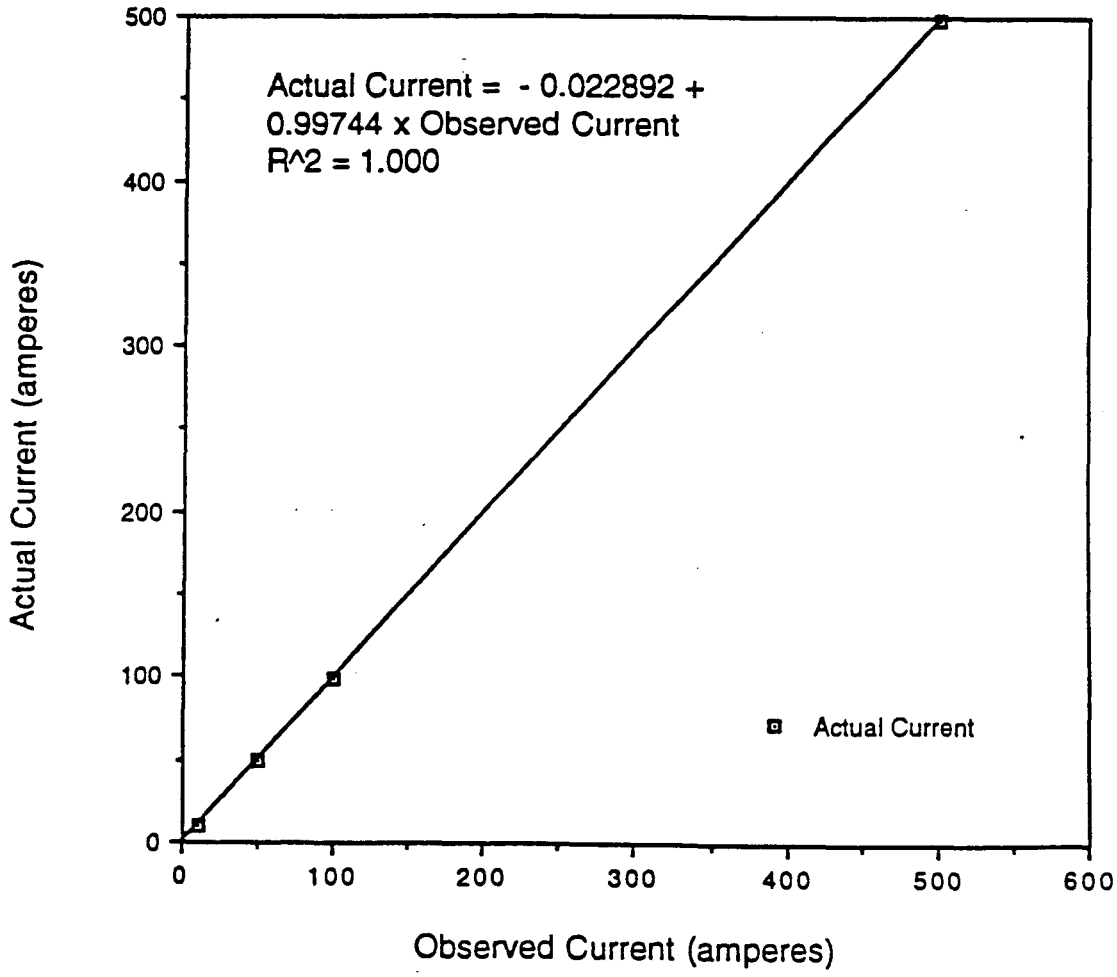
Please include Certificates of Conformance and Calibration Data traceable to NIST. **Calibrate as a unit.** AC Current at multiple points in 0-100 range.

**Ordered By:** Herb Stansberry II
**Project #:** OPL Equipment

| | |
|---|---|
| Total | $143.00 |
| Shipping | |
| Tax | |
| Invoice Total | $143.00 |

8/25/94

## Correction Equation for Fluke 4-1/2 digit meter with AC Current Probe




Uncorrected Error

10A = 0.4%

50A = 0.3%

OMEGA POINT LABORATORIES

FLUKE CORPORATION

FLUKE

## REPORT OF INSTRUMENTS USED TO CALIBRATE

| | | | |
|---|---|---|---|
| SUBMITTED BY | : OMEGA POINT LABORATORIES INC. | FILE NO. | : 704515 |
| MANUFACTURER | : AEMC CORPORATION | PROCEDURE | : IAW MFG. MANUAL |
| DESCRIPTION | : AC CURRENT PROBE | TECHNICIAN | : 60/RJ |
| MODEL NUMBER | : SD600 | CENTER | : DALLAS , TX |
| SERIAL NUMBER | : 815011 | CUSTOMER ID | : |
| DATE CALIBRATED | : 03-24-94 | REF. FILE | : SD600.REP |

List of equipment used in the calibration of the instrument listed above.

| Inc. | T | Manufacture | Model | Serial | Description | Cycle | Cal date | Recal Date | By |
|---|---|---|---|---|---|---|---|---|---|
| J060 | S | FLUKE | 8842A | 6080077 | MULTIMETER | 52 | 05-03-94 | 05-03-95 | 60 |
| J034 | S | FLUKE | 5220A | 2348017 | TRANSCONDUCTANCE AMP | 26 | 05-09-94 | 11-09-94 | 150 |
| J033 | S | FLUKE | 5101A | 935012 | MULTIFUNCTION CALIB | 26 | 05-11-94 | 11-11-94 | 150 |
| [illegible]51 | P | FLUKE | FTE-1701 | 036 | FAN-TOROID COIL | 260 | 03-02-91 | 03-02-96 | FSL |

# REPORT OF CALIBRATION DATA SHEET



| | | | |
|---|---|---|---|
| SUBMITTED BY | : OMEGA POINT LABORATORIES INC. | FILE NO. | : 704515 |
| MANUFACTURER | : AEMC CORPORATION | PROCEDURE | : IAW MFG. MANUAL |
| DESCRIPTION | : AC CURRENT PROBE | TECHNICIAN | : 60/RC |
| MODEL NUMBER | : 3D602 | CENTER | : DALLAS , TX |
| SERIAL NUMBER | : 315211 | CUSTOMER ID | : |
| DATE CALIBRATED | : 08-14-94 | REF. FILE | : 3D602.REP |

NOTE: SEE CERTIFICATION FOR TEMPERATURE AND HUMIDITY TOLERANCE.

REMARKS :AS FOUND DATA WITHIN TOLERANCE.

-10 TO 50 DEG. C — DATA RECORD — 1 YEAR SPECIFICATIONS

| PARAMETER | MEASURED VALUE AS FOUND | MEASURED VALUE AS LEFT | ACCEPTANCE LIMITS LOW | ACCEPTANCE LIMITS HIGH |
|---|---|---|---|---|
| AC CURRENT @ 60 Hz | | | | |
| 10A | 9.96 | SAME | 9.85 | 10.15 |
| 50A | 49.85 | | 49.65 | 50.35 |
| 100A | 99.71 | | 99.40 | 100.60 |
| 500A | 498.7 | | 497.4 | 502.6 |

FLUKE

# FLUKE CORPORATION 167

**BILL TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
ACCOUNTS PAYABLE.

**FROM**
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

**SERVICE NUMBER**
704515

**REFERENCE ORDER**

**SHIP TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
HERB STANSBERRY

**CUST. PO #** 1143-Q

**CPA / GSA #**

**SOLD TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112

| TYPE | MODEL / PART NO. | SERIAL NUMBER | ACCESSORIES / PARTS INCLUDED |
|---|---|---|---|
| SROW | AEMCSD602 | 815211 | PROBES |

| | DATE | CALIBRATION STATUS | CAL. CONDITIONS | |
|---|---|---|---|---|
| RECEIVED | 08/23/94 | IN TOLERANCE | 23 | °C |
| RETURNED | 08/24/94 | IN TOLERANCE MIL-STD-45662A APPLIES | 48 | %RH |

**SERVICE INFORMATION**

VERIFIED OPERATION OF ALL FUNCTIONS
CALIBRATED UNIT - TRACEABLE TO N.I.S.T.
NO CALIBRATION ADJUSTMENTS REQUIRED
SPECIAL DATA PROVIDED AS REQUESTED

| BOARD | CIRCUIT | PART NO. | DESCRIPTION |
|---|---|---|---|
| | | | INVOICE FOR FREIGHT CHARGE ONLY. |

| CALIBRATION DATA | BY |
|---|---|
| 815211 | |
| AUG-24-94 | 60 |
| DUE AUG-24-95 | |

REMARKS:

CSS-DALS-1002

FORM NO. SR02 REV. 10/93
CUSTOMER

SHIP VIA: UPS RED

# CERTIFICATE OF CALIBRATION

TRACEABILITY CERTIFICATE NO. 704515

REFERENCE NO.

CALIBRATED BY
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SUBMITTED BY
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
HERB STANSBERRY

CUST. PO 1143-Q

| | MODEL / PART NO. | SERIAL NUMBER | ACCESSORIES / PARTS INCLUDED |
|---|---|---|---|
| FOR | AEMCSD602 | 815211 | PROBES |

| | CALIBRATION STATUS | CAL CONDITIONS |
|---|---|---|
| RECEIVED | IN TOLERANCE | 23 °C |
| RETURNED | IN TOLERANCE MIL-STD-45662A APPLIES | 48 %RH |

The Fluke Corporation certifies that the above listed instrument meets or exceeds all published specifications. It has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology. Alternatively, accuracies have been derived from accepted values of natural physical constants, or have been derived by the ratio type of self-calibration techniques.

TECH. NO. 60 RALPH JUSTICE

CERTIFIED BY Johnnie L Winters

JOHNNIE WINTERS AUG-24-94

SERVICE MANAGER CALIBRATION DATE

REMARKS:

CSS-DALS-1002

| CALIBRATION DATA | BY |
|---|---|
| CAL 815211 AUG-24-94 | 60 |
| DUE AUG-24-95 | |

SHIP VIA: UPS RED

FLUKE

**BILL TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
ACCOUNTS PAYABLE.

**FROM**
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

**SERVICE NUMBER**
704510

**REFERENCE ORDER**

**SHIP TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
HERB STANSBERY

**SOLD TO**
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112

**CUST. PO** 1143-Q

**CPA / GSA #**

| TYPE | MODEL / PART NO. | SERIAL NUMBER | ACCESSORIES / PARTS INCLUDED |
|---|---|---|---|
| SROW | 8062A | 4405196 | NONE |

| | DATE | CALIBRATION STATUS | CAL CONDITIONS |
|---|---|---|---|
| RECEIVED | 08/23/94 | OPERATIONAL FAILURE | 23 °C |
| RETURNED | 08/24/94 | IN TOLERANCE MIL-STD-45662A APPLIES | 48 %RH |

**SERVICE INFORMATION**

INTERMITTENT AC CURRENT FUNCTION
NON-REPEATABLE DISPLAY
REPLACED PCB
REPLACED LCD/LED
VERIFIED OPERATION OF ALL FUNCTIONS

CALIBRATED UNIT - TRACEABLE TO N.I.S.T.
SPECIAL DATA PROVIDED AS REQUESTED

| QTY | BOARD | CIRCUIT | PART NO. | DESCRIPTION |
|---|---|---|---|---|
| 1 | A1 | | 642124 | MAIN 8060A ASSY, SERVICE REPLACEMEN |
| 1 | | | 802231 | 8062A LCD INTERCONNECT/BRACKET KIT |
| 1 | | | 696534 | BATTERY,PRIMARY |
| 1 | | | | NON-MATERIAL CHARGES FOR SERVI |
| | | | | IAW MFG. MANUAL |
| | | | | NMC FOR EXPEDITE FEE. |

| CALIBRATION DATA | BY |
|---|---|
| 4405196 | |
| AUG-24-94 | 60 |
| DUE AUG-24-95 | |

REMARKS:

FORM NO. SR02 REV. 10/93
CUSTOMER

SHIP VIA: UPS RED

# CERTIFICATE OF CALIBRATION

TRACEABILITY CERTIFICATE NO. 704510

REFERENCE NO.

CALIBRATED BY
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SUBMITTED BY
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
HERB STANSBERY

CUST. PO 1143-Q

| FOR | MODEL / PART NO. | SERIAL NUMBER | ACCESSORIES / PARTS INCLUDED |
|---|---|---|---|
| | 8062A | 4405196 | NONE |

| | CALIBRATION STATUS | CAL. CONDITIONS |
|---|---|---|
| RECEIVED | OPERATIONAL FAILURE | 23 °C |
| RETURNED | IN TOLERANCE MIL-STD-45662A APPLIES | 48 %RH |

The Fluke Corporation certifies that the above listed instrument meets or exceeds all published specifications. It has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology. Alternatively, accuracies have been derived from accepted values of natural physical constants, or have been derived by the ratio type of self-calibration techniques.

TECH. NO. 60 RALPH JUSTICE

CERTIFIED BY Johnnie L Winters

JOHNNIE WINTERS

SERVICE MANAGER

AUG-24-94

CALIBRATION DATE

REMARKS:

| CALIBRATION DATA | | BY |
|---|---|---|
| S/N | 4405196 | |
| | AUG-24-94 | 60 |
| DUE | AUG-24-95 | |

SHIP VIA: UPS RED

FLUKE CORPORATION
DALLAS TECHNICAL CENTER
REPORT OF CALIBRATION

P.O. NUMBER: 1143-Q SERVICE/CERT NUMBER:704510

| | | |
|---|---|---|
| MODEL UUT | : | Fluke 8062A |
| PROCEDURE | : | Fluke 8062A: (1 Year) CAL VER |
| PROCEDURE REV. | : | 1.1 |
| SERIAL NUMBER | : | 4405196 |
| ASSET NUMBER | : | |
| CUSTOMER | : | OMEGA POINT LABORATORIES, INC. |
| RESULT | : | PASS |
| FAILED TESTS | : | 0 |
| TECHNICIAN | : | 60/RJ |
| DATE | : | 24-Aug-94 |

STANDARDS USED

| Instrument Model | Asset Number | Cal Date | Due Date |
|---|---|---|---|
| 5700A | J230 | 15-AUG-94 | 15-Feb-95 |

REMARKS: OPERATIONAL FAILURE. AS LEFT DATA.

Johnnie L Winters
Dallas Technical Center
Manager

FLUKE CORPORATION
DALLAS TECHNICAL CENTER
REPORT OF CALIBRATION

P.O. NUMBER: 1143-Q SERVICE/CERT NUMBER:704510

| PARAMETER | TRUE VALUE | TEST RESULT | ACCEPTANCE LIMITS LOW | HIGH |
|---|---|---|---|---|
| DC VOLTAGE TEST | | | | |
| 200mV Range | | | | |
| 190.00mV | | 190.00 | 189.89 | 190.11 |
| -190.00mV | | -190.00 | -190.11 | -189.89 |
| 2V Range | | | | |
| 1.9000V | | 1.9000 | 1.8989 | 1.9011 |
| 20V Range | | | | |
| 19.000V | | 19.000 | 18.985 | 19.015 |
| 200V Range | | | | |
| 190.00V | | 190.00 | 189.85 | 190.15 |
| 1000V Range | | | | |
| 1000.0V | | 999.9 | 999.1 | 1000.9 |
| AC VOLTAGE TEST | | | | |
| 200mV Range | | | | |
| 100.00mV @ 200Hz | | 100.04 | 99.40 | 100.60 |
| 100.00mV @ 20kHz | | 100.04 | 98.60 | 101.40 |
| 2V Range | | | | |
| 0.1000V @ 200Hz | | 0.0999 | 0.0985 | 0.1015 |
| 0.1000V @ 30kHz | | 0.0980 | 0.0950 | 0.1050 |
| 1.0000V @ 20Hz | | 0.9986 | 0.9890 | 1.0110 |
| 1.0000V @ 200Hz | | 1.0002 | 0.9940 | 1.0060 |
| 1.0000V @ 1kHz | | 1.0004 | 0.9930 | 1.0070 |
| 1.0000V @ 10kHz | | 1.0016 | 0.9930 | 1.0070 |
| 1.0000V @ 30kHz | | 1.0012 | 0.9860 | 1.0140 |
| 20V Range | | | | |

FLUKE CORPORATION
DALLAS TECHNICAL CENTER
REPORT OF CALIBRATION

P.O. NUMBER: 1143-Q SERVICE/CERT NUMBER:704510

| PARAMETER | TRUE VALUE | TEST RESULT | ACCEPTANCE LIMITS LOW | HIGH |
|---|---|---|---|---|
| 10.000V @ 200Hz | | 10.002 | 9.940 | 10.060 |
| 10.000V @ 10kHz | | 10.015 | 9.480 | 10.520 |
| 10.000V @ 30kHz | | 10.013 | 9.460 | 10.540 |
| 200V Range | | | | |
| 100.00V @ 200Hz | | 100.05 | 99.40 | 100.60 |
| 100.00V @ 10kHz | | 100.09 | 94.80 | 105.20 |
| 100.00V @ 30kHz | | 100.11 | 94.60 | 105.40 |
| 750V Range | | | | |
| 750.0V @ 100Hz | | 749.7 | 734.0 | 766.0 |
| 750.0V @ 1kHz | | 751.3 | 734.0 | 766.0 |
| RESISTANCE TEST | | | | |
| 200Ω Range | | | | |
| 0.00Ω | | 0.01 | -0.04 | 0.04 |
| 100.00Ω | 100.000 | 99.99 | 99.86 | 100.14 |
| 2kΩ Range | | | | |
| 1.0000kΩ | 0.99996 | 0.9998 | 0.9988 | 1.0012 |
| 20kΩ Range | | | | |
| 10.000kΩ | 9.9998 | 9.998 | 9.988 | 10.012 |
| 200kΩ Range | | | | |
| 100.00kΩ | 100.005 | 99.99 | 99.88 | 100.12 |
| 1MΩ Range | | | | |
| 1.0000MΩ | 1.00004 | 1.0000 | 0.9978 | 1.0022 |
| 10.00MΩ | 10.000 | 10.01 | 9.95 | 10.05 |
| 100.00MΩ | 100.0 | 100 | 95 | 105 |
| CONTINUITY TEST | | | | |

FLUKE CORPORATION
DALLAS TECHNICAL CENTER
REPORT OF CALIBRATION

P.O. NUMBER: 1143-Q SERVICE/CERT NUMBER:704510

| PARAMETER | TRUE VALUE | TEST RESULT | ACCEPTANCE LIMITS LOW | HIGH |
|---|---|---|---|---|
| UUT functions properly | | | | |
| Result of Operator Evaluation | | PASS | | |
| DIODE TEST | | | | |
| UUT functions properly | | | | |
| Result of Operator Evaluation | | PASS | | |
| DC CURRENT TEST | | | | |
| 200µA Range | | | | |
| 190.00uA | | 189.98 | 189.41 | 190.59 |
| -190.00uA | | -189.98 | -190.59 | -189.41 |
| 2 mA Range | | | | |
| 1.9000mA | | 1.8998 | 1.8941 | 1.9059 |
| 20 mA Range | | | | |
| 19.000mA | | 19.000 | 18.941 | 19.059 |
| 200mA Range | | | | |
| 190.00mA | | 189.86 | 188.65 | 191.35 |
| 2000mA Range | | | | |
| 900.0mA | | 1898.6 | 1886.5 | 1913.5 |
| -1900.0mA | | -1898.5 | -1913.5 | -1886.5 |
| AC CURRENT TEST | | | | |
| 200µA Range | | | | |
| 190.00uA @ 1kHz | | 190.08 | 188.48 | 191.52 |

FLUKE CORPORATION
DALLAS TECHNICAL CENTER
REPORT OF CALIBRATION

P.O. NUMBER: 1143-Q SERVICE/CERT NUMBER:704510

| PARAMETER | TRUE VALUE | TEST RESULT | ACCEPTANCE LIMITS LOW | HIGH |
|---|---|---|---|---|
| 2mA Range | | | | |
| 1.9000mA @ 1kHz | | 1.9008 | 1.8848 | 1.9152 |
| 20mA Range | | | | |
| 19.000mA @ 1kHz | | 19.009 | 18.848 | 19.152 |
| 200mA Range | | | | |
| 190.00mA @ 1kHz | | 189.95 | 188.00 | 192.00 |
| 2000mA Range | | | | |
| 1900.0mA @ 1kHz | | 1899.4 | 1880.0 | 1920.0 |

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME Omega Point Labs
CLIENT/PROJECT NUMBER OPL Equipment
RECEIVED FROM Rothe
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1482 . OPL
DATE RECEIVED 3-15-95
DATE INSPECTED 3-16-95
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| Digital Calibrator | 9535Q | 1 | 1 | 0 | SN # 703297 | Y | Y | Good | None | X | | | |

FORM
1/29/93

16015 SHADY FALLS RD.
ELMENDORF, TEXAS 78112
PH. (210) 635-8100

OMEGA POINT LABORATORIES

# Purchase Order

No. 9535-Q

177

| Date | Ordered By | Terms | F.O.B. | Ship Via |
|---|---|---|---|---|
| 02/23/95 | Cleda | Net 30 days | Origination | Other |

Rothe Development, Inc.
4614 Sinclair Rd.
San Antonio, TX 78222

Ship To Omega Point Laboratories
16015 Shady Falls Rd.
Elmendorf TX 78112

| Item | Description | Date Rqd | Price | Unit | Qty | Ext Price |
|---|---|---|---|---|---|---|
| 1 | Digital Calibration SN#70329 | | 60.00 | Each | 1.0 | 60.00 |
| . | Calibration Service | | 0.00 | | 1.0 | 0.00 |

Copy

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 2-24-95

Special Notes:
Include Cert. Of Calibration &
Calibration Data Sheets

| | |
|---|---|
| Sub Total | $60 |
| Disc. | $0 |
| Tax | $0 |
| Total Purchase | $60.00 |

080625/11-99

# Rothe Development Inc.

## Metrology Services Division

4614 SINCLAIR RD., SAN ANTONIO, TEXAS 78222 210-648-3131 FAX 210-648-4091


# Certificate of Calibration

# 38059

**CAL DATE:** 03/10/95

**DUE DATE:** 09/10/95

**ISSUED TO:** Omega Point Laboratories
16015 Shady Falls Road
Elmendorf, TX 78112-9784
635-8100

**MFG** Omega

**MODEL** CL-466-L-1

**SERIAL #** 703297

**TYPE** Digital Temp Calibrator

**RECEIVED** IN-SPECS ☒
OUT-OF-SPECS ☐

CONTROL: 556 - 9477
TECHNICIAN #: 11
SPECIFICATIONS: MFG
PROCEDURE: MFG
WORK ORDER #: 47099
CUSTOMER PO #: 9535-0

All Calibration measurements performed at ROTHE DEVELOPMENT INC. METROLOGY SERVICES meet the requirements of MIL-STD-45662A, and are traceable to the National Institute of Standards and Technology through Primary NIST Calibration or Secondary Calibration performed by other Metrological facilities. Ambient conditions: Temperature 74°F , Relative Humidity 30%

Test Report Number and Calibration Standards Used

| Ref # | Model # | Mfgr | Serial # | Description | Cal Date | Int | Cal Due |
|---|---|---|---|---|---|---|---|
| TR 20 | 5700A | FLUKE | 4605002 | CALIBRATOR | 02/23/95 | 3 | 05/23/95 |
| TR 30 | 3456A | HP | 2823A01926 | DMM | 02/23/95 | 3 | 05/23/95 |
| TR 208 | PT100P | Logan | 9424-3 | TEMPERATURE PROBE | 06/14/94 | 12 | 06/14/95 |
| TR 150 | TRC-III | OMEGA | 41007 | ICE POINT REFERENCE | 11/02/94 | 12 | 11/02/95 |

Test Report Numbers

ACV FLUKE CERT# DH70
ACV FLUKE CERT# DP30
HM NIST TEST# 250839
EMP NIST TEST# 251316
Hz [illegible]VB Transmission

INSPECTED BY Jose A Mendez
COMMENTS:

RI 1001

ROTHE DEVELOPMENT METROLOGY SERVICES

CALIBRATION DATA :OMEGA CL-466

CUSTOMER: OMEGAPOINT LABORATORIES DATE: 10MAR95

WORK ORDER: 47099 TECH: 11

SERIAL: 703297 INST NO: 8477

CAL DATA TAKEN INCOMING ✓
OUTGOING

CONDITION IN TOLERANCE ✓
OUT OF TOLERANCE

| TYPE J | DEG F | READING | TOL |
|---|---|---|---|
| -3.492 | -100 | -99.9 | +/- .8 |
| 0.000 | 32 | 32.0 | +/- .8 |
| 1.942 | 100 | 100.0 | +/- .8 |
| 14.108 | 500 | 499.9 | +/- .8 |
| 29.515 | 1000 | 999.9 | +/- .8 |
| 53.525 | 1700 | 1700.1 | +/- .8 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -4.632 | -100 | -99.8 | +/- .5 |
| 0.000 | 0 | .0 | +/- .5 |
| 5.268 | 100 | 100.0 | +/- .5 |
| 51.875 | 900 | 900.1 | +/- .5 |

| TYPE K | DEG F | READING | TOL |
|---|---|---|---|
| -2.699 | -100 | -99.8 | +/- 1.2 |
| 0.000 | 32 | 32.1 | +/- .8 |
| 1.520 | 100 | 100.0 | +/- .8 |
| 6.092 | 300 | 299.9 | +/- .8 |
| 10.560 | 500 | 499.9 | +/- .8 |
| 22.251 | 1000 | 999.7 | +/- .8 |
| 33.913 | 1500 | 1499.8 | +/- .8 |
| 44.856 | 2000 | 1999.9 | +/- .8 |
| 54.845 | 2500 | 2500.0 | +/- .8 |

| TYPE K | DEG C | READING | TOL |
|---|---|---|---|
| -3.553 | -100 | -99.5 | +/- .8 |
| 0.000 | 0 | .0 | +/- .5 |
| 4.095 | 100 | 99.9 | +/- .5 |
| 20.640 | 500 | 499.8 | +/- .5 |
| 41.269 | 1000 | 999.8 | +/- .5 |
| 54.125 | 1350 | 1350.0 | +/- .5 |

INCOMING

| TYPE T | DEG F | READING | TOL |
|---|---|---|---|
| -4.149 | -200 | -199.9 | +/- 1.5 |
| -2.581 | -100 | - 99.8 | +/- 1.5 |
| 0.000 | 32 | 32.2 | +/- .6 |
| 1.518 | 100 | 100.1 | +/- .6 |
| 6.647 | 300 | 300.1 | +/- .6 |
| 19.095 | 700 | 700.3 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.439 | -190 | -189.8 | +/- 1.0 |
| -3.378 | -100 | - 99.8 | +/- 1.0 |
| 0.000 | 0 | + .1 | +/- .4 |
| 4.277 | 100 | 100.0 | +/- .4 |
| 20.252 | 390 | 390.2 | +/- .4 |

| TYPE E | DEG F | READING | TOL |
|---|---|---|---|
| -6.471 | -200 | -199.6 | +/- .7 |
| -3.976 | -100 | - 99.7 | +/- .7 |
| 0.000 | 32 | 32.2 | +/- .7 |
| 2.281 | 100 | 100.0 | +/- .7 |
| 17.942 | 500 | 499.9 | +/- .7 |
| 40.056 | 1000 | 1000.0 | +/- .7 |
| 62.240 | 1500 | 1500.3 | +/- .7 |
| 75.024 | 1800 | 1800.5 | +/- .7 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.237 | -100 | - 99.7 | +/- .4 |
| 0.000 | 0 | + .1 | +/- .4 |
| 6.317 | 100 | 100.1 | +/- .4 |
| 36.999 | 500 | 500.0 | +/- .4 |
| 76.358 | 1000 | 1000.3 | +/- .4 |

| MV INPUT | | READING | TOL |
|---|---|---|---|
| | -10 | -9.99 | .01% OF |
| | 0 | - .01 | RDG+/-2CT |
| | 10 | 9.98 | |
| | 30 | 29.98 | |
| | 50 | 49.98 | |
| | 75 | 74.99 | |
| | 100 | 100.01 | |

| MA INPUT | | READING | TOL |
|---|---|---|---|
| | 0 | - .001 | .01% OF |
| | 5 | 4.999 | RDG+/-2CT |
| | 10 | 9.998 | |
| | 15 | 14.999 | |
| | 20 | 20.001 | |

ROTHE DEVELOPMENT METROLOGY SERVICES

CALIBRATION DATA :OMEGA CL-466

CUSTOMER: OMEGAPOINT LABORATORIES DATE: 10MAR95

WORK ORDER: 47099 TECH: 11

SERIAL: 703297 INST NO: 8477

CAL DATA TAKEN

INCOMING
OUTGOING ✓

CONDITION

IN TOLERANCE ✓
OUT OF TOLERANCE

| TYPE J | DEG F | READING | TOL |
|---|---|---|---|
| -3.492 | -100 | -99.9 | +/- .8 |
| 0.000 | 32 | 32.0 | +/- .8 |
| 1.942 | 100 | 100.0 | +/- .8 |
| 14.108 | 500 | 499.9 | +/- .8 |
| 29.515 | 1000 | 999.9 | +/- .8 |
| 53.525 | 1700 | 1700.1 | +/- .8 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -4.632 | -100 | -99.8 | +/- .5 |
| 0.000 | 0 | .0 | +/- .5 |
| 5.268 | 100 | 100.0 | +/- .5 |
| 51.875 | 900 | 900.0 | +/- .5 |

| TYPE K | DEG F | READING | TOL |
|---|---|---|---|
| -2.599 | -100 | -100.1 | +/- 1.2 |
| 0.000 | 32 | 32.0 | +/- .8 |
| 1.520 | 100 | 99.9 | +/- .8 |
| 6.092 | 300 | 299.8 | +/- .8 |
| 10.560 | 500 | 499.8 | +/- .8 |
| 22.251 | 1000 | 999.7 | +/- .8 |
| 33.913 | 1500 | 1499.9 | +/- .8 |
| 44.856 | 2000 | 2000.1 | +/- .8 |
| 54.845 | 2500 | 2500.3 | +/- .8 |

| TYPE K | DEG C | READING | TOL |
|---|---|---|---|
| -3.553 | -100 | -99.7 | +/- .8 |
| 0.000 | 0 | .0 | +/- .5 |
| 4.095 | 100 | 99.8 | +/- .5 |
| 20.640 | 500 | 499.8 | +/- .5 |
| 41.269 | 1000 | 999.9 | +/- .5 |
| 54.125 | 1350 | 1350.1 | +/- .5 |

| TYPE T | DEG F | READING | TOL |
|---|---|---|---|
| -4.149 | -200 | -200.0 | +/- 1.5 |
| -2.581 | -100 | - 99.9 | +/- 1.5 |
| 0.000 | 32 | 32.0 | +/- .6 |
| 1.518 | 100 | 99.9 | +/- .6 |
| 6.647 | 300 | 299.9 | +/- .6 |
| 19.095 | 700 | 700.1 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.439 | -190 | -189.9 | +/- 1.0 |
| -3.378 | -100 | - 99.9 | +/- 1.0 |
| 0.000 | 0 | .0 | +/- .4 |
| 4.277 | 100 | 99.9 | +/- .4 |
| 20.252 | 390 | 390.0 | +/- .4 |

| TYPE E | DEG F | READING | TOL |
|---|---|---|---|
| -6.471 | -200 | -199.9 | +/- .7 |
| -3.976 | -100 | -100.0 | +/- .7 |
| 0.000 | 32 | 32.0 | +/- .7 |
| 2.281 | 100 | 99.8 | +/- .7 |
| 17.942 | 500 | 499.8 | +/- .7 |
| 40.056 | 1000 | 999.8 | +/- .7 |
| 62.240 | 1500 | 1500.0 | +/- .7 |
| 75.024 | 1800 | 1800.2 | +/- .7 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.237 | -100 | -99.8 | +/- .4 |
| 0.000 | 0 | .0 | +/- .4 |
| 6.317 | 100 | 100.0 | +/- .4 |
| 36.999 | 500 | 499.8 | +/- .4 |
| 76.358 | 1000 | 1000.1 | +/- .4 |

| MV INPUT | READING | TOL |
|---|---|---|
| -10 | -9.99 | .01% OF |
| 0 | - .00 | RDG+/-2CT |
| 10 | 10.00 | |
| 30 | 24.99 | |
| 50 | 49.99 | |
| 75 | 75.00 | |
| 100 | 100.00 | |

| MA INPUT | READING | TOL |
|---|---|---|
| 0 | .000 | .01% OF |
| 5 | 4.998 | RDG+/-2CT |
| 10 | 9.999 | |
| 15 | 14.999 | |
| 20 | 20.000 | |

Rothe Development, Inc.
4614 SINCLAIR RD. SAN ANTONIO, TEXAS 78222-2099
210-648-3131 FAX: 210-648-4091

PRECISION MEASUREMENT EQUIPMENT LABORATORY
TRACEABLE TO NIST

183

CHARGE # 107

CONTROL # 556 - 8477

WORK ORDER # 47099

CUSTOMER

RECEIVED FROM Omega Point Laboratories

DATE 02/27/95

ADDRESS 16015 Shady Falls Road
Elmendorf, TX 78112-9784

PHONE# 635-8100

CONTACT (NAME) Ms. Connie Humphrey

FAX#

PURCHASE ORDER # 9535-Q

CUSTOMER COMMENTS TAXABLE 8.25%

ITEM

MFG Omega

MODEL CL-466-L-1

SERIAL # 703297

TYPE Digital Temp Calibrator

ACCES. RCVD.

- [ ] REPAIR
- [ ] OPERATIONAL CHECK
- [x] CALIBRATION

CALIBRATION DATE 10 MAR 95

DATE DUE 10 Sept 95

CALIBRATION INTERVAL 6 mo.

- [x] RECEIVED IN SPECS.
- [ ] RECEIVED INOPERATIVE
- [ ] RECEIVED OUT OF SPECS.

| CKT REF # | QTY. | MFG PART # | DESCRIPTION | COST |
|---|---|---|---|---|
| | | | | |

| ROTHE TECH. | OUR P.O. |
|---|---|
| WW | |
| REPAIR LABOR HRS. | SERVICE CODE |
| | J |
| PARTS TOTAL | |
| REPAIR LABOR | |
| SHIPPING | |
| TEAR DOWN CHARGE | |
| CALIBRATION | 180.00 |
| TAX | |
| TOTAL | |

TR #'s 20, 30, 208, 150

COMMENTS CAL DATA PROVIDED

WORK PERFORMED: Optimized Calibration.

Cal'd

TEMP 74 °F

RH 50 %

SPECS: (MFG) RDI

PROCEDURE: (MFG) RDI OTHER

DI 2002

SHIP VIA: _____ DATE: _____ RECEIVED BY: [signature]

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME Omega Point Labs
CLIENT/PROJECT NUMBER OPL Equipment
RECEIVED FROM Rothe Development
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1437 - OPL
DATE RECEIVED 9-12-94
DATE INSPECTED 9-12-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| Digital Temp. Calibrator | 11520 | 0 | 1 | 0 | SN 703297 | Y | Y | Good | None | X | | | Calibration Only (Confidence check - cal-ibration was not due) CA |

FORM
1/29/93

184

# PURCHASE ORDER

Omega Point Laboratories, Inc.
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

185

**Vendor:**

Rothe Development
4614 Sinclair Road

San Antonio TX 78222

**PO Number:** 1152-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

| Bill To: | Ship To: |
|---|---|
| Accounts Payable<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 | Cleda Patton<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 |

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 9/9/94 | Their Truck | | 9/12/94 | |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| 1. | Digital Calibrator<br>SN# 703297 - Calibration Service | 1 | $60.00 | $60.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 9-9-94

**Special Instructions**

Please include Certificate of Calibration and Calibration Data Sheets.

**Ordered By:** Cleda Patton
**Project #:** OPL

| | |
|---|---|
| Total | $60.00 |
| Shipping | |
| Tax | |
| Invoice Total | $60.00 |

# Rothe Development Inc.

## Metrology Services Division

4614 SINCLAIR RD., SAN ANTONIO, TEXAS 78222 210-648-3131 FAX 210-648-4091


# Certificate of Calibration

# 36046

CAL DATE: 09/12/94

DUE DATE: 03/12/95

ISSUED TO: Omega Point Laboratories
16015 Shady Falls Road
Elmendorf, TX 78112-9784
635-3100

CONTROL: 556 - 8477

SPECIFICATIONS: MFG
PROCEDURE: MFG
WORK ORDER #: 44962
CUSTOMER PO #: 11520

MFG: Omega

MODEL: DL-466-L-1

SERIAL #: 703297

TYPE: Digital Temp Calibrator

RECEIVED IN-SPECS ☐
OUT-OF-SPECS ☒

All Calibration measurements performed at ROTHE DEVELOPMENT INC. METROLOGY SERVICES meet the requirements of MIL-STD-45662A, and are traceable to the National Institute of Standards and Technology through Primary NIST Calibration or Secondary Calibration performed by other Metrological facilities. Ambient conditions: Temperature 74oF , Relative Humidity 38% .

Test Report Number and Calibration Standards Used

| Ref # | Model # | Mfgr | Serial # | Description | Cal Date | Int | Cal Due |
|---|---|---|---|---|---|---|---|
| TR 20 | 5700A | FLUKE | 4605002 | CALIBRATOR | 08/25/94 | 3 | 11/25/94 |
| TR 30 | 3458A | HP | 2823A01926 | DMM | 08/25/94 | 3 | 11/25/94 |
| TR 150 | TRC-III | OMEGA | 41007 | ICE POINT REFERENCE | 11/02/93 | 12 | 11/02/94 |
| TR 208 | PT138P | Logan | 9424-3 | TEMPERATURE PROBE | 06/14/94 | 12 | 06/14/95 |

------- Test Report Numbers -------
DCV FLUKE CERT# DH70
ACV FLUKE CERT# DP30
OHM NIST TEST# 250839
TEMP NIST TEST# 251316
Hz NVB Transmission

INSPECTED BY Jose A Mendoza
COMMENTS:

RL. 1001

ROTHE DEVELOPMENT METROLOGY SERVICES

CALIBRATION DATA : OMEGA CL-466

CUSTOMER: Omega Point Labs. DATE: 12Sept94

WORK ORDER: 44862 TECH: 11

SERIAL: 703297 INST NO: 8477

CAL DATA TAKEN INCOMING ✓
OUTGOING

CONDITION IN TOLERANCE
OUT OF TOLERANCE ✓

| TYPE J | DEG F | READING | TOL |
|---|---|---|---|
| -5.760 | -200 | -201.0 | +/- .6 |
| -3.492 | -100 | -100.8 | +/- .6 |
| 0.000 | 32 | 31.4 | +/- .6 |
| 1.942 | 100 | 99.3 | +/- .6 |
| 7.947 | 300 | 299.3 | +/- .6 |
| 14.108 | 500 | 499.4 | +/- .6 |
| 21.785 | 750 | 749.5 | +/- .6 |
| 29.515 | 1000 | 999.6 | +/- .6 |
| 37.688 | 1250 | 1249.8 | +/- .6 |
| 46.503 | 1500 | 1500.1 | +/- .6 |
| 53.525 | 1700 | 1700.1 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -4.632 | -100 | -100.4 | +/- .5 |
| 0.000 | 0 | - .3 | +/- .5 |
| 5.268 | 100 | 99.6 | +/- .5 |
| 16.325 | 300 | 299.6 | +/- .5 |
| 33.096 | 600 | 599.8 | +/- .5 |
| 51.875 | 900 | 900.0 | +/- .5 |

| TYPE K | DEG F | READING | TOL |
|---|---|---|---|
| -2.699 | -100 | -101.1 | +/- 1.2 |
| 0.000 | 32 | 31.3 | +/- .8 |
| 1.520 | 100 | 99.2 | +/- .8 |
| 6.092 | 300 | 299.2 | +/- .8 |
| 10.560 | 500 | 499.2 | +/- .8 |
| 16.349 | 750 | 749.3 | +/- .8 |
| 22.251 | 1000 | 999.4 | +/- .8 |
| 28.148 | 1250 | 1249.4 | +/- .8 |
| 33.913 | 1500 | 1499.8 | +/- .8 |
| 39.485 | 1750 | 1749.9 | +/- .8 |
| 44.856 | 2000 | 2000.1 | +/- .8 |
| 49.996 | 2250 | 2250.2 | +/- .8 |
| 54.845 | 2500 | 2500.4 | +/- .8 |

| TYPE K | DEG C | READING | TOL |
|---|---|---|---|
| -3.553 | -100 | -100.3 | +/- .8 |
| 0.000 | 0 | - .4 | +/- .5 |
| 4.095 | 100 | 99.6 | +/- .5 |
| 12.207 | 300 | 299.6 | +/- .5 |
| 20.640 | 500 | 499.6 | +/- .5 |
| 31.214 | 750 | 749.7 | +/- .5 |
| 41.269 | 1000 | 999.9 | +/- .5 |
| 50.633 | 1250 | 1250.2 | +/- .5 |
| 54.125 | 1350 | 1350.3 | +/- .5 |

| TYPE T | DEG F | READING | TOL |
|---|---|---|---|
| -5.341 | -300 | -301.3 | +/- 1.5 |
| -4.149 | -200 | -201.2 | +/- 1.5 |
| -2.581 | -100 | -100.8 | +/- 1.5 |
| 0.000 | 32 | 31.3 | +/- .6 |
| 1.518 | 100 | 99.2 | +/- .6 |
| 6.647 | 300 | 299.4 | +/- .6 |
| 12.572 | 500 | 499.6 | +/- .6 |
| 19.095 | 700 | 699.8 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.439 | -190 | -191.0 | +/- 1.0 |
| -3.378 | -100 | -100.6 | +/- 1.0 |
| 0.000 | 0 | - .4 | +/- .4 |
| 4.277 | 100 | 99.6 | +/- .4 |
| 9.286 | 200 | 199.7 | +/- .4 |
| 14.860 | 300 | 299.8 | +/- .4 |
| 20.252 | 390 | 389.9 | +/- .4 |

| TYPE E | DEG F | READING | TOL |
|---|---|---|---|
| -8.404 | -300 | -301.3 | +/- .7 |
| -6.471 | -200 | -201.0 | +/- .7 |
| -3.976 | -100 | -100.8 | +/- .7 |
| 0.000 | 32 | 31.3 | +/- .7 |
| 2.281 | 100 | 99.3 | +/- .7 |
| 9.708 | 300 | 299.7 | +/- .7 |
| 17.942 | 500 | 499.6 | +/- .7 |
| 28.854 | 750 | 749.7 | +/- .7 |
| 40.056 | 1000 | 999.7 | +/- .7 |
| 51.246 | 1250 | 1250.0 | +/- .7 |
| 62.240 | 1500 | 1500.1 | +/- .7 |
| 75.024 | 1800 | 1800.3 | +/- .7 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.237 | -100 | -99.9 | +/- .4 |
| 0.000 | 0 | - .3 | +/- .4 |
| 6.317 | 100 | 99.7 | +/- .4 |
| 21.033 | 300 | 299.8 | +/- .4 |
| 36.999 | 500 | 499.8 | +/- .4 |
| 53.110 | 700 | 700.0 | +/- .4 |
| 68.783 | 900 | 900.0 | +/- .4 |
| 76.358 | 1000 | 1000.2 | +/- .4 |

| MV INPUT | READING | TOL |
|---|---|---|
| -10 | -9.99 | .01% OF |
| 0 | -.01 | RDG+/-2CT |
| 10 | 9.99 | |
| 30 | 30.00 | |
| 50 | 50.01 | |
| 75 | 75.02 | |
| 100 | 100.04 | |

| MA INPUT | READING | TOL |
|---|---|---|
| 0 | .001 | .01% OF |
| 5 | 5.001 | RDG+/-2CT |
| 10 | 10.003 | |
| 15 | 15.007 | |
| 20 | 20.011 | |

ROTHE DEVELOPMENT METROLOGY SERVICES

CALIBRATION DATA : OMEGA CL-466

CUSTOMER: Omega Point Labs. DATE: 12 Sept 94

WORK ORDER: 44862 TECH: 11

SERIAL: 703297 INST NO: 8477

CAL DATA TAKEN

INCOMING _____

OUTGOING ✓

CONDITION

IN TOLERANCE ✓

OUT OF TOLERANCE _____

| TYPE J | DEG F | READING | TOL |
|---|---|---|---|
| -5.760 | -200 | -200.0 | +/- .6 |
| -3.492 | -100 | -100.0 | +/- .6 |
| 0.000 | 32 | 32.0 | +/- .6 |
| 1.942 | 100 | 100.0 | +/- .6 |
| 7.947 | 300 | 299.9 | +/- .6 |
| 14.108 | 500 | 500.1 | +/- .6 |
| 21.785 | 750 | 750.0 | +/- .6 |
| 29.515 | 1000 | 1000.0 | +/- .6 |
| 37.688 | 1250 | 1250.0 | +/- .6 |
| 46.503 | 1500 | 1500.2 | +/- .6 |
| 53.525 | 1700 | 1700.1 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -4.632 | -100 | -99.9 | +/- .5 |
| 0.000 | 0 | 0.0 | +/- .5 |
| 5.268 | 100 | 100.0 | +/- .5 |
| 16.325 | 300 | 299.9 | +/- .5 |
| 33.096 | 600 | 600.0 | +/- .5 |
| 51.875 | 900 | 900.1 | +/- .5 |

| TYPE K | DEG F | READING | TOL |
|---|---|---|---|
| -2.699 | -100 | -99.8 | +/- 1.2 |
| 0.000 | 32 | 32.0 | +/- .8 |
| 1.520 | 100 | 100.0 | +/- .8 |
| 6.092 | 300 | 299.9 | +/- .8 |
| 10.560 | 500 | 499.8 | +/- .8 |
| 16.349 | 750 | 749.7 | +/- .8 |
| 22.251 | 1000 | 999.6 | +/- .8 |
| 28.148 | 1250 | 1249.6 | +/- .8 |
| 33.913 | 1500 | 1499.8 | +/- .8 |
| 39.485 | 1750 | 1749.8 | +/- .8 |
| 44.856 | 2000 | 1999.9 | +/- .8 |
| 49.996 | 2250 | 2250.0 | +/- .8 |
| 54.845 | 2500 | 2500.1 | +/- .8 |

| TYPE K | DEG C | READING | TOL |
|---|---|---|---|
| -3.553 | -100 | - 99.5 | +/- .8 |
| 0.000 | 0 | .0 | +/- .5 |
| 4.095 | 100 | 99.9 | +/- .5 |
| 12.207 | 300 | 299.8 | +/- .5 |
| 20.640 | 500 | 499.7 | +/- .5 |
| 31.214 | 750 | 749.8 | +/- .5 |
| 41.269 | 1000 | 999.8 | +/- .5 |
| 50.633 | 1250 | 1250.0 | +/- .5 |
| 54.125 | 1350 | 1350.1 | +/- .5 |

| TYPE T | DEG F | READING | TOL |
|---|---|---|---|
| -5.341 | -300 | -299.6 | +/- 1.5 |
| -4.149 | -200 | -199.9 | +/- 1.5 |
| -2.581 | -100 | - 99.9 | +/- 1.5 |
| 0.000 | 32 | 32.0 | +/- .6 |
| 1.518 | 100 | 99.9 | +/- .6 |
| 6.647 | 300 | 299.8 | +/- .6 |
| 12.572 | 500 | 500.0 | +/- .6 |
| 19.095 | 700 | 700.1 | +/- .6 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.439 | -190 | -189.6 | +/- 1.0 |
| -3.378 | -100 | - 99.8 | +/- 1.0 |
| 0.000 | 0 | 0.0 | +/- .4 |
| 4.277 | 100 | 99.9 | +/- .4 |
| 9.286 | 200 | 199.9 | +/- .4 |
| 14.860 | 300 | 300.0 | +/- .4 |
| 20.252 | 390 | 390.0 | +/- .4 |

| TYPE E | DEG F | READING | TOL |
|---|---|---|---|
| -8.404 | -300 | -299.5 | +/- .7 |
| -6.471 | -200 | -200.0 | +/- .7 |
| -3.976 | -100 | -100.2 | +/- .7 |
| 0.000 | 32 | 31.7 | +/- .7 |
| 2.281 | 100 | 99.7 | +/- .7 |
| 9.708 | 300 | 299.5 | +/- .7 |
| 17.942 | 500 | 499.6 | +/- .7 |
| 28.854 | 750 | 749.7 | +/- .7 |
| 40.056 | 1000 | 999.7 | +/- .7 |
| 51.246 | 1250 | 1250.0 | +/- .7 |
| 62.240 | 1500 | 1500.0 | +/- .7 |
| 75.024 | 1800 | 1800.2 | +/- .7 |

| | DEG C | READING | TOL |
|---|---|---|---|
| -5.237 | -100 | -99.9 | +/- .4 |
| 0.000 | 0 | - .1 | +/- .4 |
| 6.317 | 100 | 99.9 | +/- .4 |
| 21.033 | 300 | 299.8 | +/- .4 |
| 36.999 | 500 | 499.8 | +/- .4 |
| 53.110 | 700 | 700.0 | +/- .4 |
| 68.783 | 900 | 900.0 | +/- .4 |
| 76.358 | 1000 | 1000.1 | +/- .4 |

| MV INPUT | READING | TOL |
|---|---|---|
| -10 | - 9.99 | .01% OF |
| 0 | .00 | RDG+/-2CT |
| 10 | 9.99 | |
| 30 | 29.98 | |
| 50 | 49.98 | |
| 75 | 74.98 | |
| 100 | 100.01 | |

| MA INPUT | READING | TOL |
|---|---|---|
| 0 | .000 | .01% OF |
| 5 | 5.000 | RDG+/-2CT |
| 10 | 9.999 | |
| 15 | 14.999 | |
| 20 | 20.000 | |

# MEMO TO FILE

| | |
|---|---|
| TO: | Digital Temperature Calibrator<br>QA File |
| FROM: | Connie Humphrey |
| DATE: | 9/15/94 |
| SUBJECT: | Confidence check of equipment<br>"As received" condition out of tolerance |

---

Although this piece of equipment was received "out of specs", these conditions were noted on temperatures ranges not used by Omega Point testing.

Under the Type T thermocouple setting, the out of tolerance condition was noted with the device in the farenheit mode only. Omega Point Laboratories uses the device only in the Celcius mode for Type T thermocouples (this mode is in tolerance).

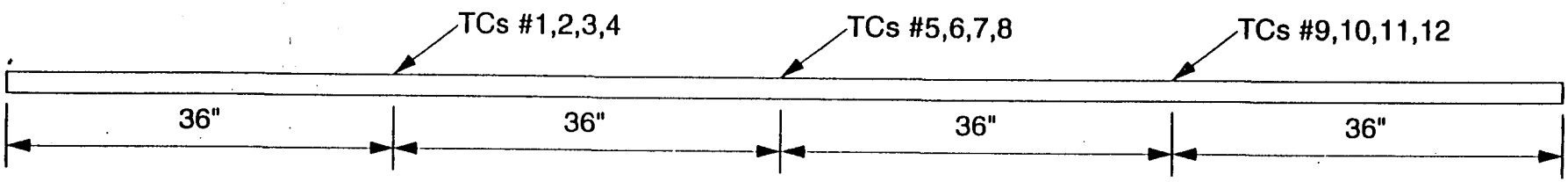
This "out of tolerance" condition does not have an impact on recent testing and no notifications are deemed necessary.

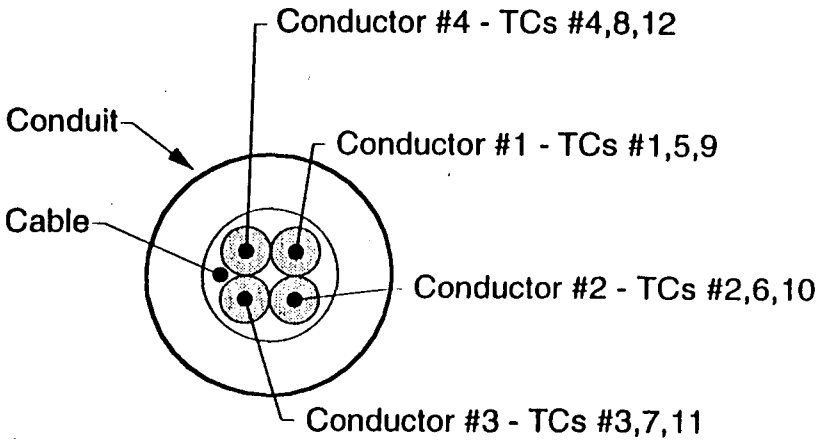
Recalibration due date is 3/12/95.

OMEGA POINT LABORATORIES

# QA/QC Verification of Thermocouple Placement

OMEGA POINT LABORATORIES




**QUALITY VERIFIED**

C Humphrey 9/13/94
Signed Date

With Exceptions as Noted.

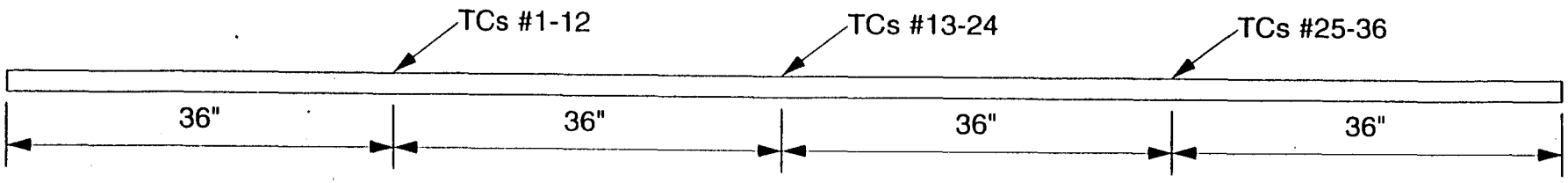
NOTE:
Thermocouple placement locations for 4C/#10 AWG cable in 1" diameter conduit identified as 7.6a. Actual cable length was longer than presented here to allow for connection to power source.

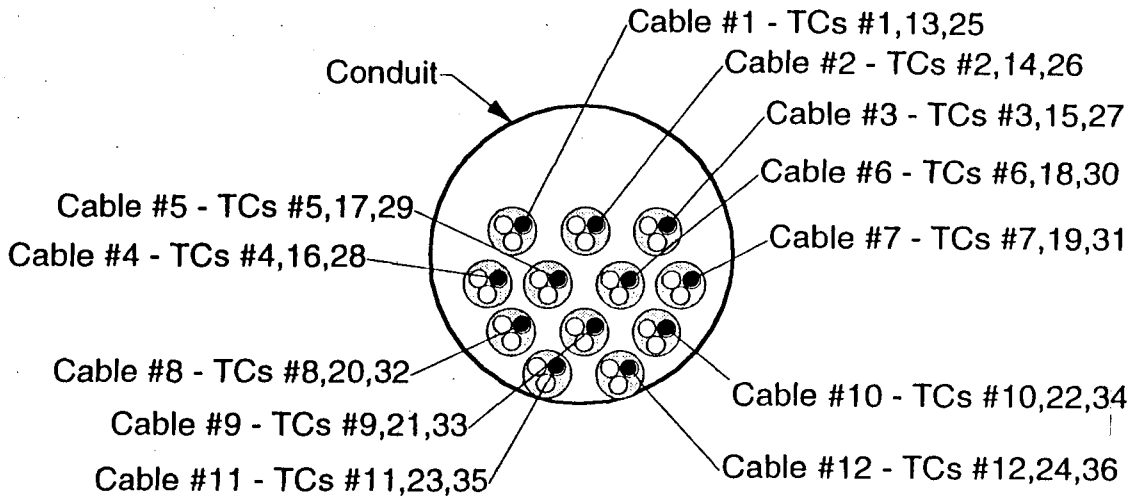
Date of Installation of Cables and Thermocouples: 9/13/94
TVA Supplied Cable Reel Number Used: BLP-142M
OPL Supplied Thermocouple Lot Number Used: 106311
Installing Technician: L. Castañon

OMEGA POINT LABORATORIES, INC.
Project No. 11960-97337

TVA/TSI

Fig. 3 Thermocouple Placements




NOTE:
Thermocouple placement locations for 12) 3C/#6 AWG cables in 4" diameter conduit identified as 7.6b. Actual cable length was longer than presented here to allow for connection to power source. Thermocouple were installed on the same conductor (BLACK) throughout the test article.

**QUALITY VERIFIED**

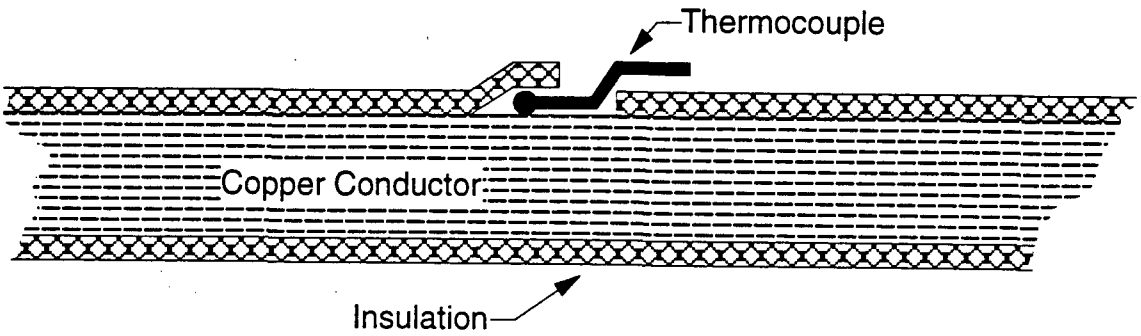
C Humphrey 9/13/94
Signed Date

With Exceptions as Noted.

Date of Installation of Cables and Thermocouples: 9/12/94
TVA Supplied Cable Reel Number Used: 93D5279G
OPL Supplied Thermocouple Lot Number Used: 106311
Installing Technician: L. Castañon

Assembly 7.6 b

| |
|---|
| OMEGA POINT LABORATORIES, INC.<br>Project No. 11960-97338 |
| TVA/TSI |
| Fig. 4 Thermocouple Placements |




NOTE:

A slit (approximately 2" long) was made in the outer jacket material to allow access to the conductors within. A slit (approximately 1" long) was made in each of the individual conductor jackets and the thermojunction was placed in direct contact with the copper conductor. The outer slit was then wrapped with a single layer of fiber glass electrical tape. Type T, Copper-Constantan, 24 gage thermocouple wires with "Special Limits of Error" were fitted to all cables installed in the test items. Calibration data for thermocouples used may be found in Appendix D:Quality Assurance.

QUALITY VERIFIED

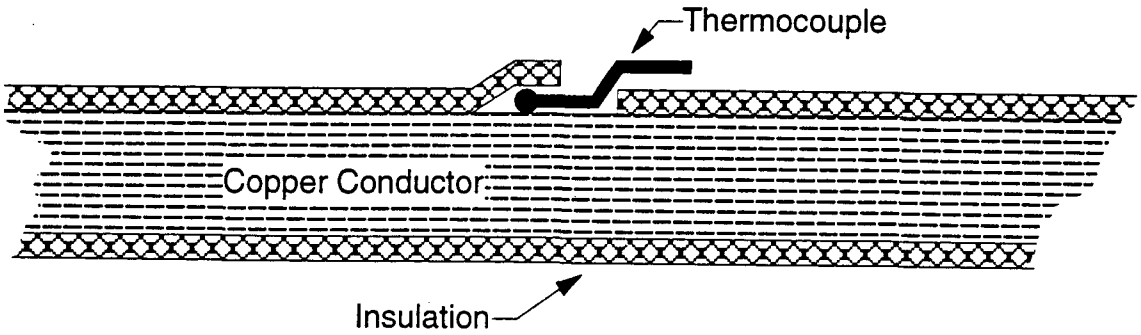
C Humphrey 9/13/94

Signed Date

With Exceptions as Noted.

Note: Assembly 2.6a

| |
|---|
| OMEGA POINT LABORATORIES, INC.<br>Project No. 97337&97338 |
| TVA / TSI |
| Thermocouple Installation Detail |




NOTE:

A slit (approximately 2" long) was made in the outer jacket material to allow access to the conductors within. A slit (approximately 1" long) was made in each of the individual conductor jackets and the thermojunction was placed in direct contact with the copper conductor. The outer slit was then wrapped with a single layer of fiber glass electrical tape. Type T, Copper-Constantan, 24 gage thermocouple wires with "Special Limits of Error" were fitted to all cables installed in the test items. Calibration data for thermocouples used may be found in Appendix D:Quality Assurance.

| QUALITY VERIFIED |
|---|
| C Humphrey 9/13/94 |
| Signed Date |
| With Exceptions as Noted. |

Note: Assembly 7.6 b
TC attached to black conductor.
CH

| OMEGA POINT LABORATORIES, INC.<br>Project No. 97337&97338 |
|---|
| TVA / TSI |
| Thermocouple Installation Detail |

# THERMOCOUPLE PLACEMENT LOG - PROJECT NO. 97337

NOTE:
This Log is to be used to document the precise location of the thermocouples located on each test item. The back of this sheet may be used for any necessary drawings or schematics.

Project #: 97337

Test Item #: Assembly 7.6a

Item: 1" Diameter Conduit

| TC Number | Description of exact physical location |
|---|---|
| 1-4 | On cable conductor, 36" from free end of conduit. |
| 5-8 | On cable conductor, at midpoint of conduit (36" from TC# 1-4). |
| 9-12 | On cable conductor, 36 " from instr. end of conduit (36" from TC# 5-8). |
| 13 | In center of top surface of conduit. |
| 14 | On exterior surface of cladding, in center of top of envelope. |
| 15 | On exterior surface of cladding, in center of bottom of envelope. |

QUALITY VERIFIED

C Humphrey 9/13/96

Signed Date

With Exceptions as Noted.

Note: TC # 1-12 only

OMEGA POINT LABORATORIES

# THERMOCOUPLE PLACEMENT LOG - PROJECT NO. 97338

NOTE:
This Log is to be used to document the precise location of the thermocouples located on each test item. The back of this sheet may be used for any necessary drawings or schematics.

Project #: 97338

Test Item #: Assembly 7.6b

Item: 4" Diameter Conduit

| TC Number | Description of exact physical location |
|---|---|
| 1-12 | On cable conductor, 36" from free end of conduit. |
| 13-24 | On cable conductor, at midpoint of conduit (36" from TC# 1-12). |
| 25-36 | On cable conductor, 36 " from instr. end of conduit (36" from TC# 13-24). |
| 27 | In center of top surface of conduit. |
| 38 | On exterior surface of cladding, in center of top of envelope. |
| 39 | On exterior surface of cladding, in center of bottom of envelope. |

QUALITY VERIFIED

C. Humphrey 9/13/94
Signed Date

With Exceptions as Noted.

Note: TC #1-36 only ok

OMEGA POINT LABORATORIES

# Certifications of Conformance and Receiving Reports for Materials Used to Construct Test Articles

OMEGA POINT LABORATORIES

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME: Omega Point
CLIENT/PROJECT NUMBER: OPL Equip.
RECEIVED FROM: PMC
PROJECT LOCATION: Omega Point Labs

REPORT NUMBER: 1382-OPL
DATE RECEIVED: 5/9/94
DATE INSPECTED: 5/10/94
INSPECTED BY: C Humphrey

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thermocouple Wire | 1116Q | 5K | 5K | 0 | TT-TE/TE-24 | Y | Y | Good | None | X | | | Material Specification MS-1116Q-OPL Lot No. 1019942 101943 |

FORM
1/29/93

202

# PURCHASE ORDER

Omega Point Laboratories, Inc. 203
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

**Vendor:**

Janice Welch
PMC Corporation
57 Harvey Road

Londonderry NH 03053

**PO Number:** 1116-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

**Bill To:**

Accounts Payable
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

**Ship To:**

Cleda Patton
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 4/18/94 | UPS Ground | MS-1116Q-OPL | 5/02/94 | |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| 1. | TT-TE/TE-24<br>Type "T" Thermocouple Wire | 5000 | $0.27 | $1,350.00 |
| 2. | Wire Calibration at:<br>40°C, 60°C , 80°C, 90°C, 100°C | 1 | $85.00 | $85.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C. Humphrey
Date 4/18/94

**Special Instructions**

Include Certificates of Conformance to ASTM E230-93 Special Limits of Error and Calibration data traceable to NIST.

**Ordered By:** Cleda Patton
**Project #:** OPL Equipment

Rec'd 5/9/94
CH

| | |
|---|---|
| Total | $1,435.00 |
| Shipping | |
| Tax | |
| Invoice Total | $1,435.00 |

PMC

# CERTIFICATE OF CONFORMANCE

TO OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

DATE 4/29/94
CUSTOMER PO# 11160
JOB # 17834

| PMC P/N | QUANTITY | CUSTOMER P/N | SPEC |
|---|---|---|---|
| TT-TE/TE-24 | 5500' | | MS-11160-OPL |

ALL OF THE FOLLOWING WIRE SPOOLS HAVE BEEN MANUFACTURED FROM REEL NOS. 15906 AND 17407.

ADDITIONAL INFORMATION (IF REQUIRED):

| SPOOL NOS. | IN ERROR 40°C | IN ERROR 60°C | IN ERROR 80°C | IN ERROR 90°C | IN ERROR 100°C |
|---|---|---|---|---|---|
| 101942 - INSIDE | .27 | .05 | .44 | 0 | .16 |
| 101942 - OUTSIDE | .05 | .44 | .16 | -.33 | -.16 |
| 101943 - INSIDE | .11 | .49 | .22 | -.22 | -.05 |
| 101943 - OUTSIDE | .16 | .02 | .38 | -.11 | +.05 |

ALL SPOOLS ARE TAKEN FROM A LARGE MASTER SPOOL IN ROTATION. CALIBRATION RESULTS ARE TRACEABLE TO NIST AND MEET SPECIAL LIMITS OF ERROR AS DEFINED IN ASTM-E-230 AND COMPLY WITH MIL STD. 45662 AND 45208.

This is to certify the materials furnished on this shipment are in conformance with the requirements, specifications, and drawings of the above referenced customer purchase order. Inspection and test records are on file and available for customer review.

John Robinson
Quality Assurance Inspector

Quality Assurance Manager

57 HARVEY ROAD
LONDONDERRY, NH
03053
(603) 432-WIRE
FAX (603) 432-0435

PMC CORPORATION
57 HARVEY ROAD, LONDONDERRY, N.H. 03053 • (603) 432-WIRE

SPECIALIZING IN WIRE, CABLES & TEMPERATURE

SOLD TO

OMEGA POINT LABS. INC.
15015 SHADY FALLS ROAD
ELMENDORF, TX 78112

SHIP TO

OMEGA POINT LABS. INC.
15015 SHADY FALLS ROAD
ELMENDORF, TX 78112

| DATE RECEIVED | CUSTOMER NO. | E | O | T | PMC JOB NO. |
|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| CUSTOMER P.O. NUMBER | REQUESTED SHIP | SCHEDULED SHIP |
|---|---|---|
| [illegible] | [illegible] | [illegible] |

| SHIP VIA | F.O.B. | TERMS |
|---|---|---|
| UPS | [illegible] | [illegible] |

CODE

1. MFT
2. CFT
3. POUNDS
4. EACH NET
5. METERS
6. FEET
7. LOT
8. OTHER

| ITEM | QUANTITY ORDERED | PART NUMBER / DESCRIPTION | QUANTITY SHIPPED |
|---|---|---|---|
| [illegible] | [illegible] | [illegible] | 5500 |
| [illegible] | 1 | [illegible] | 1 |

UNIT PRICES ARE BASED ON COPPER AT $ lb., SILVER AT $ /TROY OZ. HOWEVER UNIT PRICES INVOICED WILL BE BASED ON MATERIAL COST ON DATE OF SHIPMENT.

SPECIAL INSTRUCTIONS:

UPS

| DATE SHIPPED | BILL OF LADING NO. | NO. OF PACKAGES | WEIGHT | PPD | COL. | PARTIAL | COMPLETE | PACKED BY |
|---|---|---|---|---|---|---|---|---|
| 4-29-94 | — | 1 | 38 | ✓ | | | ✓ | JB |

PACKING SLIP

# OMEGA POINT LABORATORIES
# PURCHASING SPECIFICATIONS

SPECIFICATION NUMBER: MS-1116Q-OPL

VENDOR: PMC Corporation

VENDOR PRODUCT NUMBER: TT-TE/TE-24

PRODUCT DESCRIPTION: TFE Insulated Thermocouple Wire

Material as defined above shall be provided in accordance with the Critical Characteristics as listed below:

| TEST | DESCRIPTION | SPECIFICATION RANGES MINIMUM | MAXIMUM |
|---|---|---|---|
| ASTM E230-93 | Std. Temperature-EMF Tables for Standardized thermocouples | Temp. range -65°C to +130°C Special limits of error ±.5°C | |

## QUALITY ASSURANCE REQUIREMENTS

**1.0 QUALITY PROGRAM**

Seller shall furnish this item in accordance with Quality Program approved by Omega Point Laboratories. Material specified herein is to be produced and tested in accordance with vendor quality standards, methods, guidelines and manufacturing instructions as defined in that Quality Program.

**2.0 QUALITY VERIFICATION**

Receiving Inspection - Buyer shall inspect items upon receipt to verify compliance with purchase order requirements. Rejected items shall be returned at seller's expense.

Document Review - Final acceptance shall be based on satisfactory review of required certifications and/or supporting documents.

**3.0 CERTIFICATIONS**

3.1 Certification that supplied materials comply with this material specification and listing Critical Characteristics shall be provided. This certificates shall reference Omega Point Labs purchase order number and specification number for all material furnished under this specification. This Certification shall be signed by the appropriate vendor representative.

3.2 The material furnished under this specification shall be a product that complies with the following:

3.2.1 Has been tested and passed all tests specified herein.

3.2.2 Manufacturing methods for this material have not changed. Vendor will advise Omega Point in writing of any changes in the manufacturing prior to material manufacture.

3.2.3 Raw materials used in the manufacture of this material meet Vendor specifications.

**4.0 AUDITS/RIGHTS OF ACCESS**

Omega Point Labs reserves the right to audit your facility to verify compliance with the purchase order and specification requirements with a minimum ten (10) day notice.

**5.0 IDENTIFICATION**

Seller shall identify each item with a unique traceability number by physical marking or tagging. These identification numbers shall be traceable to certifications and packing lists.

**6.0 PACKING/SHIPPING**

All materials shall be packaged in air tight, moisture free containers and shall be free of foreign substances such as dirt, oil, grease or other deleterious materials.

All materials shall be suitably crated, boxed or otherwise prepared for shipment to prevent damage during handling and shipping.

QUALITY ASSURANCE APPROVAL

C Humphrey

Title Quality Assurance Mgr.

Date 4/18/94

CH

AVL Verification

Class: B

# OMEGA POINT LABORATORIES
# COMMERCIAL GRADE DEDICATION

PURCHASING SPEC. NO: MS- 1116Q-OPL

PRODUCT: Thermocouple Wire

MANUFACTURER: PMC Corporation
57 Harvey Road
Londonderry, NH 03053

SUPPLIER: (same)
ADDRESS:
CITY:
STATE/ZIP:
PHONE: (603) 432-9473

## TECHNICAL EVALUATION

DESCRIPTION: FEP (Fluorinated Ethylene Propylene) Insulated Thermocouple Wire

DOES IT PERFORM SAFETY FUNCTION? YES: Material testing and equipment calibration

DOES ITEM MEET CRITERIA OF CGI DEFINITION? Yes

Item meets all three criteria of CGI listed below:

a) not subject to design or specification requirements that are unique to nuclear facilities; and

b) used in applications other than nuclear facilities; and

c) is ordered from manufacturer or supplier on the basis of specifications set forth in the manufacturers published product description.

**TECHNICAL EVALUATION PERFORMED BY:**

Project Manager
Date 4/18/94

**VERIFIED BY:**

C Humphrey

Q/A Manager
Date 4/18/94

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS-1116Q-OPL

IDENTIFICATION OF CRITICAL CHARACTERISTICS:

| TEST | DESCRIPTION | SPECIFICATION RANGES MINIMUM | MAXIMUM |
|---|---|---|---|
| ASTM E230-93 | Std. Temperature-EMF Tables for Standardized Thermocouples | Temp. range -65°C to +130°C Special Limits of Error ±.5°C | |

IDENTIFICATION OF CRITICAL CHARACTERISTICS PERFORMED BY:

PROJECT MANAGER
DATE 4/18/94

VERIFIED BY:

C Humphrey
Q/A MANAGER
DATE 4/18/94

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS- 11160-OPL

ACCEPTANCE METHOD:

METHOD

Source Verification

Performance Record

Purchase order to vendor includes the Omega Point Material Specification listing critical characteristics of CGI material.

All shipments to include appropriate Certification documents listing all critical characteristics.

Material receiving shall include verification of Compliance Report with prescribed critical characteristics. Copies of Compliance Report and verification to be attached to the receiving report.

ACCEPTANCE METHOD DETERMINATION BY:

C Humphrey

DATE: 4/18/94

# FEP Insulated Thermocouple and Extension Wire

## PRODUCT CODE: TE/TE

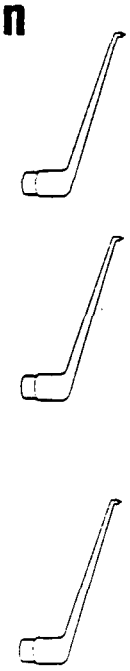
Our customers have grown to expect only the highest quality products from PMC. We are continually committed to meet the specific needs of industry and our customers. This construction includes the single conductors insulated with Teflon* FEP, laid parallel and jacketed also with Teflon FEP. Teflon FEP (Fluorinated Ethylene Propylene) was commercially introduced in 1960 by Dupont and is a true thermoplastic. It is applied as an insulation or jacket by conventional extruder processes. It retains useful strength and flexibility over broad ranges of environmental temperature or thermal aging; and a volume resistivity greater than $10^{18}$ OHM-cm and a surface resistivity above $10^{16}$ OHM/Sq., both are at the top of the measurable range. The dielectric constant is 2.1 from $10^2$ to $10^7$ Hz, above which it drops slightly with increasing frequency (less than 3% change at $10^{10}$ Hz). The dissipation factor shows no change with temperature and only slight change with frequency – between 60 Hz and 10,000 Hz, the factor ranges from 0.0002 to 0.0007, obtaining a maximum value at 1 Mhz.

The thermocouple grade products shown are used to form temperature sensors and the extension grade products become the interconnecting link in the temperature system.

Suggested operating temperature is -90°F to 400°F (-67°C to 204°C). The insulation on the individual conductors and the jacketing are both color coded to ANSI standards for quick identification of conductors and calibration.

You will find our qualified sales and engineering staff eager to assist in selecting a design to meet the requirements of your specific application.

*Registered Trademark of E.I. Dupont Inc.



**Calibrated conductors selected for high system accuracy**

**400°F (204°C) FEP insulation for improved electrical properties and high temperature applications**

**400°F (204°C) FEP jacket for chemical inertness to solvents, acids and oils**

| GRADE OF WIRE | GAUGE SIZE | WIRE TYPE | PART NUMBERS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | TYPE J | TYPE K | TYPE T | TYPE E | TYPE N | TYPE RSX |
| THERMOCOUPLE | 20 | SOLID | J-TE/TE -20 | K-TE/TE-20 | T-TE/TE-20 | E-TE/TE-20 | N-TE/TE-20 | |
| THERMOCOUPLE | 20 7/28 | STRANDED | J-TE/TE-20F | K-TE/TE-20F | T-TE/TE-20F | E-TE/TE-20F | N-TE/TE-20F | |
| THERMOCOUPLE | 24 | SOLID | J-TE/TE-24 | K-TE/TE-24 | T-TE/TE-24 | E-TE/TE-24 | N-TE/TE-24 | |
| THERMOCOUPLE | 24 7/32 | STRANDED | J-TE/TE-24F | K-TE/TE-24F | T-TE/TE-24F | E-TE/TE-24F | N-TE/TE-24F | |
| THERMOCOUPLE | 30 | SOLID | J-TE/TE-30 | K-TE/TE-30 | T-TE/TE-30 | E-TE/TE-30 | N-TE/TE-30 | |
| EXTENSION | 16 | SOLID | JX-TE/TE-16 | KX-TE/TE-16 | TX-TE/TE-16 | EX-TE/TE-16 | NX-TE/TE-16 | RSX-TE/TE-16 |
| EXTENSION | 20 | SOLID | JX-TE/TE-20 | KX-TE/TE-20 | TX-TE/TE-20 | EX-TE/TE-20 | NX-TE/TE-20 | RSX-TE/TE-20 |
| EXTENSION | 20 7/28 | STRANDED | JX-TE/TE-20F | KX-TE/TE-20F | TX-TE/TE-20F | EX-TE/TE-20F | NX-TE/TE-20F | RSX-TE/TE-20F |
| EXTENSION | 24 | SOLID | JX-TE/TE-24 | KX-TE/TE-24 | TX-TE/TE-24 | EX-TE/TE-24 | NX-TE/TE-24 | RSX-TE/TE-24 |
| EXTENSION | 24 7/32 | STRANDED | JX-TE/TE-24F | KX-TE/TE-24F | TX-TE/TE-24F | EX-TE/TE-24F | NX-TE/TE-24F | RSX-TE/TE-24F |

*The above part numbers represent the more popular constructions. However, other designs are available upon request.*

**PMC CORPORATION**
57 Harvey Road
Londonderry, NH
03053

**Tel. (603) 432-9473**
**FAX (603) 432-0435**

## Color code & initial calibration tolerances for thermocouple wire

| THERMOCOUPLE TYPE | | COLOR CODE | | INITIAL CALIBRATION TOLERANCES | | |
|---|---|---|---|---|---|---|
| WIRE ALLOYS | ANSI SYMBOL | +/- INDIVIDUAL | JACKET | TEMPERATURE RANGE | STANDARD LIMITS | SPECIAL LIMITS |
| *Iron (+) vs. Constantan™ (-) | J | WHITE/RED | BROWN | + 32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +1400°F (+750°C) | ± 4°F (2.2°C)<br>± .75% | ± 2°F (1.1°C)<br>± .4% |
| Chromel™ (+) vs. *Alumel™ (-) | K | YELLOW/RED | BROWN | -330°F (-200°C) to -165°F (-110°C)<br>-165°F (-110°C) to +32°F (0°C)<br>+32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +2300°F (+1250°C) | ± 2%<br>± 4°F (2.2°C)<br>± 4°F (2.2°C)<br>± .75% | ± 2°F (1.1°C)<br>± .4% |
| Copper (+) vs. Constantan™ (-) | T | BLUE/RED | BROWN | -330°F (-200°C) to -85°F (-65°C)<br>-85°F (-65°C) to +270°F (+130°C)<br>+270°F (+130°C) to +660°F (+350°C) | ± 1.5%<br>±1.8°F (1°C)<br>± 75% | ± .8%<br>± .9°F (.5°C)<br>± .4% |
| Chromel ™ (+) vs. Constantan ™ (-) | E | PURPLE/RED | BROWN | -330°F (-200°C) to -270°F (-170°C)<br>-270°F (-170°C) to +480°F (+250°C)<br>+480°F (+250°C) to +640°F (+340°C)<br>+640°F (+340°C) to +1600°F (+900°C) | ± 1%<br>±3°F (1.7°C)<br>±3°F (1.7°C)<br>± .5% | ± 1.8°F (1°C)<br>± 1.8°F (1°C)<br>± .4%<br>± .4% |
| Nicrosil™ (+) vs. Nisil™ (-) | N | ORANGE/RED | BROWN | + 32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +2300°F (+1250°C) | ± 4°F (2.2°C)<br>± .75% | ± 2° F(1.1°C)<br>± .4% |

## Color code and initial calibration tolerances for extension wire

| | | | | | | |
|---|---|---|---|---|---|---|
| *Iron vs. Constantan™ | JX | WHITE/RED | BLACK | + 32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Chromel™ vs. *Alumel™ | KX | YELLOW/RED | YELLOW | +32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Copper vs. Constantan™ | TX | BLUE/RED | BLUE | -75°F (-60°C) to +210°F (+100°C) | ± 2°F (1.1° C) | ± 1°F (.5°C) |
| Chromel™ vs. Constantan™ | EX | PURPLE/RED | PURPLE | +32°F (0°C) to +400°F (+200°C) | ± 3°F (1.7°C) | ± 2°F (1.1°C) |
| Nicrosil™ vs. Nisil™ | NX | ORANGE/RED | ORANGE | +32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Copper vs. Copper Alloy | SX<br>RX | BLACK/RED | GREEN | +75°F (+25°C) to +400°F (+200°C) | ± 12°F (7°C) | |

* Magnetic
™Trade Mark, Hoskins Mfg. Co

NOTE – Percent limits apply directly to temperatures in °C units, but for °F equivalents are applied to the numbers of °F above or below the ice point (+32°F).
(i.e., Limit (°F) = (Temp. °F – 32°F) X Percentage)

Thermocouple wire cannot be expected to meet the limits of error at temperatures below the ice point unless specified at time of purchase.

## TE/TE physical properties

| INSULATION CHARACTERISTICS | INSULATION | INSULATION |
|---|---|---|
| SPECIFIC GRAVITY | 2.2 | 2.2 |
| DUROMETER HARDNESS | 55 | 55 |
| TENSILE STRENGTH p.s.i. (min.) | 3000 p.s.i. | 3000 p.s.i. |
| ELONGATION %(min.) | 200% | 200% |
| MINIMUM BEND RADIUS | 3 X O.D. | 5 X O.D. |
| ABRASION RESISTANCE | VERY GOOD | VERY GOOD |
| CUT THROUGH RESISTANCE | GOOD | GOOD |
| MOISTURE RESISTANCE | EXCELLENT | EXCELLENT |
| SOLDER IRON RESISTANCE | GOOD | GOOD |
| SERVICE TEMPERATURE | 400°F (200°C) CONTINUOUS 482°F (250°C) 24 HOURS | 400°F (200°C) CONTINUOUS 482°F (250°C) 24 HOURS |
| FLAME TEST | SELF EX-TINGUISHING | SELF EX-TINGUISHING |

| GAUGE SIZE | NOMINAL INSULATION WALL (INCHES) | NOMINAL JACKET WALL (INCHES) | NOMINAL DIAMETER (INCHES) | APPROX. SHIP. WEIGHT LBS. PER 1000 FT |
|---|---|---|---|---|
| 16 | .008 | .010 | .087 X .154 | 24 |
| 20 7/28 | .008 | .010 | .074 X .128 | 13 |
| 20 | .008 | .010 | .068 X .116 | 12 |
| 24 7/32 | .008 | .010 | .060 X .100 | 7 |
| 24 | .008 | .010 | .056 X .092 | 6 |
| 30 | .004 | .006 | .030 X .048 | 2 |

**PRICING POLICY >** Shipments will be invoiced at PMC's prices in effect at time of shipment. Quotations are given with an escalation clause and prices, terms, and conditions are subject to change without prior notice. PMC will, however, make every attempt to hold to current quoted prices. All prices quoted are in United States currency, and shall be subject to correction for errors. Unless otherwise stated in writing to PMC.

**REELS, SPOOLS & COILS >** All shipments, unless specified otherwise by PMC, are made on non-returnable reels, spools or coils in one continuous length.

**SHORTAGES & RETURNS >** All claims for shortage or incorrect material must be made within 10 days after receipt of the goods to which such claim pertains. Goods may only be returned for credit within 1 month of the date of authorization. Goods that are special in any way shall not be returned to PMC. Material returned for any reason, without written authorization will be refused and returned at shipper's expense. A return request must be processed through our Londonderry, N.H. sales office.

**TOLERANCES >** Due to allowances in manufacturing processes for wire, cable and similar products, PMC reserves the right to ship a variation of ± 10% from the quantity of such goods ordered. Physical tolerances shown are nominal. Shipping weights are an average of all types of conductors and are listed for estimating only. These weights can vary substantially due to different types of spools, reels and/or conductors.

The material contained in this document is presented in good faith and believed to be reliable and accurate. However, because testing conditions may vary and material quality or information that may be provided in whole or part by others may be beyond our control, no warranty, expressed or implied, is given and PMC Corporation can assume no liability for results obtained or damages incurred through the application of the data tests presented. NOTE. PMC reserves the right to substitute an equal product on all registered trademark items

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI/TUA
CLIENT/PROJECT NUMBER 11960-97185 to 87 + 97257 to 260
RECEIVED FROM TUA
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1409 - 11960
DATE RECEIVED 7-28-94
DATE INSPECTED 7-28-94
INSPECTED BY: CPatton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/C 6AWG Cable | N/A | 0 | 2 reels | 0 | 93D5278G | Y | N | GOOD | NONE | X | | | Receiving Verification only |
| 4/C 10AWG Cable | N/A | 0 | 200' | 0 | BLP-142M | Y | N | GOOD | NONE | X | | | Reel #1 3/C 6AWG has 2514' and |
| | | | | | | | | | | | | | Reel #2 3/C 6AWG has 4710' |
| | | | | | | | | | | | | | WIRE JACKET DESCRIPTIONS: |
| | | | | | | | | | | | | | 3/C 6AWG ROCKBESTOS 600V 21042-BL-0178, TYPE PXNJ |
| | | | | | | | | | | | | | 4/C 10 ROCKBESTOS(R) 600V 90NLC-74556G TYPE PXNJ MARK WFD-2 |
| | | | | | | | | | | | | | MARK WFA-6 |
| | | | | | | | | | | | | | 1990 OC-93 |

FORM
1/29/93

214

SHIPPER Tennessee Valley Authority POINT OF ORIGIN Athens Alabama 35611 7-27- 19 94

SHIPPING STOREROOM Browns Ferry Nuclear Plant AUTHORITY KEN DAN OLIVER, SUPV., M&PS

SHIP TO

Omega Point Lab
16915 Shady Falls Road
Elmendorf, Texas 78112-9784

ACCT NO. (DO NOT INCLUDE TRANSPORTATION CHARGES)

DEBIT

RECORD ONLY

BILL TO

Sequoyah Nuclear Plant
Soddy Daisy, TN

CREDIT

| ITEM | QUANTITY ORDERED | DESCRIPTION | PSC – ITEM NO. BIN NO. | QUANTITY DELIVERED | UNIT | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|---|---|
| | 2 ea | Reels Cable<br>WFA-65<br>MFGR: Rockbestos<br>Reel #'s : 93D52736 - Qty 2514 Feet #1<br>93D52790 - Qty 4710 Feet #2<br>Purchase Order: 21042-3L017Q | | 7,224 | FT | | |
| | | This cable being shipped per request of Norm Black and Steve Vickery of Sequoyah Nuclear Plant. Request for Shipping #4139 58-94-262 | | | | | |
| | | Reference: PER #3Q030890 | | | | | |
| | | THERMOLAG TESTING | | | | | |
| | | QA I | | | | | |
| | | | | 1 reel - Overnight 1,090#<br>1 reel - Two day freight 1,925# | | | |

SHIPPING WEIGHT

DISTRIBUTION OF TRANSPORTATION CHARGES

DATE SHIPPED 7-27- 19 94 G. B. L. No. TV N/A METHOD OF SHIPMENT FEDEX #HSVA-100

5 – SHIPPING NOTICE

TO BE ENCLOSED WITH MATERIAL WHEN NO OTHER PACKING SLIP IS USED: OTHERWISE, TO CONSIGNEE UNDER SEPARATE COVER.

TO BE FILLED IN BY RECEIVING OFFICE

SERIAL NO. OF FORM

1677

COST
CARRIER'S CHARGE
DELIVERY CHARGES
TOTAL COST

MATERIAL RECEIVED 19
NAME OF CARRIER
MATERIAL CHECKED IN BY
STORES LEDGER POSTED BY

```
TIIC:  BTV967A-----------QA LEVEL: 1
21042-BL-017-Q---REL-0004----ITEM: 1
STOR LEV: D-------------------U/I:FT
REEL NO: 93D5278G- 2514'------------
DESC:  CABLE, ELECTRICAL, COPPER, 6
AWG, 3/C, CLASS 1 E LOCA, 600 VOLTS
TYPE PXMJ, TVA MARK NO.  WFA-6E-----
RECD 03-20-93-------------------QC:DS
MRR: 7127----------5/20/93-------MES
```

```
TIIC:  BTV967A-----------QA LEVEL: 1
21042-BL-017-Q---REL-0004----ITEM: 1
STOR LEV: D-------------------U/I:FT
REEL NO: 93D5279G- 4710'------------
DESC:  CABLE, ELECTRICAL, COPPER, 6
AWG, 3/C, CLASS 1 E LOCA, 600 VOLTS
TYPE PXMJ, TVA MARK NO.  WFA-6E-----
RECD 03-20-93-------------------QC:DS
MRR: 7127----------5/20/93-------MES
```

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

0115008666

4159M 0115008666

**RECIPIENT'S COPY**

1 Date 7-27-94

From (Your Name) Please Print: [illegible]
Your Phone Number (Very Important): (205) 722-[illegible]

Company: TVA/SQ AND FERRY NUCLEAR PLT
Department/Floor No.:
Street Address: LOWNS FERRY ROAD
City: ATHENS State: AL ZIP Required: 35611

2 To (Recipient's Name) Please Print:
Recipient's Phone Number (Very Important): ( )

Company: [illegible]
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 10015 [illegible] Falls Road
City: [illegible] State: TX ZIP Required: 7[illegible]2

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 ☐ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 ☐ ECONOMY**
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 ☐ GOVT LETTER
41 ☒ GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 ☒ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 ☐ HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 ☒ DELIVER WEEKDAY

Saturday Service
31 ☐ HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 ☐ SATURDAY PICK-UP (Extra charge)

Special Handling
4 ☐ DANGEROUS GOODS (Extra charge)
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 _____ X _____ kg. 904 III
☐ [illegible]
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6

| PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right) |
|---|---|---|
| 1 | 1090 | |
| Total | Total | Total |
| 1 | 1090 | |

DIM SHIPMENT (Chargeable Weight) ☐ _____ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box
2 ☒ On-Call Stop 4 ☐ B.S.C. 5 ☐ Station

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 3/94
PART #137204 FXEM 5/94
FORMAT #158
158
©1992-93 FEDEX
PRINTED IN
U.S.A.

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

0115008670

0115008670

**RECIPIENT'S COPY**

1 Date

From (Your Name) Please Print: [illegible] COURT
Your Phone Number (Very Important): ([illegible])
Company: TVA/BROWNS FERRY NUCLEAR PLT
Department/Floor No.:
Street Address: BROWNS FERRY ROAD
City: ATHENS State: AL ZIP Required: 3[illegible]

2 To (Recipient's Name) Please Print:
Recipient's Phone Number (Very Important): ( )
Company:
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): [illegible]
City: [illegible] State: TX ZIP Required: 7[illegible]

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
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14 ☐ FEDEX TUBE

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56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 ☐ ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
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41 ☐ GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☒ TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule

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1 ☐ HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 ☒ DELIVER WEEKDAY

Saturday Service
31 ☐ HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 ☐ SATURDAY PICK-UP (Extra charge)

Special Handling
4 ☐ DANGEROUS GOODS (Extra charge)
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice 9, UN 1845 _____ X _____ kg. 904 III
☐ OVERNIGHT
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6

| PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right) |
|---|---|---|
| 1 | 1 1 9 5 | |
| Total | Total 1 1 9 5 | Total |

DIM SHIPMENT (Chargeable Weight) ☐ _____ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box 4 ☐ B.S.C. 5 ☐ Station 2 ☒ On-Call Stop

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 3/94
PART #137204 FXEM 5-94
FORMAT #158
158
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210

SHIPPER Hartsville Distribution Center POINT OF ORIGIN near Dixon Springs, TN. 7-26- 19 94

SHIPPING STOREROOM HDC AUTHORITY Ron L. Cook

SHIP TO
Omega Point Lab
16015 Shady Falls Road
Elmendorf, Texas 78112-9784

ACCT No. (DO NOT INCLUDE TRANSPORTATION CHARGES)
DEBIT
000QHPT

BILL TO

CREDIT

| ITEM | QUANTITY ORDERED | DESCRIPTION | PSC – ITEM No. BIN No. | QUANTITY DELIVERED | UNIT | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|---|---|
| | | Reference: 4139# 58-94-261 | | | | | |
| | | 200 ft Cable, power/control, MK# WFD-2<br>Mfgr reel # G3150420<br>Watts Bar reel # WB15088<br>NOTE: THIS CABLE IS REQUIRED FOR THERMOLAG TESTING AT OMEGA POINT LAB. | BLP-142M | 200 | FT | | |

Public Safety Copy

SHIPPING WEIGHT

DISTRIBUTION OF TRANSPORTATION CHARGES

DATE SHIPPED July 27 19 94 G. B. L. No. TV _____ METHOD OF SHIPMENT _____

James E Oldham

ACCOUNTING OFFICE COPY –
TO ACCOUNTING OFFICE OF ORGANIZATION ACCOUNTABLE FOR MATERIAL SHIPPED.

FOR ACCOUNTING OFFICE
ACCOUNTING MONTH _____ 19 ____
DATE RECORDED _____ 19 ____ BY _____

REEL TAG

TIIC NO. BLP-142M

TVA MK NO. WFD-2

MFG. REEL NO. G-3150 1/2

SHIPPING TICKET NO.

TRANSFER REQUEST NO. 4139 # 58-9

FOOTAGE 200

ORIGINAL CONTRACT NO. 90dLc

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

0199495564

0199495564

Date 7-27

**RECIPIENT'S COPY**

1 From (Your Name) Please Print: [illegible]

Your Phone Number (Very Important) ( )

Company: TYA/HARTWELL DIST CENTER

Department/Floor No.

Street Address: HARTWELL DIST CENTER

City: [illegible] SPRINGS

State: TX

ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: OMEGA POINT LAB

Recipient's Phone Number (Very Important) ( )

Company: 16015 Shady Falls Road

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip + Codes.): ELMENDORF TX

City

State

ZIP Required: 78112-9782

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.): 150963788 [illegible]

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

4 SERVICES (Check only one box)

Priority Overnight Service (Delivery by next business morning†)
- 11 ☑ YOUR PACKAGING
- 16 ☐ FEDEX LETTER *
- 12 ☐ FEDEX PAK *
- 13 ☐ FEDEX BOX
- 14 ☐ FEDEX TUBE

Standard Overnight Service (Delivery by next business afternoon†)
- 51 ☐
- 56 ☐ FEDEX LETTER *
- 52 ☐ FEDEX PAK *
- 53 ☐ FEDEX BOX
- 54 ☐ FEDEX TUBE

Economy Two-Day Service (formerly Standard Air) (Delivery by second business day†)
- 30 ☐ ECONOMY TWO-DAY SVC.

Heavyweight Service (for Extra Large or any package over 150 lbs.)
- 70 ☐ HEAVYWEIGHT **
- 80 ☐ DEFERRED HEAVYWEIGHT **

† Delivery commitment may be later in some areas.
*Declared Value Limit $100.
**Call for delivery schedule.

DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 ☐ HOLD FOR PICK-UP (Fill in Box H)
- 2 ☑ DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
- 4 ☐ DANGEROUS GOODS (Extra charge)
- 5 ☐
- 6 ☐ DRY ICE ____ Lbs
- 7 ☐ OTHER SPECIAL SERVICE
- 8 ☐
- 9 ☐ SATURDAY PICK-UP (Extra charge)
- 10 ☐
- 11 ☐
- 12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

| PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE |
|---|---|---|
| 1 | 136 | |
| Total 1 | Total 136 | Total |

DIM SHIPMENT (Chargeable Weight) ☐ ____ lbs.

Received At: 1 ☐ Regular Stop 2 ☐ On-Call Stop 3 ☐ Drop Box 4 ☐ BSC 5 ☐ Station

FedEx Emp. No.

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del ☐ Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

5 Release Signature:
Date/Time

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 8/90
PART #119501 FXEM 1991
FORMAT #041
041

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PRINTED IN U.S.A.

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI / TVA
CLIENT/PROJECT NUMBER 11960-97185-87+97257-60
RECEIVED FROM TVA
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1414 . 11960
DATE RECEIVED 8-10-94
DATE INSPECTED 8-10-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| 1" steel Conduit | NA | 7 | 7 | 0 | AWD-015W | Y | N | GOOD | None | X | | | Receiving Verification only 10' Length Ten Total 70 ft. CH |
| | | | | | | | | | | | | | |
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FORM
1/29/93

SHIPPER TENNESSEE VALLEY AUTHORITY

POINT OF ORIGIN NEAR, ATHENS, AL. 35611 8-8 94 19

SHIPPING STOREROOM BROWNS FERRY NUCLEAR PLANT

AUTHORITY DAN OLIVER, SUPV., M&PS

SHIP TO
MK OMEGA POINT LABS
16815 SHADY FALLS ROAD
ELMENDORF, TX 78112

ACCT NO. (DO NOT INCLUDE TRANSPORTATION CHARGES)

DEBIT 0005151 ~~RECORD ONLY~~

BILL TO

CREDIT 0002W83

| ITEM | QUANTITY ORDERED | DESCRIPTION | PSC – ITEM No. BIN No. | QUANTITY DELIVERED | UNIT | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|---|---|
| 1. | 70 | Conduit, metal rigid steel, Galv., Thickwall, 1.0 IN DIA X 10 FT LG. | AWD-015W | 70 | FT | | |
| | | SENT FOR FIRE TESTING PROGRAM | | | | | |
| | | QA III | | | | | |

SHIPPING WEIGHT

DISTRIBUTION OF TRANSPORTATION CHARGES

DATE SHIPPED 8-8 19 94 G. B. L. No. TV N/A METHOD OF SHIPMENT FEDEX (TWO DAY FRT)

5 – SHIPPING NOTICE

TO BE ENCLOSED WITH MATERIAL WHEN NO OTHER PACKING SLIP IS USED: OTHERWISE, TO CONSIGNEE UNDER SEPARATE COVER.

TO BE FILLED IN BY RECEIVING OFFICE

SERIAL NO. OF FORM

1677

COST
CARRIER'S CHARGE
DELIVERY CHARGES
TOTAL COST

MATERIAL RECEIVED 19
NAME OF CARRIER C. W. BURT
MATERIAL CHECKED IN BY
STORES LEDGER POSTED BY

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER
0115008810

0115008810

**RECIPIENT'S COPY**

1 Date

From (Your Name) Please Print — Your Phone Number (Very Important)

Company — Department/Floor No.

Street Address

City — State — ZIP Required

2 To (Recipient's Name) Please Print — Recipient Phone (Very Important)

Company — Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City — State — ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City — State — ZIP Required

3 PAYMENT 1 [ ] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 [ ] OTHER PACKAGING
16 [ ] FEDEX LETTER
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery.)
51 [ ] OTHER PACKAGING
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day.)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [X] OVERNIGHT FREIGHT**
80 [ ] TWO-DAY FREIGHT
** Confirmed reservation required. Delivery commitment may vary in some areas.

5 DELIVERY AND SPECIAL HANDLING

Hold Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [X] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ____ x ____ kg. 904 III
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

| PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See Back) |
|---|---|---|
| | 125 | |
| Total | Total 125 | Total |

DIM SHIPMENT (Charge)
[ ]
L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] Drop Call Stop 4 [ ] B.S.C. 5 [ ] Station

7 Release Signature:

Emp. No. — Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Hold
Street
City — State — Zip
Received By:
X
Date/Time Received — FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 3/94
PART #137204 FXEM 5/94
FORMAT #158
158
PRINTED IN U.S.A.

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI/TVA
CLIENT/PROJECT NUMBER 11960-97332/38
RECEIVED FROM PMC
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1436 - 11960
DATE RECEIVED 9/2/94
DATE INSPECTED 9/2/94
INSPECTED BY: [illegible]

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| TC Wire | 11380 | 4K | 4K | 0 | TT-TE/TE-24 | Y | Y | Good | None | X | | | Spool # 106311-4,265' |

FORM
1/29/93

224

# PURCHASE ORDER



Omega Point Laboratories, Inc.
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

**Vendor:**

Janice Welch
PMC Corporation
57 Harvey Road

Londonderry NH 03053

**PO Number:** 1138-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

**Bill To:**

Accounts Payable
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

**Ship To:**

Cleda Patton
Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112-9784

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 8/4/94 | UPS Ground | MS-1138Q-11960 | 8/22/94 | |

| Item No. | Description | Quantity Ordered | Unit Price. | Extended Amount |
|---|---|---|---|---|
| 1. | TT-TE/TE-24<br>Type "T" Thermocouple Wire | 4000 | $0.27 | $1,080.00 |
| 2. | Wire Calibration at:<br>40°C, 60°C , 80°C, 90°C, 100°C | 1 | $85.00 | $85.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 8-4-94

**Special Instructions**

Include Certificates of Conformance to ASTM E230-93 Special Limits of Error and Calibration data traceable to NIST.

**Ordered By:** Cleda Patton

**Project #:** 11960-97332 /38

Rec. 9/2/94
4,265'

| | |
|---|---|
| Total | $1,165.00 |
| Shipping | |
| Tax | |
| Invoice Total | $1,165.00 |

PMC CORPORATION
57 HARVEY ROAD, LONDONDERRY, N.H. 03053 • (603) 432-WIRE
SPECIALIZING IN WIRE, CABLES & TEMPERATURE

SOLD TO

OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

SHIP TO

OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

78238

| DATE RECEIVED | CUSTOMER NO. | E | O | T | PMC JOB NO. |
|---|---|---|---|---|---|
| 8/05/94 | OMEG001 | 60 | 60 | 50 | 18874 |

| CUSTOMER P.O. NUMBER | REQUESTED SHIP | SCHEDULED SHIP | CODE |
|---|---|---|---|
| 1138-Q | 8/19/94 | 8/19/94 | 1. MFT 5. METERS 2. CFT 6. FEET 3. POUNDS 7. LOT 4. EACH NET 8. OTHER |

| SHIP VIA | F.O.B. | TERMS |
|---|---|---|
| UPS | LONDONDERRY, NH | NET 15 |

| ITEM | QUANTITY ORDERED | PART NUMBER / DESCRIPTION | QUANTITY SHIPPED |
|---|---|---|---|
| | 4000.00 | TT-TE/TE-34 | 4265' |
| | 1.00 | CALIBRATION AT 40, 60, 80, 90 AND 100°C I/O MARK: SPEC #MS-1138Q-1 (TEC) CAL DATA REQUIRED | 1 |

UNIT PRICES ARE BASED ON COPPER AT $ /lb., SILVER AT $ /TROY OZ. HOWEVER UNIT PRICES INVOICED WILL BE BASED ON MATERIAL COST ON DATE OF SHIPMENT.

SPECIAL INSTRUCTIONS: UPS surface

| DATE SHIPPED | BILL OF LADING NO. | NO. OF PACKAGES | WEIGHT | PPD | COL. | PARTIAL | COMPLETE | PACKED BY |
|---|---|---|---|---|---|---|---|---|
| 8/26/94 | — | 1 | 28# | ✓ | | | ✓ | JW |

PACKING SLIP

PMC

# CERTIFICATE OF CONFORMANCE

TO OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

DATE 8/26/94
CUSTOMER PO# 1138-0
JOB # 18874-1

| PMC P/N | QUANTITY | CUSTOMER P/N | SPEC |
|---|---|---|---|
| TT-TE/TE-24 | 4265' | | MS-11380-11960 |

THIS SPOOL NO. 106311 IS MANUFACTURED FROM REEL NOS. 18516 AND 18107

ADDITIONAL INFORMATION (IF REQUIRED):

| SPOOL NO. | IN ERROR @ 40°C | IN ERROR @ 60°C | IN ERROR @ 80°C | IN ERROR @ 90°C | IN ERROR @ 100°C |
|---|---|---|---|---|---|
| 106311 - INSIDE | .16 | .33 | .05 | .33 | .11 |
| 106311 - OUTSIDE | .11 | .33 | .05 | .33 | .11 |

ALL SPOOLS ARE TAKEN FROM A LARGE EXTRUSION SPOOL IN ROTATION. THIS CALIBRATION SHOWS THE INSIDE AND OUTSIDE OF THE ABOVE SPOOL IN °C.

CALIBRATION RESULTS ARE TRACEABLE TO NIST AND MEET SPECIAL LIMITS OF ERROR AS DEFINED IN ASTM-E-230 AND COMPLY TO MILL STD 45662.

This is to certify the materials furnished on this shipment are in conformance with the requirements, specifications, and drawings of the above referenced customer purchase order. Inspection and test records are on file and available for customer review.

Quality Assurance Inspector

Quality Assurance Manager

57 HARVEY ROAD
LONDONDERRY, NH
03053
(603) 432-WIRE
FAX (603) 432-0435

are Cooper # 18516 and they
Meet special limits

HAI-TN
THERMOCOUPLE GRADE

SIZE 0201 GROSS 31.47
B & S 24 TARE 1.65
HEAT# 2175 NET 29.82
COIL#
P.O 13332
RES. Ω/Ft.
SPEC.# 18107
P/N TTN-24
DATE 03/18/94

| TEST TEMP | EMF vs Pt-67 (mv) |
|---|---|
| 200 | 3.271 |
| 500 | 9.973 |
| 700 | 14.890 |
| 1000° | 22.583 |

HARRISON ALLOYS INC.
HARRISON, N.J.

# MAJOR WIRE COMPANY INC.

7 COBURN STREET
CHICOPEE, MASSACHUSETTS 01013
TELEPHONE 413-536-1813

## CERTIFICATE OF CONFORMANCE

CUSTOMER P. M. C. Corp

CUSTOMER P.O. # 14305

MAJOR WIRE # 18516

DATE OF SHIPMENT 8/25/94

WE CERTIFY THAT THE ITEMS LISTED ON OUR PACKING LIST FOR THE ABOVE ORDER HAVE BEEN MANUFACTURED IN ACCORDANCE WITH ALL THE APPLICABLE INSTRUCTIONS AND SPECIFICATIONS.

William Ellis
AUTHORIZED SIGNATURE

9/22/94
DATE

_____ PACKING LIST

_____ SEE BELOW

_____ ATTACHED

COMMENTS #16 7/24 Bare 10 ASTM B3-B174
410lbs

# OMEGA POINT LABORATORIES
# COMMERCIAL GRADE DEDICATION

PURCHASING SPEC. NO: MS-1138Q-11960

PRODUCT: Thermocouple Wire

MANUFACTURER: PMC Corporation
57 Harvey Road
Londonderry, NH 03053

SUPPLIER: (same)
ADDRESS:
CITY:
STATE/ZIP:
PHONE: (603) 432-9473

## TECHNICAL EVALUATION

DESCRIPTION: FEP (Fluorinated Ethylene Propylene) Insulated Thermocouple Wire

DOES IT PERFORM SAFETY FUNCTION? YES: Material testing and equipment calibration

DOES ITEM MEET CRITERIA OF CGI DEFINITION? Yes

Item meets all three criteria of CGI listed below:

a) not subject to design or specification requirements that are unique to nuclear facilities; and

b) used in applications other than nuclear facilities; and

c) is ordered from manufacturer or supplier on the basis of specifications set forth in the manufacturers published product description.

**TECHNICAL EVALUATION PERFORMED BY:**

Project Manager
Date 8/4/94

**VERIFIED BY:**

C Humphrey

Q/A Manager
Date 8/4/94

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS- 1138Q-11960

IDENTIFICATION OF CRITICAL CHARACTERISTICS:

| TEST | DESCRIPTION | SPECIFICATION RANGES MINIMUM | MAXIMUM |
|---|---|---|---|
| ASTM E230-93 | Std. Temperature-EMF Tables for Standardized Thermocouples | Temp. range -65°C to +130°C Special Limits of Error ±.5°C | |

IDENTIFICATION OF CRITICAL CHARACTERISTICS PERFORMED BY:

PROJECT MANAGER
DATE 8/4/94

VERIFIED BY:

C Humphrey
Q/A MANAGER
DATE 8/4/94

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS-11380-11960

ACCEPTANCE METHOD:

METHOD

Source Verification

Performance Record

Purchase order to vendor includes the Omega Point Material Specification listing critical characteristics of CGI material.

All shipments to include appropriate Certification documents listing all critical characteristics.

Material receiving shall include verification of Compliance Report with prescribed critical characteristics. Copies of Compliance Report and verification to be attached to the receiving report.

ACCEPTANCE METHOD DETERMINATION BY:

C Humphrey

DATE: 8/4/94

# OMEGA POINT LABORATORIES
# PURCHASING SPECIFICATIONS

SPECIFICATION NUMBER: MS-11380-11960

VENDOR: PMC Corporation

VENDOR PRODUCT NUMBER: TT-TE/TE-24

PRODUCT DESCRIPTION: TFE Insulated Thermocouple Wire

Material as defined above shall be provided in accordance with the Critical Characteristics as listed below:

| TEST | DESCRIPTION | SPECIFICATION RANGES MINIMUM | MAXIMUM |
|---|---|---|---|
| ASTM E230-93 | Std. Temperature-EMF Tables for Standardized thermocouples | Temp. range -65°C to +130°C Special limits of Error ±.5°C | |

## QUALITY ASSURANCE REQUIREMENTS

**1.0 QUALITY PROGRAM**

Seller shall furnish this item in accordance with Quality Program approved by Omega Point Laboratories. Material specified herein is to be produced and tested in accordance with vendor quality standards, methods, guidelines and manufacturing instructions as defined in that Quality Program.

**2.0 QUALITY VERIFICATION**

Receiving Inspection - Buyer shall inspect items upon receipt to verify compliance with purchase order requirements. Rejected items shall be returned at seller's expense.

Document Review - Final acceptance shall be based on satisfactory review of required certifications and/or supporting documents.

**3.0 CERTIFICATIONS**

3.1 Certification that supplied materials comply with this material specification and listing Critical Characteristics shall be provided. This certificates shall reference Omega Point Labs purchase order number and specification number for all material furnished under this specification. This Certification shall be signed by the appropriate vendor representative.

3.2 The material furnished under this specification shall be a product that complies with the following:

3.2.1 Has been tested and passed all tests specified herein.

3.2.2 Manufacturing methods for this material have not changed. Vendor will advise Omega Point in writing of any changes in the manufacturing prior to material manufacture.

3.2.3 Raw materials used in the manufacture of this material meet Vendor specifications.

**4.0 AUDITS/RIGHTS OF ACCESS**

Omega Point Labs reserves the right to audit your facility to verify compliance with the purchase order and specification requirements with a minimum ten (10) day notice.

**5.0 IDENTIFICATION**

Seller shall identify each item with a unique traceability number by physical marking or tagging. These identification numbers shall be traceable to certifications and packing lists.

**6.0 PACKING/SHIPPING**

All materials shall be packaged in air tight, moisture free containers and shall be free of foreign substances such as dirt, oil, grease or other deleterious materials.

All materials shall be suitably crated, boxed or otherwise prepared for shipment to prevent damage during handling and shipping.

QUALITY ASSURANCE APPROVAL

C Humphrey

Title Quality Assurance Mgr.

Date 8/4/94

CH

AVL Verification

Class: B

# FEP Insulated Thermocouple and Extension Wire

## PRODUCT CODE: TE/TE

Our customers have grown to expect only the highest quality products from PMC. We are continually committed to meet the specific needs of industry and our customers. This construction includes the single conductors insulated with Teflon* FEP, laid parallel and jacketed also with Teflon FEP. Teflon FEP (Fluorinated Ethylene Propylene) was commercially introduced in 1960 by Dupont and is a true thermoplastic. It is applied as an insulation or jacket by conventional extruder processes. It retains useful strength and flexibility over broad ranges of environmental temperature or thermal aging; and a volume resistivity greater than $10^{18}$ OHM-cm and a surface resistivity above $10^{16}$ OHM/Sq., both are at the top of the measurable range. The dielectric constant is 2.1 from $10^2$ to $10^7$ Hz, above which it drops slightly with increasing frequency (less than 3% change at $10^{10}$ Hz). The dissipation factor shows no change with temperature and only slight change with frequency – between 60 Hz and 10,000 Hz, the factor ranges from 0.0002 to 0.0007, obtaining a maximum value at 1 Mhz.

The thermocouple grade products shown are used to form temperature sensors and the extension grade products become the interconnecting link in the temperature system.

Suggested operating temperature is -90°F to 400°F (-67°C to 204°C). The insulation on the individual conductors and the jacketing are both color coded to ANSI standards for quick identification of conductors and calibration.

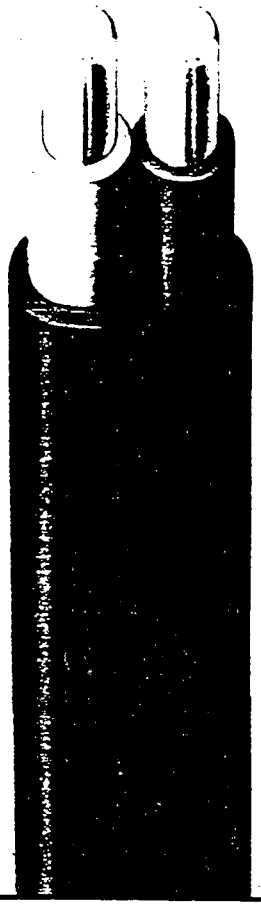
You will find our qualified sales and engineering staff eager to assist in selecting a design to meet the requirements of your specific application.

*Registered Trademark of E.I. Dupont Inc.

**Calibrated conductors selected for high system accuracy**

**400°F (204°C) FEP insulation for improved electrical properties and high temperature applications**

**400°F (204°C) FEP jacket for chemical inertness to solvents, acids and oils**



| GRADE OF WIRE | GAUGE SIZE | WIRE TYPE | PART NUMBERS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | TYPE J | TYPE K | TYPE T | TYPE E | TYPE N | TYPE RSX |
| THERMOCOUPLE | 20 | SOLID | J-TE/TE -20 | K-TE/TE-20 | T-TE/TE-20 | E-TE/TE-20 | N-TE/TE-20 | |
| THERMOCOUPLE | 20 7/28 | STRANDED | J-TE/TE-20F | K-TE/TE-20F | T-TE/TE-20F | E-TE/TE-20F | N-TE/TE-20F | |
| THERMOCOUPLE | 24 | SOLID | J-TE/TE-24 | K-TE/TE-24 | T-TE/TE-24 | E-TE/TE-24 | N-TE/TE-24 | |
| THERMOCOUPLE | 24 7/32 | STRANDED | J-TE/TE-24F | K-TE/TE-24F | T-TE/TE-24F | E-TE/TE-24F | N-TE/TE-24F | |
| THERMOCOUPLE | 30 | SOLID | J-TE/TE-30 | K-TE/TE-30 | T-TE/TE-30 | E-TE/TE-30 | N-TE/TE-30 | |
| EXTENSION | 16 | SOLID | JX-TE/TE-16 | KX-TE/TE-16 | TX-TE/TE-16 | EX-TE/TE-16 | NX-TE/TE-16 | RSX-TE/TE-16 |
| EXTENSION | 20 | SOLID | JX-TE/TE-20 | KX-TE/TE-20 | TX-TE/TE-20 | EX-TE/TE-20 | NX-TE/TE-20 | RSX-TE/TE-20 |
| EXTENSION | 20 7/28 | STRANDED | JX-TE/TE-20F | KX-TE/TE-20F | TX-TE/TE-20F | EX-TE/TE-20F | NX-TE/TE-20F | RSX-TE/TE-20F |
| EXTENSION | 24 | SOLID | JX-TE/TE-24 | KX-TE/TE-24 | TX-TE/TE-24 | EX-TE/TE-24 | NX-TE/TE-24 | RSX-TE/TE-24 |
| EXTENSION | 24 7/32 | STRANDED | JX-TE/TE-24F | KX-TE/TE-24F | TX-TE/TE-24F | EX-TE/TE-24F | NX-TE/TE-24F | RSX-TE/TE-24F |

*The above part numbers represent the more popular constructions. However, other designs are available upon request.*

**PMC CORPORATION**
57 Harvey Road
Londonderry, NH
03053

**Tel. (603) 432-9473**
**FAX (603) 432-0435**

## Color code & initial calibration tolerances for thermocouple wire

| THERMOCOUPLE TYPE | | COLOR CODE | | INITIAL CALIBRATION TOLERANCES | | |
|---|---|---|---|---|---|---|
| WIRE ALLOYS | ANSI SYMBOL | + / - INDIVIDUAL | JACKET | TEMPERATURE RANGE | STANDARD LIMITS | SPECIAL LIMITS |
| *Iron (+) vs. Constantan™ (-) | J | WHITE/RED | BROWN | + 32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +1400°F (+750°C) | ± 4°F (2.2°C)<br>± .75% | ± 2°F (1.1°C)<br>± .4% |
| Chromel™ (+) vs. *Alumel™ (-) | K | YELLOW/RED | BROWN | -330°F (-200°C) to -165°F (-110°C)<br>-165°F (-110°C) to +32°F (0°C)<br>+32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +2300°F (+1250°C) | ± 2%<br>± 4°F (2.2°C)<br>± 4°F (2.2°C)<br>± .75% | ± 2°F (1.1°C)<br>± .4% |
| Copper (+) vs. Constantan™ (-) | T | BLUE/RED | BROWN | -330°F (-200°C) to -85°F (-65°C)<br>-85°F (-65°C) to +270°F (+130°C)<br>+270°F (+130°C) to +660°F (+350°C) | ± 1.5%<br>±1.8°F (1°C)<br>± 75% | ± .8%<br>± .9°F (.5°C)<br>± .4% |
| Chromel ™ (+) vs. Constantan ™ (-) | E | PURPLE/RED | BROWN | -330°F (-200°C) to -270°F (-170°C)<br>-270°F (-170°C) to +480°F (+250°C)<br>+480°F (+250°C) to +640°F (+340°C)<br>+640°F (+340°C) to +1600°F (+900°C) | ± 1%<br>±3°F (1.7°C)<br>±3°F (1.7°C)<br>± .5% | ± 1.8°F (1°C)<br>± 1.8°F (1°C)<br>± .4%<br>± .4% |
| Nicrosil™ (+) vs. Nisil™ (-) | N | ORANGE/RED | BROWN | + 32°F (0°C) to +545°F (+285°C)<br>+545°F (+285°C) to +2300°F (+1250°C) | ± 4°F (2.2°C)<br>± .75% | ± 2° F(1.1°C)<br>± .4% |

## Color code and initial calibration tolerances for extension wire

| | | | | | | |
|---|---|---|---|---|---|---|
| *Iron vs. Constantan™ | JX | WHITE/RED | BLACK | + 32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Chromel™ vs. *Alumel™ | KX | YELLOW/RED | YELLOW | +32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Copper vs. Constantan™ | TX | BLUE/RED | BLUE | -75°F (-60°C) to +210°F (+100°C) | ± 2°F (1.1° C) | ± 1°F (.5°C) |
| Chromel™ vs. Constantan™ | EX | PURPLE/RED | PURPLE | +32°F (0°C) to +400°F (+200°C) | ± 3°F (1.7°C) | ± 2°F (1.1°C) |
| Nicrosil™ vs. Nisil™ | NX | ORANGE/RED | ORANGE | +32°F (0°C) to +400°F (+200°C) | ± 4°F (2.2°C) | ± 2°F (1.1°C) |
| Copper vs. Copper Alloy | SX<br>RX | BLACK/RED | GREEN | +75°F (+25°C) to +400°F (+200°C) | ± 12°F (7°C) | |

* Magnetic
™Trade Mark, Hoskins Mfg. Co.

NOTE – Percent limits apply directly to temperatures in °C units, but for °F equivalents are applied to the numbers of °F above or below the ice point (+32°F). (i.e., Limit (°F) = (Temp. °F – 32°F) X Percentage)

Thermocouple wire cannot be expected to meet the limits of error at temperatures below the ice point unless specified at time of purchase.

## TE/TE physical properties

| INSULATION CHARACTERISTICS | INSULATION | INSULATION |
|---|---|---|
| SPECIFIC GRAVITY | 2.2 | 2.2 |
| DUROMETER HARDNESS | 55 | 55 |
| TENSILE STRENGTH p.s.i. (min.) | 3000 p.s.i. | 3000 p.s.i. |
| ELONGATION %(min.) | 200% | 200% |
| MINIMUM BEND RADIUS | 3 X O.D. | 5 X O.D. |
| ABRASION RESISTANCE | VERY GOOD | VERY GOOD |
| CUT THROUGH RESISTANCE | GOOD | GOOD |
| MOISTURE RESISTANCE | EXCELLENT | EXCELLENT |
| SOLDER IRON RESISTANCE | GOOD | GOOD |
| SERVICE TEMPERATURE | 400°F (200°C) CONTINUOUS<br>482°F (250°C) 24 HOURS | 400°F (200°C) CONTINUOUS<br>482°F (250°C) 24 HOURS |
| FLAME TEST | SELF EX-TINGUISHING | SELF EX-TINGUISHING |

| GAUGE SIZE | NOMINAL INSULATION WALL (INCHES) | NOMINAL JACKET WALL (INCHES) | NOMINAL DIAMETER (INCHES) | APPROX. SHIP. WEIGHT LBS. PER 1000 FT |
|---|---|---|---|---|
| 16 | .008 | .010 | .087 X .154 | 24 |
| 20 7/28 | .008 | .010 | .074 X .128 | 13 |
| 20 | .008 | .010 | .068 X .116 | 12 |
| 24 7/32 | .008 | .010 | .060 X .100 | 7 |
| 24 | .008 | .010 | .056 X .092 | 6 |
| 30 | .004 | .006 | .030 X .048 | 2 |

**PRICING POLICY >** Shipments will be invoiced at PMC's prices in effect at time of shipment. Quotations are given with an escalation clause and prices, terms, and conditions are subject to change without prior notice. PMC will, however, make every attempt to hold to current quoted prices. All prices quoted are in United States currency, and shall be subject to correction for errors. Unless otherwise stated in writing to PMC.

**ELS, SPOOLS & COILS >** All shipments, unless specified otherwise by PMC, are made on non-returnable reels, spools or coils in one continuous length.

**ORTAGES & RETURNS >** All claims for shortage or incorrect material must be made within 10 days after receipt of the goods to which such claim pertains. Goods may only be returned for credit within 1 month of the date of authorization. Goods that are special in any way shall not be returned to PMC. Material returned for any reason, without written authorization will be refused and returned at shipper's expense. A return request must be processed through our Londonderry, N.H. sales office.

**TOLERANCES >** Due to allowances in manufacturing processes for wire, cable and similar products, PMC reserves the right to ship a variation of ± 10% from the quantity of such goods ordered. Physical tolerances shown are nominal. Shipping weights are an average of all types of conductors and are listed for estimating only. These weights can vary substantially due to different types of spools, reels and/or conductors.

The material contained in this document is presented in good faith and believed to be reliable and accurate. However, because testing conditions may vary and material quality or information that may be provided in whole or part by others may be beyond our control, no warranty, expressed or implied, is given and PMC Corporation can assume no liability for results obtained or damages incurred through the application of the data tests presented. NOTE: PMC reserves the right to substitute an equal product on all registered trademark items.

# Q/A RECEIVING REPORT

CLIENT/PROJECT NAME TVA Ampacity
CLIENT/PROJECT NUMBER 11960-97766 to 97771
RECEIVED FROM U. S. Sales
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1450 . 11960
DATE RECEIVED 11-10-94
DATE INSPECTED 11-10-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| Channel | 11620 | 200' | 200' | ∅ | P1000 (PS-200) | Y | Y | Good | None | X | | | |
| | | | | | | | | | | | | | |
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FORM
1/29/93

# PURCHASE ORDER



Omega Point Laboratories, Inc
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

**Vendor:**

Johnny Boyd
U.S. Sales Company, Inc.
318 W. Melrose Place

San Antonio TX 78212

**PO Number:** 1162-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

| Bill To: | Ship To: |
|---|---|
| Accounts Payable<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 | Cleda Patton<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 |

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 11/09/94 | Their Truck | | 11/10/94 | 30 |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| 1. | P1000 (PS-200) Channel<br>20 pieces 10' each | 200' | $1.11 | $222.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 11/09/94

**Special Instructions**

Please include all Certificates of Conformance to Catalog Specifications.

**Ordered By:** Cleda Patton
**Project #:** TVA Ampacity
#97766-97771

| | |
|---|---|
| Total | $222.00 |
| Shipping | |
| Tax | |
| Invoice Total | $222.00 |

# U. S. SALES COMPANY, INC.

239

CONTRACTORS SPECIALTIES
"SINCE 1948"
318 W. MELROSE PLACE
SAN ANTONIO, TEXAS 78212

PHONE 829-7044

Sold To: Omega Point Labs

Date: 11/1-/94

Invoice: 22226

| YOUR ORDER NO. | JOB NAME | Terms: 2% – 10 days, Net 30 days |
|---|---|---|
| 1162-Q | | |

| QUANTITY | DESCRIPTION | LIST | UNIT | DISCOUNT | AMOUNT |
|---|---|---|---|---|---|
| 200 | [illegible] (3-200) CHANNEL 15' E.L. | | | | |

TAX

TOTAL

Received By [illegible]

☐ Tax Exempt

U.S. Sales Co., Inc.
318 W. Melrose Place
San Antonio, Texas 78212
(210) 829-7044

November 10, 1994

CERTIFICATION OF COMPLIANCE

Omega Point Labs
16015 Shady Falls Rd.
Elmendorf, Texas 78112-9784

Attn: Cleda

Customer Order #1162-Q

Material: 200' P-1000 (PS-200) Channel E.G.

This is to certify that the materials shipped to fill the above order have been manufactured in accordance with standard manufacturing procedures and specifications for these products.

U. S. Sales Co. Inc.

Johnny Boyd

Johnny Boyd, President

U.S. Sales Co., Inc.
318 W. Melrose Place
San Antonio, Texas 78212
(210) 829-7044

November 10, 1994

CERTIFICATION OF COMPLIANCE

Omega Point Labs
16015 Shady Falls Rd.
Elmendorf, Texas 78112-9784

Attn: Cleda

Customer Order #1162-Q

Material: 200' P-1000 (PS-200) Channel E.G.

This is to certify that the materials shipped to fill the above order have been manufactured in accordance with standard manufacturing procedures and specifications for these products.

U. S. Sales Co. Inc.

Johnny Boyd

Johnny Boyd, President

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME: TSI
CLIENT/PROJECT NUMBER: 11960 - Ampacity
RECEIVED FROM: McMaster-Carr
PROJECT LOCATION: Omega Point Labs

REPORT NUMBER: 1451 - 11960
DATE RECEIVED: 11-16-94
DATE INSPECTED: 11-16-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY | | | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Order | Rec'd | B.O. | | | | | | Accept | Hold | Reject | |
| 1/4" x 1 1/2" Washers | 1165Q | 100 | 100 | 0 | 91090A113 | Y | Y | Good | None | X | | | |

FORM
1/29/93

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# PURCHASE ORDER



16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

**Vendor:**

McMaster Carr
PO box 4355

Chicago IL 60680-4355

**PO Number:** 1165-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

| Bill To: | Ship To: |
|---|---|
| Accounts Payable<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 | Cleda Patton<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 |

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 11/15/94 | UPS Red Label | | 11/16/94 | |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| 1. | 1/4"x1-1/2" OD oversized Steel Washers,#91090A113 | 100 | | $0.00 |
| | "See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."<br>QA Approval C. Humphrey<br>Date 11/15/94 | | | |

**Special Instructions**

Please include all Certificates of Conformance to Catalog Specifications.

**Ordered By:** Cleda Patton
**Project #:** Vectra-97668

| | |
|---|---|
| Total | $0.00 |
| Shipping | |
| Tax | |
| Invoice Total | $0.00 |

McMASTER-CARR
supply company
ATLANTA, GEORGIA 30336 USA
TEL.(404)349-9700 FAX(404)349-9515


Tue, Nov 15, 1994

OMEGA POINT LABORATORIES INC
16015 SHADY FALLS RD
ELMENDORF, TX 78112

Your Order# 1165Q
Our Register# 671551101
No. of Items: 1

CERTIFICATION OF COMPLIANCE

Line, Part Number and Part Description

| | | |
|---|---|---|
| 1 | 91090A113 | ZINC PLATED STEEL LARGE-OD WASHER<br>1/4" SCREW SIZE, 9/32" ID, 1-1/2" OD, 3/64" THK |

This is to certify that, according to our records, the above item furnished on your purchase order was supplied in accordance with the description and as illustrated in our catalog.

Sincerely,

Ray Stukes
Sales Development Manager

UPS SHIPPER # [illegible] PKG. ID. [illegible]

IF THERE ARE ANY QUESTIONS REGARDING THIS ORDER, PLEASE CONTACT OUR CUSTOMER SERVICE DEPT

**McMASTER-CARR** *SUPPLY COMPANY*

100 FULTON INDUSTRIAL BLVD ATLANTA GA 30336

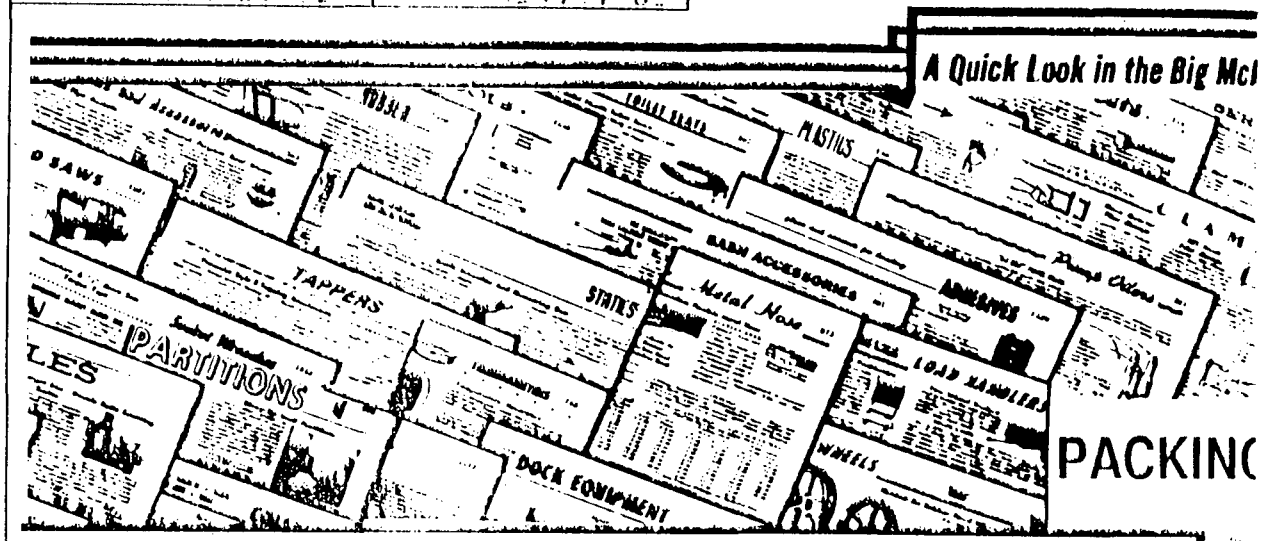
SALES DESK (404)344-7000

MCM REFERENCE [illegible]

CUSTOMER P.O. [illegible]

SHIP TO

S/T ACCT # 634707-02 | B/T ACCT # 634707-02




CUSTOMER ORDER NO.

McMASTER-CARR REFERENCE NO.

| NO. | LOCATION | MCM PART NO. | DESCRIPTION | QUANTITY ORDERED | U/M | SHIPPING | BAL. DUE |
|---|---|---|---|---|---|---|---|
| | 1- 55-04-04-18 | 91090A115 100 EA | ZINC PLATED STEEL LARGE-OD WASHER 1/4" SCREW SIZE, 9/32" ID, 1-1/2" OD, 3/64" THK PKG= 100 EA/PK | 100 | EA | 100 | |

**RELIABILITY • INTEGRITY • SERVICE**

TOTAL # OF ITEMS ON ORDER 1

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI
CLIENT/PROJECT NUMBER 11960 - Ampacity
RECEIVED FROM McMaster-Carr
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1455 . 11960
DATE RECEIVED 11-17-94
DATE INSPECTED 11-18-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4" x 1 1/4 large OD washer | 1166Q | 1K | 1K | 0 | 91090A109 | Y | Y | Good | None | X | | | |
| 1/4"-20 Hex Hd nut | 1166Q | 500 | 500 | 0 | 94846A029 | Y | Y | Good | None | X | | | |

FORM
1/29/93

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# PURCHASE ORDER

Omega Point Laboratories, Inc. 247
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

**Vendor:**

McMaster Carr
PO box 4355

Chicago IL 60680-4355

**PO Number:** 1166-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

| Bill To: | Ship To: |
|---|---|
| Accounts Payable<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 | Cleda Patton<br>Omega Point Laboratories, Inc.<br>16015 Shady Falls Road<br>Elmendorf, TX 78112-9784 |

| Order Date | Ship Via | P.O. Spec. No. | Date Required | Terms |
|---|---|---|---|---|
| 11/16/94 | UPS Red Label | | 11/17/94 | |

| Item No. | Description | Quantity Ordered | Unit Price | Extended Amount |
|---|---|---|---|---|
| 1. | 1/4"x1-1/4" Washers #91090A109 | 1000 | | $0.00 |
| 2. | 1/4"-20 Hex nut #94846A029 | 500 | | $0.00 |

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 11/16/94

**Special Instructions**

Please include all Certificates of Conformance to Catalog Specifications.

**Ordered By:** Cleda Patton
**Project #:** TVA Ampacity

| | |
|---|---|
| Total | $0.00 |
| Shipping | |
| Tax | |
| Invoice Total | $0.00 |

**McMASTER-CARR**
supply company
ATLANTA, GEORGIA 30336 USA
TEL.(404)349-9700 FAX(404)349-9515


Wed, Nov 16, 1994

OMEGA POINT LABORATORIES INC
16015 SHADY FALLS RD
ELMENDORF, TX 78112

Your Order# 1166Q
Our Register# 673553201
No. of Items: 2

## CERTIFICATION OF COMPLIANCE

Line, Part Number and Part Description

| | | |
|---|---|---|
| 1 | 91090A109 | ZINC PLATED STEEL LARGE-OD WASHER<br>1/4" SCREW SIZE, 9/32" ID, 1-1/4" OD, 3/64" THK |
| 2 | 94846A029 | GRADE 5 ZINC-PLATED STEEL HEX JAM NUT<br>COARSE THREAD, 1/4"-20 SCREW SIZE |

This is to certify that, according to our records, the above items furnished on your purchase order were supplied in accordance with the descriptions and as illustrated in our catalog.

Sincerely,

Ray Stukes
Sales Development Manager

UPS SHIPPER [illegible] PKG. ID. [illegible]

IF T[illegible]E AR[illegible]Y QU[illegible]IONS [illegible]GARD[illegible] THI[illegible] ORDER, PLEA[illegible] CONTACT OUR

CYCLE [illegible]

MCM REFERENCE [illegible]

SALES DESK (404)346-7000

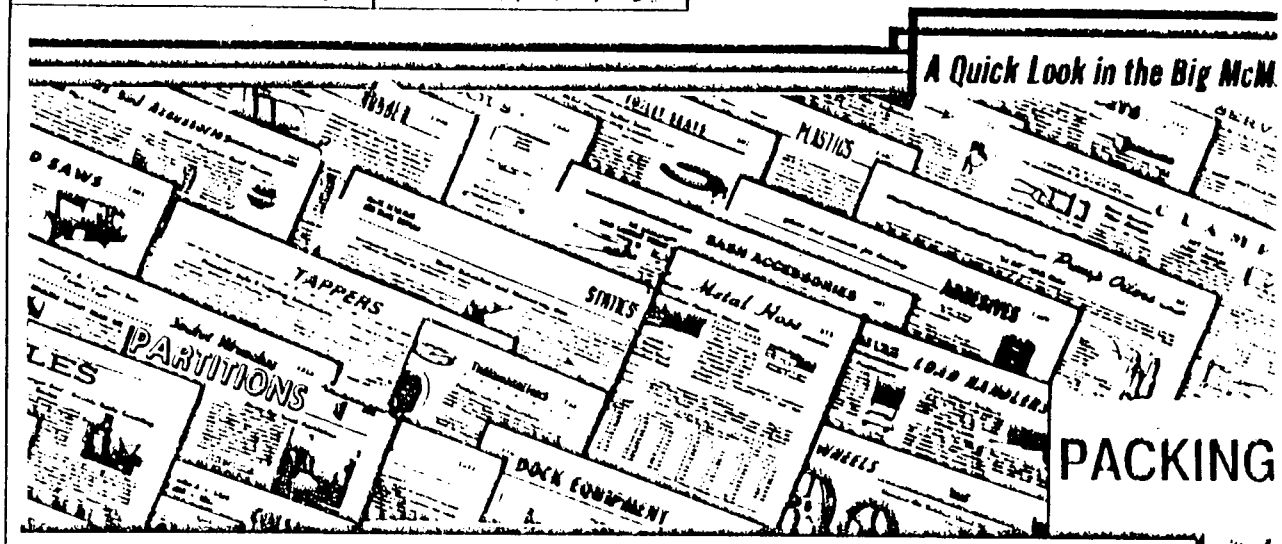
CUSTOMER P.O. [illegible]

**MASTER-CARR** *SUPPLY COMPANY*

00 FULTON INDUSTRIAL BLVD ATLANTA GA 30336 USA

SHIP TO

S/T ACCT. # 634707-02 | B/T ACCT # 634707-02




CUSTOMER ORDER NO.

MCMASTER-CARR REFERENCE

| LOCATION | MCM PART NO. | DESCRIPTION | QUANTITY ORDERED | U/M | SHIPPING | BAL. DUE |
|---|---|---|---|---|---|---|
| 1- 36-05-22-99 | 94846A029 500 EA | GRADE 5 ZINC-PLATED STEEL HEX JAM NUT COARSE THREAD, 1/4"-20 SCREW SIZE PKG= 100 EA/PK | 500 | EA | 500 | |
| 1- 55-05-***** | 91090A109 1000 EA | ZINC PLATED STEEL LARGE-OD WASHER 1/4" SCREW SIZE, 9/32" ID, 1-1/4" OD, 3/64" THK PKG= 100 EA/PK | 1000 | EA | 1000 | |

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CCCCC CCCCC P

**ELIABILITY • INTEGRITY • SERVICE**

U.S. P.O. 11566

TOTAL # OF ITEMS ON ORDER

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME: TSI
CLIENT/PROJECT NUMBER: 11960-97554 + Ampacity
RECEIVED FROM: Southwestern Wire Cloth/TSI
PROJECT LOCATION: Omega Point Labs

REPORT NUMBER: 1464 - 11960
DATE RECEIVED: 12-8-94
DATE INSPECTED: 12-8-94
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. RECD Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS Tie Wire | NA | 0 | 100# | 0 | TIE062/025 | Y | Y | GOOD | None | X | | | Receiving verification Only 2-50 pound rolls |

FORM
1/29/93

250

# Southwestern Wire Cloth

P.O. BOX 35608
TULSA, OKLAHOMA 74153
(918) 251-2679
FAX (918) 251-0375

1831 W. SAM HOUSTON PARKWAY N.
HOUSTON, TEXAS 77043
(713) 973-2959
FAX (713) 973-1857

ORDER NO: 550704
PAGE: 1
DATE: 12/06/9-
REQ. SHIP DATE: 12/06/9-

JWS - RF

SOLD TO 131925
THERMAL SCIENCE
2200 CASSENS
ST. LOUIS, MO 63026

SHIP TO 01
OMEGA
POINT LABOR
16015 SHADY FALLS ROAD
ELMENDORFF, TX 78112

| CUSTOMER P. O. | ORDER DATE | SLSP | TERMS | SHIPPED FROM | SHIPPED VIA | FREIGHT |
|---|---|---|---|---|---|---|
| 12874 | 12/06/94 | 002 | NET 10 | TULSA | UPS | BILLED |

| QUANTITY ORDERED | QUANTITY SHIPPED | QUANTITY B.O. | PART NUMBER | DESCRIPTION | U/M |
|---|---|---|---|---|---|
| | | | | TAG: ATTN: TIM HILL | |
| 100 | 100 | 0 | TIE062/025 | TIE WIRE 304SS<br>.062" DIA 25LB EXACT | |
| | | | | DENISE 214-349-1230 | |

SOT-0594

SEE REVERSE SIDE FOR ADDITIONAL TERMS AND CONDITIONS OF SALE
PACKING LIST

# Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI/TUA
CLIENT/PROJECT NUMBER 11960-Ampacity
RECEIVED FROM TSI
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1471 - 11960
DATE RECEIVED 1-31-95
DATE INSPECTED 1-31-95
INSPECTED BY: C Patton

| ITEM DESCRIPTION | P.O. NO. | QUANTITY Order | QUANTITY Rec'd | QUANTITY B.O. | I.D. NO. | COND MATL Y/N | CERT. REC'D Y/N | CONTAINER INTEGRITY | EXCEPTIONS | ACCEPTANCE Accept | ACCEPTANCE Hold | ACCEPTANCE Reject | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thermo Lag 770-1 Panels | NA | 0 | 5 | 0 | F-95-01034 | Y | Y | Good | None | X | | | Receiving Verification Only |
| Thermo-Lag 330-1 Pre Shaped Cord 4" | NA | 0 | 1 | 0 | F92-07050 | Y | Y | Good | None | X | | | |
| Thermo Lag 330 Cord Sec 4" | NA | 0 | 3 | 0 | F92-08007 | Y | Y | Good | None | X | | | |
| Thermo Lag 330 Cond. Sec. 4" | NA | 0 | 4 | 0 | F94-08021 | Y | Y | Good | None | X | | | |

FORM
1/29/93

252

TSI

PACKING LIST

AND

CERTIFICATE OF CONFORMANCE

PURCHASE ORDER NO. CONTRACT NO. TV92362V DATE: 30 JANUARY 1995

TEMPERATURE RECORDER NA CHART TAPE NO. NA

TOTAL NO. OF PACKAGES 3 PCS. GROSS WEIGHT 660 LB.

| PRODUCT DESCRIPTION | QUANTITY | BATCH NUMBER |
|---|---|---|
| THERMO LAG 770-1 PANELS<br>SIZE: 40 INCH X 94 INCH<br>THICKNESS: 3/8 INCH | 5 PANELS | F95-01034 |
| | 5 PANLES | |

ITEM 4

NO SHELF LIFE ON PANELS

This is to certify that the above listed THERMO-LAG Materials shipped under Contract Order No. TV92362V, to Omega Point Laboratories, San Antonio, TX, Meet the requirements of Thermal Science, Inc. manufactured and written Quality Control specifications for Tennessee Valley Authority c/o Omega Point Laboratories, 16015 Shady Falls Road, Elmendorff, TX 78112. This material does not contain asbestos.

David O'Bryant

DAVID O'BRYANT
MANAGER OF QUALITY CONTROL

DATE: 30 JANUARY 1995
BILL OF LADING: 21659
MODE OF TRANSPORT: DYNAMIC TRUCK PREPAID

THERMAL SCIENCE, INC. • 2200 CASSENS DR. • ST. LOUIS, MO 63026 • (314) 349-1233
Telex: 209901 (Answerback: TSI UR) • Telecopier (314) 349-1207

TSI

PACKING LIST

AND

CERTIFICATE OF CONFORMANCE

PURCHASE ORDER NO. CONTRACT NO. TV92362V DATE: 30 JANUARY 1995

TEMPERATURE RECORDER NA CHART TAPE NO. NA

TOTAL NO. OF PACKAGES SEE PAGE 1 GROSS WEIGHT SEE PAGE 1

| PRODUCT DESCRIPTION | QUANTITY | BATCH NUMBER |
|---|---|---|
| THERMO LAG 330 PRESHAPED CONDUIT SECTIONS | 1 PIECE | F92-07050 |
| | 3 | F92-08007 |
| SIZE: 4 INCH<br>THICKNESS: 1.250" ±0.250" | 4 | F94-08021 |
| ITEM 13 | 8 PCS.<br>(IN 2 CARTONS) | |

NO SHELF LIFE ON CONDUIT

This is to certify that the above listed THERMO-LAG Materials shipped under Contract Order No. TV92362V, to Omega Point Laboratories, San Antonio, TX, Meet the requirements of Thermal Science, Inc. manufactured and written Quality Control specifications for Tennessee Valley Authority c/o Omega Point Laboratories, 16015 Shady Falls Road, Elmendorff, TX 78112. This material does not contain asbestos.

David O Bryant
DAVID O BRYANT
MANAGER OF QUALITY CONTROL

DATE: 30 JANUARY 1995
BILL OF LADING : 21659
MODE OF TRANSPORT: DYNAMIC TRUCK PREPAID

THERMAL SCIENCE, INC. • 2200 CASSENS DR. • ST. LOUIS, MO 63026 • (314) 349-1233
Telex: 209901 (Answerback: TSI UR) • Telecopier (314) 349-1207

STRAIGHT BILL OF LADING — SHORT FORM

255

**RECEIVED, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,**

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From **THERMAL SCIENCE, INC.** TVA CONTRACT 92362V

At **ST. LOUIS, MISSOURI 63026** 1/30 19 95 Shipper's No. 21659

Carrier DYNAMIC TRUUK PPD Agent's No.

(Mail or street address of consignee—For purposes of notification only.)

Consigned to TENNESSEE VALLEY AUTHORITY % OMEGA POINT LAB

Destination 16015 SHADY FALLS ROAD State of County of

Route ELMENDORF, TX ~~6x~~ 78112

Delivering Carrier Vehicle or Car Initial No.

| No. Packages | HM | KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS | * Weight (Sub. to Correction) | Class or Rate | Check Column |
|---|---|---|---|---|---|
| 1 | | PALLET CONTAINING: | 500 LB. | | |
| | | 5 ONLY THERMO LAG 770-1 | | | |
| | | PANELS SIZE: 40 INCH X 94 INCH | | | |
| | | THICKNESS: 3/8 INCH | | | |
| | | ITEM 4 | | | |
| 2 | | CARTONS CONTAINING: | 160 LB. | | |
| | | 8 PCS. THERMO LAG 330 PRESHAPED | | | |
| | | CONDUIT SECTIONS | | | |
| | | SIZE: 4 INCH X 1.250" + 0.250" | | | |
| | | ITEM 13 | | | |
| | | DELIVER 1/31/95 TUESDAY SURE !!!!! | | | |
| | | ---------- !!!!!! | | | |
| | | OPL's RR# 147t 8 | | | |
| | | 1 | | | |

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Per (Signature of Consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

TO BE PPD

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

June Elizabethe 1-31-95

Per (The signature here acknowledges only the amount prepaid.)

Charges Advanced:

$

**C. O. D. SHIPMENT**

C. O. D. Amt.

Collection Fee

Total Charges

† The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Rule 41, of the Consolidated Freight Classification.

† It is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

* If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

† Shipper's imprint in lieu of stamp; not a part of Bill of Lading approved by the Department of Transportation.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed of declared value of the property is hereby specifically stated by the shipper to be not exceeding

THIS SHIPMENT IS CORRECTLY DESCRIBED.

CORRECT WEIGHT IS LBS.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation." NOTE: Preprinted certificates complying with 49 CFR 173, 430 (a) in effect on June 30, 1976, may be used through June 30, 1979.

Per Shipper

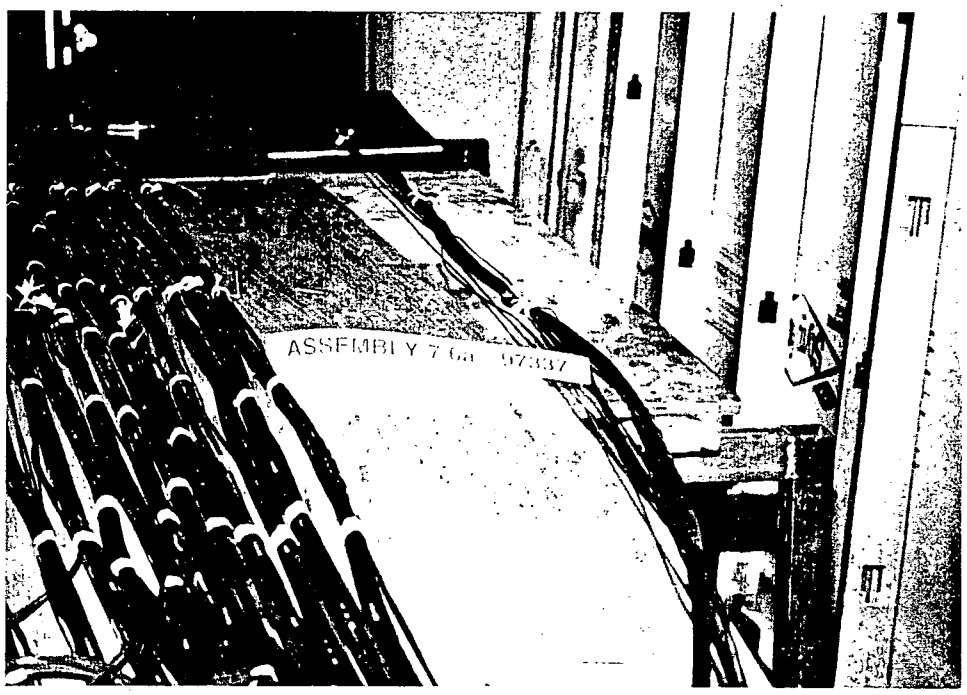
**THERMAL SCIENCE, INC.** Shipper, Per Agent, Per

Permanent post office address of shipper **2200 Cassans Dr., St. Louis, MO 63026**

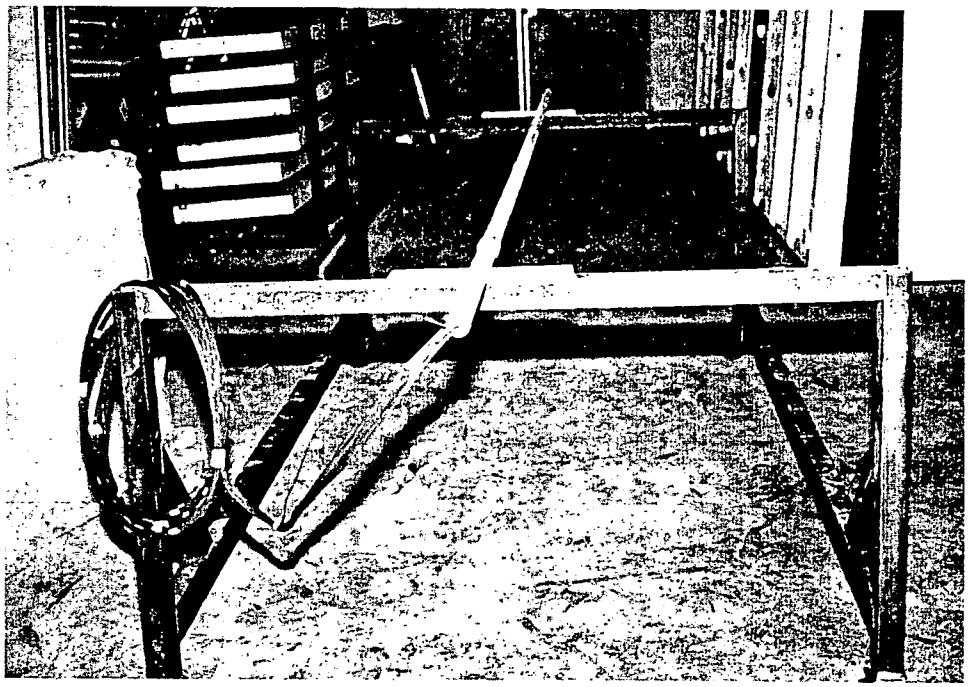
# Appendix F

# PHOTOGRAPHS

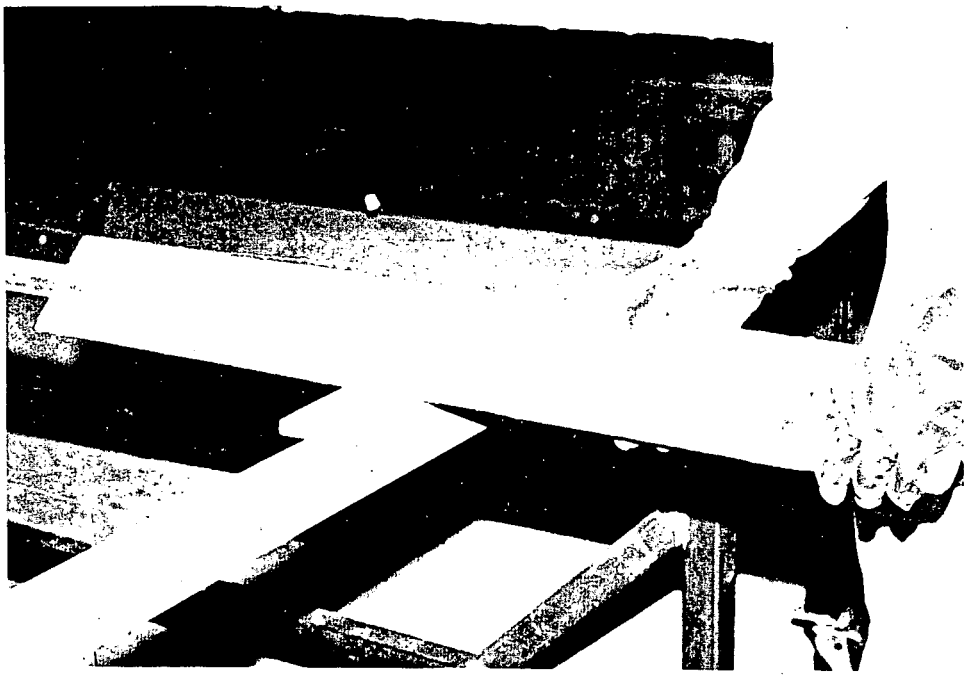
OMEGA POINT LABORATORIES



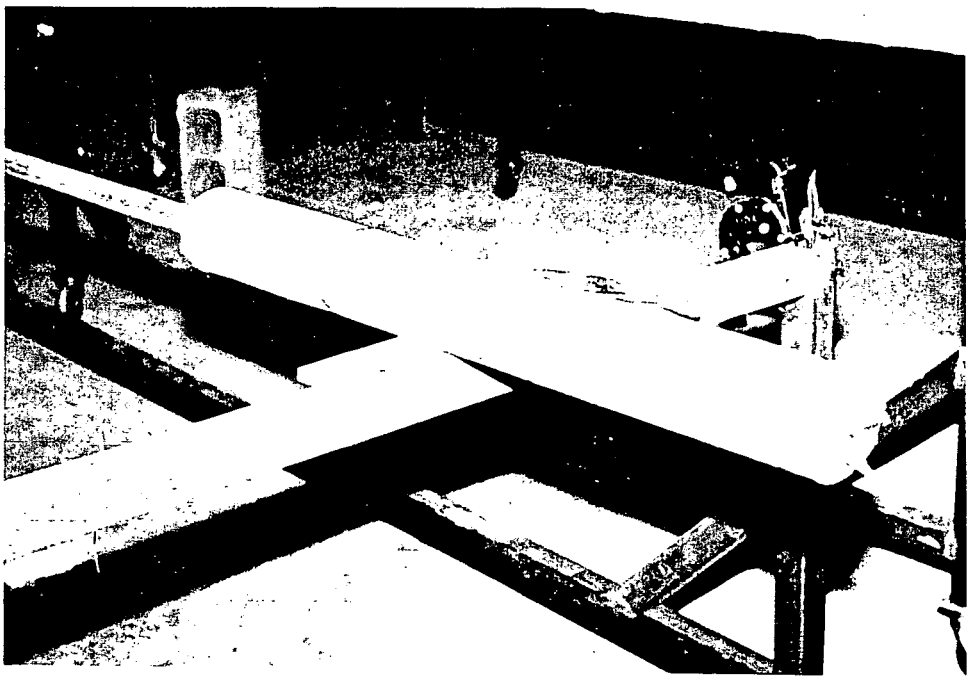

Cable to be installed in conduit for Test Article 7.6a.



Conduit Test Article 7.6a with thermocoupled cable installed.

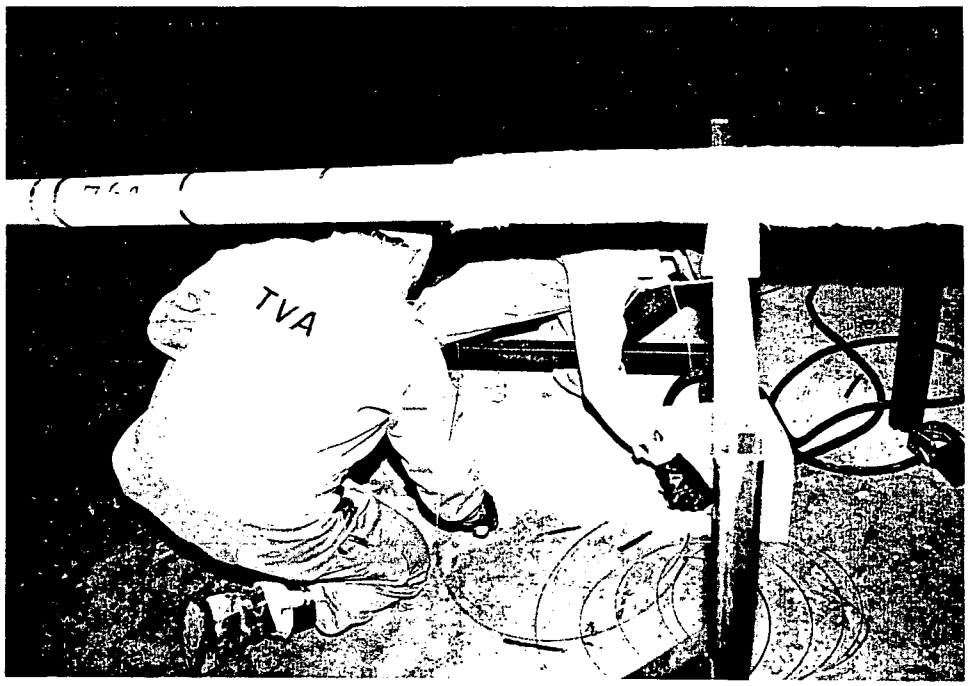


Pre-shaped conduit sections installed onto Test Article 7.6a after baseline testing.



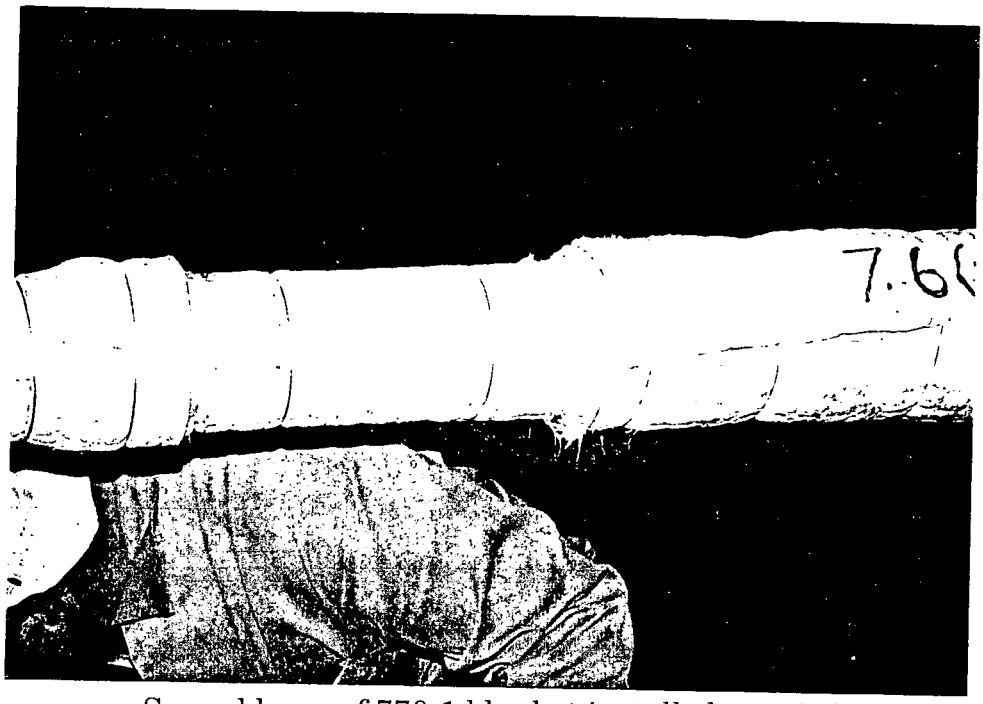
Pre-shaped conduit sections secured with stainless steel bands.

First layer of 770-1 blanket wrapped around conduit Test Article 7.6a.

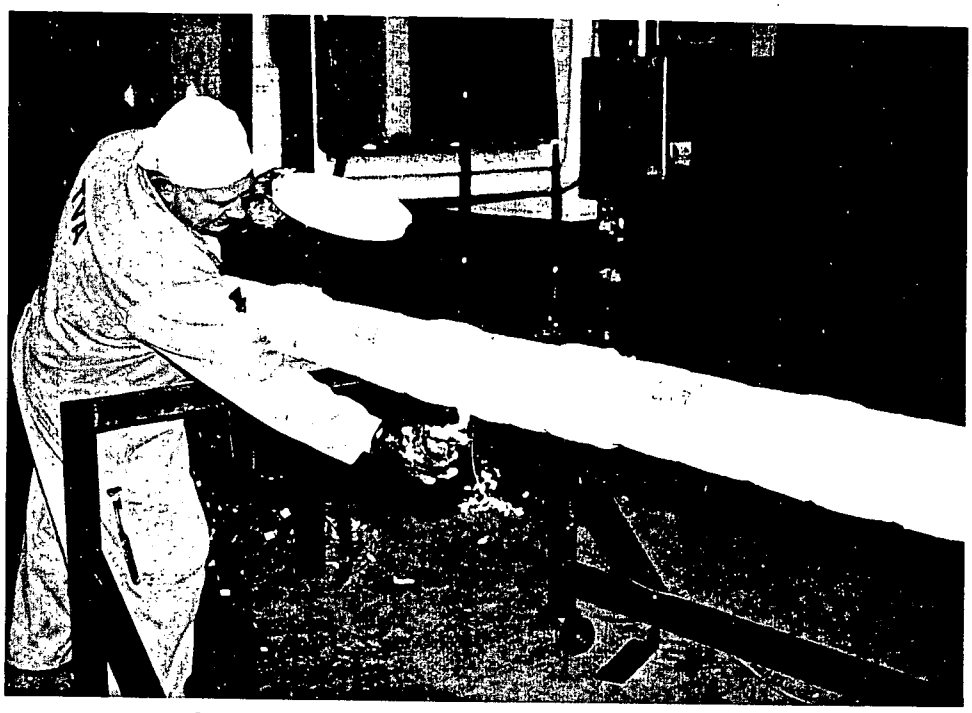



770-1 blanket material trimmed prior to installation.

Wrap of 770-1 blanket material secured with stainless steel tie wires.

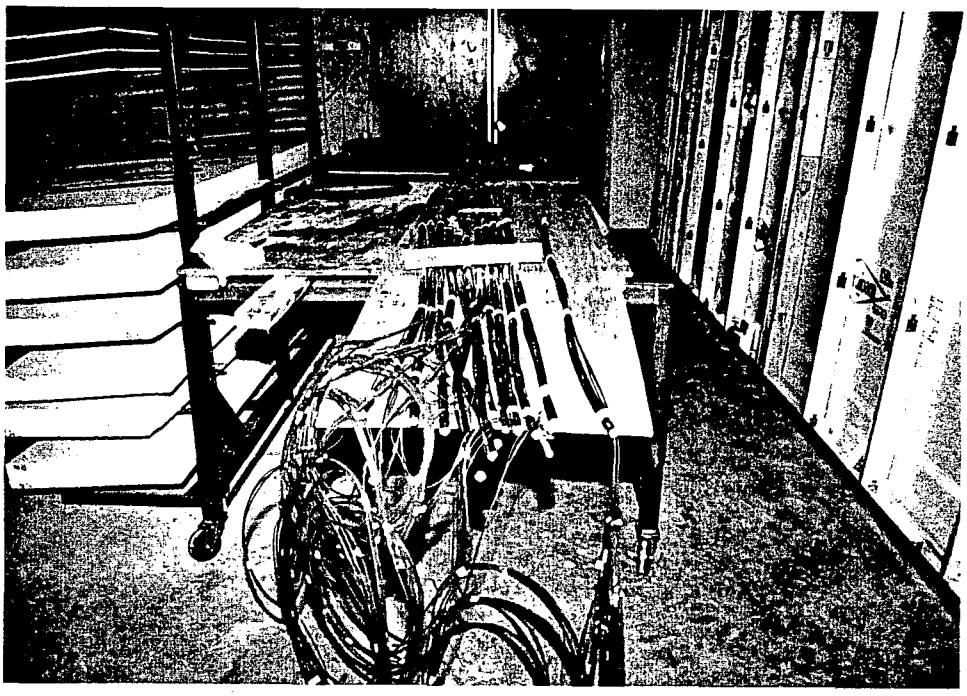



Second layer of 770-1 blanket installed onto 7.6a.

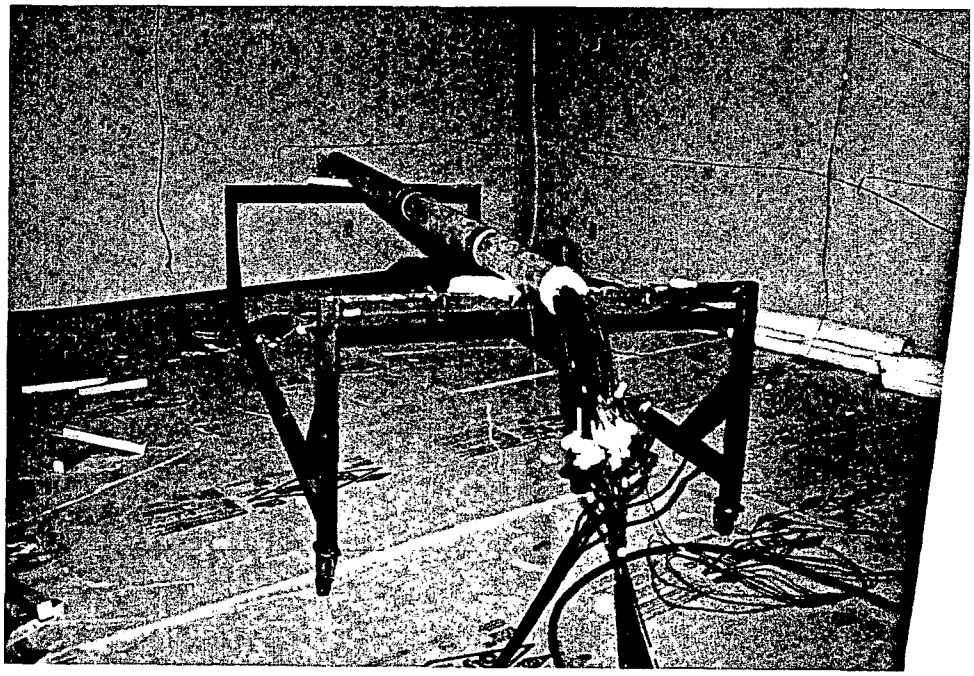


770-1 trowel grade material applied over seams and tie wires.

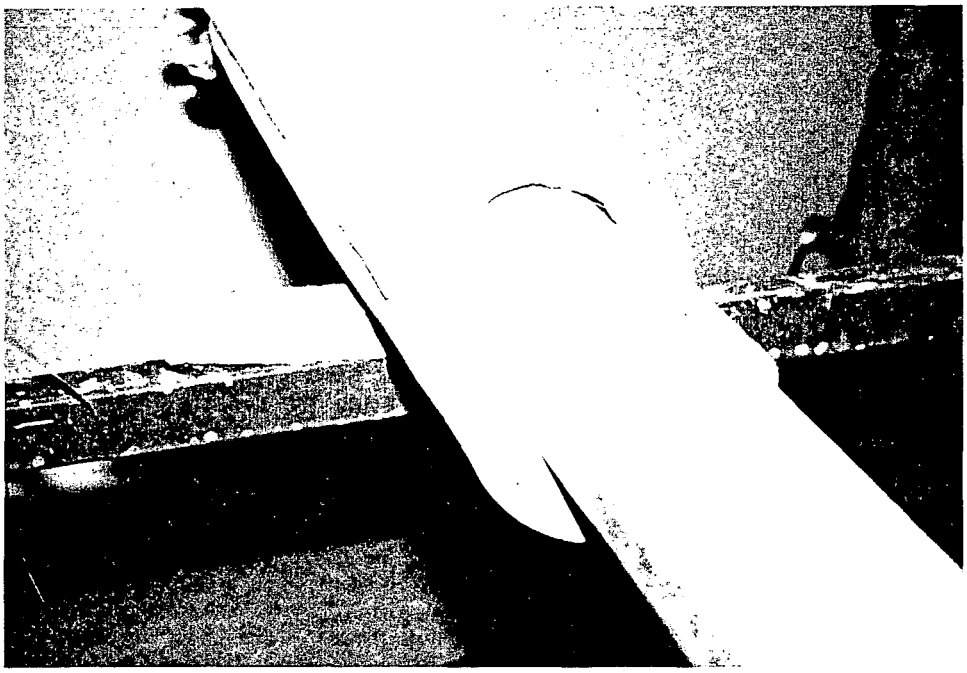
Second layer of 770-1 blanket material applied to 7.6a.



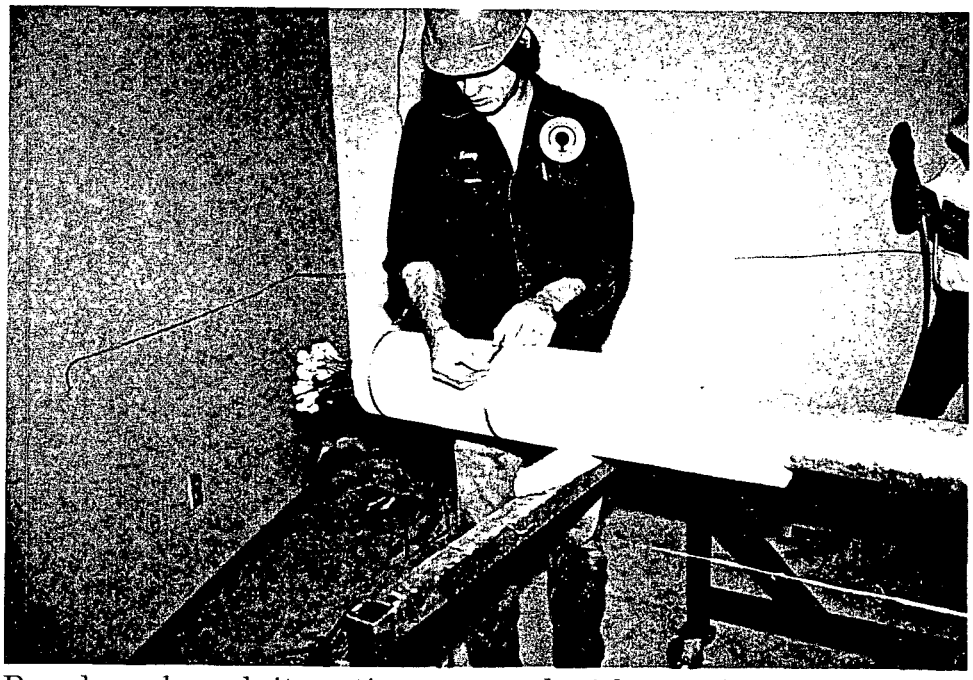
Cables to be installed into conduit Test Article 7.6b.



Conduit Test Article 7.6b with cables installed, prepared for baseline test.

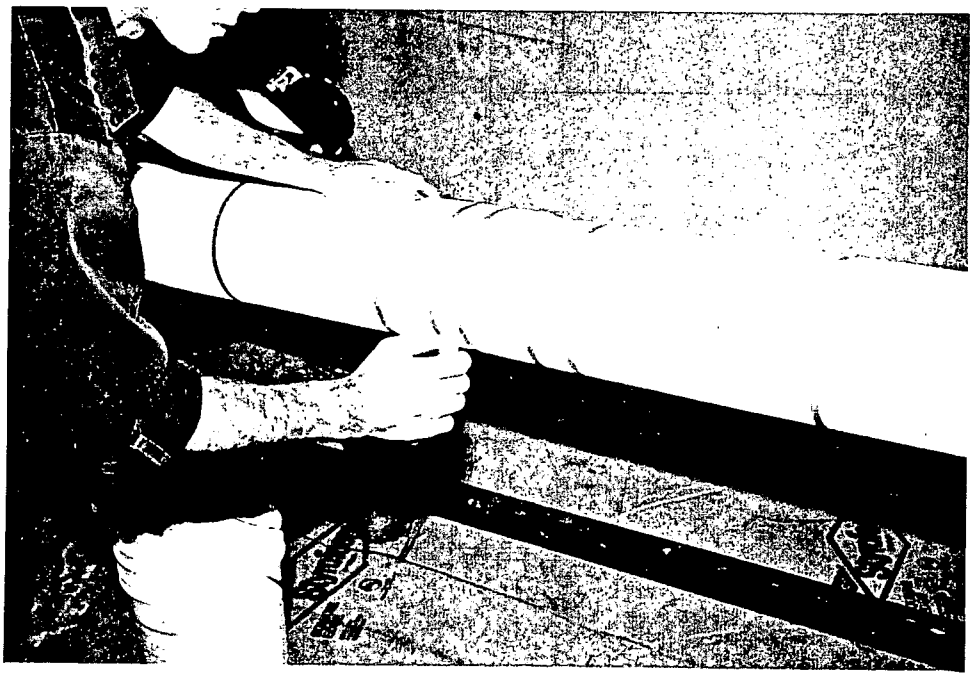


Pre-shaped conduit sections installed onto 7.6b after baseline testing.

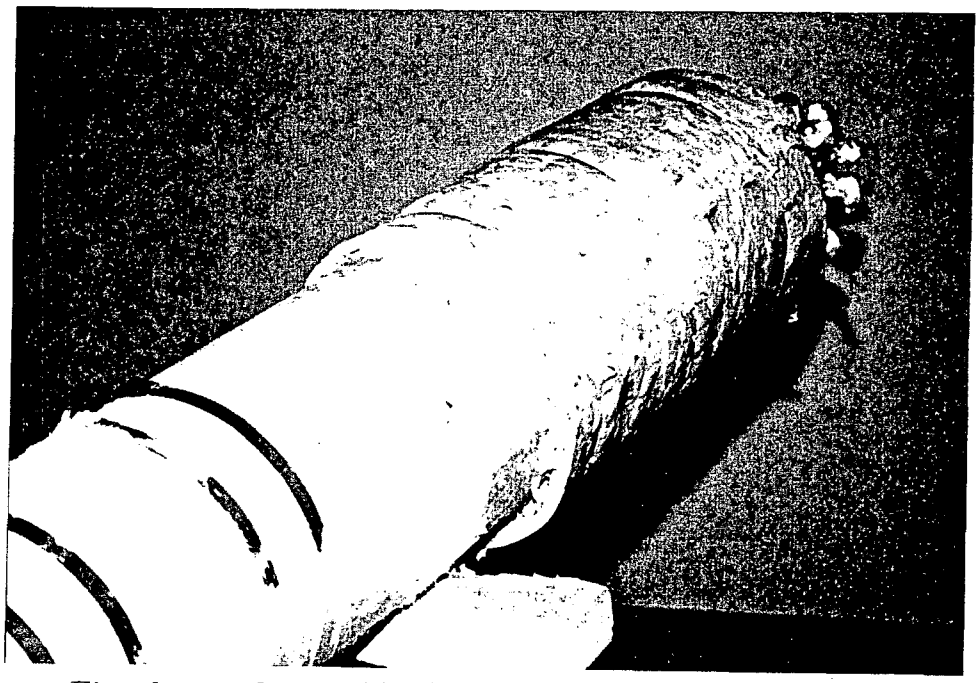


Pre-shaped conduit sections secured with stainless steel bands.

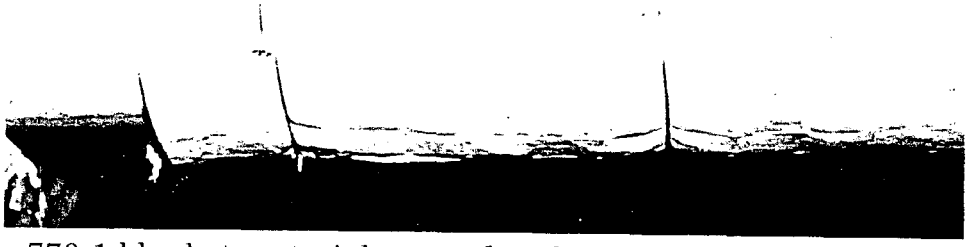
Pre-shaped conduit sections installed onto 7.6b.



Joints in 330-1 material post-buttered with trowel grade material.



First layer of 770-1 blanket material installed onto 7.6b.



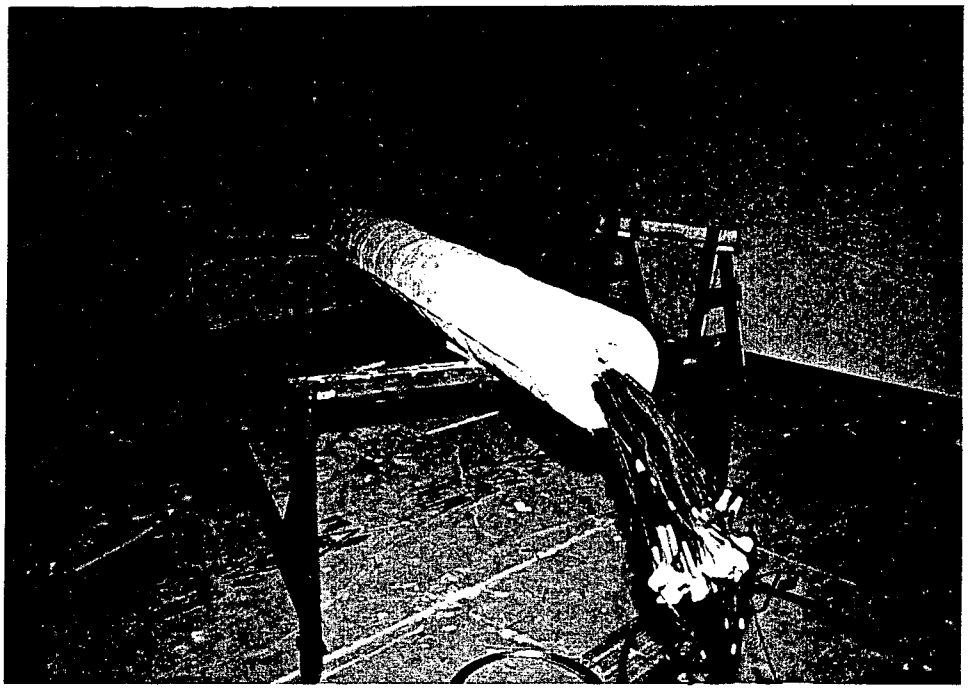
770-1 blanket material secured with stainless steel tie wires.

Blanket material pre-buttered with trowel grade material prior to installation.

Surface of conduit cladding pre-buttered with trowel grade material prior to installation of 770-1 blanket material.

Trowel grade material applied to joints and seams in 770-1 blanket material.

Second layer of 770-1 blanket material applied to 7.6b.



Test Article 7.6b with cladding complete, ready for final evaluation.