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WIND-TUNNEL STUDY OF WIND LOADS ON  
JENKINS/EMPIRE BUILDING, PITTSBURGH

by

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FLUID MECHANICS AND  
WIND ENGINEERING PROGRAM

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## LIST OF SYMBOLS

| <u>Symbol</u>      | <u>Definition</u>   |
|--------------------|---|
| U                  | Local mean velocity   |
| D                  | Characteristic dimension (building height, width, etc.)   |
| $\nu, \rho$        | Kinematic viscosity and density of approach flow  |
| $\frac{UD}{\nu}$   | Reynolds number   |
| E                  | Mean voltage  |
| A, B, n            | Constants   |
| $U_{rms}$          | Root-mean-square of fluctuating velocity  |
| $E_{rms}$          | Root-mean-square of fluctuating voltage   |
| $U_\infty$         | Reference mean velocity outside the boundary layer  |
| X, Y               | Horizontal coordinates  |
| Z                  | Height above surface  |
| $\delta$           | Height of boundary layer  |
| $T_u$              | Turbulence intensity $\frac{U_{rms}}{U_\infty}$ or $\frac{U_{rms}}{U}$  |
| $C_{p_{mean}}$     | Mean pressure coefficient, $\frac{(p-p_\infty)_{mean}}{0.5 \rho U_\infty^2}$                                  |
| $C_{p_{rms}}$      | Root-mean-square pressure coefficient, $\frac{((p-p_\infty)-(p-p_\infty)_{mean})_{rms}}{0.5 \rho U_\infty^2}$ |
| $C_{p_{max}}$      | Peak maximum pressure coefficient, $\frac{(p-p_\infty)_{max}}{0.5 \rho U_\infty^2}$                           |
| $C_{p_{min}}$      | Peak minimum pressure coefficient, $\frac{(p-p_\infty)_{min}}{0.5 \rho U_\infty^2}$                           |
| ( ) <sub>min</sub> | Minimum value during data record  |
| ( ) <sub>max</sub> | Maximum value during data record  |

| <u>Symbol</u> | <u>Definition</u>   |
|---------------|---|
| p             | Fluctuating pressure at a pressure tap on the structure               |
| $p_\infty$    | Static pressure in the wind tunnel above the model                    |
| $F_x, F_y$    | Forces in X, Y direction  |
| $A_R$         | Reference Area  |
| $CF_X$        | Force coefficient, X direction, $\frac{F_x}{A_R 0.5 \rho U_\infty^2}$ |
| $CF_Y$        | Force coefficient, Y direction, $\frac{F_y}{A_R 0.5 \rho U_\infty^2}$ |

## 1. INTRODUCTION

### 1.1 General

A significant characteristic of modern building design is lighter cladding and more flexible frames. These features produce an increased vulnerability of glass and cladding to wind damage and result in larger deflections of the building frame. The building geometry itself may increase or decrease wind loading on the structure. Wind forces may be modified by nearby structures which can produce beneficial shielding or adverse increases in loading. Overestimating loads results in uneconomical design; underestimating may result in cladding or window failures.

Techniques have been developed for wind-tunnel modeling of proposed structures which allow the prediction of wind pressures on cladding and windows, overall structural loading, and also wind velocities and gusts in pedestrian areas adjacent to the building. Accurate knowledge of the intensity and distribution of the pressures on the structure permits adequate but economical selection of cladding strength to meet selected maximum design winds and overall wind loads for the design of the frame for flexural control.

Modeling of the aerodynamic loading on a structure requires special consideration of flow conditions in order to obtain similitude between model and prototype. A detailed discussion of the similarity requirements and their wind-tunnel implementation can be found in references (1), (2), and (3). In general, the requirements are that the model and prototype be geometrically similar, that the approach mean velocity at the building site have a vertical profile shape similar to the full-scale flow, that the turbulence characteristics of the flows be similar, and that the Reynolds number for the model and prototype be equal.

These criteria are satisfied by constructing a scale model of the structure and its surroundings and performing the wind tests in a wind tunnel specifically designed to model atmospheric boundary-layer flows. Reynolds number similarity requires that the quantity  $UD/v$  be similar for model and prototype. Since  $v$ , the kinematic viscosity of air, is identical for both, Reynolds numbers cannot be made precisely equal with reasonable wind velocities. To accomplish this the air velocity in the wind tunnel would have to be as large as the model scale factor times the prototype wind velocity, a velocity which would introduce unacceptable compressibility effects. However, for sufficiently high Reynolds numbers ( $>2 \times 10^4$ ) the pressure coefficient at any location on the structure will be essentially constant for a large range of Reynolds numbers. Typical values encountered are  $10^7$ - $10^8$  for the full-scale and  $10^5$ - $10^6$  for the wind-tunnel model. In this range acceptable flow similarity is achieved without precise Reynolds number equality.

### 1.2 The Wind-Tunnel Test

The wind-engineering study is performed on a building modeled at scales ranging from 1:150 to 1:400. The building model is constructed of clear plastic fastened together with screws. The structure is modeled in detail to provide accurate flow patterns in the wind passing over the building surfaces. The building under test is often located in a surrounding where nearby buildings or terrain may provide beneficial shielding or adverse wind loading. To achieve similarity in wind effects the area surrounding the test building is also modeled. A flow visualization study is first made (smoke is used to make the air currents visible) to define overall flow patterns and identify regions where local flow features might cause difficulties in building curtain-wall design..

The test model, equipped with pressure taps (300 to 600 or more), is exposed to an appropriately modeled atmospheric wind in the wind tunnel and the fluctuating pressure at each tap measured electronically. The model, and the modeled area, are rotated 10 degrees and another set of data recorded for each pressure tap. Normally, 36 sets of data (360 degrees of turning) are taken; however, when flow visualization or recorded data indicate high pressure regions of small azimuthal extent, data is obtained in smaller azimuthal steps.

Data are recorded, analyzed and processed by an on-line computerized data-acquisition system. Pressure coefficients of several types are calculated by the computer for each reading on each piezometer tap and are printed in tabular form as computer readout. Using wind data applicable to the building site, representative wind velocities are selected for combination with measured pressures on the building model. Integration of test data with wind data results in prediction of peak local wind pressures for design of glass or cladding and may include forces and moments on the structure for design of the structural frame. Pressure contours are drawn on the developed building surfaces showing the intensity and distribution of peak wind loads on the building. These results may be used to divide the building into zones where lighter or heavier cladding or glass may be desirable.

Based on the visualization (smoke) tests and on a knowledge of heavy pedestrian use areas, a dozen or more locations may be chosen at the base of the building where wind velocities can be measured to determine the relative comfort or discomfort of pedestrians in plaza areas, near building entrances, near building corners, or on sidewalks. A separate report on pedestrian wind comfort for this project has been prepared.

The following pages discuss in greater detail the procedures followed and the equipment and data collecting and processing methods used. In addition, the data presentation format is explained and the implications of the data are discussed.

## 2. EXPERIMENTAL CONFIGURATION

### 2.1 Wind Tunnel

Wind-engineering studies are performed in the Fluid Dynamics and Diffusion Laboratory at Colorado State University (Figure 1). Three large wind tunnels are available for wind loading studies depending on the detailed requirements of the study. The wind tunnel used for this investigation is shown in Figure 2. All tunnels have a flexible roof adjustable in height to maintain a zero pressure gradient along the test section. The mean velocity can be adjusted continuously in each tunnel to the maximum velocity available.

### 2.2 Model

In order to obtain an accurate assessment of local pressures using piezometer taps, models are constructed to the largest scale that does not produce significant blockage in the wind-tunnel test section. The models are constructed of 1/2-in. thick Lucite plastic and fastened together with metal screws. Significant variations in the building surface, such as mullions, are machined into the plastic surface. Piezometer taps (1/16 in. diameter) are drilled normal to the exterior vertical surfaces in rows at several or more elevations between the bottom and top of the building. Similarly, taps are placed in the roof and on any sloping, protruding, or otherwise distinctive features of the building that might need investigation.

Pressure tap locations are chosen so that the entire surface of the building can be investigated for pressure loading and at the same time permit critical examination of areas where experience has shown that maximum wind effects may be expected to occur. Locations of the pressure taps for this study are shown in Figure 3. Dimensions are

given both for full-scale building (in ft) and for model (in in.). The pressure tap numbers are shown adjacent to the taps.

The pressure tests are sometimes made in two stages. In the first stage measurements are made on the initial distribution of pressure taps. If it becomes apparent from the data that the loading on the building is being influenced by some unsuspected geometry of the building or adjacent structures, additional pressure taps are installed in the critical areas. The locations of the taps are selected so that the maximum loading can be detected and the area over which this loading is acting can be defined. Any added taps are also shown in Figure 3.

A circular area about 1700 ft in radius was modeled in detail. Structures within the modeled region are made from styrofoam and cut to the individual building geometries. They are mounted on the turntable in their proper locations. Significant terrain features are included as needed. The model is mounted on a turntable (Figure 2) near the downwind end of the test section. Any buildings or terrain features which do not fit on the turntable are placed on removable pieces which are placed upwind of the turntable for appropriate wind directions. A plan view of the building and its surroundings is shown in Figure 4. The turntable is calibrated to indicate azimuthal orientation to 0.1 degree.

The region upstream from the modeled area is covered with a randomized roughness constructed using various sized cubes placed on the floor of the wind tunnel. Different roughness sizes may be used for different wind directions. Spires are installed at the test-section entrance to provide a thicker boundary layer than would otherwise be available. The thicker boundary layer permits a somewhat larger scale

model than would otherwise be possible. The spires are approximately triangularly shaped pieces of 1/2-in. thick plywood 6 in. wide at the base and 1 in. wide at the top, extending from the floor to the top of the test section. They are placed so that the broad side intercepts the flow. A barrier approximately 8 in. high is placed on the test-section floor downstream of the spires to aid in development of the boundary-layer flow.

The distribution of the roughness cubes and the spires in the roughened area was designed to provide a boundary-layer thickness of approximately 3 ft, a velocity profile power-law exponent similar to that expected to occur in the region approaching the modeled area for each wind direction (a number of wind directions may have the same approach roughness). A photograph of the completed model in the wind tunnel is shown in Figure 5. The wind-tunnel ceiling is adjusted after placement of the model to obtain a zero pressure gradient along the test section.

### 3. INSTRUMENTATION AND DATA ACQUISITION

#### 3.1 Flow Visualization

Making the air flow visible in the vicinity of the model is helpful in understanding and interpreting mean and fluctuating pressures, and in defining zones of separated flow and reattachment and zones of vortex formation where pressure coefficients may be expected to be high. Titanium tetrachloride smoke is released from sources on and near the model to make the flow lines visible to the eye and to make it possible to obtain motion picture records of the tests. Conclusions obtained from these smoke studies are discussed in Sections 4.1 and 5.1.

#### 3.2 Pressures

Mean and fluctuating pressures are measured at each of the pressure taps on the model structure. Data are obtained for 36 wind directions at 10-degree increments, rotating the entire model assembly in a complete circle. Up to 184 pieces of 1/16 in. I.D. plastic tubing are used to connect pressure ports on the building at a time to one of four 48-tap pressure switches mounted under the model. Each of the 184 measurement ports is directed in turn by the switches to one of four pressure transducers mounted close to the switches. Four pressure input taps not used for transmitting building surface pressures are connected to a common tube leading outside the wind tunnel. This arrangement provides both a means of performing in-place calibration of the transducers and, by connecting this tube to a pitot tube mounted inside the wind tunnel, a means of automatically monitoring the tunnel speed. The switch is operated by a solenoid drive motor under control of the on-line data acquisition computer. The computer keeps track of switch position but a digital readout of position is provided at the wind tunnel.

The pressure transducers used are setra differential transducers (Model 237) with a 0.10 psid range. Reference pressures are obtained by connecting the reference sides of the four transducers, using plastic tubing, to the static side of a pitot-static tube mounted in the wind tunnel free stream above the model building. In this way the transducer measures the instantaneous difference between the local pressures on the surface of the building and the static pressure in the free stream above the model.

Output from the pressure transducers is fed to an on-line data acquisition system consisting of a Hewlett-Packard 21 MX computer, disk unit, card reader, printer, Digi-Data digital tape drive and a Preston Scientific analog-to-digital converter. The data are processed immediately into pressure coefficient form as described in Section 4.3 and stored for printout or further analysis.

All four transducers are recorded simultaneously for 16 seconds at a 250 sample-per-second rate. The results of an experiment to determine the length of record required to obtain stable mean and rms (root-mean-square) pressures and to determine the overall accuracy of the pressure data acquisition system is shown in Figure 6. A typical pressure port record was integrated for a number of different time periods to obtain the data shown. Examination of a large number of pressure taps showed that the overall accuracy for a 16-second period is, in pressure coefficient form, 0.03 for mean pressures, 0.1 for most peak pressures, and 0.01 for rms pressures. Pressure coefficients are defined in Section 4.3.

### 3.3 Velocity

Mean velocity and turbulence intensity profiles are measured upstream of the model to determine that an approach boundary-layer flow

appropriate to the site has been established. Tests are made at one wind velocity in the tunnel. This velocity is well above that required to produce Reynolds number similarity between the model and the prototype as discussed in Section 1.1. In addition, mean velocity and turbulence profiles are measured at the vacant building site for a number of wind directions.

Measurements are made with a single hot-wire anemometer mounted with its axis vertical. The instrumentation used is a Thermo Systems constant temperature anemometer (Model 1050) with a 0.001 in. diameter platinum film sensing element 0.020 in. long. Output is directed to the on-line data acquisition system for analysis.

Calibration of the hot-wire anemometer is performed by comparing output with the pitot-static tube in the wind tunnel. The calibration data are fit to a variable exponent King's Law relationship of the form

$$E^2 = A + BU^n$$

where  $E$  is the hot-wire output voltage,  $U$  the velocity and  $A$ ,  $B$ , and  $n$  are coefficients selected to fit the data. The above relationship was used to determine the mean velocity at measurement points using the measured mean voltage. The fluctuating velocity in the form  $U_{rms}$  (root-mean-square velocity) was obtained from

$$U_{rms} = \frac{2 E E_{rms}}{B n U^{n-1}}$$

where  $E_{rms}$  is the root-mean-square voltage output from the anemometer. For interpretation all turbulence measurements for pedestrian winds were divided by the local mean velocity.

## 4. RESULTS

### 4.1 Flow Visualization

A videotape is included as part of this report showing the characteristics of flow about the structure using smoke to make the flow visible. Several features can be noted from the visualization. As with all large structures, wind approaching the building is deflected down to the plaza level, up over the structure and around the sides. A description of the smoke test results emphasizing flow patterns of concern relative to possible high-wind load areas and pedestrian comfort is given in Section 5.1.

### 4.2 Velocity

Velocity and turbulence profiles are shown in Figure 7. Profiles were taken upstream from the model which are characteristic of the boundary layer approaching the model and at the building site with building removed. The boundary-layer thickness,  $\delta$ , is shown in Figure 7. The corresponding prototype value of  $\delta$  for this study is also shown in the figure. This value was established as a reasonable height for this study. The mean velocity profile approaching the modeled area has the form

$$\frac{U}{U_\infty} = \left(\frac{z}{\delta}\right)^n .$$

The exponent  $n$  for the approach flow established for this study is shown in Figure 7.

Profiles of longitudinal turbulence intensity in the flow approaching the modeled area are shown in Figure 7. The turbulence intensities are appropriate for the approach mean velocity profile selected. For the velocity profiles, turbulence intensity is defined

as the root-mean-square about the mean of the longitudinal velocity fluctuations divided by the local mean velocity  $U$ ,

$$Tu = \frac{U_{\text{rms}}}{U} .$$

#### 4.3 Pressures

For each of the pressure taps examined at each wind direction, the data record is analyzed to obtain four separate pressure coefficients. The first is the mean pressure coefficient

$$C_{p_{\text{mean}}} = \frac{(p-p_{\infty})_{\text{mean}}}{0.5 \rho U_{\infty}^2}$$

where the symbols are as defined in the List of Symbols. It represents the mean of the instantaneous pressure difference between the building pressure tap and the static pressure in the wind tunnel above the building model, nondimensionalized by the dynamic pressure

$$0.5 \rho U_{\infty}^2$$

at the reference velocity position. This relationship produces a dimensionless coefficient which indicates that the mean pressure difference between building and ambient wind at a given point on the structure is some fraction less or some fraction greater than the undisturbed wind dynamic pressure near the upper edge of the boundary layer. Using the measured coefficient, prototype mean pressure values for any wind velocity may be calculated.

The magnitude of the fluctuating pressure is obtained by the rms pressure coefficient

$$C_{p_{\text{rms}}} = \frac{((p-p_{\infty}) - (p-p_{\infty})_{\text{mean}})_{\text{rms}}}{0.5 \rho U_{\infty}^2}$$

in which the numerator is the root-mean-square of the instantaneous pressure difference about the mean.

If the pressure fluctuations followed a Gaussian probability distribution, no additional data would be required to predict the frequency with which any given pressure level would be observed. However, the pressure fluctuations do not, in general, follow a Gaussian probability distribution so that additional information is required to show the extreme values of pressure expected. The peak maximum and peak minimum pressure coefficients are used to determine these values:

$$C_{p_{\max}} = \frac{(p-p_{\infty})_{\max}}{0.5 \rho U_{\infty}^2}$$

$$C_{p_{\min}} = \frac{(p-p_{\infty})_{\min}}{0.5 \rho U_{\infty}^2}$$

The values of  $p-p_{\infty}$  which were digitized at 250 samples per second for 16 seconds, representing about one hour of time in the full-scale, are examined individually by the computer to obtain the most positive and most negative values during the 16-second period. These are converted to  $C_{p_{\max}}$  and  $C_{p_{\min}}$  by nondimensionalizing with the free stream dynamic pressure.

The four pressure coefficients are calculated by the on-line data acquisition system computer and tabulated along with the approach wind azimuth in degrees from true north. The list of coefficients is included as Appendix A. The pressure tap code numbers used in the appendix are explained in Figure 3.

To determine the largest peak loads acting at any point on the structure for cladding design purposes, the pressure coefficients for all wind directions were searched to obtain, at each pressure tap, the

largest peak positive and peak negative pressure coefficients. Table 3 lists the largest values and associated wind directions. Included in Section 5.3 is an analysis of the coefficients of Table 3 including the maximum values obtained and where they occurred on the building.

The pressure coefficients of Table 3 can be converted to full-scale loads by multiplication by a suitable reference pressure selected for the field site. This reference pressure is represented in the equations for pressure coefficients by the  $0.5 \rho U_\infty^2$  denominator. This value is the dynamic pressure associated with an hourly mean wind at the reference velocity measurement position near the edge of the boundary layer. In general, the method of arriving at a design reference pressure for a particular site involves selection of a design wind velocity, translation of the velocity to an hourly mean wind at the reference velocity location and conversion to a reference pressure. Selection of the design velocity can be made from statistical analysis of extreme wind data or selected from wind maps contained in the proposed wind loading code ANSI A58.1 of the American National Standards Institute (4). The calculation of reference pressure for this study is shown in Table 2. The factor used in Table 2 to reduce gust winds to hourly mean winds is given in reference (5).

The reference pressure associated with the design hourly mean velocity at the reference velocity location can be used directly with the peak-pressure coefficients to obtain peak local design wind loads for cladding design. Local, instantaneous peak loads on the full-scale building suitable for cladding design were computed by multiplying the reference pressure and direction load factor of Table 2 by the peak coefficients at each wind direction. The largest pressure at each tap

is then listed in Table 3. The maximum psf loads given at each tap location are then the largest peak positive and peak negative values found in the tests. Data configurations tested are listed in Table 3. For ease in visualizing the loads on the structure, contours of equal peak pressures for cladding load shown in Table 3 have been plotted on developed elevation views of the structure, Figure 10. If a data point which is taken in the basic model configuration is retaken in a 2-degree angular resolution configuration, the data are averaged in preparing Figure 8. For control of water infiltration from outside to inside, the largest positive (inward acting) pressure at each tap location is also tabulated in Table 3 and shown in Figure 8.

For glass design pressures, a glass load factor is used to account for the different duration between measured peak pressures and the one minute loading commonly used in glass design charts. The design pressure used for glass is normally less than the peak pressures used for cladding design because of the static fatigue property of glass which can withstand higher pressures for short duration loads than for long duration loads. Recent research (6) indicates that the period of application of the peak pressures reported herein is about 5-10 seconds or less. If a glass design is based on these peak-pressure values, then a glass strength associated with this duration load should be used. Because glass design charts are normally based on some alternate load duration--usually one minute--then some reduction in peak loads should be made. An estimate of a load reduction factor can be obtained from an empirical relation of glass strength as a function of load duration. Current glass selection charts showing glass strength as a function of load duration (7) and older references (8) indicate the following load reduction factors:

|                   | ref. 7 | ref. 9 |
|-------------------|--------|--------|
| annealed float    | 0.80   | 0.81   |
| heat strengthened | 0.94   |        |
| tempered          | 0.97   | 0.98   |

Loadings appropriate for glass design can be computed by multiplying the peak-pressure loads of Table 3 or Figure 8 by these load factors.

#### 4.4 Forces and Moments

Force coefficients in the horizontal X and Y directions and moment coefficients about the X, Y, and Z axes with the origin at ground level at the base of the building with Z axis vertical may be computed for all wind directions tested by integration of mean pressures on the building. Overall forces and moments acting on the full-scale building due to wind loading which are useful in designing the structural framing of the proposed building may be obtained from use of these coefficients.

Force coefficients were computed for each floor for each wind direction using the equations shown below.

$$CF_X = \frac{F_X}{A_R 0.5 \rho U_\infty^2} \quad CF_Y = \frac{F_Y}{A_R 0.5 \rho U_\infty^2}$$

Terms and symbols used in the equations are defined in the List of Symbols and the axes are defined for the building in Figure 9. Force coefficients  $CF_X$  and  $CF_Y$  were computed for the horizontal forces acting along the X and Y axes using the mean pressure coefficient at each pressure tap.  $A_R$  represents a constant reference area for nondimensionalization of the forces and moments.

The total forces acting on the full-scale building for each floor and wind direction were computed by multiplying the above coefficients

by the appropriate full-scale reference area, by the reference pressure and direction load factors of Table 2, and by a gust load factor selected for an appropriate wind gust duration. The gust load factor, shown in Table 2, was selected to increase the loads from an hourly mean load to that of a gust whose duration would be sufficient for its effect to be fully felt by the structure. A table of gust load factors for various gust durations is incorporated in Table 2 so that force and moment data of Table 4 may be adjusted to a different load duration if desired.

The forces obtained at each floor were used to obtain load, shear, and moment diagrams for the building for each wind direction. The shear diagram, in kips, was obtained by algebraic sum of all forces in each coordinate direction acting above the floor of interest. The load distribution, in psf, was obtained by dividing the shear values by their contributing areas (listed in Table 4). The moment distribution, in 1000 ft-kips, was obtained by integration of the shear values so that the moment due to forces acting above the floor level of interest was calculated. The sign of the moment was established by the right-hand rule about an X', Y' axis through the floor of interest. Moments about the Z axis were calculated by considering the displacement of forces in the X and Y directions from the Z axis shown in Figure 9. Eccentricities were computed such that the product of the Y force and X eccentricity minus the product of the X force and Y eccentricity equaled the Z moment. Load, shear, and moment distributions are shown in Figure 10 for several wind directions.

## 5. DISCUSSION

### 5.1 Flow Visualization

Flow patterns identified with smoke showed that the largest pressures would most likely be found near the corners of the new tower structure due to flow separation phenomena. Flow separation occurs when the wind is unable to turn a sharp corner on the building and separates from the surface. Elevated negative (outward acting) pressures are often found under the separated flow near the point of separation. High velocity and large curvature in the separated flow contribute to the local elevated pressures. Flow visualization showed high velocity flow separation at the building corners near the top of the building and on the corners of the sloping top structure. For many wind directions the building was shielded by adjacent buildings and should have low wind loads for those directions.

At a few locations on the building, the wind flow at separation points rolled up into a vortex. This type of flow is often found near breaks in corner geometry on a building and can sometimes be responsible for local increases in pressures.

### 5.2 Wind Loads

Table 3 shows the largest peak pressure coefficients and corresponding loads measured on the building complex for each pressure tap location. Data identified as Configuration A in Table 3 and Appendix A represent data obtained at all pressure tap locations for 36 wind directions. Configuration B represents data obtained at selected taps at 2-degree azimuthal increments near azimuths where large pressure peaks were observed in Configuration A to ensure that the largest peaks were obtained. Cladding pressures on adjacent buildings were obtained

with and without the Jenkins/Empire building in place. Data cases are summarized in Table 3.

The largest peak pressures obtained on the Jenkins/Empire building for Configurations A and B were measured at locations 168 and 762 with values of -56 and -50 psf. These locations were on corners of the new tower where flow visualization showed the possibility of elevated pressures. Other pressures in the -35 to -45 psf range were also typically found near corners of the building.

Figure 8 shows the distribution of peak pressures on the building. Most of the area on the new tower had peak negative pressures between -10 and -30 psf with limited areas above -30 psf. The pressures on the sloped top of the building were relatively low indicating that velocities in the flow separations on the corners of the top structure were not large. Peak positive pressures ranged up to about 26 psf on the tower.

Internal pressures on buildings are often small when the windows are sealed and the internal pressure is governed primarily by infiltration and a central air supply system. Typical internal pressures for the Jenkins/Empire building which would add to the pressures of Table 3 and Figure 8 might be  $\pm 5$  psf. However, for a building where significant areas of the curtainwall can be opened, then larger internal pressures may be present. Typical openings which can increase the curtainwall loading due to internal pressure effects include features such as operable windows and doors onto balconies. If operable doors or windows could be open during high wind events, then consideration of the additional internal pressures from these openings should be made.

Table 3 and Figure 8 show the peak positive and negative pressures on adjacent buildings as well as pressures on the Jenkins/Empire building. Tap locations on the adjacent buildings and the locations of the adjacent buildings relative to the Jenkins/Empire building are shown in Figures 3 and 4 respectively. Data were obtained on the adjacent buildings both with and without the Jenkins/Empire building in place to permit evaluation of the impact of the new building on existing buildings.

Figure 10 shows frame pressure, shear and moment distributions plotted from Table 4 for the largest base shears in the X and Y coordinate directions on the new tower. The coordinate system is shown in Figure 9. For these cases, the loading is predominantly in the X or Y coordinate directions although a significant X component occurs with the maximum Y shear. For wind directions 290 and 300, moderate shears exist in both X and Y directions (see Table 4). Torsion on the tower was quite small as expected from its shape.

Wind loads were relatively low on adjacent buildings with and without the Jenkins/Empire building in place. The last pages of Table 5 compare tap locations where peak negative pressure were at least 5 psf larger or smaller with the new building in place. Only three tap locations decreased in pressure by more than 5 psf by including the new building. Forty nine taps increased by 5 psf or more. The largest pressure measured was -47 psf at roof tap 2238, up from -23 psf in the existing configuration. The second highest pressure was -34 psf at tap location 2210, up from -13 psf. Only nine of the taps exceeded -25 psf with the new building in place.

Wind loads on the building showed a decrease when adjacent buildings were upwind indicating a protective shielding. This shielding can be seen in the vertical velocity profiles of Figure 7 taken at the site with building removed. Also, for wind directions with buildings upwind, the velocity spectra shown in Figure 7 indicate higher levels of velocity fluctuations than those upwind. This is expected and is part of the physical process which provides the lower overall wind loads on the buildings.

## REFERENCES

1. Cermak, J. E., "Laboratory Simulation of the Atmospheric Boundary Layer," AIAA Jl., Vol. 9, September 1971.
2. Cermak, J. E., "Applications of Fluid Mechanics to Wind Engineering," A Freeman Scholar Lecture, ASME Jl. of Fluids Engineering, Vol. 97, No. 1, March 1975.
3. Cermak, J. E., "Aerodynamics of Buildings," Annual Review of Fluid Mechanics, Vol. 8, 1976, pp. 75-106.
4. American National Standards Institute, "American National Standard Building Code Requirements for Minimum Design Loads in Buildings and Other Structures," ANSI Standard A58.1, 1972, or the revised ANSI Standard A58.1 to be published.
5. Hollister, S. C., "The Engineering Interpretation of Weather Bureau Records for Wind Loading on Structures," Building Science Series 30--Wind Loads on Buildings and Structures, National Bureau of Standards, pp. 151-164, 1970.
6. Peterka, J. A., and Cermak, J. E., "Peak-Pressure Duration in Separated Regions on a Structure," U.S.-Japan Research Seminar on Wind Effects on Structures, Kyoto, Japan, 9-13 September 1974; Report CEP74-75JAP-JEC8, Fluid Mechanics Program, Colorado State University, September 1974.
7. PPG Glass Thickness Recommendations to Meet Architects' Specified 1-Minute Wind Load, Pittsburgh Plate Glass Industries, April 1979.
8. Shand, E. B., "Glass Engineering Handbook," Second Edition, McGraw-Hill, New York, P. 51, 1958.

**FIGURES**

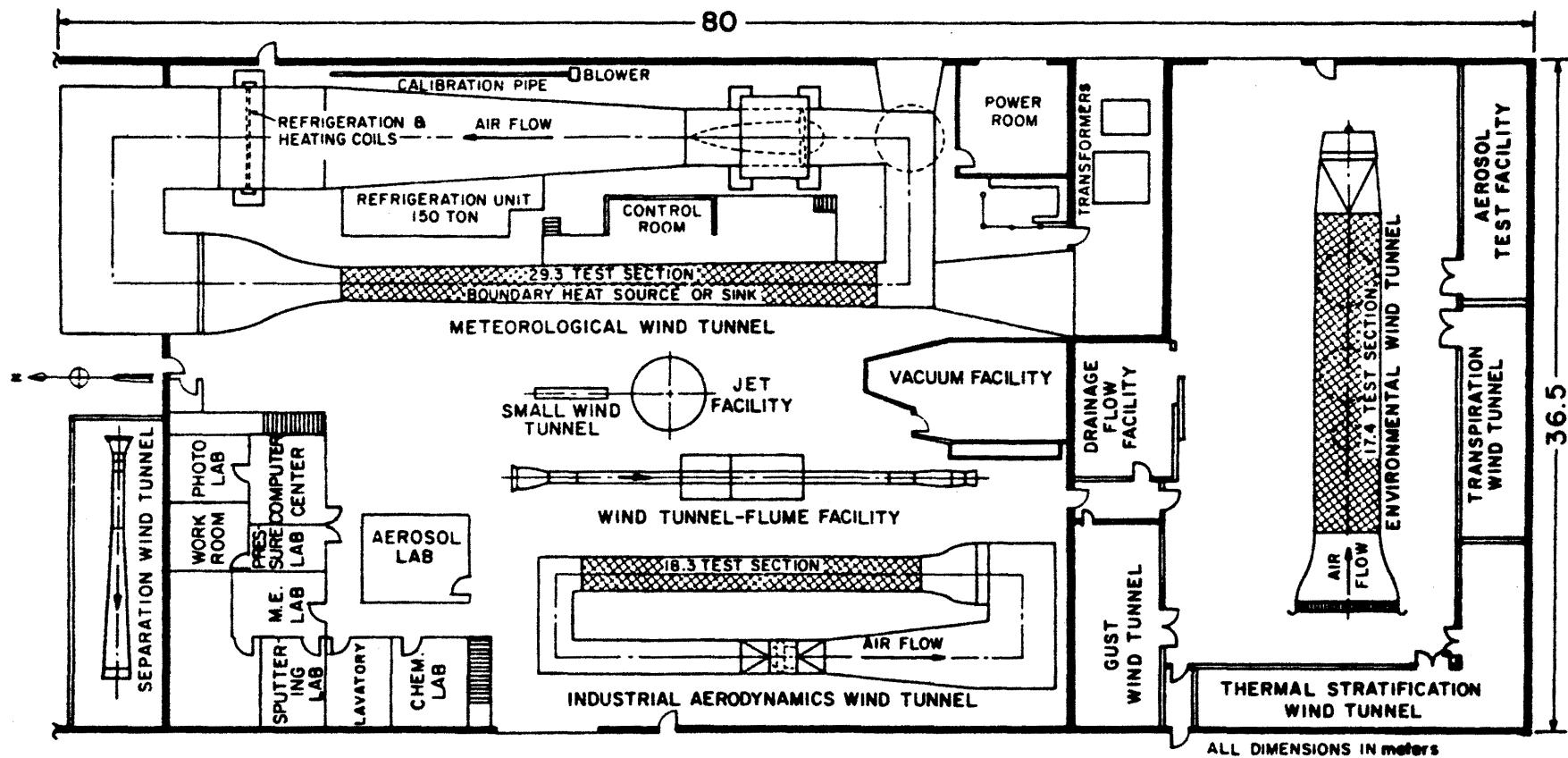
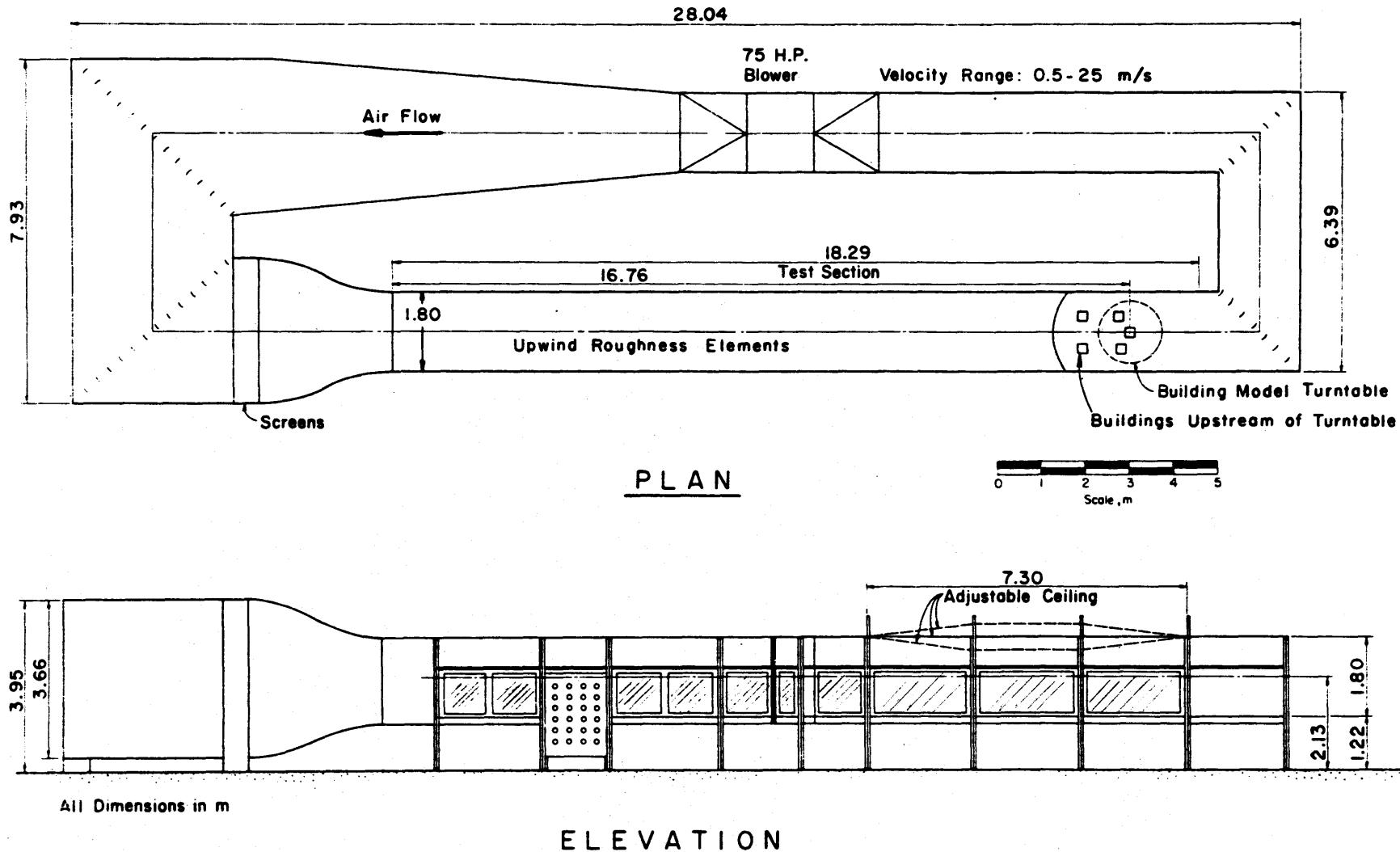


Figure 1. FLUID DYNAMICS AND DIFFUSION LABORATORY  
COLORADO STATE UNIVERSITY



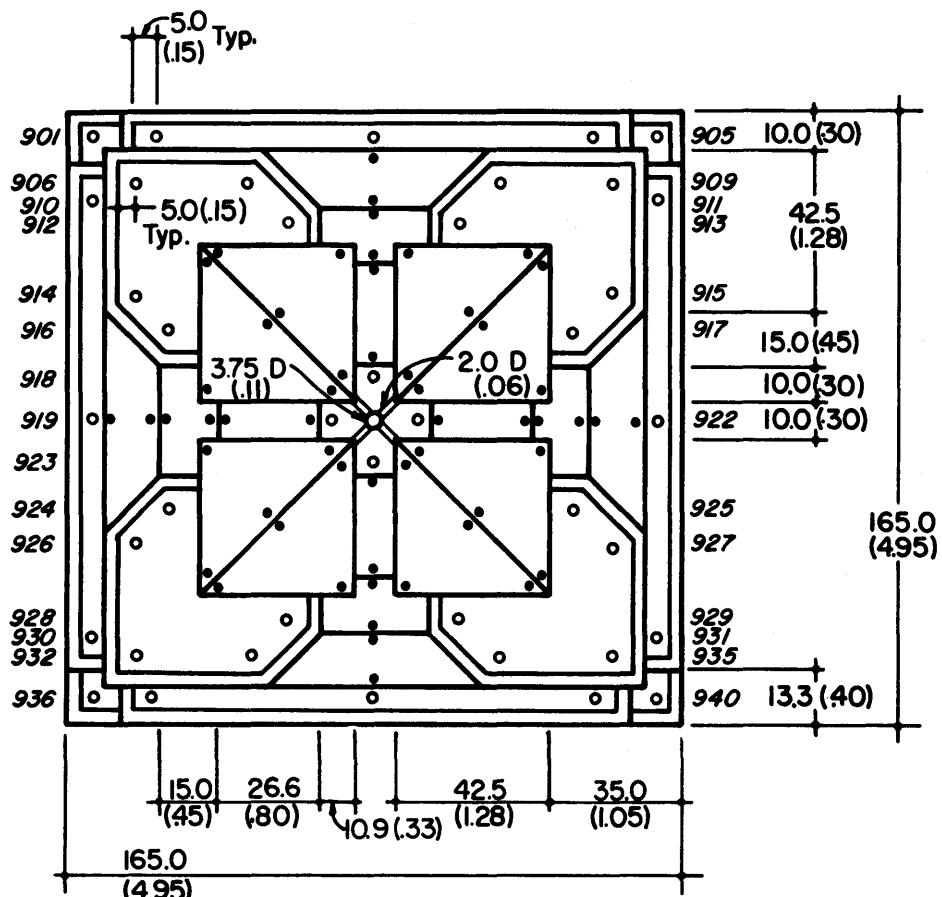
## INDUSTRIAL AERODYNAMICS WIND TUNNEL

Figure 2. Wind-Tunnel Configuration

Total taps = 279

Model scale = 1 / 400

Dimensions are in full scale feet and (model inches).



Note :

Parapets are 3.3 (.10) wide.

Typical taps are located 3.3 (.10) or 10.0 (30) from nearest edge or on centerline of surface unless noted.

Darkened taps are located and identified in another view.

Building is symmetrical above 50.5 (1.52).



Figure 3a. Pressure Tap Locations

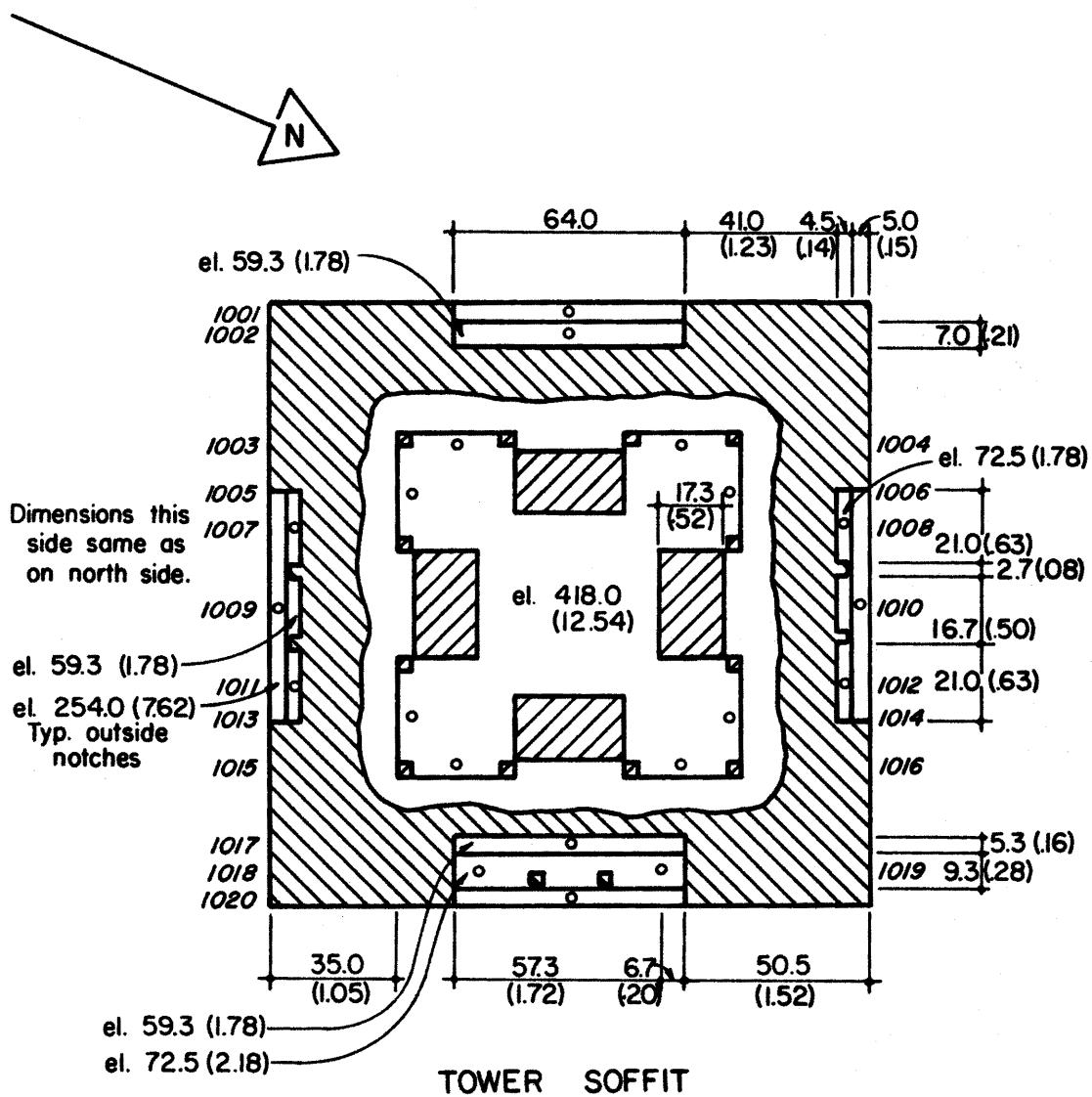
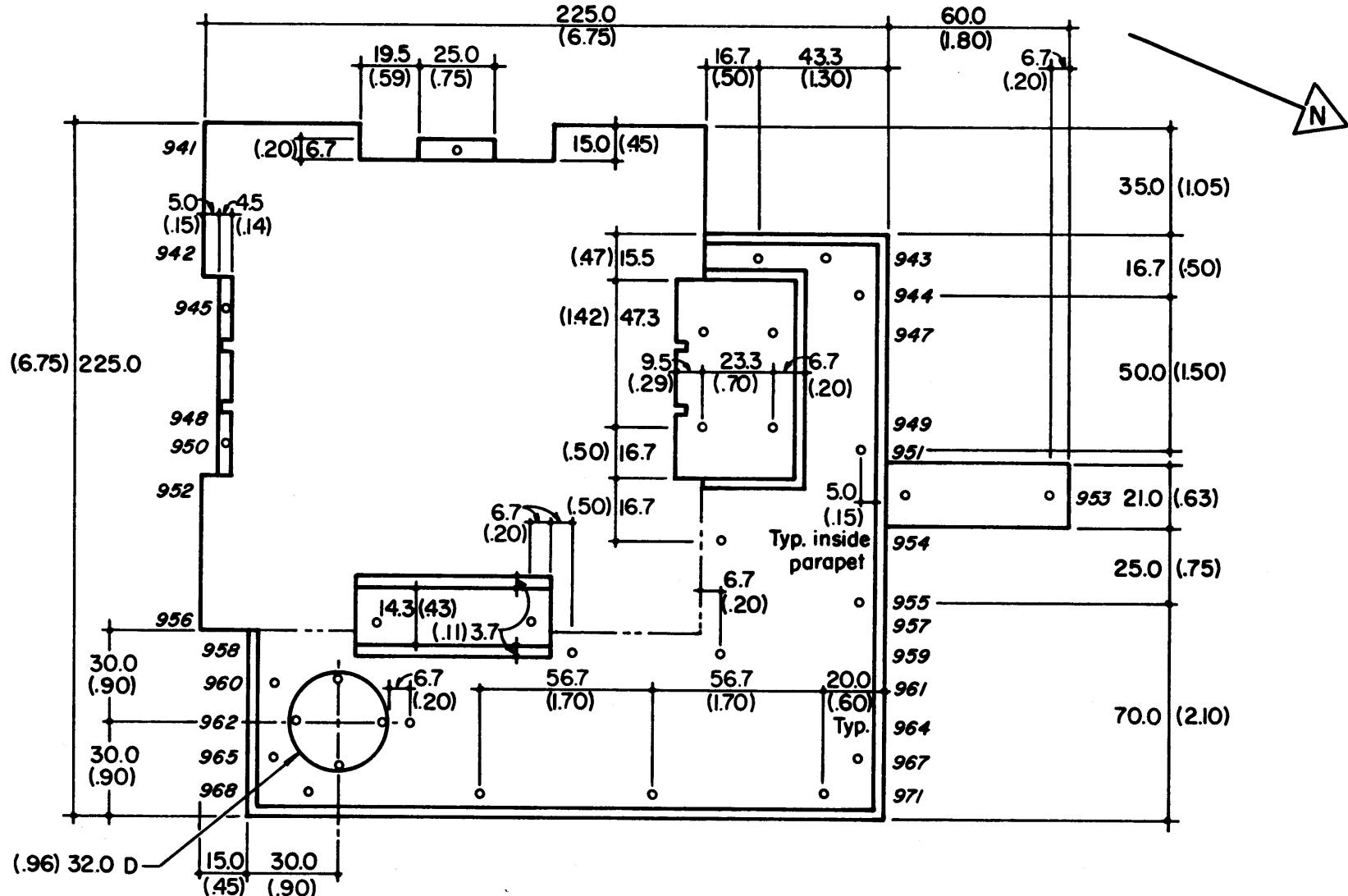


Figure 3b. Pressure Tap Locations



LOWRISE ROOF

Figure 3c. Pressure Tap Locations

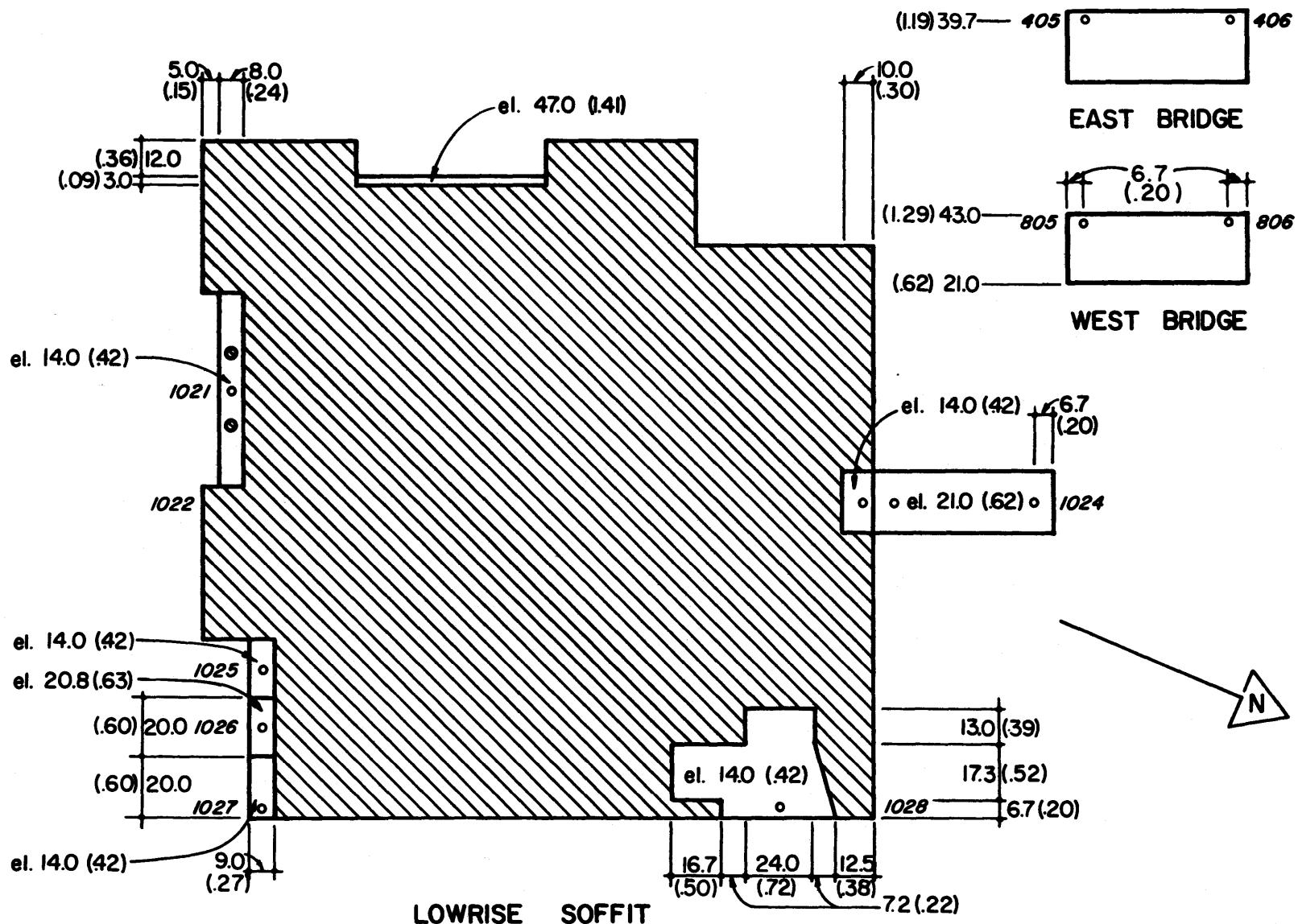
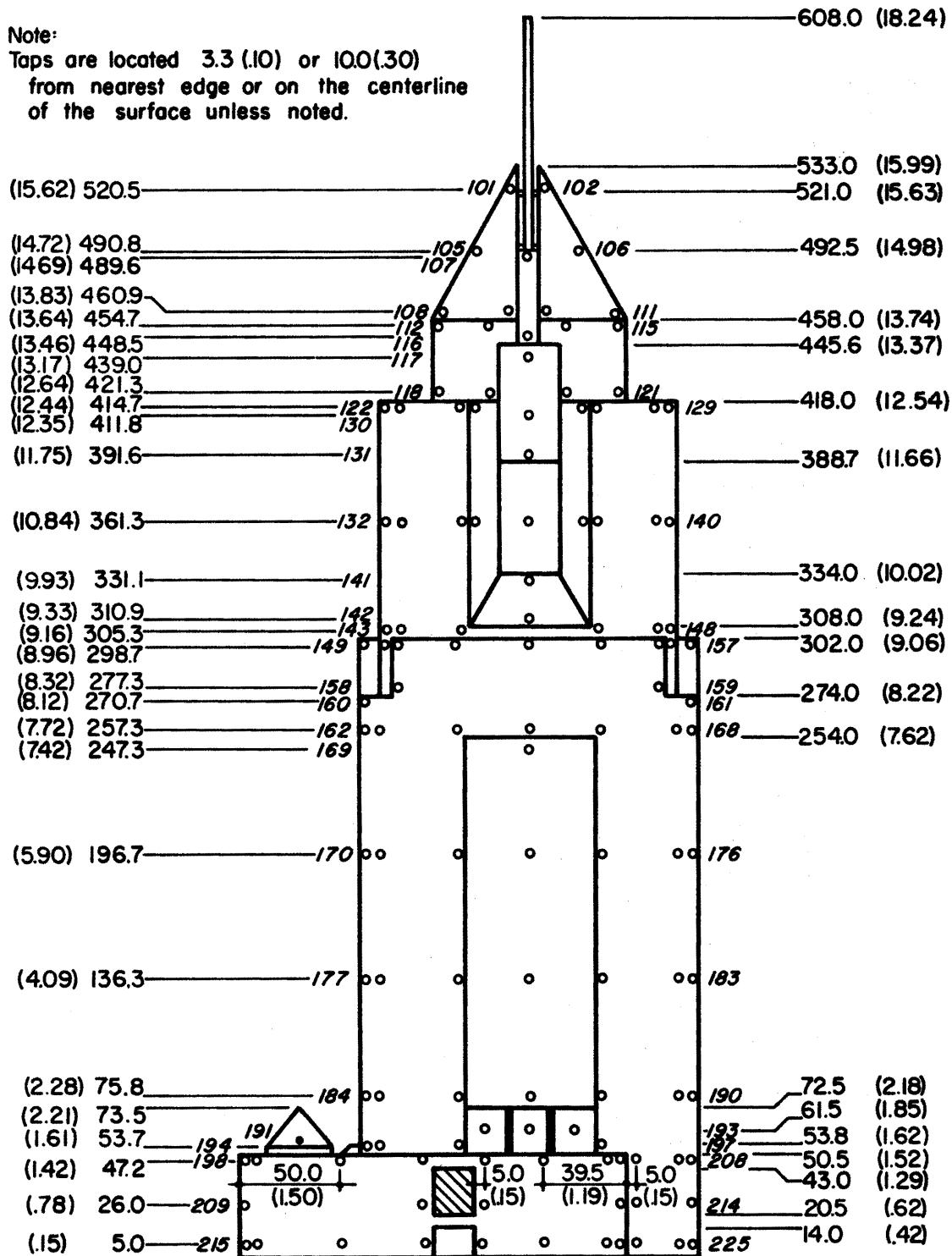


Figure 3d. Pressure Tap Locations

**Note:**

Taps are located 3.3 (.10) or 10.0(.30)  
from nearest edge or on the centerline  
of the surface unless noted.



NORTH

Figure 3e. Pressure Tap Locations

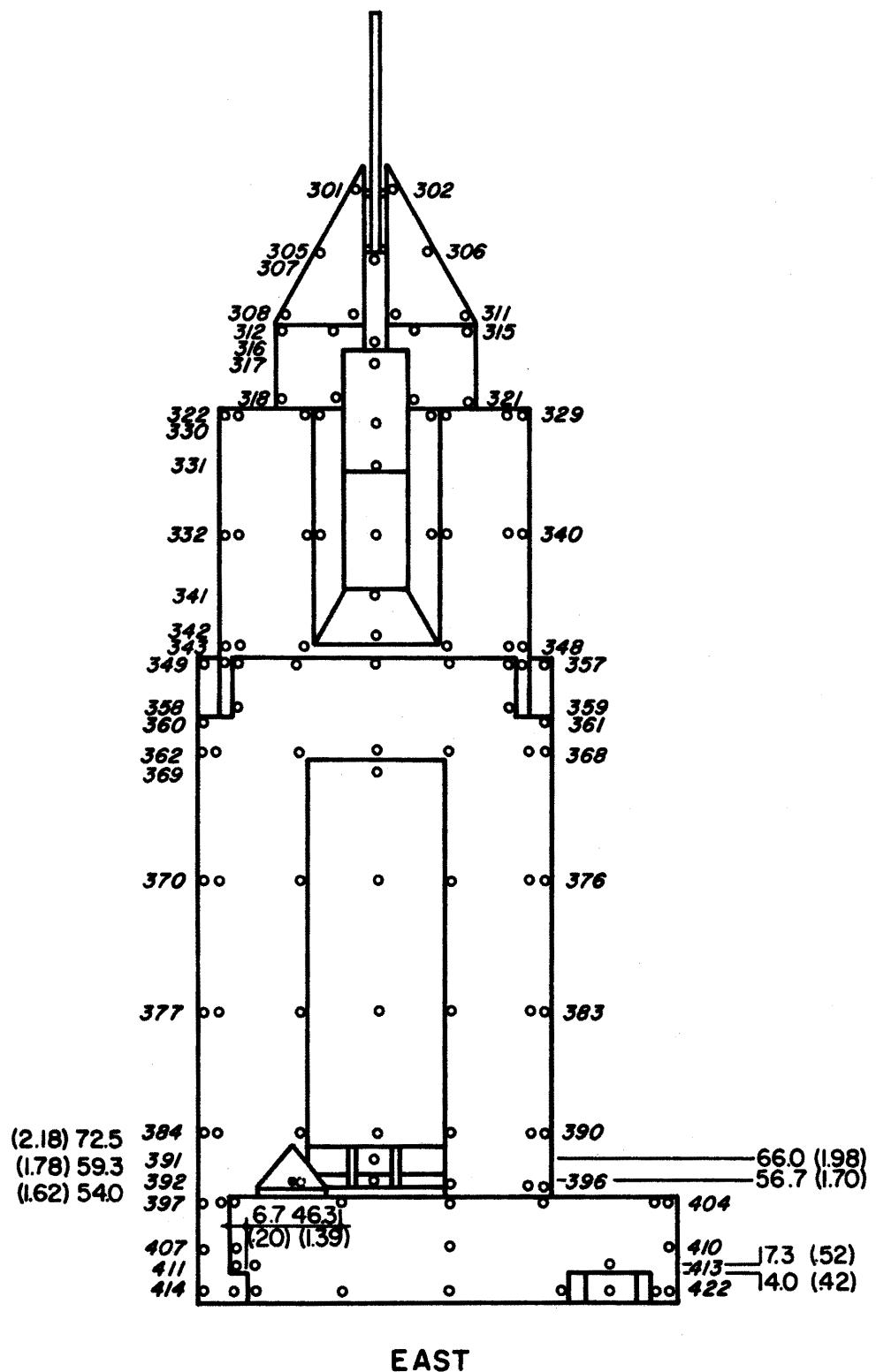


Figure 3f. Pressure Tap Locations

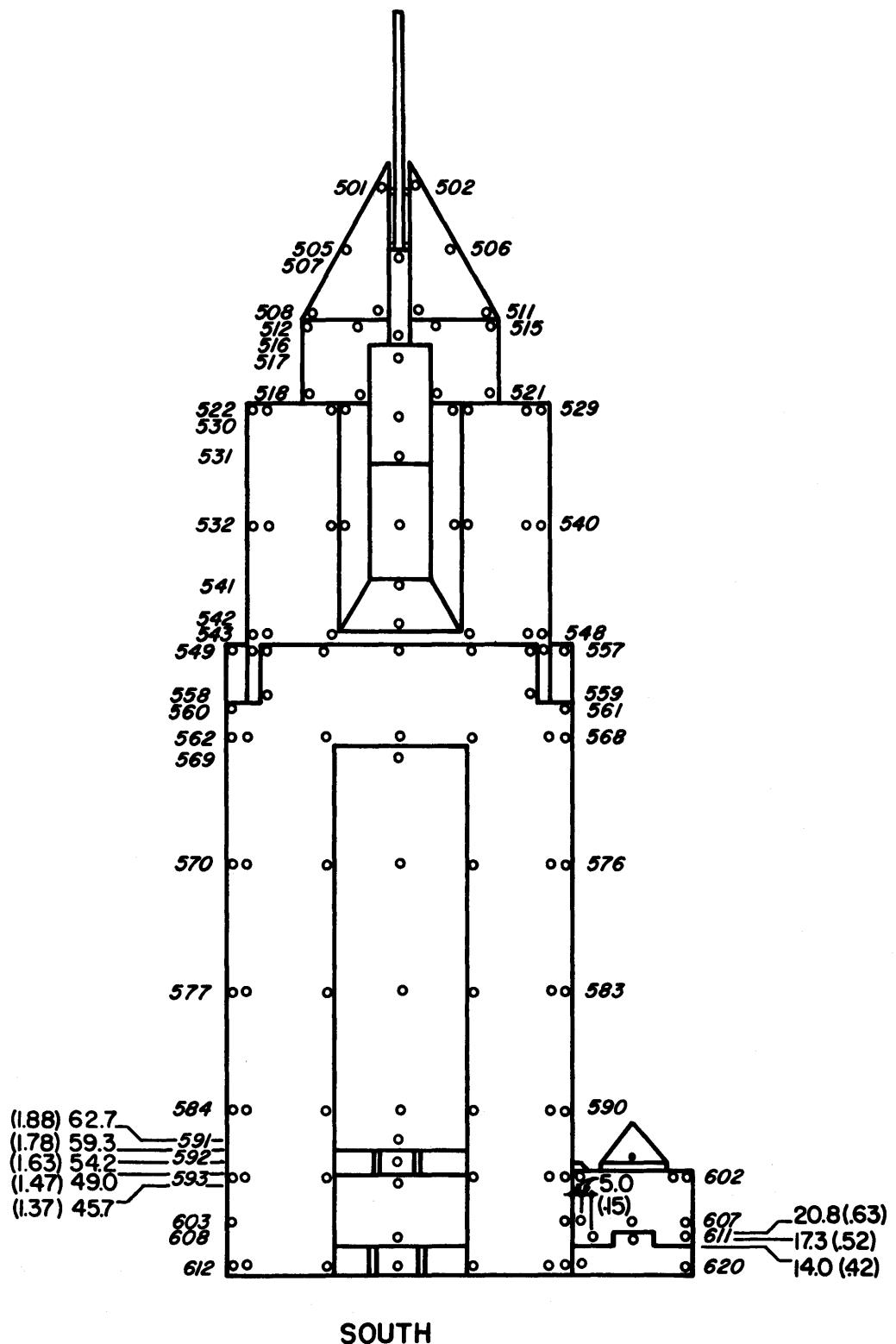


Figure 3g. Pressure Tap Locations

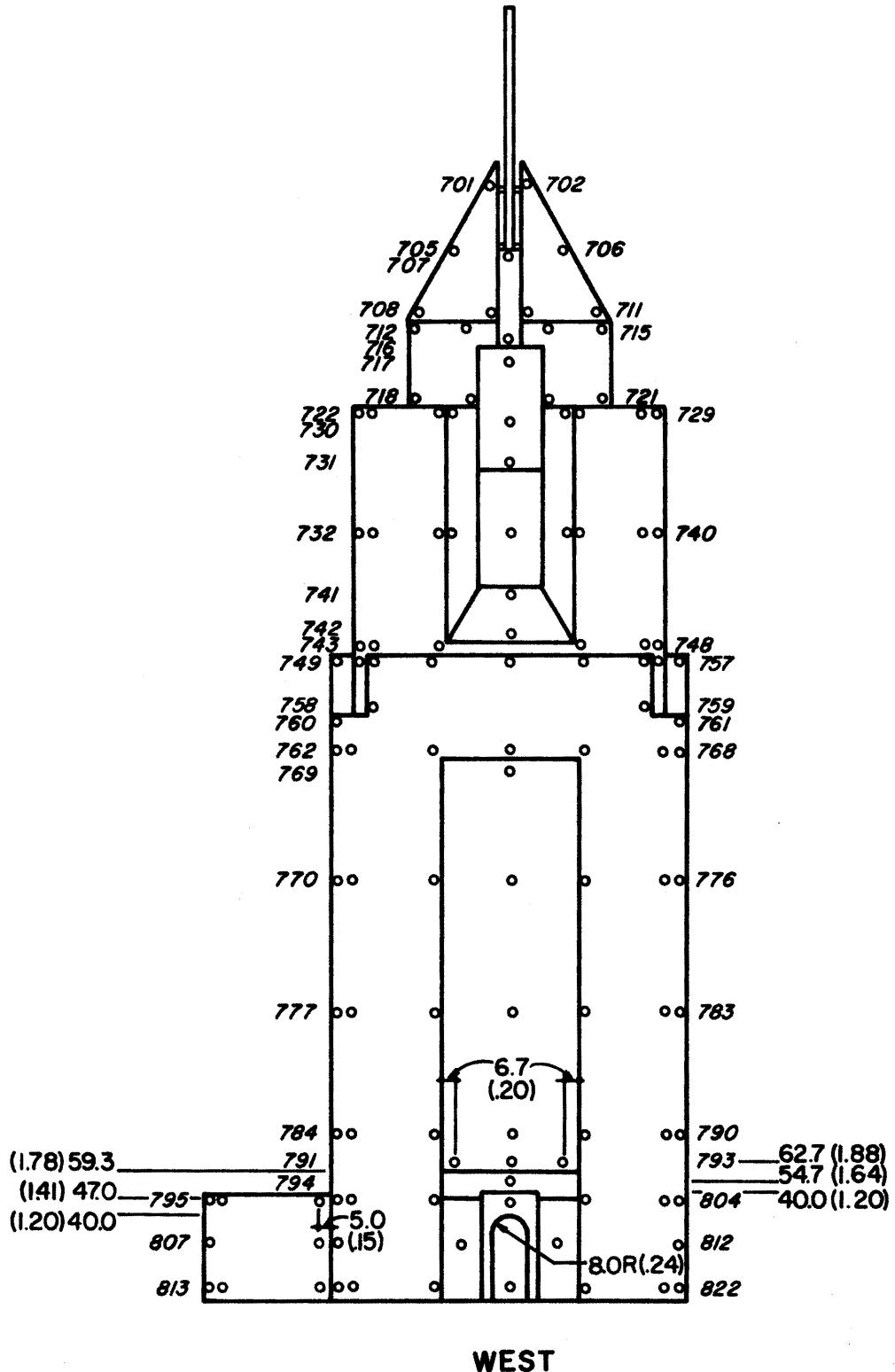


Figure 3h. Pressure Tap Locations

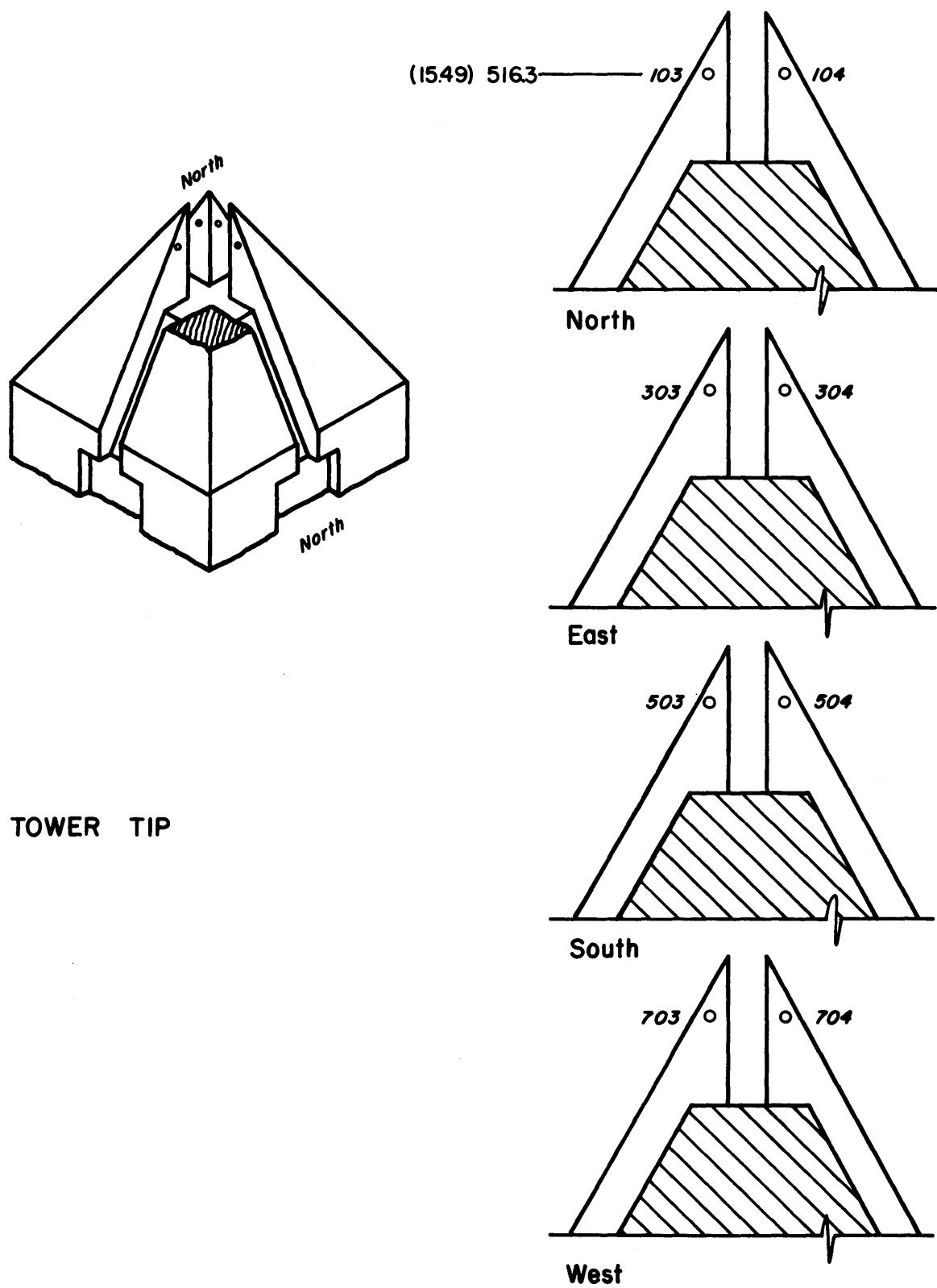
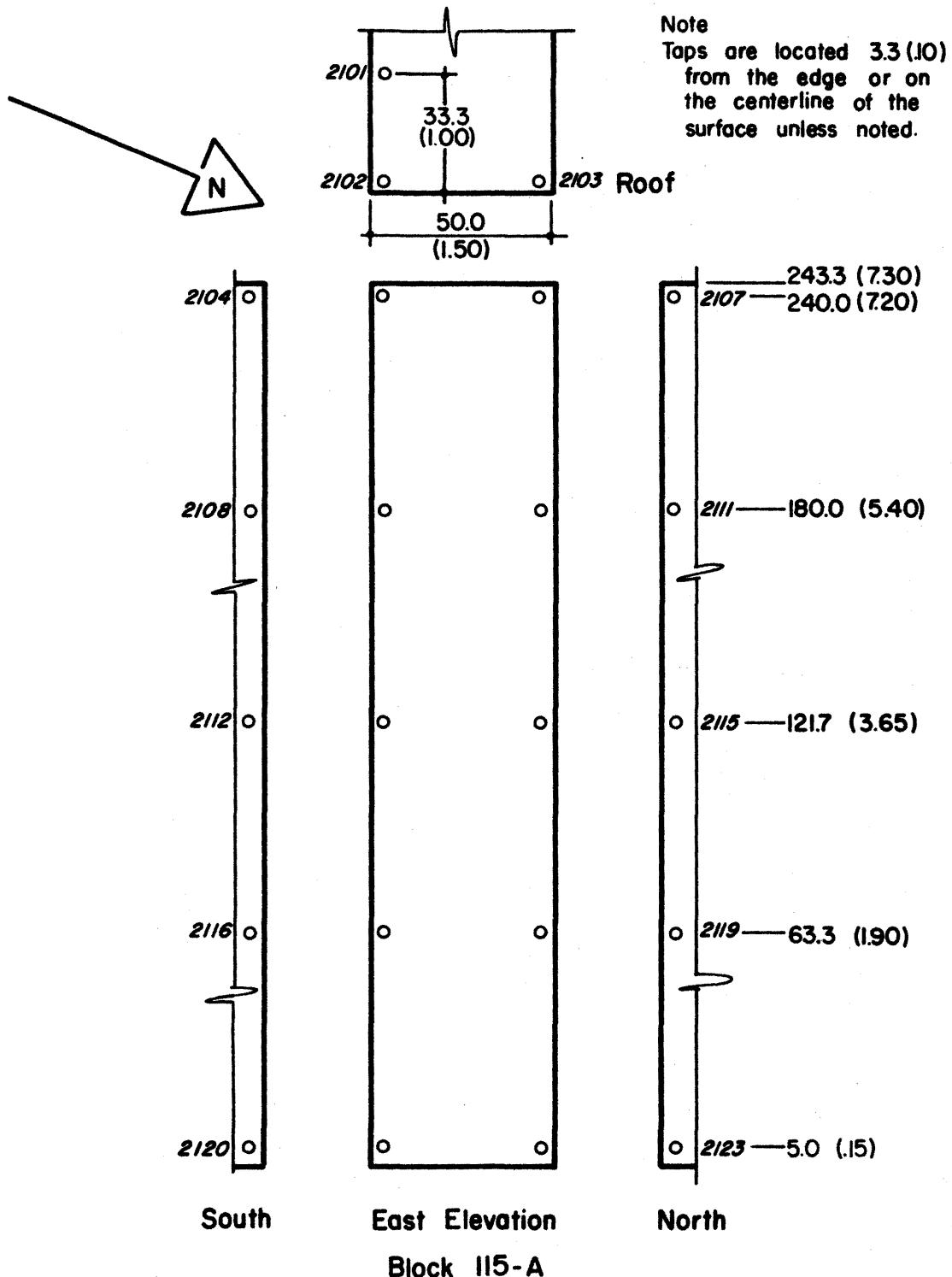


Figure 3i. Pressure Tap Locations



Total taps = 165 for buildings surrounding Jenkins/Empire site.

Figure 3j. Pressure Tap Locations

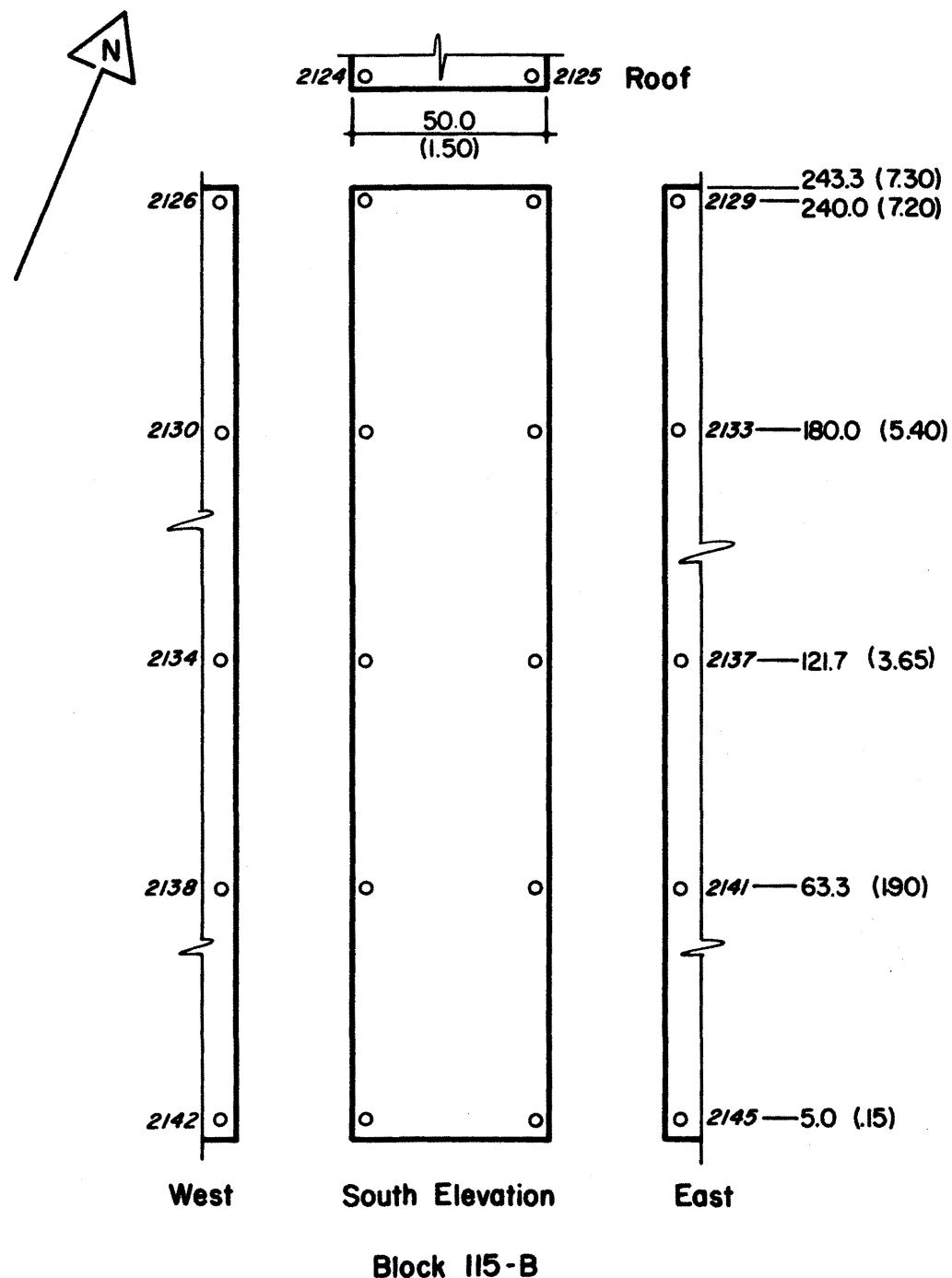


Figure 3k. Pressure Tap Locations

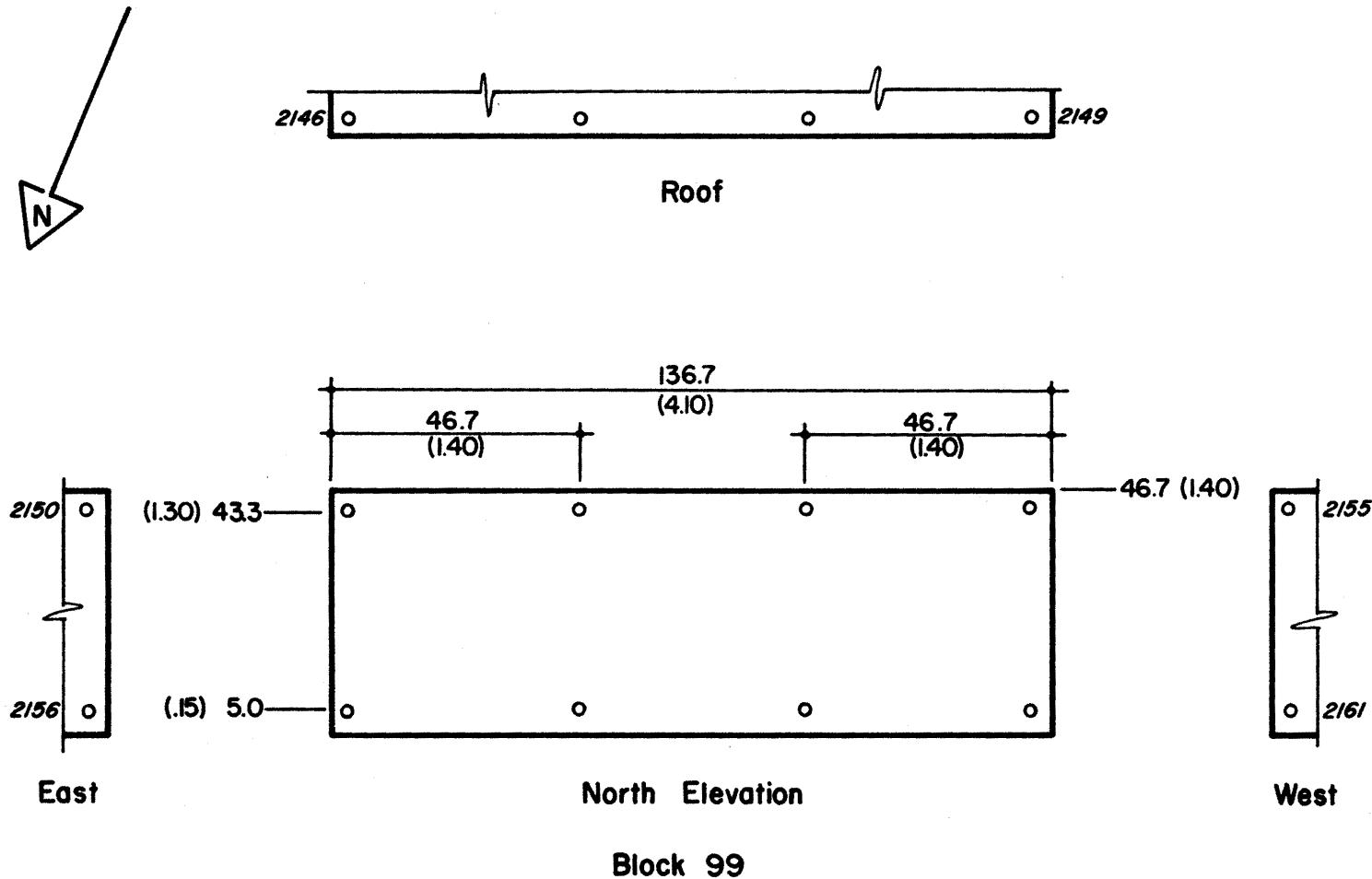


Figure 31. Pressure Tap Locations

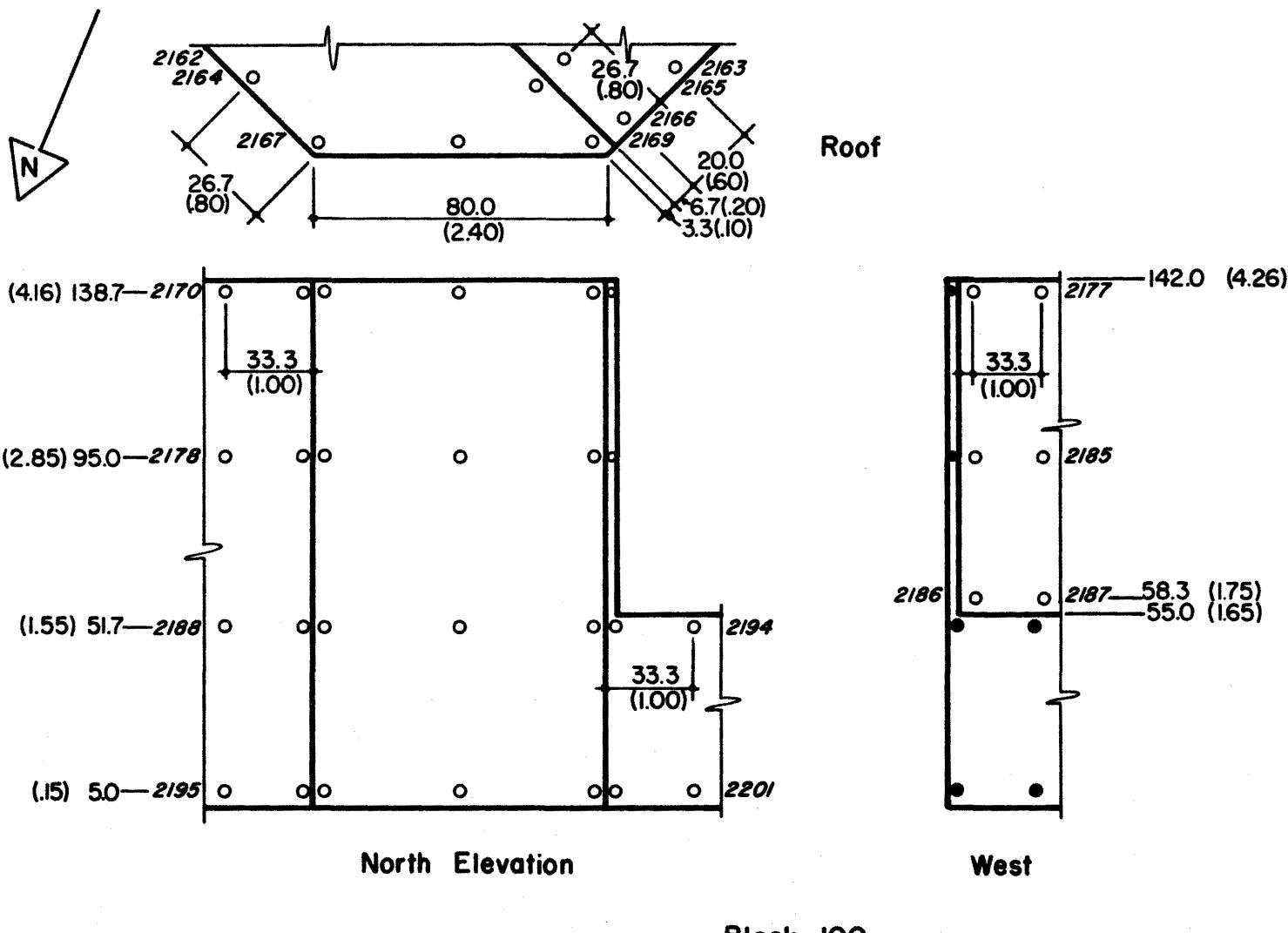


Figure 3m. Pressure Tap Locations

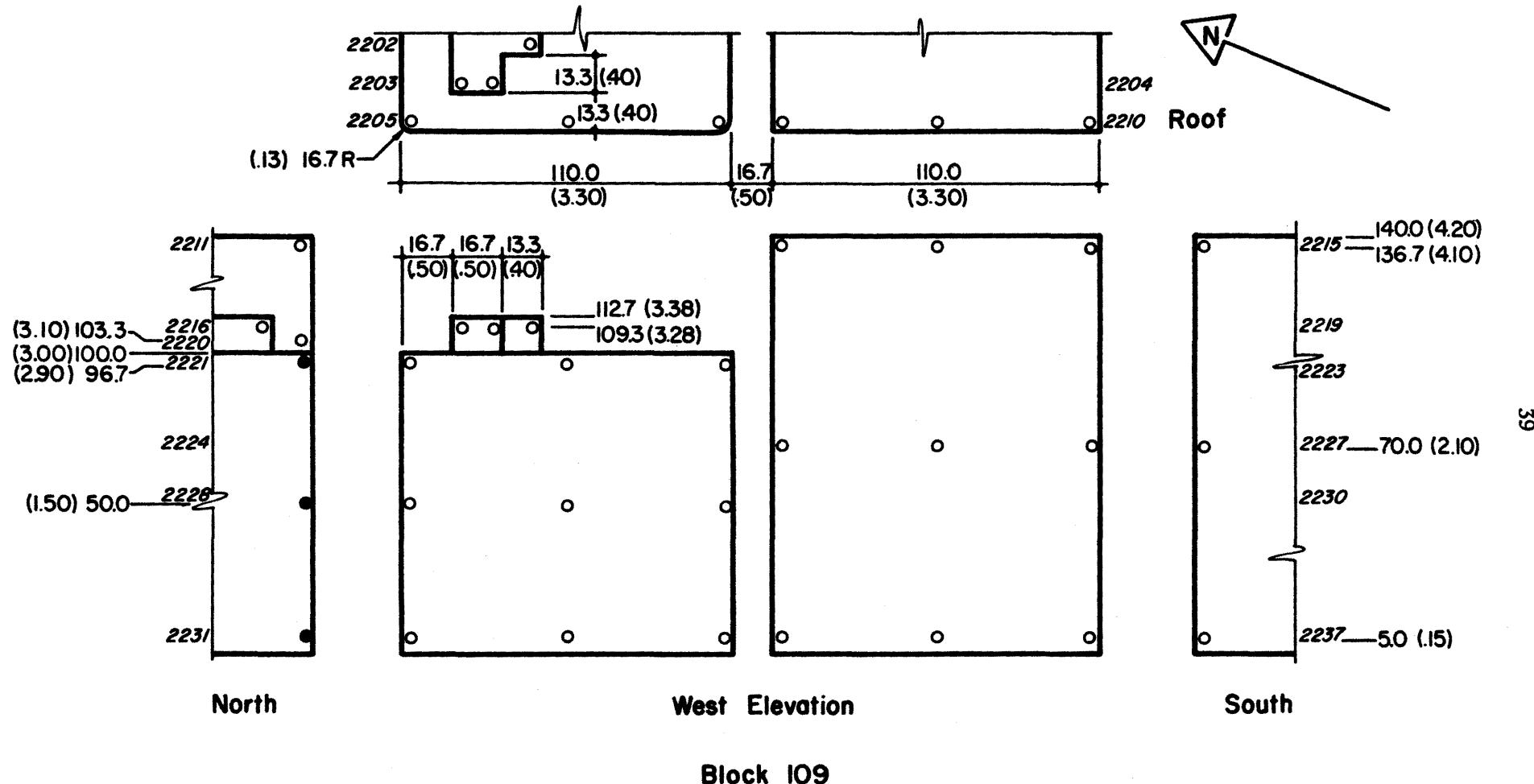


Figure 3n. Pressure Tap Locations

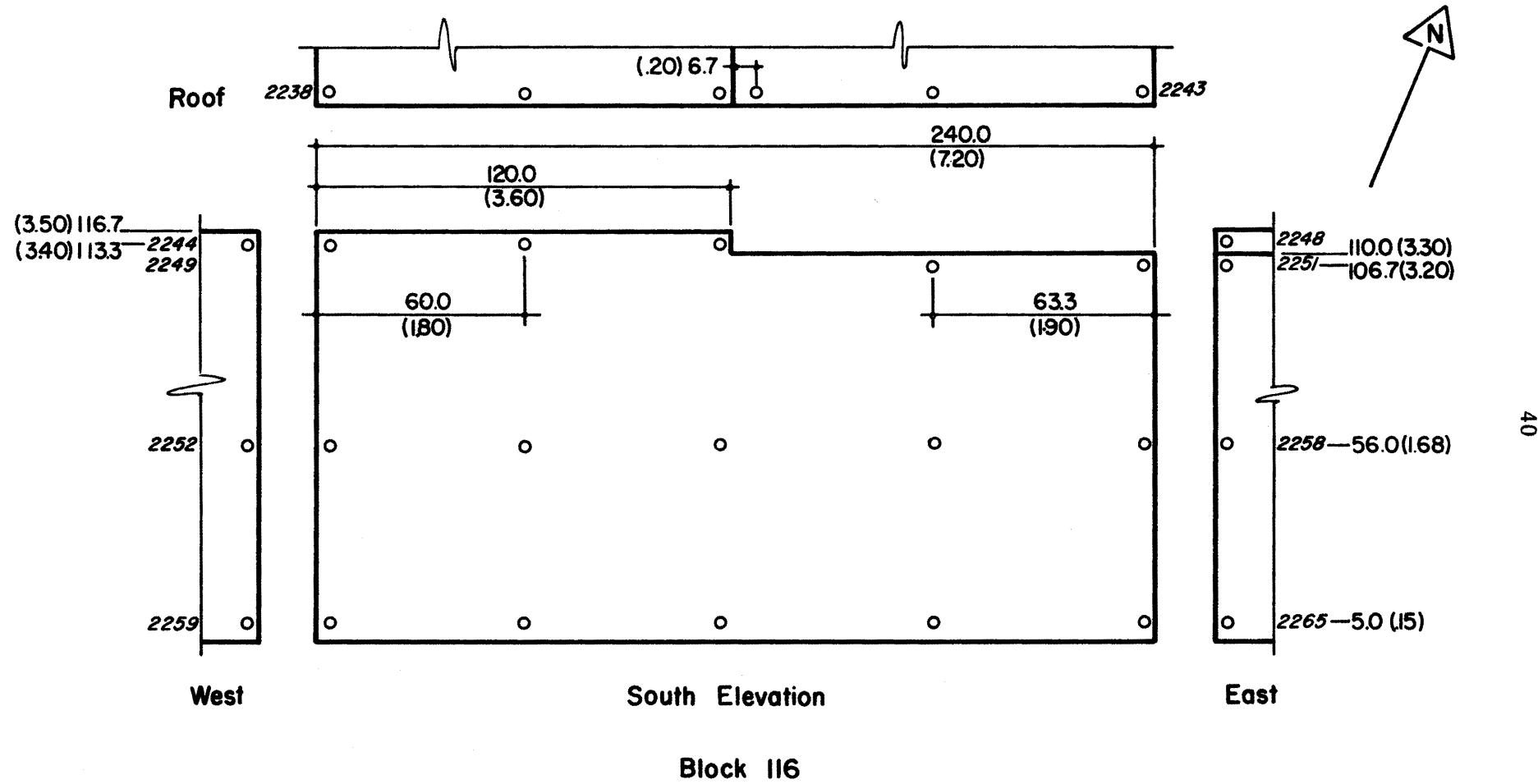


Figure 3o. Pressure Tap Locations

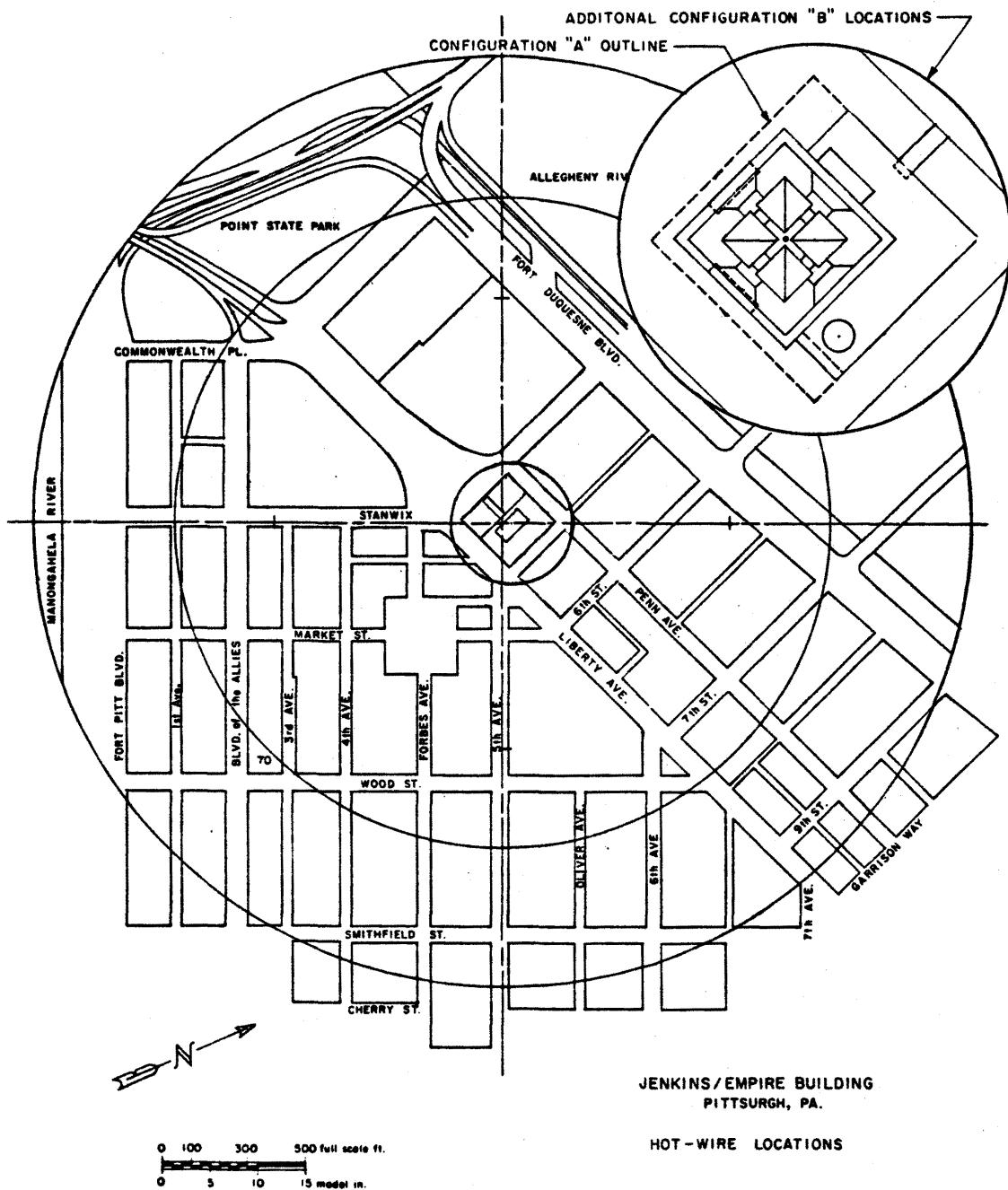


Figure 4a. Building Location and Pedestrian Wind Velocity Measuring Positions

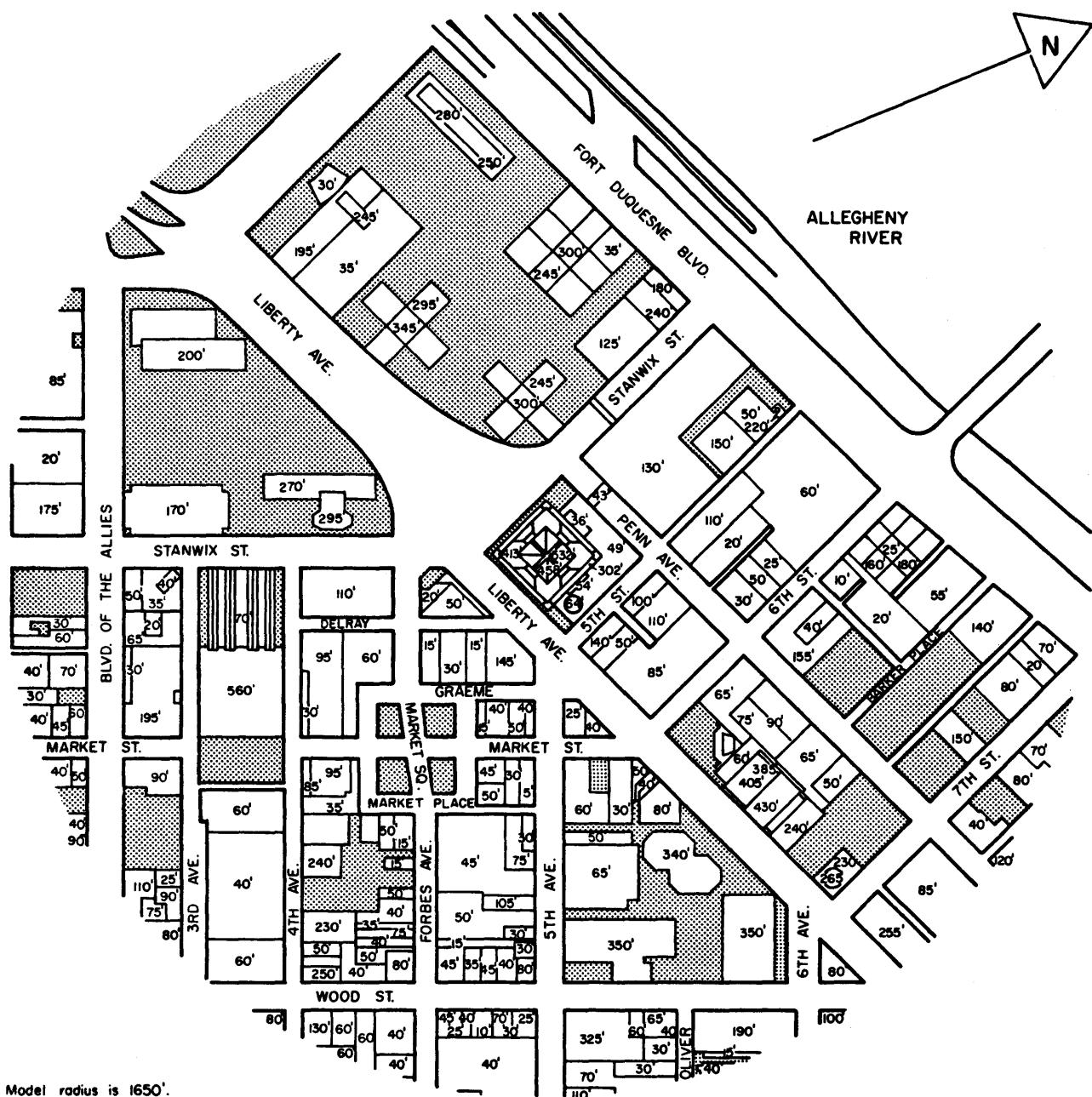
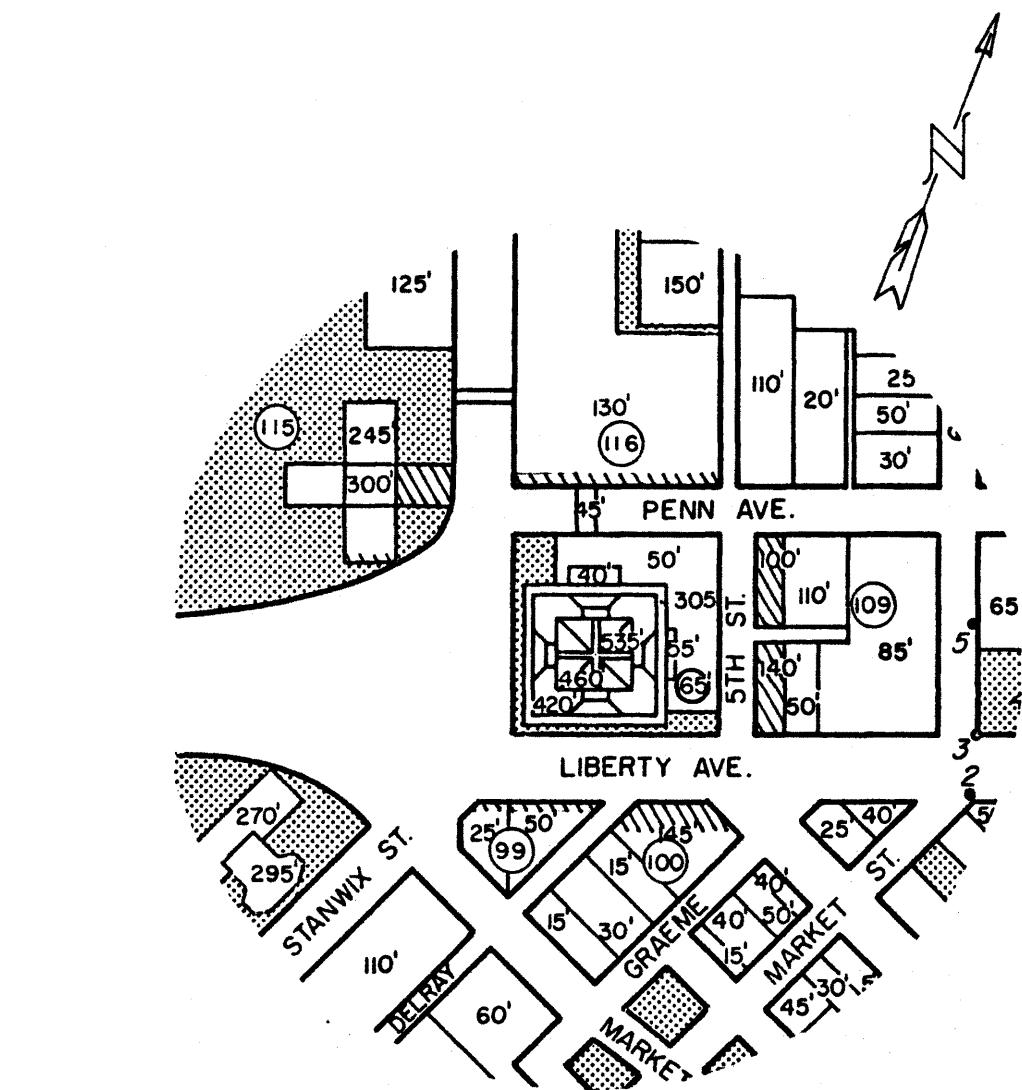


Figure 4b. Building Location and Pedestrian Wind Velocity Measuring Positions



||||| Tapped Plexiglas Faces

○ Model Block Number

JENKINS / EMPIRE  
PITTSBURGH, PA.

Figure 4c. Building Location and Pedestrian Wind Velocity Measuring Positions



Figure 5a. Completed Model in Wind Tunnel

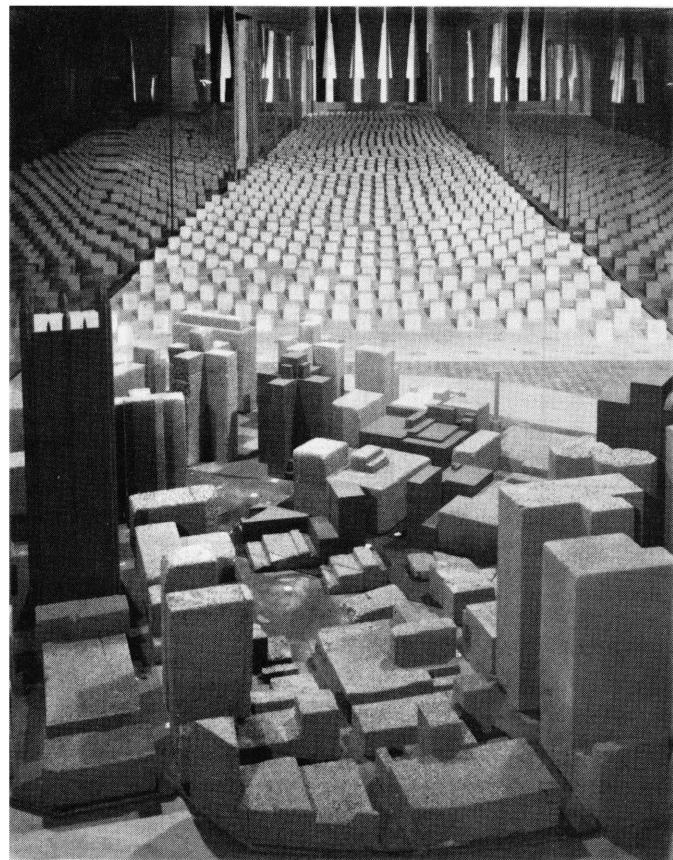


Figure 5b. Completed Model in Wind Tunnel

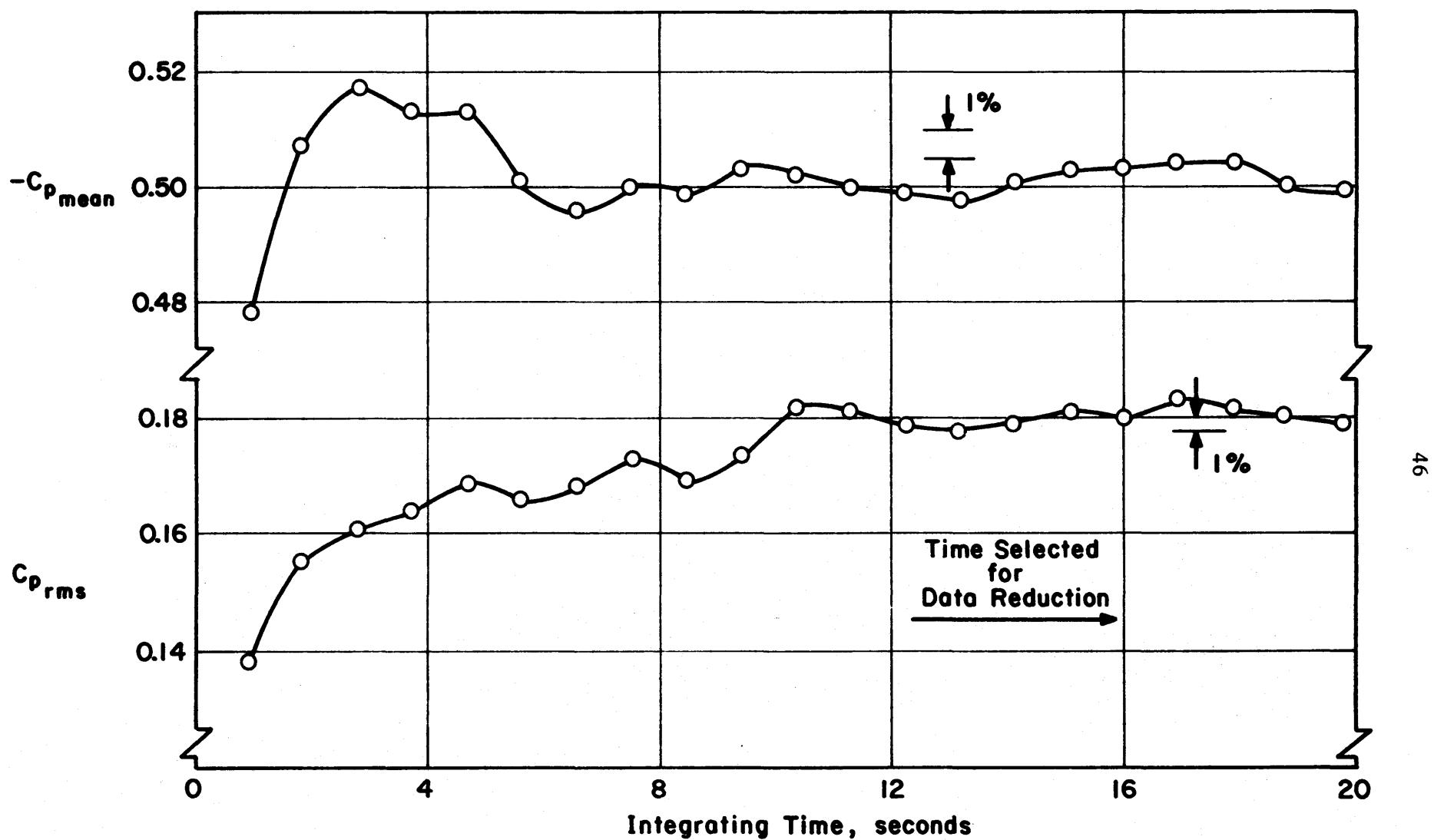


Figure 6. Data Sampling Time Verification

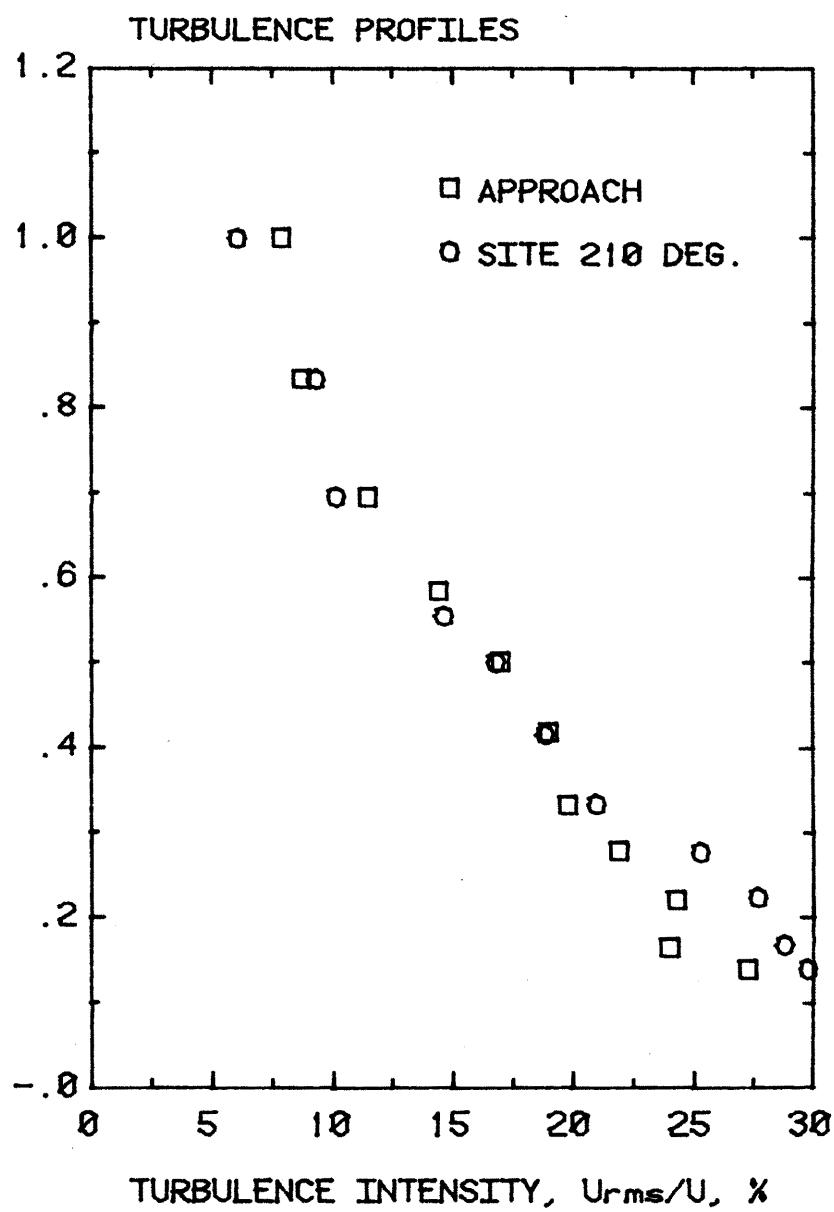
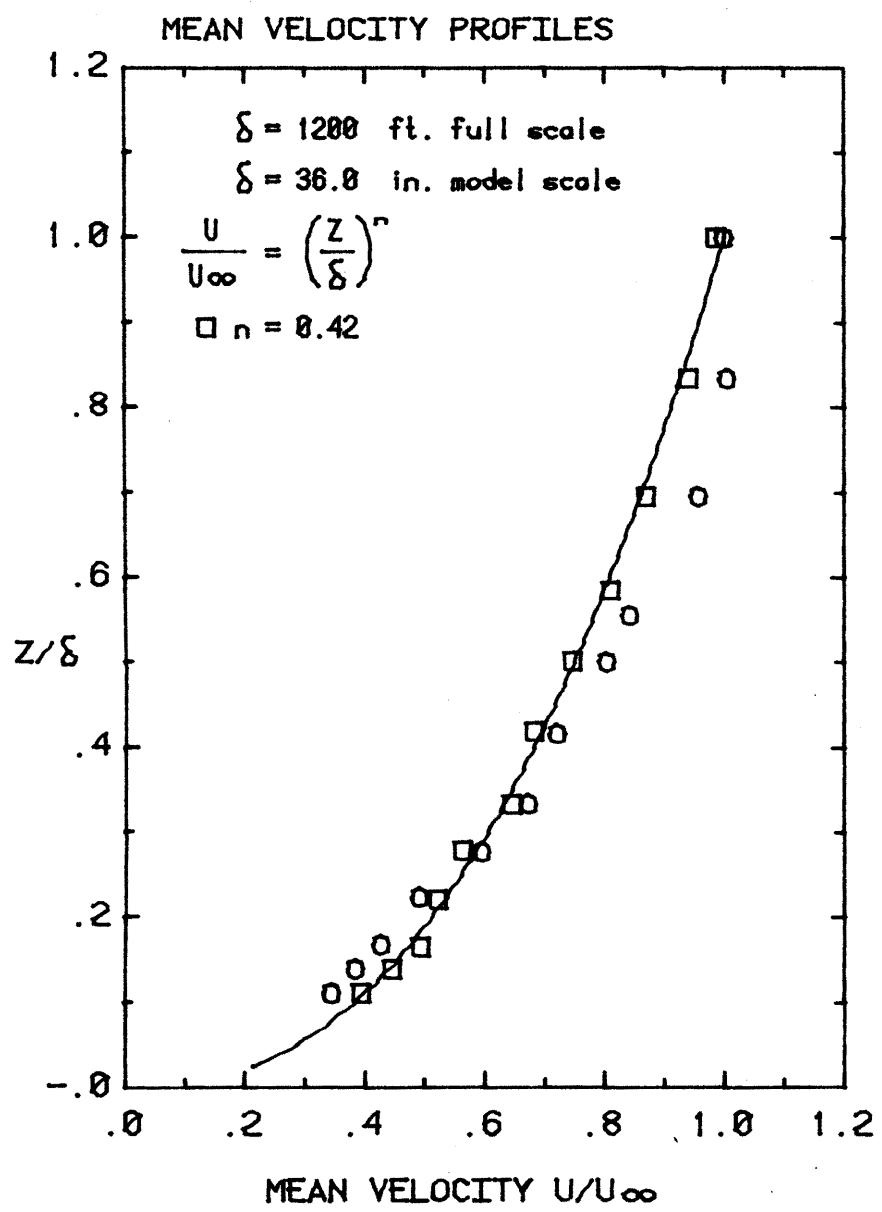
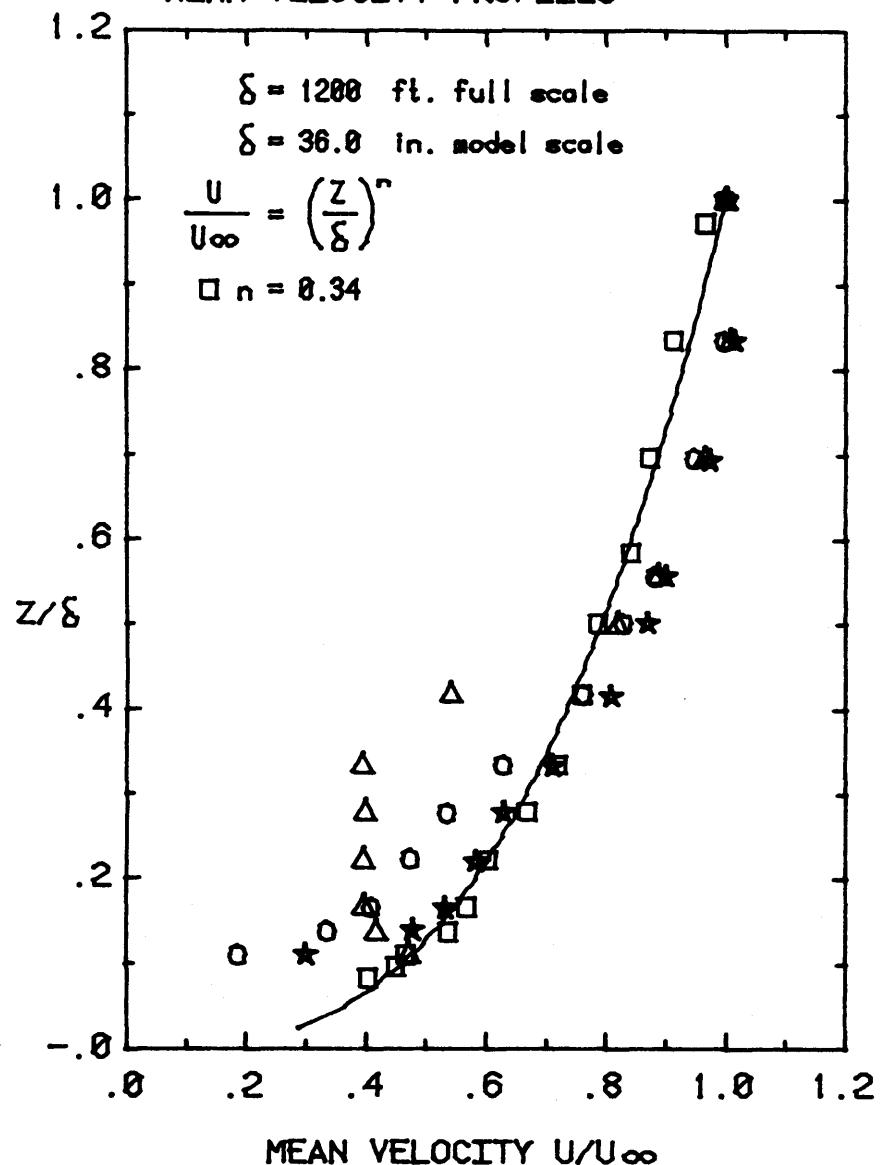


Figure 7a. Mean Velocity and Turbulence Profiles Approaching the Model

### MEAN VELOCITY PROFILES



### TURBULENCE PROFILES

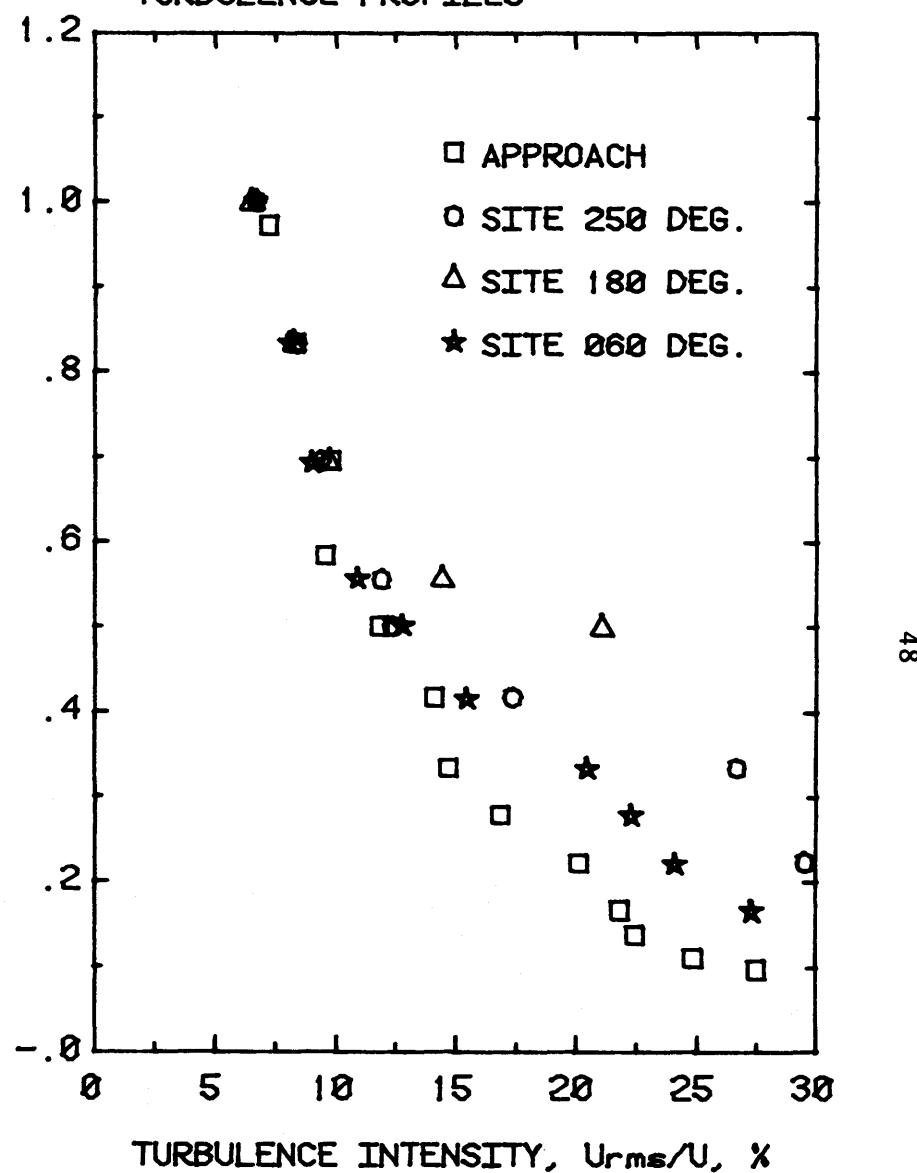


Figure 7b. Mean Velocity and Turbulence Profiles Approaching the Model

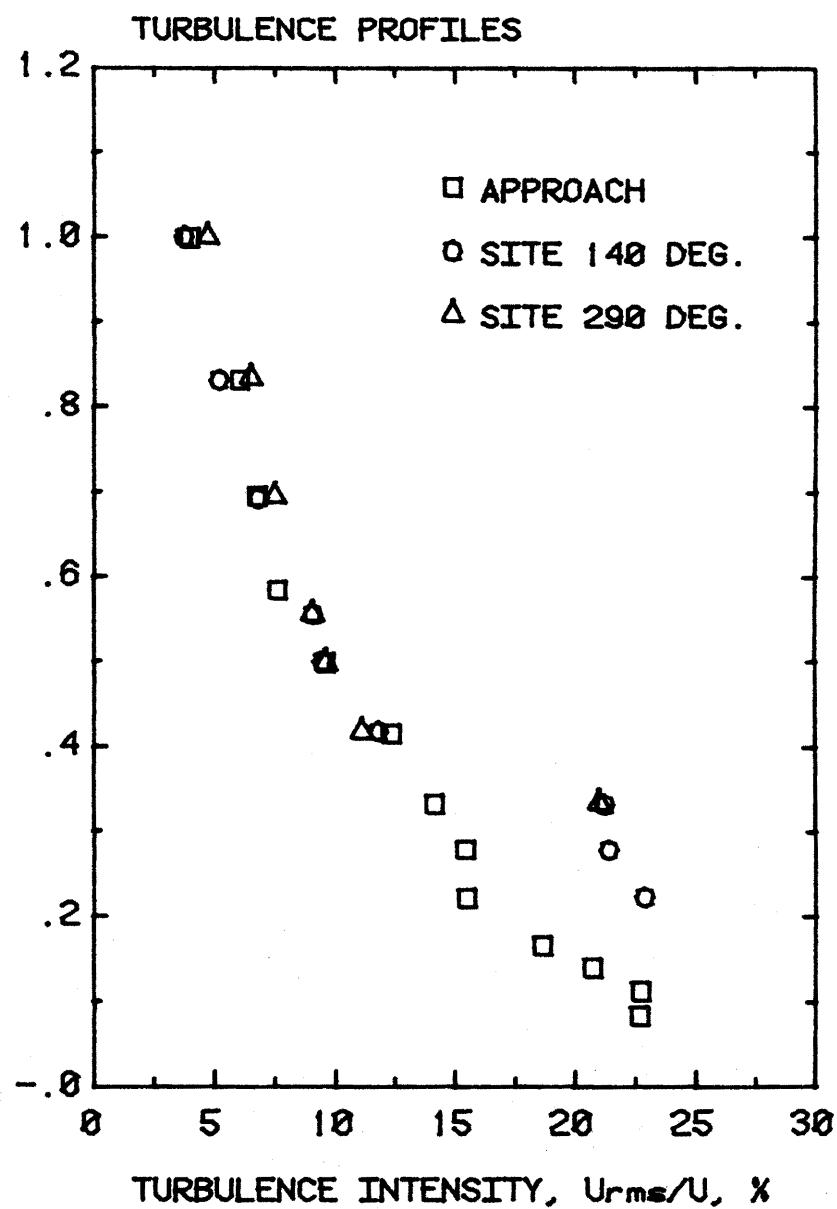
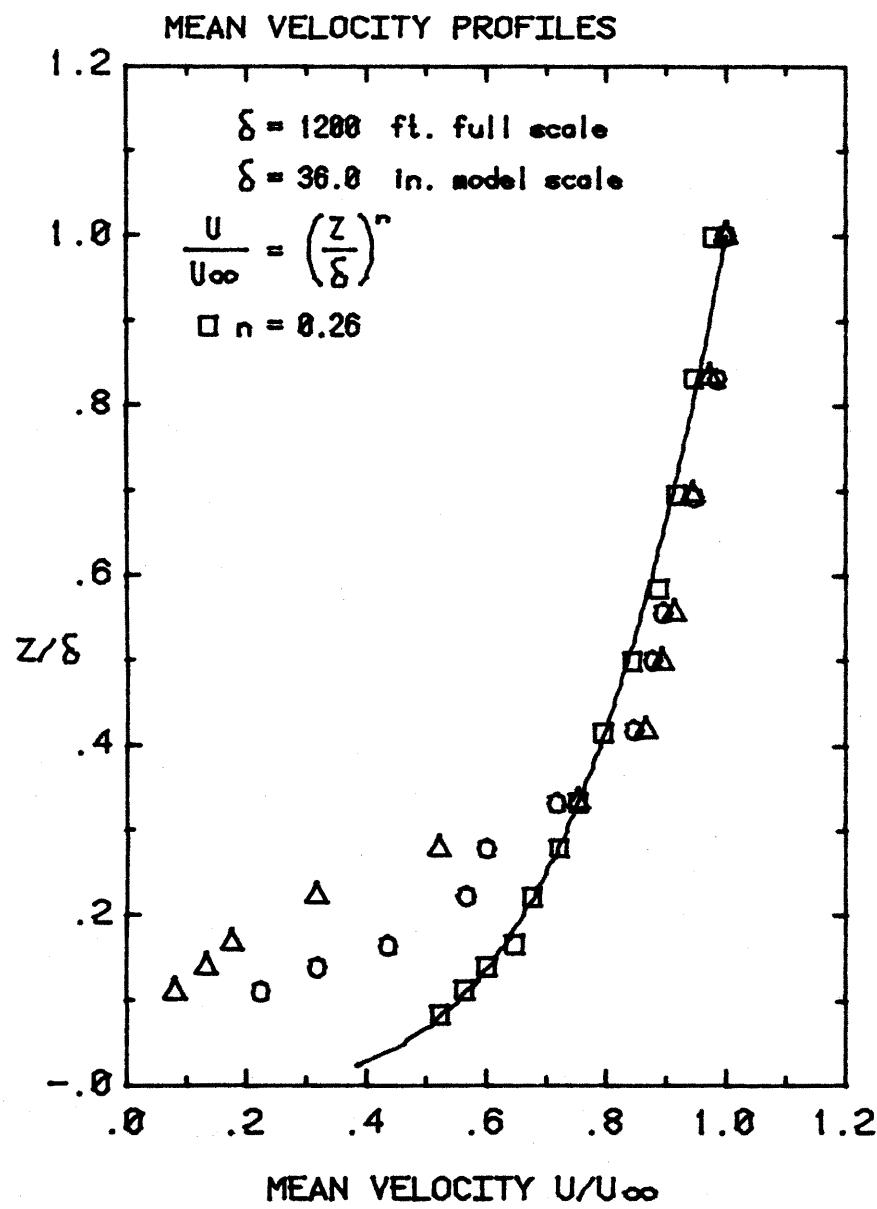
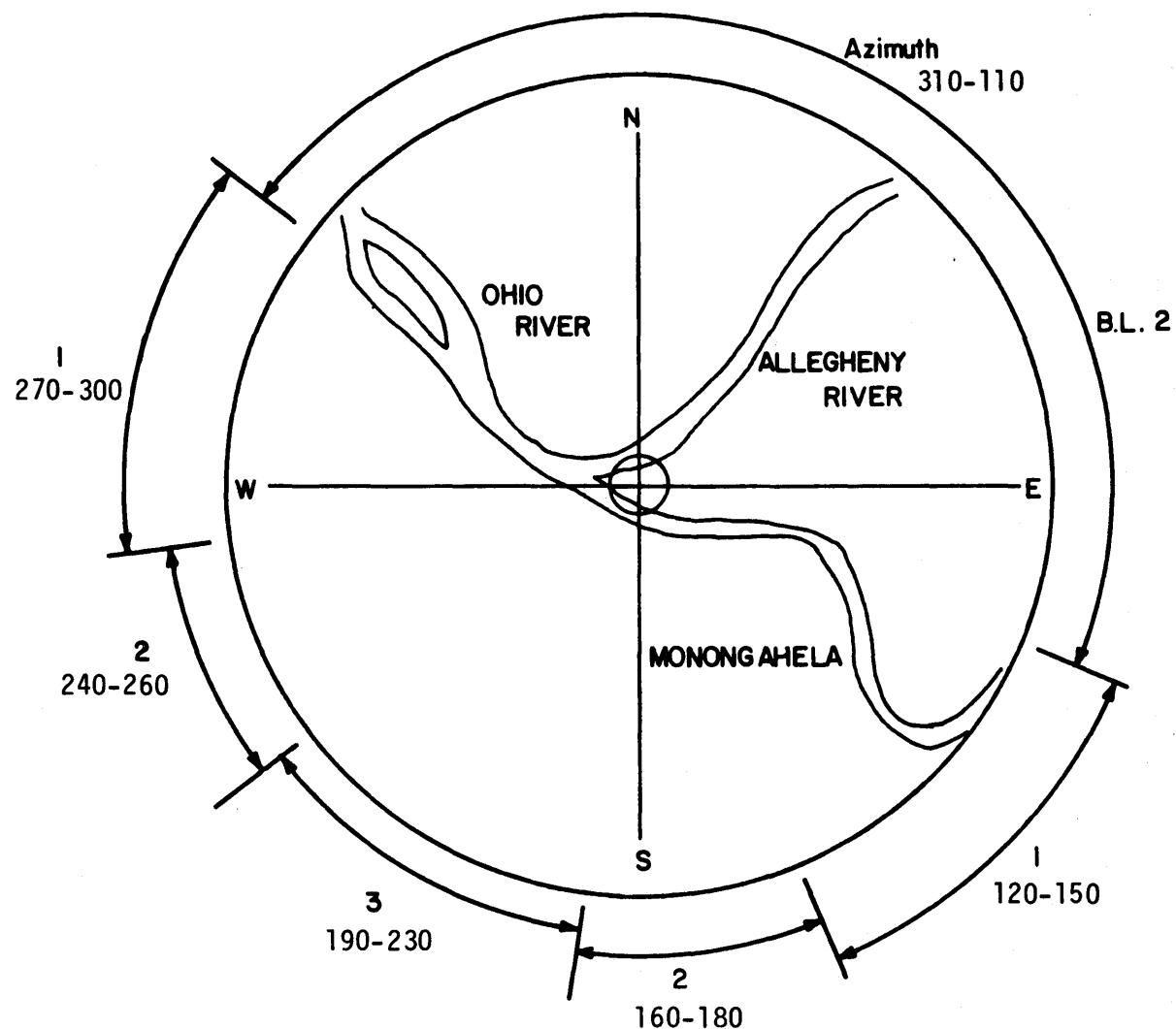


Figure 7c. Mean Velocity and Turbulence Profiles Approaching the Model

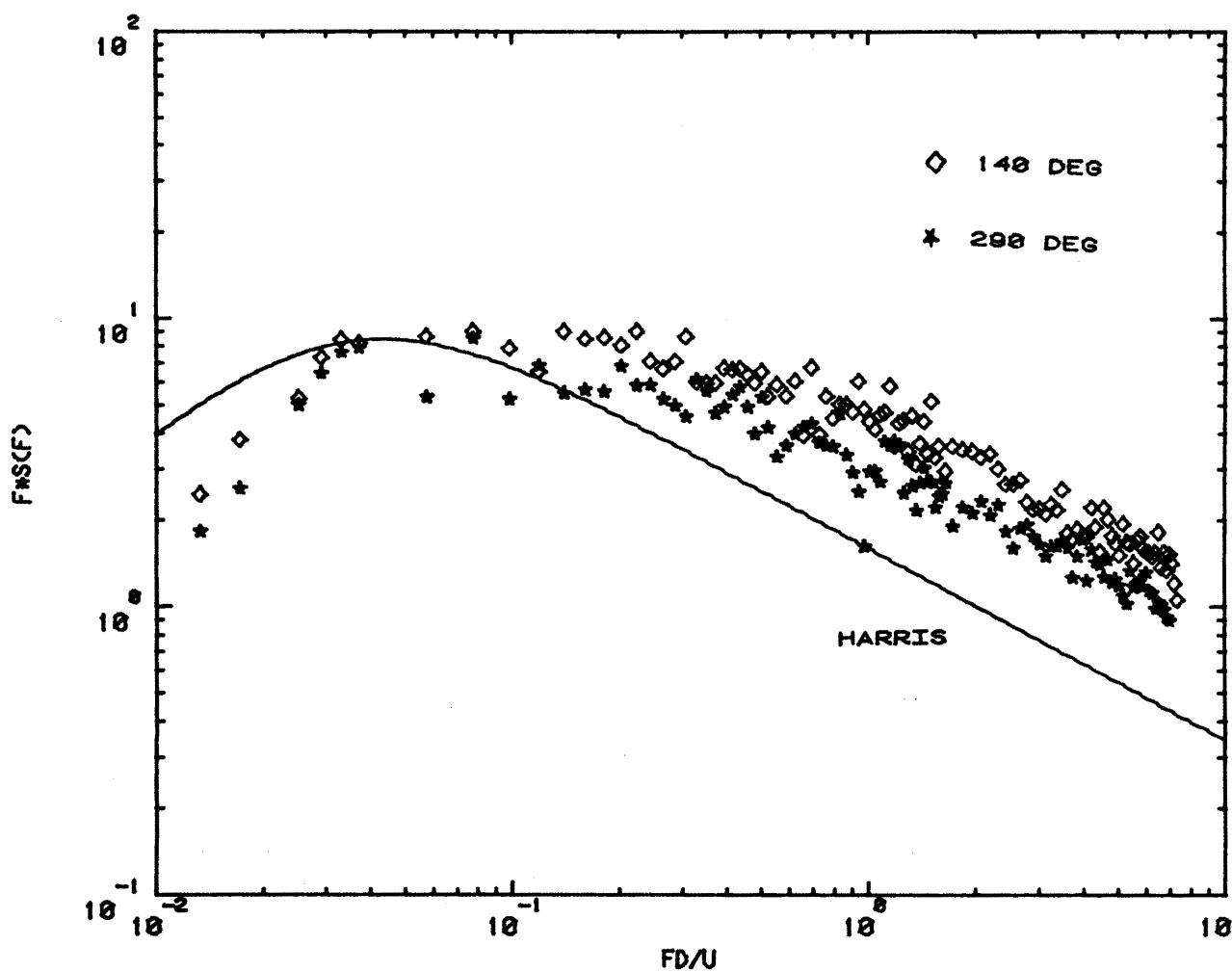


## APPROACH VELOCITY PROFILES

| <u>BOUNDARY LAYER</u> | <u>POWER LAW EXPONENT</u> |
|-----------------------|---------------------------|
| 1                     | 0.26                      |
| 2                     | 0.34                      |
| 3                     | 0.42                      |

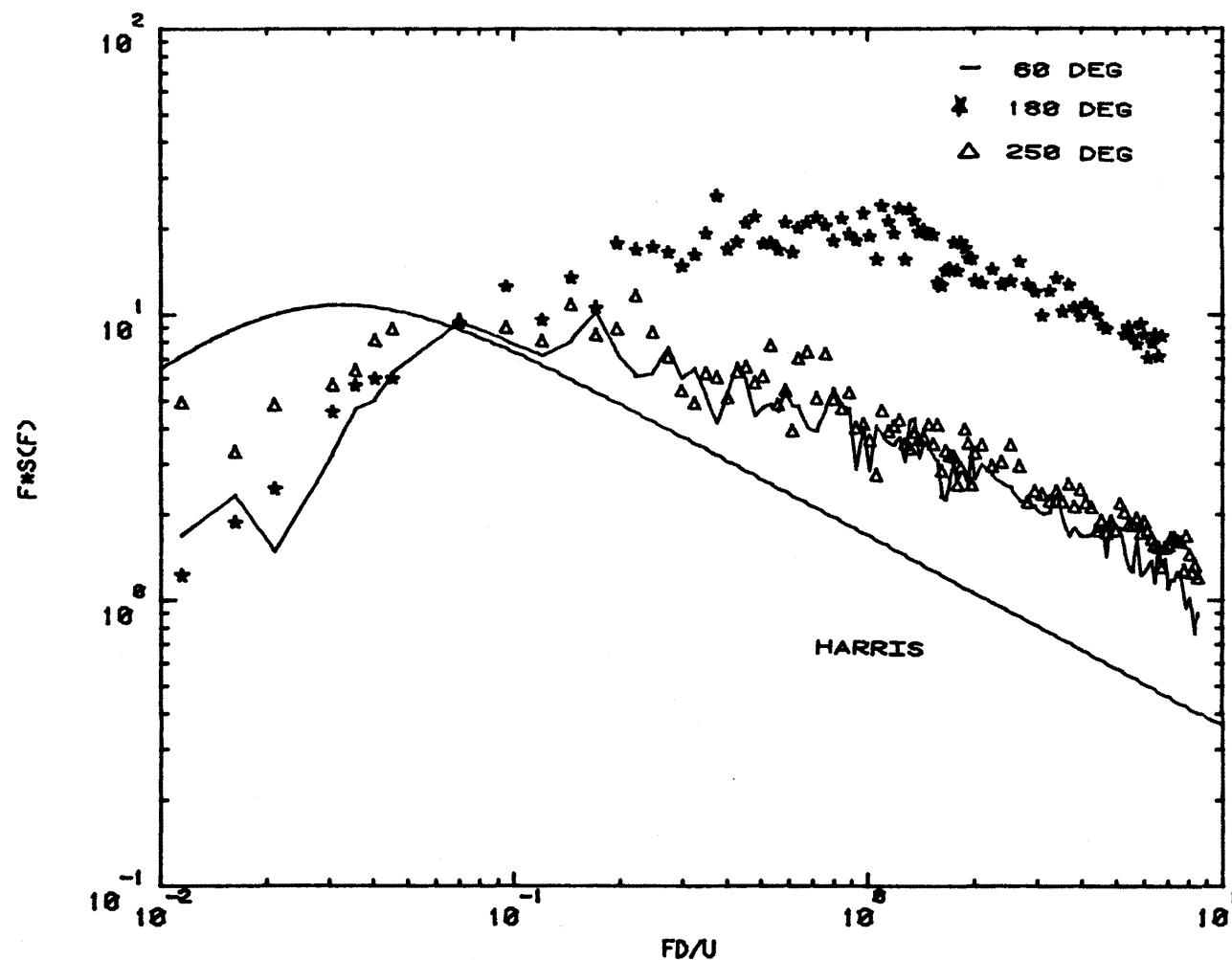
## Sector Distribution of Boundary Layer Characteristics

Figure 7d. Mean Velocity and Turbulence Profiles Approaching the Model



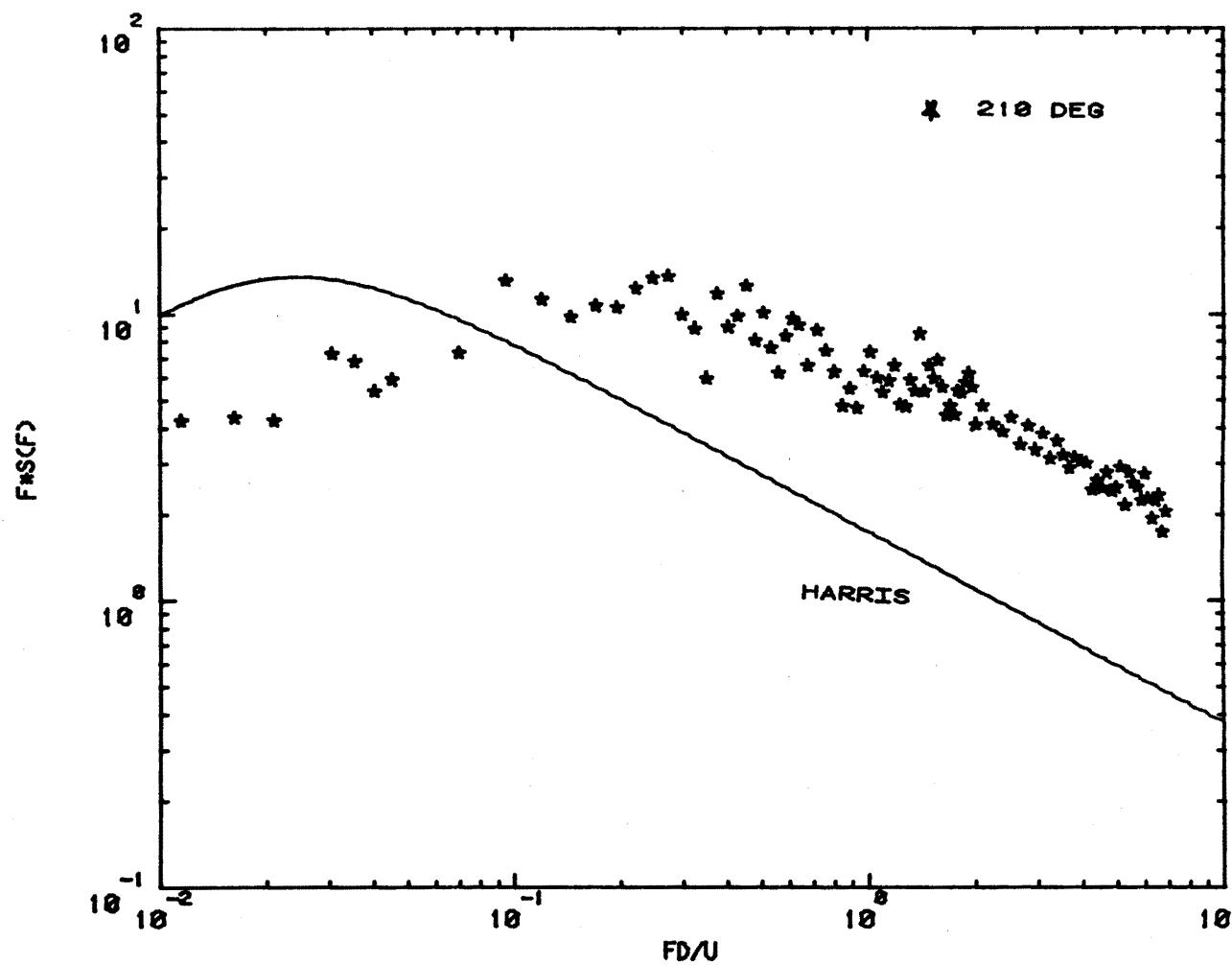
Longitudinal Velocity Spectra, Boundary Layer No. 1

Figure 7e. Mean Velocity and Turbulence Profiles Approaching the Model



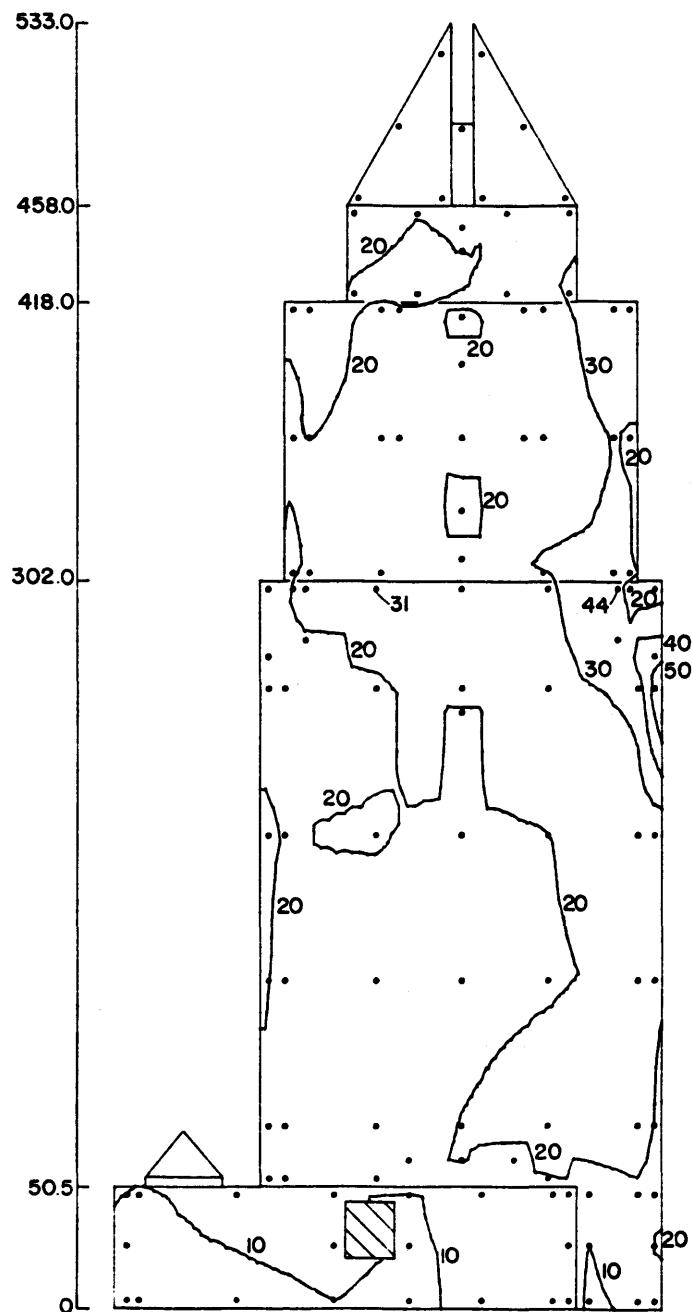
Longitudinal Velocity Spectra, Boundary Layer No. 2

Figure 7f. Mean Velocity and Turbulence Profiles Approaching the Model



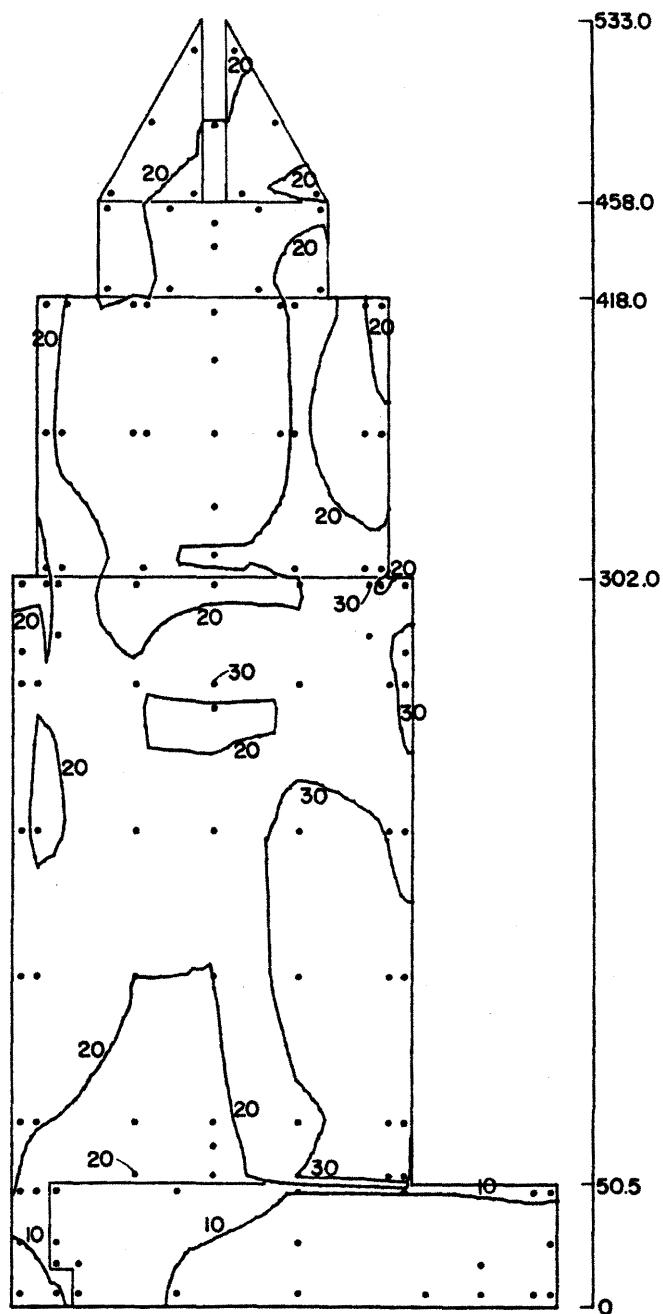
Longitudinal Velocity Spectra, Boundary Layer No. 3

Figure 7g. Mean Velocity and Turbulence Profiles Approaching the Model



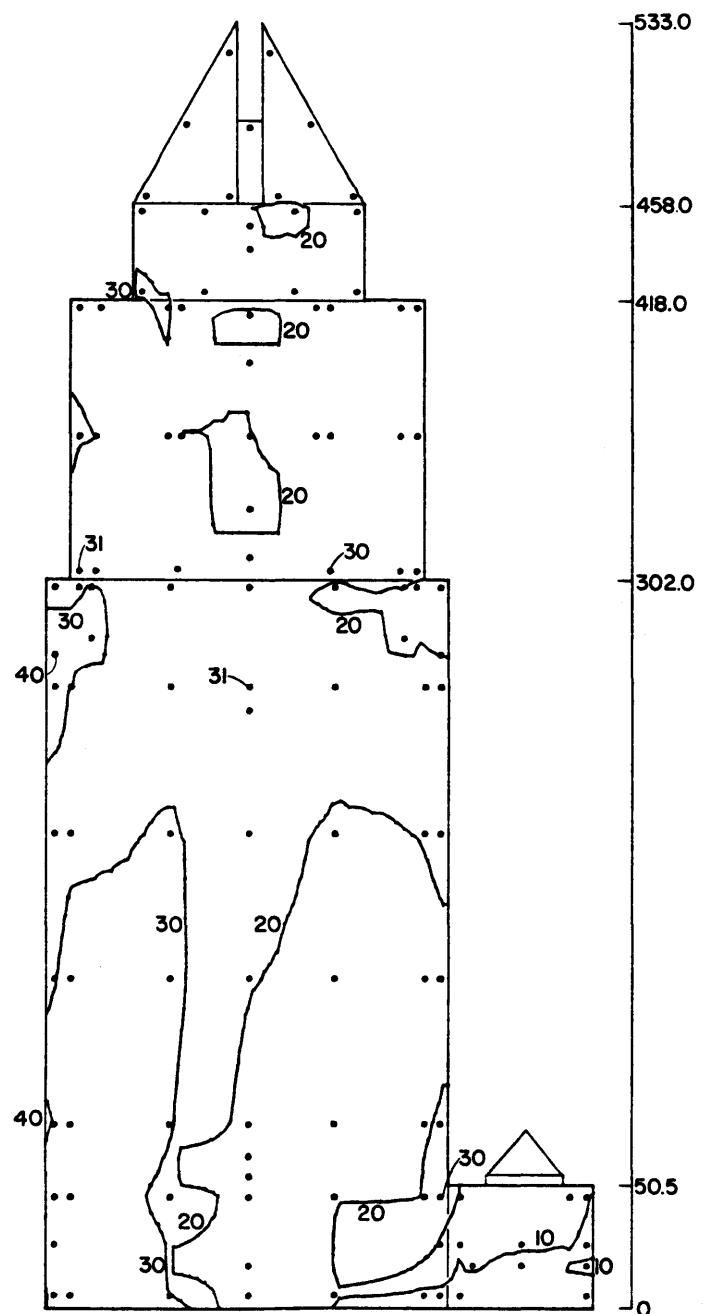
**NORTH ELEVATION  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B**

Figure 8a. Peak Pressure Contours on the Building for Cladding Loads



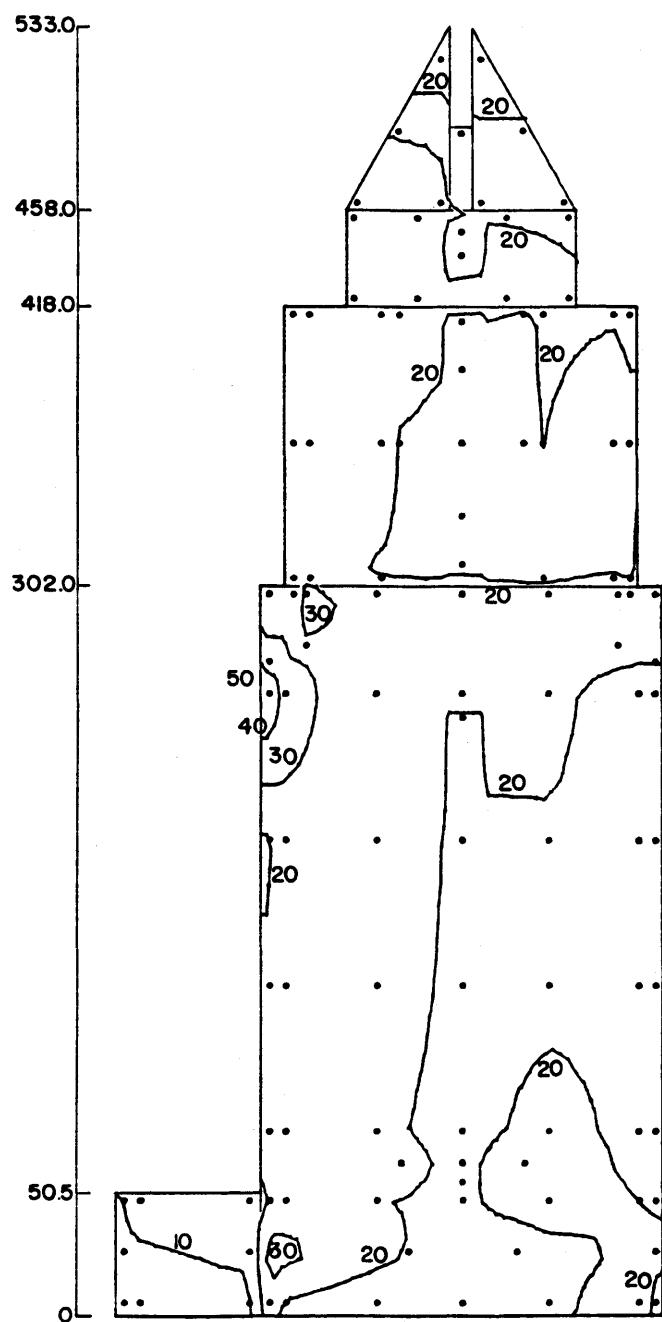
EAST ELEVATION  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8b. Peak Pressure Contours on the Building for Cladding Loads



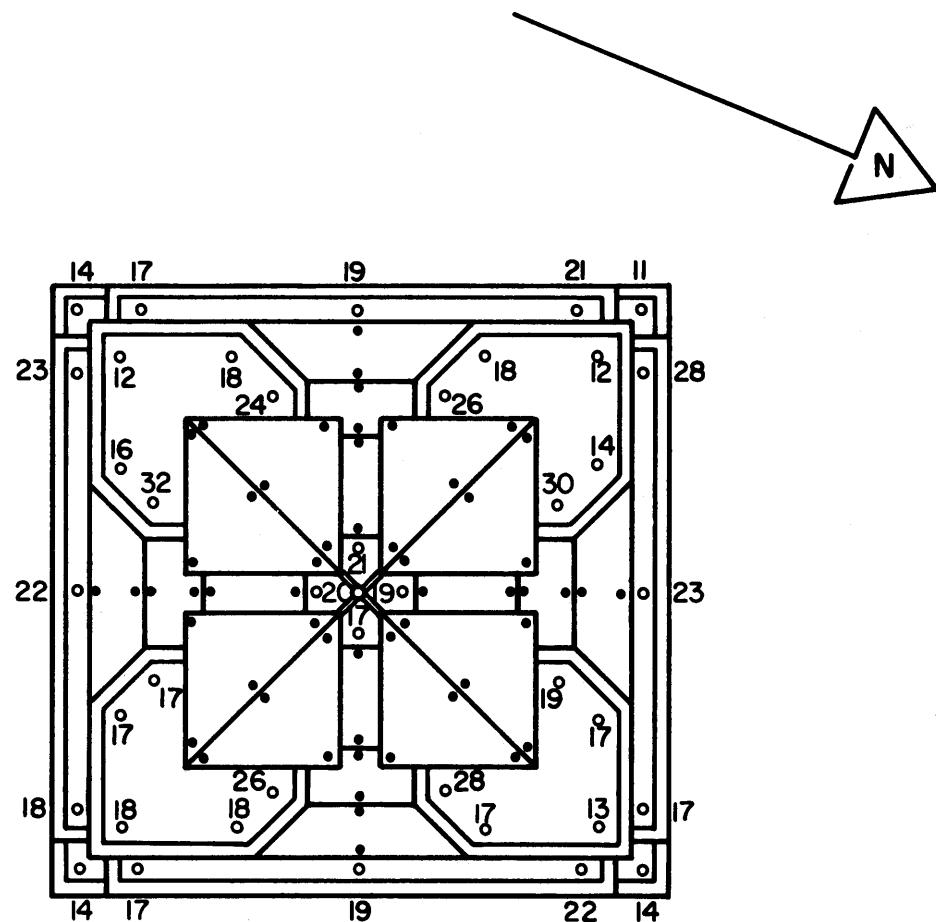
SOUTH ELEVATION  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8c. Peak Pressure Contours on the Building for Cladding Loads



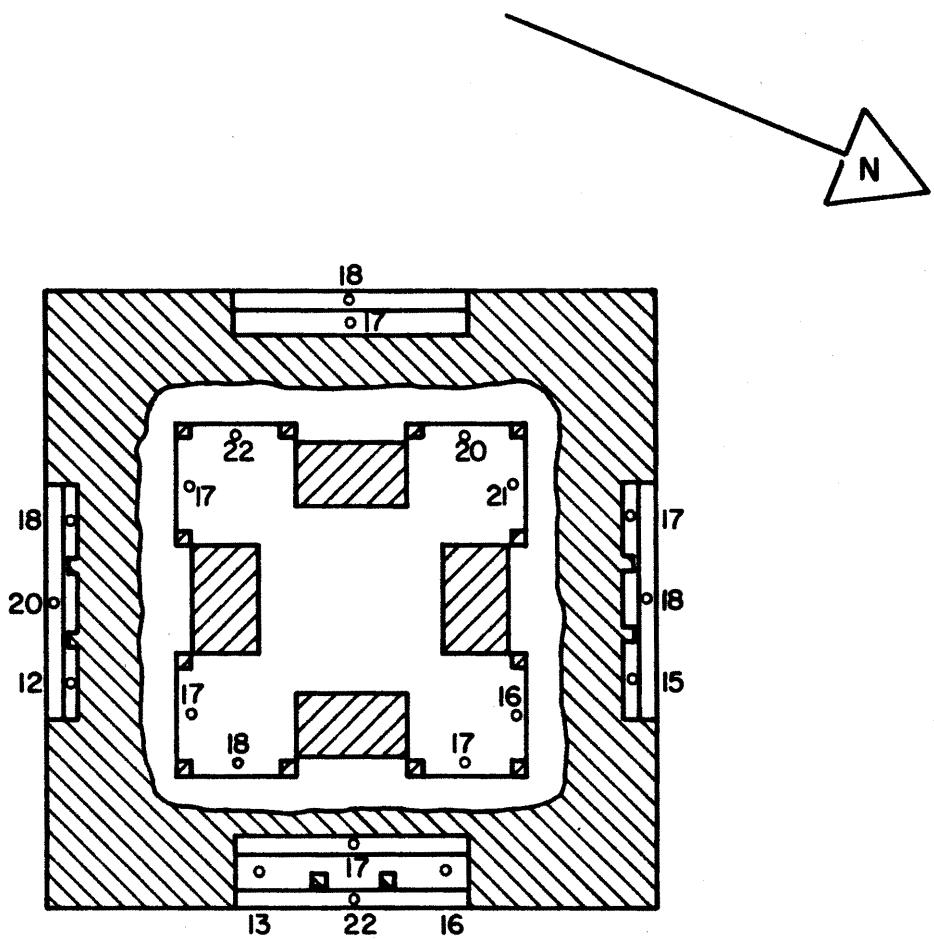
WEST ELEVATION  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8d. Peak Pressure Contours on the Building for Cladding Loads



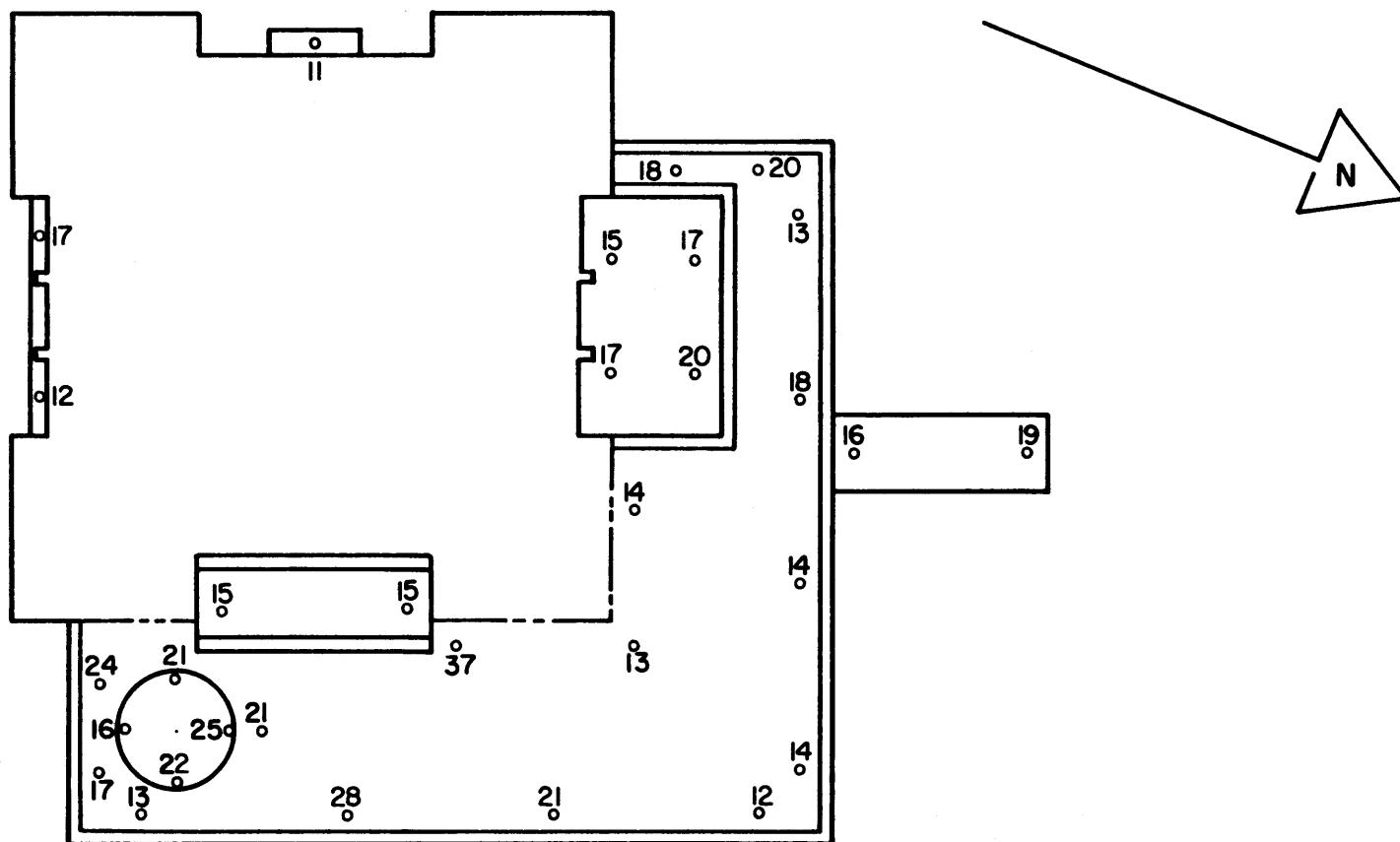
TOWER ROOF  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS OUTWARDS  
 AVERAGE OF CONFIGURATIONS A & B

Figure 8e. Peak Pressure Contours on the Building for Cladding Loads



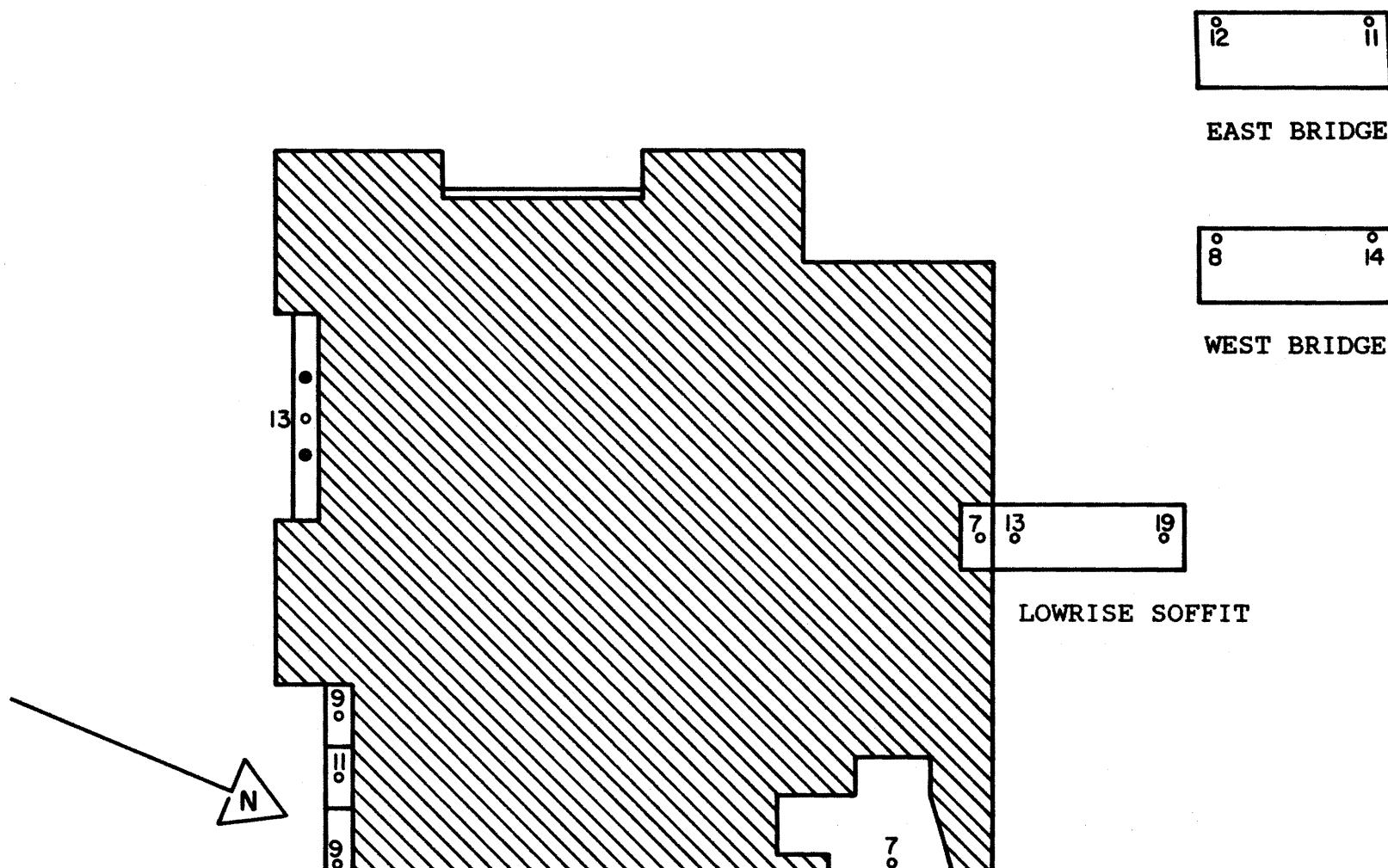
TOWER SOFFITS  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8f. Peak Pressure Contours on the Building for Cladding Loads



LOWRISE ROOF  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8g. Peak Pressure Contours on the Building for Cladding Loads



PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS OUTWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8h. Peak Pressure Contours on the Building for Cladding Loads

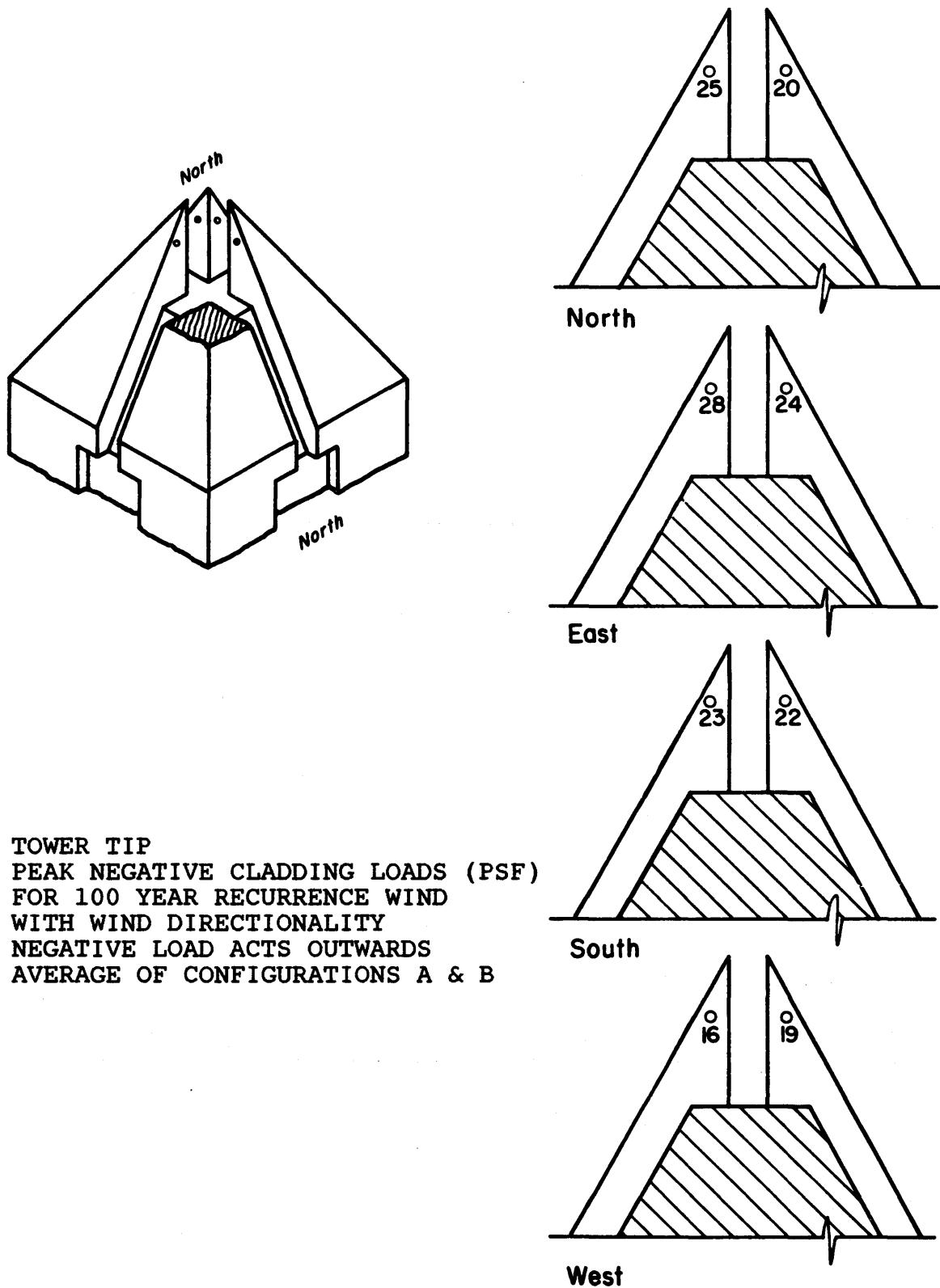
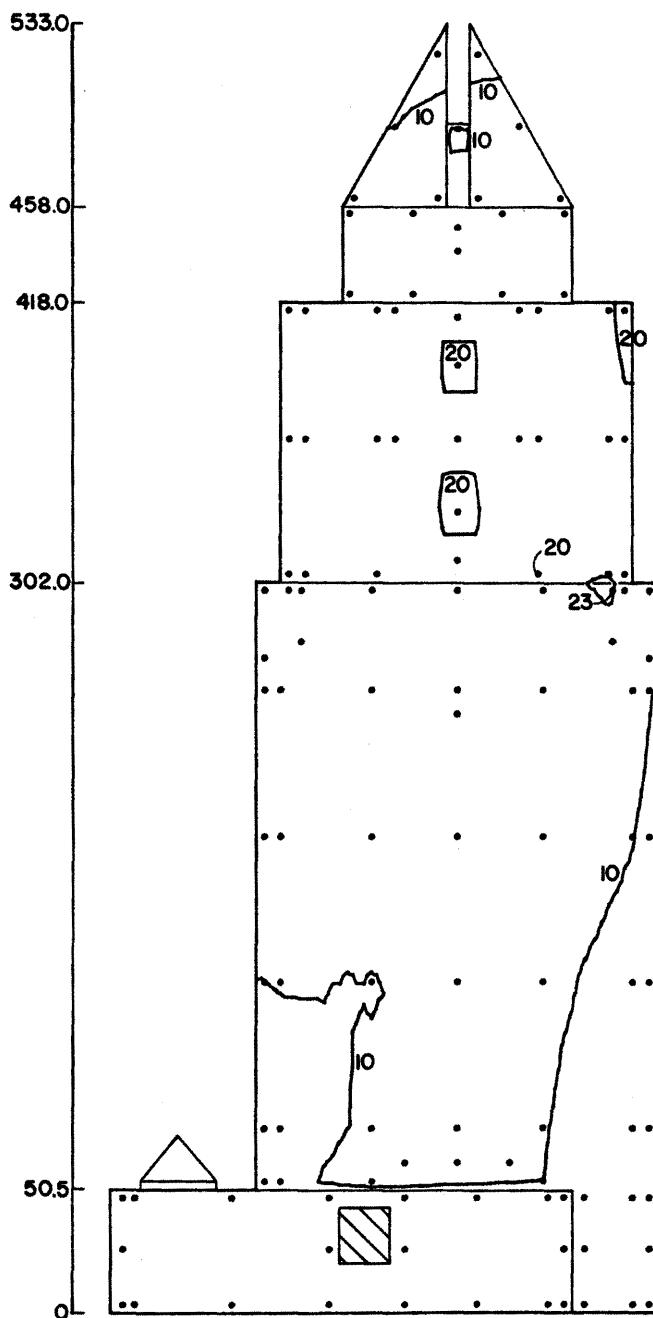
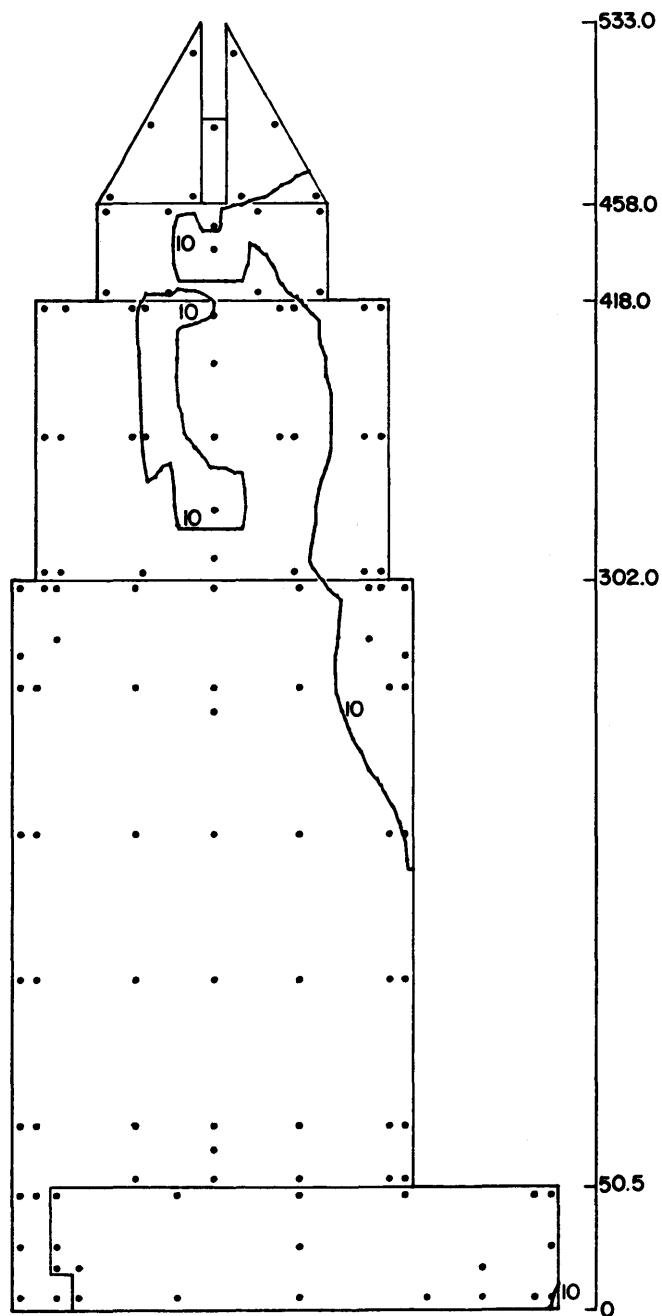


Figure 8i. Peak Pressure Contours on the Building for Cladding Loads



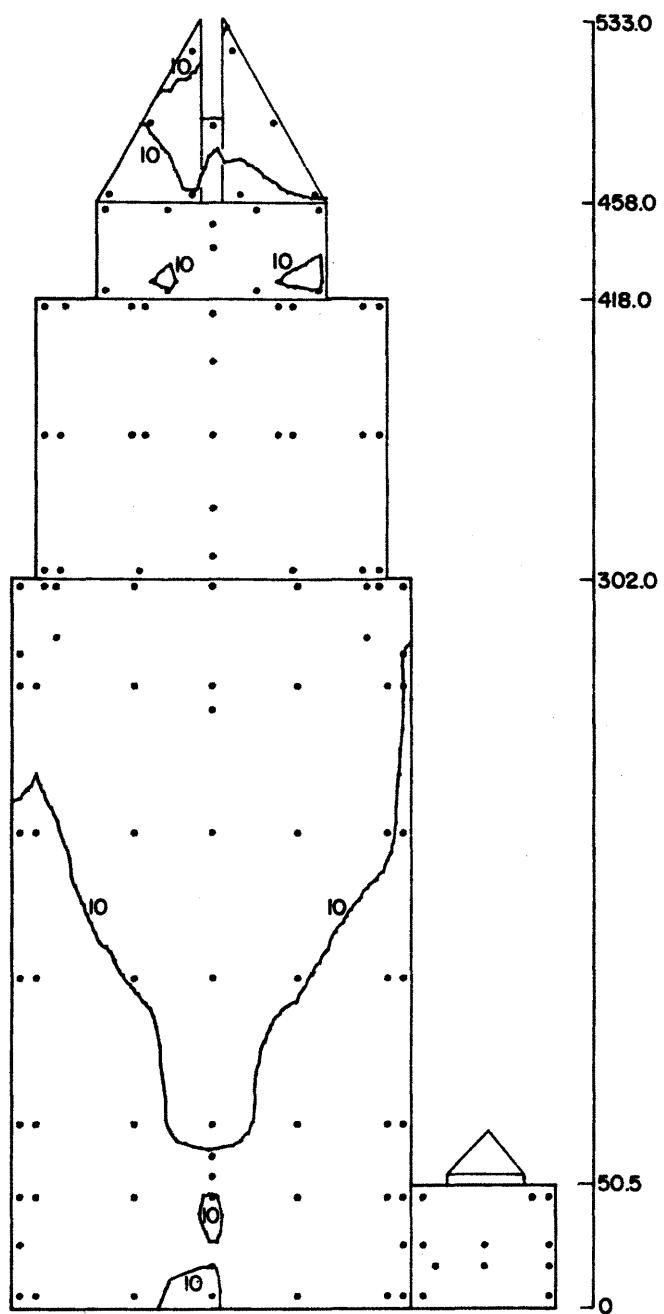
NORTH ELEVATION  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8j. Peak Pressure Contours on the Building for Cladding Loads



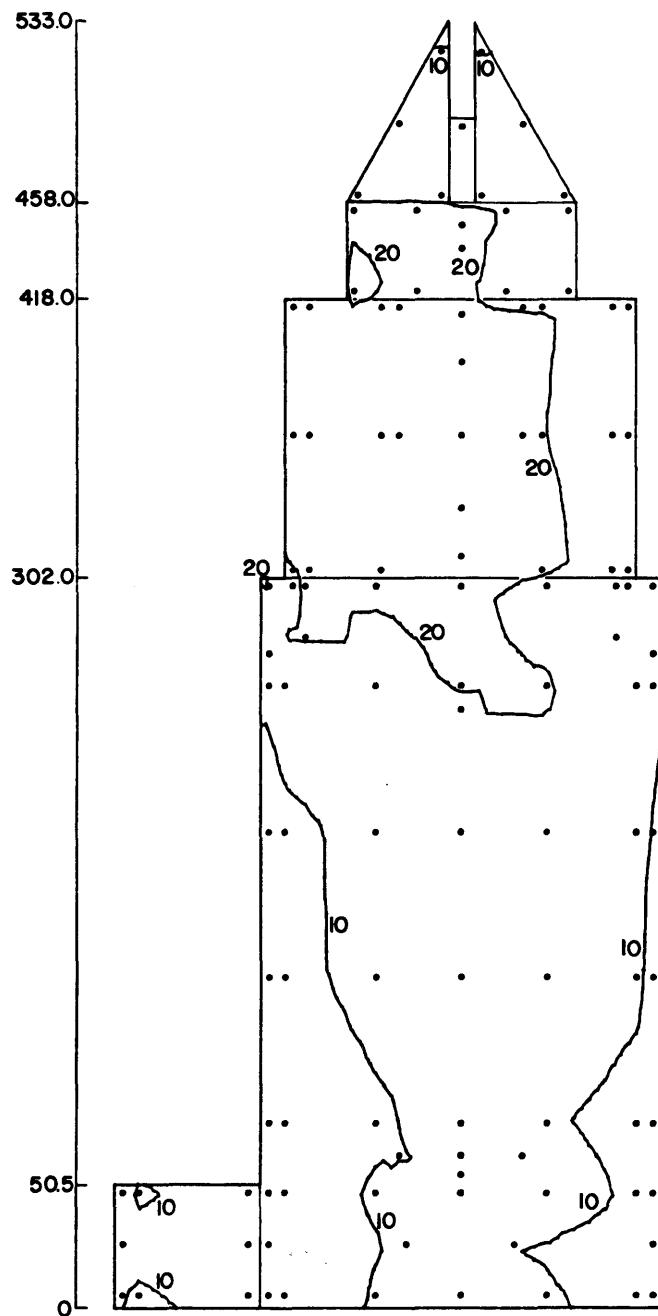
EAST ELEVATION  
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FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8k. Peak Pressure Contours on the Building for Cladding Loads



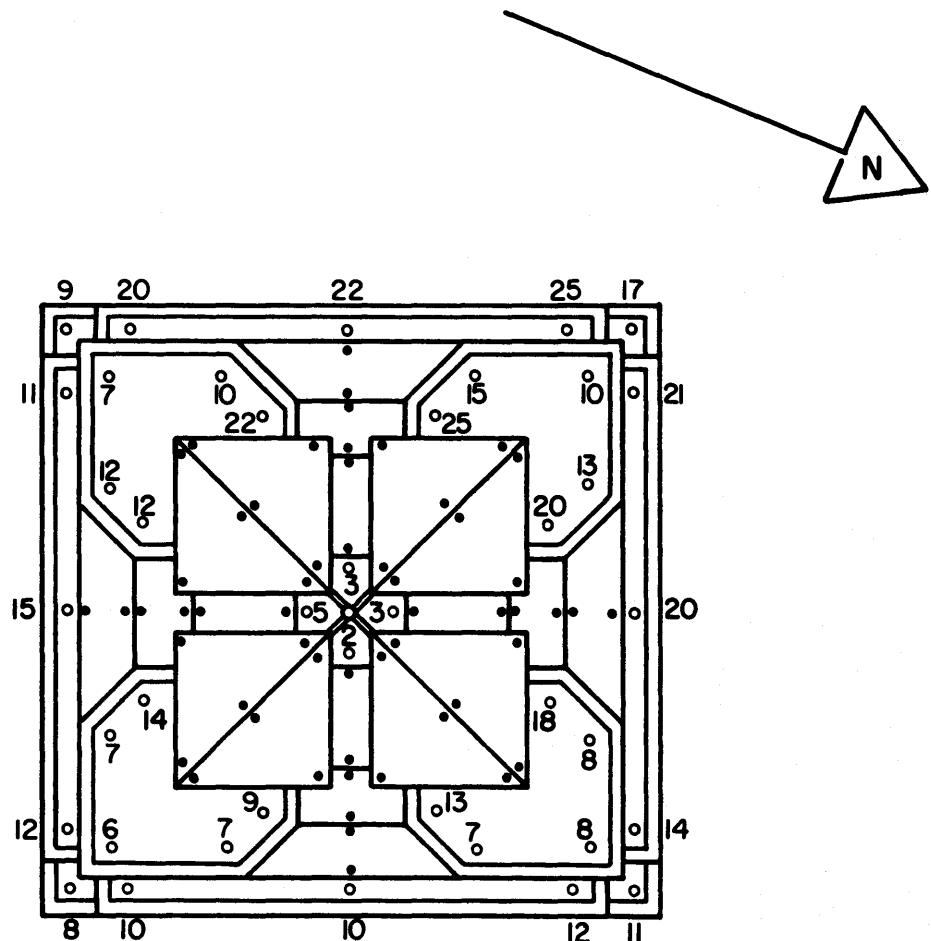
SOUTH ELEVATION  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 81. Peak Pressure Contours on the Building for Cladding Loads



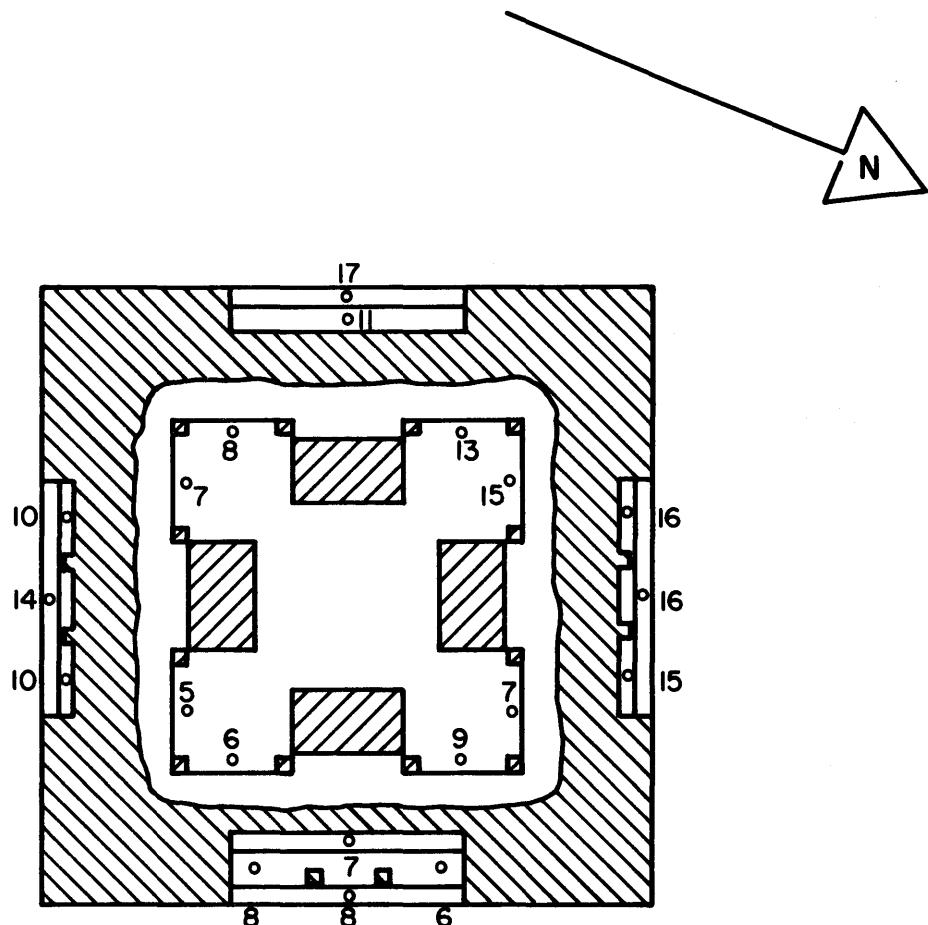
WEST ELEVATION  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8m. Peak Pressure Contours on the Building for Cladding Loads



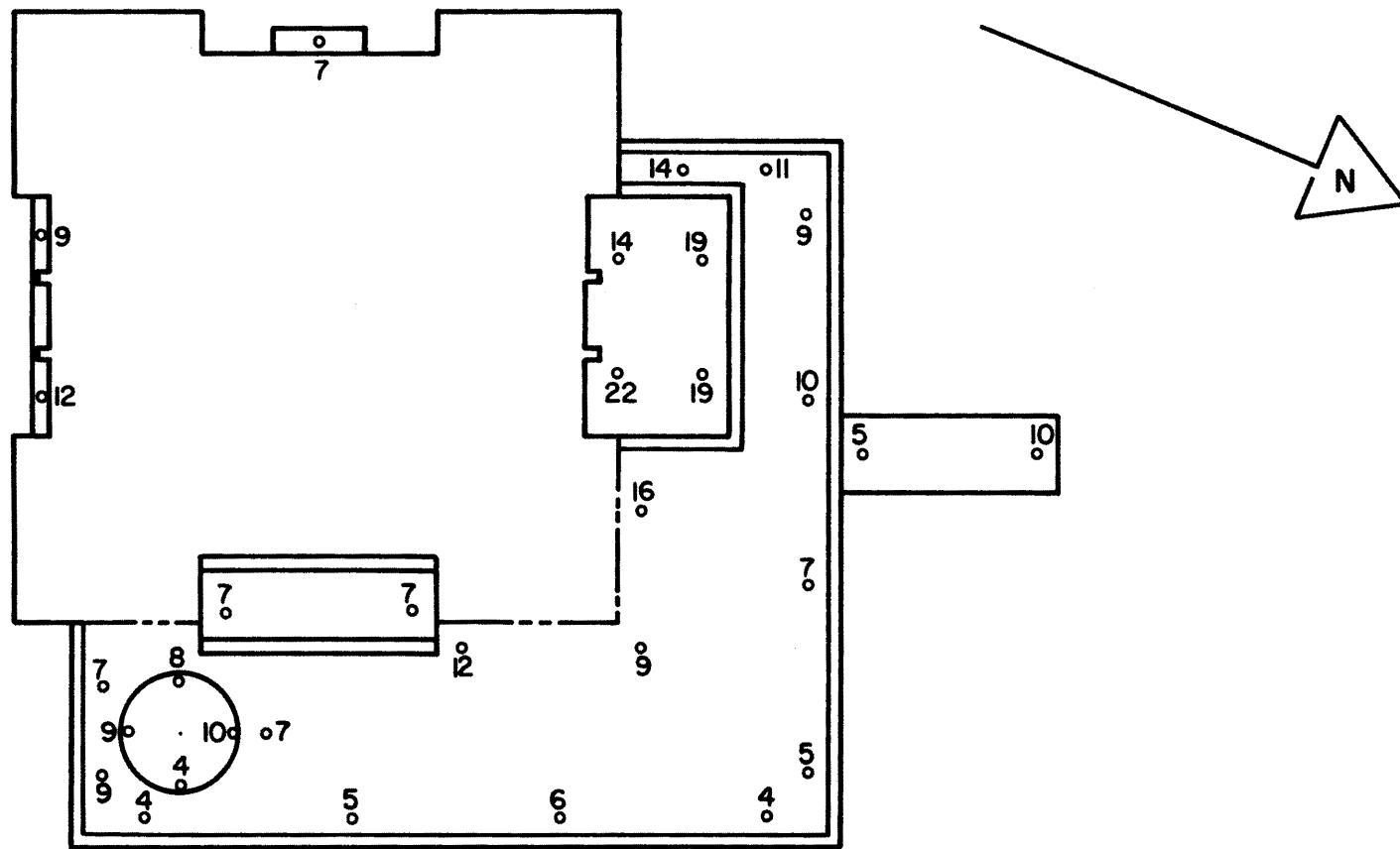
**TOWER ROOF**  
**PEAK POSITIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**POSITIVE LOAD ACTS INWARDS**  
**AVERAGE OF CONFIGURATIONS A & B**

Figure 8n. Peak Pressure Contours on the Building for Cladding Loads



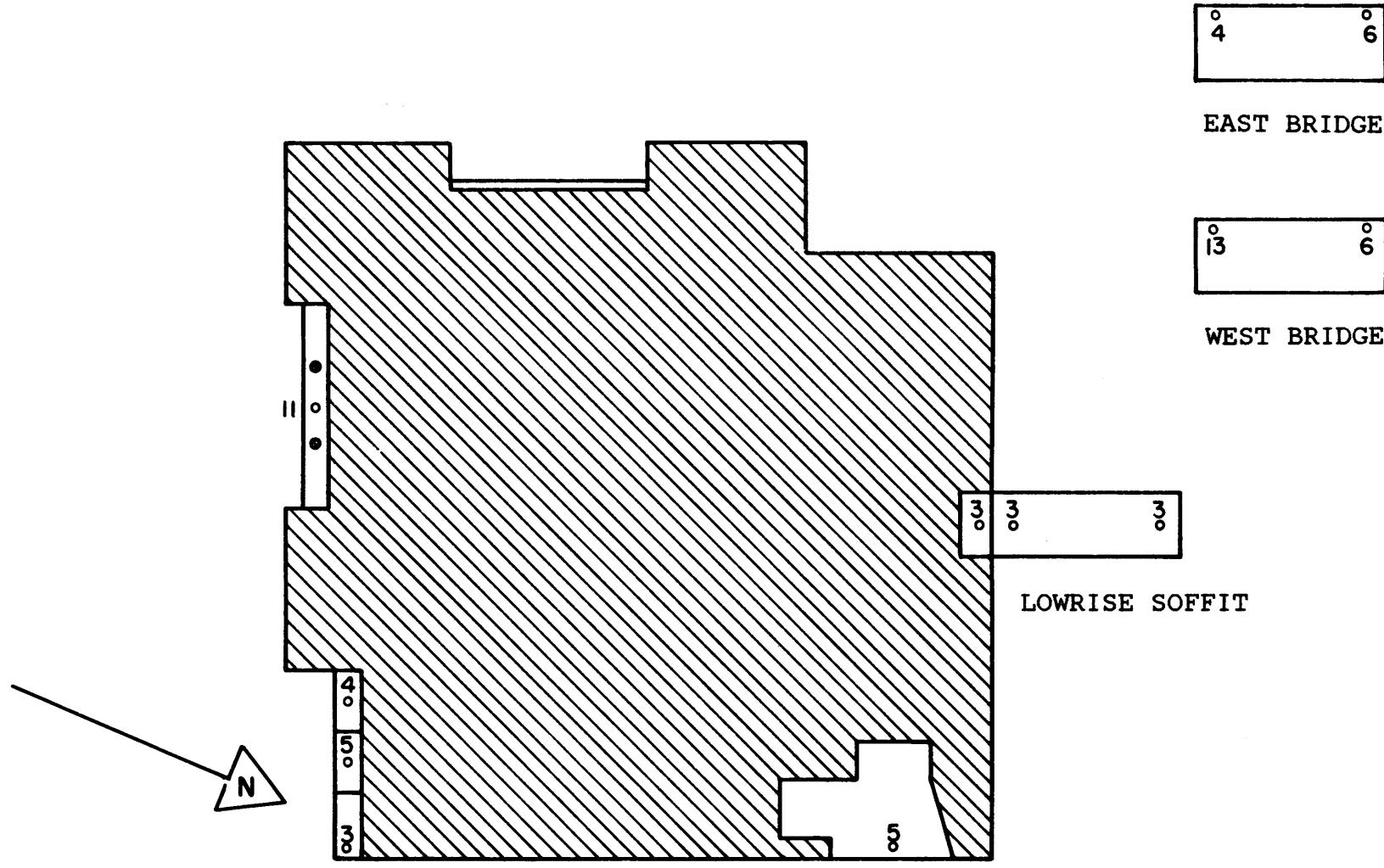
TOWER SOFFITS  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8o. Peak Pressure Contours on the Building for Cladding Loads



LOWRISE ROOF  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8p. Peak Pressure Contours on the Building for Cladding Loads



PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
AVERAGE OF CONFIGURATIONS A & B

Figure 8q. Peak Pressure Contours on the Building for Cladding Loads

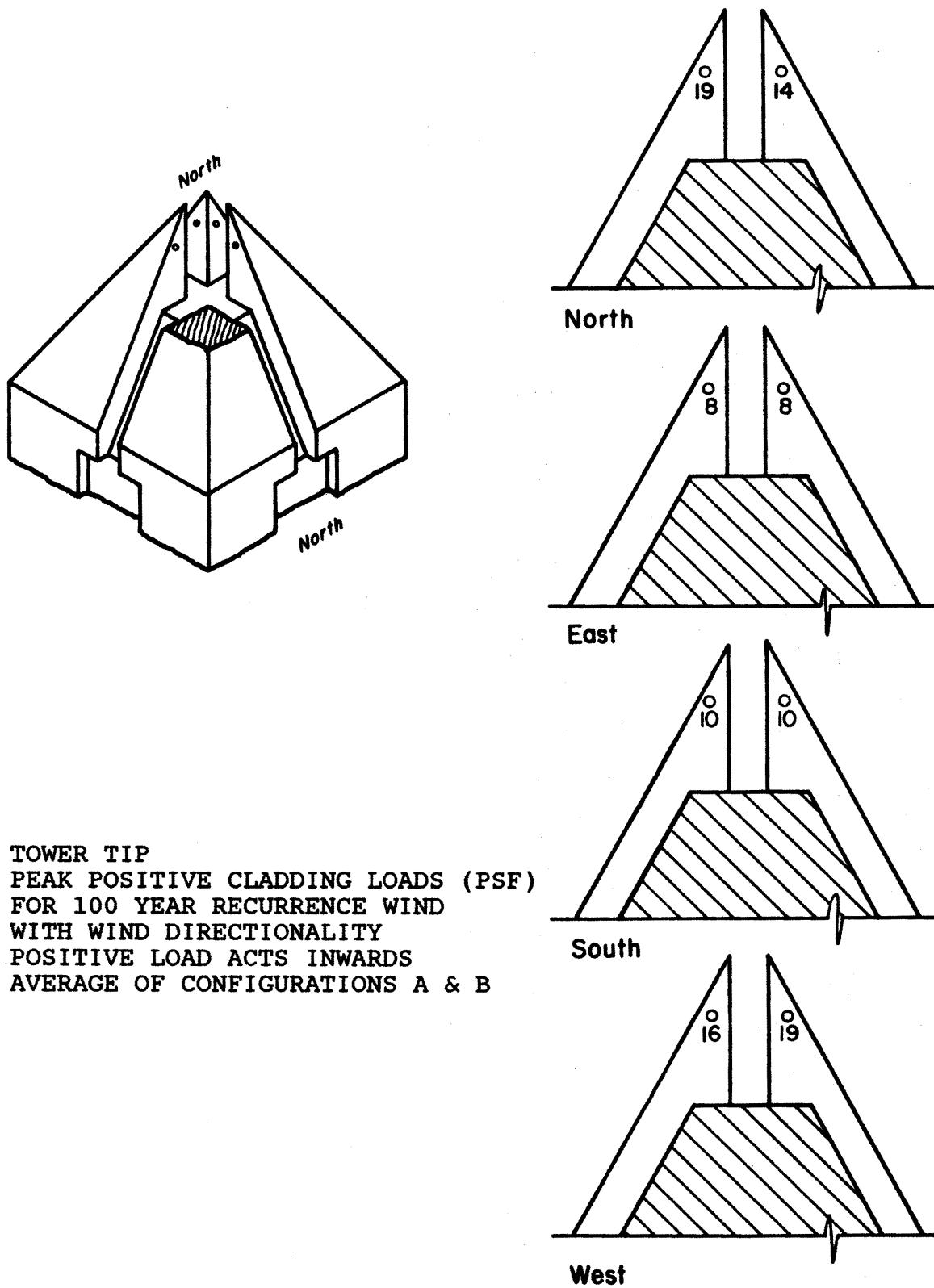
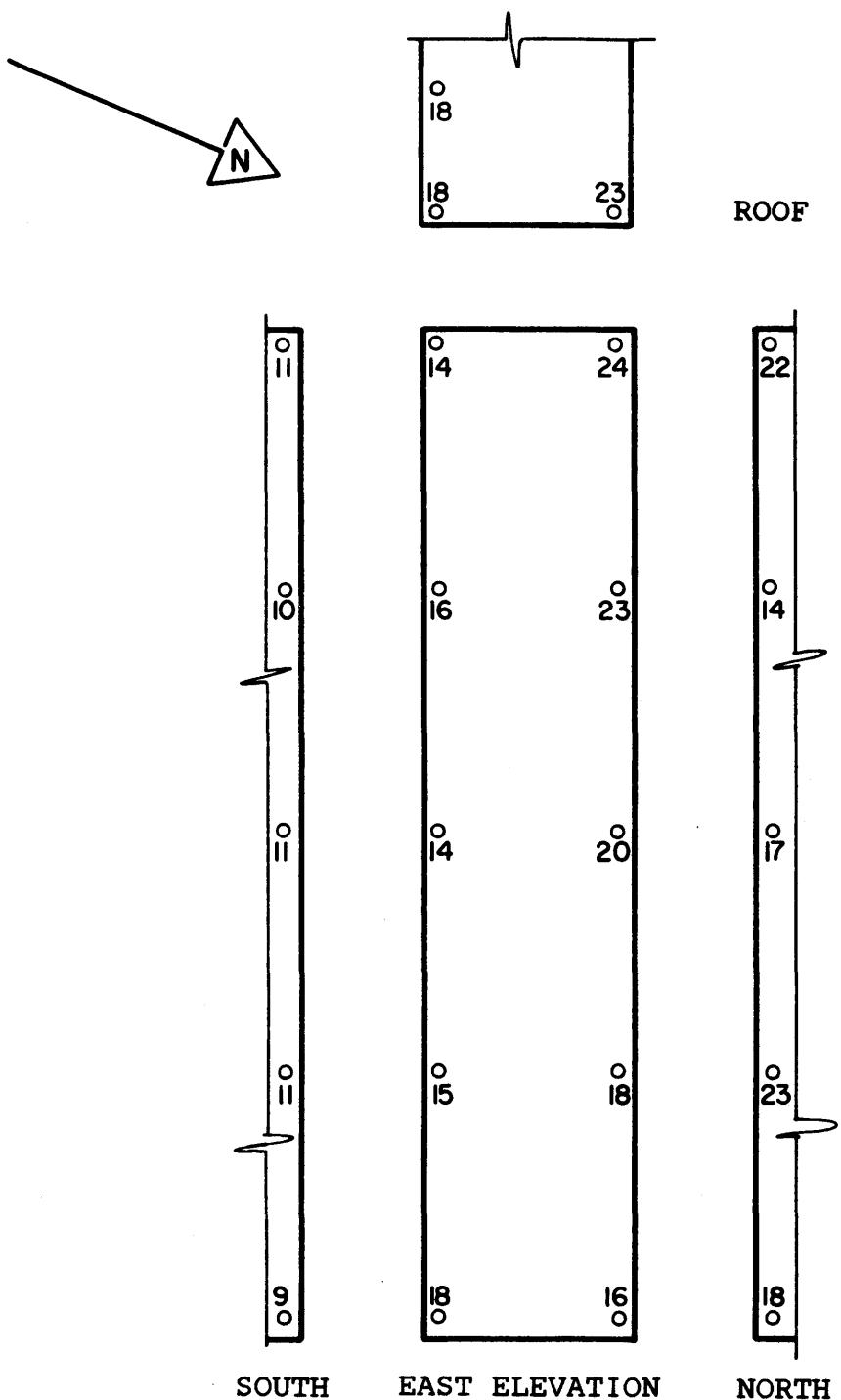


Figure 8r. Peak Pressure Contours on the Building for Cladding Loads

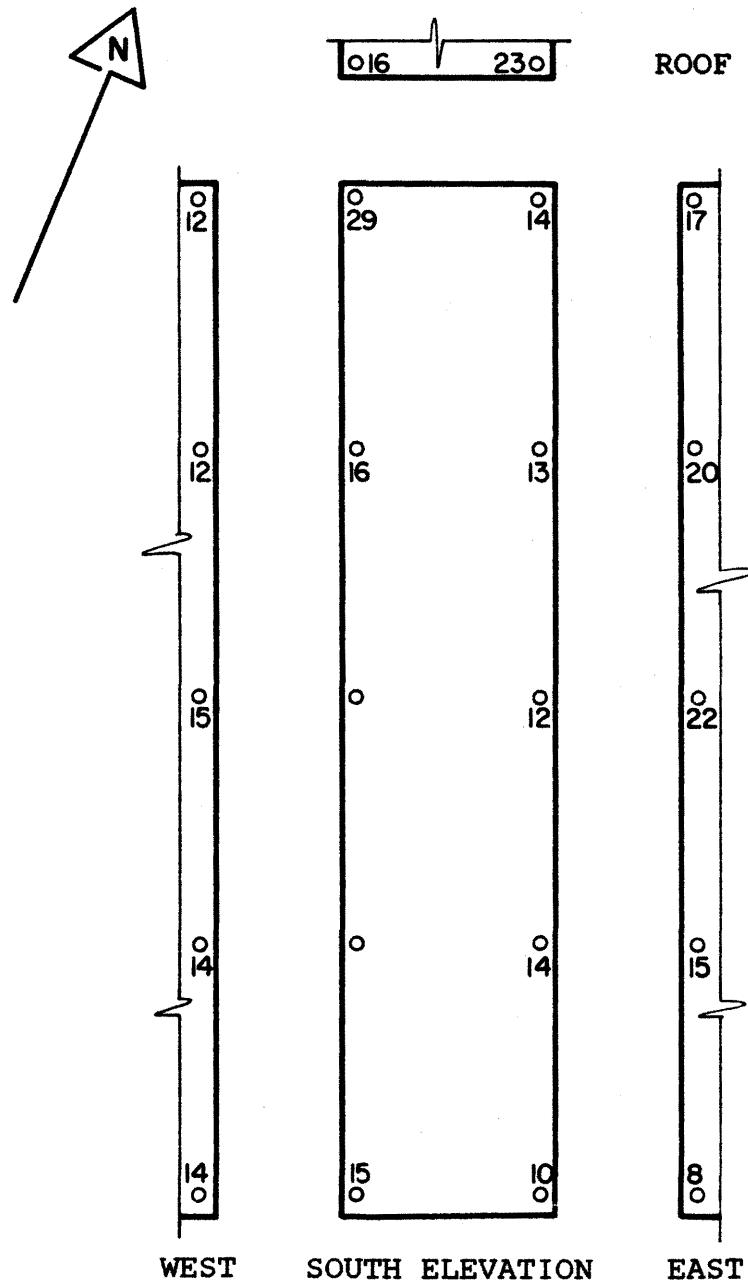
Configuration C



BLOCK 115-A  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 TOWER IN PLACE

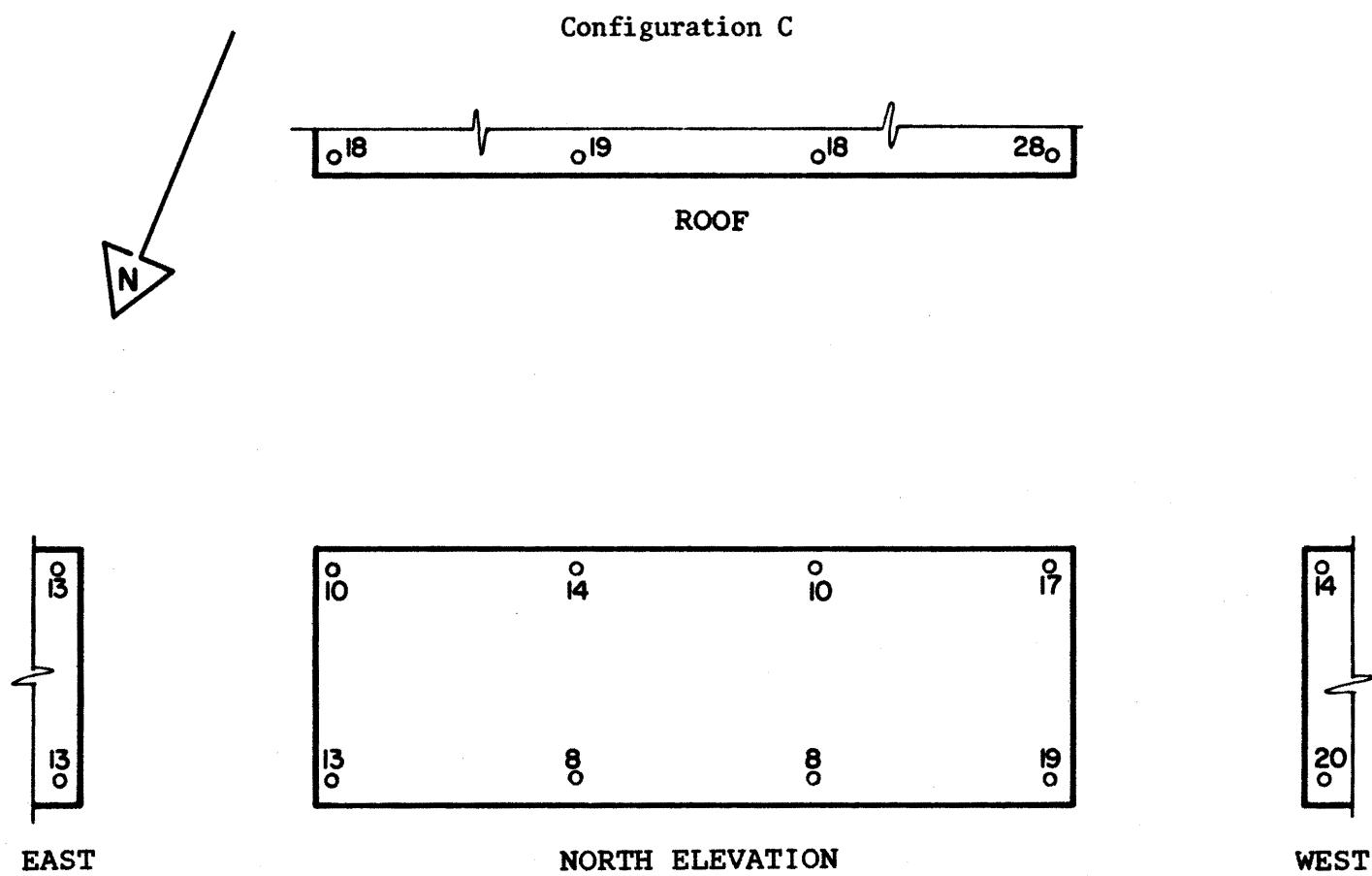
Figure 8s. Peak Pressure Contours on the Building for Cladding Loads

## Configuration C



BLOCK 115-B  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 TOWER IN PLACE

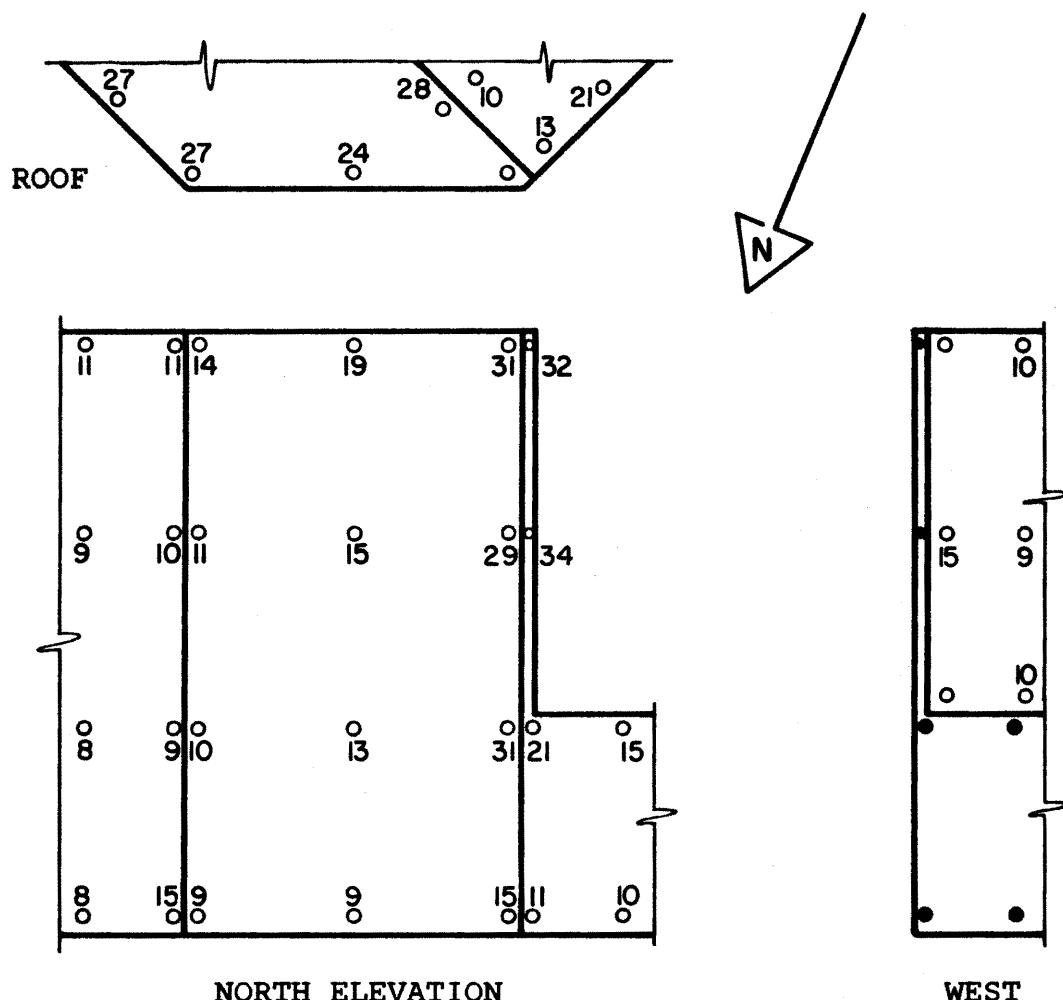
Figure 8t. Peak Pressure Contours on the Building for Cladding Loads



**BLOCK 99**  
**PEAK NEGATIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**NEGATIVE LOAD ACTS INWARDS**  
**TOWER IN PLACE**

Figure 8u. Peak Pressure Contours on the Building for Cladding Loads

## Configuration C

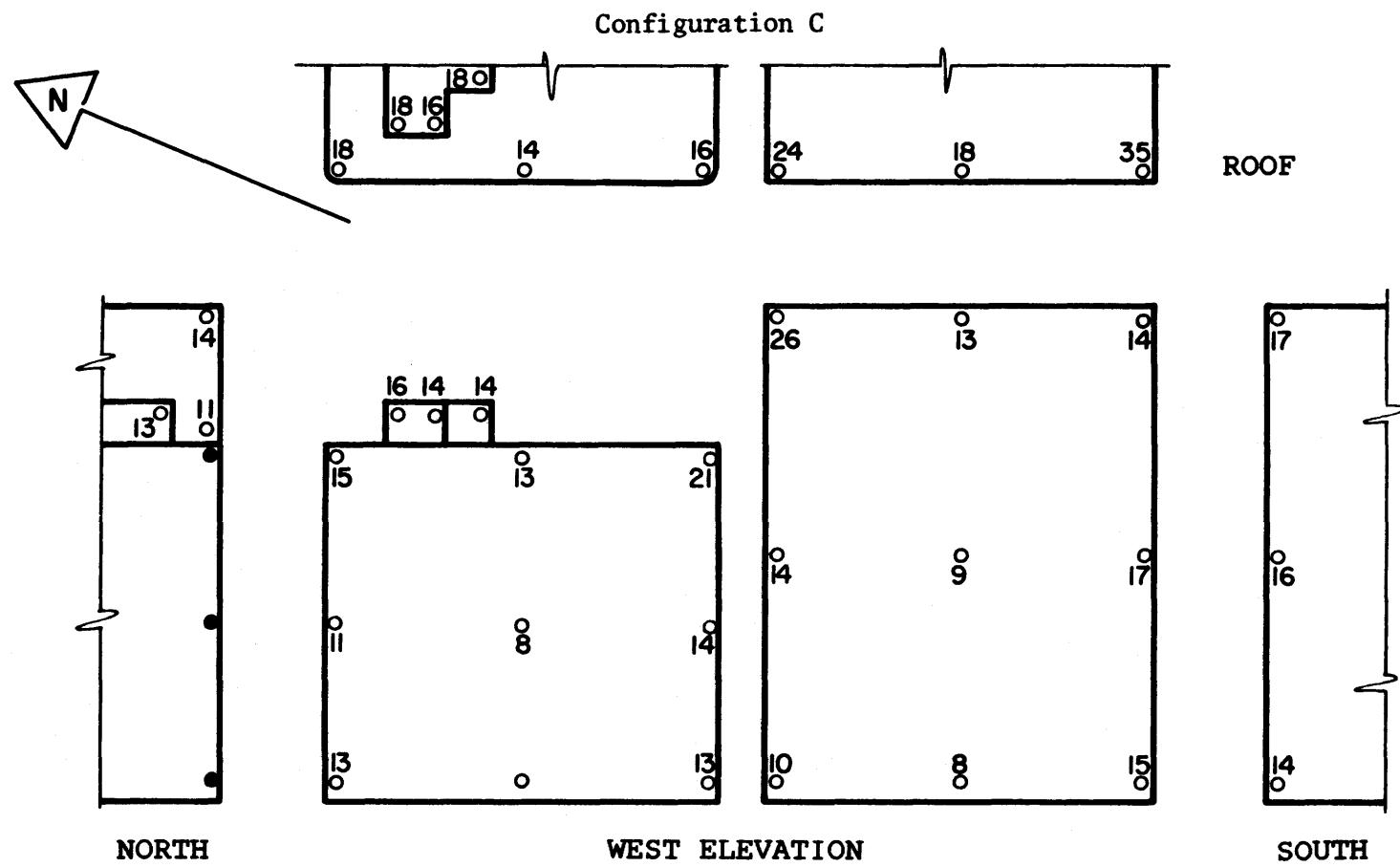


NORTH ELEVATION

WEST

BLOCK 100  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 TOWER IN PLACE

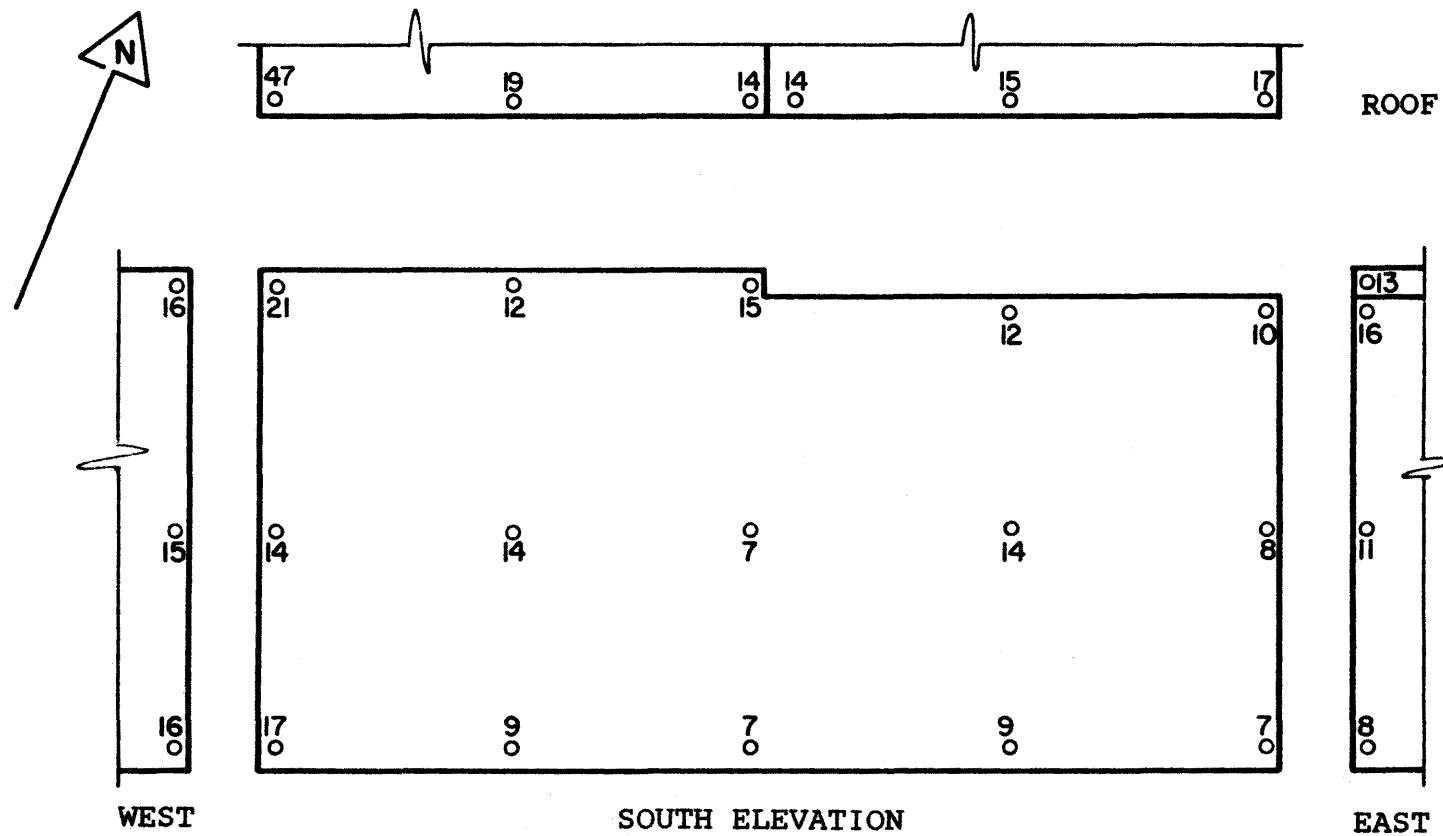
Figure 8v. Peak Pressure Contours on the Building for Cladding Loads



BLOCK 109  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS INWARDS  
TOWER IN PLACE

**Figure 8w. Peak Pressure Contours on the Building for Cladding Loads**

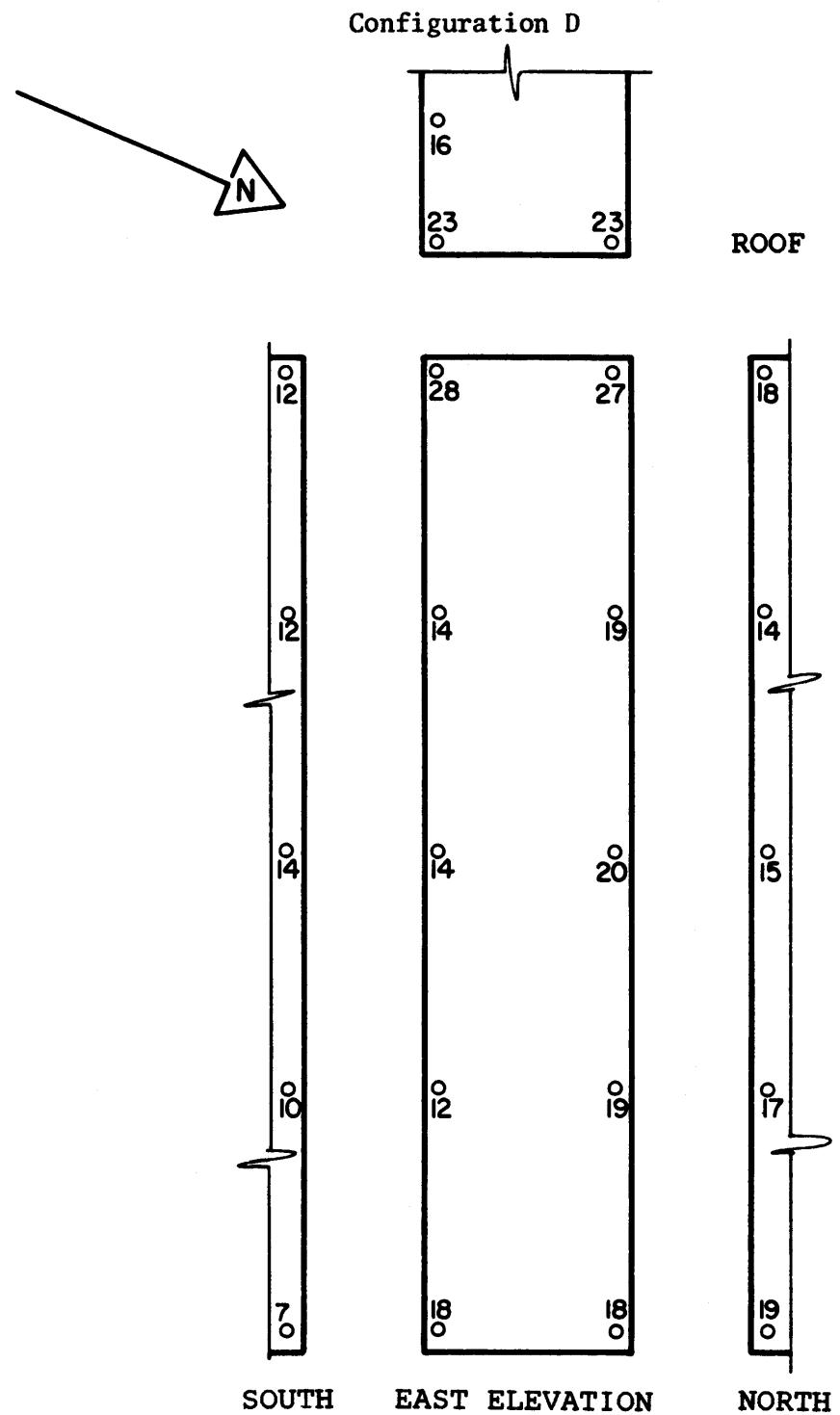
### Configuration C



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BLOCK 116  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS INWARDS  
TOWER IN PLACE

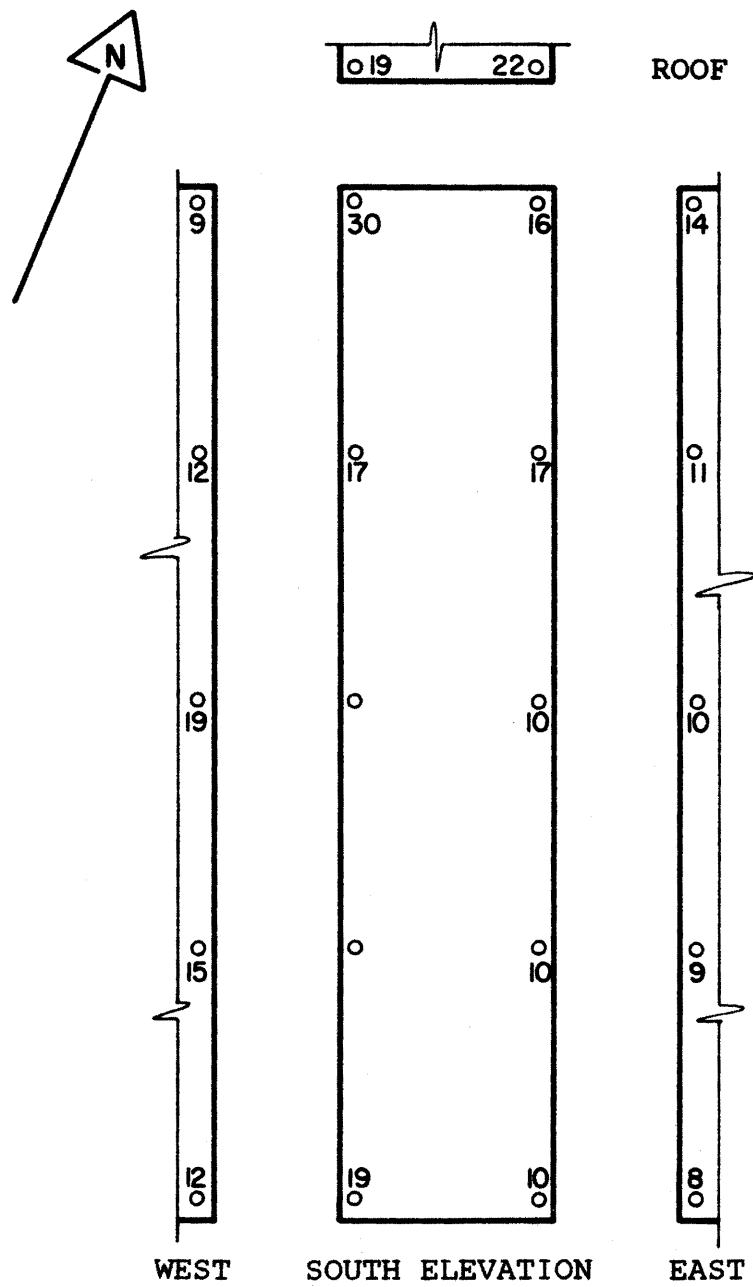
**Figure 8x.** Peak Pressure Contours on the Building for Cladding Loads



**BLOCK 115-A**  
**PEAK NEGATIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**NEGATIVE LOAD ACTS INWARDS**  
**EXISTING CONFIGURATION**

Figure 8y. Peak Pressure Contours on the Building for Cladding Loads

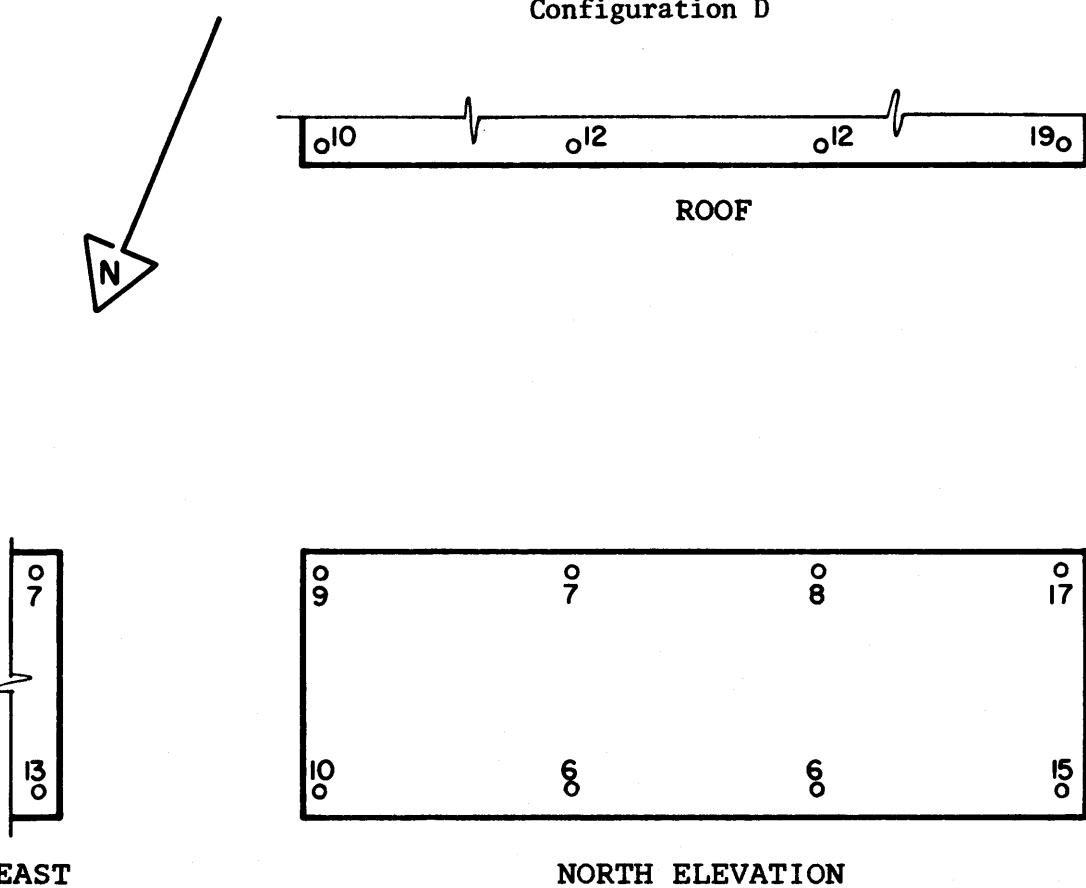
## Configuration D



BLOCK 115-B  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 EXISTING CONFIGURATION

Figure 8z. Peak Pressure Contours on the Building for Cladding Loads

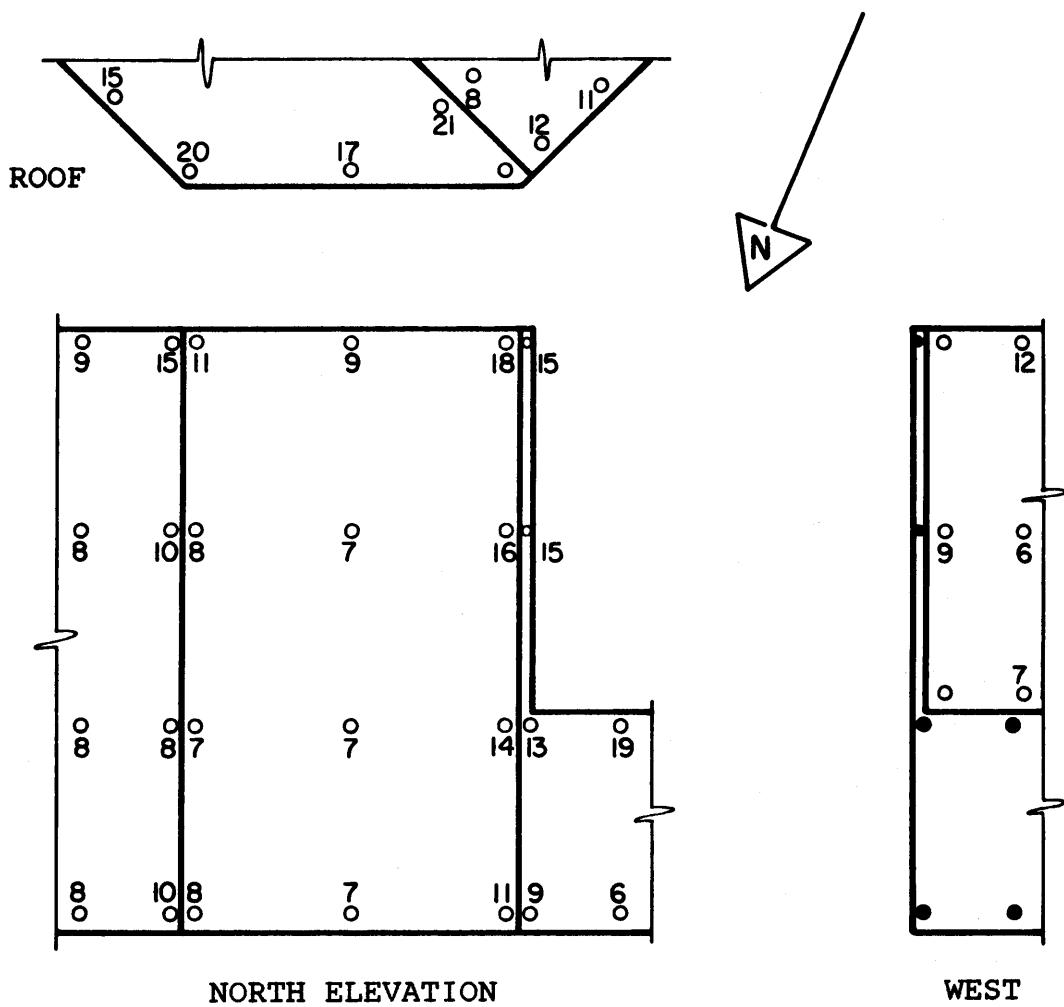
Configuration D



BLOCK 99  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS INWARDS  
EXISTING CONFIGURATION

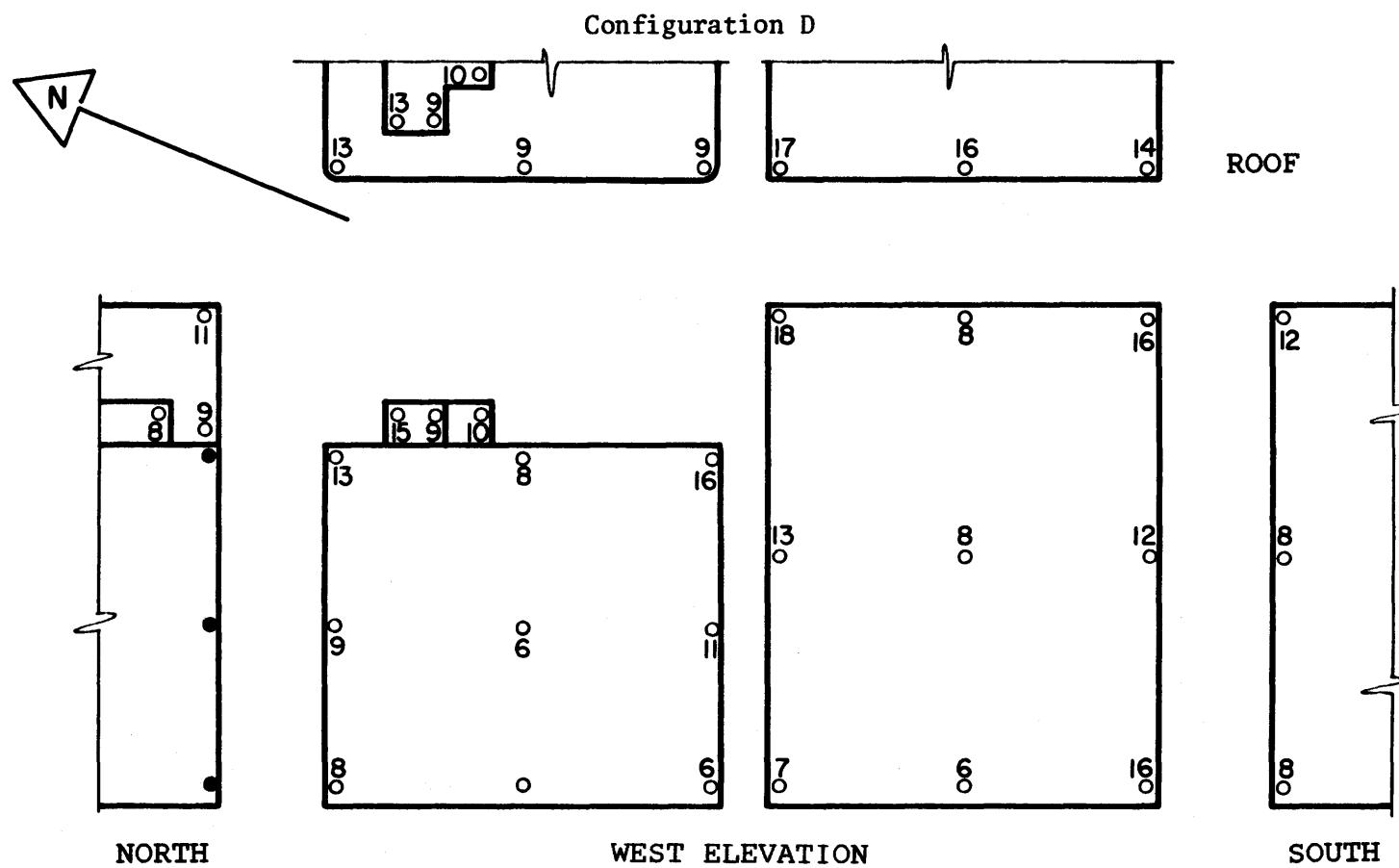
Figure 8aa. Peak Pressure Contours on the Building for Cladding Loads

## Configuration D



BLOCK 100  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 EXISTING CONFIGURATION

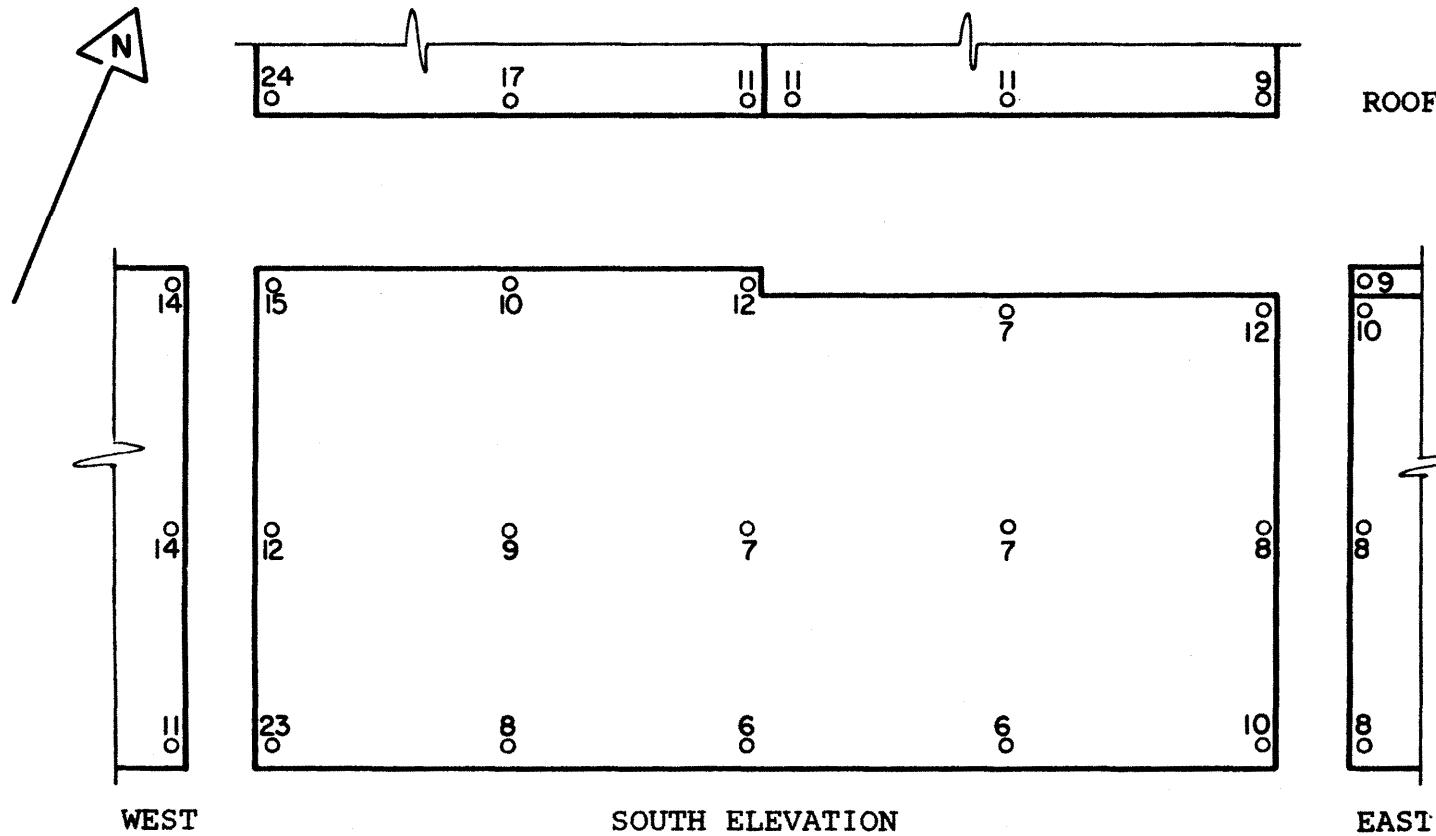
Figure 8bb. Peak Pressure Contours on the Building for Cladding Loads



BLOCK 109  
 PEAK NEGATIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 NEGATIVE LOAD ACTS INWARDS  
 EXISTING CONFIGURATION

Figure 8cc. Peak Pressure Contours on the Building for Cladding Loads

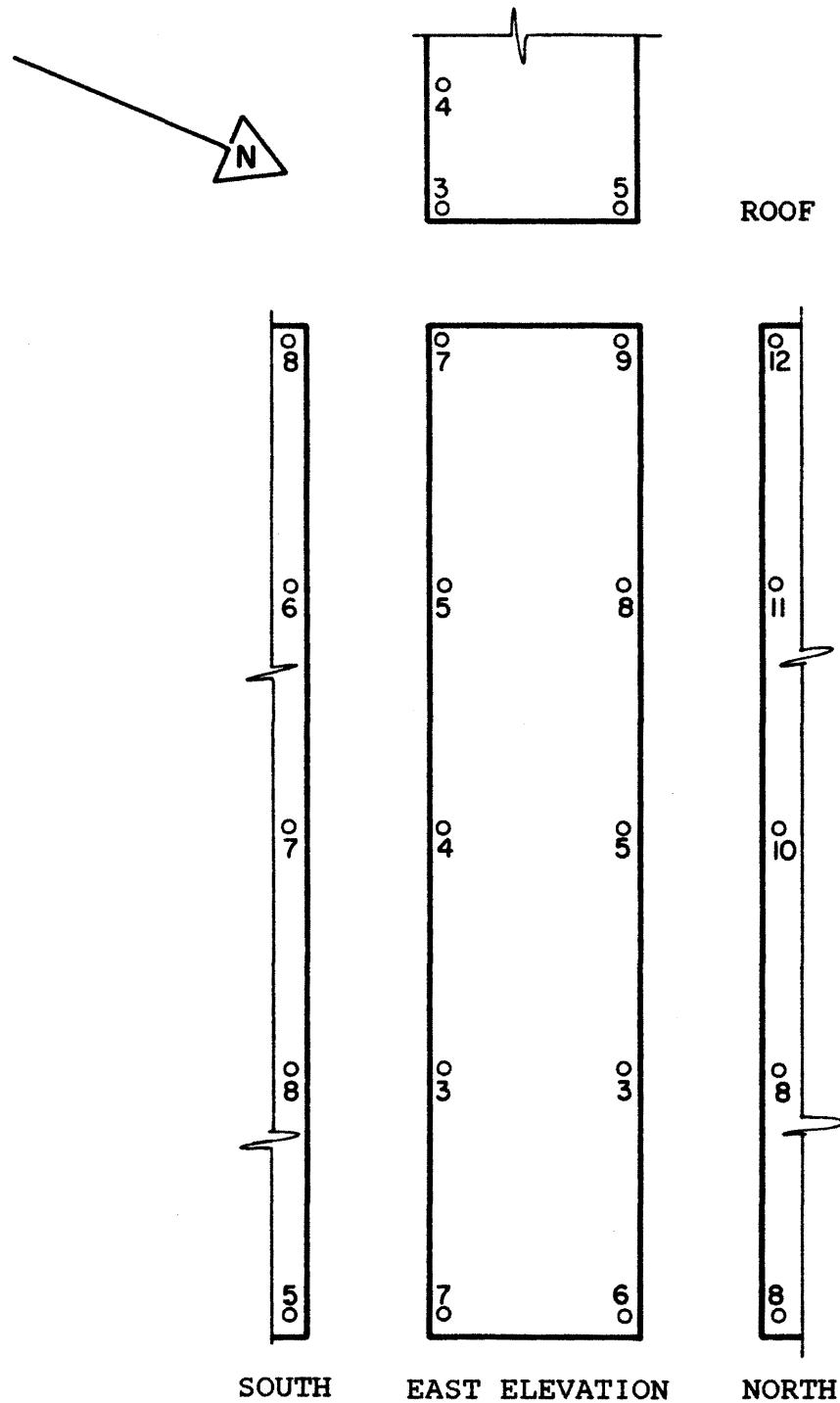
Configuration D



BLOCK 116  
PEAK NEGATIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
NEGATIVE LOAD ACTS INWARDS  
EXISTING CONFIGURATION

Figure 8dd. Peak Pressure Contours on the Building for Cladding Loads

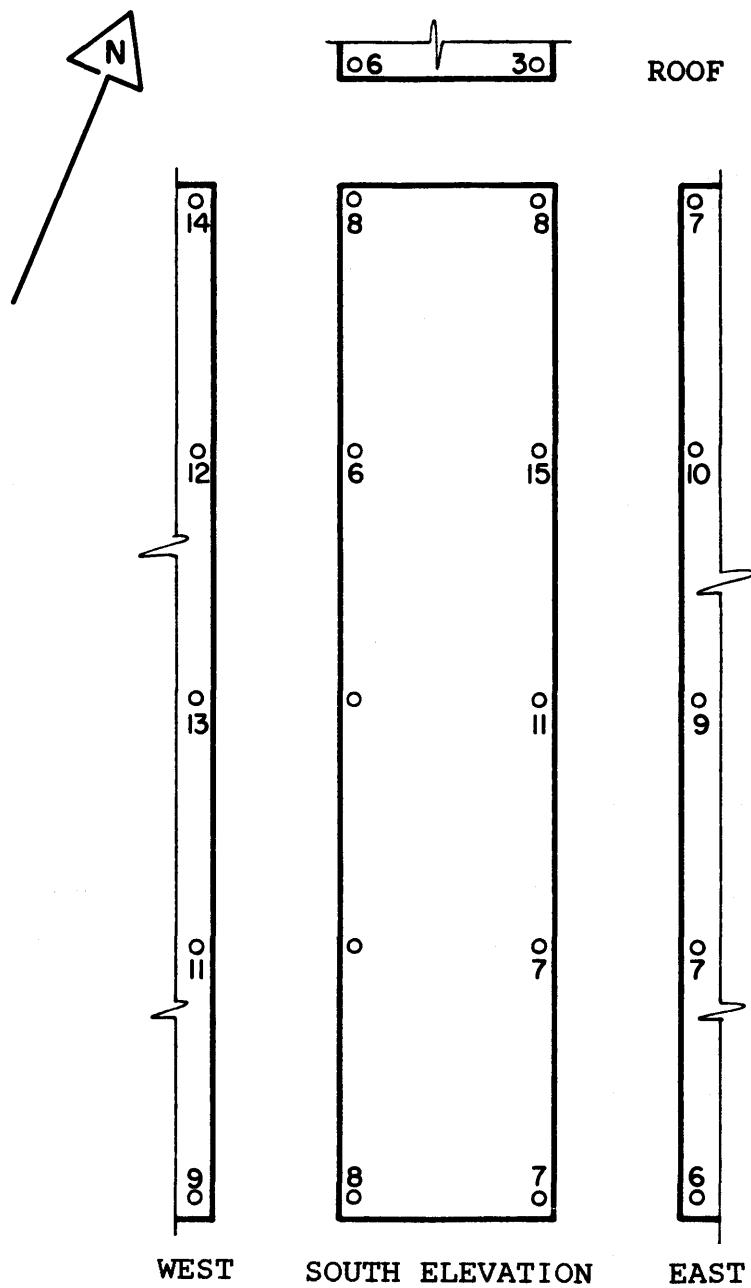
## Configuration C



**BLOCK 115-A**  
**PEAK POSITIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**POSITIVE LOAD ACTS INWARDS**  
**TOWER IN PLACE**

Figure 8ee. Peak Pressure Contours on the Building for Cladding Loads

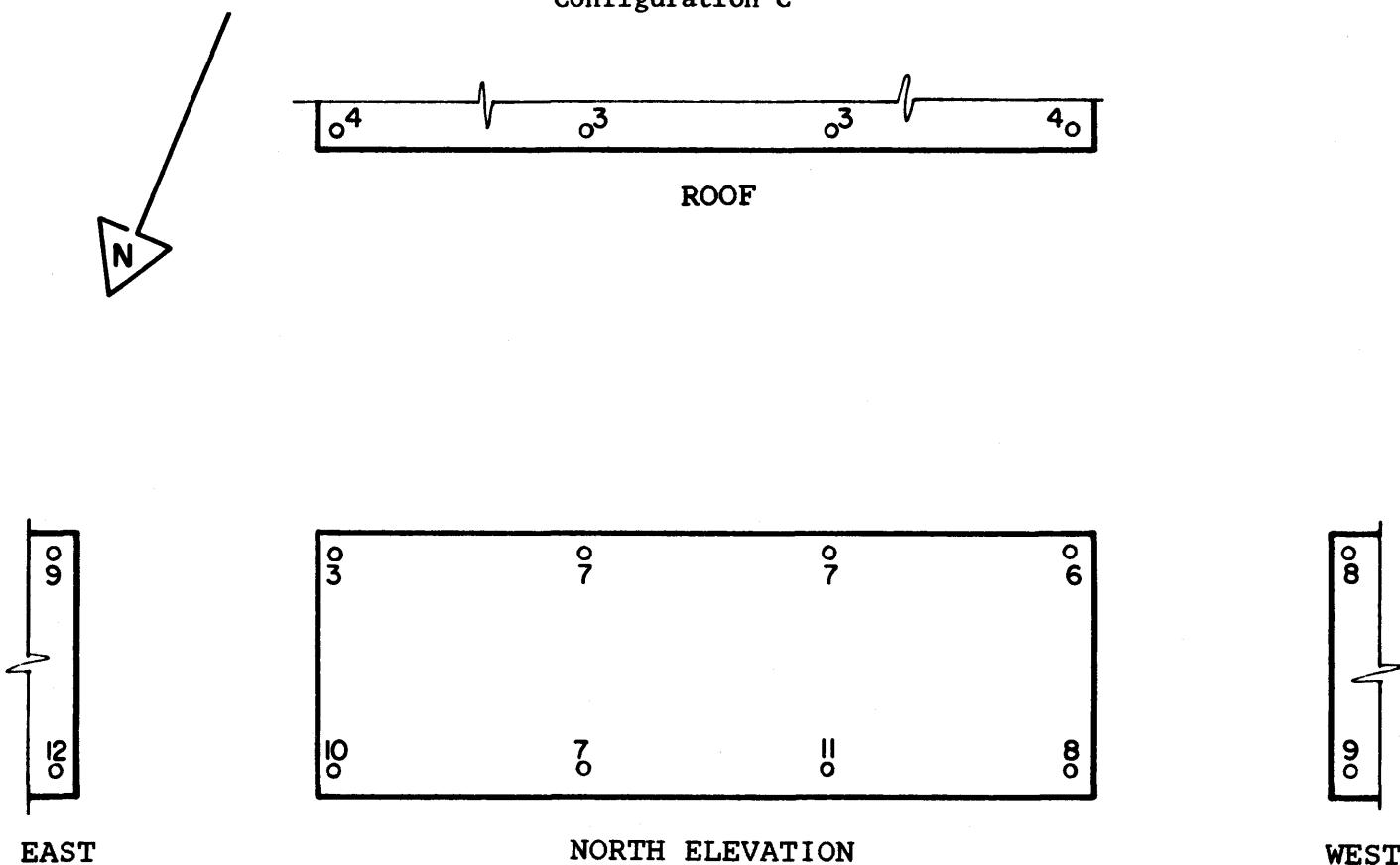
## Configuration C



**BLOCK 115-B**  
**PEAK POSITIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**POSITIVE LOAD ACTS INWARDS**  
**TOWER IN PLACE**

Figure 8ff. Peak Pressure Contours on the Building for Cladding Loads

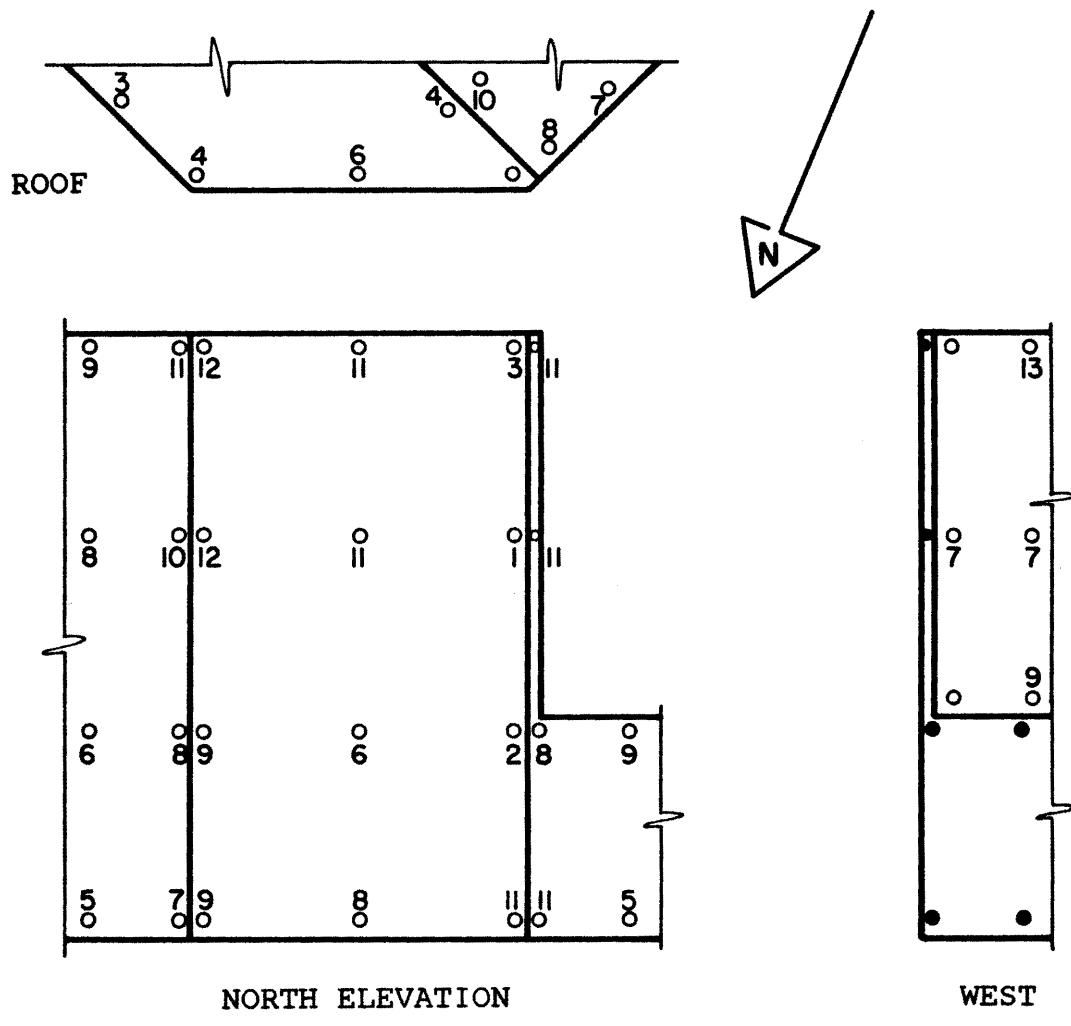
Configuration C



BLOCK 99  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
TOWER IN PLACE

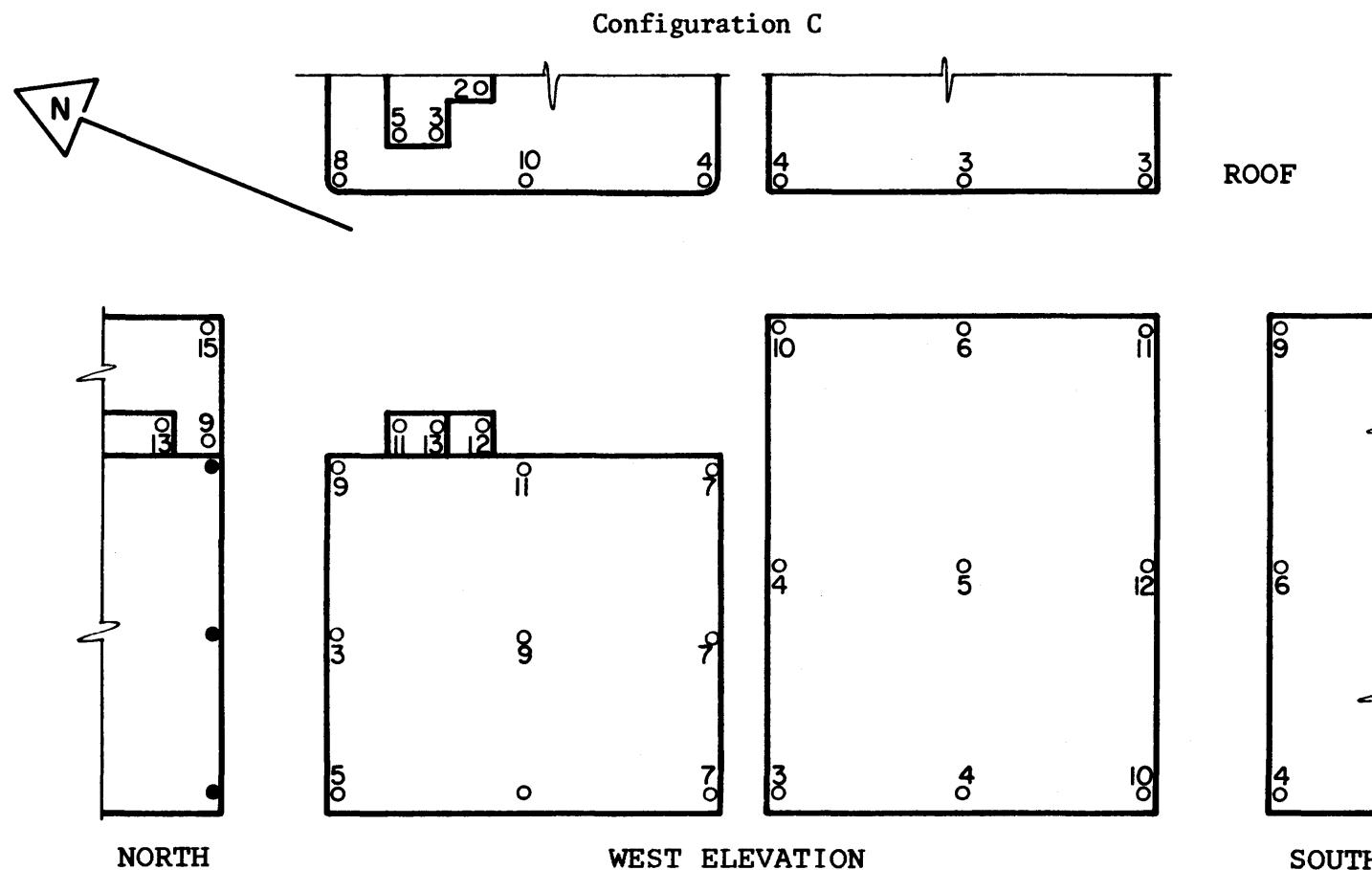
Figure 8gg. Peak Pressure Contours on the Building for Cladding Loads

## Configuration C



BLOCK 100  
 PEAK POSITIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 POSITIVE LOAD ACTS INWARDS  
 TOWER IN PLACE

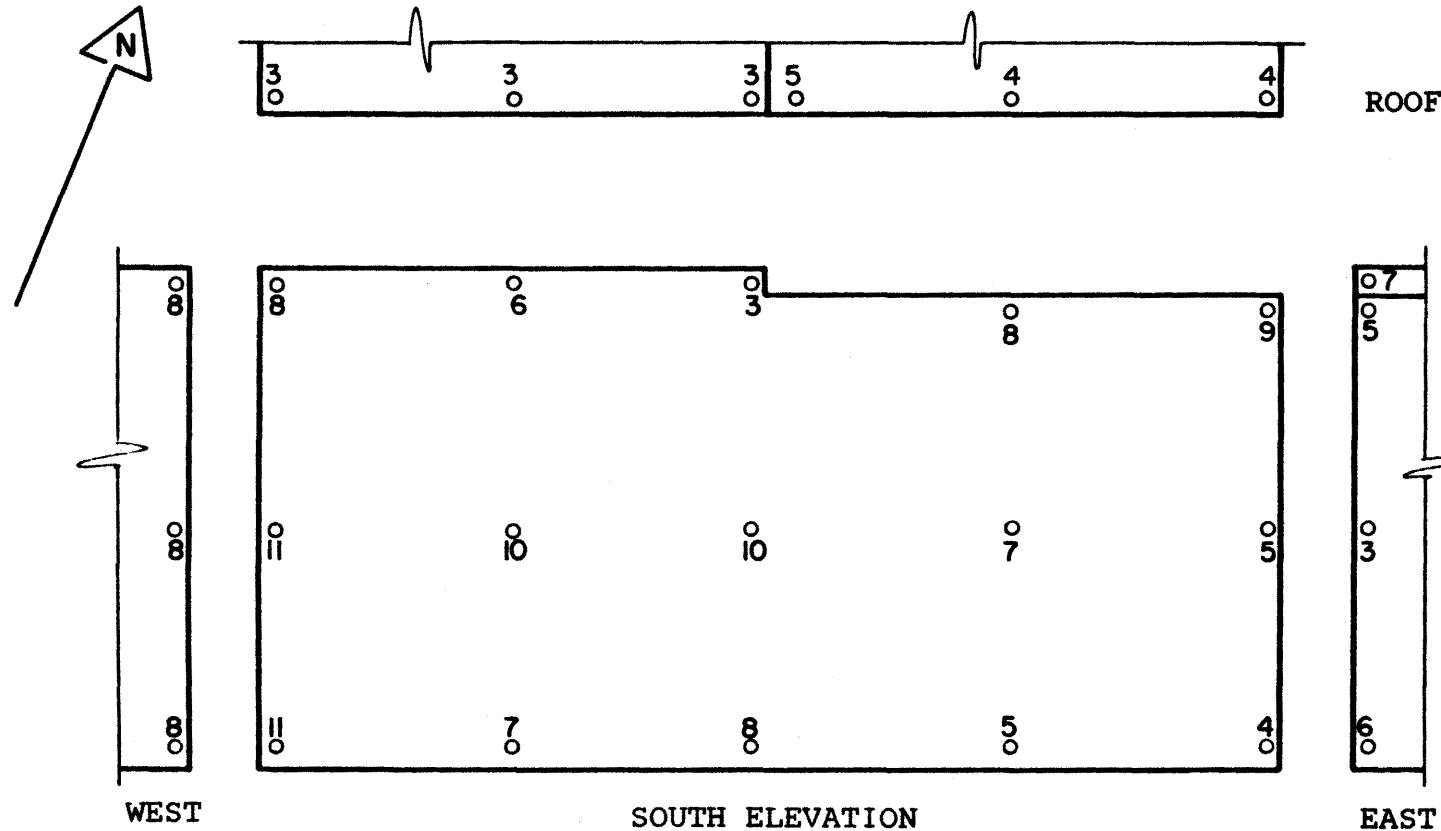
Figure 8hh. Peak Pressure Contours on the Building for Cladding Loads



BLOCK 109  
 PEAK POSITIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 POSITIVE LOAD ACTS INWARDS  
 TOWER IN PLACE

Figure 8iii. Peak Pressure Contours on the Building for Cladding Loads

### Configuration C

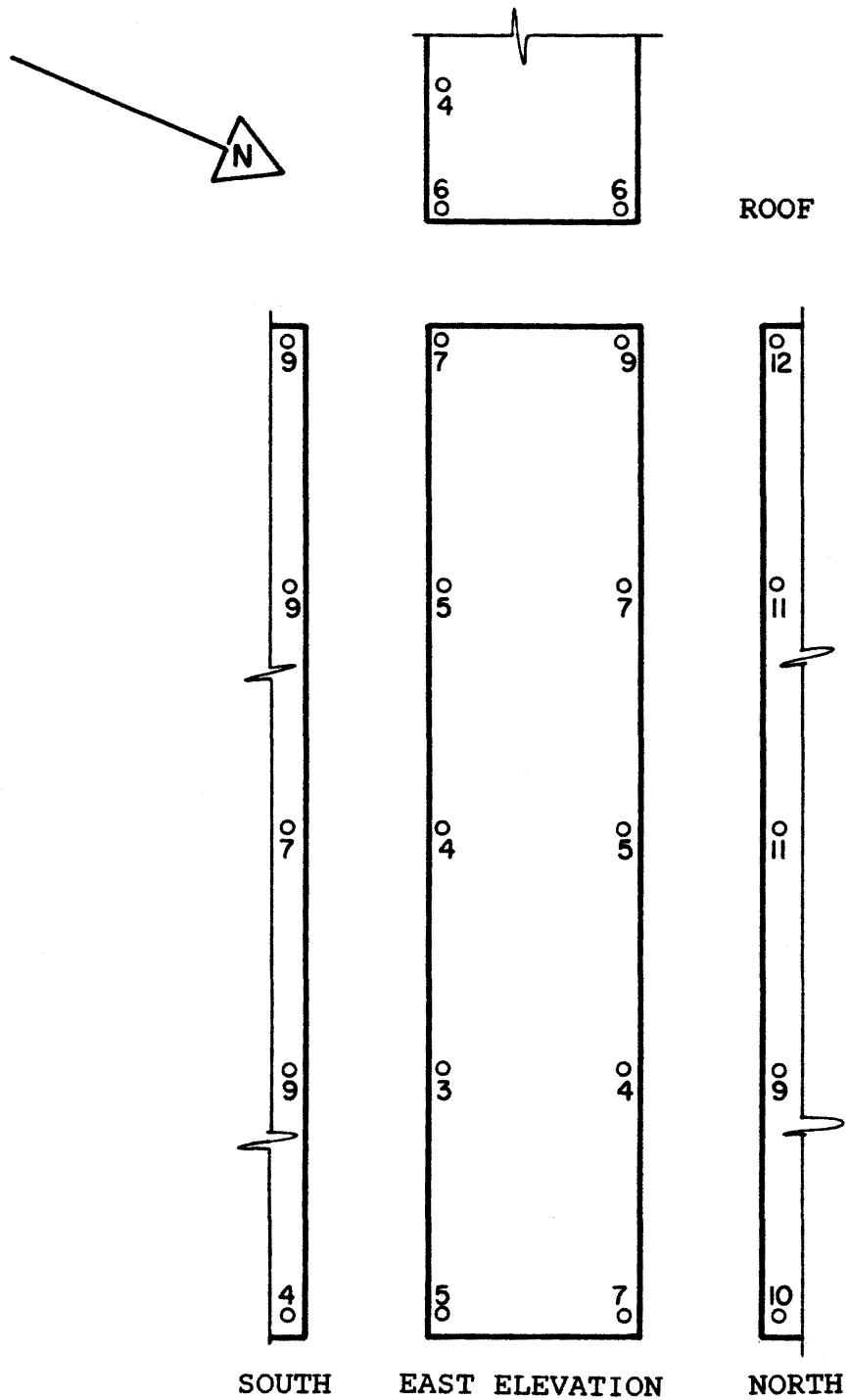


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BLOCK 116  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
TOWER IN PLACE

Figure 8jj. Peak Pressure Contours on the Building for Cladding Loads

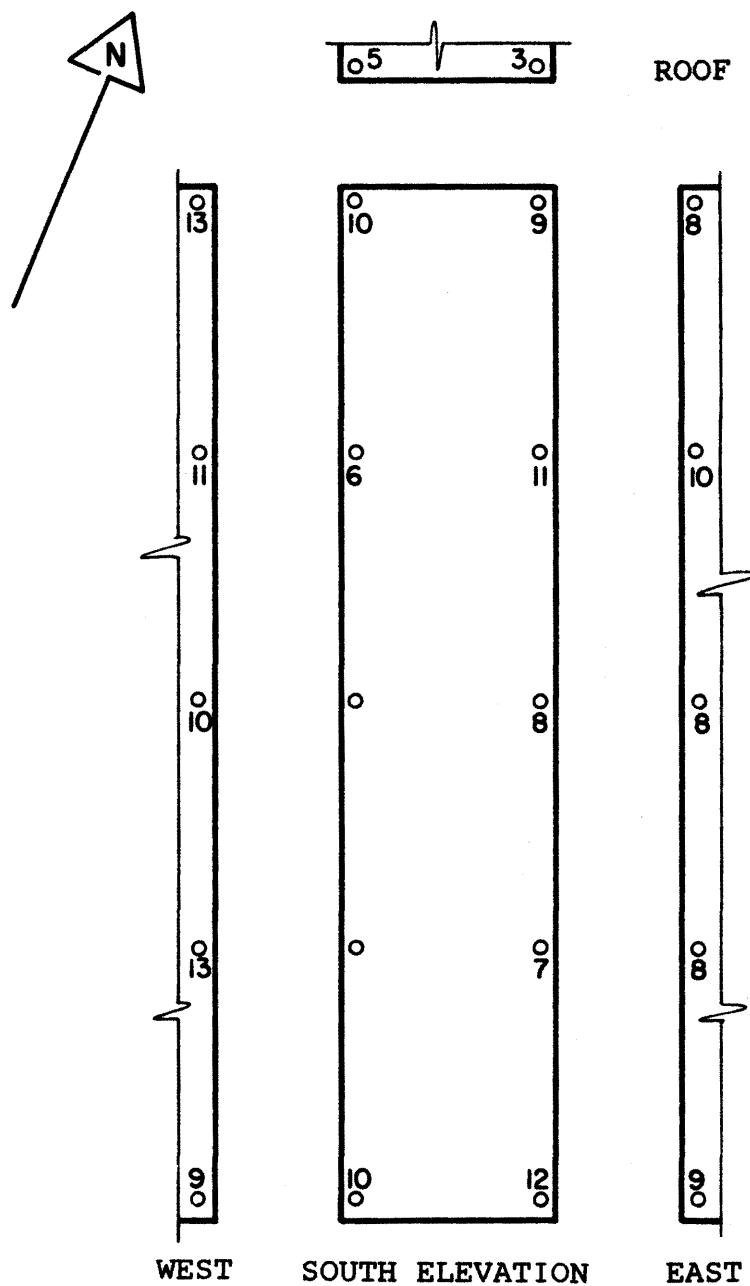
## Configuration D



**BLOCK 115-A**  
**PEAK POSITIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**POSITIVE LOAD ACTS INWARDS**  
**EXISTING CONFIGURATION**

Figure 8kk. Peak Pressure Contours on the Building for Cladding Loads

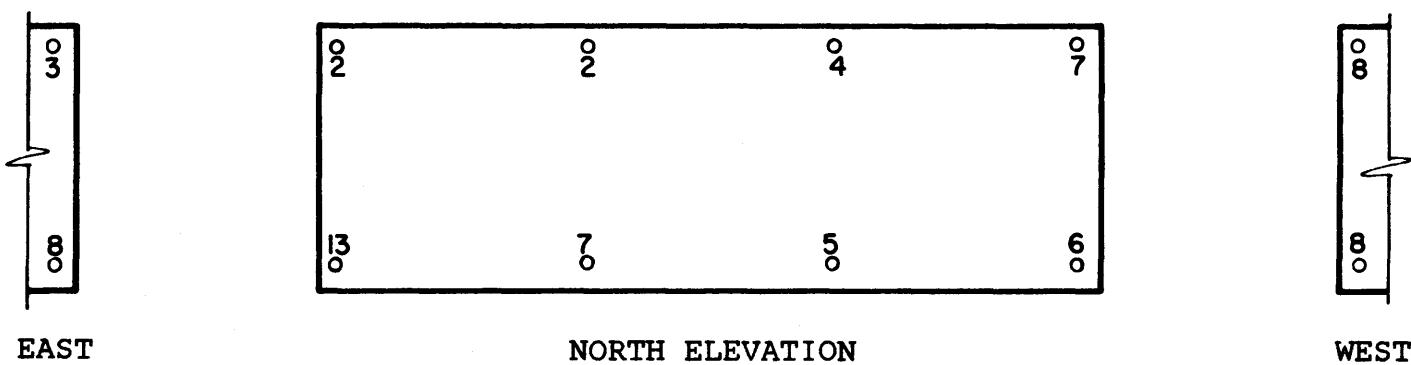
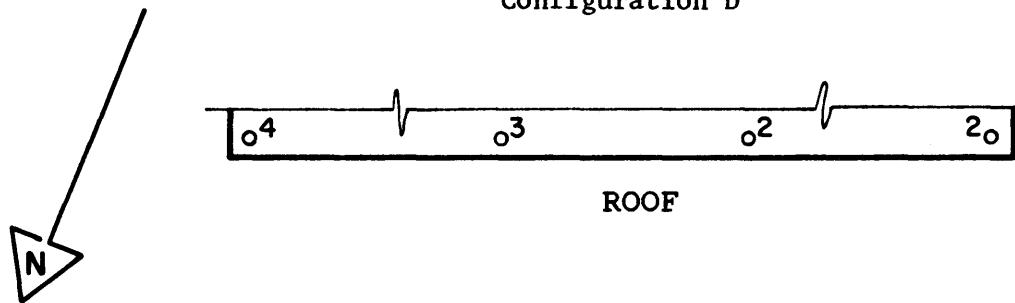
## Configuration D



BLOCK 115-B  
 PEAK POSITIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 POSITIVE LOAD ACTS INWARDS  
 EXISTING CONFIGURATION

Figure 811. Peak Pressure Contours on the Building for Cladding Loads

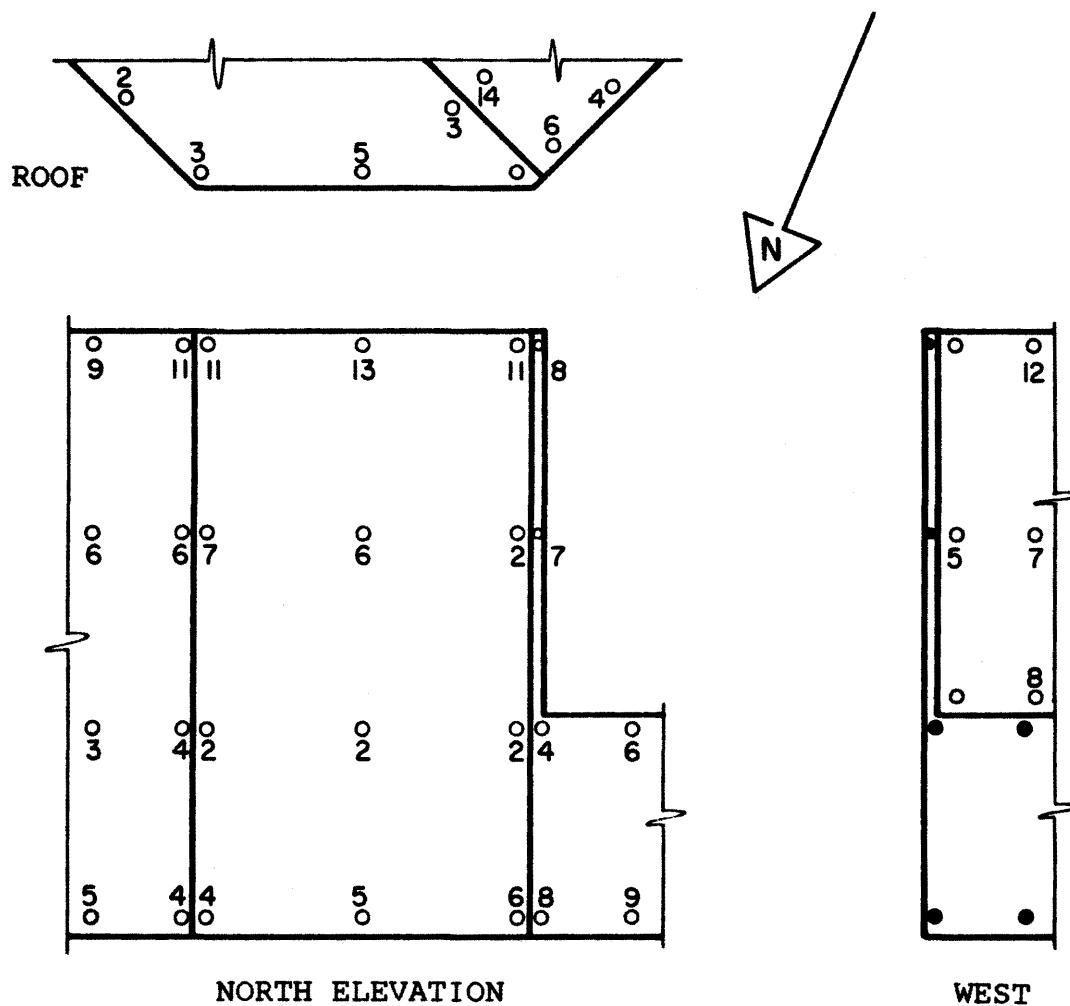
## Configuration D



BLOCK 99  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
EXISTING CONFIGURATION

Figure 8mm. Peak Pressure Contours on the Building for Cladding Loads

## Configuration D

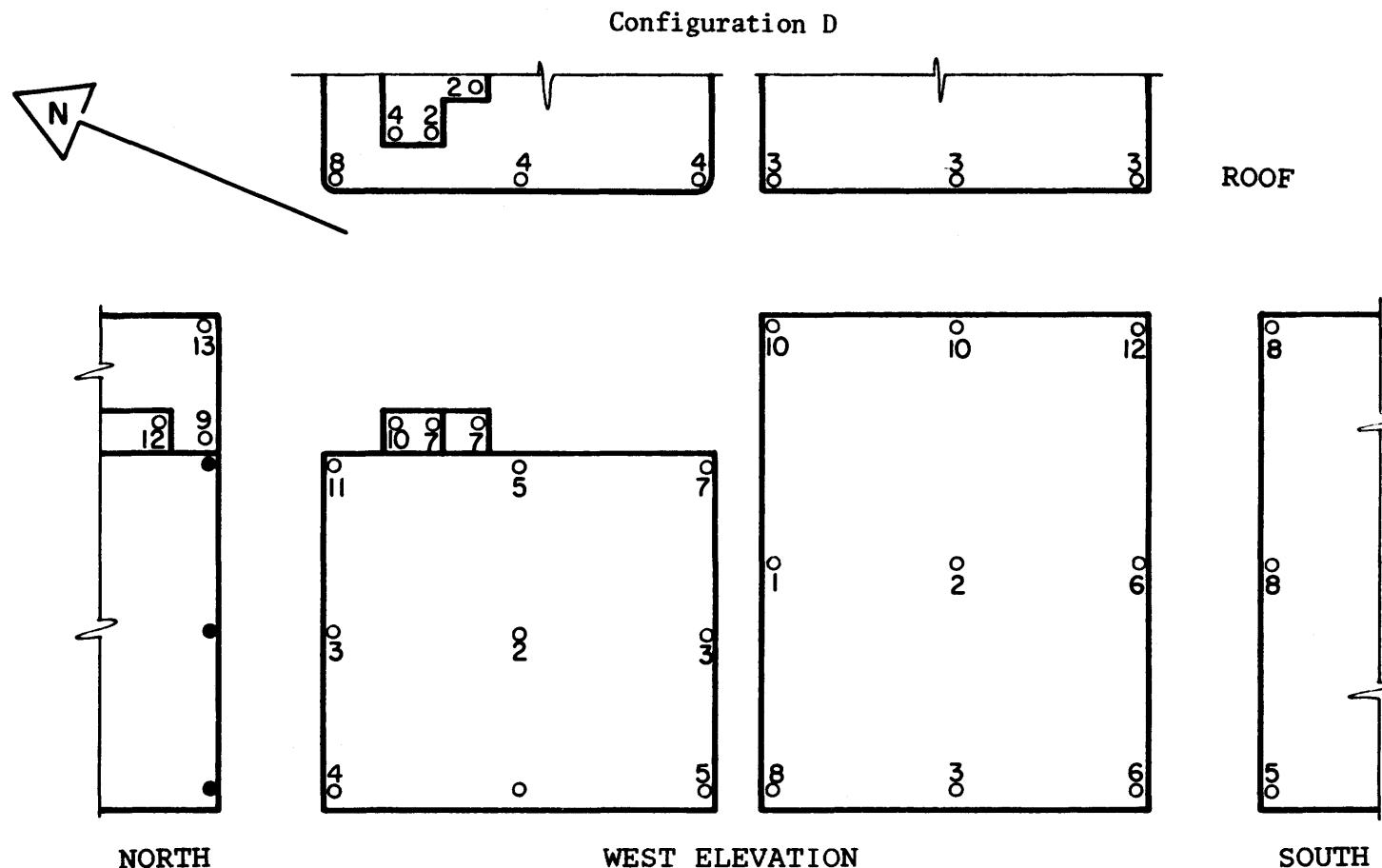


NORTH ELEVATION

WEST

BLOCK 100  
 PEAK POSITIVE CLADDING LOADS (PSF)  
 FOR 100 YEAR RECURRENCE WIND  
 WITH WIND DIRECTIONALITY  
 POSITIVE LOAD ACTS INWARDS  
 EXISTING CONFIGURATION

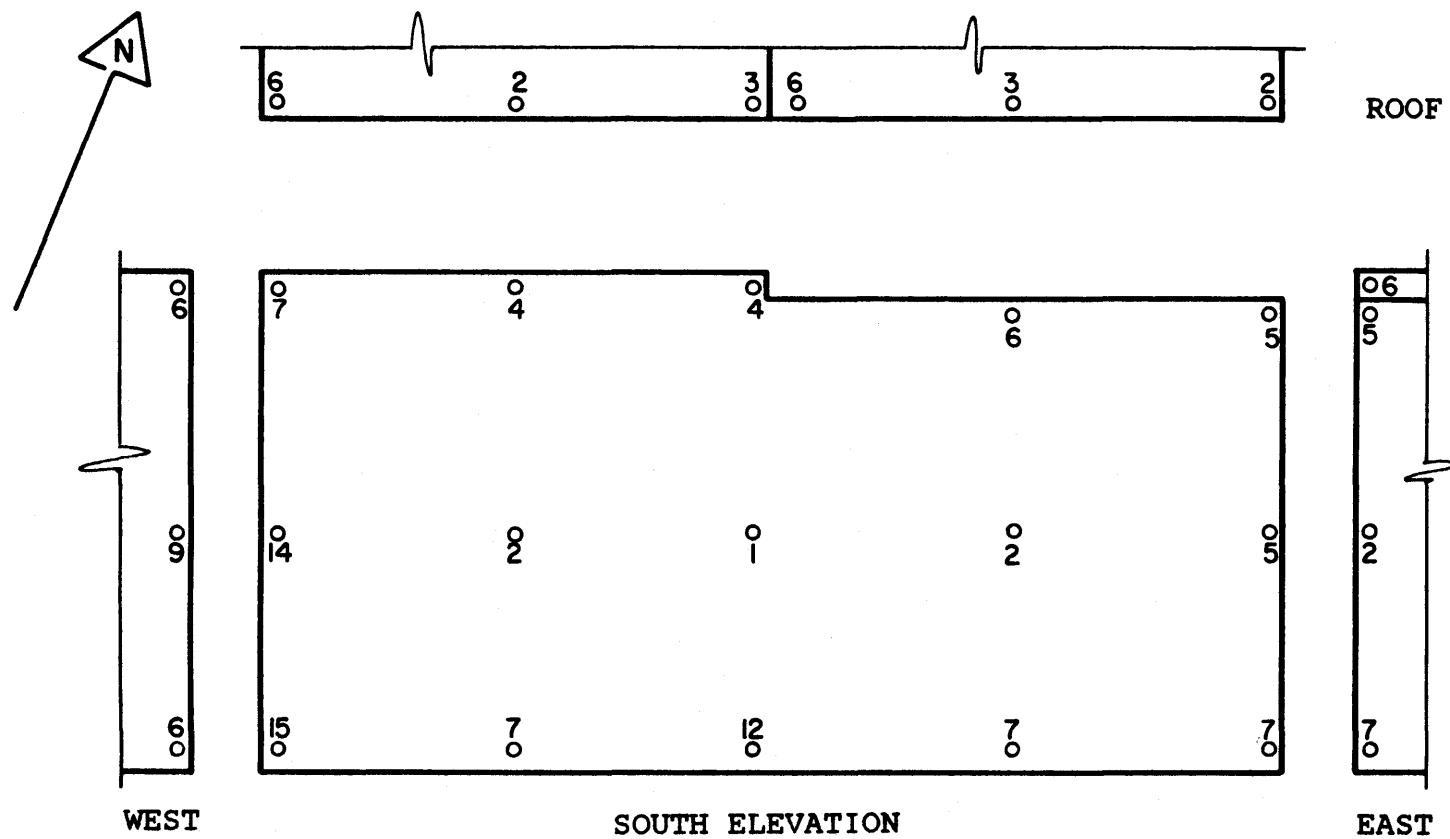
Figure 8nn. Peak Pressure Contours on the Building for Cladding Loads



**BLOCK 109**  
**PEAK POSITIVE CLADDING LOADS (PSF)**  
**FOR 100 YEAR RECURRENCE WIND**  
**WITH WIND DIRECTIONALITY**  
**POSITIVE LOAD ACTS INWARDS**  
**EXISTING CONFIGURATION**

Figure 800. Peak Pressure Contours on the Building for Cladding Loads

## Configuration D



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BLOCK 116  
PEAK POSITIVE CLADDING LOADS (PSF)  
FOR 100 YEAR RECURRENCE WIND  
WITH WIND DIRECTIONALITY  
POSITIVE LOAD ACTS INWARDS  
EXISTING CONFIGURATION

Figure 8pp. Peak Pressure Contours on the Building for Cladding Loads

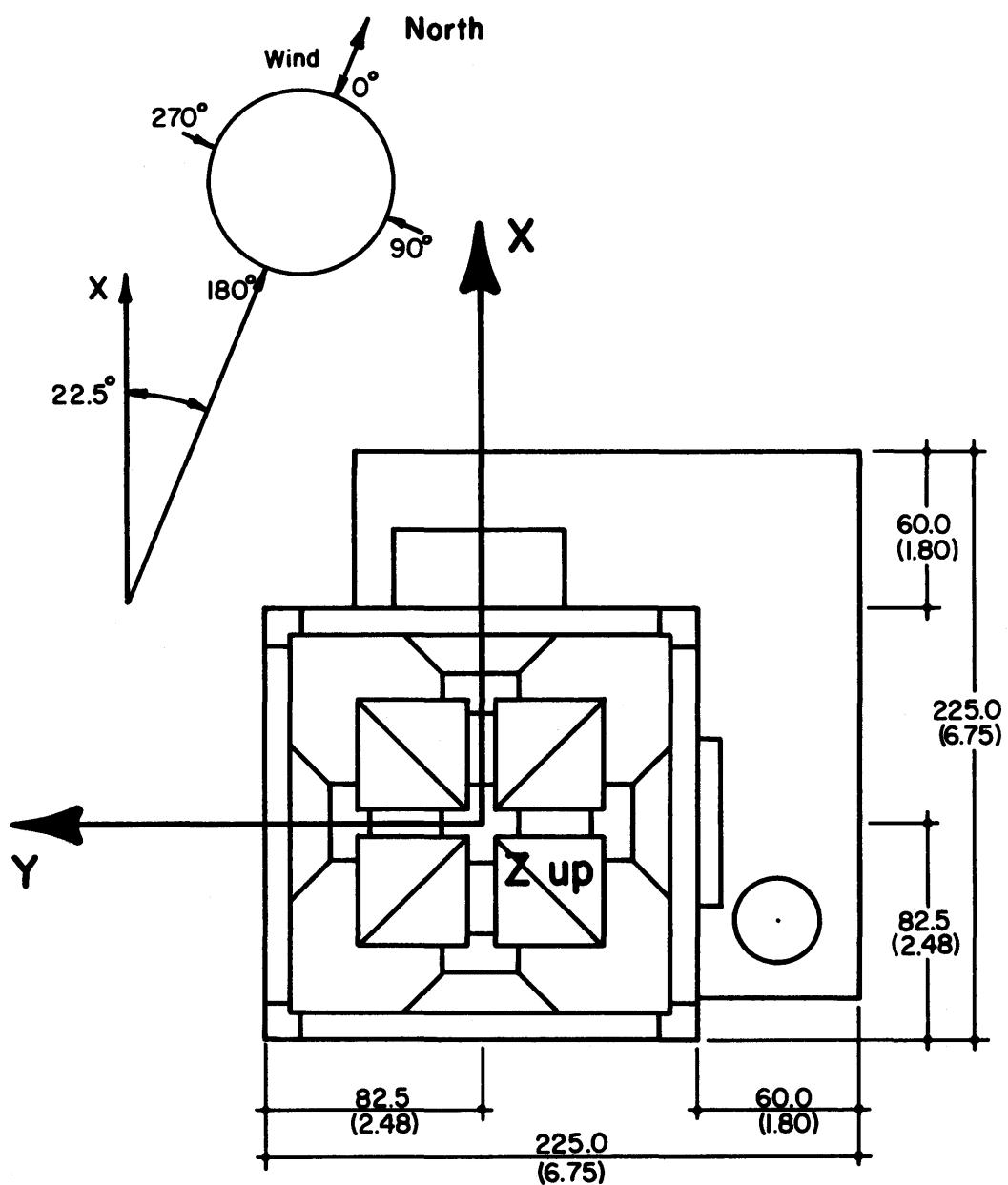


Figure 9. Coordinate System for Forces and Moments

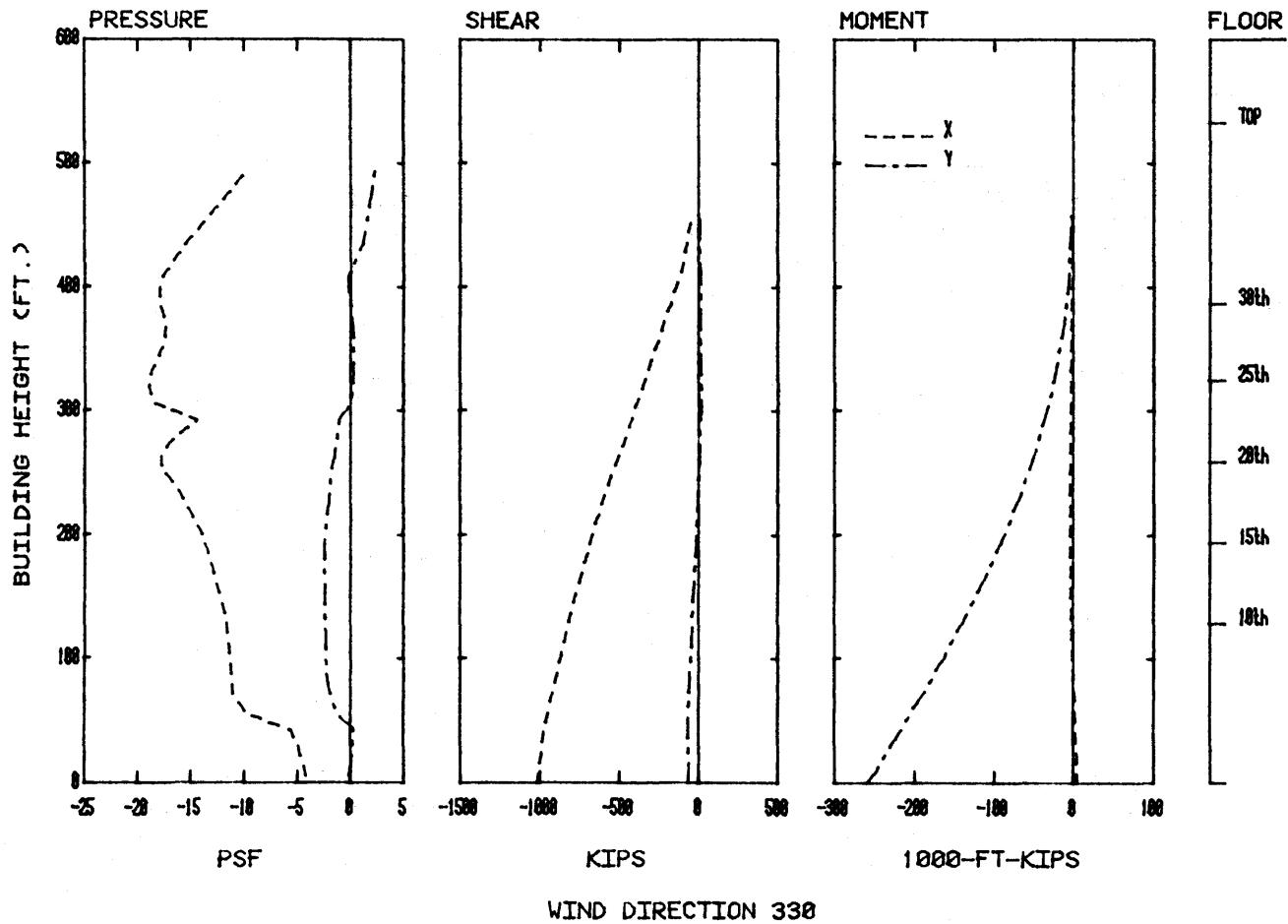


Figure 10a. Load, Shear, and Moment Diagrams for Selected Wind Directions

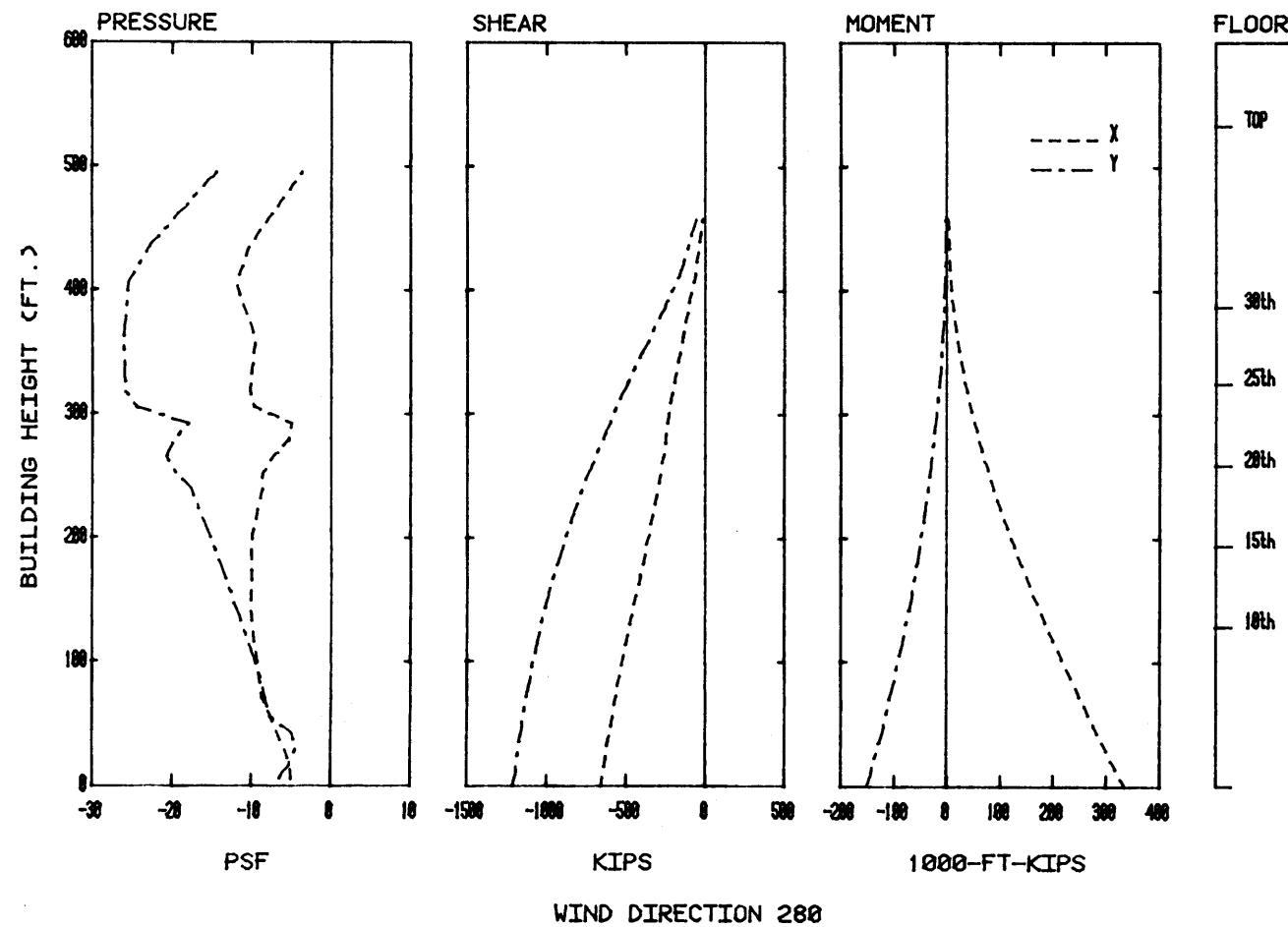


Figure 10b. Load, Shear, and Moment Diagrams for Selected Wind Directions

**TABLES**

TABLE 1

DATA CONFIGURATIONS**Configuration A:**

- Geometry - Jenkins/Empire building in place.
- Pressures - Data measured for 36 wind directions, in 10-degree increments from 0, for all tap locations on Jenkins/Empire building.

**Configuration B:**

- Geometry - Jenkins/Empire building in place (same as Configuration A)
- Pressures - Data measured in 2-degree increments to both sides of selected wind directions for selected taps on Jenkins/Empire building where large pressure peaks were observed in Configuration A. Taps were selected to obtain the largest peak pressures on the structure.

**Configuration C:**

- Geometry - Jenkins/Empire building in place (same as Configuration A)
- Pressures - Data measured for 36 wind directions, in 10-degree increments from 0, for all tap locations on selected adjacent building faces.

**Configuration D:**

- Geometry - Jenkins/Empire building out, original block in place
- Pressures - Data measured for 36 wind directions, in 10-degree increments from 0, for all tap locations on selected adjacent building faces.

TABLE 2  
CALCULATION OF REFERENCE PRESSURE

1. Wind speeds by direction for Pittsburgh airport\*:

| Wind Direction | 100-yr Fastest<br>Mile Wind, 33 ft<br>mph | Gradient<br>Wind Speed<br>(ws) mph | Load Factor<br>(ws/max ws) |
|----------------|---|------------------------------------|----------------------------|
| N              | 55  | 79                                 | 0.71                       |
| NE             | 42  | 61                                 | 0.42                       |
| E              | 40  | 59                                 | 0.39                       |
| SE             | 44  | 65                                 | 0.48                       |
| S              | 51  | 74                                 | 0.62                       |
| SW             | 51  | 74                                 | 0.62                       |
| W              | 66  | 94                                 | 1.00                       |
| NW             | 59  | 84                                 | 0.80                       |

2. Reference Pressure for largest wind speed.

100-yr fastest mile, 33 ft = 66.3 mph for west wind from Extreme Value Analysis

Mean hourly wind speed, 33 ft =  $66.3/1.26 = 52.6$  mph

Mean hourly gradient wind speed =  $54.8 \left(\frac{960}{33}\right)^{.17} = 93.7$  mph

Reference wind speed = gradient wind speed =  $U_\infty$

Reference dynamic pressure =  $0.5 \rho U_\infty^2 = 0.00256 (93.7)^2 = 22.5$  psf

Use 23 psf

3. Gust load factors to convert hourly mean integrated loads to various gust durations (see Section 4.4):

| Gust Duration, sec | Gust Load Factor  |
|--------------------|-------------------|
| 10-15              | $(1.4)^2 = 1.96$  |
| 30                 | $(1.32)^2 = 1.74$ |
| 45                 | $(1.26)^2 = 1.59$ |

30-sec duration load factor was used in Table 4.

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\* Data obtained from National Climatic Data Center,  
Asheville, NC.

TABLE 3. PEAK CLADDING LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
AVERAGE OF CONFIGURATIONS A AND B 100-YEAR RECURRENCE INTERVAL

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|
|     |          |             | ---           | PSF           |     |          |             | ---           | PSF           |     |          |             | ---           | PSF           |
| 101 | 270      | -1.92       | -21.1         | 7.9           | 149 | 290      | -1.84       | -19.4         | 14.0          | 197 | 250      | -1.86       | -19.7         | 10.0          |
| 102 | 270      | -1.12       | -25.7         | 8.1           | 150 | 320      | -1.11       | -20.5         | 14.3          | 198 | 340      | -1.60       | -9.8          | 15.4          |
| 103 | 270      | -1.05       | -24.2         | 13.0          | 151 | 250      | -1.09       | -25.1         | 14.6          | 199 | 250      | -1.37       | -8.5          | 16.2          |
| 104 | 160      | -1.38       | -19.7         | 13.5          | 152 | 270      | -1.35       | -31.2         | 16.2          | 200 | 250      | -1.64       | -14.7         | 21.7          |
| 105 | 250      | -1.91       | -20.9         | 10.2          | 153 | 270      | -1.25       | -28.8         | 16.8          | 201 | 250      | -1.46       | -10.6         | 13.5          |
| 106 | 270      | -1.09       | -25.0         | 15.1          | 154 | 270      | -1.21       | -27.8         | 16.8          | 202 | 250      | -1.40       | -9.3          | 14.2          |
| 107 | 260      | -1.97       | -22.3         | 10.1          | 155 | 270      | -1.90       | -43.7         | 22.5          | 203 | 250      | -1.61       | -14.0         | 21.7          |
| 108 | 250      | -1.00       | -23.1         | 10.6          | 156 | 320      | -1.19       | -21.8         | 18.6          | 204 | 250      | -1.63       | -14.5         | 21.7          |
| 109 | 260      | -1.90       | -20.8         | 13.5          | 157 | 260      | -1.08       | -24.8         | 17.5          | 205 | 250      | -1.56       | -12.0         | 13.8          |
| 110 | 250      | -1.12       | -25.7         | 15.4          | 158 | 250      | -1.82       | -18.9         | 15.1          | 206 | 250      | -1.58       | -13.3         | 4.6           |
| 111 | 270      | -1.21       | -27.8         | 16.3          | 159 | 270      | -1.51       | -34.7         | 14.8          | 207 | 250      | -1.76       | -17.6         | 5.0           |
| 112 | 250      | -1.07       | -24.6         | 16.1          | 160 | 250      | -1.86       | -19.8         | 13.7          | 208 | 250      | -1.68       | -15.7         | 7.2           |
| 113 | 260      | -1.88       | -20.3         | 15.8          | 161 | 280      | -2.01       | -46.3         | 15.0          | 209 | 330      | -1.37       | -6.0          | 4.6           |
| 114 | 260      | -1.98       | -22.5         | 16.9          | 162 | 250      | -1.81       | -18.7         | 13.5          | 210 | 250      | -1.60       | -13.9         | 2.4           |
| 115 | 260      | -1.16       | -26.6         | 18.8          | 163 | 60       | -1.70       | -16.5         | 14.2          | 211 | 0        | -1.55       | -9.1          | 8.9           |
| 116 | 250      | -1.02       | -23.4         | 15.7          | 164 | 260      | -1.78       | -18.0         | 15.2          | 212 | 250      | -1.66       | -15.2         | 2.2           |
| 117 | 330      | -1.11       | -19.7         | 20.5          | 165 | 250      | -1.17       | -26.8         | 18.4          | 213 | 250      | -1.42       | -9.7          | 10.4          |
| 118 | 250      | -1.82       | -19.0         | 10.3          | 166 | 250      | -1.17       | -26.9         | 16.1          | 214 | 250      | -1.92       | -21.2         | 5.4           |
| 119 | 250      | -1.73       | -16.9         | 16.5          | 167 | 280      | -1.41       | -32.4         | 14.5          | 215 | 340      | -1.53       | -8.6          | 4.4           |
| 120 | 250      | -1.99       | -22.8         | 17.4          | 168 | 270      | -2.41       | -55.5         | 11.0          | 216 | 290      | -1.26       | -5.9          | 4.1           |
| 121 | 260      | -1.39       | -32.0         | 16.2          | 169 | 260      | -1.80       | -18.4         | 15.2          | 217 | 250      | -1.29       | -6.8          | 3.1           |
| 122 | 250      | -1.83       | -19.1         | 14.5          | 170 | 250      | -1.90       | -20.8         | 11.9          | 218 | 250      | -1.42       | -9.6          | 4.9           |
| 123 | 250      | -1.75       | -17.3         | 14.4          | 171 | 250      | -1.87       | -20.1         | 12.7          | 219 | 250      | -1.32       | -7.3          | 3.8           |
| 124 | 290      | -1.95       | -21.8         | 15.1          | 172 | 280      | -1.91       | -20.9         | 13.4          | 220 | 250      | -1.59       | -13.6         | 6.0           |
| 125 | 260      | -1.94       | -21.5         | 19.6          | 173 | 250      | -1.78       | -18.0         | 14.1          | 221 | 250      | -1.68       | -15.7         | 4.7           |
| 126 | 270      | -1.00       | -22.9         | 14.9          | 174 | 250      | -1.87       | -19.9         | 14.5          | 222 | 250      | -1.81       | -18.5         | 3.7           |
| 127 | 260      | -1.08       | -24.9         | 15.7          | 175 | 270      | -1.11       | -25.4         | 10.6          | 223 | 260      | -1.34       | -7.9          | 4.0           |
| 128 | 260      | -1.59       | -36.5         | 18.9          | 176 | 270      | -1.01       | -23.2         | 7.9           | 224 | 270      | -1.57       | -13.1         | 5.0           |
| 129 | 270      | -1.65       | -38.0         | 22.2          | 177 | 250      | -1.91       | -20.9         | 10.2          | 225 | 250      | -1.54       | -12.4         | 6.3           |
| 130 | 330      | -1.04       | -18.4         | 19.2          | 178 | 250      | -1.74       | -17.0         | 10.6          | 301 | 180      | -1.59       | -22.7         | 6.3           |
| 131 | 270      | -1.98       | -22.5         | 21.0          | 179 | 280      | -1.66       | -15.3         | 9.9           | 302 | 330      | -1.12       | -20.6         | 2.2           |
| 132 | 250      | -1.95       | -21.9         | 15.5          | 180 | 250      | -1.71       | -16.3         | 11.1          | 303 | 250      | -1.18       | -27.2         | 6.6           |
| 133 | 250      | -1.88       | -20.2         | 17.0          | 181 | 250      | -1.82       | -18.8         | 11.9          | 304 | 250      | -1.04       | -23.9         | 7.5           |
| 134 | 290      | -1.92       | -21.1         | 16.1          | 182 | 270      | -1.97       | -22.4         | 7.4           | 305 | 170      | -1.71       | -24.3         | 7.6           |
| 135 | 250      | -1.90       | -20.8         | 17.7          | 183 | 270      | -1.96       | -22.0         | 6.7           | 306 | 250      | -1.76       | -17.5         | 7.4           |
| 136 | 270      | -1.02       | -23.5         | 18.7          | 184 | 250      | -1.81       | -18.6         | 6.6           | 307 | 330      | -1.93       | -17.1         | 6.3           |
| 137 | 270      | -1.02       | -23.5         | 18.0          | 185 | 140      | -1.47       | -16.3         | 6.8           | 308 | 160      | -1.59       | -22.6         | 8.0           |
| 138 | 260      | -1.10       | -25.4         | 18.2          | 186 | 130      | -1.24       | -13.7         | 11.2          | 309 | 250      | -1.78       | -18.0         | 9.1           |
| 139 | 270      | -1.32       | -30.4         | 17.7          | 187 | 250      | -1.89       | -30.4         | 13.4          | 310 | 350      | -1.19       | -19.4         | 9.1           |
| 140 | 270      | -1.27       | -29.3         | 18.5          | 188 | 250      | -1.15       | -26.4         | 10.5          | 311 | 250      | -1.97       | -22.4         | 11.8          |
| 141 | 330      | -1.19       | -17.5         | 21.9          | 189 | 250      | -1.25       | -28.7         | 4.8           | 312 | 330      | -1.25       | -22.9         | 9.4           |
| 142 | 260      | -1.98       | -22.5         | 18.1          | 190 | 270      | -1.89       | -20.4         | 4.7           | 313 | 160      | -1.23       | -17.6         | 9.4           |
| 143 | 250      | -1.82       | -18.9         | 14.9          | 191 | 250      | -1.82       | -18.8         | 14.6          | 314 | 0        | -1.16       | -18.9         | 11.1          |
| 144 | 250      | -1.92       | -21.1         | 16.6          | 192 | 250      | -1.90       | -20.8         | 14.2          | 315 | 250      | -1.82       | -19.0         | 10.7          |
| 145 | 250      | -1.94       | -21.5         | 17.1          | 193 | 250      | -1.69       | -15.8         | 14.2          | 316 | 250      | -1.77       | -17.7         | 9.4           |
| 146 | 250      | -1.35       | -31.1         | 20.4          | 194 | 140      | -1.65       | -18.2         | 7.9           | 317 | 350      | -1.97       | -15.8         | 13.4          |
| 147 | 250      | -1.35       | -30.9         | 19.1          | 195 | 140      | -1.57       | -17.3         | 8.5           | 318 | 170      | -1.97       | -28.1         | 8.2           |
| 148 | 270      | -1.38       | -31.8         | 17.1          | 196 | 140      | -1.25       | -13.8         | 12.7          | 319 | 250      | -1.78       | -17.9         | 9.0           |

NEGATIVE PRESSURES ACT OUTWARD; POSITIVE PRESSURES ACT INWARD.

TABLE 3. PEAK CLADDING LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
AVERAGE OF CONFIGURATIONS A AND B 100-YEAR RECURRENCE INTERVAL

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|
|     |          |             | PSF           |               |     |          |             | PSF           |               |     |          |             | PSF           |               |
| 320 | 340      | -1.16       | -18.9         | 9.0           | 368 | 350      | -2.09       | -34.1         | 12.8          | 416 | 250      | -.67        | -15.3         | 2.0           |
| 321 | 350      | -1.53       | -24.9         | 12.0          | 369 | 340      | -1.07       | -17.5         | 7.2           | 417 | 250      | -.42        | -9.7          | 5.0           |
| 322 | 330      | -1.24       | -22.8         | 8.1           | 370 | 330      | -1.20       | -22.1         | 4.3           | 418 | 300      | -.43        | -7.8          | 2.2           |
| 323 | 150      | -1.77       | -19.5         | 9.1           | 371 | 150      | -1.61       | -17.8         | 4.3           | 419 | 320      | -.52        | -9.6          | 1.9           |
| 324 | 150      | -1.54       | -17.0         | 9.0           | 372 | 160      | -1.81       | -25.9         | 5.7           | 420 | 250      | -.25        | -5.7          | 4.2           |
| 325 | 320      | -1.06       | -19.4         | 12.5          | 373 | 330      | -1.33       | -24.4         | 7.0           | 421 | 270      | -.34        | -7.8          | 6.4           |
| 326 | 290      | -.83        | -19.2         | 9.1           | 374 | 290      | -1.47       | -33.9         | 6.6           | 422 | 350      | -.59        | -7.5          | 9.6           |
| 327 | 280      | -.91        | -21.0         | 9.3           | 375 | 270      | -1.30       | -30.0         | 9.1           | 501 | 260      | -.91        | -20.9         | 10.7          |
| 328 | 340      | -1.20       | -19.6         | 11.7          | 376 | 270      | -1.11       | -25.5         | 10.4          | 502 | 250      | -.02        | -23.4         | 9.5           |
| 329 | 340      | -1.54       | -25.1         | 10.9          | 377 | 180      | -1.69       | -24.2         | 6.0           | 503 | 330      | -.24        | -22.8         | 9.5           |
| 330 | 340      | -1.07       | -17.5         | 9.9           | 378 | 160      | -1.89       | -26.9         | 3.7           | 504 | 260      | -.93        | -21.3         | 9.5           |
| 331 | 340      | -1.07       | -17.5         | 9.7           | 379 | 150      | -1.85       | -20.4         | 4.6           | 505 | 250      | -.00        | -23.0         | 10.0          |
| 332 | 340      | -1.34       | -21.8         | 9.3           | 380 | 330      | -1.08       | -19.8         | 5.4           | 506 | 270      | -.94        | -21.7         | 7.1           |
| 333 | 170      | -1.27       | -18.1         | 7.6           | 381 | 290      | -1.53       | -35.2         | 5.3           | 507 | 250      | -.09        | -25.1         | 9.5           |
| 334 | 260      | -.74        | -17.1         | 7.7           | 382 | 280      | -1.45       | -33.5         | 6.8           | 508 | 250      | -.00        | -23.1         | 12.9          |
| 335 | 290      | -.80        | -18.5         | 11.4          | 383 | 280      | -1.52       | -35.0         | 9.2           | 509 | 250      | -.04        | -23.9         | 9.9           |
| 336 | 350      | -1.07       | -17.4         | 9.4           | 384 | 180      | -1.50       | -21.4         | 3.8           | 510 | 250      | -.94        | -21.7         | 12.3          |
| 337 | 350      | -1.16       | -18.9         | 8.8           | 385 | 160      | -1.46       | -20.8         | 4.4           | 511 | 250      | -.12        | -25.7         | 8.8           |
| 338 | 350      | -1.27       | -20.7         | 9.0           | 386 | 160      | -1.21       | -17.3         | 4.6           | 512 | 260      | -.95        | -21.9         | 13.4          |
| 339 | 260      | -.77        | -17.8         | 11.1          | 387 | 270      | -.76        | -17.5         | 5.7           | 513 | 250      | -.89        | -20.4         | 12.2          |
| 340 | 350      | -1.14       | -18.6         | 13.0          | 388 | 280      | -1.23       | -26.2         | 5.8           | 514 | 250      | -.81        | -18.6         | 12.9          |
| 341 | 340      | -.92        | -15.0         | 11.2          | 389 | 270      | -1.48       | -34.1         | 5.2           | 515 | 270      | -.99        | -22.7         | 12.0          |
| 342 | 350      | -1.33       | -21.7         | 8.4           | 390 | 270      | -1.36       | -31.3         | 5.6           | 516 | 260      | -.05        | -24.2         | 10.7          |
| 343 | 330      | -1.09       | -20.1         | 6.0           | 391 | 330      | -.89        | -16.5         | 7.8           | 517 | 250      | -.90        | -20.7         | 14.4          |
| 344 | 160      | -1.69       | -24.1         | 8.6           | 392 | 160      | -1.38       | -19.7         | 7.6           | 518 | 250      | -.41        | -32.3         | 11.8          |
| 345 | 350      | -1.12       | -18.3         | 7.4           | 393 | 320      | -1.72       | -13.3         | 7.7           | 519 | 250      | -.04        | -23.9         | 9.1           |
| 346 | 340      | -1.32       | -21.6         | 9.5           | 394 | 330      | -1.62       | -29.9         | 7.4           | 520 | 170      | -.65        | -23.5         | 10.3          |
| 347 | 260      | -.92        | -21.1         | 12.7          | 395 | 280      | -1.62       | -37.1         | 7.3           | 521 | 260      | -.92        | -21.2         | 8.7           |
| 348 | 260      | -.91        | -20.9         | 12.8          | 396 | 290      | -1.67       | -38.5         | 7.2           | 522 | 250      | -.03        | -23.6         | 12.6          |
| 349 | 250      | -.73        | -16.7         | 9.7           | 397 | 170      | -1.36       | -19.4         | 3.3           | 523 | 250      | -.98        | -22.4         | 11.7          |
| 350 | 260      | -.77        | -17.6         | 8.0           | 398 | 160      | -1.14       | -16.3         | 4.1           | 524 | 270      | -.42        | -32.6         | 12.1          |
| 351 | 160      | -1.58       | -22.5         | 7.4           | 399 | 270      | -.63        | -14.4         | 2.5           | 525 | 270      | -.05        | -24.2         | 12.0          |
| 352 | 160      | -1.21       | -17.3         | 7.0           | 400 | 220      | -.72        | -16.5         | 1.8           | 526 | 250      | -.01        | -23.2         | 11.8          |
| 353 | 340      | -1.10       | -18.0         | 8.0           | 401 | 250      | -.42        | -9.6          | 1.0           | 527 | 260      | -.94        | -21.6         | 12.7          |
| 354 | 260      | -.84        | -19.3         | 9.2           | 402 | 250      | -.43        | -9.8          | 2.1           | 528 | 250      | -.92        | -21.2         | 14.1          |
| 355 | 350      | -1.82       | -29.7         | 10.6          | 403 | 330      | -.60        | -11.1         | 6.5           | 529 | 270      | -.93        | -21.4         | 11.5          |
| 356 | 290      | -.79        | -18.2         | 13.5          | 404 | 330      | -.59        | -10.9         | 6.2           | 530 | 250      | -.81        | -18.6         | 14.2          |
| 357 | 290      | -1.15       | -26.4         | 13.2          | 405 | 250      | -.49        | -11.2         | 4.0           | 531 | 250      | -.92        | -21.1         | 14.3          |
| 358 | 160      | -1.45       | -20.7         | 4.7           | 406 | 250      | -.49        | -11.0         | 5.9           | 532 | 250      | -.83        | -19.1         | 12.8          |
| 359 | 0        | -1.59       | -25.9         | 11.4          | 407 | 10       | -.56        | -9.1          | 2.9           | 533 | 250      | -.89        | -20.5         | 10.7          |
| 360 | 180      | -1.81       | -25.9         | 6.5           | 408 | 250      | -.59        | -13.7         | 1.8           | 534 | 250      | -.06        | -24.4         | 13.4          |
| 361 | 290      | -1.42       | -32.7         | 12.6          | 409 | 290      | -.32        | -7.4          | 1.3           | 535 | 250      | .87         | -20.1         | 13.3          |
| 362 | 120      | -2.18       | -24.1         | 5.8           | 410 | 0        | -.43        | -6.6          | 7.0           | 536 | 250      | -.86        | -19.7         | 14.2          |
| 363 | 180      | -1.45       | -20.7         | 5.5           | 411 | 260      | -.61        | -14.1         | 1.9           | 537 | 250      | -.21        | -27.9         | 14.2          |
| 364 | 290      | -.92        | -21.1         | 6.2           | 412 | 250      | -.65        | -15.0         | 1.7           | 538 | 260      | -.86        | -19.6         | 14.6          |
| 365 | 260      | -1.29       | -29.7         | 8.0           | 413 | 320      | -.36        | -6.6          | 2.3           | 539 | 260      | -.00        | -23.1         | 12.3          |
| 366 | 260      | -1.00       | -23.1         | 8.1           | 414 | 320      | -.45        | -6.2          | 4.7           | 540 | 250      | -.89        | -20.5         | 11.7          |
| 367 | 300      | -1.40       | -25.8         | 13.3          | 415 | 290      | -.35        | -8.0          | 3.5           | 541 | 160      | 1.23        | -17.0         | 17.5          |

NEGATIVE PRESSURES ACT OUTWARD, POSITIVE PRESSURES ACT INWARD.

TABLE 3. PFAK CLADDING LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA.  
AVERAGE OF CONFIGURATIONS A AND B. 100-YEAR RECURRENCE INTERVAL

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|
|     |          | ---         | PSF           | ---           |     |          | ---         | PSF           | ---           |     |          | ---         | PSF           | ---           |
| 542 | 250      | -1.02       | -23.4         | 13.8          | 590 | 0        | -1.29       | -21.1         | 2.8           | 718 | 330      | -1.64       | -30.5         | 17.2          |
| 543 | 250      | -1.34       | -30.9         | 12.6          | 591 | 250      | -1.72       | -16.5         | 9.5           | 719 | 270      | -1.02       | -20.7         | 23.6          |
| 544 | 250      | -1.13       | -25.9         | 11.3          | 592 | 300      | -0.88       | -16.2         | 8.0           | 720 | 270      | -1.11       | -25.4         | 16.8          |
| 545 | 250      | -1.04       | -24.0         | 13.6          | 593 | 250      | -1.38       | -31.7         | 3.5           | 721 | 160      | -1.56       | -22.2         | 13.8          |
| 546 | 250      | -1.30       | -29.8         | 14.9          | 594 | 250      | -1.48       | -34.1         | 5.6           | 722 | 330      | -1.32       | -24.2         | 23.2          |
| 547 | 250      | -0.94       | -21.2         | 11.5          | 595 | 290      | -1.25       | -28.8         | 7.4           | 723 | 330      | -1.36       | -25.0         | 21.7          |
| 548 | 250      | -1.22       | -28.2         | 11.2          | 596 | 290      | -1.68       | -15.6         | 10.7          | 724 | 250      | -0.92       | -20.9         | 21.2          |
| 549 | 270      | -1.09       | -25.1         | 15.0          | 597 | 330      | -1.73       | -13.4         | 6.5           | 725 | 320      | -1.30       | -24.0         | 21.2          |
| 550 | 250      | -1.09       | -25.0         | 16.1          | 598 | 0        | -1.25       | -20.4         | 1.5           | 726 | 260      | -0.90       | -18.0         | 20.7          |
| 551 | 250      | -1.35       | -31.1         | 15.4          | 599 | 0        | -1.84       | -30.1         | 7.2           | 727 | 160      | -1.51       | -21.6         | 20.9          |
| 552 | 260      | -0.92       | -21.2         | 16.1          | 600 | 160      | -1.37       | -19.5         | 4.2           | 728 | 170      | -1.45       | -20.7         | 17.1          |
| 553 | 270      | -0.92       | -21.2         | 13.3          | 601 | 40       | -1.41       | -13.6         | 3.4           | 729 | 160      | -1.56       | -22.2         | 14.7          |
| 554 | 250      | -0.79       | -18.1         | 11.9          | 602 | 320      | -0.59       | -10.8         | 4.4           | 730 | 270      | 1.04        | -16.7         | 24.0          |
| 555 | 250      | -0.85       | -19.6         | 12.3          | 603 | 260      | -1.29       | -29.6         | 2.6           | 731 | 260      | 1.01        | -19.1         | 23.3          |
| 556 | 160      | -1.22       | -17.5         | 11.4          | 604 | 0        | -1.16       | -19.0         | 1.9           | 732 | 280      | 1.12        | -20.3         | 25.6          |
| 557 | 280      | -0.79       | -18.2         | 15.1          | 605 | 170      | -0.75       | -10.8         | 2.6           | 733 | 270      | 1.05        | -22.5         | 24.2          |
| 558 | 250      | -1.40       | -32.1         | 10.3          | 606 | 330      | -0.56       | -10.3         | 6.6           | 734 | 250      | 1.03        | -23.6         | 23.7          |
| 559 | 270      | -0.82       | -18.8         | 10.8          | 607 | 330      | -0.51       | -9.4          | 4.4           | 735 | 270      | 0.92        | -19.7         | 21.2          |
| 560 | 280      | -1.75       | -40.2         | 12.7          | 608 | 280      | -0.74       | -17.1         | 10.0          | 736 | 280      | 1.02        | -12.7         | 23.4          |
| 561 | 250      | -0.85       | -19.6         | 10.2          | 609 | 160      | -0.75       | -10.6         | 2.0           | 737 | 270      | 1.03        | -18.6         | 23.6          |
| 562 | 260      | -1.56       | -35.8         | 12.0          | 610 | 340      | -0.58       | -9.5          | 3.3           | 738 | 260      | 0.88        | -20.2         | 20.3          |
| 563 | 270      | -1.27       | -29.2         | 11.3          | 611 | 330      | -0.60       | -11.0         | 3.9           | 739 | 250      | -0.73       | -15.7         | 16.7          |
| 564 | 250      | -1.12       | -25.9         | 12.0          | 612 | 270      | -1.35       | -31.2         | 4.2           | 740 | 180      | -1.22       | -17.4         | 15.2          |
| 565 | 250      | -1.36       | -31.2         | 12.4          | 613 | 280      | -1.46       | -33.5         | 5.2           | 741 | 270      | 1.03        | -15.7         | 23.6          |
| 566 | 250      | -1.11       | -25.5         | 14.3          | 614 | 270      | -1.36       | -31.2         | 9.8           | 742 | 270      | 0.97        | -19.9         | 22.3          |
| 567 | 250      | -0.96       | -22.0         | 11.2          | 615 | 270      | -0.54       | -12.6         | 10.8          | 743 | 330      | -1.45       | -26.7         | 20.4          |
| 568 | 270      | -0.90       | -20.8         | 10.3          | 616 | 250      | -0.55       | -12.8         | 4.8           | 744 | 330      | -1.23       | -22.6         | 22.5          |
| 569 | 260      | -0.88       | -20.3         | 13.5          | 617 | 300      | -0.41       | -7.5          | 7.4           | 745 | 270      | 1.09        | -19.3         | 25.1          |
| 570 | 260      | -1.02       | -23.5         | 9.5           | 618 | 0        | -0.51       | -8.3          | 6.7           | 746 | 250      | -1.02       | -18.5         | 23.4          |
| 571 | 260      | -1.17       | -27.0         | 9.4           | 619 | 250      | -0.34       | -7.9          | 3.5           | 747 | 330      | -1.10       | -20.3         | 19.1          |
| 572 | 270      | -1.36       | -31.4         | 12.2          | 620 | 320      | -0.42       | -7.7          | 5.9           | 748 | 350      | -1.08       | -17.7         | 12.3          |
| 573 | 250      | -1.04       | -24.0         | 14.1          | 701 | 320      | -1.12       | -20.7         | 10.3          | 749 | 270      | -0.92       | -21.2         | 20.1          |
| 574 | 270      | -0.81       | -18.2         | 13.8          | 702 | 160      | -1.65       | -23.5         | 10.2          | 750 | 250      | -0.90       | -20.8         | 16.1          |
| 575 | 280      | -0.89       | -20.5         | 11.2          | 703 | 160      | -1.10       | -15.6         | 15.3          | 751 | 320      | -2.00       | -36.8         | 21.8          |
| 576 | 290      | -1.00       | -22.9         | 9.3           | 704 | 270      | -0.82       | -18.6         | 18.9          | 752 | 330      | -1.23       | -22.7         | 21.5          |
| 577 | 290      | -1.28       | -29.4         | 7.6           | 705 | 330      | -1.07       | -19.6         | 14.2          | 753 | 320      | -1.25       | -23.0         | 22.4          |
| 578 | 270      | -1.56       | -35.8         | 8.9           | 706 | 330      | -1.06       | -19.5         | 10.0          | 754 | 290      | -0.96       | -22.0         | 16.3          |
| 579 | 270      | -1.42       | -32.6         | 10.3          | 707 | 330      | -0.98       | -18.1         | 10.2          | 755 | 160      | -1.56       | -22.3         | 14.8          |
| 580 | 280      | -0.90       | -20.7         | 10.9          | 708 | 320      | -1.44       | -26.5         | 17.7          | 756 | 280      | -1.28       | -29.4         | 11.9          |
| 581 | 60       | -1.81       | -17.5         | 10.7          | 709 | 330      | -1.12       | -20.7         | 18.9          | 757 | 270      | -0.93       | -21.3         | 18.2          |
| 582 | 310      | -0.84       | -15.4         | 6.7           | 710 | 260      | -0.83       | -16.8         | 19.0          | 758 | 320      | -1.54       | -28.4         | 20.7          |
| 583 | 310      | -0.93       | -17.1         | 5.3           | 711 | 330      | -0.88       | -16.3         | 12.0          | 759 | 320      | -1.57       | -22.4         | 15.0          |
| 584 | 280      | -1.73       | -39.9         | 5.2           | 712 | 320      | -1.23       | -22.6         | 22.3          | 760 | 320      | -1.91       | -35.1         | 19.4          |
| 585 | 270      | -1.47       | -33.2         | 7.4           | 713 | 270      | -0.94       | -21.5         | 21.6          | 761 | 170      | -1.42       | -20.3         | 12.7          |
| 586 | 250      | -1.34       | -30.8         | 8.4           | 714 | 260      | -0.86       | -19.7         | 19.8          | 762 | 320      | -2.71       | -49.9         | 12.2          |
| 587 | 290      | -0.74       | -17.0         | 12.7          | 715 | 340      | -1.13       | -18.5         | 14.7          | 763 | 320      | -1.92       | -35.4         | 15.8          |
| 588 | 250      | -0.64       | -14.9         | 7.2           | 716 | 250      | -0.88       | -18.7         | 20.2          | 764 | 330      | -1.12       | -20.5         | 19.8          |
| 589 | 350      | -1.15       | -18.7         | 1.5           | 717 | 280      | 1.05        | -16.8         | 24.2          | 765 | 330      | -1.43       | -26.3         | 21.5          |

NEGATIVE PRESSURES ACT OUTWARD, POSITIVE PRESSURES ACT INWARD.

TABLE 3. PEAK CLADDING LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
AVERAGE OF CONFIGURATIONS A AND B  
100-YEAR RECURRENCE INTERVAL

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|-----|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|
|     |          |             | ---           | PSF           |     |          |             | ---           | PSF           |      |          |             | ---           | PSF           |
| 766 | 330      | -1.20       | -22.1         | 20.8          | 814 | 250      | .50         | -7.9          | 11.5          | 940  | 290      | -.57        | -13.1         | 10.5          |
| 767 | 170      | -1.16       | -16.5         | 14.4          | 815 | 250      | -.39        | -8.9          | 5.2           | 941  | 0        | -.67        | -10.9         | 6.8           |
| 768 | 180      | -1.27       | -18.1         | 12.0          | 816 | 350      | -1.71       | -28.0         | 6.2           | 942  | 250      | -.77        | -17.7         | 13.7          |
| 769 | 330      | -1.02       | -18.8         | 16.1          | 817 | 10       | -1.17       | -19.2         | 6.4           | 943  | 250      | -.84        | -19.2         | 10.9          |
| 770 | 320      | -1.02       | -18.7         | 4.8           | 818 | 10       | -.83        | -13.5         | 10.5          | 944  | 250      | -.55        | -12.7         | 8.6           |
| 771 | 320      | -1.44       | -26.4         | 7.6           | 819 | 160      | -1.05       | -15.0         | 13.4          | 945  | 250      | -.74        | -17.0         | 8.4           |
| 772 | 330      | -1.56       | -28.6         | 13.3          | 820 | 170      | -1.25       | -17.9         | 8.8           | 946  | 250      | -.62        | -14.3         | 14.0          |
| 773 | 350      | -1.07       | -17.4         | 14.3          | 821 | 160      | -1.74       | -24.8         | 7.8           | 947  | 330      | 1.01        | -16.9         | 18.6          |
| 774 | 170      | -1.36       | -19.4         | 17.6          | 822 | 10       | -1.16       | -18.9         | 3.9           | 948  | 330      | 1.18        | -16.5         | 21.7          |
| 775 | 350      | -1.14       | -18.7         | 11.8          | 901 | 280      | -.60        | -13.7         | 8.8           | 949  | 250      | -.83        | -19.9         | 18.2          |
| 776 | 0        | -.98        | -16.0         | 9.9           | 902 | 260      | .84         | -16.3         | 19.4          | 950  | 180      | -.84        | -11.7         | 12.0          |
| 777 | 330      | -1.17       | -21.6         | 5.2           | 903 | 260      | .93         | -18.3         | 21.4          | 951  | 250      | -.78        | -17.9         | 9.3           |
| 778 | 340      | -1.56       | -25.5         | 8.2           | 904 | 280      | 1.07        | -20.7         | 24.5          | 952  | 250      | -.69        | -15.9         | 4.8           |
| 779 | 340      | -1.56       | -25.5         | 12.3          | 905 | 280      | .70         | -10.6         | 16.1          | 953  | 250      | -.81        | -18.6         | 9.7           |
| 780 | 330      | -.94        | -17.3         | 12.5          | 906 | 330      | -.61        | -11.3         | 6.1           | 954  | 10       | .97         | -13.6         | 15.8          |
| 781 | 150      | -1.61       | -17.8         | 15.3          | 907 | 260      | -.77        | -17.8         | 9.5           | 955  | 250      | -.61        | -13.9         | 6.4           |
| 782 | 0        | -1.18       | -19.2         | 11.7          | 908 | 250      | -.77        | -17.7         | 14.9          | 956  | 330      | -.78        | -14.4         | 6.7           |
| 783 | 0        | -1.15       | -18.8         | 8.1           | 909 | 160      | -.82        | -11.7         | 9.3           | 957  | 320      | -.79        | -14.5         | 6.3           |
| 784 | 330      | -1.32       | -24.3         | 4.5           | 910 | 250      | -.98        | -22.6         | 10.5          | 958  | 270      | -1.57       | -36.1         | 11.2          |
| 785 | 330      | -1.48       | -27.2         | 6.2           | 911 | 260      | -1.20       | -27.4         | 20.9          | 959  | 280      | -.56        | -12.9         | 8.6           |
| 786 | 330      | -1.19       | -21.9         | 8.9           | 912 | 170      | -1.64       | -23.4         | 21.7          | 960  | 160      | -1.63       | -23.3         | 6.9           |
| 787 | 160      | -1.20       | -17.1         | 13.3          | 913 | 260      | -1.09       | -25.1         | 24.4          | 961  | 210      | -1.43       | -20.3         | 7.7           |
| 788 | 140      | -2.11       | -23.3         | 11.0          | 914 | 170      | -1.08       | -15.5         | 11.8          | 962  | 250      | -.68        | -15.7         | 8.9           |
| 789 | 0        | -1.08       | -17.6         | 7.8           | 915 | 330      | -.76        | -14.0         | 12.3          | 963  | 170      | -1.73       | -24.7         | 9.2           |
| 790 | 0        | -1.19       | -19.4         | 8.4           | 916 | 280      | -1.39       | -31.9         | 11.7          | 964  | 160      | -1.41       | -20.2         | 6.4           |
| 791 | 160      | -1.56       | -22.3         | 9.9           | 917 | 260      | -1.30       | -30.0         | 19.7          | 965  | 180      | -1.16       | -16.8         | 8.2           |
| 792 | 160      | -1.29       | -18.4         | 10.9          | 918 | 270      | -.89        | -20.4         | 2.5           | 966  | 170      | -1.48       | -21.1         | 3.8           |
| 793 | 0        | -1.53       | -25.1         | 10.7          | 919 | 250      | -.94        | -21.7         | 14.1          | 967  | 250      | -.59        | -13.7         | 4.3           |
| 794 | 10       | -1.03       | -16.8         | 10.5          | 920 | 250      | -.85        | -19.6         | 4.9           | 968  | 220      | -.86        | -12.2         | 3.6           |
| 795 | 350      | -.63        | -10.3         | 6.8           | 921 | 330      | -1.02       | -18.8         | 2.3           | 969  | 250      | -1.19       | -27.3         | 4.5           |
| 796 | 350      | -.82        | -13.4         | 11.6          | 922 | 250      | -1.00       | -23.0         | 19.5          | 970  | 250      | -.88        | -20.1         | 5.5           |
| 797 | 250      | -.70        | -16.1         | 5.0           | 923 | 290      | -.72        | -16.6         | 1.1           | 971  | 250      | -.49        | -11.4         | 3.8           |
| 798 | 330      | -1.09       | -20.1         | 4.9           | 924 | 320      | -.89        | -16.4         | 13.8          | 1001 | 330      | -.98        | -18.0         | 17.0          |
| 799 | 340      | -1.41       | -23.0         | 6.2           | 925 | 330      | -1.00       | -18.4         | 17.2          | 1002 | 0        | -1.01       | -16.4         | 10.7          |
| 800 | 330      | -1.11       | -20.4         | 10.9          | 926 | 320      | -.89        | -16.4         | 6.8           | 1003 | 250      | -.96        | -22.0         | 7.5           |
| 801 | 0        | -1.15       | -18.9         | 10.8          | 927 | 260      | -.73        | -16.7         | 7.7           | 1004 | 270      | -.87        | -20.0         | 12.4          |
| 802 | 160      | -1.79       | -25.5         | 14.7          | 928 | 160      | -1.81       | -25.8         | 8.7           | 1005 | 290      | -.70        | -16.1         | 6.8           |
| 803 | 150      | -1.78       | -19.6         | 8.8           | 929 | 260      | -1.21       | -27.8         | 12.2          | 1006 | 330      | -1.10       | -20.3         | 14.7          |
| 804 | 140      | -1.72       | -19.0         | 6.9           | 930 | 260      | -.78        | -18.0         | 11.5          | 1007 | 270      | -.76        | -17.4         | 9.7           |
| 805 | 250      | .53         | -8.0          | 12.1          | 931 | 250      | -.70        | -16.1         | 13.3          | 1008 | 250      | -.70        | -16.1         | 15.4          |
| 806 | 280      | -.61        | -14.0         | 5.9           | 932 | 250      | -.76        | -17.4         | 5.2           | 1009 | 250      | -.86        | -19.7         | 13.5          |
| 807 | 280      | -.39        | -9.0          | 7.4           | 933 | 250      | -.75        | -17.3         | 6.2           | 1010 | 250      | -.76        | -17.5         | 15.4          |
| 808 | 250      | -.49        | -11.2         | 4.3           | 934 | 260      | -.73        | -16.8         | 6.7           | 1011 | 300      | -.64        | -11.8         | 9.4           |
| 809 | 350      | -2.17       | -35.4         | 5.3           | 935 | 250      | -.56        | -13.0         | 7.2           | 1012 | 250      | -.64        | -14.7         | 14.6          |
| 810 | 0        | -1.22       | -20.6         | 11.1          | 936 | 280      | -.58        | -13.3         | 7.6           | 1013 | 290      | -.72        | -16.5         | 4.6           |
| 811 | 160      | -1.10       | -15.7         | 10.1          | 937 | 160      | -1.19       | -17.0         | 9.6           | 1014 | 260      | -.69        | -15.9         | 6.8           |
| 812 | 160      | -1.56       | -22.2         | 7.5           | 938 | 340      | -1.16       | -18.9         | 9.6           | 1015 | 270      | -.76        | -17.5         | 5.6           |
| 813 | 250      | .42         | -8.3          | 9.6           | 939 | 340      | -1.34       | -21.9         | 11.3          | 1016 | 260      | -.73        | -16.9         | 8.9           |

NEGATIVE PRESSURES ACT OUTWARD, POSITIVE PRESSURES ACT INWARD.

TABLE 3. PEAK CLADDING LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA.  
AVERAGE OF CONFIGURATIONS A AND B  
100-YEAR RECURRENCE INTERVAL

| TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|
|      |          |             | ---           | PSF           |      |          |             | ---           | PSF           |      |          |             | ---           | PSF           |
| 1017 | 330      | -.92        | -16.9         | 7.0           | 1021 | 250      | -.54        | -12.5         | 10.2          | 1025 | 250      | -.36        | -8.3          | 3.1           |
| 1018 | 250      | -.55        | -12.7         | 7.1           | 1022 | 250      | -.30        | -6.8          | 2.5           | 1026 | 250      | -.44        | -10.1         | 4.2           |
| 1019 | 310      | -.85        | -15.7         | 5.8           | 1023 | 250      | -.56        | -12.8         | 2.4           | 1027 | 270      | -.37        | -8.5          | 2.6           |
| 1020 | 330      | -1.20       | -22.0         | 7.4           | 1024 | 250      | -.79        | -18.2         | 2.3           | 1028 | 270      | -.27        | -6.3          | 4.2           |

NEGATIVE PRESSURES ACT OUTWARD, POSITIVE PRESSURES ACT INWARD.

TABLE 3. PEAK LOADS FOR : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
 LARGEST VALUES OF CLADDING LOAD 100-YEAR REFERENCE PRESSURE

\* \* 15 GREATEST PRESSURE MAGNITUDES \* \*

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|
|     |          |             | PSF           | PSF           |
| 168 | 270      | -2.41       | -55.5         | 11.0          |
| 762 | 320      | -2.71       | -49.9         | 12.2          |
| 161 | 280      | -2.01       | -46.3         | 15.0          |
| 155 | 270      | -1.90       | -43.7         | 22.5          |
| 560 | 280      | -1.75       | -40.2         | 12.7          |
| 584 | 280      | -1.73       | -39.9         | 5.2           |
| 396 | 290      | -1.67       | -38.5         | 7.2           |
| 129 | 270      | -1.65       | -38.0         | 22.2          |
| 395 | 280      | -1.62       | -37.1         | 7.3           |
| 751 | 320      | -2.00       | -36.8         | 21.8          |
| 128 | 260      | -1.59       | -36.5         | 18.9          |
| 958 | 270      | -1.57       | -36.1         | 11.2          |
| 562 | 260      | -1.56       | -35.8         | 12.0          |
| 578 | 270      | -1.56       | -35.8         | 8.9           |
| 809 | 350      | -2.17       | -35.4         | 5.3           |

TABLE 3. PEAK LOADS FOR CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
LARGEST VALUES OF CLADDING LOAD  
REFERENCE PRESSURE = 23.0 PSF

| TAP | AZI- | PRESS | NEGATIVE | POSITIVE | TAP | AZI- | PRESS | NEGATIVE | POSITIVE | TAP | AZI- | PRESS | NEGATIVE | POSITIVE |
|-----|------|-------|----------|----------|-----|------|-------|----------|----------|-----|------|-------|----------|----------|
|     | MUTH | COEFF | PEAK     | PEAK     |     | MUTH | COEFF | PEAK     | PEAK     |     | MUTH | COEFF | PEAK     | PEAK     |
|     |      |       | ----     | PSF ---- |     |      |       | ----     | PSF ---- |     |      |       | ----     | PSF ---- |
| 160 | 58   | -1.77 | -17.1    | 14.4     | 362 | 138  | -2.15 | -23.7    | 5.1      | 599 | 358  | -2.20 | -35.9    | 2.3      |
| 161 | 268  | -2.24 | -51.5    | 14.9     | 378 | 156  | -1.95 | -27.8    | 4.5      | 762 | 314  | -3.02 | -55.7    | 13.6     |
| 168 | 274  | -2.66 | -61.1    | 13.1     | 562 | 260  | -1.79 | -41.1    | 10.2     | 809 | 346  | -2.25 | -36.7    | 6.1      |
| 360 | 156  | -1.87 | -26.7    | 7.3      |     |      |       |          |          |     |      |       |          |          |

TABLE 3. PEAK LOADS FOR CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.  
LARGEST VALUES OF CLADDING LOAD  
REFERENCE PRESSURE = 23.0 PSF

\* \* 10 GREATEST PRESSURE MAGNITUDES \* \*

| TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|-----|----------|-------------|---------------|---------------|
|     |          |             | PSF           | PSF           |
| 168 | 274      | -2.66       | -61.1         | 13.1          |
| 762 | 314      | -3.02       | -55.7         | 13.6          |
| 161 | 268      | -2.24       | -51.5         | 14.9          |
| 562 | 260      | -1.79       | -41.1         | 10.2          |
| 809 | 346      | -2.25       | -36.7         | 6.1           |
| 599 | 358      | -2.20       | -35.9         | 2.3           |
| 378 | 156      | -1.95       | -27.8         | 4.5           |
| 360 | 156      | -1.87       | -26.7         | 7.3           |
| 362 | 138      | -2.16       | -23.7         | 5.1           |
| 160 | 58       | -1.77       | -17.1         | 14.4          |

TABLE 4. JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
 PROJECT 6160 CONFIGURATION A  
 SCALE = 400 REF. PRESSURE = 23.0  
 GUST FACTOR = 1.32 STANDARD FLOOR HEIGHT = 13.00  
 NUMBER OF SIDES = 4 NO. OF FLOORS = 34

| SIDE    | ANGLE | Z-AXIS    | SHFACT       |
|---------|-------|-----------|--------------|
| 1       | 0.0   | 4.275     | 1.0          |
| 2       | 90.0  | 4.275     | 1.0          |
| 3       | 180.0 | 2.475     | 1.0          |
| 4       | 270.0 | 2.475     | 1.0          |
| FLOOR # | LABEL | HEIGHT-FT | WIND AZIMUTH |
| 1       | 1ST   | 12.50     | 0            |
| 2       | MEZZ  | 10.50     | 10           |
| 3       | 2ND   | 13.00     | 20           |
| 4       | 3RD   | 13.00     | 30           |
| 5       | 4TH   | 15.00     | 40           |
| 6       | 5TH   | 13.00     | 50           |
| 7       | 6TH   | 13.00     | 60           |
| 8       | 7TH   | 13.00     | 70           |
| 9       | 8TH   | 13.00     | 80           |
| 10      | 9TH   | 13.00     | 90           |
| 11      | 10TH  | 13.00     | 100          |
| 12      | 11TH  | 13.00     | 110          |
| 13      | 12TH  | 13.00     | 120          |
| 14      | 13TH  | 13.00     | 130          |
| 15      | 14TH  | 13.00     | 140          |
| 16      | 15TH  | 13.00     | 150          |
| 17      | 16TH  | 13.00     | 160          |
| 18      | 17TH  | 13.00     | 170          |
| 19      | 18TH  | 13.00     | 180          |
| 20      | 19TH  | 13.00     | 190          |
| 21      | 20TH  | 13.00     | 200          |
| 22      | 21ST  | 13.00     | 210          |
| 23      | 22ND  | 15.00     | 220          |
| 24      | 23RD  | 12.500    | 230          |
| 25      | 24TH  | 12.500    | 240          |
| 26      | 25TH  | 12.500    | 250          |
| 27      | 26TH  | 12.500    | 260          |
| 28      | 27TH  | 12.500    | 270          |
| 29      | 28TH  | 12.500    | 280          |
| 30      | 29TH  | 12.500    | 290          |
| 31      | 30TH  | 12.500    | 300          |
| 32      | MEZZ  | 13.00     | 310          |
| 33      | ROOF  | 45.00     | 320          |
| 34      | PNT   | 75.00     | 330          |
|         |       |           | 340          |
|         |       |           | 350          |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 0 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SR FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y                   | Z                |
| 1ST   | 0.00   | -10.0 11.7   | 2812 2812    | -3.5 4.2       | 7 6        | -948.4 293.3 | -48.6 -233.9          | -9.6             |
| MEZZ  | 12.50  | -12.9 10.8   | 2363 2363    | -5.4 4.6       | -12 -14    | -938.4 281.6 | -45.0 -222.1          | -9.8             |
| 2ND   | 23.00  | -20.8 14.5   | 2925 2925    | -7.1 5.0       | -15 -22    | -925.5 270.8 | -42.1 -212.4          | -9.5             |
| 3RD   | 36.00  | -20.1 15.2   | 2925 2925    | -6.9 5.2       | -14 -18    | -904.7 256.3 | -38.7 -200.5          | -8.8             |
| 4TH   | 49.00  | -26.9 17.4   | 2575 2575    | -10.4 6.7      | -5 -8      | -884.6 241.0 | -35.5 -188.8          | -8.2             |
| 5TH   | 64.00  | -24.3 14.0   | 2145 2145    | -11.3 6.5      | -3 -6      | -857.8 223.7 | -32.0 -175.8          | -7.9             |
| 6TH   | 77.00  | -24.1 13.3   | 2145 2145    | -11.2 6.2      | -3 -6      | -833.5 209.6 | -29.2 -164.8          | -7.7             |
| 7TH   | 90.00  | -24.1 12.9   | 2145 2145    | -11.2 6.0      | -3 -6      | -809.4 196.3 | -26.5 -154.1          | -7.5             |
| 8TH   | 103.00 | -24.1 12.6   | 2145 2145    | -11.2 5.9      | -4 -7      | -785.3 183.4 | -24.1 -143.7          | -7.3             |
| 9TH   | 116.00 | -24.1 12.2   | 2145 2145    | -11.2 5.7      | -4 -7      | -761.3 170.8 | -21.8 -133.7          | -7.1             |
| 10TH  | 129.00 | -24.1 11.9   | 2145 2145    | -11.2 5.5      | -4 -8      | -737.2 158.6 | -19.6 -123.9          | -6.9             |
| 11TH  | 142.00 | -25.0 11.0   | 2145 2145    | -11.7 5.1      | -4 -8      | -713.1 146.7 | -17.6 -114.5          | -6.7             |
| 12TH  | 155.00 | -26.0 10.1   | 2145 2145    | -12.1 4.7      | -3 -8      | -688.0 135.7 | -15.8 -105.4          | -6.4             |
| 13TH  | 168.00 | -27.0 9.1    | 2145 2145    | -12.6 4.3      | -3 -8      | -662.0 125.7 | -14.1 -96.6           | -6.2             |
| 14TH  | 181.00 | -28.0 8.2    | 2145 2145    | -13.0 3.8      | -3 -9      | -635.0 116.5 | -12.5 -88.2           | -5.9             |
| 15TH  | 194.00 | -28.9 7.6    | 2145 2145    | -13.5 3.5      | -2 -9      | -607.0 108.3 | -11.1 -80.1           | -5.7             |
| 16TH  | 207.00 | -29.7 7.7    | 2145 2145    | -13.8 3.6      | -2 -9      | -578.1 100.7 | -9.7 -72.4            | -5.4             |
| 17TH  | 220.00 | -30.5 7.9    | 2145 2145    | -14.2 3.7      | -2 -9      | -548.4 93.0  | -8.4 -65.1            | -5.1             |
| 18TH  | 233.00 | -31.2 8.1    | 2145 2145    | -14.6 3.8      | -2 -9      | -518.0 85.1  | -7.3 -58.2            | -4.8             |
| 19TH  | 246.00 | -32.5 7.5    | 2145 2145    | -15.1 3.5      | -2 -9      | -486.7 77.0  | -6.2 -51.6            | -4.5             |
| 20TH  | 259.00 | -32.8 6.3    | 2145 2145    | -15.3 2.9      | -2 -10     | -454.3 69.5  | -5.3 -45.5            | -4.2             |
| 21ST  | 272.00 | -32.0 5.9    | 2145 2145    | -14.9 2.8      | -2 -11     | -421.5 63.2  | -4.4 -39.8            | -3.9             |
| 22ND  | 285.00 | -35.3 7.2    | 2475 2475    | -14.3 2.9      | -2 -10     | -389.5 57.3  | -3.6 -34.6            | -3.5             |
| 23RD  | 300.00 | -28.7 5.2    | 1853 1853    | -15.5 2.8      | -2 -10     | -354.2 50.1  | -2.8 -29.0            | -3.1             |
| 24TH  | 312.50 | -29.1 5.2    | 1812 1812    | -16.0 2.9      | -2 -10     | -325.5 44.8  | -2.2 -24.7            | -2.8             |

III

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 0 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -29.7 5.1    | 1812 1812    | -16.4 2.8      | -2 -10     | -296.5 39.7  | -1.7 -20.8 -2.5       |
| 26TH  | 337.50 | -30.0 5.0    | 1812 1812    | -16.6 2.8      | -2 -10     | -266.8 34.5  | -1.2 -17.3 -2.3       |
| 27TH  | 350.00 | -30.4 4.9    | 1812 1812    | -16.8 2.7      | -2 -10     | -236.8 29.5  | -.8 -14.2 -2.0        |
| 28TH  | 362.50 | -29.9 4.9    | 1812 1812    | -16.5 2.7      | -2 -10     | -206.4 24.7  | -.5 -11.4 -1.6        |
| 29TH  | 375.00 | -28.8 5.0    | 1812 1812    | -15.9 2.7      | -2 -9      | -176.5 19.8  | -.2 -9.0 -1.3         |
| 30TH  | 387.50 | -27.9 5.1    | 1812 1812    | -15.4 2.8      | -2 -8      | -147.7 14.8  | -.0 -7.0 -1.1         |
| MEZZ  | 400.00 | -28.2 5.3    | 1885 1885    | -15.0 2.8      | -1 -7      | -119.8 9.8   | .1 -5.3 -.8           |
| ROOF  | 413.00 | -60.3 10.0   | 4512 4512    | -13.4 2.2      | -1 -8      | -91.6 4.4    | .2 -3.9 -.6           |
| PNT   | 458.00 | -31.3 -5.6   | 3913 3925    | -8.0 -1.4      | 1 -4       | -31.3 -5.6   | .2 -1.2 -.1           |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0 0.0           |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 10 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH,PA<br>CONFIGURATION A |      |              |      |                |     |            |     |              |       | REFERENCE PRESSURE 23.0 PSF |        |      | GUST FACTOR 1.32 |  |  |
|---|--------|--|------|--------------|------|----------------|-----|------------|-----|--------------|-------|-----------------------------|--------|------|------------------|--|--|
| FLOOR   | HEIGHT | FORCE (KIPS)   |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS)       |        |      |                  |  |  |
|   |        | X  | Y    | X            | Y    | X              | Y   | X          | Y   | X            | Y     | X                           | Y      | Z    |                  |  |  |
| 1ST   | 0.00   | -11.3  | 16.0 | 2812         | 2812 | -4.0           | 5.7 | 10         | 7   | -891.8       | 470.5 | -98.7                       | -215.9 | -6.5 |                  |  |  |
| MEZZ  | 12.50  | -15.8  | 14.1 | 2363         | 2363 | -6.7           | 6.0 | -9         | -10 | -880.5       | 454.5 | -92.9                       | -204.8 | -6.7 |                  |  |  |
| 2ND   | 23.00  | -26.0  | 18.3 | 2925         | 2925 | -8.9           | 6.3 | -12        | -17 | -864.7       | 440.4 | -88.2                       | -195.7 | -6.4 |                  |  |  |
| 3RD   | 36.00  | -21.8  | 18.4 | 2925         | 2925 | -7.5           | 6.3 | -9         | -10 | -838.7       | 422.1 | -82.6                       | -184.6 | -5.7 |                  |  |  |
| 4TH   | 49.00  | -26.5  | 21.4 | 2575         | 2575 | -10.3          | 8.3 | -3         | -4  | -816.8       | 403.7 | -77.2                       | -173.8 | -5.4 |                  |  |  |
| 5TH   | 64.00  | -23.0  | 17.0 | 2145         | 2145 | -10.7          | 7.9 | -2         | -2  | -790.3       | 382.3 | -71.3                       | -161.8 | -5.2 |                  |  |  |
| 6TH   | 77.00  | -22.4  | 15.9 | 2145         | 2145 | -10.5          | 7.4 | -2         | -2  | -767.3       | 365.2 | -66.4                       | -151.7 | -5.1 |                  |  |  |
| 7TH   | 90.00  | -22.5  | 15.4 | 2145         | 2145 | -10.5          | 7.2 | -2         | -3  | -744.9       | 349.3 | -61.8                       | -141.8 | -5.1 |                  |  |  |
| 8TH   | 103.00 | -22.6  | 14.8 | 2145         | 2145 | -10.5          | 6.9 | -2         | -3  | -722.3       | 333.9 | -57.4                       | -132.3 | -5.0 |                  |  |  |
| 9TH   | 116.00 | -22.6  | 14.3 | 2145         | 2145 | -10.5          | 6.7 | -2         | -4  | -699.8       | 319.1 | -53.1                       | -123.1 | -4.9 |                  |  |  |
| 10TH  | 129.00 | -22.7  | 13.7 | 2145         | 2145 | -10.6          | 6.4 | -3         | -4  | -677.2       | 304.8 | -49.1                       | -114.1 | -4.8 |                  |  |  |
| 11TH  | 142.00 | -23.4  | 13.0 | 2145         | 2145 | -10.9          | 6.1 | -3         | -5  | -654.5       | 291.1 | -45.2                       | -105.5 | -4.6 |                  |  |  |
| 12TH  | 155.00 | -24.3  | 12.4 | 2145         | 2145 | -11.3          | 5.8 | -3         | -5  | -631.0       | 278.1 | -41.5                       | -97.1  | -4.5 |                  |  |  |
| 13TH  | 168.00 | -25.1  | 11.7 | 2145         | 2145 | -11.7          | 5.4 | -3         | -6  | -606.8       | 265.7 | -38.0                       | -89.1  | -4.3 |                  |  |  |
| 14TH  | 181.00 | -25.9  | 11.0 | 2145         | 2145 | -12.1          | 5.1 | -3         | -6  | -581.7       | 254.1 | -34.6                       | -81.3  | -4.1 |                  |  |  |
| 15TH  | 194.00 | -26.6  | 10.8 | 2145         | 2145 | -12.4          | 5.0 | -3         | -7  | -555.8       | 243.1 | -31.3                       | -73.9  | -3.9 |                  |  |  |
| 16TH  | 207.00 | -27.3  | 11.8 | 2145         | 2145 | -12.7          | 5.5 | -3         | -7  | -529.2       | 232.3 | -28.3                       | -66.9  | -3.7 |                  |  |  |
| 17TH  | 220.00 | -28.0  | 12.7 | 2145         | 2145 | -13.0          | 5.9 | -3         | -7  | -501.9       | 220.5 | -25.3                       | -60.2  | -3.5 |                  |  |  |
| 18TH  | 233.00 | -28.6  | 13.7 | 2145         | 2145 | -13.3          | 6.4 | -3         | -7  | -473.9       | 207.8 | +22.5                       | -53.8  | -3.3 |                  |  |  |
| 19TH  | 246.00 | -29.5  | 13.8 | 2145         | 2145 | -13.7          | 6.4 | -3         | -7  | -445.3       | 194.1 | -19.9                       | -47.9  | -3.0 |                  |  |  |
| 20TH  | 259.00 | -29.6  | 13.1 | 2145         | 2145 | -13.8          | 6.1 | -3         | -7  | -415.8       | 180.3 | -17.5                       | -42.3  | -2.8 |                  |  |  |
| 21ST  | 272.00 | -28.9  | 12.8 | 2145         | 2145 | -13.5          | 6.0 | -3         | -8  | -386.3       | 167.2 | -15.2                       | -37.1  | -2.6 |                  |  |  |
| 22ND  | 285.00 | -32.3  | 15.5 | 2475         | 2475 | -13.0          | 6.3 | -3         | -6  | -357.4       | 154.4 | -13.1                       | -32.2  | -2.3 |                  |  |  |
| 23RD  | 300.00 | -25.9  | 11.2 | 1853         | 1853 | -14.0          | 6.1 | -3         | -7  | -325.1       | 138.9 | -10.9                       | -27.1  | -2.0 |                  |  |  |
| 24TH  | 312.50 | -26.4  | 11.7 | 1812         | 1812 | -14.5          | 6.5 | -3         | -7  | -299.2       | 127.7 | -9.3                        | -23.2  | -1.8 |                  |  |  |

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| WIND DIRECTION 10 |        | CONFIGURATION A |      | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |                |     |            |    |              |       | GUST FACTOR 1.32      |       |      |
|-------------------|--------|-----------------|------|--|------|----------------|-----|------------|----|--------------|-------|-----------------------|-------|------|
| FLOOR             | HEIGHT | FORCE (KIPS)    |      | AREA (SQ FT)                             |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |       |      |
|                   |        | X               | Y    | X  | Y    | X              | Y   | X          | Y  | X            | Y     | X                     | Y     | Z    |
| 25TH              | 325.00 | -26.8           | 12.0 | 1812                                     | 1812 | -14.8          | 6.6 | -3         | -6 | -272.8       | 116.0 | -7.7                  | -19.6 | -1.6 |
| 26TH              | 337.50 | -27.2           | 11.9 | 1812                                     | 1812 | -15.0          | 6.6 | -3         | -6 | -246.0       | 104.0 | -6.4                  | -16.4 | -1.4 |
| 27TH              | 350.00 | -27.5           | 11.8 | 1812                                     | 1812 | -15.2          | 6.5 | -3         | -6 | -218.8       | 92.1  | -5.1                  | -13.5 | -1.2 |
| 28TH              | 362.50 | -27.1           | 11.8 | 1812                                     | 1812 | -14.9          | 6.5 | -2         | -6 | -191.3       | 80.3  | -4.1                  | -10.9 | -1.0 |
| 29TH              | 375.00 | -26.1           | 11.7 | 1812                                     | 1812 | -14.4          | 6.4 | -2         | -5 | -164.2       | 68.5  | -3.1                  | -8.7  | .8   |
| 30TH              | 387.50 | -25.2           | 11.7 | 1812                                     | 1812 | -13.9          | 6.4 | -2         | -4 | -138.0       | 56.8  | -2.3                  | -6.8  | .7   |
| MEZZ              | 400.00 | -25.4           | 12.5 | 1885                                     | 1885 | -13.5          | 6.6 | -1         | -3 | -112.8       | 45.2  | -1.7                  | -5.2  | .5   |
| ROOF              | 413.00 | -54.7           | 24.9 | 4512                                     | 4512 | -12.1          | 5.5 | -2         | -5 | -87.5        | 32.7  | -1.2                  | -3.9  | .4   |
| PNT               | 458.00 | -32.8           | 7.8  | 3913                                     | 3925 | -8.4           | 2.0 | -1         | -3 | -32.8        | 7.8   | -.3                   | -1.2  | -.1  |
| TOP               | 533.00 |                 |      |  |      |                |     |            |    | 0.0          | 0.0   | 0.0                   | 0.0   | 0.0  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 20

CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 1ST   | 0.00   | -12.4 18.1   | 2812 2812    | -4.4 6.4       | 12 8       | -828.2 612.1 | -138.3 -194.1 -2.5    |
| MEZZ  | 12.50  | -17.1 15.3   | 2363 2363    | -7.2 6.5       | -8 -9      | -815.8 594.0 | -130.8 -183.9 -2.8    |
| 2ND   | 23.00  | -27.6 19.4   | 2925 2925    | -9.4 6.6       | -10 -15    | -798.7 578.7 | -124.6 -175.4 -2.5    |
| 3RD   | 36.00  | -22.5 20.1   | 2925 2925    | -7.7 6.9       | -5 -5      | -771.1 559.3 | -117.2 -165.2 -1.9    |
| 4TH   | 49.00  | -25.3 24.6   | 2575 2575    | -9.8 9.5       | -0 -0      | -748.7 539.2 | -110.1 -155.3 -1.7    |
| 5TH   | 64.00  | -21.8 20.0   | 2145 2145    | -10.2 9.3      | 0 0        | -701.6 494.6 | -95.6 -135.0 -1.7     |
| 6TH   | 77.00  | -21.5 19.0   | 2145 2145    | -10.0 8.9      | 0 0        | -680.1 475.6 | -89.3 -126.0 -1.7     |
| 7TH   | 90.00  | -21.7 18.4   | 2145 2145    | -10.1 8.6      | 0 0        | -658.4 457.2 | -83.2 -117.3 -1.7     |
| 8TH   | 103.00 | -22.0 17.7   | 2145 2145    | -10.3 8.3      | -0 -0      | -636.4 439.5 | -77.4 -108.9 -1.7     |
| 9TH   | 116.00 | -22.3 17.1   | 2145 2145    | -10.4 8.0      | -0 -1      | -614.1 422.3 | -71.8 -100.8 -1.7     |
| 10TH  | 129.00 | -22.5 16.5   | 2145 2145    | -10.5 7.7      | -1 -1      | -591.6 405.8 | -66.4 -92.9 -1.7      |
| 11TH  | 142.00 | -23.0 16.0   | 2145 2145    | -10.7 7.4      | -1 -1      | -568.5 389.9 | -61.2 -85.4 -1.6      |
| 12TH  | 155.00 | -23.6 15.4   | 2145 2145    | -11.0 7.2      | -1 -1      | -545.0 374.5 | -56.3 -78.2 -1.6      |
| 13TH  | 168.00 | -24.1 14.9   | 2145 2145    | -11.2 6.9      | -1 -1      | -520.9 359.6 | -51.5 -71.2 -1.5      |
| 14TH  | 181.00 | -24.6 14.4   | 2145 2145    | -11.5 6.7      | -1 -1      | -496.2 345.2 | -46.9 -64.6 -1.5      |
| 15TH  | 194.00 | -25.2 14.4   | 2145 2145    | -11.7 6.7      | -1 -1      | -471.1 330.8 | -42.5 -58.3 -1.4      |
| 16TH  | 207.00 | -25.8 15.6   | 2145 2145    | -12.0 7.3      | -1 -2      | -445.3 315.3 | -38.3 -52.4 -1.4      |
| 17TH  | 220.00 | -26.4 16.8   | 2145 2145    | -12.3 7.8      | -1 -2      | -419.0 298.4 | -34.3 -46.8 -1.3      |
| 18TH  | 233.00 | -27.0 18.0   | 2145 2145    | -12.6 8.4      | -1 -2      | -392.0 280.4 | -30.6 -41.5 -1.3      |
| 19TH  | 246.00 | -27.5 18.4   | 2145 2145    | -12.8 8.6      | -1 -2      | -364.5 262.0 | -27.1 -36.6 -1.2      |
| 20TH  | 259.00 | -27.6 17.9   | 2145 2145    | -12.8 8.3      | -2 -2      | -336.9 244.1 | -23.8 -32.0 -1.1      |
| 21ST  | 272.00 | -27.1 17.8   | 2145 2145    | -12.6 8.3      | -2 -3      | -309.9 226.3 | -20.7 -27.8 -1.0      |
| 22ND  | 285.00 | -30.6 21.0   | 2475 2475    | -12.4 8.5      | -2 -3      | -279.3 205.4 | -17.5 -23.4 -.9       |
| 23RD  | 300.00 | -22.4 15.6   | 1853 1853    | -12.1 8.4      | -2 -3      | -256.9 189.8 | -15.0 -20.0 -.8       |
| 24TH  | 312.50 | -22.6 16.4   | 1812 1812    | -12.5 9.0      | -2 -3      |              |                       |

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| WIND DIRECTION 20 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |     |            |    |              |       | GUST FACTOR 1.32      |       |     |
|-------------------|--------|--|------|--------------|------|----------------|-----|------------|----|--------------|-------|-----------------------|-------|-----|
| FLOOR             | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |       |     |
|                   |        | X  | Y    | X            | Y    | X              | Y   | X          | Y  | X            | Y     | X                     | Y     | Z   |
| 25TH              | 325.00 | -23.1                                    | 17.0 | 1812         | 1812 | -12.7          | 9.4 | -2         | -3 | -234.3       | 173.4 | -12.7                 | -17.0 | -.7 |
| 26TH              | 337.50 | -23.2                                    | 16.8 | 1812         | 1812 | -12.8          | 9.3 | -2         | -3 | -211.2       | 156.4 | -10.7                 | -14.2 | -.6 |
| 27TH              | 350.00 | -23.4                                    | 16.7 | 1812         | 1812 | -12.9          | 9.2 | -2         | -3 | -187.9       | 139.5 | -8.8                  | -11.7 | -.5 |
| 28TH              | 362.50 | -23.0                                    | 16.4 | 1812         | 1812 | -12.7          | 9.0 | -2         | -2 | -164.6       | 122.9 | -7.2                  | -9.5  | -.4 |
| 29TH              | 375.00 | -22.3                                    | 15.9 | 1812         | 1812 | -12.3          | 8.8 | -1         | -2 | -141.6       | 106.5 | -5.7                  | -7.6  | -.3 |
| 30TH              | 387.50 | -21.6                                    | 15.6 | 1812         | 1812 | -11.9          | 8.6 | -1         | -1 | -119.3       | 90.6  | -4.5                  | -5.9  | -.2 |
| MEZZ              | 400.00 | -21.9                                    | 16.4 | 1885         | 1885 | -11.6          | 8.7 | -1         | -1 | -97.8        | 74.9  | -3.5                  | -4.6  | -.2 |
| ROOF              | 413.00 | -46.7                                    | 36.9 | 4512         | 4512 | -10.3          | 8.2 | -1         | -2 | -75.9        | 58.5  | -2.6                  | -3.5  | -.2 |
| PNT               | 458.00 | -29.3                                    | 21.6 | 3913         | 3925 | -7.5           | 5.5 | -1         | -1 | -29.3        | 21.6  | -,8                   | -1.1  | -,0 |
| TOP               | 533.00 |  |      |              |      |                |     |            |    | 0.0          | 0.0   | 0.0                   | 0.0   | 0.0 |

| WIND DIRECTION 30 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |     |            |     |              |       | GUST FACTOR 1.32        |          |          |
|-------------------|--------|--|------|--------------|------|----------------|-----|------------|-----|--------------|-------|-------------------------|----------|----------|
| FLOOR             | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT X (1000-FT-KIPS) | MOMENT Y | MOMENT Z |
|                   |        | X  | Y    | X            | Y    | X              | Y   | X          | Y   | X            | Y     |                         |          |          |
| 1ST               | 0.00   | -6.5                                     | 10.5 | 2812         | 2812 | -2.3           | 3.7 | 11         | 7   | -456.1       | 411.9 | -98.6                   | -103.5   | -1.0     |
| MEZZ              | 12.50  | -10.5                                    | 8.6  | 2363         | 2363 | -1.4           | 3.6 | -11        | -14 | -449.6       | 401.4 | -93.5                   | -97.9    | -1.2     |
| 2ND               | 23.00  | -17.1                                    | 10.7 | 2925         | 2925 | -5.8           | 3.7 | -13        | -21 | -439.2       | 392.8 | -89.3                   | -93.2    | -1.0     |
| 3RD               | 36.00  | -13.3                                    | 11.3 | 2925         | 2925 | -4.6           | 3.9 | -8         | -10 | -422.1       | 382.0 | -84.3                   | -87.6    | -.5      |
| 4TH               | 49.00  | -14.2                                    | 14.5 | 2575         | 2575 | -5.5           | 5.6 | -1         | -1  | -394.5       | 356.2 | -73.9                   | -76.2    | -.2      |
| 5TH               | 64.00  | -12.8                                    | 12.1 | 2145         | 2145 | -6.0           | 5.6 | -1         | -1  | -381.7       | 344.1 | -69.4                   | -71.1    | -.2      |
| 6TH               | 77.00  | -12.7                                    | 11.6 | 2145         | 2145 | -5.9           | 5.4 | -1         | -1  | -369.0       | 332.5 | -65.0                   | -66.2    | -.2      |
| 7TH               | 90.00  | -12.8                                    | 11.3 | 2145         | 2145 | -6.0           | 5.3 | -1         | -1  | -356.2       | 321.2 | -60.7                   | -61.5    | -.1      |
| 8TH               | 103.00 | -12.9                                    | 11.0 | 2145         | 2145 | -6.0           | 5.1 | -1         | -1  | -343.3       | 310.3 | -56.6                   | -57.0    | -.1      |
| 9TH               | 116.00 | -13.0                                    | 10.6 | 2145         | 2145 | -6.1           | 5.0 | -1         | -2  | -330.2       | 299.6 | -52.7                   | -52.6    | -.1      |
| 10TH              | 129.00 | -13.2                                    | 10.3 | 2145         | 2145 | -6.1           | 4.8 | -1         | -2  | -317.1       | 289.3 | -48.8                   | -48.4    | -.0      |
| 11TH              | 142.00 | -13.3                                    | 10.2 | 2145         | 2145 | -6.2           | 4.7 | -1         | -2  | -303.7       | 279.1 | -45.1                   | -44.4    | .0       |
| 12TH              | 155.00 | -13.5                                    | 10.1 | 2145         | 2145 | -6.3           | 4.7 | -1         | -1  | -290.2       | 269.0 | -41.6                   | -40.5    | .0       |
| 13TH              | 168.00 | -13.7                                    | 9.9  | 2145         | 2145 | -6.4           | 4.6 | -1         | -1  | -276.5       | 259.1 | -38.1                   | -36.8    | .1       |
| 14TH              | 181.00 | -13.9                                    | 9.8  | 2145         | 2145 | -6.5           | 4.6 | -1         | -1  | -262.6       | 249.3 | -34.8                   | -33.3    | .1       |
| 15TH              | 194.00 | -14.1                                    | 9.9  | 2145         | 2145 | -6.6           | 4.6 | -0         | -1  | -248.5       | 239.4 | -31.7                   | -30.0    | .1       |
| 16TH              | 207.00 | -14.4                                    | 10.7 | 2145         | 2145 | -6.7           | 5.0 | -0         | -1  | -234.1       | 228.8 | -28.6                   | -26.9    | .1       |
| 17TH              | 220.00 | -14.7                                    | 11.4 | 2145         | 2145 | -6.9           | 5.3 | -0         | -0  | -219.4       | 217.3 | -25.7                   | -23.9    | .1       |
| 18TH              | 233.00 | -15.0                                    | 12.2 | 2145         | 2145 | -7.0           | 5.7 | -0         | -0  | -204.4       | 205.2 | -23.0                   | -21.2    | .1       |
| 19TH              | 246.00 | -15.3                                    | 12.5 | 2145         | 2145 | -7.1           | 5.8 | -0         | -0  | -189.1       | 192.7 | -20.4                   | -18.6    | .1       |
| 20TH              | 259.00 | -15.2                                    | 12.3 | 2145         | 2145 | -7.1           | 5.7 | -0         | -1  | -173.9       | 180.4 | -18.0                   | -16.2    | .1       |
| 21ST              | 272.00 | -14.7                                    | 12.1 | 2145         | 2145 | -6.9           | 5.6 | -0         | -1  | -159.2       | 168.3 | -15.7                   | -14.1    | .1       |
| 22ND              | 285.00 | -16.6                                    | 13.9 | 2475         | 2475 | -6.7           | 5.6 | 0          | 0   | -142.6       | 154.4 | -13.3                   | -11.8    | .1       |
| 23RD              | 300.00 | -11.9                                    | 11.7 | 1853         | 1853 | -6.4           | 6.3 | 1          | 1   | -130.7       | 142.6 | -11.4                   | -10.1    | .1       |
| 24TH              | 312.50 | -11.8                                    | 12.2 | 1812         | 1812 | -6.5           | 6.7 | 1          | 1   |              |       |                         |          |          |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |                |     |            |    |              |       |                       |      | GUST FACTOR 1.32            |     |   |  |
|--------------------------------------|--------|--------------|--|------|----------------|-----|------------|----|--------------|-------|-----------------------|------|-----------------------------|-----|---|--|
| WIND DIRECTION 30                    |        |              | CONFIGURATION A                          |      |                |     |            |    |              |       |                       |      | REFERENCE PRESSURE 23.0 PSF |     |   |  |
| FLOOR                                | HEIGHT | FORCE (KIPS) | AREA (SR FT)                             |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |      |                             |     |   |  |
|                                      |        | X Y          | X  | Y    | X Y            |     | X Y        |    | X Y          |       | X Y                   |      |                             | X Y | Z |  |
| 25TH                                 | 325.00 | -11.9 12.5   | 1812                                     | 1812 | -6.6           | 6.9 | 1          | 1  | -118.9       | 130.4 | -9.7                  | -8.5 | .1                          |     |   |  |
| 26TH                                 | 337.50 | -11.9 12.5   | 1812                                     | 1812 | -6.5           | 6.9 | 1          | 1  | -107.0       | 118.0 | -8.2                  | -7.1 | .1                          |     |   |  |
| 27TH                                 | 350.00 | -11.8 12.5   | 1812                                     | 1812 | -6.5           | 6.9 | 1          | 1  | -95.1        | 105.5 | -6.8                  | -5.9 | .1                          |     |   |  |
| 28TH                                 | 362.50 | -11.6 12.3   | 1812                                     | 1812 | -6.4           | 6.8 | 1          | 1  | -83.3        | 93.0  | -5.5                  | -4.8 | .0                          |     |   |  |
| 29TH                                 | 375.00 | -11.4 12.0   | 1812                                     | 1812 | -6.3           | 6.6 | 1          | 1  | -71.7        | 80.7  | -4.4                  | -3.8 | .0                          |     |   |  |
| 30TH                                 | 387.50 | -11.1 11.7   | 1812                                     | 1812 | -6.1           | 6.4 | 0          | 0  | -60.3        | 68.8  | -3.5                  | -3.0 | .0                          |     |   |  |
| MEZZ                                 | 400.00 | -11.5 12.0   | 1885                                     | 1885 | -6.1           | 6.4 | -0         | -0 | -49.2        | 57.1  | -2.7                  | -2.3 | -.0                         |     |   |  |
| ROOF                                 | 413.00 | -23.3 27.8   | 4512                                     | 4512 | -5.2           | 6.2 | 0          | 0  | -37.6        | 45.1  | -2.1                  | -1.7 | .0                          |     |   |  |
| PNT                                  | 458.00 | -14.4 17.3   | 3913                                     | 3925 | -3.7           | 4.4 | -0         | -0 | -14.4        | 17.3  | -.6                   | -.5  | -.0                         |     |   |  |
| TOP                                  | 533.00 |              |  |      |                |     |            |    | 0.0          | 0.0   | 0.0                   | 0.0  | 0.0                         |     |   |  |

| WIND DIRECTION 40 |        |              | CONFIGURATION A |                |            | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>REFERENCE PRESSURE 23.0 PSF |                       |  |  |  |  | GUST FACTOR 1.32 |  |  |
|-------------------|--------|--------------|-----------------|----------------|------------|---|-----------------------|--|--|--|--|------------------|--|--|
| FLOOR             | HEIGHT | FORCE (KIPS) | AREA (SQ FT)    | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)  | MOMENT (1000-FT-KIPS) |  |  |  |  |                  |  |  |
|                   |        | X Y          | X Y             | X Y            | X Y        | X Y   | X Y Z                 |  |  |  |  |                  |  |  |
| 1ST               | 0.00   | -4.6 10.0    | 2812 2812       | -1.6 3.6       | 14 6       | -351.9 454.4  | -112.1 -75.8 -.5      |  |  |  |  |                  |  |  |
| MEZZ              | 12.50  | -9.6 8.2     | 2363 2363       | -4.1 3.5       | -13 -15    | -347.3 444.4  | -106.5 -71.5 -.7      |  |  |  |  |                  |  |  |
| 2ND               | 23.00  | -16.1 10.1   | 2925 2925       | -5.5 3.5       | -14 -23    | -337.8 436.2  | -101.9 -67.9 -.4      |  |  |  |  |                  |  |  |
| 3RD               | 36.00  | -12.2 10.7   | 2925 2925       | -4.2 3.7       | -12 -14    | -321.7 426.1  | -96.3 -63.6 .1        |  |  |  |  |                  |  |  |
| 4TH               | 49.00  | -11.6 14.3   | 2575 2575       | -4.5 5.6       | -5 -4      | -309.5 415.4  | -90.8 -59.5 .4        |  |  |  |  |                  |  |  |
| 5TH               | 64.00  | -10.1 12.2   | 2145 2145       | -4.7 5.7       | -5 -4      | -298.0 401.1  | -84.7 -54.9 .5        |  |  |  |  |                  |  |  |
| 6TH               | 77.00  | -10.1 11.9   | 2145 2145       | -4.7 5.6       | -5 -4      | -287.9 388.9  | -79.6 -51.1 .6        |  |  |  |  |                  |  |  |
| 7TH               | 90.00  | -10.4 11.8   | 2145 2145       | -4.8 5.5       | -5 -4      | -277.7 376.9  | -74.6 -47.4 .7        |  |  |  |  |                  |  |  |
| 8TH               | 103.00 | -10.7 11.6   | 2145 2145       | -5.0 5.4       | -5 -4      | -267.3 365.1  | -69.8 -43.9 .8        |  |  |  |  |                  |  |  |
| 9TH               | 116.00 | -10.9 11.5   | 2145 2145       | -5.1 5.3       | -5 -4      | -256.6 353.5  | -65.1 -40.5 .9        |  |  |  |  |                  |  |  |
| 10TH              | 129.00 | -11.2 11.5   | 2145 2145       | -5.2 5.3       | -4 -4      | -245.7 342.0  | -60.6 -37.2 1.0       |  |  |  |  |                  |  |  |
| 11TH              | 142.00 | -11.2 11.3   | 2145 2145       | -5.2 5.3       | -4 -4      | -234.6 330.7  | -56.2 -34.1 1.1       |  |  |  |  |                  |  |  |
| 12TH              | 155.00 | -11.2 11.2   | 2145 2145       | -5.2 5.2       | -4 -4      | -223.4 319.5  | -52.0 -31.1 1.2       |  |  |  |  |                  |  |  |
| 13TH              | 168.00 | -11.1 11.2   | 2145 2145       | -5.2 5.2       | -3 -3      | -212.2 308.3  | -47.9 -28.3 1.3       |  |  |  |  |                  |  |  |
| 14TH              | 181.00 | -11.1 11.2   | 2145 2145       | -5.2 5.2       | -2 -2      | -201.1 297.1  | -44.0 -25.6 1.3       |  |  |  |  |                  |  |  |
| 15TH              | 194.00 | -11.1 11.2   | 2145 2145       | -5.2 5.2       | -1 -1      | -190.0 285.9  | -40.2 -23.1 1.3       |  |  |  |  |                  |  |  |
| 16TH              | 207.00 | -11.1 11.3   | 2145 2145       | -5.2 5.3       | -1 -1      | -178.9 274.6  | -36.5 -20.7 1.4       |  |  |  |  |                  |  |  |
| 17TH              | 220.00 | -11.1 11.9   | 2145 2145       | -5.2 5.6       | 0 0        | -167.8 262.7  | -33.0 -18.4 1.3       |  |  |  |  |                  |  |  |
| 18TH              | 233.00 | -11.2 12.5   | 2145 2145       | -5.2 5.8       | 1 1        | -156.6 250.2  | -29.7 -16.3 1.3       |  |  |  |  |                  |  |  |
| 19TH              | 246.00 | -11.2 13.1   | 2145 2145       | -5.2 6.1       | 2 1        | -145.4 237.0  | -26.5 -14.3 1.3       |  |  |  |  |                  |  |  |
| 20TH              | 259.00 | -11.4 13.8   | 2145 2145       | -5.3 6.4       | 2 2        | -134.0 223.2  | -23.5 -12.5 1.2       |  |  |  |  |                  |  |  |
| 21ST              | 272.00 | -11.2 14.1   | 2145 2145       | -5.2 6.6       | 3 3        | -122.8 209.1  | -20.7 -10.8 1.2       |  |  |  |  |                  |  |  |
| 22ND              | 285.00 | -10.5 13.9   | 2145 2145       | -4.9 6.5       | 5 3        | -112.3 195.2  | -18.1 -9.3 1.1        |  |  |  |  |                  |  |  |
| 23RD              | 300.00 | -12.0 15.6   | 2475 2475       | -4.8 6.3       | 5 4        | -100.3 179.6  | -15.3 -7.7 .9         |  |  |  |  |                  |  |  |
| 24TH              | 312.50 | -8.6 13.8    | 1853 1853       | -4.6 7.4       | 5 3        | -91.7 165.8   | -13.1 -6.5 .9         |  |  |  |  |                  |  |  |
|                   |        | -8.6 14.3    | 1812 1812       | -4.7 7.9       | 5 3        |   |                       |  |  |  |  |                  |  |  |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 40 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -8.7 14.6    | 1812 1812    | -4.8 8.0       | 5 3        | -83.2 151.6  | -11.1 -5.4 .8         |
| 26TH  | 337.50 | -8.6 14.6    | 1812 1812    | -4.8 8.0       | 5 3        | -74.5 137.0  | -9.3 -4.4 .7          |
| 27TH  | 350.00 | -8.6 14.6    | 1812 1812    | -4.7 8.1       | 6 3        | -65.8 122.4  | -7.7 -3.6 .5          |
| 28TH  | 362.50 | -8.6 14.4    | 1812 1812    | -4.7 8.0       | 5 3        | -57.3 107.8  | -6.3 -2.8 .4          |
| 29TH  | 375.00 | -8.7 14.1    | 1812 1812    | -4.8 7.8       | 4 2        | -48.7 93.4   | -5.0 -2.1 .3          |
| 30TH  | 387.50 | -8.8 13.8    | 1812 1812    | -4.9 7.6       | 3 2        | -40.0 79.2   | -3.9 -1.6 .3          |
| MEZZ  | 400.00 | -9.4 14.1    | 1885 1885    | -5.0 7.5       | 1 1        | -31.2 65.4   | -3.0 -1.1 .2          |
| ROOF  | 413.00 | -16.7 32.4   | 4512 4512    | -3.7 7.2       | 3 2        | -21.8 51.3   | -2.3 -.8 .2           |
| PNT   | 458.00 | -5.1 18.8    | 3913 3925    | -1.3 4.8       | 2 1        | -5.1 18.8    | -.7 -.2 .0            |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |

TABLE 4. SHEAR AND MOMENT DIAGRAMS  
WIND DIRECTION 50° CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

| REFERENCE PRESSURE 23.0 PSF |        |              |      |              |      |                |     |            |     |              |       | GUST FACTOR 1.32      |       |     |
|-----------------------------|--------|--------------|------|--------------|------|----------------|-----|------------|-----|--------------|-------|-----------------------|-------|-----|
| FLOOR                       | HEIGHT | FORCE (KIPS) |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |       |     |
|                             |        | X            | Y    | X            | Y    | X              | Y   | X          | Y   | X            | Y     | X                     | Y     | Z   |
| 1ST                         | 0.00   | -3.1         | 8.7  | 2812         | 2812 | -1.1           | 3.1 | 14         | 5   | -238.4       | 462.3 | -116.4                | -49.3 | .7  |
| MEZZ                        | 12.50  | -7.5         | 6.7  | 2363         | 2363 | -3.2           | 2.9 | -13        | -14 | -235.3       | 453.6 | -110.7                | -46.3 | .5  |
| 2ND                         | 23.00  | -11.9        | 8.0  | 2925         | 2925 | -4.1           | 2.7 | -14        | -21 | -227.8       | 446.9 | -106.0                | -43.9 | .7  |
| 3RD                         | 36.00  | -7.3         | 8.8  | 2925         | 2925 | -2.5           | 3.0 | -10        | -8  | -215.8       | 438.8 | -100.2                | -41.0 | 1.1 |
| 4TH                         | 49.00  | -5.7         | 14.1 | 2575         | 2575 | -2.2           | 5.5 | -1         | 0   | -208.6       | 430.0 | -94.6                 | -38.3 | 1.2 |
| 5TH                         | 64.00  | -5.4         | 12.0 | 2145         | 2145 | -2.5           | 5.6 | -4         | -2  | -202.9       | 415.9 | -88.2                 | -35.2 | 1.2 |
| 6TH                         | 77.00  | -6.0         | 11.6 | 2145         | 2145 | -2.8           | 5.4 | -6         | -3  | -197.4       | 404.0 | -82.9                 | -32.6 | 1.3 |
| 7TH                         | 90.00  | -6.6         | 11.4 | 2145         | 2145 | -3.1           | 5.3 | -7         | -4  | -191.4       | 392.4 | -77.7                 | -30.1 | 1.4 |
| 8TH                         | 103.00 | -7.3         | 11.3 | 2145         | 2145 | -3.4           | 5.3 | -7         | -5  | -184.8       | 380.9 | -72.7                 | -27.6 | 1.5 |
| 9TH                         | 116.00 | -7.9         | 11.1 | 2145         | 2145 | -3.7           | 5.2 | -8         | -6  | -177.6       | 369.7 | -67.8                 | -25.3 | 1.6 |
| 10TH                        | 129.00 | -8.5         | 11.0 | 2145         | 2145 | -4.0           | 5.1 | -8         | -6  | -169.7       | 358.6 | -63.1                 | -23.0 | 1.7 |
| 11TH                        | 142.00 | -8.7         | 11.2 | 2145         | 2145 | -4.1           | 5.2 | -7         | -5  | -161.2       | 347.6 | -58.5                 | -20.8 | 1.9 |
| 12TH                        | 155.00 | -8.9         | 11.5 | 2145         | 2145 | -4.1           | 5.4 | -5         | -4  | -152.5       | 336.4 | -54.0                 | -18.8 | 2.0 |
| 13TH                        | 168.00 | -9.0         | 11.8 | 2145         | 2145 | -4.2           | 5.5 | -4         | -3  | -143.6       | 324.9 | -49.7                 | -16.9 | 2.1 |
| 14TH                        | 181.00 | -9.2         | 12.1 | 2145         | 2145 | -4.3           | 5.6 | -3         | -2  | -134.6       | 313.1 | -45.6                 | -15.1 | 2.2 |
| 15TH                        | 194.00 | -9.3         | 12.5 | 2145         | 2145 | -4.3           | 5.8 | -1         | -1  | -125.4       | 301.0 | -41.6                 | -13.4 | 2.2 |
| 16TH                        | 207.00 | -9.0         | 13.1 | 2145         | 2145 | -4.2           | 6.1 | 0          | 0   | -116.1       | 288.5 | -37.8                 | -11.8 | 2.3 |
| 17TH                        | 220.00 | -8.7         | 13.7 | 2145         | 2145 | -4.1           | 6.4 | 2          | 1   | -107.1       | 275.5 | -34.1                 | -10.4 | 2.3 |
| 18TH                        | 233.00 | -8.4         | 14.2 | 2145         | 2145 | -3.9           | 6.6 | 4          | 2   | -98.4        | 261.8 | -30.6                 | -9.0  | 2.2 |
| 19TH                        | 246.00 | -8.5         | 14.9 | 2145         | 2145 | -4.0           | 7.0 | 6          | 3   | -90.0        | 247.6 | -27.3                 | -7.8  | 2.1 |
| 20TH                        | 259.00 | -8.1         | 15.1 | 2145         | 2145 | -3.8           | 7.0 | 7          | 4   | -81.4        | 232.7 | -24.2                 | -6.7  | 2.0 |
| 21ST                        | 272.00 | -7.3         | 14.8 | 2145         | 2145 | -3.4           | 6.9 | 9          | 4   | -73.3        | 217.6 | -21.2                 | -5.7  | 1.9 |
| 22ND                        | 285.00 | -8.2         | 16.5 | 2475         | 2475 | -3.3           | 6.7 | 9          | 4   | -66.0        | 202.8 | -18.5                 | -4.8  | 1.7 |
| 23RD                        | 300.00 | -5.4         | 15.0 | 1853         | 1853 | -2.9           | 8.1 | 9          | 3   | -57.8        | 186.3 | -15.6                 | -3.9  | 1.5 |
| 24TH                        | 312.50 | -5.3         | 15.3 | 1812         | 1812 | -2.9           | 8.5 | 9          | 3   | -52.4        | 171.3 | -13.4                 | -3.2  | 1.4 |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 50 |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |      |                |     |            |    |              |       |                       |      | GUST FACTOR 1.32 |  |  |
|---|--------|--------------|--|------|----------------|-----|------------|----|--------------|-------|-----------------------|------|------------------|--|--|
| FLOOR   | HEIGHT | FORCE (KIPS) | AREA (SQ FT)   |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |      |                  |  |  |
|   |        | X Y          | X  | Y    | X              | Y   | X          | Y  | X            | Y     | X                     | Y    | Z                |  |  |
| 25TH  | 325.00 | -5.3 15.4    | 1812   | 1812 | -2.9           | 8.5 | 9          | 3  | -47.1        | 156.0 | -11.3                 | -2.5 | 1.2              |  |  |
| 26TH  | 337.50 | -5.4 15.2    | 1812   | 1812 | -3.0           | 8.4 | 9          | 3  | -41.8        | 140.6 | -9.5                  | -2.0 | 1.1              |  |  |
| 27TH  | 350.00 | -5.4 15.1    | 1812   | 1812 | -3.0           | 8.3 | 9          | 3  | -36.4        | 125.4 | -7.8                  | -1.5 | .9               |  |  |
| 28TH  | 362.50 | -5.5 14.9    | 1812   | 1812 | -3.0           | 8.2 | 9          | 3  | -31.0        | 110.2 | -6.3                  | -1.1 | .7               |  |  |
| 29TH  | 375.00 | -5.7 14.6    | 1812   | 1812 | -3.1           | 8.0 | 7          | 3  | -25.5        | 95.4  | -5.0                  | -.7  | .6               |  |  |
| 30TH  | 387.50 | -5.9 14.3    | 1812   | 1812 | -3.2           | 7.9 | 6          | 2  | -19.8        | 80.8  | -3.9                  | -.4  | .5               |  |  |
| MEZZ  | 400.00 | -6.3 14.5    | 1885   | 1885 | -3.3           | 7.7 | 4          | 2  | -13.9        | 66.5  | -3.0                  | -.2  | .4               |  |  |
| ROOF  | 413.00 | -9.0 34.2    | 4512   | 4512 | -2.0           | 7.6 | 7          | 2  | -7.6         | 52.1  | -2.2                  | -.1  | .3               |  |  |
| PNT   | 458.00 | 1.4 17.9     | 3913   | 3925 | .3             | 4.6 | 3          | -0 | 1.4          | 17.9  | -.7                   | .1   | .1               |  |  |
| TOP   | 533.00 |              |  |      |                |     |            |    | 0.0          | 0.0   | 0.0                   | 0.0  | 0.0              |  |  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 60 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | -1.6 6.0     | 2812 2812    | -.6 2.1        | 12 3       | -93.3 414.3  | -110.0 -14.5          | 3.0              |
| MEZZ  | 12.50  | -4.9 4.5     | 2363 2363    | -2.1 1.9       | -14 -15    | -91.7 408.4  | -104.8 -13.3          | 2.9              |
| 2ND   | 23.00  | -8.1 5.2     | 2925 2925    | -2.8 1.8       | -15 -24    | -86.8 403.9  | -100.6 -12.4          | 3.0              |
| 3RD   | 36.00  | -4.4 5.8     | 2925 2925    | -1.5 2.0       | -9 -7      | -78.7 398.6  | -95.4 -11.3           | 3.3              |
| 4TH   | 49.00  | -2.4 11.0    | 2575 2575    | -.9 4.3        | 3 1        | -74.4 392.9  | -90.2 -10.3           | 3.4              |
| 5TH   | 64.00  | -2.1 9.2     | 2145 2145    | -1.0 4.3       | -0 -0      | -72.0 381.9  | -84.4 -9.2            | 3.3              |
| 6TH   | 77.00  | -2.2 9.0     | 2145 2145    | -1.0 4.2       | -3 -1      | -69.9 372.6  | -79.5 -8.3            | 3.3              |
| 7TH   | 90.00  | -2.6 8.9     | 2145 2145    | -1.2 4.2       | -4 -1      | -67.6 363.7  | -74.7 -7.4            | 3.4              |
| 8TH   | 103.00 | -3.0 8.9     | 2145 2145    | -1.4 4.2       | -4 -1      | -65.0 354.2  | -70.0 -6.6            | 3.4              |
| 9TH   | 116.00 | -3.4 8.9     | 2145 2145    | -1.6 4.1       | -5 -2      | -62.0 345.8  | -65.5 -5.7            | 3.5              |
| 10TH  | 129.00 | -3.8 8.9     | 2145 2145    | -1.8 4.1       | -6 -2      | -58.6 336.9  | -61.0 -5.0            | 3.5              |
| 11TH  | 142.00 | -4.1 9.3     | 2145 2145    | -1.9 4.3       | -3 -1      | -54.8 328.0  | -56.7 -4.2            | 3.6              |
| 12TH  | 155.00 | -4.3 9.8     | 2145 2145    | -2.0 4.6       | -1 -0      | -50.7 318.2  | -52.5 -3.5            | 3.6              |
| 13TH  | 168.00 | -4.6 10.3    | 2145 2145    | -2.2 4.8       | 1 0        | -46.4 308.9  | -48.4 -2.9            | 3.6              |
| 14TH  | 181.00 | -4.9 10.7    | 2145 2145    | -2.3 5.0       | 3 1        | -41.2 298.2  | -44.5 -2.3            | 3.6              |
| 15TH  | 194.00 | -5.0 11.2    | 2145 2145    | -2.3 5.2       | 5 2        | -36.8 288.0  | -40.7 -1.8            | 3.6              |
| 16TH  | 207.00 | -4.7 11.9    | 2145 2145    | -2.2 5.5       | 7 3        | -31.8 276.7  | -37.0 -1.4            | 3.5              |
| 17TH  | 220.00 | -4.3 12.5    | 2145 2145    | -2.0 5.8       | 10 3       | -27.2 264.8  | -33.5 -1.0            | 3.4              |
| 18TH  | 233.00 | -4.0 13.2    | 2145 2145    | -1.9 6.1       | 12 4       | -22.9 252.3  | -30.1 -.7             | 3.3              |
| 19TH  | 246.00 | -4.3 13.9    | 2145 2145    | -2.0 6.5       | 14 4       | -18.9 239.1  | -26.9 -.4             | 3.1              |
| 20TH  | 259.00 | -3.9 14.1    | 2145 2145    | -1.8 6.6       | 16 4       | -14.6 225.3  | -23.9 -.2             | 2.9              |
| 21ST  | 272.00 | -2.9 13.7    | 2145 2145    | -1.3 6.4       | 18 4       | -10.6 211.2  | -21.1 -.0             | 2.6              |
| 22ND  | 285.00 | -2.8 15.2    | 2475 2475    | -1.1 6.1       | 17 3       | -7.8 197.5   | -18.4 .1              | 2.4              |
| 23RD  | 300.00 | -1.6 14.3    | 1853 1853    | -.8 7.7        | 14 2       | -5.0 182.4   | -15.6 .2              | 2.1              |
| 24TH  | 312.50 | -1.2 14.6    | 1812 1812    | -.7 8.1        | 14 1       | -3.4 168.1   | -13.4 .3              | 1.9              |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 60 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -1.1 14.6    | 1812 1812    | -.6 8.0        | 14 1       | -2.2 153.5   | -11.4 .3 1.7          |
| 26TH  | 337.50 | -.9 14.5     | 1812 1812    | -.5 8.0        | 15 1       | -1.1 138.9   | -9.5 .3 1.5           |
| 27TH  | 350.00 | -.8 14.4     | 1812 1812    | -.4 7.9        | 15 1       | -.2 124.5    | -7.9 .3 1.3           |
| 28TH  | 362.50 | -.7 14.3     | 1812 1812    | -.4 7.9        | 15 1       | .6 110.1     | -6.4 .3 1.1           |
| 29TH  | 375.00 | -.7 14.1     | 1812 1812    | -.4 7.8        | 14 1       | 1.3 95.8     | -5.1 .3 .8            |
| 30TH  | 387.50 | -.7 14.0     | 1812 1812    | -.4 7.7        | 13 1       | 2.0 81.7     | -4.0 .3 .6            |
| MEZZ  | 400.00 | -.8 14.3     | 1885 1885    | -.4 7.6        | 12 1       | 2.7 67.7     | -3.1 .3 .5            |
| ROOF  | 413.00 | 1.3 35.0     | 4512 4512    | .3 7.7         | 8 -0       | 3.6 53.4     | -2.3 .2 .3            |
| PNT   | 458.00 | 2.3 18.5     | 3913 3925    | .6 4.7         | 1 -0       | 2.3 18.5     | -.7 .1 .0             |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |

| WIND DIRECTION 70 |        | CONFIGURATION A |     | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |                |     |            |     | GUST FACTOR 1.32 |       |                       |     |     |
|-------------------|--------|-----------------|-----|--|------|----------------|-----|------------|-----|------------------|-------|-----------------------|-----|-----|
| FLOOR             | HEIGHT | FORCE (KIPS)    |     | AREA (SQ FT)                             |      | PRESSURE (PSF) |     | ECCEN (FT) |     | SHEAR (KIPS)     |       | MOMENT (1000-FT-KIPS) |     |     |
|                   |        | X               | Y   | X  | Y    | X              | Y   | X          | Y   | X                | Y     | X                     | Y   |     |
| 1ST               | 0.00   | -.4             | 3.5 | 2812                                     | 2812 | -.2            | 1.2 | 16         | 2   | -3.6             | 231.7 | -61.7                 | 2.1 | 1.9 |
| MEZZ              | 12.50  | -2.2            | 2.7 | 2363                                     | 2363 | -.9            | 1.1 | -11        | -9  | -3.1             | 228.3 | -58.8                 | 2.1 | 1.9 |
| 2ND               | 23.00  | -3.9            | 3.1 | 2925                                     | 2925 | -1.3           | 1.1 | -14        | -17 | -.9              | 225.6 | -56.4                 | 2.2 | 1.9 |
| 3RD               | 36.00  | -1.4            | 3.4 | 2925                                     | 2925 | -.5            | 1.2 | 4          | 2   | 3.0              | 222.5 | -53.5                 | 2.2 | 2.0 |
| 4TH               | 49.00  | -.3             | 5.7 | 2575                                     | 2575 | -.1            | 2.2 | 8          | 0   | 4.3              | 219.1 | -50.6                 | 2.1 | 2.0 |
| 5TH               | 64.00  | -.0             | 5.0 | 2145                                     | 2145 | -.0            | 2.3 | 5          | 0   | 4.7              | 213.4 | -47.4                 | 2.0 | 2.0 |
| 6TH               | 77.00  | .0              | 5.1 | 2145                                     | 2145 | .0             | 2.4 | 5          | -0  | 4.7              | 208.4 | -44.6                 | 2.0 | 2.0 |
| 7TH               | 90.00  | -.1             | 5.2 | 2145                                     | 2145 | -.0            | 2.4 | 5          | 0   | 4.6              | 203.3 | -42.0                 | 1.9 | 1.9 |
| 8TH               | 103.00 | -.2             | 5.4 | 2145                                     | 2145 | -.1            | 2.5 | 6          | 0   | 4.7              | 198.0 | -39.4                 | 1.9 | 1.9 |
| 9TH               | 116.00 | -.3             | 5.5 | 2145                                     | 2145 | -.1            | 2.6 | 6          | 0   | 4.9              | 192.7 | -36.8                 | 1.8 | 1.9 |
| 10TH              | 129.00 | -.4             | 5.7 | 2145                                     | 2145 | -.2            | 2.6 | 6          | 0   | 5.2              | 187.2 | -34.3                 | 1.7 | 1.8 |
| 11TH              | 142.00 | -.4             | 5.9 | 2145                                     | 2145 | -.2            | 2.7 | 8          | 1   | 5.6              | 181.5 | -32.0                 | 1.7 | 1.8 |
| 12TH              | 155.00 | -.4             | 6.1 | 2145                                     | 2145 | -.2            | 2.9 | 9          | 1   | 6.1              | 175.6 | -29.6                 | 1.6 | 1.8 |
| 13TH              | 168.00 | -.4             | 6.4 | 2145                                     | 2145 | -.2            | 3.0 | 10         | 1   | 6.5              | 169.5 | -27.4                 | 1.5 | 1.7 |
| 14TH              | 181.00 | -.4             | 6.6 | 2145                                     | 2145 | -.2            | 3.1 | 12         | 1   | 6.9              | 163.1 | -25.2                 | 1.4 | 1.6 |
| 15TH              | 194.00 | -.4             | 6.8 | 2145                                     | 2145 | -.2            | 3.2 | 13         | 1   | 7.3              | 156.5 | -23.1                 | 1.3 | 1.6 |
| 16TH              | 207.00 | -.2             | 6.9 | 2145                                     | 2145 | -.1            | 3.2 | 14         | 0   | 7.7              | 149.6 | -21.2                 | 1.2 | 1.5 |
| 17TH              | 220.00 | -.0             | 7.0 | 2145                                     | 2145 | -.0            | 3.3 | 15         | 0   | 7.9              | 142.7 | -19.3                 | 1.1 | 1.4 |
| 18TH              | 233.00 | .1              | 7.1 | 2145                                     | 2145 | .1             | 3.3 | 17         | -0  | 7.9              | 135.6 | -17.4                 | 1.0 | 1.3 |
| 19TH              | 246.00 | .0              | 7.1 | 2145                                     | 2145 | .0             | 3.3 | 18         | -0  | 7.8              | 128.5 | -15.7                 | .9  | 1.2 |
| 20TH              | 259.00 | .2              | 6.7 | 2145                                     | 2145 | .1             | 3.1 | 21         | -1  | 7.7              | 121.4 | -14.1                 | .8  | 1.0 |
| 21ST              | 272.00 | .4              | 6.3 | 2145                                     | 2145 | .2             | 2.9 | 22         | -1  | 7.6              | 114.7 | -12.6                 | .7  | .9  |
| 22ND              | 285.00 | .2              | 6.7 | 2475                                     | 2475 | .1             | 2.7 | 18         | -1  | 7.2              | 108.4 | -11.1                 | .6  | .7  |
| 23RD              | 300.00 | .5              | 6.7 | 1853                                     | 1853 | .3             | 3.6 | 12         | -1  | 6.9              | 101.7 | -9.5                  | .5  | .6  |
| 24TH              | 312.50 | .6              | 7.1 | 1812                                     | 1812 | .3             | 3.9 | 11         | -1  | 6.4              | 95.0  | -8.3                  | .4  | .5  |

| WIND DIRECTION 70 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>REFERENCE PRESSURE 23.0 PSF |      |              |      |                |     |            |    | GUST FACTOR 1.32 |      |                       |     |     |
|-------------------|--------|---|------|--------------|------|----------------|-----|------------|----|------------------|------|-----------------------|-----|-----|
| FLOOR             | HEIGHT | FORCE (KIPS)  |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS)     |      | MOMENT (1000-FT-KIPS) |     |     |
|                   |        | X   | Y    | X            | Y    | X              | Y   | X          | Y  | X                | Y    | X                     | Y   | Z   |
| 25TH              | 325.00 | .6  | 7.2  | 1812         | 1812 | .3             | 4.0 | 10         | -1 | 5.8              | 87.9 | -7.2                  | .4  | .5  |
| 26TH              | 337.50 | .6  | 7.2  | 1812         | 1812 | .3             | 4.0 | 10         | -1 | 5.2              | 80.7 | -6.1                  | .3  | .4  |
| 27TH              | 350.00 | .7  | 7.1  | 1812         | 1812 | .4             | 3.9 | 10         | -1 | 4.6              | 73.5 | -5.2                  | .2  | .3  |
| 28TH              | 362.50 | .7  | 7.2  | 1812         | 1812 | .4             | 4.0 | 9          | -1 | 3.9              | 66.4 | -4.3                  | .2  | .3  |
| 29TH              | 375.00 | .7  | 7.2  | 1812         | 1812 | .4             | 4.1 | 8          | -1 | 3.2              | 59.2 | -3.5                  | .1  | .2  |
| 30TH              | 387.50 | .7  | 7.4  | 1812         | 1812 | .4             | 4.2 | 7          | -1 | 2.6              | 51.8 | -2.8                  | .1  | .1  |
| MEZZ              | 400.00 | .7  | 7.5  | 1885         | 1885 | .4             | 4.3 | 6          | -1 | 1.9              | 44.3 | -2.2                  | .1  | .1  |
| ROOF              | 413.00 | .7  | 8.2  | 1885         | 1885 | .4             | 4.8 | 1          | -0 | 1.2              | 36.1 | -1.7                  | .0  | .0  |
| PNT               | 458.00 | .9  | 21.6 | 4512         | 4512 | .2             | 4.8 | -1         | 0  | .3               | 14.5 | -.5                   | .0  | -.0 |
| TOP               | 533.00 | .3  | 14.5 | 3913         | 3925 | .1             | 3.7 | -1         | 0  | 0.0              | 0.0  | 0.0                   | 0.0 | 0.0 |

| WIND DIRECTION 80 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |     |              |      |                |     |            |     |              |       | GUST FACTOR 1.32      |      |     |
|-------------------|--------|--|-----|--------------|------|----------------|-----|------------|-----|--------------|-------|-----------------------|------|-----|
| FLOOR             | HEIGHT | FORCE (KIPS)   |     | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |      |     |
|                   |        | X  | Y   | X            | Y    | X              | Y   | X          | Y   | X            | Y     | X                     | Y    | Z   |
| 1ST               | 0.00   | .2   | 2.8 | 2812         | 2812 | .1             | 1.0 | 27         | -2  | 75.6         | 203.8 | -62.4                 | 21.0 | .6  |
| MEZZ              | 12.50  | -.9  | 2.1 | 2363         | 2363 | -.4            | .9  | 2          | 1   | 75.4         | 201.0 | -59.9                 | 20.1 | .5  |
| 2ND               | 23.00  | -1.7   | 2.4 | 2925         | 2925 | -.6            | .8  | -6         | -4  | 76.3         | 198.9 | -57.8                 | 19.3 | .5  |
| 3RD               | 36.00  | .1   | 2.5 | 2925         | 2925 | .0             | .8  | 25         | -1  | 78.0         | 196.6 | -55.2                 | 18.3 | .5  |
| 4TH               | 49.00  | 1.1  | 3.6 | 2575         | 2575 | .4             | 1.4 | 12         | -4  | 77.9         | 194.1 | -52.7                 | 17.3 | .5  |
| 5TH               | 64.00  | 1.1  | 3.1 | 2145         | 2145 | .5             | 1.4 | 10         | -3  | 76.8         | 190.5 | -49.8                 | 16.1 | .4  |
| 6TH               | 77.00  | 1.3  | 3.1 | 2145         | 2145 | .6             | 1.4 | 11         | -5  | 75.7         | 187.4 | -47.4                 | 15.1 | .4  |
| 7TH               | 90.00  | 1.4  | 3.1 | 2145         | 2145 | .7             | 1.5 | 13         | -6  | 74.5         | 184.3 | -44.9                 | 14.1 | .4  |
| 8TH               | 103.00 | 1.6  | 3.2 | 2145         | 2145 | .7             | 1.5 | 15         | -8  | 73.0         | 181.2 | -42.6                 | 13.2 | .3  |
| 9TH               | 116.00 | 1.8  | 3.2 | 2145         | 2145 | .8             | 1.5 | 17         | -9  | 71.4         | 178.0 | -40.2                 | 12.2 | .2  |
| 10TH              | 129.00 | 2.0  | 3.3 | 2145         | 2145 | .9             | 1.5 | 18         | -11 | 69.6         | 174.7 | -37.9                 | 11.3 | .2  |
| 11TH              | 142.00 | 2.1  | 3.4 | 2145         | 2145 | 1.0            | 1.6 | 18         | -11 | 67.7         | 171.5 | -35.7                 | 10.4 | .1  |
| 12TH              | 155.00 | 2.2  | 3.6 | 2145         | 2145 | 1.0            | 1.7 | 17         | -10 | 65.6         | 168.0 | -33.5                 | 9.6  | .0  |
| 13TH              | 168.00 | 2.3  | 3.8 | 2145         | 2145 | 1.1            | 1.8 | 16         | -10 | 63.4         | 164.4 | -31.3                 | 8.7  | -.1 |
| 14TH              | 181.00 | 2.4  | 3.9 | 2145         | 2145 | 1.1            | 1.8 | 15         | -9  | 61.2         | 160.6 | -29.2                 | 7.9  | -.2 |
| 15TH              | 194.00 | 2.5  | 4.1 | 2145         | 2145 | 1.2            | 1.9 | 14         | -9  | 58.8         | 156.7 | -27.1                 | 7.1  | -.2 |
| 16TH              | 207.00 | 2.7  | 4.2 | 2145         | 2145 | 1.3            | 1.9 | 13         | -8  | 56.3         | 152.6 | -25.1                 | 6.4  | -.3 |
| 17TH              | 220.00 | 2.9  | 4.3 | 2145         | 2145 | 1.4            | 2.0 | 12         | -8  | 53.6         | 148.4 | -23.2                 | 5.7  | -.4 |
| 18TH              | 233.00 | 3.1  | 4.4 | 2145         | 2145 | 1.5            | 2.0 | 10         | -7  | 50.7         | 144.2 | -21.3                 | 5.0  | -.5 |
| 19TH              | 246.00 | 3.4  | 4.6 | 2145         | 2145 | 1.6            | 2.1 | 9          | -7  | 47.6         | 139.8 | -19.4                 | 4.3  | -.5 |
| 20TH              | 259.00 | 3.4  | 4.2 | 2145         | 2145 | 1.6            | 2.0 | 7          | -6  | 44.2         | 135.2 | -17.6                 | 3.7  | -.6 |
| 21ST              | 272.00 | 3.2  | 3.4 | 2145         | 2145 | 1.5            | 1.6 | 5          | -5  | 40.9         | 131.0 | -15.9                 | 3.2  | -.6 |
| 22ND              | 285.00 | 3.6  | 2.8 | 2475         | 2475 | 1.5            | 1.1 | 2          | -3  | 37.7         | 127.6 | -14.2                 | 2.7  | -.7 |
| 23RD              | 300.00 | 3.8  | 7.1 | 1853         | 1853 | 2.0            | 3.8 | -4         | 2   | 34.1         | 124.8 | -12.3                 | 2.1  | -.7 |
| 24TH              | 312.50 | 3.7  | 7.9 | 1812         | 1812 | 2.1            | 4.4 | -5         | 2   | 30.3         | 117.7 | -10.8                 | 1.7  | -.7 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
 WIND DIRECTION 80 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | 3.6 8.0      | 1812 1812    | 2.0 4.4        | -5 2       | 26.6 109.8   | -9.4 1.4 -.6          |
| 26TH  | 337.50 | 3.4 7.8      | 1812 1812    | 1.9 4.3        | -6 3       | 23.0 101.9   | -8.1 1.1 -.6          |
| 27TH  | 350.00 | 3.3 7.7      | 1812 1812    | 1.8 4.2        | -6 3       | 19.6 94.0    | -6.8 .8 -.5           |
| 28TH  | 362.50 | 3.1 8.1      | 1812 1812    | 1.7 4.5        | -6 2       | 16.4 86.4    | -5.7 .6 -.4           |
| 29TH  | 375.00 | 3.0 8.9      | 1812 1812    | 1.6 4.9        | -6 2       | 13.3 78.3    | -4.7 .4 -.4           |
| 30TH  | 387.50 | 2.8 9.7      | 1812 1812    | 1.6 5.4        | -5 1       | 10.3 69.4    | -3.8 .3 -.3           |
| MEZZ  | 400.00 | 2.8 10.9     | 1885 1885    | 1.5 5.8        | -4 1       | 7.5 59.7     | -3.0 .1 -.3           |
| ROOF  | 413.00 | 5.4 29.5     | 4512 4512    | 1.2 6.5        | -5 1       | 4.7 48.8     | -2.3 .1 -.2           |
| PNT   | 458.00 | -.7 19.3     | 3913 3925    | -.2 4.9        | -4 -0      | -.7 19.3     | -.7 -.0 -.1           |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |

TABLE 4. SHEAR AND MOMENT DIAGRAMS ; JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 90 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KJPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y      | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | 1.4 2.8      | 2812 2812    | .5 1.0   | 31 -16     | 160.2 207.9  | -65.7 39.9            | .9               |
| MEZZ  | 12.50  | .9 2.1       | 2363 2363    | .4 .9    | 28 -12     | 158.7 205.1  | -63.2 37.9            | .8               |
| 2ND   | 23.00  | 1.0 2.4      | 2925 2925    | .3 .8    | 28 -11     | 157.8 203.0  | -61.0 36.2            | .7               |
| 3RD   | 36.00  | 1.8 2.6      | 2925 2925    | .6 .9    | 29 -19     | 156.9 200.6  | -58.4 34.2            | .7               |
| 4TH   | 49.00  | 3.5 3.3      | 2575 2575    | 1.3 1.3  | 14 -15     | 155.1 197.9  | -55.8 32.1            | .5               |
| 5TH   | 64.00  | 3.2 2.8      | 2145 2145    | 1.5 1.3  | 10 -12     | 151.6 194.7  | -52.9 29.8            | .5               |
| 6TH   | 77.00  | 3.5 2.8      | 2145 2145    | 1.6 1.3  | 9 -11      | 148.4 191.8  | -50.3 27.9            | .4               |
| 7TH   | 90.00  | 3.8 2.7      | 2145 2145    | 1.8 1.3  | 8 -12      | 144.9 189.1  | -47.9 26.0            | .3               |
| 8TH   | 103.00 | 4.1 2.6      | 2145 2145    | 1.9 1.2  | 7 -11      | 141.1 186.4  | -45.4 24.1            | .3               |
| 9TH   | 116.00 | 4.4 2.5      | 2145 2145    | 2.0 1.2  | 7 -11      | 137.1 183.8  | -43.0 22.3            | .2               |
| 10TH  | 129.00 | 4.7 2.5      | 2145 2145    | 2.2 1.2  | 6 -11      | 132.7 181.2  | -40.7 20.6            | .1               |
| 11TH  | 142.00 | 4.9 2.7      | 2145 2145    | 2.3 1.2  | 6 -11      | 128.1 178.8  | -38.3 18.9            | .1               |
| 12TH  | 155.00 | 5.1 2.9      | 2145 2145    | 2.4 1.3  | 6 -10      | 123.2 176.1  | -36.0 17.2            | -.0              |
| 13TH  | 168.00 | 5.3 3.1      | 2145 2145    | 2.5 1.4  | 5 -9       | 118.1 173.2  | -33.7 15.7            | -.1              |
| 14TH  | 181.00 | 5.5 3.3      | 2145 2145    | 2.6 1.5  | 5 -9       | 112.9 170.1  | -31.5 14.2            | -.1              |
| 15TH  | 194.00 | 5.7 3.5      | 2145 2145    | 2.7 1.6  | 5 -8       | 107.4 166.9  | -29.3 12.7            | -.2              |
| 16TH  | 207.00 | 6.0 3.7      | 2145 2145    | 2.8 1.7  | 5 -7       | 101.7 163.4  | -27.2 11.4            | -.3              |
| 17TH  | 220.00 | 6.3 3.9      | 2145 2145    | 2.9 1.8  | 4 -7       | 95.7 159.7   | -25.1 10.1            | -.3              |
| 18TH  | 233.00 | 6.5 4.1      | 2145 2145    | 3.1 1.9  | 4 -6       | 89.4 155.8   | -23.0 8.9             | -.4              |
| 19TH  | 246.00 | 6.9 4.6      | 2145 2145    | 3.2 2.1  | 3 -5       | 82.9 151.6   | -21.0 7.8             | -.4              |
| 20TH  | 259.00 | 6.6 4.2      | 2145 2145    | 3.1 2.0  | 3 -4       | 76.0 147.0   | -19.1 6.7             | -.5              |
| 21ST  | 272.00 | 5.9 3.0      | 2145 2145    | 2.7 1.4  | 1 -3       | 69.4 142.8   | -17.2 5.8             | -.5              |
| 22ND  | 285.00 | 6.2 1.9      | 2475 2475    | 2.5 .8   | -0 1       | 63.5 139.8   | -15.4 4.9             | -.6              |
| 23RD  | 300.00 | 5.7 8.4      | 1853 1853    | 3.1 4.5  | -3 2       | 57.3 137.9   | -13.3 4.0             | -.5              |
| 24TH  | 312.50 | 5.7 9.3      | 1812 1812    | 3.1 5.1  | -3 2       | 51.7 129.5   | -11.6 3.3             | -.5              |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS ? |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA. |      |              |      |                |     |            |   |              |       | GUST FACTOR 1.32            |     |     |
|--------------------------------------|--------|---|------|--------------|------|----------------|-----|------------|---|--------------|-------|-----------------------------|-----|-----|
| WIND DIRECTION 90                    |        | CONFIGURATION A                           |      |              |      |                |     |            |   |              |       | REFERENCE PRESSURE 25.0 PSF |     |     |
| FLOOR                                | HEIGHT | FORCE (KIPS)                              |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |   | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS)       |     |     |
|                                      |        | X   | Y    | X            | Y    | X              | Y   | X          | Y | X            | Y     | X                           | Y   | Z   |
| 25TH                                 | 325.00 | 5.5                                       | 9.3  | 1812         | 1812 | 3.0            | 5.1 | -4         | 2 | 46.0         | 120.2 | -10.0                       | 2.7 | -.5 |
| 26TH                                 | 337.50 | 5.3                                       | 9.0  | 1812         | 1812 | 2.9            | 5.0 | -4         | 2 | 40.5         | 110.9 | -8.6                        | 2.2 | -.4 |
| 27TH                                 | 350.00 | 5.2                                       | 8.7  | 1812         | 1812 | 2.8            | 4.8 | -5         | 3 | 35.1         | 101.8 | -7.3                        | 1.7 | -.4 |
| 28TH                                 | 362.50 | 5.0                                       | 9.1  | 1812         | 1812 | 2.8            | 5.0 | -4         | 2 | 30.0         | 93.1  | -6.0                        | 1.3 | -.3 |
| 29TH                                 | 375.00 | 4.9                                       | 9.9  | 1812         | 1812 | 2.7            | 5.5 | -3         | 1 | 25.0         | 84.0  | -4.9                        | 1.0 | -.3 |
| 30TH                                 | 387.50 | 4.7                                       | 10.7 | 1812         | 1812 | 2.6            | 5.9 | -2         | 1 | 20.1         | 74.1  | -4.0                        | .7  | -.2 |
| MEZZ                                 | 400.00 | 4.8                                       | 11.9 | 1885         | 1885 | 2.5            | 6.3 | -1         | 0 | 15.4         | 63.4  | -3.1                        | .5  | -.2 |
| ROOF                                 | 413.00 | 9.5                                       | 31.7 | 4512         | 4512 | 2.1            | 7.0 | -4         | 1 | 10.6         | 51.5  | -2.3                        | .3  | -.2 |
| PNT                                  | 458.00 | 1.1                                       | 19.8 | 3913         | 3925 | .3             | 5.0 | -4         | 0 | 1.1          | 19.8  | -.7                         | .0  | -.1 |
| TOP                                  | 533.00 |   |      |              |      |                |     |            |   | 0.0          | 0.0   | 0.0                         | 0.0 | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 100 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE X (KIPS) | AREA X (SQ FT) | PRESSURE X (PSF) | ECCEN X (FT) | SHEAR X (KIPS) | MOMENT X (1000-FT-KIPS) |
|-------|--------|----------------|----------------|------------------|--------------|----------------|-------------------------|
|       |        | Y              | Y              | Y                | Y            | Y              | Z                       |
| 1ST   | 0.00   | 1.5            | 3.4            | 2812             | .5           | 173.2          | -52.2                   |
| MEZZ  | 12.50  | 1.2            | 2.8            | 2343             | .5           | 171.8          | 43.1                    |
| 2ND   | 23.00  | 1.3            | 3.5            | 2925             | .4           | 170.6          | .1                      |
| 3RD   | 36.00  | 1.3            | 4.1            | 2925             | .4           | 169.3          | .1                      |
| 4TH   | 49.00  | 3.5            | 5.1            | 2575             | 1.3          | 168.0          | .2                      |
| 5TH   | 64.00  | 3.7            | 4.6            | 2145             | 1.7          | 164.5          | .2                      |
| 6TH   | 77.00  | 4.2            | 4.8            | 2145             | 2.0          | 160.9          | .3                      |
| 7TH   | 90.00  | 4.7            | 4.8            | 2145             | 2.2          | 156.7          | .3                      |
| 8TH   | 103.00 | 5.2            | 4.9            | 2145             | 2.2          | 151.9          | .4                      |
| 9TH   | 116.00 | 5.7            | 4.9            | 2145             | 2.4          | 146.7          | .4                      |
| 10TH  | 129.00 | 6.2            | 4.9            | 2145             | 2.6          | 141.1          | .4                      |
| 11TH  | 142.00 | 6.2            | 4.9            | 2145             | 2.9          | 134.9          | .4                      |
| 12TH  | 155.00 | 6.3            | 4.9            | 2145             | 2.9          | 128.6          | .3                      |
| 13TH  | 168.00 | 6.3            | 4.9            | 2145             | 2.9          | 122.3          | .3                      |
| 14TH  | 181.00 | 6.4            | 4.9            | 2145             | 3.0          | 116.0          | .3                      |
| 15TH  | 194.00 | 6.4            | 4.9            | 2145             | 3.0          | 109.6          | .3                      |
| 16TH  | 207.00 | 6.3            | 5.0            | 2145             | 3.0          | 103.2          | .2                      |
| 17TH  | 220.00 | 6.3            | 5.0            | 2145             | 3.0          | 96.9           | .2                      |
| 18TH  | 233.00 | 6.2            | 5.0            | 2145             | 2.9          | 90.6           | .1                      |
| 19TH  | 246.00 | 6.2            | 5.2            | 2145             | 2.9          | 84.3           | .1                      |
| 20TH  | 259.00 | 5.7            | 5.0            | 2145             | 2.7          | 78.2           | .0                      |
| 21ST  | 272.00 | 5.2            | 4.2            | 2145             | 2.4          | 72.4           | .0                      |
| 22ND  | 285.00 | 5.4            | 3.9            | 2475             | 2.2          | 67.3           | .0                      |
| 23RD  | 300.00 | 5.2            | 6.0            | 1853             | 2.8          | 61.9           | .0                      |
| 24TH  | 312.50 | 5.3            | 6.4            | 1812             | 2.9          | 56.7           | .0                      |

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| WIND DIRECTION 100 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |     |            |    | GUST FACTOR 1.32 |      |                       |     |     |
|--------------------|--------|--|------|--------------|------|----------------|-----|------------|----|------------------|------|-----------------------|-----|-----|
| FLOOR              | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS)     |      | MOMENT (1000-FT-KIPS) |     |     |
|                    |        | X  | Y    | X            | Y    | X              | Y   | X          | Y  | X                | Y    | X                     | Y   | Z   |
| 25TH               | 325.00 | 5.2                                      | 6.4  | 1812         | 1812 | 2.8            | 3.5 | 0          | -0 | 51.4             | 78.7 | -6.5                  | 3.7 | -.0 |
| 26TH               | 337.50 | 4.9                                      | 6.3  | 1812         | 1812 | 2.7            | 3.5 | 0          | -0 | 46.2             | 72.3 | -5.6                  | 3.1 | -.0 |
| 27TH               | 350.00 | 4.7                                      | 6.2  | 1812         | 1812 | 2.6            | 3.4 | -0         | 0  | 41.3             | 66.1 | -4.7                  | 2.6 | -.0 |
| 28TH               | 362.50 | 4.6                                      | 6.3  | 1812         | 1812 | 2.5            | 3.5 | -0         | 0  | 36.5             | 59.9 | -3.9                  | 2.1 | -.0 |
| 29TH               | 375.00 | 4.6                                      | 6.6  | 1812         | 1812 | 2.5            | 3.6 | 0          | -0 | 31.9             | 53.6 | -3.2                  | 1.7 | -.0 |
| 30TH               | 387.50 | 4.5                                      | 6.9  | 1812         | 1812 | 2.5            | 3.8 | 0          | -0 | 27.3             | 47.0 | -2.6                  | 1.3 | -.0 |
| MEZZ               | 400.00 | 4.6                                      | 7.5  | 1885         | 1885 | 2.4            | 4.0 | 1          | -0 | 22.8             | 40.1 | -2.0                  | 1.0 | -.0 |
| ROOF               | 413.00 | 13.3                                     | 18.6 | 4512         | 4512 | 3.0            | 4.1 | -0         | 0  | 18.2             | 32.5 | -1.6                  | .7  | -.1 |
| PNT                | 458.00 | 4.9                                      | 14.0 | 3913         | 3925 | 1.3            | 3.6 | -3         | 1  | 4.9              | 14.0 | -.5                   | .2  | -.0 |
| TOP                | 533.00 |  |      |              |      |                |     |            |    | 0.0              | 0.0  | 0.0                   | 0.0 | 0.0 |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 110 |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A REFERENCE PRESSURE 23.0 PSF |      |                |     |            |    |              |       |                       |      | GUST FACTOR 1.32 |  |  |
|--|--------|--------------|---|------|----------------|-----|------------|----|--------------|-------|-----------------------|------|------------------|--|--|
| FLOOR  | HEIGHT | FORCE (KIPS) | AREA (SQ FT)  |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |      |                  |  |  |
|  |        | X Y          | X   | Y    | X              | Y   | X          | Y  | X            | Y     | X                     | Y    | Z                |  |  |
| 1ST  | 0.00   | 3.3 5.9      | 2812  | 2812 | 1.2            | 2.1 | -9         | 5  | 278.4        | 231.7 | -57.1                 | 68.1 | 1.4              |  |  |
| MEZZ   | 12.50  | 3.1 5.0      | 2363  | 2363 | 1.3            | 2.1 | -3         | 2  | 275.1        | 225.8 | -54.2                 | 64.6 | 1.4              |  |  |
| 2ND  | 23.00  | 3.7 6.5      | 2925  | 2925 | 1.3            | 2.2 | -1         | 1  | 271.9        | 220.8 | -51.9                 | 61.8 | 1.4              |  |  |
| 3RD  | 36.00  | 3.0 7.3      | 2925  | 2925 | 1.0            | 2.5 | -5         | 2  | 268.2        | 214.3 | -49.1                 | 58.2 | 1.4              |  |  |
| 4TH  | 49.00  | 6.9 8.6      | 2575  | 2575 | 2.7            | 3.4 | -4         | 3  | 258.3        | 198.4 | -43.3                 | 50.8 | 1.5              |  |  |
| 5TH  | 64.00  | 6.7 7.2      | 2145  | 2145 | 3.1            | 3.3 | -2         | 2  | 251.5        | 191.2 | -40.8                 | 47.5 | 1.6              |  |  |
| 6TH  | 77.00  | 7.3 6.8      | 2145  | 2145 | 3.4            | 3.2 | -1         | 1  | 244.2        | 184.5 | -38.3                 | 44.3 | 1.6              |  |  |
| 7TH  | 90.00  | 7.9 6.5      | 2145  | 2145 | 3.7            | 3.0 | 1          | -1 | 236.3        | 178.0 | -36.0                 | 41.2 | 1.6              |  |  |
| 8TH  | 103.00 | 8.5 6.2      | 2145  | 2145 | 4.0            | 2.9 | 2          | -2 | 227.7        | 171.8 | -33.7                 | 38.2 | 1.5              |  |  |
| 9TH  | 116.00 | 9.1 5.9      | 2145  | 2145 | 4.3            | 2.8 | 3          | -4 | 218.6        | 165.8 | -31.5                 | 35.3 | 1.5              |  |  |
| 10TH   | 129.00 | 9.7 5.6      | 2145  | 2145 | 4.5            | 2.6 | 3          | -6 | 208.8        | 160.2 | -29.4                 | 32.5 | 1.4              |  |  |
| 11TH   | 142.00 | 9.7 5.5      | 2145  | 2145 | 4.5            | 2.6 | 4          | -6 | 199.1        | 154.7 | -27.3                 | 29.8 | 1.3              |  |  |
| 12TH   | 155.00 | 9.7 5.3      | 2145  | 2145 | 4.5            | 2.5 | 4          | -7 | 189.4        | 149.4 | -25.4                 | 27.3 | 1.2              |  |  |
| 13TH   | 168.00 | 9.6 5.2      | 2145  | 2145 | 4.5            | 2.4 | 4          | -8 | 179.8        | 144.2 | -23.4                 | 24.9 | 1.2              |  |  |
| 14TH   | 181.00 | 9.6 5.1      | 2145  | 2145 | 4.5            | 2.4 | 4          | -8 | 170.2        | 139.1 | -21.6                 | 22.6 | 1.1              |  |  |
| 15TH   | 194.00 | 9.5 5.0      | 2145  | 2145 | 4.4            | 2.3 | 4          | -9 | 160.7        | 134.1 | -19.8                 | 20.5 | .9               |  |  |
| 16TH   | 207.00 | 9.5 5.2      | 2145  | 2145 | 4.4            | 2.4 | 5          | -8 | 151.1        | 128.9 | -18.1                 | 18.5 | .8               |  |  |
| 17TH   | 220.00 | 9.5 5.4      | 2145  | 2145 | 4.4            | 2.5 | 5          | -8 | 141.6        | 123.5 | -16.5                 | 16.6 | .7               |  |  |
| 18TH   | 233.00 | 9.5 5.6      | 2145  | 2145 | 4.4            | 2.6 | 5          | -8 | 132.2        | 118.0 | -14.9                 | 14.8 | .6               |  |  |
| 19TH   | 246.00 | 9.2 5.8      | 2145  | 2145 | 4.3            | 2.7 | 5          | -8 | 122.9        | 112.2 | -13.4                 | 13.1 | .5               |  |  |
| 20TH   | 259.00 | 8.7 5.6      | 2145  | 2145 | 4.1            | 2.6 | 5          | -8 | 114.2        | 106.6 | -12.0                 | 11.6 | .4               |  |  |
| 21ST   | 272.00 | 8.2 5.1      | 2145  | 2145 | 3.8            | 2.4 | 4          | -6 | 106.0        | 101.6 | -10.6                 | 10.2 | .4               |  |  |
| 22ND   | 285.00 | 9.0 5.3      | 2475  | 2475 | 3.6            | 2.1 | 3          | -5 | 97.0         | 96.2  | -9.1                  | 8.6  | .3               |  |  |
| 23RD   | 300.00 | 7.5 6.3      | 1853  | 1853 | 4.0            | 3.4 | 3          | -3 | 89.5         | 89.9  | -8.0                  | 7.5  | .3               |  |  |
| 24TH   | 312.50 | 7.6 6.6      | 1812  | 1812 | 4.2            | 3.7 | 2          | -3 |              |       |                       |      |                  |  |  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 110 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 25TH  | 325.00 | 7.5 6.7      | 1812 1812    | 4.1 3.7        | 2 -3       | 81.9 83.3    | -6.9 6.4 .2           |                  |
| 26TH  | 337.50 | 7.4 6.7      | 1812 1812    | 4.1 3.7        | 2 -2       | 74.4 76.6    | -5.9 5.4 .2           |                  |
| 27TH  | 350.00 | 7.2 6.7      | 1812 1812    | 4.0 3.7        | 2 -2       | 67.0 69.9    | -5.0 4.5 .2           |                  |
| 28TH  | 362.50 | 7.1 6.8      | 1812 1812    | 3.9 3.8        | 2 -2       | 59.8 63.2    | -4.2 3.7 .1           |                  |
| 29TH  | 375.00 | 7.0 7.1      | 1812 1812    | 3.9 3.9        | 2 -2       | 52.7 56.4    | -3.4 3.0 .1           |                  |
| 30TH  | 387.50 | 6.9 7.3      | 1812 1812    | 3.8 4.0        | 2 -2       | 45.7 49.3    | -2.7 2.4 .1           |                  |
| MEZZ  | 400.00 |              |              |                |            | 38.8 42.0    | -2.2 1.9 .0           |                  |
| ROOF  | 413.00 | 7.1 7.8      | 1885 1885    | 3.8 4.2        | 2 -1       | 31.7 34.2    | -1.7 1.4 .0           |                  |
| PNT   | 458.00 | 19.6 19.0    | 4512 4512    | 4.1 4.2        | 1 -1       | 12.1 15.2    | -.6 .5 -.0            |                  |
| TOP   | 533.00 | 12.1 15.2    | 3913 3925    | 3.1 3.9        | -1 1       | 0.0 0.0      | 0.0 0.0 0.0           |                  |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 120 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | 6.4 8.8      | 2812 2812    | 2.3 3.1        | -11 8      | 581.7 389.0  | -89.0 152.5           | 3.5              |
| MEZZ  | 12.50  | 6.8 7.7      | 2363 2363    | 2.9 3.2        | -1 0       | 575.3 380.2  | -84.2 145.2           | 3.6              |
| 2ND   | 23.00  | 8.4 10.5     | 2925 2925    | 2.9 3.6        | 3 -2       | 568.5 372.5  | -80.3 139.2           | 3.6              |
| 3RD   | 36.00  | 6.5 12.7     | 2925 2925    | 2.2 4.4        | -3 1       | 560.0 362.0  | -75.5 131.9           | 3.6              |
| 4TH   | 49.00  | 13.0 14.8    | 2575 2575    | 5.0 5.7        | -5 4       | 553.5 349.3  | -70.9 124.7           | 3.6              |
| 5TH   | 64.00  | 11.7 12.7    | 2145 2145    | 5.5 5.9        | -4 4       | 540.5 334.5  | -65.7 116.5           | 3.8              |
| 6TH   | 77.00  | 12.3 12.5    | 2145 2145    | 5.7 5.8        | -3 3       | 528.8 321.8  | -61.5 109.5           | 3.8              |
| 7TH   | 90.00  | 13.0 12.0    | 2145 2145    | 6.1 5.6        | -1 1       | 516.4 309.4  | -57.4 102.7           | 3.9              |
| 8TH   | 103.00 | 13.7 11.6    | 2145 2145    | 6.4 5.4        | 0 -0       | 503.4 297.3  | -53.4 96.1            | 3.9              |
| 9TH   | 116.00 | 14.4 11.2    | 2145 2145    | 6.7 5.2        | 1 -2       | 475.3 274.6  | -46.0 83.3            | 3.9              |
| 10TH  | 129.00 | 15.1 10.7    | 2145 2145    | 7.0 5.0        | 2 -3       | 460.2 263.9  | -42.5 77.3            | 3.8              |
| 11TH  | 142.00 | 15.5 10.5    | 2145 2145    | 7.2 4.9        | 3 -4       | 444.8 253.4  | -39.1 71.4            | 3.7              |
| 12TH  | 155.00 | 15.9 10.2    | 2145 2145    | 7.4 4.8        | 3 -5       | 428.9 243.2  | -35.9 65.7            | 3.6              |
| 13TH  | 168.00 | 16.2 10.0    | 2145 2145    | 7.6 4.6        | 4 -6       | 412.6 233.3  | -32.8 60.2            | 3.5              |
| 14TH  | 181.00 | 16.6 9.7     | 2145 2145    | 7.8 4.5        | 4 -7       | 396.0 223.5  | -29.8 55.0            | 3.3              |
| 15TH  | 194.00 | 17.1 9.8     | 2145 2145    | 8.0 4.5        | 4 -8       | 378.9 213.8  | -27.0 49.9            | 3.1              |
| 16TH  | 207.00 | 17.8 10.5    | 2145 2145    | 8.3 4.9        | 5 -8       | 361.2 203.3  | -24.3 45.1            | 3.0              |
| 17TH  | 220.00 | 18.4 11.2    | 2145 2145    | 8.6 5.2        | 5 -8       | 342.7 192.1  | -21.7 40.6            | 2.7              |
| 18TH  | 233.00 | 19.1 11.9    | 2145 2145    | 8.9 5.5        | 5 -8       | 323.6 180.2  | -19.3 36.2            | 2.5              |
| 19TH  | 246.00 | 19.8 12.0    | 2145 2145    | 9.3 5.6        | 5 -9       | 303.8 168.3  | -17.0 32.1            | 2.3              |
| 20TH  | 259.00 | 19.9 11.8    | 2145 2145    | 9.3 5.5        | 5 -8       | 283.8 156.5  | -14.9 28.3            | 2.1              |
| 21ST  | 272.00 | 19.5 11.8    | 2145 2145    | 9.1 5.5        | 5 -8       | 264.4 144.6  | -13.0 24.8            | 1.9              |
| 22ND  | 285.00 | 21.8 13.5    | 2475 2475    | 8.8 5.4        | 5 -8       | 242.6 131.2  | -10.9 21.0            | 1.6              |
| 23RD  | 300.00 | 18.6 10.0    | 1853 1853    | 10.0 5.4       | 4 -8       | 224.0 121.2  | -9.3 18.0             | 1.4              |
| 24TH  | 312.50 | 19.2 10.4    | 1812 1812    | 10.6 5.7       | 4 -7       |              |                       |                  |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 120 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A |      |              |      |                |     |            |    |              |       | GUST FACTOR 1.32      |      |     |
|--|--------|---|------|--------------|------|----------------|-----|------------|----|--------------|-------|-----------------------|------|-----|
| FLOOR  | HEIGHT | FORCE (KIPS)  |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |      |     |
|  |        | X   | Y    | X            | Y    | X              | Y   | X          | Y  | X            | Y     | X                     | Y    | Z   |
| 25TH   | 325.00 | 19.4  | 10.5 | 1812         | 1812 | 10.7           | 5.8 | 4          | -7 | 204.8        | 110.8 | -7.9                  | 15.4 | 1.2 |
| 26TH   | 337.50 | 19.2  | 10.6 | 1812         | 1812 | 10.6           | 5.8 | 4          | -7 | 185.4        | 100.3 | -6.5                  | 12.9 | 1.0 |
| 27TH   | 350.00 | 19.0  | 10.6 | 1812         | 1812 | 10.5           | 5.9 | 4          | -7 | 166.2        | 89.7  | -5.4                  | 10.7 | .9  |
| 28TH   | 362.50 | 18.8  | 10.7 | 1812         | 1812 | 10.4           | 5.9 | 4          | -7 | 147.2        | 79.1  | -4.3                  | 8.8  | .7  |
| 29TH   | 375.00 | 18.5  | 11.0 | 1812         | 1812 | 10.2           | 6.0 | 3          | -5 | 128.4        | 68.4  | -3.4                  | 7.1  | .5  |
| 30TH   | 387.50 | 18.1  | 11.2 | 1812         | 1812 | 10.0           | 6.2 | 2          | -3 | 110.0        | 57.4  | -2.6                  | 5.6  | .4  |
| MEZZ   | 400.00 | 18.6  | 12.1 | 1885         | 1885 | 9.8            | 6.4 | 1          | -2 | 91.8         | 46.2  | -1.9                  | 4.3  | .3  |
| ROOF   | 413.00 | 47.0  | 23.2 | 4512         | 4512 | 10.4           | 5.1 | 2          | -4 | 73.3         | 34.1  | -1.4                  | 3.2  | .3  |
| PNT  | 458.00 | 26.3  | 10.9 | 3913         | 3925 | 6.7            | 2.8 | 0          | -1 | 26.3         | 10.9  | -.4                   | 1.0  | .0  |
| TOP  | 533.00 |   |      |              |      |                |     |            |    | 0.0          | 0.0   | 0.0                   | 0.0  | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 130° CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | GUST FACTOR 1.32      |       |     |
|-------|--------|--------------|------|--------------|------|----------------|-----|------------|----|--------------|-------|-----------------------|-------|-----|
|       |        | X            | Y    | X            | Y    | X              | Y   | X          | Y  | X            | Y     | MOMENT (1000-FT-KIPS) | X     | Y   |
| 1ST   | 0.00   | 8.1          | 7.3  | 2812         | 2812 | 2.9            | 2.6 | -6         | 6  | 568.9        | 363.3 | -81.4                 | 151.2 | 2.2 |
| MEZZ  | 12.50  | 7.5          | 6.5  | 2363         | 2363 | 3.2            | 2.7 | -1         | 2  | 560.7        | 356.0 | -76.9                 | 144.1 | 2.3 |
| 2ND   | 23.00  | 8.6          | 8.9  | 2925         | 2925 | 2.9            | 3.0 | -0         | 0  | 553.3        | 349.5 | -73.2                 | 138.3 | 2.3 |
| 3RD   | 36.00  | 6.2          | 10.4 | 2925         | 2925 | 2.1            | 3.6 | -8         | 5  | 544.7        | 340.6 | -68.7                 | 131.1 | 2.3 |
| 4TH   | 49.00  | 12.6         | 13.2 | 2575         | 2575 | 4.9            | 5.1 | -8         | 8  | 538.5        | 330.2 | -64.4                 | 124.1 | 2.4 |
| 5TH   | 64.00  | 11.7         | 11.5 | 2145         | 2145 | 5.5            | 5.3 | -9         | 10 | 525.9        | 317.0 | -59.5                 | 116.1 | 2.6 |
| 6TH   | 77.00  | 12.4         | 11.3 | 2145         | 2145 | 5.8            | 5.3 | -9         | 9  | 514.2        | 305.5 | -55.5                 | 109.3 | 2.8 |
| 7TH   | 90.00  | 12.8         | 11.2 | 2145         | 2145 | 6.0            | 5.2 | -7         | 8  | 501.8        | 294.2 | -51.6                 | 102.7 | 3.0 |
| 8TH   | 103.00 | 13.2         | 11.1 | 2145         | 2145 | 6.2            | 5.2 | -5         | 6  | 489.0        | 283.0 | -47.8                 | 96.3  | 3.2 |
| 9TH   | 116.00 | 13.6         | 11.1 | 2145         | 2145 | 6.4            | 5.2 | -3         | 4  | 475.7        | 271.8 | -44.2                 | 90.0  | 3.3 |
| 10TH  | 129.00 | 13.6         | 11.1 | 2145         | 2145 | 6.5            | 5.1 | -2         | 3  | 462.1        | 260.8 | -40.8                 | 83.9  | 3.4 |
| 11TH  | 142.00 | 14.0         | 11.0 | 2145         | 2145 | 6.6            | 5.1 | -1         | 1  | 448.0        | 249.8 | -37.4                 | 78.0  | 3.5 |
| 12TH  | 155.00 | 14.2         | 10.9 | 2145         | 2145 | 6.6            | 5.1 | 0          | -1 | 433.9        | 238.9 | -34.3                 | 72.3  | 3.5 |
| 13TH  | 168.00 | 14.3         | 10.8 | 2145         | 2145 | 6.6            | 5.0 | 2          | -2 | 419.6        | 228.1 | -31.2                 | 66.7  | 3.5 |
| 14TH  | 181.00 | 14.3         | 10.7 | 2145         | 2145 | 6.7            | 5.0 | 3          | -4 | 405.3        | 217.4 | -28.3                 | 61.4  | 3.5 |
| 15TH  | 194.00 | 14.4         | 10.6 | 2145         | 2145 | 6.7            | 4.9 | 4          | -5 | 390.9        | 206.8 | -25.6                 | 56.2  | 3.4 |
| 16TH  | 207.00 | 14.8         | 10.7 | 2145         | 2145 | 6.9            | 5.0 | 4          | -6 | 376.1        | 196.1 | -23.0                 | 51.2  | 3.2 |
| 17TH  | 220.00 | 15.7         | 11.2 | 2145         | 2145 | 7.3            | 5.2 | 5          | -6 | 360.3        | 185.0 | -20.5                 | 46.4  | 3.1 |
| 18TH  | 233.00 | 16.7         | 11.7 | 2145         | 2145 | 7.8            | 5.4 | 5          | -7 | 343.6        | 173.3 | -18.1                 | 41.8  | 2.9 |
| 19TH  | 246.00 | 17.7         | 12.2 | 2145         | 2145 | 8.2            | 5.7 | 5          | -8 | 325.9        | 161.1 | -16.0                 | 37.5  | 2.8 |
| 20TH  | 259.00 | 18.5         | 12.1 | 2145         | 2145 | 8.4            | 5.7 | 5          | -8 | 307.4        | 148.9 | -14.0                 | 33.4  | 2.6 |
| 21ST  | 272.00 | 18.6         | 11.6 | 2145         | 2145 | 8.6            | 5.4 | 5          | -8 | 288.8        | 137.3 | -12.1                 | 29.5  | 2.4 |
| 22ND  | 285.00 | 18.1         | 11.2 | 2145         | 2145 | 8.4            | 5.2 | 5          | -8 | 270.8        | 126.1 | -10.4                 | 25.9  | 2.2 |
| 23RD  | 300.00 | 20.3         | 12.6 | 2475         | 2475 | 8.2            | 5.1 | 6          | -9 | 250.4        | 113.4 | -8.6                  | 22.0  | 1.9 |
| 24TH  | 312.50 | 18.7         | 9.4  | 1853         | 1853 | 10.1           | 5.1 | 4          | -8 | 231.7        | 104.0 | -7.2                  | 18.9  | 1.7 |
|       |        | 19.3         | 9.7  | 1812         | 1812 | 10.7           | 5.4 | 4          | -8 |              |       |                       |       |     |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 130 CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | 19.6 9.9     | 1812 1812    | 10.8 5.5       | 4 -8       | 212.4 94.3   | -6.0 16.2 1.5         |
| 26TH  | 337.50 | 19.3 9.8     | 1812 1812    | 10.7 5.4       | 4 -9       | 192.8 84.4   | -4.9 13.6 1.3         |
| 27TH  | 350.00 | 19.1 9.8     | 1812 1812    | 10.5 5.4       | 5 -9       | 173.5 74.6   | -3.9 11.3 1.1         |
| 28TH  | 362.50 | 18.9 9.9     | 1812 1812    | 10.4 5.4       | 4 -8       | 154.4 64.8   | -3.0 9.3 .9           |
| 29TH  | 375.00 | 18.8 10.1    | 1812 1812    | 10.4 5.6       | 3 -6       | 135.5 54.9   | -2.3 7.5 .7           |
| 30TH  | 387.50 | 18.8 10.4    | 1812 1812    | 10.4 5.7       | 2 -4       | 116.7 44.8   | -1.6 5.9 .5           |
| MEZZ  | 400.00 | 19.5 11.2    | 1885 1885    | 10.4 6.0       | 1 -2       | 97.9 34.5    | -1.1 4.6 .4           |
| ROOF  | 413.00 | 50.7 19.2    | 4512 4512    | 11.2 4.2       | 2 -5       | 78.4 23.2    | -.8 3.4 .3            |
| PNT   | 458.00 | 27.6 4.0     | 3913 3925    | 7.1 1.0        | 0 -2       | 27.6 4.0     | -.2 1.0 .1            |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |     |              |      |                |     |            |    |              |       | GUST FACTOR 1.32            |       |     |
|--------------------------------------|--------|--|-----|--------------|------|----------------|-----|------------|----|--------------|-------|-----------------------------|-------|-----|
|                                      |        | CONFIGURATION A                          |     |              |      |                |     |            |    |              |       | REFERENCE PRESSURE 23.0 PSF |       |     |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             |     | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS)       |       |     |
|                                      |        | X  | Y   | X            | Y    | X              | Y   | X          | Y  | X            | Y     | X                           | Y     | Z   |
| 1ST                                  | 0.00   | 7.9                                      | 4.9 | 2812         | 2812 | 2.8            | 1.8 | -10        | 16 | 519.1        | 206.7 | -38.3                       | 140.0 | .5  |
| MEZZ                                 | 12.50  | 6.1                                      | 4.6 | 2363         | 2363 | 2.6            | 2.0 | -11        | 14 | 511.2        | 201.7 | -35.7                       | 133.5 | .7  |
| 2ND                                  | 23.00  | 6.9                                      | 6.7 | 2925         | 2925 | 2.4            | 2.3 | -14        | 15 | 505.1        | 197.1 | -33.6                       | 128.2 | .8  |
| 3RD                                  | 36.00  | 7.5                                      | 7.6 | 2925         | 2925 | 2.6            | 2.6 | -14        | 14 | 498.2        | 190.4 | -31.1                       | 121.7 | 1.0 |
| 4TH                                  | 49.00  | 10.9                                     | 9.5 | 2575         | 2575 | 4.2            | 3.7 | -14        | 16 | 479.8        | 173.3 | -26.0                       | 108.0 | 1.5 |
| 5TH                                  | 64.00  | 9.7                                      | 8.2 | 2145         | 2145 | 4.5            | 3.8 | -14        | 17 | 470.1        | 165.1 | -23.8                       | 101.8 | 1.8 |
| 6TH                                  | 77.00  | 10.1                                     | 8.1 | 2145         | 2145 | 4.7            | 3.8 | -13        | 16 | 460.0        | 157.0 | -21.7                       | 95.8  | 2.1 |
| 7TH                                  | 90.00  | 10.5                                     | 8.2 | 2145         | 2145 | 4.9            | 3.8 | -10        | 13 | 449.5        | 148.8 | -19.7                       | 89.8  | 2.3 |
| 8TH                                  | 103.00 | 10.9                                     | 8.2 | 2145         | 2145 | 5.1            | 3.8 | -8         | 10 | 438.6        | 140.6 | -17.8                       | 84.1  | 2.5 |
| 9TH                                  | 116.00 | 11.3                                     | 8.2 | 2145         | 2145 | 5.3            | 3.8 | -6         | 8  | 427.3        | 132.4 | -16.1                       | 78.4  | 2.6 |
| 10TH                                 | 129.00 | 11.7                                     | 8.3 | 2145         | 2145 | 5.5            | 3.9 | -4         | 5  | 415.6        | 124.1 | -14.4                       | 73.0  | 2.7 |
| 11TH                                 | 142.00 | 12.2                                     | 8.1 | 2145         | 2145 | 5.7            | 3.8 | -2         | 3  | 403.4        | 115.9 | -12.8                       | 67.6  | 2.7 |
| 12TH                                 | 155.00 | 12.7                                     | 8.0 | 2145         | 2145 | 5.9            | 3.7 | -1         | 1  | 390.7        | 108.0 | -11.4                       | 62.5  | 2.8 |
| 13TH                                 | 168.00 | 13.2                                     | 7.8 | 2145         | 2145 | 6.2            | 3.6 | 1          | -1 | 377.5        | 100.2 | -10.0                       | 57.5  | 2.8 |
| 14TH                                 | 181.00 | 13.7                                     | 7.7 | 2145         | 2145 | 6.4            | 3.6 | 2          | -3 | 363.8        | 92.5  | -8.8                        | 52.7  | 2.7 |
| 15TH                                 | 194.00 | 14.2                                     | 7.5 | 2145         | 2145 | 6.6            | 3.5 | 2          | -5 | 349.6        | 85.0  | -7.6                        | 48.0  | 2.6 |
| 16TH                                 | 207.00 | 14.9                                     | 7.5 | 2145         | 2145 | 7.0            | 3.5 | 3          | -6 | 334.6        | 77.4  | -6.6                        | 43.6  | 2.5 |
| 17TH                                 | 220.00 | 15.6                                     | 7.5 | 2145         | 2145 | 7.3            | 3.5 | 3          | -6 | 319.0        | 69.9  | -5.6                        | 39.3  | 2.4 |
| 18TH                                 | 233.00 | 16.3                                     | 7.6 | 2145         | 2145 | 7.6            | 3.5 | 3          | -7 | 302.8        | 62.3  | -4.8                        | 35.3  | 2.2 |
| 19TH                                 | 246.00 | 17.1                                     | 7.2 | 2145         | 2145 | 8.0            | 3.4 | 3          | -8 | 285.7        | 55.1  | -4.0                        | 31.5  | 2.1 |
| 20TH                                 | 259.00 | 17.0                                     | 6.4 | 2145         | 2145 | 7.9            | 3.0 | 3          | -8 | 268.7        | 48.7  | -3.3                        | 27.9  | 1.9 |
| 21ST                                 | 272.00 | 15.8                                     | 5.6 | 2145         | 2145 | 7.4            | 2.6 | 3          | -9 | 252.9        | 43.1  | -2.7                        | 24.5  | 1.8 |
| 22ND                                 | 285.00 | 16.6                                     | 5.8 | 2475         | 2475 | 6.7            | 2.4 | 3          | -9 | 236.3        | 37.3  | -2.1                        | 20.8  | 1.6 |
| 23RD                                 | 300.00 | 17.2                                     | 4.4 | 1853         | 1853 | 9.3            | 2.4 | 2          | -7 | 219.1        | 32.9  | -1.7                        | 18.0  | 1.5 |
| 24TH                                 | 312.50 | 18.0                                     | 4.4 | 1812         | 1812 | 9.9            | 2.5 | 2          | -7 |              |       |                             |       |     |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS ; |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |              |                |            |              |                       |                  |  |  |  |
|--------------------------------------|--------|--|--------------|----------------|------------|--------------|-----------------------|------------------|--|--|--|
| WIND DIRECTION 140                   |        | CONFIGURATION A                          |              |                |            |              |                       |                  |  |  |  |
|                                      |        | REFERENCE PRESSURE 23.0 PSF              |              |                |            |              |                       |                  |  |  |  |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |  |  |  |
|                                      |        | X Y                                      | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |  |  |  |
| 25TH                                 | 325.00 | 18.1 4.4                                 | 1812 1812    | 10.0 2.4       | 2 -8       | 201.1 28.5   | -1.3 15.3             | 1.3              |  |  |  |
| 26TH                                 | 337.50 | 18.0 4.0                                 | 1812 1812    | 9.9 2.2        | 2 -9       | 183.0 24.1   | -1.0 12.9             | 1.2              |  |  |  |
| 27TH                                 | 350.00 | 17.9 3.6                                 | 1812 1812    | 9.9 2.0        | 2 -10      | 165.0 20.1   | -.7 10.8              | 1.0              |  |  |  |
| 28TH                                 | 362.50 | 18.0 3.4                                 | 1812 1812    | 9.9 1.9        | 2 -9       | 147.1 16.5   | -.5 8.8               | .9               |  |  |  |
| 29TH                                 | 375.00 | 18.2 3.4                                 | 1812 1812    | 10.0 1.9       | 1 -8       | 129.1 13.1   | -.3 7.1               | .7               |  |  |  |
| 30TH                                 | 387.50 | 18.4 3.3                                 | 1812 1812    | 10.1 1.8       | 1 -7       | 110.9 9.7    | -.1 5.6               | .5               |  |  |  |
| MEZZ                                 | 400.00 | 19.3 3.4                                 | 1885 1885    | 10.2 1.8       | 1 -6       | 92.5 6.4     | -.0 4.3               | .4               |  |  |  |
| ROOF                                 | 413.00 | 47.0 4.6                                 | 4512 4512    | 10.4 1.0       | 0 -5       | 73.2 3.0     | .0 3.2                | .3               |  |  |  |
| PNT                                  | 458.00 |  |              |                |            | 26.3 -1.6    | .1 1.0                | .1               |  |  |  |
| TOP                                  | 533.00 | 26.3 -1.6                                | 3913 3925    | 6.7 -.4        | -0 -2      | 0.0 0.0      | 0.0 0.0               | 0.0              |  |  |  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 150 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | 10.8 5.3     | 2812 2812    | 3.8 1.9        | -12 25     | 685.5 106.7  | -6.2 184.1            | 1.4              |
| MEZZ  | 12.50  | 8.8 4.2      | 2363 2363    | 3.7 1.8        | -10 20     | 674.7 101.4  | -4.9 175.6            | 1.7              |
| 2ND   | 23.00  | 9.4 6.0      | 2925 2925    | 3.2 2.1        | -10 15     | 665.9 97.2   | -3.9 168.6            | 1.9              |
| 3RD   | 36.00  | 8.0 9.4      | 2925 2925    | 2.7 3.2        | -14 12     | 656.4 91.2   | -2.7 160.0            | 2.1              |
| 4TH   | 49.00  | 12.0 11.4    | 2575 2575    | 4.6 4.4        | -13 14     | 648.4 81.8   | -1.5 151.5            | 2.3              |
| 5TH   | 64.00  | 10.5 8.5     | 2145 2145    | 4.9 4.0        | -13 16     | 636.5 70.4   | -.4 141.9             | 2.7              |
| 6TH   | 77.00  | 11.3 7.7     | 2145 2145    | 5.3 3.6        | -10 14     | 625.9 61.8   | .5 133.7              | 2.9              |
| 7TH   | 90.00  | 12.2 7.6     | 2145 2145    | 5.7 3.5        | -6 10      | 602.4 46.5   | 1.9 117.7             | 3.4              |
| 8TH   | 103.00 | 13.1 7.4     | 2145 2145    | 6.1 3.5        | -4 7       | 589.3 39.1   | 2.4 110.0             | 3.5              |
| 9TH   | 116.00 | 14.0 7.3     | 2145 2145    | 6.5 3.4        | -2 3       | 575.3 31.9   | 2.9 102.4             | 3.5              |
| 10TH  | 129.00 | 14.9 7.1     | 2145 2145    | 6.9 3.3        | 0 -1       | 560.4 24.7   | 3.3 95.0              | 3.5              |
| 11TH  | 142.00 | 16.0 6.7     | 2145 2145    | 7.5 3.1        | 1 -3       | 544.4 18.0   | 3.5 87.8              | 3.5              |
| 12TH  | 155.00 | 17.2 6.3     | 2145 2145    | 8.0 2.9        | 2 -4       | 527.2 11.7   | 3.7 80.9              | 3.4              |
| 13TH  | 168.00 | 18.4 5.9     | 2145 2145    | 8.6 2.7        | 2 -6       | 508.8 5.8    | 3.9 74.1              | 3.3              |
| 14TH  | 181.00 | 19.5 5.5     | 2145 2145    | 9.1 2.6        | 2 -8       | 489.3 .3     | 3.9 67.6              | 3.1              |
| 15TH  | 194.00 | 20.6 5.0     | 2145 2145    | 9.6 2.3        | 2 -9       | 468.7 -4.7   | 3.9 61.4              | 2.9              |
| 16TH  | 207.00 | 21.4 4.5     | 2145 2145    | 10.0 2.1       | 2 -8       | 447.3 -9.2   | 3.8 55.5              | 2.7              |
| 17TH  | 220.00 | 22.2 4.0     | 2145 2145    | 10.4 1.8       | 1 -8       | 425.1 -13.2  | 3.6 49.8              | 2.5              |
| 18TH  | 233.00 | 23.1 3.4     | 2145 2145    | 10.8 1.6       | 1 -8       | 402.0 -16.6  | 3.4 44.4              | 2.3              |
| 19TH  | 246.00 | 24.4 2.2     | 2145 2145    | 11.4 1.0       | 1 -8       | 377.6 -18.8  | 3.2 39.3              | 2.1              |
| 20TH  | 259.00 | 24.8 -.7     | 2145 2145    | 11.6 .3        | 0 -8       | 352.8 -19.4  | 3.0 34.6              | 2.0              |
| 21ST  | 272.00 | 23.7 -.0     | 2145 2145    | 11.0 -.0       | -0 -8      | 329.1 -19.4  | 2.7 30.2              | 1.8              |
| 22ND  | 285.00 | 25.1 -.4     | 2475 2475    | 10.1 -.2       | -0 -7      | 304.0 -19.1  | 2.4 25.4              | 1.6              |
| 23RD  | 300.00 | 23.5 -.7     | 1853 1853    | 12.7 -.4       | -0 -5      | 280.5 -18.4  | 2.2 21.8              | 1.5              |
| 24TH  | 312.50 | 24.4 -.8     | 1812 1812    | 13.5 -.4       | -0 -5      |              |                       |                  |

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|       |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |      |            |    | GUST FACTOR 1.32 |       |                       |      |     |
|-------|--------|--|------|--------------|------|----------------|------|------------|----|------------------|-------|-----------------------|------|-----|
|       |        | REFERENCE PRESSURE 23.0 PSF              |      |              |      |                |      |            |    |                  |       |                       |      |     |
| FLOOR | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS)     |       | MOMENT (1000-FT-KIPS) |      |     |
|       |        | X  | Y    | X            | Y    | X              | Y    | X          | Y  | X                | Y     | X                     | Y    | Z   |
| 25TH  | 325.00 | 24.6                                     | -.7  | 1812         | 1812 | 13.6           | -.4  | -0         | -6 | 256.1            | -17.6 | 2.0                   | 18.4 | 1.3 |
| 26TH  | 337.50 | 24.8                                     | -.7  | 1812         | 1812 | 13.7           | -.4  | -0         | -6 | 231.5            | -16.9 | 1.7                   | 15.4 | 1.2 |
| 27TH  | 350.00 | 25.0                                     | -.8  | 1812         | 1812 | 13.8           | -.4  | -0         | -7 | 206.7            | -16.2 | 1.5                   | 12.6 | 1.0 |
| 28TH  | 362.50 | 24.9                                     | -.8  | 1812         | 1812 | 13.8           | -.5  | -0         | -7 | 181.7            | -15.5 | 1.3                   | 10.2 | .9  |
| 29TH  | 375.00 | 24.6                                     | -1.0 | 1812         | 1812 | 13.6           | -.5  | -0         | -6 | 156.7            | -14.6 | 1.1                   | 8.1  | .7  |
| 30TH  | 387.50 | 24.3                                     | -1.1 | 1812         | 1812 | 13.4           | -.6  | -0         | -6 | 132.1            | -13.7 | 1.0                   | 6.3  | .5  |
| MEZZ  | 400.00 | 24.9                                     | -1.1 | 1885         | 1885 | 13.2           | -.6  | -0         | -6 | 107.8            | -12.6 | .8                    | 4.8  | .4  |
| ROOF  | 413.00 | 55.0                                     | -5.0 | 4512         | 4512 | 12.2           | -1.1 | -0         | -4 | 83.0             | -11.5 | .6                    | 3.5  | .2  |
| PNT   | 458.00 | 27.9                                     | -6.5 | 3913         | 3925 | 7.1            | -1.7 | -0         | -1 | 27.9             | -6.5  | .2                    | 1.0  | .0  |
| TOP   | 533.00 |  |      |              |      |                |      |            |    | 0.0              | 0.0   | 0.0                   | 0.0  | 0.0 |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 160 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |      |              |      |                |     |            |    |              |      | GUST FACTOR 1.32      |       |     |
|--|--------|--|------|--------------|------|----------------|-----|------------|----|--------------|------|-----------------------|-------|-----|
| FLOOR  | HEIGHT | FORCE (KIPS)   |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |      | MOMENT (1000-FT-KIPS) |       |     |
|  |        | X  | Y    | X            | Y    | X              | Y   | X          | Y  | X            | Y    | X                     | Y     | Z   |
| 1ST  | 0.00   | 12.6   | 3.9  | 2812         | 2812 | 4.5            | 1.4 | -9         | 30 | 749.2        | 63.3 | -3.8                  | 194.6 | 1.6 |
| MEZZ   | 12.50  | 10.2   | 2.8  | 2363         | 2363 | 4.3            | 1.2 | -6         | 23 | 736.6        | 59.3 | -3.0                  | 185.3 | 2.0 |
| 2ND  | 23.00  | 11.2   | 3.9  | 2925         | 2925 | 3.9            | 1.3 | -7         | 21 | 726.3        | 56.6 | -2.4                  | 177.6 | 2.3 |
| 3RD  | 36.00  | 8.1  | 5.3  | 2925         | 2925 | 2.8            | 1.8 | -26        | 39 | 715.2        | 52.7 | -1.7                  | 168.3 | 2.5 |
| 4TH  | 49.00  | 14.0   | 8.8  | 2575         | 2575 | 5.5            | 3.4 | -11        | 17 | 707.1        | 47.4 | -1.1                  | 159.0 | 3.0 |
| 5TH  | 64.00  | 13.0   | 6.9  | 2145         | 2145 | 6.0            | 3.2 | -7         | 14 | 693.1        | 38.6 | -4                    | 148.5 | 3.3 |
| 6TH  | 77.00  | 13.6   | 6.1  | 2145         | 2145 | 6.4            | 2.8 | -5         | 11 | 680.1        | 31.8 | .1                    | 139.6 | 3.5 |
| 7TH  | 90.00  | 14.8   | 5.7  | 2145         | 2145 | 6.9            | 2.7 | -3         | 7  | 666.5        | 25.7 | .4                    | 130.8 | 3.7 |
| 8TH  | 103.00 | 15.9   | 5.4  | 2145         | 2145 | 7.4            | 2.5 | -1         | 3  | 651.7        | 19.9 | .7                    | 122.3 | 3.8 |
| 9TH  | 116.00 | 17.0   | 5.0  | 2145         | 2145 | 7.9            | 2.3 | 0          | -0 | 635.8        | 14.5 | .9                    | 113.9 | 3.9 |
| 10TH   | 129.00 | 18.1   | 4.7  | 2145         | 2145 | 8.4            | 2.2 | 1          | -4 | 618.9        | 9.5  | 1.1                   | 105.7 | 3.9 |
| 11TH   | 142.00 | 19.3   | 3.9  | 2145         | 2145 | 9.0            | 1.8 | 1          | -5 | 600.8        | 4.8  | 1.2                   | 97.8  | 3.8 |
| 12TH   | 155.00 | 20.4   | 3.0  | 2145         | 2145 | 9.5            | 1.4 | 1          | -6 | 581.5        | 1.0  | 1.2                   | 90.1  | 3.7 |
| 13TH   | 168.00 | 21.6   | 2.2  | 2145         | 2145 | 10.1           | 1.0 | 1          | -7 | 561.1        | -2.1 | 1.2                   | 82.7  | 3.6 |
| 14TH   | 181.00 | 22.8   | 1.4  | 2145         | 2145 | 10.6           | .6  | 1          | -8 | 539.5        | -4.3 | 1.2                   | 75.5  | 3.4 |
| 15TH   | 194.00 | 23.9   | .7   | 2145         | 2145 | 11.1           | .3  | 0          | -9 | 516.7        | -5.7 | 1.1                   | 68.7  | 3.2 |
| 16TH   | 207.00 | 24.9   | .5   | 2145         | 2145 | 11.6           | .2  | 0          | -8 | 492.8        | -6.4 | 1.0                   | 62.1  | 3.0 |
| 17TH   | 220.00 | 25.9   | .2   | 2145         | 2145 | 12.1           | .1  | 0          | -8 | 467.9        | -6.8 | 1.0                   | 55.9  | 2.8 |
| 18TH   | 233.00 | 27.0   | -.0  | 2145         | 2145 | 12.6           | -.0 | -0         | -7 | 442.0        | -7.1 | .9                    | 50.0  | 2.6 |
| 19TH   | 246.00 | 28.0   | -.7  | 2145         | 2145 | 13.1           | -.3 | -0         | -7 | 415.0        | -7.1 | .8                    | 44.4  | 2.4 |
| 20TH   | 259.00 | 27.9   | -1.2 | 2145         | 2145 | 13.0           | -.6 | -0         | -8 | 387.0        | -6.4 | .7                    | 39.2  | 2.2 |
| 21ST   | 272.00 | 26.6   | -1.0 | 2145         | 2145 | 12.4           | -.5 | -0         | -8 | 359.1        | -5.2 | .6                    | 34.3  | 2.0 |
| 22ND   | 285.00 | 28.3   | -.4  | 2475         | 2475 | 11.4           | -.2 | -0         | -7 | 332.5        | -4.1 | .5                    | 29.8  | 1.8 |
| 23RD   | 300.00 | 24.4   | -.5  | 1853         | 1853 | 13.1           | -.3 | -0         | -5 | 304.2        | -3.7 | .5                    | 25.1  | 1.6 |
| 24TH   | 312.50 | 25.1   | -.5  | 1812         | 1812 | 13.9           | -.2 | -0         | -5 | 279.9        | -3.2 | .4                    | 21.4  | 1.4 |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS ; |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |     |            |    |              |      | GUST FACTOR 1.32            |      |     |
|--------------------------------------|--------|--|------|--------------|------|----------------|-----|------------|----|--------------|------|-----------------------------|------|-----|
| WIND DIRECTION 160                   |        | CONFIGURATION A                          |      |              |      |                |     |            |    |              |      | REFERENCE PRESSURE 23.0 PSF |      |     |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |     | ECCEN (FT) |    | SHEAR (KIPS) |      | MOMENT (1000-FT-KIPS)       |      |     |
|                                      |        | X  | Y    | X            | Y    | X              | Y   | X          | Y  | X            | Y    | X                           | Y    | Z   |
| 25TH                                 | 325.00 | 25.3                                     | -.3  | 1812         | 1812 | 13.9           | -.2 | -0         | -5 | 254.7        | -2.8 | .4                          | 18.1 | 1.3 |
| 26TH                                 | 337.50 | 25.4                                     | -.2  | 1812         | 1812 | 14.0           | -.1 | -0         | -6 | 229.5        | -2.5 | .4                          | 15.0 | 1.2 |
| 27TH                                 | 350.00 | 25.5                                     | -.2  | 1812         | 1812 | 14.1           | -.1 | -0         | -6 | 204.1        | -2.2 | .3                          | 12.3 | 1.0 |
| 28TH                                 | 362.50 | 25.2                                     | -.1  | 1812         | 1812 | 13.9           | -.0 | -0         | -6 | 178.6        | -2.0 | .3                          | 9.9  | .9  |
| 29TH                                 | 375.00 | 24.5                                     | .2   | 1812         | 1812 | 13.5           | .1  | 0          | -6 | 153.4        | -2.0 | .3                          | 7.9  | .7  |
| 30TH                                 | 387.50 | 23.9                                     | .4   | 1812         | 1812 | 13.2           | .2  | 0          | -6 | 128.9        | -2.2 | .3                          | 6.1  | .6  |
| MEZZ                                 | 400.00 | 24.3                                     | .6   | 1885         | 1885 | 12.9           | .3  | 0          | -6 | 105.1        | -2.5 | .2                          | 4.6  | .4  |
| ROOF                                 | 413.00 | 53.9                                     | -.9  | 4512         | 4512 | 12.0           | -.2 | -0         | -5 | 80.7         | -3.1 | .2                          | 3.4  | .3  |
| PNT                                  | 458.00 | 26.8                                     | -2.2 | 3913         | 3925 | 6.8            | -.6 | -0         | -0 | 26.8         | -2.2 | .1                          | 1.0  | .0  |
| TOP                                  | 533.00 |  |      |              |      |                |     |            |    | 0.0          | 0.0  | 0.0                         | 0.0  | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 170 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |      | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |     | SHEAR (KIPS) |        | GUST FACTOR 1.32      |       |     |
|-------|--------|--------------|------|--------------|------|----------------|------|------------|-----|--------------|--------|-----------------------|-------|-----|
|       |        | X            | Y    | X            | Y    | X              | Y    | X          | Y   | X            | Y      | MOMENT (1000-FT-KIPS) | X     | Y   |
| 1ST   | 0.00   | 12.2         | 3.2  | 2812         | 2812 | 4.3            | 1.1  | -6         | 22  | 545.8        | -96.0  | 30.4                  | 118.8 | 1.5 |
| MEZZ  | 12.50  | 10.7         | 1.1  | 2363         | 2363 | 4.5            | .5   | -1         | 13  | 533.6        | -99.2  | 29.1                  | 112.1 | 1.8 |
| 2ND   | 23.00  | 11.9         | .7   | 2925         | 2925 | 4.1            | .2   | -0         | 8   | 523.0        | -100.3 | 28.1                  | 106.6 | 2.0 |
| 3RD   | 36.00  | 8.2          | 1.3  | 2925         | 2925 | 2.8            | .4   | -7         | 43  | 511.0        | -101.0 | 26.8                  | 99.8  | 2.1 |
| 4TH   | 49.00  | 14.3         | 2.1  | 2575         | 2575 | 5.6            | .8   | -2         | 16  | 502.9        | -102.3 | 25.5                  | 93.2  | 2.4 |
| 5TH   | 64.00  | 13.5         | .5   | 2145         | 2145 | 6.3            | .3   | -0         | 11  | 488.6        | -104.4 | 23.9                  | 85.8  | 2.7 |
| 6TH   | 77.00  | 14.6         | -.4  | 2145         | 2145 | 6.8            | -.2  | 0          | 8   | 475.1        | -104.9 | 22.6                  | 79.5  | 2.8 |
| 7TH   | 90.00  | 16.1         | -1.1 | 2145         | 2145 | 7.5            | -.5  | 0          | 5   | 444.3        | -103.5 | 19.8                  | 67.6  | 3.0 |
| 8TH   | 103.00 | 17.6         | -1.8 | 2145         | 2145 | 8.2            | -.8  | 0          | 2   | 426.8        | -101.7 | 18.5                  | 61.9  | 3.1 |
| 9TH   | 116.00 | 19.0         | -2.5 | 2145         | 2145 | 8.9            | -1.2 | -0         | 0   | 407.8        | -99.2  | 17.2                  | 56.5  | 3.1 |
| 10TH  | 129.00 | 20.5         | -3.2 | 2145         | 2145 | 9.5            | -1.5 | -0         | -2  | 387.3        | -96.0  | 15.9                  | 51.3  | 3.0 |
| 11TH  | 142.00 | 21.0         | -3.4 | 2145         | 2145 | 9.8            | -1.6 | -1         | -3  | 366.3        | -92.6  | 14.7                  | 46.4  | 2.9 |
| 12TH  | 155.00 | 21.4         | -3.5 | 2145         | 2145 | 10.0           | -1.6 | -1         | -4  | 344.9        | -89.2  | 13.5                  | 41.8  | 2.8 |
| 13TH  | 168.00 | 21.9         | -3.6 | 2145         | 2145 | 10.2           | -1.7 | -1         | -5  | 323.0        | -85.6  | 12.4                  | 37.5  | 2.7 |
| 14TH  | 181.00 | 22.3         | -3.7 | 2145         | 2145 | 10.4           | -1.7 | -1         | -5  | 300.7        | -81.8  | 11.3                  | 33.4  | 2.6 |
| 15TH  | 194.00 | 22.5         | -3.8 | 2145         | 2145 | 10.5           | -1.8 | -1         | -6  | 278.1        | -78.0  | 10.3                  | 29.7  | 2.5 |
| 16TH  | 207.00 | 22.2         | -3.8 | 2145         | 2145 | 10.4           | -1.8 | -1         | -6  | 255.9        | -74.2  | 9.3                   | 26.2  | 2.3 |
| 17TH  | 220.00 | 21.9         | -3.8 | 2145         | 2145 | 10.2           | -1.8 | -1         | -7  | 234.0        | -70.4  | 8.3                   | 23.0  | 2.2 |
| 18TH  | 233.00 | 21.6         | -3.8 | 2145         | 2145 | 10.1           | -1.8 | -1         | -7  | 212.4        | -66.6  | 7.4                   | 20.1  | 2.0 |
| 19TH  | 246.00 | 20.3         | -3.9 | 2145         | 2145 | 9.5            | -1.8 | -2         | -8  | 192.1        | -62.7  | 6.6                   | 17.5  | 1.9 |
| 20TH  | 259.00 | 18.3         | -4.0 | 2145         | 2145 | 8.5            | -1.9 | -2         | -10 | 173.8        | -58.6  | 5.8                   | 15.1  | 1.7 |
| 21ST  | 272.00 | 16.9         | -3.9 | 2145         | 2145 | 7.9            | -1.8 | -2         | -10 | 157.0        | -54.8  | 5.1                   | 12.9  | 1.5 |
| 22ND  | 285.00 | 17.7         | -4.3 | 2475         | 2475 | 7.2            | -1.7 | -3         | -11 | 139.3        | -50.5  | 4.3                   | 10.7  | 1.3 |
| 23RD  | 300.00 | 12.1         | -3.8 | 1853         | 1853 | 6.5            | -2.1 | -3         | -9  | 127.2        | -46.7  | 3.7                   | 9.0   | 1.2 |
| 24TH  | 312.50 | 12.5         | -4.0 | 1812         | 1812 | 6.9            | -2.2 | -3         | -8  |              |        |                       |       |     |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |     |                |     |            |                             |              |     |                       |     | GUST FACTOR 1.32 |     |   |  |
|--------------------------------------|--------|--------------|--|-----|----------------|-----|------------|-----------------------------|--------------|-----|-----------------------|-----|------------------|-----|---|--|
| WIND DIRECTION 170                   |        |              | CONFIGURATION A                          |     |                |     |            | REFERENCE PRESSURE 23.0 PSF |              |     |                       |     |                  |     |   |  |
| FLOOR                                | HEIGHT | FORCE (KIPS) | AREA (SQ FT)                             |     | PRESSURE (PSF) |     | ECCEN (FT) |                             | SHEAR (KIPS) |     | MOMENT (1000-FT-KIPS) |     |                  |     |   |  |
|                                      |        | X Y          | X Y                                      | X Y | X Y            | X Y | X Y        | X Y                         | X Y          | X Y | X Y Z                 | X Y | Z                | X Y | Z |  |
| 25TH                                 | 325.00 | 13.2 -4.1    | 1812 1812                                |     | 7.3 -2.2       |     | -2 -7      |                             | 114.6 -42.7  |     | 3.1                   | 7.5 | 1.1              |     |   |  |
| 26TH                                 | 337.50 | 13.3 -4.2    | 1812 1812                                |     | 7.4 -2.3       |     | -2 -7      |                             | 101.4 -38.6  |     | 2.6                   | 6.2 | 1.0              |     |   |  |
| 27TH                                 | 350.00 | 13.5 -4.3    | 1812 1812                                |     | 7.4 -2.4       |     | -2 -7      |                             | 88.1 -34.4   |     | 2.2                   | 5.0 | .8               |     |   |  |
| 28TH                                 | 362.50 | 12.6 -4.3    | 1812 1812                                |     | 7.0 -2.4       |     | -3 -8      |                             | 74.6 -30.1   |     | 1.8                   | 4.0 | .7               |     |   |  |
| 29TH                                 | 375.00 | 11.1 -4.1    | 1812 1812                                |     | 6.1 -2.3       |     | -3 -9      |                             | 62.0 -25.8   |     | 1.4                   | 3.1 | .6               |     |   |  |
| 30TH                                 | 387.50 | 9.8 -4.0     | 1812 1812                                |     | 5.4 -2.2       |     | -4 -10     |                             | 50.9 -21.7   |     | 1.1                   | 2.4 | .5               |     |   |  |
| MEZZ                                 | 400.00 | 9.9 -4.1     | 1885 1885                                |     | 5.2 -2.2       |     | -5 -11     |                             | 41.0 -17.7   |     | .9                    | 1.9 | .4               |     |   |  |
| ROOF                                 | 413.00 | 19.8 -7.6    | 4512 4512                                |     | 4.4 -1.7       |     | -4 -11     |                             | 31.2 -13.6   |     | .7                    | 1.4 | .3               |     |   |  |
| PNT                                  | 458.00 | 11.4 -6.0    | 3913 3925                                |     | 2.9 -1.5       |     | -1 -2      |                             | 11.4 -6.0    |     | .2                    | .4  | .0               |     |   |  |
| TOP                                  | 533.00 |              |  |     |                |     |            |                             | 0.0 0.0      |     | 0.0                   | 0.0 | 0.0              |     |   |  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 180 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | 10.7 -2.5    | 2812 2812    | 3.8 -.9        | 3 12       | 437.1 -317.1 | 82.3 91.6             | 3.6              |
| MEZZ  | 12.50  | 9.1 -2.9     | 2363 2363    | 3.9 -1.2       | 1 3        | 426.4 -314.5 | 78.4 86.2             | 3.7              |
| 2ND   | 23.00  | 10.3 -3.8    | 2925 2925    | 3.5 -1.3       | -1 -2      | 417.3 -311.7 | 75.1 81.7             | 3.7              |
| 3RD   | 36.00  | 7.8 -3.7     | 2925 2925    | 2.7 -1.3       | 8 16       | 407.0 -307.8 | 71.1 76.4             | 3.7              |
| 4TH   | 49.00  | 12.8 -4.4    | 2575 2575    | 5.0 -1.7       | 2 5        | 399.2 -304.1 | 67.1 71.1             | 3.9              |
| 5TH   | 64.00  | 12.1 -4.7    | 2145 2145    | 5.6 -2.2       | 1 2        | 386.4 -299.8 | 62.5 65.3             | 3.9              |
| 6TH   | 77.00  | 12.9 -5.5    | 2145 2145    | 6.0 -2.6       | -0 -0      | 374.3 -295.0 | 58.7 60.3             | 4.0              |
| 7TH   | 90.00  | 13.8 -6.2    | 2145 2145    | 6.4 -2.9       | -2 -4      | 361.4 -289.6 | 54.9 55.5             | 4.0              |
| 8TH   | 103.00 | 14.6 -6.9    | 2145 2145    | 6.8 -3.2       | -4 -7      | 347.6 -283.3 | 51.2 50.9             | 3.9              |
| 9TH   | 116.00 | 15.5 -7.7    | 2145 2145    | 7.2 -3.6       | -5 -10     | 333.0 -276.4 | 47.5 46.5             | 3.7              |
| 10TH  | 129.00 | 16.3 -8.4    | 2145 2145    | 7.6 -3.9       | -6 -13     | 317.5 -268.8 | 44.0 42.3             | 3.6              |
| 11TH  | 142.00 | 16.9 -9.1    | 2145 2145    | 7.9 -4.2       | -7 -13     | 301.2 -260.4 | 40.5 38.2             | 3.3              |
| 12TH  | 155.00 | 17.4 -9.8    | 2145 2145    | 8.1 -4.6       | -7 -12     | 284.3 -251.3 | 37.2 34.4             | 3.0              |
| 13TH  | 168.00 | 18.0 -10.5   | 2145 2145    | 8.4 -4.9       | -7 -12     | 266.9 -241.5 | 34.0 30.9             | 2.7              |
| 14TH  | 181.00 | 18.5 -11.2   | 2145 2145    | 8.6 -5.2       | -7 -12     | 248.9 -230.9 | 30.9 27.5             | 2.4              |
| 15TH  | 194.00 | 18.8 -11.8   | 2145 2145    | 8.8 -5.5       | -7 -12     | 230.4 -219.7 | 28.0 24.4             | 2.1              |
| 16TH  | 207.00 | 18.5 -11.8   | 2145 2145    | 8.4 -5.5       | -7 -11     | 211.6 -207.9 | 25.2 21.5             | 1.8              |
| 17TH  | 220.00 | 18.2 -11.9   | 2145 2145    | 8.5 -5.5       | -6 -10     | 193.1 -196.1 | 22.6 18.9             | 1.5              |
| 18TH  | 233.00 | 17.9 -11.9   | 2145 2145    | 8.3 -5.6       | -6 -9      | 174.9 -184.3 | 20.1 16.5             | 1.3              |
| 19TH  | 246.00 | 16.6 -12.2   | 2145 2145    | 7.7 -5.7       | -6 -8      | 157.1 -172.4 | 17.8 14.3             | 1.1              |
| 20TH  | 259.00 | 14.7 -12.3   | 2145 2145    | 6.8 -5.7       | -6 -7      | 140.5 -160.1 | 15.6 12.4             | .9               |
| 21ST  | 272.00 | 13.5 -11.9   | 2145 2145    | 6.3 -5.6       | -5 -5      | 125.8 -147.8 | 13.6 10.7             | .7               |
| 22ND  | 285.00 | 14.4 -14.2   | 2475 2475    | 5.8 -5.7       | -3 -3      | 112.3 -135.9 | 11.8 9.1              | .6               |
| 23RD  | 300.00 | 8.6 -10.0    | 1853 1853    | 4.6 -5.4       | -2 -2      | 97.9 -121.7  | 9.9 7.5               | .5               |
| 24TH  | 312.50 | 8.8 -10.1    | 1812 1812    | 4.8 -5.6       | -2 -2      | 89.3 -111.7  | 8.4 6.4               | .4               |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 180

CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |        | GUST FACTOR 1.32 |     |     |
|-------|--------|--------------|-------|--------------|------|----------------|------|------------|----|--------------|--------|------------------|-----|-----|
|       |        | X            | Y     | X            | Y    | X              | Y    | X          | Y  | X            | Y      | X                | Y   | Z   |
| 25TH  | 325.00 | 9.4          | -10.4 | 1812         | 1812 | 5.2            | -5.8 | -3         | -2 | 80.5         | -101.6 | 7.1              | 5.3 | .4  |
| 26TH  | 337.50 | 9.6          | -10.6 | 1812         | 1812 | 5.3            | -5.9 | -3         | -3 | 71.1         | -91.2  | 5.9              | 4.4 | .3  |
| 27TH  | 350.00 | 9.8          | -10.8 | 1812         | 1812 | 5.4            | -6.0 | -3         | -3 | 61.5         | -80.5  | 4.8              | 3.5 | .3  |
| 28TH  | 362.50 | 9.0          | -10.6 | 1812         | 1812 | 5.0            | -5.8 | -4         | -3 | 51.7         | -69.7  | 3.9              | 2.8 | .2  |
| 29TH  | 375.00 | 7.6          | -10.1 | 1812         | 1812 | 4.2            | -5.5 | -4         | -3 | 42.7         | -59.1  | 3.1              | 2.2 | .2  |
| 30TH  | 387.50 | 6.4          | -9.5  | 1812         | 1812 | 3.5            | -5.3 | -5         | -3 | 35.2         | -49.1  | 2.4              | 1.8 | .1  |
| MEZZ  | 400.00 | 6.5          | -9.5  | 1885         | 1885 | 3.5            | -5.0 | -5         | -3 | 28.8         | -39.5  | 1.8              | 1.4 | .0  |
| ROOF  | 413.00 | 13.6         | -18.4 | 4512         | 4512 | 3.0            | -4.1 | 1          | 1  | 22.3         | -30.0  | 1.4              | 1.0 | -.0 |
| PNT   | 458.00 | 8.7          | -11.6 | 3913         | 3925 | 2.2            | -3.0 | 1          | 1  | 8.7          | -11.6  | .4               | .3  | -.0 |
| TOP   | 533.00 |              |       |              |      |                |      |            |    | 0.0          | 0.0    | 0.0              | 0.0 | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 190 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |        | GUST FACTOR 1.32 |      |     |
|-------|--------|--------------|-------|--------------|------|----------------|------|------------|----|--------------|--------|------------------|------|-----|
|       |        | X            | Y     | X            | Y    | X              | Y    | X          | Y  | X            | Y      | X                | Y    | Z   |
| 1ST   | 0.00   | 6.9          | -7.7  | 2812         | 2812 | 2.5            | -2.7 | 7          | 6  | 369.4        | -397.3 | 94.1             | 88.3 | 1.8 |
| MEZZ  | 12.50  | 5.5          | -7.1  | 2363         | 2363 | 2.3            | -3.0 | 2          | 1  | 362.5        | -389.6 | 89.2             | 83.7 | 1.9 |
| 2ND   | 23.00  | 6.3          | -9.1  | 2925         | 2925 | 2.2            | -3.1 | -2         | -2 | 357.0        | -382.5 | 85.2             | 79.9 | 1.9 |
| 3RD   | 36.00  | 5.8          | -9.6  | 2925         | 2925 | 2.0            | -3.3 | 8          | 5  | 350.7        | -373.4 | 80.3             | 75.3 | 1.9 |
| 4TH   | 49.00  | 10.2         | -11.7 | 2575         | 2575 | 4.0            | -4.6 | -3         | -2 | 344.9        | -363.8 | 75.5             | 70.8 | 2.0 |
| 5TH   | 64.00  | 9.1          | -10.6 | 2145         | 2145 | 4.2            | -5.0 | -4         | -3 | 334.7        | -352.1 | 70.1             | 65.7 | 1.9 |
| 6TH   | 77.00  | 9.5          | -10.9 | 2145         | 2145 | 4.4            | -5.1 | -4         | -4 | 325.6        | -341.5 | 65.6             | 61.4 | 1.9 |
| 7TH   | 90.00  | 9.9          | -11.1 | 2145         | 2145 | 4.6            | -5.2 | -5         | -4 | 316.1        | -330.6 | 61.2             | 57.2 | 1.8 |
| 8TH   | 103.00 | 10.4         | -11.4 | 2145         | 2145 | 4.8            | -5.3 | -5         | -5 | 306.2        | -319.5 | 57.0             | 53.2 | 1.7 |
| 9TH   | 116.00 | 10.8         | -11.6 | 2145         | 2145 | 5.0            | -5.4 | -6         | -5 | 295.8        | -308.1 | 52.9             | 49.3 | 1.6 |
| 10TH  | 129.00 | 11.2         | -11.9 | 2145         | 2145 | 5.2            | -5.5 | -6         | -6 | 285.0        | -296.5 | 49.0             | 45.5 | 1.5 |
| 11TH  | 142.00 | 11.5         | -11.8 | 2145         | 2145 | 5.4            | -5.5 | -6         | -6 | 273.8        | -284.6 | 45.2             | 41.9 | 1.3 |
| 12TH  | 155.00 | 11.8         | -11.8 | 2145         | 2145 | 5.5            | -5.5 | -6         | -6 | 262.2        | -272.8 | 41.6             | 38.4 | 1.2 |
| 13TH  | 168.00 | 12.1         | -11.8 | 2145         | 2145 | 5.7            | -5.5 | -5         | -6 | 250.4        | -261.0 | 38.1             | 35.0 | 1.1 |
| 14TH  | 181.00 | 12.4         | -11.7 | 2145         | 2145 | 5.8            | -5.5 | -5         | -6 | 238.3        | -249.2 | 34.8             | 31.9 | .9  |
| 15TH  | 194.00 | 12.7         | -11.8 | 2145         | 2145 | 5.9            | -5.5 | -5         | -5 | 225.9        | -237.5 | 31.6             | 28.9 | .8  |
| 16TH  | 207.00 | 13.0         | -12.0 | 2145         | 2145 | 6.1            | -5.6 | -4         | -5 | 213.2        | -225.7 | 28.6             | 26.0 | .7  |
| 17TH  | 220.00 | 13.3         | -12.3 | 2145         | 2145 | 6.2            | -5.7 | -4         | -4 | 200.1        | -213.7 | 25.8             | 23.3 | .6  |
| 18TH  | 233.00 | 13.7         | -12.5 | 2145         | 2145 | 6.4            | -5.8 | -3         | -4 | 186.8        | -201.4 | 23.1             | 20.8 | .5  |
| 19TH  | 246.00 | 13.7         | -12.9 | 2145         | 2145 | 6.4            | -6.0 | -3         | -3 | 173.1        | -188.9 | 20.5             | 18.5 | .4  |
| 20TH  | 259.00 | 13.2         | -12.9 | 2145         | 2145 | 6.1            | -6.0 | -3         | -3 | 159.4        | -175.9 | 18.2             | 16.3 | .3  |
| 21ST  | 272.00 | 12.5         | -12.5 | 2145         | 2145 | 5.8            | -5.8 | -2         | -2 | 146.2        | -163.0 | 16.0             | 14.3 | .2  |
| 22ND  | 285.00 | 13.6         | -14.2 | 2475         | 2475 | 5.5            | -5.8 | -2         | -2 | 133.8        | -150.5 | 13.9             | 12.5 | .2  |
| 23RD  | 300.00 | 9.5          | -10.6 | 1853         | 1853 | 5.1            | -5.7 | -0         | -0 | 120.1        | -136.3 | 11.8             | 10.6 | .1  |
| 24TH  | 312.50 | 9.7          | -10.8 | 1812         | 1812 | 5.3            | -5.9 | -0         | -0 | 110.6        | -125.6 | 10.1             | 9.1  | .1  |

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TABLE 4, SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 190 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | 10.0 -11.0   | 1812 1812    | 5.5 -6.1       | -1 -1      | 100.9 -114.9 | 8.6 7.8 .1            |
| 26TH  | 337.50 | 9.8 -11.0    | 1812 1812    | 5.4 -6.1       | -1 -1      | 91.0 -103.9  | 7.3 6.6 .1            |
| 27TH  | 350.00 | 9.6 -11.1    | 1812 1812    | 5.3 -6.1       | -1 -1      | 81.2 -92.8   | 6.0 5.5 .1            |
| 28TH  | 362.50 | 9.1 -11.0    | 1812 1812    | 5.0 -6.0       | -1 -1      | 71.5 -81.7   | 4.9 4.6 .0            |
| 29TH  | 375.00 | 8.5 -10.6    | 1812 1812    | 4.7 -5.9       | -1 -1      | 62.4 -70.8   | 4.0 3.8 .0            |
| 30TH  | 387.50 | 7.9 -10.3    | 1812 1812    | 4.4 -5.7       | -1 -1      | 53.9 -60.1   | 3.2 3.0 -.0           |
| MEZZ  | 400.00 | 8.2 -10.6    | 1885 1885    | 4.4 -5.6       | -1 -1      | 46.0 -49.8   | 2.5 2.4 -.0           |
| ROOF  | 413.00 | 21.0 -22.3   | 4512 4512    | 4.7 -4.9       | 1 1        | 37.8 -39.2   | 1.9 1.9 -.1           |
| PNT   | 458.00 | 16.8 -17.0   | 3913 3925    | 4.3 -4.3       | 1 1        | 16.8 -17.0   | .6 .6 -.0             |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0 0.0           |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 200 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |       |              |      |                |      |            |    |              |        | GUST FACTOR 1.32      |       |     |
|--|--------|--|-------|--------------|------|----------------|------|------------|----|--------------|--------|-----------------------|-------|-----|
| FLOOR  | HEIGHT | FORCE (KIPS)   |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |       |     |
|  |        | X  | Y     | X            | Y    | X              | Y    | X          | Y  | X            | Y      | X                     | Y     | Z   |
| 1ST  | 0.00   | 7.1  | -7.8  | 2812         | 2812 | 2.5            | -2.8 | 4          | 4  | 463.5        | -511.6 | 125.1                 | 116.8 | -.4 |
| MEZZ   | 12.50  | 5.5  | -7.4  | 2363         | 2363 | 2.3            | -3.1 | -3         | -2 | 456.5        | -503.9 | 118.7                 | 111.0 | -.3 |
| 2ND  | 23.00  | 6.6  | -9.6  | 2925         | 2925 | 2.2            | -3.3 | -8         | -5 | 451.0        | -496.5 | 113.5                 | 106.3 | -.4 |
| 3RD  | 36.00  | 6.0  | -10.3 | 2925         | 2925 | 2.1            | -3.5 | 5          | 3  | 444.4        | -486.9 | 107.1                 | 100.5 | -.5 |
| 4TH  | 49.00  | 11.2   | -14.7 | 2575         | 2575 | 4.1            | -5.7 | -0         | -0 | 438.3        | -476.5 | 100.8                 | 94.7  | -.4 |
| 5TH  | 64.00  | 10.1   | -14.2 | 2145         | 2145 | 4.7            | -6.6 | -0         | -0 | 427.1        | -461.8 | 93.8                  | 88.2  | -.4 |
| 6TH  | 77.00  | 10.4   | -14.8 | 2145         | 2145 | 4.9            | -6.9 | -0         | -0 | 417.0        | -447.6 | 87.9                  | 82.7  | -.4 |
| 7TH  | 90.00  | 10.9   | -15.0 | 2145         | 2145 | 5.1            | -7.0 | 0          | 0  | 406.6        | -432.9 | 82.1                  | 77.4  | -.4 |
| 8TH  | 103.00 | 11.4   | -15.1 | 2145         | 2145 | 5.3            | -7.1 | 0          | 0  | 395.7        | -417.9 | 76.6                  | 72.2  | -.4 |
| 9TH  | 116.00 | 11.9   | -15.3 | 2145         | 2145 | 5.6            | -7.2 | 0          | 0  | 384.3        | -402.8 | 71.3                  | 67.1  | -.4 |
| 10TH   | 129.00 | 12.4   | -15.5 | 2145         | 2145 | 5.8            | -7.2 | 1          | 0  | 372.4        | -387.5 | 66.1                  | 62.2  | -.4 |
| 11TH   | 142.00 | 12.9   | -15.4 | 2145         | 2145 | 6.0            | -7.2 | 1          | 1  | 360.0        | -371.9 | 61.2                  | 57.4  | -.4 |
| 12TH   | 155.00 | 13.5   | -15.2 | 2145         | 2145 | 6.3            | -7.1 | 1          | 1  | 347.0        | -356.5 | 56.5                  | 52.8  | -.4 |
| 13TH   | 168.00 | 14.0   | -15.0 | 2145         | 2145 | 6.5            | -7.0 | 1          | 1  | 333.5        | -341.3 | 51.9                  | 48.4  | -.4 |
| 14TH   | 181.00 | 14.6   | -14.8 | 2145         | 2145 | 6.8            | -6.9 | 1          | 1  | 319.5        | -326.3 | 47.6                  | 44.2  | -.3 |
| 15TH   | 194.00 | 15.1   | -14.8 | 2145         | 2145 | 7.1            | -6.9 | 1          | 1  | 304.9        | -311.5 | 43.4                  | 40.1  | -.3 |
| 16TH   | 207.00 | 15.8   | -14.9 | 2145         | 2145 | 7.4            | -7.0 | 1          | 1  | 289.8        | -296.7 | 39.5                  | 36.2  | -.3 |
| 17TH   | 220.00 | 16.4   | -15.1 | 2145         | 2145 | 7.7            | -7.1 | 1          | 1  | 274.0        | -281.8 | 35.7                  | 32.6  | -.2 |
| 18TH   | 233.00 | 17.1   | -15.3 | 2145         | 2145 | 8.0            | -7.1 | 0          | 0  | 257.6        | -266.6 | 32.2                  | 29.1  | -.2 |
| 19TH   | 246.00 | 17.5   | -15.5 | 2145         | 2145 | 8.2            | -7.2 | 0          | 0  | 240.5        | -251.3 | 28.8                  | 25.9  | -.2 |
| 20TH   | 259.00 | 17.2   | -15.1 | 2145         | 2145 | 8.0            | -7.1 | 1          | 1  | 222.9        | -235.8 | 25.6                  | 22.9  | -.2 |
| 21ST   | 272.00 | 16.5   | -14.3 | 2145         | 2145 | 7.7            | -6.7 | 1          | 1  | 205.7        | -220.7 | 22.7                  | 20.1  | -.2 |
| 22ND   | 285.00 | 18.0   | -16.2 | 2475         | 2475 | 7.3            | -6.5 | 1          | 1  | 189.3        | -206.3 | 19.9                  | 17.5  | -.1 |
| 23RD   | 300.00 | 13.7   | -13.9 | 1853         | 1853 | 7.4            | -7.5 | 1          | 1  | 171.3        | -190.1 | 16.9                  | 14.8  | -.1 |
| 24TH   | 312.50 | 14.0   | -14.3 | 1812         | 1812 | 7.7            | -7.9 | 1          | 1  | 157.6        | -176.2 | 14.6                  | 12.7  | -.1 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 200 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 24.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 25TH  | 325.00 | 14.2 -14.4   | 1812 1812    | 7.9 -8.0       | 1 1        | 143.6 -161.9 | 12.5 10.9 -.0         |                  |
| 26TH  | 337.50 | 13.8 -14.5   | 1812 1812    | 7.6 -8.0       | 0 0        | 129.3 -147.5 | 10.6 9.2 -.0          |                  |
| 27TH  | 350.00 | 13.4 -14.6   | 1812 1812    | 7.4 -8.1       | 0 0        | 115.5 -133.0 | 8.8 7.6 -.0           |                  |
| 28TH  | 362.50 | 13.0 -14.7   | 1812 1812    | 7.2 -8.1       | -0 -0      | 102.1 -118.3 | 7.3 6.3 -.0           |                  |
| 29TH  | 375.00 | 12.5 -14.6   | 1812 1812    | 6.9 -8.1       | -0 -0      | 89.2 -103.7  | 5.9 5.1 -.0           |                  |
| 30TH  | 387.50 | 12.1 -14.6   | 1812 1812    | 6.7 -8.1       | -0 -0      | 76.7 -89.0   | 4.7 4.0 -.0           |                  |
| MEZZ  | 400.00 | 12.7 -15.2   | 1885 1885    | 6.7 -8.1       | -0 -0      | 64.6 -74.4   | 3.6 3.2 -.0           |                  |
| ROOF  | 413.00 | 31.4 -35.1   | 4512 4512    | 7.0 -7.8       | 0 0        | 51.9 -59.2   | 2.8 2.4 -.0           |                  |
| PNT   | 458.00 | 20.5 -24.1   | 3913 3925    | 5.2 -6.1       | 0 0        | 20.5 -24.1   | .9 .8 -.0             |                  |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |                  |

| WIND DIRECTION 210 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>REFERENCE PRESSURE 23.0 PSF |       |              |      |                |      |            |    |              |        | GUST FACTOR 1.32      |       |      |
|--------------------|--------|---|-------|--------------|------|----------------|------|------------|----|--------------|--------|-----------------------|-------|------|
| FLOOR              | HEIGHT | FORCE (KIPS)  |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |       |      |
|                    |        | X   | Y     | X            | Y    | X              | Y    | X          | Y  | X            | Y      | X                     | Y     | Z    |
| 1ST                | 0.00   | 6.2   | -8.1  | 2812         | 2812 | 2.2            | -2.9 | 4          | 3  | 488.3        | -542.7 | 134.5                 | 124.4 | -1.1 |
| MEZZ               | 12.50  | 4.9   | -7.6  | 2363         | 2363 | 2.1            | -3.2 | -3         | -2 | 482.1        | -534.6 | 127.7                 | 118.4 | -1.1 |
| 2ND                | 23.00  | 6.3   | -10.0 | 2925         | 2925 | 2.1            | -3.4 | -10        | -6 | 477.2        | -527.0 | 122.2                 | 113.3 | -1.1 |
| 3RD                | 36.00  | 5.6   | -10.4 | 2925         | 2925 | 1.9            | -3.6 | 5          | 3  | 470.9        | -517.1 | 115.4                 | 107.2 | -1.2 |
| 4TH                | 49.00  | 11.3  | -15.2 | 2575         | 2575 | 4.4            | -5.9 | 1          | 1  | 465.3        | -506.7 | 108.7                 | 101.1 | -1.2 |
| 5TH                | 64.00  | 10.4  | -14.4 | 2145         | 2145 | 4.8            | -6.7 | 2          | 1  | 454.0        | -491.5 | 101.2                 | 94.2  | -1.2 |
| 6TH                | 77.00  | 10.8  | -14.9 | 2145         | 2145 | 5.0            | -6.9 | 2          | 1  | 443.6        | -477.1 | 94.9                  | 88.4  | -1.1 |
| 7TH                | 90.00  | 11.4  | -15.2 | 2145         | 2145 | 5.3            | -7.1 | 2          | 2  | 432.8        | -462.2 | 88.8                  | 82.7  | -1.1 |
| 8TH                | 103.00 | 12.1  | -15.6 | 2145         | 2145 | 5.6            | -7.3 | 2          | 2  | 421.4        | -447.0 | 82.9                  | 77.1  | -1.0 |
| 9TH                | 116.00 | 12.7  | -15.9 | 2145         | 2145 | 5.9            | -7.4 | 2          | 2  | 409.3        | -431.4 | 77.2                  | 71.7  | -1.0 |
| 10TH               | 129.00 | 13.3  | -16.3 | 2145         | 2145 | 6.2            | -7.6 | 2          | 2  | 396.6        | -415.5 | 71.7                  | 66.5  | -.9  |
| 11TH               | 142.00 | 13.9  | -16.2 | 2145         | 2145 | 6.5            | -7.6 | 2          | 2  | 383.3        | -399.2 | 66.4                  | 61.4  | -.9  |
| 12TH               | 155.00 | 14.4  | -16.1 | 2145         | 2145 | 6.7            | -7.5 | 2          | 2  | 369.4        | -383.0 | 61.3                  | 56.5  | -.8  |
| 13TH               | 168.00 | 15.0  | -16.0 | 2145         | 2145 | 7.0            | -7.5 | 3          | 2  | 355.0        | -366.9 | 56.5                  | 51.8  | -.7  |
| 14TH               | 181.00 | 15.5  | -15.9 | 2145         | 2145 | 7.2            | -7.4 | 3          | 3  | 340.1        | -350.9 | 51.8                  | 47.3  | -.6  |
| 15TH               | 194.00 | 16.0  | -15.9 | 2145         | 2145 | 7.5            | -7.4 | 3          | 3  | 324.6        | -334.9 | 47.3                  | 43.0  | -.6  |
| 16TH               | 207.00 | 16.6  | -15.9 | 2145         | 2145 | 7.7            | -7.4 | 2          | 2  | 308.5        | -319.0 | 43.1                  | 38.8  | -.5  |
| 17TH               | 220.00 | 17.1  | -16.0 | 2145         | 2145 | 8.0            | -7.5 | 2          | 2  | 292.0        | -303.1 | 39.0                  | 34.9  | -.4  |
| 18TH               | 233.00 | 17.6  | -16.0 | 2145         | 2145 | 8.2            | -7.5 | 1          | 2  | 274.9        | -287.1 | 35.2                  | 31.3  | -.3  |
| 19TH               | 246.00 | 18.0  | -16.4 | 2145         | 2145 | 8.4            | -7.6 | 1          | 1  | 257.2        | -271.1 | 31.6                  | 27.8  | -.3  |
| 20TH               | 259.00 | 17.6  | -16.0 | 2145         | 2145 | 8.2            | -7.5 | 2          | 2  | 239.2        | -254.7 | 28.2                  | 24.6  | -.2  |
| 21ST               | 272.00 | 16.8  | -14.8 | 2145         | 2145 | 7.8            | -6.9 | 2          | 2  | 221.6        | -238.7 | 24.9                  | 21.6  | -.2  |
| 22ND               | 285.00 | 18.4  | -16.3 | 2475         | 2475 | 7.4            | -6.6 | 1          | 1  | 204.8        | -223.9 | 21.9                  | 18.8  | -.1  |
| 23RD               | 300.00 | 14.9  | -14.9 | 1853         | 1853 | 8.0            | -8.0 | 1          | 1  | 186.4        | -207.6 | 18.7                  | 15.9  | -.1  |
| 24TH               | 312.50 | 15.2  | -15.3 | 1812         | 1812 | 8.4            | -8.4 | 1          | 1  | 171.5        | -192.7 | 16.2                  | 13.6  | -.1  |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |       |              |      |                |      |            |    |              |        | GUST FACTOR 1.32            |      |     |
|--------------------------------------|--------|--|-------|--------------|------|----------------|------|------------|----|--------------|--------|-----------------------------|------|-----|
|                                      |        | CONFIGURATION A                          |       |              |      |                |      |            |    |              |        | REFERENCE PRESSURE 23.0 PSF |      |     |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS)       |      |     |
|                                      |        | X  | Y     | X            | Y    | X              | Y    | X          | Y  | X            | Y      | X                           | Y    | Z   |
| 25TH                                 | 325.00 | 15.2                                     | -15.5 | 1812         | 1812 | 8.4            | -8.6 | 1          | 0  | 156.3        | -177.4 | 13.9                        | 11.6 | .0  |
| 26TH                                 | 337.50 | 15.0                                     | -15.6 | 1812         | 1812 | 8.3            | -8.6 | 0          | 0  | 141.1        | -161.9 | 11.8                        | 9.7  | .0  |
| 27TH                                 | 350.00 | 14.8                                     | -15.8 | 1812         | 1812 | 8.2            | -8.7 | 0          | 0  | 126.1        | -146.2 | 9.8                         | 8.1  | .0  |
| 28TH                                 | 362.50 | 14.6                                     | -15.9 | 1812         | 1812 | 8.0            | -8.7 | 0          | 0  | 111.2        | -130.4 | 8.1                         | 6.6  | .0  |
| 29TH                                 | 375.00 | 14.2                                     | -15.9 | 1812         | 1812 | 7.9            | -8.8 | 0          | 0  | 96.7         | -114.6 | 6.6                         | 5.3  | .0  |
| 30TH                                 | 387.50 | 14.0                                     | -15.9 | 1812         | 1812 | 7.7            | -8.7 | 0          | 0  | 82.4         | -98.7  | 5.2                         | 4.2  | .0  |
| MEZZ                                 | 400.00 | 14.6                                     | -16.4 | 1885         | 1885 | 7.7            | -8.7 | 1          | 0  | 68.5         | -82.9  | 4.1                         | 3.2  | .0  |
| ROOF                                 | 413.00 | 33.8                                     | -39.0 | 4512         | 4512 | 7.5            | -8.6 | -0         | -0 | 53.9         | -66.5  | 3.1                         | 2.4  | .0  |
| PNT                                  | 458.00 | 20.1                                     | -27.5 | 3913         | 3925 | 5.1            | -7.0 | -0         | -0 | 20.1         | -27.5  | 1.0                         | .8   | .0  |
| TOP                                  | 533.00 |  |       |              |      |                |      |            |    | 0.0          | 0.0    | 0.0                         | 0.0  | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 220 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | 4.4 -9.8     | 2812 2812    | 1.6 -3.5       | 8 4        | 328.5 -611.6 | 152.0 75.6            | 1.4              |
| MEZZ  | 12.50  | 3.4 -8.7     | 2363 2363    | 1.5 -3.7       | -1 -0      | 324.1 -601.8 | 144.4 71.5            | 1.5              |
| 2ND   | 23.00  | 4.5 -11.2    | 2925 2925    | 1.5 -3.8       | -9 -4      | 320.7 -593.1 | 138.1 68.1            | 1.5              |
| 3RD   | 36.00  | 4.6 -11.6    | 2925 2925    | 1.6 -4.0       | 3 1        | 316.1 -581.9 | 130.5 63.9            | 1.4              |
| 4TH   | 49.00  | 10.1 -15.8   | 2575 2575    | 3.9 -6.1       | 1 1        | 311.5 -570.3 | 123.0 59.9            | 1.4              |
| 5TH   | 64.00  | 9.4 -15.2    | 2145 2145    | 4.4 -7.1       | 2 1        | 301.4 -554.5 | 114.6 55.3            | 1.5              |
| 6TH   | 77.00  | 9.5 -15.9    | 2145 2145    | 4.4 -7.4       | 2 1        | 292.1 -539.3 | 107.5 51.4            | 1.5              |
| 7TH   | 90.00  | 10.0 -16.2   | 2145 2145    | 4.7 -7.6       | 2 1        | 282.5 -523.4 | 100.5 47.7            | 1.6              |
| 8TH   | 103.00 | 10.4 -16.5   | 2145 2145    | 4.9 -7.7       | 2 1        | 272.5 -507.2 | 93.8 44.1             | 1.6              |
| 9TH   | 116.00 | 10.9 -16.8   | 2145 2145    | 5.1 -7.8       | 1 1        | 262.1 -490.7 | 87.4 40.6             | 1.6              |
| 10TH  | 129.00 | 11.3 -17.1   | 2145 2145    | 5.3 -8.0       | 1 1        | 251.3 -473.9 | 81.1 37.3             | 1.7              |
| 11TH  | 142.00 | 11.6 -17.3   | 2145 2145    | 5.4 -8.0       | 1 0        | 240.0 -456.8 | 75.0 34.1             | 1.7              |
| 12TH  | 155.00 | 11.8 -17.4   | 2145 2145    | 5.5 -8.1       | 1 0        | 228.4 -439.5 | 69.2 31.0             | 1.7              |
| 13TH  | 168.00 | 12.1 -17.6   | 2145 2145    | 5.6 -8.2       | 0 0        | 216.6 -422.1 | 63.6 28.1             | 1.7              |
| 14TH  | 181.00 | 12.3 -17.8   | 2145 2145    | 5.8 -8.3       | 0 0        | 204.5 -404.5 | 58.2 25.4             | 1.7              |
| 15TH  | 194.00 | 12.5 -18.0   | 2145 2145    | 5.8 -8.4       | 0 0        | 192.2 -386.6 | 53.1 22.8             | 1.7              |
| 16TH  | 207.00 | 12.5 -18.3   | 2145 2145    | 5.8 -8.5       | -1 -1      | 179.6 -368.6 | 48.2 20.4             | 1.7              |
| 17TH  | 220.00 | 12.5 -18.5   | 2145 2145    | 5.8 -8.6       | -2 -1      | 167.1 -350.3 | 43.5 18.1             | 1.7              |
| 18TH  | 233.00 | 12.5 -18.8   | 2145 2145    | 5.8 -8.8       | -3 -2      | 154.6 -331.8 | 39.1 16.1             | 1.7              |
| 19TH  | 246.00 | 12.1 -19.3   | 2145 2145    | 5.7 -9.0       | -3 -2      | 142.1 -313.0 | 34.9 14.1             | 1.6              |
| 20TH  | 259.00 | 11.2 -19.4   | 2145 2145    | 5.2 -9.0       | -4 -2      | 130.0 -293.7 | 30.9 12.4             | 1.5              |
| 21ST  | 272.00 | 10.3 -18.8   | 2145 2145    | 4.8 -8.8       | -4 -2      | 118.8 -274.3 | 27.3 10.7             | 1.4              |
| 22ND  | 285.00 | 10.6 -20.4   | 2475 2475    | 4.3 -8.2       | -5 -2      | 108.5 -255.5 | 23.8 9.3              | 1.3              |
| 23RD  | 300.00 | 8.3 -17.8    | 1853 1853    | 4.5 -9.6       | -4 -2      | 97.9 -235.2  | 20.1 7.7              | 1.2              |
| 24TH  | 312.50 | 8.4 -18.3    | 1812 1812    | 4.6 -10.1      | -4 -2      | 89.6 -217.3  | 17.3 6.5              | 1.1              |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 220 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 25TH  | 325.00 | 8.4 -18.6    | 1812 1812    | 4.6 -10.3      | -5 -2      | 81.2 -199.0  | 14.7 5.5 1.0          |                  |
| 26TH  | 337.50 | 8.3 -18.9    | 1812 1812    | 4.6 -10.4      | -5 -2      | 72.8 -180.4  | 12.3 4.5 .9           |                  |
| 27TH  | 350.00 | 8.1 -19.1    | 1812 1812    | 4.5 -10.5      | -5 -2      | 64.5 -161.5  | 10.2 3.7 .8           |                  |
| 28TH  | 362.50 | 8.0 -19.1    | 1812 1812    | 4.4 -10.5      | -5 -2      | 56.4 -142.4  | 8.3 2.9 .7            |                  |
| 29TH  | 375.00 | 8.0 -18.8    | 1812 1812    | 4.4 -10.4      | -5 -2      | 48.4 -123.3  | 6.6 2.2 .5            |                  |
| 30TH  | 387.50 | 8.0 -18.6    | 1812 1812    | 4.4 -10.2      | -4 -2      | 40.4 -104.5  | 5.2 1.7 .4            |                  |
| MEZZ  | 400.00 | 8.4 -19.1    | 1885 1885    | 4.5 -10.1      | -4 -2      | 32.3 -85.9   | 4.0 1.2 .3            |                  |
| ROOF  | 413.00 | 18.5 -41.5   | 4512 4512    | 4.1 -9.2       | -4 -2      | 23.9 -66.8   | 3.0 .9 .3             |                  |
| PNT   | 458.00 | 5.4 -25.4    | 3913 3925    | 1.4 -6.5       | -2 -1      | 5.4 -25.4    | 1.0 .2 .1             |                  |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |                  |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 230 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |       |              |      |                |       |            |    |              |        | GUST FACTOR 1.32      |      |     |
|--|--------|--|-------|--------------|------|----------------|-------|------------|----|--------------|--------|-----------------------|------|-----|
| FLOOR  | HEIGHT | FORCE (KIPS)   |       | AREA (SQ FT) |      | PRESSURE (PSF) |       | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |      |     |
|  |        | X  | Y     | X            | Y    | X              | Y     | X          | Y  | X            | Y      | X                     | Y    | Z   |
| 1ST  | 0.00   | 1.5  | -14.1 | 2812         | 2812 | .5             | -5.0  | 9          | 1  | 160.8        | -709.9 | 175.3                 | 29.7 | 5.0 |
| MEZZ   | 12.50  | .5   | -12.0 | 2363         | 2363 | .2             | -5.1  | 3          | 0  | 159.4        | -695.9 | 146.6                 | 27.7 | 5.1 |
| 2ND  | 23.00  | .7   | -14.9 | 2925         | 2925 | .2             | -5.1  | -3         | -0 | 158.9        | -683.9 | 159.3                 | 26.1 | 5.2 |
| 3RD  | 36.00  | 1.8  | -15.4 | 2925         | 2925 | .6             | -5.3  | 6          | 1  | 158.1        | -669.0 | 150.5                 | 24.0 | 5.1 |
| 4TH  | 49.00  | 1.8  | -19.4 | 2575         | 2575 | 2.7            | -7.5  | -0         | -0 | 149.3        | -634.2 | 132.3                 | 19.7 | 5.2 |
| 5TH  | 64.00  | 7.2  | -17.4 | 2145         | 2145 | 3.4            | -8.1  | -0         | -0 | 142.1        | -616.8 | 124.1                 | 17.8 | 5.2 |
| 6TH  | 77.00  | 7.5  | -17.6 | 2145         | 2145 | 3.5            | -8.2  | -0         | -0 | 134.6        | -599.2 | 116.2                 | 16.0 | 5.2 |
| 7TH  | 90.00  | 7.8  | -17.7 | 2145         | 2145 | 3.7            | -8.3  | -1         | -0 | 126.7        | -581.5 | 108.6                 | 14.3 | 5.2 |
| 8TH  | 103.00 | 8.2  | -17.9 | 2145         | 2145 | 3.8            | -8.3  | -1         | -1 | 118.6        | -563.6 | 101.1                 | 12.7 | 5.2 |
| 9TH  | 116.00 | 8.5  | -18.1 | 2145         | 2145 | 4.0            | -8.4  | -2         | -1 | 110.1        | -545.5 | 93.9                  | 11.2 | 5.1 |
| 10TH   | 129.00 | 8.8  | -18.2 | 2145         | 2145 | 4.1            | -8.5  | -3         | -1 | 101.3        | -527.3 | 86.9                  | 9.8  | 5.1 |
| 11TH   | 142.00 | 8.6  | -18.6 | 2145         | 2145 | 4.0            | -8.7  | -3         | -2 | 92.7         | -508.7 | 80.2                  | 8.6  | 5.0 |
| 12TH   | 155.00 | 8.4  | -19.0 | 2145         | 2145 | 3.9            | -8.9  | -4         | -2 | 84.3         | -489.6 | 73.7                  | 7.4  | 4.9 |
| 13TH   | 168.00 | 8.2  | -19.4 | 2145         | 2145 | 3.8            | -9.1  | -5         | -2 | 76.1         | -470.2 | 67.5                  | 6.4  | 4.8 |
| 14TH   | 181.00 | 8.0  | -19.9 | 2145         | 2145 | 3.7            | -9.3  | -6         | -2 | 68.1         | -450.3 | 61.5                  | 5.4  | 4.6 |
| 15TH   | 194.00 | 7.7  | -20.3 | 2145         | 2145 | 3.6            | -9.5  | -7         | -3 | 60.4         | -430.1 | 55.8                  | 4.6  | 4.5 |
| 16TH   | 207.00 | 7.2  | -20.7 | 2145         | 2145 | 3.4            | -9.7  | -8         | -3 | 53.2         | -409.4 | 50.3                  | 3.9  | 4.3 |
| 17TH   | 220.00 | 6.8  | -21.1 | 2145         | 2145 | 3.2            | -9.8  | -8         | -3 | 46.4         | -388.2 | 45.1                  | 3.2  | 4.1 |
| 18TH   | 233.00 | 6.4  | -21.6 | 2145         | 2145 | 3.0            | -10.0 | -9         | -3 | 40.0         | -366.7 | 40.2                  | 2.6  | 3.9 |
| 19TH   | 246.00 | 5.5  | -22.3 | 2145         | 2145 | 2.6            | -10.4 | -10        | -3 | 34.5         | -344.4 | 35.6                  | 2.2  | 3.6 |
| 20TH   | 259.00 | 4.4  | -22.7 | 2145         | 2145 | 2.1            | -10.6 | -11        | -2 | 30.1         | -321.7 | 31.3                  | 1.7  | 3.4 |
| 21ST   | 272.00 | 3.6  | -22.3 | 2145         | 2145 | 1.7            | -10.4 | -13        | -2 | 26.4         | -299.4 | 27.2                  | 1.4  | 3.1 |
| 22ND   | 285.00 | 3.2  | -24.5 | 2475         | 2475 | 1.3            | -9.9  | -13        | -2 | 23.2         | -274.9 | 22.9                  | 1.0  | 2.8 |
| 23RD   | 300.00 | 2.9  | -21.5 | 1853         | 1853 | 1.6            | -11.6 | -10        | -1 | 20.3         | -253.4 | 19.6                  | .7   | 2.6 |
| 24TH   | 312.50 | 3.0  | -22.1 | 1812         | 1812 | 1.6            | -12.2 | -10        | -1 |              |        |                       |      |     |

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|       |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |       |              |      |                |       |            |    |              |        | GUST FACTOR 1.32      |     |     |
|-------|--------|--|-------|--------------|------|----------------|-------|------------|----|--------------|--------|-----------------------|-----|-----|
|       |        | REFERENCE PRESSURE 23.0 PSF              |       |              |      |                |       |            |    |              |        |                       |     |     |
| FLOOR | HEIGHT | FORCE (KIPS)                             |       | AREA (SQ FT) |      | PRESSURE (PSF) |       | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |     |     |
|       |        | X  | Y     | X            | Y    | X              | Y     | X          | Y  | X            | Y      | X                     | Y   | Z   |
| 25TH  | 325.00 | 2.7                                      | -22.6 | 1812         | 1812 | 1.5            | -12.5 | -11        | -1 | 17.3         | -231.2 | 16.6                  | .5  | 2.3 |
| 26TH  | 337.50 | 2.5                                      | -22.9 | 1812         | 1812 | 1.4            | -12.6 | -12        | -1 | 14.7         | -208.7 | 13.8                  | .3  | 2.1 |
| 27TH  | 350.00 | 2.3                                      | -23.2 | 1812         | 1812 | 1.3            | -12.8 | -13        | -1 | 12.1         | -185.8 | 11.4                  | .1  | 1.8 |
| 28TH  | 362.50 | 2.3                                      | -23.0 | 1812         | 1812 | 1.3            | -12.7 | -12        | -1 | 9.8          | -162.6 | 9.2                   | -.0 | 1.5 |
| 29TH  | 375.00 | 2.4                                      | -22.4 | 1812         | 1812 | 1.3            | -12.4 | -12        | -1 | 7.5          | -139.6 | 7.3                   | -.1 | 1.2 |
| 30TH  | 387.50 | 2.4                                      | -21.8 | 1812         | 1812 | 1.3            | -12.0 | -11        | -1 | 5.1          | -117.2 | 5.7                   | -.2 | .9  |
| MEZZ  | 400.00 | 2.4                                      | -22.0 | 1885         | 1885 | 1.3            | -11.7 | -10        | -1 | 2.6          | -95.4  | 4.4                   | -.2 | .7  |
| ROOF  | 413.00 |  |       |              |      |                |       |            |    | .2           | -73.5  | 3.3                   | -.3 | .5  |
| PNT   | 458.00 | 4.7                                      | -46.4 | 4512         | 4512 | 1.0            | -10.3 | -8         | -1 | -4.4         | -27.0  | 1.0                   | -.2 | .1  |
| TOP   | 533.00 | -4.4                                     | -27.0 | 3913         | 3925 | -1.1           | -6.9  | -3         | 1  | 0.0          | 0.0    | 0.0                   | 0.0 | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 240 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 1ST   | 0.00   | -1.7 -15.9   | 2812 2812    | -.6 -5.6       | 6 -1       | 13.6 -721.2  | 177.7 -7.0 7.0        |                  |
| MEZZ  | 12.50  | -2.0 -13.6   | 2363 2363    | -.8 -5.8       | 1 -0       | 15.3 -705.4  | 168.7 -7.2 7.1        |                  |
| 2ND   | 23.00  | -2.7 -17.0   | 2925 2925    | -.9 -5.8       | -3 1       | 17.3 -691.7  | 161.4 -7.4 7.1        |                  |
| 3RD   | 36.00  | -1.6 -17.5   | 2925 2925    | -.5 -6.0       | 2 -0       | 20.0 -674.7  | 152.5 -7.6 7.0        |                  |
| 4TH   | 49.00  | 3.7 -20.3    | 2575 2575    | 1.1 -7.9       | -6 -1      | 21.6 -657.2  | 143.9 -7.9 7.1        |                  |
| 5TH   | 64.00  | 4.4 -17.2    | 2145 2145    | 2.0 -8.0       | -6 -2      | 18.0 -636.9  | 134.2 -8.2 6.9        |                  |
| 6TH   | 77.00  | 4.7 -17.1    | 2145 2145    | 2.2 -8.0       | -7 -2      | 13.6 -619.7  | 126.0 -8.4 6.8        |                  |
| 7TH   | 90.00  | 4.9 -17.3    | 2145 2145    | 2.3 -8.1       | -8 -2      | 8.9 -602.6   | 118.0 -8.5 6.7        |                  |
| 8TH   | 103.00 | 5.1 -17.6    | 2145 2145    | 2.4 -8.2       | -9 -3      | 3.9 -585.3   | 110.3 -8.6 6.5        |                  |
| 9TH   | 116.00 | 5.3 -17.8    | 2145 2145    | 2.5 -8.3       | -10 -3     | -1.2 -567.7  | 102.8 -8.6 6.3        |                  |
| 10TH  | 129.00 | 5.5 -18.1    | 2145 2145    | 2.6 -8.4       | -11 -3     | -6.5 -549.9  | 95.6 -8.6 6.1         |                  |
| 11TH  | 142.00 | 5.1 -18.4    | 2145 2145    | 2.4 -8.6       | -12 -3     | -12.0 -531.8 | 88.5 -8.5 5.9         |                  |
| 12TH  | 155.00 | 4.6 -18.8    | 2145 2145    | 2.1 -8.8       | -13 -3     | -17.1 -513.3 | 81.7 -8.3 5.7         |                  |
| 13TH  | 168.00 | 4.1 -19.1    | 2145 2145    | 1.9 -8.9       | -14 -3     | -21.7 -494.5 | 75.2 -8.0 5.4         |                  |
| 14TH  | 181.00 | 3.6 -19.5    | 2145 2145    | 1.7 -9.1       | -15 -3     | -25.8 -475.4 | 68.9 -7.7 5.1         |                  |
| 15TH  | 194.00 | 3.1 -19.9    | 2145 2145    | 1.4 -9.3       | -16 -2     | -29.3 -455.9 | 62.8 -7.3 4.8         |                  |
| 16TH  | 207.00 | .2 -20.5     | 2145 2145    | 1.2 -9.6       | -15 -2     | -32.4 -436.0 | 57.0 -6.9 4.5         |                  |
| 17TH  | 220.00 | 2.0 -21.1    | 2145 2145    | .9 -9.8        | -14 -1     | -34.9 -415.5 | 51.5 -6.5 4.2         |                  |
| 18TH  | 233.00 | 1.4 -21.7    | 2145 2145    | .7 -10.1       | -14 -1     | -36.9 -394.4 | 46.2 -6.0 3.9         |                  |
| 19TH  | 246.00 | .2 -22.4     | 2145 2145    | .1 -10.5       | -13 -0     | -38.3 -372.7 | 41.3 -5.6 3.6         |                  |
| 20TH  | 259.00 | -.9 -22.7    | 2145 2145    | -.4 -10.6      | -13 1      | -38.5 -350.3 | 36.6 -5.1 3.3         |                  |
| 21ST  | 272.00 | -1.1 -21.9   | 2145 2145    | -.5 -10.2      | -13 1      | -37.6 -327.7 | 32.1 -4.6 3.0         |                  |
| 22ND  | 285.00 | -1.6 -23.4   | 2475 2475    | -.6 -9.5       | -13 1      | -36.4 -305.8 | 28.0 -4.1 2.7         |                  |
| 23RD  | 300.00 | -1.6 -21.7   | 1853 1853    | -.9 -11.7      | -9 1       | -34.9 -282.4 | 23.6 -3.5 2.4         |                  |
| 24TH  | 312.50 | -1.8 -22.5   | 1812 1812    | -1.0 -12.4     | -9 1       | -33.3 -260.6 | 20.2 -3.1 2.2         |                  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 240 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -2.0 -22.8   | 1812 1812    | -1.1 -12.6     | -9 1       | -31.4 -238.2 | 17.1 -2.7 2.0         |
| 26TH  | 337.50 | -2.4 -23.2   | 1812 1812    | -1.3 -12.8     | -10 1      | -29.4 -215.3 | 14.3 -2.3 1.8         |
| 27TH  | 350.00 | -2.7 -23.5   | 1812 1812    | -1.5 -13.0     | -10 1      | -27.1 -192.1 | 11.7 -2.0 1.5         |
| 28TH  | 362.50 | -2.9 -23.4   | 1812 1812    | -1.6 -12.9     | -10 1      | -24.3 -168.6 | 9.5 -1.7 1.3          |
| 29TH  | 375.00 | -2.9 -23.4   | 1812 1812    | -1.6 -12.7     | -10 1      | -21.5 -145.2 | 7.5 -1.4 1.0          |
| 30TH  | 387.50 | -2.9 -23.0   | 1812 1812    | -1.6 -12.5     | -10 1      | -18.6 -122.1 | 5.8 -1.1 .8           |
| MEZZ  | 400.00 | -3.0 -23.1   | 1885 1885    | -1.6 -12.2     | -10 1      | -15.7 -99.5  | 4.5 -.9 .6            |
| ROOF  | 413.00 | -5.5 -50.0   | 4512 4512    | -1.2 -11.1     | -6 1       | -12.7 -76.5  | 3.3 -.7 .3            |
| PNT   | 458.00 | -7.2 -26.5   | 3913 3925    | -1.9 -6.7      | -2 0       | -7.2 -26.5   | 1.0 -.3 .0            |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0 0.0           |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 250 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)  | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|---------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y           | X Y Z                 |
| 1ST   | 0.00   | -4.6 -22.8   | 2812 2812    | -1.6 -8.1      | 2 -0       | -52.8 -1058.4 | 272.4 -14.6 8.7       |
| MEZZ  | 12.50  | -4.5 -19.0   | 2363 2363    | -1.9 -8.0      | -3 1       | -48.3 -1035.6 | 259.3 -13.9 8.7       |
| 2ND   | 23.00  | -5.8 -23.1   | 2925 2925    | -2.0 -7.9      | -7 2       | -43.7 -1016.6 | 248.6 -13.4 8.7       |
| 3RD   | 36.00  | -4.1 -23.2   | 2925 2925    | -1.4 -7.9      | -4 1       | -37.9 -993.5  | 235.5 -12.9 8.5       |
| 4TH   | 49.00  | 1.5 -26.1    | 2575 2575    | .6 -10.1       | -14 -1     | -33.9 -970.3  | 222.7 -12.4 8.4       |
| 5TH   | 64.00  | 2.2 -22.4    | 2145 2145    | 1.0 -10.4      | -15 -1     | -35.4 -944.2  | 208.4 -11.9 8.0       |
| 6TH   | 77.00  | 2.4 -22.3    | 2145 2145    | 1.1 -10.4      | -16 -2     | -37.6 -921.8  | 196.2 -11.4 7.7       |
| 7TH   | 90.00  | 2.4 -22.6    | 2145 2145    | 1.1 -10.5      | -17 -2     | -40.0 -899.6  | 184.4 -10.9 7.4       |
| 8TH   | 103.00 | 2.3 -23.0    | 2145 2145    | 1.1 -10.7      | -18 -2     | -42.4 -876.9  | 172.9 -10.4 7.0       |
| 9TH   | 116.00 | 2.3 -23.3    | 2145 2145    | 1.1 -10.9      | -19 -2     | -44.7 -854.0  | 161.6 -9.8 6.6        |
| 10TH  | 129.00 | 2.2 -23.7    | 2145 2145    | 1.0 -11.0      | -20 -2     | -47.0 -830.7  | 150.7 -9.2 6.1        |
| 11TH  | 142.00 | 1.5 -24.5    | 2145 2145    | .7 -11.4       | -20 -1     | -49.2 -807.0  | 140.0 -8.6 5.6        |
| 12TH  | 155.00 | .7 -25.4     | 2145 2145    | .3 -11.8       | -20 -1     | -50.7 -782.5  | 129.7 -8.0 5.2        |
| 13TH  | 168.00 | -.1 -26.2    | 2145 2145    | -.0 -12.2      | -19 0      | -51.4 -757.1  | 119.7 -7.3 4.7        |
| 14TH  | 181.00 | -.9 -27.1    | 2145 2145    | -.4 -12.6      | -19 1      | -51.3 -730.9  | 110.0 -6.6 4.1        |
| 15TH  | 194.00 | -1.5 -28.0   | 2145 2145    | -.7 -13.1      | -18 1      | -50.5 -703.8  | 100.7 -6.0 3.6        |
| 16TH  | 207.00 | -2.0 -29.0   | 2145 2145    | -.9 -13.5      | -16 1      | -48.9 -675.7  | 91.7 -5.3 3.1         |
| 17TH  | 220.00 | -2.5 -30.0   | 2145 2145    | -1.2 -14.0     | -14 1      | -46.9 -646.7  | 83.1 -4.7 2.6         |
| 18TH  | 233.00 | -2.9 -31.0   | 2145 2145    | -1.4 -14.5     | -13 1      | -44.5 -616.7  | 74.9 -4.1 2.2         |
| 19TH  | 246.00 | -4.3 -32.7   | 2145 2145    | -2.0 -15.2     | -11 1      | -41.5 -585.7  | 67.1 -3.6 1.8         |
| 20TH  | 259.00 | -5.0 -33.2   | 2145 2145    | -2.3 -15.5     | -10 1      | -37.2 -553.1  | 59.7 -3.0 1.4         |
| 21ST  | 272.00 | -4.3 -31.5   | 2145 2145    | -2.0 -14.7     | -9 1       | -32.2 -519.9  | 52.7 -2.6 1.1         |
| 22ND  | 285.00 | -3.3 -32.8   | 2475 2475    | -1.3 -13.3     | -8 1       | -27.9 -488.4  | 46.2 -2.2 .8          |
| 23RD  | 300.00 | -2.1 -32.7   | 1853 1853    | -1.1 -17.6     | -2 0       | -24.6 -455.6  | 39.1 -1.8 .6          |
| 24TH  | 312.50 | -2.1 -34.4   | 1812 1812    | -1.2 -19.0     | -1 0       | -22.5 -423.0  | 33.6 -1.5 .5          |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 250 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | GUST FACTOR 1.32 |       |              |      |                |       |            |    |              |                       |
|-------|--------|------------------|-------|--------------|------|----------------|-------|------------|----|--------------|-----------------------|
|       |        | FORCE (KIPS)     |       | AREA (SQ FT) |      | PRESSURE (PSF) |       | ECCEN (FT) |    | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
| X     | Y      | X                | Y     | X            | Y    | X              | Y     | X          | Y  | Z            |                       |
| 25TH  | 325.00 | -2.1             | -35.3 | 1812         | 1812 | -1.2           | -19.5 | -2         | 0  | -20.4        | -388.6                |
| 26TH  | 337.50 | -2.1             | -36.2 | 1812         | 1812 | -1.2           | -20.0 | -2         | 0  | -18.3        | -353.2                |
| 27TH  | 350.00 | -2.2             | -37.1 | 1812         | 1812 | -1.2           | -20.5 | -2         | 0  | -16.1        | -317.0                |
| 28TH  | 362.50 | -2.3             | -37.4 | 1812         | 1812 | -1.3           | -20.6 | -2         | 0  | -14.0        | -279.9                |
| 29TH  | 375.00 | -2.4             | -37.3 | 1812         | 1812 | -1.3           | -20.6 | -2         | 0  | -11.7        | -242.5                |
| 30TH  | 387.50 | -2.5             | -37.2 | 1812         | 1812 | -1.4           | -20.5 | -2         | 0  | -9.3         | -205.1                |
| MEZZ  | 400.00 | -2.8             | -38.5 | 1885         | 1885 | -1.5           | -20.4 | -2         | 0  | -6.7         | -167.9                |
| ROOF  | 413.00 | -3.1             | -34.1 | 4512         | 4512 | -1.7           | -18.6 | 1          | -0 | -3.9         | -129.4                |
| PNT   | 458.00 | -0.8             | -45.4 | 3913         | 3925 | -0.2           | -11.6 | 1          | -0 | -0.8         | -45.4                 |
| TOP   | 533.00 |                  |       |              |      |                |       |            |    | 0.0          | 0.0                   |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 260 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y                   | Z                |
| 1ST   | 0.00   | -4.2 -18.1   | 2812 2812    | -1.5 -6.4      | -2 0       | -77.8 -903.2 | 240.7 -8.3            | 2.9              |
| MEZZ  | 12.50  | -4.1 -15.0   | 2363 2363    | -1.7 -6.3      | -6 2       | -73.6 -885.1 | 229.5 -7.4            | 2.8              |
| 2ND   | 23.00  | -5.9 -18.3   | 2925 2925    | -2.0 -6.2      | -10 3      | -69.6 -870.2 | 220.3 -6.6            | 2.7              |
| 3RD   | 36.00  | -5.3 -19.2   | 2925 2925    | -1.8 -6.6      | -6 2       | -63.7 -851.9 | 209.1 -5.7            | 2.5              |
| 4TH   | 49.00  | -1.4 -21.2   | 2575 2575    | -.5 -8.2       | -18 1      | -58.3 -832.7 | 198.1 -4.9            | 2.4              |
| 5TH   | 64.00  | -1.0 -18.0   | 2145 2145    | -.5 -8.4       | -19 1      | -57.0 -811.5 | 185.8 -4.1            | 2.0              |
| 6TH   | 77.00  | -1.3 -18.1   | 2145 2145    | -.6 -8.4       | -19 1      | -55.9 -793.4 | 175.4 -3.3            | 1.7              |
| 7TH   | 90.00  | -1.8 -18.4   | 2145 2145    | -.8 -8.6       | -19 2      | -54.6 -775.4 | 165.2 -2.6            | 1.3              |
| 8TH   | 103.00 | -2.2 -18.7   | 2145 2145    | -1.0 -8.7      | -20 2      | -52.9 -757.0 | 155.2 -1.9            | 1.0              |
| 9TH   | 116.00 | -2.7 -19.0   | 2145 2145    | -1.3 -8.9      | -20 3      | -50.6 -738.3 | 145.5 -1.3            | .6               |
| 10TH  | 129.00 | -3.2 -19.3   | 2145 2145    | -1.5 -9.0      | -20 3      | -47.9 -719.3 | 136.0 -.6             | .2               |
| 11TH  | 142.00 | -3.7 -19.8   | 2145 2145    | -1.7 -9.2      | -18 3      | -44.7 -700.0 | 126.8 -.0             | -.2              |
| 12TH  | 155.00 | -4.1 -20.3   | 2145 2145    | -1.9 -9.5      | -17 3      | -41.0 -680.2 | 117.8 .5              | -.6              |
| 13TH  | 168.00 | -4.6 -20.8   | 2145 2145    | -2.2 -9.7      | -15 3      | -36.9 -659.9 | 109.1 1.1             | -.9              |
| 14TH  | 181.00 | -5.1 -21.3   | 2145 2145    | -2.4 -9.9      | -14 3      | -32.3 -639.2 | 100.7 1.5             | -1.2             |
| 15TH  | 194.00 | -5.4 -21.8   | 2145 2145    | -2.5 -10.2     | -12 3      | -27.2 -617.9 | 92.5 1.9              | -1.5             |
| 16TH  | 207.00 | -5.3 -22.5   | 2145 2145    | -2.5 -10.5     | -10 2      | -21.8 -596.1 | 84.6 2.2              | -1.8             |
| 17TH  | 220.00 | -5.2 -23.2   | 2145 2145    | -2.4 -10.8     | -8 2       | -16.5 -573.6 | 77.0 2.5              | -2.1             |
| 18TH  | 233.00 | -5.0 -23.9   | 2145 2145    | -2.3 -11.1     | -7 1       | -11.4 -550.4 | 69.7 2.6              | -2.3             |
| 19TH  | 246.00 | -5.6 -25.6   | 2145 2145    | -2.6 -11.9     | -5 1       | -6.3 -526.5  | 62.7 2.8              | -2.4             |
| 20TH  | 259.00 | -5.4 -26.3   | 2145 2145    | -2.5 -12.3     | -3 1       | -.7 -500.9   | 56.0 2.8              | -2.5             |
| 21ST  | 272.00 | -3.9 -24.8   | 2145 2145    | -1.8 -11.6     | -2 0       | 4.7 -474.6   | 49.7 2.8              | -2.6             |
| 22ND  | 285.00 | -2.9 -24.8   | 2475 2475    | -1.2 -10.0     | 0 -0       | 8.6 -449.8   | 43.7 2.7              | -2.7             |
| 23RD  | 300.00 | -1.8 -29.5   | 1853 1853    | -1.0 -15.9     | 6 -0       | 11.4 -424.9  | 37.1 2.5              | -2.7             |
| 24TH  | 312.50 | -1.3 -31.5   | 1812 1812    | -.7 -17.4      | 7 -0       | 13.2 -395.4  | 32.0 2.4              | -2.5             |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 260 CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -.8 -32.2    | 1812 1812    | -.4 -17.7      | 7 -0       | 14.5 -363.9  | 27.2 2.2 -2.3         |
| 26TH  | 337.50 | -.4 -32.9    | 1812 1812    | -.2 -18.1      | 8 -0       | 15.3 -331.8  | 22.9 2.0 -2.0         |
| 27TH  | 350.00 | .0 -33.6     | 1812 1812    | .0 -18.5       | 8 0        | 15.7 -298.9  | 18.9 1.8 -1.8         |
| 28TH  | 362.50 | .2 -34.1     | 1812 1812    | .1 -18.8       | 8 0        | 15.7 -265.4  | 15.4 1.6 -1.5         |
| 29TH  | 375.00 | .3 -34.6     | 1812 1812    | .1 -19.1       | 7 0        | 15.4 -231.2  | 12.3 1.4 -1.2         |
| 30TH  | 387.50 | .3 -34.9     | 1812 1812    | .2 -19.3       | 6 0        | 15.2 -196.6  | 9.6 1.2 -1.0          |
| MEZZ  | 400.00 | .7 -35.9     | 1885 1885    | .4 -19.1       | 6 0        | 14.8 -161.7  | 7.4 1.1 -.8           |
| ROOF  | 413.00 | 5.0 -80.8    | 4512 4512    | 1.1 -17.9      | 5 0        | 14.2 -125.8  | 5.5 .9 -.6            |
| PNT   | 458.00 | 9.2 -45.0    | 3913 3925    | 2.3 -11.5      | 3 1        | 9.2 -45.0    | 1.7 .3 -.1            |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0      | 0.0 0.0               |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 270 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)   | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|----------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y            | X Y Z                 |
| 1ST   | 0.00   | -11.8 -18.0  | 2812 2812    | -4.2 -6.4      | 3 -2       | -388.7 -1120.8 | 308.1 -81.4 -6.2      |
| MEZZ  | 12.50  | -9.7 -13.9   | 2363 2363    | -4.1 -5.9      | 2 -1       | -377.0 -1102.8 | 294.2 -76.7 -6.1      |
| 2ND   | 23.00  | -12.9 -16.2  | 2925 2925    | -4.4 -5.6      | 0 -0       | -367.3 -1088.9 | 282.7 -72.7 -6.1      |
| 3RD   | 36.00  | -13.8 -17.7  | 2925 2925    | -4.7 -6.0      | -3 2       | -354.4 -1072.7 | 268.7 -68.1 -6.1      |
| 4TH   | 49.00  | -11.1 -22.1  | 2575 2575    | -4.3 -8.6      | -10 5      | -329.4 -1032.9 | 239.2 -58.5 -6.4      |
| 5TH   | 64.00  | -10.3 -19.3  | 2145 2145    | -4.8 -9.0      | -9 5       | -319.1 -1013.7 | 225.9 -54.3 -6.6      |
| 6TH   | 77.00  | -10.9 -19.8  | 2145 2145    | -5.1 -9.2      | -8 4       | -308.2 -993.9  | 212.9 -50.2 -6.8      |
| 7TH   | 90.00  | -11.5 -21.0  | 2145 2145    | -5.4 -9.8      | -7 4       | -296.7 -972.9  | 200.1 -46.3 -7.0      |
| 8TH   | 103.00 | -12.1 -22.1  | 2145 2145    | -5.7 -10.3     | -6 3       | -284.6 -950.8  | 187.6 -42.5 -7.2      |
| 9TH   | 116.00 | -12.8 -23.3  | 2145 2145    | -6.0 -10.9     | -5 3       | -271.8 -927.5  | 175.4 -38.9 -7.3      |
| 10TH  | 129.00 | -13.4 -24.5  | 2145 2145    | -6.2 -11.4     | -4 2       | -258.4 -903.0  | 163.5 -35.4 -7.5      |
| 11TH  | 142.00 | -13.6 -25.1  | 2145 2145    | -6.3 -11.7     | -3 1       | -244.9 -877.9  | 151.9 -32.2 -7.5      |
| 12TH  | 155.00 | -13.7 -25.6  | 2145 2145    | -6.4 -11.9     | -1 1       | -231.1 -852.3  | 140.6 -29.1 -7.6      |
| 13TH  | 168.00 | -13.9 -26.2  | 2145 2145    | -6.5 -12.2     | -0 0       | -217.3 -826.1  | 129.7 -26.2 -7.6      |
| 14TH  | 181.00 | -14.0 -26.7  | 2145 2145    | -6.5 -12.4     | 1 -1       | -203.2 -799.4  | 119.2 -23.4 -7.6      |
| 15TH  | 194.00 | -13.9 -27.3  | 2145 2145    | -6.5 -12.7     | 2 -1       | -189.3 -772.1  | 108.9 -20.9 -7.5      |
| 16TH  | 207.00 | -13.2 -28.2  | 2145 2145    | -6.2 -13.2     | 4 -2       | -176.1 -743.8  | 99.1 -18.5 -7.3       |
| 17TH  | 220.00 | -12.5 -29.1  | 2145 2145    | -5.8 -13.6     | 5 -2       | -163.6 -714.7  | 89.6 -16.3 -7.2       |
| 18TH  | 233.00 | -11.8 -30.0  | 2145 2145    | -5.5 -14.0     | 7 -3       | -151.8 -684.8  | 80.5 -14.2 -6.9       |
| 19TH  | 246.00 | -11.9 -33.2  | 2145 2145    | -5.6 -15.5     | 8 -3       | -139.8 -651.6  | 71.8 -12.4 -6.6       |
| 20TH  | 259.00 | -10.5 -35.1  | 2145 2145    | -4.9 -16.3     | 10 -3      | -129.4 -616.5  | 63.6 -10.6 -6.2       |
| 21ST  | 272.00 | -7.5 -33.3   | 2145 2145    | -4.5 -15.5     | 15 -3      | -121.9 -583.3  | 55.8 -9.0 -5.7        |
| 22ND  | 285.00 | -8.3 -33.5   | 2475 2475    | -3.3 -13.5     | 15 -4      | -113.6 -549.7  | 47.3 -7.2 -5.2        |
| 23RD  | 300.00 | -11.2 -40.7  | 1853 1853    | -6.0 -22.0     | 10 -3      | -102.4 -509.0  | 40.7 -5.9 -4.7        |
| 24TH  | 312.50 | -11.2 -42.8  | 1812 1812    | -6.2 -23.6     | 10 -3      |                |                       |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 270 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |                  |
| 25TH  | 325.00 | -10.9 -42.9  | 1812 1812    | -6.0 -23.7     | 11 -3      | -91.2 -466.3 | 34.6 -4.6 -4.3        |                  |
| 26TH  | 337.50 | -10.6 -42.8  | 1812 1812    | -5.8 -23.6     | 11 -3      | -80.3 -423.3 | 29.0 -3.6 -3.8        |                  |
| 27TH  | 350.00 | -10.3 -42.7  | 1812 1812    | -5.7 -23.5     | 12 -3      | -69.7 -380.5 | 24.0 -2.6 -3.3        |                  |
| 28TH  | 362.50 | -10.6 -43.0  | 1812 1812    | -5.9 -23.7     | 11 -3      | -59.4 -337.9 | 19.5 -1.8 -2.7        |                  |
| 29TH  | 375.00 | -11.4 -43.5  | 1812 1812    | -6.3 -24.0     | 10 -3      | -48.8 -294.9 | 15.5 -1.1 -2.2        |                  |
| 30TH  | 387.50 | -12.2 -44.0  | 1812 1812    | -6.7 -24.3     | 8 -2       | -37.4 -251.4 | 12.1 -.6 -1.8         |                  |
| MEZZ  | 400.00 | -12.8 -45.9  | 1885 1885    | -6.8 -24.3     | 6 -2       | -25.2 -207.3 | 9.3 -.2 -1.4          |                  |
| ROOF  | 413.00 | -17.5 -107.5 | 4512 4512    | -3.9 -23.8     | 8 -1       | -12.4 -161.4 | 6.9 .0 -1.1           |                  |
| PNT   | 458.00 |              |              |                |            | 5.1 -53.9    | 2.0 .2 -.2            |                  |
| TOP   | 533.00 | 5.1 -53.9    | 3913 3925    | 1.3 -13.7      | 4 0        | 0.0 0.0      | 0.0 0.0               | 0.0              |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 280 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |       |              |      |                |       |            |    |              |         | GUST FACTOR 1.32      |        |      |
|--|--------|--|-------|--------------|------|----------------|-------|------------|----|--------------|---------|-----------------------|--------|------|
| FLOOR  | HEIGHT | FORCE (KIPS)   |       | AREA (SQ FT) |      | PRESSURE (PSF) |       | ECCEN (FT) |    | SHEAR (KIPS) |         | MOMENT (1000-FT-KIPS) |        |      |
|  |        | X  | Y     | X            | Y    | X              | Y     | X          | Y  | X            | Y       | X                     | Y      | Z    |
| 1ST  | 0.00   | -13.9  | -18.2 | 2812         | 2812 | -5.0           | -6.5  | 2          | -2 | -652.5       | -1209.1 | 335.7                 | -150.0 | -7.2 |
| MEZZ   | 12.50  | -12.0  | -12.4 | 2363         | 2363 | -5.1           | -5.2  | 3          | -3 | -638.6       | -1190.9 | 320.7                 | -141.9 | -7.2 |
| 2ND  | 23.00  | -17.0  | -12.9 | 2925         | 2925 | -5.8           | -4.4  | 3          | -4 | -626.6       | -1178.6 | 308.2                 | -135.3 | -7.1 |
| 3RD  | 36.00  | -19.5  | -14.2 | 2925         | 2925 | -6.7           | -4.8  | 2          | -2 | -609.7       | -1165.7 | 293.0                 | -127.2 | -7.0 |
| 4TH  | 49.00  | -19.5  | -19.7 | 2575         | 2575 | -7.6           | -7.7  | -6         | 6  | -590.2       | -1151.5 | 277.9                 | -119.4 | -6.9 |
| 5TH  | 64.00  | -18.5  | -17.8 | 2145         | 2145 | -8.6           | -8.3  | -5         | 5  | -570.7       | -1131.7 | 260.8                 | -110.7 | -7.1 |
| 6TH  | 77.00  | -19.1  | -18.5 | 2145         | 2145 | -8.9           | -8.6  | -4         | 4  | -552.2       | -1114.0 | 246.2                 | -103.4 | -7.3 |
| 7TH  | 90.00  | -19.7  | -20.0 | 2145         | 2145 | -9.2           | -9.3  | -2         | 2  | -533.1       | -1095.5 | 231.8                 | -96.4  | -7.5 |
| 8TH  | 103.00 | -20.3  | -21.5 | 2145         | 2145 | -9.5           | -10.0 | -1         | 1  | -513.4       | -1075.5 | 217.7                 | -89.6  | -7.6 |
| 9TH  | 116.00 | -20.9  | -23.0 | 2145         | 2145 | -9.7           | -10.7 | -0         | 0  | -493.1       | -1054.0 | 203.9                 | -83.0  | -7.6 |
| 10TH   | 129.00 | -21.4  | -24.5 | 2145         | 2145 | -10.0          | -11.4 | 1          | -1 | -472.2       | -1031.0 | 190.3                 | -76.7  | -7.6 |
| 11TH   | 142.00 | -21.5  | -26.1 | 2145         | 2145 | -10.0          | -12.2 | 2          | -1 | -450.8       | -1006.5 | 177.1                 | -70.7  | -7.6 |
| 12TH   | 155.00 | -21.4  | -27.7 | 2145         | 2145 | -10.0          | -12.9 | 2          | -2 | -429.3       | -980.4  | 164.2                 | -65.0  | -7.5 |
| 13TH   | 168.00 | -21.4  | -29.2 | 2145         | 2145 | -10.0          | -13.6 | 3          | -2 | -407.9       | -952.7  | 151.6                 | -59.6  | -7.4 |
| 14TH   | 181.00 | -21.4  | -30.8 | 2145         | 2145 | -10.0          | -14.4 | 4          | -3 | -386.5       | -923.5  | 139.4                 | -54.4  | -7.3 |
| 15TH   | 194.00 | -21.1  | -32.4 | 2145         | 2145 | -9.8           | -15.1 | 4          | -3 | -365.2       | -892.7  | 127.6                 | -49.5  | -7.1 |
| 16TH   | 207.00 | -20.2  | -34.1 | 2145         | 2145 | -9.4           | -15.9 | 5          | -3 | -344.1       | -860.3  | 116.2                 | -44.9  | -6.9 |
| 17TH   | 220.00 | -19.3  | -35.8 | 2145         | 2145 | -9.0           | -16.7 | 6          | -3 | -323.9       | -826.2  | 105.3                 | -40.6  | -6.7 |
| 18TH   | 233.00 | -18.4  | -37.5 | 2145         | 2145 | -8.6           | -17.5 | 7          | -3 | -304.6       | -790.4  | 94.7                  | -36.5  | -6.4 |
| 19TH   | 246.00 | -18.1  | -41.7 | 2145         | 2145 | -8.4           | -19.4 | 7          | -3 | -286.2       | -753.0  | 84.7                  | -32.7  | -6.1 |
| 20TH   | 259.00 | -15.4  | -44.2 | 2145         | 2145 | -7.2           | -20.6 | 10         | -3 | -268.1       | -711.3  | 75.2                  | -29.1  | -5.7 |
| 21ST   | 272.00 | -11.3  | -42.5 | 2145         | 2145 | -5.3           | -19.8 | 13         | -4 | -252.7       | -667.1  | 66.2                  | -25.7  | -5.2 |
| 22ND   | 285.00 | -12.0  | -44.1 | 2475         | 2475 | -4.8           | -17.8 | 12         | -3 | -241.3       | -624.6  | 57.8                  | -22.5  | -4.6 |
| 23RD   | 300.00 | -17.6  | -45.2 | 1853         | 1853 | -9.5           | -24.4 | 8          | -3 | -229.3       | -580.5  | 48.8                  | -18.9  | -4.0 |
| 24TH   | 312.50 | -18.3  | -46.8 | 1812         | 1812 | -10.1          | -25.8 | 7          | -3 | -211.8       | -535.3  | 41.8                  | -16.2  | -3.6 |

|       |        | TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |                             |       |            |    |              |        |                       |       | GUST FACTOR 1.32 |   |   |   |
|-------|--------|--------------------------------------|--------|--|------|-----------------------------|-------|------------|----|--------------|--------|-----------------------|-------|------------------|---|---|---|
|       |        | WIND DIRECTION 280                   |        | CONFIGURATION A                          |      | REFERENCE PRESSURE 23.0 PSF |       |            |    |              |        |                       |       |                  |   |   |   |
| FLOOR | HEIGHT | FORCE (KIPS)                         |        | AREA (SQ FT)                             |      | PRESSURE (PSF)              |       | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |       |                  |   |   |   |
| X     | Y      | X                                    | Y      | X  | Y    | X                           | Y     | X          | Y  | X            | Y      | X                     | Y     | Z                | X | Y | Z |
| 25TH  | 325.00 | -18.0                                | -47.0  | 1812                                     | 1812 | -9.9                        | -25.9 | 8          | -3 | -193.4       | -488.5 | 35.4                  | -13.6 | -3.2             |   |   |   |
| 26TH  | 337.50 | -17.6                                | -47.1  | 1812                                     | 1812 | -9.7                        | -26.0 | 8          | -3 | -175.4       | -441.6 | 29.6                  | -11.3 | -2.8             |   |   |   |
| 27TH  | 350.00 | -17.2                                | -47.2  | 1812                                     | 1812 | -9.5                        | -26.1 | 8          | -3 | -157.8       | -394.5 | 24.4                  | -9.3  | -2.4             |   |   |   |
| 28TH  | 362.50 | -17.9                                | -47.0  | 1812                                     | 1812 | -9.9                        | -26.0 | 8          | -3 | -140.6       | -347.2 | 19.8                  | -7.4  | -2.0             |   |   |   |
| 29TH  | 375.00 | -19.2                                | -46.7  | 1812                                     | 1812 | -10.6                       | -25.7 | 6          | -3 | -122.8       | -300.2 | 15.7                  | -5.7  | -1.6             |   |   |   |
| 30TH  | 387.50 | -20.5                                | -46.3  | 1812                                     | 1812 | -11.3                       | -25.5 | 5          | -2 | -103.6       | -253.5 | 12.2                  | -4.3  | -1.2             |   |   |   |
| MEZZ  | 400.00 | -22.3                                | -47.9  | 1885                                     | 1885 | -11.8                       | -25.4 | 4          | -2 | -83.1        | -207.2 | 9.4                   | -3.2  | -.9              |   |   |   |
| ROOF  | 413.00 | -46.6                                | -102.7 | 4512                                     | 4512 | -10.3                       | -22.8 | 5          | -2 | -60.8        | -159.3 | 7.0                   | -2.2  | -.7              |   |   |   |
| PNT   | 458.00 | -14.2                                | -56.7  | 3913                                     | 3925 | -3.6                        | -14.4 | 3          | -1 | -14.2        | -56.7  | 2.1                   | -.5   | -.2              |   |   |   |
| TOP   | 533.00 |                                      |        |  |      |                             |       |            |    | 0.0          | 0.0    | 0.0                   | 0.0   | 0.0              |   |   |   |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 290 |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A<br>REFERENCE PRESSURE 23.0 PSF |      |                |       |            |    |              |        |                       |        | GUST FACTOR 1.32 |  |  |
|--|--------|--------------|--|------|----------------|-------|------------|----|--------------|--------|-----------------------|--------|------------------|--|--|
| FLOOR  | HEIGHT | FORCE (KIPS) | AREA (SQ FT)   |      | PRESSURE (PSF) |       | ECCEN (FT) |    | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |        |                  |  |  |
|  |        | X Y          | X  | Y    | X              | Y     | X          | Y  | X            | Y      | X                     | Y      | Z                |  |  |
| 1ST  | 0.00   | -13.8 -10.3  | 2812   | 2812 | -4.9           | -3.7  | -0         | 0  | -781.6       | -924.9 | 263.8                 | -201.5 | -3.3             |  |  |
| MEZZ   | 12.50  | -12.3 -7.2   | 2363   | 2363 | -5.2           | -3.1  | 2          | -4 | -767.8       | -914.5 | 252.3                 | -191.8 | -3.3             |  |  |
| 2ND  | 23.00  | -17.0 -7.7   | 2925   | 2925 | -5.8           | -2.6  | 3          | -6 | -755.5       | -907.3 | 242.7                 | -183.8 | -3.2             |  |  |
| 3RD  | 36.00  | -18.9 -8.8   | 2925   | 2925 | -6.5           | -3.0  | 4          | -8 | -738.5       | -899.6 | 230.9                 | -174.1 | -3.1             |  |  |
| 4TH  | 49.00  | -20.0 -12.9  | 2575   | 2575 | -7.8           | -5.0  | -1         | 1  | -719.6       | -890.7 | 219.3                 | -164.6 | -2.9             |  |  |
| 5TH  | 64.00  | -18.6 -12.1  | 2145   | 2145 | -8.7           | -5.6  | 0          | -0 | -699.6       | -877.8 | 206.0                 | -154.0 | -2.9             |  |  |
| 6TH  | 77.00  | -19.1 -13.0  | 2145   | 2145 | -8.9           | -6.0  | 1          | -2 | -681.0       | -865.7 | 194.7                 | -145.0 | -2.9             |  |  |
| 7TH  | 90.00  | -19.8 -14.4  | 2145   | 2145 | -9.2           | -6.7  | 2          | -3 | -642.1       | -838.3 | 172.6                 | -127.8 | -2.8             |  |  |
| 8TH  | 103.00 | -20.4 -15.9  | 2145   | 2145 | -9.5           | -7.4  | 3          | -4 | -621.7       | -822.5 | 161.8                 | -119.6 | -2.6             |  |  |
| 9TH  | 116.00 | -21.0 -17.3  | 2145   | 2145 | -9.8           | -8.1  | 4          | -5 | -600.7       | -805.1 | 151.2                 | -111.6 | -2.5             |  |  |
| 10TH   | 129.00 | -21.7 -18.8  | 2145   | 2145 | -10.1          | -8.7  | 4          | -5 | -579.1       | -786.4 | 140.8                 | -104.0 | -2.3             |  |  |
| 11TH   | 142.00 | -21.7 -20.4  | 2145   | 2145 | -10.1          | -9.5  | 4          | -5 | -557.4       | -766.0 | 130.7                 | -96.6  | -2.1             |  |  |
| 12TH   | 155.00 | -21.6 -22.0  | 2145   | 2145 | -10.1          | -10.3 | 4          | -4 | -535.8       | -744.0 | 120.9                 | -89.5  | -1.9             |  |  |
| 13TH   | 168.00 | -21.6 -23.7  | 2145   | 2145 | -10.1          | -11.0 | 4          | -3 | -514.2       | -720.3 | 111.4                 | -82.7  | -1.8             |  |  |
| 14TH   | 181.00 | -21.6 -25.3  | 2145   | 2145 | -10.0          | -11.8 | 4          | -3 | -492.6       | -695.1 | 102.2                 | -76.1  | -1.6             |  |  |
| 15TH   | 194.00 | -21.4 -26.7  | 2145   | 2145 | -10.0          | -12.4 | 3          | -3 | -471.3       | -668.4 | 93.3                  | -69.8  | -1.5             |  |  |
| 16TH   | 207.00 | -20.8 -27.6  | 2145   | 2145 | -9.7           | -12.8 | 3          | -2 | -450.5       | -640.8 | 84.8                  | -63.9  | -1.3             |  |  |
| 17TH   | 220.00 | -20.2 -28.4  | 2145   | 2145 | -9.4           | -13.3 | 3          | -2 | -430.3       | -612.4 | 76.7                  | -58.1  | -1.2             |  |  |
| 18TH   | 233.00 | -19.6 -29.3  | 2145   | 2145 | -9.1           | -13.7 | 2          | -1 | -410.8       | -583.1 | 68.9                  | -52.7  | -1.1             |  |  |
| 19TH   | 246.00 | -19.8 -32.2  | 2145   | 2145 | -9.2           | -15.0 | 2          | -1 | -390.9       | -550.9 | 61.6                  | -47.4  | -1.1             |  |  |
| 20TH   | 259.00 | -17.6 -32.6  | 2145   | 2145 | -8.2           | -15.2 | 3          | -1 | -373.3       | -518.2 | 54.6                  | -42.5  | -.9              |  |  |
| 21ST   | 272.00 | -13.4 -29.5  | 2145   | 2145 | -6.3           | -13.7 | 4          | -2 | -359.9       | -488.7 | 48.1                  | -37.7  | -.8              |  |  |
| 22ND   | 285.00 | -11.9 -29.3  | 2475   | 2475 | -4.8           | -11.8 | 2          | -1 | -347.9       | -459.4 | 40.9                  | -32.4  | -.7              |  |  |
| 23RD   | 300.00 | -23.0 -32.2  | 1853   | 1853 | -12.4          | -17.4 | 0          | -0 | -325.0       | -427.2 | 35.4                  | -28.2  | -.7              |  |  |
| 24TH   | 312.50 | -24.5 -33.8  | 1812   | 1812 | -13.5          | -18.7 | 1          | -0 |              |        |                       |        |                  |  |  |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 290 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)  | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|---------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y           | X Y Z                 |                  |
| 25TH  | 325.00 | -24.5 -34.2  | 1812 1812    | -13.5 -18.8    | 1 -1       | -300.4 -393.4 | 30.3 -24.3 -.7        |                  |
| 26TH  | 337.50 | -24.4 -34.6  | 1812 1812    | -13.4 -19.1    | 1 -1       | -275.9 -359.2 | 25.6 -20.7 -.6        |                  |
| 27TH  | 350.00 | -24.2 -35.0  | 1812 1812    | -13.4 -19.3    | 1 -1       | -251.6 -324.7 | 21.3 -17.4 -.6        |                  |
| 28TH  | 362.50 | -24.7 -35.5  | 1812 1812    | -13.6 -19.6    | 1 -1       | -227.4 -289.7 | 17.5 -14.4 -.5        |                  |
| 29TH  | 375.00 | -25.7 -36.1  | 1812 1812    | -14.2 -19.9    | 2 -1       | -202.6 -254.2 | 14.1 -11.7 -.4        |                  |
| 30TH  | 387.50 | -26.7 -36.7  | 1812 1812    | -14.7 -20.3    | 2 -1       | -176.9 -218.1 | 11.1 -9.3 -.4         |                  |
| MEZZ  | 400.00 | -28.5 -38.8  | 1885 1885    | -15.1 -20.6    | 2 -2       | -150.2 -181.4 | 8.6 -7.3 -.2          |                  |
| ROOF  | 413.00 | -75.1 -87.6  | 4512 4512    | -16.6 -19.4    | 1 -0       | -121.7 -142.6 | 6.5 -5.5 -.1          |                  |
| PNT   | 458.00 | -46.5 -55.0  | 3913 3925    | -11.9 -14.0    | 0 -0       | -46.5 -55.0   | 2.1 -1.7 -.0          |                  |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0       | 0.0 0.0               |                  |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS :<br>WIND DIRECTION 300 |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA<br>CONFIGURATION A REFERENCE PRESSURE 23.0 PSF |       |              |      |                |       |            |     |              |        | GUST FACTOR 1.32      |        |      |
|--|--------|---|-------|--------------|------|----------------|-------|------------|-----|--------------|--------|-----------------------|--------|------|
| FLOOR  | HEIGHT | FORCE (KIPS)  |       | AREA (SQ FT) |      | PRESSURE (PSF) |       | ECCEN (FT) |     | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |        |      |
|  |        | X   | Y     | X            | Y    | X              | Y     | X          | Y   | X            | Y      | X                     | Y      | Z    |
| 1ST  | 0.00   | -15.4   | -6.6  | 2812         | 2812 | -5.5           | -2.4  | 4          | -9  | -779.4       | -582.8 | 160.9                 | -204.7 | -3.1 |
| MEZZ   | 12.50  | -13.4   | -4.8  | 2363         | 2363 | -5.7           | -2.0  | 3          | -7  | -764.0       | -576.1 | 153.7                 | -195.0 | -3.0 |
| 2ND  | 23.00  | -16.5   | -5.5  | 2925         | 2925 | -5.7           | -1.9  | 3          | -8  | -750.6       | -571.4 | 147.7                 | -187.1 | -2.9 |
| 3RD  | 36.00  | -17.2   | -7.0  | 2925         | 2925 | -5.9           | -2.4  | 5          | -12 | -734.1       | -565.8 | 140.3                 | -177.4 | -2.7 |
| 4TH  | 49.00  | -19.9   | -9.0  | 2575         | 2575 | -7.7           | -3.5  | 1          | -2  | -716.9       | -558.9 | 133.0                 | -168.0 | -2.5 |
| 5TH  | 64.00  | -17.8   | -8.6  | 2145         | 2145 | -8.3           | -4.0  | 1          | -2  | -697.0       | -549.9 | 124.6                 | -157.4 | -2.4 |
| 6TH  | 77.00  | -17.6   | -9.5  | 2145         | 2145 | -8.2           | -4.4  | 2          | -4  | -679.2       | -541.3 | 117.5                 | -148.4 | -2.4 |
| 7TH  | 90.00  | -17.8   | -10.6 | 2145         | 2145 | -8.3           | -4.9  | 1          | -6  | -661.6       | -531.8 | 110.6                 | -139.7 | -2.3 |
| 8TH  | 103.00 | -18.0   | -11.6 | 2145         | 2145 | -8.4           | -5.4  | 5          | -8  | -643.8       | -521.2 | 103.7                 | -131.2 | -2.2 |
| 9TH  | 116.00 | -18.1   | -12.7 | 2145         | 2145 | -8.5           | -5.9  | 6          | -9  | -607.7       | -496.9 | 90.5                  | -115.0 | -1.7 |
| 10TH   | 129.00 | -18.3   | -13.7 | 2145         | 2145 | -8.5           | -6.4  | 8          | -10 | -589.4       | -483.2 | 84.1                  | -107.2 | -1.4 |
| 11TH   | 142.00 | -18.5   | -14.6 | 2145         | 2145 | -8.6           | -6.8  | 7          | -9  | -570.9       | -468.6 | 77.9                  | -99.7  | -1.1 |
| 12TH   | 155.00 | -18.8   | -15.5 | 2145         | 2145 | -8.8           | -7.2  | 7          | -8  | -552.1       | -453.1 | 71.9                  | -92.4  | -.9  |
| 13TH   | 168.00 | -19.0   | -16.4 | 2145         | 2145 | -8.9           | -7.6  | 6          | -7  | -533.1       | -436.7 | 66.2                  | -85.3  | -.6  |
| 14TH   | 181.00 | -19.2   | -17.3 | 2145         | 2145 | -9.0           | -8.1  | 6          | -7  | -513.9       | -419.4 | 60.6                  | -78.5  | -.4  |
| 15TH   | 194.00 | -19.4   | -18.0 | 2145         | 2145 | -9.1           | -8.4  | 5          | -6  | -494.4       | -401.4 | 55.3                  | -71.9  | -.2  |
| 16TH   | 207.00 | -19.5   | -18.2 | 2145         | 2145 | -9.1           | -8.5  | 4          | -5  | -474.9       | -383.2 | 50.2                  | -65.6  | -.0  |
| 17TH   | 220.00 | -19.6   | -18.5 | 2145         | 2145 | -9.1           | -8.6  | 3          | -4  | -455.3       | -364.8 | 45.3                  | -59.6  | .1   |
| 18TH   | 233.00 | -19.7   | -18.7 | 2145         | 2145 | -9.2           | -8.7  | 3          | -3  | -435.6       | -346.1 | 40.7                  | -53.8  | .2   |
| 19TH   | 246.00 | -21.0   | -19.9 | 2145         | 2145 | -9.8           | -9.3  | 2          | -2  | -414.6       | -326.2 | 36.3                  | -48.3  | .3   |
| 20TH   | 259.00 | -20.8   | -19.3 | 2145         | 2145 | -9.7           | -9.0  | 1          | -1  | -393.8       | -306.9 | 32.2                  | -43.0  | .3   |
| 21ST   | 272.00 | -18.4   | -16.7 | 2145         | 2145 | -8.6           | -7.8  | 0          | -0  | -375.3       | -290.2 | 28.3                  | -38.0  | .3   |
| 22ND   | 285.00 | -18.0   | -16.3 | 2475         | 2475 | -7.3           | -6.6  | -0         | 0   | -357.3       | -273.9 | 24.1                  | -32.5  | .3   |
| 23RD   | 300.00 | -25.1   | -19.3 | 1853         | 1853 | -13.5          | -10.4 | -0         | 1   | -332.2       | -254.6 | 20.8                  | -28.2  | .3   |
| 24TH   | 312.50 | -26.4   | -20.2 | 1812         | 1812 | -14.5          | -11.2 | -1         | 1   |              |        |                       |        |      |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 300

CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)  | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|---------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y           | X Y Z                 |
| 25TH  | 325.00 | -26.3 -20.3  | 1812 1812    | -14.5 -11.2    | -1 1       | -305.9 -234.3 | 17.7 -24.2 .3         |
| 26TH  | 337.50 | -26.0 -20.4  | 1812 1812    | -14.3 -11.2    | -1 1       | -279.6 -214.0 | 14.9 -20.6 .2         |
| 27TH  | 350.00 | -25.7 -20.5  | 1812 1812    | -14.2 -11.3    | -1 1       | -253.7 -193.7 | 12.4 -17.2 .2         |
| 28TH  | 362.50 | -25.9 -21.1  | 1812 1812    | -14.3 -11.7    | -1 1       | -228.0 -173.2 | 10.1 -14.2 .1         |
| 29TH  | 375.00 | -26.5 -22.2  | 1812 1812    | -14.6 -12.3    | 0 -0       | -202.1 -152.1 | 8.0 -11.5 .1          |
| 30TH  | 387.50 | -27.1 -23.2  | 1812 1812    | -15.0 -12.8    | 1 -1       | -175.6 -129.9 | 6.3 -9.2 .1           |
| MEZZ  | 400.00 | -28.8 -25.0  | 1885 1885    | -15.3 -13.3    | 2 -2       | -148.4 -106.6 | 4.8 -7.2 .1           |
| ROOF  | 413.00 | -74.3 -52.6  | 4512 4512    | -16.5 -11.7    | -1 2       | -119.6 -81.6  | 3.6 -5.4 .2           |
| PNT   | 458.00 | -45.3 -29.0  | 3913 3925    | -11.6 -7.4     | -1 1       | -45.3 -29.0   | 1.1 -1.7 .1           |
| TOP   | 533.00 |              |              |                |            | 0.0 0.0       | 0.0 0.0 0.0           |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 310 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH,PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS)  | MOMENT (1000-FT-KIPS) | GUST FACTOR 1.32 |
|-------|--------|--------------|--------------|----------------|------------|---------------|-----------------------|------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y           | X Y                   | Z                |
| 1ST   | 0.00   | -14.9 -3.5   | 2812 2812    | -5.3 -1.2      | 3 -11      | -849.9 -427.8 | 109.4 -223.8          | -.8              |
| MEZZ  | 12.50  | -12.6 -2.4   | 2363 2363    | -5.3 -1.0      | 2 -11      | -834.9 -424.3 | 104.1 -213.2          | -.7              |
| 2ND   | 23.00  | -15.2 -2.5   | 2925 2925    | -5.2 -.8       | 1 -9       | -822.4 -421.9 | 99.6 -204.5           | -.5              |
| 3RD   | 36.00  | -15.6 -3.4   | 2925 2925    | -5.3 -1.2      | 3 -14      | -807.2 -419.4 | 94.1 -194.0           | -.4              |
| 4TH   | 49.00  | -20.7 -7.0   | 2575 2575    | -8.1 -2.7      | 2 -7       | -791.6 -416.0 | 88.7 -183.6           | -.2              |
| 5TH   | 64.00  | -18.4 -7.4   | 2145 2145    | -8.6 -3.4      | 3 -6       | -770.9 -409.0 | 82.5 -171.8           | .0               |
| 6TH   | 77.00  | -17.9 -8.7   | 2145 2145    | -8.4 -4.1      | 4 -7       | -752.5 -401.7 | 77.3 -161.9           | .2               |
| 7TH   | 90.00  | -18.2 -10.0  | 2145 2145    | -8.5 -4.6      | 5 -9       | -734.5 -393.0 | 72.1 -152.3           | .3               |
| 8TH   | 103.00 | -18.5 -11.2  | 2145 2145    | -8.6 -5.2      | 6 -9       | -716.3 -383.0 | 67.1 -142.8           | .5               |
| 9TH   | 116.00 | -18.8 -12.5  | 2145 2145    | -8.8 -5.8      | 7 -10      | -697.8 -371.7 | 62.1 -133.7           | .8               |
| 10TH  | 129.00 | -19.1 -13.8  | 2145 2145    | -8.9 -6.4      | 8 -11      | -679.0 -359.2 | 57.4 -124.7           | 1.0              |
| 11TH  | 142.00 | -19.6 -14.4  | 2145 2145    | -9.1 -6.7      | 7 -9       | -660.0 -345.5 | 52.8 -116.0           | 1.4              |
| 12TH  | 155.00 | -20.1 -15.0  | 2145 2145    | -9.4 -7.0      | 6 -8       | -640.4 -331.1 | 48.4 -107.5           | 1.6              |
| 13TH  | 168.00 | -20.6 -15.6  | 2145 2145    | -9.6 -7.3      | 5 -7       | -620.3 -316.1 | 44.2 -99.4            | 1.9              |
| 14TH  | 181.00 | -21.1 -16.2  | 2145 2145    | -9.9 -7.6      | 4 -5       | -599.7 -300.5 | 40.2 -91.4            | 2.1              |
| 15TH  | 194.00 | -21.7 -16.5  | 2145 2145    | -10.1 -7.7     | 3 -4       | -578.6 -284.3 | 36.4 -83.8            | 2.3              |
| 16TH  | 207.00 | -22.4 -16.0  | 2145 2145    | -10.5 -7.5     | 2 -3       | -556.9 -267.8 | 32.8 -76.4            | 2.4              |
| 17TH  | 220.00 | -23.1 -15.6  | 2145 2145    | -10.8 -7.3     | 1 -2       | -534.5 -251.7 | 29.4 -69.3            | 2.5              |
| 18TH  | 233.00 | -23.8 -15.1  | 2145 2145    | -11.1 -7.0     | 0 -0       | -511.3 -236.1 | 26.3 -62.5            | 2.6              |
| 19TH  | 246.00 | -25.7 -15.2  | 2145 2145    | -12.0 -7.1     | -0 1       | -487.5 -221.0 | 23.3 -56.0            | 2.6              |
| 20TH  | 259.00 | -26.7 -14.6  | 2145 2145    | -12.5 -6.8     | -1 2       | -461.8 -205.8 | 20.5 -49.8            | 2.6              |
| 21ST  | 272.00 | -25.9 -12.9  | 2145 2145    | -12.1 -6.0     | -2 4       | -435.1 -191.2 | 17.9 -44.0            | 2.5              |
| 22ND  | 285.00 | -28.3 -13.2  | 2475 2475    | -11.4 -5.4     | -2 5       | -409.2 -178.3 | 15.5 -38.5            | 2.4              |
| 23RD  | 300.00 | -29.7 -13.0  | 1853 1853    | -16.0 -7.0     | -2 5       | -380.9 -165.0 | 13.0 -32.6            | 2.2              |
| 24TH  | 312.50 | -30.5 -13.4  | 1812 1812    | -16.8 -7.4     | -2 6       | -351.2 -152.0 | 11.0 -28.0            | 2.0              |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 310 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLLOOR | HEIGHT | GUST FACTOR 1.32 |       |              |      |                |      |            |   |              |        |                       |       |     |
|--------|--------|------------------|-------|--------------|------|----------------|------|------------|---|--------------|--------|-----------------------|-------|-----|
|        |        | FORCE (KIPS)     |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |   | SHEAR (KIPS) |        | MOMENT (1000-FT-KIPS) |       |     |
|        |        | X                | Y     | X            | Y    | X              | Y    | X          | Y | X            | Y      | X                     | Y     | Z   |
| 25TH   | 325.00 | -30.4            | -13.4 | 1812         | 1812 | -14.8          | -7.4 | -3         | 6 | -320.7       | -138.6 | 9.2                   | -23.8 | 1.8 |
| 26TH   | 337.50 | -30.2            | -13.5 | 1812         | 1812 | -16.7          | -7.5 | -3         | 6 | -290.3       | -125.2 | 7.5                   | -20.0 | 1.6 |
| 27TH   | 350.00 | -30.0            | -13.7 | 1812         | 1812 | -16.6          | -7.5 | -3         | 7 | -260.1       | -111.6 | 6.0                   | -16.6 | 1.4 |
| 28TH   | 362.50 | -29.9            | -14.1 | 1812         | 1812 | -16.5          | -7.8 | -3         | 6 | -230.1       | -98.0  | 4.7                   | -13.5 | 1.1 |
| 29TH   | 375.00 | -29.8            | -14.8 | 1812         | 1812 | -16.4          | -8.2 | -2         | 5 | -200.2       | -83.9  | 3.6                   | -10.8 | .9  |
| 30TH   | 387.50 | -29.6            | -15.4 | 1812         | 1812 | -16.3          | -8.5 | -2         | 3 | -170.5       | -69.1  | 2.6                   | -8.5  | .7  |
| MEZZ   | 400.00 | -30.3            | -16.5 | 1885         | 1885 | -16.0          | -8.7 | -1         | 2 | -140.9       | -53.7  | 1.9                   | -6.5  | .6  |
| ROOF   | 413.00 | -70.4            | -29.9 | 4512         | 4512 | -15.6          | -6.6 | -2         | 5 | -110.6       | -37.2  | 1.3                   | -4.9  | .5  |
| PNT    | 458.00 | -40.2            | -7.3  | 3913         | 3925 | -10.3          | -1.9 | -1         | 3 | -40.2        | -7.3   | .3                    | -1.5  | .1  |
| TOP    | 533.00 |                  |       |              |      |                |      |            |   | 0.0          | 0.0    | 0.0                   | 0.0   | 0.0 |

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TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 320 CONFIGURATION A JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |       |      |      | AREA (SR FT) |      |    |     | PRESSURE (PSF) |        |      |        | ECCEN (FT) |   |   |   | SHEAR (KIPS) |   |   |   | GUST FACTOR 1.32 |   |  |
|-------|--------|--------------|-------|------|------|--------------|------|----|-----|----------------|--------|------|--------|------------|---|---|---|--------------|---|---|---|------------------|---|--|
|       |        | X            | Y     | X    | Y    | X            | Y    | X  | Y   | X              | Y      | X    | Y      | X          | Y | X | Y | X            | Y | Z | X | Y                | Z |  |
| 1ST   | 0.00   | -13.2        | -2.3  | 2812 | 2812 | -4.7         | -.8  | 4  | -21 | -1005.2        | -249.3 | 52.4 | -262.3 | 1.8        |   |   |   |              |   |   |   |                  |   |  |
| MEZZ  | 12.50  | -10.6        | -2.2  | 2363 | 2363 | -4.5         | -.9  | 6  | -28 | -991.9         | -247.0 | 49.3 | -249.8 | 2.1        |   |   |   |              |   |   |   |                  |   |  |
| 2ND   | 23.00  | -12.9        | -2.7  | 2925 | 2925 | -4.4         | -.9  | 6  | -27 | -981.4         | -244.9 | 46.7 | -239.5 | 2.4        |   |   |   |              |   |   |   |                  |   |  |
| 3RD   | 36.00  | -15.2        | -2.4  | 2925 | 2925 | -5.2         | -.8  | 5  | -29 | -968.4         | -242.2 | 43.6 | -226.8 | 2.8        |   |   |   |              |   |   |   |                  |   |  |
| 4TH   | 49.00  | -24.1        | -7.1  | 2575 | 2575 | -9.3         | -2.7 | 4  | -15 | -929.1         | -232.7 | 36.9 | -200.2 | 3.6        |   |   |   |              |   |   |   |                  |   |  |
| 5TH   | 64.00  | -22.4        | -7.0  | 2145 | 2145 | -10.5        | -3.3 | 4  | -12 | -906.7         | -225.7 | 33.9 | -188.3 | 3.9        |   |   |   |              |   |   |   |                  |   |  |
| 6TH   | 77.00  | -22.4        | -8.0  | 2145 | 2145 | -10.4        | -3.7 | 4  | -11 | -884.3         | -217.7 | 31.0 | -176.6 | 4.2        |   |   |   |              |   |   |   |                  |   |  |
| 7TH   | 90.00  | -22.5        | -8.8  | 2145 | 2145 | -10.5        | -4.1 | 4  | -10 | -861.8         | -208.9 | 28.3 | -165.3 | 4.5        |   |   |   |              |   |   |   |                  |   |  |
| 8TH   | 103.00 | -22.6        | -9.6  | 2145 | 2145 | -10.5        | -4.5 | 4  | -10 | -839.2         | -199.3 | 25.6 | -154.2 | 4.7        |   |   |   |              |   |   |   |                  |   |  |
| 9TH   | 116.00 | -22.7        | -10.5 | 2145 | 2145 | -10.6        | -4.9 | 4  | -9  | -816.5         | -188.8 | 23.1 | -143.5 | 5.0        |   |   |   |              |   |   |   |                  |   |  |
| 10TH  | 129.00 | -22.8        | -11.3 | 2145 | 2145 | -10.6        | -5.3 | 4  | -8  | -793.7         | -177.5 | 20.7 | -133.0 | 5.2        |   |   |   |              |   |   |   |                  |   |  |
| 11TH  | 142.00 | -24.0        | -11.5 | 2145 | 2145 | -11.2        | -5.4 | 3  | -6  | -769.7         | -166.0 | 18.5 | -122.8 | 5.4        |   |   |   |              |   |   |   |                  |   |  |
| 12TH  | 155.00 | -25.2        | -11.7 | 2145 | 2145 | -11.8        | -5.4 | 2  | -4  | -744.5         | -154.3 | 16.4 | -113.0 | 5.5        |   |   |   |              |   |   |   |                  |   |  |
| 13TH  | 168.00 | -26.5        | -11.8 | 2145 | 2145 | -12.4        | -5.5 | 1  | -2  | -718.0         | -142.5 | 14.5 | -103.5 | 5.6        |   |   |   |              |   |   |   |                  |   |  |
| 14TH  | 181.00 | -27.7        | -12.0 | 2145 | 2145 | -12.9        | -5.6 | 0  | -1  | -690.2         | -130.5 | 12.7 | -94.3  | 5.6        |   |   |   |              |   |   |   |                  |   |  |
| 15TH  | 194.00 | -28.9        | -11.9 | 2145 | 2145 | -13.5        | -5.5 | -0 | 1   | -661.3         | -118.6 | 11.1 | -85.6  | 5.6        |   |   |   |              |   |   |   |                  |   |  |
| 16TH  | 207.00 | -30.0        | -11.2 | 2145 | 2145 | -14.0        | -5.2 | -1 | 2   | -631.2         | -107.4 | 9.6  | -77.2  | 5.5        |   |   |   |              |   |   |   |                  |   |  |
| 17TH  | 220.00 | -31.1        | -10.6 | 2145 | 2145 | -14.5        | -4.9 | -1 | 4   | -600.1         | -96.8  | 8.3  | -69.1  | 5.4        |   |   |   |              |   |   |   |                  |   |  |
| 18TH  | 233.00 | -32.2        | -9.9  | 2145 | 2145 | -15.0        | -4.6 | -2 | 5   | -568.0         | -86.9  | 7.1  | -61.6  | 5.2        |   |   |   |              |   |   |   |                  |   |  |
| 19TH  | 246.00 | -34.3        | -9.4  | 2145 | 2145 | -16.0        | -4.4 | -2 | 6   | -533.7         | -77.5  | 6.0  | -54.4  | 5.0        |   |   |   |              |   |   |   |                  |   |  |
| 20TH  | 259.00 | -35.6        | -8.4  | 2145 | 2145 | -16.6        | -3.9 | -2 | 7   | -498.1         | -69.2  | 5.0  | -47.7  | 4.7        |   |   |   |              |   |   |   |                  |   |  |
| 21ST  | 272.00 | -34.9        | -7.0  | 2145 | 2145 | -16.3        | -3.3 | -2 | 8   | -463.2         | -62.2  | 4.2  | -41.4  | 4.4        |   |   |   |              |   |   |   |                  |   |  |
| 22ND  | 285.00 | -39.0        | -6.5  | 2475 | 2475 | -15.7        | -2.6 | -2 | 10  | -424.2         | -55.7  | 3.3  | -34.8  | 4.0        |   |   |   |              |   |   |   |                  |   |  |
| 23RD  | 300.00 | -35.4        | -5.6  | 1853 | 1853 | -19.1        | -3.0 | -2 | 10  | -388.9         | -50.1  | 2.6  | -29.7  | 3.7        |   |   |   |              |   |   |   |                  |   |  |
| 24TH  | 312.50 | -35.7        | -5.5  | 1812 | 1812 | -19.7        | -3.0 | -2 | 10  |                |        |      |        |            |   |   |   |              |   |   |   |                  |   |  |

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| TABLE 4. SHEAR AND MOMENT DIAGRAMS : |        |              | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |            |                |                             |            |     |              |     |                       |                  |  |  |
|--------------------------------------|--------|--------------|--|------------|----------------|-----------------------------|------------|-----|--------------|-----|-----------------------|------------------|--|--|
| WIND DIRECTION 320                   |        |              | CONFIGURATION A                          |            |                | REFERENCE PRESSURE 23.0 PSF |            |     |              |     |                       | GUST FACTOR 1.32 |  |  |
| FLOOR                                | HEIGHT | FORCE (KIPS) | AREA (SQ FT)                             |            | PRESSURE (PSF) |                             | ECCEN (FT) |     | SHEAR (KIPS) |     | MOMENT (1000-FT-KIPS) |                  |  |  |
|                                      |        | X Y          | X Y                                      | X Y        | X Y            | X Y                         | X Y        | X Y | X Y          | X Y | X Y Z                 |                  |  |  |
| 25TH                                 | 325.00 | -35.5 -5.5   | 1812 1812                                | -19.6 -3.0 | -2 11          | -353.2 -44.6                | 2.1 -25.1  | 3.3 |              |     |                       |                  |  |  |
| 26TH                                 | 337.50 | -35.5 -5.4   | 1812 1812                                | -19.6 -3.0 | -2 11          | -317.7 -39.1                | 1.5 -20.9  | 2.9 |              |     |                       |                  |  |  |
| 27TH                                 | 350.00 | -35.4 -5.3   | 1812 1812                                | -19.5 -3.0 | -2 12          | -282.2 -33.7                | 1.1 -17.1  | 2.5 |              |     |                       |                  |  |  |
| 28TH                                 | 362.50 | -34.9 -5.6   | 1812 1812                                | -19.2 -3.1 | -2 12          | -246.8 -28.4                | .7 -13.8   | 2.1 |              |     |                       |                  |  |  |
| 29TH                                 | 375.00 | -34.0 -6.1   | 1812 1812                                | -18.7 -3.4 | -2 10          | -211.9 -22.7                | .4 -10.9   | 1.7 |              |     |                       |                  |  |  |
| 30TH                                 | 387.50 | -33.0 -6.5   | 1812 1812                                | -18.2 -3.6 | -2 9           | -177.9 -16.6                | .1 -8.5    | 1.3 |              |     |                       |                  |  |  |
| MEZZ                                 | 400.00 | -33.3 -6.8   | 1885 1885                                | -17.6 -3.6 | -2 8           | -144.9 -10.1                | -.0 -6.5   | 1.0 |              |     |                       |                  |  |  |
| ROOF                                 | 413.00 | -73.1 -6.8   | 4512 4512                                | -16.2 -1.5 | -1 8           | -111.7 -3.3                 | -.1 -4.8   | .7  |              |     |                       |                  |  |  |
| PNT                                  | 458.00 | -38.6 3.5    | 3913 3925                                | -9.9 .9    | 0 3            | -38.6 3.5                   | -.1 -1.4   | .1  |              |     |                       |                  |  |  |
| TOP                                  | 533.00 |              |  |            |                | 0.0 0.0                     | 0.0 0.0    | 0.0 |              |     |                       |                  |  |  |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS ; |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |                             |            |     |              |       | GUST FACTOR 1.32      |        |     |
|--------------------------------------|--------|--|------|--------------|------|----------------|-----------------------------|------------|-----|--------------|-------|-----------------------|--------|-----|
| WIND DIRECTION 330                   |        | CONFIGURATION A                          |      |              |      |                | REFERENCE PRESSURE 23.0 PSF |            |     |              |       |                       |        |     |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |                             | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |        |     |
|                                      |        | X  | Y    | X            | Y    | X              | Y                           | X          | Y   | X            | Y     | X                     | Y      | Z   |
| 1ST                                  | 0.00   | -11.7                                    | -.4  | 2812         | 2812 | -4.2           | -.2                         | 1          | -21 | -1010.8      | -62.4 | 5.7                   | -258.5 | 1.5 |
| MEZZ                                 | 12.50  | -10.7                                    | .1   | 2363         | 2363 | -4.5           | .0                          | -0         | -34 | -999.1       | -62.0 | 4.9                   | -245.9 | 1.7 |
| 2ND                                  | 23.00  | -14.4                                    | .8   | 2925         | 2925 | -4.9           | .3                          | -2         | -36 | -988.4       | -62.1 | 4.2                   | -235.5 | 2.1 |
| 3RD                                  | 36.00  | -16.2                                    | 1.2  | 2925         | 2925 | -5.5           | .4                          | -3         | -36 | -974.1       | -62.8 | 3.4                   | -222.7 | 2.6 |
| 4TH                                  | 49.00  | -25.1                                    | -3.1 | 2575         | 2575 | -9.7           | -1.2                        | 2          | -16 | -957.9       | -64.0 | 2.6                   | -210.2 | 3.2 |
| 5TH                                  | 64.00  | -23.5                                    | -4.0 | 2145         | 2145 | -11.0          | -1.8                        | 2          | -10 | -932.8       | -60.8 | 1.7                   | -196.0 | 3.6 |
| 6TH                                  | 77.00  | -23.7                                    | -4.7 | 2145         | 2145 | -11.1          | -2.2                        | 2          | -9  | -909.3       | -56.9 | .9                    | -184.0 | 3.9 |
| 7TH                                  | 90.00  | -24.0                                    | -4.8 | 2145         | 2145 | -11.2          | -2.2                        | 2          | -8  | -885.6       | -52.2 | .2                    | -172.4 | 4.1 |
| 8TH                                  | 103.00 | -24.4                                    | -4.9 | 2145         | 2145 | -11.4          | -2.3                        | 1          | -8  | -837.2       | -42.6 | -1.0                  | -150.0 | 4.5 |
| 9TH                                  | 116.00 | -24.7                                    | -4.9 | 2145         | 2145 | -11.5          | -2.3                        | 1          | -7  | -812.5       | -37.6 | -1.6                  | -139.2 | 4.7 |
| 10TH                                 | 129.00 | -25.0                                    | -5.0 | 2145         | 2145 | -11.7          | -2.3                        | 1          | -6  | -787.4       | -32.6 | -2.0                  | -128.8 | 4.8 |
| 11TH                                 | 142.00 | -25.9                                    | -5.1 | 2145         | 2145 | -12.1          | -2.4                        | 1          | -3  | -761.5       | -27.5 | -2.4                  | -118.8 | 4.9 |
| 12TH                                 | 155.00 | -26.8                                    | -5.1 | 2145         | 2145 | -12.5          | -2.4                        | -0         | 1   | -734.7       | -22.4 | -2.7                  | -109.1 | 4.9 |
| 13TH                                 | 168.00 | -27.8                                    | -5.1 | 2145         | 2145 | -12.9          | -2.4                        | -1         | 4   | -706.9       | -17.3 | -3.0                  | -99.7  | 4.8 |
| 14TH                                 | 181.00 | -28.7                                    | -5.1 | 2145         | 2145 | -13.4          | -2.4                        | -1         | 7   | -678.2       | -12.2 | -3.2                  | -90.7  | 4.6 |
| 15TH                                 | 194.00 | -29.8                                    | -5.0 | 2145         | 2145 | -13.9          | -2.3                        | -1         | 8   | -648.4       | -7.2  | -3.3                  | -82.1  | 4.3 |
| 16TH                                 | 207.00 | -31.5                                    | -4.7 | 2145         | 2145 | -14.7          | -2.2                        | -1         | 7   | -616.9       | -2.5  | -3.4                  | -73.8  | 4.1 |
| 17TH                                 | 220.00 | -33.2                                    | -4.3 | 2145         | 2145 | -15.5          | -2.0                        | -1         | 6   | -583.7       | 1.8   | -3.4                  | -66.0  | 3.9 |
| 18TH                                 | 233.00 | -34.9                                    | -3.9 | 2145         | 2145 | -16.2          | -1.8                        | -1         | 5   | -548.8       | 5.7   | -3.3                  | -58.7  | 3.7 |
| 19TH                                 | 246.00 | -37.8                                    | -3.6 | 2145         | 2145 | -17.6          | -1.7                        | -0         | 4   | -511.1       | 9.4   | -3.2                  | -51.8  | 3.5 |
| 20TH                                 | 259.00 | -38.1                                    | -3.1 | 2145         | 2145 | -17.8          | -1.4                        | -0         | 4   | -473.0       | 12.4  | -3.1                  | -45.4  | 3.4 |
| 21ST                                 | 272.00 | -35.2                                    | -2.5 | 2145         | 2145 | -16.4          | -1.2                        | -0         | 4   | -437.7       | 15.0  | -2.9                  | -39.5  | 3.2 |
| 22ND                                 | 285.00 | -35.6                                    | -2.5 | 2475         | 2475 | -14.4          | -1.0                        | -0         | 1   | -402.1       | 17.5  | -2.7                  | -33.2  | 3.2 |
| 23RD                                 | 300.00 | -33.9                                    | -.0  | 1853         | 1853 | -18.3          | -.0                         | -0         | 6   | -368.3       | 17.5  | -2.5                  | -28.3  | 3.0 |
| 24TH                                 | 312.50 | -34.3                                    | .4   | 1812         | 1812 | -18.9          | .2                          | 0          | 8   |              |       |                       |        |     |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 330 CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

GUST FACTOR 1.32

| FLOOR | HEIGHT | FORCE (KIPS) | AREA (SQ FT) | PRESSURE (PSF) | ECCEN (FT) | SHEAR (KIPS) | MOMENT (1000-FT-KIPS) |
|-------|--------|--------------|--------------|----------------|------------|--------------|-----------------------|
|       |        | X Y          | X Y          | X Y            | X Y        | X Y          | X Y Z                 |
| 25TH  | 325.00 | -33.9 .7     | 1812 1812    | -18.7 .4       | 0 9        | -333.9 17.1  | -2.2 -24.0 2.7        |
| 26TH  | 337.50 | -32.7 .7     | 1812 1812    | -18.0 .4       | 0 11       | -300.1 16.4  | -2.0 -20.0 2.4        |
| 27TH  | 350.00 | -31.4 .7     | 1812 1812    | -17.3 .4       | 0 12       | -267.4 15.7  | -1.8 -16.5 2.1        |
| 28TH  | 362.50 | -31.3 .5     | 1812 1812    | -17.3 .3       | 0 12       | -236.0 15.1  | -1.6 -13.3 1.7        |
| 29TH  | 375.00 | -31.3 .5     | 1812 1812    | -17.3 .3       | 0 12       | -204.6 14.6  | -1.5 -10.6 1.3        |
| 30TH  | 387.50 | -32.0 .2     | 1812 1812    | -17.6 .1       | 0 11       | -172.7 14.4  | -1.3 -8.2 1.0         |
| MEZZ  | 400.00 | -32.5 -.1    | 1812 1812    | -17.9 -.1      | -0 9       | -140.2 14.5  | -1.1 -6.2 .7          |
| ROOF  | 413.00 | -33.6 -.5    | 1885 1885    | -17.8 -.3      | -0 8       | -106.6 15.0  | -.9 -4.6 .4           |
| PNT   | 458.00 | -69.4 5.6    | 4512 4512    | -15.4 1.2      | 0 5        | -37.3 9.4    | -.4 -1.4 .1           |
| TOP   | 533.00 | -37.3 9.4    | 3913 3925    | -9.5 2.4       | 0 2        | 0.0 0.0      | 0.0 0.0 0.0           |

| TABLE 4. SHEAR AND MOMENT DIAGRAMS ; |        | JENKINS/EMPIRE BUILDING - PITTSBURGH, PA |      |              |      |                |                             |            |     |              |       | GUST FACTOR 1.32      |        |      |
|--------------------------------------|--------|--|------|--------------|------|----------------|-----------------------------|------------|-----|--------------|-------|-----------------------|--------|------|
| WIND DIRECTION 340                   |        | CONFIGURATION A                          |      |              |      |                | REFERENCE PRESSURE 23.0 PSF |            |     |              |       |                       |        |      |
| FLOOR                                | HEIGHT | FORCE (KIPS)                             |      | AREA (SQ FT) |      | PRESSURE (PSF) |                             | ECCEN (FT) |     | SHEAR (KIPS) |       | MOMENT (1000-FT-KIPS) |        |      |
|                                      |        | X  | Y    | X            | Y    | X              | Y                           | X          | Y   | X            | Y     | X                     | Y      | Z    |
| 1ST                                  | 0.00   | -8.7                                     | .2   | 2812         | 2812 | -3.1           | .1                          | -0         | -12 | -922.5       | 8.0   | 6.3                   | -238.0 | -4.0 |
| MEZZ                                 | 12.50  | -8.3                                     | 1.8  | 2363         | 2363 | -3.5           | .8                          | -6         | -28 | -913.8       | 7.7   | 6.4                   | -226.5 | -3.9 |
| 2ND                                  | 23.00  | -11.9                                    | 4.0  | 2925         | 2925 | -4.1           | 1.4                         | -10        | -30 | -905.5       | 6.0   | 6.5                   | -217.0 | -3.6 |
| 3RD                                  | 36.00  | -13.8                                    | 4.6  | 2925         | 2925 | -4.7           | 1.6                         | -9         | -29 | -893.6       | 1.9   | 6.5                   | -205.3 | -3.2 |
| 4TH                                  | 49.00  | -21.9                                    | 2.9  | 2575         | 2575 | -8.5           | 1.1                         | -2         | -12 | -857.9       | -5.5  | 6.5                   | -180.7 | -2.5 |
| 5TH                                  | 64.00  | -20.8                                    | 1.5  | 2145         | 2145 | -9.7           | .7                          | -1         | -8  | -837.1       | -7.0  | 6.4                   | -169.7 | -2.3 |
| 6TH                                  | 77.00  | -20.9                                    | .9   | 2145         | 2145 | -9.8           | .4                          | -0         | -7  | -816.1       | -7.9  | 6.3                   | -159.0 | -2.2 |
| 7TH                                  | 90.00  | -21.3                                    | 1.3  | 2145         | 2145 | -9.9           | .6                          | -0         | -7  | -794.9       | -9.2  | 6.2                   | -148.5 | -2.0 |
| 8TH                                  | 103.00 | -21.6                                    | 1.6  | 2145         | 2145 | -10.1          | .7                          | -0         | -6  | -773.3       | -10.8 | 6.1                   | -138.3 | -1.9 |
| 9TH                                  | 116.00 | -21.9                                    | 1.9  | 2145         | 2145 | -10.2          | .9                          | -0         | -5  | -751.4       | -12.7 | 5.9                   | -128.4 | -1.8 |
| 10TH                                 | 129.00 | -22.2                                    | 2.2  | 2145         | 2145 | -10.3          | 1.0                         | -0         | -4  | -729.2       | -14.9 | 5.7                   | -118.8 | -1.7 |
| 11TH                                 | 142.00 | -23.5                                    | 2.1  | 2145         | 2145 | -11.0          | 1.0                         | -0         | -4  | -705.7       | -17.0 | 5.5                   | -109.4 | -1.6 |
| 12TH                                 | 155.00 | -24.9                                    | 2.0  | 2145         | 2145 | -11.6          | .9                          | -0         | -4  | -680.8       | -19.0 | 5.3                   | -100.4 | -1.5 |
| 13TH                                 | 168.00 | -26.3                                    | 1.8  | 2145         | 2145 | -12.2          | .8                          | -0         | -4  | -654.6       | -20.8 | 5.0                   | -91.7  | -1.4 |
| 14TH                                 | 181.00 | -27.6                                    | 1.7  | 2145         | 2145 | -12.9          | .8                          | -0         | -5  | -627.0       | -22.5 | 4.7                   | -83.4  | -1.3 |
| 15TH                                 | 194.00 | -28.9                                    | 1.5  | 2145         | 2145 | -13.5          | .7                          | -0         | -4  | -598.0       | -23.9 | 4.4                   | -75.4  | -1.1 |
| 16TH                                 | 207.00 | -30.1                                    | 1.1  | 2145         | 2145 | -14.0          | .5                          | -0         | -4  | -567.9       | -25.1 | 4.1                   | -67.9  | -1.0 |
| 17TH                                 | 220.00 | -31.2                                    | .8   | 2145         | 2145 | -14.5          | .4                          | -0         | -3  | -536.7       | -25.9 | 3.8                   | -60.7  | -.9  |
| 18TH                                 | 233.00 | -32.3                                    | .5   | 2145         | 2145 | -15.1          | .2                          | -0         | -2  | -504.4       | -26.4 | 3.5                   | -53.9  | -.9  |
| 19TH                                 | 246.00 | -34.3                                    | -.5  | 2145         | 2145 | -16.0          | -.2                         | 0          | -1  | -470.1       | -25.9 | 3.1                   | -47.6  | -.8  |
| 20TH                                 | 259.00 | -34.6                                    | -1.2 | 2145         | 2145 | -16.1          | -.6                         | 0          | -1  | -435.5       | -24.7 | 2.8                   | -41.7  | -.8  |
| 21ST                                 | 272.00 | -32.7                                    | -1.2 | 2145         | 2145 | -15.2          | -.6                         | 0          | -1  | -402.8       | -23.5 | 2.5                   | -36.3  | -.8  |
| 22ND                                 | 285.00 | -34.9                                    | -1.3 | 2475         | 2475 | -14.1          | -.5                         | 0          | -1  | -367.9       | -22.2 | 2.1                   | -30.5  | -.7  |
| 23RD                                 | 300.00 | -28.9                                    | -1.0 | 1853         | 1853 | -15.6          | -.5                         | 0          | -2  | -339.0       | -21.2 | 1.9                   | -26.1  | -.7  |
| 24TH                                 | 312.50 | -29.6                                    | -1.2 | 1812         | 1812 | -16.3          | -.7                         | 0          | -2  |              |       |                       |        |      |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 340

CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |      | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |    | SHEAR (KIPS) |       | GUST FACTOR 1.32 |       |     |
|-------|--------|--------------|------|--------------|------|----------------|------|------------|----|--------------|-------|------------------|-------|-----|
|       |        | X            | Y    | X            | Y    | X              | Y    | X          | Y  | X            | Y     | X                | Y     | Z   |
| 25TH  | 325.00 | -30.1        | -1.4 | 1812         | 1812 | -16.6          | -.8  | 0          | -2 | -309.4       | -20.0 | 1.6              | -22.0 | -.6 |
| 26TH  | 337.50 | -30.6        | -1.5 | 1812         | 1812 | -16.9          | -.8  | 0          | -3 | -279.3       | -18.7 | 1.4              | -18.3 | -.5 |
| 27TH  | 350.00 | -31.1        | -1.7 | 1812         | 1812 | -17.1          | -.9  | 0          | -3 | -248.7       | -17.2 | 1.1              | -15.0 | -.4 |
| 28TH  | 362.50 | -30.9        | -1.9 | 1812         | 1812 | -17.0          | -1.0 | 0          | -3 | -217.6       | -15.5 | .9               | -12.1 | -.3 |
| 29TH  | 375.00 | -30.2        | -2.1 | 1812         | 1812 | -16.7          | -1.1 | 0          | -3 | -186.8       | -13.6 | .8               | -9.6  | -.3 |
| 30TH  | 387.50 | -29.6        | -2.3 | 1812         | 1812 | -16.3          | -1.3 | 0          | -2 | -156.5       | -11.5 | .6               | -7.4  | -.2 |
| MEZZ  | 400.00 | -30.3        | -2.5 | 1885         | 1885 | -16.1          | -1.3 | 0          | -2 | -126.9       | -9.2  | .5               | -5.7  | -.1 |
| ROOF  | 413.00 | -62.6        | -3.2 | 4512         | 4512 | -13.9          | -.7  | 0          | -0 | -96.6        | -6.7  | .4               | -4.2  | -.0 |
| PNT   | 458.00 | -34.0        | -3.5 | 3913         | 3925 | -8.7           | -.9  | 0          | -1 | -34.0        | -3.5  | .1               | -1.3  | -.0 |
| TOP   | 533.00 |              |      |              |      |                |      |            |    | 0.0          | 0.0   | 0.0              | 0.0   | 0.0 |

TABLE 4. SHEAR AND MOMENT DIAGRAMS : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
WIND DIRECTION 350 CONFIGURATION A REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |      | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |     | SHEAR (KIPS) |       | GUST FACTOR 1.32 |        |      |
|-------|--------|--------------|------|--------------|------|----------------|------|------------|-----|--------------|-------|------------------|--------|------|
|       |        | X            | Y    | X            | Y    | X              | Y    | X          | Y   | X            | Y     | X                | Y      | Z    |
| 1ST   | 0.00   | -8.4         | 4.8  | 2812         | 2812 | -3.0           | 1.7  | 4          | 6   | -915.9       | 90.5  | 2.2              | -232.9 | -8.6 |
| MEZZ  | 12.50  | -9.3         | 5.9  | 2363         | 2363 | -3.9           | 2.5  | -10        | -16 | -907.4       | 85.7  | 3.3              | -221.5 | -8.6 |
| 2ND   | 23.00  | -13.9        | 9.4  | 2925         | 2925 | -4.8           | 3.2  | -13        | -20 | -898.2       | 79.9  | 4.2              | -212.0 | -8.4 |
| 3RD   | 36.00  | -14.9        | 10.4 | 2925         | 2925 | -5.1           | 3.5  | -13        | -19 | -884.3       | 70.5  | 5.1              | -200.4 | -8.0 |
| 4TH   | 49.00  | -22.7        | 11.6 | 2575         | 2575 | -8.8           | 4.5  | -4         | -8  | -869.4       | 60.1  | 6.0              | -189.0 | -7.6 |
| 5TH   | 64.00  | -21.9        | 9.1  | 2145         | 2145 | -10.2          | 4.2  | -2         | -5  | -846.7       | 48.5  | 6.8              | -176.1 | -7.4 |
| 6TH   | 77.00  | -22.2        | 8.3  | 2145         | 2145 | -10.3          | 3.8  | -2         | -5  | -824.8       | 39.4  | 7.4              | -165.3 | -7.2 |
| 7TH   | 90.00  | -22.3        | 8.1  | 2145         | 2145 | -10.4          | 3.8  | -2         | -6  | -780.4       | 23.1  | 8.2              | -144.4 | -7.0 |
| 8TH   | 103.00 | -22.3        | 8.0  | 2145         | 2145 | -10.4          | 3.7  | -2         | -6  | -758.1       | 15.1  | 8.4              | -134.4 | -6.8 |
| 9TH   | 116.00 | -22.4        | 7.8  | 2145         | 2145 | -10.4          | 3.7  | -2         | -7  | -735.7       | 7.2   | 8.6              | -124.7 | -6.6 |
| 10TH  | 129.00 | -22.5        | 7.7  | 2145         | 2145 | -10.5          | 3.6  | -3         | -8  | -713.2       | -.5   | 8.6              | -115.3 | -6.4 |
| 11TH  | 142.00 | -23.7        | 7.1  | 2145         | 2145 | -11.1          | 3.3  | -2         | -8  | -689.5       | -7.5  | 8.6              | -106.2 | -6.2 |
| 12TH  | 155.00 | -25.0        | 6.4  | 2145         | 2145 | -11.7          | 3.0  | -2         | -9  | -664.4       | -13.9 | 8.4              | -97.4  | -6.0 |
| 13TH  | 168.00 | -26.4        | 5.7  | 2145         | 2145 | -12.3          | 2.7  | -2         | -9  | -638.0       | -19.6 | 8.2              | -88.9  | -5.7 |
| 14TH  | 181.00 | -27.7        | 5.0  | 2145         | 2145 | -12.9          | 2.4  | -2         | -10 | -610.4       | -24.7 | 7.9              | -80.8  | -5.4 |
| 15TH  | 194.00 | -28.9        | 4.4  | 2145         | 2145 | -13.5          | 2.0  | -2         | -10 | -581.5       | -29.1 | 7.6              | -73.0  | -5.1 |
| 16TH  | 207.00 | -29.7        | 3.8  | 2145         | 2145 | -13.8          | 1.8  | -1         | -10 | -551.8       | -32.9 | 7.2              | -65.7  | -4.8 |
| 17TH  | 220.00 | -30.5        | 3.2  | 2145         | 2145 | -14.2          | 1.5  | -1         | -9  | -521.3       | -36.1 | 6.7              | -58.7  | -4.5 |
| 18TH  | 233.00 | -31.3        | 2.6  | 2145         | 2145 | -14.6          | 1.2  | -1         | -9  | -489.9       | -38.7 | 6.2              | -52.1  | -4.2 |
| 19TH  | 246.00 | -32.9        | 1.6  | 2145         | 2145 | -15.3          | .8   | -0         | -9  | -457.1       | -40.3 | 5.7              | -46.0  | -3.9 |
| 20TH  | 259.00 | -33.0        | .3   | 2145         | 2145 | -15.4          | .1   | -0         | -9  | -424.0       | -40.6 | 5.2              | -40.2  | -3.6 |
| 21ST  | 272.00 | -31.6        | -.7  | 2145         | 2145 | -14.7          | -.3  | 0          | -10 | -392.4       | -39.9 | 4.7              | -34.9  | -3.3 |
| 22ND  | 285.00 | -34.3        | -1.8 | 2475         | 2475 | -13.9          | -.7  | 1          | -11 | -358.1       | -38.1 | 4.1              | -29.3  | -3.0 |
| 23RD  | 300.00 | -28.5        | -1.9 | 1853         | 1853 | -15.4          | -1.0 | 1          | -8  | -329.6       | -36.2 | 3.6              | -25.0  | -2.7 |
| 24TH  | 312.50 | -29.2        | -2.1 | 1812         | 1812 | -16.1          | -1.2 | 1          | -8  |              |       |                  |        |      |

TABLE 4. SHEAR AND MOMENT DIAGRAMS :  
WIND DIRECTION 350 CONFIGURATION A

JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
REFERENCE PRESSURE 23.0 PSF

| FLOOR | HEIGHT | FORCE (KIPS) |       | AREA (SQ FT) |      | PRESSURE (PSF) |      | ECCEN (FT) |     | SHEAR (KIPS) |       | GUST FACTOR 1.32      |       |      |
|-------|--------|--------------|-------|--------------|------|----------------|------|------------|-----|--------------|-------|-----------------------|-------|------|
|       |        | X            | Y     | X            | Y    | X              | Y    | X          | Y   | X            | Y     | MOMENT (1000-FT-KIPS) | X     | Y    |
| 25TH  | 325.00 | -30.0        | -2.3  | 1812         | 1812 | -16.5          | -1.3 | 1          | -9  | -300.4       | -34.1 | 3.2                   | -21.1 | -2.5 |
| 26TH  | 337.50 | -30.4        | -2.5  | 1812         | 1812 | -16.8          | -1.4 | 1          | -10 | -270.4       | -31.8 | 2.8                   | -17.5 | -2.2 |
| 27TH  | 350.00 | -30.8        | -2.6  | 1812         | 1812 | -17.0          | -1.4 | 1          | -10 | -240.0       | -29.3 | 2.4                   | -14.3 | -1.9 |
| 28TH  | 362.50 | -30.4        | -2.6  | 1812         | 1812 | -16.8          | -1.5 | 1          | -10 | -209.1       | -26.7 | 2.1                   | -11.5 | -1.6 |
| 29TH  | 375.00 | -29.4        | -2.6  | 1812         | 1812 | -16.2          | -1.4 | 1          | -10 | -178.7       | -24.1 | 1.7                   | -9.1  | -1.3 |
| 30TH  | 387.50 | -28.5        | -2.6  | 1812         | 1812 | -15.7          | -1.4 | 1          | -9  | -149.3       | -21.5 | 1.5                   | -7.0  | -1.0 |
| MEZZ  | 400.00 | -28.7        | -2.5  | 1885         | 1885 | -15.2          | -1.3 | 1          | -9  | -120.8       | -18.9 | 1.2                   | -5.3  | -.7  |
| ROOF  | 413.00 | -60.5        | -6.4  | 4512         | 4512 | -13.4          | -1.4 | 1          | -6  | -92.0        | -16.4 | 1.0                   | -4.0  | -.5  |
| PNT   | 458.00 | -31.6        | -10.0 | 3913         | 3925 | -8.1           | -2.5 | 1          | -2  | -31.6        | -10.0 | .4                    | -1.2  | -.1  |
| TOP   | 533.00 |              |       |              |      |                |      |            |     | 0.0          | 0.0   | 0.0                   | 0.0   | 0.0  |

TABLE 4. BASE SHEAR AND MOMENT SUMMARY : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA  
CONFIGURATION A      REFERENCE PRESSURE 23.0      GUST FACTOR 1.32

| AZIMUTH | SHEAR (KIPS) |         | MOMENT (1000-FT-KIPS) |        |      | ECCEN (FT) |      |
|---------|--------------|---------|-----------------------|--------|------|------------|------|
|         | X            | Y       | X                     | Y      | Z    | X          | Y    |
| 0       | -948.4       | 293.3   | -48.6                 | -233.9 | -9.5 | -3.3       | -9   |
| 10      | -891.9       | 470.5   | -98.7                 | -215.9 | -6.6 | -1.3       | -6   |
| 20      | -828.2       | 612.1   | -138.3                | -194.1 | -2.1 | -1.1       | -2.1 |
| 30      | -456.1       | 411.9   | -98.6                 | -103.5 | -1.1 | -1.1       | -1.1 |
| 40      | -351.9       | 454.4   | -112.1                | -75.8  | -1.1 | -1.1       | -1.1 |
| 50      | -238.4       | 462.3   | -116.4                | -49.3  | -3.1 | -1.1       | -1.1 |
| 60      | -93.3        | 414.3   | -110.0                | -14.5  | -2.1 | -1.1       | -1.1 |
| 70      | -3.5         | 331.7   | -61.7                 | 21.0   | -0.9 | -0.9       | -0.9 |
| 80      | 75.6         | 203.8   | -62.4                 | 39.9   | -0.9 | -0.9       | -0.9 |
| 90      | 160.0        | 207.9   | -65.7                 | -0.1   | -1.4 | -1.4       | -1.4 |
| 100     | 173.4        | 196.7   | -52.1                 | 43.1   | -0.9 | -0.9       | -0.9 |
| 110     | 278.4        | 231.7   | -57.1                 | 68.1   | -1.3 | -1.1       | -1.1 |
| 120     | 581.7        | 389.0   | -89.0                 | 152.0  | -1.1 | -1.1       | -1.1 |
| 130     | 568.9        | 363.5   | -81.4                 | 151.0  | -1.3 | -1.1       | -1.1 |
| 140     | 519.1        | 206.7   | -38.3                 | 140.0  | -1.1 | -1.1       | -1.1 |
| 150     | 695.5        | 106.7   | -6.8                  | 184.1  | -1.4 | -1.4       | -1.4 |
| 160     | 749.2        | 63.3    | -3.8                  | 194.6  | -0.9 | -0.9       | -0.9 |
| 170     | 545.8        | -96.0   | 30.4                  | 118.8  | -1.1 | -1.1       | -1.1 |
| 180     | 437.1        | -317.1  | 82.3                  | 91.6   | -1.3 | -1.1       | -1.1 |
| 190     | 369.4        | -397.3  | 94.1                  | 88.3   | -1.1 | -1.1       | -1.1 |
| 200     | 463.5        | -511.6  | 125.1                 | 116.8  | -1.4 | -1.4       | -1.4 |
| 210     | 488.3        | -42.7   | 134.0                 | 124.4  | -0.9 | -0.9       | -0.9 |
| 220     | 328.0        | -611.6  | 152.0                 | 125.6  | -1.1 | -1.1       | -1.1 |
| 230     | 160.0        | -709.9  | 175.0                 | 29.7   | -1.3 | -1.1       | -1.1 |
| 240     | 13.6         | -721.2  | 177.4                 | -7.0   | -1.1 | -1.1       | -1.1 |
| 250     | -52.8        | -1058.4 | 272.4                 | -14.6  | -1.4 | -1.4       | -1.4 |
| 260     | -77.8        | -903.0  | 240.7                 | -8.3   | -1.0 | -1.0       | -1.0 |
| 270     | -388.7       | -1120.0 | 308.7                 | -181.4 | -1.5 | -1.5       | -1.5 |
| 280     | -652.5       | -1209.1 | 335.7                 | -150.0 | -1.5 | -1.5       | -1.5 |
| 290     | -781.6       | -924.9  | 263.8                 | -201.5 | -1.5 | -1.5       | -1.5 |
| 300     | -779.4       | -582.8  | 160.9                 | -204.7 | -1.5 | -1.5       | -1.5 |
| 310     | -849.9       | -427.8  | 109.4                 | -223.8 | -1.5 | -1.5       | -1.5 |
| 320     | -1005.2      | -249.3  | 52.4                  | -262.5 | -1.5 | -1.5       | -1.5 |
| 330     | -1010.8      | -62.4   | 55.7                  | -238.0 | -1.5 | -1.5       | -1.5 |
| 340     | -922.5       | 8.0     | 62.0                  | -232.9 | -1.5 | -1.5       | -1.5 |
| 350     | -915.9       | 90.5    |                       |        |      |            |      |

TABLE 5A. PEAK LOADS FOR CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE  
LARGEST VALUES OF CLADDING LOAD      REFERENCE PRESSURE = 23.0 PSF

| TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|
|      |          |             | --- PSF ---   |               |      |          |             | --- PSF ---   |               |      |          |             | --- PSF ---   |               |
| 2101 | 150      | -1.59       | -17.6         | 3.2           | 2151 | 290      | -.43        | -9.8          | 2.7           | 2202 | 270      | -.77        | -17.7         | 1.8           |
| 2102 | 280      | -.75        | -17.2         | 2.6           | 2152 | 290      | -.58        | -13.4         | 6.6           | 2203 | 270      | -.75        | -17.2         | 4.1           |
| 2103 | 10       | -1.41       | -23.0         | 4.7           | 2153 | 10       | -.59        | -9.7          | 6.4           | 2204 | 270      | -.66        | -15.1         | 2.2           |
| 2104 | 20       | -.66        | -10.8         | 7.3           | 2154 | 300      | -.91        | -16.8         | 5.8           | 2205 | 250      | -.72        | -17.6         | 7.3           |
| 2105 | 270      | -.59        | -13.5         | 6.3           | 2155 | 280      | -.58        | -13.4         | 8.0           | 2206 | 270      | -.57        | -13.1         | 10.0          |
| 2106 | 20       | -1.44       | -23.4         | 8.7           | 2156 | 130      | -1.12       | -12.3         | 11.3          | 2207 | 250      | -.69        | -15.8         | 3.4           |
| 2107 | 270      | -.94        | -21.6         | 11.4          | 2157 | 20       | -.77        | -12.5         | 9.3           | 2208 | 280      | -1.03       | -23.7         | 3.7           |
| 2108 | 10       | -.60        | -9.8          | 5.5           | 2158 | 290      | -.32        | -7.4          | 6.5           | 2209 | 220      | -1.21       | -17.3         | 2.9           |
| 2109 | 270      | -.69        | -15.9         | 4.7           | 2159 | 290      | -.46        | -7.2          | 10.6          | 2210 | 250      | -1.49       | -34.3         | 2.6           |
| 2110 | 350      | -1.41       | -23.0         | 7.3           | 2160 | 300      | -1.01       | -18.6         | 7.8           | 2211 | 280      | -.61        | -13.1         | 14.1          |
| 2111 | 270      | -.58        | -13.3         | 10.5          | 2161 | 290      | -.87        | -19.9         | 9.0           | 2212 | 280      | -1.13       | -26.0         | 9.2           |
| 2112 | 270      | -.47        | -10.8         | 6.4           | 2162 | 320      | -.52        | -9.5          | 9.1           | 2213 | 270      | -.55        | -12.6         | 5.1           |
| 2113 | 160      | -.97        | -13.9         | 3.7           | 2163 | 320      | -1.14       | -21.0         | 6.8           | 2214 | 160      | -.96        | -13.6         | 10.1          |
| 2114 | 0        | -1.19       | -19.5         | 4.2           | 2164 | 340      | -1.64       | -26.9         | 2.7           | 2215 | 250      | -.73        | -16.7         | 8.6           |
| 2115 | 280      | -.70        | -16.2         | 9.2           | 2165 | 280      | -1.21       | -27.8         | 2.7           | 2216 | 250      | -.53        | -12.3         | 12.1          |
| 2116 | 0        | -.64        | -10.5         | 7.1           | 2166 | 320      | -.71        | -13.0         | 8.0           | 2217 | 280      | -.69        | -15.8         | 10.5          |
| 2117 | 270      | -.63        | -14.5         | 2.5           | 2167 | 330      | -1.43       | -26.3         | 3.3           | 2218 | 250      | -.59        | -13.5         | 13.0          |
| 2118 | 20       | -1.06       | -17.3         | 2.8           | 2168 | 20       | -1.44       | -23.5         | 5.3           | 2219 | 280      | -.60        | -13.7         | 11.1          |
| 2119 | 270      | -.98        | -22.6         | 7.4           | 2170 | 270      | -.46        | -10.6         | 8.9           | 2220 | 270      | -.44        | -10.1         | 8.5           |
| 2120 | 10       | -.50        | -8.1          | 4.5           | 2171 | 0        | -.65        | -10.4         | 10.7          | 2221 | 290      | -.63        | -14.5         | 8.5           |
| 2121 | 150      | -1.58       | -17.4         | 6.2           | 2172 | 280      | -.58        | -13.3         | 11.7          | 2222 | 270      | -.56        | -12.9         | 10.4          |
| 2122 | 300      | -.82        | -15.1         | 6.0           | 2173 | 260      | -.82        | -18.7         | 10.5          | 2223 | 270      | -.90        | -20.7         | 6.8           |
| 2123 | 270      | -.78        | -18.0         | 7.8           | 2174 | 280      | -1.34       | -30.8         | 2.2           | 2224 | 280      | -.58        | -13.4         | 3.9           |
| 2124 | 250      | -.69        | -15.9         | 5.2           | 2175 | 290      | -1.39       | -32.0         | 11.0          | 2225 | 280      | -.36        | -8.3          | 4.1           |
| 2125 | 140      | -2.06       | -22.7         | 3.8           | 2177 | 260      | -.53        | -9.5          | 12.3          | 2226 | 180      | -1.18       | -16.8         | 11.3          |
| 2126 | 290      | -.60        | -11.2         | 13.9          | 2178 | 250      | -.37        | -8.6          | 7.7           | 2227 | 260      | -.69        | -15.9         | 5.2           |
| 2127 | 270      | -1.26       | -29.0         | 7.6           | 2179 | 330      | -.52        | -9.2          | 9.6           | 2228 | 280      | -.46        | -10.5         | 8.3           |
| 2128 | 280      | -.61        | -14.0         | 7.9           | 2180 | 330      | -.63        | -10.1         | 11.7          | 2229 | 330      | -.45        | -7.8          | 8.3           |
| 2129 | 270      | -.70        | -16.1         | 6.9           | 2181 | 290      | -.63        | -14.5         | 10.3          | 2230 | 280      | -.57        | -13.1         | 6.4           |
| 2130 | 280      | -.50        | -11.5         | 11.1          | 2182 | 280      | -1.26       | -28.9         | 6.6           | 2231 | 250      | -.56        | -12.7         | 4.2           |
| 2131 | 270      | -.67        | -15.5         | 5.7           | 2183 | 260      | -1.44       | -33.1         | 10.6          | 2233 | 270      | -.54        | -12.4         | 6.1           |
| 2132 | 160      | 1.04        | -12.8         | 14.8          | 2184 | 320      | -.81        | -15.0         | 7.0           | 2234 | 320      | -.52        | -9.5          | 2.8           |
| 2133 | 270      | -.87        | -20.0         | 10.0          | 2185 | 310      | -.49        | -9.0          | 7.0           | 2235 | 280      | -.31        | -7.1          | 3.6           |
| 2134 | 270      | -.62        | -14.3         | 12.8          | 2187 | 320      | -.51        | -9.3          | 8.5           | 2236 | 140      | -1.29       | -14.3         | 9.1           |
| 2135 | 20       | -.71        | -11.6         | 10.3          | 2188 | 280      | -.33        | -7.6          | 5.2           | 2237 | 290      | -.58        | -13.4         | 3.9           |
| 2136 | 130      | -1.96       | -21.7         | 8.3           | 2189 | 260      | -.37        | -8.6          | 7.8           | 2238 | 250      | -2.04       | -47.0         | 2.9           |
| 2137 | 270      | -.60        | -13.7         | 10.5          | 2190 | 300      | -.50        | -9.3          | 8.9           | 2239 | 270      | -.82        | -18.8         | 2.8           |
| 2138 | 0        | -.80        | -13.1         | 6.8           | 2191 | 310      | -.69        | -12.7         | 5.7           | 2240 | 130      | -1.23       | -13.6         | 2.5           |
| 2139 | 120      | -1.31       | -14.5         | 6.5           | 2192 | 250      | -1.33       | -30.7         | 1.9           | 2241 | 170      | -.94        | -13.4         | 4.4           |
| 2140 | 300      | -.74        | -13.5         | 8.8           | 2193 | 250      | -.91        | -21.0         | 7.1           | 2242 | 130      | -1.34       | -14.8         | 3.1           |
| 2141 | 280      | -.63        | -14.4         | 7.5           | 2194 | 280      | -.63        | -14.4         | 8.6           | 2243 | 160      | -1.18       | -16.8         | 3.2           |
| 2142 | 0        | -.58        | -9.5          | 7.0           | 2195 | 280      | -.34        | -7.9          | 4.1           | 2244 | 250      | -.66        | -15.3         | 7.1           |
| 2143 | 250      | -.34        | -7.9          | 5.5           | 2196 | 160      | -1.00       | -14.3         | 6.4           | 2245 | 270      | -.88        | -20.3         | 5.9           |
| 2144 | 290      | -.78        | -18.0         | 3.5           | 2197 | 20       | -.55        | -8.6          | 9.0           | 2246 | 270      | -.52        | -11.9         | 2.9           |
| 2145 | 290      | -.81        | -18.5         | 2.8           | 2198 | 280      | -.37        | -8.4          | 7.9           | 2247 | 260      | -.64        | -14.7         | 6.1           |
| 2146 | 290      | -.78        | -17.9         | 3.0           | 2199 | 280      | -.63        | -14.5         | 10.1          | 2248 | 150      | -1.12       | -12.4         | 7.7           |
| 2147 | 290      | -.78        | -27.1         | 3.8           | 2200 | 160      | -.75        | -10.4         | 10.6          | 2249 | 260      | -.50        | -11.5         | 7.7           |
| 2148 | 290      | -1.18       | -12.2         | 9.0           | 2201 | 290      | -.42        | -9.6          | 4.5           | 2250 | 270      | -.40        | -9.2          | 8.3           |

TABLE 5A. PEAK LOADS FOR CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE  
 LARGEST VALUES OF CLADDING LOAD REFERENCE PRESSURE = 23.0 PSF

| TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|------|----------|-------------|---------------|---------------|
|      |          |             | ---           | PSF           |      |          |             | ---           | PSF           |      |          |             | ---           | PSF           |
| 2251 | 160      | -1.08       | -15.4         | 4.2           | 2256 | 250      | -.58        | -13.3         | 7.0           | 2261 | 270      | -.39        | -8.9          | 6.3           |
| 2252 | 250      | -.64        | -14.8         | 7.5           | 2257 | 250      | -.32        | -7.3          | 4.9           | 2262 | 330      | -.39        | -6.3          | 7.3           |
| 2253 | 270      | -.57        | -13.2         | 10.5          | 2258 | 160      | -.76        | -10.9         | 2.3           | 2263 | 250      | -.37        | -8.6          | 4.3           |
| 2254 | 120      | -1.22       | -13.5         | 9.5           | 2259 | 250      | -.67        | -15.4         | 7.6           | 2264 | 290      | -.29        | -6.7          | 3.8           |
| 2255 | 330      | .55         | -6.9          | 10.0          | 2260 | 270      | -.72        | -16.5         | 11.0          | 2265 | 250      | -.32        | -7.4          | 5.2           |

TABLE 5A. PEAK LOADS FOR CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE  
 LARGEST VALUES OF CLADDING LOAD REFERENCE PRESSURE = 23.0 PSF

\* \* 15 GREATEST PRESSURE MAGNITUDES \* \*

| TAP  | AZI-MUTH | PRESS COEFF | PRESS NEGATIVE PEAK | POSITIVE PEAK |
|------|----------|-------------|---------------------|---------------|
|      |          |             | PSF                 | PSF           |
| 2238 | 250      | -2.04       | -47.0               | 2.9           |
| 2210 | 250      | -1.49       | -34.3               | 2.6           |
| 2183 | 260      | -1.14       | -33.1               | 10.6          |
| 2175 | 290      | -1.39       | -32.0               | 11.0          |
| 2174 | 280      | -1.34       | -30.8               | 2.2           |
| 2192 | 250      | -1.33       | -30.7               | 1.9           |
| 2127 | 270      | -1.26       | -29.0               | 7.6           |
| 2182 | 280      | -1.26       | -28.9               | .6            |
| 2165 | 280      | -1.21       | -27.8               | 3.7           |
| 2149 | 290      | -1.18       | -27.1               | 3.8           |
| 2164 | 340      | -1.64       | -26.9               | 2.7           |
| 2167 | 330      | -1.43       | -26.3               | 3.3           |
| 2212 | 280      | -1.13       | -26.0               | 9.2           |
| 2208 | 280      | -1.03       | -23.7               | 3.7           |
| 2168 | 20       | -1.44       | -23.5               | 5.3           |

TABLE 5A. PEAK LOADS FOR CONFIGURATION B : EXISTING CONFIGURATION  
LARGEST VALUES OF CLADDING LOAD  
REFERENCE PRESSURE = 23.0 PSF

| TAP  | AZI- | PRESS | NEGATIVE | POSITIVE | TAP  | AZI- | PRESS | NEGATIVE | POSITIVE | TAP  | AZI- | PRESS | NEGATIVE | POSITIVE |
|------|------|-------|----------|----------|------|------|-------|----------|----------|------|------|-------|----------|----------|
| MUTH |      | COEFF | PEAK     | PEAK     | MUTH |      | COEFF | PEAK     | PEAK     | MUTH |      | COEFF | PEAK     | PEAK     |
|      |      |       | ---      | PSF      |      |      |       | ---      | PSF      |      |      |       | ---      | PSF      |
| 2101 | 140  | -1.41 | -15.5    | 3.6      | 2151 | 10   | -.55  | -9.0     | 1.4      | 2202 | 350  | -.56  | -9.1     | 1.9      |
| 2102 | 280  | -.99  | -22.8    | 5.2      | 2152 | 10   | -.42  | -6.9     | 1.9      | 2203 | 290  | -.54  | -12.3    | 3.6      |
| 2103 | 10   | -1.37 | -22.3    | 5.1      | 2153 | 300  | -.41  | -7.6     | 3.7      | 2204 | 220  | -.63  | -9.0     | 1.6      |
| 2104 | 250  | -.49  | -11.3    | 9.0      | 2154 | 300  | -.90  | -16.5    | 7.0      | 2205 | 290  | -.56  | -12.8    | 1.5      |
| 2105 | 150  | -2.45 | -27.1    | 6.1      | 2155 | 280  | -.18  | -11.1    | 7.3      | 2206 | 290  | -.58  | -8.8     | 3.7      |
| 2106 | 10   | -1.63 | -26.6    | 8.3      | 2156 | 150  | -.14  | -12.6    | 7.4      | 2207 | 250  | -.36  | -8.2     | 3.1      |
| 2107 | 280  | -.76  | -17.5    | 11.9     | 2157 | 150  | 1.11  | -9.8     | 12.3     | 2208 | 290  | -.72  | -16.6    | 2.4      |
| 2108 | 10   | -.69  | -11.3    | 8.9      | 2158 | 170  | -.44  | -5.3     | 6.3      | 2209 | 250  | -.66  | -15.1    | 3.0      |
| 2109 | 150  | -1.23 | -13.6    | 4.4      | 2159 | 300  | -.31  | -5.8     | 4.7      | 2210 | 220  | -.94  | -13.4    | 1.0      |
| 2110 | 20   | -1.13 | -18.5    | 6.3      | 2160 | 300  | -.77  | -14.2    | 5.6      | 2211 | 290  | -.57  | -10.6    | 13.0     |
| 2111 | 280  | -.57  | -13.2    | 11.0     | 2161 | 320  | -.60  | -11.0    | 7.7      | 2212 | 300  | -.96  | -17.6    | 9.5      |
| 2112 | 20   | -.84  | -13.8    | 6.4      | 2162 | 250  | -.60  | -7.1     | 13.8     | 2213 | 250  | -.41  | -7.5     | 5.5      |
| 2113 | 270  | -.58  | -13.2    | 3.6      | 2163 | 300  | -.56  | -10.2    | 3.9      | 2214 | 180  | -1.08 | -15.4    | 11.5     |
| 2114 | 340  | -1.21 | -19.7    | 4.3      | 2164 | 310  | -.81  | -14.8    | 2.0      | 2215 | 200  | -.82  | -11.8    | 7.6      |
| 2115 | 280  | -.63  | -14.5    | 10.5     | 2165 | 180  | -.43  | -20.4    | 2.7      | 2216 | 290  | -.52  | -7.2     | 12.0     |
| 2116 | 20   | -.61  | -9.9     | 8.1      | 2166 | 330  | -.63  | -11.5    | 5.7      | 2217 | 290  | -.62  | -14.3    | 9.3      |
| 2117 | 250  | -.52  | -11.9    | 2.7      | 2167 | 20   | -.22  | -19.9    | 2.2      | 2218 | 0    | -.53  | -8.5     | 6.1      |
| 2118 | 10   | -1.12 | -18.3    | 3.9      | 2168 | 0    | -.99  | -16.2    | 4.1      | 2219 | 290  | -.43  | -9.9     | 6.3      |
| 2119 | 250  | -.74  | -17.0    | 8.3      | 2170 | 290  | -.36  | -8.2     | 8.1      | 2220 | 310  | -.45  | -8.2     | 8.2      |
| 2120 | 0    | -.42  | -6.9     | 3.8      | 2171 | 320  | -.79  | -14.5    | 10.3     | 2221 | 0    | -.78  | -12.8    | 10.9     |
| 2121 | 260  | -.76  | -17.6    | 4.2      | 2172 | 280  | -.45  | -10.4    | 10.3     | 2222 | 330  | -.42  | -7.7     | 4.2      |
| 2122 | 10   | -1.06 | -17.3    | 6.1      | 2173 | 330  | -.70  | -8.8     | 13.0     | 2223 | 300  | -.82  | -15.1    | 6.1      |
| 2123 | 270  | -.79  | -18.2    | 9.6      | 2174 | 260  | -.75  | -17.3    | 11.0     | 2224 | 20   | -.75  | -12.2    | 2.5      |
| 2124 | 250  | -.79  | -18.1    | 4.0      | 2175 | 250  | -.62  | -14.3    | 7.5      | 2225 | 130  | -.68  | -7.5     | 1.9      |
| 2125 | 140  | -1.98 | -21.9    | 2.9      | 2177 | 290  | -.51  | -11.8    | 11.4     | 2226 | 160  | -.80  | -11.4    | 5.5      |
| 2126 | 250  | -.55  | -8.8     | 12.7     | 2178 | 140  | -.66  | -7.3     | 5.9      | 2227 | 180  | -.53  | -7.1     | 7.6      |
| 2127 | 280  | -1.28 | -29.4    | 9.2      | 2179 | 330  | -.50  | -9.3     | 5.6      | 2228 | 300  | -.45  | -8.2     | 2.2      |
| 2128 | 280  | -.68  | -13.6    | 8.4      | 2180 | 290  | -.32  | -7.3     | 6.6      | 2229 | 290  | -.26  | -5.9     | 1.1      |
| 2129 | 260  | -.58  | -13.4    | 7.7      | 2181 | 250  | -.31  | -7.0     | 5.3      | 2230 | 140  | -.95  | -10.4    | 3.0      |
| 2130 | 280  | -.49  | -11.3    | 11.0     | 2182 | 250  | -.68  | -15.0    | 1.7      | 2231 | 160  | -.53  | -7.5     | 3.2      |
| 2131 | 280  | -.72  | -16.6    | 5.2      | 2183 | 250  | -.65  | -15.0    | 6.3      | 2233 | 130  | -.52  | -5.8     | 4.2      |
| 2132 | 280  | -.70  | -16.2    | 10.4     | 2184 | 300  | -.45  | -18.3    | 4.9      | 2234 | 130  | -.65  | -6.9     | 7.1      |
| 2133 | 280  | -.47  | -10.7    | 9.4      | 2185 | 250  | .30   | -5.9     | 6.9      | 2235 | 160  | -.36  | -5.2     | 2.3      |
| 2134 | 280  | -.80  | -18.4    | 9.4      | 2187 | 250  | -.33  | -6.7     | 7.7      | 2236 | 180  | -1.07 | -15.3    | 5.1      |
| 2135 | 310  | -.50  | -9.1     | 7.9      | 2188 | 130  | -.73  | -8.0     | 2.8      | 2237 | 280  | -.33  | -7.5     | 4.1      |
| 2136 | 0    | -.59  | -9.7     | 8.0      | 2189 | 150  | -.68  | -7.6     | 3.4      | 2238 | 250  | -.01  | -23.3    | 5.6      |
| 2137 | 280  | -.65  | -14.9    | 12.4     | 2190 | 20   | -.41  | -6.6     | 1.6      | 2239 | 250  | -.71  | -16.4    | 2.0      |
| 2138 | 10   | -.59  | -9.6     | 6.5      | 2191 | 160  | -.49  | -6.9     | 2.0      | 2240 | 250  | -.46  | -10.5    | 2.2      |
| 2139 | 280  | -.39  | -8.9     | 7.6      | 2192 | 250  | -.59  | -13.6    | 1.4      | 2241 | 250  | -.44  | -10.1    | 5.7      |
| 2140 | 300  | -.60  | -11.1    | 8.1      | 2193 | 250  | -.56  | -12.8    | 3.1      | 2242 | 140  | -.93  | -10.2    | 2.8      |
| 2141 | 260  | -.82  | -18.8    | 9.4      | 2194 | 260  | -.81  | -18.6    | 5.8      | 2243 | 180  | -.63  | -9.0     | 1.9      |
| 2142 | 280  | -.50  | -9.9     | 11.6     | 2195 | 180  | -.50  | -7.2     | 4.7      | 2244 | 250  | -.98  | -13.3    | 5.9      |
| 2143 | 280  | -.37  | -8.0     | 8.6      | 2196 | 190  | -.66  | -9.4     | 3.9      | 2245 | 270  | -.63  | -14.4    | 6.7      |
| 2144 | 250  | -.42  | -9.7     | 3.4      | 2197 | 20   | -.44  | -7.1     | 3.2      | 2246 | 260  | -.42  | -9.6     | 4.0      |
| 2145 | 290  | -.49  | -11.2    | 2.4      | 2198 | 230  | -.29  | -6.7     | 4.3      | 2247 | 310  | -.61  | -11.2    | 3.6      |
| 2146 | 250  | -.51  | -11.7    | 1.8      | 2199 | 250  | -.46  | -10.7    | 5.6      | 2248 | 130  | -.75  | -8.3     | 3.5      |
| 2147 | 290  | -.79  | -18.2    | 1.8      | 2200 | 10   | -.50  | -8.2     | 2.8      | 2249 | 290  | -.28  | -6.55    | 5.5      |
| 2148 | 290  | 170   | -.49     | -7.0     | 2201 | 150  | .79   | -6.0     | 8.7      | 2250 | 300  | -.61  | -11.2    | 4.6      |

TABLE SA. PEAK LOADS FOR CONFIGURATION II : EXISTING CONFIGURATION  
 LARGEST VALUES OF CLADDING LOAD REFERENCE PRESSURE = 23.0 PSF

|      | TAP | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |  | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |  | TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|------|-----|----------|-------------|---------------|---------------|--|------|----------|-------------|---------------|---------------|--|------|----------|-------------|---------------|---------------|
|      |     |          | ---         | PSF           | ---           |  |      |          | ---         | PSF           | ---           |  |      |          | ---         | PSF           | ---           |
| 2251 |     | 160      | -.65        | -9.3          | 4.7           |  | 2256 | 150      | -.56        | -6.2          | 1.1           |  | 2261 | 280      | -.34        | -7.8          | 6.9           |
| 2252 |     | 250      | -.58        | -13.3         | 8.1           |  | 2257 | 330      | -.42        | -7.8          | 4.1           |  | 2262 | 140      | 1.05        | -5.1          | 11.6          |
| 2253 |     | 250      | .57         | -11.6         | 13.1          |  | 2258 | 150      | -.68        | -7.5          | 2.0           |  | 2263 | 150      | .58         | -5.9          | 6.4           |
| 2254 |     | 260      | -.36        | -8.2          | 2.0           |  | 2259 | 250      | -.46        | -10.5         | 5.9           |  | 2264 | 290      | -.39        | -9.1          | 6.8           |
| 2255 |     | 290      | -.28        | -6.4          | .7            |  | 2260 | 260      | -.98        | -22.6         | 14.8          |  | 2265 | 150      | -.67        | -7.4          | 6.5           |

TABLE 5A. PEAK LOADS FOR CONFIGURATION D : EXISTING CONFIGURATION  
 LARGEST VALUES OF CLADDING LOAD REFERENCE PRESSURE = 23.0 PSF

\* \* 15 GREATEST PRESSURE MAGNITUDES \* \*

| TAP  | AZI-MUTH | PRESS COEFF | NEGATIVE PEAK | POSITIVE PEAK |
|------|----------|-------------|---------------|---------------|
|      |          |             | PSF           | PSF           |
| 2127 | 280      | -1.28       | -29.4         | 9.2           |
| 2105 | 150      | -2.45       | -27.1         | 6.1           |
| 2106 | 10       | -1.63       | -26.6         | 8.3           |
| 2238 | 250      | -1.01       | -23.3         | 5.6           |
| 2102 | 280      | -.99        | -22.8         | 5.2           |
| 2260 | 260      | -.98        | -22.6         | 14.8          |
| 2103 | 10       | -1.37       | -22.3         | 5.1           |
| 2125 | 140      | -1.98       | -21.9         | 2.9           |
| 2165 | 180      | -1.43       | -20.4         | 2.7           |
| 2167 | 20       | -1.22       | -19.9         | 2.2           |
| 2114 | 340      | -1.21       | -19.7         | 4.3           |
| 2143 | 260      | -.82        | -18.8         | 9.4           |
| 2194 | 260      | -.81        | -18.6         | 5.8           |
| 2110 | 20       | -1.13       | -18.5         | 6.3           |
| 2134 | 280      | -.80        | -18.4         | 9.4           |

TABLE 5B

## COMPARISON OF CONFIGURATIONS C AND D

Taps Where Negative Peak Load for Configuration D  
Exceeded That for Configuration C by 5.0 psf

Ref. Pressure: 23.0 psf

| Tap  | Azimuth | C Configuration<br>psf load | Azimuth | D Configuration<br>psf load |
|------|---------|-----------------------------|---------|-----------------------------|
| 2102 | 280     | -17.2                       | 280     | -22.8                       |
| 2105 | 270     | -13.5                       | 150     | -27.1                       |
| 2260 | 270     | -16.5                       | 260     | -22.6                       |

TABLE 5B (Con't.)

## COMPARISON OF CONFIGURATIONS D AND C

Taps Where Negative Peak Load for Configuration C  
Exceeded That for Configuration D by 5.0 psf

Ref. Pressure: 23.0 psf

| Tap  | Azimuth | C Configuration<br>psf load | Azimuth | D Configuration<br>psf load |
|------|---------|-----------------------------|---------|-----------------------------|
| 2119 | 250     | -17.0                       | 270     | -22.6                       |
| 2133 | 280     | -10.7                       | 270     | -20.0                       |
| 2137 | 0       | -9.7                        | 130     | -21.7                       |
| 2141 | 280     | -8.9                        | 120     | -14.5                       |
| 2146 | 250     | -9.7                        | 290     | -18.0                       |
| 2147 | 290     | -11.2                       | 290     | -18.5                       |
| 2148 | 250     | -11.7                       | 290     | -17.9                       |
| 2149 | 290     | -18.2                       | 290     | -27.1                       |
| 2150 | 170     | -7.0                        | 290     | -12.2                       |
| 2152 | 10      | -6.9                        | 290     | -13.4                       |
| 2161 | 320     | -11.0                       | 290     | -19.9                       |
| 2163 | 300     | -10.2                       | 320     | -21.0                       |
| 2164 | 310     | -14.8                       | 340     | -26.9                       |
| 2165 | 180     | -20.4                       | 280     | -27.8                       |
| 2167 | 20      | -19.9                       | 330     | -26.3                       |
| 2168 | 0       | -16.2                       | 20      | -23.5                       |
| 2173 | 250     | -8.8                        | 260     | -18.7                       |
| 2174 | 260     | -17.3                       | 280     | -30.8                       |
| 2175 | 250     | -14.2                       | 290     | -32.0                       |
| 2181 | 250     | -7.0                        | 290     | -14.5                       |
| 2182 | 250     | -15.7                       | 280     | -28.9                       |
| 2183 | 250     | -15.0                       | 260     | -33.1                       |
| 2184 | 300     | -8.3                        | 320     | -15.0                       |
| 2191 | 160     | -6.9                        | 310     | -12.7                       |
| 2192 | 250     | -13.6                       | 250     | -30.7                       |
| 2193 | 250     | -12.8                       | 250     | -21.0                       |
| 2202 | 350     | -9.1                        | 270     | -17.7                       |
| 2204 | 220     | -9.0                        | 270     | -15.1                       |
| 2207 | 250     | -8.2                        | 250     | -15.8                       |
| 2208 | 290     | -16.6                       | 280     | -23.7                       |
| 2210 | 220     | -13.4                       | 250     | -34.3                       |
| 2212 | 300     | -17.6                       | 280     | -26.0                       |
| 2213 | 10      | -7.5                        | 270     | -12.6                       |
| 2216 | 210     | -7.2                        | 250     | -12.3                       |
| 2218 | 0       | -8.5                        | 250     | -13.5                       |
| 2222 | 330     | -7.7                        | 270     | -12.9                       |
| 2223 | 300     | -15.1                       | 270     | -20.7                       |
| 2226 | 160     | -11.4                       | 180     | -16.8                       |
| 2227 | 250     | -7.1                        | 260     | -15.9                       |
| 2231 | 160     | -7.5                        | 250     | -12.7                       |
| 2233 | 130     | -5.8                        | 270     | -12.4                       |
| 2237 | 280     | -7.5                        | 290     | -13.4                       |
| 2238 | 250     | -23.3                       | 250     | -47.0                       |
| 2243 | 180     | -9.0                        | 160     | -16.8                       |
| 2245 | 270     | -14.4                       | 270     | -20.3                       |
| 2249 | 230     | -6.5                        | 260     | -11.5                       |
| 2251 | 160     | -9.3                        | 160     | -15.4                       |
| 2254 | 260     | -8.2                        | 120     | -13.5                       |
| 2256 | 150     | -6.2                        | 250     | -13.3                       |

**APPENDIX A**

|                                  |              |
|----------------------------------|--------------|
| <b>Configuration A . . . . .</b> | <b>A 1</b>   |
| <b>Configuration B . . . . .</b> | <b>A 143</b> |
| <b>Configuration C . . . . .</b> | <b>A 150</b> |
| <b>Configuration D . . . . .</b> | <b>A 189</b> |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

PAGE A 1

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 0  | 101 | -.010  | .091  | .331  | -.328 | 0  | 151 | .264   | .153  | .846  | -.357 | 0  | 201 | -.022  | .032  | .115  | -.132 |
| 0  | 102 | -.004  | .097  | .356  | -.300 | 0  | 152 | .307   | .150  | .828  | -.429 | 0  | 202 | -.116  | .055  | .065  | -.400 |
| 0  | 103 | .031   | .163  | .533  | -.380 | 0  | 153 | .294   | .152  | .824  | -.296 | 0  | 203 | -.068  | .045  | .088  | -.251 |
| 0  | 104 | .258   | .137  | .749  | -.226 | 0  | 154 | .213   | .133  | .734  | -.197 | 0  | 204 | -.082  | .041  | .077  | -.237 |
| 0  | 105 | -.028  | .111  | .392  | -.350 | 0  | 155 | -.006  | .109  | .378  | -.433 | 0  | 205 | -.099  | .038  | .072  | -.248 |
| 0  | 106 | -.096  | .071  | .302  | -.308 | 0  | 156 | -.393  | .083  | .049  | -.733 | 0  | 206 | -.156  | .042  | -.012 | -.321 |
| 0  | 107 | .015   | .095  | .401  | -.275 | 0  | 157 | -.337  | .146  | .463  | -.661 | 0  | 207 | -.191  | .046  | -.019 | -.394 |
| 0  | 108 | .045   | .139  | .646  | -.452 | 0  | 158 | .277   | .139  | .849  | -.149 | 0  | 208 | -.278  | .058  | -.044 | -.550 |
| 0  | 109 | .129   | .142  | .651  | -.387 | 0  | 159 | .039   | .106  | .499  | -.251 | 0  | 209 | -.037  | .045  | .126  | -.289 |
| 0  | 110 | .028   | .156  | .656  | -.391 | 0  | 160 | .179   | .139  | .716  | -.244 | 0  | 210 | -.012  | .034  | .144  | -.148 |
| 0  | 111 | -.147  | .102  | .218  | -.494 | 0  | 161 | -.057  | .082  | .303  | -.343 | 0  | 211 | -.182  | .067  | -.005 | -.555 |
| 0  | 112 | .252   | .157  | .851  | -.198 | 0  | 162 | .171   | .132  | .749  | -.237 | 0  | 212 | -.150  | .039  | -.015 | -.334 |
| 0  | 113 | .305   | .162  | .967  | -.130 | 0  | 163 | .267   | .131  | .745  | -.138 | 0  | 213 | -.172  | .039  | .004  | -.417 |
| 0  | 114 | .187   | .142  | .747  | -.201 | 0  | 164 | .295   | .140  | .921  | -.012 | 0  | 214 | -.249  | .079  | .100  | -.706 |
| 0  | 115 | .015   | .099  | .456  | -.287 | 0  | 165 | .271   | .118  | .790  | -.080 | 0  | 215 | -.054  | .058  | .103  | -.369 |
| 0  | 116 | .092   | .169  | .678  | -.430 | 0  | 166 | .218   | .124  | .715  | -.140 | 0  | 216 | -.032  | .034  | .094  | -.219 |
| 0  | 117 | .352   | .153  | .899  | -.098 | 0  | 167 | .049   | .097  | .532  | -.212 | 0  | 217 | -.028  | .029  | .128  | -.120 |
| 0  | 118 | .082   | .151  | .581  | -.366 | 0  | 168 | -.045  | .085  | .306  | -.285 | 0  | 218 | -.038  | .030  | .135  | -.127 |
| 0  | 119 | .220   | .218  | .826  | -.727 | 0  | 169 | .267   | .127  | .829  | -.033 | 0  | 219 | -.074  | .040  | .123  | -.228 |
| 0  | 120 | -.241  | .175  | .517  | -.884 | 0  | 170 | .121   | .125  | .591  | -.245 | 0  | 220 | -.013  | .058  | .241  | -.150 |
| 0  | 121 | -.072  | .110  | .297  | -.532 | 0  | 171 | .202   | .118  | .691  | -.109 | 0  | 221 | -.023  | .056  | .257  | -.162 |
| 0  | 122 | .250   | .152  | .885  | -.194 | 0  | 172 | .217   | .110  | .658  | -.121 | 0  | 222 | -.069  | .050  | .167  | -.201 |
| 0  | 123 | .300   | .150  | .762  | -.112 | 0  | 173 | .211   | .103  | .667  | -.024 | 0  | 223 | -.147  | .040  | .064  | -.290 |
| 0  | 124 | .240   | .142  | .681  | -.164 | 0  | 174 | .089   | .123  | .586  | -.295 | 0  | 224 | -.114  | .057  | .190  | -.329 |
| 0  | 125 | .177   | .128  | .674  | -.160 | 0  | 175 | .024   | .091  | .465  | -.254 | 0  | 225 | -.107  | .073  | .227  | -.385 |
| 0  | 126 | .260   | .145  | .756  | -.157 | 0  | 176 | -.074  | .082  | .366  | -.321 | 0  | 301 | -.408  | .092  | -.167 | -.842 |
| 0  | 127 | .121   | .160  | .739  | -.479 | 0  | 177 | .017   | .100  | .461  | -.266 | 0  | 302 | -.342  | .095  | -.034 | -.927 |
| 0  | 128 | .062   | .114  | .503  | -.249 | 0  | 178 | .072   | .085  | .565  | -.185 | 0  | 303 | -.444  | .088  | -.082 | -.756 |
| 0  | 129 | .003   | .095  | .335  | -.258 | 0  | 179 | .094   | .067  | .356  | -.269 | 0  | 304 | -.051  | .066  | .209  | -.352 |
| 0  | 130 | .345   | .154  | .972  | -.063 | 0  | 180 | .113   | .074  | .565  | -.071 | 0  | 305 | -.276  | .067  | -.084 | -.782 |
| 0  | 131 | .300   | .166  | .969  | -.244 | 0  | 181 | -.013  | .101  | .411  | -.442 | 0  | 306 | -.453  | .113  | .135  | -.883 |
| 0  | 132 | .264   | .151  | .893  | -.169 | 0  | 182 | -.040  | .083  | .437  | -.242 | 0  | 307 | -.298  | .100  | -.003 | -.898 |
| 0  | 133 | .342   | .152  | .820  | -.083 | 0  | 183 | -.114  | .079  | .408  | -.480 | 0  | 308 | -.280  | .048  | -.108 | -.509 |
| 0  | 134 | .371   | .158  | .944  | -.013 | 0  | 184 | -.033  | .045  | .228  | -.216 | 0  | 309 | -.224  | .107  | .038  | -.763 |
| 0  | 135 | .347   | .149  | .808  | -.026 | 0  | 185 | .021   | .047  | .223  | -.136 | 0  | 310 | -.287  | .152  | -.019 | -.042 |
| 0  | 136 | .381   | .154  | .919  | -.008 | 0  | 186 | .114   | .075  | .444  | -.117 | 0  | 311 | -.488  | .150  | -.098 | -.138 |
| 0  | 137 | .321   | .152  | 1.052 | -.060 | 0  | 187 | .165   | .104  | .610  | -.067 | 0  | 312 | -.264  | .049  | -.109 | -.782 |
| 0  | 138 | .177   | .164  | .719  | -.412 | 0  | 188 | -.025  | .082  | .344  | -.292 | 0  | 313 | -.222  | .073  | -.022 | -.746 |
| 0  | 139 | .102   | .113  | .507  | -.215 | 0  | 189 | -.141  | .044  | .047  | -.335 | 0  | 314 | -.299  | .204  | .216  | -.160 |
| 0  | 140 | .001   | .089  | .427  | -.224 | 0  | 190 | -.222  | .046  | .021  | -.458 | 0  | 315 | -.447  | .129  | .156  | -.071 |
| 0  | 141 | .384   | .153  | .958  | -.025 | 0  | 191 | .178   | .103  | .682  | -.032 | 0  | 316 | -.276  | .122  | -.015 | -.876 |
| 0  | 142 | .310   | .138  | .944  | -.003 | 0  | 192 | .180   | .096  | .662  | -.087 | 0  | 317 | -.204  | .131  | -.189 | -.737 |
| 0  | 143 | .143   | .149  | .707  | -.313 | 0  | 193 | .183   | .099  | .669  | -.105 | 0  | 318 | -.281  | .055  | -.111 | -.539 |
| 0  | 144 | .268   | .144  | .822  | -.116 | 0  | 194 | .036   | .062  | .320  | -.160 | 0  | 319 | -.247  | .094  | .122  | -.677 |
| 0  | 145 | .380   | .157  | 1.045 | -.013 | 0  | 195 | .103   | .078  | .510  | -.130 | 0  | 320 | -.175  | .147  | .283  | -.047 |
| 0  | 146 | .228   | .131  | .746  | -.097 | 0  | 196 | .143   | .082  | .517  | -.123 | 0  | 321 | -.554  | .251  | -.052 | -.470 |
| 0  | 147 | -.005  | .086  | .319  | -.251 | 0  | 197 | .003   | .085  | .360  | -.312 | 0  | 322 | -.243  | .035  | -.109 | -.426 |
| 0  | 148 | -.183  | .070  | .098  | -.437 | 0  | 198 | -.033  | .060  | .220  | -.369 | 0  | 323 | -.222  | .037  | -.090 | -.470 |
| 0  | 149 | .202   | .196  | .799  | -.458 | 0  | 199 | -.028  | .050  | .161  | -.362 | 0  | 324 | -.346  | .101  | -.034 | -.804 |
| 0  | 150 | .032   | .204  | .668  | -.695 | 0  | 200 | -.027  | .036  | .167  | -.201 | 0  | 325 | -.048  | .174  | .762  | -.691 |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 2

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|
| 0  | 326 | -.286  | .157  | .062  | -1.008 | 0  | 376 | -.408  | .155  | .233  | -1.295 | 0  | 504 | -.306  | .098  | -.073 | -.811 |
| 0  | 327 | -.238  | .132  | .101  | -.771  | 0  | 377 | -.286  | .042  | -.142 | -.451  | 0  | 505 | -.309  | .040  | -.194 | -.489 |
| 0  | 328 | -.308  | .217  | .297  | -1.155 | 0  | 378 | -.240  | .036  | -.089 | -.370  | 0  | 506 | -.299  | .047  | -.112 | -.548 |
| 0  | 329 | -.439  | .206  | .217  | -1.204 | 0  | 379 | -.335  | .096  | .016  | -.745  | 0  | 507 | -.317  | .044  | -.178 | -.504 |
| 0  | 330 | -.237  | .119  | .181  | -.737  | 0  | 380 | -.083  | .068  | .180  | -.501  | 0  | 508 | -.321  | .042  | -.207 | -.475 |
| 0  | 331 | -.219  | .141  | .322  | -.900  | 0  | 381 | -.156  | .104  | .052  | -.848  | 0  | 509 | -.320  | .043  | -.201 | -.611 |
| 0  | 332 | -.242  | .036  | -.096 | -.502  | 0  | 382 | -.296  | .181  | .187  | -1.119 | 0  | 510 | -.322  | .048  | -.143 | -.613 |
| 0  | 333 | -.210  | .043  | -.045 | -.528  | 0  | 383 | -.348  | .170  | .155  | -1.257 | 0  | 511 | -.304  | .047  | -.142 | -.494 |
| 0  | 334 | -.241  | .111  | .110  | -.686  | 0  | 384 | -.351  | .061  | -.195 | -.614  | 0  | 512 | -.318  | .039  | -.213 | -.490 |
| 0  | 335 | -.040  | .180  | .518  | -.660  | 0  | 385 | -.284  | .039  | .154  | -.519  | 0  | 513 | -.319  | .039  | -.206 | -.506 |
| 0  | 336 | -.208  | .161  | .322  | -.856  | 0  | 386 | -.323  | .062  | -.069 | -.692  | 0  | 514 | -.321  | .048  | -.178 | -.548 |
| 0  | 337 | -.277  | .172  | .130  | -1.097 | 0  | 387 | -.080  | .032  | .117  | -.375  | 0  | 515 | -.320  | .051  | -.159 | -.564 |
| 0  | 338 | -.300  | .213  | .188  | -1.126 | 0  | 388 | -.104  | .057  | .087  | -.639  | 0  | 516 | -.326  | .046  | -.201 | -.683 |
| 0  | 339 | -.376  | .159  | .390  | -.985  | 0  | 389 | -.185  | .105  | .122  | -.840  | 0  | 517 | -.308  | .037  | -.210 | -.448 |
| 0  | 340 | -.395  | .133  | .322  | -1.133 | 0  | 390 | -.198  | .096  | .049  | -.757  | 0  | 518 | -.334  | .039  | -.217 | -.490 |
| 0  | 341 | -.182  | .153  | .356  | -.686  | 0  | 391 | -.076  | .047  | .126  | -.332  | 0  | 519 | -.337  | .045  | -.234 | -.548 |
| 0  | 342 | -.193  | .165  | .190  | -.941  | 0  | 392 | -.292  | .049  | -.139 | -.548  | 0  | 520 | -.330  | .050  | -.189 | -.725 |
| 0  | 343 | -.282  | .041  | -.130 | -.485  | 0  | 393 | -.061  | .048  | .165  | -.263  | 0  | 521 | -.359  | .067  | -.180 | -.690 |
| 0  | 344 | -.240  | .049  | -.011 | -.577  | 0  | 394 | -.039  | .066  | .288  | -.785  | 0  | 522 | -.316  | .041  | -.187 | -.497 |
| 0  | 345 | -.194  | .088  | .062  | -.917  | 0  | 395 | -.155  | .112  | .146  | -.929  | 0  | 523 | -.320  | .040  | -.175 | -.522 |
| 0  | 346 | -.251  | .169  | .241  | -.922  | 0  | 396 | -.153  | .097  | .204  | -.697  | 0  | 524 | -.317  | .036  | -.206 | -.445 |
| 0  | 347 | -.371  | .159  | .169  | -1.192 | 0  | 397 | -.343  | .075  | -.144 | -.767  | 0  | 525 | -.322  | .037  | -.217 | -.490 |
| 0  | 348 | -.355  | .198  | .506  | -1.221 | 0  | 398 | -.265  | .051  | -.102 | -.505  | 0  | 526 | -.305  | .039  | -.182 | -.457 |
| 0  | 349 | -.322  | .046  | -.167 | -.534  | 0  | 399 | -.215  | .029  | -.120 | -.316  | 0  | 527 | -.305  | .042  | -.195 | -.600 |
| 0  | 350 | -.322  | .048  | -.191 | -.584  | 0  | 400 | -.168  | .029  | -.059 | -.305  | 0  | 528 | -.304  | .043  | -.162 | -.530 |
| 0  | 351 | -.269  | .048  | -.110 | -.570  | 0  | 401 | -.137  | .029  | .015  | -.237  | 0  | 529 | -.297  | .040  | -.151 | -.466 |
| 0  | 352 | -.215  | .089  | .036  | -.782  | 0  | 402 | -.147  | .043  | -.017 | -.393  | 0  | 530 | -.307  | .037  | -.186 | -.445 |
| 0  | 353 | -.193  | .144  | .162  | -.985  | 0  | 403 | -.109  | .119  | .400  | -.668  | 0  | 531 | -.307  | .037  | -.207 | -.471 |
| 0  | 354 | -.264  | .178  | .121  | -1.111 | 0  | 404 | -.090  | .115  | .378  | -.623  | 0  | 532 | -.314  | .038  | -.191 | -.560 |
| 0  | 355 | -.540  | .236  | .057  | -.1543 | 0  | 405 | -.018  | .032  | .112  | -.113  | 0  | 533 | -.315  | .039  | -.172 | -.459 |
| 0  | 356 | -.041  | .190  | .479  | -.782  | 0  | 406 | -.007  | .048  | .148  | -.264  | 0  | 534 | -.312  | .034  | -.186 | -.478 |
| 0  | 357 | -.056  | .191  | .617  | -.742  | 0  | 407 | -.251  | .060  | -.048 | -.555  | 0  | 535 | -.315  | .034  | -.219 | -.468 |
| 0  | 358 | -.253  | .037  | -.131 | -.475  | 0  | 408 | -.216  | .033  | -.086 | -.341  | 0  | 536 | -.305  | .034  | -.191 | -.438 |
| 0  | 359 | -.477  | .202  | .236  | -.1585 | 0  | 409 | -.145  | .029  | -.044 | -.258  | 0  | 537 | -.302  | .036  | -.184 | -.442 |
| 0  | 360 | -.268  | .036  | -.127 | -.489  | 0  | 410 | -.018  | .069  | .430  | -.305  | 0  | 538 | -.313  | .039  | -.205 | -.464 |
| 0  | 361 | -.469  | .279  | .338  | -.1557 | 0  | 411 | -.208  | .031  | -.098 | -.325  | 0  | 539 | -.308  | .038  | -.181 | -.442 |
| 0  | 362 | -.266  | .037  | -.124 | -.541  | 0  | 412 | -.187  | .029  | -.104 | -.290  | 0  | 540 | -.306  | .037  | -.174 | -.466 |
| 0  | 363 | -.240  | .037  | -.079 | -.487  | 0  | 413 | -.066  | .040  | .088  | -.259  | 0  | 541 | -.311  | .034  | -.207 | -.440 |
| 0  | 364 | -.212  | .062  | .002  | -.665  | 0  | 414 | -.165  | .046  | .045  | -.375  | 0  | 542 | -.318  | .034  | -.209 | -.461 |
| 0  | 365 | -.135  | .110  | .140  | -.1099 | 0  | 415 | -.168  | .040  | .038  | -.314  | 0  | 543 | -.333  | .044  | -.207 | -.567 |
| 0  | 366 | -.176  | .126  | .067  | -.1026 | 0  | 416 | -.185  | .026  | -.093 | -.280  | 0  | 544 | -.330  | .039  | -.174 | -.541 |
| 0  | 367 | -.474  | .243  | .222  | -.1410 | 0  | 417 | -.147  | .027  | -.026 | -.242  | 0  | 545 | -.323  | .035  | -.231 | -.487 |
| 0  | 368 | -.535  | .252  | .253  | -.1757 | 0  | 418 | -.119  | .029  | .005  | -.231  | 0  | 546 | -.318  | .037  | -.205 | -.454 |
| 0  | 369 | -.095  | .107  | .371  | -.760  | 0  | 419 | -.198  | .055  | .016  | .456   | 0  | 547 | -.314  | .040  | -.191 | -.605 |
| 0  | 370 | -.265  | .034  | -.094 | -.406  | 0  | 420 | -.008  | .044  | .256  | -.140  | 0  | 548 | -.311  | .040  | -.198 | -.565 |
| 0  | 371 | -.232  | .034  | -.011 | -.461  | 0  | 421 | -.051  | .063  | .392  | -.153  | 0  | 549 | -.326  | .041  | -.161 | -.551 |
| 0  | 372 | -.361  | .112  | .049  | -.838  | 0  | 422 | -.069  | .064  | .415  | -.195  | 0  | 550 | -.337  | .047  | -.186 | -.611 |
| 0  | 373 | -.078  | .096  | .187  | -.840  | 0  | 501 | -.321  | .048  | -.175 | -.559  | 0  | 551 | -.323  | .039  | -.191 | -.532 |
| 0  | 374 | -.185  | .148  | .127  | -.189  | 0  | 502 | -.355  | .057  | -.185 | -.720  | 0  | 552 | -.321  | .034  | -.207 | -.442 |
| 0  | 375 | -.370  | .188  | .444  | -.1169 | 0  | 503 | -.380  | .053  | -.208 | -.718  | 0  | 553 | -.321  | .035  | -.226 | -.475 |

## APPENDIX A -- PRESSURE DATA # CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 3

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|
| 0  | 554 | -.321  | .035  | -.196 | -.463  | 0  | 604 | -.421  | .116  | -.169 | -1.164 | 0  | 734 | -.338  | .052  | -.180 | -.669  |
| 0  | 555 | -.317  | .041  | -.166 | -.484  | 0  | 605 | -.221  | .040  | -.065 | -.382  | 0  | 735 | -.327  | .046  | -.175 | -.607  |
| 0  | 556 | -.328  | .046  | -.198 | -.562  | 0  | 606 | -.289  | .051  | -.100 | -.487  | 0  | 736 | -.330  | .044  | -.185 | -.564  |
| 0  | 557 | -.338  | .051  | -.205 | -.532  | 0  | 607 | -.298  | .039  | -.178 | -.462  | 0  | 737 | -.338  | .048  | -.185 | -.607  |
| 0  | 558 | -.327  | .039  | -.164 | -.468  | 0  | 608 | -.139  | .050  | -.121 | -.412  | 0  | 738 | -.340  | .048  | -.161 | -.657  |
| 0  | 559 | -.318  | .039  | -.198 | -.465  | 0  | 609 | -.192  | .049  | -.003 | -.391  | 0  | 739 | -.350  | .059  | -.194 | -.614  |
| 0  | 560 | -.328  | .044  | -.198 | -.558  | 0  | 610 | -.248  | .049  | -.065 | -.452  | 0  | 740 | -.353  | .068  | -.168 | -.827  |
| 0  | 561 | -.316  | .043  | -.175 | -.507  | 0  | 611 | -.330  | .048  | -.176 | -.575  | 0  | 741 | -.338  | .047  | -.206 | -.585  |
| 0  | 562 | -.326  | .043  | -.203 | -.532  | 0  | 612 | -.147  | .067  | -.065 | -.514  | 0  | 742 | -.347  | .049  | -.199 | -.619  |
| 0  | 563 | -.328  | .043  | -.182 | -.532  | 0  | 613 | -.144  | .058  | -.074 | -.343  | 0  | 743 | -.347  | .056  | -.170 | -.733  |
| 0  | 564 | -.320  | .040  | -.186 | -.525  | 0  | 614 | -.180  | .078  | -.137 | -.556  | 0  | 744 | -.346  | .054  | -.165 | -.652  |
| 0  | 565 | -.349  | .050  | -.207 | -.560  | 0  | 615 | -.144  | .048  | -.132 | -.301  | 0  | 745 | -.345  | .057  | -.201 | -.1077 |
| 0  | 566 | -.326  | .041  | -.214 | -.542  | 0  | 616 | -.160  | .049  | -.195 | -.299  | 0  | 746 | -.350  | .055  | -.213 | -.662  |
| 0  | 567 | -.312  | .038  | -.172 | -.456  | 0  | 617 | -.171  | .073  | -.248 | -.394  | 0  | 747 | -.355  | .058  | -.185 | -.757  |
| 0  | 568 | -.304  | .037  | -.189 | -.439  | 0  | 618 | -.174  | .080  | -.232 | -.508  | 0  | 748 | -.357  | .065  | -.182 | -.879  |
| 0  | 569 | -.298  | .041  | -.150 | -.447  | 0  | 619 | -.167  | .041  | -.004 | -.304  | 0  | 749 | -.415  | .081  | -.126 | -.804  |
| 0  | 570 | -.319  | .050  | -.145 | -.537  | 0  | 620 | -.249  | .031  | -.141 | -.368  | 0  | 750 | -.373  | .082  | -.061 | -.699  |
| 0  | 571 | -.306  | .042  | -.150 | -.493  | 0  | 701 | -.370  | .052  | -.202 | -.608  | 0  | 751 | -.376  | .066  | -.189 | -.795  |
| 0  | 572 | -.298  | .048  | -.148 | -.486  | 0  | 702 | -.313  | .046  | -.185 | -.520  | 0  | 752 | -.352  | .056  | -.187 | -.645  |
| 0  | 573 | -.327  | .047  | -.162 | -.515  | 0  | 703 | -.200  | .051  | -.043 | -.409  | 0  | 753 | -.349  | .055  | -.166 | -.666  |
| 0  | 574 | -.364  | .048  | -.218 | -.583  | 0  | 704 | -.459  | .084  | -.223 | -.834  | 0  | 754 | -.352  | .053  | -.208 | -.582  |
| 0  | 575 | -.332  | .040  | -.189 | -.539  | 0  | 705 | -.305  | .042  | -.155 | -.496  | 0  | 755 | -.359  | .064  | -.182 | -.870  |
| 0  | 576 | -.324  | .040  | -.218 | -.464  | 0  | 706 | -.322  | .044  | -.174 | -.621  | 0  | 756 | -.344  | .044  | -.224 | -.535  |
| 0  | 577 | -.330  | .066  | -.104 | -.580  | 0  | 707 | -.326  | .042  | -.176 | -.504  | 0  | 757 | -.353  | .054  | -.206 | -.813  |
| 0  | 578 | -.300  | .055  | -.094 | -.473  | 0  | 708 | -.326  | .056  | -.176 | -.785  | 0  | 758 | -.360  | .077  | -.171 | -.926  |
| 0  | 579 | -.284  | .064  | -.002 | -.515  | 0  | 709 | -.333  | .049  | -.193 | -.669  | 0  | 759 | -.354  | .055  | -.194 | -.669  |
| 0  | 580 | -.353  | .047  | -.172 | -.529  | 0  | 710 | -.336  | .055  | -.200 | -.676  | 0  | 760 | -.342  | .073  | -.138 | -.804  |
| 0  | 581 | -.426  | .071  | -.255 | -.792  | 0  | 711 | -.335  | .053  | -.186 | -.708  | 0  | 761 | -.360  | .059  | -.217 | -.706  |
| 0  | 582 | -.400  | .061  | -.260 | -.685  | 0  | 712 | -.346  | .057  | -.195 | -.591  | 0  | 762 | -.347  | .078  | -.166 | -.975  |
| 0  | 583 | -.392  | .060  | -.231 | -.668  | 0  | 713 | -.354  | .063  | -.193 | -.730  | 0  | 763 | -.348  | .067  | -.154 | -.851  |
| 0  | 584 | -.287  | .063  | -.056 | -.542  | 0  | 714 | -.333  | .049  | -.169 | -.556  | 0  | 764 | -.359  | .064  | -.189 | -.853  |
| 0  | 585 | -.265  | .051  | -.063 | -.488  | 0  | 715 | -.345  | .059  | -.188 | -.869  | 0  | 765 | -.372  | .074  | -.182 | -.984  |
| 0  | 586 | -.280  | .060  | -.077 | -.522  | 0  | 716 | -.341  | .051  | -.183 | -.723  | 0  | 766 | -.345  | .061  | -.148 | -.733  |
| 0  | 587 | -.316  | .045  | -.119 | -.505  | 0  | 717 | -.335  | .048  | -.145 | -.534  | 0  | 767 | -.347  | .063  | -.184 | -.760  |
| 0  | 588 | -.432  | .072  | -.257 | -.736  | 0  | 718 | -.443  | .116  | -.190 | -1.136 | 0  | 768 | -.353  | .065  | -.207 | -.748  |
| 0  | 589 | -.553  | .129  | -.267 | -.137  | 0  | 719 | -.339  | .070  | -.074 | -.619  | 0  | 769 | -.334  | .059  | -.167 | -.795  |
| 0  | 590 | -.551  | .120  | -.289 | -.1295 | 0  | 720 | -.341  | .045  | -.185 | -.600  | 0  | 770 | -.349  | .063  | -.170 | -.679  |
| 0  | 591 | -.307  | .049  | -.155 | -.525  | 0  | 721 | -.344  | .049  | -.235 | -.565  | 0  | 771 | -.345  | .060  | -.180 | -.790  |
| 0  | 592 | -.293  | .047  | -.136 | -.511  | 0  | 722 | -.331  | .051  | -.174 | -.572  | 0  | 772 | -.383  | .088  | -.103 | -1.053 |
| 0  | 593 | -.206  | .058  | -.066 | -.468  | 0  | 723 | -.338  | .054  | -.181 | -.558  | 0  | 773 | -.367  | .075  | -.172 | -.770  |
| 0  | 594 | -.202  | .051  | -.016 | -.425  | 0  | 724 | -.363  | .065  | -.204 | -.683  | 0  | 774 | -.370  | .072  | -.118 | -.790  |
| 0  | 595 | -.250  | .073  | -.043 | -.629  | 0  | 725 | -.351  | .069  | -.190 | -.645  | 0  | 775 | -.376  | .079  | -.123 | -.834  |
| 0  | 596 | -.258  | .046  | -.076 | -.487  | 0  | 726 | -.346  | .051  | -.190 | -.655  | 0  | 776 | -.384  | .085  | -.155 | -.979  |
| 0  | 597 | -.371  | .068  | -.200 | -.722  | 0  | 727 | -.335  | .049  | -.173 | -.621  | 0  | 777 | -.391  | .079  | -.199 | -.972  |
| 0  | 598 | -.560  | .121  | -.254 | -.1252 | 0  | 728 | -.338  | .055  | -.182 | -.702  | 0  | 778 | -.396  | .077  | -.170 | -1.085 |
| 0  | 599 | -.740  | .217  | -.280 | -.2167 | 0  | 729 | -.343  | .057  | -.194 | -.621  | 0  | 779 | -.437  | .113  | -.125 | -1.114 |
| 0  | 600 | -.245  | .041  | -.079 | -.442  | 0  | 730 | -.331  | .044  | -.189 | -.588  | 0  | 780 | -.412  | .093  | -.143 | -.947  |
| 0  | 601 | -.303  | .049  | -.153 | -.398  | 0  | 731 | -.340  | .044  | -.185 | -.497  | 0  | 781 | -.409  | .089  | -.017 | -.817  |
| 0  | 602 | -.295  | .043  | -.155 | -.480  | 0  | 732 | -.325  | .044  | -.185 | -.571  | 0  | 782 | -.438  | .125  | -.017 | -.1178 |
| 0  | 603 | -.164  | .068  | .060  | -.475  | 0  | 733 | -.331  | .043  | -.204 | -.538  | 0  | 783 | -.450  | .140  | -.093 | -.1151 |

## APPENDIX A -- PRESSURE DATA #

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

PAGE A 4

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|------|--------|-------|-------|--------|
| 0  | 784 | -.422  | .093  | -.202 | -1.016 | 0  | 912 | -.329  | .042  | -.202 | -.520  | 0  | 962  | -.279  | .040  | -.125 | -.467  |
| 0  | 785 | -.438  | .103  | -.170 | -1.200 | 0  | 913 | -.261  | .121  | -.135 | -1.099 | 0  | 963  | -.042  | .064  | .317  | -.249  |
| 0  | 786 | -.476  | .104  | -.212 | -1.087 | 0  | 914 | -.330  | .042  | -.207 | -.527  | 0  | 964  | -.051  | .049  | .197  | -.468  |
| 0  | 787 | -.433  | .100  | -.091 | -.866  | 0  | 915 | -.351  | .096  | -.143 | -.676  | 0  | 965  | -.186  | .041  | -.007 | -.380  |
| 0  | 788 | -.390  | .098  | -.020 | -.851  | 0  | 916 | -.331  | .044  | -.212 | -.525  | 0  | 966  | -.321  | .051  | -.169 | -.580  |
| 0  | 789 | -.347  | .106  | -.010 | -.1080 | 0  | 917 | -.346  | .241  | -.749 | .905   | 0  | 967  | -.055  | .044  | .196  | -.272  |
| 0  | 790 | -.360  | .123  | -.017 | -.186  | 0  | 918 | -.346  | .053  | -.162 | -.747  | 0  | 968  | -.183  | .040  | .036  | -.321  |
| 0  | 791 | -.442  | .117  | -.199 | -1.238 | 0  | 919 | -.310  | .034  | -.203 | -.428  | 0  | 969  | -.106  | .036  | .082  | -.224  |
| 0  | 792 | -.428  | .104  | -.086 | -.992  | 0  | 920 | -.333  | .057  | -.185 | -.679  | 0  | 970  | -.066  | .047  | .126  | -.214  |
| 0  | 793 | -.478  | .166  | -.033 | -1.335 | 0  | 921 | -.408  | .080  | -.179 | -.803  | 0  | 971  | -.068  | .048  | .157  | -.229  |
| 0  | 794 | -.413  | .097  | -.088 | -1.012 | 0  | 922 | -.338  | .144  | -.867 | -.012  | 0  | 1001 | -.323  | .055  | -.161 | -.619  |
| 0  | 795 | -.251  | .062  | -.056 | -.580  | 0  | 923 | -.368  | .086  | -.072 | -.753  | 0  | 1002 | -.406  | .097  | -.136 | -1.005 |
| 0  | 796 | -.257  | .083  | -.072 | -.777  | 0  | 924 | -.358  | .089  | -.162 | -.871  | 0  | 1003 | -.341  | .044  | -.229 | -.599  |
| 0  | 797 | -.182  | .044  | -.003 | -.587  | 0  | 925 | -.217  | .265  | -.919 | -1.106 | 0  | 1004 | -.329  | .068  | -.119 | -.690  |
| 0  | 798 | -.447  | .113  | -.232 | -1.104 | 0  | 926 | -.319  | .046  | -.165 | -.513  | 0  | 1005 | -.346  | .043  | -.239 | -.551  |
| 0  | 799 | -.449  | .107  | -.229 | -1.226 | 0  | 927 | -.183  | .115  | -.365 | -.587  | 0  | 1006 | -.385  | .078  | -.145 | -.729  |
| 0  | 800 | -.470  | .117  | -.204 | -1.118 | 0  | 928 | -.372  | .084  | -.094 | -.737  | 0  | 1007 | -.224  | .048  | -.009 | -.415  |
| 0  | 801 | -.428  | .110  | -.168 | -1.154 | 0  | 929 | -.047  | .175  | -.406 | -1.217 | 0  | 1008 | -.188  | .106  | .621  | -.056  |
| 0  | 802 | -.335  | .079  | -.024 | -.749  | 0  | 930 | -.312  | .037  | -.216 | -.470  | 0  | 1009 | -.280  | .044  | -.030 | -.435  |
| 0  | 803 | -.268  | .100  | -.020 | -1.029 | 0  | 931 | -.335  | .147  | .786  | -.050  | 0  | 1010 | -.256  | .123  | .713  | -.039  |
| 0  | 804 | -.253  | .096  | -.024 | -.772  | 0  | 932 | -.243  | .048  | -.015 | -.439  | 0  | 1011 | -.313  | .067  | -.027 | .680   |
| 0  | 805 | -.025  | .064  | -.229 | -.490  | 0  | 933 | -.362  | .077  | -.082 | -.630  | 0  | 1012 | -.189  | .105  | .674  | -.025  |
| 0  | 806 | -.192  | .074  | -.055 | -.530  | 0  | 934 | -.001  | .099  | -.342 | -.451  | 0  | 1013 | -.336  | .053  | -.180 | -.594  |
| 0  | 807 | -.236  | .051  | -.077 | -.537  | 0  | 935 | -.156  | .096  | -.152 | -.533  | 0  | 1014 | -.367  | .118  | -.030 | -.866  |
| 0  | 808 | -.175  | .036  | -.041 | -.331  | 0  | 936 | -.318  | .030  | -.241 | -.417  | 0  | 1015 | -.315  | .052  | -.155 | -.587  |
| 0  | 809 | -.443  | .127  | -.199 | -1.334 | 0  | 937 | -.202  | .054  | -.024 | -.608  | 0  | 1016 | -.116  | .151  | .310  | -.897  |
| 0  | 810 | -.421  | .115  | -.187 | -1.224 | 0  | 938 | -.190  | .154  | -.169 | -.856  | 0  | 1017 | -.073  | .044  | .143  | -.263  |
| 0  | 811 | -.293  | .076  | -.015 | -.617  | 0  | 939 | -.348  | .136  | -.288 | -1.211 | 0  | 1018 | -.058  | .049  | .155  | -.207  |
| 0  | 812 | -.212  | .117  | -.083 | -.918  | 0  | 940 | -.033  | .103  | -.396 | -.235  | 0  | 1019 | -.088  | .050  | .135  | -.345  |
| 0  | 813 | -.209  | .046  | -.041 | -.446  | 0  | 941 | -.430  | .060  | -.296 | -.667  | 0  | 1020 | -.120  | .113  | .152  | -.714  |
| 0  | 814 | -.214  | .048  | -.044 | -.455  | 0  | 942 | -.144  | .152  | -.769 | -.309  | 0  | 1021 | -.135  | .052  | .208  | -.306  |
| 0  | 815 | -.149  | .041  | -.031 | -.307  | 0  | 943 | -.086  | .079  | -.434 | -.117  | 0  | 1022 | -.060  | .029  | .063  | -.170  |
| 0  | 816 | -.499  | .161  | -.128 | -1.358 | 0  | 944 | -.084  | .071  | -.372 | -.130  | 0  | 1023 | -.072  | .036  | .072  | -.209  |
| 0  | 817 | -.421  | .110  | -.131 | -.970  | 0  | 945 | -.238  | .042  | -.082 | -.392  | 0  | 1024 | -.038  | .040  | .111  | -.267  |
| 0  | 818 | -.376  | .079  | -.048 | -.744  | 0  | 946 | -.197  | .110  | -.792 | -.103  | 0  | 1025 | -.180  | .041  | -.027 | -.333  |
| 0  | 819 | -.298  | .082  | -.034 | -.730  | 0  | 947 | -.232  | .131  | .812  | -.057  | 0  | 1026 | -.256  | .049  | -.030 | -.471  |
| 0  | 820 | -.197  | .072  | -.144 | -.596  | 0  | 948 | -.175  | .098  | .544  | -.057  | 0  | 1027 | -.254  | .034  | -.158 | -.401  |
| 0  | 821 | -.161  | .078  | -.051 | -.743  | 0  | 949 | -.242  | .136  | .840  | -.048  | 0  | 1028 | -.020  | .039  | .191  | -.134  |
| 0  | 822 | -.185  | .099  | -.071 | -1.023 | 0  | 950 | -.340  | .056  | -.188 | -.635  | 10 | 101  | -.026  | .091  | .444  | -.278  |
| 0  | 901 | -.339  | .027  | -.269 | -.440  | 0  | 951 | -.092  | .070  | .363  | -.119  | 10 | 102  | -.013  | .091  | .350  | -.267  |
| 0  | 902 | -.350  | .051  | -.222 | -.741  | 0  | 952 | -.105  | .061  | .172  | -.456  | 10 | 103  | -.085  | .075  | .350  | -.328  |
| 0  | 903 | -.350  | .050  | -.217 | -.718  | 0  | 953 | -.035  | .080  | .413  | -.282  | 10 | 104  | -.261  | .146  | .692  | -.296  |
| 0  | 904 | -.342  | .048  | -.201 | -.587  | 0  | 954 | -.166  | .106  | .753  | -.133  | 10 | 105  | -.105  | .119  | .622  | -.332  |
| 0  | 905 | -.322  | .050  | -.185 | -.444  | 0  | 955 | -.034  | .051  | .308  | -.108  | 10 | 106  | -.110  | .061  | .107  | -.284  |
| 0  | 906 | -.330  | .035  | -.237 | -.468  | 0  | 956 | -.063  | .051  | .191  | -.218  | 10 | 107  | -.004  | .088  | .339  | -.322  |
| 0  | 907 | -.326  | .040  | -.207 | -.567  | 0  | 957 | -.080  | .049  | .145  | -.302  | 10 | 108  | -.128  | .141  | .552  | -.489  |
| 0  | 908 | -.077  | .100  | -.252 | -.385  | 0  | 958 | -.044  | .079  | .262  | -.608  | 10 | 109  | -.133  | .151  | .657  | -.370  |
| 0  | 909 | -.197  | .061  | -.056 | -.505  | 0  | 959 | -.029  | .082  | .470  | -.195  | 10 | 110  | -.066  | .152  | .651  | -.608  |
| 0  | 910 | -.324  | .032  | -.237 | -.438  | 0  | 960 | -.187  | .040  | -.007 | -.319  | 10 | 111  | -.154  | .085  | .173  | -.471  |
| 0  | 911 | .140   | .108  | -.592 | -.134  | 0  | 961 | -.314  | .059  | -.002 | -.571  | 10 | 112  | -.308  | .158  | .949  | -.250  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 10 | 113 | .299   | .144  | .790  | -.154 | 10 | 163 | .316   | .143  | .871  | -.002 | 10 | 213 | -.160  | .038  | -.001 | -.289  |
| 10 | 114 | .112   | .123  | .589  | -.232 | 10 | 164 | .295   | .132  | .759  | -.002 | 10 | 214 | -.201  | .071  | .089  | -.484  |
| 10 | 115 | -.051  | .078  | .226  | -.273 | 10 | 165 | .239   | .115  | .784  | -.034 | 10 | 215 | -.036  | .050  | .141  | -.296  |
| 10 | 116 | .112   | .159  | .635  | -.367 | 10 | 166 | .158   | .102  | .650  | -.113 | 10 | 216 | -.016  | .034  | .124  | -.182  |
| 10 | 117 | .306   | .150  | .864  | -.120 | 10 | 167 | -.005  | .076  | .434  | -.242 | 10 | 217 | -.013  | .028  | .096  | -.124  |
| 10 | 118 | .082   | .122  | .632  | -.239 | 10 | 168 | -.096  | .062  | .153  | -.257 | 10 | 218 | -.029  | .027  | .087  | -.152  |
| 10 | 119 | .236   | .177  | .907  | -.400 | 10 | 169 | .249   | .115  | .657  | -.022 | 10 | 219 | -.065  | .036  | .101  | -.198  |
| 10 | 120 | -.280  | .154  | .288  | -.748 | 10 | 170 | .220   | .123  | .631  | -.144 | 10 | 220 | -.013  | .049  | .215  | -.140  |
| 10 | 121 | -.117  | .103  | .199  | -.505 | 10 | 171 | .258   | .124  | .772  | -.139 | 10 | 221 | -.021  | .050  | .236  | -.187  |
| 10 | 122 | .349   | .161  | .864  | -.161 | 10 | 172 | .213   | .108  | .703  | -.029 | 10 | 222 | -.062  | .046  | .154  | -.201  |
| 10 | 123 | .326   | .164  | .880  | -.106 | 10 | 173 | .218   | .106  | .779  | -.005 | 10 | 223 | -.146  | .038  | .017  | -.270  |
| 10 | 124 | .230   | .134  | .685  | -.124 | 10 | 174 | -.005  | .127  | .477  | -.477 | 10 | 224 | -.117  | .058  | .113  | -.277  |
| 10 | 125 | .148   | .113  | .518  | -.182 | 10 | 175 | -.008  | .070  | .257  | -.199 | 10 | 225 | -.110  | .077  | .180  | -.400  |
| 10 | 126 | .226   | .139  | .884  | -.131 | 10 | 176 | -.110  | .058  | .278  | -.338 | 10 | 301 | -.310  | .097  | -.055 | .702   |
| 10 | 127 | .092   | .152  | .473  | -.510 | 10 | 177 | .102   | .091  | .549  | -.192 | 10 | 302 | -.202  | .094  | .104  | .599   |
| 10 | 128 | .008   | .095  | .561  | -.296 | 10 | 178 | .124   | .093  | .518  | -.132 | 10 | 303 | -.360  | .109  | .205  | .683   |
| 10 | 129 | -.061  | .073  | .226  | -.247 | 10 | 179 | .109   | .069  | .463  | -.074 | 10 | 304 | -.011  | .070  | .246  | -.269  |
| 10 | 130 | .316   | .149  | .805  | -.082 | 10 | 180 | .116   | .066  | .379  | -.036 | 10 | 305 | -.206  | .036  | -.062 | .452   |
| 10 | 131 | .300   | .167  | .886  | -.145 | 10 | 181 | -.044  | .099  | .340  | -.415 | 10 | 306 | -.242  | .159  | .308  | -.749  |
| 10 | 132 | .356   | .156  | .888  | -.092 | 10 | 182 | -.020  | .059  | .357  | -.254 | 10 | 307 | -.160  | .077  | .207  | .500   |
| 10 | 133 | .375   | .152  | .916  | -.006 | 10 | 183 | .142   | .051  | .254  | -.340 | 10 | 308 | -.241  | .041  | -.087 | .434   |
| 10 | 134 | .346   | .147  | .986  | -.001 | 10 | 184 | .016   | .049  | .333  | -.189 | 10 | 309 | -.120  | .081  | .176  | .476   |
| 10 | 135 | .308   | .139  | .879  | -.092 | 10 | 185 | .050   | .048  | .249  | -.084 | 10 | 310 | -.093  | .086  | .181  | -.700  |
| 10 | 136 | .382   | .152  | .960  | -.052 | 10 | 186 | .135   | .077  | .480  | -.053 | 10 | 311 | -.255  | .234  | .501  | -.195  |
| 10 | 137 | .297   | .137  | .818  | -.082 | 10 | 187 | .146   | .083  | .590  | -.086 | 10 | 312 | -.220  | .041  | -.043 | .346   |
| 10 | 138 | .059   | .143  | .605  | -.503 | 10 | 188 | -.062  | .080  | .293  | -.348 | 10 | 313 | -.131  | .072  | .152  | .363   |
| 10 | 139 | -.035  | .090  | .366  | -.273 | 10 | 189 | .139   | .040  | .014  | -.312 | 10 | 314 | -.036  | .132  | .311  | -.738  |
| 10 | 140 | -.063  | .071  | .261  | -.268 | 10 | 190 | -.216  | .040  | -.034 | -.434 | 10 | 315 | -.229  | .214  | .469  | .859   |
| 10 | 141 | .358   | .139  | .823  | -.004 | 10 | 191 | .154   | .082  | .511  | -.044 | 10 | 316 | -.135  | .098  | .284  | -.733  |
| 10 | 142 | .323   | .137  | .965  | -.004 | 10 | 192 | .165   | .089  | .575  | -.042 | 10 | 317 | -.029  | .100  | .474  | -.524  |
| 10 | 143 | .243   | .152  | .900  | -.189 | 10 | 193 | .170   | .093  | .575  | -.067 | 10 | 318 | -.261  | .053  | -.086 | .539   |
| 10 | 144 | .332   | .149  | .914  | -.075 | 10 | 194 | .073   | .064  | .375  | -.085 | 10 | 319 | -.204  | .092  | .152  | .365   |
| 10 | 145 | .337   | .142  | .925  | -.015 | 10 | 195 | .116   | .076  | .520  | -.106 | 10 | 320 | -.015  | .098  | .378  | -.529  |
| 10 | 146 | .160   | .110  | .517  | -.140 | 10 | 196 | .159   | .091  | .644  | -.033 | 10 | 321 | -.193  | .193  | .496  | -.991  |
| 10 | 147 | -.045  | .075  | .275  | -.277 | 10 | 197 | -.028  | .096  | .330  | -.374 | 10 | 322 | -.208  | .034  | -.096 | .341   |
| 10 | 148 | -.222  | .054  | .094  | -.396 | 10 | 198 | .013   | .064  | .279  | -.374 | 10 | 323 | -.179  | .040  | -.005 | .310   |
| 10 | 149 | .313   | .162  | .841  | -.294 | 10 | 199 | .015   | .060  | .316  | -.319 | 10 | 324 | -.325  | .100  | .015  | .774   |
| 10 | 150 | .225   | .184  | .828  | -.446 | 10 | 200 | -.021  | .041  | .139  | -.280 | 10 | 325 | -.158  | .142  | .695  | -.334  |
| 10 | 151 | .322   | .157  | .846  | -.214 | 10 | 201 | -.013  | .029  | .107  | -.120 | 10 | 326 | -.074  | .096  | .214  | .543   |
| 10 | 152 | .286   | .131  | .737  | -.194 | 10 | 202 | -.096  | .044  | .068  | -.345 | 10 | 327 | -.032  | .097  | .325  | -.396  |
| 10 | 153 | .261   | .135  | .814  | -.421 | 10 | 203 | -.062  | .041  | .098  | -.191 | 10 | 328 | -.009  | .175  | .410  | -.787  |
| 10 | 154 | .155   | .112  | .557  | -.225 | 10 | 204 | -.072  | .037  | .096  | -.223 | 10 | 329 | -.153  | .236  | .538  | -.1054 |
| 10 | 155 | -.071  | .081  | .293  | -.432 | 10 | 205 | -.092  | .039  | .089  | -.223 | 10 | 330 | -.065  | .090  | .301  | -.738  |
| 10 | 156 | -.413  | .073  | .162  | -.712 | 10 | 206 | -.151  | .042  | .073  | -.328 | 10 | 331 | -.080  | .102  | .524  | -.486  |
| 10 | 157 | -.358  | .083  | .211  | -.582 | 10 | 207 | -.178  | .041  | .004  | -.317 | 10 | 332 | -.206  | .033  | -.059 | .340   |
| 10 | 158 | .323   | .141  | .928  | -.002 | 10 | 208 | -.259  | .046  | -.053 | -.450 | 10 | 333 | -.163  | .039  | .009  | -.294  |
| 10 | 159 | -.029  | .072  | .325  | -.348 | 10 | 209 | -.022  | .048  | .224  | -.273 | 10 | 334 | -.235  | .100  | .082  | .658   |
| 10 | 160 | .255   | .129  | .798  | -.159 | 10 | 210 | -.006  | .031  | .108  | -.103 | 10 | 335 | -.110  | .131  | .662  | -.289  |
| 10 | 161 | -.102  | .069  | .264  | -.316 | 10 | 211 | -.141  | .055  | .020  | -.484 | 10 | 336 | -.034  | .099  | .356  | -.595  |
| 10 | 162 | .275   | .139  | .823  | -.173 | 10 | 212 | -.135  | .040  | .001  | -.305 | 10 | 337 | -.030  | .118  | .313  | -.624  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 6

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|---------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 10 | 338 | -.019  | .132  | .446  | -.724   | 10 | 388 | -.034  | .052  | .257  | -.308 | 10 | 516 | -.294  | .038  | -.199 | -.455 |
| 10 | 339 | -.119  | .222  | .555  | -.860   | 10 | 389 | -.050  | .073  | .202  | -.408 | 10 | 517 | -.285  | .029  | -.186 | -.412 |
| 10 | 340 | -.167  | .204  | .553  | -.753   | 10 | 390 | -.073  | .082  | .217  | -.479 | 10 | 518 | -.320  | .035  | -.197 | -.441 |
| 10 | 341 | .041   | .139  | .599  | -.445   | 10 | 391 | -.011  | .055  | .254  | -.152 | 10 | 519 | -.314  | .038  | -.204 | -.471 |
| 10 | 342 | .007   | .120  | .378  | -.826   | 10 | 392 | -.242  | .049  | -.027 | -.503 | 10 | 520 | -.325  | .051  | -.170 | -.544 |
| 10 | 343 | -.249  | .035  | -.131 | -.394   | 10 | 393 | -.001  | .061  | .287  | -.154 | 10 | 521 | -.360  | .065  | -.174 | -.633 |
| 10 | 344 | -.185  | .038  | -.027 | -.360   | 10 | 394 | -.015  | .063  | .307  | -.194 | 10 | 522 | -.299  | .036  | -.174 | -.469 |
| 10 | 345 | -.106  | .054  | .177  | -.449   | 10 | 395 | -.030  | .083  | .396  | -.521 | 10 | 523 | -.288  | .029  | -.170 | -.414 |
| 10 | 346 | -.045  | .146  | .385  | -.809   | 10 | 396 | -.050  | .074  | .216  | -.357 | 10 | 524 | -.298  | .030  | -.202 | -.421 |
| 10 | 347 | -.161  | .172  | .546  | -.738   | 10 | 397 | -.264  | .065  | -.095 | -.591 | 10 | 525 | -.299  | .031  | -.202 | -.421 |
| 10 | 348 | -.107  | .232  | .534  | -.843   | 10 | 398 | -.195  | .053  | .057  | -.412 | 10 | 526 | -.281  | .033  | -.179 | -.450 |
| 10 | 349 | -.291  | .038  | -.176 | -.488   | 10 | 399 | -.186  | .028  | -.096 | -.291 | 10 | 527 | -.281  | .036  | -.152 | -.508 |
| 10 | 350 | -.288  | .040  | -.154 | -.471   | 10 | 400 | -.140  | .029  | -.018 | -.255 | 10 | 528 | -.273  | .035  | -.136 | -.406 |
| 10 | 351 | -.222  | .042  | -.049 | -.397   | 10 | 401 | -.101  | .031  | .027  | -.223 | 10 | 529 | -.272  | .038  | -.155 | -.397 |
| 10 | 352 | -.119  | .076  | .194  | -.459   | 10 | 402 | -.105  | .042  | .020  | -.335 | 10 | 530 | -.289  | .030  | -.178 | -.425 |
| 10 | 353 | -.032  | .092  | .261  | -.629   | 10 | 403 | -.041  | .096  | .261  | -.623 | 10 | 531 | -.293  | .032  | -.198 | -.427 |
| 10 | 354 | -.040  | .131  | .309  | -.641   | 10 | 404 | -.031  | .088  | .268  | -.455 | 10 | 532 | -.297  | .035  | -.175 | -.445 |
| 10 | 355 | -.266  | .202  | .459  | -.196   | 10 | 405 | -.001  | .034  | .173  | -.130 | 10 | 533 | -.290  | .029  | -.173 | -.409 |
| 10 | 356 | -.154  | .159  | .683  | -.595   | 10 | 406 | -.001  | .037  | .141  | -.187 | 10 | 534 | -.287  | .029  | -.201 | -.418 |
| 10 | 357 | -.194  | .176  | .795  | -.531   | 10 | 407 | -.230  | .066  | -.028 | -.557 | 10 | 535 | -.290  | .029  | -.187 | -.404 |
| 10 | 358 | -.204  | .037  | -.034 | -.350   | 10 | 408 | -.195  | .030  | -.076 | -.294 | 10 | 536 | -.279  | .030  | -.182 | -.397 |
| 10 | 359 | -.291  | .199  | .557  | -.1.201 | 10 | 409 | -.096  | .027  | .025  | -.182 | 10 | 537 | -.280  | .031  | -.171 | -.379 |
| 10 | 360 | -.233  | .036  | -.085 | -.354   | 10 | 410 | -.018  | .056  | .375  | -.182 | 10 | 538 | -.282  | .034  | -.180 | -.425 |
| 10 | 361 | -.131  | .266  | .688  | -.1.807 | 10 | 411 | -.188  | .029  | -.084 | -.310 | 10 | 539 | -.276  | .031  | -.185 | -.402 |
| 10 | 362 | -.226  | .034  | -.090 | -.335   | 10 | 412 | -.166  | .028  | -.039 | -.263 | 10 | 540 | -.274  | .033  | -.168 | -.397 |
| 10 | 363 | -.193  | .036  | .070  | -.316   | 10 | 413 | -.032  | .036  | .134  | -.192 | 10 | 541 | -.284  | .030  | -.198 | -.392 |
| 10 | 364 | -.115  | .059  | .170  | -.366   | 10 | 414 | -.143  | .048  | .067  | -.384 | 10 | 542 | -.285  | .031  | -.196 | -.406 |
| 10 | 365 | -.002  | .071  | .285  | -.300   | 10 | 415 | -.133  | .044  | .115  | -.285 | 10 | 543 | -.308  | .035  | -.178 | -.452 |
| 10 | 366 | -.021  | .080  | .262  | -.388   | 10 | 416 | -.161  | .027  | -.048 | -.249 | 10 | 544 | -.314  | .034  | -.192 | -.478 |
| 10 | 367 | -.155  | .271  | .511  | -.1.209 | 10 | 417 | -.113  | .029  | .014  | -.209 | 10 | 545 | -.297  | .031  | -.194 | -.402 |
| 10 | 368 | -.277  | .268  | .486  | -.1.571 | 10 | 418 | -.077  | .032  | .103  | -.168 | 10 | 546 | -.293  | .033  | -.187 | -.420 |
| 10 | 369 | -.030  | .082  | .332  | -.431   | 10 | 419 | -.143  | .049  | .002  | -.372 | 10 | 547 | -.281  | .033  | -.180 | -.432 |
| 10 | 370 | -.234  | .036  | -.084 | -.398   | 10 | 420 | -.011  | .042  | .204  | -.108 | 10 | 548 | -.282  | .035  | -.173 | -.422 |
| 10 | 371 | -.194  | .035  | -.004 | -.313   | 10 | 421 | -.069  | .060  | .364  | -.109 | 10 | 549 | -.308  | .036  | -.200 | -.446 |
| 10 | 372 | -.357  | .109  | -.032 | -.891   | 10 | 422 | -.072  | .062  | .484  | -.097 | 10 | 550 | -.317  | .043  | -.204 | -.528 |
| 10 | 373 | .022   | .067  | .280  | -.326   | 10 | 501 | -.292  | .039  | -.161 | -.528 | 10 | 551 | -.301  | .034  | -.184 | -.446 |
| 10 | 374 | -.057  | .073  | .197  | -.536   | 10 | 502 | -.329  | .043  | -.195 | -.508 | 10 | 552 | -.296  | .033  | -.209 | -.478 |
| 10 | 375 | -.183  | .173  | .348  | -.810   | 10 | 503 | -.374  | .052  | -.179 | -.581 | 10 | 553 | -.291  | .032  | -.188 | -.433 |
| 10 | 376 | -.204  | .177  | .440  | -.858   | 10 | 504 | -.169  | .067  | .015  | -.517 | 10 | 554 | -.290  | .035  | -.198 | -.514 |
| 10 | 377 | -.253  | .036  | -.120 | -.408   | 10 | 505 | -.301  | .035  | -.173 | -.439 | 10 | 555 | -.283  | .036  | -.143 | -.430 |
| 10 | 378 | -.206  | .033  | -.069 | -.315   | 10 | 506 | -.284  | .035  | -.177 | -.402 | 10 | 556 | -.290  | .042  | -.157 | -.512 |
| 10 | 379 | -.319  | .082  | -.012 | -.675   | 10 | 507 | -.291  | .034  | -.190 | -.432 | 10 | 557 | -.291  | .043  | -.177 | -.620 |
| 10 | 380 | -.014  | .054  | .197  | -.275   | 10 | 508 | -.310  | .038  | -.207 | -.484 | 10 | 558 | -.307  | .037  | -.175 | -.482 |
| 10 | 381 | -.059  | .059  | .214  | -.459   | 10 | 509 | -.299  | .037  | -.204 | -.514 | 10 | 559 | -.283  | .036  | -.155 | -.532 |
| 10 | 382 | -.122  | .168  | .285  | -.1.064 | 10 | 510 | -.300  | .038  | -.195 | -.544 | 10 | 560 | -.315  | .040  | -.159 | -.462 |
| 10 | 383 | -.167  | .167  | .423  | -.1.275 | 10 | 511 | -.299  | .041  | -.195 | -.507 | 10 | 561 | -.276  | .041  | -.116 | -.467 |
| 10 | 384 | -.284  | .054  | -.135 | -.524   | 10 | 512 | -.299  | .036  | -.167 | -.457 | 10 | 562 | -.301  | .040  | -.155 | -.442 |
| 10 | 385 | -.222  | .039  | -.107 | -.396   | 10 | 513 | -.294  | .034  | -.202 | -.428 | 10 | 563 | -.287  | .035  | -.146 | -.417 |
| 10 | 386 | -.280  | .054  | -.047 | -.509   | 10 | 514 | -.308  | .044  | -.163 | -.555 | 10 | 564 | -.286  | .035  | -.166 | -.419 |
| 10 | 387 | -.009  | .057  | .287  | -.1.37  | 10 | 515 | -.302  | .041  | -.165 | -.501 | 10 | 565 | -.304  | .045  | -.168 | -.566 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|-----|-------|--------|-------|-------|-------|-----|-------|--------|-------|-------|-------|
| 10 | 566 | -.298  | .038  | -.161 | -.463  | 10  | 616   | -.173  | .049  | .057  | -.313 | 10  | 746   | -.317  | .038  | -.211 | -.503 |
| 10 | 567 | -.274  | .034  | -.125 | -.401  | 10  | 617   | -.115  | .088  | .383  | -.369 | 10  | 747   | -.322  | .045  | -.186 | -.528 |
| 10 | 568 | -.274  | .038  | -.137 | -.409  | 10  | 618   | -.115  | .108  | .409  | -.442 | 10  | 748   | -.320  | .042  | -.190 | -.537 |
| 10 | 569 | -.280  | .038  | -.142 | -.428  | 10  | 619   | -.124  | .045  | .135  | -.266 | 10  | 749   | -.391  | .066  | -.196 | -.785 |
| 10 | 570 | -.297  | .045  | -.094 | -.440  | 10  | 620   | -.220  | .033  | .104  | -.360 | 10  | 750   | -.363  | .057  | -.079 | -.575 |
| 10 | 571 | -.283  | .043  | -.153 | -.452  | 10  | 701   | -.352  | .046  | .202  | -.562 | 10  | 751   | -.335  | .050  | -.191 | -.577 |
| 10 | 572 | -.278  | .044  | -.070 | -.437  | 10  | 702   | -.280  | .036  | .159  | -.420 | 10  | 752   | -.315  | .041  | -.175 | -.526 |
| 10 | 573 | -.301  | .043  | -.091 | -.483  | 10  | 703   | -.142  | .050  | .017  | -.341 | 10  | 753   | -.312  | .038  | -.187 | -.510 |
| 10 | 574 | -.339  | .044  | -.153 | -.559  | 10  | 704   | -.406  | .063  | .224  | -.643 | 10  | 754   | -.321  | .036  | -.198 | -.481 |
| 10 | 575 | -.302  | .041  | -.168 | -.487  | 10  | 705   | -.291  | .034  | .183  | -.433 | 10  | 755   | -.324  | .044  | -.189 | -.535 |
| 10 | 576 | -.301  | .040  | -.184 | -.463  | 10  | 706   | -.305  | .042  | .185  | -.594 | 10  | 756   | -.314  | .035  | -.189 | -.463 |
| 10 | 577 | -.312  | .059  | -.041 | -.604  | 10  | 707   | -.300  | .036  | .184  | -.440 | 10  | 757   | -.321  | .042  | -.193 | -.517 |
| 10 | 578 | -.290  | .054  | -.072 | -.466  | 10  | 708   | -.298  | .036  | .178  | -.440 | 10  | 758   | -.328  | .063  | -.151 | -.868 |
| 10 | 579 | -.294  | .061  | -.083 | -.528  | 10  | 709   | -.299  | .036  | .181  | -.474 | 10  | 759   | -.323  | .042  | -.218 | -.506 |
| 10 | 580 | -.337  | .044  | -.177 | -.571  | 10  | 710   | -.298  | .032  | .197  | -.440 | 10  | 760   | -.313  | .051  | -.178 | -.655 |
| 10 | 581 | .053   | -.244 | -.602 | 10     | 711 | -.311 | .042   | .180  | -.690 | 10    | 761 | -.328 | .048   | -.196 | -.569 |       |
| 10 | 582 | -.348  | .049  | -.211 | -.602  | 10  | 712   | -.297  | .036  | .188  | -.461 | 10  | 762   | -.310  | .047  | -.175 | -.566 |
| 10 | 583 | -.354  | .052  | -.220 | -.666  | 10  | 713   | -.301  | .037  | .188  | -.501 | 10  | 763   | -.312  | .045  | -.160 | -.526 |
| 10 | 584 | -.297  | .055  | -.022 | -.583  | 10  | 714   | -.306  | .036  | .193  | -.461 | 10  | 764   | -.317  | .045  | -.162 | -.472 |
| 10 | 585 | -.279  | .054  | -.053 | -.483  | 10  | 715   | -.311  | .043  | .184  | -.567 | 10  | 765   | -.331  | .045  | -.202 | -.602 |
| 10 | 586 | -.323  | .068  | -.034 | -.604  | 10  | 716   | -.301  | .033  | .186  | -.447 | 10  | 766   | -.316  | .041  | -.198 | -.544 |
| 10 | 587 | -.325  | .044  | -.173 | -.525  | 10  | 717   | -.300  | .034  | .181  | -.431 | 10  | 767   | -.319  | .046  | -.212 | -.570 |
| 10 | 588 | -.366  | .058  | -.187 | -.642  | 10  | 718   | -.340  | .067  | .161  | -.641 | 10  | 768   | -.319  | .046  | -.184 | -.547 |
| 10 | 589 | -.409  | .085  | -.199 | -.852  | 10  | 719   | -.286  | .050  | .096  | -.456 | 10  | 769   | -.311  | .041  | -.180 | -.580 |
| 10 | 590 | -.408  | .093  | -.211 | -.888  | 10  | 720   | -.307  | .035  | .195  | -.456 | 10  | 770   | -.310  | .048  | -.158 | -.518 |
| 10 | 591 | -.328  | .045  | -.192 | -.523  | 10  | 721   | -.312  | .038  | .202  | -.485 | 10  | 771   | -.310  | .046  | -.168 | -.749 |
| 10 | 592 | -.315  | .045  | -.110 | -.494  | 10  | 722   | -.302  | .041  | .170  | -.497 | 10  | 772   | -.328  | .061  | -.074 | -.970 |
| 10 | 593 | -.255  | .057  | -.053 | -.472  | 10  | 723   | -.312  | .042  | .170  | -.515 | 10  | 773   | -.328  | .052  | -.158 | -.744 |
| 10 | 594 | -.247  | .048  | -.026 | -.537  | 10  | 724   | -.340  | .064  | .175  | -.661 | 10  | 774   | -.336  | .051  | -.154 | -.603 |
| 10 | 595 | -.352  | .084  | -.103 | -.722  | 10  | 725   | -.356  | .075  | .184  | -.681 | 10  | 775   | -.344  | .057  | -.180 | -.718 |
| 10 | 596 | -.290  | .043  | -.149 | -.472  | 10  | 726   | -.310  | .037  | .195  | -.474 | 10  | 776   | -.339  | .057  | -.187 | -.662 |
| 10 | 597 | -.368  | .035  | -.206 | -.614  | 10  | 727   | -.312  | .037  | .199  | -.457 | 10  | 777   | -.345  | .055  | -.165 | -.565 |
| 10 | 598 | -.419  | .117  | -.199 | -.933  | 10  | 728   | -.310  | .039  | .186  | -.487 | 10  | 778   | -.349  | .056  | -.189 | -.664 |
| 10 | 599 | -.498  | .184  | -.207 | -.1386 | 10  | 729   | -.310  | .042  | .197  | -.544 | 10  | 779   | -.381  | .071  | -.189 | -.897 |
| 10 | 600 | -.199  | .045  | -.041 | -.400  | 10  | 730   | -.305  | .035  | .206  | -.475 | 10  | 780   | -.370  | .067  | -.123 | -.770 |
| 10 | 601 | -.279  | .046  | -.144 | -.685  | 10  | 731   | -.307  | .035  | .190  | -.414 | 10  | 781   | -.376  | .064  | -.170 | -.822 |
| 10 | 602 | -.266  | .043  | -.123 | -.439  | 10  | 732   | -.298  | .036  | .163  | -.507 | 10  | 782   | -.392  | .088  | -.142 | -.947 |
| 10 | 603 | -.209  | .059  | -.003 | -.545  | 10  | 733   | -.298  | .036  | .179  | -.473 | 10  | 783   | -.389  | .082  | -.085 | -.874 |
| 10 | 604 | -.461  | .117  | -.170 | -.1011 | 10  | 734   | -.308  | .040  | .188  | -.452 | 10  | 784   | -.382  | .068  | -.210 | -.773 |
| 10 | 605 | -.188  | .044  | -.013 | -.402  | 10  | 735   | -.303  | .037  | .181  | -.455 | 10  | 785   | -.389  | .068  | -.165 | -.827 |
| 10 | 606 | -.251  | .057  | -.072 | -.475  | 10  | 736   | -.308  | .036  | .186  | -.441 | 10  | 786   | -.415  | .086  | -.201 | -.916 |
| 10 | 607 | -.272  | .042  | -.147 | -.477  | 10  | 737   | -.310  | .035  | .197  | -.432 | 10  | 787   | -.400  | .075  | -.125 | -.810 |
| 10 | 608 | -.138  | .050  | -.121 | -.390  | 10  | 738   | -.313  | .038  | .181  | -.482 | 10  | 788   | -.384  | .077  | -.172 | -.869 |
| 10 | 609 | -.163  | .049  | -.057 | -.396  | 10  | 739   | -.319  | .042  | .211  | -.553 | 10  | 789   | -.358  | .098  | -.109 | -.020 |
| 10 | 610 | -.200  | .051  | -.039 | -.369  | 10  | 740   | -.329  | .045  | .179  | -.592 | 10  | 790   | -.368  | .098  | -.071 | -.034 |
| 10 | 611 | -.304  | .052  | -.116 | -.566  | 10  | 741   | -.307  | .037  | .186  | -.437 | 10  | 791   | -.421  | .095  | -.224 | -.173 |
| 10 | 612 | -.195  | .069  | -.039 | -.521  | 10  | 742   | -.315  | .036  | .183  | -.452 | 10  | 792   | -.428  | .095  | -.228 | -.948 |
| 10 | 613 | -.183  | .055  | -.043 | -.420  | 10  | 743   | -.318  | .042  | .195  | -.489 | 10  | 793   | -.458  | .135  | -.139 | -.301 |
| 10 | 614 | -.271  | .088  | -.025 | -.662  | 10  | 744   | -.311  | .042  | .188  | -.468 | 10  | 794   | -.422  | .087  | -.123 | -.026 |
| 10 | 615 | -.146  | .054  | -.093 | -.310  | 10  | 745   | -.311  | .040  | .174  | -.494 | 10  | 795   | -.234  | .059  | -.052 | -.508 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 8

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 10 | 796 | -.228  | .070  | -.033 | -.620  | 10 | 924  | -.368  | .092  | -.153 | -.869 | 10 | 1003 | -.312  | .038  | -.211 | -.497 |
| 10 | 797 | -.169  | .043  | -.012 | -.323  | 10 | 925  | -.217  | .221  | -.886 | -.598 | 10 | 1004 | -.302  | .057  | -.122 | -.660 |
| 10 | 798 | -.413  | .080  | -.233 | -.848  | 10 | 926  | -.301  | .041  | -.171 | -.490 | 10 | 1005 | -.320  | .038  | -.213 | -.532 |
| 10 | 799 | -.408  | .081  | -.218 | -.924  | 10 | 927  | -.018  | .125  | -.380 | -.410 | 10 | 1006 | -.373  | .074  | -.173 | -.726 |
| 10 | 800 | -.440  | .088  | -.214 | -.900  | 10 | 928  | -.378  | .083  | -.100 | -.775 | 10 | 1007 | -.252  | .047  | -.059 | -.441 |
| 10 | 801 | -.418  | .095  | -.230 | -1.001 | 10 | 929  | -.058  | .115  | -.440 | -.665 | 10 | 1008 | -.174  | .092  | -.611 | -.066 |
| 10 | 802 | -.360  | .074  | -.092 | -.727  | 10 | 930  | -.282  | .034  | -.179 | -.421 | 10 | 1009 | -.278  | .041  | -.029 | -.422 |
| 10 | 803 | -.314  | .088  | -.095 | -.884  | 10 | 931  | -.373  | .151  | -.800 | -.041 | 10 | 1010 | -.225  | .106  | -.704 | -.083 |
| 10 | 804 | -.302  | .090  | -.004 | -.945  | 10 | 932  | -.224  | .056  | -.001 | -.405 | 10 | 1011 | -.341  | .065  | -.100 | -.630 |
| 10 | 805 | -.032  | .052  | -.188 | -.313  | 10 | 933  | -.370  | .070  | -.088 | -.622 | 10 | 1012 | -.155  | .082  | -.476 | -.022 |
| 10 | 806 | -.148  | .060  | -.076 | -.382  | 10 | 934  | -.041  | .085  | -.398 | -.298 | 10 | 1013 | -.327  | .050  | -.188 | -.555 |
| 10 | 807 | -.216  | .046  | -.033 | -.406  | 10 | 935  | -.018  | .086  | -.264 | -.307 | 10 | 1014 | -.186  | .119  | -.200 | -.623 |
| 10 | 808 | -.165  | .037  | -.031 | -.285  | 10 | 936  | -.286  | .024  | -.226 | -.395 | 10 | 1015 | -.295  | .052  | -.145 | -.538 |
| 10 | 809 | -.425  | .096  | -.187 | -1.335 | 10 | 937  | -.130  | .051  | -.108 | -.495 | 10 | 1016 | -.033  | .102  | -.411 | -.536 |
| 10 | 810 | -.422  | .091  | -.216 | -.829  | 10 | 938  | -.006  | .095  | -.356 | -.510 | 10 | 1017 | -.011  | .061  | -.292 | -.147 |
| 10 | 811 | -.339  | .070  | -.126 | -.710  | 10 | 939  | -.161  | .166  | -.580 | -.882 | 10 | 1018 | -.003  | .067  | -.326 | -.157 |
| 10 | 812 | -.258  | .118  | -.029 | -1.142 | 10 | 940  | -.209  | .122  | -.614 | -.084 | 10 | 1019 | -.031  | .053  | -.211 | -.240 |
| 10 | 813 | -.199  | .046  | -.033 | -.408  | 10 | 941  | -.430  | .054  | -.301 | -.637 | 10 | 1020 | -.007  | .072  | -.312 | -.230 |
| 10 | 814 | -.201  | .045  | -.047 | -.413  | 10 | 942  | -.077  | .174  | -.673 | -.424 | 10 | 1021 | -.133  | .054  | -.115 | -.336 |
| 10 | 815 | -.147  | .041  | -.064 | -.287  | 10 | 943  | -.070  | .068  | -.378 | -.139 | 10 | 1022 | -.048  | .029  | -.054 | -.142 |
| 10 | 816 | -.442  | .119  | -.123 | -1.318 | 10 | 944  | -.066  | .068  | -.385 | -.081 | 10 | 1023 | -.066  | .034  | -.061 | -.184 |
| 10 | 817 | -.398  | .097  | -.154 | -1.173 | 10 | 945  | -.269  | .040  | -.111 | -.451 | 10 | 1024 | -.024  | .036  | -.106 | -.216 |
| 10 | 818 | -.389  | .072  | -.180 | -.827  | 10 | 946  | -.181  | .110  | -.768 | -.071 | 10 | 1025 | -.132  | .043  | -.093 | -.294 |
| 10 | 819 | -.356  | .072  | -.064 | -.455  | 10 | 947  | -.210  | .115  | -.786 | -.046 | 10 | 1026 | -.202  | .053  | -.007 | -.400 |
| 10 | 820 | -.247  | .065  | -.131 | -.579  | 10 | 948  | -.148  | .089  | -.751 | -.050 | 10 | 1027 | -.235  | .038  | -.115 | -.397 |
| 10 | 821 | -.211  | .098  | -.012 | -1.012 | 10 | 949  | -.204  | .107  | -.923 | -.025 | 10 | 1028 | -.003  | .038  | -.255 | -.113 |
| 10 | 822 | -.234  | .105  | -.006 | -.156  | 10 | 950  | -.353  | .049  | -.215 | -.618 | 20 | 101  | -.059  | .087  | -.358 | -.229 |
| 10 | 901 | -.324  | .028  | -.256 | -.406  | 10 | 951  | -.078  | .057  | -.367 | -.062 | 20 | 102  | -.058  | .081  | -.270 | -.328 |
| 10 | 902 | -.320  | .038  | -.198 | -.593  | 10 | 952  | -.085  | .048  | -.144 | -.310 | 20 | 103  | -.008  | .080  | -.297 | -.231 |
| 10 | 903 | -.313  | .038  | -.196 | -.450  | 10 | 953  | -.031  | .078  | -.369 | -.180 | 20 | 104  | -.163  | .174  | -.684 | -.412 |
| 10 | 904 | -.314  | .037  | -.180 | -.510  | 10 | 954  | -.178  | .105  | -.969 | -.081 | 20 | 105  | -.136  | .124  | -.535 | -.323 |
| 10 | 905 | -.332  | .038  | -.218 | -.452  | 10 | 955  | -.025  | .044  | -.223 | -.099 | 20 | 106  | -.123  | .046  | -.085 | -.260 |
| 10 | 906 | -.303  | .029  | -.218 | -.428  | 10 | 956  | -.007  | .061  | -.265 | -.157 | 20 | 107  | -.003  | .074  | -.304 | -.206 |
| 10 | 907 | -.295  | .031  | -.186 | -.419  | 10 | 957  | -.028  | .052  | -.258 | -.229 | 20 | 108  | -.185  | .135  | -.631 | -.441 |
| 10 | 908 | -.122  | .077  | -.170 | -.364  | 10 | 958  | -.029  | .073  | -.439 | -.220 | 20 | 109  | -.100  | .113  | -.578 | -.299 |
| 10 | 909 | -.183  | .057  | -.139 | -.385  | 10 | 959  | -.059  | .073  | -.194 | -.127 | 20 | 110  | -.041  | .127  | -.471 | -.421 |
| 10 | 910 | -.303  | .029  | -.202 | -.406  | 10 | 960  | -.122  | .047  | -.109 | -.261 | 20 | 111  | -.153  | .066  | -.051 | -.398 |
| 10 | 911 | -.075  | .092  | -.425 | -.155  | 10 | 961  | -.256  | .050  | -.064 | -.502 | 20 | 112  | -.372  | .170  | -.988 | -.453 |
| 10 | 912 | -.302  | .031  | -.180 | -.420  | 10 | 962  | -.232  | .038  | -.103 | -.419 | 20 | 113  | -.251  | .123  | -.732 | -.102 |
| 10 | 913 | -.272  | .080  | -.131 | -.576  | 10 | 963  | -.006  | .074  | -.359 | -.259 | 20 | 114  | -.068  | .111  | -.535 | -.195 |
| 10 | 914 | -.312  | .036  | -.212 | -.448  | 10 | 964  | -.004  | .059  | -.391 | -.163 | 20 | 115  | -.079  | .063  | -.170 | -.285 |
| 10 | 915 | -.348  | .096  | -.247 | -.698  | 10 | 965  | -.135  | .043  | -.072 | -.273 | 20 | 116  | -.094  | .141  | -.623 | -.308 |
| 10 | 916 | -.318  | .038  | -.208 | -.489  | 10 | 966  | -.274  | .048  | -.108 | -.539 | 20 | 117  | -.254  | .145  | -.813 | -.084 |
| 10 | 917 | -.385  | .145  | .312  | -.845  | 10 | 967  | -.022  | .048  | -.263 | -.191 | 20 | 118  | -.116  | .116  | -.628 | -.240 |
| 10 | 918 | -.335  | .046  | -.187 | -.559  | 10 | 968  | -.138  | .041  | -.093 | -.272 | 20 | 119  | -.168  | .132  | -.850 | -.417 |
| 10 | 919 | -.286  | .028  | -.200 | -.424  | 10 | 969  | -.056  | .047  | -.179 | -.186 | 20 | 120  | -.216  | .144  | -.299 | -.761 |
| 10 | 920 | -.362  | .060  | -.182 | -.568  | 10 | 970  | -.050  | .044  | -.209 | -.206 | 20 | 121  | -.152  | .085  | -.102 | -.469 |
| 10 | 921 | -.360  | .066  | -.111 | -.642  | 10 | 971  | -.037  | .044  | -.145 | -.233 | 20 | 122  | -.339  | .152  | -.841 | -.179 |
| 10 | 922 | -.319  | .136  | .819  | -.016  | 10 | 1001 | -.319  | .041  | -.186 | -.532 | 20 | 123  | -.318  | .143  | -.797 | -.059 |
| 10 | 923 | -.270  | .085  | .049  | -.623  | 10 | 1002 | -.410  | .082  | -.145 | -.844 | 20 | 124  | -.212  | .122  | -.682 | -.075 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 20 | 125 | .158   | .108  | .548  | -.129 | 20 | 175 | -.054  | .058  | .254  | -.213 | 20 | 225 | -.077  | .084  | .207  | -.306 |
| 20 | 126 | .232   | .134  | .739  | -.156 | 20 | 176 | -.131  | .047  | .102  | -.281 | 20 | 301 | -.159  | .066  | .121  | -.538 |
| 20 | 127 | -.112  | .130  | .311  | -.595 | 20 | 177 | .147   | .087  | .623  | -.402 | 20 | 302 | -.055  | .100  | .320  | -.372 |
| 20 | 128 | -.045  | .072  | .214  | -.254 | 20 | 178 | .156   | .086  | .521  | -.104 | 20 | 303 | -.155  | .144  | .382  | -.571 |
| 20 | 129 | -.092  | .056  | .136  | -.254 | 20 | 179 | .119   | .068  | .431  | -.030 | 20 | 304 | -.027  | .077  | .322  | -.201 |
| 20 | 130 | .240   | .128  | .755  | -.077 | 20 | 180 | .121   | .067  | .478  | -.035 | 20 | 305 | -.150  | .039  | .019  | -.274 |
| 20 | 131 | .219   | .158  | .872  | -.235 | 20 | 181 | -.102  | .093  | .339  | -.497 | 20 | 306 | -.023  | .161  | .450  | -.502 |
| 20 | 132 | .370   | .164  | .948  | -.187 | 20 | 182 | -.085  | .048  | .166  | -.224 | 20 | 307 | -.048  | .066  | .327  | -.357 |
| 20 | 133 | .397   | .161  | .886  | -.153 | 20 | 183 | -.150  | .045  | .128  | -.298 | 20 | 308 | -.176  | .044  | -.044 | -.383 |
| 20 | 134 | .281   | .134  | .705  | -.109 | 20 | 184 | .066   | .052  | .403  | -.182 | 20 | 309 | -.012  | .101  | .361  | -.444 |
| 20 | 135 | .238   | .118  | .622  | -.077 | 20 | 185 | .088   | .057  | .417  | -.087 | 20 | 310 | .025   | .088  | .342  | -.218 |
| 20 | 136 | .283   | .135  | .847  | -.061 | 20 | 186 | .135   | .068  | .417  | -.023 | 20 | 311 | .076   | .196  | .726  | -.825 |
| 20 | 137 | .263   | .127  | .751  | -.054 | 20 | 187 | .125   | .075  | .474  | -.052 | 20 | 312 | -.149  | .049  | .046  | -.369 |
| 20 | 138 | -.041  | .134  | .478  | -.515 | 20 | 188 | -.091  | .068  | .242  | -.400 | 20 | 313 | -.030  | .092  | .303  | -.314 |
| 20 | 139 | -.015  | .071  | .308  | -.210 | 20 | 189 | -.138  | .038  | .000  | .284  | 20 | 314 | .114   | .101  | .488  | -.372 |
| 20 | 140 | -.088  | .055  | .175  | -.238 | 20 | 190 | -.208  | .037  | -.085 | -.350 | 20 | 315 | .156   | .204  | .656  | -.703 |
| 20 | 141 | .327   | .132  | .806  | -.008 | 20 | 191 | .136   | .078  | .616  | -.072 | 20 | 316 | .000   | .125  | .490  | -.528 |
| 20 | 142 | .271   | .115  | .712  | -.063 | 20 | 192 | .144   | .080  | .526  | -.045 | 20 | 317 | .116   | .134  | .820  | -.170 |
| 20 | 143 | .314   | .143  | .914  | -.093 | 20 | 193 | .139   | .081  | .532  | -.059 | 20 | 318 | -.196  | .058  | .015  | -.451 |
| 20 | 144 | .340   | .158  | 1.015 | -.194 | 20 | 194 | .111   | .075  | .483  | -.072 | 20 | 319 | -.191  | .104  | .205  | -.665 |
| 20 | 145 | .267   | .122  | .726  | -.045 | 20 | 195 | .134   | .073  | .480  | -.072 | 20 | 320 | .089   | .102  | .440  | -.266 |
| 20 | 146 | .102   | .088  | .462  | -.111 | 20 | 196 | .153   | .084  | .571  | -.041 | 20 | 321 | .045   | .131  | .735  | -.528 |
| 20 | 147 | -.079  | .058  | .166  | -.258 | 20 | 197 | -.073  | .081  | .292  | -.326 | 20 | 322 | -.158  | .039  | .012  | -.281 |
| 20 | 148 | -.219  | .040  | -.061 | -.359 | 20 | 198 | .044   | .057  | .329  | -.201 | 20 | 323 | -.111  | .051  | .085  | -.264 |
| 20 | 149 | .341   | .141  | .859  | -.067 | 20 | 199 | .044   | .053  | .268  | -.269 | 20 | 324 | -.244  | .099  | .159  | -.600 |
| 20 | 150 | .318   | .149  | .877  | -.282 | 20 | 200 | -.010  | .043  | .141  | -.272 | 20 | 325 | .174   | .129  | .767  | -.197 |
| 20 | 151 | .319   | .165  | .893  | -.176 | 20 | 201 | .003   | .031  | .125  | -.133 | 20 | 326 | .067   | .089  | .354  | -.168 |
| 20 | 152 | .281   | .131  | .720  | -.098 | 20 | 202 | -.068  | .036  | .093  | -.222 | 20 | 327 | .122   | .092  | .508  | -.173 |
| 20 | 153 | .223   | .119  | .633  | -.183 | 20 | 203 | -.045  | .037  | .095  | -.174 | 20 | 328 | .184   | .130  | .717  | -.398 |
| 20 | 154 | .109   | .101  | .545  | -.264 | 20 | 204 | -.059  | .038  | .093  | -.204 | 20 | 329 | .153   | .193  | .666  | -.698 |
| 20 | 155 | -.099  | .064  | .189  | -.362 | 20 | 205 | -.079  | .038  | .073  | -.217 | 20 | 330 | .071   | .097  | .455  | -.303 |
| 20 | 156 | -.350  | .065  | -.156 | -.878 | 20 | 206 | -.133  | .049  | .050  | -.294 | 20 | 331 | .038   | .113  | .438  | -.366 |
| 20 | 157 | -.321  | .049  | -.008 | -.504 | 20 | 207 | -.158  | .042  | -.014 | -.337 | 20 | 332 | -.159  | .036  | .055  | -.274 |
| 20 | 158 | .299   | .159  | .850  | -.322 | 20 | 208 | -.228  | .045  | -.038 | -.450 | 20 | 333 | -.100  | .047  | .140  | -.262 |
| 20 | 159 | -.069  | .058  | .202  | -.248 | 20 | 209 | .011   | .051  | .283  | -.258 | 20 | 334 | -.191  | .104  | .125  | -.676 |
| 20 | 160 | .328   | .143  | .841  | -.060 | 20 | 210 | .006   | .032  | .134  | -.132 | 20 | 335 | .193   | .124  | .700  | -.119 |
| 20 | 161 | -.132  | .051  | .084  | -.311 | 20 | 211 | -.098  | .049  | .058  | -.382 | 20 | 336 | .109   | .107  | .520  | -.211 |
| 20 | 162 | .296   | .139  | .828  | -.076 | 20 | 212 | .125   | .043  | .024  | -.267 | 20 | 337 | .115   | .098  | .540  | -.160 |
| 20 | 163 | .304   | .129  | .843  | -.127 | 20 | 213 | .144   | .042  | .054  | -.309 | 20 | 338 | .133   | .099  | .518  | -.286 |
| 20 | 164 | .236   | .114  | .700  | -.024 | 20 | 214 | -.153  | .058  | .056  | -.366 | 20 | 339 | .159   | .204  | .683  | -.693 |
| 20 | 165 | .215   | .100  | .675  | -.096 | 20 | 215 | -.005  | .051  | .267  | -.258 | 20 | 340 | .126   | .231  | .794  | -.519 |
| 20 | 166 | -.122  | .090  | .633  | -.196 | 20 | 216 | .009   | .039  | .251  | -.118 | 20 | 341 | .211   | .135  | .698  | -.127 |
| 20 | 167 | -.041  | .062  | .254  | -.187 | 20 | 217 | -.006  | .028  | .141  | -.082 | 20 | 342 | .138   | .098  | .474  | -.262 |
| 20 | 168 | -.121  | .047  | .100  | -.258 | 20 | 218 | -.020  | .026  | .072  | -.098 | 20 | 343 | -.232  | .034  | -.110 | -.369 |
| 20 | 169 | .212   | .106  | .632  | -.071 | 20 | 219 | -.049  | .034  | .077  | -.160 | 20 | 344 | -.139  | .042  | .050  | -.269 |
| 20 | 170 | .234   | .131  | .727  | -.362 | 20 | 220 | -.008  | .043  | .207  | -.141 | 20 | 345 | -.030  | .061  | .283  | -.221 |
| 20 | 171 | .232   | .110  | .687  | -.064 | 20 | 221 | -.003  | .051  | .269  | -.150 | 20 | 346 | .116   | .107  | .530  | -.306 |
| 20 | 172 | .193   | .097  | .670  | -.042 | 20 | 222 | -.032  | .048  | .152  | -.180 | 20 | 347 | .076   | .169  | .775  | -.517 |
| 20 | 173 | .189   | .088  | .556  | -.026 | 20 | 223 | -.133  | .041  | .026  | -.286 | 20 | 348 | .166   | .186  | .782  | -.577 |
| 20 | 174 | -.073  | .123  | .384  | -.565 | 20 | 224 | -.100  | .063  | .223  | -.304 | 20 | 349 | -.298  | .044  | -.111 | -.496 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 20 | 350 | -.300  | .048  | -.177 | -.546 | 20 | 400 | -.105  | .028  | .007  | -.232 | 20 | 528 | -.248  | .033  | -.135 | -.390 |
| 20 | 351 | -.190  | .047  | .008  | -.370 | 20 | 401 | -.066  | .029  | .061  | -.208 | 20 | 529 | -.251  | .033  | -.122 | -.374 |
| 20 | 352 | -.040  | .079  | .292  | -.427 | 20 | 402 | -.065  | .041  | .068  | -.282 | 20 | 530 | -.255  | .027  | -.158 | -.356 |
| 20 | 353 | .058   | .092  | .377  | -.384 | 20 | 403 | .007   | .052  | .218  | -.306 | 20 | 531 | -.257  | .029  | -.165 | -.397 |
| 20 | 354 | .110   | .108  | .563  | -.261 | 20 | 404 | .004   | .050  | .220  | -.324 | 20 | 532 | -.263  | .031  | -.122 | -.393 |
| 20 | 355 | .050   | .211  | .646  | -.696 | 20 | 405 | .024   | .041  | .187  | -.145 | 20 | 533 | -.261  | .031  | -.170 | -.425 |
| 20 | 356 | .291   | .147  | .825  | -.192 | 20 | 406 | .006   | .033  | .142  | -.239 | 20 | 534 | -.259  | .026  | -.154 | -.397 |
| 20 | 357 | .324   | .160  | .811  | -.184 | 20 | 407 | -.170  | .035  | .066  | -.432 | 20 | 535 | -.262  | .028  | -.174 | -.402 |
| 20 | 358 | -.153  | .039  | .027  | -.299 | 20 | 408 | -.175  | .029  | -.073 | -.306 | 20 | 536 | -.253  | .027  | -.156 | -.386 |
| 20 | 359 | -.024  | .195  | .696  | -.711 | 20 | 409 | -.058  | .030  | .079  | -.172 | 20 | 537 | -.253  | .030  | -.163 | -.354 |
| 20 | 360 | -.200  | .039  | .006  | -.399 | 20 | 410 | .017   | .046  | .236  | -.214 | 20 | 538 | -.253  | .029  | -.156 | -.354 |
| 20 | 361 | .130   | .181  | .773  | -.732 | 20 | 411 | -.158  | .029  | -.028 | -.259 | 20 | 539 | -.246  | .028  | -.145 | -.361 |
| 20 | 362 | -.194  | .037  | .018  | -.330 | 20 | 412 | -.144  | .028  | -.047 | -.257 | 20 | 540 | -.248  | .030  | -.149 | -.379 |
| 20 | 363 | -.150  | .044  | .092  | -.292 | 20 | 413 | -.009  | .031  | .142  | -.127 | 20 | 541 | -.258  | .029  | -.177 | -.372 |
| 20 | 364 | -.038  | .064  | .213  | -.303 | 20 | 414 | -.095  | .048  | .133  | -.378 | 20 | 542 | -.260  | .028  | -.174 | -.395 |
| 20 | 365 | .061   | .074  | .492  | -.123 | 20 | 415 | -.087  | .046  | .147  | -.248 | 20 | 543 | -.272  | .031  | -.161 | -.452 |
| 20 | 366 | .085   | .083  | .496  | -.121 | 20 | 416 | -.122  | .031  | .067  | -.217 | 20 | 544 | -.272  | .030  | -.151 | -.402 |
| 20 | 367 | .098   | .201  | .817  | -.765 | 20 | 417 | -.076  | .029  | .102  | -.185 | 20 | 545 | -.265  | .028  | -.179 | -.379 |
| 20 | 368 | .034   | .252  | .784  | -.071 | 20 | 418 | -.043  | .028  | .100  | -.135 | 20 | 546 | -.258  | .029  | -.158 | -.365 |
| 20 | 369 | .107   | .087  | .443  | -.154 | 20 | 419 | -.078  | .042  | .081  | -.312 | 20 | 547 | -.257  | .029  | -.161 | -.361 |
| 20 | 370 | -.207  | .033  | -.078 | -.327 | 20 | 420 | -.022  | .039  | .239  | -.101 | 20 | 548 | -.263  | .030  | -.151 | -.397 |
| 20 | 371 | -.161  | .039  | .045  | -.279 | 20 | 421 | .051   | .051  | .311  | -.200 | 20 | 549 | -.274  | .034  | -.154 | -.488 |
| 20 | 372 | -.311  | .124  | .147  | -.871 | 20 | 422 | -.059  | .057  | .339  | -.191 | 20 | 550 | -.274  | .032  | -.136 | -.418 |
| 20 | 373 | .076   | .028  | .426  | -.121 | 20 | 501 | -.252  | .033  | -.155 | -.407 | 20 | 551 | -.280  | .034  | -.147 | -.418 |
| 20 | 374 | .034   | .073  | .328  | -.532 | 20 | 502 | -.298  | .037  | -.171 | -.462 | 20 | 552 | -.276  | .035  | -.177 | -.488 |
| 20 | 375 | .028   | .178  | .556  | -.625 | 20 | 503 | -.349  | .046  | -.221 | -.544 | 20 | 553 | -.282  | .037  | -.186 | -.420 |
| 20 | 376 | .002   | .200  | .636  | -.607 | 20 | 504 | -.073  | .052  | .024  | -.269 | 20 | 554 | -.284  | .036  | -.188 | -.422 |
| 20 | 377 | -.221  | .030  | -.066 | -.372 | 20 | 505 | -.260  | .031  | -.152 | -.362 | 20 | 555 | -.287  | .042  | -.170 | -.465 |
| 20 | 378 | -.174  | .030  | .137  | -.289 | 20 | 506 | -.250  | .030  | -.147 | -.367 | 20 | 556 | -.308  | .050  | -.184 | -.510 |
| 20 | 379 | -.281  | .081  | .002  | -.627 | 20 | 507 | -.256  | .031  | -.158 | -.362 | 20 | 557 | -.319  | .060  | -.152 | -.734 |
| 20 | 380 | .039   | .060  | .318  | -.141 | 20 | 508 | -.259  | .031  | -.163 | -.378 | 20 | 558 | -.283  | .036  | -.141 | -.429 |
| 20 | 381 | .007   | .059  | .265  | -.474 | 20 | 509 | -.256  | .031  | -.164 | -.394 | 20 | 559 | -.295  | .042  | -.127 | -.558 |
| 20 | 382 | .010   | .121  | .416  | -.678 | 20 | 510 | -.254  | .031  | -.162 | -.364 | 20 | 560 | -.285  | .039  | -.145 | -.634 |
| 20 | 383 | -.040  | .143  | .561  | -.615 | 20 | 511 | -.250  | .032  | -.163 | -.412 | 20 | 561 | -.318  | .065  | -.170 | -.783 |
| 20 | 384 | -.210  | .034  | -.088 | -.432 | 20 | 512 | -.257  | .029  | -.169 | -.369 | 20 | 562 | -.290  | .040  | -.147 | -.456 |
| 20 | 385 | -.162  | .031  | .024  | -.332 | 20 | 513 | -.252  | .027  | -.164 | -.362 | 20 | 563 | -.288  | .038  | -.129 | -.418 |
| 20 | 386 | -.224  | .050  | -.046 | -.560 | 20 | 514 | -.256  | .032  | -.155 | -.391 | 20 | 564 | -.293  | .034  | -.161 | -.407 |
| 20 | 387 | .044   | .059  | .350  | -.111 | 20 | 515 | -.254  | .033  | -.135 | -.396 | 20 | 565 | -.296  | .034  | -.177 | -.427 |
| 20 | 388 | .031   | .060  | .355  | -.146 | 20 | 516 | -.257  | .031  | -.158 | -.423 | 20 | 566 | -.283  | .035  | -.180 | -.424 |
| 20 | 389 | .024   | .067  | .320  | -.359 | 20 | 517 | -.252  | .028  | -.155 | -.353 | 20 | 567 | -.272  | .038  | -.146 | -.535 |
| 20 | 390 | -.013  | .066  | .343  | -.327 | 20 | 518 | -.271  | .029  | -.180 | -.410 | 20 | 568 | -.273  | .035  | -.163 | -.455 |
| 20 | 391 | .037   | .063  | .306  | -.130 | 20 | 519 | -.266  | .033  | -.176 | -.426 | 20 | 569 | -.297  | .034  | -.194 | -.459 |
| 20 | 392 | -.186  | .062  | .184  | -.446 | 20 | 520 | -.255  | .038  | -.128 | -.464 | 20 | 570 | -.311  | .048  | -.146 | -.569 |
| 20 | 393 | .065   | .066  | .336  | -.084 | 20 | 521 | -.298  | .054  | .164  | .555  | 20 | 571 | -.313  | .045  | -.165 | -.542 |
| 20 | 394 | .073   | .073  | .438  | -.076 | 20 | 522 | -.263  | .029  | -.151 | -.419 | 20 | 572 | -.327  | .039  | -.199 | -.497 |
| 20 | 395 | .052   | .083  | .447  | -.522 | 20 | 523 | -.259  | .028  | -.169 | -.401 | 20 | 573 | -.318  | .038  | -.210 | -.455 |
| 20 | 396 | .032   | .072  | .442  | -.322 | 20 | 524 | -.261  | .028  | -.169 | -.373 | 20 | 574 | -.318  | .038  | -.206 | -.500 |
| 20 | 397 | -.210  | .047  | -.073 | -.462 | 20 | 525 | -.261  | .028  | -.173 | -.380 | 20 | 575 | -.297  | .033  | -.184 | -.426 |
| 20 | 398 | -.147  | .047  | .030  | -.367 | 20 | 526 | -.252  | .033  | -.160 | -.432 | 20 | 576 | -.299  | .035  | -.177 | -.538 |
| 20 | 399 | -.148  | .026  | -.058 | -.250 | 20 | 527 | -.269  | .047  | -.135 | -.510 | 20 | 577 | -.327  | .044  | -.158 | -.521 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 20 | 578 | -.325  | .041  | -.123 | -.505 | 20 | 708 | -.259  | .034  | -.151 | -.408 | 20 | 758 | -.306  | .060  | -.176 | -.630 |
| 20 | 579 | -.339  | .046  | -.218 | -.590 | 20 | 709 | -.258  | .030  | -.168 | -.369 | 20 | 759 | -.291  | .037  | -.180 | -.514 |
| 20 | 580 | -.334  | .048  | -.222 | -.554 | 20 | 710 | -.261  | .030  | -.150 | -.378 | 20 | 760 | -.297  | .058  | -.178 | -.666 |
| 20 | 581 | -.331  | .049  | -.227 | -.607 | 20 | 711 | -.268  | .032  | -.177 | -.502 | 20 | 761 | -.298  | .039  | -.176 | -.498 |
| 20 | 582 | -.323  | .046  | -.199 | -.609 | 20 | 712 | -.254  | .031  | -.161 | -.396 | 20 | 762 | -.282  | .039  | -.165 | -.458 |
| 20 | 583 | -.322  | .046  | -.206 | -.595 | 20 | 713 | -.262  | .031  | -.168 | -.385 | 20 | 763 | -.285  | .045  | -.156 | -.541 |
| 20 | 584 | -.312  | .046  | -.177 | -.505 | 20 | 714 | -.263  | .030  | -.148 | -.371 | 20 | 764 | -.290  | .037  | -.183 | -.462 |
| 20 | 585 | -.300  | .042  | -.111 | -.505 | 20 | 715 | -.267  | .034  | -.177 | -.437 | 20 | 765 | -.291  | .035  | -.191 | -.473 |
| 20 | 586 | -.370  | .051  | -.168 | -.590 | 20 | 716 | -.261  | .029  | -.173 | -.378 | 20 | 766 | -.282  | .033  | -.172 | -.410 |
| 20 | 587 | -.316  | .044  | -.182 | -.474 | 20 | 717 | -.261  | .030  | -.141 | -.367 | 20 | 767 | -.289  | .037  | -.191 | -.519 |
| 20 | 588 | -.321  | .057  | -.154 | -.656 | 20 | 718 | -.302  | .059  | -.161 | -.568 | 20 | 768 | -.289  | .039  | -.179 | -.547 |
| 20 | 589 | -.307  | .048  | -.189 | -.509 | 20 | 719 | -.245  | .043  | -.078 | -.435 | 20 | 769 | -.285  | .035  | -.179 | -.422 |
| 20 | 590 | -.311  | .053  | -.182 | -.578 | 20 | 720 | -.262  | .027  | -.173 | -.394 | 20 | 770 | -.289  | .039  | -.115 | -.500 |
| 20 | 591 | -.316  | .045  | -.168 | -.508 | 20 | 721 | -.271  | .031  | -.182 | -.396 | 20 | 771 | -.290  | .037  | -.153 | -.462 |
| 20 | 592 | -.319  | .045  | -.170 | -.568 | 20 | 722 | -.259  | .033  | -.134 | -.403 | 20 | 772 | -.305  | .043  | -.163 | -.528 |
| 20 | 593 | -.269  | .047  | -.099 | -.480 | 20 | 723 | -.264  | .032  | -.143 | -.401 | 20 | 773 | -.295  | .038  | -.179 | -.457 |
| 20 | 594 | -.270  | .040  | -.113 | -.468 | 20 | 724 | -.303  | .063  | -.152 | -.620 | 20 | 774 | -.309  | .038  | -.198 | -.469 |
| 20 | 595 | -.414  | .084  | -.132 | -.894 | 20 | 725 | -.284  | .054  | -.107 | -.570 | 20 | 775 | -.314  | .041  | -.196 | -.538 |
| 20 | 596 | -.300  | .038  | -.187 | -.494 | 20 | 726 | -.265  | .028  | -.184 | -.389 | 20 | 776 | -.319  | .042  | -.205 | -.554 |
| 20 | 597 | -.347  | .038  | -.203 | -.624 | 20 | 727 | -.268  | .030  | -.174 | -.377 | 20 | 777 | -.328  | .046  | -.193 | -.523 |
| 20 | 598 | -.316  | .063  | -.149 | -.669 | 20 | 728 | -.267  | .032  | -.160 | -.393 | 20 | 778 | -.336  | .051  | -.170 | -.625 |
| 20 | 599 | -.357  | .082  | -.170 | -.158 | 20 | 729 | -.262  | .030  | -.151 | -.391 | 20 | 779 | -.361  | .061  | -.167 | -.898 |
| 20 | 600 | -.147  | .038  | -.016 | -.348 | 20 | 730 | -.263  | .030  | -.156 | -.382 | 20 | 780 | -.362  | .062  | -.203 | -.851 |
| 20 | 601 | -.243  | .046  | -.085 | -.462 | 20 | 731 | -.268  | .031  | -.172 | -.384 | 20 | 781 | -.361  | .058  | -.182 | -.613 |
| 20 | 602 | -.234  | .039  | -.085 | -.452 | 20 | 732 | -.261  | .031  | -.163 | -.361 | 20 | 782 | -.361  | .065  | -.215 | -.707 |
| 20 | 603 | -.220  | .050  | -.028 | -.431 | 20 | 733 | -.261  | .032  | -.165 | -.402 | 20 | 783 | -.365  | .058  | -.111 | -.663 |
| 20 | 604 | -.430  | .100  | -.198 | -.977 | 20 | 734 | -.263  | .031  | -.174 | -.377 | 20 | 784 | -.365  | .054  | -.222 | -.592 |
| 20 | 605 | -.151  | .043  | -.045 | -.339 | 20 | 735 | -.264  | .032  | -.163 | -.400 | 20 | 785 | -.345  | .055  | -.226 | -.634 |
| 20 | 606 | -.211  | .049  | -.064 | -.440 | 20 | 736 | -.268  | .029  | -.170 | -.359 | 20 | 786 | -.401  | .074  | -.226 | -.811 |
| 20 | 607 | -.228  | .038  | -.104 | -.378 | 20 | 737 | -.273  | .031  | -.174 | -.380 | 20 | 787 | -.400  | .073  | -.233 | -.814 |
| 20 | 608 | -.139  | .049  | -.070 | -.353 | 20 | 738 | -.266  | .029  | -.174 | -.396 | 20 | 788 | -.378  | .067  | -.205 | -.707 |
| 20 | 609 | -.125  | .050  | -.104 | -.338 | 20 | 739 | -.277  | .036  | -.131 | -.485 | 20 | 789 | -.348  | .070  | -.127 | -.788 |
| 20 | 610 | -.182  | .045  | -.023 | -.358 | 20 | 740 | -.278  | .038  | -.160 | -.485 | 20 | 790 | -.346  | .070  | -.075 | -.835 |
| 20 | 611 | -.271  | .050  | -.125 | -.513 | 20 | 741 | -.268  | .031  | -.167 | -.380 | 20 | 791 | -.405  | .077  | -.214 | -.916 |
| 20 | 612 | -.200  | .055  | -.009 | -.466 | 20 | 742 | -.273  | .031  | -.176 | -.389 | 20 | 792 | -.419  | .090  | -.229 | -.019 |
| 20 | 613 | -.204  | .047  | -.028 | -.440 | 20 | 743 | -.276  | .036  | -.160 | -.409 | 20 | 793 | -.443  | .115  | -.205 | -.147 |
| 20 | 614 | -.328  | .079  | -.090 | -.721 | 20 | 744 | -.270  | .034  | -.160 | -.400 | 20 | 794 | -.418  | .079  | -.219 | -.892 |
| 20 | 615 | -.133  | .063  | -.129 | -.287 | 20 | 745 | -.267  | .033  | -.163 | -.402 | 20 | 795 | -.206  | .056  | -.048 | -.520 |
| 20 | 616 | -.167  | .050  | -.101 | -.351 | 20 | 746 | -.271  | .029  | -.183 | -.396 | 20 | 796 | -.199  | .058  | -.033 | -.479 |
| 20 | 617 | -.100  | .089  | -.452 | -.367 | 20 | 747 | -.283  | .036  | -.170 | -.462 | 20 | 797 | -.153  | .045  | -.038 | -.310 |
| 20 | 618 | -.085  | .119  | -.379 | -.443 | 20 | 748 | -.280  | .033  | -.174 | -.425 | 20 | 798 | -.386  | .069  | -.210 | -.713 |
| 20 | 619 | -.084  | .049  | -.139 | -.221 | 20 | 749 | -.356  | .062  | -.178 | -.670 | 20 | 799 | -.384  | .069  | -.217 | -.728 |
| 20 | 620 | -.188  | .032  | -.057 | -.332 | 20 | 750 | -.332  | .053  | -.118 | -.574 | 20 | 800 | -.402  | .072  | -.243 | -.737 |
| 20 | 701 | -.315  | .041  | -.182 | -.514 | 20 | 751 | -.294  | .042  | -.180 | -.527 | 20 | 801 | -.409  | .077  | -.214 | -.770 |
| 20 | 702 | -.253  | .033  | -.155 | -.365 | 20 | 752 | -.279  | .034  | -.167 | -.435 | 20 | 802 | -.364  | .066  | -.148 | -.699 |
| 20 | 703 | -.070  | .048  | -.105 | -.290 | 20 | 753 | -.285  | .036  | -.169 | -.451 | 20 | 803 | -.309  | .074  | -.102 | -.756 |
| 20 | 704 | -.353  | .054  | -.173 | -.570 | 20 | 754 | -.285  | .030  | -.200 | -.422 | 20 | 804 | -.301  | .076  | -.083 | -.775 |
| 20 | 705 | -.258  | .030  | -.156 | -.369 | 20 | 755 | -.292  | .039  | -.187 | -.465 | 20 | 805 | -.042  | .052  | -.206 | -.262 |
| 20 | 706 | -.265  | .032  | -.173 | -.386 | 20 | 756 | -.274  | .033  | -.176 | -.465 | 20 | 806 | -.100  | .050  | -.046 | -.372 |
| 20 | 707 | -.267  | .032  | -.164 | -.383 | 20 | 757 | -.276  | .036  | -.120 | -.487 | 20 | 807 | -.190  | .044  | -.016 | -.413 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 20 | 808 | -.149  | .041  | .012  | -.331  | 20 | 936  | -.274  | .020  | -.215 | -.349 | 20 | 1015 | -.274  | .057  | -.113 | -.518 |
| 20 | 809 | -.393  | .079  | -.179 | -1.050 | 20 | 937  | -.065  | .054  | .166  | -.203 | 20 | 1016 | .098   | .099  | .544  | -.246 |
| 20 | 810 | -.409  | .079  | -.224 | -.847  | 20 | 938  | .118   | .091  | .465  | -.120 | 20 | 1017 | .048   | .065  | .399  | -.123 |
| 20 | 811 | -.347  | .063  | -.141 | -.682  | 20 | 939  | .091   | .181  | .692  | -.501 | 20 | 1018 | .060   | .073  | .382  | -.121 |
| 20 | 812 | -.240  | .094  | -.026 | -.978  | 20 | 940  | .310   | .115  | .642  | -.008 | 20 | 1019 | .032   | .065  | .288  | -.133 |
| 20 | 813 | -.182  | .047  | -.004 | -.386  | 20 | 941  | -.419  | .051  | -.310 | .606  | 20 | 1020 | .071   | .081  | .451  | -.140 |
| 20 | 814 | -.183  | .044  | -.026 | -.413  | 20 | 942  | -.046  | .145  | .628  | -.387 | 20 | 1021 | -.114  | .062  | .143  | -.295 |
| 20 | 815 | -.137  | .044  | -.058 | -.274  | 20 | 943  | .062   | .066  | .323  | -.107 | 20 | 1022 | -.038  | .027  | .059  | -.133 |
| 20 | 816 | -.417  | .098  | -.150 | -1.033 | 20 | 944  | .064   | .058  | .307  | -.098 | 20 | 1023 | -.058  | .033  | .052  | -.261 |
| 20 | 817 | -.382  | .085  | -.160 | -.771  | 20 | 945  | -.290  | .035  | -.170 | .452  | 20 | 1024 | -.020  | .035  | .106  | -.153 |
| 20 | 818 | -.373  | .068  | -.200 | -.778  | 20 | 946  | .162   | .087  | .677  | -.035 | 20 | 1025 | -.096  | .043  | .094  | -.236 |
| 20 | 819 | -.362  | .068  | -.145 | -.756  | 20 | 947  | .202   | .099  | .759  | -.014 | 20 | 1026 | -.185  | .048  | .052  | -.431 |
| 20 | 820 | -.262  | .061  | -.007 | -.537  | 20 | 948  | .165   | .090  | .754  | -.033 | 20 | 1027 | -.196  | .035  | -.086 | -.350 |
| 20 | 821 | -.208  | .078  | -.005 | -.776  | 20 | 949  | .192   | .094  | .668  | -.056 | 20 | 1028 | .019   | .036  | .227  | -.098 |
| 20 | 822 | -.219  | .076  | -.035 | -.892  | 20 | 950  | -.340  | .050  | -.198 | .608  | 30 | 101  | -.005  | .098  | .310  | -.403 |
| 20 | 901 | -.285  | .019  | -.231 | -.337  | 20 | 951  | .076   | .056  | .351  | -.063 | 30 | 102  | -.122  | .064  | .115  | -.427 |
| 20 | 902 | -.285  | .029  | -.203 | -.420  | 20 | 952  | -.052  | .046  | .170  | -.217 | 30 | 103  | .087   | .095  | .387  | -.192 |
| 20 | 903 | -.275  | .031  | -.178 | -.400  | 20 | 953  | .015   | .056  | .270  | -.149 | 30 | 104  | -.055  | .145  | .573  | -.510 |
| 20 | 904 | -.271  | .032  | -.156 | -.409  | 20 | 954  | .194   | .099  | .656  | -.028 | 30 | 105  | -.096  | .143  | .588  | -.471 |
| 20 | 905 | -.303  | .025  | -.223 | -.384  | 20 | 955  | .036   | .046  | .284  | -.086 | 30 | 106  | -.147  | .038  | -.002 | -.282 |
| 20 | 906 | -.261  | .025  | -.186 | -.393  | 20 | 956  | .058   | .077  | .405  | -.126 | 30 | 107  | -.029  | .043  | .294  | -.227 |
| 20 | 907 | -.254  | .028  | -.163 | -.355  | 20 | 957  | .038   | .064  | .328  | -.107 | 30 | 108  | .130   | .167  | .642  | -.622 |
| 20 | 908 | -.154  | .057  | -.107 | -.334  | 20 | 958  | .079   | .079  | .684  | -.084 | 30 | 109  | .048   | .086  | .359  | -.308 |
| 20 | 909 | -.163  | .058  | -.108 | -.299  | 20 | 959  | .097   | .076  | .528  | -.073 | 30 | 110  | -.005  | .099  | .382  | -.387 |
| 20 | 910 | -.271  | .026  | -.186 | -.384  | 20 | 960  | -.064  | .061  | .228  | -.233 | 30 | 111  | -.167  | .050  | -.004 | -.392 |
| 20 | 911 | -.031  | .075  | -.337 | -.165  | 20 | 961  | -.201  | .068  | .470  | -.461 | 30 | 112  | .210   | .218  | .845  | -.810 |
| 20 | 912 | -.265  | .030  | -.184 | -.455  | 20 | 962  | -.190  | .042  | -.042 | .432  | 30 | 113  | .155   | .108  | .526  | -.234 |
| 20 | 913 | -.250  | .065  | -.003 | -.576  | 20 | 963  | .062   | .080  | .458  | -.172 | 30 | 114  | -.010  | .088  | .419  | -.271 |
| 20 | 914 | -.263  | .029  | -.161 | -.381  | 20 | 964  | .056   | .047  | .372  | -.151 | 30 | 115  | -.124  | .052  | .085  | -.283 |
| 20 | 915 | -.330  | .086  | -.048 | -.581  | 20 | 965  | -.092  | .048  | .193  | -.226 | 30 | 116  | -.003  | .110  | .508  | -.320 |
| 20 | 916 | -.259  | .033  | -.177 | -.430  | 20 | 966  | -.233  | .051  | -.056 | .489  | 30 | 117  | .156   | .135  | .694  | -.178 |
| 20 | 917 | -.342  | .109  | -.342 | -.713  | 20 | 967  | .010   | .046  | .222  | -.150 | 30 | 118  | .129   | .126  | .568  | -.541 |
| 20 | 918 | -.291  | .044  | -.146 | -.458  | 20 | 968  | -.079  | .049  | .175  | -.194 | 30 | 119  | .152   | .109  | .587  | -.257 |
| 20 | 919 | -.263  | .029  | -.177 | -.404  | 20 | 969  | -.006  | .051  | .279  | -.140 | 30 | 120  | -.201  | .118  | .199  | -.692 |
| 20 | 920 | -.330  | .054  | -.176 | -.554  | 20 | 970  | -.004  | .050  | .286  | -.128 | 30 | 121  | -.187  | .063  | .059  | -.510 |
| 20 | 921 | -.305  | .081  | -.062 | -.643  | 20 | 971  | .000   | .044  | .234  | -.143 | 30 | 122  | .240   | .178  | .808  | -.545 |
| 20 | 922 | -.266  | .123  | .812  | -.031  | 20 | 1001 | -.296  | .034  | -.185 | .441  | 30 | 123  | .233   | .130  | .675  | -.217 |
| 20 | 923 | -.201  | .078  | -.038 | -.512  | 20 | 1002 | -.401  | .073  | -.239 | .879  | 30 | 124  | .167   | .106  | .568  | -.134 |
| 20 | 924 | -.267  | .061  | -.093 | -.667  | 20 | 1003 | -.267  | .031  | -.167 | .402  | 30 | 125  | .125   | .096  | .489  | -.159 |
| 20 | 925 | -.228  | .170  | .744  | -.476  | 20 | 1004 | -.271  | .047  | .109  | .469  | 30 | 126  | .211   | .140  | .754  | -.176 |
| 20 | 926 | -.236  | .036  | -.058 | -.399  | 20 | 1005 | .274   | .032  | -.190 | .409  | 30 | 127  | -.204  | .102  | .160  | -.609 |
| 20 | 927 | -.106  | .111  | .473  | -.270  | 20 | 1006 | .314   | .048  | -.107 | .548  | 30 | 128  | -.089  | .053  | .104  | -.266 |
| 20 | 928 | -.347  | .092  | .014  | -.739  | 20 | 1007 | -.260  | .041  | -.121 | .438  | 30 | 129  | -.136  | .042  | .019  | -.273 |
| 20 | 929 | -.192  | .144  | .746  | -.208  | 20 | 1008 | .174   | .086  | .609  | -.010 | 30 | 130  | .127   | .101  | .502  | -.179 |
| 20 | 930 | -.259  | .029  | -.159 | -.371  | 20 | 1009 | -.305  | .037  | -.170 | .451  | 30 | 131  | .084   | .115  | .577  | -.259 |
| 20 | 931 | -.344  | .153  | .817  | -.120  | 20 | 1010 | .196   | .096  | .606  | -.039 | 30 | 132  | .248   | .212  | .855  | -.515 |
| 20 | 932 | -.166  | .065  | .096  | -.349  | 20 | 1011 | -.328  | .058  | -.106 | .628  | 30 | 133  | .269   | .179  | .899  | -.433 |
| 20 | 933 | -.307  | .075  | -.037 | -.560  | 20 | 1012 | .139   | .075  | .562  | -.047 | 30 | 134  | .189   | .109  | .596  | -.113 |
| 20 | 934 | -.107  | .084  | .393  | -.136  | 20 | 1013 | -.270  | .046  | -.145 | .445  | 30 | 135  | .141   | .104  | .485  | -.129 |
| 20 | 935 | .076   | .075  | .400  | -.149  | 20 | 1014 | -.032  | .128  | .418  | -.367 | 30 | 136  | .195   | .125  | .761  | -.141 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 13

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 30 | 137 | .227   | .123  | .784  | -.113 | 30 | 187 | .108   | .074  | .477  | -.103 | 30 | 312 | -.086  | .061  | .150  | -.297 |
| 30 | 138 | -.148  | .116  | .236  | -.944 | 30 | 188 | -.106  | .064  | .205  | -.487 | 30 | 313 | .054   | .101  | .411  | -.228 |
| 30 | 139 | -.078  | .051  | .118  | -.223 | 30 | 189 | -.139  | .041  | .071  | -.332 | 30 | 314 | .221   | .130  | .706  | -.113 |
| 30 | 140 | -.138  | .041  | .033  | -.266 | 30 | 190 | -.213  | .044  | -.079 | -.419 | 30 | 315 | .330   | .161  | 1.079 | -.312 |
| 30 | 141 | .246   | .134  | .742  | -.092 | 30 | 191 | .120   | .076  | .498  | -.069 | 30 | 316 | .131   | .147  | .608  | -.364 |
| 30 | 142 | .199   | .106  | .572  | -.120 | 30 | 192 | .121   | .077  | .501  | -.055 | 30 | 317 | .221   | .158  | .773  | -.111 |
| 30 | 143 | .268   | .182  | .841  | -.633 | 30 | 193 | .107   | .077  | .496  | -.113 | 30 | 318 | -.138  | .069  | .162  | -.446 |
| 30 | 144 | .216   | .159  | .815  | -.322 | 30 | 194 | .084   | .068  | .447  | -.541 | 30 | 319 | -.158  | .118  | .215  | -.709 |
| 30 | 145 | .203   | .119  | .650  | -.148 | 30 | 195 | .111   | .076  | .489  | -.155 | 30 | 320 | .184   | .127  | .596  | -.266 |
| 30 | 146 | .030   | .071  | .339  | -.157 | 30 | 196 | .111   | .080  | .515  | -.052 | 30 | 321 | .133   | .111  | .665  | -.147 |
| 30 | 147 | -.115  | .045  | .101  | -.263 | 30 | 197 | -.083  | .066  | .161  | -.355 | 30 | 322 | -.125  | .050  | .069  | -.283 |
| 30 | 148 | -.227  | .035  | -.059 | -.376 | 30 | 198 | .049   | .059  | .329  | -.224 | 30 | 323 | -.060  | .060  | .237  | -.221 |
| 30 | 149 | .300   | .150  | .838  | -.217 | 30 | 199 | .046   | .050  | .282  | -.283 | 30 | 324 | -.133  | .124  | .347  | -.830 |
| 30 | 150 | .336   | .145  | .834  | -.060 | 30 | 200 | -.016  | .041  | .120  | -.245 | 30 | 325 | .204   | .130  | .727  | -.223 |
| 30 | 151 | .181   | .188  | .852  | -.550 | 30 | 201 | -.003  | .032  | .134  | -.117 | 30 | 326 | .145   | .104  | .586  | -.173 |
| 30 | 152 | .178   | .120  | .633  | -.473 | 30 | 202 | -.062  | .036  | .108  | -.203 | 30 | 327 | .178   | .105  | .521  | -.208 |
| 30 | 153 | .141   | .100  | .490  | -.374 | 30 | 203 | -.047  | .035  | .087  | -.166 | 30 | 328 | .289   | .144  | .765  | -.063 |
| 30 | 154 | .022   | .077  | .363  | -.356 | 30 | 204 | -.024  | .037  | .068  | -.222 | 30 | 329 | .311   | .155  | .833  | -.239 |
| 30 | 155 | -.135  | .054  | .118  | -.372 | 30 | 205 | -.086  | .039  | .059  | -.250 | 30 | 330 | .173   | .109  | .601  | -.133 |
| 30 | 156 | .301   | .046  | -.171 | -.522 | 30 | 206 | -.127  | .047  | .122  | -.327 | 30 | 331 | .168   | .135  | .705  | -.205 |
| 30 | 157 | -.299  | .045  | -.113 | -.496 | 30 | 207 | -.163  | .048  | -.013 | -.371 | 30 | 332 | -.123  | .048  | .116  | -.259 |
| 30 | 158 | .162   | .176  | .724  | -.413 | 30 | 208 | -.236  | .049  | -.090 | -.506 | 30 | 333 | -.049  | .062  | .253  | -.244 |
| 30 | 159 | -.104  | .049  | .118  | -.261 | 30 | 209 | -.028  | .057  | .405  | -.199 | 30 | 334 | -.116  | .127  | .463  | -.676 |
| 30 | 160 | .259   | .162  | .728  | -.589 | 30 | 210 | .015   | .037  | .238  | -.099 | 30 | 335 | .216   | .125  | .746  | -.164 |
| 30 | 161 | -.158  | .040  | .053  | -.284 | 30 | 211 | -.084  | .053  | .078  | -.381 | 30 | 336 | .222   | .138  | .835  | -.126 |
| 30 | 162 | .223   | .182  | .728  | -.993 | 30 | 212 | -.123  | .048  | .019  | -.303 | 30 | 337 | .207   | .123  | .698  | -.169 |
| 30 | 163 | .232   | .140  | .854  | -.351 | 30 | 213 | -.128  | .047  | .071  | -.327 | 30 | 338 | .240   | .124  | .700  | -.080 |
| 30 | 164 | .162   | .099  | .570  | -.129 | 30 | 214 | -.157  | .059  | .050  | -.412 | 30 | 339 | .314   | .154  | .777  | -.271 |
| 30 | 165 | .152   | .095  | .605  | -.201 | 30 | 215 | .016   | .055  | .287  | -.233 | 30 | 340 | .343   | .185  | .869  | -.442 |
| 30 | 166 | .055   | .076  | .402  | -.186 | 30 | 216 | -.027  | .048  | .247  | -.106 | 30 | 341 | .262   | .134  | .739  | -.053 |
| 30 | 167 | -.084  | .049  | .137  | -.259 | 30 | 217 | -.014  | .031  | .118  | -.115 | 30 | 342 | .206   | .113  | .698  | -.092 |
| 30 | 168 | -.144  | .042  | .067  | -.286 | 30 | 218 | -.024  | .029  | .113  | -.113 | 30 | 343 | -.234  | .042  | -.061 | -.401 |
| 30 | 169 | .156   | .094  | .509  | -.082 | 30 | 219 | -.047  | .032  | .076  | -.167 | 30 | 344 | -.123  | .057  | .157  | -.307 |
| 30 | 170 | .169   | .150  | .769  | -.417 | 30 | 220 | -.019  | .037  | .212  | -.148 | 30 | 345 | .039   | .090  | .434  | -.213 |
| 30 | 171 | .168   | .122  | .591  | -.621 | 30 | 221 | -.011  | .051  | .273  | -.167 | 30 | 346 | .236   | .116  | .702  | -.114 |
| 30 | 172 | -.119  | .083  | .487  | -.072 | 30 | 222 | -.029  | .047  | .132  | -.169 | 30 | 347 | .253   | .158  | .859  | -.244 |
| 30 | 173 | .149   | .080  | .479  | -.072 | 30 | 223 | -.120  | .044  | .058  | .285  | 30 | 348 | .298   | .158  | .912  | -.189 |
| 30 | 174 | -.132  | .112  | .365  | -.599 | 30 | 224 | -.047  | .069  | .233  | -.282 | 30 | 349 | -.356  | .060  | -.062 | -.623 |
| 30 | 175 | -.079  | .048  | .147  | -.259 | 30 | 225 | -.047  | .075  | .257  | -.296 | 30 | 350 | -.385  | .071  | -.218 | -.794 |
| 30 | 176 | -.145  | .041  | .064  | -.283 | 30 | 226 | -.081  | .068  | .189  | -.400 | 30 | 351 | -.186  | .069  | .098  | -.500 |
| 30 | 177 | .109   | .096  | .509  | -.492 | 30 | 227 | -.042  | .086  | .387  | -.187 | 30 | 352 | .003   | .109  | .385  | -.341 |
| 30 | 178 | .124   | .081  | .511  | -.220 | 30 | 228 | .071   | .168  | .646  | -.412 | 30 | 353 | .106   | .118  | .524  | -.412 |
| 30 | 179 | .084   | .065  | .392  | -.164 | 30 | 229 | -.011  | .062  | .256  | -.209 | 30 | 354 | .190   | .130  | .724  | -.325 |
| 30 | 180 | .091   | .065  | .402  | -.086 | 30 | 230 | -.101  | .047  | .078  | -.249 | 30 | 355 | .234   | .178  | .823  | -.424 |
| 30 | 181 | -.133  | .103  | .212  | -.684 | 30 | 231 | .150   | .123  | .576  | -.303 | 30 | 356 | .323   | .155  | .985  | -.159 |
| 30 | 182 | -.100  | .048  | .098  | -.276 | 30 | 232 | -.001  | .071  | .306  | -.211 | 30 | 357 | .315   | .145  | .849  | -.109 |
| 30 | 183 | -.160  | .045  | .074  | -.405 | 30 | 233 | -.135  | .053  | .089  | -.339 | 30 | 358 | -.144  | .054  | .098  | -.336 |
| 30 | 184 | .072   | .055  | .368  | -.269 | 30 | 234 | .071   | .112  | .435  | -.386 | 30 | 359 | .188   | .179  | .800  | -.450 |
| 30 | 185 | .083   | .059  | .390  | -.145 | 30 | 235 | .106   | .107  | .509  | -.209 | 30 | 360 | -.208  | .055  | .060  | -.398 |
| 30 | 186 | .102   | .067  | .441  | -.057 | 30 | 236 | .222   | .137  | .791  | -.315 | 30 | 361 | .239   | .146  | .838  | -.237 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 30 | 362 | -.201  | .045  | .064  | -.353  | 30 | 412 | -.150  | .028  | -.033 | -.298 | 30 | 540 | -.253  | .030  | -.151 | -.379  |
| 30 | 363 | -.132  | .053  | .105  | -.322  | 30 | 413 | -.007  | .031  | .178  | -.157 | 30 | 541 | -.269  | .032  | -.177 | -.407  |
| 30 | 364 | .030   | .085  | .460  | -.168  | 30 | 414 | -.072  | .054  | .144  | -.305 | 30 | 542 | -.277  | .031  | -.167 | -.421  |
| 30 | 365 | .095   | .091  | .484  | -.161  | 30 | 415 | -.075  | .047  | .200  | -.247 | 30 | 543 | -.291  | .034  | -.158 | -.430  |
| 30 | 366 | .121   | .092  | .615  | -.110  | 30 | 416 | -.119  | .037  | .096  | -.215 | 30 | 544 | -.291  | .035  | -.181 | -.451  |
| 30 | 367 | .242   | .139  | .847  | -.265  | 30 | 417 | -.069  | .031  | .154  | -.150 | 30 | 545 | -.287  | .033  | -.197 | -.432  |
| 30 | 368 | .223   | .120  | .842  | -.747  | 30 | 418 | -.034  | .027  | .074  | -.120 | 30 | 546 | -.274  | .032  | -.184 | -.391  |
| 30 | 369 | .130   | .096  | .457  | -.107  | 30 | 419 | -.054  | .036  | .113  | -.218 | 30 | 547 | -.277  | .036  | -.161 | -.412  |
| 30 | 370 | -.212  | .045  | .107  | -.360  | 30 | 420 | -.013  | .035  | .178  | -.084 | 30 | 548 | -.281  | .033  | -.177 | -.428  |
| 30 | 371 | -.143  | .050  | .205  | -.290  | 30 | 421 | -.024  | .048  | .330  | -.149 | 30 | 549 | -.295  | .038  | -.170 | -.473  |
| 30 | 372 | -.242  | .137  | .332  | -1.055 | 30 | 422 | -.032  | .053  | .223  | -.294 | 30 | 550 | -.286  | .033  | -.157 | -.470  |
| 30 | 373 | .089   | .071  | .357  | -.102  | 30 | 501 | -.243  | .034  | -.125 | -.371 | 30 | 551 | -.303  | .039  | -.175 | -.502  |
| 30 | 374 | .053   | .072  | .437  | -.102  | 30 | 502 | -.302  | .044  | -.168 | -.478 | 30 | 552 | -.307  | .040  | -.204 | -.493  |
| 30 | 375 | .130   | .118  | .590  | -.405  | 30 | 503 | -.346  | .054  | -.184 | -.562 | 30 | 553 | -.313  | .042  | -.202 | -.520  |
| 30 | 376 | .130   | .159  | .780  | -.495  | 30 | 504 | -.057  | .049  | .139  | -.228 | 30 | 554 | -.318  | .042  | -.209 | -.491  |
| 30 | 377 | -.231  | .044  | .048  | -.400  | 30 | 505 | -.246  | .032  | -.145 | -.366 | 30 | 555 | -.325  | .052  | -.179 | -.520  |
| 30 | 378 | -.171  | .042  | .110  | -.320  | 30 | 506 | -.244  | .032  | -.136 | -.366 | 30 | 556 | -.378  | .066  | -.146 | -.649  |
| 30 | 379 | -.245  | .103  | .312  | -.652  | 30 | 507 | -.261  | .033  | -.162 | -.410 | 30 | 557 | -.405  | .082  | -.195 | -.733  |
| 30 | 380 | .037   | .057  | .305  | -.112  | 30 | 508 | -.258  | .034  | -.136 | -.464 | 30 | 558 | -.305  | .039  | -.179 | -.488  |
| 30 | 381 | .017   | .052  | .270  | -.120  | 30 | 509 | -.246  | .028  | -.141 | -.357 | 30 | 559 | -.367  | .077  | -.168 | -.953  |
| 30 | 382 | .046   | .083  | .387  | -.322  | 30 | 510 | -.245  | .031  | -.153 | -.364 | 30 | 560 | -.305  | .040  | -.157 | -.479  |
| 30 | 383 | .047   | .116  | .500  | -.517  | 30 | 511 | -.239  | .031  | -.143 | -.338 | 30 | 561 | -.433  | .133  | -.186 | -1.289 |
| 30 | 384 | -.240  | .045  | -.100 | -.435  | 30 | 512 | -.263  | .034  | -.159 | -.414 | 30 | 562 | -.307  | .038  | -.123 | -.479  |
| 30 | 385 | -.174  | .040  | .005  | -.350  | 30 | 513 | -.253  | .030  | -.146 | -.414 | 30 | 563 | -.311  | .037  | -.200 | -.473  |
| 30 | 386 | -.202  | .067  | .043  | -.567  | 30 | 514 | -.246  | .031  | -.143 | -.376 | 30 | 564 | -.317  | .035  | -.207 | -.468  |
| 30 | 387 | .052   | .063  | .320  | -.127  | 30 | 515 | -.243  | .031  | -.148 | -.369 | 30 | 565 | -.325  | .043  | -.193 | -.497  |
| 30 | 388 | .044   | .059  | .417  | -.072  | 30 | 516 | -.250  | .028  | -.157 | -.373 | 30 | 566 | -.318  | .042  | -.204 | -.532  |
| 30 | 389 | .043   | .063  | .352  | -.170  | 30 | 517 | -.252  | .029  | -.173 | -.362 | 30 | 567 | -.344  | .067  | -.183 | -.722  |
| 30 | 390 | .011   | .064  | .355  | -.290  | 30 | 518 | -.264  | .029  | -.175 | -.444 | 30 | 568 | -.336  | .067  | -.195 | -.651  |
| 30 | 391 | .054   | .065  | .405  | -.089  | 30 | 519 | -.259  | .030  | -.173 | -.371 | 30 | 569 | -.327  | .044  | -.211 | -.518  |
| 30 | 392 | -.169  | .084  | .259  | -.423  | 30 | 520 | -.250  | .039  | -.109 | -.453 | 30 | 570 | -.324  | .048  | -.152 | -.535  |
| 30 | 393 | .066   | .071  | .492  | -.077  | 30 | 521 | -.262  | .045  | -.127 | -.474 | 30 | 571 | -.320  | .043  | -.161 | -.504  |
| 30 | 394 | .097   | .082  | .577  | -.067  | 30 | 522 | -.263  | .035  | -.159 | -.474 | 30 | 572 | -.351  | .046  | -.235 | -.549  |
| 30 | 395 | .060   | .077  | .464  | -.194  | 30 | 523 | -.263  | .033  | -.166 | -.417 | 30 | 573 | -.359  | .053  | -.216 | -.580  |
| 30 | 396 | .052   | .074  | .520  | -.224  | 30 | 524 | -.267  | .034  | -.168 | -.465 | 30 | 574 | -.362  | .057  | -.214 | -.682  |
| 30 | 397 | -.254  | .071  | -.049 | -.645  | 30 | 525 | -.273  | .034  | -.173 | -.410 | 30 | 575 | -.338  | .045  | -.218 | -.568  |
| 30 | 398 | -.183  | .057  | -.005 | -.406  | 30 | 526 | -.294  | .057  | -.159 | -.551 | 30 | 576 | -.337  | .045  | -.214 | -.608  |
| 30 | 399 | -.159  | .029  | -.042 | -.272  | 30 | 527 | -.352  | .078  | -.149 | -.665 | 30 | 577 | -.335  | .052  | -.104 | -.604  |
| 30 | 400 | -.103  | .028  | .002  | -.222  | 30 | 528 | -.281  | .046  | -.133 | -.467 | 30 | 578 | -.318  | .051  | -.142 | -.516  |
| 30 | 401 | -.042  | .028  | .058  | -.187  | 30 | 529 | -.273  | .043  | -.098 | -.471 | 30 | 579 | -.346  | .051  | -.161 | -.554  |
| 30 | 402 | -.051  | .037  | .092  | -.238  | 30 | 530 | -.257  | .031  | -.142 | -.400 | 30 | 580 | -.361  | .057  | -.185 | -.675  |
| 30 | 403 | .004   | .039  | .212  | -.286  | 30 | 531 | -.272  | .033  | -.170 | -.412 | 30 | 581 | -.375  | .060  | -.226 | -.782  |
| 30 | 404 | -.007  | .046  | .245  | -.182  | 30 | 532 | -.287  | .043  | -.174 | -.492 | 30 | 582 | -.371  | .057  | -.240 | -.694  |
| 30 | 405 | .036   | .047  | .282  | -.113  | 30 | 533 | -.288  | .041  | -.154 | -.478 | 30 | 583 | -.368  | .059  | -.233 | -.613  |
| 30 | 406 | -.000  | .036  | .148  | -.139  | 30 | 534 | -.284  | .033  | -.184 | -.400 | 30 | 584 | -.280  | .054  | -.021 | -.494  |
| 30 | 407 | -.191  | .070  | .101  | -.547  | 30 | 535 | -.282  | .031  | -.179 | -.407 | 30 | 585 | -.273  | .054  | -.052 | -.468  |
| 30 | 408 | -.183  | .033  | -.063 | -.331  | 30 | 536 | -.271  | .031  | -.174 | -.400 | 30 | 586 | -.343  | .074  | -.095 | -.658  |
| 30 | 409 | -.057  | .027  | .092  | -.166  | 30 | 537 | -.268  | .032  | -.128 | -.393 | 30 | 587 | -.320  | .050  | -.111 | -.532  |
| 30 | 410 | -.001  | .052  | .289  | -.247  | 30 | 538 | -.276  | .033  | -.170 | -.416 | 30 | 588 | -.375  | .068  | -.164 | -.756  |
| 30 | 411 | -.163  | .034  | -.030 | -.302  | 30 | 539 | -.257  | .030  | -.158 | -.368 | 30 | 589 | -.385  | .089  | -.211 | -1.119 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 15

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 30 | 590 | -.415  | .096  | -.204 | -.927 | 30 | 720 | -.256  | .030  | -.160 | -.401 | 30 | 770 | -.268  | .038  | -.143 | -.408 |
| 30 | 591 | -.320  | .056  | -.128 | -.570 | 30 | 721 | -.259  | .029  | -.160 | -.389 | 30 | 771 | -.273  | .038  | -.140 | -.453 |
| 30 | 592 | -.307  | .056  | -.045 | -.614 | 30 | 722 | -.255  | .035  | -.133 | -.412 | 30 | 772 | -.290  | .044  | -.155 | -.588 |
| 30 | 593 | -.222  | .053  | -.011 | -.473 | 30 | 723 | -.260  | .036  | -.142 | -.466 | 30 | 773 | -.299  | .042  | -.178 | -.609 |
| 30 | 594 | -.227  | .048  | -.040 | -.422 | 30 | 724 | -.286  | .063  | -.149 | -.591 | 30 | 774 | -.313  | .045  | -.190 | -.640 |
| 30 | 595 | -.322  | .078  | -.061 | -.756 | 30 | 725 | -.243  | .044  | -.138 | -.507 | 30 | 775 | -.323  | .050  | -.202 | -.585 |
| 30 | 596 | -.288  | .051  | -.106 | -.560 | 30 | 726 | -.259  | .030  | -.167 | -.387 | 30 | 776 | -.321  | .044  | -.195 | -.566 |
| 30 | 597 | -.366  | .066  | -.142 | -.684 | 30 | 727 | -.255  | .029  | -.154 | -.372 | 30 | 777 | -.322  | .049  | -.166 | -.554 |
| 30 | 598 | -.408  | .110  | -.201 | -.041 | 30 | 728 | -.256  | .027  | -.154 | -.376 | 30 | 778 | -.328  | .052  | -.133 | -.533 |
| 30 | 599 | -.447  | .155  | -.191 | -.990 | 30 | 729 | -.251  | .029  | -.149 | -.363 | 30 | 779 | -.352  | .069  | -.185 | -.942 |
| 30 | 600 | -.171  | .048  | -.025 | -.390 | 30 | 730 | -.249  | .027  | -.163 | -.367 | 30 | 780 | -.355  | .062  | -.207 | -.706 |
| 30 | 601 | -.272  | .068  | -.066 | -.915 | 30 | 731 | -.252  | .027  | -.159 | -.367 | 30 | 781 | -.358  | .056  | -.188 | -.592 |
| 30 | 602 | -.252  | .049  | -.094 | -.529 | 30 | 732 | -.255  | .032  | -.149 | -.374 | 30 | 782 | -.381  | .066  | -.098 | -.772 |
| 30 | 603 | -.170  | .053  | -.009 | -.380 | 30 | 733 | -.256  | .032  | -.154 | -.376 | 30 | 783 | -.379  | .070  | -.178 | -.867 |
| 30 | 604 | -.476  | .147  | -.166 | -.199 | 30 | 734 | -.263  | .031  | -.168 | -.386 | 30 | 784 | -.381  | .064  | -.233 | -.682 |
| 30 | 605 | -.170  | .052  | -.076 | -.445 | 30 | 735 | -.242  | .030  | -.165 | -.365 | 30 | 785 | -.380  | .065  | -.232 | -.699 |
| 30 | 606 | -.239  | .065  | -.038 | -.575 | 30 | 736 | -.259  | .029  | -.165 | -.376 | 30 | 786 | -.404  | .082  | -.230 | -.848 |
| 30 | 607 | -.252  | .049  | -.094 | -.445 | 30 | 737 | -.261  | .028  | -.170 | -.354 | 30 | 787 | -.409  | .080  | -.221 | -.940 |
| 30 | 608 | -.121  | .053  | -.090 | -.382 | 30 | 738 | -.262  | .029  | -.168 | -.370 | 30 | 788 | -.370  | .073  | -.131 | -.753 |
| 30 | 609 | -.147  | .057  | -.083 | -.376 | 30 | 739 | -.263  | .031  | -.172 | -.370 | 30 | 789 | -.324  | .074  | -.095 | -.720 |
| 30 | 610 | -.210  | .057  | -.010 | -.498 | 30 | 740 | -.262  | .032  | -.129 | -.393 | 30 | 790 | -.318  | .070  | -.105 | -.737 |
| 30 | 611 | -.289  | .059  | -.103 | -.582 | 30 | 741 | -.263  | .029  | -.170 | -.390 | 30 | 791 | -.409  | .083  | -.242 | -.878 |
| 30 | 612 | -.160  | .055  | .011  | -.422 | 30 | 742 | -.267  | .029  | -.170 | -.397 | 30 | 792 | -.418  | .089  | -.196 | -.815 |
| 30 | 613 | -.160  | .047  | .025  | -.368 | 30 | 743 | -.272  | .034  | -.161 | -.402 | 30 | 793 | -.449  | .119  | -.140 | -.152 |
| 30 | 614 | -.239  | .084  | .062  | -.564 | 30 | 744 | -.266  | .033  | -.163 | -.399 | 30 | 794 | -.413  | .088  | -.213 | -.935 |
| 30 | 615 | -.122  | .064  | .137  | -.349 | 30 | 745 | -.265  | .031  | -.168 | -.399 | 30 | 795 | -.198  | .057  | -.007 | -.491 |
| 30 | 616 | -.159  | .052  | .090  | -.345 | 30 | 746 | -.268  | .028  | -.182 | -.381 | 30 | 796 | -.192  | .063  | -.005 | -.553 |
| 30 | 617 | -.104  | .099  | .421  | -.352 | 30 | 747 | -.275  | .029  | -.186 | -.379 | 30 | 797 | -.125  | .047  | -.057 | -.324 |
| 30 | 618 | -.104  | .120  | .558  | -.552 | 30 | 748 | -.283  | .033  | -.170 | -.434 | 30 | 798 | -.420  | .085  | -.203 | -.888 |
| 30 | 619 | -.064  | .054  | .335  | -.233 | 30 | 749 | -.299  | .046  | -.169 | .519  | 30 | 799 | -.385  | .072  | -.210 | -.701 |
| 30 | 620 | -.200  | .038  | -.054 | -.368 | 30 | 750 | -.293  | .045  | -.151 | .654  | 30 | 800 | -.419  | .078  | -.224 | -.822 |
| 30 | 701 | -.294  | .041  | -.165 | -.451 | 30 | 751 | -.273  | .039  | -.165 | .627  | 30 | 801 | -.412  | .091  | -.215 | -.873 |
| 30 | 702 | -.240  | .032  | -.129 | -.362 | 30 | 752 | -.269  | .032  | -.154 | .412  | 30 | 802 | -.337  | .071  | -.135 | -.647 |
| 30 | 703 | -.059  | .050  | .084  | -.287 | 30 | 753 | -.271  | .033  | -.174 | .405  | 30 | 803 | -.260  | .072  | -.035 | -.727 |
| 30 | 704 | -.330  | .049  | -.197 | -.557 | 30 | 754 | -.273  | .032  | -.160 | .414  | 30 | 804 | -.255  | .075  | -.047 | -.775 |
| 30 | 705 | -.214  | .030  | -.142 | -.350 | 30 | 755 | -.286  | .033  | -.194 | .448  | 30 | 805 | -.051  | .048  | -.106 | -.383 |
| 30 | 706 | -.239  | .032  | -.130 | -.376 | 30 | 756 | -.292  | .038  | -.165 | .441  | 30 | 806 | -.088  | .047  | -.087 | -.305 |
| 30 | 707 | -.253  | .032  | -.145 | -.355 | 30 | 757 | -.288  | .036  | -.180 | .416  | 30 | 807 | -.195  | .051  | -.024 | -.409 |
| 30 | 708 | -.242  | .031  | -.149 | -.360 | 30 | 758 | -.269  | .038  | -.149 | .434  | 30 | 808 | -.130  | .042  | -.057 | -.281 |
| 30 | 709 | -.246  | .032  | -.156 | -.412 | 30 | 759 | -.288  | .032  | -.187 | .445  | 30 | 809 | -.417  | .089  | -.198 | -.940 |
| 30 | 710 | -.244  | .030  | -.149 | -.383 | 30 | 760 | -.264  | .037  | -.129 | .421  | 30 | 810 | -.409  | .080  | -.220 | -.928 |
| 30 | 711 | -.247  | .030  | -.163 | -.381 | 30 | 761 | -.292  | .034  | -.194 | .445  | 30 | 811 | -.321  | .067  | -.085 | -.657 |
| 30 | 712 | -.245  | .031  | -.145 | -.373 | 30 | 762 | -.265  | .036  | -.133 | .414  | 30 | 812 | -.199  | .087  | -.035 | -.966 |
| 30 | 713 | -.249  | .031  | -.145 | -.380 | 30 | 763 | -.268  | .036  | -.131 | .418  | 30 | 813 | -.192  | .054  | -.028 | -.458 |
| 30 | 714 | -.245  | .030  | -.140 | -.369 | 30 | 764 | -.275  | .035  | -.147 | .430  | 30 | 814 | -.192  | .055  | -.012 | -.621 |
| 30 | 715 | -.253  | .028  | -.163 | -.417 | 30 | 765 | -.280  | .034  | -.172 | .425  | 30 | 815 | -.107  | .047  | -.078 | -.262 |
| 30 | 716 | -.248  | .029  | -.158 | -.369 | 30 | 766 | -.274  | .032  | -.169 | .403  | 30 | 816 | -.441  | .108  | -.172 | -.754 |
| 30 | 717 | -.253  | .030  | -.163 | -.378 | 30 | 767 | -.289  | .035  | -.174 | .446  | 30 | 817 | -.394  | .090  | -.158 | -.871 |
| 30 | 718 | -.279  | .050  | -.142 | -.514 | 30 | 768 | -.291  | .034  | -.178 | .479  | 30 | 818 | -.380  | .071  | -.187 | -.723 |
| 30 | 719 | -.247  | .036  | -.111 | -.426 | 30 | 769 | -.272  | .035  | -.171 | .434  | 30 | 819 | -.346  | .069  | -.080 | -.739 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 30 | 820 | -.231  | .069  | .042  | -.477 | 30 | 948  | .114   | .079  | .641  | -.065 | 30 | 1027 | -.198  | .037  | -.029 | -.373 |
| 30 | 821 | -.179  | .074  | .021  | -.763 | 30 | 949  | .152   | .095  | .537  | -.092 | 30 | 1028 | -.005  | .033  | .193  | -.107 |
| 30 | 822 | -.190  | .076  | -.025 | -.715 | 30 | 950  | -.362  | .060  | -.166 | -.645 | 40 | 101  | -.136  | .085  | .204  | -.514 |
| 30 | 901 | -.297  | .024  | -.231 | -.396 | 30 | 951  | .068   | .059  | .373  | -.083 | 40 | 102  | -.217  | .091  | .024  | -.636 |
| 30 | 902 | -.275  | .028  | -.196 | -.380 | 30 | 952  | -.037  | .047  | .191  | -.210 | 40 | 103  | -.096  | .084  | .404  | -.199 |
| 30 | 903 | -.262  | .028  | -.176 | -.367 | 30 | 953  | -.003  | .045  | .191  | -.180 | 40 | 104  | -.251  | .125  | .257  | -.650 |
| 30 | 904 | -.265  | .029  | -.174 | -.376 | 30 | 954  | .146   | .092  | .595  | -.074 | 40 | 105  | -.165  | .154  | .464  | -.872 |
| 30 | 905 | -.290  | .022  | -.230 | -.400 | 30 | 955  | .023   | .043  | .258  | -.095 | 40 | 106  | -.156  | .032  | -.029 | -.334 |
| 30 | 906 | -.256  | .026  | -.191 | -.423 | 30 | 956  | .066   | .075  | .412  | -.108 | 40 | 107  | -.089  | .066  | .197  | -.399 |
| 30 | 907 | -.260  | .030  | -.168 | -.378 | 30 | 957  | .058   | .074  | .491  | -.101 | 40 | 108  | -.149  | .209  | .393  | -.890 |
| 30 | 908 | -.184  | .042  | .025  | -.337 | 30 | 958  | .099   | .088  | .648  | -.076 | 40 | 109  | -.027  | .078  | .266  | -.608 |
| 30 | 909 | -.159  | .062  | -.152 | -.299 | 30 | 959  | .086   | .072  | .585  | -.106 | 40 | 110  | -.055  | .081  | .231  | -.381 |
| 30 | 910 | -.296  | .033  | -.193 | -.430 | 30 | 960  | -.051  | .071  | .394  | -.242 | 40 | 111  | -.184  | .038  | -.036 | -.402 |
| 30 | 911 | -.027  | .060  | -.219 | -.203 | 30 | 961  | -.180  | .093  | .369  | -.496 | 40 | 112  | -.126  | .214  | .558  | -.917 |
| 30 | 912 | -.256  | .030  | -.170 | -.391 | 30 | 962  | -.191  | .049  | .016  | .416  | 40 | 113  | -.044  | .105  | .349  | -.553 |
| 30 | 913 | -.248  | .049  | -.078 | -.654 | 30 | 963  | .055   | .079  | .545  | -.203 | 40 | 114  | -.085  | .067  | .268  | -.339 |
| 30 | 914 | -.248  | .031  | -.140 | -.366 | 30 | 964  | .064   | .071  | .431  | -.099 | 40 | 115  | -.161  | .041  | .004  | -.300 |
| 30 | 915 | -.309  | .085  | .093  | -.602 | 30 | 965  | -.078  | .050  | .219  | -.233 | 40 | 116  | -.092  | .069  | .167  | -.413 |
| 30 | 916 | -.255  | .030  | -.154 | -.372 | 30 | 966  | -.212  | .055  | -.051 | -.473 | 40 | 117  | -.037  | .097  | .689  | -.236 |
| 30 | 917 | -.321  | .100  | -.050 | -.730 | 30 | 967  | .008   | .040  | .188  | -.126 | 40 | 118  | -.051  | .156  | .376  | -.726 |
| 30 | 918 | -.264  | .048  | -.111 | -.471 | 30 | 968  | -.072  | .051  | .134  | -.226 | 40 | 119  | -.060  | .085  | .360  | -.358 |
| 30 | 919 | -.282  | .031  | -.168 | -.403 | 30 | 969  | .006   | .050  | .341  | -.117 | 40 | 120  | -.177  | .089  | .084  | -.599 |
| 30 | 920 | -.316  | .054  | -.169 | -.551 | 30 | 970  | -.001  | .047  | .281  | -.122 | 40 | 121  | -.198  | .053  | -.019 | -.482 |
| 30 | 921 | -.224  | .083  | -.031 | -.531 | 30 | 971  | -.003  | .038  | .193  | -.158 | 40 | 122  | -.028  | .208  | .588  | -.889 |
| 30 | 922 | -.168  | .101  | .526  | -.060 | 30 | 1001 | -.274  | .032  | -.183 | -.402 | 40 | 123  | -.095  | .146  | .517  | -.710 |
| 30 | 923 | -.262  | .087  | .039  | -.569 | 30 | 1002 | -.404  | .075  | -.197 | -.880 | 40 | 124  | -.053  | .096  | .408  | -.422 |
| 30 | 924 | -.216  | .059  | .012  | -.449 | 30 | 1003 | -.265  | .033  | -.174 | -.421 | 40 | 125  | -.014  | .097  | .342  | -.489 |
| 30 | 925 | -.233  | .142  | .742  | -.228 | 30 | 1004 | -.258  | .044  | -.140 | -.506 | 40 | 126  | -.196  | .137  | .749  | -.328 |
| 30 | 926 | -.201  | .035  | -.066 | -.348 | 30 | 1005 | -.263  | .032  | -.161 | -.437 | 40 | 127  | -.280  | .097  | .073  | -.730 |
| 30 | 927 | -.128  | .093  | .549  | -.230 | 30 | 1006 | -.258  | .064  | -.102 | -.605 | 40 | 128  | -.123  | .040  | .045  | -.272 |
| 30 | 928 | -.341  | .114  | .335  | -.836 | 30 | 1007 | -.241  | .051  | -.014 | -.470 | 40 | 129  | -.154  | .034  | .008  | -.276 |
| 30 | 929 | -.262  | .157  | .796  | -.473 | 30 | 1008 | .118   | .082  | .468  | -.068 | 40 | 130  | -.012  | .080  | .352  | -.330 |
| 30 | 930 | -.267  | .033  | -.121 | -.405 | 30 | 1009 | -.324  | .042  | -.204 | -.499 | 40 | 131  | -.032  | .091  | .299  | -.355 |
| 30 | 931 | -.218  | .157  | .730  | -.406 | 30 | 1010 | .145   | .087  | .456  | -.097 | 40 | 132  | -.057  | .207  | .641  | -.632 |
| 30 | 932 | -.151  | .062  | .138  | -.294 | 30 | 1011 | -.352  | .072  | -.114 | -.750 | 40 | 133  | -.034  | .228  | .594  | -.651 |
| 30 | 933 | -.285  | .098  | .055  | -.676 | 30 | 1012 | .115   | .072  | .510  | -.053 | 40 | 134  | -.059  | .115  | .501  | -.467 |
| 30 | 934 | .123   | .094  | .453  | -.212 | 30 | 1013 | -.235  | .042  | -.096 | -.432 | 40 | 135  | -.040  | .097  | .331  | -.411 |
| 30 | 935 | -.093  | .078  | .349  | -.136 | 30 | 1014 | .120   | .104  | .552  | -.323 | 40 | 136  | -.053  | .100  | .478  | -.328 |
| 30 | 936 | -.308  | .025  | -.239 | -.415 | 30 | 1015 | -.286  | .066  | -.097 | -.547 | 40 | 137  | -.172  | .133  | .636  | -.230 |
| 30 | 937 | -.032  | .060  | .219  | -.180 | 30 | 1016 | .081   | .112  | .446  | -.313 | 40 | 138  | -.190  | .098  | .145  | -.591 |
| 30 | 938 | .189   | .114  | .660  | -.066 | 30 | 1017 | .052   | .066  | .432  | -.124 | 40 | 139  | -.117  | .040  | .115  | -.279 |
| 30 | 939 | .242   | .160  | .737  | -.251 | 30 | 1018 | .070   | .079  | .161  | -.092 | 40 | 140  | -.161  | .034  | -.037 | -.297 |
| 30 | 940 | .343   | .117  | .674  | -.074 | 30 | 1019 | .044   | .063  | .422  | -.100 | 40 | 141  | -.131  | .133  | .587  | -.325 |
| 30 | 941 | -.428  | .057  | -.297 | -.627 | 30 | 1020 | .102   | .093  | .473  | -.141 | 40 | 142  | -.079  | .097  | .420  | -.316 |
| 30 | 942 | -.078  | .104  | .482  | -.373 | 30 | 1021 | -.103  | .065  | .178  | -.339 | 40 | 143  | -.001  | .226  | .636  | -.961 |
| 30 | 943 | .030   | .059  | .286  | -.141 | 30 | 1022 | -.035  | .030  | .090  | -.146 | 40 | 144  | -.012  | .174  | .624  | -.665 |
| 30 | 944 | -.041  | .055  | .281  | -.097 | 30 | 1023 | -.052  | .036  | .078  | -.209 | 40 | 145  | -.070  | .109  | .427  | -.428 |
| 30 | 945 | -.273  | .045  | -.099 | -.456 | 30 | 1024 | -.030  | .036  | .127  | -.175 | 40 | 146  | -.042  | .057  | .187  | -.423 |
| 30 | 946 | .124   | .085  | .595  | -.088 | 30 | 1025 | -.087  | .047  | .198  | -.251 | 40 | 147  | -.146  | .038  | .019  | -.283 |
| 30 | 947 | .141   | .091  | .578  | -.069 | 30 | 1026 | -.207  | .056  | .088  | -.438 | 40 | 148  | -.234  | .040  | -.113 | -.432 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 40 | 149 | .204   | .166  | .718  | -.610  | 40 | 199 | .027   | .049  | .227  | -.399 | 40 | 324 | -.010  | .149  | .609  | -.490 |
| 40 | 150 | .210   | .156  | .700  | -.394  | 40 | 200 | -.025  | .039  | .130  | -.229 | 40 | 325 | .241   | .137  | .962  | -.240 |
| 40 | 151 | -.116  | .231  | .652  | -1.122 | 40 | 201 | -.019  | .033  | .153  | -.160 | 40 | 326 | .174   | .110  | .649  | -.101 |
| 40 | 152 | .038   | .125  | .508  | -.560  | 40 | 202 | -.078  | .032  | .033  | -.220 | 40 | 327 | .247   | .124  | .679  | -.075 |
| 40 | 153 | -.037  | .098  | .368  | -.393  | 40 | 203 | -.067  | .033  | .052  | -.194 | 40 | 328 | .363   | .151  | .881  | -.065 |
| 40 | 154 | -.060  | .070  | .158  | -.384  | 40 | 204 | -.090  | .037  | .043  | -.240 | 40 | 329 | .369   | .161  | .959  | -.007 |
| 40 | 155 | -.167  | .046  | .000  | -.388  | 40 | 205 | -.102  | .039  | .054  | -.298 | 40 | 330 | .299   | .141  | 1.002 | -.017 |
| 40 | 156 | -.286  | .059  | -.137 | -.571  | 40 | 206 | -.129  | .049  | .091  | -.360 | 40 | 331 | .293   | .154  | .987  | -.115 |
| 40 | 157 | -.281  | .049  | -.123 | -.622  | 40 | 207 | -.185  | .057  | .010  | -.475 | 40 | 332 | -.077  | .064  | .246  | -.245 |
| 40 | 158 | -.096  | .177  | .551  | -.798  | 40 | 208 | -.254  | .065  | -.095 | -.675 | 40 | 333 | .011   | .083  | .574  | -.220 |
| 40 | 159 | -.143  | .040  | .021  | -.306  | 40 | 209 | -.012  | .048  | .238  | -.144 | 40 | 334 | -.006  | .151  | .589  | -.548 |
| 40 | 160 | .046   | .220  | .691  | -1.047 | 40 | 210 | -.002  | .042  | .178  | -.190 | 40 | 335 | .267   | .141  | .764  | -.127 |
| 40 | 161 | -.175  | .035  | -.018 | -.297  | 40 | 211 | -.078  | .039  | .082  | -.272 | 40 | 336 | .306   | .151  | .969  | -.050 |
| 40 | 162 | -.071  | .279  | .654  | -1.385 | 40 | 212 | -.120  | .043  | .008  | -.386 | 40 | 337 | .297   | .128  | .719  | -.047 |
| 40 | 163 | .028   | .200  | .522  | -.996  | 40 | 213 | -.137  | .049  | .089  | -.330 | 40 | 338 | .297   | .146  | .804  | -.055 |
| 40 | 164 | .054   | .096  | .433  | -.471  | 40 | 214 | -.169  | .060  | .024  | -.521 | 40 | 339 | .375   | .158  | 1.052 | -.105 |
| 40 | 165 | .046   | .080  | .417  | -.331  | 40 | 215 | -.022  | .052  | .233  | -.162 | 40 | 340 | .397   | .170  | .904  | -.097 |
| 40 | 166 | -.025  | .061  | .255  | -.288  | 40 | 216 | -.030  | .048  | .310  | -.095 | 40 | 341 | .327   | .148  | .839  | -.112 |
| 40 | 167 | -.115  | .040  | .029  | -.247  | 40 | 217 | -.028  | .030  | .068  | -.146 | 40 | 342 | .267   | .136  | .851  | -.092 |
| 40 | 168 | -.163  | .035  | -.014 | -.283  | 40 | 218 | -.044  | .027  | .077  | -.165 | 40 | 343 | -.213  | .050  | .003  | .383  |
| 40 | 169 | .072   | .082  | .381  | -.271  | 40 | 219 | -.067  | .034  | .075  | -.190 | 40 | 344 | -.074  | .067  | .243  | -.283 |
| 40 | 170 | -.015  | .166  | .616  | -.798  | 40 | 220 | -.042  | .033  | .182  | -.148 | 40 | 345 | .142   | .114  | .548  | -.160 |
| 40 | 171 | .012   | .151  | .527  | -.762  | 40 | 221 | -.060  | .037  | .122  | -.188 | 40 | 346 | .292   | .148  | .846  | -.102 |
| 40 | 172 | .016   | .084  | .263  | -.598  | 40 | 222 | -.062  | .043  | .175  | -.195 | 40 | 347 | .335   | .168  | .957  | -.117 |
| 40 | 173 | .071   | .078  | .412  | -.197  | 40 | 223 | -.108  | .047  | .091  | -.283 | 40 | 348 | .301   | .161  | .846  | -.092 |
| 40 | 174 | -.177  | .111  | .162  | -.759  | 40 | 224 | -.050  | .060  | .219  | -.272 | 40 | 349 | -.355  | .083  | .302  | .667  |
| 40 | 175 | -.112  | .043  | .090  | -.238  | 40 | 225 | -.043  | .064  | .196  | -.281 | 40 | 350 | -.395  | .081  | -.111 | .856  |
| 40 | 176 | -.166  | .045  | -.014 | -.377  | 40 | 301 | -.005  | .079  | .284  | -.252 | 40 | 351 | -.146  | .094  | .160  | -.536 |
| 40 | 177 | -.021  | .126  | .409  | -.632  | 40 | 302 | -.080  | .088  | .463  | -.207 | 40 | 352 | -.056  | .146  | .595  | -.423 |
| 40 | 178 | .017   | .109  | .361  | -.505  | 40 | 303 | -.253  | .152  | .684  | -.332 | 40 | 353 | .155   | .163  | .705  | -.475 |
| 40 | 179 | -.005  | .063  | .246  | -.358  | 40 | 304 | -.052  | .075  | .612  | -.262 | 40 | 354 | .243   | .181  | .752  | -.625 |
| 40 | 180 | .034   | .058  | .320  | -.168  | 40 | 305 | -.054  | .058  | .168  | -.234 | 40 | 355 | .288   | .183  | .902  | -.561 |
| 40 | 181 | -.142  | .092  | .171  | -.521  | 40 | 306 | -.154  | .112  | .602  | -.278 | 40 | 356 | .221   | .188  | .848  | -.435 |
| 40 | 182 | -.130  | .050  | .109  | -.382  | 40 | 307 | -.050  | .085  | .369  | -.188 | 40 | 357 | .288   | .170  | .937  | -.256 |
| 40 | 183 | -.175  | .052  | .032  | -.411  | 40 | 308 | -.099  | .071  | .152  | -.353 | 40 | 358 | -.095  | .073  | .192  | -.394 |
| 40 | 184 | .015   | .067  | .332  | -.418  | 40 | 309 | -.107  | .128  | .639  | -.483 | 40 | 359 | .294   | .178  | .868  | -.347 |
| 40 | 185 | -.015  | .070  | .272  | -.473  | 40 | 310 | -.177  | .127  | .711  | -.302 | 40 | 360 | -.147  | .064  | .219  | -.403 |
| 40 | 186 | -.036  | .056  | .308  | -.307  | 40 | 311 | -.186  | .145  | .693  | -.282 | 40 | 361 | .256   | .172  | .878  | -.285 |
| 40 | 187 | -.030  | .061  | .359  | -.156  | 40 | 312 | -.032  | .073  | .247  | -.240 | 40 | 362 | -.155  | .064  | .137  | -.396 |
| 40 | 188 | -.134  | .060  | .097  | -.497  | 40 | 313 | -.145  | .117  | .612  | -.173 | 40 | 363 | -.075  | .080  | .378  | -.298 |
| 40 | 189 | -.162  | .048  | .017  | -.355  | 40 | 314 | -.322  | .146  | .816  | -.130 | 40 | 364 | .087   | .112  | .642  | -.246 |
| 40 | 190 | -.228  | .057  | -.074 | -.483  | 40 | 315 | -.372  | .164  | .940  | -.140 | 40 | 365 | .153   | .123  | .755  | -.268 |
| 40 | 191 | .055   | .067  | .385  | -.132  | 40 | 316 | -.188  | .159  | .699  | -.341 | 40 | 366 | .167   | .121  | .647  | -.119 |
| 40 | 192 | .043   | .067  | .326  | -.116  | 40 | 317 | -.321  | .152  | .897  | -.088 | 40 | 367 | .243   | .150  | .812  | -.341 |
| 40 | 193 | -.043  | .067  | .374  | -.123  | 40 | 318 | -.070  | .086  | .274  | -.399 | 40 | 368 | .231   | .153  | .823  | -.416 |
| 40 | 194 | .014   | .069  | .372  | -.422  | 40 | 319 | -.152  | .136  | .448  | -.709 | 40 | 369 | .127   | .123  | .670  | -.170 |
| 40 | 195 | .030   | .075  | .461  | -.374  | 40 | 320 | -.232  | .151  | .850  | -.379 | 40 | 370 | -.182  | .065  | .161  | -.393 |
| 40 | 196 | -.053  | .061  | .349  | -.105  | 40 | 321 | -.117  | .112  | .622  | -.257 | 40 | 371 | -.090  | .080  | .360  | -.351 |
| 40 | 197 | -.110  | .064  | .096  | -.452  | 40 | 322 | -.079  | .068  | .220  | -.307 | 40 | 372 | -.119  | .150  | .590  | -.682 |
| 40 | 198 | -.033  | .054  | .330  | -.365  | 40 | 323 | -.003  | .087  | .331  | -.245 | 40 | 373 | .089   | .091  | .530  | -.113 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 40 | 374 | .079   | .097  | .551  | -.129 | 40 | 502 | .291   | .049  | -.126 | -.533 | 40 | 552 | -.309  | .042  | -.168 | -.534  |
| 40 | 375 | .115   | .107  | .608  | -.191 | 40 | 503 | -.315  | .064  | -.151 | -.590 | 40 | 553 | -.312  | .046  | -.177 | -.585  |
| 40 | 376 | .129   | .118  | .717  | -.354 | 40 | 504 | -.093  | .048  | -.088 | -.377 | 40 | 554 | -.312  | .045  | -.182 | -.504  |
| 40 | 377 | -.214  | .062  | .137  | -.470 | 40 | 505 | -.246  | .043  | -.100 | -.466 | 40 | 555 | -.327  | .055  | -.168 | -.652  |
| 40 | 378 | -.144  | .065  | .241  | -.320 | 40 | 506 | -.222  | .034  | -.084 | -.461 | 40 | 556 | -.357  | .071  | -.007 | -.666  |
| 40 | 379 | -.149  | .118  | .308  | -.729 | 40 | 507 | -.253  | .041  | -.099 | -.454 | 40 | 557 | -.408  | .086  | -.182 | -.890  |
| 40 | 380 | .033   | .067  | .375  | -.147 | 40 | 508 | -.276  | .053  | -.151 | -.595 | 40 | 558 | -.319  | .049  | -.173 | -.567  |
| 40 | 381 | .027   | .068  | .378  | -.173 | 40 | 509 | -.253  | .036  | -.147 | -.488 | 40 | 559 | -.361  | .094  | -.166 | -.942  |
| 40 | 382 | .047   | .063  | .375  | -.186 | 40 | 510 | -.240  | .037  | -.124 | -.454 | 40 | 560 | -.315  | .048  | -.141 | -.538  |
| 40 | 383 | .042   | .075  | .406  | -.333 | 40 | 511 | -.235  | .034  | -.141 | -.360 | 40 | 561 | -.382  | .104  | -.175 | -.977  |
| 40 | 384 | -.280  | .062  | -.093 | -.574 | 40 | 512 | -.286  | .052  | -.142 | -.619 | 40 | 562 | -.318  | .054  | -.150 | -.556  |
| 40 | 385 | -.177  | .050  | .031  | -.367 | 40 | 513 | -.267  | .040  | -.151 | -.418 | 40 | 563 | -.325  | .049  | -.132 | -.601  |
| 40 | 386 | -.125  | .090  | .228  | -.504 | 40 | 514 | -.248  | .037  | -.129 | -.474 | 40 | 564 | -.326  | .047  | -.213 | -.529  |
| 40 | 387 | .074   | .086  | .445  | -.111 | 40 | 515 | -.239  | .035  | -.113 | -.386 | 40 | 565 | -.335  | .058  | -.186 | -.650  |
| 40 | 388 | .056   | .078  | .437  | -.088 | 40 | 516 | -.253  | .036  | -.140 | -.384 | 40 | 566 | -.306  | .047  | -.146 | -.533  |
| 40 | 389 | .033   | .055  | .313  | -.139 | 40 | 517 | -.262  | .037  | -.135 | -.420 | 40 | 567 | -.341  | .077  | -.163 | -.925  |
| 40 | 390 | .014   | .051  | .218  | -.194 | 40 | 518 | -.279  | .043  | -.163 | -.454 | 40 | 568 | -.334  | .073  | -.153 | -.710  |
| 40 | 391 | .079   | .094  | .582  | -.113 | 40 | 519 | -.265  | .041  | -.142 | -.436 | 40 | 569 | -.303  | .044  | -.172 | -.509  |
| 40 | 392 | -.079  | .123  | .485  | -.481 | 40 | 520 | -.243  | .049  | -.083 | -.544 | 40 | 570 | -.294  | .051  | -.087 | -.573  |
| 40 | 393 | .100   | .096  | .606  | -.090 | 40 | 521 | -.234  | .044  | -.108 | -.648 | 40 | 571 | -.299  | .054  | -.061 | -.524  |
| 40 | 394 | .068   | .071  | .503  | -.139 | 40 | 522 | -.288  | .056  | -.147 | -.624 | 40 | 572 | -.349  | .062  | -.160 | -.693  |
| 40 | 395 | .046   | .063  | .330  | -.185 | 40 | 523 | -.289  | .052  | -.165 | -.576 | 40 | 573 | -.368  | .059  | -.196 | -.663  |
| 40 | 396 | .041   | .061  | .460  | -.123 | 40 | 524 | -.288  | .048  | -.149 | -.504 | 40 | 574 | -.368  | .069  | -.191 | -.736  |
| 40 | 397 | -.312  | .083  | -.034 | -.738 | 40 | 525 | -.288  | .046  | -.153 | -.538 | 40 | 575 | -.354  | .058  | -.186 | -.601  |
| 40 | 398 | -.191  | .060  | -.000 | -.448 | 40 | 526 | -.381  | .086  | -.160 | -.730 | 40 | 576 | -.346  | .062  | -.196 | -.611  |
| 40 | 399 | -.149  | .035  | -.018 | -.343 | 40 | 527 | -.393  | .088  | -.167 | -.702 | 40 | 577 | -.296  | .061  | -.033 | -.531  |
| 40 | 400 | -.100  | .030  | .046  | -.235 | 40 | 528 | -.324  | .065  | -.149 | -.606 | 40 | 578 | -.265  | .059  | -.075 | -.493  |
| 40 | 401 | -.062  | .029  | .046  | -.194 | 40 | 529 | -.307  | .057  | -.135 | -.510 | 40 | 579 | -.286  | .082  | -.085 | -.592  |
| 40 | 402 | -.052  | .034  | .087  | -.237 | 40 | 530 | -.256  | .037  | -.123 | -.460 | 40 | 580 | -.375  | .077  | -.111 | -.738  |
| 40 | 403 | -.006  | .042  | .261  | -.253 | 40 | 531 | -.281  | .039  | -.169 | -.473 | 40 | 581 | -.435  | .101  | -.172 | -.182  |
| 40 | 404 | -.017  | .050  | .181  | -.336 | 40 | 532 | -.305  | .051  | -.167 | -.574 | 40 | 582 | -.411  | .081  | -.210 | -.927  |
| 40 | 405 | .023   | .047  | .218  | -.164 | 40 | 533 | -.306  | .054  | -.183 | -.732 | 40 | 583 | -.411  | .084  | -.200 | -.981  |
| 40 | 406 | -.011  | .033  | .142  | -.137 | 40 | 534 | -.303  | .040  | -.149 | -.448 | 40 | 584 | -.229  | .055  | -.026 | -.450  |
| 40 | 407 | -.211  | .082  | .133  | -.663 | 40 | 535 | -.292  | .041  | -.165 | -.476 | 40 | 585 | -.205  | .050  | -.019 | -.474  |
| 40 | 408 | -.186  | .040  | -.060 | -.369 | 40 | 536 | -.291  | .036  | -.185 | -.439 | 40 | 586 | -.230  | .069  | -.024 | -.533  |
| 40 | 409 | -.061  | .026  | .037  | -.183 | 40 | 537 | -.282  | .038  | -.167 | -.448 | 40 | 587 | -.253  | .072  | -.019 | -.554  |
| 40 | 410 | -.013  | .049  | .158  | -.231 | 40 | 538 | -.296  | .039  | -.158 | -.482 | 40 | 588 | -.371  | .096  | -.002 | -.767  |
| 40 | 411 | -.152  | .041  | .005  | -.295 | 40 | 539 | -.270  | .035  | -.167 | -.460 | 40 | 589 | -.574  | .161  | -.155 | -.500  |
| 40 | 412 | -.130  | .036  | .021  | -.292 | 40 | 540 | -.261  | .036  | -.158 | -.405 | 40 | 590 | -.547  | .148  | -.054 | -.602  |
| 40 | 413 | -.021  | .027  | .087  | -.122 | 40 | 541 | -.284  | .038  | -.169 | -.418 | 40 | 591 | -.256  | .080  | -.005 | -.704  |
| 40 | 414 | -.072  | .056  | .371  | -.375 | 40 | 542 | -.284  | .039  | -.167 | -.444 | 40 | 592 | -.247  | .068  | -.036 | -.613  |
| 40 | 415 | -.080  | .050  | .236  | -.286 | 40 | 543 | -.302  | .045  | -.146 | -.542 | 40 | 593 | -.173  | .048  | -.016 | -.394  |
| 40 | 416 | -.100  | .043  | .116  | -.214 | 40 | 544 | -.307  | .047  | -.182 | -.544 | 40 | 594 | -.170  | .044  | -.020 | -.502  |
| 40 | 417 | -.059  | .036  | .174  | -.146 | 40 | 545 | -.296  | .040  | -.178 | -.441 | 40 | 595 | -.231  | .072  | -.010 | -.618  |
| 40 | 418 | -.036  | .026  | .082  | -.115 | 40 | 546 | -.280  | .039  | -.167 | -.457 | 40 | 596 | -.219  | .054  | -.055 | -.493  |
| 40 | 419 | -.053  | .035  | .082  | -.230 | 40 | 547 | -.278  | .039  | -.171 | -.469 | 40 | 597 | -.307  | .081  | -.103 | -.784  |
| 40 | 420 | -.007  | .031  | .123  | -.122 | 40 | 548 | -.286  | .042  | -.171 | -.466 | 40 | 598 | -.557  | .164  | -.204 | -.373  |
| 40 | 421 | -.001  | .044  | .309  | -.141 | 40 | 549 | -.298  | .043  | -.166 | -.504 | 40 | 599 | -.771  | .242  | -.150 | -.820  |
| 40 | 422 | -.005  | .058  | .351  | -.287 | 40 | 550 | -.301  | .041  | -.148 | -.525 | 40 | 600 | -.187  | .048  | -.106 | -.384  |
| 40 | 501 | -.220  | .040  | -.088 | -.418 | 40 | 551 | -.311  | .048  | -.186 | -.527 | 40 | 601 | -.301  | .117  | -.030 | -.1411 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 19

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 40 | 602 | -.251  | .063  | -.065 | -.615  | 40 | 732 | -.249  | .034  | -.132 | -.359 | 40 | 782 | -.402  | .105  | -.194 | -1.029 |
| 40 | 603 | -.153  | .048  | .024  | -.420  | 40 | 733 | -.244  | .035  | -.134 | -.363 | 40 | 783 | -.397  | .099  | -.129 | -.948  |
| 40 | 604 | -.499  | .179  | -.083 | -1.778 | 40 | 734 | -.250  | .034  | -.134 | -.387 | 40 | 784 | -.370  | .084  | -.184 | -.726  |
| 40 | 605 | -.189  | .057  | -.020 | -.429  | 40 | 735 | -.254  | .034  | -.141 | -.403 | 40 | 785 | -.370  | .080  | -.206 | -.867  |
| 40 | 606 | -.257  | .068  | -.043 | -.567  | 40 | 736 | -.237  | .031  | -.171 | -.370 | 40 | 786 | -.421  | .099  | -.203 | -1.251 |
| 40 | 607 | -.249  | .058  | -.026 | -.542  | 40 | 737 | -.259  | .034  | -.162 | -.384 | 40 | 787 | -.387  | .087  | -.129 | -.887  |
| 40 | 608 | -.099  | .057  | .112  | -.297  | 40 | 738 | -.272  | .036  | -.139 | -.421 | 40 | 788 | -.346  | .073  | -.158 | -.812  |
| 40 | 609 | -.159  | .061  | .117  | -.472  | 40 | 739 | -.280  | .041  | -.144 | -.447 | 40 | 789 | -.294  | .084  | -.067 | -1.010 |
| 40 | 610 | -.228  | .064  | .024  | -.517  | 40 | 740 | -.279  | .041  | -.148 | -.467 | 40 | 790 | -.287  | .086  | -.060 | -.797  |
| 40 | 611 | -.294  | .083  | .000  | -.682  | 40 | 741 | -.257  | .031  | -.158 | -.384 | 40 | 791 | -.410  | .113  | -.181 | -1.060 |
| 40 | 612 | -.137  | .049  | .137  | -.369  | 40 | 742 | -.268  | .032  | -.169 | -.391 | 40 | 792 | -.392  | .093  | -.169 | -1.000 |
| 40 | 613 | -.132  | .045  | .065  | -.311  | 40 | 743 | -.267  | .039  | -.162 | -.504 | 40 | 793 | -.412  | .128  | -.157 | -1.158 |
| 40 | 614 | -.170  | .070  | .154  | -.529  | 40 | 744 | -.264  | .038  | -.160 | -.461 | 40 | 794 | -.398  | .096  | -.190 | -.880  |
| 40 | 615 | -.087  | .066  | .263  | -.264  | 40 | 745 | -.269  | .036  | -.162 | -.465 | 40 | 795 | -.213  | .060  | -.014 | -.437  |
| 40 | 616 | -.120  | .054  | .209  | -.294  | 40 | 746 | -.268  | .034  | -.171 | -.463 | 40 | 796 | -.210  | .063  | -.035 | -.663  |
| 40 | 617 | -.092  | .092  | .393  | -.482  | 40 | 747 | -.289  | .035  | -.176 | -.449 | 40 | 797 | -.127  | .051  | -.052 | -.360  |
| 40 | 618 | -.100  | .110  | .481  | -.515  | 40 | 748 | -.289  | .040  | -.171 | -.465 | 40 | 798 | -.420  | .106  | -.204 | -1.026 |
| 40 | 619 | -.060  | .059  | .351  | -.243  | 40 | 749 | -.283  | .055  | -.151 | -.535 | 40 | 799 | -.402  | .093  | -.188 | -.828  |
| 40 | 620 | -.196  | .045  | -.027 | -.378  | 40 | 750 | -.284  | .048  | -.157 | -.538 | 40 | 800 | -.417  | .094  | -.228 | -1.018 |
| 40 | 701 | -.274  | .042  | -.131 | -.445  | 40 | 751 | -.272  | .052  | -.128 | -.689 | 40 | 801 | -.397  | .099  | -.169 | -.919  |
| 40 | 702 | -.220  | .041  | -.086 | -.438  | 40 | 752 | -.269  | .035  | -.173 | -.422 | 40 | 802 | -.293  | .068  | -.108 | -.616  |
| 40 | 703 | -.104  | .063  | .054  | -.387  | 40 | 753 | -.276  | .038  | -.174 | -.463 | 40 | 803 | -.225  | .074  | -.021 | -.675  |
| 40 | 704 | -.314  | .053  | -.150 | -.568  | 40 | 754 | -.278  | .034  | -.164 | -.447 | 40 | 804 | -.214  | .071  | -.078 | -.642  |
| 40 | 705 | -.232  | .037  | -.103 | -.359  | 40 | 755 | -.287  | .040  | -.167 | -.461 | 40 | 805 | -.069  | .040  | -.083 | -.270  |
| 40 | 706 | -.240  | .037  | -.116 | -.406  | 40 | 756 | -.300  | .047  | -.148 | -.488 | 40 | 806 | -.081  | .037  | -.057 | -.322  |
| 40 | 707 | -.239  | .039  | -.113 | -.403  | 40 | 757 | -.293  | .041  | -.146 | -.483 | 40 | 807 | -.217  | .057  | -.028 | -.494  |
| 40 | 708 | -.247  | .038  | -.133 | -.391  | 40 | 758 | -.254  | .038  | -.096 | -.379 | 40 | 808 | -.145  | .041  | -.008 | -.322  |
| 40 | 709 | -.246  | .042  | -.127 | -.561  | 40 | 759 | -.297  | .038  | -.198 | -.445 | 40 | 809 | -.421  | .112  | -.178 | -1.534 |
| 40 | 710 | -.242  | .037  | -.141 | -.454  | 40 | 760 | -.243  | .041  | -.087 | -.420 | 40 | 810 | -.419  | .093  | -.207 | -.960  |
| 40 | 711 | -.255  | .038  | -.111 | -.416  | 40 | 761 | -.312  | .042  | -.162 | -.560 | 40 | 811 | -.278  | .068  | -.054 | -.649  |
| 40 | 712 | -.248  | .040  | -.134 | -.451  | 40 | 762 | -.249  | .039  | -.124 | -.413 | 40 | 812 | -.171  | .079  | -.015 | -.830  |
| 40 | 713 | -.253  | .043  | -.088 | -.467  | 40 | 763 | -.253  | .041  | -.117 | -.425 | 40 | 813 | -.212  | .058  | -.025 | -.569  |
| 40 | 714 | -.240  | .036  | -.125 | -.415  | 40 | 764 | -.271  | .039  | -.153 | -.459 | 40 | 814 | -.215  | .058  | -.042 | -.515  |
| 40 | 715 | -.242  | .035  | -.131 | -.385  | 40 | 765 | -.289  | .043  | -.169 | -.511 | 40 | 815 | -.107  | .048  | -.137 | -.256  |
| 40 | 716 | -.241  | .035  | -.129 | -.403  | 40 | 766 | -.284  | .039  | -.182 | -.459 | 40 | 816 | -.439  | .125  | -.108 | -.1063 |
| 40 | 717 | -.238  | .032  | -.115 | -.371  | 40 | 767 | -.295  | .041  | -.158 | -.554 | 40 | 817 | -.400  | .100  | -.167 | -.990  |
| 40 | 718 | -.283  | .062  | -.136 | -.559  | 40 | 768 | -.308  | .045  | -.162 | -.583 | 40 | 818 | -.376  | .085  | -.181 | -.748  |
| 40 | 719 | -.260  | .047  | -.122 | -.490  | 40 | 769 | -.266  | .036  | -.139 | -.447 | 40 | 819 | -.313  | .071  | -.096 | -.649  |
| 40 | 720 | -.258  | .038  | -.143 | -.447  | 40 | 770 | -.259  | .042  | -.139 | -.444 | 40 | 820 | -.194  | .058  | -.008 | -.465  |
| 40 | 721 | -.266  | .034  | -.159 | -.422  | 40 | 771 | -.266  | .045  | -.139 | -.533 | 40 | 821 | -.169  | .077  | -.152 | -.817  |
| 40 | 722 | -.234  | .039  | -.115 | -.440  | 40 | 772 | -.290  | .057  | -.165 | -.595 | 40 | 822 | -.164  | .073  | -.016 | -.806  |
| 40 | 723 | -.241  | .040  | -.115 | -.408  | 40 | 773 | -.290  | .047  | -.158 | -.566 | 40 | 901 | -.308  | .027  | -.238 | -.399  |
| 40 | 724 | -.247  | .048  | -.109 | -.531  | 40 | 774 | -.312  | .052  | -.146 | -.628 | 40 | 902 | -.284  | .032  | -.194 | -.411  |
| 40 | 725 | -.243  | .036  | -.115 | -.408  | 40 | 775 | -.337  | .062  | -.122 | -.685 | 40 | 903 | -.268  | .033  | -.178 | -.402  |
| 40 | 726 | -.261  | .036  | -.161 | -.438  | 40 | 776 | -.335  | .067  | -.177 | -.681 | 40 | 904 | -.265  | .034  | -.162 | -.495  |
| 40 | 727 | -.257  | .032  | -.137 | -.377  | 40 | 777 | -.312  | .065  | -.155 | -.719 | 40 | 905 | -.295  | .029  | -.214 | -.397  |
| 40 | 728 | -.257  | .035  | -.146 | -.403  | 40 | 778 | -.328  | .074  | -.148 | -.695 | 40 | 906 | -.260  | .031  | -.166 | -.419  |
| 40 | 729 | -.264  | .039  | -.111 | -.396  | 40 | 779 | -.353  | .078  | -.144 | -.962 | 40 | 907 | -.264  | .034  | -.148 | -.421  |
| 40 | 730 | -.241  | .031  | -.125 | -.384  | 40 | 780 | -.337  | .071  | -.170 | -.652 | 40 | 908 | -.214  | .037  | -.014 | -.370  |
| 40 | 731 | -.249  | .033  | -.146 | -.356  | 40 | 781 | -.359  | .068  | -.177 | -.695 | 40 | 909 | -.172  | .046  | -.010 | -.327  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 20

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 40 | 910 | -.302  | .039  | -.193 | -.482 | 40 | 960  | -.003  | .105  | .540  | -.241 | 50 | 111 | -.215  | .049  | -.063 | -.495  |
| 40 | 911 | -.077  | .049  | .115  | -.279 | 40 | 961  | -.082  | .133  | .554  | -.450 | 50 | 112 | -.320  | .121  | .236  | -.889  |
| 40 | 912 | -.266  | .042  | -.162 | -.496 | 40 | 962  | -.145  | .060  | .110  | -.379 | 50 | 113 | -.175  | .160  | .205  | -.898  |
| 40 | 913 | -.281  | .074  | -.109 | -.962 | 40 | 963  | .035   | .076  | .513  | -.281 | 50 | 114 | -.153  | .063  | .037  | -.544  |
| 40 | 914 | -.246  | .036  | -.135 | -.402 | 40 | 964  | .063   | .024  | .381  | -.125 | 50 | 115 | -.198  | .044  | -.049 | -.463  |
| 40 | 915 | -.298  | .064  | -.058 | -.576 | 40 | 965  | -.025  | .082  | .393  | -.218 | 50 | 116 | -.182  | .082  | .037  | -.654  |
| 40 | 916 | -.259  | .037  | -.142 | -.402 | 40 | 966  | -.160  | .061  | .051  | -.445 | 50 | 117 | -.101  | .102  | .227  | -.530  |
| 40 | 917 | -.297  | .087  | -.032 | -.687 | 40 | 967  | -.011  | .038  | .149  | -.169 | 50 | 118 | -.349  | .207  | .149  | -1.357 |
| 40 | 918 | -.271  | .055  | -.055 | -.490 | 40 | 968  | -.036  | .064  | .358  | -.216 | 50 | 119 | -.089  | .129  | .227  | -.981  |
| 40 | 919 | -.280  | .035  | -.177 | -.410 | 40 | 969  | .011   | .052  | .356  | -.116 | 50 | 120 | -.185  | .081  | .090  | -.553  |
| 40 | 920 | -.288  | .052  | -.144 | -.551 | 40 | 970  | -.003  | .049  | .327  | -.126 | 50 | 121 | -.219  | .048  | -.060 | -.441  |
| 40 | 921 | -.207  | .075  | .092  | -.482 | 40 | 971  | -.012  | .036  | .169  | -.147 | 50 | 122 | -.325  | .170  | .238  | -1.064 |
| 40 | 922 | -.072  | .083  | .467  | -.313 | 40 | 1001 | -.263  | .041  | -.121 | .471  | 50 | 123 | -.155  | .194  | .357  | -.916  |
| 40 | 923 | -.317  | .076  | -.031 | -.609 | 40 | 1002 | -.378  | .085  | -.172 | .840  | 50 | 124 | -.154  | .115  | .169  | -.651  |
| 40 | 924 | -.202  | .069  | .085  | -.488 | 40 | 1003 | -.273  | .041  | -.164 | .481  | 50 | 125 | -.177  | .132  | .126  | -.824  |
| 40 | 925 | -.131  | .113  | .592  | -.656 | 40 | 1004 | -.269  | .050  | -.142 | .569  | 50 | 126 | -.120  | .155  | .655  | -.340  |
| 40 | 926 | -.171  | .043  | .017  | -.342 | 40 | 1005 | -.268  | .038  | -.146 | .471  | 50 | 127 | -.289  | .103  | .007  | -.672  |
| 40 | 927 | -.102  | .087  | .415  | -.276 | 40 | 1006 | -.230  | .053  | -.068 | .487  | 50 | 128 | -.138  | .035  | -.012 | -.381  |
| 40 | 928 | -.329  | .149  | .443  | -.888 | 40 | 1007 | -.177  | .052  | -.045 | .403  | 50 | 129 | -.149  | .034  | -.030 | -.338  |
| 40 | 929 | -.308  | .165  | .925  | -.372 | 40 | 1008 | -.056  | .069  | .365  | -.092 | 50 | 130 | -.122  | .084  | .161  | -.561  |
| 40 | 930 | -.270  | .036  | -.155 | -.406 | 40 | 1009 | -.300  | .049  | -.116 | .517  | 50 | 131 | -.126  | .103  | .292  | -.669  |
| 40 | 931 | -.002  | .170  | .524  | -.688 | 40 | 1010 | -.055  | .081  | .370  | -.264 | 50 | 132 | -.301  | .126  | .394  | -.840  |
| 40 | 932 | -.139  | .069  | .125  | -.344 | 40 | 1011 | -.278  | .079  | .013  | .648  | 50 | 133 | -.257  | .155  | .365  | -.708  |
| 40 | 933 | -.272  | .119  | .201  | -.698 | 40 | 1012 | -.041  | .068  | .375  | -.196 | 50 | 134 | -.137  | .159  | .229  | -.828  |
| 40 | 934 | -.044  | .109  | .622  | -.395 | 40 | 1013 | -.217  | .049  | -.036 | .433  | 50 | 135 | -.125  | .133  | .263  | -.681  |
| 40 | 935 | -.060  | .074  | .348  | -.171 | 40 | 1014 | -.076  | .092  | .359  | -.315 | 50 | 136 | -.107  | .121  | .365  | -.683  |
| 40 | 936 | -.334  | .036  | -.217 | -.450 | 40 | 1015 | -.306  | .081  | -.086 | .723  | 50 | 137 | -.046  | .138  | .515  | -.483  |
| 40 | 937 | -.042  | .085  | .489  | -.165 | 40 | 1016 | -.081  | .130  | .295  | -.632 | 50 | 138 | -.165  | .095  | .163  | -.601  |
| 40 | 938 | -.273  | .129  | .730  | -.040 | 40 | 1017 | -.084  | .080  | .451  | -.109 | 50 | 139 | -.133  | .038  | -.018 | -.365  |
| 40 | 939 | -.336  | .167  | 1.030 | -.143 | 40 | 1018 | -.100  | .100  | .618  | -.079 | 50 | 140 | -.156  | .036  | .011  | -.329  |
| 40 | 940 | -.269  | .117  | .611  | -.080 | 40 | 1019 | -.078  | .083  | .460  | -.089 | 50 | 141 | -.067  | .143  | .358  | -.647  |
| 40 | 941 | -.395  | .059  | -.259 | -.640 | 40 | 1020 | -.135  | .119  | .662  | -.155 | 50 | 142 | -.049  | .116  | .256  | -.631  |
| 40 | 942 | -.107  | .078  | .290  | -.385 | 40 | 1021 | -.074  | .068  | .244  | -.276 | 50 | 143 | -.249  | .198  | .351  | -1.119 |
| 40 | 943 | -.025  | .058  | .255  | -.202 | 40 | 1022 | -.062  | .029  | .069  | -.162 | 50 | 144 | -.229  | .162  | .272  | -1.368 |
| 40 | 944 | -.020  | .046  | .175  | -.135 | 40 | 1023 | -.084  | .039  | .032  | -.269 | 50 | 145 | -.121  | .150  | .277  | -.810  |
| 40 | 945 | -.185  | .049  | -.004 | -.422 | 40 | 1024 | -.059  | .034  | .066  | -.220 | 50 | 146 | -.110  | .071  | .106  | -.715  |
| 40 | 946 | -.057  | .068  | .349  | -.096 | 40 | 1025 | -.092  | .054  | .169  | -.320 | 50 | 147 | -.166  | .042  | -.023 | -.377  |
| 40 | 947 | -.075  | .081  | .446  | -.096 | 40 | 1026 | -.210  | .065  | .174  | .495  | 50 | 148 | -.232  | .053  | -.093 | -.470  |
| 40 | 948 | -.041  | .070  | .430  | -.142 | 40 | 1027 | -.195  | .045  | -.006 | .444  | 50 | 149 | -.062  | .170  | .676  | -.561  |
| 40 | 949 | -.057  | .080  | .459  | -.110 | 40 | 1028 | -.015  | .031  | .142  | -.101 | 50 | 150 | -.046  | .160  | .549  | -.581  |
| 40 | 950 | -.294  | .074  | -.082 | -.597 | 50 | 101  | -.246  | .084  | .070  | .685  | 50 | 151 | -.357  | .221  | .327  | -1.316 |
| 40 | 951 | -.014  | .056  | .356  | -.115 | 50 | 102  | -.309  | .092  | -.042 | .746  | 50 | 152 | -.136  | .150  | .238  | -.817  |
| 40 | 952 | -.059  | .051  | .234  | -.218 | 50 | 103  | .055   | .077  | .283  | -.255 | 50 | 153 | -.100  | .117  | .196  | -.834  |
| 40 | 953 | -.031  | .037  | .193  | -.213 | 50 | 104  | -.343  | .100  | -.046 | .721  | 50 | 154 | -.111  | .066  | .085  | -.586  |
| 40 | 954 | -.070  | .075  | .471  | -.314 | 50 | 105  | -.355  | .105  | -.022 | .785  | 50 | 155 | -.181  | .052  | -.041 | -.577  |
| 40 | 955 | -.002  | .038  | .170  | -.135 | 50 | 106  | -.193  | .051  | -.030 | .581  | 50 | 156 | -.240  | .074  | -.090 | -.686  |
| 40 | 956 | -.107  | .099  | .565  | -.103 | 50 | 107  | -.179  | .076  | .034  | .555  | 50 | 157 | -.277  | .075  | -.106 | -.686  |
| 40 | 957 | -.072  | .086  | .604  | -.110 | 50 | 108  | -.392  | .137  | .214  | -.029 | 50 | 158 | -.325  | .171  | .303  | -1.407 |
| 40 | 958 | -.108  | .097  | .712  | -.080 | 50 | 109  | -.173  | .120  | .093  | .793  | 50 | 159 | -.163  | .043  | .003  | -.519  |
| 40 | 959 | .048   | .059  | .384  | -.094 | 50 | 110  | -.146  | .083  | .113  | .761  | 50 | 160 | -.235  | .249  | .532  | -1.912 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 50 | 161 | -.165  | .036  | .001  | -.328  | 50 | 211 | -.088  | .030  | .018  | -.200 | 50 | 336 | .338   | .147  | .918  | -.012  |
| 50 | 162 | -.345  | .259  | .381  | -.1576 | 50 | 212 | -.117  | .035  | .011  | -.424 | 50 | 337 | .347   | .142  | .882  | -.024  |
| 50 | 163 | -.239  | .237  | .365  | -.1592 | 50 | 213 | -.138  | .041  | -.000 | -.318 | 50 | 338 | .318   | .149  | .863  | -.031  |
| 50 | 164 | -.112  | .118  | .314  | -.697  | 50 | 214 | -.144  | .050  | .007  | -.375 | 50 | 339 | .362   | .146  | .918  | -.036  |
| 50 | 165 | -.052  | .096  | .212  | -1.014 | 50 | 215 | -.007  | .048  | .286  | -.125 | 50 | 340 | .299   | .142  | .765  | -.143  |
| 50 | 166 | -.085  | .053  | .118  | -.386  | 50 | 216 | -.004  | .040  | .193  | -.116 | 50 | 341 | .350   | .141  | .842  | -.033  |
| 50 | 167 | -.126  | .038  | .068  | -.360  | 50 | 217 | -.034  | .029  | .081  | -.161 | 50 | 342 | .291   | .138  | .873  | -.098  |
| 50 | 168 | -.118  | .037  | -.014 | -.414  | 50 | 218 | -.062  | .024  | .036  | -.143 | 50 | 343 | -.184  | .058  | .136  | -.368  |
| 50 | 169 | -.012  | .083  | .263  | -.440  | 50 | 219 | -.095  | .031  | -.000 | -.250 | 50 | 344 | -.027  | .075  | .368  | -.224  |
| 50 | 170 | -.204  | .149  | .317  | -.848  | 50 | 220 | -.075  | .029  | .025  | -.184 | 50 | 345 | .192   | .114  | .686  | -.112  |
| 50 | 171 | -.209  | .162  | .305  | -.1176 | 50 | 221 | -.085  | .028  | .054  | -.193 | 50 | 346 | .320   | .138  | .856  | -.026  |
| 50 | 172 | -.088  | .112  | .263  | -.801  | 50 | 222 | -.098  | .032  | .020  | -.223 | 50 | 347 | .309   | .148  | .894  | -.036  |
| 50 | 173 | -.011  | .078  | .242  | -.606  | 50 | 223 | -.124  | .041  | -.009 | -.347 | 50 | 348 | .155   | .139  | .662  | -.253  |
| 50 | 174 | -.186  | .101  | .106  | -.747  | 50 | 224 | -.078  | .043  | .084  | -.259 | 50 | 349 | -.346  | .090  | .240  | -.723  |
| 50 | 175 | -.114  | .039  | .064  | -.281  | 50 | 225 | -.068  | .049  | .174  | -.297 | 50 | 350 | .398   | .096  | -.018 | -.1054 |
| 50 | 176 | -.140  | .042  | .015  | -.332  | 50 | 301 | -.035  | .085  | .400  | -.221 | 50 | 351 | -.079  | .098  | .270  | -.483  |
| 50 | 177 | -.150  | .129  | .202  | -.695  | 50 | 302 | -.057  | .083  | .445  | -.242 | 50 | 352 | .104   | .139  | .585  | -.387  |
| 50 | 178 | -.152  | .129  | .343  | -.796  | 50 | 303 | -.253  | .132  | .782  | -.259 | 50 | 353 | .218   | .151  | .665  | -.439  |
| 50 | 179 | -.069  | .088  | .146  | -.660  | 50 | 304 | -.052  | .147  | .621  | -.263 | 50 | 354 | .273   | .168  | .794  | -.509  |
| 50 | 180 | -.039  | .068  | .225  | -.672  | 50 | 305 | -.008  | .072  | .272  | -.271 | 50 | 355 | .267   | .161  | .789  | -.385  |
| 50 | 181 | -.140  | .075  | .132  | -.475  | 50 | 306 | -.092  | .104  | .466  | -.216 | 50 | 356 | .062   | .180  | .695  | -.587  |
| 50 | 182 | -.121  | .045  | .073  | -.267  | 50 | 307 | -.061  | .083  | .346  | -.192 | 50 | 357 | .196   | .183  | .738  | -.516  |
| 50 | 183 | -.156  | .048  | .015  | -.396  | 50 | 308 | -.057  | .085  | .238  | -.376 | 50 | 358 | -.036  | .076  | .369  | -.382  |
| 50 | 184 | -.103  | .112  | .169  | -.878  | 50 | 309 | -.131  | .129  | .623  | -.330 | 50 | 359 | .272   | .152  | .815  | -.145  |
| 50 | 185 | -.085  | .103  | .204  | -.651  | 50 | 310 | -.209  | .132  | .723  | -.221 | 50 | 360 | -.107  | .067  | .249  | -.333  |
| 50 | 186 | -.033  | .051  | .293  | -.377  | 50 | 311 | -.151  | .140  | .628  | -.360 | 50 | 361 | .214   | .152  | .928  | -.220  |
| 50 | 187 | -.030  | .041  | .293  | -.182  | 50 | 312 | -.026  | .085  | .433  | -.232 | 50 | 362 | -.112  | .067  | .205  | -.335  |
| 50 | 188 | -.142  | .051  | .039  | -.513  | 50 | 313 | -.201  | .127  | .761  | -.142 | 50 | 363 | -.027  | .072  | .350  | -.267  |
| 50 | 189 | -.169  | .040  | -.044 | -.353  | 50 | 314 | -.328  | .148  | 1.149 | -.045 | 50 | 364 | .160   | .117  | .620  | -.180  |
| 50 | 190 | -.217  | .055  | -.075 | -.440  | 50 | 315 | -.308  | .146  | .791  | -.197 | 50 | 365 | .182   | .126  | .620  | -.072  |
| 50 | 191 | -.032  | .043  | .144  | -.264  | 50 | 316 | -.202  | .140  | .874  | -.413 | 50 | 366 | .247   | .141  | .823  | -.059  |
| 50 | 192 | -.009  | .047  | .229  | -.205  | 50 | 317 | -.327  | .138  | .829  | -.109 | 50 | 367 | .225   | .134  | .766  | -.168  |
| 50 | 193 | -.016  | .043  | .234  | -.136  | 50 | 318 | -.000  | .099  | .334  | -.446 | 50 | 368 | .156   | .128  | .776  | -.163  |
| 50 | 194 | -.070  | .092  | .183  | -.681  | 50 | 319 | -.134  | .146  | .479  | -.735 | 50 | 369 | .187   | .125  | .734  | -.138  |
| 50 | 195 | -.077  | .109  | .229  | -.835  | 50 | 320 | -.237  | .167  | .862  | -.493 | 50 | 370 | -.146  | .066  | .181  | -.388  |
| 50 | 196 | -.012  | .044  | .328  | -.205  | 50 | 321 | -.139  | .129  | .673  | -.263 | 50 | 371 | -.043  | .071  | .304  | -.279  |
| 50 | 197 | -.129  | .052  | .070  | -.378  | 50 | 322 | -.022  | .082  | .336  | -.242 | 50 | 372 | .020   | .126  | .445  | -.470  |
| 50 | 198 | -.011  | .046  | .258  | -.293  | 50 | 323 | -.052  | .090  | .512  | -.187 | 50 | 373 | .139   | .111  | .559  | -.096  |
| 50 | 199 | -.013  | .044  | .220  | -.445  | 50 | 324 | -.113  | .150  | .670  | -.446 | 50 | 374 | .140   | .111  | .579  | -.111  |
| 50 | 200 | -.044  | .031  | .093  | -.179  | 50 | 325 | -.244  | .139  | .737  | -.090 | 50 | 375 | .120   | .109  | .653  | -.178  |
| 50 | 201 | -.039  | .030  | .086  | -.156  | 50 | 326 | -.211  | .123  | .694  | -.138 | 50 | 376 | .096   | .107  | .658  | -.200  |
| 50 | 202 | -.094  | .029  | .019  | -.235  | 50 | 327 | -.280  | .133  | .961  | -.057 | 50 | 377 | -.163  | .061  | .094  | -.447  |
| 50 | 203 | -.086  | .029  | .025  | -.228  | 50 | 328 | -.302  | .138  | .775  | -.038 | 50 | 378 | -.086  | .062  | .208  | -.326  |
| 50 | 204 | -.103  | .032  | .001  | -.275  | 50 | 329 | -.284  | .148  | .896  | -.112 | 50 | 379 | -.040  | .090  | .336  | -.363  |
| 50 | 205 | -.117  | .034  | -.010 | -.273  | 50 | 330 | -.335  | .133  | .885  | -.079 | 50 | 380 | .072   | .082  | .428  | -.138  |
| 50 | 206 | -.147  | .047  | -.004 | -.351  | 50 | 331 | -.319  | .143  | 1.002 | -.100 | 50 | 381 | .063   | .089  | .536  | -.119  |
| 50 | 207 | -.176  | .048  | -.037 | -.405  | 50 | 332 | -.037  | .063  | .232  | -.246 | 50 | 382 | .048   | .074  | .487  | -.203  |
| 50 | 208 | -.218  | .056  | -.071 | -.600  | 50 | 333 | -.064  | .086  | .404  | -.191 | 50 | 383 | .033   | .071  | .398  | -.388  |
| 50 | 209 | -.001  | .042  | .290  | -.131  | 50 | 334 | -.102  | .143  | .796  | -.423 | 50 | 384 | -.187  | .063  | .010  | -.457  |
| 50 | 210 | -.010  | .034  | .113  | -.143  | 50 | 335 | .289   | .134  | .808  | -.067 | 50 | 385 | -.088  | .043  | .084  | -.230  |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|
| 50 | 386 | -.020  | .070  | .299  | -.299 | 50 | 514 | -.269  | .050  | -.128 | -.583  | 50 | 564 | -.377  | .071  | -.201 | -.687 |
| 50 | 387 | .112   | .084  | .477  | -.101 | 50 | 515 | -.250  | .047  | -.111 | -.469  | 50 | 565 | -.389  | .088  | -.166 | -.814 |
| 50 | 388 | .094   | .075  | .413  | -.082 | 50 | 516 | -.277  | .050  | -.118 | -.555  | 50 | 566 | -.349  | .069  | -.174 | -.734 |
| 50 | 389 | .054   | .059  | .334  | -.116 | 50 | 517 | -.277  | .049  | -.128 | -.520  | 50 | 567 | -.371  | .090  | -.186 | -.807 |
| 50 | 390 | .007   | .046  | .284  | -.163 | 50 | 518 | -.297  | .064  | -.130 | -.741  | 50 | 568 | -.357  | .088  | -.161 | -.844 |
| 50 | 391 | .123   | .084  | .528  | -.075 | 50 | 519 | -.297  | .053  | -.151 | -.564  | 50 | 569 | -.326  | .059  | -.130 | -.586 |
| 50 | 392 | .036   | .095  | .435  | -.238 | 50 | 520 | -.277  | .064  | -.070 | -.608  | 50 | 570 | -.276  | .059  | -.013 | -.606 |
| 50 | 393 | .154   | .115  | .655  | -.064 | 50 | 521 | -.246  | .062  | -.067 | -.581  | 50 | 571 | -.271  | .068  | -.038 | -.550 |
| 50 | 394 | .144   | .096  | .574  | -.139 | 50 | 522 | -.317  | .081  | -.125 | -.943  | 50 | 572 | -.342  | .088  | -.004 | -.756 |
| 50 | 395 | .092   | .078  | .629  | -.086 | 50 | 523 | -.322  | .074  | -.118 | -.664  | 50 | 573 | -.408  | .089  | -.072 | -.788 |
| 50 | 396 | .049   | .057  | .352  | -.106 | 50 | 524 | -.310  | .060  | -.139 | -.611  | 50 | 574 | -.447  | .105  | -.200 | -.960 |
| 50 | 397 | -.228  | .077  | -.040 | -.731 | 50 | 525 | -.305  | .064  | -.102 | -.657  | 50 | 575 | -.415  | .089  | -.164 | -.899 |
| 50 | 398 | -.128  | .044  | .045  | -.312 | 50 | 526 | -.414  | .096  | -.158 | -.894  | 50 | 576 | -.410  | .090  | -.181 | -.839 |
| 50 | 399 | -.107  | .029  | -.001 | -.221 | 50 | 527 | -.432  | .103  | -.160 | -.894  | 50 | 577 | -.251  | .060  | -.030 | -.475 |
| 50 | 400 | -.073  | .029  | .041  | -.221 | 50 | 528 | -.396  | .076  | -.177 | -.720  | 50 | 578 | -.207  | .056  | -.016 | -.458 |
| 50 | 401 | -.051  | .029  | .061  | -.188 | 50 | 529 | -.328  | .069  | -.160 | -.602  | 50 | 579 | -.218  | .090  | -.067 | -.579 |
| 50 | 402 | -.048  | .030  | .063  | -.184 | 50 | 530 | -.276  | .047  | -.122 | -.463  | 50 | 580 | -.314  | .121  | -.025 | -.817 |
| 50 | 403 | -.031  | .040  | .305  | -.186 | 50 | 531 | -.305  | .050  | -.167 | -.553  | 50 | 581 | -.496  | .144  | -.079 | -.385 |
| 50 | 404 | -.026  | .048  | .203  | -.292 | 50 | 532 | -.323  | .069  | -.153 | -.809  | 50 | 582 | -.460  | .125  | -.113 | -.285 |
| 50 | 405 | -.002  | .042  | .172  | -.179 | 50 | 533 | -.327  | .066  | -.137 | -.724  | 50 | 583 | -.447  | .122  | -.169 | -.191 |
| 50 | 406 | -.024  | .033  | .156  | -.168 | 50 | 534 | -.318  | .055  | -.130 | -.548  | 50 | 584 | -.187  | .047  | -.004 | -.368 |
| 50 | 407 | -.157  | .062  | .038  | -.583 | 50 | 535 | -.321  | .057  | -.169 | -.682  | 50 | 585 | -.162  | .042  | -.011 | -.365 |
| 50 | 408 | -.153  | .044  | .018  | -.306 | 50 | 536 | -.307  | .048  | -.160 | -.515  | 50 | 586 | -.169  | .055  | -.157 | -.431 |
| 50 | 409 | -.055  | .028  | .045  | -.166 | 50 | 537 | -.308  | .049  | -.141 | -.499  | 50 | 587 | -.166  | .078  | -.215 | -.603 |
| 50 | 410 | -.032  | .043  | .174  | -.264 | 50 | 538 | -.325  | .059  | -.160 | -.560  | 50 | 588 | -.262  | .129  | -.096 | -.028 |
| 50 | 411 | -.103  | .037  | .038  | -.306 | 50 | 539 | -.291  | .045  | -.141 | -.532  | 50 | 589 | -.518  | .202  | -.069 | -.601 |
| 50 | 412 | -.109  | .032  | -.010 | -.242 | 50 | 540 | -.292  | .047  | -.134 | -.503  | 50 | 590 | -.499  | .192  | -.047 | -.649 |
| 50 | 413 | -.032  | .025  | .068  | -.126 | 50 | 541 | -.306  | .048  | -.186 | -.541  | 50 | 591 | -.142  | .051  | -.073 | -.466 |
| 50 | 414 | -.054  | .052  | .188  | -.262 | 50 | 542 | -.310  | .050  | -.162 | -.496  | 50 | 592 | -.154  | .052  | -.004 | -.517 |
| 50 | 415 | -.069  | .051  | .366  | -.283 | 50 | 543 | -.319  | .061  | -.137 | -.602  | 50 | 593 | -.141  | .035  | -.017 | -.276 |
| 50 | 416 | -.043  | .043  | .165  | -.157 | 50 | 544 | -.324  | .061  | -.177 | -.598  | 50 | 594 | -.130  | .030  | -.014 | -.271 |
| 50 | 417 | -.028  | .043  | .254  | -.121 | 50 | 545 | -.322  | .051  | -.169 | -.560  | 50 | 595 | -.160  | .044  | -.008 | -.431 |
| 50 | 418 | -.032  | .026  | .075  | -.119 | 50 | 546 | -.307  | .051  | -.153 | -.529  | 50 | 596 | -.145  | .042  | -.016 | -.449 |
| 50 | 419 | -.045  | .027  | .073  | -.187 | 50 | 547 | -.302  | .049  | -.125 | -.508  | 50 | 597 | -.200  | .073  | -.037 | -.620 |
| 50 | 420 | -.021  | .027  | .092  | -.110 | 50 | 548 | -.310  | .053  | -.162 | -.534  | 50 | 598 | -.374  | .134  | -.086 | -.183 |
| 50 | 421 | -.022  | .037  | .145  | -.146 | 50 | 549 | -.329  | .061  | -.150 | -.570  | 50 | 599 | -.584  | .252  | -.127 | -.085 |
| 50 | 422 | -.021  | .047  | .227  | -.235 | 50 | 550 | -.311  | .050  | -.157 | -.554  | 50 | 600 | -.129  | .037  | -.010 | -.302 |
| 50 | 501 | -.219  | .052  | -.065 | -.506 | 50 | 551 | -.337  | .059  | -.183 | -.600  | 50 | 601 | -.223  | .095  | -.003 | -.947 |
| 50 | 502 | -.295  | .056  | -.128 | -.557 | 50 | 552 | -.331  | .063  | -.176 | -.745  | 50 | 602 | -.207  | .068  | -.029 | -.536 |
| 50 | 503 | -.359  | .085  | -.128 | -.771 | 50 | 553 | -.328  | .061  | -.153 | -.664  | 50 | 603 | -.133  | .038  | -.056 | -.301 |
| 50 | 504 | -.136  | .047  | .070  | -.372 | 50 | 554 | -.338  | .057  | -.146 | -.611  | 50 | 604 | -.410  | .168  | -.092 | -.371 |
| 50 | 505 | -.280  | .069  | -.028 | -.613 | 50 | 555 | -.344  | .062  | -.169 | -.671  | 50 | 605 | -.160  | .051  | -.005 | -.392 |
| 50 | 506 | -.215  | .042  | -.089 | -.418 | 50 | 556 | -.370  | .080  | -.013 | -.678  | 50 | 606 | -.189  | .063  | -.015 | -.510 |
| 50 | 507 | -.257  | .057  | -.072 | -.727 | 50 | 557 | -.425  | .099  | -.086 | -.890  | 50 | 607 | -.191  | .061  | -.023 | -.512 |
| 50 | 508 | -.303  | .076  | -.098 | -.786 | 50 | 558 | -.337  | .060  | -.162 | -.556  | 50 | 608 | -.114  | .043  | -.122 | -.376 |
| 50 | 509 | -.276  | .054  | -.083 | -.694 | 50 | 559 | -.403  | .114  | -.150 | -.1035 | 50 | 609 | -.139  | .055  | -.063 | -.463 |
| 50 | 510 | -.262  | .054  | -.109 | -.687 | 50 | 560 | -.340  | .062  | -.169 | -.623  | 50 | 610 | -.197  | .061  | -.091 | -.451 |
| 50 | 511 | -.236  | .043  | -.091 | -.425 | 50 | 561 | -.381  | .110  | -.130 | -.1015 | 50 | 611 | -.243  | .092  | -.012 | -.667 |
| 50 | 512 | -.317  | .079  | -.104 | -.783 | 50 | 562 | -.335  | .068  | -.116 | -.657  | 50 | 612 | -.129  | .035  | -.007 | -.320 |
| 50 | 513 | -.300  | .062  | -.088 | -.585 | 50 | 563 | -.350  | .067  | -.095 | -.678  | 50 | 613 | -.124  | .033  | -.021 | -.263 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|
| 50 | 614 | -.145  | .050  | .258  | -.461 | 50 | 744 | -.282  | .069  | -.123 | -.737  | 50 | 794 | -.326  | .083  | -.114 | -.767 |
| 50 | 615 | -.097  | .051  | .190  | -.242 | 50 | 745 | -.297  | .061  | -.139 | -.621  | 50 | 795 | -.207  | .049  | -.076 | -.500 |
| 50 | 616 | -.108  | .047  | .140  | -.259 | 50 | 746 | -.288  | .043  | -.176 | -.460  | 50 | 796 | -.198  | .051  | -.066 | -.428 |
| 50 | 617 | -.096  | .066  | .258  | -.362 | 50 | 747 | -.300  | .046  | -.162 | -.473  | 50 | 797 | -.145  | .044  | -.014 | -.376 |
| 50 | 618 | -.098  | .099  | .324  | -.505 | 50 | 748 | -.310  | .049  | -.164 | -.533  | 50 | 798 | -.349  | .086  | -.116 | -.764 |
| 50 | 619 | -.062  | .054  | .366  | -.280 | 50 | 749 | -.277  | .070  | -.081 | -.700  | 50 | 799 | -.319  | .084  | -.143 | -.769 |
| 50 | 620 | -.166  | .016  | -.010 | -.369 | 50 | 750 | -.278  | .068  | -.099 | -.562  | 50 | 800 | -.343  | .093  | -.162 | -.148 |
| 50 | 701 | -.256  | .054  | -.111 | -.545 | 50 | 751 | -.273  | .086  | -.095 | -1.005 | 50 | 801 | -.308  | .090  | -.084 | -.743 |
| 50 | 702 | -.237  | .053  | -.088 | -.501 | 50 | 752 | -.253  | .043  | -.108 | -.459  | 50 | 802 | -.233  | .062  | -.066 | -.600 |
| 50 | 703 | -.204  | .080  | -.004 | -.599 | 50 | 753 | -.265  | .039  | -.149 | -.436  | 50 | 803 | -.172  | .061  | -.014 | -.600 |
| 50 | 704 | -.299  | .058  | -.104 | -.577 | 50 | 754 | -.283  | .039  | -.167 | -.477  | 50 | 804 | -.177  | .061  | -.019 | -.595 |
| 50 | 705 | -.215  | .044  | -.048 | -.410 | 50 | 755 | -.298  | .045  | -.160 | -.492  | 50 | 805 | -.088  | .034  | -.077 | -.309 |
| 50 | 706 | -.236  | .045  | -.059 | -.424 | 50 | 756 | -.315  | .060  | -.156 | -.610  | 50 | 806 | -.100  | .030  | -.010 | -.238 |
| 50 | 707 | -.222  | .041  | -.086 | -.394 | 50 | 757 | -.299  | .049  | -.144 | -.508  | 50 | 807 | -.206  | .046  | -.074 | -.502 |
| 50 | 708 | -.240  | .052  | -.093 | -.467 | 50 | 758 | -.203  | .045  | -.068 | -.436  | 50 | 808 | -.148  | .042  | -.019 | -.326 |
| 50 | 709 | -.263  | .058  | -.109 | -.579 | 50 | 759 | -.308  | .047  | -.151 | -.504  | 50 | 809 | -.347  | .101  | -.154 | -.900 |
| 50 | 710 | -.262  | .056  | -.116 | -.515 | 50 | 760 | -.198  | .046  | -.036 | -.391  | 50 | 810 | -.324  | .084  | -.116 | -.702 |
| 50 | 711 | -.264  | .055  | -.059 | -.569 | 50 | 761 | -.315  | .051  | -.154 | -.583  | 50 | 811 | -.207  | .063  | -.012 | -.605 |
| 50 | 712 | -.258  | .052  | -.109 | -.478 | 50 | 762 | -.203  | .046  | -.045 | -.391  | 50 | 812 | -.149  | .055  | -.041 | -.431 |
| 50 | 713 | -.262  | .054  | -.079 | -.499 | 50 | 763 | -.201  | .046  | -.061 | -.427  | 50 | 813 | -.206  | .048  | -.057 | -.414 |
| 50 | 714 | -.244  | .043  | -.113 | -.428 | 50 | 764 | -.224  | .045  | -.115 | -.639  | 50 | 814 | -.198  | .044  | -.074 | -.405 |
| 50 | 715 | -.245  | .043  | -.063 | -.401 | 50 | 765 | -.292  | .054  | -.108 | -.574  | 50 | 815 | -.127  | .043  | -.055 | -.314 |
| 50 | 716 | -.252  | .054  | -.104 | -.526 | 50 | 766 | -.310  | .059  | -.145 | -.665  | 50 | 816 | -.392  | .109  | -.145 | -.150 |
| 50 | 717 | -.215  | .037  | -.086 | -.387 | 50 | 767 | -.309  | .050  | -.169 | -.581  | 50 | 817 | -.328  | .083  | -.081 | -.798 |
| 50 | 718 | -.310  | .077  | -.093 | -.695 | 50 | 768 | -.311  | .051  | -.183 | -.529  | 50 | 818 | -.302  | .073  | -.085 | -.645 |
| 50 | 719 | -.272  | .067  | -.024 | -.609 | 50 | 769 | -.225  | .045  | -.095 | -.436  | 50 | 819 | -.242  | .063  | -.050 | -.488 |
| 50 | 720 | -.298  | .062  | -.141 | -.622 | 50 | 770 | -.207  | .048  | -.006 | -.390  | 50 | 820 | -.161  | .049  | -.038 | -.445 |
| 50 | 721 | -.284  | .048  | -.136 | -.472 | 50 | 771 | -.211  | .051  | -.010 | -.519  | 50 | 821 | -.149  | .059  | -.013 | -.535 |
| 50 | 722 | -.191  | .044  | -.011 | -.376 | 50 | 772 | -.238  | .050  | -.095 | -.622  | 50 | 822 | -.148  | .053  | -.019 | -.937 |
| 50 | 723 | -.191  | .045  | -.052 | -.405 | 50 | 773 | -.262  | .047  | -.119 | -.472  | 50 | 901 | -.337  | .036  | -.247 | -.482 |
| 50 | 724 | -.198  | .040  | -.070 | -.392 | 50 | 774 | -.316  | .063  | -.150 | -.634  | 50 | 902 | -.294  | .041  | -.185 | -.438 |
| 50 | 725 | -.226  | .040  | -.113 | -.387 | 50 | 775 | -.323  | .064  | -.119 | -.636  | 50 | 903 | -.288  | .043  | -.138 | -.499 |
| 50 | 726 | -.246  | .039  | -.143 | -.410 | 50 | 776 | -.320  | .064  | -.185 | -.608  | 50 | 904 | -.289  | .061  | -.138 | -.644 |
| 50 | 727 | -.269  | .046  | -.116 | -.480 | 50 | 777 | -.247  | .066  | -.028 | -.641  | 50 | 905 | -.304  | .052  | -.185 | -.522 |
| 50 | 728 | -.269  | .043  | -.104 | -.420 | 50 | 778 | -.259  | .068  | -.066 | -.581  | 50 | 906 | -.280  | .044  | -.173 | -.448 |
| 50 | 729 | -.272  | .046  | -.127 | -.439 | 50 | 779 | -.291  | .088  | -.111 | -.140  | 50 | 907 | -.306  | .058  | -.118 | -.579 |
| 50 | 730 | -.223  | .035  | -.111 | -.372 | 50 | 780 | -.265  | .061  | -.097 | -.629  | 50 | 908 | -.241  | .049  | -.081 | -.464 |
| 50 | 731 | -.253  | .046  | -.113 | -.469 | 50 | 781 | -.301  | .065  | -.078 | -.660  | 50 | 909 | -.184  | .048  | -.093 | -.327 |
| 50 | 732 | -.212  | .044  | -.093 | -.487 | 50 | 782 | -.374  | .112  | -.135 | -.882  | 50 | 910 | -.333  | .056  | -.166 | -.579 |
| 50 | 733 | -.217  | .044  | -.102 | -.501 | 50 | 783 | -.365  | .105  | -.119 | -.913  | 50 | 911 | -.122  | .048  | -.094 | -.370 |
| 50 | 734 | -.228  | .044  | -.109 | -.443 | 50 | 784 | -.311  | .073  | -.152 | -.732  | 50 | 912 | -.316  | .065  | -.148 | -.558 |
| 50 | 735 | -.234  | .039  | -.116 | -.446 | 50 | 785 | -.314  | .085  | -.121 | -.844  | 50 | 913 | -.353  | .121  | -.113 | -.265 |
| 50 | 736 | -.222  | .038  | -.093 | -.402 | 50 | 786 | -.343  | .094  | -.138 | -.922  | 50 | 914 | -.273  | .047  | -.023 | -.461 |
| 50 | 737 | -.239  | .039  | -.111 | -.413 | 50 | 787 | -.325  | .081  | -.104 | -.772  | 50 | 915 | -.304  | .068  | -.054 | -.603 |
| 50 | 738 | -.270  | .051  | -.132 | -.506 | 50 | 788 | -.263  | .064  | -.097 | -.536  | 50 | 916 | -.291  | .050  | -.134 | -.558 |
| 50 | 739 | -.227  | .043  | -.143 | -.448 | 50 | 789 | -.231  | .082  | -.040 | -.770  | 50 | 917 | -.279  | .074  | -.042 | -.790 |
| 50 | 740 | -.286  | .046  | -.134 | -.485 | 50 | 790 | -.252  | .100  | -.042 | -.880  | 50 | 918 | -.235  | .048  | -.091 | -.459 |
| 50 | 741 | -.245  | .042  | -.111 | -.485 | 50 | 791 | -.348  | .109  | -.127 | -.921  | 50 | 919 | -.312  | .050  | -.185 | -.549 |
| 50 | 742 | -.284  | .043  | -.155 | -.462 | 50 | 792 | -.333  | .082  | -.115 | -.733  | 50 | 920 | -.287  | .058  | -.130 | -.597 |
| 50 | 743 | -.292  | .074  | -.116 | -.843 | 50 | 793 | -.334  | .112  | -.099 | -1.228 | 50 | 921 | -.273  | .073  | -.021 | -.654 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|----|-----|--------|-------|-------|---------|----|------|--------|-------|-------|---------|----|-----|--------|-------|-------|---------|
| 50 | 922 | -.064  | .113  | .289  | -.641   | 50 | 1001 | -.214  | .053  | .000  | -.462   | 60 | 123 | -.426  | .167  | .064  | -1.062  |
| 50 | 923 | -.324  | .075  | -.109 | -.686   | 50 | 1002 | -.303  | .081  | -.091 | -.779   | 60 | 124 | -.320  | .133  | -.027 | -.966   |
| 50 | 924 | -.181  | .079  | .110  | -.559   | 50 | 1003 | -.316  | .064  | -.151 | -.603   | 60 | 125 | -.342  | .144  | -.035 | -1.041  |
| 50 | 925 | -.047  | .129  | .576  | -.656   | 50 | 1004 | -.293  | .058  | -.122 | -.544   | 60 | 126 | -.054  | .167  | .557  | -.837   |
| 50 | 926 | -.127  | .053  | .068  | -.305   | 50 | 1005 | -.299  | .051  | -.141 | -.657   | 60 | 127 | -.270  | .089  | -.012 | -.771   |
| 50 | 927 | -.097  | .097  | .472  | -.186   | 50 | 1006 | -.236  | .047  | -.039 | -.452   | 60 | 128 | -.170  | .052  | .022  | -.446   |
| 50 | 928 | -.248  | .222  | .643  | -.874   | 50 | 1007 | -.133  | .043  | .103  | -.447   | 60 | 129 | -.167  | .047  | .026  | -.384   |
| 50 | 929 | -.311  | .183  | .871  | -.817   | 50 | 1008 | -.016  | .044  | .214  | -.177   | 60 | 130 | -.291  | .114  | -.007 | -.755   |
| 50 | 930 | -.299  | .046  | -.162 | -.478   | 50 | 1009 | -.291  | .066  | -.046 | -.535   | 60 | 131 | -.294  | .132  | .128  | -.802   |
| 50 | 931 | -.206  | .137  | .287  | -.1.034 | 50 | 1010 | -.030  | .084  | .258  | -.467   | 60 | 132 | -.395  | .115  | .098  | -.907   |
| 50 | 932 | -.133  | .059  | .167  | -.307   | 50 | 1011 | -.184  | .056  | -.037 | -.531   | 60 | 133 | -.427  | .126  | .081  | -1.429  |
| 50 | 933 | -.219  | .121  | .206  | -.657   | 50 | 1012 | -.033  | .044  | .234  | -.184   | 60 | 134 | -.364  | .171  | .069  | -1.215  |
| 50 | 934 | -.080  | .133  | .549  | -.614   | 50 | 1013 | -.203  | .059  | -.024 | -.418   | 60 | 135 | -.318  | .133  | .022  | -.748   |
| 50 | 935 | -.062  | .075  | .170  | -.328   | 50 | 1014 | -.045  | .120  | .325  | -.561   | 60 | 136 | -.273  | .133  | .278  | -.762   |
| 50 | 936 | -.320  | .045  | -.129 | -.462   | 50 | 1015 | -.294  | .080  | -.082 | -.695   | 60 | 137 | -.121  | .153  | .404  | -.610   |
| 50 | 937 | .088   | .084  | .468  | -.145   | 50 | 1016 | -.279  | .116  | .029  | -.741   | 60 | 138 | -.184  | .098  | .109  | -.624   |
| 50 | 938 | .308   | .127  | .808  | -.000   | 50 | 1017 | .132   | .097  | .664  | -.086   | 60 | 139 | -.162  | .051  | -.007 | -.434   |
| 50 | 939 | .328   | .139  | .829  | -.023   | 50 | 1018 | .166   | .107  | .733  | -.064   | 60 | 140 | -.176  | .051  | -.028 | -.422   |
| 50 | 940 | -.127  | .090  | .440  | -.153   | 50 | 1019 | .136   | .098  | .553  | -.098   | 60 | 141 | -.244  | .126  | .133  | -.786   |
| 50 | 941 | -.312  | .060  | -.173 | -.563   | 50 | 1020 | .181   | .124  | .723  | -.147   | 60 | 142 | -.244  | .146  | .140  | -.840   |
| 50 | 942 | -.140  | .055  | .109  | -.452   | 50 | 1021 | -.088  | .054  | .219  | -.250   | 60 | 143 | -.435  | .184  | .064  | -1.294  |
| 50 | 943 | -.073  | .038  | .090  | -.196   | 50 | 1022 | -.087  | .026  | .020  | -.179   | 60 | 144 | -.383  | .138  | .074  | -.985   |
| 50 | 944 | -.066  | .036  | .148  | -.194   | 50 | 1023 | -.108  | .032  | .008  | -.314   | 60 | 145 | -.298  | .139  | .095  | -.904   |
| 50 | 945 | -.138  | .040  | .090  | -.335   | 50 | 1024 | -.096  | .039  | .030  | -.282   | 60 | 146 | -.184  | .096  | .117  | -.767   |
| 50 | 946 | -.006  | .053  | .269  | -.231   | 50 | 1025 | -.093  | .052  | .187  | -.287   | 60 | 147 | -.191  | .058  | -.007 | -.470   |
| 50 | 947 | -.008  | .051  | .267  | -.189   | 50 | 1026 | -.187  | .063  | .128  | -.481   | 60 | 148 | -.216  | .056  | -.009 | -.508   |
| 50 | 948 | -.035  | .047  | .206  | -.200   | 50 | 1027 | -.159  | .044  | -.014 | -.390   | 60 | 149 | -.089  | .134  | .592  | -.523   |
| 50 | 949 | -.022  | .057  | .295  | -.189   | 50 | 1028 | -.024  | .028  | .116  | -.103   | 60 | 150 | -.082  | .145  | .403  | -.723   |
| 50 | 950 | -.191  | .062  | -.045 | -.561   | 60 | 101  | -.363  | .113  | -.091 | -.1.057 | 60 | 151 | -.534  | .207  | .136  | -.619   |
| 50 | 951 | -.041  | .036  | .127  | -.180   | 60 | 102  | -.300  | .102  | .017  | -.809   | 60 | 152 | -.332  | .157  | .115  | -.047   |
| 50 | 952 | -.103  | .048  | .121  | -.324   | 60 | 103  | -.010  | .082  | .226  | -.337   | 60 | 153 | -.232  | .128  | .089  | -.807   |
| 50 | 953 | -.071  | .034  | .120  | -.275   | 60 | 104  | -.427  | .116  | -.081 | -.870   | 60 | 154 | -.175  | .075  | -.011 | -.628   |
| 50 | 954 | -.006  | .062  | .276  | -.442   | 60 | 105  | -.372  | .108  | .027  | -.968   | 60 | 155 | -.188  | .057  | .017  | -.495   |
| 50 | 955 | -.024  | .037  | .125  | -.175   | 60 | 106  | -.249  | .088  | .069  | -.696   | 60 | 156 | -.234  | .064  | -.069 | -.714   |
| 50 | 956 | .155   | .105  | .632  | -.075   | 60 | 107  | -.306  | .100  | .022  | -.788   | 60 | 157 | -.256  | .071  | .001  | -.609   |
| 50 | 957 | .148   | .109  | .655  | -.068   | 60 | 108  | -.404  | .119  | -.083 | -.995   | 60 | 158 | -.487  | .165  | -.044 | -.1.268 |
| 50 | 958 | .148   | .098  | .797  | -.073   | 60 | 109  | -.326  | .129  | -.002 | -.884   | 60 | 159 | -.176  | .050  | .012  | -.628   |
| 50 | 959 | .060   | .069  | .348  | -.094   | 60 | 110  | -.269  | .108  | .095  | -.762   | 60 | 160 | -.455  | .209  | .203  | -.2.015 |
| 50 | 960 | .095   | .102  | .609  | -.142   | 60 | 111  | -.229  | .064  | -.011 | -.503   | 60 | 161 | -.167  | .047  | .003  | -.460   |
| 50 | 961 | .049   | .114  | .650  | -.359   | 60 | 112  | -.422  | .116  | -.027 | -.043   | 60 | 162 | -.478  | .184  | .005  | -.1.680 |
| 50 | 962 | -.061  | .047  | .130  | -.221   | 60 | 113  | -.357  | .133  | .019  | -.914   | 60 | 163 | -.448  | .186  | .187  | -.1.703 |
| 50 | 963 | .061   | .091  | .598  | -.197   | 60 | 114  | -.244  | .090  | .026  | -.605   | 60 | 164 | -.236  | .140  | .147  | -.998   |
| 50 | 964 | .120   | .092  | .570  | -.045   | 60 | 115  | -.238  | .068  | -.009 | -.562   | 60 | 165 | -.151  | .120  | .142  | -.837   |
| 50 | 965 | -.051  | .090  | .504  | -.161   | 60 | 116  | -.319  | .109  | .059  | -.795   | 60 | 166 | -.143  | .075  | .082  | -.582   |
| 50 | 966 | -.075  | .055  | .174  | -.263   | 60 | 117  | -.266  | .120  | .118  | -.752   | 60 | 167 | -.135  | .047  | .114  | -.430   |
| 50 | 967 | -.024  | .037  | .121  | -.221   | 60 | 118  | -.553  | .185  | -.072 | -.391   | 60 | 168 | -.143  | .041  | .006  | -.394   |
| 50 | 968 | .024   | .065  | .347  | -.140   | 60 | 119  | -.306  | .152  | .104  | -.950   | 60 | 169 | -.128  | .110  | .178  | -.867   |
| 50 | 969 | .049   | .064  | .317  | -.110   | 60 | 120  | -.252  | .092  | .045  | -.680   | 60 | 170 | -.348  | .140  | .089  | -.1.080 |
| 50 | 970 | .024   | .052  | .285  | -.105   | 60 | 121  | -.252  | .069  | -.035 | -.562   | 60 | 171 | -.323  | .143  | .173  | -.1.273 |
| 50 | 971 | -.034  | .035  | .212  | -.194   | 60 | 122  | -.470  | .160  | -.067 | -.1.252 | 60 | 172 | -.238  | .155  | .104  | -.1.107 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 60 | 173 | -.107  | .103  | .175  | -.609  | 60 | 223 | -.115  | .040  | .074  | -.251 | 60 | 348 | -.096  | .121  | .534  | -.430 |
| 60 | 174 | -.157  | .076  | .126  | -.469  | 60 | 224 | -.091  | .040  | .098  | -.254 | 60 | 349 | -.344  | .090  | -.063 | -.782 |
| 60 | 175 | -.116  | .046  | .050  | -.430  | 60 | 225 | -.090  | .045  | .064  | -.247 | 60 | 350 | -.390  | .102  | -.128 | -.885 |
| 60 | 176 | -.130  | .041  | .053  | -.337  | 60 | 301 | -.044  | .095  | .371  | -.267 | 60 | 351 | -.102  | .086  | .194  | -.492 |
| 60 | 177 | -.316  | .145  | .116  | -1.158 | 60 | 302 | .059   | .086  | .371  | -.296 | 60 | 352 | .118   | .132  | .729  | -.435 |
| 60 | 178 | -.291  | .137  | .072  | -.996  | 60 | 303 | .245   | .137  | .681  | -.320 | 60 | 353 | .231   | .173  | .824  | -.499 |
| 60 | 179 | -.175  | .122  | .104  | -1.028 | 60 | 304 | .177   | .144  | .669  | -.296 | 60 | 354 | .286   | .157  | .853  | -.294 |
| 60 | 180 | -.094  | .074  | .146  | -.469  | 60 | 305 | .028   | .095  | .527  | -.391 | 60 | 355 | .226   | .155  | .953  | -.451 |
| 60 | 181 | -.146  | .071  | .180  | -.543  | 60 | 306 | .059   | .098  | .515  | -.235 | 60 | 356 | -.043  | .161  | .572  | -.720 |
| 60 | 182 | -.122  | .038  | .048  | -.344  | 60 | 307 | .079   | .104  | .472  | -.236 | 60 | 357 | .133   | .195  | .722  | -.559 |
| 60 | 183 | -.138  | .038  | .043  | -.335  | 60 | 308 | -.011  | .116  | .442  | -.476 | 60 | 358 | -.044  | .064  | .263  | -.351 |
| 60 | 184 | -.215  | .125  | .107  | -1.237 | 60 | 309 | .181   | .165  | .833  | -.510 | 60 | 359 | .250   | .142  | .722  | -.202 |
| 60 | 185 | -.204  | .128  | .077  | -1.193 | 60 | 310 | .238   | .161  | .830  | -.233 | 60 | 360 | -.100  | .067  | .189  | -.430 |
| 60 | 186 | -.091  | .057  | .180  | -.597  | 60 | 311 | .099   | .128  | .614  | -.373 | 60 | 361 | .150   | .132  | .655  | -.385 |
| 60 | 187 | -.057  | .042  | .192  | -.242  | 60 | 312 | .083   | .113  | .549  | -.286 | 60 | 362 | -.111  | .054  | .132  | -.416 |
| 60 | 188 | -.157  | .052  | .048  | -.499  | 60 | 313 | .258   | .160  | .780  | -.238 | 60 | 363 | -.028  | .063  | .284  | -.225 |
| 60 | 189 | -.150  | .035  | -.048 | -.308  | 60 | 314 | .324   | .164  | .977  | -.207 | 60 | 364 | .138   | .097  | .534  | -.244 |
| 60 | 190 | -.177  | .040  | -.063 | -.330  | 60 | 315 | .256   | .143  | .770  | -.180 | 60 | 365 | .205   | .122  | .746  | -.104 |
| 60 | 191 | -.068  | .039  | .134  | -.241  | 60 | 316 | .233   | .181  | .888  | -.351 | 60 | 366 | .252   | .127  | .810  | -.064 |
| 60 | 192 | -.036  | .049  | .228  | -.192  | 60 | 317 | .359   | .156  | .917  | -.053 | 60 | 367 | .249   | .135  | .848  | -.081 |
| 60 | 193 | -.042  | .043  | .172  | -.201  | 60 | 318 | .021   | .127  | .445  | -.546 | 60 | 368 | .123   | .119  | .672  | -.234 |
| 60 | 194 | -.183  | .129  | .120  | -1.121 | 60 | 319 | -.069  | .196  | .597  | -.833 | 60 | 369 | .200   | .125  | .717  | -.091 |
| 60 | 195 | -.188  | .143  | .144  | -.992  | 60 | 320 | .253   | .161  | .929  | -.306 | 60 | 370 | -.136  | .056  | .107  | -.360 |
| 60 | 196 | -.043  | .041  | .158  | -.166  | 60 | 321 | .125   | .136  | .616  | -.457 | 60 | 371 | -.039  | .061  | .270  | -.250 |
| 60 | 197 | -.142  | .050  | .001  | -.415  | 60 | 322 | .008   | .105  | .501  | -.293 | 60 | 372 | .020   | .105  | .514  | -.440 |
| 60 | 198 | -.049  | .039  | .120  | -.354  | 60 | 323 | .080   | .118  | .616  | -.265 | 60 | 373 | .174   | .103  | .495  | -.064 |
| 60 | 199 | -.051  | .041  | .141  | -.335  | 60 | 324 | .147   | .168  | .715  | -.435 | 60 | 374 | .191   | .121  | .680  | -.096 |
| 60 | 200 | -.054  | .028  | .062  | -.182  | 60 | 325 | .259   | .162  | .809  | -.154 | 60 | 375 | .138   | .113  | .667  | -.142 |
| 60 | 201 | -.063  | .027  | .050  | -.199  | 60 | 326 | .230   | .158  | .773  | -.298 | 60 | 376 | .078   | .103  | .642  | -.244 |
| 60 | 202 | -.109  | .029  | -.016 | -.227  | 60 | 327 | .267   | .151  | .825  | -.174 | 60 | 377 | -.151  | .067  | .125  | -.483 |
| 60 | 203 | -.101  | .025  | .008  | -.218  | 60 | 328 | .296   | .146  | .830  | -.149 | 60 | 378 | -.065  | .059  | .225  | -.282 |
| 60 | 204 | -.106  | .028  | .008  | -.253  | 60 | 329 | .236   | .141  | .701  | -.239 | 60 | 379 | -.023  | .082  | .328  | -.455 |
| 60 | 205 | -.114  | .028  | .010  | -.229  | 60 | 330 | .339   | .151  | .871  | -.060 | 60 | 380 | .088   | .080  | .554  | -.084 |
| 60 | 206 | -.127  | .043  | .090  | -.279  | 60 | 331 | .325   | .154  | .874  | -.154 | 60 | 381 | .100   | .093  | .539  | -.129 |
| 60 | 207 | -.148  | .040  | .008  | -.321  | 60 | 332 | -.044  | .068  | .263  | -.295 | 60 | 382 | .067   | .090  | .539  | -.192 |
| 60 | 208 | -.175  | .050  | .001  | -.436  | 60 | 333 | .054   | .090  | .415  | -.186 | 60 | 383 | -.027  | .079  | .494  | -.209 |
| 60 | 209 | -.033  | .035  | .231  | -.149  | 60 | 334 | .117   | .148  | .653  | -.413 | 60 | 384 | -.135  | .062  | .072  | -.423 |
| 60 | 210 | -.028  | .034  | .114  | -.140  | 60 | 335 | .209   | .148  | .874  | -.089 | 60 | 385 | -.056  | .044  | .107  | -.242 |
| 60 | 211 | -.103  | .026  | .010  | -.216  | 60 | 336 | .340   | .152  | .849  | -.084 | 60 | 386 | .003   | .068  | .328  | -.224 |
| 60 | 212 | -.115  | .028  | -.004 | -.237  | 60 | 337 | .308   | .195  | .869  | -.052 | 60 | 387 | .130   | .078  | .534  | -.066 |
| 60 | 213 | -.124  | .040  | .100  | -.275  | 60 | 338 | .353   | .158  | .929  | -.101 | 60 | 388 | .107   | .083  | .449  | -.061 |
| 60 | 214 | -.120  | .043  | .041  | -.292  | 60 | 339 | .323   | .164  | .966  | -.135 | 60 | 389 | .029   | .055  | .275  | -.104 |
| 60 | 215 | -.011  | .044  | .316  | -.154  | 60 | 340 | .237   | .133  | .818  | -.346 | 60 | 390 | -.023  | .043  | .197  | -.214 |
| 60 | 216 | -.014  | .040  | .302  | -.118  | 60 | 341 | .337   | .148  | 1.024 | -.018 | 60 | 391 | .151   | .089  | .565  | -.054 |
| 60 | 217 | -.049  | .027  | .090  | -.137  | 60 | 342 | .303   | .138  | .837  | -.026 | 60 | 392 | .062   | .093  | .425  | -.270 |
| 60 | 218 | -.074  | .024  | .034  | -.171  | 60 | 343 | -.183  | .060  | .103  | -.406 | 60 | 393 | .188   | .118  | .793  | -.045 |
| 60 | 219 | -.112  | .028  | -.007 | -.218  | 60 | 344 | -.032  | .070  | .454  | -.251 | 60 | 394 | .139   | .100  | .622  | -.095 |
| 60 | 220 | -.091  | .025  | .010  | -.197  | 60 | 345 | .189   | .121  | .704  | -.115 | 60 | 395 | .090   | .076  | .445  | -.097 |
| 60 | 221 | -.096  | .027  | -.004 | -.192  | 60 | 346 | .335   | .152  | .985  | -.009 | 60 | 396 | .038   | .062  | .385  | -.104 |
| 60 | 222 | -.106  | .027  | .000  | -.223  | 60 | 347 | .241   | .144  | .772  | -.205 | 60 | 397 | -.146  | .056  | .010  | -.455 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 60 | 398 | -.105  | .041  | .082  | -.293 | 60 | 526 | -.314  | .093  | -.067 | -.794 | 60 | 576 | -.381  | .089  | -.173 | -.961 |
| 60 | 399 | -.090  | .033  | .056  | -.230 | 60 | 527 | -.335  | .093  | -.092 | -.801 | 60 | 577 | -.181  | .041  | -.038 | -.393 |
| 60 | 400 | -.062  | .028  | .040  | -.169 | 60 | 528 | -.297  | .076  | -.062 | -.909 | 60 | 578 | -.156  | .041  | -.030 | -.389 |
| 60 | 401 | -.056  | .027  | .049  | -.214 | 60 | 529 | -.304  | .072  | -.053 | -.928 | 60 | 579 | -.153  | .069  | .201  | -.481 |
| 60 | 402 | -.055  | .026  | .035  | -.151 | 60 | 530 | -.279  | .063  | -.071 | -.604 | 60 | 580 | -.205  | .110  | -.094 | -.677 |
| 60 | 403 | -.042  | .039  | .138  | -.286 | 60 | 531 | -.278  | .060  | -.053 | -.576 | 60 | 581 | -.394  | .164  | -.029 | -.811 |
| 60 | 404 | -.040  | .040  | .215  | -.256 | 60 | 532 | -.299  | .093  | -.085 | -.875 | 60 | 582 | -.454  | .127  | -.100 | -.248 |
| 60 | 405 | -.028  | .037  | .157  | -.160 | 60 | 533 | -.297  | .084  | -.083 | -.700 | 60 | 583 | -.445  | .130  | -.133 | -.428 |
| 60 | 406 | -.040  | .041  | .271  | -.151 | 60 | 534 | -.289  | .068  | -.099 | -.572 | 60 | 584 | -.152  | .035  | .016  | -.310 |
| 60 | 407 | -.137  | .059  | .056  | -.493 | 60 | 535 | -.295  | .076  | -.044 | -.703 | 60 | 585 | -.131  | .031  | .002  | -.261 |
| 60 | 408 | -.117  | .036  | .010  | -.280 | 60 | 536 | -.276  | .057  | -.104 | -.517 | 60 | 586 | -.137  | .052  | .094  | -.398 |
| 60 | 409 | -.056  | .028  | .059  | -.155 | 60 | 537 | -.289  | .062  | -.074 | -.528 | 60 | 587 | -.112  | .054  | .123  | -.474 |
| 60 | 410 | -.042  | .039  | .131  | -.232 | 60 | 538 | -.312  | .075  | -.060 | -.974 | 60 | 588 | -.187  | .120  | .201  | -.961 |
| 60 | 411 | -.090  | .031  | .019  | -.246 | 60 | 539 | -.285  | .060  | -.067 | -.570 | 60 | 589 | -.394  | .178  | .045  | -.181 |
| 60 | 412 | -.088  | .029  | .007  | -.209 | 60 | 540 | -.285  | .055  | -.126 | -.517 | 60 | 590 | -.364  | .166  | -.015 | -.506 |
| 60 | 413 | -.042  | .025  | .082  | -.131 | 60 | 541 | -.290  | .063  | -.009 | -.549 | 60 | 591 | -.111  | .045  | .084  | -.418 |
| 60 | 414 | -.053  | .047  | .165  | -.227 | 60 | 542 | -.291  | .066  | -.071 | -.576 | 60 | 592 | -.117  | .037  | .031  | -.310 |
| 60 | 415 | -.071  | .044  | .165  | -.234 | 60 | 543 | -.303  | .074  | -.133 | -.645 | 60 | 593 | -.128  | .031  | -.031 | -.295 |
| 60 | 416 | -.023  | .042  | .202  | -.141 | 60 | 544 | -.312  | .079  | -.113 | -.737 | 60 | 594 | -.124  | .027  | -.021 | -.259 |
| 60 | 417 | -.008  | .042  | .246  | -.124 | 60 | 545 | -.314  | .070  | -.090 | -.705 | 60 | 595 | -.131  | .035  | .114  | -.313 |
| 60 | 418 | -.036  | .028  | .094  | -.124 | 60 | 546 | -.305  | .064  | -.094 | -.622 | 60 | 596 | -.112  | .031  | .065  | -.293 |
| 60 | 419 | -.048  | .028  | .043  | -.161 | 60 | 547 | -.306  | .066  | -.117 | -.618 | 60 | 597 | -.155  | .058  | .004  | -.575 |
| 60 | 420 | -.040  | .026  | .097  | -.119 | 60 | 548 | -.310  | .063  | -.131 | -.710 | 60 | 598 | -.300  | .108  | -.036 | -.969 |
| 60 | 421 | -.036  | .033  | .119  | -.154 | 60 | 549 | -.285  | .063  | -.086 | -.554 | 60 | 599 | -.418  | .187  | -.072 | -.488 |
| 60 | 422 | -.040  | .042  | .192  | -.186 | 60 | 550 | -.270  | .053  | -.066 | -.509 | 60 | 600 | -.105  | .038  | .043  | -.293 |
| 60 | 501 | -.225  | .066  | -.015 | -.589 | 60 | 551 | -.311  | .071  | -.091 | -.608 | 60 | 601 | -.153  | .066  | .001  | -.765 |
| 60 | 502 | -.321  | .084  | -.095 | -.902 | 60 | 552 | -.313  | .068  | -.026 | -.584 | 60 | 602 | -.144  | .053  | .019  | -.428 |
| 60 | 503 | -.375  | .096  | -.088 | -.855 | 60 | 553 | -.310  | .072  | -.089 | -.723 | 60 | 603 | -.121  | .027  | -.027 | -.257 |
| 60 | 504 | -.151  | .064  | .123  | -.478 | 60 | 554 | -.315  | .061  | -.116 | -.589 | 60 | 604 | -.304  | .099  | -.084 | -.991 |
| 60 | 505 | -.298  | .101  | .097  | -.858 | 60 | 555 | -.331  | .083  | -.147 | -.822 | 60 | 605 | -.116  | .042  | .051  | -.296 |
| 60 | 506 | -.252  | .072  | -.056 | -.788 | 60 | 556 | -.328  | .086  | -.030 | -.678 | 60 | 606 | -.169  | .058  | .011  | -.624 |
| 60 | 507 | -.276  | .081  | -.027 | -.730 | 60 | 557 | -.401  | .101  | -.125 | -.164 | 60 | 607 | -.156  | .057  | .036  | -.480 |
| 60 | 508 | -.306  | .113  | .087  | -.900 | 60 | 558 | -.306  | .066  | -.127 | -.552 | 60 | 608 | -.098  | .032  | .076  | -.341 |
| 60 | 509 | -.270  | .077  | .026  | -.680 | 60 | 559 | -.351  | .101  | -.118 | -.937 | 60 | 609 | -.116  | .047  | .069  | -.377 |
| 60 | 510 | -.283  | .083  | .012  | -.759 | 60 | 560 | -.301  | .068  | -.109 | -.615 | 60 | 610 | -.128  | .050  | .067  | -.348 |
| 60 | 511 | -.277  | .069  | -.014 | -.656 | 60 | 561 | -.350  | .106  | -.120 | -.935 | 60 | 611 | -.180  | .068  | .037  | -.597 |
| 60 | 512 | -.294  | .101  | .071  | -.798 | 60 | 562 | -.289  | .068  | -.091 | -.640 | 60 | 612 | -.116  | .028  | -.018 | -.255 |
| 60 | 513 | -.278  | .075  | -.024 | -.862 | 60 | 563 | -.294  | .069  | -.039 | -.602 | 60 | 613 | -.111  | .024  | -.018 | -.207 |
| 60 | 514 | -.284  | .073  | -.049 | -.812 | 60 | 564 | -.360  | .088  | -.134 | -.782 | 60 | 614 | -.124  | .037  | .124  | -.305 |
| 60 | 515 | -.270  | .067  | -.072 | -.789 | 60 | 565 | -.424  | .126  | -.071 | -.101 | 60 | 615 | -.087  | .040  | .178  | -.200 |
| 60 | 516 | -.271  | .073  | -.036 | -.691 | 60 | 566 | -.341  | .085  | -.038 | -.803 | 60 | 616 | -.099  | .033  | .137  | -.225 |
| 60 | 517 | -.271  | .064  | -.033 | -.626 | 60 | 567 | -.330  | .083  | -.121 | -.805 | 60 | 617 | -.090  | .054  | .226  | -.448 |
| 60 | 518 | -.276  | .076  | -.022 | -.676 | 60 | 568 | -.337  | .082  | -.123 | -.770 | 60 | 618 | -.094  | .073  | .192  | -.451 |
| 60 | 519 | -.281  | .065  | -.079 | -.653 | 60 | 569 | -.296  | .065  | -.131 | -.576 | 60 | 619 | -.059  | .044  | .251  | -.223 |
| 60 | 520 | -.294  | .080  | -.052 | -.651 | 60 | 570 | -.203  | .046  | -.071 | -.410 | 60 | 620 | -.127  | .041  | .007  | -.307 |
| 60 | 521 | -.320  | .117  | -.040 | -.186 | 60 | 571 | -.198  | .056  | -.002 | -.478 | 60 | 701 | -.255  | .066  | -.080 | -.606 |
| 60 | 522 | -.291  | .097  | -.020 | -.834 | 60 | 572 | -.271  | .088  | -.080 | -.599 | 60 | 702 | -.244  | .063  | -.080 | -.608 |
| 60 | 523 | -.282  | .087  | .112  | -.739 | 60 | 573 | -.364  | .101  | -.055 | -.810 | 60 | 703 | -.319  | .108  | -.013 | -.816 |
| 60 | 524 | -.292  | .082  | -.024 | -.796 | 60 | 574 | -.424  | .116  | -.147 | -.940 | 60 | 704 | -.317  | .086  | -.023 | -.842 |
| 60 | 525 | -.295  | .083  | -.036 | -.664 | 60 | 575 | -.377  | .089  | -.152 | -.805 | 60 | 705 | -.225  | .067  | -.007 | -.558 |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 60 | 706 | -.240  | .057  | -.022 | -.512 | 60 | 756 | -.281  | .061  | -.119 | -.613 | 60 | 806 | -.109  | .025  | -.026 | -.206  |
| 60 | 707 | -.226  | .049  | -.029 | -.496 | 60 | 757 | -.271  | .051  | -.112 | -.482 | 60 | 807 | -.142  | .035  | -.051 | -.306  |
| 60 | 708 | -.255  | .071  | -.007 | -.638 | 60 | 758 | -.277  | .042  | -.035 | -.337 | 60 | 808 | -.120  | .037  | -.027 | -.257  |
| 60 | 709 | -.277  | .068  | -.089 | -.643 | 60 | 759 | -.274  | .054  | -.094 | -.489 | 60 | 809 | -.269  | .080  | -.105 | -.747  |
| 60 | 710 | -.282  | .066  | -.096 | -.608 | 60 | 760 | -.167  | .045  | -.024 | -.421 | 60 | 810 | -.200  | .047  | -.081 | -.465  |
| 60 | 711 | -.265  | .069  | -.007 | -.614 | 60 | 761 | -.283  | .054  | -.119 | -.504 | 60 | 811 | -.150  | .035  | -.035 | -.333  |
| 60 | 712 | -.264  | .069  | -.027 | -.585 | 60 | 762 | -.167  | .042  | -.028 | -.380 | 60 | 812 | -.143  | .042  | -.028 | -.398  |
| 60 | 713 | -.250  | .060  | -.066 | -.512 | 60 | 763 | -.169  | .042  | -.042 | -.357 | 60 | 813 | -.154  | .035  | -.057 | -.329  |
| 60 | 714 | -.248  | .050  | -.080 | -.498 | 60 | 764 | -.196  | .045  | -.024 | -.411 | 60 | 814 | -.157  | .040  | -.003 | -.352  |
| 60 | 715 | -.247  | .059  | -.041 | -.528 | 60 | 765 | -.261  | .056  | -.087 | -.502 | 60 | 815 | -.114  | .035  | -.073 | -.239  |
| 60 | 716 | -.259  | .063  | -.089 | -.544 | 60 | 766 | -.297  | .064  | -.116 | -.604 | 60 | 816 | -.266  | .080  | -.051 | -.646  |
| 60 | 717 | -.202  | .039  | -.089 | -.341 | 60 | 767 | -.257  | .049  | -.133 | -.439 | 60 | 817 | -.232  | .063  | -.047 | -.539  |
| 60 | 718 | -.297  | .089  | -.077 | -.736 | 60 | 768 | -.264  | .052  | -.118 | -.553 | 60 | 818 | -.188  | .044  | -.061 | -.384  |
| 60 | 719 | -.232  | .069  | -.050 | -.574 | 60 | 769 | -.185  | .045  | -.042 | -.379 | 60 | 819 | -.157  | .035  | -.051 | -.303  |
| 60 | 720 | -.295  | .075  | -.089 | -.638 | 60 | 770 | -.160  | .043  | -.020 | -.345 | 60 | 820 | -.134  | .043  | -.099 | -.451  |
| 60 | 721 | -.278  | .059  | -.087 | -.508 | 60 | 771 | -.159  | .040  | -.006 | -.350 | 60 | 821 | -.135  | .039  | -.039 | -.350  |
| 60 | 722 | -.173  | .052  | .035  | -.423 | 60 | 772 | -.180  | .044  | -.028 | -.451 | 60 | 822 | -.132  | .039  | -.012 | -.418  |
| 60 | 723 | -.175  | .052  | -.011 | -.414 | 60 | 773 | -.204  | .042  | -.020 | -.391 | 60 | 901 | -.320  | .043  | -.203 | -.437  |
| 60 | 724 | -.204  | .050  | -.052 | -.482 | 60 | 774 | -.271  | .062  | -.083 | -.577 | 60 | 902 | -.270  | .051  | -.135 | -.473  |
| 60 | 725 | -.214  | .046  | -.068 | -.434 | 60 | 775 | -.257  | .053  | -.142 | -.527 | 60 | 903 | -.275  | .046  | -.144 | -.461  |
| 60 | 726 | -.231  | .043  | -.089 | -.379 | 60 | 776 | -.258  | .054  | -.097 | -.582 | 60 | 904 | -.276  | .061  | -.121 | -.604  |
| 60 | 727 | -.255  | .055  | -.069 | -.465 | 60 | 777 | -.178  | .043  | -.040 | -.439 | 60 | 905 | -.260  | .044  | -.160 | -.441  |
| 60 | 728 | -.245  | .063  | -.013 | -.523 | 60 | 778 | -.177  | .043  | -.056 | -.381 | 60 | 906 | -.267  | .058  | -.032 | -.554  |
| 60 | 729 | -.251  | .061  | -.046 | -.516 | 60 | 779 | -.199  | .046  | -.030 | -.429 | 60 | 907 | -.280  | .069  | -.004 | -.581  |
| 60 | 730 | -.207  | .038  | -.092 | -.384 | 60 | 780 | -.199  | .043  | -.066 | -.458 | 60 | 908 | -.238  | .064  | -.016 | -.581  |
| 60 | 731 | -.256  | .054  | -.101 | -.490 | 60 | 781 | -.246  | .061  | -.095 | -.659 | 60 | 909 | -.190  | .053  | -.049 | -.439  |
| 60 | 732 | -.224  | .072  | -.090 | -.629 | 60 | 782 | -.267  | .078  | -.095 | -.637 | 60 | 910 | -.326  | .079  | -.064 | -.701  |
| 60 | 733 | -.229  | .064  | -.067 | -.583 | 60 | 783 | -.238  | .071  | -.087 | -.900 | 60 | 911 | -.159  | .056  | -.063 | -.491  |
| 60 | 734 | -.214  | .049  | -.081 | -.463 | 60 | 784 | -.225  | .060  | -.073 | -.513 | 60 | 912 | -.282  | .075  | -.051 | -.636  |
| 60 | 735 | -.207  | .041  | -.076 | -.393 | 60 | 785 | -.222  | .054  | -.099 | -.537 | 60 | 913 | -.311  | .121  | -.074 | -1.102 |
| 60 | 736 | -.192  | .038  | -.043 | -.358 | 60 | 786 | -.229  | .065  | -.080 | -.575 | 60 | 914 | -.269  | .064  | -.007 | -.570  |
| 60 | 737 | -.214  | .043  | -.071 | -.391 | 60 | 787 | -.204  | .054  | -.083 | -.599 | 60 | 915 | -.275  | .075  | -.028 | -.563  |
| 60 | 738 | -.262  | .058  | -.113 | -.527 | 60 | 788 | -.189  | .046  | -.028 | -.451 | 60 | 916 | -.279  | .069  | -.064 | -.540  |
| 60 | 739 | -.251  | .051  | -.094 | -.456 | 60 | 789 | -.206  | .058  | -.080 | -.606 | 60 | 917 | -.270  | .076  | -.023 | -.606  |
| 60 | 740 | -.267  | .057  | -.085 | -.544 | 60 | 790 | -.198  | .066  | -.068 | -.811 | 60 | 918 | -.240  | .058  | -.077 | -.503  |
| 60 | 741 | -.231  | .045  | -.111 | -.472 | 60 | 791 | -.223  | .064  | -.063 | -.542 | 60 | 919 | -.296  | .061  | -.104 | -.604  |
| 60 | 742 | -.272  | .047  | -.122 | -.486 | 60 | 792 | -.206  | .057  | -.054 | -.485 | 60 | 920 | -.319  | .078  | -.071 | -.740  |
| 60 | 743 | -.270  | .074  | -.094 | -.801 | 60 | 793 | -.215  | .060  | -.045 | -.531 | 60 | 921 | -.313  | .088  | -.032 | -.689  |
| 60 | 744 | -.265  | .070  | -.057 | -.638 | 60 | 794 | -.204  | .050  | -.081 | -.451 | 60 | 922 | -.251  | .141  | -.122 | -.791  |
| 60 | 745 | -.280  | .057  | -.148 | -.511 | 60 | 795 | -.156  | .037  | -.035 | -.331 | 60 | 923 | -.374  | .096  | -.080 | -.723  |
| 60 | 746 | -.278  | .052  | -.134 | -.467 | 60 | 796 | -.159  | .036  | -.024 | -.331 | 60 | 924 | -.169  | .128  | .263  | -.1245 |
| 60 | 747 | -.276  | .052  | -.141 | -.513 | 60 | 797 | -.122  | .041  | -.062 | -.308 | 60 | 925 | -.061  | .132  | .411  | -.821  |
| 60 | 748 | -.284  | .058  | -.122 | -.546 | 60 | 798 | -.248  | .069  | -.081 | -.590 | 60 | 926 | -.106  | .076  | .198  | -.447  |
| 60 | 749 | -.221  | .057  | -.062 | -.523 | 60 | 799 | -.244  | .064  | -.095 | -.904 | 60 | 927 | -.072  | .110  | .511  | -.377  |
| 60 | 750 | -.233  | .057  | -.060 | -.509 | 60 | 800 | -.217  | .057  | -.095 | -.530 | 60 | 928 | -.108  | .289  | .764  | -.855  |
| 60 | 751 | -.226  | .062  | -.069 | -.842 | 60 | 801 | -.213  | .065  | -.048 | -.749 | 60 | 929 | -.340  | .180  | 1.204 | -.482  |
| 60 | 752 | -.231  | .042  | -.121 | -.421 | 60 | 802 | -.171  | .046  | -.031 | -.470 | 60 | 930 | -.306  | .066  | -.111 | -.701  |
| 60 | 753 | -.244  | .040  | -.130 | -.430 | 60 | 803 | -.158  | .042  | -.047 | -.472 | 60 | 931 | -.379  | .122  | -.019 | -.870  |
| 60 | 754 | -.269  | .045  | -.133 | -.439 | 60 | 804 | -.152  | .041  | -.017 | -.424 | 60 | 932 | -.117  | .064  | .191  | -.330  |
| 60 | 755 | -.283  | .055  | -.135 | -.507 | 60 | 805 | -.104  | .024  | -.008 | -.197 | 60 | 933 | -.148  | .140  | .406  | -.729  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|---------|----|-----|--------|-------|-------|---------|
| 60 | 934  | -.117  | .191  | .689  | -.688 | 60 | 1013 | -.196  | .077  | .055  | -.559   | 70 | 135 | -.242  | .086  | -.026 | -.680   |
| 60 | 935  | -.173  | .063  | .098  | -.377 | 60 | 1014 | -.203  | .109  | .231  | -.651   | 70 | 136 | -.230  | .084  | .163  | -.675   |
| 60 | 936  | -.324  | .045  | -.168 | -.466 | 60 | 1015 | -.281  | .079  | -.014 | -.656   | 70 | 137 | -.146  | .102  | .367  | -.576   |
| 60 | 937  | -.082  | .081  | .422  | -.104 | 60 | 1016 | -.415  | .123  | -.009 | -.1,018 | 70 | 138 | -.176  | .067  | .055  | -.519   |
| 60 | 938  | .305   | .141  | .998  | -.068 | 60 | 1017 | .145   | .087  | .589  | -.063   | 70 | 139 | -.159  | .049  | -.014 | -.473   |
| 60 | 939  | .295   | .144  | .817  | -.085 | 60 | 1018 | .158   | .099  | .627  | -.046   | 70 | 140 | -.161  | .047  | .016  | -.448   |
| 60 | 940  | -.004  | .074  | .287  | -.279 | 60 | 1019 | .144   | .086  | .599  | -.029   | 70 | 141 | -.202  | .075  | .169  | -.611   |
| 60 | 941  | -.205  | .040  | -.109 | -.389 | 60 | 1020 | .199   | .124  | .721  | -.113   | 70 | 142 | -.201  | .082  | .041  | -.737   |
| 60 | 942  | -.128  | .040  | .105  | -.323 | 60 | 1021 | -.083  | .042  | .186  | -.211   | 70 | 143 | -.344  | .151  | .048  | -.1,304 |
| 60 | 943  | -.084  | .032  | .074  | -.215 | 60 | 1022 | -.094  | .021  | -.012 | -.168   | 70 | 144 | -.315  | .122  | .043  | -.1,042 |
| 60 | 944  | -.083  | .027  | .035  | -.197 | 60 | 1023 | -.110  | .033  | -.006 | -.349   | 70 | 145 | -.265  | .107  | .084  | -.861   |
| 60 | 945  | -.106  | .030  | .135  | -.235 | 60 | 1024 | -.111  | .031  | -.010 | -.297   | 70 | 146 | -.173  | .068  | .091  | -.599   |
| 60 | 946  | -.041  | .043  | .184  | -.181 | 60 | 1025 | -.077  | .042  | .217  | -.234   | 70 | 147 | -.157  | .043  | -.003 | -.411   |
| 60 | 947  | -.035  | .045  | .223  | -.188 | 60 | 1026 | -.130  | .054  | .202  | -.375   | 70 | 148 | -.160  | .042  | -.035 | -.466   |
| 60 | 948  | -.070  | .034  | .069  | -.208 | 60 | 1027 | -.119  | .040  | .026  | -.285   | 70 | 149 | -.179  | .134  | .298  | -.881   |
| 60 | 949  | -.069  | .036  | .139  | -.237 | 60 | 1028 | -.041  | .025  | .085  | -.115   | 70 | 150 | -.128  | .130  | .334  | -.690   |
| 60 | 950  | -.136  | .042  | .011  | -.422 | 70 | 101  | -.306  | .103  | -.034 | -.887   | 70 | 151 | -.404  | .139  | -.051 | -.1,050 |
| 60 | 951  | -.071  | .030  | .063  | -.197 | 70 | 102  | -.253  | .092  | -.034 | -.721   | 70 | 152 | -.258  | .096  | .032  | -.778   |
| 60 | 952  | -.126  | .035  | .024  | -.398 | 70 | 103  | -.116  | .088  | -.232 | -.401   | 70 | 153 | -.194  | .069  | .019  | -.600   |
| 60 | 953  | -.090  | .032  | .024  | -.375 | 70 | 104  | -.338  | .117  | -.061 | -.864   | 70 | 154 | -.157  | .044  | .014  | -.386   |
| 60 | 954  | -.047  | .055  | .175  | -.738 | 70 | 105  | -.323  | .128  | -.032 | -.1,031 | 70 | 155 | -.150  | .038  | -.017 | -.395   |
| 60 | 955  | -.038  | .036  | .200  | -.145 | 70 | 106  | -.236  | .096  | .075  | -.784   | 70 | 156 | -.161  | .042  | -.051 | -.398   |
| 60 | 956  | .165   | .103  | .676  | -.034 | 70 | 107  | -.250  | .089  | .002  | -.723   | 70 | 157 | -.172  | .044  | -.022 | -.386   |
| 60 | 957  | .126   | .089  | .572  | -.052 | 70 | 108  | -.346  | .149  | -.002 | -.1,120 | 70 | 158 | -.367  | .141  | -.037 | -.1,149 |
| 60 | 958  | .150   | .098  | .687  | -.048 | 70 | 109  | -.280  | .117  | -.052 | -.948   | 70 | 159 | -.150  | .037  | .023  | -.310   |
| 60 | 959  | .047   | .069  | .394  | -.147 | 70 | 110  | -.240  | .094  | -.027 | -.816   | 70 | 160 | -.393  | .163  | .012  | -.1,192 |
| 60 | 960  | .101   | .089  | .523  | -.107 | 70 | 111  | -.214  | .079  | .120  | -.759   | 70 | 161 | -.144  | .035  | .010  | -.303   |
| 60 | 961  | .075   | .105  | .590  | -.240 | 70 | 112  | -.330  | .136  | .055  | -.1,116 | 70 | 162 | -.387  | .155  | -.026 | -.1,685 |
| 60 | 962  | -.032  | .047  | .177  | -.265 | 70 | 113  | -.285  | .125  | .036  | -.941   | 70 | 163 | -.350  | .142  | .014  | -.1,401 |
| 60 | 963  | .068   | .078  | .489  | -.221 | 70 | 114  | -.219  | .081  | .050  | -.662   | 70 | 164 | -.206  | .085  | .005  | -.728   |
| 60 | 964  | .131   | .082  | .540  | -.041 | 70 | 115  | -.205  | .067  | .100  | -.581   | 70 | 165 | -.169  | .082  | .023  | -.643   |
| 60 | 965  | .071   | .078  | .532  | -.095 | 70 | 116  | -.255  | .096  | .007  | -.742   | 70 | 166 | -.150  | .052  | .014  | -.448   |
| 60 | 966  | -.044  | .047  | .153  | -.278 | 70 | 117  | -.229  | .088  | .068  | -.653   | 70 | 167 | -.127  | .035  | -.005 | -.334   |
| 60 | 967  | -.052  | .032  | .083  | -.180 | 70 | 118  | -.393  | .179  | .046  | -.1,304 | 70 | 168 | -.128  | .035  | -.003 | -.315   |
| 60 | 968  | .037   | .057  | .291  | -.113 | 70 | 119  | -.273  | .115  | .068  | -.832   | 70 | 169 | -.126  | .058  | .095  | -.460   |
| 60 | 969  | .061   | .055  | .355  | -.074 | 70 | 120  | -.235  | .082  | .075  | -.653   | 70 | 170 | -.333  | .126  | .021  | -.215   |
| 60 | 970  | .013   | .043  | .212  | -.108 | 70 | 121  | -.214  | .066  | -.009 | -.565   | 70 | 171 | -.323  | .131  | .054  | -.215   |
| 60 | 971  | -.061  | .032  | .064  | -.187 | 70 | 122  | -.422  | .192  | -.013 | -.1,340 | 70 | 172 | -.188  | .081  | .102  | -.770   |
| 60 | 1001 | -.185  | .057  | .117  | -.399 | 70 | 123  | -.362  | .164  | .055  | -.1,374 | 70 | 173 | -.116  | .061  | .132  | -.420   |
| 60 | 1002 | -.188  | .049  | -.060 | -.483 | 70 | 124  | -.290  | .116  | .007  | -.925   | 70 | 174 | -.153  | .051  | .092  | -.545   |
| 60 | 1003 | -.299  | .073  | -.071 | -.652 | 70 | 125  | -.278  | .107  | .034  | -.1,105 | 70 | 175 | -.116  | .033  | -.003 | -.315   |
| 60 | 1004 | -.272  | .067  | -.069 | -.672 | 70 | 126  | -.168  | .114  | .442  | -.646   | 70 | 176 | -.122  | .032  | -.005 | -.266   |
| 60 | 1005 | -.281  | .062  | -.089 | -.613 | 70 | 127  | -.222  | .068  | .009  | -.606   | 70 | 177 | -.273  | .101  | .054  | -.827   |
| 60 | 1006 | -.263  | .065  | -.055 | -.621 | 70 | 128  | -.181  | .062  | .025  | -.558   | 70 | 178 | -.279  | .119  | .009  | -.1,045 |
| 60 | 1007 | -.105  | .031  | .164  | -.251 | 70 | 129  | -.173  | .057  | .016  | -.505   | 70 | 179 | -.150  | .069  | .078  | -.645   |
| 60 | 1008 | -.034  | .043  | .241  | -.194 | 70 | 130  | -.235  | .077  | .002  | -.666   | 70 | 180 | -.097  | .051  | .151  | -.410   |
| 60 | 1009 | -.250  | .071  | .050  | -.569 | 70 | 131  | -.253  | .092  | .068  | -.696   | 70 | 181 | -.141  | .050  | .040  | -.448   |
| 60 | 1010 | -.127  | .103  | .152  | -.612 | 70 | 132  | -.369  | .131  | .023  | -.1,111 | 70 | 182 | -.115  | .029  | .002  | -.258   |
| 60 | 1011 | -.132  | .039  | .004  | -.392 | 70 | 133  | -.365  | .139  | .032  | -.1,451 | 70 | 183 | -.119  | .029  | -.026 | -.221   |
| 60 | 1012 | -.068  | .035  | .085  | -.249 | 70 | 134  | -.277  | .119  | .027  | -.999   | 70 | 184 | -.190  | .080  | .059  | -.801   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 70 | 185 | -.179  | .091  | .071  | -1.021 | 70 | 310 | .155   | .187  | .922  | -.409 | 70 | 360 | -.089  | .064  | .293  | -.506 |
| 70 | 186 | -.113  | .043  | .052  | -.356  | 70 | 311 | .034   | .164  | .670  | -.621 | 70 | 361 | -.015  | .144  | .530  | -.496 |
| 70 | 187 | -.084  | .035  | .149  | -.197  | 70 | 312 | .074   | .159  | .681  | -.343 | 70 | 362 | -.088  | .055  | .169  | -.363 |
| 70 | 188 | -.131  | .036  | .007  | -.301  | 70 | 313 | .184   | .187  | 1.043 | -.551 | 70 | 363 | -.043  | .054  | .204  | -.417 |
| 70 | 189 | -.120  | .026  | -.026 | -.249  | 70 | 314 | .193   | .186  | .974  | -.249 | 70 | 364 | -.021  | .075  | .378  | -.332 |
| 70 | 190 | -.137  | .032  | -.038 | -.327  | 70 | 315 | .102   | .170  | .804  | -.412 | 70 | 365 | -.056  | .093  | .504  | -.311 |
| 70 | 191 | -.086  | .032  | .046  | -.202  | 70 | 316 | .179   | .192  | .783  | -.393 | 70 | 366 | -.113  | .109  | .596  | -.231 |
| 70 | 192 | -.072  | .036  | .116  | -.179  | 70 | 317 | .200   | .174  | 1.017 | -.284 | 70 | 367 | -.083  | .143  | .690  | -.265 |
| 70 | 193 | -.071  | .037  | .120  | -.202  | 70 | 318 | -.019  | .148  | .622  | -.644 | 70 | 368 | -.028  | .133  | .593  | -.391 |
| 70 | 194 | -.161  | .088  | .114  | -.828  | 70 | 319 | .029   | .217  | .745  | -.812 | 70 | 369 | -.099  | .088  | .628  | -.265 |
| 70 | 195 | -.156  | .085  | .111  | -.816  | 70 | 320 | .091   | .199  | 1.000 | -.729 | 70 | 370 | -.079  | .053  | .144  | -.325 |
| 70 | 196 | -.078  | .035  | .093  | -.243  | 70 | 321 | .017   | .149  | .669  | -.417 | 70 | 371 | -.030  | .052  | .228  | -.231 |
| 70 | 197 | -.100  | .032  | .009  | -.240  | 70 | 322 | .011   | .141  | .643  | -.452 | 70 | 372 | -.011  | .085  | .339  | -.505 |
| 70 | 198 | -.065  | .030  | .082  | -.209  | 70 | 323 | .057   | .146  | .728  | -.324 | 70 | 373 | -.098  | .080  | .463  | -.088 |
| 70 | 199 | -.065  | .031  | .082  | -.231  | 70 | 324 | .071   | .160  | .937  | -.554 | 70 | 374 | -.122  | .106  | .680  | -.152 |
| 70 | 200 | -.068  | .026  | .055  | -.181  | 70 | 325 | .100   | .146  | .769  | -.296 | 70 | 375 | -.089  | .120  | .579  | -.327 |
| 70 | 201 | -.074  | .029  | .064  | -.181  | 70 | 326 | .092   | .155  | .873  | -.388 | 70 | 376 | -.032  | .115  | .477  | -.322 |
| 70 | 202 | -.106  | .024  | -.002 | -.209  | 70 | 327 | .109   | .160  | .873  | -.338 | 70 | 377 | -.084  | .049  | .139  | -.332 |
| 70 | 203 | -.094  | .024  | -.007 | -.190  | 70 | 328 | .101   | .165  | .733  | -.421 | 70 | 378 | -.038  | .049  | .184  | -.283 |
| 70 | 204 | -.096  | .027  | .018  | -.256  | 70 | 329 | .065   | .166  | .683  | -.311 | 70 | 379 | -.033  | .070  | .213  | -.399 |
| 70 | 205 | -.102  | .029  | .032  | -.222  | 70 | 330 | .207   | .160  | .938  | -.111 | 70 | 380 | -.053  | .070  | .435  | -.117 |
| 70 | 206 | -.093  | .030  | .016  | -.227  | 70 | 331 | .136   | .142  | .740  | -.211 | 70 | 381 | -.070  | .082  | .591  | -.130 |
| 70 | 207 | -.110  | .033  | .000  | -.265  | 70 | 332 | -.045  | .094  | .435  | -.357 | 70 | 382 | -.061  | .101  | .559  | -.189 |
| 70 | 208 | -.124  | .034  | -.020 | -.272  | 70 | 333 | .005   | .090  | .594  | -.233 | 70 | 383 | -.013  | .093  | .482  | -.310 |
| 70 | 209 | -.060  | .031  | .166  | -.150  | 70 | 334 | .024   | .114  | .544  | -.621 | 70 | 384 | -.083  | .046  | .060  | -.411 |
| 70 | 210 | -.044  | .036  | .142  | -.329  | 70 | 335 | .099   | .108  | .756  | -.228 | 70 | 385 | -.042  | .034  | .102  | -.189 |
| 70 | 211 | -.102  | .024  | -.007 | -.214  | 70 | 336 | .140   | .124  | .878  | -.116 | 70 | 386 | -.016  | .053  | .191  | -.226 |
| 70 | 212 | -.098  | .026  | .011  | -.225  | 70 | 337 | .106   | .112  | .642  | -.207 | 70 | 387 | -.062  | .058  | .423  | -.063 |
| 70 | 213 | -.093  | .033  | .066  | -.218  | 70 | 338 | .106   | .131  | .687  | -.466 | 70 | 388 | -.051  | .056  | .287  | -.090 |
| 70 | 214 | -.097  | .031  | .011  | -.216  | 70 | 339 | .088   | .160  | .864  | -.247 | 70 | 389 | -.020  | .050  | .292  | -.147 |
| 70 | 215 | -.039  | .039  | .179  | -.154  | 70 | 340 | .022   | .141  | .642  | -.319 | 70 | 390 | -.060  | .043  | .255  | -.199 |
| 70 | 216 | -.036  | .038  | .204  | -.156  | 70 | 341 | .155   | .118  | .883  | -.066 | 70 | 391 | -.050  | .057  | .360  | -.072 |
| 70 | 217 | -.058  | .029  | .114  | -.166  | 70 | 342 | .117   | .100  | .625  | -.145 | 70 | 392 | -.013  | .054  | .275  | -.198 |
| 70 | 218 | -.077  | .026  | .045  | -.166  | 70 | 343 | -.126  | .072  | .311  | -.454 | 70 | 393 | -.055  | .065  | .454  | -.074 |
| 70 | 219 | -.108  | .023  | -.019 | -.182  | 70 | 344 | -.042  | .074  | .323  | -.273 | 70 | 394 | -.034  | .063  | .406  | -.121 |
| 70 | 220 | -.089  | .025  | .011  | -.175  | 70 | 345 | .066   | .086  | .613  | -.190 | 70 | 395 | -.006  | .055  | .296  | -.134 |
| 70 | 221 | -.090  | .024  | .009  | -.177  | 70 | 346 | .117   | .127  | .773  | -.238 | 70 | 396 | -.031  | .049  | .388  | -.159 |
| 70 | 222 | -.091  | .025  | .027  | -.232  | 70 | 347 | .053   | .146  | .766  | -.392 | 70 | 397 | -.075  | .036  | .086  | -.200 |
| 70 | 223 | -.094  | .030  | .034  | -.221  | 70 | 348 | -.051  | .137  | .571  | -.500 | 70 | 398 | -.051  | .030  | .093  | -.186 |
| 70 | 224 | -.088  | .031  | .091  | -.191  | 70 | 349 | .173   | .133  | .380  | -.712 | 70 | 399 | -.064  | .026  | .023  | -.179 |
| 70 | 225 | -.090  | .033  | .073  | -.202  | 70 | 350 | -.234  | .114  | .195  | -.766 | 70 | 400 | -.051  | .024  | .039  | -.148 |
| 70 | 301 | .042   | .125  | .544  | -.424  | 70 | 351 | -.089  | .076  | .235  | -.491 | 70 | 401 | -.060  | .025  | .059  | -.157 |
| 70 | 302 | .070   | .127  | .539  | -.327  | 70 | 352 | .006   | .098  | .382  | -.686 | 70 | 402 | -.059  | .026  | .066  | -.143 |
| 70 | 303 | .107   | .159  | .667  | -.405  | 70 | 353 | .059   | .110  | .565  | -.508 | 70 | 403 | -.061  | .030  | .095  | -.190 |
| 70 | 304 | .137   | .171  | .747  | -.511  | 70 | 354 | .061   | .121  | .635  | -.496 | 70 | 404 | -.061  | .033  | .118  | -.247 |
| 70 | 305 | .025   | .137  | .505  | -.355  | 70 | 355 | .027   | .152  | .642  | -.623 | 70 | 405 | -.047  | .038  | .127  | -.150 |
| 70 | 306 | .021   | .134  | .548  | -.311  | 70 | 356 | -.129  | .155  | .483  | -.857 | 70 | 406 | -.044  | .043  | .230  | -.231 |
| 70 | 307 | .027   | .144  | .646  | -.241  | 70 | 357 | .002   | .172  | .734  | -.639 | 70 | 407 | -.054  | .038  | .107  | -.260 |
| 70 | 308 | .024   | .162  | .641  | -.460  | 70 | 358 | -.060  | .060  | .153  | -.496 | 70 | 408 | -.070  | .029  | .020  | -.187 |
| 70 | 309 | .156   | .204  | .903  | -.390  | 70 | 359 | .075   | .151  | .727  | -.421 | 70 | 409 | -.059  | .026  | .032  | -.168 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|
| 70 | 410 | -.062  | .032  | .138  | -.199  | 70 | 538 | -.240  | .106  | .025  | -.773  | 70 | 588 | -.105  | .047  | .048  | -.832 |
| 70 | 411 | -.050  | .027  | .064  | -.170  | 70 | 539 | -.245  | .106  | .064  | -.902  | 70 | 589 | -.211  | .114  | .060  | -.977 |
| 70 | 412 | -.056  | .024  | .027  | -.151  | 70 | 540 | -.280  | .114  | .100  | -.991  | 70 | 590 | -.208  | .098  | .022  | -.846 |
| 70 | 413 | -.054  | .024  | .040  | -.171  | 70 | 541 | -.199  | .079  | .162  | -.576  | 70 | 591 | -.079  | .026  | .002  | -.216 |
| 70 | 414 | -.041  | .030  | .135  | -.142  | 70 | 542 | -.200  | .081  | .119  | -.565  | 70 | 592 | -.083  | .025  | .016  | -.258 |
| 70 | 415 | -.046  | .029  | .080  | -.159  | 70 | 543 | -.181  | .048  | -.019 | -.491  | 70 | 593 | -.102  | .022  | -.019 | -.192 |
| 70 | 416 | -.029  | .025  | .092  | -.104  | 70 | 544 | -.179  | .062  | -.026 | -.569  | 70 | 594 | -.098  | .020  | -.031 | -.173 |
| 70 | 417 | -.032  | .023  | .099  | -.102  | 70 | 545 | -.185  | .079  | .093  | -.627  | 70 | 595 | -.113  | .025  | -.022 | -.244 |
| 70 | 418 | -.044  | .023  | .066  | -.126  | 70 | 546 | -.219  | .091  | .050  | -.778  | 70 | 596 | -.085  | .026  | -.003 | -.221 |
| 70 | 419 | -.053  | .023  | .045  | -.154  | 70 | 547 | -.246  | .095  | .045  | -.819  | 70 | 597 | -.099  | .028  | -.014 | -.249 |
| 70 | 420 | -.052  | .024  | .059  | -.133  | 70 | 548 | -.235  | .090  | .114  | -.776  | 70 | 598 | -.180  | .070  | -.029 | -.578 |
| 70 | 421 | -.056  | .027  | .151  | -.182  | 70 | 549 | -.174  | .042  | -.018 | -.427  | 70 | 599 | -.216  | .114  | -.031 | -.115 |
| 70 | 422 | -.059  | .031  | .063  | -.216  | 70 | 550 | -.186  | .042  | -.059 | -.414  | 70 | 600 | -.051  | .030  | .061  | -.178 |
| 70 | 501 | -.256  | .095  | .041  | -.716  | 70 | 551 | -.179  | .053  | -.032 | -.443  | 70 | 601 | -.075  | .042  | .063  | -.484 |
| 70 | 502 | -.319  | .116  | -.009 | -1.029 | 70 | 552 | -.181  | .060  | .011  | -.452  | 70 | 602 | -.077  | .039  | .027  | -.342 |
| 70 | 503 | -.334  | .112  | -.064 | -.861  | 70 | 553 | -.198  | .073  | .072  | -.567  | 70 | 603 | -.102  | .022  | -.031 | -.180 |
| 70 | 504 | -.124  | .078  | .134  | -.440  | 70 | 554 | -.216  | .078  | .018  | -.722  | 70 | 604 | -.198  | .076  | -.038 | -.660 |
| 70 | 505 | -.221  | .094  | .095  | -.751  | 70 | 555 | -.283  | .111  | .042  | -1.012 | 70 | 605 | -.059  | .035  | .117  | -.288 |
| 70 | 506 | -.313  | .120  | .016  | -.894  | 70 | 556 | -.218  | .100  | .281  | -.702  | 70 | 606 | -.068  | .037  | .059  | -.313 |
| 70 | 507 | -.241  | .091  | -.014 | -.705  | 70 | 557 | -.250  | .110  | .211  | -.920  | 70 | 607 | -.071  | .044  | .073  | -.324 |
| 70 | 508 | -.200  | .077  | .046  | -.771  | 70 | 558 | -.173  | .044  | -.034 | -.425  | 70 | 608 | -.076  | .023  | .020  | -.200 |
| 70 | 509 | -.240  | .110  | .093  | -.848  | 70 | 559 | -.236  | .082  | -.007 | -.789  | 70 | 609 | -.055  | .034  | .075  | -.214 |
| 70 | 510 | -.268  | .123  | .118  | -.1090 | 70 | 560 | -.166  | .040  | -.014 | -.351  | 70 | 610 | -.055  | .033  | .075  | -.214 |
| 70 | 511 | -.330  | .149  | .098  | -.1055 | 70 | 561 | -.232  | .088  | -.030 | -.803  | 70 | 611 | -.072  | .043  | .061  | -.279 |
| 70 | 512 | -.202  | .073  | .038  | -.630  | 70 | 562 | -.164  | .041  | -.034 | -.385  | 70 | 612 | -.101  | .021  | -.034 | -.167 |
| 70 | 513 | -.210  | .082  | .054  | -.698  | 70 | 563 | -.152  | .042  | .022  | -.423  | 70 | 613 | -.094  | .020  | -.013 | -.162 |
| 70 | 514 | -.274  | .135  | .100  | -.1031 | 70 | 564 | -.183  | .061  | .024  | -.576  | 70 | 614 | -.102  | .026  | .011  | -.225 |
| 70 | 515 | -.326  | .130  | .093  | -.979  | 70 | 565 | -.237  | .110  | .067  | -.823  | 70 | 615 | -.076  | .023  | .041  | -.146 |
| 70 | 516 | -.257  | .105  | .095  | -.698  | 70 | 566 | -.216  | .079  | -.027 | -.655  | 70 | 616 | -.085  | .023  | .018  | -.171 |
| 70 | 517 | -.215  | .090  | .161  | -.585  | 70 | 567 | -.214  | .070  | -.023 | -.837  | 70 | 617 | -.096  | .036  | .056  | -.322 |
| 70 | 518 | -.207  | .068  | -.002 | -.583  | 70 | 568 | -.217  | .072  | -.009 | -.693  | 70 | 618 | -.122  | .050  | .070  | -.354 |
| 70 | 519 | -.228  | .080  | .025  | -.619  | 70 | 569 | -.174  | .051  | .019  | -.402  | 70 | 619 | -.045  | .028  | .093  | -.128 |
| 70 | 520 | -.240  | .111  | .111  | -.784  | 70 | 570 | -.138  | .028  | -.007 | -.288  | 70 | 620 | -.058  | .033  | .052  | -.185 |
| 70 | 521 | -.403  | .194  | .070  | -1.231 | 70 | 571 | -.130  | .030  | -.033 | -.283  | 70 | 701 | -.232  | .070  | -.041 | -.590 |
| 70 | 522 | -.180  | .066  | .045  | -.669  | 70 | 572 | -.140  | .044  | .019  | -.359  | 70 | 702 | -.242  | .072  | -.052 | -.636 |
| 70 | 523 | -.177  | .061  | .009  | -.539  | 70 | 573 | -.188  | .071  | -.002 | -.738  | 70 | 703 | -.309  | .109  | -.043 | -.893 |
| 70 | 524 | -.216  | .078  | .038  | -.734  | 70 | 574 | -.246  | .085  | -.049 | -.676  | 70 | 704 | -.280  | .109  | -.001 | -.806 |
| 70 | 525 | -.176  | .117  | .347  | -.759  | 70 | 575 | -.244  | .069  | -.066 | -.527  | 70 | 705 | -.206  | .068  | .031  | -.681 |
| 70 | 526 | -.246  | .100  | .045  | -.898  | 70 | 576 | -.230  | .067  | .027  | -.643  | 70 | 706 | -.201  | .070  | .047  | -.594 |
| 70 | 527 | -.261  | .117  | .006  | -.943  | 70 | 577 | -.128  | .026  | -.028 | -.229  | 70 | 707 | -.189  | .045  | -.054 | -.387 |
| 70 | 528 | -.284  | .154  | .128  | -.150  | 70 | 578 | -.116  | .025  | -.004 | -.229  | 70 | 708 | -.213  | .072  | .005  | -.584 |
| 70 | 529 | -.323  | .162  | .057  | -.133  | 70 | 579 | -.120  | .039  | .010  | -.302  | 70 | 709 | -.222  | .062  | -.083 | -.639 |
| 70 | 530 | -.218  | .070  | .020  | -.517  | 70 | 580 | -.120  | .062  | .140  | -.463  | 70 | 710 | -.223  | .062  | -.072 | -.491 |
| 70 | 531 | -.224  | .096  | .155  | -.205  | 70 | 581 | -.205  | .104  | -.029 | -1.007 | 70 | 711 | -.200  | .067  | -.003 | -.558 |
| 70 | 532 | -.175  | .054  | -.033 | -.645  | 70 | 582 | -.279  | .103  | -.030 | -.835  | 70 | 712 | -.213  | .071  | -.010 | -.639 |
| 70 | 533 | -.165  | .055  | .013  | -.462  | 70 | 583 | -.279  | .095  | -.052 | -.818  | 70 | 713 | -.195  | .047  | -.057 | -.433 |
| 70 | 534 | -.182  | .074  | .116  | -.677  | 70 | 584 | -.116  | .023  | -.023 | -.193  | 70 | 714 | -.205  | .054  | -.050 | -.454 |
| 70 | 535 | -.154  | .099  | .213  | -.636  | 70 | 585 | -.103  | .022  | -.007 | -.177  | 70 | 715 | -.193  | .059  | -.030 | -.536 |
| 70 | 536 | -.208  | .081  | .103  | -.576  | 70 | 586 | -.113  | .031  | .022  | -.269  | 70 | 716 | -.217  | .058  | -.077 | -.619 |
| 70 | 537 | -.225  | .087  | .006  | -.803  | 70 | 587 | -.086  | .029  | .062  | -.215  | 70 | 717 | -.169  | .035  | -.061 | -.367 |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 70 | 718 | -.218  | .066  | -.043 | -.581 | 70 | 768 | -.162  | .034  | -.057 | -.297 | 70 | 818 | -.131  | .024  | -.033 | -.266  |
| 70 | 719 | -.200  | .054  | -.050 | -.516 | 70 | 769 | -.137  | .027  | -.040 | -.234 | 70 | 819 | -.117  | .023  | -.040 | -.229  |
| 70 | 720 | -.199  | .056  | -.090 | -.572 | 70 | 770 | -.132  | .031  | -.029 | -.304 | 70 | 820 | -.126  | .037  | -.008 | -.337  |
| 70 | 721 | -.218  | .063  | -.043 | -.545 | 70 | 771 | -.136  | .032  | -.031 | -.355 | 70 | 821 | -.114  | .024  | -.051 | -.198  |
| 70 | 722 | -.163  | .052  | .008  | -.440 | 70 | 772 | -.144  | .038  | -.052 | -.411 | 70 | 822 | -.111  | .022  | -.047 | -.243  |
| 70 | 723 | -.163  | .049  | .042  | -.416 | 70 | 773 | -.149  | .026  | -.057 | -.238 | 70 | 901 | -.183  | .026  | -.122 | -.311  |
| 70 | 724 | -.179  | .043  | -.045 | -.371 | 70 | 774 | -.178  | .040  | -.057 | -.469 | 70 | 902 | -.190  | .041  | -.087 | -.439  |
| 70 | 725 | -.181  | .039  | -.072 | -.344 | 70 | 775 | -.158  | .030  | -.050 | -.308 | 70 | 903 | -.188  | .031  | -.087 | -.311  |
| 70 | 726 | -.177  | .039  | -.041 | -.422 | 70 | 776 | -.158  | .032  | -.064 | -.327 | 70 | 904 | -.185  | .041  | -.070 | -.503  |
| 70 | 727 | -.183  | .045  | -.056 | -.381 | 70 | 777 | -.139  | .031  | -.049 | -.336 | 70 | 905 | -.184  | .028  | -.114 | -.335  |
| 70 | 728 | -.176  | .049  | -.033 | -.464 | 70 | 778 | -.141  | .033  | -.052 | -.357 | 70 | 906 | -.181  | .055  | -.016 | -.452  |
| 70 | 729 | -.177  | .052  | -.015 | -.487 | 70 | 779 | -.147  | .037  | -.036 | -.378 | 70 | 907 | -.207  | .054  | -.032 | -.481  |
| 70 | 730 | -.172  | .032  | -.078 | -.347 | 70 | 780 | -.142  | .024  | -.043 | -.222 | 70 | 908 | -.198  | .057  | -.031 | -.509  |
| 70 | 731 | -.194  | .038  | -.103 | -.347 | 70 | 781 | -.167  | .035  | -.073 | -.378 | 70 | 909 | -.186  | .052  | -.005 | -.432  |
| 70 | 732 | -.185  | .051  | -.047 | -.487 | 70 | 782 | -.155  | .035  | -.061 | -.355 | 70 | 910 | -.168  | .056  | -.060 | -.445  |
| 70 | 733 | -.185  | .055  | -.054 | -.604 | 70 | 783 | -.152  | .033  | -.045 | -.367 | 70 | 911 | -.150  | .045  | -.086 | -.659  |
| 70 | 734 | -.172  | .037  | -.069 | -.428 | 70 | 784 | -.174  | .049  | -.054 | -.567 | 70 | 912 | -.223  | .076  | -.028 | -.893  |
| 70 | 735 | -.172  | .032  | -.069 | -.345 | 70 | 785 | -.172  | .046  | -.071 | -.460 | 70 | 913 | -.218  | .073  | -.047 | -.771  |
| 70 | 736 | -.157  | .030  | -.067 | -.277 | 70 | 786 | -.143  | .027  | -.061 | -.266 | 70 | 914 | -.210  | .069  | .107  | -.546  |
| 70 | 737 | -.171  | .034  | -.049 | -.342 | 70 | 787 | -.133  | .025  | -.045 | -.292 | 70 | 915 | -.212  | .065  | .050  | -.624  |
| 70 | 738 | -.190  | .044  | -.083 | -.475 | 70 | 788 | -.142  | .030  | -.040 | -.350 | 70 | 916 | -.215  | .068  | .034  | -.578  |
| 70 | 739 | -.181  | .044  | -.065 | -.430 | 70 | 789 | -.135  | .029  | -.052 | -.294 | 70 | 917 | -.216  | .068  | -.002 | -.523  |
| 70 | 740 | -.186  | .051  | -.065 | -.595 | 70 | 790 | -.134  | .032  | -.050 | -.374 | 70 | 918 | -.215  | .058  | -.052 | -.600  |
| 70 | 741 | -.173  | .030  | -.087 | -.351 | 70 | 791 | -.150  | .031  | -.049 | -.315 | 70 | 919 | -.198  | .079  | .069  | -.654  |
| 70 | 742 | -.189  | .034  | -.094 | -.360 | 70 | 792 | -.135  | .026  | -.058 | -.279 | 70 | 920 | -.288  | .109  | .011  | -.769  |
| 70 | 743 | -.179  | .048  | -.056 | -.455 | 70 | 793 | -.148  | .029  | -.063 | -.284 | 70 | 921 | -.284  | .097  | -.037 | -.686  |
| 70 | 744 | -.181  | .045  | -.069 | -.435 | 70 | 794 | -.133  | .025  | -.054 | -.282 | 70 | 922 | -.206  | .084  | .077  | -.672  |
| 70 | 745 | -.191  | .037  | -.090 | -.385 | 70 | 795 | -.122  | .028  | -.024 | -.245 | 70 | 923 | -.318  | .116  | .113  | -.834  |
| 70 | 746 | -.186  | .039  | -.074 | -.545 | 70 | 796 | -.121  | .030  | -.017 | -.234 | 70 | 924 | -.154  | .152  | .313  | -.1222 |
| 70 | 747 | -.186  | .046  | -.054 | -.507 | 70 | 797 | -.103  | .029  | -.013 | -.200 | 70 | 925 | -.131  | .128  | .263  | -.937  |
| 70 | 748 | -.182  | .044  | -.067 | -.428 | 70 | 798 | -.192  | .065  | -.063 | -.654 | 70 | 926 | -.085  | .094  | .256  | -.527  |
| 70 | 749 | -.165  | .038  | -.056 | -.357 | 70 | 799 | -.178  | .051  | -.049 | -.568 | 70 | 927 | -.043  | .112  | .468  | -.407  |
| 70 | 750 | -.164  | .040  | -.043 | -.414 | 70 | 800 | -.140  | .028  | -.042 | -.316 | 70 | 928 | -.040  | .247  | .840  | -.779  |
| 70 | 751 | -.167  | .038  | -.048 | -.330 | 70 | 801 | -.124  | .026  | -.042 | -.267 | 70 | 929 | -.126  | .200  | .872  | -.625  |
| 70 | 752 | -.174  | .033  | -.074 | -.304 | 70 | 802 | -.143  | .037  | -.044 | -.332 | 70 | 930 | -.238  | .096  | .137  | -.915  |
| 70 | 753 | -.175  | .029  | -.081 | -.300 | 70 | 803 | -.124  | .028  | -.044 | -.239 | 70 | 931 | -.318  | .117  | .001  | -.1019 |
| 70 | 754 | -.178  | .030  | -.074 | -.333 | 70 | 804 | -.124  | .026  | -.047 | -.243 | 70 | 932 | -.091  | .083  | .228  | -.426  |
| 70 | 755 | -.174  | .043  | -.039 | -.620 | 70 | 805 | -.106  | .022  | -.012 | -.202 | 70 | 933 | -.057  | .155  | .573  | -.764  |
| 70 | 756 | -.174  | .041  | -.063 | -.386 | 70 | 806 | -.110  | .023  | -.026 | -.207 | 70 | 934 | -.050  | .167  | .537  | -.578  |
| 70 | 757 | -.180  | .041  | -.076 | -.450 | 70 | 807 | -.128  | .030  | -.001 | -.291 | 70 | 935 | -.109  | .095  | .230  | -.400  |
| 70 | 758 | -.151  | .034  | -.043 | -.291 | 70 | 808 | -.098  | .029  | -.024 | -.213 | 70 | 936 | -.197  | .058  | .021  | -.421  |
| 70 | 759 | -.164  | .032  | -.039 | -.306 | 70 | 809 | -.188  | .051  | -.065 | -.476 | 70 | 937 | -.023  | .081  | .530  | -.156  |
| 70 | 760 | -.146  | .035  | -.039 | -.337 | 70 | 810 | -.132  | .026  | -.040 | -.264 | 70 | 938 | -.118  | .104  | .703  | -.124  |
| 70 | 761 | -.163  | .035  | -.028 | -.306 | 70 | 811 | -.116  | .022  | -.045 | -.209 | 70 | 939 | -.091  | .135  | .664  | -.187  |
| 70 | 762 | -.141  | .033  | -.030 | -.302 | 70 | 812 | -.112  | .026  | -.038 | -.257 | 70 | 940 | -.137  | .074  | .152  | -.330  |
| 70 | 763 | -.143  | .032  | -.030 | -.341 | 70 | 813 | -.119  | .035  | -.072 | -.344 | 70 | 941 | -.133  | .022  | -.085 | -.270  |
| 70 | 764 | -.154  | .035  | -.056 | -.401 | 70 | 814 | -.121  | .031  | -.013 | -.252 | 70 | 942 | -.110  | .028  | .047  | -.234  |
| 70 | 765 | -.186  | .039  | -.065 | -.341 | 70 | 815 | -.094  | .030  | -.042 | -.191 | 70 | 943 | -.086  | .029  | .042  | -.229  |
| 70 | 766 | -.177  | .037  | -.073 | -.332 | 70 | 816 | -.163  | .052  | -.028 | -.536 | 70 | 944 | -.092  | .025  | .018  | -.180  |
| 70 | 767 | -.162  | .034  | -.071 | -.320 | 70 | 817 | -.153  | .039  | -.040 | -.353 | 70 | 945 | -.081  | .022  | .020  | -.165  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|------|--------|-------|-------|---------|----|------|--------|-------|-------|---------|----|-----|--------|-------|-------|--------|
| 70 | 946  | -.071  | .038  | .134  | -.214   | 70 | 1025 | -.047  | .028  | .080  | -.151   | 80 | 147 | -.232  | .089  | -.045 | -.826  |
| 70 | 947  | -.066  | .042  | .131  | -.203   | 70 | 1026 | -.049  | .032  | .066  | -.196   | 80 | 148 | -.218  | .071  | -.057 | -.601  |
| 70 | 948  | -.090  | .033  | .082  | -.180   | 70 | 1027 | -.057  | .031  | .052  | -.205   | 80 | 149 | -.322  | .127  | -.148 | -1.355 |
| 70 | 949  | -.091  | .033  | .087  | -.209   | 70 | 1028 | -.051  | .024  | .061  | -.125   | 80 | 150 | -.285  | .118  | -.095 | -.999  |
| 70 | 950  | -.097  | .026  | -.022 | -.221   | 80 | 101  | -.314  | .099  | -.072 | -.1021  | 80 | 151 | -.349  | .112  | -.087 | -1.115 |
| 70 | 951  | -.091  | .028  | .036  | -.201   | 80 | 102  | -.241  | .070  | .057  | -.669   | 80 | 152 | -.309  | .110  | -.012 | -.967  |
| 70 | 952  | -.124  | .030  | .007  | -.323   | 80 | 103  | -.160  | .070  | .183  | -.439   | 80 | 153 | -.274  | .087  | -.037 | -.762  |
| 70 | 953  | -.099  | .029  | .029  | -.227   | 80 | 104  | -.368  | .121  | -.074 | -.908   | 80 | 154 | -.235  | .073  | -.044 | -.596  |
| 70 | 954  | -.088  | .054  | .158  | -.510   | 80 | 105  | -.260  | .079  | .050  | -.720   | 80 | 155 | -.216  | .069  | -.017 | -.616  |
| 70 | 955  | -.071  | .030  | .058  | -.256   | 80 | 106  | -.278  | .098  | .027  | -.870   | 80 | 156 | -.207  | .054  | -.074 | -.475  |
| 70 | 956  | -.051  | .059  | .397  | -.069   | 80 | 107  | -.263  | .082  | -.003 | -.664   | 80 | 157 | -.208  | .057  | -.039 | -.482  |
| 70 | 957  | -.052  | .061  | .481  | -.085   | 80 | 108  | -.221  | .086  | .018  | -.859   | 80 | 158 | -.326  | .112  | -.074 | -1.747 |
| 70 | 958  | -.062  | .076  | .573  | -.105   | 80 | 109  | -.275  | .095  | .020  | -.140   | 80 | 159 | -.190  | .056  | -.017 | -.520  |
| 70 | 959  | -.018  | .061  | .296  | -.176   | 80 | 110  | -.263  | .088  | .052  | -.784   | 80 | 160 | -.348  | .146  | -.060 | -1.587 |
| 70 | 960  | -.033  | .056  | .397  | -.094   | 80 | 111  | -.277  | .111  | .088  | -.881   | 80 | 161 | -.185  | .050  | -.019 | -.475  |
| 70 | 961  | -.014  | .059  | .345  | -.196   | 80 | 112  | -.277  | .092  | -.053 | -.1032  | 80 | 162 | -.337  | .114  | -.092 | -1.081 |
| 70 | 962  | -.029  | .032  | .089  | -.215   | 80 | 113  | -.274  | .086  | .018  | -.782   | 80 | 163 | -.329  | .115  | -.062 | -1.115 |
| 70 | 963  | -.017  | .056  | .469  | -.195   | 80 | 114  | -.262  | .085  | .013  | -.664   | 80 | 164 | -.282  | .115  | -.021 | -1.136 |
| 70 | 964  | -.041  | .052  | .320  | -.090   | 80 | 115  | -.267  | .100  | .048  | -.823   | 80 | 165 | -.266  | .122  | -.004 | -1.145 |
| 70 | 965  | -.015  | .049  | .299  | -.127   | 80 | 116  | -.268  | .086  | .016  | -.770   | 80 | 166 | -.203  | .069  | -.078 | -.742  |
| 70 | 966  | -.038  | .034  | .111  | -.205   | 80 | 117  | -.265  | .076  | .009  | -.703   | 80 | 167 | -.168  | .045  | -.022 | -.442  |
| 70 | 967  | -.073  | .029  | .111  | -.191   | 80 | 118  | -.329  | .141  | .013  | -.102   | 80 | 168 | -.163  | .042  | -.015 | -.389  |
| 70 | 968  | -.002  | .037  | .182  | -.132   | 80 | 119  | -.282  | .091  | -.010 | -.733   | 80 | 169 | -.186  | .063  | -.011 | -.531  |
| 70 | 969  | -.008  | .042  | .248  | -.090   | 80 | 120  | -.261  | .080  | -.042 | -.681   | 80 | 170 | -.312  | .107  | -.053 | -1.082 |
| 70 | 970  | -.041  | .032  | .111  | -.170   | 80 | 121  | -.256  | .083  | -.012 | -.646   | 80 | 171 | -.312  | .111  | -.019 | -1.157 |
| 70 | 971  | -.077  | .028  | .040  | -.201   | 80 | 122  | -.314  | .128  | -.042 | -.1.691 | 80 | 172 | -.237  | .094  | -.020 | -1.030 |
| 70 | 1001 | -.137  | .030  | -.007 | -.246   | 80 | 123  | -.321  | .133  | -.027 | -.1.119 | 80 | 173 | -.170  | .059  | -.098 | -.531  |
| 70 | 1002 | -.127  | .023  | -.043 | -.255   | 80 | 124  | -.324  | .124  | -.034 | -.1.076 | 80 | 174 | -.149  | .047  | -.028 | -.488  |
| 70 | 1003 | -.214  | .059  | -.032 | -.569   | 80 | 125  | -.300  | .112  | -.028 | -.874   | 80 | 175 | -.142  | .033  | -.025 | -.305  |
| 70 | 1004 | -.217  | .055  | -.021 | -.529   | 80 | 126  | -.263  | .094  | .156  | -.770   | 80 | 176 | -.144  | .033  | -.011 | -.324  |
| 70 | 1005 | -.214  | .058  | -.041 | -.529   | 80 | 127  | -.259  | .085  | .064  | -.703   | 80 | 177 | -.306  | .107  | -.028 | -1.049 |
| 70 | 1006 | -.217  | .060  | -.044 | -.472   | 80 | 128  | -.243  | .086  | .011  | -.603   | 80 | 178 | -.288  | .108  | -.042 | -.799  |
| 70 | 1007 | -.080  | .022  | -.005 | -.154   | 80 | 129  | -.237  | .085  | .085  | -.710   | 80 | 179 | -.183  | .062  | -.019 | -.869  |
| 70 | 1008 | -.064  | .038  | .106  | -.189   | 80 | 130  | -.255  | .071  | -.022 | -.675   | 80 | 180 | -.132  | .041  | -.008 | -.365  |
| 70 | 1009 | -.158  | .053  | .045  | .491    | 80 | 131  | -.270  | .078  | -.019 | -.696   | 80 | 181 | -.158  | .043  | -.002 | -.387  |
| 70 | 1010 | -.127  | .063  | .144  | -.474   | 80 | 132  | -.301  | .094  | -.046 | -.931   | 80 | 182 | -.134  | .029  | -.039 | -.262  |
| 70 | 1011 | -.097  | .025  | -.014 | -.217   | 80 | 133  | -.303  | .091  | -.023 | -.780   | 80 | 183 | -.137  | .028  | -.037 | -.243  |
| 70 | 1012 | -.090  | .033  | .042  | -.238   | 80 | 134  | -.316  | .106  | -.047 | -.826   | 80 | 184 | -.204  | .065  | -.009 | -.718  |
| 70 | 1013 | -.169  | .107  | .242  | -.776   | 80 | 135  | -.292  | .095  | -.045 | -.871   | 80 | 185 | -.194  | .063  | -.013 | -.567  |
| 70 | 1014 | -.184  | .094  | .172  | -.670   | 80 | 136  | -.267  | .080  | .016  | -.638   | 80 | 186 | -.141  | .036  | -.022 | -.471  |
| 70 | 1015 | -.245  | .096  | .022  | -.721   | 80 | 137  | -.258  | .099  | .118  | -.924   | 80 | 187 | -.123  | .030  | -.008 | -.262  |
| 70 | 1016 | -.292  | .122  | .129  | -.1.047 | 80 | 138  | -.248  | .094  | .013  | -.719   | 80 | 188 | -.145  | .032  | -.029 | -.322  |
| 70 | 1017 | -.052  | .057  | .446  | -.090   | 80 | 139  | -.238  | .082  | -.045 | -.671   | 80 | 189 | -.136  | .026  | -.039 | -.224  |
| 70 | 1018 | -.072  | .066  | .465  | -.087   | 80 | 140  | -.242  | .088  | .025  | -.738   | 80 | 190 | -.144  | .028  | -.051 | -.284  |
| 70 | 1019 | -.051  | .058  | .446  | -.085   | 80 | 141  | -.270  | .082  | -.012 | -.715   | 80 | 191 | -.127  | .030  | -.041 | -.235  |
| 70 | 1020 | -.064  | .074  | .439  | -.132   | 80 | 142  | -.283  | .103  | .046  | -.880   | 80 | 192 | -.118  | .033  | -.029 | -.239  |
| 70 | 1021 | -.074  | .024  | .045  | -.144   | 80 | 143  | -.317  | .111  | .060  | -.282   | 80 | 193 | -.118  | .031  | -.032 | -.260  |
| 70 | 1022 | -.089  | .022  | -.005 | -.168   | 80 | 144  | -.303  | .100  | -.045 | -.973   | 80 | 194 | -.181  | .070  | -.023 | -.788  |
| 70 | 1023 | -.102  | .026  | -.017 | -.238   | 80 | 145  | -.300  | .102  | .018  | -.957   | 80 | 195 | -.178  | .070  | -.091 | -.575  |
| 70 | 1024 | -.113  | .032  | -.019 | -.328   | 80 | 146  | -.266  | .102  | .046  | -.920   | 80 | 196 | -.123  | .033  | -.041 | -.336  |

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|
| 80 | 197 | -.128  | .029  | .016  | -.246 | 80 | 322 | .155   | .190  | .840  | -.368  | 80 | 372 | -.047  | .054  | .204  | -.433 |
| 80 | 198 | -.101  | .033  | .101  | -.239 | 80 | 323 | .238   | .206  | 1.012 | -.378  | 80 | 373 | -.016  | .054  | .247  | -.258 |
| 80 | 199 | -.101  | .032  | .057  | -.203 | 80 | 324 | .206   | .191  | .998  | -.492  | 80 | 374 | -.027  | .069  | .278  | -.341 |
| 80 | 200 | -.101  | .029  | .050  | -.200 | 80 | 325 | .179   | .182  | .857  | -.470  | 80 | 375 | -.056  | .083  | .336  | -.334 |
| 80 | 201 | -.107  | .029  | .057  | -.203 | 80 | 326 | .216   | .203  | .990  | -.300  | 80 | 376 | -.111  | .088  | .344  | -.445 |
| 80 | 202 | -.139  | .027  | -.026 | -.239 | 80 | 327 | .071   | .192  | .797  | -.540  | 80 | 377 | -.091  | .038  | .090  | -.349 |
| 80 | 203 | -.126  | .027  | .004  | -.235 | 80 | 328 | .042   | .152  | .653  | -.545  | 80 | 378 | -.075  | .035  | .088  | -.197 |
| 80 | 204 | -.123  | .025  | -.016 | -.230 | 80 | 329 | -.016  | .139  | .702  | -.447  | 80 | 379 | -.073  | .043  | .067  | -.435 |
| 80 | 205 | -.126  | .024  | -.039 | -.207 | 80 | 330 | .291   | .193  | .937  | -.165  | 80 | 380 | -.042  | .043  | .250  | -.169 |
| 80 | 206 | -.123  | .028  | -.030 | -.223 | 80 | 331 | .214   | .187  | .952  | -.241  | 80 | 381 | -.043  | .061  | .298  | -.547 |
| 80 | 207 | -.130  | .029  | -.037 | -.255 | 80 | 332 | .035   | .136  | .650  | -.405  | 80 | 382 | -.041  | .083  | .415  | -.331 |
| 80 | 208 | -.138  | .032  | -.035 | -.375 | 80 | 333 | .080   | .145  | .721  | -.234  | 80 | 383 | -.076  | .085  | .334  | -.440 |
| 80 | 209 | -.093  | .038  | .108  | -.214 | 80 | 334 | .113   | .148  | .778  | -.351  | 80 | 384 | -.092  | .031  | .085  | -.260 |
| 80 | 210 | -.066  | .044  | .230  | -.173 | 80 | 335 | .105   | .142  | .704  | -.305  | 80 | 385 | -.075  | .028  | .034  | -.199 |
| 80 | 211 | -.137  | .026  | -.031 | -.315 | 80 | 336 | .144   | .149  | .773  | -.180  | 80 | 386 | -.057  | .038  | .116  | -.255 |
| 80 | 212 | -.125  | .023  | -.050 | -.219 | 80 | 337 | .106   | .140  | .741  | -.197  | 80 | 387 | -.025  | .037  | .138  | -.133 |
| 80 | 213 | -.119  | .028  | .011  | -.224 | 80 | 338 | -.031  | .139  | .709  | -.577  | 80 | 388 | -.037  | .041  | .189  | -.202 |
| 80 | 214 | -.116  | .027  | -.003 | -.250 | 80 | 339 | -.058  | .088  | .290  | -.329  | 80 | 389 | -.088  | .035  | .090  | -.247 |
| 80 | 215 | -.075  | .040  | .146  | -.233 | 80 | 340 | -.113  | .086  | .342  | -.520  | 80 | 390 | -.120  | .037  | .070  | -.253 |
| 80 | 216 | -.077  | .038  | .125  | -.187 | 80 | 341 | .176   | .151  | .829  | -.099  | 80 | 391 | -.029  | .038  | .141  | -.136 |
| 80 | 217 | -.084  | .033  | .104  | -.175 | 80 | 342 | .117   | .126  | .903  | -.126  | 80 | 392 | -.041  | .040  | .144  | -.229 |
| 80 | 218 | -.102  | .026  | -.032 | -.187 | 80 | 343 | -.045  | .099  | .518  | -.332  | 80 | 393 | -.020  | .044  | .269  | -.133 |
| 80 | 219 | -.145  | .026  | -.059 | -.266 | 80 | 344 | .055   | .120  | .824  | -.280  | 80 | 394 | -.041  | .047  | .287  | -.192 |
| 80 | 220 | -.122  | .023  | -.026 | -.212 | 80 | 345 | .119   | .140  | .763  | -.192  | 80 | 395 | -.067  | .039  | .120  | -.165 |
| 80 | 221 | -.119  | .023  | -.026 | -.191 | 80 | 346 | .026   | .090  | .501  | -.182  | 80 | 396 | -.097  | .035  | .075  | -.219 |
| 80 | 222 | -.120  | .024  | -.017 | -.194 | 80 | 347 | -.077  | .077  | .332  | -.342  | 80 | 397 | -.083  | .032  | .116  | -.194 |
| 80 | 223 | -.119  | .027  | -.029 | -.212 | 80 | 348 | -.198  | .083  | .192  | -.567  | 80 | 398 | -.066  | .028  | .086  | -.165 |
| 80 | 224 | -.114  | .026  | .025  | -.191 | 80 | 349 | -.116  | .133  | .484  | -.669  | 80 | 399 | -.089  | .025  | -.010 | -.256 |
| 80 | 225 | -.111  | .027  | .006  | -.201 | 80 | 350 | .168   | .117  | .291  | -.861  | 80 | 400 | -.083  | .022  | .038  | -.169 |
| 80 | 301 | -.098  | .121  | .519  | -.322 | 80 | 351 | -.123  | .162  | .583  | -.885  | 80 | 401 | -.090  | .025  | -.009 | -.213 |
| 80 | 302 | -.109  | .128  | .551  | -.426 | 80 | 352 | -.129  | .161  | .381  | -.181  | 80 | 402 | -.094  | .026  | .013  | -.185 |
| 80 | 303 | -.104  | .188  | .764  | -.390 | 80 | 353 | -.128  | .145  | .313  | -.950  | 80 | 403 | -.096  | .033  | .070  | -.197 |
| 80 | 304 | -.242  | .171  | .757  | -.502 | 80 | 354 | -.148  | .137  | .207  | -.934  | 80 | 404 | -.090  | .041  | .300  | -.219 |
| 80 | 305 | -.127  | .145  | .554  | -.389 | 80 | 355 | -.198  | .136  | .265  | -.818  | 80 | 405 | -.084  | .042  | .143  | -.201 |
| 80 | 306 | -.023  | .128  | .515  | -.463 | 80 | 356 | -.338  | .144  | .174  | -.1047 | 80 | 406 | -.064  | .050  | .157  | -.204 |
| 80 | 307 | -.121  | .139  | .536  | -.300 | 80 | 357 | -.260  | .170  | .301  | -.102  | 80 | 407 | -.058  | .039  | .193  | -.165 |
| 80 | 308 | -.142  | .175  | .660  | -.560 | 80 | 358 | -.045  | .086  | .498  | -.109  | 80 | 408 | -.092  | .025  | -.012 | -.235 |
| 80 | 309 | -.289  | .201  | .876  | -.249 | 80 | 359 | -.129  | .102  | .248  | -.719  | 80 | 409 | -.087  | .025  | .038  | -.188 |
| 80 | 310 | -.275  | .200  | 1.017 | -.426 | 80 | 360 | -.079  | .083  | .431  | -.462  | 80 | 410 | -.088  | .039  | .157  | -.233 |
| 80 | 311 | -.018  | .142  | .610  | -.514 | 80 | 361 | -.132  | .086  | .207  | -.575  | 80 | 411 | -.078  | .024  | -.018 | -.172 |
| 80 | 312 | -.226  | .189  | .825  | -.487 | 80 | 362 | -.095  | .067  | .308  | -.334  | 80 | 412 | -.084  | .022  | -.009 | -.226 |
| 80 | 313 | -.293  | .205  | .944  | -.329 | 80 | 363 | -.059  | .068  | .255  | -.366  | 80 | 413 | -.083  | .029  | .035  | -.188 |
| 80 | 314 | -.251  | .196  | .901  | -.550 | 80 | 364 | -.034  | .066  | .279  | -.317  | 80 | 414 | -.059  | .030  | .078  | -.152 |
| 80 | 315 | -.064  | .153  | .650  | -.526 | 80 | 365 | -.035  | .072  | .212  | -.467  | 80 | 415 | -.059  | .027  | .062  | -.152 |
| 80 | 316 | -.260  | .209  | 1.044 | -.302 | 80 | 366 | -.025  | .075  | .286  | -.537  | 80 | 416 | -.068  | .024  | .031  | -.166 |
| 80 | 317 | -.272  | .290  | 1.046 | -.290 | 80 | 367 | -.087  | .079  | .344  | -.562  | 80 | 417 | -.068  | .022  | -.002 | -.152 |
| 80 | 318 | -.158  | .175  | .726  | -.366 | 80 | 368 | -.136  | .086  | .306  | -.532  | 80 | 418 | -.076  | .023  | -.001 | -.157 |
| 80 | 319 | -.247  | .211  | .976  | -.446 | 80 | 369 | -.035  | .069  | .286  | -.478  | 80 | 419 | -.077  | .025  | .026  | -.171 |
| 80 | 320 | -.029  | .199  | .718  | -.903 | 80 | 370 | -.093  | .045  | .154  | -.331  | 80 | 420 | -.078  | .028  | .050  | -.195 |
| 80 | 321 | .006   | .127  | .487  | -.383 | 80 | 371 | -.068  | .046  | .133  | -.324  | 80 | 421 | -.087  | .035  | .127  | -.180 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|
| 80 | 422 | -.087  | .040  | .136  | -.294  | 80 | 550 | -.221  | .070  | -.047 | -.645  | 80 | 600 | -.063  | .027  | .081  | -.159  |
| 80 | 501 | -.294  | .106  | -.000 | -.761  | 80 | 551 | -.184  | .055  | -.027 | -.448  | 80 | 601 | -.093  | .029  | .016  | -.278  |
| 80 | 502 | -.304  | .108  | .032  | -.861  | 80 | 552 | -.158  | .061  | -.027 | -.872  | 80 | 602 | -.096  | .029  | -.000 | -.301  |
| 80 | 503 | -.373  | .118  | -.052 | -.859  | 80 | 553 | -.158  | .071  | -.093 | -.597  | 80 | 603 | -.120  | .021  | -.009 | -.194  |
| 80 | 504 | -.051  | .085  | .225  | -.477  | 80 | 554 | -.183  | .078  | -.145 | -.581  | 80 | 604 | -.155  | .050  | -.025 | -.468  |
| 80 | 505 | -.188  | .066  | .043  | -.451  | 80 | 555 | -.237  | .116  | -.097 | -.895  | 80 | 605 | -.068  | .031  | -.095 | -.160  |
| 80 | 506 | -.363  | .142  | .098  | -1.246 | 80 | 556 | -.144  | .094  | .381  | -.530  | 80 | 606 | -.073  | .027  | .052  | -.181  |
| 80 | 507 | -.197  | .084  | .061  | -.582  | 80 | 557 | -.164  | .101  | .280  | -.663  | 80 | 607 | -.073  | .030  | -.082 | -.239  |
| 80 | 508 | -.185  | .053  | -.016 | -.444  | 80 | 558 | -.165  | .043  | -.031 | -.408  | 80 | 608 | -.096  | .024  | -.014 | -.189  |
| 80 | 509 | -.145  | .082  | .093  | -.654  | 80 | 559 | -.223  | .093  | -.003 | -.832  | 80 | 609 | -.063  | .030  | -.085 | -.184  |
| 80 | 510 | -.179  | .113  | .107  | -.843  | 80 | 560 | -.155  | .039  | -.021 | -.372  | 80 | 610 | -.071  | .027  | .050  | -.158  |
| 80 | 511 | -.414  | .199  | .354  | -1.280 | 80 | 561 | -.242  | .131  | -.045 | -1.111 | 80 | 611 | -.080  | .027  | -.054 | -.196  |
| 80 | 512 | -.187  | .051  | .011  | -.459  | 80 | 562 | -.151  | .035  | -.056 | -.356  | 80 | 612 | -.118  | .019  | -.007 | -.201  |
| 80 | 513 | -.167  | .069  | .084  | -.509  | 80 | 563 | -.142  | .036  | -.021 | -.387  | 80 | 613 | -.115  | .020  | -.023 | -.174  |
| 80 | 514 | -.186  | .143  | .175  | -.825  | 80 | 564 | -.130  | .040  | -.131 | -.372  | 80 | 614 | -.125  | .024  | -.034 | -.215  |
| 80 | 515 | -.356  | .171  | .288  | -1.070 | 80 | 565 | -.129  | .049  | -.073 | -.478  | 80 | 615 | -.097  | .021  | -.002 | -.158  |
| 80 | 516 | -.184  | .094  | .091  | -.725  | 80 | 566 | -.138  | .052  | -.036 | -.465  | 80 | 616 | -.103  | .019  | -.007 | -.171  |
| 80 | 517 | -.127  | .093  | .372  | -.543  | 80 | 567 | -.184  | .080  | -.131 | -.662  | 80 | 617 | -.108  | .027  | -.005 | -.230  |
| 80 | 518 | -.213  | .068  | .023  | -.529  | 80 | 568 | -.226  | .114  | -.108 | -1.037 | 80 | 618 | -.123  | .033  | -.005 | -.324  |
| 80 | 519 | -.212  | .080  | .050  | -.625  | 80 | 569 | -.118  | .042  | -.131 | -.393  | 80 | 619 | -.085  | .029  | -.132 | -.151  |
| 80 | 520 | -.166  | .116  | .207  | -.711  | 80 | 570 | -.140  | .030  | -.040 | -.301  | 80 | 620 | -.077  | .022  | -.002 | -.155  |
| 80 | 521 | -.351  | .222  | .304  | -1.292 | 80 | 571 | -.131  | .027  | -.014 | -.322  | 80 | 621 | -.260  | .020  | -.080 | -.601  |
| 80 | 522 | -.158  | .049  | .032  | -.427  | 80 | 572 | -.134  | .037  | -.046 | -.346  | 80 | 622 | -.261  | .072  | -.064 | -.689  |
| 80 | 523 | -.157  | .056  | .036  | -.522  | 80 | 573 | -.108  | .033  | -.022 | -.279  | 80 | 623 | -.340  | .111  | -.069 | -1.030 |
| 80 | 524 | -.220  | .079  | .057  | -.809  | 80 | 574 | -.129  | .041  | -.017 | -.353  | 80 | 624 | -.258  | .096  | -.034 | -.670  |
| 80 | 525 | -.073  | .119  | .540  | -.602  | 80 | 575 | -.159  | .051  | -.010 | -.524  | 80 | 625 | -.245  | .061  | -.050 | -.528  |
| 80 | 526 | -.224  | .108  | .086  | -.952  | 80 | 576 | -.159  | .049  | -.009 | -.455  | 80 | 626 | -.215  | .060  | -.033 | -.599  |
| 80 | 527 | -.211  | .115  | .080  | -.872  | 80 | 577 | -.127  | .024  | -.040 | -.218  | 80 | 627 | -.211  | .049  | -.062 | -.405  |
| 80 | 528 | -.221  | .178  | .273  | -1.454 | 80 | 578 | -.119  | .024  | -.002 | -.211  | 80 | 628 | -.266  | .078  | -.028 | -.633  |
| 80 | 529 | -.340  | .231  | .303  | -1.323 | 80 | 579 | -.123  | .029  | -.028 | -.289  | 80 | 629 | -.251  | .064  | -.080 | -.528  |
| 80 | 530 | -.174  | .086  | .156  | -.619  | 80 | 580 | -.095  | .027  | -.004 | -.194  | 80 | 630 | -.243  | .065  | -.069 | -.629  |
| 80 | 531 | -.150  | .115  | .351  | -.615  | 80 | 581 | -.113  | .034  | -.016 | -.339  | 80 | 631 | -.229  | .072  | -.001 | -.609  |
| 80 | 532 | -.167  | .045  | -.012 | -.433  | 80 | 582 | -.144  | .054  | -.004 | -.424  | 80 | 632 | -.232  | .061  | -.045 | -.553  |
| 80 | 533 | -.147  | .044  | .016  | -.348  | 80 | 583 | -.151  | .055  | -.003 | -.469  | 80 | 633 | -.228  | .052  | -.039 | -.541  |
| 80 | 534 | -.213  | .106  | .009  | -.794  | 80 | 584 | -.118  | .021  | -.037 | -.192  | 80 | 634 | -.240  | .065  | -.034 | -.611  |
| 80 | 535 | -.030  | .098  | .409  | -.320  | 80 | 585 | -.112  | .021  | -.042 | -.192  | 80 | 635 | -.221  | .067  | -.028 | -.606  |
| 80 | 536 | -.114  | .088  | .294  | -.647  | 80 | 586 | -.122  | .025  | -.030 | -.263  | 80 | 636 | -.239  | .061  | -.055 | -.590  |
| 80 | 537 | -.161  | .087  | .091  | -.649  | 80 | 587 | -.096  | .023  | -.021 | -.206  | 80 | 637 | -.192  | .042  | -.064 | -.389  |
| 80 | 538 | -.160  | .094  | .170  | -.734  | 80 | 588 | -.105  | .023  | -.021 | -.211  | 80 | 638 | -.261  | .071  | -.039 | -.634  |
| 80 | 539 | -.267  | .162  | .262  | -.930  | 80 | 589 | -.128  | .040  | -.016 | -.398  | 80 | 639 | -.275  | .081  | -.080 | -.744  |
| 80 | 540 | -.303  | .157  | .285  | -.932  | 80 | 590 | -.132  | .040  | -.008 | -.348  | 80 | 640 | -.247  | .076  | -.048 | -.645  |
| 80 | 541 | -.106  | .072  | .252  | -.444  | 80 | 591 | -.094  | .025  | -.002 | -.181  | 80 | 641 | -.281  | .089  | -.071 | -.802  |
| 80 | 542 | -.112  | .069  | .172  | -.428  | 80 | 592 | -.089  | .025  | -.011 | -.169  | 80 | 642 | -.237  | .074  | -.035 | -.583  |
| 80 | 543 | -.187  | .048  | -.046 | -.403  | 80 | 593 | -.113  | .020  | -.051 | -.185  | 80 | 643 | -.233  | .069  | -.072 | -.539  |
| 80 | 544 | -.154  | .048  | .029  | -.394  | 80 | 594 | -.108  | .021  | -.005 | -.185  | 80 | 644 | -.231  | .057  | -.075 | -.479  |
| 80 | 545 | -.115  | .053  | .216  | -.362  | 80 | 595 | -.129  | .028  | -.041 | -.264  | 80 | 645 | -.226  | .050  | -.066 | -.454  |
| 80 | 546 | -.134  | .091  | .209  | -.592  | 80 | 596 | -.088  | .024  | -.002 | -.173  | 80 | 646 | -.202  | .048  | -.066 | -.421  |
| 80 | 547 | -.188  | .122  | .255  | -.934  | 80 | 597 | -.100  | .023  | -.015 | -.190  | 80 | 647 | -.195  | .050  | -.013 | -.503  |
| 80 | 548 | -.190  | .119  | .220  | -.877  | 80 | 598 | -.130  | .043  | -.007 | -.329  | 80 | 648 | -.180  | .050  | -.031 | -.440  |
| 80 | 549 | -.218  | .064  | -.054 | -.769  | 80 | 599 | -.152  | .048  | -.034 | -.447  | 80 | 649 | -.178  | .050  | -.008 | -.428  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 35

| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|
| 80 | 730 | -.207  | .043  | -.092 | -.372 | 80 | 780 | -.146  | .023  | -.067 | -.236 | 80 | 908 | -.255  | .078  | .048  | -.585  |
| 80 | 731 | -.237  | .050  | -.092 | -.440 | 80 | 781 | -.160  | .030  | -.086 | -.291 | 80 | 909 | -.246  | .064  | -.027 | -.494  |
| 80 | 732 | -.237  | .063  | -.013 | -.487 | 80 | 782 | -.152  | .029  | -.052 | -.416 | 80 | 910 | -.125  | .049  | -.160 | -.338  |
| 80 | 733 | -.223  | .054  | -.071 | -.531 | 80 | 783 | -.153  | .029  | -.067 | -.310 | 80 | 911 | -.230  | .085  | -.017 | -.586  |
| 80 | 734 | -.209  | .048  | -.083 | -.452 | 80 | 784 | -.173  | .046  | -.067 | -.510 | 80 | 912 | -.318  | .124  | -.086 | -1.141 |
| 80 | 735 | -.207  | .045  | -.083 | -.452 | 80 | 785 | -.172  | .039  | -.069 | -.409 | 80 | 913 | -.270  | .082  | -.071 | -.664  |
| 80 | 736 | -.188  | .039  | -.024 | -.379 | 80 | 786 | -.148  | .023  | -.065 | -.255 | 80 | 914 | -.227  | .072  | -.029 | -.516  |
| 80 | 737 | -.203  | .050  | -.066 | -.501 | 80 | 787 | -.140  | .020  | -.050 | -.233 | 80 | 915 | -.251  | .066  | -.027 | -.510  |
| 80 | 738 | -.221  | .061  | -.076 | -.557 | 80 | 788 | -.146  | .027  | -.077 | -.404 | 80 | 916 | -.242  | .072  | -.066 | -.667  |
| 80 | 739 | -.202  | .055  | -.083 | -.519 | 80 | 789 | -.137  | .024  | -.062 | -.337 | 80 | 917 | -.251  | .074  | -.125 | -.552  |
| 80 | 740 | -.199  | .054  | -.022 | -.578 | 80 | 790 | -.134  | .021  | -.060 | -.209 | 80 | 918 | -.255  | .064  | -.057 | -.677  |
| 80 | 741 | -.197  | .041  | -.090 | -.449 | 80 | 791 | -.151  | .023  | -.060 | -.287 | 80 | 919 | -.098  | .070  | .280  | -.378  |
| 80 | 742 | -.238  | .052  | -.118 | -.559 | 80 | 792 | -.145  | .025  | -.070 | -.314 | 80 | 920 | -.264  | .106  | .030  | -.771  |
| 80 | 743 | -.212  | .057  | -.080 | -.536 | 80 | 793 | -.152  | .029  | -.066 | -.321 | 80 | 921 | -.320  | .095  | .016  | -.831  |
| 80 | 744 | -.225  | .057  | -.071 | -.603 | 80 | 794 | -.139  | .021  | -.064 | -.240 | 80 | 922 | -.287  | .095  | -.071 | -.762  |
| 80 | 745 | -.233  | .054  | -.085 | -.554 | 80 | 795 | -.144  | .024  | -.066 | -.251 | 80 | 923 | -.345  | .135  | .195  | -.869  |
| 80 | 746 | -.243  | .069  | -.101 | -.799 | 80 | 796 | -.144  | .025  | -.057 | -.237 | 80 | 924 | -.022  | .137  | .447  | -.648  |
| 80 | 747 | -.243  | .081  | -.064 | -.862 | 80 | 797 | -.137  | .027  | -.034 | -.254 | 80 | 925 | -.137  | .111  | .255  | -.847  |
| 80 | 748 | -.234  | .069  | -.085 | -.636 | 80 | 798 | -.176  | .043  | -.085 | -.559 | 80 | 926 | -.018  | .104  | .359  | -.375  |
| 80 | 749 | -.213  | .054  | -.075 | -.478 | 80 | 799 | -.166  | .037  | -.073 | -.436 | 80 | 927 | -.078  | .100  | .318  | -.410  |
| 80 | 750 | -.205  | .053  | -.070 | -.482 | 80 | 800 | -.146  | .024  | -.076 | -.307 | 80 | 928 | -.259  | .190  | .925  | -.337  |
| 80 | 751 | -.211  | .053  | -.080 | -.487 | 80 | 801 | -.132  | .021  | -.048 | -.201 | 80 | 929 | -.097  | .249  | .883  | -.864  |
| 80 | 752 | -.213  | .047  | -.098 | -.418 | 80 | 802 | -.145  | .031  | -.059 | -.383 | 80 | 930 | -.177  | .119  | .406  | -.807  |
| 80 | 753 | -.214  | .049  | -.093 | -.434 | 80 | 803 | -.135  | .024  | -.048 | -.249 | 80 | 931 | -.303  | .097  | -.030 | -.926  |
| 80 | 754 | -.214  | .049  | -.080 | -.473 | 80 | 804 | -.134  | .023  | -.043 | -.235 | 80 | 932 | -.043  | .075  | .311  | -.358  |
| 80 | 755 | -.220  | .075  | -.010 | -.702 | 80 | 805 | -.142  | .025  | -.055 | -.272 | 80 | 933 | -.094  | .149  | .616  | -.604  |
| 80 | 756 | -.222  | .065  | -.064 | -.617 | 80 | 806 | -.149  | .026  | -.050 | -.274 | 80 | 934 | -.009  | .151  | .649  | -.484  |
| 80 | 757 | -.213  | .063  | -.052 | -.624 | 80 | 807 | -.147  | .027  | -.016 | -.254 | 80 | 935 | -.021  | .102  | .305  | -.306  |
| 80 | 758 | -.198  | .050  | -.073 | -.482 | 80 | 808 | -.122  | .027  | -.016 | -.242 | 80 | 936 | -.065  | .076  | .195  | -.276  |
| 80 | 759 | -.178  | .042  | -.032 | -.416 | 80 | 809 | -.165  | .040  | -.073 | -.436 | 80 | 937 | -.118  | .145  | .737  | -.161  |
| 80 | 760 | -.192  | .051  | -.020 | -.471 | 80 | 810 | -.137  | .020  | -.050 | -.224 | 80 | 938 | -.146  | .130  | .705  | -.101  |
| 80 | 761 | -.170  | .041  | -.039 | -.382 | 80 | 811 | -.131  | .020  | -.062 | -.221 | 80 | 939 | -.004  | .091  | .568  | -.240  |
| 80 | 762 | -.183  | .044  | -.045 | -.407 | 80 | 812 | -.127  | .022  | -.050 | -.221 | 80 | 940 | -.264  | .057  | -.096 | -.500  |
| 80 | 763 | -.183  | .044  | -.057 | -.377 | 80 | 813 | -.145  | .026  | -.010 | -.288 | 80 | 941 | -.136  | .012  | -.104 | -.192  |
| 80 | 764 | -.196  | .058  | -.027 | -.558 | 80 | 814 | -.145  | .026  | -.055 | -.242 | 80 | 942 | -.138  | .025  | -.057 | -.244  |
| 80 | 765 | -.208  | .050  | -.057 | -.450 | 80 | 815 | -.128  | .025  | -.025 | -.230 | 80 | 943 | -.128  | .026  | -.009 | -.217  |
| 80 | 766 | -.190  | .050  | -.065 | -.443 | 80 | 816 | -.151  | .031  | -.078 | -.351 | 80 | 944 | -.128  | .025  | -.041 | -.226  |
| 80 | 767 | -.168  | .041  | -.053 | -.400 | 80 | 817 | -.146  | .027  | -.053 | -.281 | 80 | 945 | -.094  | .023  | -.009 | -.181  |
| 80 | 768 | -.172  | .042  | -.055 | -.400 | 80 | 818 | -.139  | .022  | -.071 | -.295 | 80 | 946 | -.124  | .030  | -.027 | -.215  |
| 80 | 769 | -.157  | .030  | -.040 | -.298 | 80 | 819 | -.130  | .025  | -.033 | -.305 | 80 | 947 | -.124  | .032  | .063  | -.285  |
| 80 | 770 | -.159  | .036  | -.057 | -.419 | 80 | 820 | -.139  | .036  | -.030 | -.364 | 80 | 948 | -.134  | .027  | -.005 | -.233  |
| 80 | 771 | -.166  | .042  | -.062 | -.455 | 80 | 821 | -.128  | .023  | -.059 | -.244 | 80 | 949 | -.136  | .029  | -.034 | -.271  |
| 80 | 772 | -.172  | .048  | -.053 | -.523 | 80 | 822 | -.126  | .020  | -.061 | -.217 | 80 | 950 | -.111  | .025  | -.030 | -.212  |
| 80 | 773 | -.158  | .027  | -.072 | -.277 | 80 | 901 | -.220  | .040  | -.135 | -.437 | 80 | 951 | -.135  | .027  | -.041 | -.237  |
| 80 | 774 | -.173  | .039  | -.069 | -.501 | 80 | 902 | -.249  | .072  | -.112 | -.601 | 80 | 952 | -.165  | .036  | -.036 | -.458  |
| 80 | 775 | -.165  | .035  | -.069 | -.356 | 80 | 903 | -.239  | .051  | -.130 | -.528 | 80 | 953 | -.144  | .037  | .101  | -.350  |
| 80 | 776 | -.164  | .035  | -.062 | -.404 | 80 | 904 | -.229  | .053  | -.105 | -.473 | 80 | 954 | -.146  | .048  | .022  | -.544  |
| 80 | 777 | -.159  | .036  | -.067 | -.368 | 80 | 905 | -.218  | .039  | -.132 | -.370 | 80 | 955 | -.111  | .033  | .146  | -.235  |
| 80 | 778 | -.158  | .035  | -.045 | -.361 | 80 | 906 | -.151  | .059  | -.088 | -.349 | 80 | 956 | -.033  | .037  | .135  | -.129  |
| 80 | 779 | -.159  | .033  | -.065 | -.322 | 80 | 907 | -.228  | .062  | -.074 | -.550 | 80 | 957 | -.034  | .039  | .223  | -.156  |

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|------|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|
| 80 | 958  | -.027  | .047  | .230  | -.163 | 90 | 109 | -.244  | .066  | -.054 | -.775  | 90 | 159 | -.255  | .067  | -.072 | -.542  |
| 80 | 959  | -.100  | .043  | .178  | -.244 | 90 | 110 | -.253  | .069  | -.009 | -.655  | 90 | 160 | -.336  | .133  | -.092 | -.1248 |
| 80 | 960  | -.039  | .039  | .216  | -.201 | 90 | 111 | -.280  | .087  | -.009 | -.788  | 90 | 161 | -.248  | .069  | -.070 | -.619  |
| 80 | 961  | -.044  | .041  | .164  | -.203 | 90 | 112 | -.240  | .059  | -.070 | -.522  | 90 | 162 | -.321  | .116  | -.086 | -.1104 |
| 80 | 962  | -.072  | .028  | .045  | -.206 | 90 | 113 | -.252  | .068  | -.027 | -.705  | 90 | 163 | -.313  | .114  | -.086 | -.1165 |
| 80 | 963  | -.051  | .037  | .170  | -.199 | 90 | 114 | -.256  | .074  | -.070 | -.662  | 90 | 164 | -.316  | .108  | -.052 | -.872  |
| 80 | 964  | -.034  | .036  | .263  | -.142 | 90 | 115 | -.263  | .084  | -.041 | -.764  | 90 | 165 | -.334  | .112  | -.086 | -.896  |
| 80 | 965  | -.058  | .032  | .155  | -.215 | 90 | 116 | -.246  | .064  | -.032 | -.633  | 90 | 166 | -.269  | .077  | -.034 | -.645  |
| 80 | 966  | -.044  | .135  | .426  | -.440 | 90 | 117 | -.245  | .059  | -.066 | -.542  | 90 | 167 | -.248  | .075  | -.081 | -.617  |
| 80 | 967  | -.102  | .032  | .079  | -.227 | 90 | 118 | -.271  | .103  | -.032 | -1.083 | 90 | 168 | -.230  | .073  | -.006 | -.636  |
| 80 | 968  | -.059  | .028  | .122  | -.177 | 90 | 119 | -.267  | .073  | -.090 | -.667  | 90 | 169 | -.266  | .073  | -.020 | -.678  |
| 80 | 969  | -.054  | .032  | .122  | -.148 | 90 | 120 | -.256  | .066  | -.041 | -.680  | 90 | 170 | -.295  | .099  | -.088 | -.865  |
| 80 | 970  | -.086  | .032  | .191  | -.198 | 90 | 121 | -.256  | .065  | -.025 | -.561  | 90 | 171 | -.303  | .092  | -.074 | -.1023 |
| 80 | 971  | -.106  | .033  | .022  | -.220 | 90 | 122 | -.268  | .082  | -.000 | -.877  | 90 | 172 | -.313  | .118  | -.020 | -.1445 |
| 80 | 1001 | -.154  | .034  | -.021 | -.322 | 90 | 123 | -.275  | .092  | -.020 | -.863  | 90 | 173 | -.249  | .074  | -.015 | -.681  |
| 80 | 1002 | -.134  | .020  | -.072 | -.220 | 90 | 124 | -.337  | .127  | -.018 | -.985  | 90 | 174 | -.220  | .075  | -.060 | -.537  |
| 80 | 1003 | -.254  | .068  | -.086 | -.585 | 90 | 125 | -.312  | .111  | -.029 | -.902  | 90 | 175 | -.180  | .051  | -.032 | -.461  |
| 80 | 1004 | -.273  | .070  | -.064 | -.595 | 90 | 126 | -.267  | .076  | -.023 | -.644  | 90 | 176 | -.188  | .054  | -.020 | -.494  |
| 80 | 1005 | -.220  | .056  | -.072 | -.521 | 90 | 127 | -.264  | .074  | -.058 | -.630  | 90 | 177 | -.289  | .100  | -.091 | -.891  |
| 80 | 1006 | -.257  | .070  | -.009 | -.550 | 90 | 128 | -.268  | .081  | -.023 | -.673  | 90 | 178 | -.288  | .100  | -.074 | -.1363 |
| 80 | 1007 | -.094  | .023  | .012  | -.172 | 90 | 129 | -.248  | .081  | -.057 | -.648  | 90 | 179 | -.287  | .122  | -.025 | -.1072 |
| 80 | 1008 | -.121  | .031  | .036  | -.212 | 90 | 130 | -.251  | .060  | -.060 | -.495  | 90 | 180 | -.215  | .068  | -.015 | -.612  |
| 80 | 1009 | -.130  | .042  | .065  | -.399 | 90 | 131 | -.259  | .066  | -.085 | -.572  | 90 | 181 | -.169  | .046  | -.013 | -.423  |
| 80 | 1010 | -.189  | .064  | .017  | -.504 | 90 | 132 | -.274  | .072  | -.019 | -.627  | 90 | 182 | -.153  | .038  | -.029 | -.346  |
| 80 | 1011 | -.112  | .024  | -.041 | -.217 | 90 | 133 | -.275  | .074  | -.037 | -.730  | 90 | 183 | -.157  | .040  | -.022 | -.360  |
| 80 | 1012 | -.133  | .029  | -.029 | -.258 | 90 | 134 | -.291  | .091  | -.035 | -.781  | 90 | 184 | -.249  | .083  | -.095 | -.931  |
| 80 | 1013 | -.029  | .115  | .357  | -.480 | 90 | 135 | -.273  | .071  | -.081 | -.561  | 90 | 185 | -.254  | .084  | -.074 | -.1183 |
| 80 | 1014 | -.184  | .085  | .118  | -.673 | 90 | 136 | -.264  | .065  | -.039 | -.563  | 90 | 186 | -.228  | .080  | -.056 | -.768  |
| 80 | 1015 | -.239  | .121  | .193  | -.676 | 90 | 137 | -.292  | .083  | -.006 | -.662  | 90 | 187 | -.166  | .047  | -.046 | -.447  |
| 80 | 1016 | -.261  | .078  | -.005 | -.693 | 90 | 138 | -.277  | .074  | -.076 | -.737  | 90 | 188 | -.143  | .038  | -.037 | -.369  |
| 80 | 1017 | -.028  | .037  | .129  | -.136 | 90 | 139 | -.279  | .084  | -.046 | -.739  | 90 | 189 | -.142  | .031  | -.046 | -.348  |
| 80 | 1018 | -.028  | .037  | .203  | -.126 | 90 | 140 | -.283  | .093  | -.044 | -.845  | 90 | 190 | -.148  | .032  | -.043 | -.334  |
| 80 | 1019 | -.033  | .040  | .165  | -.146 | 90 | 141 | -.270  | .070  | -.010 | -.593  | 90 | 191 | -.165  | .048  | -.084 | -.504  |
| 80 | 1020 | -.047  | .062  | .220  | -.351 | 90 | 142 | -.291  | .085  | -.046 | -.959  | 90 | 192 | -.157  | .045  | -.020 | -.497  |
| 80 | 1021 | -.094  | .021  | -.007 | -.155 | 90 | 143 | -.288  | .080  | -.085 | -.792  | 90 | 193 | -.142  | .034  | -.004 | -.298  |
| 80 | 1022 | -.122  | .023  | -.048 | -.200 | 90 | 144 | -.275  | .079  | -.051 | -.868  | 90 | 194 | -.253  | .096  | -.129 | -.1062 |
| 80 | 1023 | -.133  | .028  | -.021 | -.317 | 90 | 145 | -.284  | .077  | -.071 | -.701  | 90 | 195 | -.272  | .118  | -.016 | -.300  |
| 80 | 1024 | -.161  | .040  | -.050 | -.387 | 90 | 146 | -.291  | .086  | -.060 | -.705  | 90 | 196 | -.175  | .075  | -.233 | -.558  |
| 80 | 1025 | -.064  | .028  | .115  | -.160 | 90 | 147 | -.290  | .089  | -.055 | -.739  | 90 | 197 | -.135  | .036  | -.052 | -.310  |
| 80 | 1026 | -.068  | .026  | .031  | -.169 | 90 | 148 | -.275  | .078  | -.074 | -.634  | 90 | 198 | -.107  | .030  | -.000 | -.278  |
| 80 | 1027 | -.072  | .023  | .022  | -.148 | 90 | 149 | -.337  | .099  | -.030 | -.849  | 90 | 199 | -.105  | .031  | -.009 | -.273  |
| 80 | 1028 | -.066  | .025  | -.048 | -.147 | 90 | 150 | -.306  | .085  | -.052 | -.726  | 90 | 200 | -.102  | .028  | -.016 | -.228  |
| 90 | 101  | -.296  | .072  | -.077 | -.655 | 90 | 151 | -.332  | .105  | -.119 | -1.008 | 90 | 201 | -.117  | .028  | -.005 | -.269  |
| 90 | 102  | -.224  | .058  | -.056 | -.601 | 90 | 152 | -.303  | .088  | -.099 | -1.010 | 90 | 202 | -.159  | .032  | -.027 | -.294  |
| 90 | 103  | -.125  | .059  | .156  | -.389 | 90 | 153 | -.296  | .080  | -.097 | -.668  | 90 | 203 | -.145  | .029  | -.023 | -.357  |
| 90 | 104  | -.366  | .100  | -.086 | -.735 | 90 | 154 | -.283  | .078  | -.090 | -.773  | 90 | 204 | -.134  | .027  | -.041 | -.296  |
| 90 | 105  | -.232  | .057  | -.052 | -.673 | 90 | 155 | -.271  | .077  | -.070 | -.674  | 90 | 205 | -.136  | .026  | -.043 | -.282  |
| 90 | 106  | -.266  | .081  | -.048 | -.832 | 90 | 156 | -.252  | .062  | -.097 | -.540  | 90 | 206 | -.136  | .030  | -.023 | -.454  |
| 90 | 107  | -.241  | .061  | -.054 | -.590 | 90 | 157 | -.259  | .066  | -.086 | -.531  | 90 | 207 | -.135  | .028  | -.020 | -.280  |
| 90 | 108  | -.238  | .060  | -.068 | -.614 | 90 | 158 | -.307  | .100  | -.050 | -.916  | 90 | 208 | -.138  | .031  | -.043 | -.287  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|---------|
| 90 | 209 | -.108  | .030  | .025  | -.219 | 90 | 334 | .132   | .156  | .702  | -.430 | 90 | 384 | -.055  | .049  | .239  | -.382   |
| 90 | 210 | -.080  | .035  | .075  | -.250 | 90 | 335 | .138   | .146  | .750  | -.233 | 90 | 385 | -.057  | .042  | .113  | -.484   |
| 90 | 211 | -.155  | .028  | -.037 | -.364 | 90 | 336 | .176   | .160  | .853  | -.181 | 90 | 386 | -.054  | .042  | .237  | -.238   |
| 90 | 212 | -.133  | .025  | -.039 | -.238 | 90 | 337 | .129   | .156  | .910  | -.236 | 90 | 387 | -.046  | .050  | .232  | -.236   |
| 90 | 213 | -.130  | .026  | -.033 | -.277 | 90 | 338 | -.004  | .166  | .669  | -.556 | 90 | 388 | -.089  | .043  | .173  | -.276   |
| 90 | 214 | -.131  | .028  | -.042 | -.250 | 90 | 339 | -.038  | .102  | .537  | -.305 | 90 | 389 | -.114  | .033  | .078  | -.241   |
| 90 | 215 | -.097  | .035  | .077  | -.271 | 90 | 340 | -.093  | .082  | .298  | -.324 | 90 | 390 | -.156  | .036  | -.026 | -.382   |
| 90 | 216 | -.098  | .032  | .018  | -.211 | 90 | 341 | .209   | .174  | .896  | -.154 | 90 | 391 | -.053  | .049  | .230  | -.177   |
| 90 | 217 | -.093  | .028  | .093  | -.179 | 90 | 342 | .150   | .148  | .704  | -.150 | 90 | 392 | -.058  | .048  | .265  | -.245   |
| 90 | 218 | -.114  | .025  | .036  | -.222 | 90 | 343 | .035   | .112  | .623  | -.370 | 90 | 393 | -.048  | .053  | .343  | -.179   |
| 90 | 219 | -.159  | .030  | -.007 | -.300 | 90 | 344 | .108   | .131  | .748  | -.176 | 90 | 394 | -.065  | .051  | .205  | -.180   |
| 90 | 220 | -.136  | .023  | -.053 | -.220 | 90 | 345 | .143   | .157  | .822  | -.202 | 90 | 395 | -.101  | .036  | .132  | -.227   |
| 90 | 221 | -.131  | .025  | -.023 | -.220 | 90 | 346 | .050   | .111  | .606  | -.202 | 90 | 396 | -.134  | .037  | .073  | -.482   |
| 90 | 222 | -.133  | .025  | -.055 | -.277 | 90 | 347 | -.056  | .095  | .508  | -.303 | 90 | 397 | -.060  | .040  | .158  | -.209   |
| 90 | 223 | -.127  | .025  | -.046 | -.225 | 90 | 348 | -.186  | .072  | .137  | -.437 | 90 | 398 | -.055  | .037  | .129  | -.280   |
| 90 | 224 | -.128  | .025  | -.035 | -.229 | 90 | 349 | -.029  | .140  | .568  | -.687 | 90 | 399 | -.099  | .030  | .011  | -.240   |
| 90 | 225 | -.129  | .027  | -.039 | -.257 | 90 | 350 | -.067  | .128  | .404  | -.777 | 90 | 400 | -.093  | .024  | .008  | -.175   |
| 90 | 301 | .116   | .119  | .472  | -.311 | 90 | 351 | -.085  | .170  | .500  | -.096 | 90 | 401 | -.095  | .025  | .017  | -.211   |
| 90 | 302 | .102   | .123  | .536  | -.311 | 90 | 352 | -.197  | .206  | .432  | -.160 | 90 | 402 | -.095  | .026  | .006  | -.193   |
| 90 | 303 | .089   | .171  | .643  | -.313 | 90 | 353 | -.228  | .167  | .343  | -.002 | 90 | 403 | -.097  | .029  | .020  | -.227   |
| 90 | 304 | .248   | .178  | .835  | -.415 | 90 | 354 | -.231  | .143  | .239  | -.969 | 90 | 404 | -.096  | .033  | .085  | -.209   |
| 90 | 305 | .173   | .138  | .724  | -.247 | 90 | 355 | -.267  | .136  | .131  | -.908 | 90 | 405 | -.094  | .035  | .058  | -.247   |
| 90 | 306 | .040   | .096  | .363  | -.336 | 90 | 356 | -.352  | .112  | -.019 | -.885 | 90 | 406 | -.071  | .046  | .293  | -.260   |
| 90 | 307 | .137   | .131  | .702  | -.292 | 90 | 357 | -.321  | .103  | .162  | -.737 | 90 | 407 | -.043  | .041  | .197  | -.162   |
| 90 | 308 | .233   | .177  | .893  | -.314 | 90 | 358 | -.010  | .097  | .427  | -.598 | 90 | 408 | -.106  | .030  | -.021 | -.304   |
| 90 | 309 | .274   | .183  | 1.016 | -.275 | 90 | 359 | -.161  | .098  | .192  | -.666 | 90 | 409 | -.095  | .027  | -.009 | -.265   |
| 90 | 310 | .256   | .185  | .854  | -.233 | 90 | 360 | -.042  | .098  | .430  | -.744 | 90 | 410 | -.094  | .035  | .071  | -.218   |
| 90 | 311 | .048   | .115  | .508  | -.398 | 90 | 361 | -.155  | .086  | .147  | -.690 | 90 | 411 | -.095  | .029  | -.001 | -.280   |
| 90 | 312 | .291   | .195  | .887  | -.204 | 90 | 362 | -.042  | .076  | .392  | -.330 | 90 | 412 | -.100  | -.027 | -.010 | -.209   |
| 90 | 313 | .316   | .207  | .992  | -.280 | 90 | 363 | -.032  | .069  | .303  | -.342 | 90 | 413 | -.092  | .027  | .030  | -.232   |
| 90 | 314 | .245   | .183  | .785  | -.396 | 90 | 364 | -.043  | .070  | .232  | -.368 | 90 | 414 | -.048  | .031  | .110  | -.157   |
| 90 | 315 | .074   | .133  | .503  | -.354 | 90 | 365 | -.066  | .076  | .286  | -.868 | 90 | 415 | -.048  | .031  | .089  | -.164   |
| 90 | 316 | .285   | .210  | .933  | -.344 | 90 | 366 | -.058  | .080  | .289  | -.558 | 90 | 416 | -.090  | .026  | .006  | -.185   |
| 90 | 317 | .326   | .207  | 1.030 | -.275 | 90 | 367 | -.121  | .066  | .168  | -.538 | 90 | 417 | -.081  | .023  | .020  | -.154   |
| 90 | 318 | .206   | .190  | .918  | -.332 | 90 | 368 | -.175  | .067  | .093  | -.555 | 90 | 418 | -.081  | .024  | .013  | -.169   |
| 90 | 319 | .272   | .223  | 1.008 | -.491 | 90 | 369 | -.081  | .067  | .234  | -.489 | 90 | 419 | -.078  | .028  | .084  | -.164   |
| 90 | 320 | .062   | .176  | .686  | -.624 | 90 | 370 | -.062  | .049  | .153  | -.347 | 90 | 420 | -.082  | .025  | .006  | -.173   |
| 90 | 321 | .052   | .123  | .505  | -.349 | 90 | 371 | -.056  | .052  | .220  | -.355 | 90 | 421 | -.091  | .031  | .020  | -.232   |
| 90 | 322 | .215   | .198  | .842  | -.448 | 90 | 372 | -.067  | .046  | .205  | -.293 | 90 | 422 | -.087  | .036  | .126  | -.228   |
| 90 | 323 | .213   | .200  | .933  | -.361 | 90 | 373 | -.060  | .046  | .145  | -.214 | 90 | 501 | -.273  | .110  | .018  | -.745   |
| 90 | 324 | .273   | .199  | .880  | -.446 | 90 | 374 | -.114  | .068  | .153  | -.498 | 90 | 502 | -.249  | .118  | .185  | -.888   |
| 90 | 325 | .220   | .180  | .833  | -.396 | 90 | 375 | -.132  | .056  | .135  | -.333 | 90 | 503 | -.334  | .114  | .120  | -.793   |
| 90 | 326 | .260   | .209  | .876  | -.339 | 90 | 376 | -.173  | .062  | .108  | -.526 | 90 | 504 | -.017  | .081  | .299  | -.417   |
| 90 | 327 | .134   | .202  | .824  | -.628 | 90 | 377 | -.064  | .045  | .168  | -.347 | 90 | 505 | -.152  | .057  | .075  | -.488   |
| 90 | 328 | .085   | .144  | .712  | -.399 | 90 | 378 | -.062  | .041  | .096  | -.333 | 90 | 506 | -.299  | .171  | .409  | -.1.216 |
| 90 | 329 | .027   | .130  | .551  | -.535 | 90 | 379 | -.072  | .037  | .138  | -.261 | 90 | 507 | -.120  | .094  | .185  | -.634   |
| 90 | 330 | .306   | .203  | 1.106 | -.152 | 90 | 380 | -.025  | .037  | .073  | -.263 | 90 | 508 | -.165  | .048  | -.002 | -.393   |
| 90 | 331 | .241   | .196  | .905  | -.255 | 90 | 381 | -.129  | .056  | .083  | -.397 | 90 | 509 | -.065  | .077  | .256  | -.508   |
| 90 | 332 | .103   | .154  | .733  | -.449 | 90 | 382 | -.143  | .048  | .086  | -.335 | 90 | 510 | -.077  | .103  | .276  | -.832   |
| 90 | 333 | .131   | .159  | .846  | -.174 | 90 | 383 | -.173  | .056  | .083  | -.461 | 90 | 511 | -.325  | .229  | .378  | -.1.148 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|-------|
| 90 | 512 | -.179  | .051  | .129  | -.614  | 90 | 562 | -.144  | .041  | -.012 | -.417 | 90 | 612 | -.121  | .022  | -.053 | -.283 |
| 90 | 513 | -.109  | .068  | .133  | -.413  | 90 | 563 | -.126  | .040  | .066  | -.315 | 90 | 613 | -.113  | .022  | -.028 | -.193 |
| 90 | 514 | -.071  | .140  | .319  | -.793  | 90 | 564 | -.088  | .045  | .082  | -.331 | 90 | 614 | -.118  | .027  | -.017 | -.239 |
| 90 | 515 | -.265  | .209  | .464  | -.126  | 90 | 565 | -.074  | .050  | .174  | -.345 | 90 | 615 | -.074  | .024  | -.022 | -.141 |
| 90 | 516 | -.103  | .084  | .215  | -.684  | 90 | 566 | -.065  | .057  | .136  | -.515 | 90 | 616 | -.078  | .021  | -.003 | -.159 |
| 90 | 517 | -.036  | .110  | .523  | -.700  | 90 | 567 | -.080  | .086  | .271  | -.776 | 90 | 617 | -.079  | .026  | -.034 | -.193 |
| 90 | 518 | -.192  | .059  | .004  | -.440  | 90 | 568 | -.099  | .117  | .266  | -.780 | 90 | 618 | -.086  | .029  | -.052 | -.242 |
| 90 | 519 | -.196  | .079  | .059  | -.537  | 90 | 569 | -.067  | .046  | .153  | -.295 | 90 | 619 | -.058  | .034  | -.100 | -.170 |
| 90 | 520 | -.071  | .135  | .367  | -.684  | 90 | 570 | -.134  | .037  | -.008 | -.382 | 90 | 620 | -.086  | .025  | -.054 | -.170 |
| 90 | 521 | -.229  | .223  | .453  | -.1232 | 90 | 571 | -.114  | .034  | .053  | -.295 | 90 | 701 | -.224  | .056  | -.062 | -.503 |
| 90 | 522 | -.153  | .053  | .040  | -.446  | 90 | 572 | -.118  | .053  | .067  | -.598 | 90 | 702 | -.243  | .059  | -.086 | -.487 |
| 90 | 523 | -.138  | .059  | .081  | -.528  | 90 | 573 | -.059  | .036  | .089  | -.193 | 90 | 703 | -.307  | .076  | -.082 | -.670 |
| 90 | 524 | -.209  | .084  | .127  | -.700  | 90 | 574 | -.066  | .037  | .120  | -.245 | 90 | 704 | -.171  | .085  | -.074 | -.599 |
| 90 | 525 | -.008  | .131  | .582  | -.449  | 90 | 575 | -.070  | .048  | .205  | -.285 | 90 | 705 | -.223  | .054  | -.076 | -.605 |
| 90 | 526 | -.135  | .099  | .258  | -.743  | 90 | 576 | -.079  | .057  | .200  | -.558 | 90 | 706 | -.203  | .050  | -.036 | -.486 |
| 90 | 527 | -.118  | .124  | .249  | -.767  | 90 | 577 | -.124  | .032  | .008  | -.397 | 90 | 707 | -.200  | .044  | -.064 | -.380 |
| 90 | 528 | -.095  | .187  | .327  | -.1202 | 90 | 578 | -.107  | .030  | .004  | -.269 | 90 | 708 | -.253  | .065  | -.026 | -.662 |
| 90 | 529 | -.143  | .232  | .496  | -.1613 | 90 | 579 | -.104  | .039  | .062  | -.517 | 90 | 709 | -.223  | .055  | -.086 | -.541 |
| 90 | 530 | -.110  | .100  | .263  | -.707  | 90 | 580 | -.063  | .030  | .075  | -.236 | 90 | 710 | -.229  | .060  | -.075 | -.525 |
| 90 | 531 | -.083  | .123  | .348  | -.691  | 90 | 581 | -.068  | .029  | .060  | -.188 | 90 | 711 | -.214  | .059  | -.043 | -.494 |
| 90 | 532 | -.164  | .049  | .006  | -.418  | 90 | 582 | -.071  | .034  | .065  | -.231 | 90 | 712 | -.217  | .048  | -.064 | -.443 |
| 90 | 533 | -.133  | .045  | .084  | -.315  | 90 | 583 | -.073  | .038  | .098  | -.311 | 90 | 713 | -.219  | .046  | -.093 | -.416 |
| 90 | 534 | -.202  | .108  | .121  | -.760  | 90 | 584 | -.122  | .024  | -.001 | -.288 | 90 | 714 | -.218  | .056  | -.066 | -.465 |
| 90 | 535 | -.026  | .109  | .441  | -.283  | 90 | 585 | -.108  | .026  | .013  | -.257 | 90 | 715 | -.212  | .057  | -.046 | -.547 |
| 90 | 536 | -.041  | .099  | .366  | -.567  | 90 | 586 | -.112  | .032  | -.004 | -.295 | 90 | 716 | -.220  | .053  | -.071 | -.485 |
| 90 | 537 | -.078  | .096  | .233  | -.638  | 90 | 587 | -.071  | .026  | .025  | -.217 | 90 | 717 | -.196  | .039  | -.073 | -.354 |
| 90 | 538 | -.071  | .108  | .306  | -.1088 | 90 | 588 | -.070  | .025  | .041  | -.172 | 90 | 718 | -.250  | .062  | -.035 | -.523 |
| 90 | 539 | -.154  | .191  | .405  | -.1088 | 90 | 589 | -.066  | .030  | .032  | -.169 | 90 | 719 | -.264  | .070  | -.086 | -.816 |
| 90 | 540 | -.187  | .186  | .453  | -.975  | 90 | 590 | -.072  | .036  | .060  | -.264 | 90 | 720 | -.244  | .065  | -.049 | -.628 |
| 90 | 541 | -.024  | .082  | .281  | -.407  | 90 | 591 | -.064  | .025  | .039  | -.147 | 90 | 721 | -.267  | .081  | -.078 | -.663 |
| 90 | 542 | -.025  | .081  | .325  | -.411  | 90 | 592 | -.064  | .024  | .039  | -.150 | 90 | 722 | -.233  | .059  | -.017 | -.574 |
| 90 | 543 | -.227  | .069  | -.024 | -.648  | 90 | 593 | -.114  | .024  | -.022 | -.253 | 90 | 723 | -.223  | .052  | -.042 | -.438 |
| 90 | 544 | -.160  | .051  | .036  | -.361  | 90 | 594 | -.106  | .021  | -.029 | -.183 | 90 | 724 | -.230  | .046  | -.104 | -.429 |
| 90 | 545 | -.090  | .051  | .162  | -.283  | 90 | 595 | -.109  | .027  | .004  | -.244 | 90 | 725 | -.238  | .050  | -.113 | -.465 |
| 90 | 546 | -.038  | .101  | .329  | -.590  | 90 | 596 | -.067  | .025  | .058  | -.171 | 90 | 726 | -.201  | .048  | -.069 | -.456 |
| 90 | 547 | -.071  | .144  | .504  | -.822  | 90 | 597 | -.072  | .022  | .018  | -.176 | 90 | 727 | -.192  | .050  | -.049 | -.459 |
| 90 | 548 | -.093  | .138  | .396  | -.771  | 90 | 598 | -.073  | .031  | .063  | -.197 | 90 | 728 | -.179  | .053  | -.021 | -.461 |
| 90 | 549 | -.275  | .097  | -.086 | -.839  | 90 | 599 | -.088  | .035  | .027  | -.301 | 90 | 729 | -.177  | .051  | -.006 | -.407 |
| 90 | 550 | -.281  | .092  | -.055 | -.713  | 90 | 600 | -.054  | .036  | .122  | -.282 | 90 | 730 | -.210  | .046  | -.091 | -.447 |
| 90 | 551 | -.191  | .069  | -.037 | -.744  | 90 | 601 | -.093  | .031  | .034  | -.260 | 90 | 731 | -.230  | .049  | -.091 | -.463 |
| 90 | 552 | -.142  | .082  | .113  | -.881  | 90 | 602 | -.092  | .029  | .038  | -.226 | 90 | 732 | -.240  | .058  | -.055 | -.470 |
| 90 | 553 | -.111  | .090  | .131  | -.641  | 90 | 603 | -.122  | .023  | -.035 | -.205 | 90 | 733 | -.223  | .048  | -.071 | -.481 |
| 90 | 554 | -.105  | .084  | .163  | -.484  | 90 | 604 | -.090  | .032  | .025  | -.228 | 90 | 734 | -.222  | .049  | -.049 | -.524 |
| 90 | 555 | -.145  | .150  | .383  | -.1050 | 90 | 605 | -.054  | .035  | .116  | -.175 | 90 | 735 | -.223  | .049  | -.073 | -.481 |
| 90 | 556 | -.047  | .126  | .536  | -.538  | 90 | 606 | -.062  | .031  | .051  | -.190 | 90 | 736 | -.191  | .042  | -.055 | -.416 |
| 90 | 557 | -.096  | .150  | .464  | -.675  | 90 | 607 | -.073  | .030  | .111  | -.192 | 90 | 737 | -.211  | .052  | -.094 | -.493 |
| 90 | 558 | -.160  | .049  | -.001 | -.417  | 90 | 608 | -.074  | .026  | .052  | -.159 | 90 | 738 | -.219  | .068  | -.091 | -.659 |
| 90 | 559 | -.131  | .111  | .284  | -.704  | 90 | 609 | -.051  | .032  | .070  | -.154 | 90 | 739 | -.204  | .057  | -.064 | -.711 |
| 90 | 560 | -.144  | .043  | .039  | -.354  | 90 | 610 | -.069  | .032  | .064  | -.170 | 90 | 740 | -.196  | .055  | -.053 | -.506 |
| 90 | 561 | -.143  | .149  | .298  | -.1104 | 90 | 611 | -.088  | .030  | .087  | -.177 | 90 | 741 | -.214  | .047  | -.082 | -.522 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|-------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|
| 90 | 742 | -.252  | .061  | -.127 | -.616 | 90 | 792 | -.154  | .025  | -.081 | -.349  | 90 | 920 | -.184  | .097  | -.105 | -.582  |
| 90 | 743 | -.253  | .060  | -.069 | -.531 | 90 | 793 | -.157  | .030  | -.069 | -.361  | 90 | 921 | -.298  | .071  | -.063 | -.609  |
| 90 | 744 | -.255  | .060  | -.085 | -.549 | 90 | 794 | -.149  | .023  | -.081 | -.283  | 90 | 922 | -.283  | .081  | -.045 | -.744  |
| 90 | 745 | -.254  | .060  | -.121 | -.598 | 90 | 795 | -.147  | .024  | -.041 | -.232  | 90 | 923 | -.289  | .101  | -.089 | -.745  |
| 90 | 746 | -.265  | .078  | -.116 | -.844 | 90 | 796 | -.151  | .027  | -.064 | -.260  | 90 | 924 | -.076  | .144  | -.688 | -.590  |
| 90 | 747 | -.268  | .083  | -.096 | -.668 | 90 | 797 | -.142  | .027  | -.057 | -.304  | 90 | 925 | -.099  | .104  | -.219 | -.1092 |
| 90 | 748 | -.267  | .085  | -.094 | -.813 | 90 | 798 | -.170  | .051  | -.050 | -.574  | 90 | 926 | -.080  | .114  | .526  | -.278  |
| 90 | 749 | -.243  | .058  | -.017 | -.532 | 90 | 799 | -.160  | .036  | -.067 | -.386  | 90 | 927 | -.053  | .088  | .315  | -.401  |
| 90 | 750 | -.243  | .060  | -.084 | -.514 | 90 | 800 | -.154  | .028  | -.060 | -.314  | 90 | 928 | -.333  | .192  | .905  | -.391  |
| 90 | 751 | -.244  | .054  | -.075 | -.510 | 90 | 801 | -.140  | .025  | -.070 | -.282  | 90 | 929 | -.144  | .236  | .882  | -.451  |
| 90 | 752 | -.225  | .045  | -.103 | -.441 | 90 | 802 | -.161  | .039  | -.071 | -.614  | 90 | 930 | -.056  | .136  | .448  | -.751  |
| 90 | 753 | -.229  | .051  | -.110 | -.527 | 90 | 803 | -.142  | .029  | -.050 | -.309  | 90 | 931 | -.289  | .076  | -.036 | -.668  |
| 90 | 754 | -.218  | .055  | -.101 | -.496 | 90 | 804 | -.145  | .029  | -.053 | -.325  | 90 | 932 | -.014  | .079  | .305  | -.257  |
| 90 | 755 | -.261  | .104  | -.055 | -.891 | 90 | 805 | -.166  | .030  | -.048 | -.314  | 90 | 933 | -.140  | .159  | .688  | -.473  |
| 90 | 756 | -.253  | .081  | -.077 | -.635 | 90 | 806 | -.170  | .028  | -.064 | -.304  | 90 | 934 | -.041  | .147  | .629  | -.518  |
| 90 | 757 | -.256  | .086  | -.081 | -.726 | 90 | 807 | -.191  | .026  | -.039 | -.269  | 90 | 935 | -.032  | .099  | .353  | -.240  |
| 90 | 758 | -.234  | .057  | -.062 | -.454 | 90 | 808 | -.137  | .026  | -.027 | -.276  | 90 | 936 | -.073  | .082  | .404  | -.168  |
| 90 | 759 | -.174  | .045  | -.048 | -.412 | 90 | 809 | -.155  | .036  | -.002 | -.379  | 90 | 937 | -.143  | .158  | 1.069 | -.168  |
| 90 | 760 | -.243  | .056  | -.081 | -.567 | 90 | 810 | -.153  | .031  | -.067 | -.353  | 90 | 938 | -.160  | .149  | .698  | -.182  |
| 90 | 761 | -.169  | .048  | -.028 | -.397 | 90 | 811 | -.146  | .023  | -.062 | -.255  | 90 | 939 | -.030  | .113  | .512  | -.215  |
| 90 | 762 | -.231  | .058  | -.059 | -.549 | 90 | 812 | -.141  | .027  | -.071 | -.293  | 90 | 940 | -.254  | .052  | -.068 | -.424  |
| 90 | 763 | -.220  | .051  | -.079 | -.452 | 90 | 813 | -.148  | .028  | -.032 | -.332  | 90 | 941 | -.147  | .016  | -.108 | -.233  |
| 90 | 764 | -.220  | .055  | -.015 | -.503 | 90 | 814 | -.148  | .029  | -.043 | -.255  | 90 | 942 | -.145  | .030  | .003  | -.299  |
| 90 | 765 | -.243  | .071  | -.084 | -.638 | 90 | 815 | -.135  | .025  | -.025 | -.218  | 90 | 943 | -.138  | .028  | .040  | -.258  |
| 90 | 766 | -.196  | .059  | -.080 | -.686 | 90 | 816 | -.144  | .033  | -.002 | -.344  | 90 | 944 | -.150  | .026  | -.065 | -.369  |
| 90 | 767 | -.174  | .047  | -.033 | -.571 | 90 | 817 | -.143  | .029  | -.053 | -.318  | 90 | 945 | -.070  | .025  | .051  | -.178  |
| 90 | 768 | -.171  | .044  | -.047 | -.481 | 90 | 818 | -.146  | .028  | -.064 | -.339  | 90 | 946 | -.162  | .039  | .060  | -.351  |
| 90 | 769 | -.176  | .045  | -.047 | -.432 | 90 | 819 | -.142  | .026  | -.027 | -.381  | 90 | 947 | -.173  | .051  | -.103 | -.576  |
| 90 | 770 | -.200  | .053  | -.056 | -.578 | 90 | 820 | -.152  | .036  | -.053 | -.390  | 90 | 948 | -.177  | .038  | -.031 | -.462  |
| 90 | 771 | -.197  | .053  | -.061 | -.483 | 90 | 821 | -.139  | .024  | -.076 | -.269  | 90 | 949 | -.180  | .044  | -.024 | -.567  |
| 90 | 772 | -.195  | .045  | -.049 | -.462 | 90 | 822 | -.141  | .026  | -.074 | -.351  | 90 | 950 | -.083  | .026  | .051  | -.167  |
| 90 | 773 | -.183  | .044  | -.059 | -.380 | 90 | 901 | -.270  | .050  | -.136 | -.502  | 90 | 951 | -.162  | .033  | .049  | -.310  |
| 90 | 774 | -.195  | .064  | -.089 | -.683 | 90 | 902 | -.276  | .088  | -.099 | -.796  | 90 | 952 | -.181  | .039  | -.040 | -.501  |
| 90 | 775 | -.174  | .047  | -.033 | -.555 | 90 | 903 | -.248  | .060  | -.130 | -.604  | 90 | 953 | -.144  | .052  | .140  | -.317  |
| 90 | 776 | -.171  | .043  | -.035 | -.415 | 90 | 904 | -.256  | .054  | -.121 | -.468  | 90 | 954 | -.233  | .084  | .040  | -.966  |
| 90 | 777 | -.180  | .056  | -.052 | -.658 | 90 | 905 | -.266  | .045  | -.150 | -.432  | 90 | 955 | -.101  | .042  | .283  | -.215  |
| 90 | 778 | -.182  | .054  | -.031 | -.495 | 90 | 906 | -.115  | .075  | -.295 | -.342  | 90 | 956 | -.058  | .045  | .144  | -.171  |
| 90 | 779 | -.175  | .041  | -.035 | -.534 | 90 | 907 | -.220  | .052  | -.062 | -.452  | 90 | 957 | -.046  | .047  | .249  | -.156  |
| 90 | 780 | -.164  | .034  | -.019 | -.313 | 90 | 908 | -.259  | .070  | -.060 | -.702  | 90 | 958 | -.045  | .060  | .306  | -.178  |
| 90 | 781 | -.174  | .049  | -.075 | -.457 | 90 | 909 | -.238  | .051  | -.077 | -.443  | 90 | 959 | -.144  | .041  | .206  | -.330  |
| 90 | 782 | -.159  | .039  | -.070 | -.415 | 90 | 910 | -.107  | .048  | -.104 | -.306  | 90 | 960 | -.079  | .052  | .335  | -.301  |
| 90 | 783 | -.160  | .044  | -.045 | -.492 | 90 | 911 | -.301  | .084  | -.070 | -.686  | 90 | 961 | -.071  | .049  | .217  | -.221  |
| 90 | 784 | -.180  | .062  | -.049 | -.861 | 90 | 912 | -.329  | .128  | -.019 | -.1260 | 90 | 962 | -.081  | .042  | .105  | -.285  |
| 90 | 785 | -.174  | .055  | -.012 | -.548 | 90 | 913 | -.263  | .066  | -.105 | -.587  | 90 | 963 | -.082  | .041  | .212  | -.292  |
| 90 | 786 | -.152  | .028  | -.047 | -.289 | 90 | 914 | -.218  | .073  | -.132 | -.572  | 90 | 964 | -.058  | .050  | .223  | -.228  |
| 90 | 787 | -.150  | .028  | -.031 | -.308 | 90 | 915 | -.233  | .052  | -.066 | -.465  | 90 | 965 | -.092  | .039  | .165  | -.283  |
| 90 | 788 | -.154  | .040  | -.070 | -.520 | 90 | 916 | -.222  | .072  | -.086 | -.588  | 90 | 966 | -.098  | .031  | .060  | -.308  |
| 90 | 789 | -.153  | .044  | -.063 | -.648 | 90 | 917 | -.245  | .060  | -.073 | -.520  | 90 | 967 | -.094  | .029  | .065  | -.192  |
| 90 | 790 | -.152  | .042  | -.056 | -.464 | 90 | 918 | -.237  | .059  | -.028 | -.487  | 90 | 968 | -.082  | .036  | .130  | -.259  |
| 90 | 791 | -.164  | .035  | -.004 | -.361 | 90 | 919 | -.021  | .078  | .327  | -.464  | 90 | 969 | -.064  | .039  | .142  | -.161  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 90  | 970  | -.079  | .031  | .161  | -.211  | 100 | 121 | -.228  | .054  | -.094 | -.630  | 100 | 171 | -.247  | .069  | -.079 | -.657  |
| 90  | 971  | -.103  | .029  | .092  | -.211  | 100 | 122 | -.185  | .059  | .025  | -.472  | 100 | 172 | -.263  | .079  | -.094 | -.823  |
| 90  | 1001 | -.170  | .043  | .019  | -.391  | 100 | 123 | -.193  | .063  | .013  | -.455  | 100 | 173 | -.246  | .070  | -.055 | -.638  |
| 90  | 1002 | -.146  | .027  | -.062 | -.343  | 100 | 124 | -.210  | .078  | .027  | -.647  | 100 | 174 | -.237  | .070  | -.075 | -.781  |
| 90  | 1003 | -.250  | .066  | -.075 | -.545  | 100 | 125 | -.188  | .061  | -.026 | -.588  | 100 | 175 | -.210  | .061  | -.055 | -.633  |
| 90  | 1004 | -.270  | .063  | -.117 | -.551  | 100 | 126 | -.214  | .066  | -.015 | -.824  | 100 | 176 | -.214  | .059  | -.016 | -.574  |
| 90  | 1005 | -.199  | .054  | -.030 | -.425  | 100 | 127 | -.212  | .060  | -.018 | -.557  | 100 | 177 | -.251  | .077  | -.101 | -.857  |
| 90  | 1006 | -.252  | .061  | -.056 | -.531  | 100 | 128 | -.208  | .053  | -.016 | -.516  | 100 | 178 | -.270  | .092  | -.101 | -.1035 |
| 90  | 1007 | -.070  | .024  | -.022 | -.149  | 100 | 129 | -.207  | .051  | -.015 | -.457  | 100 | 179 | -.307  | .107  | -.092 | -.142  |
| 90  | 1008 | -.148  | .040  | -.044 | -.319  | 100 | 130 | -.198  | .052  | -.046 | -.457  | 100 | 180 | -.229  | .075  | -.045 | -.767  |
| 90  | 1009 | -.075  | .049  | -.099 | -.307  | 100 | 131 | -.207  | .054  | -.051 | -.469  | 100 | 181 | -.172  | .053  | -.055 | -.489  |
| 90  | 1010 | -.262  | .070  | -.012 | -.583  | 100 | 132 | -.206  | .061  | -.020 | -.623  | 100 | 182 | -.161  | .047  | -.009 | -.491  |
| 90  | 1011 | -.081  | .025  | .046  | -.161  | 100 | 133 | -.202  | .058  | -.039 | -.573  | 100 | 183 | -.166  | .048  | -.001 | -.533  |
| 90  | 1012 | -.172  | .044  | -.140 | -.403  | 100 | 134 | -.218  | .068  | -.046 | -.552  | 100 | 184 | -.268  | .100  | -.104 | -.137  |
| 90  | 1013 | -.056  | .125  | .504  | -.434  | 100 | 135 | -.206  | .060  | -.049 | -.639  | 100 | 185 | -.269  | .098  | -.101 | -.418  |
| 90  | 1014 | -.145  | .068  | .096  | -.430  | 100 | 136 | -.208  | .054  | -.060 | -.457  | 100 | 186 | -.250  | .081  | -.030 | -.891  |
| 90  | 1015 | -.164  | .144  | .291  | -.720  | 100 | 137 | -.222  | .068  | -.027 | -.736  | 100 | 187 | -.172  | .060  | -.025 | -.506  |
| 90  | 1016 | -.228  | .074  | .006  | -.586  | 100 | 138 | -.214  | .054  | -.042 | -.512  | 100 | 188 | -.124  | .048  | .133  | -.384  |
| 90  | 1017 | -.055  | .045  | .168  | -.192  | 100 | 139 | -.215  | .057  | -.018 | -.575  | 100 | 189 | -.122  | .040  | .042  | -.348  |
| 90  | 1018 | -.057  | .045  | .221  | -.168  | 100 | 140 | -.222  | .055  | -.060 | -.547  | 100 | 190 | -.126  | .042  | .003  | -.287  |
| 90  | 1019 | -.043  | .046  | .265  | -.187  | 100 | 141 | -.219  | .055  | -.011 | -.500  | 100 | 191 | -.177  | .056  | .167  | -.441  |
| 90  | 1020 | -.099  | .065  | .156  | -.682  | 100 | 142 | -.230  | .065  | -.049 | -.665  | 100 | 192 | -.150  | .054  | .135  | -.434  |
| 90  | 1021 | -.069  | .023  | .022  | -.137  | 100 | 143 | -.226  | .068  | -.037 | -.911  | 100 | 193 | -.133  | .045  | -.025 | -.420  |
| 90  | 1022 | -.131  | .025  | -.024 | -.240  | 100 | 144 | -.228  | .074  | -.034 | -.496  | 100 | 194 | -.263  | .097  | -.082 | -.171  |
| 90  | 1023 | -.143  | .034  | -.024 | -.334  | 100 | 145 | -.229  | .067  | -.013 | -.646  | 100 | 195 | -.280  | .115  | -.019 | -.325  |
| 90  | 1024 | -.173  | .036  | -.053 | -.391  | 100 | 146 | -.233  | .056  | -.063 | -.575  | 100 | 196 | -.201  | .084  | .142  | -.719  |
| 90  | 1025 | -.055  | .032  | .094  | -.165  | 100 | 147 | -.244  | .059  | -.117 | -.668  | 100 | 197 | -.123  | .044  | .214  | -.425  |
| 90  | 1026 | -.062  | .030  | .072  | -.144  | 100 | 148 | -.233  | .052  | -.051 | -.479  | 100 | 198 | -.106  | .026  | .025  | -.220  |
| 90  | 1027 | -.070  | .027  | .046  | -.170  | 100 | 149 | -.262  | .076  | -.022 | -.785  | 100 | 199 | -.108  | .024  | -.017 | -.210  |
| 90  | 1028 | -.081  | .026  | .034  | -.168  | 100 | 150 | -.245  | .067  | -.034 | -.621  | 100 | 200 | -.101  | .028  | .020  | -.229  |
| 100 | 101  | -.262  | .068  | -.085 | -.658  | 100 | 151 | -.235  | .079  | -.022 | -.921  | 100 | 201 | -.115  | .029  | .044  | -.297  |
| 100 | 102  | -.209  | .060  | -.033 | -.539  | 100 | 152 | -.222  | .065  | -.048 | -.991  | 100 | 202 | -.132  | .035  | .041  | -.301  |
| 100 | 103  | -.101  | .067  | .149  | -.448  | 100 | 153 | -.225  | .063  | -.022 | -.602  | 100 | 203 | -.127  | .035  | .032  | -.294  |
| 100 | 104  | -.299  | .085  | -.094 | -.707  | 100 | 154 | -.232  | .050  | -.080 | -.461  | 100 | 204 | -.120  | .033  | .053  | -.290  |
| 100 | 105  | -.198  | .054  | -.032 | -.464  | 100 | 155 | -.233  | .055  | -.055 | -.545  | 100 | 205 | -.119  | .034  | .039  | -.315  |
| 100 | 106  | -.209  | .058  | -.052 | -.550  | 100 | 156 | -.222  | .049  | -.085 | -.431  | 100 | 206 | -.121  | .032  | .006  | -.238  |
| 100 | 107  | -.214  | .055  | -.066 | -.479  | 100 | 157 | -.224  | .052  | -.050 | -.667  | 100 | 207 | -.126  | .035  | .048  | -.276  |
| 100 | 108  | -.218  | .067  | -.007 | -.577  | 100 | 158 | -.226  | .072  | -.029 | -.704  | 100 | 208 | -.119  | .034  | .004  | -.255  |
| 100 | 109  | -.243  | .082  | -.029 | -.866  | 100 | 159 | -.239  | .052  | -.101 | -.510  | 100 | 209 | -.107  | .029  | .044  | -.252  |
| 100 | 110  | -.240  | .079  | -.061 | -.709  | 100 | 160 | -.236  | .099  | -.001 | -.993  | 100 | 210 | -.094  | .035  | .034  | -.372  |
| 100 | 111  | -.218  | .060  | -.068 | -.737  | 100 | 161 | -.243  | .048  | -.089 | -.589  | 100 | 211 | -.129  | .034  | .034  | -.287  |
| 100 | 112  | -.237  | .073  | -.038 | -.574  | 100 | 162 | -.223  | .077  | -.027 | -.676  | 100 | 212 | -.115  | .033  | -.001 | -.349  |
| 100 | 113  | -.253  | .084  | -.054 | -.751  | 100 | 163 | -.234  | .091  | -.031 | -.931  | 100 | 213 | -.123  | .029  | .008  | -.268  |
| 100 | 114  | -.219  | .064  | -.052 | -.693  | 100 | 164 | -.239  | .071  | -.082 | -.820  | 100 | 214 | -.126  | .031  | .015  | -.273  |
| 100 | 115  | -.217  | .060  | -.026 | -.628  | 100 | 165 | -.264  | .076  | -.061 | -.702  | 100 | 215 | -.104  | .025  | .046  | -.181  |
| 100 | 116  | -.224  | .069  | -.038 | -.600  | 100 | 166 | -.231  | .061  | -.072 | -.652  | 100 | 216 | -.104  | .026  | .015  | -.186  |
| 100 | 117  | -.197  | .052  | -.012 | -.532  | 100 | 167 | -.231  | .057  | -.070 | -.550  | 100 | 217 | -.083  | .035  | .126  | -.176  |
| 100 | 118  | -.351  | .137  | -.052 | -1.059 | 100 | 168 | -.227  | .056  | -.019 | -.513  | 100 | 218 | -.098  | .030  | .041  | -.200  |
| 100 | 119  | -.244  | .077  | -.019 | -.612  | 100 | 169 | -.206  | .055  | -.019 | -.513  | 100 | 219 | -.127  | .031  | -.034 | -.297  |
| 100 | 120  | -.233  | .060  | -.066 | -.511  | 100 | 170 | -.229  | .072  | -.040 | -1.166 | 100 | 220 | -.112  | .026  | -.011 | -.214  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 100 | 221 | -.109  | .029  | .041  | -.214 | 100 | 346 | -.025  | .091  | .449  | -.244 | 100 | 396 | -.156  | .038  | .056  | -.353 |
| 100 | 222 | -.109  | .030  | .006  | -.261 | 100 | 347 | -.089  | .073  | .298  | -.295 | 100 | 397 | -.063  | .041  | .192  | -.193 |
| 100 | 223 | -.120  | .028  | .018  | -.252 | 100 | 348 | -.161  | .058  | .090  | -.514 | 100 | 398 | -.067  | .043  | .133  | -.233 |
| 100 | 224 | -.126  | .032  | .008  | -.257 | 100 | 349 | -.017  | .099  | .513  | -.374 | 100 | 399 | -.109  | .036  | .008  | -.295 |
| 100 | 225 | -.123  | .031  | -.016 | -.306 | 100 | 350 | -.024  | .093  | .508  | -.407 | 100 | 400 | -.103  | .025  | .015  | -.198 |
| 100 | 301 | -.033  | .148  | .697  | -.667 | 100 | 351 | -.078  | .119  | .438  | -.788 | 100 | 401 | -.102  | .027  | .043  | -.214 |
| 100 | 302 | -.004  | .140  | .556  | -.559 | 100 | 352 | -.123  | .134  | .338  | -.970 | 100 | 402 | -.108  | .025  | -.024 | -.221 |
| 100 | 303 | -.012  | .101  | .571  | -.399 | 100 | 353 | -.149  | .119  | .345  | -.698 | 100 | 403 | -.105  | .025  | -.008 | -.226 |
| 100 | 304 | .086   | .200  | .649  | -.566 | 100 | 354 | -.160  | .108  | .381  | -.776 | 100 | 404 | -.104  | .024  | .003  | -.200 |
| 100 | 305 | -.114  | .181  | .848  | -.619 | 100 | 355 | -.182  | .088  | .163  | -.741 | 100 | 405 | -.108  | .036  | .038  | -.267 |
| 100 | 306 | -.050  | .095  | .284  | -.324 | 100 | 356 | -.246  | .072  | -.045 | -.736 | 100 | 406 | -.060  | .053  | .426  | -.249 |
| 100 | 307 | .042   | .135  | .592  | -.294 | 100 | 357 | -.234  | .068  | .005  | -.757 | 100 | 407 | -.068  | .036  | .142  | -.202 |
| 100 | 308 | .117   | .187  | .880  | -.542 | 100 | 358 | -.063  | .098  | .291  | -.663 | 100 | 408 | -.110  | .039  | .016  | -.413 |
| 100 | 309 | .079   | .162  | .788  | -.318 | 100 | 359 | -.143  | .066  | .262  | -.506 | 100 | 409 | -.100  | .024  | -.003 | -.205 |
| 100 | 310 | .079   | .165  | .791  | -.402 | 100 | 360 | -.066  | .097  | .440  | -.585 | 100 | 410 | -.105  | .025  | -.013 | -.196 |
| 100 | 311 | -.057  | .108  | .325  | -.430 | 100 | 361 | -.138  | .056  | .125  | -.398 | 100 | 411 | -.100  | .032  | .029  | -.302 |
| 100 | 312 | .125   | .190  | .924  | -.707 | 100 | 362 | -.074  | .092  | .253  | -.693 | 100 | 412 | -.108  | .030  | .001  | -.260 |
| 100 | 313 | .106   | .171  | .922  | -.265 | 100 | 363 | -.056  | .075  | .288  | -.528 | 100 | 413 | -.099  | .025  | -.016 | -.216 |
| 100 | 314 | .052   | .155  | .759  | -.363 | 100 | 364 | -.062  | .057  | .262  | -.338 | 100 | 414 | -.057  | .032  | .133  | -.189 |
| 100 | 315 | -.052  | .113  | .475  | -.397 | 100 | 365 | -.072  | .054  | .213  | -.338 | 100 | 415 | -.055  | .033  | .086  | -.170 |
| 100 | 316 | .063   | .156  | .724  | -.318 | 100 | 366 | -.076  | .061  | .225  | -.623 | 100 | 416 | -.108  | .035  | .030  | -.313 |
| 100 | 317 | .118   | .179  | .798  | -.268 | 100 | 367 | -.124  | .051  | .125  | -.498 | 100 | 417 | -.093  | .023  | -.009 | -.175 |
| 100 | 318 | .098   | .170  | .702  | -.822 | 100 | 368 | -.148  | .050  | .120  | -.391 | 100 | 418 | -.091  | .025  | -.001 | -.170 |
| 100 | 319 | .090   | .161  | .788  | -.313 | 100 | 369 | -.079  | .058  | .197  | -.361 | 100 | 419 | -.092  | .026  | .067  | -.162 |
| 100 | 320 | -.075  | .121  | .530  | -.442 | 100 | 370 | -.093  | .068  | .210  | -.443 | 100 | 420 | -.094  | .024  | -.003 | -.167 |
| 100 | 321 | -.065  | .101  | .422  | -.339 | 100 | 371 | -.083  | .061  | .105  | -.386 | 100 | 421 | -.094  | .025  | -.002 | -.170 |
| 100 | 322 | .088   | .167  | .807  | -.471 | 100 | 372 | -.071  | .042  | .145  | -.219 | 100 | 422 | -.095  | .024  | .021  | -.181 |
| 100 | 323 | .088   | .153  | .898  | -.488 | 100 | 373 | -.063  | .041  | .177  | -.207 | 100 | 501 | -.154  | .109  | .270  | -.579 |
| 100 | 324 | .052   | .145  | .967  | -.308 | 100 | 374 | -.145  | .062  | .102  | -.558 | 100 | 502 | -.092  | .137  | .351  | -.721 |
| 100 | 325 | -.033  | .136  | .583  | -.569 | 100 | 375 | -.140  | .041  | .033  | -.309 | 100 | 503 | -.180  | .135  | .349  | -.703 |
| 100 | 326 | .111   | .161  | .829  | -.339 | 100 | 376 | -.168  | .043  | .008  | -.461 | 100 | 504 | -.005  | .102  | .331  | -.376 |
| 100 | 327 | -.018  | .172  | .488  | -.767 | 100 | 377 | -.096  | .055  | .120  | -.411 | 100 | 505 | -.129  | .058  | .118  | -.371 |
| 100 | 328 | -.011  | .126  | .526  | -.504 | 100 | 378 | -.095  | .056  | .070  | -.339 | 100 | 506 | -.125  | .213  | .615  | -.926 |
| 100 | 329 | -.043  | .113  | .497  | -.372 | 100 | 379 | -.080  | .036  | .195  | -.329 | 100 | 507 | -.044  | .105  | .363  | -.370 |
| 100 | 330 | .138   | .175  | .907  | -.290 | 100 | 380 | -.077  | .033  | .060  | -.247 | 100 | 508 | -.144  | .057  | .137  | -.411 |
| 100 | 331 | .080   | .154  | .721  | -.283 | 100 | 381 | -.150  | .046  | .033  | .506  | 100 | 509 | -.032  | .101  | .397  | -.383 |
| 100 | 332 | .020   | .128  | .873  | -.593 | 100 | 382 | -.149  | .040  | -.027 | -.341 | 100 | 510 | -.020  | .110  | .487  | -.539 |
| 100 | 333 | .040   | .129  | .724  | -.536 | 100 | 383 | -.181  | .049  | -.047 | -.483 | 100 | 511 | -.116  | .237  | .587  | -.107 |
| 100 | 334 | .030   | .116  | .625  | -.333 | 100 | 384 | -.064  | .048  | .282  | -.341 | 100 | 512 | -.133  | .052  | .137  | -.327 |
| 100 | 335 | .035   | .120  | .599  | -.215 | 100 | 385 | -.068  | .038  | .122  | -.237 | 100 | 513 | -.053  | .087  | .354  | -.406 |
| 100 | 336 | .041   | .130  | .635  | -.244 | 100 | 386 | -.071  | .033  | .105  | -.184 | 100 | 514 | -.008  | .122  | .514  | -.595 |
| 100 | 337 | -.050  | .128  | .661  | -.254 | 100 | 387 | -.065  | .042  | .225  | -.207 | 100 | 515 | -.047  | .225  | .692  | -.762 |
| 100 | 338 | -.063  | .135  | .659  | -.618 | 100 | 388 | -.126  | .041  | .130  | -.366 | 100 | 516 | -.031  | .104  | .401  | -.509 |
| 100 | 339 | -.072  | .084  | .317  | -.266 | 100 | 389 | -.130  | .029  | .003  | -.256 | 100 | 517 | -.018  | .119  | .608  | -.349 |
| 100 | 340 | -.097  | .072  | .206  | -.374 | 100 | 390 | -.165  | .039  | -.072 | -.705 | 100 | 518 | -.132  | .067  | .149  | -.399 |
| 100 | 341 | .057   | .133  | 1.027 | -.189 | 100 | 391 | -.075  | .045  | .181  | -.209 | 100 | 519 | -.141  | .085  | .171  | -.586 |
| 100 | 342 | -.036  | .110  | .685  | -.187 | 100 | 392 | -.065  | .044  | .228  | -.313 | 100 | 520 | -.007  | .120  | .493  | -.505 |
| 100 | 343 | -.003  | .095  | .481  | -.466 | 100 | 393 | -.069  | .051  | .303  | -.221 | 100 | 521 | -.051  | .192  | .692  | -.883 |
| 100 | 344 | .036   | .116  | .558  | -.507 | 100 | 394 | -.104  | .048  | .304  | -.283 | 100 | 522 | -.134  | .054  | .101  | -.437 |
| 100 | 345 | .041   | .112  | .673  | -.206 | 100 | 395 | -.119  | .040  | .140  | -.267 | 100 | 523 | -.106  | .069  | .210  | -.487 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 100 | 524 | -.142  | .098  | .401  | -.712 | 100 | 574 | -.010  | .049  | .219  | -.213 | 100 | 704 | -.098  | .077  | .121  | -.464 |
| 100 | 525 | .024   | .117  | .572  | -.361 | 100 | 575 | -.025  | .052  | .292  | -.410 | 100 | 705 | -.200  | .048  | -.055 | -.514 |
| 100 | 526 | -.052  | .096  | .390  | -.457 | 100 | 576 | -.037  | .066  | .299  | -.453 | 100 | 706 | -.190  | .043  | -.038 | -.402 |
| 100 | 527 | -.031  | .106  | .364  | -.465 | 100 | 577 | -.155  | .047  | .048  | -.377 | 100 | 707 | -.195  | .042  | -.036 | -.382 |
| 100 | 528 | -.005  | .147  | .506  | -.930 | 100 | 578 | -.100  | .047  | .114  | -.305 | 100 | 708 | -.210  | .049  | -.079 | -.445 |
| 100 | 529 | -.016  | .176  | .572  | -.140 | 100 | 579 | -.037  | .066  | .229  | -.401 | 100 | 709 | -.203  | .043  | -.080 | -.427 |
| 100 | 530 | -.023  | .103  | .506  | -.440 | 100 | 580 | -.003  | .050  | .236  | -.142 | 100 | 710 | -.201  | .049  | -.075 | -.439 |
| 100 | 531 | -.009  | .115  | .508  | -.504 | 100 | 581 | -.030  | .047  | .168  | -.232 | 100 | 711 | -.196  | .049  | -.038 | -.433 |
| 100 | 532 | -.146  | .044  | .061  | -.319 | 100 | 582 | -.044  | .044  | .175  | -.286 | 100 | 712 | -.211  | .046  | -.066 | -.443 |
| 100 | 533 | -.115  | .047  | .191  | -.287 | 100 | 583 | -.052  | .043  | .168  | -.417 | 100 | 713 | -.203  | .044  | -.080 | -.471 |
| 100 | 534 | -.145  | .099  | .314  | -.629 | 100 | 584 | -.147  | .047  | .067  | -.413 | 100 | 714 | -.206  | .054  | -.055 | -.535 |
| 100 | 535 | .019   | .090  | .451  | -.280 | 100 | 585 | -.093  | .047  | .121  | -.363 | 100 | 715 | -.200  | .050  | -.039 | -.507 |
| 100 | 536 | .003   | .088  | .476  | -.335 | 100 | 586 | -.041  | .055  | .186  | -.328 | 100 | 716 | -.202  | .044  | -.068 | -.414 |
| 100 | 537 | -.028  | .081  | .424  | -.369 | 100 | 587 | -.057  | .040  | .184  | -.276 | 100 | 717 | -.195  | .038  | -.084 | -.363 |
| 100 | 538 | -.015  | .093  | .501  | -.832 | 100 | 588 | -.073  | .053  | .053  | -.361 | 100 | 718 | -.216  | .046  | -.089 | -.478 |
| 100 | 539 | -.038  | .164  | .474  | -.802 | 100 | 589 | -.075  | .026  | .034  | -.197 | 100 | 719 | -.219  | .045  | -.096 | -.503 |
| 100 | 540 | -.053  | .169  | .494  | -.941 | 100 | 590 | -.077  | .028  | .067  | -.239 | 100 | 720 | -.211  | .053  | -.032 | -.544 |
| 100 | 541 | .016   | .088  | .515  | -.228 | 100 | 591 | -.061  | .032  | .174  | -.145 | 100 | 721 | -.241  | .080  | -.036 | -.880 |
| 100 | 542 | .003   | .075  | .394  | -.274 | 100 | 592 | -.071  | .027  | .064  | -.157 | 100 | 722 | -.217  | .048  | -.078 | -.473 |
| 100 | 543 | -.191  | .045  | .029  | -.408 | 100 | 593 | -.162  | .039  | .062  | -.406 | 100 | 723 | -.213  | .047  | -.073 | -.503 |
| 100 | 544 | -.133  | .047  | .093  | -.294 | 100 | 594 | -.129  | .035  | .018  | -.294 | 100 | 724 | -.208  | .038  | -.098 | -.359 |
| 100 | 545 | -.061  | .057  | .346  | -.260 | 100 | 595 | -.094  | .034  | .147  | -.245 | 100 | 725 | -.209  | .037  | -.080 | -.375 |
| 100 | 546 | -.009  | .090  | .467  | -.424 | 100 | 596 | -.078  | .030  | .050  | -.187 | 100 | 726 | -.194  | .042  | -.046 | -.420 |
| 100 | 547 | -.010  | .129  | .674  | -.604 | 100 | 597 | -.076  | .028  | .038  | -.262 | 100 | 727 | -.208  | .057  | -.073 | -.675 |
| 100 | 548 | -.024  | .132  | .455  | -.693 | 100 | 598 | -.079  | .028  | .067  | -.204 | 100 | 728 | -.192  | .045  | -.034 | -.393 |
| 100 | 549 | -.236  | .066  | -.002 | -.762 | 100 | 599 | -.085  | .033  | .034  | -.319 | 100 | 729 | -.189  | .043  | -.069 | -.388 |
| 100 | 550 | -.256  | .063  | -.008 | -.603 | 100 | 600 | -.069  | .037  | .159  | -.279 | 100 | 730 | -.196  | .037  | -.096 | -.358 |
| 100 | 551 | -.172  | .058  | .014  | -.525 | 100 | 601 | -.078  | .035  | .057  | -.343 | 100 | 731 | -.210  | .038  | -.083 | -.349 |
| 100 | 552 | -.108  | .081  | .287  | -.615 | 100 | 602 | -.077  | .039  | .133  | -.251 | 100 | 732 | -.226  | .048  | -.110 | -.633 |
| 100 | 553 | -.074  | .092  | .349  | -.756 | 100 | 603 | -.182  | .038  | -.038 | -.429 | 100 | 733 | -.219  | .043  | -.103 | -.515 |
| 100 | 554 | -.056  | .095  | .349  | -.668 | 100 | 604 | -.077  | .029  | .014  | -.280 | 100 | 734 | -.215  | .032  | -.106 | -.365 |
| 100 | 555 | -.062  | .134  | .421  | -.787 | 100 | 605 | -.066  | .032  | .142  | -.204 | 100 | 735 | -.216  | .036  | -.080 | -.367 |
| 100 | 556 | -.013  | .100  | .510  | -.402 | 100 | 606 | -.068  | .029  | .096  | -.206 | 100 | 736 | -.211  | .036  | -.113 | -.362 |
| 100 | 557 | -.018  | .116  | .691  | -.512 | 100 | 607 | -.065  | .041  | .144  | -.201 | 100 | 737 | -.206  | .038  | -.094 | -.351 |
| 100 | 558 | -.145  | .044  | .027  | -.357 | 100 | 608 | -.056  | .027  | .113  | -.132 | 100 | 738 | -.210  | .044  | -.099 | -.436 |
| 100 | 559 | -.066  | .119  | .490  | -.664 | 100 | 609 | -.063  | .034  | .110  | -.214 | 100 | 739 | -.200  | .042  | -.064 | -.386 |
| 100 | 560 | -.155  | .045  | .047  | -.360 | 100 | 610 | -.063  | .026  | .061  | -.143 | 100 | 740 | -.196  | .042  | -.071 | -.390 |
| 100 | 561 | -.071  | .131  | .410  | -.890 | 100 | 611 | -.067  | .040  | .194  | -.190 | 100 | 741 | -.218  | .038  | -.120 | -.404 |
| 100 | 562 | -.157  | .041  | .041  | -.375 | 100 | 612 | -.159  | .036  | -.004 | -.289 | 100 | 742 | -.222  | .038  | -.113 | -.367 |
| 100 | 563 | -.127  | .043  | .090  | -.351 | 100 | 613 | -.124  | .033  | .032  | -.262 | 100 | 743 | -.234  | .046  | -.087 | -.480 |
| 100 | 564 | -.070  | .053  | .280  | -.277 | 100 | 614 | -.089  | .037  | .190  | -.208 | 100 | 744 | -.240  | .042  | -.113 | -.434 |
| 100 | 565 | -.040  | .059  | .282  | -.286 | 100 | 615 | -.046  | .032  | .158  | -.134 | 100 | 745 | -.235  | .038  | -.108 | -.406 |
| 100 | 566 | -.019  | .055  | .337  | -.258 | 100 | 616 | -.058  | .028  | .068  | -.265 | 100 | 746 | -.223  | .043  | -.099 | -.430 |
| 100 | 567 | -.020  | .077  | .325  | -.523 | 100 | 617 | -.064  | .028  | .082  | -.215 | 100 | 747 | -.221  | .052  | -.022 | -.696 |
| 100 | 568 | -.047  | .113  | .386  | -.772 | 100 | 618 | -.065  | .026  | .043  | -.186 | 100 | 748 | -.224  | .047  | -.103 | -.487 |
| 100 | 569 | -.021  | .050  | .252  | -.232 | 100 | 619 | -.062  | .032  | .091  | -.163 | 100 | 749 | -.226  | .044  | -.074 | -.420 |
| 100 | 570 | -.150  | .045  | .001  | -.410 | 100 | 620 | -.063  | .037  | .136  | -.222 | 100 | 750 | -.217  | .042  | -.069 | -.413 |
| 100 | 571 | -.115  | .044  | .111  | -.314 | 100 | 701 | -.202  | .057  | -.057 | -.505 | 100 | 751 | -.238  | .042  | -.105 | -.461 |
| 100 | 572 | -.087  | .067  | .170  | -.429 | 100 | 702 | -.234  | .057  | -.064 | -.535 | 100 | 752 | -.236  | .040  | -.123 | -.465 |
| 100 | 573 | -.003  | .049  | .346  | -.157 | 100 | 703 | -.269  | .070  | -.100 | -.690 | 100 | 753 | -.225  | .040  | -.094 | -.413 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 100 | 754 | -.216  | .042  | -.071 | -.395  | 100 | 804 | -.297  | .071  | -.095 | -.726 | 100 | 932  | .018   | .091  | .362  | -.215 |
| 100 | 755 | -.229  | .065  | -.071 | -.916  | 100 | 805 | -.122  | .029  | -.008 | -.243 | 100 | 933  | .061   | .138  | .594  | -.668 |
| 100 | 756 | -.231  | .053  | -.096 | -.545  | 100 | 806 | -.130  | .034  | -.005 | -.291 | 100 | 934  | -.061  | .144  | .574  | -.552 |
| 100 | 757 | -.249  | .064  | -.074 | -.715  | 100 | 807 | -.114  | .030  | -.020 | -.291 | 100 | 935  | -.037  | .110  | .408  | -.325 |
| 100 | 758 | -.242  | .041  | -.105 | -.418  | 100 | 808 | -.123  | .030  | -.021 | -.245 | 100 | 936  | .023   | .067  | .310  | -.137 |
| 100 | 759 | -.208  | .051  | -.069 | -.658  | 100 | 809 | -.123  | .045  | -.026 | -.489 | 100 | 937  | .057   | .125  | .849  | -.241 |
| 100 | 760 | -.250  | .046  | -.087 | -.450  | 100 | 810 | -.158  | .078  | -.044 | -.448 | 100 | 938  | -.042  | .117  | .743  | -.171 |
| 100 | 761 | -.212  | .060  | -.024 | -.622  | 100 | 811 | -.211  | .070  | -.004 | -.637 | 100 | 939  | -.030  | .102  | .577  | -.277 |
| 100 | 762 | -.250  | .054  | -.071 | -.474  | 100 | 812 | -.315  | .082  | -.049 | -.751 | 100 | 940  | -.214  | .035  | -.096 | -.339 |
| 100 | 763 | -.214  | .050  | -.098 | -.549  | 100 | 813 | -.110  | .028  | -.006 | -.289 | 100 | 941  | -.230  | .065  | -.071 | -.423 |
| 100 | 764 | -.243  | .043  | -.126 | -.613  | 100 | 814 | -.109  | .030  | -.013 | -.341 | 100 | 942  | -.127  | .034  | .018  | -.272 |
| 100 | 765 | -.274  | .069  | -.130 | -.758  | 100 | 815 | -.123  | .031  | -.015 | -.261 | 100 | 943  | -.134  | .041  | .064  | -.347 |
| 100 | 766 | -.226  | .048  | -.109 | -.563  | 100 | 816 | -.122  | .038  | -.006 | -.384 | 100 | 944  | -.140  | .037  | .009  | -.343 |
| 100 | 767 | -.204  | .046  | -.059 | -.649  | 100 | 817 | -.119  | .042  | -.006 | -.717 | 100 | 945  | -.061  | .033  | .118  | -.154 |
| 100 | 768 | -.204  | .050  | -.064 | -.544  | 100 | 818 | -.146  | .057  | -.042 | -.485 | 100 | 946  | -.151  | .051  | .046  | -.510 |
| 100 | 769 | -.212  | .011  | -.071 | -.548  | 100 | 819 | -.168  | .072  | -.014 | -.722 | 100 | 947  | -.179  | .062  | -.015 | -.728 |
| 100 | 770 | -.246  | .071  | -.083 | -.689  | 100 | 820 | -.226  | .084  | -.003 | -.806 | 100 | 948  | -.177  | .048  | -.018 | -.510 |
| 100 | 771 | -.233  | .057  | -.066 | -.599  | 100 | 821 | -.288  | .083  | -.083 | -.768 | 100 | 949  | -.171  | .046  | .013  | -.494 |
| 100 | 772 | -.252  | .043  | -.102 | -.439  | 100 | 822 | -.291  | .078  | -.107 | -.597 | 100 | 950  | -.066  | .027  | .084  | -.158 |
| 100 | 773 | -.257  | .050  | -.119 | -.455  | 100 | 901 | -.240  | .035  | -.163 | -.409 | 100 | 951  | -.145  | .036  | .026  | -.305 |
| 100 | 774 | -.257  | .054  | -.124 | -.534  | 100 | 902 | -.216  | .046  | -.107 | -.422 | 100 | 952  | -.142  | .039  | .066  | -.370 |
| 100 | 775 | -.232  | .052  | -.074 | -.656  | 100 | 903 | -.226  | .040  | -.123 | -.425 | 100 | 953  | -.088  | .049  | .171  | -.270 |
| 100 | 776 | -.230  | .050  | -.043 | -.527  | 100 | 904 | -.240  | .040  | -.128 | -.413 | 100 | 954  | -.258  | .092  | .086  | -.986 |
| 100 | 777 | -.190  | .072  | .003  | -.525  | 100 | 905 | -.254  | .028  | -.187 | -.339 | 100 | 955  | -.099  | .048  | .300  | -.229 |
| 100 | 778 | -.190  | .069  | -.026 | -.541  | 100 | 906 | -.095  | .081  | -.242 | -.297 | 100 | 956  | -.077  | .042  | .171  | -.218 |
| 100 | 779 | -.236  | .063  | -.043 | -.470  | 100 | 907 | -.175  | .044  | -.011 | -.420 | 100 | 957  | -.061  | .049  | .256  | -.185 |
| 100 | 780 | -.279  | .052  | -.119 | -.620  | 100 | 908 | -.208  | .042  | -.080 | -.427 | 100 | 958  | -.080  | .061  | .333  | -.205 |
| 100 | 781 | -.298  | .073  | -.150 | -.773  | 100 | 909 | -.208  | .041  | -.092 | -.382 | 100 | 959  | -.162  | .037  | .038  | -.379 |
| 100 | 782 | -.272  | .064  | -.069 | -.620  | 100 | 910 | -.087  | .050  | -.164 | -.255 | 100 | 960  | -.071  | .049  | .293  | -.310 |
| 100 | 783 | -.264  | .059  | -.093 | -.663  | 100 | 911 | -.250  | .064  | -.085 | -.693 | 100 | 961  | -.077  | .055  | .240  | -.276 |
| 100 | 784 | -.130  | .073  | .031  | -.627  | 100 | 912 | -.219  | .097  | -.052 | -.975 | 100 | 962  | -.079  | .039  | .082  | -.246 |
| 100 | 785 | -.118  | .049  | -.077 | -.453  | 100 | 913 | -.216  | .045  | -.099 | -.420 | 100 | 963  | -.098  | .038  | .093  | -.288 |
| 100 | 786 | -.171  | .071  | .031  | -.429  | 100 | 914 | -.158  | .086  | -.239 | -.470 | 100 | 964  | -.079  | .042  | .235  | -.243 |
| 100 | 787 | -.242  | .082  | -.012 | -.587  | 100 | 915 | -.208  | .045  | -.078 | -.402 | 100 | 965  | -.088  | .043  | .122  | -.434 |
| 100 | 788 | -.337  | .094  | -.064 | -.1047 | 100 | 916 | -.179  | .093  | -.303 | -.659 | 100 | 966  | -.103  | .035  | .095  | -.312 |
| 100 | 789 | -.300  | .066  | -.109 | -.582  | 100 | 917 | -.226  | .058  | -.057 | -.554 | 100 | 967  | -.086  | .031  | .089  | -.191 |
| 100 | 790 | -.299  | .078  | -.057 | -.849  | 100 | 918 | -.233  | .064  | -.042 | -.543 | 100 | 968  | -.086  | .039  | .136  | -.262 |
| 100 | 791 | -.188  | .101  | .070  | -.660  | 100 | 919 | -.005  | .080  | -.378 | -.246 | 100 | 969  | -.080  | .035  | .136  | -.179 |
| 100 | 792 | -.218  | .089  | .070  | -.615  | 100 | 920 | -.137  | .098  | -.216 | -.738 | 100 | 970  | -.088  | .036  | .216  | -.177 |
| 100 | 793 | -.261  | .078  | -.023 | -.912  | 100 | 921 | -.241  | .063  | -.059 | -.547 | 100 | 971  | -.098  | .029  | .096  | -.182 |
| 100 | 794 | -.218  | .076  | -.026 | -.587  | 100 | 922 | -.223  | .059  | -.059 | -.602 | 100 | 1001 | -.201  | .047  | -.000 | -.429 |
| 100 | 795 | -.122  | .033  | -.026 | -.300  | 100 | 923 | -.189  | .104  | -.214 | -.689 | 100 | 1002 | -.193  | .079  | .044  | -.638 |
| 100 | 796 | -.121  | .031  | -.008 | -.234  | 100 | 924 | -.080  | .137  | -.705 | -.459 | 100 | 1003 | -.190  | .051  | -.010 | -.456 |
| 100 | 797 | -.126  | .031  | -.012 | -.261  | 100 | 925 | -.172  | .127  | -.192 | -.894 | 100 | 1004 | -.220  | .045  | -.094 | -.561 |
| 100 | 798 | -.125  | .052  | -.003 | -.487  | 100 | 926 | -.037  | .110  | -.449 | -.277 | 100 | 1005 | -.176  | .060  | -.005 | -.503 |
| 100 | 799 | -.119  | .048  | -.034 | -.494  | 100 | 927 | -.079  | .089  | -.289 | -.412 | 100 | 1006 | -.232  | .053  | -.055 | -.475 |
| 100 | 800 | -.149  | .062  | -.055 | -.430  | 100 | 928 | -.117  | .165  | -.965 | -.449 | 100 | 1007 | -.066  | .029  | .070  | -.163 |
| 100 | 801 | -.216  | .085  | .073  | -.508  | 100 | 929 | -.003  | .203  | -.816 | -.705 | 100 | 1008 | -.127  | .045  | .105  | -.344 |
| 100 | 802 | -.309  | .113  | .044  | -.838  | 100 | 930 | -.000  | .135  | -.595 | -.700 | 100 | 1009 | -.035  | .047  | .223  | -.290 |
| 100 | 803 | -.318  | .080  | -.061 | -.838  | 100 | 931 | -.222  | .065  | -.038 | -.554 | 100 | 1010 | -.200  | .057  | -.057 | -.683 |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 100 | 1011 | -.069  | .024  | .058  | -.146  | 110 | 133 | -.195  | .050  | -.040 | -.430  | 110 | 183 | -.224  | .059  | .030  | -.545 |
| 100 | 1012 | -.165  | .056  | .131  | -.433  | 110 | 134 | -.203  | .047  | -.044 | -.494  | 110 | 184 | -.290  | .064  | -.119 | -.723 |
| 100 | 1013 | .042   | .129  | .517  | -.463  | 110 | 135 | -.200  | .049  | -.028 | -.554  | 110 | 185 | -.290  | .061  | -.128 | -.694 |
| 100 | 1014 | -.205  | .075  | .017  | -.503  | 110 | 136 | -.205  | .039  | -.079 | -.391  | 110 | 186 | -.336  | .091  | -.003 | -.879 |
| 100 | 1015 | -.032  | .125  | .478  | -.585  | 110 | 137 | -.219  | .047  | -.070 | -.543  | 110 | 187 | -.221  | .089  | .134  | -.708 |
| 100 | 1016 | -.199  | .064  | .031  | -.542  | 110 | 138 | -.223  | .041  | -.090 | -.483  | 110 | 188 | -.192  | .067  | .099  | -.427 |
| 100 | 1017 | -.074  | .040  | .129  | -.212  | 110 | 139 | -.220  | .039  | -.093 | -.412  | 110 | 189 | -.194  | .061  | .070  | -.460 |
| 100 | 1018 | -.074  | .044  | .138  | -.189  | 110 | 140 | -.228  | .043  | -.083 | -.492  | 110 | 190 | -.205  | .062  | .025  | -.500 |
| 100 | 1019 | -.064  | .049  | .279  | -.320  | 110 | 141 | -.219  | .040  | -.095 | -.400  | 110 | 191 | -.251  | .066  | -.031 | -.519 |
| 100 | 1020 | -.091  | .055  | .131  | -.342  | 110 | 142 | -.227  | .043  | -.104 | -.474  | 110 | 192 | -.215  | .074  | .037  | -.723 |
| 100 | 1021 | -.046  | .030  | .155  | -.135  | 110 | 143 | -.222  | .053  | -.044 | -.612  | 110 | 193 | -.184  | .073  | .157  | -.471 |
| 100 | 1022 | -.094  | .029  | .063  | -.193  | 110 | 144 | -.214  | .056  | -.031 | -.607  | 110 | 194 | -.282  | .071  | -.115 | -.977 |
| 100 | 1023 | -.101  | .028  | .018  | -.229  | 110 | 145 | -.225  | .052  | -.047 | -.478  | 110 | 195 | -.287  | .072  | -.115 | -.804 |
| 100 | 1024 | -.131  | .031  | -.022 | -.337  | 110 | 146 | -.237  | .040  | -.104 | -.478  | 110 | 196 | -.302  | .087  | .046  | -.736 |
| 100 | 1025 | -.058  | .030  | .089  | -.156  | 110 | 147 | -.254  | .049  | -.125 | -.586  | 110 | 197 | -.178  | .074  | .164  | -.471 |
| 100 | 1026 | -.053  | .030  | .084  | -.153  | 110 | 148 | -.245  | .046  | -.099 | -.481  | 110 | 198 | -.098  | .033  | .026  | -.208 |
| 100 | 1027 | -.062  | .030  | .112  | -.156  | 110 | 149 | -.242  | .066  | -.073 | -.608  | 110 | 199 | -.096  | .032  | .080  | -.215 |
| 100 | 1028 | -.089  | .024  | .075  | -.167  | 110 | 150 | -.230  | .056  | -.069 | -.588  | 110 | 200 | -.097  | .036  | .064  | -.233 |
| 110 | 101  | -.278  | .059  | -.113 | -.528  | 110 | 151 | -.225  | .073  | -.033 | -.134  | 110 | 201 | -.127  | .041  | .060  | -.292 |
| 110 | 102  | -.224  | .049  | -.022 | -.498  | 110 | 152 | -.227  | .049  | -.064 | -.491  | 110 | 202 | -.154  | .054  | .166  | -.419 |
| 110 | 103  | -.083  | .063  | .155  | -.403  | 110 | 153 | -.225  | .045  | -.094 | -.592  | 110 | 203 | -.160  | .053  | .064  | -.414 |
| 110 | 104  | -.310  | .069  | -.126 | -.675  | 110 | 154 | -.231  | .039  | -.125 | -.422  | 110 | 204 | -.145  | .060  | .128  | -.437 |
| 110 | 105  | -.222  | .050  | -.079 | -.536  | 110 | 155 | -.242  | .046  | -.073 | -.471  | 110 | 205 | -.143  | .065  | .180  | -.476 |
| 110 | 106  | -.231  | .045  | -.097 | -.447  | 110 | 156 | -.234  | .051  | -.051 | -.523  | 110 | 206 | -.148  | .054  | .118  | -.378 |
| 110 | 107  | -.238  | .055  | -.088 | -.555  | 110 | 157 | -.228  | .046  | -.038 | -.440  | 110 | 207 | -.173  | .052  | .057  | -.378 |
| 110 | 108  | -.245  | .063  | -.039 | -.525  | 110 | 158 | -.206  | .050  | -.022 | -.473  | 110 | 208 | -.184  | .056  | .032  | -.507 |
| 110 | 109  | -.257  | .066  | -.088 | -.530  | 110 | 159 | -.240  | .042  | -.071 | -.455  | 110 | 209 | -.105  | .035  | .039  | -.247 |
| 110 | 110  | -.255  | .067  | -.104 | -.722  | 110 | 160 | -.213  | .065  | -.029 | -.666  | 110 | 210 | -.102  | .047  | .098  | -.308 |
| 110 | 111  | -.249  | .049  | -.119 | -.518  | 110 | 161 | -.258  | .047  | -.056 | -.478  | 110 | 211 | -.167  | .061  | .057  | -.391 |
| 110 | 112  | -.255  | .068  | -.038 | -.568  | 110 | 162 | -.211  | .061  | -.013 | -.581  | 110 | 212 | -.124  | .051  | .050  | -.536 |
| 110 | 113  | -.266  | .070  | -.076 | -.680  | 110 | 163 | -.208  | .051  | -.047 | -.518  | 110 | 213 | -.128  | .051  | .080  | -.279 |
| 110 | 114  | -.239  | .052  | -.097 | -.505  | 110 | 164 | -.228  | .052  | -.078 | -.538  | 110 | 214 | -.168  | .050  | .013  | -.380 |
| 110 | 115  | -.233  | .041  | -.106 | -.421  | 110 | 165 | -.261  | .064  | -.098 | -.738  | 110 | 215 | -.082  | .036  | .165  | -.178 |
| 110 | 116  | -.249  | .067  | -.056 | -.564  | 110 | 166 | -.234  | .046  | -.057 | -.443  | 110 | 216 | -.084  | .036  | .112  | -.180 |
| 110 | 117  | -.210  | .044  | -.040 | -.437  | 110 | 167 | -.240  | .045  | -.048 | -.557  | 110 | 217 | -.055  | .051  | .229  | -.184 |
| 110 | 118  | -.367  | .115  | -.113 | -.1024 | 110 | 168 | -.238  | .044  | -.079 | -.460  | 110 | 218 | -.056  | .053  | .293  | -.214 |
| 110 | 119  | -.252  | .069  | -.049 | -.568  | 110 | 169 | -.210  | .051  | -.055 | -.654  | 110 | 219 | -.152  | .061  | .038  | -.416 |
| 110 | 120  | -.262  | .054  | -.108 | -.580  | 110 | 170 | -.234  | .064  | -.029 | -.860  | 110 | 220 | -.104  | .043  | .066  | -.272 |
| 110 | 121  | -.250  | .046  | -.115 | -.487  | 110 | 171 | -.229  | .055  | -.081 | -.595  | 110 | 221 | -.111  | .045  | .057  | -.304 |
| 110 | 122  | -.178  | .053  | .050  | -.398  | 110 | 172 | -.266  | .065  | -.091 | -.689  | 110 | 222 | -.113  | .044  | .075  | -.329 |
| 110 | 123  | -.179  | .050  | .039  | -.471  | 110 | 173 | -.258  | .057  | -.095 | -.526  | 110 | 223 | -.139  | .049  | .052  | -.324 |
| 110 | 124  | -.189  | .053  | .062  | -.607  | 110 | 174 | -.250  | .056  | -.079 | -.552  | 110 | 224 | -.166  | .058  | .025  | -.474 |
| 110 | 125  | -.192  | .045  | -.022 | -.435  | 110 | 175 | -.231  | .050  | -.055 | -.533  | 110 | 225 | -.170  | .061  | .068  | -.556 |
| 110 | 126  | -.228  | .046  | -.101 | -.435  | 110 | 176 | -.243  | .056  | -.004 | -.633  | 110 | 301 | -.013  | .143  | .490  | -.469 |
| 110 | 127  | -.230  | .040  | -.106 | -.414  | 110 | 177 | -.270  | .072  | -.107 | -.1040 | 110 | 302 | -.066  | .115  | .412  | -.499 |
| 110 | 128  | -.228  | .040  | -.097 | -.412  | 110 | 178 | -.267  | .069  | -.079 | -.644  | 110 | 303 | -.025  | .106  | .451  | -.382 |
| 110 | 129  | -.225  | .039  | -.067 | -.416  | 110 | 179 | -.326  | .083  | -.143 | -.834  | 110 | 304 | -.013  | .182  | .615  | -.576 |
| 110 | 130  | -.208  | .043  | -.044 | -.370  | 110 | 180 | -.258  | .065  | -.050 | -.779  | 110 | 305 | -.131  | .182  | .753  | -.746 |
| 110 | 131  | -.224  | .047  | -.070 | -.481  | 110 | 181 | -.228  | .065  | -.008 | -.578  | 110 | 306 | -.088  | .080  | .241  | -.350 |
| 110 | 132  | -.191  | .046  | -.037 | -.391  | 110 | 182 | -.218  | .058  | -.080 | -.491  | 110 | 307 | -.023  | .119  | .540  | -.271 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|
| 110 | 308 | .144   | .207  | .865  | -.587  | 110 | 358 | -.110  | .140  | .519  | -.928   | 110 | 408 | -.114  | .042  | .029  | -.304 |
| 110 | 309 | .054   | .138  | .596  | -.373  | 110 | 359 | -.166  | .056  | .162  | -.477   | 110 | 409 | -.088  | .032  | .088  | -.186 |
| 110 | 310 | .055   | .146  | .647  | -.511  | 110 | 360 | -.101  | .163  | .524  | -.897   | 110 | 410 | -.101  | .031  | .059  | -.226 |
| 110 | 311 | -.094  | .090  | .306  | -.381  | 110 | 361 | -.160  | .051  | .135  | -.417   | 110 | 411 | -.102  | .056  | .086  | -.413 |
| 110 | 312 | .104   | .220  | 1.044 | -.700  | 110 | 362 | -.161  | .185  | .447  | -.1.670 | 110 | 412 | -.110  | .042  | .036  | -.342 |
| 110 | 313 | .109   | .155  | .790  | -.358  | 110 | 363 | -.088  | .148  | .536  | -.1.024 | 110 | 413 | -.097  | .030  | .037  | -.237 |
| 110 | 314 | .022   | .138  | .577  | -.421  | 110 | 364 | -.059  | .069  | .438  | -.407   | 110 | 414 | -.032  | .049  | .191  | -.230 |
| 110 | 315 | -.109  | .090  | .444  | -.375  | 110 | 365 | -.056  | .057  | .330  | -.266   | 110 | 415 | -.029  | .046  | .248  | -.214 |
| 110 | 316 | .036   | .146  | .766  | -.397  | 110 | 366 | -.088  | .059  | .269  | -.274   | 110 | 416 | -.103  | .046  | .122  | -.372 |
| 110 | 317 | .117   | .172  | .887  | -.268  | 110 | 367 | -.138  | .049  | .150  | -.314   | 110 | 417 | -.082  | .034  | .092  | -.192 |
| 110 | 318 | .064   | .182  | .812  | -1.024 | 110 | 368 | -.160  | .044  | .017  | -.345   | 110 | 418 | -.082  | .032  | .092  | -.188 |
| 110 | 319 | .097   | .154  | .792  | -.322  | 110 | 369 | -.059  | .060  | .176  | -.395   | 110 | 419 | -.093  | .030  | .054  | -.185 |
| 110 | 320 | -.129  | .113  | .388  | -.591  | 110 | 370 | -.177  | .125  | .262  | -.761   | 110 | 420 | -.097  | .028  | .032  | -.178 |
| 110 | 321 | -.117  | .091  | .296  | -.387  | 110 | 371 | -.137  | .135  | .431  | -.784   | 110 | 421 | -.099  | .031  | .086  | -.306 |
| 110 | 322 | .077   | .180  | .775  | -.632  | 110 | 372 | -.079  | .058  | .138  | -.542   | 110 | 422 | -.094  | .031  | .092  | -.182 |
| 110 | 323 | .101   | .156  | .712  | -.450  | 110 | 373 | -.043  | .052  | .150  | -.355   | 110 | 501 | -.099  | .090  | .246  | -.552 |
| 110 | 324 | .047   | .140  | .637  | -.407  | 110 | 374 | -.222  | .078  | .110  | -.597   | 110 | 502 | -.006  | .120  | .439  | -.456 |
| 110 | 325 | .017   | .118  | .591  | -.293  | 110 | 375 | -.157  | .038  | .007  | -.317   | 110 | 503 | -.064  | .163  | .553  | -.687 |
| 110 | 326 | .106   | .155  | .768  | -.319  | 110 | 376 | -.189  | .046  | -.036 | -.390   | 110 | 504 | -.003  | .098  | .327  | -.267 |
| 110 | 327 | -.112  | .149  | .572  | -.743  | 110 | 377 | -.164  | .099  | .241  | -.648   | 110 | 505 | -.108  | .061  | .128  | -.317 |
| 110 | 328 | -.049  | .103  | .455  | -.414  | 110 | 378 | -.143  | .102  | .161  | -.830   | 110 | 506 | -.052  | .173  | .672  | -.673 |
| 110 | 329 | -.084  | .083  | .292  | -.480  | 110 | 379 | -.083  | .053  | .148  | -.425   | 110 | 507 | -.003  | .095  | .387  | -.249 |
| 110 | 330 | .097   | .160  | .785  | -.282  | 110 | 380 | -.058  | .043  | .118  | -.241   | 110 | 508 | -.145  | .044  | .080  | -.464 |
| 110 | 331 | .075   | .156  | .897  | -.306  | 110 | 381 | -.219  | .067  | .007  | -.617   | 110 | 509 | -.023  | .119  | .649  | -.680 |
| 110 | 332 | .025   | .192  | .738  | -.599  | 110 | 382 | -.170  | .039  | -.029 | -.390   | 110 | 510 | -.049  | .114  | .569  | -.386 |
| 110 | 333 | .039   | .181  | .836  | -.860  | 110 | 383 | -.195  | .046  | -.062 | -.410   | 110 | 511 | -.086  | .182  | .744  | -.743 |
| 110 | 334 | .044   | .116  | .543  | -.511  | 110 | 384 | -.091  | .065  | .120  | -.602   | 110 | 512 | -.118  | .061  | .143  | -.303 |
| 110 | 335 | .021   | .116  | .516  | -.453  | 110 | 385 | -.074  | .066  | .171  | -.612   | 110 | 513 | -.003  | .099  | .419  | -.290 |
| 110 | 336 | .034   | .127  | .790  | -.275  | 110 | 386 | -.063  | .043  | .204  | -.218   | 110 | 514 | -.109  | .124  | .611  | -.281 |
| 110 | 337 | .073   | .126  | .621  | -.192  | 110 | 387 | -.059  | .042  | .163  | -.249   | 110 | 515 | -.140  | .202  | 1.017 | -.718 |
| 110 | 338 | -.129  | .118  | .477  | -.651  | 110 | 388 | -.165  | .047  | .047  | -.433   | 110 | 516 | -.041  | .124  | .622  | -.436 |
| 110 | 339 | -.097  | .072  | .250  | -.309  | 110 | 389 | -.158  | .036  | .044  | -.289   | 110 | 517 | -.110  | .129  | .981  | -.245 |
| 110 | 340 | -.127  | .064  | .172  | -.336  | 110 | 390 | -.192  | .040  | -.057 | -.420   | 110 | 518 | -.131  | .079  | .163  | -.521 |
| 110 | 341 | .047   | .121  | .490  | -.297  | 110 | 391 | -.049  | .048  | .208  | -.191   | 110 | 519 | -.180  | .113  | .226  | -.933 |
| 110 | 342 | .030   | .108  | .538  | -.240  | 110 | 392 | -.014  | .052  | .227  | -.226   | 110 | 520 | -.106  | .127  | .652  | -.572 |
| 110 | 343 | .003   | .145  | .670  | -.638  | 110 | 393 | -.040  | .051  | .282  | -.201   | 110 | 521 | -.075  | .150  | .656  | -.756 |
| 110 | 344 | .010   | .157  | .956  | -.641  | 110 | 394 | -.137  | .047  | .147  | -.336   | 110 | 522 | -.128  | .058  | .192  | -.353 |
| 110 | 345 | .042   | .125  | .760  | -.421  | 110 | 395 | -.145  | .038  | .055  | -.269   | 110 | 523 | -.087  | .072  | .259  | -.536 |
| 110 | 346 | -.048  | .088  | .499  | -.323  | 110 | 396 | -.181  | .039  | .001  | -.383   | 110 | 524 | -.137  | .118  | .369  | -.794 |
| 110 | 347 | -.116  | .067  | .250  | -.316  | 110 | 397 | -.074  | .043  | .108  | -.291   | 110 | 525 | -.083  | .130  | .699  | -.272 |
| 110 | 348 | -.179  | .056  | .074  | -.404  | 110 | 398 | -.051  | .055  | .279  | -.264   | 110 | 526 | -.038  | .089  | .448  | -.245 |
| 110 | 349 | .045   | .127  | .570  | -.462  | 110 | 399 | -.089  | .057  | .183  | -.361   | 110 | 527 | -.070  | .093  | .450  | -.273 |
| 110 | 350 | .059   | .111  | .577  | -.275  | 110 | 400 | -.093  | .033  | .030  | -.251   | 110 | 528 | -.155  | .129  | .723  | -.434 |
| 110 | 351 | -.084  | .175  | .678  | -1.154 | 110 | 401 | -.096  | .030  | .030  | -.202   | 110 | 529 | -.157  | .152  | .675  | -.421 |
| 110 | 352 | -.086  | .122  | .683  | -.784  | 110 | 402 | -.107  | .029  | .070  | -.206   | 110 | 530 | -.088  | .123  | .757  | -.291 |
| 110 | 353 | -.142  | .126  | .318  | -.842  | 110 | 403 | -.102  | .031  | .016  | -.242   | 110 | 531 | -.079  | .122  | .643  | -.255 |
| 110 | 354 | -.166  | .092  | .224  | -.623  | 110 | 404 | -.100  | .029  | .034  | -.213   | 110 | 532 | -.140  | .049  | .078  | -.296 |
| 110 | 355 | -.200  | .068  | .054  | -.558  | 110 | 405 | -.141  | .046  | .115  | -.395   | 110 | 533 | -.087  | .060  | .253  | -.244 |
| 110 | 356 | -.251  | .069  | -.042 | -.729  | 110 | 406 | -.021  | .067  | .466  | -.282   | 110 | 534 | -.107  | .121  | .432  | -.652 |
| 110 | 357 | -.246  | .064  | -.100 | -.597  | 110 | 407 | -.043  | .050  | .236  | -.289   | 110 | 535 | -.094  | .102  | .548  | -.180 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 110 | 536 | .108   | .113  | .745  | -.214 | 110 | 586 | -.009  | .085  | .370  | -.327 | 110 | 716 | -.226  | .039  | -.093 | -.390 |
| 110 | 537 | .071   | .090  | .487  | -.169 | 110 | 587 | -.006  | .072  | .349  | -.227 | 110 | 717 | -.227  | .037  | -.099 | -.390 |
| 110 | 538 | .096   | .096  | .584  | -.176 | 110 | 588 | -.048  | .070  | .174  | -.501 | 110 | 718 | -.244  | .040  | -.128 | -.401 |
| 110 | 539 | .140   | .136  | .625  | -.489 | 110 | 589 | -.053  | .040  | .129  | -.292 | 110 | 719 | -.243  | .041  | -.124 | -.410 |
| 110 | 540 | .121   | .161  | .700  | -.740 | 110 | 590 | -.060  | .043  | .164  | -.253 | 110 | 720 | -.233  | .047  | -.064 | -.451 |
| 110 | 541 | .117   | .100  | .580  | -.144 | 110 | 591 | .008   | .058  | .295  | -.133 | 110 | 721 | -.260  | .067  | -.115 | -.679 |
| 110 | 542 | .101   | .098  | .564  | -.139 | 110 | 592 | -.017  | .044  | .219  | -.157 | 110 | 722 | -.246  | .049  | -.104 | -.594 |
| 110 | 543 | -.204  | .044  | -.037 | -.407 | 110 | 593 | -.178  | .049  | .103  | -.412 | 110 | 723 | -.244  | .047  | -.102 | -.524 |
| 110 | 544 | -.119  | .056  | .151  | -.316 | 110 | 594 | -.131  | .047  | .141  | -.292 | 110 | 724 | -.242  | .041  | -.135 | -.415 |
| 110 | 545 | -.008  | .077  | .405  | -.232 | 110 | 595 | -.072  | .051  | .175  | -.287 | 110 | 725 | -.244  | .043  | -.108 | -.493 |
| 110 | 546 | .111   | .110  | .691  | -.355 | 110 | 596 | -.026  | .045  | .231  | -.199 | 110 | 726 | -.234  | .050  | -.075 | -.495 |
| 110 | 547 | .120   | .121  | .689  | -.432 | 110 | 597 | -.050  | .054  | .111  | -.356 | 110 | 727 | -.252  | .066  | -.080 | -.596 |
| 110 | 548 | .110   | .125  | .620  | -.493 | 110 | 598 | -.055  | .038  | .108  | -.280 | 110 | 728 | -.227  | .050  | -.085 | -.433 |
| 110 | 549 | -.268  | .072  | -.111 | -.560 | 110 | 599 | -.070  | .034  | .050  | -.221 | 110 | 729 | -.218  | .043  | -.087 | -.381 |
| 110 | 550 | -.299  | .074  | -.113 | -.706 | 110 | 600 | -.066  | .058  | .156  | -.377 | 110 | 730 | -.226  | .038  | -.107 | -.427 |
| 110 | 551 | -.145  | .062  | .103  | -.451 | 110 | 601 | -.077  | .045  | .126  | -.387 | 110 | 731 | -.235  | .039  | -.116 | -.374 |
| 110 | 552 | -.019  | .093  | .334  | -.524 | 110 | 602 | -.086  | .050  | .185  | -.356 | 110 | 732 | -.261  | .058  | -.107 | -.608 |
| 110 | 553 | .053   | .112  | .549  | -.640 | 110 | 603 | -.199  | .045  | -.036 | -.403 | 110 | 733 | -.253  | .052  | -.128 | -.540 |
| 110 | 554 | .075   | .115  | .594  | -.491 | 110 | 604 | -.043  | .035  | .108  | -.187 | 110 | 734 | -.247  | .042  | -.134 | -.429 |
| 110 | 555 | .083   | .133  | .625  | -.624 | 110 | 605 | -.060  | .038  | .108  | -.237 | 110 | 735 | -.244  | .039  | -.128 | -.397 |
| 110 | 556 | .105   | .131  | .705  | -.309 | 110 | 606 | -.058  | .047  | .141  | -.384 | 110 | 736 | -.238  | .038  | -.132 | -.399 |
| 110 | 557 | .118   | .123  | .682  | -.404 | 110 | 607 | -.068  | .063  | .261  | -.371 | 110 | 737 | -.232  | .042  | -.107 | -.424 |
| 110 | 558 | -.112  | .053  | .127  | -.317 | 110 | 608 | -.009  | .044  | .214  | -.124 | 110 | 738 | -.237  | .045  | -.110 | -.447 |
| 110 | 559 | -.083  | .123  | .796  | -.591 | 110 | 609 | -.042  | .049  | .176  | -.302 | 110 | 739 | -.228  | .043  | -.089 | -.408 |
| 110 | 560 | -.152  | .051  | .083  | -.386 | 110 | 610 | -.045  | .033  | .169  | -.169 | 110 | 740 | -.223  | .042  | -.101 | -.393 |
| 110 | 561 | -.082  | .124  | .682  | -.542 | 110 | 611 | -.084  | .046  | .196  | -.381 | 110 | 741 | -.238  | .038  | -.119 | -.404 |
| 110 | 562 | -.144  | .051  | .089  | -.304 | 110 | 612 | -.152  | .049  | .043  | -.345 | 110 | 742 | -.244  | .043  | -.112 | -.528 |
| 110 | 563 | -.090  | .060  | .218  | -.289 | 110 | 613 | -.084  | .051  | .169  | -.257 | 110 | 743 | -.261  | .051  | -.116 | -.578 |
| 110 | 564 | -.004  | .086  | .478  | -.282 | 110 | 614 | -.027  | .062  | .273  | -.200 | 110 | 744 | -.265  | .046  | -.139 | -.492 |
| 110 | 565 | .066   | .093  | .440  | -.313 | 110 | 615 | -.030  | .052  | .311  | -.088 | 110 | 745 | -.255  | .043  | -.137 | -.442 |
| 110 | 566 | .099   | .086  | .572  | -.187 | 110 | 616 | -.003  | .048  | .201  | -.144 | 110 | 746 | -.245  | .044  | -.121 | -.431 |
| 110 | 567 | .113   | .103  | .677  | -.271 | 110 | 617 | -.002  | .048  | .223  | -.137 | 110 | 747 | -.238  | .046  | -.114 | -.460 |
| 110 | 568 | .091   | .111  | .581  | -.740 | 110 | 618 | -.011  | .041  | .212  | -.153 | 110 | 748 | -.241  | .049  | -.114 | -.580 |
| 110 | 569 | .106   | .099  | .586  | -.178 | 110 | 619 | -.042  | .038  | .140  | -.187 | 110 | 749 | -.247  | .051  | -.080 | -.546 |
| 110 | 570 | -.136  | .054  | .129  | -.330 | 110 | 620 | -.068  | .034  | .131  | -.162 | 110 | 750 | -.241  | .047  | -.075 | -.504 |
| 110 | 571 | -.078  | .060  | .225  | -.243 | 110 | 701 | -.221  | .049  | -.077 | -.460 | 110 | 751 | -.275  | .056  | -.093 | -.710 |
| 110 | 572 | -.043  | .100  | .394  | -.421 | 110 | 702 | -.280  | .057  | -.113 | -.540 | 110 | 752 | -.264  | .045  | -.140 | -.473 |
| 110 | 573 | .102   | .086  | .537  | -.121 | 110 | 703 | -.307  | .070  | -.115 | -.656 | 110 | 753 | -.254  | .044  | -.122 | -.437 |
| 110 | 574 | .110   | .090  | .553  | -.133 | 110 | 704 | -.076  | .063  | -.124 | -.415 | 110 | 754 | -.246  | .043  | -.124 | -.453 |
| 110 | 575 | .108   | .098  | .586  | -.360 | 110 | 705 | -.235  | .045  | -.051 | -.419 | 110 | 755 | -.259  | .063  | -.097 | -.863 |
| 110 | 576 | .084   | .095  | .504  | -.313 | 110 | 706 | -.228  | .042  | -.101 | -.404 | 110 | 756 | -.264  | .062  | -.062 | -.714 |
| 110 | 577 | -.137  | .054  | .150  | -.339 | 110 | 707 | -.229  | .044  | -.106 | -.421 | 110 | 757 | -.290  | .071  | -.077 | -.841 |
| 110 | 578 | -.065  | .062  | .242  | -.278 | 110 | 708 | -.248  | .047  | -.118 | -.494 | 110 | 758 | -.275  | .051  | -.089 | -.486 |
| 110 | 579 | .007   | .104  | .502  | -.407 | 110 | 709 | -.228  | .040  | -.093 | -.415 | 110 | 759 | -.250  | .066  | -.062 | -.710 |
| 110 | 580 | .099   | .088  | .572  | -.128 | 110 | 710 | -.228  | .044  | -.052 | -.448 | 110 | 760 | -.285  | .062  | -.122 | -.654 |
| 110 | 581 | .078   | .083  | .541  | -.182 | 110 | 711 | -.230  | .044  | -.077 | -.436 | 110 | 761 | -.235  | .052  | -.077 | -.484 |
| 110 | 582 | .044   | .071  | .366  | -.217 | 110 | 712 | -.244  | .050  | -.068 | -.522 | 110 | 762 | -.285  | .073  | -.075 | -.706 |
| 110 | 583 | .035   | .072  | .356  | -.192 | 110 | 713 | -.234  | .042  | -.099 | -.448 | 110 | 763 | -.280  | .060  | -.069 | -.577 |
| 110 | 584 | -.162  | .057  | .089  | -.370 | 110 | 714 | -.229  | .043  | -.102 | -.399 | 110 | 764 | -.275  | .049  | -.120 | -.486 |
| 110 | 585 | -.079  | .062  | .225  | -.332 | 110 | 715 | -.224  | .043  | -.070 | -.442 | 110 | 765 | -.278  | .054  | -.131 | -.548 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 110 | 766 | -.244  | .050  | -.100 | -.535   | 110 | 816 | -.142  | .058  | .097  | -.518 | 110 | 944  | -.186  | .055  | -.001 | -.441 |
| 110 | 767 | -.231  | .050  | -.065 | -.460   | 110 | 817 | -.144  | .065  | .042  | -.540 | 110 | 945  | -.002  | .057  | .325  | -.146 |
| 110 | 768 | -.222  | .046  | -.079 | -.439   | 110 | 818 | -.157  | .079  | .156  | -.527 | 110 | 946  | -.192  | .065  | .005  | -.523 |
| 110 | 769 | -.247  | .045  | -.107 | -.448   | 110 | 819 | -.262  | .107  | .040  | -.646 | 110 | 947  | -.258  | .092  | -.046 | -.938 |
| 110 | 770 | -.300  | .087  | -.051 | -.873   | 110 | 820 | -.327  | .091  | .010  | -.824 | 110 | 948  | -.232  | .069  | -.077 | -.773 |
| 110 | 771 | -.293  | .071  | -.067 | -.686   | 110 | 821 | -.373  | .091  | .149  | -.813 | 110 | 949  | -.246  | .071  | -.046 | -.869 |
| 110 | 772 | -.300  | .055  | -.156 | -.523   | 110 | 822 | -.379  | .090  | .189  | -.867 | 110 | 950  | -.019  | .046  | .239  | -.144 |
| 110 | 773 | -.275  | .049  | -.135 | -.537   | 110 | 901 | -.270  | .031  | .191  | -.397 | 110 | 951  | -.194  | .052  | -.019 | -.496 |
| 110 | 774 | -.272  | .055  | -.121 | -.546   | 110 | 902 | -.244  | .046  | .104  | -.437 | 110 | 952  | -.168  | .051  | -.081 | -.612 |
| 110 | 775 | -.247  | .048  | -.077 | -.418   | 110 | 903 | -.246  | .039  | .146  | -.399 | 110 | 953  | -.054  | .061  | .367  | -.202 |
| 110 | 776 | -.249  | .051  | -.088 | -.446   | 110 | 904 | -.265  | .044  | .140  | -.510 | 110 | 954  | -.317  | .101  | -.093 | -.219 |
| 110 | 777 | -.308  | .099  | -.039 | -.932   | 110 | 905 | -.273  | .027  | .200  | -.370 | 110 | 955  | -.111  | .050  | .317  | -.287 |
| 110 | 778 | -.292  | .088  | -.058 | -.768   | 110 | 906 | -.104  | .085  | .218  | -.309 | 110 | 956  | -.063  | .049  | .288  | -.220 |
| 110 | 779 | -.317  | .061  | -.128 | -.633   | 110 | 907 | -.195  | .041  | .035  | -.357 | 110 | 957  | -.052  | .048  | .157  | -.195 |
| 110 | 780 | -.305  | .068  | -.135 | -.644   | 110 | 908 | -.238  | .044  | .091  | -.470 | 110 | 958  | -.084  | .053  | .380  | -.240 |
| 110 | 781 | -.313  | .070  | -.109 | -.647   | 110 | 909 | -.239  | .038  | .115  | -.410 | 110 | 959  | -.195  | .041  | -.013 | -.392 |
| 110 | 782 | -.279  | .058  | -.114 | -.546   | 110 | 910 | -.048  | .068  | .334  | -.262 | 110 | 960  | -.027  | .061  | .315  | -.340 |
| 110 | 783 | -.277  | .062  | -.072 | -.567   | 110 | 911 | -.245  | .039  | .127  | -.422 | 110 | 961  | -.058  | .061  | .302  | -.291 |
| 110 | 784 | -.259  | .122  | -.066 | -.885   | 110 | 912 | -.219  | .075  | .044  | -.625 | 110 | 962  | -.043  | .058  | .261  | -.237 |
| 110 | 785 | -.239  | .103  | -.056 | -.752   | 110 | 913 | -.242  | .043  | .051  | -.440 | 110 | 963  | -.080  | .046  | .131  | -.303 |
| 110 | 786 | -.296  | .072  | -.042 | -.553   | 110 | 914 | -.212  | .104  | .122  | -.645 | 110 | 964  | -.052  | .050  | .205  | -.209 |
| 110 | 787 | -.330  | .072  | -.102 | -.698   | 110 | 915 | -.239  | .046  | .091  | -.495 | 110 | 965  | -.063  | .048  | .311  | -.240 |
| 110 | 788 | -.352  | .088  | -.144 | -.983   | 110 | 916 | -.232  | .111  | .301  | -.706 | 110 | 966  | -.096  | .045  | .280  | -.291 |
| 110 | 789 | -.331  | .075  | -.126 | -.626   | 110 | 917 | -.258  | .055  | .119  | -.510 | 110 | 967  | -.079  | .044  | .231  | -.219 |
| 110 | 790 | -.324  | .080  | -.100 | -.705   | 110 | 918 | -.283  | .064  | .072  | -.648 | 110 | 968  | -.069  | .038  | .116  | -.219 |
| 110 | 791 | -.327  | .122  | -.041 | -.1-021 | 110 | 919 | -.097  | .096  | .476  | -.129 | 110 | 969  | -.074  | .039  | .151  | -.224 |
| 110 | 792 | -.352  | .095  | -.174 | -.852   | 110 | 920 | -.161  | .096  | .160  | -.515 | 110 | 970  | -.099  | .038  | .132  | -.202 |
| 110 | 793 | -.382  | .091  | -.009 | -.942   | 110 | 921 | -.263  | .064  | .028  | -.595 | 110 | 971  | -.093  | .037  | .111  | -.224 |
| 110 | 794 | -.335  | .082  | -.013 | -.748   | 110 | 922 | -.228  | .043  | .044  | -.410 | 110 | 1001 | -.247  | .050  | .000  | -.419 |
| 110 | 795 | -.132  | .054  | -.122 | -.611   | 110 | 923 | -.177  | .098  | .144  | -.648 | 110 | 1002 | -.304  | .091  | .064  | -.648 |
| 110 | 796 | -.129  | .047  | -.083 | -.383   | 110 | 924 | -.138  | .149  | .765  | -.445 | 110 | 1003 | -.218  | .053  | -.055 | -.430 |
| 110 | 797 | -.161  | .048  | -.085 | -.351   | 110 | 925 | -.280  | .140  | .142  | -.956 | 110 | 1004 | -.251  | .049  | -.133 | -.579 |
| 110 | 798 | -.162  | .076  | -.104 | -.1-155 | 110 | 926 | -.073  | .120  | .548  | -.371 | 110 | 1005 | -.231  | .067  | .014  | -.582 |
| 110 | 799 | -.153  | .071  | -.047 | -.698   | 110 | 927 | -.143  | .076  | .210  | -.407 | 110 | 1006 | -.265  | .058  | -.116 | -.601 |
| 110 | 800 | -.210  | .097  | -.069 | -.620   | 110 | 928 | -.139  | .169  | .863  | -.245 | 110 | 1007 | -.014  | .047  | .234  | -.134 |
| 110 | 801 | -.350  | .084  | -.029 | -.772   | 110 | 929 | -.154  | .145  | .608  | -.694 | 110 | 1008 | -.157  | .071  | .253  | -.592 |
| 110 | 802 | -.404  | .105  | -.079 | -.1-440 | 110 | 930 | -.139  | .121  | .660  | -.535 | 110 | 1009 | -.055  | .073  | .427  | -.181 |
| 110 | 803 | -.389  | .086  | -.113 | -.908   | 110 | 931 | -.215  | .052  | .062  | -.496 | 110 | 1010 | -.197  | .052  | -.026 | -.438 |
| 110 | 804 | -.390  | .078  | -.168 | -.810   | 110 | 932 | -.048  | .090  | .131  | -.196 | 110 | 1011 | -.026  | .038  | .170  | -.134 |
| 110 | 805 | -.123  | .045  | -.076 | -.346   | 110 | 933 | -.084  | .128  | .624  | -.299 | 110 | 1012 | -.219  | .070  | .069  | -.655 |
| 110 | 806 | -.149  | .044  | -.010 | -.392   | 110 | 934 | -.136  | .121  | .400  | -.496 | 110 | 1013 | -.042  | .143  | .518  | -.504 |
| 110 | 807 | -.110  | .046  | -.115 | -.470   | 110 | 935 | -.061  | .103  | .407  | -.347 | 110 | 1014 | -.249  | .070  | -.015 | -.572 |
| 110 | 808 | -.145  | .045  | -.101 | -.307   | 110 | 936 | -.083  | .072  | .128  | -.141 | 110 | 1015 | -.047  | .123  | .620  | -.462 |
| 110 | 809 | -.142  | .053  | -.035 | -.677   | 110 | 937 | -.037  | .158  | .683  | -.438 | 110 | 1016 | -.237  | .065  | -.021 | -.551 |
| 110 | 810 | -.201  | .095  | -.115 | -.543   | 110 | 938 | -.036  | .109  | .649  | -.263 | 110 | 1017 | -.057  | .045  | .241  | -.207 |
| 110 | 811 | -.341  | .083  | -.065 | -.831   | 110 | 939 | -.058  | .086  | .323  | -.256 | 110 | 1018 | -.064  | .044  | .191  | -.186 |
| 110 | 812 | -.394  | .098  | -.173 | -.1-287 | 110 | 940 | -.220  | .034  | .132  | -.422 | 110 | 1019 | -.050  | .051  | .210  | -.243 |
| 110 | 813 | -.111  | .047  | -.069 | -.353   | 110 | 941 | -.348  | .053  | .142  | -.554 | 110 | 1020 | -.070  | .059  | .229  | -.462 |
| 110 | 814 | -.113  | .044  | -.049 | -.383   | 110 | 942 | -.187  | .057  | .034  | -.403 | 110 | 1021 | -.029  | .049  | .312  | -.087 |
| 110 | 815 | -.146  | .047  | -.040 | -.312   | 110 | 943 | -.198  | .071  | .110  | -.510 | 110 | 1022 | -.075  | .039  | .097  | -.217 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|
| 110 | 1023 | -.093  | .037  | .102  | -.302  | 120 | 145 | -.325  | .059  | -.173 | -.954  | 120 | 195 | -.398  | .085  | -.169 | -.836   |
| 110 | 1024 | -.142  | .049  | .076  | -.412  | 120 | 146 | -.328  | .040  | -.203 | -.583  | 120 | 196 | -.440  | .109  | .090  | -.126   |
| 110 | 1025 | -.038  | .036  | .135  | -.167  | 120 | 147 | -.348  | .045  | -.150 | -.537  | 120 | 197 | -.322  | .099  | .119  | -.761   |
| 110 | 1026 | -.034  | .037  | .154  | -.167  | 120 | 148 | -.352  | .052  | -.155 | -.583  | 120 | 198 | -.137  | .037  | -.001 | -.282   |
| 110 | 1027 | -.056  | .032  | .073  | -.172  | 120 | 149 | -.324  | .080  | -.088 | -.808  | 120 | 199 | -.131  | .036  | .022  | -.264   |
| 110 | 1028 | -.090  | .032  | .215  | -.181  | 120 | 150 | -.314  | .066  | -.106 | -.813  | 120 | 200 | -.127  | .042  | .038  | -.303   |
| 120 | 101  | -.360  | .054  | -.191 | -.520  | 120 | 151 | -.316  | .084  | -.090 | -1.564 | 120 | 201 | -.201  | .054  | .017  | -.407   |
| 120 | 102  | -.303  | .047  | -.155 | -.475  | 120 | 152 | -.301  | .040  | -.176 | -.563  | 120 | 202 | -.239  | .086  | .122  | -.564   |
| 120 | 103  | -.131  | .073  | .081  | -.511  | 120 | 153 | -.309  | .039  | -.174 | -.477  | 120 | 203 | -.251  | .097  | .246  | -.559   |
| 120 | 104  | -.414  | .057  | -.198 | -.684  | 120 | 154 | -.318  | .036  | -.216 | -.459  | 120 | 204 | -.239  | .110  | .249  | -.686   |
| 120 | 105  | -.302  | .044  | -.131 | -.478  | 120 | 155 | -.335  | .052  | -.144 | -.570  | 120 | 205 | -.229  | .107  | .344  | -.720   |
| 120 | 106  | -.326  | .041  | -.202 | -.487  | 120 | 156 | -.356  | .074  | -.142 | -.795  | 120 | 206 | -.243  | .074  | .078  | -.677   |
| 120 | 107  | -.225  | .050  | -.178 | -.566  | 120 | 157 | -.340  | .062  | -.102 | -.599  | 120 | 207 | -.293  | .076  | .038  | -.595   |
| 120 | 108  | -.534  | .062  | -.149 | -.592  | 120 | 158 | -.277  | .052  | -.054 | -.448  | 120 | 208 | -.289  | .068  | .024  | -.589   |
| 120 | 109  | -.348  | .063  | -.191 | -.632  | 120 | 159 | -.345  | .050  | -.176 | -.545  | 120 | 209 | -.162  | .040  | -.037 | -.343   |
| 120 | 110  | -.353  | .060  | -.185 | -.682  | 120 | 160 | -.250  | .058  | -.013 | -.455  | 120 | 210 | -.162  | .066  | .101  | -.438   |
| 120 | 111  | -.556  | .049  | -.218 | -.583  | 120 | 161 | -.372  | .057  | -.151 | -.651  | 120 | 211 | -.232  | .115  | .200  | -.638   |
| 120 | 112  | -.362  | .067  | -.148 | -.650  | 120 | 162 | -.259  | .052  | -.099 | -.453  | 120 | 212 | -.173  | .080  | .110  | -.670   |
| 120 | 113  | -.368  | .071  | -.180 | -.706  | 120 | 163 | -.271  | .052  | -.034 | -.473  | 120 | 213 | -.205  | .074  | .145  | -.463   |
| 120 | 114  | -.338  | .049  | -.203 | -.534  | 120 | 164 | -.303  | .049  | -.165 | -.504  | 120 | 214 | -.279  | .069  | -.005 | -.574   |
| 120 | 115  | -.324  | .045  | -.171 | -.514  | 120 | 165 | -.351  | .066  | -.196 | -.714  | 120 | 215 | -.114  | .041  | .071  | -.254   |
| 120 | 116  | -.343  | .060  | -.182 | -.650  | 120 | 166 | -.323  | .050  | -.153 | -.543  | 120 | 216 | -.112  | .045  | .080  | -.244   |
| 120 | 117  | -.306  | .042  | -.153 | -.455  | 120 | 167 | -.341  | .052  | -.108 | -.541  | 120 | 217 | -.045  | .066  | .285  | -.201   |
| 120 | 118  | -.475  | .097  | -.235 | -.1015 | 120 | 168 | -.359  | .057  | -.089 | -.710  | 120 | 218 | -.020  | .080  | .444  | -.247   |
| 120 | 119  | -.387  | .082  | -.101 | -.704  | 120 | 169 | -.292  | .053  | -.089 | -.572  | 120 | 219 | -.173  | .103  | .154  | -.617   |
| 120 | 120  | -.360  | .053  | -.198 | -.629  | 120 | 170 | -.278  | .062  | -.027 | -.589  | 120 | 220 | -.142  | .070  | .103  | -.419   |
| 120 | 121  | -.351  | .044  | -.226 | -.552  | 120 | 171 | -.281  | .058  | -.051 | -.515  | 120 | 221 | -.152  | .071  | .126  | -.523   |
| 120 | 122  | -.243  | .052  | -.049 | -.439  | 120 | 172 | -.349  | .072  | -.120 | -.715  | 120 | 222 | -.150  | .070  | .239  | -.530   |
| 120 | 123  | -.251  | .053  | -.026 | -.484  | 120 | 173 | -.340  | .066  | -.122 | -.631  | 120 | 223 | -.216  | .073  | .085  | -.454   |
| 120 | 124  | -.267  | .048  | -.058 | -.475  | 120 | 174 | -.354  | .068  | -.103 | -.612  | 120 | 224 | -.270  | .080  | .071  | -.650   |
| 120 | 125  | -.303  | .051  | -.130 | -.591  | 120 | 175 | -.347  | .062  | -.106 | -.636  | 120 | 225 | -.268  | .075  | .004  | -.634   |
| 120 | 126  | -.330  | .042  | -.210 | -.530  | 120 | 176 | -.361  | .064  | -.115 | -.710  | 120 | 230 | -.159  | .126  | .275  | -.800   |
| 120 | 127  | -.328  | .041  | -.201 | -.500  | 120 | 177 | -.327  | .081  | -.091 | -.767  | 120 | 302 | -.255  | .107  | .028  | -.814   |
| 120 | 128  | -.323  | .042  | -.166 | -.505  | 120 | 178 | -.322  | .078  | -.068 | -.715  | 120 | 303 | -.105  | .103  | .485  | -.294   |
| 120 | 129  | -.328  | .044  | -.182 | -.500  | 120 | 179 | -.435  | .099  | -.134 | -.895  | 120 | 304 | -.288  | .151  | .203  | -.824   |
| 120 | 130  | -.305  | .040  | -.152 | -.463  | 120 | 180 | -.324  | .074  | -.006 | -.667  | 120 | 305 | -.152  | .193  | .495  | -.938   |
| 120 | 131  | -.325  | .044  | -.189 | -.491  | 120 | 181 | -.345  | .091  | -.063 | -.760  | 120 | 306 | -.212  | .045  | -.034 | -.384   |
| 120 | 132  | -.264  | .044  | -.097 | -.422  | 120 | 182 | -.340  | .079  | -.048 | -.608  | 120 | 307 | -.104  | .084  | .249  | -.432   |
| 120 | 133  | -.267  | .046  | -.113 | -.452  | 120 | 183 | -.345  | .080  | -.066 | -.638  | 120 | 308 | -.131  | .272  | .575  | -.1.122 |
| 120 | 134  | -.281  | .045  | -.109 | -.470  | 120 | 184 | -.395  | .087  | -.110 | -.772  | 120 | 309 | -.029  | .096  | .298  | -.360   |
| 120 | 135  | -.289  | .043  | -.118 | -.461  | 120 | 185 | -.399  | .088  | -.163 | -.891  | 120 | 310 | -.066  | .094  | .324  | -.490   |
| 120 | 136  | -.289  | .038  | -.120 | -.445  | 120 | 186 | -.486  | .121  | -.072 | -1.114 | 120 | 311 | -.249  | .056  | .059  | -.435   |
| 120 | 137  | -.309  | .040  | -.159 | -.493  | 120 | 187 | -.300  | .106  | -.142 | -.693  | 120 | 312 | -.144  | .273  | .725  | -.1.027 |
| 120 | 138  | -.308  | .038  | -.157 | -.468  | 120 | 188 | -.323  | .098  | -.054 | -.724  | 120 | 313 | -.028  | .108  | .406  | -.511   |
| 120 | 139  | -.316  | .045  | -.159 | -.477  | 120 | 189 | -.333  | .079  | -.168 | -.641  | 120 | 314 | -.097  | .090  | .217  | -.411   |
| 120 | 140  | -.324  | .046  | -.134 | -.539  | 120 | 190 | -.324  | .075  | -.101 | -.784  | 120 | 315 | -.234  | .058  | -.000 | -.441   |
| 120 | 141  | -.300  | .038  | -.178 | -.488  | 120 | 191 | -.355  | .100  | -.008 | -.770  | 120 | 316 | -.120  | .095  | .343  | -.453   |
| 120 | 142  | -.318  | .041  | -.166 | -.500  | 120 | 192 | -.299  | .107  | -.063 | -.822  | 120 | 317 | -.031  | .135  | .781  | -.322   |
| 120 | 143  | -.310  | .058  | -.152 | -.703  | 120 | 193 | -.287  | .104  | -.060 | -.711  | 120 | 318 | -.087  | .183  | .513  | -.770   |
| 120 | 144  | -.309  | .063  | -.097 | -.751  | 120 | 194 | -.383  | .082  | -.130 | -.727  | 120 | 319 | -.031  | .112  | .466  | -.297   |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 120 | 320 | -.253  | .099  | .109  | -.679  | 120 | 370 | -.278  | .182  | .386  | -.829  | 120 | 420 | -.135  | .030  | .001  | -.229 |
| 120 | 321 | -.270  | .066  | .079  | -.555  | 120 | 371 | -.218  | .211  | .388  | -1.082 | 120 | 421 | -.147  | .026  | -.043 | -.220 |
| 120 | 322 | -.010  | .221  | .230  | -.845  | 120 | 372 | -.098  | .072  | .145  | -.551  | 120 | 422 | -.143  | .029  | .019  | -.269 |
| 120 | 323 | .137   | .141  | .327  | -.551  | 120 | 373 | .005   | .072  | .291  | -.186  | 120 | 501 | -.031  | .085  | .318  | -.365 |
| 120 | 324 | .030   | .112  | .361  | -.308  | 120 | 374 | -.465  | .125  | -.089 | -1.208 | 120 | 502 | -.068  | .096  | .398  | -.274 |
| 120 | 325 | -.003  | .101  | .359  | -.301  | 120 | 375 | -.217  | .043  | -.069 | -.400  | 120 | 503 | -.255  | .156  | .739  | -.311 |
| 120 | 326 | .226   | .157  | .828  | -.290  | 120 | 376 | -.241  | .046  | -.106 | -.417  | 120 | 504 | -.092  | .068  | .312  | -.343 |
| 120 | 327 | -.370  | .123  | .103  | -.863  | 120 | 377 | -.249  | .161  | .544  | -.967  | 120 | 505 | -.100  | .063  | .124  | -.371 |
| 120 | 328 | -.155  | .053  | .094  | -.379  | 120 | 378 | -.184  | .161  | .293  | -.868  | 120 | 506 | -.176  | .142  | .639  | -.285 |
| 120 | 329 | -.180  | .050  | .047  | -.337  | 120 | 379 | -.097  | .062  | .140  | -.454  | 120 | 507 | -.036  | .085  | .280  | -.247 |
| 120 | 330 | -.042  | .100  | .421  | -.388  | 120 | 380 | -.046  | .066  | .245  | -.313  | 120 | 508 | -.162  | .086  | .131  | -.561 |
| 120 | 331 | -.054  | .101  | .386  | -.508  | 120 | 381 | -.402  | .112  | -.072 | .928   | 120 | 509 | -.098  | .153  | .561  | -.785 |
| 120 | 332 | -.159  | .211  | .840  | -.939  | 120 | 382 | -.235  | .045  | -.072 | -.422  | 120 | 510 | -.172  | .137  | .770  | -.363 |
| 120 | 333 | -.100  | .249  | .673  | -.819  | 120 | 383 | -.236  | .056  | -.074 | .490   | 120 | 511 | -.254  | .173  | .793  | -.389 |
| 120 | 334 | .037   | .106  | .447  | -.593  | 120 | 384 | -.122  | .095  | .347  | -.746  | 120 | 512 | -.083  | .071  | .176  | -.351 |
| 120 | 335 | .006   | .102  | .367  | -.480  | 120 | 385 | -.086  | .085  | .245  | -.675  | 120 | 513 | -.140  | .115  | .587  | -.187 |
| 120 | 336 | -.023  | .090  | .341  | -.442  | 120 | 386 | -.066  | .058  | .194  | -.352  | 120 | 514 | -.343  | .145  | .763  | -.153 |
| 120 | 337 | -.144  | .147  | .790  | -.369  | 120 | 387 | -.065  | .052  | .174  | -.232  | 120 | 515 | -.454  | .179  | 1.086 | -.167 |
| 120 | 338 | -.267  | .112  | .320  | -.896  | 120 | 388 | -.268  | .060  | -.059 | .549   | 120 | 516 | -.206  | .165  | .750  | -.723 |
| 120 | 339 | -.173  | .044  | .049  | -.327  | 120 | 389 | -.232  | .041  | -.004 | .417   | 120 | 517 | -.386  | .165  | .943  | -.076 |
| 120 | 340 | -.205  | .041  | -.038 | .351   | 120 | 390 | -.295  | .052  | -.106 | .500   | 120 | 518 | -.122  | .090  | .194  | -.598 |
| 120 | 341 | .046   | .123  | .562  | -.358  | 120 | 391 | -.050  | .059  | .175  | -.244  | 120 | 519 | -.230  | .157  | .307  | -.997 |
| 120 | 342 | -.034  | .098  | .473  | -.412  | 120 | 392 | -.008  | .070  | .349  | -.180  | 120 | 520 | -.277  | .168  | .908  | -.420 |
| 120 | 343 | -.123  | .235  | .527  | -.995  | 120 | 393 | -.041  | .059  | .202  | -.212  | 120 | 521 | -.133  | .143  | .681  | -.294 |
| 120 | 344 | -.098  | .181  | .541  | -.776  | 120 | 394 | -.200  | .059  | .038  | -.459  | 120 | 522 | -.114  | .066  | .154  | -.347 |
| 120 | 345 | .004   | .123  | .372  | -.591  | 120 | 395 | -.195  | .044  | -.018 | .347   | 120 | 523 | -.031  | .081  | .296  | -.318 |
| 120 | 346 | -.122  | .052  | .092  | -.416  | 120 | 396 | -.247  | .048  | -.095 | .426   | 120 | 524 | -.063  | .137  | .425  | -.496 |
| 120 | 347 | -.202  | .051  | .052  | -.525  | 120 | 397 | -.120  | .049  | .077  | -.386  | 120 | 525 | -.275  | .145  | .714  | -.323 |
| 120 | 348 | -.283  | .060  | -.087 | .624   | 120 | 398 | -.086  | .074  | .371  | -.376  | 120 | 526 | -.204  | .124  | .565  | -.249 |
| 120 | 349 | -.265  | .195  | .879  | -.341  | 120 | 399 | -.124  | .080  | .227  | -.504  | 120 | 527 | -.308  | .133  | .736  | -.114 |
| 120 | 350 | -.245  | .153  | .724  | -.325  | 120 | 400 | -.135  | .044  | .074  | -.309  | 120 | 528 | -.403  | .157  | .883  | -.096 |
| 120 | 351 | -.328  | .210  | .671  | -.124  | 120 | 401 | -.133  | .034  | .018  | .252   | 120 | 529 | -.412  | .175  | 1.041 | -.060 |
| 120 | 352 | -.026  | .117  | .437  | -.759  | 120 | 402 | -.149  | .031  | -.023 | .252   | 120 | 530 | -.333  | .136  | .903  | -.150 |
| 120 | 353 | -.065  | .094  | .236  | -.616  | 120 | 403 | -.139  | .032  | -.016 | .248   | 120 | 531 | -.327  | .158  | .883  | -.281 |
| 120 | 354 | -.165  | .074  | .075  | -.639  | 120 | 404 | -.138  | .034  | -.034 | .275   | 120 | 532 | -.126  | .060  | .134  | -.301 |
| 120 | 355 | -.261  | .058  | -.073 | .586   | 120 | 405 | -.232  | .062  | -.009 | .466   | 120 | 533 | -.015  | .077  | .319  | -.240 |
| 120 | 356 | -.341  | .078  | -.119 | .842   | 120 | 406 | -.098  | .089  | .533  | -.255  | 120 | 534 | -.045  | .142  | .454  | -.581 |
| 120 | 357 | -.335  | .075  | -.156 | .898   | 120 | 407 | -.058  | .066  | .261  | -.333  | 120 | 535 | -.310  | .135  | .786  | -.096 |
| 120 | 358 | -.311  | .174  | .271  | -.997  | 120 | 408 | -.174  | .042  | -.022 | .398   | 120 | 536 | -.386  | .151  | .955  | -.082 |
| 120 | 359 | -.238  | .043  | -.066 | -.406  | 120 | 409 | -.126  | .035  | -.006 | .241   | 120 | 537 | -.303  | .130  | .836  | -.037 |
| 120 | 360 | -.041  | .230  | .569  | -.1217 | 120 | 410 | -.137  | .035  | .036  | .250   | 120 | 538 | -.349  | .145  | .820  | -.042 |
| 120 | 361 | -.233  | .045  | -.045 | .415   | 120 | 411 | -.151  | .063  | .173  | -.477  | 120 | 539 | -.469  | .166  | 1.018 | -.062 |
| 120 | 362 | -.372  | .368  | .673  | -.2684 | 120 | 412 | -.166  | .038  | -.007 | .435   | 120 | 540 | -.436  | .177  | 1.059 | -.035 |
| 120 | 363 | -.130  | .265  | .500  | -.1487 | 120 | 413 | -.140  | .032  | .035  | .246   | 120 | 541 | -.412  | .154  | .914  | -.006 |
| 120 | 364 | -.080  | .080  | .209  | -.450  | 120 | 414 | -.039  | .070  | .417  | -.320  | 120 | 542 | -.336  | .131  | .725  | -.080 |
| 120 | 365 | -.048  | .067  | .234  | -.290  | 120 | 415 | -.040  | .062  | .244  | -.241  | 120 | 543 | -.288  | .059  | -.055 | -.495 |
| 120 | 366 | -.133  | .049  | .101  | -.332  | 120 | 416 | -.145  | .049  | .082  | -.451  | 120 | 544 | -.113  | .071  | .213  | -.369 |
| 120 | 367 | -.203  | .039  | -.028 | .347   | 120 | 417 | -.122  | .041  | .056  | -.286  | 120 | 545 | -.132  | .103  | .540  | -.157 |
| 120 | 368 | -.228  | .040  | -.055 | -.386  | 120 | 418 | -.113  | .036  | .051  | -.229  | 120 | 546 | -.372  | .147  | .914  | -.055 |
| 120 | 369 | -.003  | .084  | .296  | -.303  | 120 | 419 | -.134  | .029  | -.015 | .222   | 120 | 547 | -.393  | .160  | 1.041 | -.030 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 120 | 548 | .327   | .170  | 1.016 | -.179  | 120 | 598 | -.068  | .051  | .134  | -.317 | 120 | 728 | -.378  | .069  | -.168 | -.752  |
| 120 | 549 | -.460  | .074  | -.038 | -.777  | 120 | 599 | -.104  | .042  | .067  | -.416 | 120 | 729 | -.355  | .057  | -.168 | -.608  |
| 120 | 550 | -.500  | .100  | -.223 | -1.231 | 120 | 600 | -.108  | .078  | .246  | -.424 | 120 | 730 | -.335  | .038  | -.213 | -.521  |
| 120 | 551 | -.187  | .083  | .116  | -.552  | 120 | 601 | -.141  | .056  | .093  | -.423 | 120 | 731 | -.354  | .045  | -.200 | -.523  |
| 120 | 552 | .073   | .133  | .453  | -.514  | 120 | 602 | -.144  | .056  | .247  | -.527 | 120 | 732 | -.412  | .072  | -.200 | -.786  |
| 120 | 553 | .239   | .160  | .883  | -.541  | 120 | 603 | -.254  | .050  | -.046 | -.458 | 120 | 733 | -.399  | .065  | -.229 | -.689  |
| 120 | 554 | .333   | .152  | .844  | -.243  | 120 | 604 | -.040  | .052  | .176  | -.220 | 120 | 734 | -.379  | .050  | -.236 | -.588  |
| 120 | 555 | .415   | .179  | .965  | -.195  | 120 | 605 | -.084  | .049  | .125  | -.370 | 120 | 735 | -.383  | .051  | -.245 | -.613  |
| 120 | 556 | .311   | .202  | 1.007 | -.439  | 120 | 606 | -.081  | .059  | .187  | -.479 | 120 | 736 | -.372  | .046  | -.220 | -.586  |
| 120 | 557 | .362   | .185  | .978  | -.303  | 120 | 607 | -.119  | .076  | .398  | -.423 | 120 | 737 | -.361  | .048  | -.213 | -.548  |
| 120 | 558 | -.125  | .069  | .220  | -.448  | 120 | 608 | -.058  | .075  | .376  | -.149 | 120 | 738 | -.350  | .046  | -.216 | -.559  |
| 120 | 559 | .373   | .161  | .982  | -.089  | 120 | 609 | -.054  | .065  | .184  | -.500 | 120 | 739 | -.341  | .045  | -.204 | -.541  |
| 120 | 560 | -.213  | .068  | .048  | -.468  | 120 | 610 | -.048  | .048  | .162  | -.349 | 120 | 740 | -.340  | .043  | -.157 | -.494  |
| 120 | 561 | .311   | .161  | .921  | -.278  | 120 | 611 | -.134  | .043  | .065  | -.393 | 120 | 741 | -.361  | .044  | -.242 | -.568  |
| 120 | 562 | -.204  | .064  | .035  | -.468  | 120 | 612 | -.186  | .052  | .042  | -.400 | 120 | 742 | -.367  | .044  | -.229 | -.523  |
| 120 | 563 | -.111  | .069  | .200  | -.311  | 120 | 613 | -.093  | .055  | .132  | -.260 | 120 | 743 | -.395  | .062  | -.238 | -.712  |
| 120 | 564 | .104   | .100  | .528  | -.190  | 120 | 614 | -.023  | .070  | .337  | -.285 | 120 | 744 | -.389  | .056  | -.207 | -.611  |
| 120 | 565 | .230   | .123  | .736  | -.146  | 120 | 615 | -.110  | .094  | .507  | -.096 | 120 | 745 | -.380  | .046  | -.240 | -.613  |
| 120 | 566 | .308   | .131  | .837  | -.036  | 120 | 616 | -.039  | .075  | .371  | -.191 | 120 | 746 | -.353  | .046  | -.207 | -.541  |
| 120 | 567 | .346   | .152  | .917  | -.099  | 120 | 617 | -.011  | .075  | .378  | -.140 | 120 | 747 | -.348  | .045  | -.191 | -.503  |
| 120 | 568 | .284   | .169  | .935  | -.182  | 120 | 618 | -.018  | .070  | .355  | -.177 | 120 | 748 | -.361  | .050  | -.207 | -.579  |
| 120 | 569 | .215   | .123  | .646  | -.140  | 120 | 619 | -.053  | .054  | .189  | -.225 | 120 | 749 | -.395  | .071  | -.149 | -.706  |
| 120 | 570 | -.210  | .054  | .034  | -.413  | 120 | 620 | -.101  | .037  | .060  | -.227 | 120 | 750 | -.376  | .058  | -.182 | -.783  |
| 120 | 571 | -.118  | .062  | .202  | -.338  | 120 | 701 | -.303  | .045  | -.154 | -.482 | 120 | 751 | -.421  | .067  | -.236 | -.787  |
| 120 | 572 | -.120  | .132  | .393  | -.855  | 120 | 702 | -.394  | .057  | -.214 | -.624 | 120 | 752 | -.393  | .057  | -.239 | -.669  |
| 120 | 573 | .190   | .115  | .768  | -.085  | 120 | 703 | -.461  | .076  | -.203 | -.730 | 120 | 753 | -.391  | .055  | -.243 | -.620  |
| 120 | 574 | .211   | .115  | .653  | -.143  | 120 | 704 | -.129  | .061  | .090  | -.375 | 120 | 754 | -.396  | .056  | -.199 | -.881  |
| 120 | 575 | .246   | .143  | .816  | -.119  | 120 | 705 | -.340  | .047  | -.201 | -.581 | 120 | 755 | -.395  | .060  | -.225 | -.732  |
| 120 | 576 | .190   | .140  | .740  | -.152  | 120 | 706 | -.318  | .039  | -.203 | -.450 | 120 | 756 | -.461  | .075  | -.252 | -.765  |
| 120 | 577 | -.230  | .056  | -.033 | -.476  | 120 | 707 | -.334  | .042  | -.196 | -.504 | 120 | 757 | -.505  | .106  | -.258 | -.1202 |
| 120 | 578 | -.137  | .057  | .151  | -.352  | 120 | 708 | -.357  | .048  | -.203 | -.572 | 120 | 758 | -.415  | .063  | -.225 | -.706  |
| 120 | 579 | -.097  | .111  | .388  | -.706  | 120 | 709 | -.336  | .040  | -.194 | -.493 | 120 | 759 | -.454  | .108  | -.230 | -.1081 |
| 120 | 580 | .132   | .102  | .619  | -.106  | 120 | 710 | -.327  | .043  | -.167 | -.566 | 120 | 760 | -.431  | .077  | -.236 | -.792  |
| 120 | 581 | -.098  | .093  | .311  | -.154  | 120 | 711 | -.324  | .042  | -.189 | -.523 | 120 | 761 | -.461  | .137  | -.164 | -.1351 |
| 120 | 582 | .084   | .103  | .591  | -.206  | 120 | 712 | -.347  | .049  | -.229 | -.452 | 120 | 762 | -.445  | .087  | -.109 | -.857  |
| 120 | 583 | .056   | .098  | .437  | -.287  | 120 | 713 | -.343  | .046  | -.220 | -.577 | 120 | 763 | -.440  | .075  | -.243 | -.829  |
| 120 | 584 | -.260  | .060  | -.003 | -.573  | 120 | 714 | -.334  | .040  | -.200 | -.502 | 120 | 764 | -.407  | .055  | -.250 | -.645  |
| 120 | 585 | -.164  | .054  | .067  | -.417  | 120 | 715 | -.320  | .044  | -.180 | -.526 | 120 | 765 | -.407  | .059  | -.225 | -.640  |
| 120 | 586 | -.109  | .090  | .302  | -.424  | 120 | 716 | -.329  | .041  | -.174 | -.506 | 120 | 766 | -.384  | .049  | -.198 | -.562  |
| 120 | 587 | -.020  | .080  | .388  | -.173  | 120 | 717 | -.338  | .043  | -.180 | -.570 | 120 | 767 | -.419  | .084  | -.173 | -.863  |
| 120 | 588 | -.036  | .051  | .302  | -.264  | 120 | 718 | -.350  | .043  | -.218 | -.537 | 120 | 768 | -.415  | .088  | -.233 | -.908  |
| 120 | 589 | -.091  | .047  | .130  | -.252  | 120 | 719 | -.339  | .039  | -.180 | -.519 | 120 | 769 | -.396  | .054  | -.207 | -.606  |
| 120 | 590 | -.103  | .053  | .130  | -.345  | 120 | 720 | -.317  | .056  | -.125 | -.522 | 120 | 770 | -.458  | .107  | -.124 | -.982  |
| 120 | 591 | -.007  | .063  | .277  | -.184  | 120 | 721 | -.338  | .067  | -.165 | -.670 | 120 | 771 | -.454  | .087  | -.221 | -.1056 |
| 120 | 592 | -.016  | .055  | .237  | -.184  | 120 | 722 | -.360  | .058  | -.214 | -.712 | 120 | 772 | -.451  | .062  | -.286 | -.768  |
| 120 | 593 | -.270  | .059  | -.080 | -.489  | 120 | 723 | -.362  | .051  | -.227 | -.721 | 120 | 773 | -.424  | .062  | -.261 | -.710  |
| 120 | 594 | -.198  | .049  | .008  | -.365  | 120 | 724 | -.355  | .048  | -.209 | -.648 | 120 | 774 | -.434  | .082  | -.251 | -.729  |
| 120 | 595 | -.118  | .062  | .137  | -.401  | 120 | 725 | -.358  | .047  | -.209 | -.559 | 120 | 775 | -.412  | .062  | -.198 | -.662  |
| 120 | 596 | -.004  | .058  | .239  | -.160  | 120 | 726 | -.403  | .091  | -.174 | -.827 | 120 | 776 | -.407  | .058  | -.221 | -.685  |
| 120 | 597 | -.022  | .060  | .213  | -.253  | 120 | 727 | -.440  | .096  | -.218 | -.903 | 120 | 777 | -.426  | .115  | -.133 | -.1072 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|------|--------|-------|-------|-------|
| 120 | 778 | -.407  | .098  | -.101 | -1.061  | 120 | 906 | -.197  | .071  | .129  | -.417   | 120 | 956  | -.097  | .048  | .175  | -.247 |
| 120 | 779 | -.471  | .078  | -.184 | -.910   | 120 | 907 | -.231  | .050  | -.051 | -.430   | 120 | 957  | -.074  | .051  | .200  | -.203 |
| 120 | 780 | -.470  | .080  | -.224 | -.873   | 120 | 908 | -.328  | .043  | -.184 | -.501   | 120 | 958  | -.132  | .050  | .352  | -.292 |
| 120 | 781 | -.476  | .080  | -.272 | -1.028  | 120 | 909 | -.344  | .038  | -.228 | -.493   | 120 | 959  | -.285  | .045  | -.124 | -.488 |
| 120 | 782 | -.438  | .076  | -.228 | -.852   | 120 | 910 | -.031  | .079  | -.431 | -.186   | 120 | 960  | -.025  | .075  | .307  | -.422 |
| 120 | 783 | -.436  | .075  | -.189 | -.852   | 120 | 911 | -.339  | .042  | -.205 | -.518   | 120 | 961  | -.086  | .070  | .239  | -.456 |
| 120 | 784 | -.353  | .121  | -.036 | -1.063  | 120 | 912 | -.297  | .086  | -.003 | -.698   | 120 | 962  | -.071  | .075  | .285  | -.340 |
| 120 | 785 | -.346  | .111  | -.059 | -1.016  | 120 | 913 | -.341  | .041  | -.211 | -.523   | 120 | 963  | -.115  | .056  | .096  | -.356 |
| 120 | 786 | -.407  | .108  | -.038 | -.847   | 120 | 914 | -.375  | .116  | -.062 | -.808   | 120 | 964  | -.058  | .059  | .256  | -.267 |
| 120 | 787 | -.491  | .100  | -.133 | -.956   | 120 | 915 | -.356  | .044  | -.225 | -.627   | 120 | 965  | -.087  | .060  | .227  | -.276 |
| 120 | 788 | -.530  | .116  | -.289 | -1.211  | 120 | 916 | -.432  | .133  | -.301 | -.851   | 120 | 966  | -.148  | .043  | .084  | -.406 |
| 120 | 789 | -.482  | .095  | -.245 | -.172   | 120 | 917 | -.370  | .053  | -.195 | -.588   | 120 | 967  | -.113  | .039  | .115  | -.256 |
| 120 | 790 | -.491  | .100  | -.254 | -1.037  | 120 | 918 | -.394  | .057  | -.224 | -.642   | 120 | 968  | -.100  | .043  | .170  | -.280 |
| 120 | 791 | -.402  | .196  | -.088 | -1.213  | 120 | 919 | -.321  | .129  | -.773 | -.056   | 120 | 969  | -.112  | .037  | .129  | -.259 |
| 120 | 792 | -.417  | .149  | .122  | -.1026  | 120 | 920 | -.410  | .090  | -.030 | -.760   | 120 | 970  | -.150  | .031  | .004  | -.239 |
| 120 | 793 | -.532  | .135  | -.046 | -1.344  | 120 | 921 | -.367  | .057  | -.175 | -.599   | 120 | 971  | -.141  | .033  | .095  | -.259 |
| 120 | 794 | -.404  | .131  | .074  | -.889   | 120 | 922 | -.316  | .039  | -.198 | -.464   | 120 | 1001 | -.374  | .054  | -.165 | -.588 |
| 120 | 795 | -.174  | .068  | .074  | -.546   | 120 | 923 | -.232  | .089  | -.052 | -.593   | 120 | 1002 | -.368  | .142  | .071  | -.897 |
| 120 | 796 | -.184  | .066  | .109  | -.553   | 120 | 924 | -.363  | .174  | -.934 | -.440   | 120 | 1003 | -.307  | .058  | -.133 | -.561 |
| 120 | 797 | -.298  | .059  | -.068 | -.516   | 120 | 925 | -.534  | .163  | -.120 | -.1.607 | 120 | 1004 | -.345  | .041  | -.219 | -.508 |
| 120 | 798 | -.248  | .057  | -.061 | -.623   | 120 | 926 | -.042  | .130  | -.430 | -.581   | 120 | 1005 | -.394  | .081  | -.159 | -.755 |
| 120 | 799 | -.228  | .068  | -.040 | -.693   | 120 | 927 | -.296  | .061  | -.057 | -.624   | 120 | 1006 | -.366  | .053  | -.246 | -.687 |
| 120 | 800 | -.281  | .117  | -.009 | -.854   | 120 | 928 | -.148  | .131  | -.656 | -.308   | 120 | 1007 | -.025  | .053  | .218  | -.170 |
| 120 | 801 | -.481  | .127  | -.077 | -1.353  | 120 | 929 | -.342  | .084  | -.030 | -.760   | 120 | 1008 | -.248  | .090  | .095  | -.656 |
| 120 | 802 | -.573  | .171  | .032  | -1.458  | 120 | 930 | -.412  | .145  | .901  | -.038   | 120 | 1009 | -.197  | .125  | .661  | -.126 |
| 120 | 803 | -.563  | .126  | -.278 | -.1.290 | 120 | 931 | -.305  | .058  | -.185 | -.788   | 120 | 1010 | -.280  | .052  | -.018 | -.451 |
| 120 | 804 | -.560  | .123  | -.292 | -.1.479 | 120 | 932 | -.065  | .084  | -.350 | -.251   | 120 | 1011 | -.045  | .047  | .182  | -.254 |
| 120 | 805 | -.166  | .072  | .195  | -.495   | 120 | 933 | -.101  | .096  | -.489 | -.257   | 120 | 1012 | -.338  | .096  | -.020 | -.726 |
| 120 | 806 | -.199  | .067  | .023  | -.588   | 120 | 934 | -.344  | .090  | -.078 | -.669   | 120 | 1013 | -.132  | .149  | .359  | -.640 |
| 120 | 807 | -.124  | .066  | .151  | -.455   | 120 | 935 | -.183  | .073  | -.148 | -.394   | 120 | 1014 | -.389  | .067  | -.183 | -.693 |
| 120 | 808 | -.259  | .063  | .046  | -.472   | 120 | 936 | -.298  | .119  | -.689 | -.013   | 120 | 1015 | -.074  | .111  | .444  | -.150 |
| 120 | 809 | -.229  | .051  | .032  | -.735   | 120 | 937 | -.130  | .174  | -.694 | -.720   | 120 | 1016 | -.319  | .056  | -.103 | -.558 |
| 120 | 810 | -.233  | .130  | .051  | -.735   | 120 | 938 | -.026  | .083  | -.350 | -.327   | 120 | 1017 | -.082  | .048  | .141  | -.215 |
| 120 | 811 | -.422  | .121  | -.082 | -.980   | 120 | 939 | -.126  | .055  | -.102 | -.320   | 120 | 1018 | -.098  | .042  | .086  | -.249 |
| 120 | 812 | -.568  | .139  | -.264 | -1.258  | 120 | 940 | -.347  | .066  | -.203 | -.603   | 120 | 1019 | -.072  | .051  | .232  | -.223 |
| 120 | 813 | -.139  | .062  | .079  | -.523   | 120 | 941 | -.411  | .107  | -.137 | -.681   | 120 | 1020 | -.068  | .061  | .235  | -.268 |
| 120 | 814 | -.129  | .064  | .172  | -.397   | 120 | 942 | -.335  | .066  | -.121 | -.606   | 120 | 1021 | -.106  | .089  | .447  | -.088 |
| 120 | 815 | -.258  | .062  | .018  | -.493   | 120 | 943 | -.386  | .105  | -.087 | -.798   | 120 | 1022 | -.086  | .053  | .172  | -.242 |
| 120 | 816 | -.224  | .047  | -.036 | -.670   | 120 | 944 | -.309  | .074  | -.073 | -.681   | 120 | 1023 | -.114  | .049  | .098  | -.295 |
| 120 | 817 | -.213  | .056  | .002  | -.651   | 120 | 945 | -.023  | .055  | -.293 | -.171   | 120 | 1024 | -.184  | .076  | .062  | -.620 |
| 120 | 818 | -.217  | .090  | .074  | -.619   | 120 | 946 | -.287  | .085  | -.038 | -.738   | 120 | 1025 | -.052  | .052  | .208  | -.242 |
| 120 | 819 | -.246  | .152  | .251  | -.831   | 120 | 947 | -.398  | .107  | -.165 | -.946   | 120 | 1026 | -.020  | .059  | .370  | -.196 |
| 120 | 820 | -.383  | .141  | .030  | -.1.010 | 120 | 948 | -.352  | .079  | -.151 | -.704   | 120 | 1027 | -.082  | .038  | .119  | -.210 |
| 120 | 821 | -.545  | .142  | -.237 | -.1.312 | 120 | 949 | -.396  | .103  | -.144 | -.1.137 | 120 | 1028 | -.143  | .026  | -.018 | -.230 |
| 120 | 822 | -.550  | .123  | -.262 | -.1.169 | 120 | 950 | -.036  | .056  | -.243 | -.247   | 120 | 1029 | -.370  | .061  | -.193 | -.639 |
| 120 | 901 | -.409  | .038  | -.303 | -.558   | 120 | 951 | -.298  | .076  | -.085 | -.609   | 120 | 1030 | -.328  | .058  | -.139 | -.642 |
| 120 | 902 | -.344  | .049  | -.208 | -.519   | 120 | 952 | -.250  | .079  | -.005 | -.663   | 120 | 1031 | -.075  | .027  | .678  |       |
| 120 | 903 | -.358  | .044  | -.230 | -.526   | 120 | 953 | -.055  | .072  | -.332 | -.237   | 120 | 1032 | -.429  | .066  | -.222 | -.747 |
| 120 | 904 | -.388  | .049  | -.261 | -.607   | 120 | 954 | -.456  | .097  | -.258 | -.1.137 | 120 | 1033 | -.327  | .051  | -.105 | -.541 |
| 120 | 905 | -.403  | .038  | -.274 | -.535   | 120 | 955 | -.167  | .042  | -.047 | -.317   | 120 | 1034 | -.362  | .052  | -.168 | -.602 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 130 | 107 | -.343  | .055  | -.160 | -.545  | 130 | 157 | -.395  | .059  | -.212 | -.694  | 130 | 207 | -.334  | .057  | -.162 | -.586  |
| 130 | 108 | -.388  | .066  | -.182 | -.653  | 130 | 158 | -.292  | .047  | -.125 | -.459  | 130 | 208 | -.310  | .054  | -.135 | -.550  |
| 130 | 109 | -.392  | .078  | -.186 | -.805  | 130 | 159 | -.395  | .051  | -.218 | -.692  | 130 | 209 | -.185  | .032  | -.079 | -.314  |
| 130 | 110 | -.388  | .068  | -.207 | -.678  | 130 | 160 | -.263  | .049  | -.098 | -.430  | 130 | 210 | -.192  | .048  | -.019 | -.408  |
| 130 | 111 | -.401  | .055  | -.217 | -.642  | 130 | 161 | -.425  | .057  | -.192 | -.717  | 130 | 211 | -.212  | .083  | -.081 | -.538  |
| 130 | 112 | -.396  | .068  | -.178 | -.689  | 130 | 162 | -.275  | .048  | -.105 | -.470  | 130 | 212 | -.211  | .076  | .013  | -.649  |
| 130 | 113 | -.407  | .076  | -.211 | -.702  | 130 | 163 | -.277  | .045  | -.125 | -.468  | 130 | 213 | -.225  | .076  | .102  | -.463  |
| 130 | 114 | -.367  | .052  | -.202 | -.588  | 130 | 164 | -.318  | .047  | -.152 | -.625  | 130 | 214 | -.297  | .051  | -.124 | -.499  |
| 130 | 115 | -.361  | .047  | -.195 | -.527  | 130 | 165 | -.395  | .069  | -.216 | -.806  | 130 | 215 | -.157  | .035  | .031  | -.271  |
| 130 | 116 | -.370  | .065  | -.184 | -.702  | 130 | 166 | -.389  | .068  | -.202 | -.691  | 130 | 216 | -.150  | .039  | .045  | -.258  |
| 130 | 117 | -.320  | .044  | -.166 | -.507  | 130 | 167 | -.393  | .054  | -.186 | -.630  | 130 | 217 | -.096  | .063  | .204  | -.237  |
| 130 | 118 | -.496  | .101  | -.191 | -.886  | 130 | 168 | -.398  | .055  | -.205 | -.698  | 130 | 218 | -.073  | .071  | .295  | -.265  |
| 130 | 119 | -.419  | .099  | -.153 | -.873  | 130 | 169 | -.300  | .047  | -.096 | -.463  | 130 | 219 | -.177  | .068  | .093  | -.485  |
| 130 | 120 | -.426  | .070  | -.213 | -.728  | 130 | 170 | -.274  | .054  | -.064 | -.482  | 130 | 220 | -.166  | .054  | .006  | -.506  |
| 130 | 121 | -.410  | .055  | -.243 | -.662  | 130 | 171 | -.283  | .049  | -.099 | -.477  | 130 | 221 | -.191  | .067  | .036  | -.551  |
| 130 | 122 | -.265  | .049  | -.032 | -.447  | 130 | 172 | -.340  | .060  | -.155 | -.670  | 130 | 222 | -.204  | .074  | .024  | -.663  |
| 130 | 123 | -.261  | .050  | -.072 | -.514  | 130 | 173 | -.334  | .051  | -.136 | -.545  | 130 | 223 | -.241  | .071  | .059  | -.494  |
| 130 | 124 | -.285  | .047  | -.092 | -.476  | 130 | 174 | -.394  | .070  | -.169 | -.802  | 130 | 224 | -.314  | .068  | -.028 | -.683  |
| 130 | 125 | -.335  | .049  | -.189 | -.516  | 130 | 175 | -.391  | .056  | -.202 | -.743  | 130 | 225 | -.291  | .061  | .119  | -.531  |
| 130 | 126 | -.358  | .046  | -.173 | -.565  | 130 | 176 | -.393  | .058  | -.150 | -.656  | 130 | 301 | -.294  | .088  | .047  | -.802  |
| 130 | 127 | -.379  | .057  | -.212 | -.649  | 130 | 177 | -.287  | .066  | -.059 | -.602  | 130 | 302 | -.406  | .125  | .064  | -.863  |
| 130 | 128 | -.376  | .052  | -.192 | -.579  | 130 | 178 | -.308  | .072  | -.120 | -.656  | 130 | 303 | -.052  | .095  | .357  | -.391  |
| 130 | 129 | -.376  | .050  | -.224 | -.626  | 130 | 179 | -.412  | .103  | -.155 | -.955  | 130 | 304 | -.436  | .140  | .016  | -.904  |
| 130 | 130 | -.318  | .041  | -.176 | -.529  | 130 | 180 | -.315  | .066  | -.080 | -.590  | 130 | 305 | -.354  | .136  | .185  | -.904  |
| 130 | 131 | -.350  | .049  | -.221 | -.608  | 130 | 181 | -.408  | .102  | -.068 | -.910  | 130 | 306 | -.253  | .045  | .115  | -.523  |
| 130 | 132 | -.283  | .042  | -.114 | -.545  | 130 | 182 | -.398  | .067  | -.089 | -.790  | 130 | 307 | -.206  | .078  | .028  | -.568  |
| 130 | 133 | -.286  | .047  | -.146 | -.697  | 130 | 183 | -.389  | .063  | -.165 | -.785  | 130 | 308 | -.410  | .215  | .378  | -.1135 |
| 130 | 134 | -.300  | .045  | -.169 | -.556  | 130 | 184 | -.401  | .086  | -.150 | -.917  | 130 | 309 | -.142  | .083  | .163  | -.674  |
| 130 | 135 | -.311  | .040  | -.169 | -.529  | 130 | 185 | -.400  | .083  | -.122 | -.922  | 130 | 310 | -.162  | .072  | .089  | -.445  |
| 130 | 136 | -.307  | .039  | -.196 | -.599  | 130 | 186 | -.503  | .123  | -.075 | -1.244 | 130 | 311 | -.310  | .050  | .146  | -.525  |
| 130 | 137 | -.323  | .038  | -.153 | -.460  | 130 | 187 | -.288  | .095  | -.092 | -.682  | 130 | 312 | -.355  | .201  | .503  | -.1192 |
| 130 | 138 | -.359  | .055  | -.178 | -.608  | 130 | 188 | -.372  | .101  | -.007 | -.828  | 130 | 313 | -.084  | .118  | .186  | -.790  |
| 130 | 139 | -.372  | .047  | -.203 | -.533  | 130 | 189 | -.381  | .074  | -.094 | -.835  | 130 | 314 | -.203  | .067  | .023  | -.440  |
| 130 | 140 | -.387  | .048  | -.203 | -.633  | 130 | 190 | -.360  | .072  | -.061 | -.679  | 130 | 315 | -.303  | .050  | -.140 | -.497  |
| 130 | 141 | -.334  | .039  | -.194 | -.506  | 130 | 191 | -.349  | .089  | -.036 | -.707  | 130 | 316 | -.212  | .070  | .033  | -.620  |
| 130 | 142 | -.359  | .046  | -.228 | -.554  | 130 | 192 | -.291  | .082  | -.005 | -.689  | 130 | 317 | -.074  | .095  | .437  | -.445  |
| 130 | 143 | -.360  | .072  | -.194 | -.856  | 130 | 193 | -.293  | .085  | -.058 | -.630  | 130 | 318 | -.270  | .197  | .328  | -.1102 |
| 130 | 144 | -.362  | .074  | -.192 | -.986  | 130 | 194 | -.391  | .082  | -.112 | -.752  | 130 | 319 | -.049  | .092  | .215  | -.480  |
| 130 | 145 | -.379  | .067  | -.228 | -.847  | 130 | 195 | -.407  | .077  | -.110 | -.850  | 130 | 320 | -.281  | .093  | .054  | -.707  |
| 130 | 146 | -.377  | .047  | -.251 | -.563  | 130 | 196 | -.445  | .105  | -.099 | -1.133 | 130 | 321 | -.334  | .058  | -.102 | -.558  |
| 130 | 147 | -.404  | .049  | -.256 | -.722  | 130 | 197 | -.351  | .098  | -.027 | -.749  | 130 | 322 | -.274  | .211  | .397  | -.154  |
| 130 | 148 | -.409  | .056  | -.251 | -.667  | 130 | 198 | -.172  | .032  | -.061 | -.290  | 130 | 323 | -.019  | .176  | .442  | -.993  |
| 130 | 149 | -.357  | .089  | -.118 | -.812  | 130 | 199 | -.166  | .032  | -.034 | -.290  | 130 | 324 | -.078  | .098  | .196  | -.594  |
| 130 | 150 | -.363  | .085  | -.196 | -1.095 | 130 | 200 | -.157  | .038  | -.031 | -.285  | 130 | 325 | -.118  | .098  | .217  | -.613  |
| 130 | 151 | -.355  | .092  | -.141 | -.068  | 130 | 201 | -.207  | .045  | -.000 | -.420  | 130 | 326 | -.173  | .164  | .647  | -.367  |
| 130 | 152 | -.333  | .047  | -.196 | -.592  | 130 | 202 | -.221  | .063  | -.103 | -.491  | 130 | 327 | -.440  | .124  | .112  | -.893  |
| 130 | 153 | -.347  | .040  | -.223 | -.530  | 130 | 203 | -.240  | .072  | -.047 | -.662  | 130 | 328 | -.198  | .043  | .015  | -.396  |
| 130 | 154 | -.364  | .037  | -.230 | -.514  | 130 | 204 | -.251  | .072  | -.114 | -.599  | 130 | 329 | -.212  | .044  | -.065 | -.425  |
| 130 | 155 | -.389  | .048  | -.243 | -.663  | 130 | 205 | -.250  | .073  | -.042 | -.613  | 130 | 330 | -.123  | .076  | .129  | -.501  |
| 130 | 156 | -.403  | .074  | -.156 | -.714  | 130 | 206 | -.276  | .069  | -.061 | -.646  | 130 | 331 | -.145  | .101  | .257  | -.759  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 130 | 332 | -.286  | .188  | .458  | -1.069 | 130 | 382 | -.215  | .042  | -.034 | -.355 | 130 | 510 | .189   | .155  | .753  | -.253 |
| 130 | 333 | -.260  | .221  | .446  | -.993  | 130 | 383 | -.230  | .049  | -.034 | -.404 | 130 | 511 | .192   | .151  | .740  | -.339 |
| 130 | 334 | -.089  | .114  | .255  | -.881  | 130 | 384 | -.128  | .094  | .250  | -.600 | 130 | 512 | -.054  | .096  | .310  | -.379 |
| 130 | 335 | -.087  | .105  | .307  | -.654  | 130 | 386 | -.104  | .084  | .401  | -.553 | 130 | 513 | .191   | .154  | .668  | -.321 |
| 130 | 336 | -.090  | .101  | .346  | -.537  | 130 | 387 | -.108  | .049  | .124  | -.315 | 130 | 514 | .364   | .172  | .952  | -.283 |
| 130 | 337 | -.096  | .148  | .641  | -.332  | 130 | 388 | -.302  | .064  | .086  | -.681 | 130 | 515 | .417   | .171  | .914  | -.147 |
| 130 | 338 | -.303  | .109  | .059  | -.874  | 130 | 389 | -.238  | .042  | .051  | -.385 | 130 | 516 | .236   | .170  | .748  | -.454 |
| 130 | 339 | -.203  | .041  | -.041 | -.368  | 130 | 390 | -.263  | .058  | .024  | -.486 | 130 | 517 | .387   | .176  | .999  | -.159 |
| 130 | 340 | -.227  | .038  | -.086 | -.382  | 130 | 391 | -.130  | .050  | .125  | -.271 | 130 | 518 | -.098  | .129  | .315  | -.613 |
| 130 | 341 | -.015  | .129  | .436  | -.449  | 130 | 392 | -.102  | .057  | .241  | -.256 | 130 | 519 | -.215  | .172  | .453  | -.867 |
| 130 | 342 | -.036  | .091  | .288  | -.401  | 130 | 393 | -.117  | .053  | .131  | -.317 | 130 | 520 | .299   | .211  | .928  | -.454 |
| 130 | 343 | -.202  | .238  | .424  | -1.126 | 130 | 394 | -.166  | .048  | .057  | -.316 | 130 | 521 | .124   | .172  | .793  | -.323 |
| 130 | 344 | -.211  | .171  | .458  | -.995  | 130 | 395 | -.202  | .040  | .012  | -.347 | 130 | 522 | -.119  | .099  | .312  | -.419 |
| 130 | 345 | -.074  | .110  | .248  | -.590  | 130 | 396 | -.260  | .045  | .083  | -.421 | 130 | 523 | -.024  | .118  | .397  | -.379 |
| 130 | 346 | -.170  | .048  | -.007 | -.365  | 130 | 397 | -.106  | .059  | .199  | -.534 | 130 | 524 | -.007  | .197  | .605  | -.653 |
| 130 | 347 | -.246  | .052  | -.081 | -.489  | 130 | 398 | -.138  | .045  | .055  | -.361 | 130 | 525 | .277   | .177  | .943  | -.276 |
| 130 | 348 | -.335  | .074  | -.143 | -.742  | 130 | 399 | -.192  | .031  | .085  | -.298 | 130 | 526 | .178   | .143  | .685  | -.353 |
| 130 | 349 | -.166  | .199  | .741  | -.567  | 130 | 400 | -.186  | .033  | .032  | -.345 | 130 | 527 | .272   | .163  | .748  | -.247 |
| 130 | 350 | -.120  | .174  | .626  | -.557  | 130 | 401 | -.167  | .029  | .067  | -.258 | 130 | 528 | .374   | .177  | .893  | -.195 |
| 130 | 351 | -.401  | .202  | .300  | -1.237 | 130 | 402 | -.184  | .029  | .080  | -.301 | 130 | 529 | .367   | .192  | .881  | -.199 |
| 130 | 352 | -.106  | .116  | .251  | -.843  | 130 | 403 | -.124  | .029  | .056  | -.276 | 130 | 530 | .368   | .177  | .903  | -.178 |
| 130 | 353 | -.108  | .091  | .190  | -.653  | 130 | 404 | -.173  | .029  | .056  | -.263 | 130 | 531 | .323   | .187  | 1.110 | -.187 |
| 130 | 354 | -.190  | .066  | .012  | -.475  | 130 | 405 | -.226  | .052  | -.043 | -.621 | 130 | 532 | -.161  | .083  | .195  | -.534 |
| 130 | 355 | -.291  | .062  | -.100 | -.588  | 130 | 406 | -.074  | .085  | .324  | -.294 | 130 | 533 | -.047  | .106  | .328  | -.370 |
| 130 | 356 | -.388  | .111  | -.147 | -1.052 | 130 | 407 | -.110  | .047  | .164  | -.314 | 130 | 534 | -.070  | .188  | .587  | -.800 |
| 130 | 357 | -.384  | .092  | -.196 | -.979  | 130 | 408 | -.191  | .059  | .054  | -.499 | 130 | 535 | .256   | .168  | .786  | -.297 |
| 130 | 358 | -.388  | .184  | .260  | -1.300 | 130 | 409 | -.165  | .028  | .038  | -.258 | 130 | 536 | .359   | .189  | 1.055 | -.116 |
| 130 | 359 | -.272  | .047  | -.136 | -.501  | 130 | 410 | -.165  | .028  | .038  | -.258 | 130 | 537 | .294   | .167  | .903  | -.204 |
| 130 | 360 | -.148  | .234  | .511  | -1.281 | 130 | 410 | -.171  | .028  | .058  | -.256 | 130 | 538 | .346   | .174  | .867  | -.325 |
| 130 | 361 | -.248  | .041  | -.086 | -.398  | 130 | 411 | -.192  | .033  | -.040 | -.301 | 130 | 539 | .435   | .207  | 1.076 | -.230 |
| 130 | 362 | -.408  | .315  | .511  | -2.099 | 130 | 412 | -.188  | .050  | .049  | .490  | 130 | 540 | .374   | .195  | 1.031 | -.187 |
| 130 | 363 | -.210  | .258  | .471  | -1.227 | 130 | 413 | -.172  | .026  | -.054 | -.282 | 130 | 541 | .380   | .179  | .915  | -.111 |
| 130 | 364 | -.098  | .079  | .164  | -.485  | 130 | 414 | -.093  | .057  | .125  | -.381 | 130 | 542 | .286   | .165  | .848  | -.133 |
| 130 | 365 | -.072  | .065  | .171  | -.337  | 130 | 415 | -.086  | .056  | .174  | -.280 | 130 | 543 | -.315  | .067  | -.023 | -.582 |
| 130 | 366 | -.173  | .052  | .085  | -.446  | 130 | 416 | -.186  | .031  | -.054 | -.303 | 130 | 544 | -.145  | .085  | .288  | -.425 |
| 130 | 367 | -.218  | .037  | -.081 | -.343  | 130 | 417 | -.179  | .032  | -.061 | -.289 | 130 | 545 | -.081  | .130  | .653  | -.230 |
| 130 | 368 | -.235  | .038  | -.098 | -.478  | 130 | 418 | -.140  | .035  | .045  | -.237 | 130 | 546 | .334   | .193  | .967  | -.140 |
| 130 | 369 | -.034  | .077  | .250  | -.370  | 130 | 419 | -.176  | .026  | -.075 | -.268 | 130 | 547 | .323   | .182  | .886  | -.278 |
| 130 | 370 | -.327  | .174  | .315  | -.995  | 130 | 420 | -.173  | .027  | .056  | -.270 | 130 | 548 | .279   | .192  | .965  | -.297 |
| 130 | 371 | -.221  | .200  | .335  | -1.153 | 130 | 421 | -.161  | .029  | -.034 | -.276 | 130 | 549 | -.484  | .077  | -.036 | -.825 |
| 130 | 372 | -.132  | .061  | .092  | -.518  | 130 | 422 | -.161  | .028  | -.052 | -.250 | 130 | 550 | -.521  | .091  | -.226 | -.964 |
| 130 | 373 | -.031  | .067  | .290  | -.296  | 130 | 501 | -.021  | .095  | .305  | .459  | 130 | 551 | -.241  | .102  | .161  | -.751 |
| 130 | 374 | -.441  | .122  | -.068 | -1.020 | 130 | 502 | -.040  | .094  | .382  | .363  | 130 | 552 | -.007  | .153  | .605  | -.649 |
| 130 | 375 | -.212  | .035  | -.078 | -.357  | 130 | 503 | .276   | .169  | .776  | .419  | 130 | 553 | .154   | .198  | .753  | -.642 |
| 130 | 376 | -.229  | .040  | -.066 | -.367  | 130 | 504 | -.090  | .134  | .516  | .419  | 130 | 554 | .247   | .194  | .776  | -.600 |
| 130 | 377 | -.271  | .158  | .342  | -1.118 | 130 | 505 | -.080  | .075  | .195  | .382  | 130 | 555 | .339   | .216  | 1.025 | -.435 |
| 130 | 378 | -.195  | .145  | .255  | -.876  | 130 | 506 | -.135  | .115  | .500  | .301  | 130 | 556 | .197   | .209  | 1.034 | -.528 |
| 130 | 379 | -.127  | .055  | .124  | -.389  | 130 | 507 | -.029  | .093  | .401  | .353  | 130 | 557 | .275   | .217  | 1.034 | -.688 |
| 130 | 380 | -.082  | .056  | .191  | -.419  | 130 | 508 | -.135  | .092  | .255  | .485  | 130 | 558 | -.174  | .073  | .147  | -.495 |
| 130 | 381 | -.397  | .106  | -.137 | -.970  | 130 | 509 | -.134  | .151  | .711  | .388  | 130 | 559 | .284   | .185  | .960  | -.366 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 130 | 560 | -.231  | .076  | .152  | -.598 | 130 | 610 | -.064  | .052  | .174  | -.384  | 130 | 740 | -.392  | .054  | -.220 | -.640  |
| 130 | 561 | .241   | .179  | .286  | -.314 | 130 | 611 | -.146  | .075  | .351  | -.700  | 130 | 741 | -.411  | .051  | -.249 | -.607  |
| 130 | 562 | -.243  | .061  | .055  | -.465 | 130 | 612 | -.206  | .054  | .063  | -.402  | 130 | 742 | -.402  | .051  | -.249 | -.611  |
| 130 | 563 | -.153  | .073  | .212  | -.544 | 130 | 613 | -.107  | .050  | .121  | -.266  | 130 | 743 | -.433  | .067  | -.231 | -.748  |
| 130 | 564 | .039   | .114  | .570  | -.393 | 130 | 614 | -.039  | .066  | .346  | -.236  | 130 | 744 | -.436  | .067  | -.233 | -.732  |
| 130 | 565 | .153   | .131  | .633  | -.210 | 130 | 615 | .089   | .089  | .464  | -.105  | 130 | 745 | -.427  | .056  | -.274 | -.622  |
| 130 | 566 | .217   | .149  | .775  | -.100 | 130 | 616 | .060   | .083  | .395  | -.167  | 130 | 746 | -.409  | .055  | -.227 | -.611  |
| 130 | 567 | .268   | .182  | 1.015 | -.164 | 130 | 617 | .067   | .091  | .538  | -.179  | 130 | 747 | -.411  | .056  | -.224 | -.690  |
| 130 | 568 | .230   | .182  | .915  | -.247 | 130 | 618 | .033   | .074  | .411  | -.165  | 130 | 748 | -.418  | .057  | -.220 | -.631  |
| 130 | 569 | .164   | .140  | .722  | -.237 | 130 | 619 | -.041  | .065  | .252  | -.264  | 130 | 749 | -.447  | .076  | -.204 | -.834  |
| 130 | 570 | -.261  | .059  | .138  | -.473 | 130 | 620 | -.112  | .049  | .190  | -.296  | 130 | 750 | -.415  | .059  | -.204 | -.702  |
| 130 | 571 | -.168  | .061  | .191  | -.377 | 130 | 701 | -.306  | .054  | -.104 | -.545  | 130 | 751 | -.449  | .070  | -.256 | -.819  |
| 130 | 572 | -.182  | .117  | .263  | -.674 | 130 | 702 | -.410  | .064  | -.201 | -.727  | 130 | 752 | -.435  | .059  | -.236 | -.832  |
| 130 | 573 | .113   | .101  | .530  | -.174 | 130 | 703 | -.468  | .084  | -.201 | -.756  | 130 | 753 | -.424  | .055  | -.254 | -.676  |
| 130 | 574 | .122   | .113  | .711  | -.174 | 130 | 704 | -.190  | .051  | .012  | -.396  | 130 | 754 | -.430  | .055  | -.252 | -.711  |
| 130 | 575 | .168   | .154  | .780  | -.215 | 130 | 705 | -.410  | .081  | -.123 | -.809  | 130 | 755 | -.446  | .071  | -.254 | -.1005 |
| 130 | 576 | .152   | .167  | .846  | -.407 | 130 | 706 | -.329  | .050  | -.152 | -.566  | 130 | 756 | -.485  | .083  | -.245 | -.858  |
| 130 | 577 | -.257  | .067  | .076  | -.514 | 130 | 707 | -.366  | .061  | -.181 | -.693  | 130 | 757 | -.525  | .097  | -.269 | -.104  |
| 130 | 578 | -.160  | .062  | .140  | -.426 | 130 | 708 | -.432  | .079  | -.171 | -.946  | 130 | 758 | -.453  | .071  | -.261 | -.830  |
| 130 | 579 | -.123  | .102  | .304  | -.617 | 130 | 709 | -.386  | .056  | -.192 | -.645  | 130 | 759 | -.457  | .090  | -.188 | -.990  |
| 130 | 580 | .073   | .087  | .557  | -.157 | 130 | 710 | -.359  | .052  | -.179 | -.654  | 130 | 760 | -.464  | .076  | -.272 | -.812  |
| 130 | 581 | .057   | .090  | .437  | -.262 | 130 | 711 | -.350  | .049  | -.194 | -.584  | 130 | 761 | -.455  | .093  | -.223 | -.1333 |
| 130 | 582 | .036   | .112  | .406  | -.306 | 130 | 712 | -.423  | .071  | -.186 | -.873  | 130 | 762 | -.474  | .091  | -.175 | -.957  |
| 130 | 583 | .014   | .108  | .481  | -.338 | 130 | 713 | -.410  | .065  | -.194 | -.722  | 130 | 763 | -.445  | .076  | -.234 | -.795  |
| 130 | 584 | -.253  | .080  | .162  | -.556 | 130 | 714 | -.374  | .057  | -.186 | -.736  | 130 | 764 | -.458  | .066  | -.287 | -.773  |
| 130 | 585 | -.170  | .068  | .226  | -.421 | 130 | 715 | -.351  | .048  | -.192 | -.536  | 130 | 765 | -.458  | .080  | -.261 | -.913  |
| 130 | 586 | -.103  | .092  | .287  | -.446 | 130 | 716 | -.378  | .050  | -.197 | -.614  | 130 | 766 | -.429  | .063  | -.231 | -.742  |
| 130 | 587 | -.010  | .066  | .527  | -.215 | 130 | 717 | -.395  | .054  | -.232 | -.603  | 130 | 767 | -.439  | .076  | -.249 | -.797  |
| 130 | 588 | -.059  | .054  | .204  | -.277 | 130 | 718 | -.410  | .062  | -.221 | -.729  | 130 | 768 | -.422  | .068  | -.252 | -.802  |
| 130 | 589 | -.121  | .043  | .089  | -.289 | 130 | 719 | -.406  | .057  | -.225 | -.689  | 130 | 769 | -.428  | .060  | -.256 | -.665  |
| 130 | 590 | -.130  | .051  | .101  | -.426 | 130 | 720 | -.377  | .067  | -.130 | -.636  | 130 | 770 | -.429  | .098  | -.189 | -.020  |
| 130 | 591 | -.032  | .056  | .301  | -.190 | 130 | 721 | -.338  | .061  | -.132 | -.718  | 130 | 771 | -.433  | .092  | -.189 | -.920  |
| 130 | 592 | -.050  | .048  | .204  | -.205 | 130 | 722 | -.438  | .083  | -.152 | -.891  | 130 | 772 | -.482  | .082  | -.270 | -.853  |
| 130 | 593 | -.266  | .075  | .270  | -.581 | 130 | 723 | -.420  | .069  | -.225 | -.731  | 130 | 773 | -.482  | .077  | -.284 | -.846  |
| 130 | 594 | -.181  | .065  | .188  | -.444 | 130 | 724 | -.429  | .072  | -.212 | -.742  | 130 | 774 | -.494  | .087  | -.289 | -.964  |
| 130 | 595 | -.115  | .060  | .202  | -.379 | 130 | 725 | -.412  | .065  | -.219 | -.729  | 130 | 775 | -.451  | .071  | -.228 | -.867  |
| 130 | 596 | -.051  | .047  | .130  | -.237 | 130 | 726 | -.513  | .109  | -.137 | -.909  | 130 | 776 | -.446  | .068  | -.266 | -.802  |
| 130 | 597 | -.088  | .045  | .120  | -.267 | 130 | 727 | -.544  | .119  | -.249 | -1.063 | 130 | 777 | -.353  | .082  | -.129 | -.002  |
| 130 | 598 | -.125  | .039  | .063  | -.277 | 130 | 728 | -.452  | .088  | -.177 | -.827  | 130 | 778 | -.359  | .090  | -.082 | -.855  |
| 130 | 599 | -.105  | .055  | .109  | -.368 | 130 | 729 | -.428  | .074  | -.240 | -.885  | 130 | 779 | -.445  | .099  | -.068 | -.883  |
| 130 | 600 | -.145  | .049  | .059  | -.411 | 130 | 730 | -.372  | .049  | -.144 | -.566  | 130 | 780 | -.521  | .098  | -.261 | -.932  |
| 130 | 601 | -.127  | .071  | .305  | -.513 | 130 | 731 | -.410  | .052  | -.242 | -.598  | 130 | 781 | -.541  | .113  | -.291 | -.1067 |
| 130 | 602 | -.118  | .090  | .337  | -.439 | 130 | 732 | -.446  | .079  | -.231 | -.820  | 130 | 782 | -.489  | .086  | -.282 | -.957  |
| 130 | 603 | -.274  | .054  | -.082 | -.508 | 130 | 733 | -.444  | .073  | -.220 | -.896  | 130 | 783 | -.490  | .090  | -.270 | -.895  |
| 130 | 604 | -.043  | .051  | .162  | -.253 | 130 | 734 | -.435  | .055  | -.256 | -.678  | 130 | 784 | -.285  | .077  | -.052 | -.930  |
| 130 | 605 | -.084  | .054  | .190  | -.310 | 130 | 735 | -.433  | .055  | -.274 | -.649  | 130 | 785 | -.267  | .080  | -.059 | -.591  |
| 130 | 606 | -.094  | .052  | .155  | -.254 | 130 | 736 | -.416  | .052  | -.229 | -.622  | 130 | 786 | -.335  | .131  | -.231 | -.742  |
| 130 | 607 | -.150  | .028  | -.034 | -.254 | 130 | 737 | -.402  | .053  | -.200 | -.640  | 130 | 787 | -.479  | .127  | .113  | -.1004 |
| 130 | 608 | -.049  | .073  | .346  | -.119 | 130 | 738 | -.422  | .056  | -.204 | -.712  | 130 | 788 | -.588  | .161  | -.173 | -.1628 |
| 130 | 609 | -.101  | .057  | .127  | -.383 | 130 | 739 | -.392  | .049  | -.249 | -.562  | 130 | 789 | -.556  | .115  | -.259 | -.1071 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 130 | 790 | -.541  | .113  | -.259 | -1.139 | 130 | 918 | -.422  | .069  | -.217 | -.726  | 130 | 968  | -.121  | .048  | .123  | -.316  |
| 130 | 791 | -.429  | .200  | .222  | -1.117 | 130 | 919 | .270   | .161  | .846  | -.108  | 130 | 969  | -.131  | .037  | .043  | -.287  |
| 130 | 792 | -.443  | .156  | .132  | -1.179 | 130 | 920 | -.459  | .090  | -.155 | -.783  | 130 | 970  | -.171  | .032  | -.024 | -.272  |
| 130 | 793 | -.549  | .154  | -.071 | -1.407 | 130 | 921 | -.383  | .065  | -.111 | -.705  | 130 | 971  | -.159  | .031  | -.024 | -.251  |
| 130 | 794 | -.410  | .153  | .109  | -1.042 | 130 | 922 | -.363  | .045  | -.243 | -.590  | 130 | 1001 | -.406  | .059  | -.056 | -.616  |
| 130 | 795 | -.177  | .066  | .102  | -.561  | 130 | 923 | -.318  | .090  | -.042 | -.647  | 130 | 1002 | -.338  | .144  | .094  | -.1018 |
| 130 | 796 | -.184  | .068  | .106  | -.508  | 130 | 924 | -.362  | .189  | 1.057 | -.392  | 130 | 1003 | -.293  | .071  | .007  | -.505  |
| 130 | 797 | -.335  | .060  | -.148 | -.582  | 130 | 925 | -.592  | .189  | -.215 | -.1580 | 130 | 1004 | -.405  | .056  | -.243 | -.650  |
| 130 | 798 | -.261  | .050  | -.048 | -.804  | 130 | 926 | -.047  | .128  | .457  | -.501  | 130 | 1005 | -.416  | .092  | -.173 | -.753  |
| 130 | 799 | -.234  | .062  | .015  | -.720  | 130 | 927 | -.350  | .061  | -.183 | -.601  | 130 | 1006 | -.431  | .071  | -.243 | -.763  |
| 130 | 800 | -.253  | .103  | .039  | -.753  | 130 | 928 | -.102  | .133  | .579  | -.425  | 130 | 1007 | -.003  | .058  | .272  | -.164  |
| 130 | 801 | -.391  | .169  | .091  | -.961  | 130 | 929 | -.414  | .081  | -.035 | -.772  | 130 | 1008 | -.299  | .076  | -.010 | -.843  |
| 130 | 802 | -.597  | .177  | -.015 | -1.570 | 130 | 930 | -.361  | .188  | .971  | -.082  | 130 | 1009 | -.168  | .114  | .679  | -.152  |
| 130 | 803 | -.600  | .135  | -.279 | -.1588 | 130 | 931 | -.357  | .072  | -.212 | -.781  | 130 | 1010 | -.287  | .053  | .036  | -.458  |
| 130 | 804 | -.586  | .129  | -.300 | -1.143 | 130 | 932 | -.023  | .077  | .211  | -.311  | 130 | 1011 | -.034  | .045  | .183  | -.166  |
| 130 | 805 | -.162  | .077  | .155  | -.426  | 130 | 933 | -.066  | .109  | .489  | -.284  | 130 | 1012 | -.316  | .079  | .029  | -.600  |
| 130 | 806 | -.235  | .067  | .006  | -.494  | 130 | 934 | -.429  | .086  | -.049 | -.734  | 130 | 1013 | -.291  | .132  | .180  | -.813  |
| 130 | 807 | -.128  | .065  | .120  | -.515  | 130 | 935 | -.256  | .059  | .118  | -.490  | 130 | 1014 | -.432  | .075  | -.212 | -.728  |
| 130 | 808 | -.275  | .063  | -.024 | -.482  | 130 | 936 | -.203  | .123  | .645  | -.173  | 130 | 1015 | -.005  | .111  | .429  | -.445  |
| 130 | 809 | -.238  | .047  | -.015 | -.701  | 130 | 937 | -.227  | .156  | .319  | -.817  | 130 | 1016 | -.359  | .062  | -.154 | -.630  |
| 130 | 810 | -.239  | .132  | .078  | -.767  | 130 | 938 | -.045  | .081  | .228  | -.365  | 130 | 1017 | -.089  | .050  | .096  | -.226  |
| 130 | 811 | -.420  | .131  | -.017 | -.963  | 130 | 939 | -.174  | .054  | .035  | -.391  | 130 | 1018 | -.108  | .046  | .103  | -.251  |
| 130 | 812 | -.602  | .143  | -.277 | -1.208 | 130 | 940 | -.410  | .078  | -.247 | -.861  | 130 | 1019 | -.077  | .050  | .161  | -.229  |
| 130 | 813 | -.139  | .059  | .097  | -.438  | 130 | 941 | -.449  | .113  | -.159 | -.674  | 130 | 1020 | -.054  | .064  | .226  | -.316  |
| 130 | 814 | -.135  | .067  | .102  | -.482  | 130 | 942 | -.384  | .060  | -.221 | -.608  | 130 | 1021 | -.085  | .084  | .460  | -.099  |
| 130 | 815 | -.271  | .072  | -.034 | -.599  | 130 | 943 | -.438  | .104  | -.223 | -.884  | 130 | 1022 | -.073  | .053  | .159  | -.267  |
| 130 | 816 | -.235  | .050  | .064  | -.680  | 130 | 944 | -.351  | .068  | -.164 | -.615  | 130 | 1023 | -.127  | .051  | .113  | -.323  |
| 130 | 817 | -.218  | .051  | -.010 | -.624  | 130 | 945 | -.010  | .063  | .592  | -.141  | 130 | 1024 | -.221  | .087  | -.003 | -.648  |
| 130 | 818 | -.219  | .098  | .176  | -.865  | 130 | 946 | -.335  | .066  | -.082 | -.567  | 130 | 1025 | -.046  | .058  | .200  | -.255  |
| 130 | 819 | -.266  | .146  | .183  | -.844  | 130 | 947 | -.382  | .074  | -.209 | -.770  | 130 | 1026 | -.031  | .061  | .250  | -.270  |
| 130 | 820 | -.386  | .161  | .069  | -.1236 | 130 | 948 | -.335  | .061  | .107  | -.590  | 130 | 1027 | -.094  | .053  | .228  | -.323  |
| 130 | 821 | -.585  | .154  | -.239 | -.1508 | 130 | 949 | -.370  | .078  | -.162 | -.972  | 130 | 1028 | -.159  | .027  | -.063 | -.246  |
| 130 | 822 | -.577  | .137  | -.298 | -.1341 | 130 | 950 | -.022  | .055  | .248  | -.180  | 140 | 101  | -.396  | .079  | -.117 | -.823  |
| 130 | 901 | -.466  | .047  | -.307 | -.642  | 130 | 951 | -.356  | .072  | .130  | -.790  | 140 | 102  | -.370  | .072  | -.162 | -.697  |
| 130 | 902 | -.397  | .053  | -.234 | -.652  | 130 | 952 | -.306  | .080  | -.050 | -.674  | 140 | 103  | -.385  | .117  | -.088 | -.1019 |
| 130 | 903 | -.403  | .049  | -.254 | -.603  | 130 | 953 | -.064  | .073  | .339  | -.253  | 140 | 104  | -.450  | .100  | -.196 | -.1071 |
| 130 | 904 | -.427  | .056  | -.261 | -.628  | 130 | 954 | -.392  | .076  | -.162 | -.888  | 140 | 105  | -.353  | .075  | -.088 | -.724  |
| 130 | 905 | -.436  | .045  | -.302 | -.614  | 130 | 955 | -.190  | .039  | .007  | -.335  | 140 | 106  | -.373  | .065  | -.152 | -.683  |
| 130 | 906 | -.204  | .079  | .113  | -.433  | 130 | 956 | -.112  | .046  | .105  | -.287  | 140 | 107  | -.349  | .056  | -.164 | -.544  |
| 130 | 907 | -.232  | .058  | -.017 | -.440  | 130 | 957 | -.070  | .054  | .155  | -.203  | 140 | 108  | -.375  | .080  | -.085 | -.788  |
| 130 | 908 | -.381  | .053  | -.202 | -.573  | 130 | 958 | -.146  | .048  | .157  | -.326  | 140 | 109  | -.392  | .082  | -.180 | -.792  |
| 130 | 909 | -.384  | .047  | -.217 | -.610  | 130 | 959 | -.271  | .050  | -.100 | -.537  | 140 | 110  | -.392  | .071  | -.218 | -.729  |
| 130 | 910 | -.015  | .105  | .382  | -.268  | 130 | 960 | -.020  | .083  | .308  | -.626  | 140 | 111  | -.408  | .075  | -.142 | -.740  |
| 130 | 911 | -.387  | .044  | -.245 | -.572  | 130 | 961 | -.093  | .074  | .246  | -.351  | 140 | 112  | -.372  | .081  | -.110 | -.938  |
| 130 | 912 | -.293  | .090  | .026  | -.648  | 130 | 962 | -.154  | .062  | .133  | -.343  | 140 | 113  | -.381  | .076  | -.112 | -.861  |
| 130 | 913 | -.398  | .055  | -.229 | -.582  | 130 | 963 | -.185  | .048  | .033  | -.390  | 140 | 114  | -.369  | .058  | -.178 | -.587  |
| 130 | 914 | -.342  | .150  | .169  | -.857  | 130 | 964 | -.132  | .050  | .106  | -.292  | 140 | 115  | -.371  | .061  | -.124 | -.776  |
| 130 | 915 | -.423  | .066  | -.182 | -.740  | 130 | 965 | -.111  | .069  | .180  | -.408  | 140 | 116  | -.386  | .076  | -.207 | -.1014 |
| 130 | 916 | -.388  | .226  | .703  | -.1009 | 130 | 966 | -.172  | .049  | .014  | -.387  | 140 | 117  | -.332  | .049  | -.146 | -.542  |
| 130 | 917 | -.432  | .068  | -.260 | -.674  | 130 | 967 | -.116  | .041  | .091  | -.229  | 140 | 118  | -.439  | .102  | -.146 | -.1086 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 140 | 119 | -.379  | .088  | -.133 | -.816  | 140 | 169 | -.274  | .051  | -.092 | -.500  | 140 | 219 | -.119  | .055  | .081  | -.312  |
| 140 | 120 | -.435  | .090  | -.207 | -.913  | 140 | 170 | -.347  | .123  | -.052 | -1.161 | 140 | 220 | -.187  | .090  | .081  | -.862  |
| 140 | 121 | -.409  | .071  | -.214 | -.738  | 140 | 171 | -.355  | .126  | -.089 | -1.152 | 140 | 221 | -.303  | .138  | .054  | -1.004 |
| 140 | 122 | -.313  | .072  | -.040 | -.747  | 140 | 172 | -.353  | .119  | -.099 | -1.031 | 140 | 222 | -.346  | .153  | .003  | -1.109 |
| 140 | 123 | -.314  | .072  | -.070 | -.708  | 140 | 173 | -.304  | .052  | -.125 | -.592  | 140 | 223 | -.200  | .088  | .266  | -.629  |
| 140 | 124 | -.325  | .065  | -.099 | -.661  | 140 | 174 | -.378  | .083  | -.111 | -.878  | 140 | 224 | -.267  | .074  | .033  | -.561  |
| 140 | 125 | -.346  | .061  | -.166 | -.774  | 140 | 175 | -.346  | .059  | -.167 | -.592  | 140 | 225 | -.253  | .064  | .006  | -.565  |
| 140 | 126 | -.372  | .054  | -.196 | -.610  | 140 | 176 | -.349  | .065  | -.153 | -.732  | 140 | 301 | -.457  | .133  | -.083 | -1.164 |
| 140 | 127 | -.386  | .062  | -.173 | -.641  | 140 | 177 | -.330  | .125  | -.022 | -.892  | 140 | 302 | -.478  | .133  | -.097 | -1.071 |
| 140 | 128 | -.373  | .065  | -.136 | -.727  | 140 | 178 | -.365  | .127  | -.030 | -.984  | 140 | 303 | -.051  | .111  | .261  | -.541  |
| 140 | 129 | -.378  | .071  | -.147 | -.796  | 140 | 179 | -.289  | .114  | -.057 | -.956  | 140 | 304 | -.582  | .146  | -.152 | -.049  |
| 140 | 130 | -.341  | .053  | -.186 | -.620  | 140 | 180 | -.277  | .059  | -.014 | -.479  | 140 | 305 | -.518  | .146  | -.026 | -.093  |
| 140 | 131 | -.395  | .070  | -.218 | -.721  | 140 | 181 | -.361  | .089  | -.151 | -.932  | 140 | 306 | -.321  | .079  | -.037 | -.804  |
| 140 | 132 | -.360  | .092  | -.143 | -1.093 | 140 | 182 | -.307  | .057  | -.127 | -.602  | 140 | 307 | -.372  | .122  | -.081 | -1.007 |
| 140 | 133 | -.372  | .107  | -.173 | -1.223 | 140 | 183 | -.309  | .061  | -.122 | -.578  | 140 | 308 | -.564  | .196  | .158  | -.650  |
| 140 | 134 | -.375  | .093  | -.136 | -.887  | 140 | 184 | -.315  | .104  | -.011 | -.996  | 140 | 309 | -.374  | .177  | .060  | -.131  |
| 140 | 135 | -.361  | .078  | -.152 | -.807  | 140 | 185 | -.378  | .119  | -.094 | -1.473 | 140 | 310 | -.320  | .134  | -.008 | -.904  |
| 140 | 136 | -.328  | .054  | -.143 | -.565  | 140 | 186 | -.292  | .105  | -.059 | -1.197 | 140 | 311 | -.334  | .065  | -.079 | .718   |
| 140 | 137 | -.339  | .054  | -.170 | -.625  | 140 | 187 | -.268  | .065  | -.085 | -.493  | 140 | 312 | -.537  | .173  | .120  | -.503  |
| 140 | 138 | -.350  | .058  | -.129 | -.782  | 140 | 188 | -.324  | .083  | -.004 | -.821  | 140 | 313 | -.376  | .208  | .122  | -.021  |
| 140 | 139 | -.368  | .062  | -.141 | -.611  | 140 | 189 | -.276  | .054  | -.122 | -.517  | 140 | 314 | -.318  | .105  | -.007 | -.897  |
| 140 | 140 | -.380  | .067  | -.115 | -.782  | 140 | 190 | -.269  | .057  | -.111 | -.495  | 140 | 315 | -.346  | .073  | -.093 | -.849  |
| 140 | 141 | -.360  | .062  | -.168 | -.757  | 140 | 191 | -.263  | .070  | -.009 | -.580  | 140 | 316 | -.375  | .136  | -.004 | -.1002 |
| 140 | 142 | -.412  | .073  | -.166 | -.812  | 140 | 192 | -.266  | .059  | -.000 | -.544  | 140 | 317 | -.300  | .158  | .211  | -.959  |
| 140 | 143 | -.400  | .097  | -.065 | -.974  | 140 | 193 | -.277  | .055  | -.034 | -.531  | 140 | 318 | -.591  | .256  | .063  | -.484  |
| 140 | 144 | -.399  | .099  | -.136 | -1.024 | 140 | 194 | -.349  | .131  | -.043 | -1.649 | 140 | 319 | -.307  | .183  | .203  | -.183  |
| 140 | 145 | -.402  | .075  | -.211 | -.787  | 140 | 195 | -.359  | .123  | -.016 | -.568  | 140 | 320 | -.379  | .115  | -.042 | -.990  |
| 140 | 146 | -.426  | .063  | -.170 | -.753  | 140 | 196 | -.307  | .105  | -.018 | -1.253 | 140 | 321 | -.379  | .080  | -.104 | -.780  |
| 140 | 147 | -.424  | .069  | -.122 | -.725  | 140 | 197 | -.308  | .075  | -.043 | -.722  | 140 | 322 | -.539  | .251  | .280  | -.722  |
| 140 | 148 | -.427  | .077  | -.188 | -.743  | 140 | 198 | -.201  | .035  | -.047 | -.360  | 140 | 323 | -.397  | .267  | .230  | -.424  |
| 140 | 149 | -.368  | .095  | -.082 | -.946  | 140 | 199 | -.203  | .037  | -.063 | -.403  | 140 | 324 | -.365  | .194  | .060  | -.183  |
| 140 | 150 | -.363  | .092  | -.087 | -1.024 | 140 | 200 | -.212  | .056  | -.027 | -.517  | 140 | 325 | -.395  | .178  | .053  | -.410  |
| 140 | 151 | -.355  | .095  | -.046 | -.129  | 140 | 201 | -.227  | .074  | -.063 | -.547  | 140 | 326 | -.123  | .201  | .559  | -.856  |
| 140 | 152 | -.361  | .073  | -.165 | -.736  | 140 | 202 | -.188  | .070  | -.149 | -.421  | 140 | 327 | -.425  | .116  | -.109 | -.103  |
| 140 | 153 | -.362  | .055  | -.149 | -.640  | 140 | 203 | -.295  | .089  | -.092 | -.684  | 140 | 328 | -.290  | .065  | -.082 | -.670  |
| 140 | 154 | -.381  | .049  | -.169 | -.560  | 140 | 204 | -.324  | .080  | -.016 | -.859  | 140 | 329 | -.288  | .062  | -.080 | -.826  |
| 140 | 155 | -.411  | .067  | -.127 | -.633  | 140 | 205 | -.332  | .078  | -.072 | -.706  | 140 | 330 | -.328  | .126  | .130  | -.891  |
| 140 | 156 | -.451  | .091  | -.165 | -.988  | 140 | 206 | -.236  | .067  | -.038 | -.495  | 140 | 331 | -.317  | .180  | .366  | -.081  |
| 140 | 157 | -.424  | .078  | -.180 | -.778  | 140 | 207 | -.271  | .055  | -.097 | -.504  | 140 | 332 | -.514  | .195  | .592  | -.214  |
| 140 | 158 | -.330  | .079  | -.122 | -.959  | 140 | 208 | -.257  | .053  | -.063 | -.553  | 140 | 333 | -.495  | .217  | .233  | -.301  |
| 140 | 159 | -.405  | .060  | -.198 | -.633  | 140 | 209 | -.195  | .034  | -.067 | -.355  | 140 | 334 | -.362  | .221  | .195  | -.464  |
| 140 | 160 | -.319  | .084  | -.042 | -.714  | 140 | 210 | -.202  | .075  | -.044 | -.549  | 140 | 335 | -.355  | .186  | .130  | -.122  |
| 140 | 161 | -.423  | .074  | -.147 | -.767  | 140 | 211 | -.016  | .085  | -.392 | -.362  | 140 | 336 | -.293  | .166  | .361  | -.202  |
| 140 | 162 | -.323  | .085  | -.084 | -.814  | 140 | 212 | -.359  | .120  | -.001 | -.938  | 140 | 337 | -.132  | .172  | .438  | -.845  |
| 140 | 163 | -.328  | .090  | -.107 | -1.200 | 140 | 213 | -.193  | .087  | -.282 | -.419  | 140 | 338 | -.348  | .128  | .060  | -.009  |
| 140 | 164 | -.378  | .112  | -.118 | -.979  | 140 | 214 | -.255  | .058  | -.006 | -.490  | 140 | 339 | -.282  | .058  | -.097 | -.569  |
| 140 | 165 | -.405  | .089  | -.145 | -.857  | 140 | 215 | -.188  | .033  | -.058 | -.291  | 140 | 340 | -.312  | .069  | -.135 | -.754  |
| 140 | 166 | -.406  | .075  | -.203 | -.736  | 140 | 216 | -.189  | .033  | -.045 | -.300  | 140 | 341 | -.226  | .159  | .436  | -.759  |
| 140 | 167 | -.394  | .063  | -.151 | -.670  | 140 | 217 | -.186  | .050  | -.232 | -.449  | 140 | 342 | -.253  | .149  | .130  | -.918  |
| 140 | 168 | -.409  | .072  | -.155 | -.762  | 140 | 218 | -.192  | .063  | -.081 | -.447  | 140 | 343 | -.420  | .216  | -.229 | -.587  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|--------|
| 140 | 344 | -.417  | .191  | .144  | -1.358 | 140 | 394 | -.214  | .047  | -.002 | -.426   | 140 | 522 | -.038  | .158  | .725  | -.502  |
| 140 | 345 | -.324  | .190  | .293  | -1.320 | 140 | 395 | -.228  | .046  | -.035 | -.424   | 140 | 523 | -.039  | .183  | .605  | -.452  |
| 140 | 346 | -.277  | .092  | .072  | -1.000 | 140 | 396 | -.257  | .057  | -.024 | -.528   | 140 | 524 | .135   | .253  | .884  | -.745  |
| 140 | 347 | -.302  | .071  | .056  | -.711  | 140 | 397 | -.187  | .106  | .296  | -.856   | 140 | 525 | .226   | .237  | 1.060 | -.352  |
| 140 | 348 | -.349  | .079  | -.118 | -.754  | 140 | 398 | -.191  | .078  | .090  | -.091   | 140 | 526 | .178   | .221  | .927  | -.435  |
| 140 | 349 | -.235  | .252  | .549  | -1.292 | 140 | 399 | -.233  | .040  | -.075 | -.683   | 140 | 527 | .235   | .231  | .961  | -.524  |
| 140 | 350 | -.214  | .234  | .650  | -1.205 | 140 | 400 | -.236  | .045  | -.412 | -.466   | 140 | 528 | .203   | .229  | .981  | -.420  |
| 140 | 351 | -.543  | .214  | .093  | -1.418 | 140 | 401 | -.204  | .035  | -.020 | -.363   | 140 | 529 | .175   | .225  | .947  | -.422  |
| 140 | 352 | -.350  | .191  | .156  | -1.181 | 140 | 402 | -.214  | .032  | -.093 | -.325   | 140 | 530 | .303   | .222  | .942  | -.222  |
| 140 | 353 | -.280  | .139  | .081  | -1.035 | 140 | 403 | -.197  | .032  | -.071 | -.343   | 140 | 531 | .251   | .227  | .966  | -.319  |
| 140 | 354 | -.288  | .098  | -.063 | -1.299 | 140 | 404 | -.195  | .034  | -.069 | -.310   | 140 | 532 | -.105  | .143  | .558  | -.548  |
| 140 | 355 | -.327  | .080  | -.085 | -1.023 | 140 | 405 | -.234  | .066  | -.013 | -.589   | 140 | 533 | .025   | .179  | .618  | -.548  |
| 140 | 356 | -.389  | .104  | -.139 | -1.125 | 140 | 406 | -.189  | .080  | .230  | -.553   | 140 | 534 | .079   | .252  | .874  | -.961  |
| 140 | 357 | -.399  | .111  | -.132 | -1.363 | 140 | 407 | -.135  | .052  | -.034 | -.395   | 140 | 535 | .215   | .211  | 1.087 | -.299  |
| 140 | 358 | -.528  | .212  | -.112 | -1.522 | 140 | 408 | -.228  | .085  | -.075 | -.699   | 140 | 536 | .258   | .201  | 1.012 | -.224  |
| 140 | 359 | -.314  | .066  | -.137 | -.765  | 140 | 409 | -.188  | .031  | -.053 | -.279   | 140 | 537 | .201   | .202  | .916  | -.275  |
| 140 | 360 | -.498  | .301  | .419  | -2.557 | 140 | 410 | -.190  | .032  | -.060 | -.323   | 140 | 538 | .213   | .205  | .954  | -.425  |
| 140 | 361 | -.308  | .069  | .012  | -.737  | 140 | 411 | -.235  | .043  | -.069 | -.448   | 140 | 539 | .183   | .199  | .973  | -.319  |
| 140 | 362 | -.522  | .259  | .180  | -1.945 | 140 | 412 | -.225  | .061  | -.059 | -.533   | 140 | 540 | .092   | .196  | .829  | -.437  |
| 140 | 363 | -.425  | .271  | .332  | -1.485 | 140 | 413 | -.198  | .030  | -.063 | -.299   | 140 | 541 | .265   | .200  | 1.000 | -.207  |
| 140 | 364 | -.284  | .166  | .081  | -1.623 | 140 | 414 | -.112  | .047  | -.095 | -.299   | 140 | 542 | .204   | .182  | .899  | -.244  |
| 140 | 365 | -.241  | .136  | .109  | -1.295 | 140 | 415 | -.111  | .044  | -.055 | -.276   | 140 | 543 | -.249  | .119  | .266  | -.611  |
| 140 | 366 | -.274  | .084  | .000  | -.859  | 140 | 416 | -.230  | .032  | -.101 | -.429   | 140 | 544 | -.060  | .158  | .643  | -.514  |
| 140 | 367 | -.274  | .063  | -.022 | -.580  | 140 | 417 | -.231  | .042  | -.052 | -.368   | 140 | 545 | .119   | .184  | .768  | -.294  |
| 140 | 368 | -.284  | .069  | -.020 | -.605  | 140 | 418 | -.164  | .042  | -.033 | -.311   | 140 | 546 | .180   | .178  | .923  | -.210  |
| 140 | 369 | -.207  | .116  | .130  | -.907  | 140 | 419 | -.199  | .031  | -.089 | -.307   | 140 | 547 | .096   | .168  | .790  | -.321  |
| 140 | 370 | -.428  | .178  | .202  | -1.632 | 140 | 420 | -.197  | .030  | -.082 | -.309   | 140 | 548 | -.045  | .185  | .850  | -.507  |
| 140 | 371 | -.380  | .200  | .299  | -1.592 | 140 | 421 | -.180  | .035  | -.049 | -.376   | 140 | 549 | -.397  | .182  | .587  | -.954  |
| 140 | 372 | -.272  | .143  | .040  | -.283  | 140 | 422 | -.178  | .033  | -.042 | -.294   | 140 | 550 | -.482  | .129  | .043  | -.143  |
| 140 | 373 | -.190  | .112  | .157  | -.929  | 140 | 501 | -.016  | .119  | .415  | -.502   | 140 | 551 | -.160  | .182  | .495  | -.776  |
| 140 | 374 | -.355  | .113  | .052  | -.989  | 140 | 502 | .001   | .121  | .343  | -.509   | 140 | 552 | -.004  | .204  | .792  | -.103  |
| 140 | 375 | -.269  | .065  | .025  | -.618  | 140 | 503 | .223   | .197  | .741  | -.662   | 140 | 553 | .045   | .202  | .806  | -.937  |
| 140 | 376 | -.292  | .079  | -.057 | -.628  | 140 | 504 | .078   | .211  | .589  | -.509   | 140 | 554 | .080   | .181  | .677  | -.758  |
| 140 | 377 | -.370  | .138  | .100  | -.368  | 140 | 505 | -.070  | .109  | .268  | -.450   | 140 | 555 | .028   | .200  | .717  | -.897  |
| 140 | 378 | -.335  | .155  | .102  | -1.833 | 140 | 506 | .038   | .146  | .571  | -.472   | 140 | 556 | -.183  | .259  | .825  | -.107  |
| 140 | 379 | -.264  | .124  | .015  | -.412  | 140 | 507 | -.039  | .138  | .529  | -.445   | 140 | 557 | -.078  | .258  | .736  | -.1270 |
| 140 | 380 | -.197  | .084  | .057  | -.735  | 140 | 508 | -.089  | .136  | .522  | -.639   | 140 | 558 | -.088  | .160  | .544  | -.632  |
| 140 | 381 | -.319  | .099  | .012  | -.854  | 140 | 509 | .152   | .206  | .772  | -.566   | 140 | 559 | .071   | .146  | .773  | -.387  |
| 140 | 382 | -.243  | .067  | .027  | -.483  | 140 | 510 | .170   | .221  | .910  | -.583   | 140 | 560 | -.170  | .139  | .710  | -.576  |
| 140 | 383 | -.271  | .079  | .003  | -.648  | 140 | 511 | .080   | .190  | .702  | -.582   | 140 | 561 | .009   | .163  | .762  | -.474  |
| 140 | 384 | -.285  | .142  | .172  | -.654  | 140 | 512 | -.002  | .148  | .510  | -.581   | 140 | 562 | -.189  | .131  | .622  | -.706  |
| 140 | 385 | -.298  | .149  | .192  | -.385  | 140 | 513 | .222   | .209  | .846  | -.547   | 140 | 563 | -.095  | .141  | .509  | -.439  |
| 140 | 386 | -.222  | .069  | .075  | -.533  | 140 | 514 | .292   | .229  | .925  | -.283   | 140 | 564 | .061   | .162  | .693  | -.389  |
| 140 | 387 | -.199  | .066  | .022  | -.673  | 140 | 515 | .239   | .221  | .960  | -.407   | 140 | 565 | .081   | .125  | .745  | -.280  |
| 140 | 388 | -.277  | .066  | -.057 | -.673  | 140 | 516 | .234   | .219  | .970  | -.569   | 140 | 566 | .114   | .126  | .695  | -.203  |
| 140 | 389 | -.247  | .054  | .025  | -.438  | 140 | 517 | .315   | .228  | 1.122 | -.328   | 140 | 567 | .064   | .139  | .772  | -.255  |
| 140 | 390 | -.263  | .066  | -.005 | -.538  | 140 | 518 | -.047  | .164  | .477  | -.783   | 140 | 568 | -.029  | .163  | .762  | -.542  |
| 140 | 391 | -.199  | .047  | .067  | -.355  | 140 | 519 | -.075  | .232  | .772  | -.1.021 | 140 | 569 | .095   | .127  | .742  | -.253  |
| 140 | 392 | -.178  | .069  | .145  | -.515  | 140 | 520 | .128   | .270  | .896  | -.1.071 | 140 | 570 | -.201  | .117  | .383  | -.572  |
| 140 | 393 | -.199  | .047  | .024  | -.346  | 140 | 521 | .072   | .216  | .727  | -.516   | 140 | 571 | -.116  | .123  | .540  | -.440  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 140 | 572 | -.032  | .157  | .642  | -.674   | 140 | 702 | -.453  | .095  | -.199 | -.982   | 140 | 752 | -.447  | .083  | -.193 | -.814   |
| 140 | 573 | .073   | .103  | .647  | -.168   | 140 | 703 | -.528  | .118  | -.228 | -.973   | 140 | 753 | -.445  | .087  | -.129 | -.909   |
| 140 | 574 | .048   | .096  | .445  | -.412   | 140 | 704 | -.265  | .073  | -.050 | -.618   | 140 | 754 | -.454  | .084  | -.155 | -.891   |
| 140 | 575 | .017   | .124  | .692  | -.415   | 140 | 705 | -.435  | .102  | -.119 | -.023   | 140 | 755 | -.469  | .092  | -.164 | -.1060  |
| 140 | 576 | -.047  | .151  | .707  | -.457   | 140 | 706 | -.384  | .076  | -.190 | -.976   | 140 | 756 | -.438  | .106  | -.106 | -.968   |
| 140 | 577 | -.214  | .106  | .311  | -.597   | 140 | 707 | -.395  | .084  | -.168 | -.867   | 140 | 757 | -.492  | .127  | -.009 | -.990   |
| 140 | 578 | -.119  | .113  | .535  | -.477   | 140 | 708 | -.440  | .111  | -.124 | -.119   | 140 | 758 | -.457  | .089  | -.085 | -.817   |
| 140 | 579 | .002   | .132  | .530  | -.555   | 140 | 709 | -.406  | .081  | -.174 | -.940   | 140 | 759 | -.471  | .104  | -.151 | -.977   |
| 140 | 580 | .046   | .090  | .622  | -.218   | 140 | 710 | -.401  | .086  | -.166 | -.211   | 140 | 760 | -.471  | .099  | -.085 | -.905   |
| 140 | 581 | -.002  | .082  | .376  | -.390   | 140 | 711 | -.413  | .086  | -.174 | -.018   | 140 | 761 | -.454  | .108  | -.191 | -.1293  |
| 140 | 582 | -.075  | .081  | .563  | -.300   | 140 | 712 | -.428  | .104  | -.143 | -.966   | 140 | 762 | -.480  | .116  | -.112 | -.146   |
| 140 | 583 | -.130  | .081  | .258  | -.385   | 140 | 713 | -.411  | .084  | -.010 | -.787   | 140 | 763 | -.481  | .101  | -.081 | -.948   |
| 140 | 584 | -.211  | .117  | .475  | -.632   | 140 | 714 | -.421  | .084  | -.152 | -.951   | 140 | 764 | -.474  | .090  | -.180 | -.017   |
| 140 | 585 | -.100  | .119  | .433  | -.440   | 140 | 715 | -.398  | .073  | -.157 | -.071   | 140 | 765 | -.489  | .108  | -.182 | -.096   |
| 140 | 586 | -.007  | .115  | .488  | -.333   | 140 | 716 | -.401  | .074  | -.163 | -.778   | 140 | 766 | -.459  | .095  | -.142 | -.985   |
| 140 | 587 | .010   | .084  | .403  | -.245   | 140 | 717 | -.407  | .074  | -.112 | -.980   | 140 | 767 | -.457  | .097  | -.052 | -.194   |
| 140 | 588 | -.081  | .075  | .283  | -.587   | 140 | 718 | -.421  | .090  | -.128 | -.949   | 140 | 768 | -.439  | .084  | -.209 | -.013   |
| 140 | 589 | -.136  | .056  | .109  | -.460   | 140 | 719 | -.412  | .077  | -.183 | -.889   | 140 | 769 | -.443  | .079  | -.175 | -.832   |
| 140 | 590 | -.176  | .057  | .044  | -.452   | 140 | 720 | -.431  | .084  | -.181 | -.796   | 140 | 770 | -.405  | .127  | -.018 | -.164   |
| 140 | 591 | -.006  | .075  | .333  | -.226   | 140 | 721 | -.451  | .124  | -.170 | -.397   | 140 | 771 | -.402  | .092  | -.063 | -.846   |
| 140 | 592 | -.023  | .071  | .484  | -.198   | 140 | 722 | -.425  | .119  | -.019 | -.204   | 140 | 772 | -.484  | .092  | -.114 | -.899   |
| 140 | 593 | -.205  | .116  | .317  | -.554   | 140 | 723 | -.429  | .101  | -.101 | -.033   | 140 | 773 | -.500  | .095  | -.168 | -.964   |
| 140 | 594 | -.116  | .118  | .308  | -.465   | 140 | 724 | -.417  | .094  | -.130 | -.077   | 140 | 774 | -.516  | .110  | -.191 | -.210   |
| 140 | 595 | -.033  | .087  | .409  | -.288   | 140 | 725 | -.429  | .097  | -.157 | -.073   | 140 | 775 | -.477  | .090  | -.079 | -.966   |
| 140 | 596 | -.027  | .071  | .395  | -.245   | 140 | 726 | -.452  | .105  | -.170 | -.984   | 140 | 776 | -.465  | .087  | -.219 | -.003   |
| 140 | 597 | -.101  | .070  | .166  | -.472   | 140 | 727 | -.479  | .119  | -.142 | -.167   | 140 | 777 | -.300  | .077  | -.008 | -.815   |
| 140 | 598 | -.121  | .054  | .114  | -.387   | 140 | 728 | -.438  | .090  | -.167 | -.868   | 140 | 778 | -.322  | .085  | -.004 | -.827   |
| 140 | 599 | -.143  | .057  | .103  | -.453   | 140 | 729 | -.425  | .082  | -.142 | -.826   | 140 | 779 | -.415  | .108  | -.073 | -.887   |
| 140 | 600 | -.206  | .096  | .234  | -.1.201 | 140 | 730 | -.404  | .074  | -.165 | -.821   | 140 | 780 | -.524  | .103  | -.251 | -.1.050 |
| 140 | 601 | -.105  | .074  | .283  | -.372   | 140 | 731 | -.413  | .071  | -.169 | -.790   | 140 | 781 | -.576  | .136  | -.191 | -.203   |
| 140 | 602 | -.107  | .088  | .395  | -.416   | 140 | 732 | -.437  | .111  | -.124 | -.069   | 140 | 782 | -.525  | .109  | -.216 | -.038   |
| 140 | 603 | -.252  | .072  | .008  | -.609   | 140 | 733 | -.437  | .107  | -.039 | -.006   | 140 | 783 | -.527  | .113  | -.249 | -.1.379 |
| 140 | 604 | -.100  | .051  | .080  | -.340   | 140 | 734 | -.422  | .080  | -.090 | -.929   | 140 | 784 | -.237  | .060  | -.076 | -.474   |
| 140 | 605 | -.119  | .074  | .239  | -.480   | 140 | 735 | -.440  | .088  | -.066 | -.965   | 140 | 785 | -.222  | .065  | -.027 | -.507   |
| 140 | 606 | -.094  | .048  | .102  | -.250   | 140 | 736 | -.421  | .069  | -.151 | -.778   | 140 | 786 | -.287  | .116  | -.220 | -.760   |
| 140 | 607 | -.189  | .033  | -.047 | -.306   | 140 | 737 | -.420  | .074  | -.169 | -.864   | 140 | 787 | -.449  | .128  | -.030 | -.1.015 |
| 140 | 608 | -.007  | .061  | .453  | -.1.60  | 140 | 738 | -.450  | .092  | -.178 | -.970   | 140 | 788 | -.646  | .184  | -.077 | -.2.106 |
| 140 | 609 | -.134  | .056  | .113  | -.348   | 140 | 739 | -.427  | .081  | -.120 | -.057   | 140 | 789 | -.606  | .138  | -.288 | -.1.528 |
| 140 | 610 | -.081  | .059  | .262  | -.310   | 140 | 740 | -.429  | .078  | -.149 | -.956   | 140 | 790 | -.589  | .129  | -.207 | -.1.440 |
| 140 | 611 | -.127  | .077  | .329  | -.545   | 140 | 741 | -.424  | .071  | -.111 | -.733   | 140 | 791 | -.344  | .183  | -.202 | -.1.121 |
| 140 | 612 | -.205  | .071  | .114  | -.464   | 140 | 742 | -.431  | .074  | -.149 | -.799   | 140 | 792 | -.404  | .162  | -.142 | -.033   |
| 140 | 613 | -.107  | .074  | .306  | -.330   | 140 | 743 | -.453  | .096  | -.165 | -.051   | 140 | 793 | -.548  | .159  | -.042 | -.1.257 |
| 140 | 614 | -.000  | .085  | .375  | -.241   | 140 | 744 | -.463  | .107  | -.093 | -.051   | 140 | 794 | -.370  | .132  | -.092 | -.828   |
| 140 | 615 | -.035  | .070  | .342  | -.132   | 140 | 745 | -.454  | .087  | -.115 | -.929   | 140 | 795 | -.201  | .063  | -.149 | -.482   |
| 140 | 616 | -.058  | .070  | .289  | -.367   | 140 | 746 | -.436  | .082  | -.149 | -.819   | 140 | 796 | -.197  | .071  | -.174 | -.473   |
| 140 | 617 | -.051  | .050  | .356  | -.201   | 140 | 747 | -.435  | .085  | -.063 | -.828   | 140 | 797 | -.292  | .064  | -.090 | -.573   |
| 140 | 618 | -.058  | .051  | .213  | -.199   | 140 | 748 | -.437  | .089  | -.162 | -.1.161 | 140 | 798 | -.234  | .048  | -.062 | -.445   |
| 140 | 619 | -.078  | .065  | .299  | -.296   | 140 | 749 | -.465  | .089  | -.114 | -.922   | 140 | 799 | -.209  | .055  | -.022 | -.512   |
| 140 | 620 | -.103  | .075  | .301  | -.365   | 140 | 750 | -.437  | .073  | -.169 | -.799   | 140 | 800 | -.227  | .093  | -.167 | -.559   |
| 140 | 701 | -.359  | .076  | -.112 | -.833   | 140 | 751 | -.448  | .087  | -.138 | -.1.111 | 140 | 801 | -.353  | .150  | -.119 | -.928   |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 140 | 802 | -.577  | .193  | .039  | -1.666 | 140 | 930  | -.179  | .178  | .967  | -.299  | 140 | 1009 | .067   | .104  | .533  | -.266  |
| 140 | 803 | -.644  | .150  | -.255 | -1.505 | 140 | 931  | -.395  | .086  | -.218 | -1.028 | 140 | 1010 | -.261  | .064  | .064  | -.498  |
| 140 | 804 | -.638  | .151  | -.216 | -1.722 | 140 | 932  | -.200  | .098  | .139  | -.590  | 140 | 1011 | -.047  | .056  | .529  | -.192  |
| 140 | 805 | -.040  | .087  | .412  | -.290  | 140 | 933  | -.024  | .143  | .537  | -.475  | 140 | 1012 | -.274  | .082  | .044  | -.575  |
| 140 | 806 | -.125  | .071  | .179  | -.421  | 140 | 934  | -.403  | .090  | -.104 | -.774  | 140 | 1013 | -.461  | .166  | .062  | -.1202 |
| 140 | 807 | -.137  | .072  | .310  | -.377  | 140 | 935  | -.284  | .074  | .043  | -.620  | 140 | 1014 | -.416  | .078  | -.158 | -.729  |
| 140 | 808 | -.257  | .068  | .039  | -.456  | 140 | 936  | -.085  | .135  | .360  | -.446  | 140 | 1015 | -.221  | .178  | .388  | -.810  |
| 140 | 809 | -.226  | .049  | .025  | -.393  | 140 | 937  | -.426  | .179  | .121  | -1.271 | 140 | 1016 | -.391  | .076  | .146  | -.751  |
| 140 | 810 | -.190  | .096  | .188  | -.662  | 140 | 938  | -.260  | .154  | .164  | -1.115 | 140 | 1017 | -.183  | .048  | .009  | .440   |
| 140 | 811 | -.403  | .114  | -.069 | -.912  | 140 | 939  | -.258  | .074  | .109  | -.612  | 140 | 1018 | -.184  | .050  | .008  | -.387  |
| 140 | 812 | -.645  | .160  | -.255 | -1.645 | 140 | 940  | -.379  | .067  | -.245 | -.712  | 140 | 1019 | -.159  | .052  | .114  | -.481  |
| 140 | 813 | -.109  | .076  | .471  | -.328  | 140 | 941  | -.375  | .074  | -.154 | -.633  | 140 | 1020 | -.171  | .094  | .203  | -.681  |
| 140 | 814 | -.103  | .081  | .258  | -.447  | 140 | 942  | -.328  | .068  | -.140 | -.626  | 140 | 1021 | -.030  | .066  | .321  | -.134  |
| 140 | 815 | -.253  | .069  | .050  | -.501  | 140 | 943  | -.341  | .076  | -.140 | -.788  | 140 | 1022 | -.108  | .054  | .088  | -.375  |
| 140 | 816 | -.222  | .052  | .011  | -.587  | 140 | 944  | -.341  | .068  | -.152 | -.763  | 140 | 1023 | -.121  | .051  | .059  | -.377  |
| 140 | 817 | -.199  | .052  | .095  | -.349  | 140 | 945  | -.001  | .078  | .533  | -.179  | 140 | 1024 | -.184  | .090  | .061  | -.729  |
| 140 | 818 | -.215  | .099  | .121  | -.664  | 140 | 946  | -.281  | .051  | -.092 | -.516  | 140 | 1025 | -.082  | .064  | .268  | -.329  |
| 140 | 819 | -.220  | .117  | .265  | -.779  | 140 | 947  | -.294  | .050  | -.136 | -.521  | 140 | 1026 | -.079  | .054  | .170  | -.271  |
| 140 | 820 | -.360  | .145  | .088  | -1.243 | 140 | 948  | -.279  | .059  | -.074 | -.548  | 140 | 1027 | -.098  | .061  | .240  | -.331  |
| 140 | 821 | -.642  | .178  | -.216 | -.1488 | 140 | 949  | -.312  | .058  | -.152 | -.614  | 140 | 1028 | -.185  | .030  | -.071 | -.336  |
| 140 | 822 | -.644  | .140  | -.275 | -1.335 | 140 | 950  | -.034  | .064  | .639  | -.188  | 150 | 101  | -.418  | .095  | .154  | -.1007 |
| 140 | 901 | -.403  | .071  | -.134 | -.611  | 140 | 951  | -.392  | .119  | -.113 | -1.061 | 150 | 102  | -.406  | .084  | -.133 | -.843  |
| 140 | 902 | -.426  | .075  | -.171 | -.913  | 140 | 952  | -.239  | .091  | .049  | -.596  | 150 | 103  | -.560  | .155  | .101  | -.601  |
| 140 | 903 | -.432  | .076  | -.153 | -.764  | 140 | 953  | -.161  | .118  | .220  | -.836  | 150 | 104  | -.519  | .123  | .165  | -.194  |
| 140 | 904 | -.455  | .090  | -.180 | -.872  | 140 | 954  | -.333  | .133  | .019  | -1.203 | 150 | 105  | -.430  | .124  | .035  | -.1080 |
| 140 | 905 | -.453  | .054  | -.300 | -.665  | 140 | 955  | -.213  | .062  | .047  | -.726  | 150 | 106  | -.434  | .095  | .164  | -.879  |
| 140 | 906 | -.211  | .100  | .169  | -.545  | 140 | 956  | -.195  | .048  | .006  | -.396  | 150 | 107  | -.398  | .079  | .136  | -.761  |
| 140 | 907 | -.182  | .109  | .211  | -.654  | 140 | 957  | -.159  | .056  | .074  | -.402  | 150 | 108  | -.465  | .147  | .045  | -.142  |
| 140 | 908 | -.404  | .066  | -.189 | -.700  | 140 | 958  | -.191  | .048  | .037  | -.343  | 150 | 109  | -.448  | .114  | .158  | -.105  |
| 140 | 909 | -.407  | .064  | -.191 | -.722  | 140 | 959  | -.247  | .063  | -.004 | -.501  | 150 | 110  | -.469  | .114  | .197  | -.160  |
| 140 | 910 | -.056  | .169  | .615  | -.375  | 140 | 960  | -.190  | .112  | .183  | -1.041 | 150 | 111  | -.475  | .122  | .138  | -.113  |
| 140 | 911 | -.414  | .061  | -.196 | -.649  | 140 | 961  | -.229  | .086  | .115  | -1.221 | 150 | 112  | -.426  | .120  | .056  | -.109  |
| 140 | 912 | -.255  | .149  | -.218 | -1.033 | 140 | 962  | -.094  | .091  | .378  | -.377  | 150 | 113  | -.431  | .102  | .108  | -.014  |
| 140 | 913 | -.406  | .074  | -.057 | -.976  | 140 | 963  | -.255  | .064  | -.064 | -.678  | 150 | 114  | -.434  | .088  | .167  | -.873  |
| 140 | 914 | -.248  | .157  | .326  | -.898  | 140 | 964  | -.212  | .056  | .085  | -.460  | 150 | 115  | -.429  | .100  | .083  | -.950  |
| 140 | 915 | -.420  | .075  | -.202 | -.825  | 140 | 965  | -.150  | .081  | .158  | -.617  | 150 | 116  | -.450  | .113  | .158  | -.080  |
| 140 | 916 | -.072  | .357  | .867  | -.199  | 140 | 966  | -.247  | .066  | -.013 | -.840  | 150 | 117  | -.359  | .063  | .151  | -.625  |
| 140 | 917 | -.425  | .086  | -.126 | -.936  | 140 | 967  | -.170  | .042  | .028  | -.324  | 150 | 118  | -.457  | .118  | .142  | -.155  |
| 140 | 918 | -.462  | .094  | -.191 | -1.004 | 140 | 968  | -.170  | .055  | .172  | -.445  | 150 | 119  | -.422  | .107  | .149  | -.096  |
| 140 | 919 | -.212  | .191  | .995  | -.290  | 140 | 969  | -.193  | .042  | -.011 | -.370  | 150 | 120  | -.485  | .141  | .106  | -.216  |
| 140 | 920 | -.479  | .119  | -.067 | -.105  | 140 | 970  | -.213  | .039  | -.054 | -.341  | 150 | 121  | -.468  | .110  | .174  | -.123  |
| 140 | 921 | -.384  | .071  | -.162 | -.686  | 140 | 971  | -.190  | .035  | -.049 | -.362  | 150 | 122  | -.367  | .107  | -.001 | -.173  |
| 140 | 922 | -.401  | .067  | -.213 | -.796  | 140 | 1001 | -.419  | .069  | -.163 | -.782  | 150 | 123  | -.370  | .103  | -.010 | -.930  |
| 140 | 923 | -.409  | .100  | .102  | -.859  | 140 | 1002 | -.326  | .129  | .247  | -.724  | 150 | 124  | -.398  | .098  | .079  | -.875  |
| 140 | 924 | .198   | .292  | 1.028 | -.944  | 140 | 1003 | -.285  | .093  | .001  | -.746  | 150 | 125  | -.400  | .083  | .149  | -.805  |
| 140 | 925 | -.467  | .144  | -.127 | -1.362 | 140 | 1004 | -.408  | .069  | -.228 | -.751  | 150 | 126  | -.409  | .077  | .142  | -.843  |
| 140 | 926 | -.110  | .223  | .613  | -.758  | 140 | 1005 | -.411  | .093  | -.129 | -.765  | 150 | 127  | -.409  | .085  | .148  | -.834  |
| 140 | 927 | -.363  | .075  | -.111 | -.835  | 140 | 1006 | -.441  | .082  | -.218 | -.799  | 150 | 128  | -.408  | .105  | -.086 | -.083  |
| 140 | 928 | -.109  | .193  | .594  | -1.130 | 140 | 1007 | -.016  | .076  | .502  | -.177  | 150 | 129  | -.411  | .117  | -.016 | -.1004 |
| 140 | 929 | -.407  | .094  | -.013 | -.844  | 140 | 1008 | -.281  | .063  | -.037 | -.517  | 150 | 130  | -.374  | .062  | -.162 | -.637  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|
| 150 | 131 | -.444  | .084  | -.240 | -.813  | 150 | 181 | -.401  | .100  | -.144 | -.962  | 150 | 306 | -.487  | .159  | .049  | -.1.177 |
| 150 | 132 | -.402  | .121  | -.014 | -1.212 | 150 | 182 | -.332  | .066  | -.125 | -.664  | 150 | 307 | -.548  | .157  | -.086 | -1.352  |
| 150 | 133 | -.402  | .122  | -.002 | -1.346 | 150 | 183 | -.338  | .068  | -.146 | -.743  | 150 | 308 | -.640  | .156  | -.166 | -1.394  |
| 150 | 134 | -.403  | .105  | -.164 | -1.122 | 150 | 184 | -.347  | .100  | -.011 | -.991  | 150 | 309 | -.588  | .178  | -.027 | -1.267  |
| 150 | 135 | -.377  | .076  | -.141 | -.815  | 150 | 185 | -.377  | .103  | -.077 | -1.134 | 150 | 310 | -.574  | .167  | -.061 | -1.300  |
| 150 | 136 | -.343  | .059  | -.134 | -.605  | 150 | 186 | -.327  | .122  | -.064 | -.910  | 150 | 311 | -.451  | .143  | -.145 | -1.325  |
| 150 | 137 | -.361  | .066  | -.139 | -.896  | 150 | 187 | -.280  | .075  | -.033 | -.559  | 150 | 312 | -.633  | .164  | -.114 | -1.295  |
| 150 | 138 | -.372  | .073  | -.146 | -.951  | 150 | 188 | -.361  | .106  | -.032 | -.924  | 150 | 313 | -.618  | .181  | -.032 | -1.317  |
| 150 | 139 | -.391  | .087  | -.116 | -.891  | 150 | 189 | -.322  | .073  | -.084 | -.779  | 150 | 314 | -.517  | .164  | -.087 | -1.191  |
| 150 | 140 | -.414  | .101  | -.039 | -.926  | 150 | 190 | -.307  | .070  | -.101 | -.647  | 150 | 315 | -.462  | .136  | -.015 | -1.059  |
| 150 | 141 | -.381  | .066  | -.180 | -.695  | 150 | 191 | -.284  | .071  | -.015 | -.550  | 150 | 316 | -.574  | .164  | -.067 | -1.232  |
| 150 | 142 | -.417  | .075  | -.224 | -.813  | 150 | 192 | -.280  | .066  | -.035 | -.527  | 150 | 317 | -.520  | .163  | -.087 | -1.173  |
| 150 | 143 | -.400  | .100  | -.116 | -1.014 | 150 | 193 | -.301  | .068  | -.004 | -.625  | 150 | 318 | -.842  | .270  | -.159 | -1.881  |
| 150 | 144 | -.412  | .098  | -.134 | -.944  | 150 | 194 | -.346  | .098  | -.026 | -.927  | 150 | 319 | -.611  | .205  | -.072 | -1.605  |
| 150 | 145 | -.425  | .083  | -.210 | -.894  | 150 | 195 | -.367  | .099  | -.083 | -1.080 | 150 | 320 | -.515  | .160  | -.048 | -1.168  |
| 150 | 146 | -.440  | .076  | -.233 | -.792  | 150 | 196 | -.376  | .119  | -.047 | -.975  | 150 | 321 | -.449  | .133  | -.009 | -1.277  |
| 150 | 147 | -.462  | .096  | -.173 | -.845  | 150 | 197 | -.350  | .084  | -.022 | -.814  | 150 | 322 | -.638  | .187  | -.126 | -1.761  |
| 150 | 148 | -.470  | .107  | -.169 | -1.014 | 150 | 198 | -.146  | .059  | -.094 | -.377  | 150 | 323 | -.663  | .210  | -.044 | -1.766  |
| 150 | 149 | -.395  | .099  | -.133 | -.874  | 150 | 199 | -.160  | .056  | -.062 | -.395  | 150 | 324 | -.600  | .191  | -.088 | -1.536  |
| 150 | 150 | -.376  | .093  | -.045 | -.910  | 150 | 200 | -.244  | .049  | -.033 | -.531  | 150 | 325 | -.609  | .184  | -.121 | -1.376  |
| 150 | 151 | -.380  | .100  | -.028 | -.993  | 150 | 201 | -.236  | .082  | -.185 | -.636  | 150 | 326 | -.401  | .233  | -.427 | -1.364  |
| 150 | 152 | -.391  | .077  | -.164 | -.813  | 150 | 202 | -.188  | .070  | -.110 | -.434  | 150 | 327 | -.469  | .150  | -.050 | -1.221  |
| 150 | 153 | -.381  | .062  | -.164 | -.702  | 150 | 203 | -.298  | .094  | -.069 | -.882  | 150 | 328 | -.380  | .130  | -.008 | -1.345  |
| 150 | 154 | -.408  | .063  | -.214 | -.693  | 150 | 204 | -.368  | .085  | -.126 | -.848  | 150 | 329 | -.381  | .124  | -.041 | -1.968  |
| 150 | 155 | -.441  | .086  | -.180 | -.926  | 150 | 205 | -.375  | .081  | -.106 | -.789  | 150 | 330 | -.536  | .161  | -.059 | -1.340  |
| 150 | 156 | -.484  | .123  | -.153 | -1.210 | 150 | 206 | -.221  | .073  | -.049 | -.497  | 150 | 331 | -.562  | .181  | -.292 | -1.240  |
| 150 | 157 | -.451  | .102  | -.153 | -.960  | 150 | 207 | -.308  | .066  | -.058 | -.607  | 150 | 332 | -.595  | .144  | -.035 | -1.336  |
| 150 | 158 | -.369  | .091  | -.058 | -.804  | 150 | 208 | -.280  | .060  | -.049 | -.531  | 150 | 333 | -.599  | .145  | -.056 | -1.286  |
| 150 | 159 | -.434  | .081  | -.178 | -.792  | 150 | 209 | -.188  | .037  | -.035 | -.327  | 150 | 334 | -.638  | .213  | -.023 | -1.467  |
| 150 | 160 | -.365  | .100  | -.019 | -.921  | 150 | 210 | -.238  | .069  | -.002 | -.564  | 150 | 335 | -.583  | .178  | -.054 | -1.226  |
| 150 | 161 | -.469  | .103  | -.144 | -.853  | 150 | 211 | -.001  | .088  | -.372 | -.236  | 150 | 336 | -.542  | .181  | -.007 | -1.183  |
| 150 | 162 | -.348  | .094  | -.031 | -.828  | 150 | 212 | -.407  | .124  | -.004 | -1.007 | 150 | 337 | -.452  | .233  | -.296 | -1.450  |
| 150 | 163 | -.358  | .091  | -.067 | -.878  | 150 | 213 | -.137  | .108  | -.376 | -.503  | 150 | 338 | -.428  | .175  | -.144 | -1.181  |
| 150 | 164 | -.405  | .119  | -.110 | -1.023 | 150 | 214 | -.255  | .067  | -.002 | -.536  | 150 | 339 | -.358  | .116  | -.031 | -1.023  |
| 150 | 165 | -.422  | .095  | -.121 | -.822  | 150 | 215 | -.202  | .031  | -.072 | -.500  | 150 | 340 | -.382  | .140  | -.089 | -1.219  |
| 150 | 166 | -.425  | .096  | -.180 | -.046  | 150 | 216 | -.207  | .029  | -.076 | -.316  | 150 | 341 | -.517  | .163  | -.051 | -1.216  |
| 150 | 167 | -.422  | .080  | -.156 | -.738  | 150 | 217 | -.207  | .041  | -.063 | -.351  | 150 | 342 | -.545  | .203  | -.002 | -1.877  |
| 150 | 168 | -.445  | .090  | -.177 | -.800  | 150 | 218 | -.221  | .057  | -.019 | -.494  | 150 | 343 | -.576  | .190  | -.145 | -1.701  |
| 150 | 169 | -.287  | .059  | -.015 | -.559  | 150 | 219 | -.123  | .053  | -.166 | -.300  | 150 | 344 | -.598  | .181  | -.100 | -1.453  |
| 150 | 170 | -.358  | .108  | .004  | -1.134 | 150 | 220 | -.161  | .082  | -.134 | -.637  | 150 | 345 | -.588  | .188  | -.029 | -1.371  |
| 150 | 171 | -.363  | .113  | .006  | -.982  | 150 | 221 | -.316  | .154  | -.074 | -1.254 | 150 | 346 | -.454  | .187  | -.160 | -1.393  |
| 150 | 172 | -.376  | .126  | .004  | -1.072 | 150 | 222 | -.384  | .172  | -.081 | -1.448 | 150 | 347 | -.389  | .148  | -.113 | -1.348  |
| 150 | 173 | -.315  | .053  | -.120 | -.585  | 150 | 223 | -.160  | .106  | -.275 | -.557  | 150 | 348 | -.396  | .131  | -.016 | -1.037  |
| 150 | 174 | -.420  | .102  | -.187 | -.936  | 150 | 224 | -.280  | .094  | -.099 | -.642  | 150 | 349 | -.458  | .199  | -.192 | -1.254  |
| 150 | 175 | -.386  | .078  | -.151 | -.833  | 150 | 225 | -.246  | .083  | -.129 | -.603  | 150 | 350 | -.464  | .205  | -.271 | -1.186  |
| 150 | 176 | -.411  | .091  | -.151 | -.810  | 150 | 301 | -.603  | .162  | -.123 | -.524  | 150 | 351 | -.710  | .223  | -.115 | -1.780  |
| 150 | 177 | -.349  | .122  | -.025 | -.883  | 150 | 302 | -.457  | .132  | -.067 | -.227  | 150 | 352 | -.596  | .210  | -.033 | -1.504  |
| 150 | 178 | -.353  | .127  | -.034 | -1.050 | 150 | 303 | -.143  | .097  | -.129 | -.513  | 150 | 353 | -.522  | .200  | -.093 | -1.394  |
| 150 | 179 | -.338  | .142  | -.116 | -1.027 | 150 | 304 | -.638  | .143  | -.206 | -.1281 | 150 | 354 | -.450  | .160  | -.054 | -1.240  |
| 150 | 180 | -.289  | .064  | -.027 | -.585  | 150 | 305 | -.616  | .156  | -.119 | -.320  | 150 | 355 | -.405  | .143  | -.021 | -1.160  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 150 | 356 | -.401  | .117  | .093  | -1.046 | 150 | 406 | -.223  | .067  | .012  | -.833  | 150 | 534 | .396   | .219  | 1.141 | -.318  |
| 150 | 357 | -.393  | .110  | .068  | -.973  | 150 | 407 | -.111  | .069  | .150  | -.607  | 150 | 535 | .460   | .210  | 1.117 | -.320  |
| 150 | 358 | -.664  | .211  | -.150 | -1.729 | 150 | 408 | -.328  | .087  | -.061 | -.834  | 150 | 536 | .447   | .202  | 1.086 | -.158  |
| 150 | 359 | -.376  | .123  | -.024 | -.985  | 150 | 409 | -.142  | .037  | .059  | -.279  | 150 | 537 | .424   | .201  | 1.105 | -.281  |
| 150 | 360 | -.624  | .239  | -.000 | -2.426 | 150 | 410 | -.208  | .041  | -.063 | -.352  | 150 | 538 | .398   | .229  | 1.054 | -.509  |
| 150 | 361 | -.353  | .110  | .044  | -1.102 | 150 | 411 | -.227  | .077  | .028  | -.594  | 150 | 539 | .245   | .188  | .858  | -.359  |
| 150 | 362 | -.602  | .201  | -.094 | -2.002 | 150 | 412 | -.293  | .080  | -.048 | -.647  | 150 | 540 | .107   | .162  | .727  | -.359  |
| 150 | 363 | -.610  | .207  | -.080 | -1.630 | 150 | 413 | -.188  | .034  | -.044 | -.313  | 150 | 541 | .442   | .196  | 1.076 | -.127  |
| 150 | 364 | -.549  | .235  | -.028 | -1.766 | 150 | 414 | -.068  | .057  | .426  | -.268  | 150 | 542 | .429   | .203  | 1.042 | -.192  |
| 150 | 365 | -.512  | .225  | -.075 | -1.902 | 150 | 415 | -.052  | .055  | .211  | -.242  | 150 | 543 | -.179  | .110  | .316  | .540   |
| 150 | 366 | -.395  | .170  | .090  | -1.077 | 150 | 416 | -.201  | .059  | .013  | -.657  | 150 | 544 | .052   | .139  | .623  | -.417  |
| 150 | 367 | -.326  | .122  | .108  | -1.027 | 150 | 417 | -.178  | .050  | .085  | -.363  | 150 | 545 | .357   | .189  | 1.008 | -.296  |
| 150 | 368 | -.338  | .121  | .009  | -1.116 | 150 | 418 | -.134  | .039  | .068  | -.247  | 150 | 546 | .377   | .210  | .185  | -.172  |
| 150 | 369 | -.382  | .182  | .135  | -1.055 | 150 | 419 | -.137  | .040  | .036  | -.244  | 150 | 547 | .116   | .155  | .718  | -.335  |
| 150 | 370 | -.582  | .189  | .004  | -1.834 | 150 | 420 | -.200  | .029  | -.058 | -.285  | 150 | 548 | -.152  | .139  | .452  | -.577  |
| 150 | 371 | -.582  | .197  | .031  | -1.615 | 150 | 421 | -.194  | .034  | -.061 | -.292  | 150 | 549 | -.435  | .196  | .730  | -.038  |
| 150 | 372 | -.550  | .269  | .073  | -2.007 | 150 | 422 | -.192  | .038  | -.059 | -.329  | 150 | 550 | -.519  | .144  | .175  | -.1050 |
| 150 | 373 | -.366  | .203  | .075  | -1.314 | 150 | 501 | -.052  | .093  | .311  | -.514  | 150 | 551 | .008   | .158  | .556  | -.915  |
| 150 | 374 | -.325  | .130  | .261  | -.941  | 150 | 502 | -.039  | .094  | .301  | -.405  | 150 | 552 | .267   | .232  | 1.024 | -.749  |
| 150 | 375 | -.277  | .086  | .046  | -.741  | 150 | 503 | .258   | .151  | .728  | -.388  | 150 | 553 | .315   | .249  | 1.064 | -.690  |
| 150 | 376 | -.297  | .083  | -.053 | -.744  | 150 | 504 | .198   | .146  | .676  | -.498  | 150 | 554 | .300   | .220  | 1.061 | -.610  |
| 150 | 377 | -.586  | .231  | .053  | -1.908 | 150 | 505 | -.064  | .097  | .331  | -.447  | 150 | 555 | .083   | .192  | .780  | -.920  |
| 150 | 378 | -.576  | .244  | -.011 | -2.010 | 150 | 506 | -.049  | .109  | .338  | -.445  | 150 | 556 | -.457  | .224  | .350  | -.188  |
| 150 | 379 | -.468  | .260  | .105  | -1.852 | 150 | 507 | -.003  | .102  | .183  | -.417  | 150 | 557 | -.281  | .277  | .700  | -.1279 |
| 150 | 380 | -.265  | .143  | .152  | -.958  | 150 | 508 | -.105  | .126  | .345  | -.636  | 150 | 558 | .051   | .147  | .605  | -.643  |
| 150 | 381 | -.303  | .114  | .164  | -.798  | 150 | 509 | .163   | .158  | .697  | -.476  | 150 | 559 | .125   | .164  | .853  | -.383  |
| 150 | 382 | -.242  | .066  | .048  | -.455  | 150 | 510 | .172   | .169  | .709  | -.534  | 150 | 560 | -.051  | .132  | .501  | -.650  |
| 150 | 383 | -.253  | .078  | .066  | -.544  | 150 | 511 | -.013  | .146  | .565  | -.600  | 150 | 561 | -.012  | .136  | .518  | -.451  |
| 150 | 384 | -.470  | .223  | .162  | -1.649 | 150 | 512 | .081   | .129  | .509  | -.493  | 150 | 562 | -.072  | .129  | .404  | -.508  |
| 150 | 385 | -.490  | .238  | .051  | -1.864 | 150 | 513 | .298   | .161  | .828  | -.300  | 150 | 563 | .068   | .151  | .591  | -.416  |
| 150 | 386 | -.246  | .085  | .182  | -.741  | 150 | 514 | .343   | .179  | .979  | -.340  | 150 | 564 | .269   | .189  | .920  | -.272  |
| 150 | 387 | -.200  | .045  | .125  | -.549  | 150 | 515 | .198   | .158  | .728  | -.431  | 150 | 565 | .321   | .193  | .962  | -.281  |
| 150 | 388 | -.306  | .092  | .063  | -.897  | 150 | 516 | .212   | .186  | .883  | -.586  | 150 | 566 | .274   | .177  | .843  | -.231  |
| 150 | 389 | -.252  | .057  | -.053 | -.458  | 150 | 517 | .394   | .177  | 1.031 | -.207  | 150 | 567 | .100   | .146  | .601  | -.313  |
| 150 | 390 | -.273  | .067  | -.013 | -.593  | 150 | 518 | -.005  | .139  | .435  | -.743  | 150 | 568 | -.034  | .139  | .536  | -.493  |
| 150 | 391 | -.164  | .054  | .178  | -.397  | 150 | 519 | -.044  | .231  | .769  | -.1266 | 150 | 569 | .265   | .188  | .923  | -.214  |
| 150 | 392 | -.108  | .097  | .314  | -.963  | 150 | 520 | .116   | .264  | .840  | -.104  | 150 | 570 | -.123  | .120  | .391  | -.518  |
| 150 | 393 | -.147  | .054  | .161  | -.337  | 150 | 521 | .022   | .152  | .199  | -.572  | 150 | 571 | .015   | .144  | .768  | -.476  |
| 150 | 394 | -.210  | .055  | .084  | -.451  | 150 | 522 | .042   | .145  | .692  | -.617  | 150 | 572 | .182   | .177  | .771  | -.273  |
| 150 | 395 | -.216  | .050  | .064  | -.363  | 150 | 523 | .149   | .152  | .797  | -.500  | 150 | 573 | .243   | .164  | .858  | -.171  |
| 150 | 396 | -.249  | .058  | -.054 | -.499  | 150 | 524 | .271   | .189  | .888  | -.543  | 150 | 574 | .166   | .161  | .786  | -.373  |
| 150 | 397 | -.344  | .190  | .100  | -1.587 | 150 | 525 | .366   | .181  | .933  | -.321  | 150 | 575 | .018   | .110  | .488  | -.333  |
| 150 | 398 | -.188  | .115  | .136  | -.910  | 150 | 526 | .313   | .176  | .821  | -.524  | 150 | 576 | -.108  | .102  | .331  | -.443  |
| 150 | 399 | -.238  | .079  | .120  | -.697  | 150 | 527 | .318   | .196  | .998  | -.506  | 150 | 577 | -.186  | .109  | .231  | -.666  |
| 150 | 400 | -.191  | .050  | -.002 | -.542  | 150 | 528 | .228   | .180  | .764  | -.407  | 150 | 578 | -.052  | .118  | .436  | -.398  |
| 150 | 401 | -.158  | .039  | .021  | -.350  | 150 | 529 | .174   | .177  | .669  | -.494  | 150 | 579 | .095   | .134  | .656  | -.288  |
| 150 | 402 | -.149  | .045  | .114  | -.392  | 150 | 530 | .421   | .176  | 1.015 | -.192  | 150 | 580 | .116   | .115  | .548  | -.199  |
| 150 | 403 | -.163  | .047  | .073  | -.327  | 150 | 531 | .392   | .190  | 1.095 | -.250  | 150 | 581 | .039   | .114  | .533  | -.413  |
| 150 | 404 | -.170  | .050  | .016  | -.352  | 150 | 532 | .016   | .133  | .539  | -.456  | 150 | 582 | -.085  | .074  | .246  | -.458  |
| 150 | 405 | -.257  | .063  | -.045 | -.535  | 150 | 533 | .188   | .158  | .679  | -.443  | 150 | 583 | -.165  | .088  | .244  | -.576  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 150 | 584 | -.249  | .102  | .336  | -.628   | 150 | 714 | -.505  | .131  | -.034 | -1.181 | 150 | 764 | -.506  | .108  | -.175 | -1.033 |
| 150 | 585 | -.117  | .112  | .386  | -.461   | 150 | 715 | -.488  | .120  | -.180 | -1.273 | 150 | 765 | -.530  | .122  | -.191 | -1.364 |
| 150 | 586 | .000   | .109  | .598  | -.356   | 150 | 716 | -.492  | .126  | -.133 | -1.262 | 150 | 766 | -.500  | .107  | -.158 | -1.087 |
| 150 | 587 | .026   | .093  | .506  | -.191   | 150 | 717 | -.489  | .129  | -.131 | -1.089 | 150 | 767 | -.482  | .098  | -.212 | -1.043 |
| 150 | 588 | -.067  | .093  | .379  | -.491   | 150 | 718 | -.473  | .145  | -.095 | -1.262 | 150 | 768 | -.478  | .094  | -.205 | -.954  |
| 150 | 589 | -.156  | .066  | .106  | -.428   | 150 | 719 | -.479  | .132  | -.175 | -1.490 | 150 | 769 | -.485  | .099  | -.167 | -.949  |
| 150 | 590 | -.241  | .091  | .086  | -.716   | 150 | 720 | -.509  | .130  | -.061 | -1.170 | 150 | 770 | -.524  | .195  | -.123 | -1.528 |
| 150 | 591 | -.009  | .080  | .440  | -.227   | 150 | 721 | -.634  | .220  | -.171 | -1.741 | 150 | 771 | -.512  | .144  | -.146 | -1.249 |
| 150 | 592 | -.020  | .071  | .324  | -.208   | 150 | 722 | -.467  | .182  | -.035 | -1.360 | 150 | 772 | -.560  | .132  | -.158 | -1.125 |
| 150 | 593 | -.261  | .089  | .126  | -.573   | 150 | 723 | -.476  | .128  | -.011 | -1.293 | 150 | 773 | -.568  | .109  | -.240 | -1.015 |
| 150 | 594 | -.172  | .090  | .321  | -.466   | 150 | 724 | -.475  | .155  | -.075 | -1.403 | 150 | 774 | -.563  | .121  | -.244 | -1.130 |
| 150 | 595 | -.048  | .090  | .393  | -.282   | 150 | 725 | -.502  | .164  | -.055 | -1.291 | 150 | 775 | -.529  | .105  | -.259 | -1.214 |
| 150 | 596 | -.009  | .076  | .357  | -.187   | 150 | 726 | -.495  | .135  | -.133 | -1.145 | 150 | 776 | -.513  | .100  | -.181 | -1.123 |
| 150 | 597 | -.089  | .068  | .145  | -.485   | 150 | 727 | -.525  | .145  | -.062 | -1.306 | 150 | 777 | -.369  | .139  | -.050 | -1.310 |
| 150 | 598 | -.121  | .058  | .085  | -.385   | 150 | 728 | -.492  | .123  | -.103 | -1.086 | 150 | 778 | -.358  | .118  | -.053 | -.891  |
| 150 | 599 | -.181  | .075  | .084  | -.541   | 150 | 729 | -.482  | .115  | -.092 | -1.120 | 150 | 779 | -.483  | .147  | -.093 | -1.247 |
| 150 | 600 | -.198  | .150  | .378  | -.182   | 150 | 730 | -.477  | .120  | -.087 | -1.379 | 150 | 780 | -.592  | .139  | -.078 | -1.279 |
| 150 | 601 | -.130  | .080  | .148  | -.511   | 150 | 731 | -.495  | .129  | -.137 | -1.256 | 150 | 781 | -.667  | .175  | -.120 | -.614  |
| 150 | 602 | -.157  | .085  | .174  | -.486   | 150 | 732 | -.503  | .194  | -.028 | -1.522 | 150 | 782 | -.601  | .135  | -.244 | -1.385 |
| 150 | 603 | -.248  | .070  | -.027 | -.748   | 150 | 733 | -.495  | .170  | -.065 | -1.275 | 150 | 783 | -.564  | .119  | -.195 | -1.104 |
| 150 | 604 | -.083  | .051  | .075  | -.352   | 150 | 734 | -.495  | .138  | -.101 | -1.088 | 150 | 784 | -.243  | .071  | .154  | -.565  |
| 150 | 605 | -.124  | .067  | .121  | -.486   | 150 | 735 | -.509  | .153  | -.146 | -1.293 | 150 | 785 | -.226  | .075  | .168  | -.591  |
| 150 | 606 | -.055  | .069  | .214  | -.447   | 150 | 736 | -.481  | .120  | -.119 | -1.127 | 150 | 786 | -.293  | .141  | .203  | -.959  |
| 150 | 607 | -.142  | .062  | .295  | -.413   | 150 | 737 | -.479  | .112  | -.071 | -.977  | 150 | 787 | -.476  | .169  | .058  | -.221  |
| 150 | 608 | -.116  | .108  | .579  | -.133   | 150 | 738 | -.519  | .120  | -.180 | -1.109 | 150 | 788 | -.752  | .222  | -.085 | -.748  |
| 150 | 609 | -.102  | .067  | .101  | -.591   | 150 | 739 | -.472  | .094  | -.155 | -.879  | 150 | 789 | -.661  | .155  | -.237 | -.476  |
| 150 | 610 | -.079  | .057  | .261  | -.326   | 150 | 740 | -.467  | .100  | -.126 | -1.163 | 150 | 790 | -.652  | .148  | -.273 | -.478  |
| 150 | 611 | -.164  | .067  | .289  | -.456   | 150 | 741 | -.473  | .102  | -.148 | -1.029 | 150 | 791 | -.401  | .253  | .471  | -.705  |
| 150 | 612 | -.187  | .076  | .174  | -.511   | 150 | 742 | -.495  | .107  | -.130 | -.963  | 150 | 792 | -.463  | .203  | .190  | -.290  |
| 150 | 613 | -.056  | .087  | .347  | -.271   | 150 | 743 | -.521  | .161  | -.001 | -1.349 | 150 | 793 | -.613  | .201  | .001  | -.809  |
| 150 | 614 | -.087  | .116  | .642  | -.214   | 150 | 744 | -.505  | .153  | -.087 | -1.345 | 150 | 794 | -.404  | .166  | .181  | -.089  |
| 150 | 615 | -.140  | .120  | .683  | -.119   | 150 | 745 | -.496  | .117  | -.055 | -1.061 | 150 | 795 | -.185  | .072  | .097  | -.450  |
| 150 | 616 | -.006  | .091  | .432  | -.324   | 150 | 746 | -.481  | .098  | -.219 | -.977  | 150 | 796 | -.169  | .077  | .335  | -.562  |
| 150 | 617 | -.014  | .061  | .264  | -.220   | 150 | 747 | -.486  | .101  | -.146 | -1.045 | 150 | 797 | -.264  | .069  | .032  | -.564  |
| 150 | 618 | -.029  | .058  | .294  | -.216   | 150 | 748 | -.472  | .095  | -.126 | -1.016 | 150 | 798 | -.207  | .064  | .024  | -.625  |
| 150 | 619 | -.079  | .058  | .252  | -.257   | 150 | 749 | -.510  | .128  | -.175 | -1.107 | 150 | 799 | -.176  | .069  | .125  | -.471  |
| 150 | 620 | -.125  | .073  | .531  | -.324   | 150 | 750 | -.487  | .112  | -.209 | -.976  | 150 | 800 | -.203  | .114  | .326  | -.821  |
| 150 | 701 | -.404  | .093  | -.117 | -.928   | 150 | 751 | -.501  | .132  | -.135 | -1.304 | 150 | 801 | -.392  | .188  | -.240 | -.294  |
| 150 | 702 | -.524  | .120  | -.142 | -.1.277 | 150 | 752 | -.508  | .108  | -.002 | -1.127 | 150 | 802 | -.684  | .248  | -.018 | -.811  |
| 150 | 703 | -.594  | .132  | -.213 | -.1.098 | 150 | 753 | -.493  | .105  | -.162 | -1.080 | 150 | 803 | -.693  | .166  | -.302 | -.776  |
| 150 | 704 | -.263  | .091  | .037  | -.648   | 150 | 754 | -.490  | .091  | -.095 | -1.109 | 150 | 804 | -.678  | .162  | -.249 | -.509  |
| 150 | 705 | -.489  | .152  | -.032 | -.492   | 150 | 755 | -.524  | .115  | -.222 | -1.257 | 150 | 805 | -.038  | .094  | .449  | -.312  |
| 150 | 706 | -.443  | .112  | -.102 | -.1.085 | 150 | 756 | -.495  | .125  | -.217 | -.996  | 150 | 806 | -.071  | .077  | .251  | -.349  |
| 150 | 707 | -.471  | .120  | -.146 | -.1.116 | 150 | 757 | -.542  | .141  | -.020 | -1.189 | 150 | 807 | -.079  | .082  | .335  | -.368  |
| 150 | 708 | -.498  | .171  | -.098 | -.1.475 | 150 | 758 | -.500  | .123  | -.175 | -1.138 | 150 | 808 | -.199  | .097  | .335  | -.620  |
| 150 | 709 | -.491  | .141  | -.037 | -.1.340 | 150 | 759 | -.496  | .109  | -.182 | -1.027 | 150 | 809 | -.169  | .067  | .113  | -.431  |
| 150 | 710 | -.494  | .136  | -.061 | -.1.226 | 150 | 760 | -.512  | .132  | -.082 | -1.182 | 150 | 810 | -.154  | .133  | .260  | -.909  |
| 150 | 711 | -.483  | .117  | -.157 | -.1.064 | 150 | 761 | -.480  | .105  | -.129 | -1.178 | 150 | 811 | -.449  | .171  | -.029 | -.222  |
| 150 | 712 | -.503  | .168  | -.027 | -.1.596 | 150 | 762 | -.532  | .148  | -.180 | -1.198 | 150 | 812 | -.706  | .200  | -.225 | -.766  |
| 150 | 713 | -.474  | .125  | -.104 | -.1.087 | 150 | 763 | -.548  | .149  | -.142 | -1.220 | 150 | 813 | -.044  | .100  | .456  | -.305  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|
| 150 | 814 | -.032  | .094  | .489  | -.328   | 150 | 942  | -.325  | .061  | -.139 | -.610   | 150 | 1021 | .137   | .115  | .651  | -.098   |
| 150 | 815 | -.176  | .097  | .155  | -.499   | 150 | 943  | -.334  | .064  | -.145 | -.628   | 150 | 1022 | -.116  | .058  | .160  | -.297   |
| 150 | 816 | -.163  | .067  | .122  | -.417   | 150 | 944  | -.349  | .068  | -.180 | -.685   | 150 | 1023 | -.135  | .054  | .114  | -.382   |
| 150 | 817 | -.141  | .070  | .148  | -.538   | 150 | 945  | -.302  | .093  | -.581 | -.180   | 150 | 1024 | -.210  | .099  | .110  | -.724   |
| 150 | 818 | -.139  | .109  | .272  | -.844   | 150 | 946  | -.289  | .052  | -.100 | -.524   | 150 | 1025 | -.082  | .059  | .252  | -.261   |
| 150 | 819 | -.217  | .164  | .244  | -.1064  | 150 | 947  | -.298  | .049  | -.125 | -.528   | 150 | 1026 | -.072  | .059  | .384  | -.297   |
| 150 | 820 | -.385  | .182  | .169  | -.1276  | 150 | 948  | -.288  | .062  | -.068 | -.631   | 150 | 1027 | -.122  | .064  | .237  | -.336   |
| 150 | 821 | -.708  | .214  | -.116 | -.1954  | 150 | 949  | -.322  | .060  | -.145 | -.647   | 150 | 1028 | -.197  | .035  | -.054 | -.302   |
| 150 | 822 | -.710  | .181  | -.262 | -.1.621 | 150 | 950  | .021   | .089  | .526  | .207    | 160 | 101  | -.362  | .104  | -.112 | -.891   |
| 150 | 901 | -.404  | .068  | -.144 | -.603   | 150 | 951  | -.410  | .121  | -.089 | -.993   | 160 | 102  | -.373  | .101  | -.118 | -.863   |
| 150 | 902 | -.481  | .092  | -.228 | -.1.009 | 150 | 952  | -.237  | .105  | -.169 | -.863   | 160 | 103  | -.482  | .143  | -.132 | -.1.185 |
| 150 | 903 | -.496  | .108  | -.209 | -.1.142 | 150 | 953  | -.213  | .132  | -.196 | -.993   | 160 | 104  | -.484  | .159  | -.093 | -.1.384 |
| 150 | 904 | -.501  | .131  | -.087 | -.1.306 | 150 | 954  | -.335  | .111  | -.034 | -.1.016 | 160 | 105  | -.352  | .114  | -.008 | -.921   |
| 150 | 905 | -.504  | .082  | -.282 | -.832   | 150 | 955  | -.230  | .067  | -.094 | -.576   | 160 | 106  | -.354  | .105  | -.028 | -.914   |
| 150 | 906 | -.292  | .081  | -.012 | -.598   | 150 | 956  | -.229  | .055  | -.041 | -.524   | 160 | 107  | -.342  | .080  | -.079 | -.692   |
| 150 | 907 | -.158  | .110  | -.234 | -.603   | 150 | 957  | -.162  | .070  | -.221 | -.587   | 160 | 108  | -.367  | .130  | -.005 | -.1.246 |
| 150 | 908 | -.467  | .109  | -.021 | -.1.025 | 150 | 958  | -.218  | .047  | -.000 | -.442   | 160 | 109  | -.388  | .110  | -.098 | -.1.097 |
| 150 | 909 | -.465  | .108  | -.142 | -.949   | 150 | 959  | -.262  | .062  | -.032 | -.514   | 160 | 110  | -.398  | .115  | -.093 | -.914   |
| 150 | 910 | .223   | .151  | -.782 | -.225   | 150 | 960  | -.244  | .199  | -.351 | -.1.917 | 160 | 111  | -.368  | .130  | -.064 | -.990   |
| 150 | 911 | -.428  | .079  | -.173 | -.799   | 150 | 961  | -.345  | .105  | -.029 | -.1.209 | 160 | 112  | -.346  | .107  | -.010 | -.856   |
| 150 | 912 | -.277  | .197  | .420  | -.1.464 | 150 | 962  | -.046  | .130  | .613  | -.490   | 160 | 113  | -.355  | .097  | -.054 | -.873   |
| 150 | 913 | -.456  | .110  | -.142 | -.995   | 150 | 963  | -.292  | .084  | -.015 | -.1.258 | 160 | 114  | -.345  | .085  | -.017 | -.787   |
| 150 | 914 | -.343  | .133  | -.212 | -.799   | 150 | 964  | -.187  | .063  | -.033 | -.728   | 160 | 115  | -.347  | .105  | -.005 | -.900   |
| 150 | 915 | -.479  | .133  | -.133 | -.1.211 | 150 | 965  | -.130  | .123  | -.190 | -.599   | 160 | 116  | -.380  | .102  | -.093 | -.1.062 |
| 150 | 916 | -.107  | .427  | .933  | -.1.082 | 150 | 966  | -.361  | .102  | -.127 | -.1.473 | 160 | 117  | -.291  | .058  | -.135 | -.567   |
| 150 | 917 | -.471  | .133  | -.055 | -.1.138 | 150 | 967  | -.181  | .042  | -.093 | -.468   | 160 | 118  | -.351  | .092  | -.024 | -.840   |
| 150 | 918 | -.510  | .107  | -.145 | -.1.173 | 150 | 968  | -.204  | .060  | -.117 | -.481   | 160 | 119  | -.345  | .095  | -.121 | -.775   |
| 150 | 919 | .431   | .202  | 1.198 | -.1.118 | 150 | 969  | -.214  | .044  | -.025 | -.391   | 160 | 120  | -.385  | .134  | -.034 | -.1.011 |
| 150 | 920 | -.593  | .121  | -.256 | -.1.148 | 150 | 970  | -.228  | .036  | -.093 | -.350   | 160 | 121  | -.370  | .109  | -.026 | -.870   |
| 150 | 921 | -.450  | .087  | -.204 | -.857   | 150 | 971  | -.204  | .036  | -.061 | -.334   | 160 | 122  | -.306  | .098  | -.018 | -.852   |
| 150 | 922 | -.424  | .066  | -.261 | -.734   | 150 | 1001 | -.445  | .093  | -.102 | -.837   | 160 | 123  | -.297  | .091  | -.032 | -.755   |
| 150 | 923 | -.563  | .130  | -.183 | -.1.200 | 150 | 1002 | -.341  | .153  | -.136 | -.1.258 | 160 | 124  | -.314  | .076  | -.118 | -.684   |
| 150 | 924 | -.255  | .376  | 1.150 | -.1.302 | 150 | 1003 | -.363  | .123  | -.053 | -.836   | 160 | 125  | -.315  | .070  | -.135 | -.715   |
| 150 | 925 | -.460  | .131  | -.169 | -.1.231 | 150 | 1004 | -.474  | .103  | -.237 | -.1.069 | 160 | 126  | -.310  | .071  | -.102 | -.563   |
| 150 | 926 | -.366  | .201  | -.414 | -.894   | 150 | 1005 | -.514  | .104  | -.203 | -.974   | 160 | 127  | -.333  | .086  | -.053 | -.764   |
| 150 | 927 | -.429  | .110  | -.037 | -.1.071 | 150 | 1006 | -.472  | .111  | -.173 | -.1.145 | 160 | 128  | -.333  | .105  | -.027 | -.753   |
| 150 | 928 | -.250  | .188  | -.287 | -.1.393 | 150 | 1007 | -.026  | .094  | .591  | -.201   | 160 | 129  | -.337  | .114  | -.032 | -.860   |
| 150 | 929 | -.455  | .121  | -.028 | -.1.065 | 150 | 1008 | -.285  | .064  | -.042 | -.586   | 160 | 130  | -.287  | .052  | -.123 | -.505   |
| 150 | 930 | -.254  | .161  | -.804 | -.203   | 150 | 1009 | -.260  | .171  | -.827 | -.165   | 160 | 131  | -.326  | .070  | -.118 | -.661   |
| 150 | 931 | -.411  | .088  | -.173 | -.810   | 150 | 1010 | -.258  | .069  | -.047 | -.654   | 160 | 132  | -.299  | .092  | -.006 | -.802   |
| 150 | 932 | -.332  | .087  | -.014 | -.627   | 150 | 1011 | -.013  | .080  | -.488 | -.189   | 160 | 133  | -.287  | .082  | -.043 | -.743   |
| 150 | 933 | -.014  | .134  | -.444 | -.567   | 150 | 1012 | -.293  | .084  | -.016 | -.697   | 160 | 134  | -.275  | .059  | -.121 | -.755   |
| 150 | 934 | -.441  | .121  | -.017 | -.948   | 150 | 1013 | -.629  | .149  | -.038 | -.1.182 | 160 | 135  | -.281  | .050  | -.128 | -.591   |
| 150 | 935 | -.372  | .100  | -.066 | -.799   | 150 | 1014 | -.447  | .108  | -.178 | -.950   | 160 | 136  | -.268  | .047  | -.130 | -.488   |
| 150 | 936 | -.280  | .086  | -.058 | -.527   | 150 | 1015 | -.442  | .145  | -.004 | -.018   | 160 | 137  | -.288  | .058  | -.128 | -.554   |
| 150 | 937 | -.580  | .167  | -.032 | -.1.305 | 150 | 1016 | -.462  | .116  | -.108 | -.950   | 160 | 138  | -.301  | .063  | -.123 | -.622   |
| 150 | 938 | -.536  | .187  | -.052 | -.1.198 | 150 | 1017 | -.195  | .068  | -.136 | -.579   | 160 | 139  | -.325  | .084  | -.088 | -.790   |
| 150 | 939 | -.378  | .140  | -.004 | -.1.062 | 150 | 1018 | -.230  | .060  | -.018 | -.546   | 160 | 140  | -.319  | .089  | -.022 | -.699   |
| 150 | 940 | -.398  | .066  | -.239 | -.718   | 150 | 1019 | -.170  | .070  | -.175 | -.490   | 160 | 141  | -.282  | .048  | -.104 | -.584   |
| 150 | 941 | -.435  | .118  | -.168 | -.779   | 150 | 1020 | -.372  | .183  | -.187 | -.1.193 | 160 | 142  | -.314  | .058  | -.151 | -.692   |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 160 | 143 | -.326  | .089  | -.074 | -.713 | 160 | 193 | -.244  | .060  | -.019 | -.479  | 160 | 318 | -.680  | .243  | -.107 | -.1772 |
| 160 | 144 | -.318  | .086  | -.041 | -.741 | 160 | 194 | -.256  | .082  | -.039 | -.803  | 160 | 319 | -.458  | .151  | .060  | -.141  |
| 160 | 145 | -.318  | .071  | -.121 | -.692 | 160 | 195 | -.270  | .087  | -.023 | -.750  | 160 | 320 | -.402  | .123  | -.069 | -.926  |
| 160 | 146 | -.320  | .062  | -.165 | -.678 | 160 | 196 | -.260  | .086  | -.073 | -.829  | 160 | 321 | -.351  | .111  | -.003 | -.926  |
| 160 | 147 | -.338  | .081  | -.130 | -.683 | 160 | 197 | -.273  | .070  | -.028 | -.625  | 160 | 322 | -.435  | .126  | -.060 | -.090  |
| 160 | 148 | -.345  | .089  | -.139 | -.732 | 160 | 198 | -.152  | .041  | -.032 | -.308  | 160 | 323 | -.456  | .134  | -.103 | -.037  |
| 160 | 149 | -.315  | .090  | -.026 | -.730 | 160 | 199 | -.156  | .044  | -.057 | -.320  | 160 | 324 | -.461  | .140  | -.097 | -.1041 |
| 160 | 150 | -.333  | .104  | .093  | -.725 | 160 | 200 | -.160  | .053  | -.036 | -.421  | 160 | 325 | -.459  | .137  | -.085 | -.023  |
| 160 | 151 | -.308  | .085  | -.037 | -.973 | 160 | 201 | -.165  | .068  | -.247 | -.465  | 160 | 326 | -.377  | .142  | .160  | -.1099 |
| 160 | 152 | -.291  | .056  | -.131 | -.521 | 160 | 202 | -.144  | .071  | -.238 | -.410  | 160 | 327 | -.374  | .131  | .182  | -.954  |
| 160 | 153 | -.307  | .055  | -.150 | -.590 | 160 | 203 | -.242  | .086  | -.067 | -.761  | 160 | 328 | -.310  | .114  | .067  | -.898  |
| 160 | 154 | -.305  | .054  | -.166 | -.519 | 160 | 204 | -.280  | .069  | -.047 | -.558  | 160 | 329 | -.308  | .112  | .024  | -.923  |
| 160 | 155 | -.328  | .072  | -.134 | -.636 | 160 | 205 | -.275  | .071  | -.056 | -.637  | 160 | 330 | -.428  | .125  | -.071 | -.990  |
| 160 | 156 | -.364  | .110  | -.111 | -.929 | 160 | 206 | -.214  | .064  | -.004 | -.512  | 160 | 331 | -.435  | .128  | -.062 | -.164  |
| 160 | 157 | -.332  | .077  | -.109 | -.675 | 160 | 207 | -.241  | .059  | -.023 | -.475  | 160 | 332 | -.441  | .123  | -.109 | -.202  |
| 160 | 158 | -.286  | .080  | -.061 | -.803 | 160 | 208 | -.236  | .060  | -.038 | -.669  | 160 | 333 | -.439  | .118  | -.055 | -.1209 |
| 160 | 159 | -.321  | .075  | -.109 | -.649 | 160 | 209 | -.143  | .044  | -.036 | -.294  | 160 | 334 | -.473  | .146  | .001  | -.159  |
| 160 | 160 | -.310  | .095  | -.047 | -.688 | 160 | 210 | -.145  | .063  | -.111 | -.556  | 160 | 335 | -.447  | .132  | -.062 | -.974  |
| 160 | 161 | -.346  | .088  | -.104 | -.769 | 160 | 211 | -.015  | .077  | -.376 | -.214  | 160 | 336 | -.411  | .110  | -.021 | -.833  |
| 160 | 162 | -.296  | .095  | .077  | -.828 | 160 | 212 | -.284  | .095  | -.008 | -.699  | 160 | 337 | -.430  | .153  | .238  | -.1180 |
| 160 | 163 | -.287  | .087  | -.024 | -.677 | 160 | 213 | -.185  | .080  | -.198 | -.577  | 160 | 338 | -.382  | .132  | .109  | -.963  |
| 160 | 164 | -.284  | .071  | -.063 | -.640 | 160 | 214 | -.226  | .058  | -.015 | -.565  | 160 | 339 | -.328  | .132  | .132  | -.078  |
| 160 | 165 | -.325  | .079  | -.104 | -.743 | 160 | 215 | -.136  | .042  | -.041 | -.261  | 160 | 340 | -.323  | .137  | .125  | -.136  |
| 160 | 166 | -.326  | .073  | -.111 | -.688 | 160 | 216 | -.142  | .038  | -.041 | -.254  | 160 | 341 | -.411  | .118  | -.012 | -.947  |
| 160 | 167 | -.321  | .074  | -.131 | -.809 | 160 | 217 | -.132  | .047  | -.085 | -.266  | 160 | 342 | -.428  | .133  | -.053 | -.137  |
| 160 | 168 | -.335  | .085  | -.099 | -.795 | 160 | 218 | -.125  | .057  | -.205 | -.313  | 160 | 343 | -.455  | .157  | -.023 | -.156  |
| 160 | 169 | -.240  | .045  | -.089 | -.448 | 160 | 219 | -.075  | .066  | -.216 | -.420  | 160 | 344 | -.429  | .138  | -.075 | -.687  |
| 160 | 170 | -.276  | .088  | -.138 | -.775 | 160 | 220 | -.157  | .086  | -.113 | -.533  | 160 | 345 | -.437  | .133  | .028  | -.157  |
| 160 | 171 | -.278  | .080  | -.014 | -.649 | 160 | 221 | -.271  | .128  | -.113 | -.875  | 160 | 346 | -.398  | .146  | .139  | -.175  |
| 160 | 172 | -.263  | .077  | -.014 | -.947 | 160 | 222 | -.286  | .129  | -.118 | -.062  | 160 | 347 | -.360  | .152  | .105  | -.011  |
| 160 | 173 | -.259  | .047  | -.104 | -.477 | 160 | 223 | -.187  | .078  | -.212 | -.481  | 160 | 348 | -.343  | .136  | .130  | -.925  |
| 160 | 174 | -.313  | .078  | -.126 | -.707 | 160 | 224 | -.241  | .070  | -.027 | -.605  | 160 | 349 | -.351  | .150  | .277  | -.980  |
| 160 | 175 | -.298  | .067  | -.026 | -.574 | 160 | 225 | -.216  | .062  | -.111 | -.465  | 160 | 350 | -.316  | .154  | .301  | -.949  |
| 160 | 176 | -.222  | .085  | -.019 | -.671 | 160 | 301 | -.483  | .151  | -.100 | -.426  | 160 | 351 | -.567  | .181  | -.050 | -.1578 |
| 160 | 177 | -.253  | .090  | .024  | -.630 | 160 | 302 | -.358  | .122  | -.007 | -.1003 | 160 | 352 | -.461  | .132  | .045  | -.214  |
| 160 | 178 | -.254  | .095  | .032  | -.686 | 160 | 303 | -.128  | .085  | -.164 | -.510  | 160 | 353 | -.444  | .147  | .027  | -.1059 |
| 160 | 179 | -.225  | .078  | -.039 | -.623 | 160 | 304 | -.495  | .154  | -.140 | -.241  | 160 | 354 | -.377  | .120  | -.002 | -.898  |
| 160 | 180 | -.241  | .053  | .000  | -.482 | 160 | 305 | -.491  | .153  | -.105 | -.501  | 160 | 355 | -.344  | .135  | .115  | -.112  |
| 160 | 181 | -.315  | .083  | -.121 | -.845 | 160 | 306 | -.407  | .141  | -.077 | -.044  | 160 | 356 | -.312  | .095  | -.006 | -.794  |
| 160 | 182 | -.270  | .062  | -.046 | -.562 | 160 | 307 | -.426  | .128  | -.023 | -.017  | 160 | 357 | -.333  | .114  | .043  | -.794  |
| 160 | 183 | -.272  | .064  | -.092 | -.649 | 160 | 308 | -.519  | .158  | -.152 | -.587  | 160 | 358 | -.488  | .139  | -.116 | -.452  |
| 160 | 184 | -.262  | .077  | -.026 | -.681 | 160 | 309 | -.473  | .153  | -.029 | -.239  | 160 | 359 | -.338  | .133  | .148  | -.057  |
| 160 | 185 | -.278  | .084  | .027  | -.700 | 160 | 310 | -.418  | .138  | -.118 | -.072  | 160 | 360 | -.477  | .158  | -.057 | -.567  |
| 160 | 186 | -.231  | .089  | .104  | -.666 | 160 | 311 | -.365  | .122  | -.057 | -.082  | 160 | 361 | -.325  | .132  | .087  | -.986  |
| 160 | 187 | -.233  | .063  | .061  | -.465 | 160 | 312 | -.497  | .151  | -.123 | -.330  | 160 | 362 | -.454  | .134  | -.121 | -.275  |
| 160 | 188 | -.299  | .082  | -.046 | -.867 | 160 | 313 | -.511  | .159  | -.023 | -.232  | 160 | 363 | -.465  | .130  | -.121 | -.167  |
| 160 | 189 | -.258  | .062  | -.082 | -.511 | 160 | 314 | -.378  | .117  | -.093 | -.897  | 160 | 364 | -.469  | .162  | -.057 | -.1445 |
| 160 | 190 | -.245  | .059  | .000  | -.504 | 160 | 315 | -.364  | .128  | -.015 | -.090  | 160 | 365 | -.467  | .203  | .153  | -.810  |
| 160 | 191 | -.222  | .060  | .127  | -.498 | 160 | 316 | -.442  | .130  | -.060 | -.039  | 160 | 366 | -.379  | .145  | .018  | -.020  |
| 160 | 192 | -.226  | .057  | .018  | -.440 | 160 | 317 | -.411  | .132  | -.033 | -.943  | 160 | 367 | -.310  | .129  | .070  | -.817  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 160 | 368 | -.306  | .128  | .181  | -.908   | 160 | 418 | -.174  | .030  | -.026 | -.269   | 160 | 546 | .358   | .161  | 1.008 | -.158   |
| 160 | 369 | -.392  | .129  | .074  | -.996   | 160 | 419 | -.155  | .036  | .012  | -.283   | 160 | 547 | .173   | .134  | .803  | -.397   |
| 160 | 370 | -.476  | .133  | -.131 | -.206   | 160 | 420 | -.155  | .036  | .034  | -.276   | 160 | 548 | -.050  | .124  | .386  | -.479   |
| 160 | 371 | -.504  | .148  | -.145 | -.239   | 160 | 421 | -.143  | .042  | .107  | -.275   | 160 | 549 | -.363  | .171  | .403  | -.990   |
| 160 | 372 | -.492  | .197  | -.005 | -.815   | 160 | 422 | -.143  | .037  | .019  | -.257   | 160 | 550 | -.467  | .133  | .100  | -.1.001 |
| 160 | 373 | -.394  | .145  | .021  | -.1.036 | 160 | 501 | -.054  | .110  | .542  | -.577   | 160 | 551 | -.026  | .120  | .419  | -.598   |
| 160 | 374 | -.326  | .134  | .123  | -.819   | 160 | 502 | -.042  | .114  | .551  | -.543   | 160 | 552 | .277   | .152  | .128  | -.332   |
| 160 | 375 | -.260  | .099  | -.005 | -.742   | 160 | 503 | -.145  | .161  | .682  | -.590   | 160 | 553 | .315   | .168  | .936  | -.332   |
| 160 | 376 | -.257  | .100  | .065  | -.828   | 160 | 504 | -.147  | .157  | .621  | -.514   | 160 | 554 | .319   | .150  | .800  | -.208   |
| 160 | 377 | -.512  | .164  | -.166 | -.430   | 160 | 505 | -.105  | .120  | .481  | -.613   | 160 | 555 | .152   | .135  | .762  | -.444   |
| 160 | 378 | -.517  | .180  | -.056 | -.1.897 | 160 | 506 | -.061  | .113  | .326  | -.537   | 160 | 556 | -.348  | .175  | .341  | -.1.224 |
| 160 | 379 | -.420  | .193  | .037  | -.1.425 | 160 | 507 | -.024  | .109  | .529  | -.426   | 160 | 557 | -.122  | .239  | .764  | -.894   |
| 160 | 380 | -.295  | .151  | .158  | -.882   | 160 | 508 | -.171  | .147  | .365  | -.824   | 160 | 558 | -.036  | .111  | .557  | -.355   |
| 160 | 381 | -.256  | .102  | .233  | -.681   | 160 | 509 | -.065  | .212  | .668  | -.1.208 | 160 | 559 | .191   | .125  | .713  | -.384   |
| 160 | 382 | -.201  | .072  | .093  | -.635   | 160 | 510 | -.102  | .198  | .866  | -.1.127 | 160 | 560 | -.078  | .100  | .399  | -.515   |
| 160 | 383 | -.211  | .071  | .086  | -.847   | 160 | 511 | -.059  | .150  | .464  | -.1.037 | 160 | 561 | -.065  | .124  | .668  | -.328   |
| 160 | 384 | -.448  | .172  | -.091 | -.1.451 | 160 | 512 | .011   | .134  | .796  | -.460   | 160 | 562 | -.054  | .092  | .392  | -.375   |
| 160 | 385 | -.466  | .187  | .119  | -.1.456 | 160 | 513 | .181   | .182  | .852  | -.664   | 160 | 563 | .050   | .107  | .454  | -.364   |
| 160 | 386 | -.278  | .126  | .319  | -.1.211 | 160 | 514 | .259   | .171  | .906  | -.348   | 160 | 564 | .274   | .145  | .844  | -.321   |
| 160 | 387 | -.181  | .097  | .244  | -.705   | 160 | 515 | .151   | .139  | .763  | -.460   | 160 | 565 | .308   | .138  | .795  | -.257   |
| 160 | 388 | -.232  | .086  | .105  | -.686   | 160 | 516 | .127   | .190  | .754  | -.653   | 160 | 566 | .338   | .140  | .907  | -.084   |
| 160 | 389 | -.193  | .051  | .109  | -.423   | 160 | 517 | .344   | .168  | 1.012 | -.377   | 160 | 567 | .158   | .115  | .634  | -.308   |
| 160 | 390 | -.203  | .057  | .028  | -.381   | 160 | 518 | -.086  | .168  | .437  | -.909   | 160 | 568 | .036   | .111  | .528  | -.284   |
| 160 | 391 | -.182  | .087  | .259  | -.680   | 160 | 519 | -.197  | .266  | .639  | -.1.327 | 160 | 569 | .316   | .140  | .907  | -.046   |
| 160 | 392 | -.098  | .160  | .532  | -.1.383 | 160 | 520 | .109   | .193  | .677  | -.992   | 160 | 570 | -.066  | .083  | .304  | -.355   |
| 160 | 393 | -.164  | .083  | .188  | -.565   | 160 | 521 | .004   | .146  | .455  | -.545   | 160 | 571 | .055   | .098  | .431  | -.263   |
| 160 | 394 | -.199  | .078  | .260  | -.533   | 160 | 522 | -.062  | .141  | .437  | -.597   | 160 | 572 | .187   | .141  | .855  | -.440   |
| 160 | 395 | -.194  | .051  | .043  | -.354   | 160 | 523 | .028   | .149  | .666  | -.543   | 160 | 573 | .268   | .136  | .759  | -.068   |
| 160 | 396 | -.210  | .057  | .036  | -.409   | 160 | 524 | .132   | .218  | .850  | -.956   | 160 | 574 | .219   | .131  | .966  | -.221   |
| 160 | 397 | -.382  | .184  | .035  | -.1.189 | 160 | 525 | .229   | .174  | .843  | -.336   | 160 | 575 | .099   | .102  | .497  | -.207   |
| 160 | 398 | -.284  | .124  | .063  | -.1.140 | 160 | 526 | .232   | .167  | .828  | -.658   | 160 | 576 | -.035  | .099  | .457  | -.364   |
| 160 | 399 | -.333  | .096  | -.035 | -.950   | 160 | 527 | .288   | .164  | .889  | -.431   | 160 | 577 | -.097  | .083  | .394  | -.388   |
| 160 | 400 | -.233  | .048  | -.040 | -.455   | 160 | 528 | .204   | .142  | .826  | -.315   | 160 | 578 | .008   | .097  | .450  | -.317   |
| 160 | 401 | -.196  | .034  | -.035 | -.406   | 160 | 529 | .130   | .137  | .673  | -.356   | 160 | 579 | .130   | .127  | .721  | -.254   |
| 160 | 402 | -.188  | .036  | -.040 | -.358   | 160 | 530 | .340   | .161  | .996  | -.185   | 160 | 580 | .182   | .115  | .721  | -.098   |
| 160 | 403 | -.155  | .040  | .043  | -.319   | 160 | 531 | .307   | .170  | 1.001 | -.377   | 160 | 581 | .114   | .103  | .518  | -.199   |
| 160 | 404 | -.154  | .036  | .045  | -.290   | 160 | 532 | -.046  | .114  | .377  | -.408   | 160 | 582 | -.023  | .074  | .304  | -.287   |
| 160 | 405 | -.175  | .060  | .068  | -.464   | 160 | 533 | .074   | .128  | .641  | -.288   | 160 | 583 | -.108  | .079  | .220  | -.404   |
| 160 | 406 | -.142  | .072  | .201  | -.457   | 160 | 534 | .219   | .214  | .942  | -.723   | 160 | 584 | -.151  | .084  | .309  | -.433   |
| 160 | 407 | -.159  | .076  | .070  | -.546   | 160 | 535 | .339   | .166  | .933  | -.288   | 160 | 585 | -.045  | .087  | .384  | -.322   |
| 160 | 408 | -.305  | .080  | -.042 | -.790   | 160 | 536 | .395   | .161  | .996  | -.128   | 160 | 586 | .079   | .101  | .587  | -.221   |
| 160 | 409 | -.184  | .029  | -.065 | -.301   | 160 | 537 | .374   | .176  | .994  | -.445   | 160 | 587 | -.055  | .116  | .709  | -.280   |
| 160 | 410 | -.144  | .041  | .098  | -.271   | 160 | 538 | .409   | .166  | 1.021 | -.101   | 160 | 588 | -.002  | .084  | .415  | -.261   |
| 160 | 411 | -.313  | .087  | -.033 | -.869   | 160 | 539 | .259   | .142  | .819  | -.288   | 160 | 589 | -.140  | .050  | .102  | -.364   |
| 160 | 412 | -.285  | .074  | -.015 | -.580   | 160 | 540 | .141   | .129  | .657  | -.397   | 160 | 590 | -.213  | .067  | .196  | -.557   |
| 160 | 413 | -.159  | .034  | -.009 | -.266   | 160 | 541 | .396   | .160  | 1.226 | -.037   | 160 | 591 | .092   | .093  | .448  | -.123   |
| 160 | 414 | -.084  | .051  | .170  | -.293   | 160 | 542 | .387   | .158  | .967  | -.258   | 160 | 592 | .054   | .079  | .441  | -.121   |
| 160 | 415 | -.063  | .048  | .155  | -.254   | 160 | 543 | -.195  | .101  | .379  | -.566   | 160 | 593 | -.196  | .073  | .170  | -.441   |
| 160 | 416 | -.249  | .062  | .017  | -.661   | 160 | 544 | .005   | .115  | .543  | -.415   | 160 | 594 | -.097  | .071  | .310  | -.344   |
| 160 | 417 | -.171  | .061  | .182  | -.349   | 160 | 545 | .267   | .156  | .955  | -.185   | 160 | 595 | .038   | .089  | .511  | -.201   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 160 | 596 | .066   | .084  | .562  | -.177  | 160 | 726 | -.462  | .156  | -.111 | -1.214 | 160 | 776 | -.388  | .082  | -.155 | -.714  |
| 160 | 597 | -.068  | .059  | .453  | -.341  | 160 | 727 | -.465  | .152  | -.052 | -1.513 | 160 | 777 | -.287  | .129  | .011  | -1.201 |
| 160 | 598 | -.144  | .052  | .044  | -.380  | 160 | 728 | -.439  | .128  | -.031 | -1.041 | 160 | 778 | -.297  | .122  | .068  | -.797  |
| 160 | 599 | -.202  | .071  | .042  | -.573  | 160 | 729 | -.429  | .130  | -.015 | -1.557 | 160 | 779 | -.396  | .125  | .016  | -.899  |
| 160 | 600 | .368   | .171  | .194  | -.1366 | 160 | 730 | -.395  | .120  | -.050 | -.882  | 160 | 780 | -.487  | .126  | -.182 | -1.154 |
| 160 | 601 | -.094  | .075  | .191  | -.394  | 160 | 731 | -.430  | .132  | -.068 | -1.147 | 160 | 781 | -.498  | .131  | -.046 | -1.175 |
| 160 | 602 | -.139  | .071  | .224  | -.478  | 160 | 732 | -.367  | .155  | -.038 | -1.188 | 160 | 782 | -.430  | .098  | -.186 | -.904  |
| 160 | 603 | -.180  | .059  | .089  | -.403  | 160 | 733 | -.362  | .138  | -.052 | -1.246 | 160 | 783 | -.428  | .100  | -.153 | -1.080 |
| 160 | 604 | -.086  | .049  | .066  | -.311  | 160 | 734 | -.399  | .128  | -.033 | -1.002 | 160 | 784 | -.200  | .083  | .142  | -.859  |
| 160 | 605 | -.151  | .075  | .098  | -.611  | 160 | 735 | -.418  | .151  | -.068 | -1.331 | 160 | 785 | -.179  | .081  | .089  | -.759  |
| 160 | 606 | -.025  | .065  | .279  | -.266  | 160 | 736 | -.407  | .113  | -.047 | -.968  | 160 | 786 | -.268  | .159  | .291  | -.1025 |
| 160 | 607 | -.158  | .047  | .020  | -.389  | 160 | 737 | -.417  | .118  | -.112 | -.912  | 160 | 787 | -.412  | .163  | .066  | -1.197 |
| 160 | 608 | -.144  | .093  | .645  | -.110  | 160 | 738 | -.444  | .138  | -.105 | -1.177 | 160 | 788 | -.554  | .170  | -.001 | -1.598 |
| 160 | 609 | -.159  | .083  | .067  | -.746  | 160 | 739 | -.422  | .113  | -.017 | -.887  | 160 | 789 | -.495  | .126  | -.203 | -.151  |
| 160 | 610 | -.056  | .061  | .227  | -.399  | 160 | 740 | -.403  | .099  | -.109 | -.935  | 160 | 790 | -.497  | .126  | -.179 | -.113  |
| 160 | 611 | -.135  | .045  | .064  | -.302  | 160 | 741 | -.412  | .111  | -.008 | -.986  | 160 | 791 | -.379  | .236  | .270  | -.562  |
| 160 | 612 | -.112  | .062  | .154  | -.390  | 160 | 742 | -.414  | .116  | -.010 | -.972  | 160 | 792 | -.395  | .186  | .170  | -.289  |
| 160 | 613 | -.007  | .067  | .319  | -.191  | 160 | 743 | -.371  | .122  | -.043 | -.961  | 160 | 793 | -.486  | .169  | .030  | -.492  |
| 160 | 614 | .128   | .091  | .550  | -.130  | 160 | 744 | -.380  | .134  | -.068 | -1.069 | 160 | 794 | -.357  | .173  | .130  | -.155  |
| 160 | 615 | .212   | .111  | .739  | -.033  | 160 | 745 | -.391  | .116  | -.036 | -.910  | 160 | 795 | -.148  | .067  | .093  | -.571  |
| 160 | 616 | .004   | .073  | .265  | -.270  | 160 | 746 | -.411  | .110  | -.084 | -1.154 | 160 | 796 | -.138  | .074  | .210  | -.445  |
| 160 | 617 | -.001  | .058  | .353  | -.146  | 160 | 747 | -.412  | .108  | -.146 | -.968  | 160 | 797 | -.240  | .059  | -.076 | -.571  |
| 160 | 618 | -.024  | .053  | .238  | -.178  | 160 | 748 | -.395  | .100  | -.096 | -.820  | 160 | 798 | -.170  | .062  | .061  | -.1075 |
| 160 | 619 | -.069  | .048  | .234  | -.275  | 160 | 749 | -.363  | .111  | -.064 | -1.028 | 160 | 799 | -.150  | .075  | .137  | -.692  |
| 160 | 620 | -.094  | .059  | .342  | -.241  | 160 | 750 | -.349  | .088  | -.034 | -.758  | 160 | 800 | -.167  | .123  | .283  | -.734  |
| 160 | 701 | -.363  | .113  | -.061 | -.1051 | 160 | 751 | -.403  | .144  | -.078 | -1.037 | 160 | 801 | -.350  | .183  | .111  | -.193  |
| 160 | 702 | -.503  | .160  | -.127 | -.1651 | 160 | 752 | -.393  | .123  | -.046 | -1.026 | 160 | 802 | -.528  | .210  | .011  | -.787  |
| 160 | 703 | -.471  | .138  | -.114 | -.1096 | 160 | 753 | -.426  | .123  | -.037 | -1.012 | 160 | 803 | -.532  | .140  | -.186 | -.185  |
| 160 | 704 | .223   | .094  | .095  | -.678  | 160 | 754 | -.409  | .095  | -.156 | -1.012 | 160 | 804 | -.517  | .138  | -.205 | -.162  |
| 160 | 705 | -.421  | .171  | .100  | -.1075 | 160 | 755 | -.479  | .143  | -.143 | -.564  | 160 | 805 | -.029  | .085  | .443  | -.253  |
| 160 | 706 | -.426  | .136  | -.069 | -.1161 | 160 | 756 | -.429  | .128  | -.022 | -1.066 | 160 | 806 | -.087  | .059  | .162  | -.269  |
| 160 | 707 | -.435  | .145  | -.004 | -.1112 | 160 | 757 | -.467  | .127  | -.043 | -1.154 | 160 | 807 | -.091  | .077  | .233  | -.546  |
| 160 | 708 | -.403  | .176  | -.077 | -.1375 | 160 | 758 | -.382  | .114  | -.098 | -.924  | 160 | 808 | -.211  | .066  | .164  | -.438  |
| 160 | 709 | -.424  | .145  | -.075 | -.1041 | 160 | 759 | -.391  | .093  | -.120 | -.958  | 160 | 809 | -.157  | .070  | .125  | -.850  |
| 160 | 710 | -.442  | .145  | -.009 | -.1180 | 160 | 760 | -.392  | .134  | -.061 | -1.129 | 160 | 810 | -.135  | .147  | .228  | -.969  |
| 160 | 711 | -.125  | .124  | .013  | -.1086 | 160 | 761 | -.380  | .090  | -.084 | -.787  | 160 | 811 | -.362  | .150  | .013  | -.098  |
| 160 | 712 | -.401  | .173  | -.011 | -.1430 | 160 | 762 | -.403  | .144  | -.023 | -1.199 | 160 | 812 | -.544  | .160  | -.138 | -.560  |
| 160 | 713 | -.425  | .149  | -.009 | -.1446 | 160 | 763 | -.386  | .124  | -.073 | -.904  | 160 | 813 | -.077  | .075  | .299  | -.408  |
| 160 | 714 | -.456  | .137  | -.043 | -.1301 | 160 | 764 | -.392  | .114  | -.030 | -1.077 | 160 | 814 | -.058  | .088  | .494  | -.523  |
| 160 | 715 | -.453  | .127  | -.018 | -.1287 | 160 | 765 | -.428  | .119  | -.053 | -1.093 | 160 | 815 | -.208  | .073  | .043  | -.544  |
| 160 | 716 | -.440  | .139  | -.098 | -.1091 | 160 | 766 | -.399  | .104  | -.084 | -.964  | 160 | 816 | -.156  | .071  | .098  | -.1063 |
| 160 | 717 | -.413  | .119  | -.068 | -.1041 | 160 | 767 | -.378  | .082  | -.141 | -.700  | 160 | 817 | -.129  | .060  | .100  | -.660  |
| 160 | 718 | -.383  | .155  | .036  | -.1278 | 160 | 768 | -.377  | .090  | -.094 | -.795  | 160 | 818 | -.111  | .112  | .329  | -.649  |
| 160 | 719 | -.410  | .132  | .016  | -.1014 | 160 | 769 | -.381  | .097  | -.025 | -.838  | 160 | 819 | -.190  | .170  | .231  | -.1050 |
| 160 | 720 | -.423  | .134  | -.000 | -.966  | 160 | 770 | -.387  | .156  | -.006 | -1.254 | 160 | 820 | -.337  | .177  | .125  | -.913  |
| 160 | 721 | -.532  | .187  | -.091 | -.1560 | 160 | 771 | -.372  | .121  | -.032 | -1.061 | 160 | 821 | -.542  | .176  | -.087 | -.739  |
| 160 | 722 | -.358  | .156  | -.009 | -.139  | 160 | 772 | -.424  | .107  | -.101 | -.907  | 160 | 822 | -.514  | .145  | -.125 | -.323  |
| 160 | 723 | -.360  | .140  | .023  | -.1071 | 160 | 773 | -.431  | .103  | -.155 | -.961  | 160 | 801 | -.350  | .060  | -.154 | -.584  |
| 160 | 724 | -.400  | .154  | .041  | -.1096 | 160 | 774 | -.421  | .099  | -.132 | -.118  | 160 | 902 | -.404  | .102  | -.127 | -.881  |
| 160 | 725 | -.438  | .172  | .082  | -.1328 | 160 | 775 | -.396  | .081  | -.151 | -.726  | 160 | 903 | -.416  | .114  | -.116 | -.017  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 160 | 904 | -.367  | .127  | -.016 | -.954  | 160 | 954  | -.261  | .094  | .040  | -.957  | 170 | 105 | -.287  | .075  | -.073 | -.727 |
| 160 | 905 | -.360  | .061  | -.228 | -.591  | 160 | 955  | -.174  | .054  | .244  | -.449  | 170 | 106 | -.283  | .078  | -.051 | -.714 |
| 160 | 906 | -.259  | .083  | -.093 | -.620  | 160 | 956  | -.201  | .085  | .098  | -.606  | 170 | 107 | -.270  | .057  | -.062 | -.645 |
| 160 | 907 | -.197  | .113  | .165  | -.687  | 160 | 957  | -.136  | .086  | .190  | -.561  | 170 | 108 | -.283  | .082  | -.022 | -.745 |
| 160 | 908 | -.368  | .114  | -.151 | -.864  | 160 | 958  | -.169  | .056  | .103  | -.552  | 170 | 109 | -.277  | .056  | -.109 | -.603 |
| 160 | 909 | -.343  | .108  | -.048 | -.818  | 160 | 959  | -.212  | .058  | .060  | -.440  | 170 | 110 | -.281  | .059  | -.120 | -.596 |
| 160 | 910 | -.132  | .118  | .695  | -.261  | 160 | 960  | -.296  | .238  | .487  | -1.632 | 170 | 111 | -.290  | .082  | -.062 | -.839 |
| 160 | 911 | -.326  | .071  | -.118 | -.578  | 160 | 961  | -.335  | .127  | -.036 | -1.084 | 170 | 112 | -.262  | .065  | -.076 | -.677 |
| 160 | 912 | -.337  | .198  | .231  | -.611  | 160 | 962  | -.031  | .124  | .618  | -.764  | 170 | 113 | -.259  | .050  | -.109 | -.485 |
| 160 | 913 | -.369  | .121  | .042  | -.945  | 160 | 963  | -.296  | .124  | -.017 | -1.403 | 170 | 114 | -.277  | .061  | -.078 | -.576 |
| 160 | 914 | -.349  | .170  | .420  | -.1053 | 160 | 964  | -.227  | .112  | .175  | -1.415 | 170 | 115 | -.274  | .066  | -.078 | -.701 |
| 160 | 915 | -.375  | .118  | -.066 | .917   | 160 | 965  | -.042  | .134  | .465  | -.521  | 170 | 116 | -.278  | .057  | -.105 | -.547 |
| 160 | 916 | -.268  | .379  | .819  | -.415  | 160 | 966  | -.345  | .110  | -.065 | -1.001 | 170 | 117 | -.239  | .036  | -.062 | -.384 |
| 160 | 917 | -.382  | .142  | -.043 | -.1046 | 160 | 967  | -.130  | .045  | .092  | -.291  | 170 | 118 | -.272  | .061  | -.089 | -.645 |
| 160 | 918 | -.441  | .122  | -.089 | .977   | 160 | 968  | -.192  | .070  | .255  | -.414  | 170 | 119 | -.265  | .055  | -.114 | -.677 |
| 160 | 919 | -.364  | .155  | .987  | -.281  | 160 | 969  | -.173  | .048  | .038  | -.502  | 170 | 120 | -.257  | .057  | -.098 | -.614 |
| 160 | 920 | -.513  | .126  | -.086 | -1.233 | 160 | 970  | -.184  | .041  | -.005 | -.386  | 170 | 121 | -.284  | .067  | -.089 | -.706 |
| 160 | 921 | -.368  | .089  | -.119 | -.832  | 160 | 971  | -.159  | .036  | .026  | -.270  | 170 | 122 | -.253  | .065  | -.011 | -.594 |
| 160 | 922 | -.308  | .051  | -.182 | -.571  | 160 | 1001 | -.383  | .098  | -.097 | -1.005 | 170 | 123 | -.246  | .056  | -.073 | -.511 |
| 160 | 923 | -.439  | .114  | -.107 | -.931  | 160 | 1002 | -.277  | .162  | .248  | -.1024 | 170 | 124 | -.245  | .043  | -.111 | -.467 |
| 160 | 924 | .217   | .289  | .966  | -.878  | 160 | 1003 | -.354  | .117  | -.067 | -1.093 | 170 | 125 | -.253  | .041  | -.123 | -.411 |
| 160 | 925 | -.354  | .098  | -.102 | -.926  | 160 | 1004 | -.384  | .110  | -.073 | -.841  | 170 | 126 | -.245  | .042  | -.107 | -.453 |
| 160 | 926 | -.364  | .149  | -.839 | -.858  | 160 | 1005 | -.425  | .114  | -.065 | -.921  | 170 | 127 | -.247  | .044  | -.124 | -.517 |
| 160 | 927 | -.342  | .094  | -.088 | -.863  | 160 | 1006 | -.323  | .115  | -.058 | -.973  | 170 | 128 | -.248  | .053  | -.106 | -.572 |
| 160 | 928 | -.186  | .158  | .369  | -.811  | 160 | 1007 | -.079  | .085  | .643  | -.111  | 170 | 129 | -.246  | .052  | -.085 | -.538 |
| 160 | 929 | -.357  | .101  | .160  | -.797  | 160 | 1008 | -.226  | .056  | -.005 | .416   | 170 | 130 | -.237  | .035  | -.122 | -.400 |
| 160 | 930 | .262   | .129  | .809  | -.143  | 160 | 1009 | -.305  | .127  | .849  | -.052  | 170 | 131 | -.248  | .037  | -.122 | -.438 |
| 160 | 931 | -.311  | .067  | -.095 | .597   | 160 | 1010 | -.218  | .052  | .080  | -.405  | 170 | 132 | -.246  | .054  | -.065 | -.472 |
| 160 | 932 | -.273  | .078  | -.009 | -.554  | 160 | 1011 | -.050  | .077  | .558  | -.123  | 170 | 133 | -.238  | .046  | -.081 | -.440 |
| 160 | 933 | -.013  | .131  | .391  | -.553  | 160 | 1012 | -.223  | .064  | -.061 | -.575  | 170 | 134 | -.233  | .032  | -.119 | -.411 |
| 160 | 934 | -.366  | .104  | -.205 | -.913  | 160 | 1013 | -.498  | .124  | -.139 | -.977  | 170 | 135 | -.235  | .031  | -.131 | -.391 |
| 160 | 935 | -.331  | .086  | -.047 | -.778  | 160 | 1014 | -.366  | .090  | -.131 | .824   | 170 | 136 | -.230  | .030  | -.133 | -.348 |
| 160 | 936 | -.180  | .064  | -.031 | -.395  | 160 | 1015 | -.346  | .120  | -.047 | -.927  | 170 | 137 | -.234  | .030  | -.110 | -.336 |
| 160 | 937 | -.444  | .134  | -.099 | -.1192 | 160 | 1016 | -.351  | .084  | -.019 | -.748  | 170 | 138 | -.243  | .038  | -.144 | -.465 |
| 160 | 938 | -.429  | .129  | -.074 | -.1207 | 160 | 1017 | -.168  | .085  | .168  | -.594  | 170 | 139 | -.242  | .044  | -.115 | -.486 |
| 160 | 939 | -.356  | .138  | -.065 | -.971  | 160 | 1018 | -.202  | .069  | .052  | -.490  | 170 | 140 | -.246  | .045  | -.119 | -.533 |
| 160 | 940 | -.342  | .050  | -.214 | -.551  | 160 | 1019 | -.131  | .073  | .220  | -.549  | 170 | 141 | -.235  | .029  | -.144 | -.343 |
| 160 | 941 | -.361  | .118  | -.058 | -.682  | 160 | 1020 | -.370  | .126  | .125  | -.956  | 170 | 142 | -.245  | .031  | -.155 | -.379 |
| 160 | 942 | -.264  | .061  | -.098 | -.552  | 160 | 1021 | -.205  | .106  | .714  | -.021  | 170 | 143 | -.264  | .056  | -.074 | -.520 |
| 160 | 943 | -.263  | .062  | -.045 | -.579  | 160 | 1022 | -.082  | .056  | .175  | -.270  | 170 | 144 | -.260  | .053  | -.076 | -.533 |
| 160 | 944 | -.288  | .066  | -.094 | .590   | 160 | 1023 | -.101  | .049  | .111  | -.301  | 170 | 145 | -.247  | .036  | -.088 | -.400 |
| 160 | 945 | -.080  | .082  | .418  | -.110  | 160 | 1024 | -.154  | .082  | .161  | -.776  | 170 | 146 | -.247  | .036  | -.128 | -.436 |
| 160 | 946 | -.228  | .043  | -.085 | -.393  | 160 | 1025 | -.081  | .051  | .220  | -.334  | 170 | 147 | -.251  | .045  | -.124 | -.549 |
| 160 | 947 | -.239  | .043  | -.080 | -.438  | 160 | 1026 | -.054  | .058  | .217  | -.270  | 170 | 148 | -.258  | .050  | -.090 | -.544 |
| 160 | 948 | -.225  | .050  | -.004 | -.474  | 160 | 1027 | -.094  | .032  | .118  | -.372  | 170 | 149 | -.265  | .058  | -.027 | -.552 |
| 160 | 949 | -.255  | .054  | -.103 | -.545  | 160 | 1028 | -.149  | .034  | .021  | -.256  | 170 | 150 | -.278  | .069  | -.032 | -.627 |
| 160 | 950 | -.059  | .084  | .583  | -.125  | 170 | 101  | -.300  | .075  | -.109 | -.262  | 170 | 151 | -.252  | .050  | -.085 | -.559 |
| 160 | 951 | -.319  | .104  | -.013 | -.903  | 170 | 102  | -.308  | .083  | -.098 | -.788  | 170 | 152 | -.239  | .032  | -.102 | -.388 |
| 160 | 952 | -.180  | .077  | .101  | -.557  | 170 | 103  | -.371  | .112  | -.091 | -1.077 | 170 | 153 | -.240  | .030  | -.140 | -.368 |
| 160 | 953 | -.145  | .104  | .150  | -.794  | 170 | 104  | -.321  | .118  | -.047 | -.978  | 170 | 154 | -.242  | .031  | -.131 | -.399 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 170 | 155 | -.249  | .048  | -.109 | -.581 | 170 | 205 | -.226  | .046  | -.096 | -.426   | 170 | 330 | -.347  | .095  | -.040 | -.823   |
| 170 | 156 | -.252  | .047  | -.105 | -.474 | 170 | 206 | -.215  | .041  | -.007 | -.424   | 170 | 331 | -.368  | .102  | -.036 | -.840   |
| 170 | 157 | -.259  | .049  | -.118 | -.621 | 170 | 207 | -.223  | .039  | -.089 | -.391   | 170 | 332 | -.412  | .142  | -.082 | -.243   |
| 170 | 158 | -.255  | .052  | -.083 | -.519 | 170 | 208 | -.220  | .041  | -.056 | -.482   | 170 | 333 | -.421  | .147  | -.045 | -.270   |
| 170 | 159 | -.233  | .040  | -.118 | -.428 | 170 | 209 | -.130  | .033  | -.032 | -.243   | 170 | 334 | -.414  | .135  | -.049 | -.122   |
| 170 | 160 | -.271  | .061  | -.043 | -.567 | 170 | 210 | -.151  | .054  | -.025 | -.468   | 170 | 335 | -.373  | .112  | -.018 | -.030   |
| 170 | 161 | -.237  | .045  | -.069 | -.488 | 170 | 211 | -.039  | .063  | -.206 | -.226   | 170 | 336 | -.362  | .098  | -.065 | -.825   |
| 170 | 162 | -.270  | .063  | -.021 | -.556 | 170 | 212 | -.220  | .053  | -.060 | -.506   | 170 | 337 | -.372  | .126  | .242  | -.1.023 |
| 170 | 163 | -.258  | .052  | -.085 | -.468 | 170 | 213 | -.205  | .043  | -.046 | -.384   | 170 | 338 | -.332  | .100  | .024  | -.790   |
| 170 | 164 | -.247  | .038  | -.136 | -.428 | 170 | 214 | -.214  | .038  | -.065 | -.386   | 170 | 339 | -.294  | .097  | .041  | -.748   |
| 170 | 165 | -.261  | .041  | -.153 | -.563 | 170 | 215 | -.129  | .034  | -.059 | -.221   | 170 | 340 | -.298  | .111  | .013  | -.860   |
| 170 | 166 | -.238  | .034  | -.144 | -.411 | 170 | 216 | -.135  | .031  | -.002 | -.226   | 170 | 341 | -.350  | .101  | -.073 | -.906   |
| 170 | 167 | -.233  | .041  | -.109 | -.568 | 170 | 217 | -.134  | .038  | -.021 | -.260   | 170 | 342 | -.360  | .109  | -.019 | -.957   |
| 170 | 168 | -.235  | .044  | -.081 | -.441 | 170 | 218 | -.130  | .052  | -.109 | -.336   | 170 | 343 | -.411  | .154  | -.036 | -.1.332 |
| 170 | 169 | -.217  | .029  | -.104 | -.324 | 170 | 219 | -.094  | .054  | -.120 | -.287   | 170 | 344 | -.414  | .142  | -.038 | -.1.241 |
| 170 | 170 | -.270  | .056  | -.074 | -.530 | 170 | 220 | -.198  | .072  | -.025 | -.535   | 170 | 345 | -.382  | .117  | -.089 | -.935   |
| 170 | 171 | -.243  | .049  | -.048 | -.462 | 170 | 221 | -.215  | .070  | -.003 | -.556   | 170 | 346 | -.329  | .101  | .061  | -.875   |
| 170 | 172 | -.249  | .047  | -.104 | -.521 | 170 | 222 | -.220  | .073  | -.008 | -.592   | 170 | 347 | -.307  | .106  | .052  | -.871   |
| 170 | 173 | -.235  | .031  | -.137 | -.371 | 170 | 223 | -.202  | .043  | -.020 | -.373   | 170 | 348 | -.305  | .108  | .026  | -.807   |
| 170 | 174 | -.247  | .039  | -.107 | -.448 | 170 | 224 | -.211  | .042  | -.049 | -.438   | 170 | 349 | -.332  | .113  | -.975 |         |
| 170 | 175 | -.235  | .042  | -.109 | -.504 | 170 | 225 | -.204  | .042  | -.038 | -.499   | 170 | 350 | -.205  | .149  | .409  | -.690   |
| 170 | 176 | -.235  | .045  | -.116 | -.551 | 170 | 301 | -.393  | .128  | -.084 | -.1.053 | 170 | 351 | -.524  | .166  | -.105 | -.307   |
| 170 | 177 | -.262  | .054  | -.067 | -.521 | 170 | 302 | -.324  | .105  | -.015 | -.964   | 170 | 352 | -.411  | .123  | -.107 | -.1.188 |
| 170 | 178 | -.266  | .058  | -.076 | -.584 | 170 | 303 | -.169  | .092  | -.151 | -.528   | 170 | 353 | -.385  | .129  | -.031 | -.1.009 |
| 170 | 179 | -.231  | .060  | -.034 | -.528 | 170 | 304 | -.342  | .104  | -.123 | -.968   | 170 | 354 | -.343  | .105  | .038  | -.867   |
| 170 | 180 | -.230  | .037  | -.074 | -.369 | 170 | 305 | -.441  | .157  | -.005 | -.706   | 170 | 355 | -.314  | .112  | .038  | -.912   |
| 170 | 181 | -.254  | .046  | -.135 | -.469 | 170 | 306 | -.312  | .101  | -.041 | -.890   | 170 | 356 | -.273  | .067  | -.040 | -.541   |
| 170 | 182 | -.231  | .042  | -.088 | -.516 | 170 | 307 | -.340  | .101  | -.093 | -.859   | 170 | 357 | -.282  | .080  | -.051 | -.722   |
| 170 | 183 | -.238  | .048  | -.086 | -.549 | 170 | 308 | -.507  | .194  | -.108 | -.1.491 | 170 | 358 | -.443  | .129  | -.090 | -.1.281 |
| 170 | 184 | -.248  | .060  | -.020 | -.497 | 170 | 309 | -.389  | .127  | -.023 | -.1.153 | 170 | 359 | -.311  | .110  | .092  | -.981   |
| 170 | 185 | -.263  | .063  | -.027 | -.699 | 170 | 310 | -.339  | .111  | -.031 | -.848   | 170 | 360 | -.402  | .115  | -.113 | -.1.525 |
| 170 | 186 | -.218  | .064  | -.092 | -.483 | 170 | 311 | -.306  | .096  | -.048 | -.899   | 170 | 361 | -.295  | .096  | -.059 | -.759   |
| 170 | 187 | -.220  | .046  | -.002 | -.395 | 170 | 312 | -.496  | .186  | -.091 | -.1.384 | 170 | 362 | -.396  | .107  | -.092 | -.1.272 |
| 170 | 188 | -.250  | .051  | -.104 | -.750 | 170 | 313 | -.396  | .136  | -.022 | -.1.201 | 170 | 363 | -.400  | .105  | -.066 | -.1.070 |
| 170 | 189 | -.225  | .039  | -.083 | -.427 | 170 | 314 | -.316  | .102  | -.009 | -.776   | 170 | 364 | -.413  | .117  | -.016 | -.1.024 |
| 170 | 190 | -.223  | .043  | -.090 | -.488 | 170 | 315 | -.287  | .092  | -.028 | -.900   | 170 | 365 | -.387  | .111  | -.042 | -.1.009 |
| 170 | 191 | -.203  | .049  | -.020 | -.435 | 170 | 316 | -.351  | .099  | -.091 | -.920   | 170 | 366 | -.331  | .099  | -.004 | -.771   |
| 170 | 192 | -.211  | .040  | -.023 | -.384 | 170 | 317 | -.331  | .102  | -.018 | -.1.042 | 170 | 367 | -.296  | .095  | .055  | -.753   |
| 170 | 193 | -.219  | .039  | -.018 | -.411 | 170 | 318 | -.523  | .213  | -.065 | -.1.971 | 170 | 368 | -.294  | .107  | .053  | -.856   |
| 170 | 194 | -.241  | .060  | -.029 | -.547 | 170 | 319 | -.373  | .112  | -.011 | -.953   | 170 | 369 | -.367  | .101  | .078  | -.935   |
| 170 | 195 | -.254  | .066  | .005  | -.639 | 170 | 320 | -.323  | .089  | -.021 | -.700   | 170 | 370 | -.409  | .085  | -.182 | -.079   |
| 170 | 196 | -.229  | .065  | -.049 | -.616 | 170 | 321 | -.286  | .083  | -.017 | -.728   | 170 | 371 | -.414  | .092  | -.145 | -.988   |
| 170 | 197 | -.239  | .045  | -.082 | -.632 | 170 | 322 | -.418  | .143  | -.073 | -.1.327 | 170 | 372 | -.445  | .118  | -.150 | -.243   |
| 170 | 198 | -.144  | .033  | .011  | -.272 | 170 | 323 | -.417  | .135  | -.084 | -.1.092 | 170 | 373 | -.388  | .097  | -.068 | -.792   |
| 170 | 199 | -.148  | .036  | .045  | -.266 | 170 | 324 | -.408  | .125  | -.080 | -.1.118 | 170 | 374 | -.341  | .096  | .119  | -.776   |
| 170 | 200 | -.162  | .041  | -.015 | -.377 | 170 | 325 | -.389  | .112  | -.113 | -.998   | 170 | 375 | -.290  | .085  | .000  | -.988   |
| 170 | 201 | -.172  | .060  | .096  | -.469 | 170 | 326 | -.334  | .114  | -.068 | -.844   | 170 | 376 | -.293  | .092  | .023  | -.799   |
| 170 | 202 | -.106  | .057  | .134  | -.290 | 170 | 327 | -.320  | .100  | -.112 | -.871   | 170 | 377 | -.446  | .103  | -.175 | -.1.183 |
| 170 | 203 | -.256  | .063  | -.056 | -.509 | 170 | 328 | -.275  | .087  | -.005 | -.809   | 170 | 378 | -.449  | .104  | -.198 | -.1.637 |
| 170 | 204 | -.226  | .046  | -.060 | -.554 | 170 | 329 | -.269  | .086  | -.016 | -.737   | 170 | 379 | -.470  | .133  | -.079 | -.1.154 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 170 | 380 | -.384  | .113  | -.011 | -.824  | 170 | 508 | -.253  | .136  | .317  | -.911 | 170 | 558 | -.068  | .101  | .350  | -.381 |
| 170 | 381 | -.282  | .097  | .026  | -.694  | 170 | 509 | -.213  | .252  | .594  | -.603 | 170 | 559 | -.124  | .173  | .666  | -.543 |
| 170 | 382 | -.225  | .067  | .030  | -.589  | 170 | 510 | -.170  | .248  | .816  | -.119 | 170 | 560 | -.143  | .117  | .401  | -.625 |
| 170 | 383 | -.236  | .045  | .078  | -.610  | 170 | 511 | -.210  | .195  | .465  | -.909 | 170 | 561 | -.013  | .158  | .506  | -.596 |
| 170 | 384 | -.437  | .119  | -.116 | -1.099 | 170 | 512 | -.153  | .117  | .274  | -.575 | 170 | 562 | -.096  | .103  | .346  | -.465 |
| 170 | 385 | -.452  | .130  | -.100 | -1.297 | 170 | 513 | -.101  | .197  | .659  | -.112 | 170 | 563 | -.023  | .104  | .499  | -.310 |
| 170 | 386 | -.328  | .111  | .158  | -.894  | 170 | 514 | -.007  | .215  | .731  | -.721 | 170 | 564 | -.069  | .176  | .768  | -.519 |
| 170 | 387 | -.245  | .113  | .119  | -.726  | 170 | 515 | -.005  | .203  | .646  | -.626 | 170 | 565 | -.136  | .216  | .839  | -.836 |
| 170 | 388 | -.211  | .119  | .119  | -.532  | 170 | 516 | -.151  | .229  | .679  | -.906 | 170 | 566 | -.247  | .169  | 1.002 | -.366 |
| 170 | 389 | -.191  | .045  | .023  | -.355  | 170 | 517 | -.084  | .186  | .787  | -.398 | 170 | 567 | -.160  | .169  | .678  | -.647 |
| 170 | 390 | -.207  | .044  | .010  | -.377  | 170 | 518 | -.281  | .151  | .169  | -.951 | 170 | 568 | -.058  | .142  | .631  | -.628 |
| 170 | 391 | -.205  | .085  | .077  | -.565  | 170 | 519 | -.332  | .207  | .404  | -.207 | 170 | 569 | -.262  | .149  | .950  | -.122 |
| 170 | 392 | -.208  | .185  | .437  | -1.071 | 170 | 520 | -.130  | .293  | .686  | -.650 | 170 | 570 | -.050  | .088  | .373  | -.326 |
| 170 | 393 | -.191  | .081  | .120  | -.529  | 170 | 521 | -.189  | .194  | .420  | -.750 | 170 | 571 | -.052  | .102  | .584  | -.260 |
| 170 | 394 | -.169  | .080  | .177  | -.468  | 170 | 522 | -.180  | .115  | .263  | -.570 | 170 | 572 | -.153  | .153  | .739  | -.391 |
| 170 | 395 | -.180  | .044  | .030  | -.335  | 170 | 523 | -.154  | .115  | .404  | -.586 | 170 | 573 | -.279  | .141  | .990  | -.152 |
| 170 | 396 | -.203  | .044  | -.012 | -.397  | 170 | 524 | -.174  | .192  | .554  | -.945 | 170 | 574 | -.295  | .152  | .840  | -.180 |
| 170 | 397 | -.406  | .133  | -.102 | -1.362 | 170 | 525 | -.070  | .148  | .581  | -.432 | 170 | 575 | -.138  | .127  | .584  | -.436 |
| 170 | 398 | -.320  | .091  | -.052 | -.942  | 170 | 526 | -.084  | .214  | .617  | -.873 | 170 | 576 | -.030  | .110  | .415  | -.349 |
| 170 | 399 | -.345  | .084  | -.049 | -.966  | 170 | 527 | -.014  | .215  | .714  | -.627 | 170 | 577 | -.037  | .077  | .296  | -.305 |
| 170 | 400 | -.234  | .046  | -.005 | -.443  | 170 | 528 | -.039  | .218  | .989  | -.645 | 170 | 578 | -.073  | .097  | .582  | -.211 |
| 170 | 401 | -.205  | .031  | -.062 | -.421  | 170 | 529 | -.020  | .203  | .789  | -.629 | 170 | 579 | -.200  | .134  | .723  | -.528 |
| 170 | 402 | -.191  | .030  | -.047 | -.324  | 170 | 530 | -.074  | .185  | .762  | -.497 | 170 | 580 | -.274  | .124  | .765  | -.009 |
| 170 | 403 | -.152  | .028  | -.025 | -.253  | 170 | 531 | -.035  | .220  | .730  | -.944 | 170 | 581 | -.182  | .124  | .692  | -.209 |
| 170 | 404 | -.145  | .032  | -.021 | -.277  | 170 | 532 | -.122  | .118  | .460  | -.583 | 170 | 582 | -.000  | .079  | .329  | -.295 |
| 170 | 405 | -.177  | .055  | .035  | -.503  | 170 | 533 | -.064  | .106  | .383  | -.502 | 170 | 583 | -.090  | .072  | .272  | -.323 |
| 170 | 406 | -.144  | .054  | .119  | -.381  | 170 | 534 | -.072  | .207  | .651  | -.014 | 170 | 584 | -.078  | .068  | .253  | -.298 |
| 170 | 407 | -.239  | .079  | -.014 | -.574  | 170 | 535 | -.095  | .166  | .759  | -.357 | 170 | 585 | -.020  | .082  | .518  | -.274 |
| 170 | 408 | -.338  | .081  | -.060 | -.819  | 170 | 536 | -.156  | .170  | .818  | -.261 | 170 | 586 | -.131  | .102  | .540  | -.239 |
| 170 | 409 | -.190  | .028  | -.065 | -.302  | 170 | 537 | -.079  | .218  | .896  | -.500 | 170 | 587 | -.131  | .121  | .664  | -.192 |
| 170 | 410 | -.133  | .033  | .048  | -.253  | 170 | 538 | -.144  | .214  | .850  | -.486 | 170 | 588 | -.005  | .098  | .504  | -.513 |
| 170 | 411 | -.338  | .086  | -.094 | -.731  | 170 | 539 | -.132  | .223  | .864  | -.627 | 170 | 589 | -.160  | .046  | .021  | -.399 |
| 170 | 412 | -.320  | .074  | -.074 | -.626  | 170 | 540 | -.045  | .211  | .678  | -.283 | 170 | 590 | -.237  | .052  | -.012 | -.525 |
| 170 | 413 | -.156  | .026  | -.051 | -.294  | 170 | 541 | -.176  | .205  | .979  | -.416 | 170 | 591 | -.124  | .095  | .663  | -.118 |
| 170 | 414 | -.129  | .054  | .167  | -.350  | 170 | 542 | -.093  | .208  | .909  | -.613 | 170 | 592 | -.113  | .094  | .558  | -.093 |
| 170 | 415 | -.097  | .052  | .155  | -.306  | 170 | 543 | -.217  | .116  | .367  | -.674 | 170 | 593 | -.107  | .065  | .167  | -.444 |
| 170 | 416 | -.265  | .062  | -.095 | -.642  | 170 | 544 | -.127  | .105  | .392  | -.538 | 170 | 594 | -.032  | .063  | .258  | -.259 |
| 170 | 417 | -.151  | .063  | .160  | -.336  | 170 | 545 | -.007  | .144  | .471  | -.465 | 170 | 595 | -.084  | .087  | .522  | -.144 |
| 170 | 418 | -.175  | .026  | -.065 | -.271  | 170 | 546 | -.094  | .243  | 1.043 | -.608 | 170 | 596 | -.109  | .084  | .511  | -.123 |
| 170 | 419 | -.148  | .029  | -.006 | -.228  | 170 | 547 | -.029  | .202  | .685  | -.107 | 170 | 597 | -.084  | .075  | .244  | -.500 |
| 170 | 420 | -.146  | .028  | -.006 | -.228  | 170 | 548 | -.080  | .161  | .526  | -.679 | 170 | 598 | -.184  | .051  | -.009 | -.418 |
| 170 | 421 | -.145  | .031  | .015  | -.258  | 170 | 549 | -.207  | .225  | .541  | -.265 | 170 | 599 | -.256  | .064  | -.036 | -.521 |
| 170 | 422 | -.135  | .037  | .048  | -.272  | 170 | 550 | -.352  | .198  | .423  | -.199 | 170 | 600 | -.394  | .120  | .176  | -.190 |
| 170 | 501 | -.145  | .136  | .549  | -.613  | 170 | 551 | -.110  | .110  | .459  | -.468 | 170 | 601 | -.094  | .073  | .145  | -.405 |
| 170 | 502 | -.142  | .146  | .572  | -.669  | 170 | 552 | -.046  | .134  | .597  | -.459 | 170 | 602 | -.155  | .071  | .080  | -.535 |
| 170 | 503 | -.054  | .192  | .626  | -.835  | 170 | 553 | -.121  | .187  | .708  | -.681 | 170 | 603 | -.107  | .058  | .136  | -.377 |
| 170 | 504 | -.094  | .182  | .635  | -.953  | 170 | 554 | -.176  | .206  | .835  | -.425 | 170 | 604 | -.161  | .055  | .071  | -.363 |
| 170 | 505 | -.182  | .105  | .443  | -.730  | 170 | 555 | -.111  | .189  | .863  | -.563 | 170 | 605 | -.261  | .095  | -.027 | -.754 |
| 170 | 506 | -.163  | .141  | .344  | -.607  | 170 | 556 | -.278  | .166  | .950  | -.852 | 170 | 606 | -.023  | .072  | .258  | -.334 |
| 170 | 507 | -.139  | .132  | .487  | -.501  | 170 | 557 | .009   | .193  | .695  | -.465 | 170 | 607 | -.162  | .042  | .005  | -.362 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 170 | 608 | .194   | .106  | .700  | -.099  | 170 | 738 | -.337  | .187  | .122  | -1.165 | 170 | 788 | -.415  | .145  | .029  | -1.143 |
| 170 | 619 | -.238  | .095  | -.002 | .728   | 170 | 739 | -.353  | .174  | .165  | -1.101 | 170 | 789 | -.348  | .107  | -.089 | -.937  |
| 170 | 610 | -.103  | .075  | .225  | -.421  | 170 | 740 | -.354  | .170  | .356  | -1.131 | 170 | 790 | -.351  | .105  | -.022 | -.865  |
| 170 | 611 | -.141  | .041  | .022  | -.307  | 170 | 741 | -.239  | .127  | .270  | -1.716 | 170 | 791 | -.223  | .163  | .248  | -1.087 |
| 170 | 612 | -.042  | .064  | .292  | -.297  | 170 | 742 | -.255  | .137  | .143  | -.869  | 170 | 792 | -.279  | .151  | .197  | -.115  |
| 170 | 613 | .044   | .070  | .362  | -.151  | 170 | 743 | -.249  | .062  | .113  | -.633  | 170 | 793 | -.333  | .133  | .122  | -.136  |
| 170 | 614 | .165   | .098  | .684  | -.069  | 170 | 744 | -.227  | .075  | .059  | -.864  | 170 | 794 | -.265  | .142  | .183  | -.876  |
| 170 | 615 | .231   | .118  | .756  | -.057  | 170 | 745 | -.244  | .116  | .080  | -1.191 | 170 | 795 | -.151  | .068  | .100  | -.436  |
| 170 | 616 | -.068  | .086  | .318  | -.598  | 170 | 746 | -.305  | .151  | .166  | -.874  | 170 | 796 | -.159  | .074  | .216  | -.434  |
| 170 | 617 | -.040  | .055  | .220  | -.262  | 170 | 747 | -.308  | .138  | .293  | -1.070 | 170 | 797 | -.237  | .043  | -.101 | -.453  |
| 170 | 618 | .078   | .046  | .138  | -.244  | 170 | 748 | -.298  | .134  | .383  | -.959  | 170 | 798 | -.177  | .061  | .037  | -.573  |
| 170 | 619 | -.120  | .051  | .108  | -.358  | 170 | 749 | -.264  | .057  | -.060 | -.586  | 170 | 799 | -.154  | .073  | .112  | -.590  |
| 170 | 620 | -.095  | .055  | .138  | -.251  | 170 | 750 | -.268  | .053  | -.072 | -.543  | 170 | 800 | -.158  | .116  | .268  | -.611  |
| 170 | 701 | .305   | .096  | .034  | -.892  | 170 | 751 | -.251  | .083  | .001  | -.737  | 170 | 801 | -.262  | .151  | .205  | -.880  |
| 170 | 702 | -.372  | .135  | .130  | -1.194 | 170 | 752 | -.256  | .122  | .046  | -1.030 | 170 | 802 | -.393  | .180  | .115  | -.377  |
| 170 | 703 | -.324  | .108  | .071  | -.821  | 170 | 753 | -.300  | .165  | .166  | -1.263 | 170 | 803 | -.373  | .128  | -.101 | -.210  |
| 170 | 704 | -.222  | .083  | .110  | -.565  | 170 | 754 | -.322  | .150  | .103  | -.959  | 170 | 804 | -.372  | .122  | -.077 | -.990  |
| 170 | 705 | -.295  | .107  | .020  | -.866  | 170 | 755 | -.387  | .156  | .189  | -1.152 | 170 | 805 | -.006  | .071  | .313  | -.214  |
| 170 | 706 | -.332  | .127  | .207  | -1.151 | 170 | 756 | -.260  | .183  | .504  | -1.018 | 170 | 806 | -.104  | .049  | .082  | -.252  |
| 170 | 707 | -.301  | .102  | .162  | -.876  | 170 | 757 | -.415  | .214  | .334  | -1.308 | 170 | 807 | -.131  | .066  | .167  | -.420  |
| 170 | 708 | -.285  | .107  | .103  | -1.083 | 170 | 758 | -.236  | .074  | -.004 | -.654  | 170 | 808 | -.229  | .043  | -.075 | -.422  |
| 170 | 709 | -.313  | .125  | .146  | -.885  | 170 | 759 | -.375  | .167  | .155  | -1.573 | 170 | 809 | -.176  | .060  | .067  | -.774  |
| 170 | 710 | -.346  | .151  | .098  | -1.148 | 170 | 760 | -.234  | .067  | -.013 | -.765  | 170 | 810 | -.156  | .140  | .188  | -.730  |
| 170 | 711 | -.334  | .123  | .092  | -1.020 | 170 | 761 | -.340  | .151  | .277  | -1.424 | 170 | 811 | -.265  | .137  | .053  | -.732  |
| 170 | 712 | -.259  | .102  | .046  | -.979  | 170 | 762 | -.226  | .070  | .069  | -.765  | 170 | 812 | -.388  | .138  | -.056 | -.949  |
| 170 | 713 | -.281  | .118  | .199  | -.890  | 170 | 763 | -.226  | .080  | .221  | -.737  | 170 | 813 | -.135  | .056  | .084  | -.460  |
| 170 | 714 | -.330  | .152  | .133  | -1.020 | 170 | 764 | -.246  | .113  | .082  | -.864  | 170 | 814 | -.137  | .069  | .141  | -.451  |
| 170 | 715 | -.325  | .130  | .165  | -.1087 | 170 | 765 | -.289  | .143  | .073  | -.864  | 170 | 815 | -.215  | .047  | -.058 | -.451  |
| 170 | 716 | -.333  | .132  | .100  | -.1043 | 170 | 766 | -.331  | .147  | .117  | -1.028 | 170 | 816 | -.168  | .051  | .089  | -.642  |
| 170 | 717 | -.266  | .118  | .158  | -.679  | 170 | 767 | -.375  | .151  | .149  | -1.160 | 170 | 817 | -.145  | .057  | .105  | -.543  |
| 170 | 718 | -.276  | .089  | .123  | -1.128 | 170 | 768 | -.354  | .143  | .261  | -1.134 | 170 | 818 | -.136  | .111  | .313  | -.585  |
| 170 | 719 | -.292  | .113  | .144  | -.945  | 170 | 769 | -.277  | .136  | .137  | -.947  | 170 | 819 | -.192  | .153  | .214  | -.850  |
| 170 | 720 | -.313  | .150  | .139  | -.965  | 170 | 770 | -.223  | .081  | .072  | -.925  | 170 | 820 | -.292  | .171  | .204  | -.1252 |
| 170 | 721 | -.366  | .162  | .073  | -1.194 | 170 | 771 | -.218  | .076  | .062  | -.614  | 170 | 821 | -.387  | .150  | -.090 | -.1289 |
| 170 | 722 | -.216  | .066  | .027  | -.609  | 170 | 772 | -.270  | .098  | .122  | -.657  | 170 | 822 | -.370  | .133  | -.064 | -.128  |
| 170 | 723 | -.216  | .079  | .052  | -.773  | 170 | 773 | -.315  | .114  | .139  | -.798  | 170 | 901 | -.297  | .074  | -.025 | -.568  |
| 170 | 724 | -.237  | .110  | .240  | -.856  | 170 | 774 | -.376  | .136  | -.014 | -1.362 | 170 | 902 | -.310  | .128  | .162  | -.857  |
| 170 | 725 | -.199  | .164  | .391  | -1.116 | 170 | 775 | -.343  | .105  | .324  | -.885  | 170 | 903 | -.258  | .137  | .105  | -.848  |
| 170 | 726 | -.316  | .137  | .068  | -.945  | 170 | 776 | -.340  | .100  | .036  | -.870  | 170 | 904 | -.207  | .077  | .024  | -.715  |
| 170 | 727 | -.322  | .181  | .108  | -1.425 | 170 | 777 | -.207  | .069  | .101  | -.573  | 170 | 905 | -.261  | .023  | -.205 | -.373  |
| 170 | 728 | -.342  | .199  | .189  | -.1450 | 170 | 778 | -.205  | .083  | .206  | -.587  | 170 | 906 | -.261  | .093  | .075  | -.692  |
| 170 | 729 | -.347  | .186  | .147  | -1.434 | 170 | 779 | -.259  | .120  | .161  | -.805  | 170 | 907 | -.277  | .118  | .050  | -.123  |
| 170 | 730 | -.233  | .118  | .194  | -.897  | 170 | 780 | -.328  | .107  | -.014 | -.827  | 170 | 908 | -.297  | .078  | .034  | -.709  |
| 170 | 731 | -.265  | .137  | .370  | -.855  | 170 | 781 | -.383  | .123  | -.031 | -1.131 | 170 | 909 | -.260  | .058  | -.010 | -.540  |
| 170 | 732 | -.217  | .066  | .004  | -.846  | 170 | 782 | -.341  | .087  | -.053 | -.870  | 170 | 910 | -.065  | .099  | .430  | -.381  |
| 170 | 733 | -.203  | .073  | .050  | -.536  | 170 | 783 | -.322  | .083  | -.103 | -.827  | 170 | 911 | -.249  | .043  | -.100 | -.505  |
| 170 | 734 | -.231  | .116  | .187  | -.726  | 170 | 784 | -.187  | .067  | .058  | -.544  | 170 | 912 | -.339  | .174  | .249  | -.638  |
| 170 | 735 | -.221  | .173  | .314  | -1.031 | 170 | 785 | -.157  | .072  | .089  | -.501  | 170 | 913 | -.296  | .083  | .018  | -.705  |
| 170 | 736 | -.237  | .143  | .309  | -.753  | 170 | 786 | -.190  | .112  | .204  | -.676  | 170 | 914 | -.325  | .161  | .172  | -.085  |
| 170 | 737 | -.302  | .147  | .034  | -.927  | 170 | 787 | -.295  | .120  | .153  | -.856  | 170 | 915 | -.268  | .056  | -.026 | -.642  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 170 | 916 | -.353  | .209  | .528  | -1.373 | 170 | 966  | -.392  | .123  | -.103 | -1.483 | 180 | 117 | -.252  | .045  | -.104 | -.433 |
| 170 | 917 | -.280  | .068  | -.045 | -.776  | 170 | 967  | -.132  | .039  | .039  | -.288  | 180 | 118 | -.279  | .048  | -.129 | -.495 |
| 170 | 918 | -.321  | .105  | -.003 | -.955  | 170 | 968  | -.162  | .085  | .205  | -.562  | 180 | 119 | -.284  | .055  | -.106 | -.558 |
| 170 | 919 | .089   | .183  | .768  | -.414  | 170 | 969  | -.193  | .050  | .041  | -.532  | 180 | 120 | -.268  | .057  | -.099 | -.524 |
| 170 | 920 | -.351  | .105  | .134  | -.861  | 170 | 970  | -.200  | .035  | -.027 | -.364  | 180 | 121 | -.367  | .115  | -.101 | -.925 |
| 170 | 921 | -.297  | .075  | -.050 | -.763  | 170 | 971  | -.166  | .034  | -.013 | -.332  | 180 | 122 | -.263  | .050  | -.081 | -.677 |
| 170 | 922 | -.244  | .029  | -.149 | -.359  | 170 | 1001 | -.297  | .129  | .085  | -.845  | 180 | 123 | -.264  | .050  | -.092 | -.533 |
| 170 | 923 | -.348  | .092  | -.047 | -.864  | 170 | 1002 | -.229  | .141  | .180  | -.801  | 180 | 124 | -.263  | .042  | -.129 | -.461 |
| 170 | 924 | -.077  | .313  | .892  | -1.144 | 170 | 1003 | -.344  | .131  | .017  | -.966  | 180 | 125 | -.265  | .042  | -.138 | -.454 |
| 170 | 925 | -.271  | .058  | -.042 | -.590  | 170 | 1004 | -.295  | .063  | -.031 | -.565  | 180 | 126 | -.247  | .041  | -.124 | -.431 |
| 170 | 926 | -.357  | .127  | .230  | -.761  | 170 | 1005 | -.356  | .136  | .012  | -.996  | 180 | 127 | -.251  | .048  | -.109 | -.471 |
| 170 | 927 | -.272  | .063  | .023  | -.565  | 170 | 1006 | -.277  | .057  | -.076 | -.654  | 180 | 128 | -.250  | .052  | -.105 | -.558 |
| 170 | 928 | -.256  | .138  | .268  | -.884  | 170 | 1007 | -.138  | .106  | .641  | -.103  | 180 | 129 | -.245  | .050  | -.096 | -.558 |
| 170 | 929 | -.286  | .071  | .012  | -.576  | 170 | 1008 | -.219  | .043  | .061  | -.391  | 180 | 130 | -.249  | .039  | -.128 | -.404 |
| 170 | 930 | -.122  | .215  | .681  | -.812  | 170 | 1009 | -.286  | .151  | .949  | -.076  | 180 | 131 | -.261  | .042  | -.137 | -.454 |
| 170 | 931 | -.250  | .040  | -.114 | -.503  | 170 | 1010 | -.225  | .033  | -.032 | -.349  | 180 | 132 | -.259  | .046  | -.112 | -.517 |
| 170 | 932 | -.287  | .075  | -.023 | -.670  | 170 | 1011 | -.120  | .097  | .563  | -.098  | 180 | 133 | -.253  | .040  | -.112 | -.461 |
| 170 | 933 | -.185  | .166  | .361  | -.743  | 170 | 1012 | -.216  | .053  | .034  | -.454  | 180 | 134 | -.244  | .032  | -.155 | -.408 |
| 170 | 934 | -.275  | .067  | -.009 | -.632  | 170 | 1013 | -.417  | .132  | -.043 | -1.012 | 180 | 135 | -.251  | .036  | -.142 | -.450 |
| 170 | 935 | -.260  | .057  | -.052 | -.519  | 170 | 1014 | -.284  | .057  | -.087 | -.618  | 180 | 136 | -.242  | .031  | -.148 | -.365 |
| 170 | 936 | -.224  | .067  | -.038 | -.478  | 170 | 1015 | -.310  | .105  | .042  | -.798  | 180 | 137 | -.248  | .036  | -.132 | -.420 |
| 170 | 937 | -.395  | .113  | -.049 | -1.026 | 170 | 1016 | -.282  | .057  | -.044 | -.588  | 180 | 138 | -.251  | .042  | -.112 | -.530 |
| 170 | 938 | -.363  | .104  | -.014 | -.893  | 170 | 1017 | -.201  | .093  | -.222 | -.742  | 180 | 139 | -.244  | .040  | -.105 | -.441 |
| 170 | 939 | -.309  | .105  | -.029 | -.886  | 170 | 1018 | -.247  | .074  | -.003 | -.620  | 180 | 140 | -.246  | .041  | -.125 | -.567 |
| 170 | 940 | -.283  | .030  | -.209 | -.424  | 170 | 1019 | -.141  | .080  | .305  | -.571  | 180 | 141 | -.251  | .033  | -.119 | -.383 |
| 170 | 941 | -.271  | .098  | -.025 | -.655  | 170 | 1020 | -.383  | .198  | -.003 | -1.142 | 180 | 142 | -.258  | .034  | -.153 | -.441 |
| 170 | 942 | -.247  | .043  | -.115 | -.447  | 170 | 1021 | -.222  | .113  | .678  | -.054  | 180 | 143 | -.277  | .049  | -.102 | -.507 |
| 170 | 943 | -.254  | .054  | -.055 | -.556  | 170 | 1022 | -.100  | .052  | .112  | -.266  | 180 | 144 | -.269  | .041  | -.096 | -.436 |
| 170 | 944 | -.255  | .049  | -.080 | -.498  | 170 | 1023 | -.113  | .048  | .134  | -.288  | 180 | 145 | -.263  | .037  | -.125 | -.434 |
| 170 | 945 | -.151  | .098  | .589  | -.108  | 170 | 1024 | -.186  | .072  | .058  | -.557  | 180 | 146 | -.261  | .041  | -.160 | -.620 |
| 170 | 946 | -.224  | .034  | -.106 | -.383  | 170 | 1025 | -.146  | .060  | .085  | -.415  | 180 | 147 | -.259  | .046  | -.146 | -.606 |
| 170 | 947 | -.234  | .032  | -.124 | -.371  | 170 | 1026 | -.100  | .062  | .168  | -.376  | 180 | 148 | -.262  | .046  | -.125 | -.572 |
| 170 | 948 | -.228  | .039  | -.036 | -.415  | 170 | 1027 | -.110  | .051  | .107  | -.342  | 180 | 149 | -.280  | .049  | -.124 | -.511 |
| 170 | 949 | -.248  | .038  | -.101 | -.431  | 170 | 1028 | -.147  | .031  | .056  | -.276  | 180 | 150 | -.282  | .055  | -.086 | -.610 |
| 170 | 950 | -.133  | .104  | .635  | -.094  | 180 | 101  | -.307  | .081  | -.081 | -.806  | 180 | 151 | -.273  | .044  | -.131 | -.495 |
| 170 | 951 | -.293  | .078  | -.057 | -.710  | 180 | 102  | -.306  | .076  | .117  | -.709  | 180 | 152 | -.257  | .035  | -.135 | -.428 |
| 170 | 952 | -.179  | .066  | .028  | -.493  | 180 | 103  | -.358  | .107  | -.122 | -.995  | 180 | 153 | -.253  | .033  | -.137 | -.432 |
| 170 | 953 | -.175  | .087  | .164  | -.747  | 180 | 104  | -.216  | .068  | .053  | -.547  | 180 | 154 | -.256  | .036  | -.149 | -.482 |
| 170 | 954 | -.255  | .070  | -.032 | -.595  | 180 | 105  | -.289  | .064  | -.090 | -.697  | 180 | 155 | -.268  | .058  | -.119 | -.747 |
| 170 | 955 | -.178  | .048  | .058  | -.509  | 180 | 106  | -.271  | .061  | -.081 | -.611  | 180 | 156 | -.268  | .050  | -.106 | -.522 |
| 170 | 956 | -.253  | .088  | .021  | -.576  | 180 | 107  | -.278  | .057  | -.072 | -.645  | 180 | 157 | -.272  | .055  | -.122 | -.594 |
| 170 | 957 | -.175  | .090  | .217  | -.567  | 180 | 108  | -.298  | .049  | -.104 | -.663  | 180 | 158 | -.272  | .042  | -.135 | -.470 |
| 170 | 958 | -.177  | .061  | .040  | -.544  | 180 | 109  | -.291  | .062  | -.131 | -.624  | 180 | 159 | -.244  | .040  | -.106 | -.428 |
| 170 | 959 | -.214  | .047  | .000  | -.394  | 180 | 110  | -.303  | .077  | -.074 | -.818  | 180 | 160 | -.281  | .051  | -.113 | -.534 |
| 170 | 960 | -.429  | .194  | .300  | -1.559 | 180 | 111  | -.288  | .071  | -.104 | -.645  | 180 | 161 | -.238  | .037  | -.095 | -.385 |
| 170 | 961 | -.366  | .112  | -.025 | -1.128 | 180 | 112  | -.274  | .055  | -.092 | -.620  | 180 | 162 | -.282  | .051  | -.106 | -.612 |
| 170 | 962 | -.072  | .196  | .615  | -.791  | 180 | 113  | -.269  | .052  | -.120 | -.522  | 180 | 163 | -.281  | .050  | -.099 | -.536 |
| 170 | 963 | -.348  | .139  | -.049 | -1.730 | 180 | 114  | -.302  | .074  | -.106 | -.681  | 180 | 164 | -.276  | .042  | -.133 | -.504 |
| 170 | 964 | -.247  | .118  | .132  | -.961  | 180 | 115  | -.294  | .075  | -.095 | -.681  | 180 | 165 | -.276  | .042  | -.142 | -.515 |
| 170 | 965 | -.058  | .170  | .573  | -.772  | 180 | 116  | -.293  | .068  | -.088 | -.774  | 180 | 166 | -.254  | .039  | -.156 | -.475 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 180 | 167 | -.242  | .036  | -.134 | -.389 | 180 | 217 | -.173  | .033  | -.056 | -.282  | 180 | 342 | -.333  | .099  | -.028 | -.792  |
| 180 | 168 | -.237  | .036  | -.122 | -.368 | 180 | 218 | -.191  | .040  | -.047 | -.314  | 180 | 343 | -.364  | .123  | -.035 | -1.119 |
| 180 | 169 | -.238  | .032  | -.127 | -.368 | 180 | 219 | -.144  | .040  | -.040 | -.284  | 180 | 344 | -.371  | .115  | -.064 | -1.110 |
| 180 | 170 | -.292  | .053  | -.115 | -.587 | 180 | 220 | -.189  | .052  | -.008 | -.505  | 180 | 345 | -.363  | .122  | -.037 | -.946  |
| 180 | 171 | -.291  | .056  | -.118 | -.715 | 180 | 221 | -.225  | .063  | -.066 | -.574  | 180 | 346 | -.319  | .088  | -.021 | -.923  |
| 180 | 172 | -.275  | .045  | -.134 | -.494 | 180 | 222 | -.233  | .063  | -.050 | -.459  | 180 | 347 | -.303  | .081  | -.048 | -.732  |
| 180 | 173 | -.251  | .032  | -.087 | -.408 | 180 | 223 | -.175  | .045  | -.070 | -.305  | 180 | 348 | -.302  | .076  | -.087 | -.698  |
| 180 | 174 | -.266  | .044  | -.146 | -.625 | 180 | 224 | -.198  | .041  | -.017 | -.436  | 180 | 349 | -.392  | .149  | -.131 | -1.119 |
| 180 | 175 | -.247  | .035  | -.156 | -.477 | 180 | 225 | -.191  | .041  | -.015 | -.369  | 180 | 350 | -.231  | .137  | -.396 | -.843  |
| 180 | 176 | -.247  | .038  | -.129 | -.525 | 180 | 301 | -.348  | .109  | -.102 | -.592  | 180 | 351 | -.482  | .148  | -.133 | -1.257 |
| 180 | 177 | -.278  | .066  | -.072 | -.711 | 180 | 302 | -.303  | .078  | -.080 | -.695  | 180 | 352 | -.386  | .113  | -.044 | -1.052 |
| 180 | 178 | -.289  | .068  | -.103 | -.620 | 180 | 303 | -.205  | .078  | -.104 | -.560  | 180 | 353 | -.367  | .115  | -.020 | -.908  |
| 180 | 179 | -.246  | .047  | -.025 | -.463 | 180 | 304 | -.319  | .072  | -.120 | -.690  | 180 | 354 | -.328  | .078  | -.118 | -.763  |
| 180 | 180 | -.258  | .038  | -.120 | -.403 | 180 | 305 | -.328  | .095  | -.026 | -.885  | 180 | 355 | -.315  | .088  | -.089 | -.952  |
| 180 | 181 | -.274  | .048  | -.144 | -.634 | 180 | 306 | -.314  | .088  | -.053 | -.793  | 180 | 356 | -.285  | .056  | -.080 | -.576  |
| 180 | 182 | -.253  | .043  | -.141 | -.580 | 180 | 307 | -.314  | .089  | -.051 | -.011  | 180 | 357 | -.290  | .060  | -.091 | -.705  |
| 180 | 183 | -.253  | .045  | -.148 | -.637 | 180 | 308 | -.351  | .113  | -.068 | -.047  | 180 | 358 | -.454  | .133  | -.069 | -1.448 |
| 180 | 184 | -.272  | .065  | -.065 | -.589 | 180 | 309 | -.327  | .094  | -.003 | -.809  | 180 | 359 | -.313  | .082  | -.029 | -.823  |
| 180 | 185 | -.276  | .059  | -.077 | -.634 | 180 | 310 | -.313  | .083  | -.044 | -.780  | 180 | 360 | -.450  | .144  | -.102 | -1.813 |
| 180 | 186 | -.231  | .044  | -.061 | -.439 | 180 | 311 | -.306  | .078  | -.037 | -.674  | 180 | 361 | -.296  | .069  | -.004 | -.641  |
| 180 | 187 | -.247  | .039  | -.065 | -.401 | 180 | 312 | -.344  | .107  | -.064 | -.921  | 180 | 362 | -.422  | .114  | -.144 | -1.074 |
| 180 | 188 | -.269  | .053  | -.137 | -.680 | 180 | 313 | -.347  | .100  | -.008 | -.004  | 180 | 363 | -.458  | .138  | -.093 | -1.453 |
| 180 | 189 | -.260  | .058  | -.103 | -.613 | 180 | 314 | -.303  | .078  | -.008 | -.742  | 180 | 364 | -.415  | .122  | -.013 | -.961  |
| 180 | 190 | -.252  | .059  | -.118 | -.627 | 180 | 315 | -.311  | .085  | -.060 | -.766  | 180 | 365 | -.386  | .115  | -.038 | -.923  |
| 180 | 191 | -.223  | .044  | -.042 | -.404 | 180 | 316 | -.310  | .075  | -.039 | -.643  | 180 | 366 | -.334  | .085  | -.069 | -.886  |
| 180 | 192 | -.228  | .037  | -.081 | -.445 | 180 | 317 | -.308  | .077  | -.026 | -.789  | 180 | 367 | -.297  | .066  | -.076 | -.576  |
| 180 | 193 | -.241  | .040  | -.099 | -.452 | 180 | 318 | -.345  | .101  | -.044 | -.905  | 180 | 368 | -.302  | .076  | -.044 | -.738  |
| 180 | 194 | -.256  | .069  | -.072 | -.754 | 180 | 319 | -.333  | .191  | -.014 | -.874  | 180 | 369 | -.357  | .087  | -.006 | -.804  |
| 180 | 195 | -.261  | .068  | -.070 | -.693 | 180 | 320 | -.313  | .073  | -.078 | -.713  | 180 | 370 | -.457  | .104  | -.179 | -1.201 |
| 180 | 196 | -.228  | .047  | -.036 | -.422 | 180 | 321 | -.299  | .070  | -.069 | -.627  | 180 | 371 | -.465  | .112  | -.135 | -1.091 |
| 180 | 197 | -.252  | .046  | -.088 | -.715 | 180 | 322 | -.369  | .114  | -.069 | -.121  | 180 | 372 | -.476  | .133  | -.090 | -1.257 |
| 180 | 198 | -.169  | .030  | -.049 | -.302 | 180 | 323 | -.377  | .116  | -.060 | -.094  | 180 | 373 | -.421  | .105  | -.030 | -.968  |
| 180 | 199 | -.174  | .029  | -.076 | -.277 | 180 | 324 | -.364  | .109  | -.048 | -.1000 | 180 | 374 | -.334  | .086  | -.027 | -.804  |
| 180 | 200 | -.192  | .036  | -.054 | -.377 | 180 | 325 | -.345  | .092  | -.021 | -.816  | 180 | 375 | -.270  | .067  | -.020 | -.569  |
| 180 | 201 | -.215  | .045  | -.047 | -.483 | 180 | 326 | -.320  | .091  | -.006 | -.843  | 180 | 376 | -.275  | .060  | -.057 | -.571  |
| 180 | 202 | -.153  | .047  | -.037 | -.317 | 180 | 327 | -.308  | .079  | -.049 | -.746  | 180 | 377 | -.504  | .143  | -.205 | -.694  |
| 180 | 203 | -.236  | .051  | -.065 | -.427 | 180 | 328 | -.288  | .069  | -.048 | -.619  | 180 | 378 | -.533  | .155  | -.175 | -1.410 |
| 180 | 204 | -.238  | .043  | -.117 | -.481 | 180 | 329 | -.290  | .070  | -.012 | -.603  | 180 | 379 | -.445  | .143  | -.004 | -1.318 |
| 180 | 205 | -.237  | .043  | -.113 | -.499 | 180 | 330 | -.307  | .070  | -.091 | -.605  | 180 | 380 | -.285  | .120  | -.145 | -.903  |
| 180 | 206 | -.203  | .046  | -.026 | -.356 | 180 | 331 | -.329  | .085  | -.044 | -.789  | 180 | 381 | -.247  | .085  | -.074 | -.616  |
| 180 | 207 | -.234  | .045  | -.022 | -.583 | 180 | 332 | -.378  | .129  | -.060 | -.1230 | 180 | 382 | -.215  | .052  | -.030 | -.447  |
| 180 | 208 | -.220  | .041  | -.097 | -.443 | 180 | 333 | -.371  | .129  | -.096 | -.1226 | 180 | 383 | -.223  | .048  | -.050 | -.402  |
| 180 | 209 | -.166  | .029  | -.074 | -.263 | 180 | 334 | -.379  | .130  | -.039 | -.1057 | 180 | 384 | -.358  | .105  | -.109 | -.499  |
| 180 | 210 | -.203  | .048  | -.056 | -.466 | 180 | 335 | -.339  | .101  | -.048 | -.898  | 180 | 385 | -.382  | .107  | -.005 | -1.001 |
| 180 | 211 | -.081  | .055  | -.178 | -.257 | 180 | 336 | -.325  | .088  | -.054 | -.930  | 180 | 386 | -.285  | .104  | -.042 | -.943  |
| 180 | 212 | -.232  | .048  | -.066 | -.517 | 180 | 337 | -.338  | .101  | -.018 | -.978  | 180 | 387 | -.207  | .060  | -.035 | -.468  |
| 180 | 213 | -.184  | .048  | -.123 | -.333 | 180 | 338 | -.314  | .082  | -.088 | -.851  | 180 | 388 | -.224  | .066  | -.157 | -.505  |
| 180 | 214 | -.205  | .038  | -.066 | -.411 | 180 | 339 | -.299  | .078  | -.018 | -.657  | 180 | 389 | -.211  | .035  | -.083 | -.332  |
| 180 | 215 | -.164  | .028  | -.061 | -.252 | 180 | 340 | -.301  | .082  | -.096 | -.744  | 180 | 390 | -.222  | .035  | -.088 | -.379  |
| 180 | 216 | -.147  | .027  | -.054 | -.252 | 180 | 341 | -.328  | .089  | -.015 | -.678  | 180 | 391 | -.193  | .054  | -.019 | -.429  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 180 | 392 | -.234  | .142  | .390  | -.892 | 180 | 520 | -.376  | .212  | .510  | -.1299 | 180 | 570 | -.043  | .094  | .586  | -.343 |
| 180 | 393 | -.186  | .051  | .024  | -.376 | 180 | 521 | -.309  | .149  | .583  | -.912  | 180 | 571 | .011   | .089  | .522  | -.227 |
| 180 | 394 | -.206  | .050  | .067  | -.430 | 180 | 522 | -.091  | .101  | .358  | -.439  | 180 | 572 | .049   | .142  | .633  | -.589 |
| 180 | 395 | -.203  | .034  | .068  | -.320 | 180 | 523 | -.091  | .088  | .331  | -.665  | 180 | 573 | .159   | .135  | .861  | -.153 |
| 180 | 396 | -.217  | .038  | .059  | -.344 | 180 | 524 | -.118  | .083  | .242  | -.534  | 180 | 574 | .156   | .168  | .690  | -.582 |
| 180 | 397 | -.317  | .088  | -.132 | -.968 | 180 | 525 | -.139  | .091  | .683  | -.652  | 180 | 575 | .090   | .149  | .783  | -.466 |
| 180 | 398 | -.290  | .070  | -.079 | -.752 | 180 | 526 | -.143  | .142  | .424  | -.731  | 180 | 576 | -.005  | .129  | .574  | -.572 |
| 180 | 399 | -.298  | .065  | -.088 | -.689 | 180 | 527 | -.191  | .146  | .520  | -.748  | 180 | 577 | -.066  | .068  | .266  | -.331 |
| 180 | 400 | -.230  | .041  | -.095 | -.414 | 180 | 528 | -.158  | .146  | .685  | -.599  | 180 | 578 | -.022  | .070  | .423  | -.236 |
| 180 | 401 | -.203  | .031  | -.074 | -.320 | 180 | 529 | -.183  | .155  | .541  | -.498  | 180 | 579 | .018   | .113  | .667  | -.471 |
| 180 | 402 | -.200  | .029  | -.095 | -.333 | 180 | 530 | -.049  | .102  | .609  | -.374  | 180 | 580 | .141   | .127  | .733  | -.148 |
| 180 | 403 | -.176  | .027  | -.072 | -.293 | 180 | 531 | -.176  | .146  | .389  | -.973  | 180 | 581 | .122   | .139  | .752  | -.418 |
| 180 | 404 | -.172  | .026  | -.063 | -.281 | 180 | 532 | .004   | .122  | .550  | -.551  | 180 | 582 | -.030  | .090  | .366  | -.317 |
| 180 | 405 | -.209  | .042  | -.027 | -.407 | 180 | 533 | -.008  | .099  | .451  | -.532  | 180 | 583 | .111   | .086  | .375  | -.478 |
| 180 | 406 | -.192  | .042  | -.036 | -.349 | 180 | 534 | -.028  | .094  | .447  | -.656  | 180 | 584 | -.078  | .046  | .134  | -.236 |
| 180 | 407 | -.235  | .061  | .011  | -.540 | 180 | 535 | -.040  | .095  | .632  | -.328  | 180 | 585 | -.034  | .055  | .240  | -.189 |
| 180 | 408 | -.303  | .071  | -.023 | -.694 | 180 | 536 | -.029  | .110  | .621  | -.303  | 180 | 586 | .018   | .092  | .532  | -.516 |
| 180 | 409 | -.187  | .026  | -.074 | -.284 | 180 | 537 | -.021  | .129  | .619  | -.560  | 180 | 587 | .091   | .127  | .892  | -.302 |
| 180 | 410 | -.164  | .028  | -.068 | -.272 | 180 | 538 | -.070  | .163  | .655  | -.741  | 180 | 588 | -.023  | .114  | .505  | -.738 |
| 180 | 411 | -.287  | .066  | -.077 | -.597 | 180 | 539 | -.089  | .160  | .761  | -.594  | 180 | 589 | .170   | .046  | -.016 | -.418 |
| 180 | 412 | -.287  | .062  | -.060 | -.566 | 180 | 540 | -.142  | .154  | .458  | -.775  | 180 | 590 | -.223  | .049  | -.049 | -.480 |
| 180 | 413 | -.183  | .027  | -.084 | -.282 | 180 | 541 | -.031  | .139  | .639  | -.720  | 180 | 591 | .072   | .099  | .568  | -.198 |
| 180 | 414 | -.158  | .045  | .004  | -.420 | 180 | 542 | -.051  | .120  | .447  | -.544  | 180 | 592 | .066   | .095  | .537  | -.175 |
| 180 | 415 | -.139  | .050  | .114  | -.341 | 180 | 543 | -.035  | .147  | .497  | -.594  | 180 | 593 | -.080  | .045  | .116  | -.241 |
| 180 | 416 | -.254  | .053  | -.070 | -.532 | 180 | 544 | -.048  | .121  | .513  | -.471  | 180 | 594 | -.051  | .043  | .180  | -.177 |
| 180 | 417 | -.199  | .050  | -.008 | -.394 | 180 | 545 | -.055  | .096  | .398  | -.590  | 180 | 595 | .009   | .075  | .433  | -.334 |
| 180 | 418 | -.178  | .033  | -.028 | -.282 | 180 | 546 | -.084  | .148  | .807  | -.695  | 180 | 596 | .055   | .084  | .747  | -.168 |
| 180 | 419 | -.179  | .026  | -.084 | -.275 | 180 | 547 | -.163  | .158  | .433  | -.755  | 180 | 597 | -.096  | .092  | .323  | -.634 |
| 180 | 420 | -.178  | .025  | -.072 | -.270 | 180 | 548 | -.233  | .145  | .398  | -.778  | 180 | 598 | -.193  | .052  | -.017 | -.451 |
| 180 | 421 | -.177  | .027  | -.093 | -.339 | 180 | 549 | -.028  | .161  | .686  | -.801  | 180 | 599 | .246   | .054  | -.058 | -.494 |
| 180 | 422 | -.171  | .028  | -.062 | -.304 | 180 | 550 | -.054  | .207  | .534  | -.920  | 180 | 600 | .318   | .086  | -.110 | -.872 |
| 180 | 501 | -.154  | .142  | .550  | -.781 | 180 | 551 | -.018  | .113  | .446  | -.489  | 180 | 601 | .142   | .080  | .158  | -.555 |
| 180 | 502 | -.199  | .134  | .498  | -.867 | 180 | 552 | -.006  | .092  | .531  | -.316  | 180 | 602 | .187   | .073  | .095  | -.501 |
| 180 | 503 | -.149  | .104  | .503  | -.493 | 180 | 553 | -.006  | .111  | .579  | -.334  | 180 | 603 | .076   | .038  | -.088 | -.232 |
| 180 | 504 | -.176  | .167  | .541  | -.810 | 180 | 554 | -.019  | .126  | .567  | -.381  | 180 | 604 | .184   | .049  | -.023 | -.406 |
| 180 | 505 | -.156  | .147  | .685  | -.925 | 180 | 555 | -.097  | .170  | .565  | -.599  | 180 | 605 | .260   | .073  | .021  | -.578 |
| 180 | 506 | -.232  | .101  | .265  | -.645 | 180 | 556 | -.337  | .181  | .253  | -1.140 | 180 | 606 | .079   | .285  | -.549 | -.372 |
| 180 | 507 | -.172  | .108  | .539  | -.545 | 180 | 557 | -.089  | .197  | 1.062 | -.848  | 180 | 607 | .174   | .047  | -.058 | -.372 |
| 180 | 508 | -.163  | .118  | .524  | -.811 | 180 | 558 | -.007  | .111  | .491  | -.455  | 180 | 608 | .108   | .098  | .612  | -.165 |
| 180 | 509 | -.202  | .151  | .482  | -.957 | 180 | 559 | -.058  | .172  | .601  | -.677  | 180 | 609 | .241   | .070  | -.010 | -.233 |
| 180 | 510 | -.275  | .182  | .408  | -.950 | 180 | 560 | -.015  | .149  | .675  | -.527  | 180 | 610 | .131   | .062  | .179  | -.427 |
| 180 | 511 | -.285  | .134  | .301  | -.888 | 180 | 561 | -.133  | .178  | .513  | -.781  | 180 | 611 | .166   | .045  | .021  | -.402 |
| 180 | 512 | -.108  | .127  | .500  | -.810 | 180 | 562 | -.016  | .137  | .839  | -.435  | 180 | 612 | .033   | .045  | .211  | -.167 |
| 180 | 513 | -.116  | .116  | .360  | -.577 | 180 | 563 | -.022  | .117  | .549  | -.358  | 180 | 613 | .010   | .054  | .318  | -.128 |
| 180 | 514 | -.157  | .130  | .573  | -.631 | 180 | 564 | -.014  | .126  | .534  | -.558  | 180 | 614 | .069   | .083  | .522  | -.374 |
| 180 | 515 | -.169  | .140  | .591  | -.611 | 180 | 565 | -.020  | .178  | .871  | -.747  | 180 | 615 | .157   | .113  | .698  | -.077 |
| 180 | 516 | -.241  | .156  | .399  | -.907 | 180 | 566 | -.086  | .177  | .806  | -.402  | 180 | 616 | -.080  | .100  | .306  | -.455 |
| 180 | 517 | -.051  | .101  | .353  | -.391 | 180 | 567 | -.011  | .179  | .690  | -.525  | 180 | 617 | -.091  | .050  | .109  | -.253 |
| 180 | 518 | -.172  | .099  | .315  | -.778 | 180 | 568 | -.075  | .171  | .555  | -.715  | 180 | 618 | .120   | .047  | .125  | -.274 |
| 180 | 519 | -.172  | .125  | .276  | -.797 | 180 | 569 | .142   | .133  | .778  | -.141  | 180 | 619 | -.156  | .048  | .009  | -.364 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 180 | 620 | -.125  | .046  | .067  | -.302  | 180 | 750 | -.277  | .052  | -.135 | -.636  | 180 | 800 | -.150  | .068  | .121  | -.472  |
| 180 | 701 | -.239  | .087  | .280  | -.854  | 180 | 751 | -.060  | .103  | .217  | -.596  | 180 | 801 | -.144  | .069  | .140  | -.358  |
| 180 | 702 | -.204  | .096  | .296  | -.667  | 180 | 752 | -.143  | .064  | .234  | -.500  | 180 | 802 | -.200  | .090  | .142  | -.858  |
| 180 | 703 | -.212  | .107  | .244  | -.674  | 180 | 753 | -.108  | .087  | .188  | -.540  | 180 | 803 | -.184  | .067  | .020  | -.534  |
| 180 | 704 | -.183  | .089  | .226  | -.509  | 180 | 754 | -.106  | .103  | .261  | -.624  | 180 | 804 | -.186  | .065  | .010  | -.566  |
| 180 | 705 | -.218  | .068  | .055  | -.560  | 180 | 755 | -.162  | .177  | .441  | -.1056 | 180 | 805 | -.057  | .065  | .285  | -.227  |
| 180 | 706 | -.184  | .120  | .454  | -.1166 | 180 | 756 | -.027  | .166  | .552  | -.818  | 180 | 806 | -.147  | .041  | .017  | -.322  |
| 180 | 707 | -.187  | .082  | .238  | -.566  | 180 | 757 | -.074  | .216  | .610  | -.1038 | 180 | 807 | -.135  | .050  | .147  | -.293  |
| 180 | 708 | -.253  | .086  | .109  | -.760  | 180 | 758 | -.198  | .038  | -.033 | -.360  | 180 | 808 | -.208  | .038  | -.046 | -.371  |
| 180 | 709 | -.203  | .127  | .303  | -.795  | 180 | 759 | -.169  | .171  | .381  | -.958  | 180 | 809 | -.164  | .056  | .151  | -.383  |
| 180 | 710 | -.050  | .106  | .231  | -.811  | 180 | 760 | -.205  | .038  | -.024 | -.469  | 180 | 810 | -.140  | .071  | .238  | -.472  |
| 180 | 711 | -.164  | .128  | .661  | -.737  | 180 | 761 | -.150  | .206  | .521  | -.1165 | 180 | 811 | -.149  | .063  | .125  | -.406  |
| 180 | 712 | -.200  | .062  | .073  | -.494  | 180 | 762 | -.203  | .036  | -.042 | -.357  | 180 | 812 | -.186  | .070  | .017  | -.677  |
| 180 | 713 | -.157  | .094  | .235  | -.509  | 180 | 763 | -.182  | .040  | -.013 | -.384  | 180 | 813 | -.141  | .042  | .074  | -.303  |
| 180 | 714 | -.121  | .107  | .435  | -.597  | 180 | 764 | -.144  | .055  | .096  | -.567  | 180 | 814 | -.121  | .055  | .163  | -.277  |
| 180 | 715 | -.119  | .144  | .465  | -.791  | 180 | 765 | -.112  | .079  | .259  | -.589  | 180 | 815 | -.195  | .041  | -.004 | -.347  |
| 180 | 716 | -.191  | .133  | .283  | -.824  | 180 | 766 | -.117  | .102  | .210  | -.866  | 180 | 816 | -.158  | .046  | .133  | -.401  |
| 180 | 717 | -.089  | .099  | .514  | -.444  | 180 | 767 | -.155  | .194  | .473  | -.1092 | 180 | 817 | -.141  | .047  | .102  | -.364  |
| 180 | 718 | -.254  | .084  | .132  | -.635  | 180 | 768 | -.208  | .213  | .605  | -.1269 | 180 | 818 | -.133  | .059  | .109  | -.449  |
| 180 | 719 | -.246  | .122  | .330  | -.809  | 180 | 769 | -.096  | .087  | .236  | -.593  | 180 | 819 | -.129  | .064  | .067  | -.390  |
| 180 | 720 | -.144  | .122  | .319  | -.701  | 180 | 770 | -.201  | .037  | -.059 | -.344  | 180 | 820 | -.174  | .088  | .102  | -.771  |
| 180 | 721 | -.174  | .113  | .453  | -.802  | 180 | 771 | -.176  | .041  | -.012 | -.329  | 180 | 821 | -.176  | .063  | -.013 | -.645  |
| 180 | 722 | -.193  | .061  | .082  | -.498  | 180 | 772 | -.203  | .088  | .080  | -.791  | 180 | 822 | -.182  | .064  | -.011 | -.524  |
| 180 | 723 | -.177  | .067  | .116  | -.480  | 180 | 773 | -.127  | .089  | .189  | -.593  | 180 | 901 | -.050  | .118  | .347  | -.405  |
| 180 | 724 | -.208  | .108  | .352  | -.611  | 180 | 774 | -.189  | .113  | .116  | -.791  | 180 | 902 | -.106  | .132  | .372  | -.638  |
| 180 | 725 | -.063  | .116  | .480  | -.545  | 180 | 775 | -.227  | .134  | .271  | -.1026 | 180 | 903 | -.075  | .076  | .286  | -.398  |
| 180 | 726 | -.161  | .080  | .179  | -.638  | 180 | 776 | -.042  | .111  | .302  | -.960  | 180 | 904 | -.146  | .044  | .067  | -.288  |
| 180 | 727 | -.125  | .088  | .199  | -.715  | 180 | 777 | -.187  | .043  | -.012 | -.374  | 180 | 905 | -.278  | .024  | -.217 | -.366  |
| 180 | 728 | -.093  | .127  | .509  | -.825  | 180 | 778 | -.161  | .046  | .076  | -.332  | 180 | 906 | -.153  | .062  | .176  | -.397  |
| 180 | 729 | -.103  | .146  | .450  | -.1054 | 180 | 779 | -.166  | .069  | .085  | -.584  | 180 | 907 | -.162  | .097  | .374  | -.576  |
| 180 | 730 | -.080  | .094  | .375  | -.415  | 180 | 780 | -.158  | .074  | .130  | -.393  | 180 | 908 | -.303  | .093  | .031  | -.768  |
| 180 | 731 | -.109  | .118  | .550  | -.542  | 180 | 781 | -.227  | .101  | .066  | -.1229 | 180 | 909 | -.234  | .069  | .096  | -.551  |
| 180 | 732 | -.193  | .043  | .067  | -.381  | 180 | 782 | -.218  | .078  | .123  | -.666  | 180 | 910 | -.025  | .090  | .304  | -.354  |
| 180 | 733 | -.163  | .051  | .067  | -.347  | 180 | 783 | -.210  | .082  | .101  | -.725  | 180 | 911 | -.260  | .041  | .142  | -.504  |
| 180 | 734 | -.204  | .105  | .181  | -.681  | 180 | 784 | -.177  | .052  | .068  | -.438  | 180 | 912 | -.140  | .144  | .444  | -.1399 |
| 180 | 735 | -.040  | .102  | .418  | -.540  | 180 | 785 | -.146  | .055  | .111  | -.365  | 180 | 913 | -.313  | .116  | .299  | -.768  |
| 180 | 736 | -.040  | .110  | .459  | -.476  | 180 | 786 | -.129  | .077  | .191  | -.405  | 180 | 914 | -.172  | .111  | .442  | -.688  |
| 180 | 737 | -.053  | .105  | .147  | -.793  | 180 | 787 | -.147  | .070  | .101  | -.384  | 180 | 915 | -.265  | .054  | -.086 | -.538  |
| 180 | 738 | -.084  | .102  | .334  | -.829  | 180 | 788 | -.209  | .081  | .073  | -.706  | 180 | 916 | -.158  | .132  | .458  | -.1083 |
| 180 | 739 | -.064  | .167  | .495  | -.831  | 180 | 789 | -.193  | .061  | .052  | -.449  | 180 | 917 | -.337  | .105  | -.112 | -.911  |
| 180 | 740 | -.082  | .185  | .459  | -.1223 | 180 | 790 | -.182  | .063  | .026  | -.675  | 180 | 918 | -.275  | .084  | .081  | -.907  |
| 180 | 741 | -.029  | .111  | .516  | -.417  | 180 | 791 | -.133  | .075  | .172  | -.460  | 180 | 919 | -.040  | .109  | .394  | -.509  |
| 180 | 742 | -.072  | .085  | .270  | -.502  | 180 | 792 | -.146  | .069  | .128  | -.399  | 180 | 920 | -.281  | .091  | .273  | -.882  |
| 180 | 743 | -.238  | .042  | -.074 | -.413  | 180 | 793 | -.165  | .067  | .083  | -.508  | 180 | 921 | -.300  | .071  | -.067 | -.746  |
| 180 | 744 | -.190  | .042  | .038  | -.374  | 180 | 794 | -.161  | .060  | .088  | -.423  | 180 | 922 | -.261  | .036  | -.162 | -.500  |
| 180 | 745 | -.131  | .058  | .199  | -.408  | 180 | 795 | -.148  | .055  | .121  | -.336  | 180 | 923 | -.312  | .070  | -.092 | -.611  |
| 180 | 746 | -.088  | .106  | .254  | -.679  | 180 | 796 | -.136  | .064  | .274  | -.314  | 180 | 924 | -.363  | .179  | .768  | -.148  |
| 180 | 747 | -.113  | .143  | .395  | -.982  | 180 | 797 | -.241  | .038  | -.133 | -.463  | 180 | 925 | -.288  | .056  | -.116 | -.523  |
| 180 | 748 | -.084  | .160  | .557  | -.781  | 180 | 798 | -.180  | .052  | .271  | -.347  | 180 | 926 | -.364  | .117  | .207  | -.1028 |
| 180 | 749 | -.267  | .051  | -.122 | -.573  | 180 | 799 | -.155  | .056  | .173  | -.385  | 180 | 927 | -.283  | .055  | -.091 | -.500  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 180 | 928  | -.326  | .103  | .081  | -.844  | 180 | 1007 | .083   | .094  | .681  | -.124 | 190 | 129 | -.218  | .044  | -.083 | -.509 |
| 180 | 929  | -.288  | .057  | .008  | -.519  | 180 | 1008 | -.241  | .037  | -.071 | -.399 | 190 | 130 | -.229  | .038  | -.105 | -.433 |
| 180 | 930  | -.100  | .154  | .572  | -.596  | 180 | 1009 | .150   | .141  | .946  | -.214 | 190 | 131 | -.236  | .040  | -.127 | -.437 |
| 180 | 931  | -.263  | .045  | -.133 | -.414  | 180 | 1010 | -.241  | .036  | -.098 | -.377 | 190 | 132 | -.237  | .037  | -.083 | -.581 |
| 180 | 932  | -.279  | .077  | .165  | -.563  | 180 | 1011 | .066   | .097  | .659  | -.154 | 190 | 133 | -.234  | .037  | -.098 | -.489 |
| 180 | 933  | -.289  | .112  | .163  | -.712  | 180 | 1012 | -.236  | .045  | -.083 | -.397 | 190 | 134 | -.233  | .032  | -.136 | -.361 |
| 180 | 934  | -.289  | .053  | -.061 | -.572  | 180 | 1013 | -.381  | .117  | -.044 | -.936 | 190 | 135 | -.231  | .035  | -.127 | -.437 |
| 180 | 935  | -.286  | .051  | .022  | -.527  | 180 | 1014 | -.291  | .050  | -.108 | -.486 | 190 | 136 | -.227  | .033  | -.123 | -.372 |
| 180 | 936  | -.352  | .063  | -.144 | -.565  | 180 | 1015 | -.327  | .089  | -.029 | -.738 | 190 | 137 | -.225  | .036  | -.083 | -.426 |
| 180 | 937  | -.357  | .099  | -.096 | -.847  | 180 | 1016 | -.297  | .056  | -.069 | -.667 | 190 | 138 | -.226  | .037  | -.112 | -.410 |
| 180 | 938  | -.339  | .101  | -.042 | -.999  | 180 | 1017 | -.205  | .056  | .075  | -.484 | 190 | 139 | -.221  | .036  | -.094 | -.392 |
| 180 | 939  | -.300  | .080  | -.031 | -.779  | 180 | 1018 | -.217  | .053  | .163  | -.421 | 190 | 140 | -.224  | .039  | -.094 | -.415 |
| 180 | 940  | -.286  | .025  | -.216 | -.382  | 180 | 1019 | -.181  | .058  | .075  | -.387 | 190 | 141 | -.232  | .032  | -.125 | -.365 |
| 180 | 941  | -.157  | .051  | -.024 | -.298  | 180 | 1020 | -.364  | .095  | -.073 | -.942 | 190 | 142 | -.238  | .036  | -.134 | -.410 |
| 180 | 942  | -.264  | .043  | -.158 | -.464  | 180 | 1021 | -.149  | .107  | .608  | -.076 | 190 | 143 | -.259  | .042  | -.101 | -.487 |
| 180 | 943  | -.227  | .061  | -.124 | -.717  | 180 | 1022 | -.161  | .036  | -.027 | -.273 | 190 | 144 | -.252  | .036  | -.136 | -.419 |
| 180 | 944  | -.250  | .043  | -.121 | -.457  | 180 | 1023 | -.171  | .040  | -.044 | -.411 | 190 | 145 | -.244  | .034  | -.145 | -.453 |
| 180 | 945  | -.093  | .100  | .543  | -.112  | 180 | 1024 | -.250  | .069  | -.037 | -.579 | 190 | 146 | -.236  | .037  | -.145 | -.523 |
| 180 | 946  | -.243  | .034  | -.110 | -.406  | 180 | 1025 | -.177  | .050  | -.015 | -.392 | 190 | 147 | -.239  | .045  | -.132 | -.498 |
| 180 | 947  | -.249  | .034  | -.151 | -.390  | 180 | 1026 | -.132  | .054  | .085  | -.321 | 190 | 148 | -.237  | .043  | -.123 | -.484 |
| 180 | 948  | -.242  | .038  | -.107 | -.425  | 180 | 1027 | -.134  | .045  | .051  | -.297 | 190 | 149 | -.250  | .040  | -.115 | -.470 |
| 180 | 949  | -.258  | .041  | -.128 | -.501  | 180 | 1028 | -.180  | .026  | -.071 | -.278 | 190 | 150 | -.261  | .047  | -.115 | -.481 |
| 180 | 950  | -.081  | .109  | .844  | -.167  | 190 | 101  | -.276  | .078  | -.055 | -.669 | 190 | 151 | -.253  | .037  | -.150 | -.427 |
| 180 | 951  | -.271  | .063  | -.080 | -.659  | 190 | 102  | -.295  | .073  | -.079 | -.669 | 190 | 152 | -.240  | .031  | -.150 | -.400 |
| 180 | 952  | -.230  | .058  | -.033 | -.434  | 190 | 103  | -.347  | .105  | -.095 | -.911 | 190 | 153 | -.236  | .032  | -.150 | -.413 |
| 180 | 953  | -.232  | .064  | -.039 | -.567  | 190 | 104  | -.154  | .071  | .069  | -.642 | 190 | 154 | -.236  | .036  | -.141 | -.440 |
| 180 | 954  | -.249  | .055  | -.084 | -.599  | 190 | 105  | -.257  | .060  | -.067 | -.544 | 190 | 155 | -.247  | .059  | -.073 | -.745 |
| 180 | 955  | -.199  | .045  | -.006 | -.434  | 190 | 106  | -.241  | .055  | -.063 | -.502 | 190 | 156 | -.250  | .051  | -.097 | -.534 |
| 180 | 956  | -.222  | .057  | .026  | -.501  | 190 | 107  | -.251  | .055  | -.061 | -.505 | 190 | 157 | -.263  | .060  | -.097 | -.662 |
| 180 | 957  | -.180  | .058  | -.104 | -.466  | 190 | 108  | -.267  | .064  | -.096 | -.701 | 190 | 158 | -.255  | .038  | -.148 | -.473 |
| 180 | 958  | -.199  | .048  | -.016 | -.393  | 190 | 109  | -.270  | .061  | -.086 | -.598 | 190 | 159 | -.227  | .039  | -.119 | -.407 |
| 180 | 959  | -.221  | .034  | -.071 | -.372  | 190 | 110  | -.270  | .070  | -.090 | -.669 | 190 | 160 | -.262  | .044  | -.115 | -.677 |
| 180 | 960  | -.351  | .158  | -.155 | -.1165 | 190 | 111  | -.259  | .064  | -.087 | -.524 | 190 | 161 | -.224  | .040  | -.082 | -.451 |
| 180 | 961  | -.317  | .099  | -.032 | -.956  | 190 | 112  | -.248  | .050  | -.068 | -.651 | 190 | 162 | -.263  | .047  | -.110 | -.578 |
| 180 | 962  | -.158  | .163  | .624  | -.927  | 190 | 113  | -.248  | .050  | -.095 | -.514 | 190 | 163 | -.258  | .044  | -.093 | -.640 |
| 180 | 963  | -.280  | .094  | -.052 | -.1065 | 190 | 114  | -.276  | .071  | -.084 | -.622 | 190 | 164 | -.248  | .037  | -.113 | -.481 |
| 180 | 964  | -.231  | .077  | .121  | -.818  | 190 | 115  | -.263  | .065  | -.097 | -.571 | 190 | 165 | -.260  | .044  | -.148 | -.626 |
| 180 | 965  | -.163  | .148  | .463  | -.179  | 190 | 116  | -.260  | .061  | -.092 | -.551 | 190 | 166 | -.234  | .037  | -.130 | -.402 |
| 180 | 966  | -.330  | .104  | -.112 | -.1241 | 190 | 117  | -.238  | .047  | -.050 | -.449 | 190 | 167 | -.220  | .037  | -.109 | -.374 |
| 180 | 967  | -.175  | .031  | -.046 | -.380  | 190 | 118  | -.265  | .050  | -.135 | -.529 | 190 | 168 | -.216  | .036  | -.109 | -.402 |
| 180 | 968  | -.209  | .073  | .250  | -.555  | 190 | 119  | -.268  | .058  | -.106 | -.574 | 190 | 169 | -.222  | .033  | -.125 | -.381 |
| 180 | 969  | -.220  | .042  | -.034 | -.431  | 190 | 120  | -.250  | .057  | -.050 | -.509 | 190 | 170 | -.264  | .052  | -.109 | -.567 |
| 180 | 970  | -.213  | .032  | -.068 | -.406  | 190 | 121  | -.344  | .106  | -.052 | -.915 | 190 | 171 | -.261  | .048  | -.086 | -.599 |
| 180 | 971  | -.188  | .030  | -.073 | -.338  | 190 | 122  | -.242  | .048  | -.092 | -.485 | 190 | 172 | -.254  | .043  | -.102 | -.513 |
| 180 | 1001 | -.118  | .081  | .168  | -.528  | 190 | 123  | -.239  | .047  | -.090 | -.496 | 190 | 173 | -.243  | .035  | -.116 | -.374 |
| 180 | 1002 | -.158  | .069  | .099  | -.596  | 190 | 124  | -.239  | .041  | -.106 | -.416 | 190 | 174 | -.245  | .040  | -.123 | -.450 |
| 180 | 1003 | -.203  | .096  | .232  | -.584  | 190 | 125  | -.248  | .046  | -.097 | -.469 | 190 | 175 | -.233  | .036  | -.116 | -.427 |
| 180 | 1004 | -.318  | .076  | -.099 | -.747  | 190 | 126  | -.225  | .041  | -.097 | -.412 | 190 | 176 | -.230  | .037  | -.077 | -.446 |
| 180 | 1005 | -.199  | .096  | .163  | -.709  | 190 | 127  | -.229  | .044  | -.098 | -.413 | 190 | 177 | -.266  | .062  | -.056 | -.581 |
| 180 | 1006 | -.300  | .045  | -.106 | -.684  | 190 | 128  | -.224  | .045  | -.069 | -.473 | 190 | 178 | -.260  | .064  | -.060 | -.487 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 190 | 179 | -.242  | .050  | .002  | -.553 | 190 | 304 | -.322  | .077  | -.104 | -.651  | 190 | 354 | -.283  | .056  | -.014 | -.566  |
| 190 | 180 | -.252  | .042  | -.100 | -.450 | 190 | 305 | -.283  | .077  | -.099 | -.739  | 190 | 355 | -.283  | .068  | -.073 | -.663  |
| 190 | 181 | -.266  | .050  | -.144 | -.527 | 190 | 306 | -.290  | .083  | -.081 | -.751  | 190 | 356 | -.259  | .046  | -.110 | -.568  |
| 190 | 182 | -.242  | .046  | -.125 | -.444 | 190 | 307 | -.277  | .075  | -.020 | -.686  | 190 | 357 | -.260  | .046  | -.118 | -.499  |
| 190 | 183 | -.233  | .041  | -.100 | -.404 | 190 | 308 | -.284  | .079  | -.085 | -.908  | 190 | 358 | -.348  | .093  | -.127 | -.925  |
| 190 | 184 | -.260  | .060  | -.070 | -.669 | 190 | 309 | -.277  | .076  | -.017 | -.689  | 190 | 359 | -.281  | .056  | -.114 | -.687  |
| 190 | 185 | -.262  | .060  | -.051 | -.536 | 190 | 310 | -.270  | .068  | -.050 | -.704  | 190 | 360 | -.340  | .098  | -.101 | -1.072 |
| 190 | 186 | -.235  | .053  | .044  | -.432 | 190 | 311 | -.292  | .083  | -.069 | -.801  | 190 | 361 | -.270  | .054  | -.064 | -.531  |
| 190 | 187 | -.242  | .048  | .028  | -.527 | 190 | 312 | -.272  | .074  | -.071 | -.876  | 190 | 362 | -.320  | .084  | -.077 | -.931  |
| 190 | 188 | -.259  | .055  | -.121 | -.541 | 190 | 313 | -.282  | .074  | -.056 | -.832  | 190 | 363 | -.320  | .079  | -.062 | -.689  |
| 190 | 189 | -.239  | .047  | -.102 | -.485 | 190 | 314 | -.268  | .067  | -.011 | -.680  | 190 | 364 | -.317  | .081  | -.077 | -.797  |
| 190 | 190 | -.233  | .050  | -.025 | -.599 | 190 | 315 | -.285  | .085  | -.026 | -.795  | 190 | 365 | -.320  | .081  | -.105 | -.890  |
| 190 | 191 | -.225  | .048  | .005  | -.478 | 190 | 316 | -.270  | .064  | -.082 | -.787  | 190 | 366 | -.289  | .061  | -.107 | -.717  |
| 190 | 192 | -.227  | .045  | -.059 | -.465 | 190 | 317 | -.264  | .062  | -.063 | -.625  | 190 | 367 | -.274  | .056  | -.046 | -.564  |
| 190 | 193 | -.233  | .042  | -.064 | -.436 | 190 | 318 | -.301  | .090  | -.078 | -.798  | 190 | 368 | -.275  | .060  | -.105 | -.692  |
| 190 | 194 | -.258  | .067  | -.066 | -.700 | 190 | 319 | -.268  | .069  | -.001 | -.645  | 190 | 369 | -.295  | .062  | -.100 | -.639  |
| 190 | 195 | -.255  | .067  | -.015 | -.711 | 190 | 320 | -.272  | .060  | -.095 | -.628  | 190 | 370 | -.340  | .078  | -.100 | -.781  |
| 190 | 196 | -.235  | .049  | -.028 | -.416 | 190 | 321 | -.271  | .061  | -.085 | -.580  | 190 | 371 | -.338  | .078  | -.160 | -.792  |
| 190 | 197 | -.245  | .046  | -.128 | -.487 | 190 | 322 | -.284  | .089  | -.034 | -.970  | 190 | 372 | -.353  | .094  | -.135 | -1.041 |
| 190 | 198 | -.150  | .032  | -.016 | -.270 | 190 | 323 | -.277  | .078  | -.058 | -.928  | 190 | 373 | -.325  | .071  | -.123 | -.726  |
| 190 | 199 | -.155  | .030  | -.026 | -.261 | 190 | 324 | -.305  | .096  | -.045 | -.832  | 190 | 374 | -.290  | .066  | -.039 | -.626  |
| 190 | 200 | -.172  | .041  | -.037 | -.403 | 190 | 325 | -.280  | .075  | -.067 | -.706  | 190 | 375 | -.253  | .054  | -.084 | -.511  |
| 190 | 201 | -.194  | .052  | -.005 | -.401 | 190 | 326 | -.281  | .070  | -.065 | -.787  | 190 | 376 | -.252  | .050  | -.041 | -.600  |
| 190 | 202 | -.125  | .051  | -.087 | -.325 | 190 | 327 | -.277  | .065  | -.005 | -.753  | 190 | 377 | -.365  | .095  | -.160 | -.893  |
| 190 | 203 | -.250  | .060  | -.052 | -.507 | 190 | 328 | -.271  | .063  | -.002 | -.537  | 190 | 378 | -.363  | .096  | -.151 | -1.039 |
| 190 | 204 | -.241  | .049  | -.106 | -.474 | 190 | 329 | -.277  | .072  | -.082 | -.974  | 190 | 379 | -.352  | .102  | -.027 | -.927  |
| 190 | 205 | -.235  | .045  | -.099 | -.480 | 190 | 330 | -.265  | .058  | -.066 | -.539  | 190 | 380 | -.291  | .091  | -.055 | -.744  |
| 190 | 206 | -.164  | .061  | -.127 | -.396 | 190 | 331 | -.272  | .052  | -.075 | -.581  | 190 | 381 | -.250  | .074  | -.082 | -.573  |
| 190 | 207 | -.217  | .041  | -.099 | -.449 | 190 | 332 | -.269  | .065  | -.108 | -.777  | 190 | 382 | -.220  | .051  | -.046 | -.477  |
| 190 | 208 | -.196  | .041  | -.035 | -.381 | 190 | 333 | -.271  | .073  | -.086 | -.872  | 190 | 383 | -.230  | .051  | -.046 | -.680  |
| 190 | 209 | -.142  | .030  | -.006 | -.296 | 190 | 334 | -.288  | .079  | -.066 | -.742  | 190 | 384 | -.345  | .094  | -.041 | -.005  |
| 190 | 210 | -.181  | .052  | -.005 | -.433 | 190 | 335 | -.270  | .063  | -.082 | -.627  | 190 | 385 | -.350  | .105  | -.121 | -.066  |
| 190 | 211 | -.027  | .065  | -.283 | -.206 | 190 | 336 | -.272  | .058  | -.086 | -.590  | 190 | 386 | -.285  | .077  | -.021 | -.735  |
| 190 | 212 | -.231  | .049  | -.087 | -.644 | 190 | 337 | -.284  | .066  | -.108 | -.632  | 190 | 387 | -.243  | .068  | -.018 | -.660  |
| 190 | 213 | -.112  | .020  | -.238 | -.267 | 190 | 338 | -.277  | .058  | -.036 | -.557  | 190 | 388 | -.215  | .053  | -.103 | -.470  |
| 190 | 214 | -.171  | .045  | -.006 | -.397 | 190 | 339 | -.280  | .065  | -.044 | -.607  | 190 | 389 | -.199  | .039  | -.034 | -.393  |
| 190 | 215 | -.147  | .031  | -.042 | -.249 | 190 | 340 | -.278  | .068  | -.051 | -.707  | 190 | 390 | -.214  | .041  | -.037 | -.441  |
| 190 | 216 | -.146  | .031  | -.022 | -.260 | 190 | 341 | -.271  | .060  | -.082 | -.621  | 190 | 391 | -.229  | .055  | -.034 | -.549  |
| 190 | 217 | -.155  | .036  | -.024 | -.276 | 190 | 342 | -.280  | .061  | -.073 | -.658  | 190 | 392 | -.234  | .090  | -.090 | -.716  |
| 190 | 218 | -.167  | .049  | -.009 | -.419 | 190 | 343 | -.276  | .064  | -.064 | -.579  | 190 | 393 | -.229  | .054  | -.029 | -.581  |
| 190 | 219 | -.108  | .051  | -.092 | -.343 | 190 | 344 | -.276  | .062  | -.091 | -.621  | 190 | 394 | -.200  | .046  | -.048 | -.420  |
| 190 | 220 | -.198  | .068  | -.003 | -.532 | 190 | 345 | -.281  | .069  | -.089 | -.720  | 190 | 395 | -.194  | .035  | -.029 | -.407  |
| 190 | 221 | -.235  | .070  | -.049 | -.664 | 190 | 346 | -.280  | .061  | -.108 | -.588  | 190 | 396 | -.204  | .037  | -.047 | -.453  |
| 190 | 222 | -.232  | .066  | -.044 | -.680 | 190 | 347 | -.283  | .060  | -.133 | -.543  | 190 | 397 | -.293  | .088  | -.060 | -.767  |
| 190 | 223 | -.121  | .055  | -.229 | -.278 | 190 | 348 | -.281  | .063  | -.072 | -.627  | 190 | 398 | -.256  | .066  | -.073 | -.796  |
| 190 | 224 | -.179  | .051  | -.032 | -.399 | 190 | 349 | -.374  | .114  | -.030 | -.1011 | 190 | 399 | -.257  | .056  | -.042 | -.552  |
| 190 | 225 | -.158  | .044  | -.057 | -.338 | 190 | 350 | -.291  | .100  | -.113 | -.791  | 190 | 400 | -.206  | .039  | -.080 | -.389  |
| 190 | 301 | -.327  | .098  | -.085 | -.937 | 190 | 351 | -.319  | .090  | -.051 | -.102  | 190 | 401 | -.191  | .033  | -.009 | -.326  |
| 190 | 302 | -.276  | .079  | -.054 | -.682 | 190 | 352 | -.305  | .075  | -.043 | -.795  | 190 | 402 | -.183  | .027  | -.091 | -.290  |
| 190 | 303 | -.148  | .074  | .136  | -.457 | 190 | 353 | -.301  | .071  | -.056 | -.791  | 190 | 403 | -.151  | .028  | -.022 | -.268  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 190 | 404 | -.148  | .029  | -.040 | -.288  | 190 | 532 | .044   | .141  | .656  | -.668  | 190 | 582 | -.114  | .068  | .281  | -.351 |
| 190 | 405 | -.198  | .050  | -.020 | -.468  | 190 | 533 | .061   | .111  | .512  | -.402  | 190 | 583 | -.164  | .071  | .178  | -.388 |
| 190 | 406 | -.175  | .050  | -.019 | -.435  | 190 | 534 | .007   | .074  | .395  | -.322  | 190 | 584 | -.047  | .043  | .251  | -.278 |
| 190 | 407 | -.173  | .046  | -.016 | -.367  | 190 | 535 | -.019  | .080  | .313  | -.444  | 190 | 585 | -.045  | .043  | .118  | -.273 |
| 190 | 408 | -.252  | .049  | -.100 | -.546  | 190 | 536 | .060   | .101  | .514  | -.247  | 190 | 586 | -.029  | .045  | .231  | -.276 |
| 190 | 409 | -.169  | .027  | -.040 | -.297  | 190 | 537 | .027   | .093  | .375  | -.316  | 190 | 587 | -.045  | .064  | .501  | -.262 |
| 190 | 410 | -.142  | .030  | -.022 | -.238  | 190 | 538 | -.153  | .133  | .280  | -.814  | 190 | 588 | -.099  | .075  | .288  | -.576 |
| 190 | 411 | -.249  | .058  | -.036 | -.613  | 190 | 539 | -.111  | .077  | .410  | -.444  | 190 | 589 | -.152  | .039  | -.001 | -.386 |
| 190 | 412 | -.242  | .047  | -.082 | -.446  | 190 | 540 | -.151  | .081  | .333  | -.482  | 190 | 590 | -.203  | .049  | -.051 | -.498 |
| 190 | 413 | -.155  | .029  | -.032 | -.267  | 190 | 541 | .081   | .109  | .703  | -.369  | 190 | 591 | -.031  | .052  | .418  | -.160 |
| 190 | 414 | -.124  | .034  | -.002 | -.269  | 190 | 542 | .016   | .084  | .384  | -.243  | 190 | 592 | -.023  | .053  | .437  | -.232 |
| 190 | 415 | -.117  | .032  | -.032 | -.253  | 190 | 543 | .078   | .124  | .612  | -.342  | 190 | 593 | -.054  | .034  | .058  | -.204 |
| 190 | 416 | -.221  | .049  | -.012 | -.474  | 190 | 544 | .042   | .121  | .452  | -.690  | 190 | 594 | -.051  | .036  | .093  | -.255 |
| 190 | 417 | -.169  | .042  | -.035 | -.318  | 190 | 545 | .006   | .077  | .344  | -.349  | 190 | 595 | -.038  | .044  | .302  | -.241 |
| 190 | 418 | -.158  | .032  | -.007 | -.269  | 190 | 546 | -.060  | .078  | .563  | -.475  | 190 | 596 | -.030  | .050  | .311  | -.197 |
| 190 | 419 | -.158  | .029  | -.035 | -.253  | 190 | 547 | -.160  | .078  | .302  | -.546  | 190 | 597 | -.096  | .059  | .170  | -.406 |
| 190 | 420 | -.154  | .029  | -.028 | -.265  | 190 | 548 | -.242  | .082  | .235  | -.548  | 190 | 598 | -.144  | .038  | -.012 | -.302 |
| 190 | 421 | -.149  | .028  | -.038 | -.245  | 190 | 549 | .121   | .135  | .701  | -.288  | 190 | 599 | -.188  | .041  | -.049 | -.366 |
| 190 | 422 | -.146  | .029  | -.045 | -.254  | 190 | 550 | .120   | .134  | .690  | -.418  | 190 | 600 | -.298  | .079  | -.058 | -.738 |
| 190 | 501 | -.030  | .172  | .748  | -.612  | 190 | 551 | .041   | .122  | .506  | -.557  | 190 | 601 | -.108  | .051  | .178  | -.366 |
| 190 | 502 | -.083  | .171  | .665  | -.736  | 190 | 552 | .039   | .080  | .356  | -.301  | 190 | 602 | -.133  | .050  | .067  | -.421 |
| 190 | 503 | -.061  | .102  | .374  | -.393  | 190 | 553 | .007   | .074  | .337  | -.290  | 190 | 603 | -.050  | .037  | .078  | -.287 |
| 190 | 504 | -.081  | .172  | .670  | -.776  | 190 | 554 | -.032  | .077  | .510  | -.301  | 190 | 604 | -.134  | .035  | .042  | -.348 |
| 190 | 505 | -.018  | .170  | .688  | -.738  | 190 | 555 | -.158  | .091  | .387  | -.555  | 190 | 605 | -.177  | .046  | -.038 | -.444 |
| 190 | 506 | -.151  | .102  | .444  | -.545  | 190 | 556 | -.359  | .126  | .144  | -.952  | 190 | 606 | -.070  | .053  | .123  | -.281 |
| 190 | 507 | -.046  | .144  | .670  | -.443  | 190 | 557 | -.269  | .140  | .298  | -.954  | 190 | 607 | -.132  | .040  | .094  | -.303 |
| 190 | 508 | -.028  | .166  | .726  | -.844  | 190 | 558 | -.060  | .120  | .621  | -.449  | 190 | 608 | -.010  | .052  | .294  | -.185 |
| 190 | 509 | -.036  | .143  | .696  | -.730  | 190 | 559 | -.131  | .088  | .311  | -.401  | 190 | 609 | -.166  | .046  | .014  | -.433 |
| 190 | 510 | -.098  | .153  | .750  | -.688  | 190 | 560 | -.098  | .136  | .682  | -.433  | 190 | 610 | -.112  | .046  | .074  | -.323 |
| 190 | 511 | -.191  | .101  | .371  | -.793  | 190 | 561 | -.182  | .095  | .393  | -.618  | 190 | 611 | -.125  | .039  | .105  | -.312 |
| 190 | 512 | -.021  | .153  | .733  | -.767  | 190 | 562 | -.103  | .134  | .803  | -.475  | 190 | 612 | -.034  | .037  | .143  | -.290 |
| 190 | 513 | -.011  | .116  | .683  | -.472  | 190 | 563 | .101   | .121  | .649  | -.173  | 190 | 613 | -.030  | .035  | .167  | -.165 |
| 190 | 514 | -.087  | .123  | .521  | -.572  | 190 | 564 | -.047  | .078  | .508  | -.190  | 190 | 614 | -.016  | .055  | .263  | -.345 |
| 190 | 515 | -.147  | .102  | .447  | -.531  | 190 | 565 | .023   | .093  | .604  | -.427  | 190 | 615 | -.003  | .060  | .513  | -.156 |
| 190 | 516 | -.087  | .138  | .565  | -.688  | 190 | 566 | -.019  | .092  | .558  | -.328  | 190 | 616 | -.076  | .052  | .152  | -.448 |
| 190 | 517 | -.001  | .112  | .906  | -.325  | 190 | 567 | -.094  | .095  | .478  | -.420  | 190 | 617 | -.089  | .034  | .071  | -.236 |
| 190 | 518 | -.042  | .128  | .711  | -.430  | 190 | 568 | -.151  | .096  | .402  | -.553  | 190 | 618 | -.105  | .035  | .036  | -.232 |
| 190 | 519 | -.026  | .126  | .447  | -.590  | 190 | 569 | -.050  | .083  | .588  | -.200  | 190 | 619 | -.120  | .038  | .074  | -.263 |
| 190 | 520 | -.255  | .165  | .383  | -.1023 | 190 | 570 | -.048  | .114  | .666  | -.386  | 190 | 620 | -.109  | .039  | .134  | -.279 |
| 190 | 521 | -.215  | .127  | .379  | -.778  | 190 | 571 | -.050  | .099  | .611  | -.280  | 190 | 701 | -.183  | .101  | .417  | -.660 |
| 190 | 522 | -.007  | .134  | .672  | -.496  | 190 | 572 | -.020  | .069  | .503  | -.374  | 190 | 702 | -.118  | .126  | .463  | -.719 |
| 190 | 523 | -.002  | .110  | .490  | -.408  | 190 | 573 | -.044  | .075  | .446  | -.168  | 190 | 703 | -.144  | .151  | .506  | -.783 |
| 190 | 524 | -.025  | .092  | .576  | -.371  | 190 | 574 | -.075  | .140  | .618  | -.1061 | 190 | 704 | -.106  | .097  | .356  | -.521 |
| 190 | 525 | -.054  | .089  | .420  | -.483  | 190 | 575 | -.083  | .096  | .508  | -.450  | 190 | 705 | -.162  | .061  | .168  | -.455 |
| 190 | 526 | -.022  | .112  | .571  | -.378  | 190 | 576 | -.139  | .098  | .412  | -.525  | 190 | 706 | -.059  | .177  | .663  | -.970 |
| 190 | 527 | -.192  | .133  | .428  | -.798  | 190 | 577 | -.023  | .074  | .363  | -.383  | 190 | 707 | -.100  | .102  | .358  | -.426 |
| 190 | 528 | -.143  | .095  | .472  | -.759  | 190 | 578 | -.013  | .062  | .276  | -.285  | 190 | 708 | -.198  | .072  | .046  | -.560 |
| 190 | 529 | -.166  | .093  | .353  | -.553  | 190 | 579 | -.008  | .057  | .302  | -.317  | 190 | 709 | -.109  | .136  | .435  | -.985 |
| 190 | 530 | -.005  | .097  | .629  | -.371  | 190 | 580 | -.010  | .060  | .508  | -.198  | 190 | 710 | -.069  | .125  | .460  | -.889 |
| 190 | 531 | -.041  | .121  | .470  | -.643  | 190 | 581 | -.074  | .112  | .551  | -.663  | 190 | 711 | -.037  | .168  | .592  | -.861 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 190 | 212 | -.173  | .064  | .206  | -.430 | 190 | 762 | -.185  | .035  | -.027 | -.326  | 190 | 812 | -.045  | .038  | .156  | -.203  |
| 190 | 213 | -.090  | .101  | .308  | -.544 | 190 | 763 | -.159  | .039  | .151  | -.313  | 190 | 813 | -.082  | .042  | .154  | -.212  |
| 190 | 214 | -.014  | .122  | .678  | -.424 | 190 | 764 | -.112  | .056  | .110  | -.407  | 190 | 814 | -.043  | .053  | .199  | -.249  |
| 190 | 215 | -.001  | .188  | .778  | -.944 | 190 | 765 | -.033  | .065  | .252  | -.281  | 190 | 815 | -.143  | .048  | .113  | -.357  |
| 190 | 216 | -.085  | .151  | .458  | -.728 | 190 | 766 | -.012  | .068  | .325  | -.255  | 190 | 816 | -.094  | .049  | .170  | -.203  |
| 190 | 217 | -.006  | .129  | .578  | -.435 | 190 | 767 | -.035  | .114  | .490  | -.451  | 190 | 817 | -.071  | .051  | .269  | -.194  |
| 190 | 218 | -.213  | .083  | .110  | -.653 | 190 | 768 | -.025  | .140  | .559  | -.591  | 190 | 818 | -.039  | .058  | .267  | -.224  |
| 190 | 219 | -.217  | .130  | .397  | -.844 | 190 | 769 | -.018  | .065  | .249  | -.263  | 190 | 819 | -.016  | .050  | .281  | -.133  |
| 190 | 220 | -.029  | .134  | .506  | -.599 | 190 | 770 | -.178  | .034  | -.032 | -.329  | 190 | 820 | -.030  | .043  | .186  | -.296  |
| 190 | 221 | -.046  | .147  | .731  | -.876 | 190 | 771 | -.152  | .038  | .068  | -.310  | 190 | 821 | -.036  | .037  | .182  | -.255  |
| 190 | 222 | -.158  | .059  | .113  | -.444 | 190 | 772 | -.222  | .112  | .080  | -.1000 | 190 | 822 | -.035  | .031  | .067  | -.289  |
| 190 | 223 | -.132  | .074  | .451  | -.517 | 190 | 773 | -.024  | .060  | .252  | -.213  | 190 | 901 | -.117  | .088  | .434  | -.108  |
| 190 | 224 | -.178  | .111  | .331  | -.826 | 190 | 774 | -.041  | .054  | .183  | -.270  | 190 | 902 | -.019  | .129  | .790  | -.362  |
| 190 | 225 | -.007  | .137  | .653  | -.403 | 190 | 775 | -.019  | .102  | .421  | -.515  | 190 | 903 | -.002  | .083  | .369  | -.261  |
| 190 | 226 | -.067  | .085  | .299  | -.451 | 190 | 776 | -.026  | .117  | .554  | -.562  | 190 | 904 | -.106  | .048  | .153  | -.272  |
| 190 | 227 | -.026  | .103  | .473  | -.318 | 190 | 777 | -.168  | .038  | .018  | -.327  | 190 | 905 | -.261  | .026  | -.200 | -.376  |
| 190 | 228 | -.014  | .137  | .638  | -.727 | 190 | 778 | -.134  | .042  | .018  | -.310  | 190 | 906 | -.043  | .091  | .419  | -.253  |
| 190 | 229 | -.026  | .151  | .769  | -.601 | 190 | 779 | -.120  | .078  | .147  | -.562  | 190 | 907 | -.029  | .110  | .476  | -.433  |
| 190 | 730 | -.000  | .104  | .569  | -.288 | 190 | 780 | -.031  | .047  | .199  | -.184  | 190 | 908 | -.278  | .110  | .273  | -.773  |
| 190 | 731 | -.018  | .128  | .684  | -.583 | 190 | 781 | -.037  | .052  | .187  | -.253  | 190 | 909 | -.182  | .076  | .171  | -.414  |
| 190 | 732 | -.170  | .044  | .038  | -.332 | 190 | 782 | -.045  | .070  | .354  | -.415  | 190 | 910 | -.042  | .101  | .476  | -.258  |
| 190 | 733 | -.130  | .055  | .146  | -.318 | 190 | 783 | -.050  | .073  | .566  | -.427  | 190 | 911 | -.233  | .037  | -.130 | -.422  |
| 190 | 734 | -.194  | .113  | .293  | -.796 | 190 | 784 | -.139  | .048  | .130  | -.455  | 190 | 912 | -.024  | .149  | .771  | -.535  |
| 190 | 735 | -.031  | .112  | .673  | -.288 | 190 | 785 | -.099  | .051  | .128  | -.279  | 190 | 913 | -.294  | .120  | .231  | -.875  |
| 190 | 736 | -.036  | .115  | .636  | -.235 | 190 | 786 | -.069  | .070  | .171  | -.551  | 190 | 914 | -.026  | .122  | .831  | -.506  |
| 190 | 737 | -.017  | .091  | .346  | -.477 | 190 | 787 | -.033  | .046  | .197  | -.236  | 190 | 915 | -.241  | .055  | -.070 | -.603  |
| 190 | 738 | -.009  | .097  | .385  | -.424 | 190 | 788 | -.032  | .049  | .192  | -.201  | 190 | 916 | -.015  | .143  | .729  | -.504  |
| 190 | 739 | -.065  | .142  | .648  | -.652 | 190 | 789 | -.052  | .049  | .145  | -.296  | 190 | 917 | -.338  | .118  | -.058 | -.1059 |
| 190 | 740 | -.052  | .158  | .790  | -.601 | 190 | 790 | -.052  | .048  | .147  | -.432  | 190 | 918 | -.204  | .093  | .172  | -.709  |
| 190 | 741 | -.053  | .114  | .723  | -.373 | 190 | 791 | -.012  | .060  | .292  | -.314  | 190 | 919 | -.005  | .075  | .426  | -.251  |
| 190 | 742 | -.013  | .094  | .408  | -.263 | 190 | 792 | -.019  | .053  | .243  | -.152  | 190 | 920 | -.200  | .109  | .342  | -.810  |
| 190 | 743 | -.216  | .043  | -.019 | -.447 | 190 | 793 | -.021  | .053  | .212  | -.198  | 190 | 921 | -.284  | .073  | -.112 | -.716  |
| 190 | 744 | -.160  | .049  | .183  | -.330 | 190 | 794 | -.015  | .056  | .301  | -.199  | 190 | 922 | -.236  | .034  | -.145 | -.402  |
| 190 | 745 | -.090  | .062  | .254  | -.327 | 190 | 795 | -.087  | .051  | .274  | -.244  | 190 | 923 | -.302  | .074  | -.102 | -.732  |
| 190 | 746 | -.014  | .099  | .447  | -.334 | 190 | 796 | -.070  | .058  | .174  | -.326  | 190 | 924 | -.275  | .166  | .768  | -.897  |
| 190 | 747 | -.010  | .136  | .581  | -.477 | 190 | 797 | -.212  | .043  | -.079 | -.387  | 190 | 925 | -.269  | .055  | -.101 | -.666  |
| 190 | 748 | -.050  | .129  | .625  | -.422 | 190 | 798 | -.123  | .052  | .163  | -.262  | 190 | 926 | -.256  | .151  | .340  | -.817  |
| 190 | 749 | -.238  | .047  | -.072 | -.506 | 190 | 799 | -.091  | .058  | .208  | -.235  | 190 | 927 | -.263  | .055  | -.101 | -.536  |
| 190 | 750 | -.268  | .060  | -.115 | -.756 | 190 | 800 | -.037  | .071  | .382  | -.280  | 190 | 928 | -.262  | .095  | -.086 | -.751  |
| 190 | 751 | -.192  | .052  | .013  | -.423 | 190 | 801 | -.028  | .054  | .204  | -.172  | 190 | 929 | -.271  | .055  | -.080 | -.572  |
| 190 | 752 | -.109  | .070  | .223  | -.479 | 190 | 802 | -.014  | .057  | .308  | -.217  | 190 | 930 | -.098  | .026  | .326  | -.435  |
| 190 | 753 | -.043  | .088  | .313  | -.534 | 190 | 803 | -.037  | .050  | .120  | -.538  | 190 | 931 | -.246  | .034  | -.141 | -.451  |
| 190 | 754 | -.015  | .085  | .322  | -.403 | 190 | 804 | -.045  | .045  | .125  | -.389  | 190 | 932 | -.189  | .102  | .364  | -.503  |
| 190 | 755 | -.007  | .146  | .785  | -.592 | 190 | 805 | -.017  | .066  | .391  | -.208  | 190 | 933 | -.212  | .093  | .263  | -.716  |
| 190 | 756 | .115   | .147  | .763  | -.534 | 190 | 806 | -.099  | .048  | .093  | -.262  | 190 | 934 | -.268  | .051  | -.025 | -.576  |
| 190 | 757 | .119   | .146  | .718  | -.419 | 190 | 807 | -.077  | .049  | .258  | -.251  | 190 | 935 | -.263  | .049  | -.106 | -.534  |
| 190 | 758 | .176   | .040  | -.020 | -.344 | 190 | 808 | -.157  | .055  | .125  | -.344  | 190 | 936 | -.302  | .036  | -.194 | -.443  |
| 190 | 759 | -.010  | .127  | .459  | -.567 | 190 | 809 | -.092  | .063  | .208  | -.258  | 190 | 937 | -.271  | .060  | -.084 | -.603  |
| 190 | 760 | -.188  | .039  | .162  | -.340 | 190 | 810 | -.019  | .050  | .206  | -.142  | 190 | 938 | -.281  | .060  | -.051 | -.603  |
| 190 | 761 | .043   | .145  | .668  | -.545 | 190 | 811 | -.020  | .051  | .278  | -.179  | 190 | 939 | -.285  | .060  | -.040 | -.574  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 190 | 940  | -.269  | .027  | -.200 | -.376  | 190 | 1019 | -.211  | .059  | -.007 | -.555 | 200 | 141 | -.265  | .041  | -.155 | -.433  |
| 190 | 941  | -.010  | .037  | -.113 | -.125  | 190 | 1020 | -.300  | .063  | -.100 | -.625 | 200 | 142 | -.269  | .046  | -.151 | -.530  |
| 190 | 942  | -.246  | .045  | -.123 | -.428  | 190 | 1021 | -.006  | .057  | -.448 | -.156 | 200 | 143 | -.283  | .051  | -.139 | -.551  |
| 190 | 943  | -.260  | .058  | -.083 | -.580  | 190 | 1022 | -.121  | .048  | -.066 | -.270 | 200 | 144 | -.294  | .049  | -.162 | -.487  |
| 190 | 944  | -.245  | .048  | -.090 | -.476  | 190 | 1023 | -.142  | .051  | -.019 | -.520 | 200 | 145 | -.287  | .046  | -.166 | -.533  |
| 190 | 945  | -.030  | .054  | .400  | -.211  | 190 | 1024 | -.232  | .078  | -.004 | -.574 | 200 | 146 | -.262  | .046  | -.141 | -.492  |
| 190 | 946  | -.241  | .039  | -.145 | -.445  | 190 | 1025 | -.128  | .037  | -.063 | -.273 | 200 | 147 | -.267  | .050  | -.123 | -.624  |
| 190 | 947  | -.243  | .036  | -.136 | -.414  | 190 | 1026 | -.116  | .042  | -.073 | -.317 | 200 | 148 | -.262  | .048  | -.128 | -.505  |
| 190 | 948  | -.246  | .045  | -.035 | -.454  | 190 | 1027 | -.116  | .040  | -.042 | -.254 | 200 | 149 | -.278  | .053  | -.119 | -.558  |
| 190 | 949  | -.261  | .044  | -.154 | -.520  | 190 | 1028 | -.153  | .027  | -.028 | -.233 | 200 | 150 | -.277  | .049  | -.135 | -.533  |
| 190 | 950  | -.022  | .058  | .398  | -.187  | 200 | 101  | -.254  | .056  | -.085 | -.649 | 200 | 151 | -.280  | .051  | -.130 | -.562  |
| 190 | 951  | -.287  | .082  | -.057 | -.871  | 200 | 102  | -.302  | .059  | -.119 | -.577 | 200 | 152 | -.276  | .044  | -.157 | -.482  |
| 190 | 952  | -.210  | .067  | -.020 | -.525  | 200 | 103  | -.361  | .088  | -.089 | -.950 | 200 | 153 | -.275  | .047  | -.135 | -.506  |
| 190 | 953  | -.212  | .076  | -.009 | -.644  | 200 | 104  | -.092  | .063  | -.124 | -.384 | 200 | 154 | -.276  | .051  | -.155 | -.664  |
| 190 | 954  | -.241  | .054  | -.028 | -.492  | 200 | 105  | -.254  | .051  | -.096 | -.567 | 200 | 155 | -.280  | .064  | -.115 | -1.036 |
| 190 | 955  | -.190  | .052  | .014  | -.560  | 200 | 106  | -.261  | .052  | -.092 | -.488 | 200 | 156 | -.296  | .067  | -.121 | -.662  |
| 190 | 956  | -.261  | .065  | -.050 | -.679  | 200 | 107  | -.257  | .051  | -.092 | -.564 | 200 | 157 | -.307  | .073  | -.132 | -.818  |
| 190 | 957  | -.222  | .061  | -.029 | -.538  | 200 | 108  | -.270  | .059  | -.114 | -.587 | 200 | 158 | -.293  | .051  | -.146 | -.524  |
| 190 | 958  | -.211  | .051  | -.046 | -.547  | 200 | 109  | -.265  | .057  | -.128 | -.552 | 200 | 159 | -.274  | .060  | -.112 | -.609  |
| 190 | 959  | -.214  | .039  | -.070 | -.397  | 200 | 110  | -.254  | .058  | -.098 | -.611 | 200 | 160 | -.294  | .052  | -.155 | -.524  |
| 190 | 960  | -.357  | .137  | -.082 | -.1357 | 200 | 111  | -.249  | .060  | -.077 | -.622 | 200 | 161 | -.274  | .068  | -.097 | -.773  |
| 190 | 961  | -.308  | .088  | -.055 | -.763  | 200 | 112  | -.260  | .048  | -.116 | -.510 | 200 | 162 | -.288  | .054  | -.041 | .517   |
| 190 | 962  | -.107  | .094  | .335  | -.690  | 200 | 113  | -.260  | .050  | -.112 | -.512 | 200 | 163 | -.294  | .052  | -.128 | -.564  |
| 190 | 963  | -.306  | .094  | -.071 | -.1033 | 200 | 114  | -.269  | .061  | -.123 | -.550 | 200 | 164 | -.297  | .058  | -.117 | -.624  |
| 190 | 964  | -.262  | .081  | -.100 | -.1071 | 200 | 115  | -.261  | .061  | -.096 | -.662 | 200 | 165 | -.334  | .075  | -.166 | -.731  |
| 190 | 965  | -.202  | .116  | -.228 | -.1006 | 200 | 116  | -.261  | .055  | -.105 | -.651 | 200 | 166 | -.278  | .052  | -.122 | -.492  |
| 190 | 966  | -.330  | .091  | -.114 | -.1414 | 200 | 117  | -.244  | .044  | -.110 | -.467 | 200 | 167 | -.263  | .056  | -.092 | -.588  |
| 190 | 967  | -.156  | .034  | -.016 | -.282  | 200 | 118  | -.279  | .052  | -.112 | -.503 | 200 | 168 | -.263  | .054  | -.122 | -.650  |
| 190 | 968  | -.204  | .049  | -.075 | -.445  | 200 | 119  | -.282  | .063  | -.130 | -.647 | 200 | 169 | -.266  | .049  | -.099 | -.527  |
| 190 | 969  | -.215  | .047  | -.029 | -.501  | 200 | 120  | -.264  | .061  | -.092 | -.573 | 200 | 170 | -.286  | .064  | -.056 | -.701  |
| 190 | 970  | -.202  | .038  | -.063 | -.473  | 200 | 121  | -.343  | .106  | -.092 | -.970 | 200 | 171 | -.274  | .059  | -.070 | -.544  |
| 190 | 971  | -.171  | .034  | -.037 | -.380  | 200 | 122  | -.252  | .046  | -.130 | -.465 | 200 | 172 | -.301  | .068  | -.118 | -.633  |
| 190 | 1001 | -.021  | .057  | -.224 | -.263  | 200 | 123  | -.260  | .047  | -.114 | -.525 | 200 | 173 | -.308  | .065  | -.153 | -.593  |
| 190 | 1002 | -.007  | .055  | .311  | -.151  | 200 | 124  | -.261  | .043  | -.143 | -.498 | 200 | 174 | -.320  | .078  | -.162 | -.730  |
| 190 | 1003 | -.068  | .117  | .522  | -.470  | 200 | 125  | -.274  | .048  | -.141 | -.489 | 200 | 175 | -.281  | .057  | -.127 | -.537  |
| 190 | 1004 | -.290  | .081  | -.016 | -.707  | 200 | 126  | -.245  | .049  | -.071 | -.532 | 200 | 176 | -.278  | .063  | -.136 | -.654  |
| 190 | 1005 | -.057  | .110  | .341  | -.418  | 200 | 127  | -.256  | .061  | -.107 | -.637 | 200 | 177 | -.249  | .079  | .021  | -.626  |
| 190 | 1006 | -.280  | .066  | -.088 | -.561  | 200 | 128  | -.238  | .045  | -.071 | -.467 | 200 | 178 | -.241  | .077  | .061  | -.675  |
| 190 | 1007 | -.037  | .049  | -.262 | -.203  | 200 | 129  | -.238  | .048  | -.091 | -.478 | 200 | 179 | -.274  | .073  | .052  | -.612  |
| 190 | 1008 | -.231  | .039  | -.044 | -.406  | 200 | 130  | -.249  | .042  | -.112 | -.439 | 200 | 180 | -.326  | .074  | -.132 | -.680  |
| 190 | 1009 | .045   | .082  | .484  | -.203  | 200 | 131  | -.260  | .046  | -.137 | -.578 | 200 | 181 | -.331  | .077  | -.146 | -.852  |
| 190 | 1010 | -.227  | .037  | -.102 | -.368  | 200 | 132  | -.263  | .045  | -.135 | -.437 | 200 | 182 | -.296  | .066  | -.146 | -.593  |
| 190 | 1011 | -.028  | .051  | .313  | -.196  | 200 | 133  | -.260  | .045  | -.114 | -.485 | 200 | 183 | -.299  | .065  | -.143 | -.680  |
| 190 | 1012 | -.237  | .051  | -.037 | -.441  | 200 | 134  | -.261  | .043  | -.139 | -.412 | 200 | 184 | -.246  | .081  | .080  | -.671  |
| 190 | 1013 | -.295  | .092  | -.025 | -.774  | 200 | 135  | -.270  | .049  | -.151 | -.501 | 200 | 185 | -.239  | .086  | .073  | -.640  |
| 190 | 1014 | -.272  | .053  | -.064 | -.514  | 200 | 136  | -.254  | .041  | -.141 | -.464 | 200 | 186 | -.245  | .077  | -.087 | -.522  |
| 190 | 1015 | -.270  | .078  | -.035 | -.639  | 200 | 137  | -.247  | .043  | -.114 | -.485 | 200 | 187 | -.279  | .063  | -.061 | -.586  |
| 190 | 1016 | -.274  | .058  | -.123 | -.609  | 200 | 138  | -.252  | .043  | -.132 | -.455 | 200 | 188 | -.347  | .091  | -.132 | -.913  |
| 190 | 1017 | -.240  | .063  | -.014 | -.588  | 200 | 139  | -.248  | .044  | -.123 | -.521 | 200 | 189 | -.303  | .071  | -.113 | -.725  |
| 190 | 1018 | -.254  | .058  | -.088 | -.553  | 200 | 140  | -.248  | .043  | -.121 | -.421 | 200 | 190 | -.298  | .077  | -.026 | -.998  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 200 | 191 | -.253  | .079  | .050  | -.593 | 200 | 316 | -.276  | .063  | -.079 | -.627  | 200 | 366 | -.316  | .059  | -.119 | -.555  |
| 200 | 192 | -.255  | .063  | .030  | -.566 | 200 | 317 | -.264  | .056  | -.063 | -.529  | 200 | 367 | -.314  | .062  | -.141 | -.581  |
| 200 | 193 | -.293  | .068  | -.071 | -.631 | 200 | 318 | -.297  | .079  | -.094 | -.989  | 200 | 368 | -.319  | .070  | -.119 | -.764  |
| 200 | 194 | -.244  | .086  | .079  | -.737 | 200 | 319 | -.261  | .053  | -.047 | -.588  | 200 | 369 | -.317  | .061  | -.133 | -.598  |
| 200 | 195 | -.236  | .081  | .050  | -.757 | 200 | 320 | -.282  | .060  | -.097 | -.590  | 200 | 370 | -.326  | .066  | -.143 | -.716  |
| 200 | 196 | -.245  | .065  | .041  | -.568 | 200 | 321 | -.285  | .062  | -.126 | -.699  | 200 | 371 | -.326  | .064  | -.155 | -.641  |
| 200 | 197 | -.304  | .076  | -.146 | -.750 | 200 | 322 | -.267  | .063  | -.072 | -.767  | 200 | 372 | -.357  | .079  | -.126 | -.856  |
| 200 | 198 | -.133  | .034  | -.006 | -.296 | 200 | 323 | -.274  | .067  | -.101 | -.994  | 200 | 373 | -.349  | .075  | -.141 | -.776  |
| 200 | 199 | -.140  | .031  | -.011 | -.256 | 200 | 324 | -.306  | .088  | -.033 | -.722  | 200 | 374 | -.345  | .077  | -.079 | -.667  |
| 200 | 200 | -.163  | .045  | .039  | -.440 | 200 | 325 | -.279  | .063  | -.101 | -.631  | 200 | 375 | -.322  | .081  | -.110 | -.856  |
| 200 | 201 | -.185  | .055  | .021  | -.462 | 200 | 326 | -.287  | .066  | -.133 | -.760  | 200 | 376 | -.320  | .088  | -.122 | -.804  |
| 200 | 202 | -.115  | .058  | .122  | -.415 | 200 | 327 | -.283  | .058  | -.108 | -.849  | 200 | 377 | -.354  | .079  | -.152 | -1.055 |
| 200 | 203 | -.280  | .075  | -.058 | -.611 | 200 | 328 | -.278  | .057  | -.103 | -.592  | 200 | 378 | -.364  | .082  | -.160 | -.728  |
| 200 | 204 | -.256  | .053  | -.096 | -.478 | 200 | 329 | -.278  | .061  | -.106 | -.599  | 200 | 379 | -.386  | .093  | -.169 | -.939  |
| 200 | 205 | -.259  | .052  | -.105 | -.590 | 200 | 330 | -.271  | .053  | -.122 | -.477  | 200 | 380 | -.356  | .078  | -.081 | -.738  |
| 200 | 206 | -.198  | .066  | .104  | -.458 | 200 | 331 | -.280  | .056  | -.080 | -.507  | 200 | 381 | -.335  | .084  | -.032 | -.816  |
| 200 | 207 | -.262  | .059  | -.101 | -.656 | 200 | 332 | -.265  | .051  | -.103 | -.603  | 200 | 382 | -.279  | .083  | -.046 | -.946  |
| 200 | 208 | -.229  | .056  | -.071 | -.270 | 200 | 333 | -.270  | .054  | -.115 | -.587  | 200 | 383 | -.276  | .091  | -.044 | -.785  |
| 200 | 209 | -.120  | .033  | .054  | -.271 | 200 | 334 | -.288  | .064  | -.124 | -.736  | 200 | 384 | -.357  | .101  | -.133 | -1.079 |
| 200 | 210 | -.169  | .056  | .054  | -.571 | 200 | 335 | -.281  | .054  | -.131 | -.635  | 200 | 385 | -.377  | .118  | -.148 | -1.259 |
| 200 | 211 | -.016  | .071  | .257  | -.239 | 200 | 336 | -.283  | .052  | -.129 | -.521  | 200 | 386 | -.349  | .081  | -.126 | -.702  |
| 200 | 212 | -.240  | .065  | -.066 | -.599 | 200 | 337 | -.295  | .061  | -.131 | -.617  | 200 | 387 | -.331  | .086  | -.117 | -.889  |
| 200 | 213 | -.125  | .072  | .223  | -.342 | 200 | 338 | -.291  | .056  | -.126 | -.530  | 200 | 388 | -.290  | .080  | -.053 | -.660  |
| 200 | 214 | -.181  | .043  | .016  | -.464 | 200 | 339 | -.298  | .067  | -.073 | -.465  | 200 | 389 | -.221  | .068  | -.073 | -.702  |
| 200 | 215 | -.125  | .030  | -.012 | -.246 | 200 | 340 | -.304  | .070  | -.126 | -.651  | 200 | 390 | -.222  | .068  | -.008 | -.821  |
| 200 | 216 | -.128  | .029  | -.006 | -.239 | 200 | 341 | -.283  | .051  | -.117 | -.482  | 200 | 391 | -.314  | .081  | -.114 | -.801  |
| 200 | 217 | -.137  | .032  | -.014 | -.282 | 200 | 342 | -.297  | .059  | -.090 | -.571  | 200 | 392 | -.285  | .083  | -.005 | -.797  |
| 200 | 218 | -.154  | .048  | .018  | -.360 | 200 | 343 | -.283  | .054  | -.099 | -.518  | 200 | 393 | -.297  | .075  | -.132 | -.692  |
| 200 | 219 | -.089  | .050  | .157  | -.278 | 200 | 344 | -.279  | .055  | -.117 | -.647  | 200 | 394 | -.257  | .073  | -.021 | -.598  |
| 200 | 220 | -.208  | .081  | .036  | -.555 | 200 | 345 | -.279  | .053  | -.129 | -.516  | 200 | 395 | -.201  | .059  | .003  | -.691  |
| 200 | 221 | -.231  | .079  | -.019 | -.672 | 200 | 346 | -.304  | .060  | -.138 | -.713  | 200 | 396 | -.215  | .068  | -.050 | -.811  |
| 200 | 222 | -.244  | .078  | -.057 | -.628 | 200 | 347 | -.309  | .063  | -.133 | -.635  | 200 | 397 | -.313  | .087  | -.122 | -.852  |
| 200 | 223 | -.124  | .056  | .220  | -.287 | 200 | 348 | -.304  | .061  | -.135 | -.599  | 200 | 398 | -.263  | .070  | -.086 | -.760  |
| 200 | 224 | -.193  | .059  | -.019 | -.551 | 200 | 349 | -.375  | .092  | -.120 | -.870  | 200 | 399 | -.270  | .055  | -.117 | -.566  |
| 200 | 225 | -.162  | .047  | .002  | -.351 | 200 | 350 | -.345  | .079  | -.106 | -.792  | 200 | 400 | -.223  | .046  | -.059 | -.482  |
| 200 | 301 | -.322  | .071  | -.122 | -.763 | 200 | 351 | -.313  | .069  | -.095 | -.661  | 200 | 401 | -.219  | .045  | -.097 | -.464  |
| 200 | 302 | -.259  | .056  | -.090 | -.545 | 200 | 352 | -.308  | .061  | -.131 | -.601  | 200 | 402 | -.188  | .035  | -.039 | -.375  |
| 200 | 303 | -.093  | .067  | .118  | -.455 | 200 | 353 | -.310  | .060  | -.142 | -.547  | 200 | 403 | -.141  | .030  | -.014 | -.333  |
| 200 | 304 | -.340  | .073  | -.115 | -.815 | 200 | 354 | -.312  | .055  | -.138 | -.533  | 200 | 404 | -.134  | .030  | -.010 | -.299  |
| 200 | 305 | -.254  | .054  | -.096 | -.563 | 200 | 355 | -.315  | .064  | -.093 | -.639  | 200 | 405 | -.173  | .047  | -.012 | -.397  |
| 200 | 306 | -.272  | .064  | -.107 | -.661 | 200 | 356 | -.290  | .058  | -.104 | -.572  | 200 | 406 | -.159  | .051  | -.019 | -.460  |
| 200 | 307 | -.272  | .057  | -.094 | -.683 | 200 | 357 | -.287  | .055  | -.104 | -.608  | 200 | 407 | -.159  | .044  | -.025 | -.368  |
| 200 | 308 | -.257  | .056  | -.100 | -.632 | 200 | 358 | -.339  | .086  | -.124 | -.821  | 200 | 408 | -.262  | .051  | -.125 | -.536  |
| 200 | 309 | -.272  | .068  | -.054 | -.767 | 200 | 359 | -.311  | .063  | -.145 | -.592  | 200 | 409 | -.177  | .030  | -.039 | -.326  |
| 200 | 310 | -.269  | .060  | -.074 | -.599 | 200 | 360 | -.340  | .101  | -.120 | -.1129 | 200 | 410 | -.120  | .032  | -.059 | -.221  |
| 200 | 311 | -.276  | .064  | -.120 | -.730 | 200 | 361 | -.319  | .065  | -.145 | -.715  | 200 | 411 | -.269  | .061  | -.066 | -.564  |
| 200 | 312 | -.260  | .057  | -.099 | -.658 | 200 | 362 | -.309  | .072  | -.093 | -.778  | 200 | 412 | -.253  | .051  | -.095 | -.488  |
| 200 | 313 | -.272  | .060  | -.097 | -.665 | 200 | 363 | -.325  | .078  | -.140 | -.826  | 200 | 413 | -.144  | .028  | -.035 | -.263  |
| 200 | 314 | -.274  | .058  | -.103 | -.579 | 200 | 364 | -.314  | .063  | -.138 | -.628  | 200 | 414 | -.103  | .035  | -.066 | -.231  |
| 200 | 315 | -.282  | .065  | -.103 | -.620 | 200 | 365 | -.330  | .068  | -.113 | -.929  | 200 | 415 | -.094  | .038  | -.080 | -.198  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 81

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 200 | 416 | -.230  | .055  | -.049 | -.626 | 200 | 544 | .153   | .156  | .683  | -.509  | 200 | 594 | -.051  | .042  | .165  | -.226 |
| 200 | 417 | -.148  | .056  | -.163 | -.327 | 200 | 545 | .108   | .106  | .525  | -.288  | 200 | 595 | -.042  | .036  | .158  | -.209 |
| 200 | 418 | -.170  | .029  | -.061 | -.296 | 200 | 546 | -.034  | .059  | .289  | -.251  | 200 | 596 | -.036  | .039  | .153  | -.183 |
| 200 | 419 | -.143  | .027  | -.040 | -.259 | 200 | 547 | -.157  | .057  | .233  | -.444  | 200 | 597 | -.123  | .046  | .066  | -.409 |
| 200 | 420 | -.141  | .027  | -.030 | -.233 | 200 | 548 | -.251  | .060  | .188  | -.569  | 200 | 598 | -.140  | .034  | .031  | -.318 |
| 200 | 421 | -.135  | .030  | -.007 | -.274 | 200 | 549 | .193   | .147  | .765  | -.304  | 200 | 599 | -.188  | .040  | -.086 | -.373 |
| 200 | 422 | -.135  | .030  | -.002 | -.219 | 200 | 550 | .214   | .159  | 1.132 | -.223  | 200 | 600 | -.318  | .090  | -.012 | -.894 |
| 200 | 501 | -.002  | .139  | .498  | -.517 | 200 | 551 | .127   | .143  | .722  | -.550  | 200 | 601 | -.058  | .058  | .206  | -.283 |
| 200 | 502 | -.096  | .115  | .511  | -.647 | 200 | 552 | .089   | .104  | .547  | -.341  | 200 | 602 | -.099  | .048  | .108  | -.326 |
| 200 | 503 | -.029  | .111  | .381  | -.380 | 200 | 553 | .054   | .088  | .373  | -.402  | 200 | 603 | -.046  | .036  | .172  | -.219 |
| 200 | 504 | -.063  | .157  | .568  | -.688 | 200 | 554 | -.027  | .067  | .198  | -.339  | 200 | 604 | -.121  | .033  | .029  | -.256 |
| 200 | 505 | -.054  | .184  | .701  | -.671 | 200 | 555 | -.173  | .064  | .163  | -.448  | 200 | 605 | -.170  | .048  | .009  | -.405 |
| 200 | 506 | -.141  | .075  | .315  | -.456 | 200 | 556 | -.366  | .101  | .030  | -1.008 | 200 | 606 | -.031  | .061  | .327  | -.289 |
| 200 | 507 | -.028  | .106  | .632  | -.385 | 200 | 557 | -.333  | .082  | .176  | -.808  | 200 | 607 | -.111  | .037  | .027  | -.269 |
| 200 | 508 | .097   | .194  | .904  | -.831 | 200 | 558 | .129   | .143  | .641  | -.576  | 200 | 608 | -.014  | .045  | .291  | -.127 |
| 200 | 509 | .026   | .129  | .465  | -.719 | 200 | 559 | -.146  | .053  | .109  | -.321  | 200 | 609 | -.155  | .047  | -.005 | -.419 |
| 200 | 510 | -.008  | .122  | .489  | -.523 | 200 | 560 | .175   | .150  | .761  | -.437  | 200 | 610 | -.094  | .054  | .233  | -.310 |
| 200 | 511 | -.164  | .082  | .304  | -.604 | 200 | 561 | -.193  | .062  | .087  | -.463  | 200 | 611 | -.105  | .038  | .047  | -.219 |
| 200 | 512 | -.138  | .196  | .804  | -.763 | 200 | 562 | .170   | .150  | .818  | -.498  | 200 | 612 | -.028  | .039  | .208  | -.192 |
| 200 | 513 | -.091  | .127  | .617  | -.363 | 200 | 563 | .167   | .134  | .794  | -.315  | 200 | 613 | -.035  | .042  | .217  | -.262 |
| 200 | 514 | -.025  | .112  | .498  | -.477 | 200 | 564 | .086   | .083  | .477  | -.223  | 200 | 614 | -.011  | .050  | .267  | -.190 |
| 200 | 515 | -.137  | .074  | .262  | -.396 | 200 | 565 | .061   | .081  | .379  | -.284  | 200 | 615 | -.001  | .052  | .343  | -.149 |
| 200 | 516 | -.023  | .123  | .493  | -.631 | 200 | 566 | -.016  | .068  | .403  | -.419  | 200 | 616 | -.062  | .046  | .167  | -.242 |
| 200 | 517 | -.111  | .147  | .771  | -.246 | 200 | 567 | -.118  | .058  | .212  | -.320  | 200 | 617 | -.076  | .036  | .149  | -.172 |
| 200 | 518 | .083   | .161  | .755  | -.682 | 200 | 568 | -.173  | .055  | .094  | -.353  | 200 | 618 | -.087  | .037  | .099  | -.183 |
| 200 | 519 | -.092  | .135  | .546  | -.420 | 200 | 569 | .079   | .085  | .410  | -.148  | 200 | 619 | -.098  | .035  | .070  | -.228 |
| 200 | 520 | -.230  | .134  | .441  | -.917 | 200 | 570 | .103   | .133  | .647  | -.452  | 200 | 620 | -.090  | .044  | .115  | -.269 |
| 200 | 521 | -.179  | .099  | .286  | -.574 | 200 | 571 | .111   | .116  | .560  | -.258  | 200 | 701 | -.106  | .088  | .291  | -.625 |
| 200 | 522 | -.147  | .171  | .683  | -.717 | 200 | 572 | .043   | .076  | .417  | -.178  | 200 | 702 | -.003  | .121  | .445  | -.494 |
| 200 | 523 | -.143  | .147  | .819  | -.468 | 200 | 573 | .070   | .076  | .334  | -.201  | 200 | 703 | -.018  | .160  | .645  | -.607 |
| 200 | 524 | -.069  | .104  | .487  | -.264 | 200 | 574 | -.176  | .110  | .288  | -.747  | 200 | 704 | -.037  | .095  | .369  | -.360 |
| 200 | 525 | -.031  | .097  | .474  | -.332 | 200 | 575 | -.124  | .052  | .122  | -.307  | 200 | 705 | -.124  | .060  | .132  | -.407 |
| 200 | 526 | -.100  | .137  | .658  | -.303 | 200 | 576 | -.183  | .049  | .041  | -.366  | 200 | 706 | -.091  | .174  | .669  | -.787 |
| 200 | 527 | -.216  | .132  | .344  | -.870 | 200 | 577 | .001   | .100  | .530  | -.360  | 200 | 707 | -.027  | .093  | .465  | -.385 |
| 200 | 528 | -.116  | .072  | .284  | -.429 | 200 | 578 | .005   | .083  | .433  | -.300  | 200 | 708 | -.156  | .071  | .112  | -.640 |
| 200 | 529 | -.149  | .063  | .302  | -.433 | 200 | 579 | .004   | .062  | .348  | -.203  | 200 | 709 | -.020  | .135  | .463  | -.803 |
| 200 | 530 | .072   | .112  | .511  | -.268 | 200 | 580 | .011   | .061  | .391  | -.141  | 200 | 710 | -.047  | .124  | .487  | -.445 |
| 200 | 531 | -.023  | .125  | .567  | -.547 | 200 | 581 | -.178  | .101  | .173  | -.740  | 200 | 711 | -.149  | .187  | .830  | -.590 |
| 200 | 532 | -.202  | .194  | .857  | -.692 | 200 | 582 | -.148  | .046  | .103  | -.348  | 200 | 712 | -.119  | .063  | .187  | -.376 |
| 200 | 533 | -.176  | .147  | .696  | -.442 | 200 | 583 | -.195  | .051  | .037  | -.406  | 200 | 713 | -.016  | .108  | .352  | -.407 |
| 200 | 534 | .086   | .091  | .478  | -.222 | 200 | 584 | -.059  | .054  | .269  | -.403  | 200 | 714 | -.129  | .136  | .745  | -.385 |
| 200 | 535 | -.048  | .091  | .366  | -.522 | 200 | 585 | -.052  | .052  | .212  | -.297  | 200 | 715 | -.213  | .200  | .903  | -.525 |
| 200 | 536 | -.123  | .117  | .906  | -.217 | 200 | 586 | -.033  | .042  | .184  | -.191  | 200 | 716 | -.090  | .163  | .627  | -.619 |
| 200 | 537 | -.094  | .104  | .589  | -.219 | 200 | 587 | -.064  | .053  | .290  | -.327  | 200 | 717 | -.159  | .162  | .839  | -.229 |
| 200 | 538 | -.192  | .133  | .402  | -.955 | 200 | 588 | -.161  | .069  | .041  | -.523  | 200 | 718 | -.153  | .078  | .145  | -.576 |
| 200 | 539 | -.108  | .052  | .162  | -.362 | 200 | 589 | -.152  | .036  | .004  | -.390  | 200 | 719 | -.182  | .115  | .347  | -.763 |
| 200 | 540 | -.156  | .053  | .168  | -.431 | 200 | 590 | -.208  | .045  | -.058 | -.484  | 200 | 720 | -.119  | .141  | .661  | -.503 |
| 200 | 541 | -.171  | .122  | .767  | -.161 | 200 | 591 | -.035  | .041  | .224  | -.169  | 200 | 721 | -.089  | .156  | .728  | -.478 |
| 200 | 542 | -.096  | .090  | .540  | -.173 | 200 | 592 | -.038  | .039  | .212  | -.179  | 200 | 722 | -.128  | .058  | .105  | -.461 |
| 200 | 543 | .198   | .161  | .865  | -.415 | 200 | 593 | -.057  | .040  | .214  | -.259  | 200 | 723 | -.083  | .070  | .209  | -.354 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 200 | 724 | -.154  | .115  | .389  | -.661 | 200 | 724 | -.002  | .051  | .207  | -.243 | 200 | 902 | .130   | .143  | .651  | -.370  |
| 200 | 725 | .153   | .153  | .774  | -.260 | 200 | 725 | .039   | .087  | .447  | -.431 | 200 | 903 | .074   | .090  | .587  | -.295  |
| 200 | 726 | .033   | .102  | .429  | -.360 | 200 | 726 | .034   | .122  | .650  | -.566 | 200 | 904 | -.066  | .061  | .219  | -.224  |
| 200 | 727 | .020   | .109  | .506  | -.399 | 200 | 727 | -.184  | .049  | .111  | -.438 | 200 | 905 | -.287  | .032  | -.202 | -.409  |
| 200 | 728 | .179   | .163  | .763  | -.347 | 200 | 728 | -.131  | .046  | .179  | -.348 | 200 | 906 | .032   | .093  | .416  | -.315  |
| 200 | 729 | .199   | .181  | .864  | -.581 | 200 | 729 | -.133  | .093  | .202  | -.755 | 200 | 907 | .073   | .111  | .539  | -.408  |
| 200 | 730 | .113   | .124  | .734  | -.257 | 200 | 780 | -.007  | .046  | .177  | -.161 | 200 | 908 | -.236  | .101  | .146  | -.817  |
| 200 | 731 | .095   | .131  | .745  | -.381 | 200 | 781 | -.009  | .066  | .198  | -.161 | 200 | 909 | -.130  | .076  | .188  | -.356  |
| 200 | 732 | -.157  | .047  | .060  | -.311 | 200 | 782 | -.009  | .066  | .365  | -.306 | 200 | 910 | .166   | .138  | .661  | -.376  |
| 200 | 733 | -.104  | .059  | .171  | -.349 | 200 | 783 | -.003  | .079  | .156  | -.480 | 200 | 911 | -.257  | .044  | -.112 | -.451  |
| 200 | 734 | -.178  | .122  | .313  | -.817 | 200 | 784 | -.154  | .046  | .032  | -.373 | 200 | 912 | -.199  | .163  | .801  | -.322  |
| 200 | 735 | .120   | .126  | .650  | -.286 | 200 | 785 | -.103  | .046  | .167  | -.278 | 200 | 913 | -.278  | .116  | .328  | -.806  |
| 200 | 736 | .091   | .119  | .770  | -.302 | 200 | 786 | -.070  | .065  | .277  | -.492 | 200 | 914 | -.068  | .119  | .609  | -.366  |
| 200 | 737 | .066   | .091  | .416  | -.279 | 200 | 787 | -.002  | .039  | .181  | -.122 | 200 | 915 | -.219  | .050  | -.043 | -.594  |
| 200 | 738 | .111   | .112  | .628  | -.201 | 200 | 788 | -.004  | .044  | .198  | -.306 | 200 | 916 | .154   | .151  | .727  | -.380  |
| 200 | 739 | .190   | .151  | .801  | -.336 | 200 | 789 | -.014  | .045  | .205  | -.364 | 200 | 917 | -.293  | .122  | .033  | -.971  |
| 200 | 740 | .189   | .180  | .974  | -.475 | 200 | 790 | -.023  | .046  | .223  | -.306 | 200 | 918 | -.219  | .106  | .103  | -.700  |
| 200 | 741 | .114   | .115  | .779  | -.293 | 200 | 791 | -.002  | .040  | .185  | -.206 | 200 | 919 | .084   | .084  | .436  | -.153  |
| 200 | 742 | .085   | .094  | .486  | -.205 | 200 | 792 | -.005  | .040  | .201  | -.190 | 200 | 920 | -.188  | .089  | .232  | -.610  |
| 200 | 743 | -.222  | .050  | .045  | -.460 | 200 | 793 | -.005  | .040  | .194  | -.174 | 200 | 921 | -.312  | .074  | -.112 | -.674  |
| 200 | 744 | -.136  | .055  | .128  | -.327 | 200 | 794 | .001   | .043  | .197  | -.146 | 200 | 922 | -.271  | .045  | -.166 | -.480  |
| 200 | 745 | -.042  | .070  | .369  | -.257 | 200 | 795 | -.079  | .053  | .186  | -.314 | 200 | 923 | -.286  | .069  | -.093 | -.664  |
| 200 | 746 | .108   | .106  | .556  | -.232 | 200 | 796 | -.052  | .058  | .250  | -.284 | 200 | 924 | -.287  | .132  | .537  | -.759  |
| 200 | 747 | .098   | .143  | .677  | -.390 | 200 | 797 | -.261  | .055  | -.085 | -.571 | 200 | 925 | -.279  | .056  | -.139 | -.581  |
| 200 | 748 | .141   | .141  | .763  | -.401 | 200 | 798 | -.142  | .046  | .069  | -.321 | 200 | 926 | -.244  | .123  | .284  | -.684  |
| 200 | 749 | -.293  | .058  | -.063 | -.577 | 200 | 799 | -.095  | .045  | .207  | -.215 | 200 | 927 | -.271  | .053  | -.096 | -.528  |
| 200 | 750 | -.306  | .069  | -.145 | -.788 | 200 | 800 | -.055  | .065  | .230  | -.339 | 200 | 928 | -.254  | .098  | .094  | -.1064 |
| 200 | 751 | -.202  | .064  | .096  | -.548 | 200 | 801 | -.000  | .042  | .190  | -.121 | 200 | 929 | -.273  | .052  | -.119 | -.530  |
| 200 | 752 | -.117  | .093  | .237  | -.645 | 200 | 802 | -.007  | .041  | .243  | -.126 | 200 | 930 | -.069  | .060  | .251  | -.258  |
| 200 | 753 | -.033  | .105  | .444  | -.561 | 200 | 803 | -.019  | .038  | .204  | -.227 | 200 | 931 | -.288  | .044  | -.170 | -.524  |
| 200 | 754 | .019   | .095  | .373  | -.502 | 200 | 804 | -.021  | .038  | .214  | -.234 | 200 | 932 | -.144  | .089  | .219  | -.399  |
| 200 | 755 | .049   | .160  | .645  | -.725 | 200 | 805 | -.019  | .065  | .388  | -.231 | 200 | 933 | -.201  | .068  | .076  | -.434  |
| 200 | 756 | .190   | .149  | .794  | -.288 | 200 | 806 | -.079  | .052  | .122  | -.341 | 200 | 934 | -.265  | .047  | -.115 | -.473  |
| 200 | 757 | .190   | .154  | .755  | -.389 | 200 | 807 | -.065  | .045  | .209  | -.245 | 200 | 935 | -.263  | .042  | -.108 | -.471  |
| 200 | 758 | -.164  | .049  | .054  | -.385 | 200 | 808 | -.196  | .047  | .009  | -.419 | 200 | 936 | -.313  | .035  | -.196 | -.439  |
| 200 | 759 | -.008  | .131  | .572  | -.650 | 200 | 809 | -.108  | .048  | .195  | -.240 | 200 | 937 | -.283  | .052  | -.147 | -.524  |
| 200 | 760 | -.186  | .049  | .085  | -.449 | 200 | 810 | -.002  | .041  | .197  | -.119 | 200 | 938 | -.294  | .055  | -.149 | -.565  |
| 200 | 761 | .096   | .138  | .631  | -.440 | 200 | 811 | -.003  | .038  | .177  | -.110 | 200 | 939 | -.311  | .058  | -.149 | -.657  |
| 200 | 762 | -.185  | .045  | -.006 | -.423 | 200 | 812 | -.023  | .035  | .168  | -.206 | 200 | 940 | -.317  | .036  | -.228 | -.433  |
| 200 | 763 | -.150  | .045  | .069  | -.361 | 200 | 813 | -.060  | .044  | .253  | -.206 | 200 | 941 | -.000  | .027  | .115  | -.071  |
| 200 | 764 | -.075  | .056  | .142  | -.385 | 200 | 814 | -.030  | .054  | .220  | -.231 | 200 | 942 | -.306  | .062  | -.147 | -.678  |
| 200 | 765 | -.002  | .053  | .312  | -.317 | 200 | 815 | -.153  | .049  | .165  | -.401 | 200 | 943 | -.338  | .091  | -.109 | -.935  |
| 200 | 766 | .018   | .058  | .286  | -.231 | 200 | 816 | -.105  | .036  | .154  | -.261 | 200 | 944 | -.289  | .064  | -.038 | -.577  |
| 200 | 767 | .083   | .106  | .559  | -.462 | 200 | 817 | -.078  | .038  | .099  | -.188 | 200 | 945 | -.038  | .039  | .220  | -.165  |
| 200 | 768 | .075   | .135  | .671  | -.513 | 200 | 818 | -.054  | .046  | .172  | -.270 | 200 | 946 | -.280  | .062  | -.107 | -.606  |
| 200 | 769 | .026   | .068  | .284  | -.252 | 200 | 819 | -.002  | .036  | .186  | -.128 | 200 | 947 | -.291  | .060  | -.134 | -.689  |
| 200 | 770 | -.193  | .047  | -.033 | -.483 | 200 | 820 | -.004  | .036  | .243  | -.121 | 200 | 948 | -.278  | .069  | -.006 | -.611  |
| 200 | 771 | -.146  | .045  | .046  | -.378 | 200 | 821 | -.007  | .032  | .144  | -.136 | 200 | 949 | -.318  | .076  | -.154 | -.779  |
| 200 | 772 | -.221  | .126  | .123  | -.874 | 200 | 822 | -.017  | .030  | .130  | -.215 | 200 | 950 | -.026  | .042  | .253  | -.132  |
| 200 | 773 | .025   | .056  | .272  | -.198 | 200 | 901 | .216   | .100  | .617  | -.046 | 200 | 951 | -.319  | .109  | -.020 | -.920  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 200 | 952  | -.202  | .065  | .018  | -.521  | 210 | 103 | -.332  | .070  | -.156 | -.640 | 210 | 153 | -.287  | .059  | -.136 | -.764  |
| 200 | 953  | -.194  | .072  | .016  | -.629  | 210 | 104 | -.079  | .055  | -.110 | -.312 | 210 | 154 | -.291  | .056  | -.142 | -.538  |
| 200 | 954  | -.234  | .070  | .043  | -.718  | 210 | 105 | -.249  | .045  | -.118 | -.477 | 210 | 155 | -.305  | .072  | -.123 | -.945  |
| 200 | 955  | -.184  | .068  | .036  | -.506  | 210 | 106 | -.252  | .045  | -.127 | -.484 | 210 | 156 | -.319  | .077  | -.077 | -.769  |
| 200 | 956  | -.330  | .082  | -.141 | -.761  | 210 | 107 | -.259  | .047  | -.125 | -.473 | 210 | 157 | -.346  | .085  | -.090 | -.693  |
| 200 | 957  | -.297  | .084  | -.065 | -.938  | 210 | 108 | -.267  | .050  | -.127 | -.580 | 210 | 158 | -.308  | .057  | -.138 | -.566  |
| 200 | 958  | -.243  | .068  | -.058 | -.633  | 210 | 109 | -.260  | .048  | -.136 | -.481 | 210 | 159 | -.299  | .079  | -.112 | -.730  |
| 200 | 959  | -.211  | .055  | -.002 | -.465  | 210 | 110 | -.258  | .048  | -.123 | -.525 | 210 | 160 | -.310  | .064  | -.136 | -.632  |
| 200 | 960  | -.385  | .133  | -.022 | -1.325 | 210 | 111 | -.254  | .047  | -.107 | -.506 | 210 | 161 | -.311  | .110  | -.118 | -1.026 |
| 200 | 961  | -.395  | .124  | -.163 | -1.161 | 210 | 112 | -.263  | .046  | -.141 | -.506 | 210 | 162 | -.314  | .065  | -.136 | -.669  |
| 200 | 962  | -.117  | .102  | .248  | -.729  | 210 | 113 | -.253  | .045  | -.138 | -.492 | 210 | 163 | -.303  | .062  | -.118 | -.606  |
| 200 | 963  | -.357  | .101  | -.123 | -.934  | 210 | 114 | -.260  | .047  | -.108 | -.488 | 210 | 164 | -.322  | .064  | -.164 | -.643  |
| 200 | 964  | -.318  | .093  | -.056 | -1.391 | 210 | 115 | -.253  | .047  | -.114 | -.508 | 210 | 165 | -.348  | .082  | -.164 | -.993  |
| 200 | 965  | -.204  | .127  | .206  | -.743  | 210 | 116 | -.253  | .044  | -.132 | -.466 | 210 | 166 | -.304  | .063  | -.149 | -.598  |
| 200 | 966  | -.411  | .114  | -.152 | -1.058 | 210 | 117 | -.251  | .041  | -.134 | -.444 | 210 | 167 | -.281  | .072  | -.114 | -.706  |
| 200 | 967  | -.147  | .041  | .049  | -.470  | 210 | 118 | -.270  | .045  | -.132 | -.464 | 210 | 168 | -.281  | .070  | -.123 | -.860  |
| 200 | 968  | -.216  | .054  | -.027 | -.581  | 210 | 119 | -.268  | .047  | -.125 | -.457 | 210 | 169 | -.288  | .064  | -.130 | -.609  |
| 200 | 969  | -.261  | .065  | -.089 | -.745  | 210 | 120 | -.262  | .053  | -.110 | -.556 | 210 | 170 | -.300  | .072  | -.119 | -.674  |
| 200 | 970  | -.230  | .055  | -.072 | -.545  | 210 | 121 | -.305  | .086  | -.121 | -.723 | 210 | 171 | -.295  | .067  | -.082 | -.687  |
| 200 | 971  | -.174  | .054  | .016  | -.626  | 210 | 122 | -.265  | .048  | -.141 | -.578 | 210 | 172 | -.333  | .073  | -.146 | -.614  |
| 200 | 1001 | .014   | .055  | .385  | -.162  | 210 | 123 | -.258  | .048  | -.138 | -.547 | 210 | 173 | -.333  | .068  | -.181 | -.669  |
| 200 | 1002 | .005   | .040  | .153  | -.136  | 210 | 124 | -.271  | .047  | -.132 | -.477 | 210 | 174 | -.350  | .084  | -.172 | -.908  |
| 200 | 1003 | .047   | .131  | .457  | -.407  | 210 | 125 | -.276  | .048  | -.134 | -.519 | 210 | 175 | -.324  | .077  | -.112 | -.667  |
| 200 | 1004 | -.277  | .069  | -.032 | -.661  | 210 | 126 | -.267  | .061  | -.090 | -.605 | 210 | 176 | -.321  | .075  | -.105 | -.676  |
| 200 | 1005 | -.061  | .123  | .445  | -.387  | 210 | 127 | -.306  | .086  | -.107 | -.730 | 210 | 177 | -.239  | .074  | -.001 | -.678  |
| 200 | 1006 | -.260  | .064  | -.094 | -.600  | 210 | 128 | -.250  | .056  | -.092 | -.503 | 210 | 178 | -.234  | .073  | -.008 | -.577  |
| 200 | 1007 | -.036  | .037  | .155  | -.160  | 210 | 129 | -.248  | .054  | -.094 | -.503 | 210 | 179 | -.299  | .074  | -.017 | -.623  |
| 200 | 1008 | -.273  | .061  | -.015 | -.534  | 210 | 130 | -.253  | .042  | -.118 | -.430 | 210 | 180 | -.370  | .082  | -.162 | -.888  |
| 200 | 1009 | .068   | .082  | .383  | -.164  | 210 | 131 | -.269  | .048  | -.136 | -.528 | 210 | 181 | -.363  | .091  | -.174 | -.915  |
| 200 | 1010 | -.259  | .058  | -.022 | -.510  | 210 | 132 | -.285  | .059  | -.129 | -.579 | 210 | 182 | -.328  | .072  | -.158 | -.687  |
| 200 | 1011 | -.031  | .039  | .250  | -.131  | 210 | 133 | -.275  | .055  | -.125 | -.599 | 210 | 183 | -.326  | .067  | -.153 | -.941  |
| 200 | 1012 | -.256  | .077  | -.042 | -.612  | 210 | 134 | -.273  | .050  | -.145 | -.546 | 210 | 184 | -.209  | .080  | -.077 | -.595  |
| 200 | 1013 | -.276  | .079  | -.005 | -.723  | 210 | 135 | -.287  | .056  | -.147 | -.519 | 210 | 185 | -.194  | .082  | -.066 | -.651  |
| 200 | 1014 | -.284  | .058  | -.117 | -.602  | 210 | 136 | -.277  | .053  | -.136 | -.523 | 210 | 186 | -.222  | .084  | -.137 | -.634  |
| 200 | 1015 | -.264  | .065  | -.032 | -.592  | 210 | 137 | -.272  | .053  | -.141 | -.606 | 210 | 187 | -.318  | .079  | -.086 | -.807  |
| 200 | 1016 | -.294  | .066  | -.122 | -.686  | 210 | 138 | -.270  | .049  | -.138 | -.497 | 210 | 188 | -.373  | .101  | -.162 | -.941  |
| 200 | 1017 | -.312  | .080  | -.129 | -.780  | 210 | 139 | -.255  | .047  | -.136 | -.457 | 210 | 189 | -.335  | .078  | -.169 | -.809  |
| 200 | 1018 | -.316  | .072  | -.124 | -.738  | 210 | 140 | -.260  | .047  | -.112 | -.439 | 210 | 190 | -.333  | .085  | -.151 | -1.111 |
| 200 | 1019 | -.272  | .079  | -.044 | -.771  | 210 | 141 | -.282  | .050  | -.156 | -.479 | 210 | 191 | -.245  | .090  | -.059 | -.688  |
| 200 | 1020 | -.307  | .060  | -.093 | -.619  | 210 | 142 | -.282  | .051  | -.149 | -.508 | 210 | 192 | -.276  | .080  | -.020 | -.704  |
| 200 | 1021 | -.004  | .050  | .338  | -.148  | 210 | 143 | -.296  | .055  | -.132 | -.546 | 210 | 193 | -.317  | .077  | -.048 | -.664  |
| 200 | 1022 | -.102  | .047  | .120  | -.271  | 210 | 144 | -.302  | .055  | -.145 | -.546 | 210 | 194 | -.192  | .089  | -.139 | -.745  |
| 200 | 1023 | -.139  | .052  | -.013 | -.425  | 210 | 145 | -.293  | .055  | -.145 | -.523 | 210 | 195 | -.185  | .073  | -.027 | -.578  |
| 200 | 1024 | -.215  | .072  | -.022 | -.683  | 210 | 146 | -.276  | .054  | -.149 | -.486 | 210 | 196 | -.236  | .074  | -.165 | -.451  |
| 200 | 1025 | -.110  | .035  | .037  | -.285  | 210 | 147 | -.275  | .055  | -.123 | -.510 | 210 | 197 | -.341  | .083  | -.011 | -.822  |
| 200 | 1026 | -.098  | .047  | .177  | -.271  | 210 | 148 | -.281  | .053  | -.100 | -.543 | 210 | 198 | -.120  | .035  | -.002 | -.334  |
| 200 | 1027 | -.110  | .039  | .051  | -.259  | 210 | 149 | -.290  | .056  | -.138 | -.614 | 210 | 199 | -.128  | .035  | -.011 | -.266  |
| 200 | 1028 | -.139  | .028  | -.008 | -.228  | 210 | 150 | -.290  | .059  | -.081 | -.564 | 210 | 200 | -.153  | .040  | -.020 | -.332  |
| 210 | 101  | -.244  | .045  | -.090 | -.451  | 210 | 151 | -.310  | .063  | -.149 | -.667 | 210 | 201 | -.177  | .050  | -.029 | -.393  |
| 210 | 102  | -.302  | .061  | -.132 | -.622  | 210 | 152 | -.294  | .051  | -.151 | -.486 | 210 | 202 | -.113  | .052  | -.110 | -.297  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 210 | 203 | -.237  | .070  | -.009 | -.576 | 210 | 328 | -.268  | .048  | -.135 | -.524 | 210 | 378 | -.350  | .080  | -.170 | -.921  |
| 210 | 204 | -.244  | .060  | -.007 | -.580 | 210 | 329 | -.272  | .046  | -.144 | -.495 | 210 | 379 | -.366  | .089  | -.156 | -.821  |
| 210 | 205 | -.231  | .053  | -.048 | -.459 | 210 | 330 | -.253  | .041  | -.126 | -.425 | 210 | 380 | -.371  | .090  | -.123 | -.807  |
| 210 | 206 | -.225  | .069  | .020  | -.521 | 210 | 331 | -.269  | .045  | -.141 | -.497 | 210 | 381 | -.347  | .081  | -.035 | -.668  |
| 210 | 207 | -.279  | .060  | -.108 | -.644 | 210 | 332 | -.256  | .045  | -.119 | -.466 | 210 | 382 | -.288  | .099  | -.025 | -.724  |
| 210 | 208 | -.243  | .055  | -.079 | -.697 | 210 | 333 | -.258  | .044  | -.137 | -.450 | 210 | 383 | -.294  | .099  | -.035 | -.879  |
| 210 | 209 | -.110  | .031  | .009  | -.251 | 210 | 334 | -.264  | .044  | -.146 | -.511 | 210 | 384 | -.350  | .093  | -.158 | -.1024 |
| 210 | 210 | -.166  | .053  | -.011 | -.441 | 210 | 335 | -.266  | .043  | -.123 | -.434 | 210 | 385 | -.360  | .100  | -.160 | -.1089 |
| 210 | 211 | -.020  | .061  | .242  | -.198 | 210 | 336 | -.270  | .042  | -.155 | -.488 | 210 | 386 | -.365  | .094  | -.128 | -.1024 |
| 210 | 212 | -.213  | .053  | -.074 | -.501 | 210 | 337 | -.281  | .049  | -.162 | -.497 | 210 | 387 | -.328  | .087  | -.104 | -.768  |
| 210 | 213 | -.146  | .054  | .169  | -.314 | 210 | 338 | -.282  | .049  | -.114 | -.497 | 210 | 388 | -.280  | .080  | -.051 | -.717  |
| 210 | 214 | -.175  | .042  | .002  | -.479 | 210 | 339 | -.279  | .050  | -.144 | -.578 | 210 | 389 | -.201  | .087  | .103  | -.663  |
| 210 | 215 | -.115  | .029  | .006  | -.236 | 210 | 340 | -.280  | .058  | -.110 | -.558 | 210 | 390 | -.204  | .087  | .056  | -.765  |
| 210 | 216 | -.115  | .027  | .029  | -.218 | 210 | 341 | -.274  | .047  | -.117 | -.493 | 210 | 391 | -.322  | .082  | -.074 | -.681  |
| 210 | 217 | -.128  | .032  | -.032 | -.250 | 210 | 342 | -.284  | .045  | -.153 | -.515 | 210 | 392 | -.307  | .089  | .022  | -.859  |
| 210 | 218 | -.158  | .044  | .017  | -.348 | 210 | 343 | -.277  | .048  | -.162 | -.475 | 210 | 393 | -.310  | .075  | -.107 | -.686  |
| 210 | 219 | -.090  | .042  | .084  | -.243 | 210 | 344 | -.271  | .048  | -.114 | -.448 | 210 | 394 | -.242  | .073  | .067  | -.536  |
| 210 | 220 | -.183  | .068  | .093  | -.494 | 210 | 345 | -.270  | .046  | -.150 | -.513 | 210 | 395 | -.177  | .073  | .084  | -.736  |
| 210 | 221 | -.210  | .064  | -.023 | -.566 | 210 | 346 | -.291  | .051  | -.153 | -.531 | 210 | 396 | -.196  | .083  | .043  | -.806  |
| 210 | 222 | -.206  | .070  | -.011 | -.588 | 210 | 347 | -.307  | .054  | -.162 | -.619 | 210 | 397 | -.312  | .095  | -.107 | -.899  |
| 210 | 223 | -.126  | .055  | .138  | -.341 | 210 | 348 | -.289  | .053  | -.132 | -.538 | 210 | 398 | -.266  | .068  | -.075 | -.649  |
| 210 | 224 | -.173  | .049  | -.032 | -.383 | 210 | 349 | -.340  | .082  | -.162 | -.891 | 210 | 399 | -.265  | .058  | -.105 | -.612  |
| 210 | 225 | -.149  | .049  | .024  | -.441 | 210 | 350 | -.322  | .066  | -.140 | -.686 | 210 | 400 | -.227  | .049  | -.094 | -.510  |
| 210 | 301 | -.298  | .054  | -.157 | -.486 | 210 | 351 | -.292  | .060  | -.122 | -.451 | 210 | 401 | -.209  | .047  | -.062 | -.397  |
| 210 | 302 | -.248  | .049  | -.088 | -.568 | 210 | 352 | -.293  | .056  | -.032 | -.678 | 210 | 402 | -.175  | .044  | .030  | -.438  |
| 210 | 303 | -.071  | .061  | .105  | -.351 | 210 | 353 | -.290  | .051  | -.149 | -.515 | 210 | 403 | -.128  | .032  | .012  | -.332  |
| 210 | 304 | -.335  | .070  | -.111 | -.619 | 210 | 354 | -.293  | .051  | -.169 | -.508 | 210 | 404 | -.122  | .034  | .067  | -.373  |
| 210 | 305 | -.245  | .044  | -.115 | -.550 | 210 | 355 | -.308  | .059  | -.149 | -.638 | 210 | 405 | -.174  | .045  | -.023 | -.342  |
| 210 | 306 | -.251  | .043  | -.115 | -.440 | 210 | 356 | -.298  | .055  | -.114 | -.600 | 210 | 406 | -.158  | .049  | .004  | -.388  |
| 210 | 307 | -.255  | .044  | -.124 | -.435 | 210 | 357 | -.301  | .055  | -.125 | -.600 | 210 | 407 | -.183  | .052  | .004  | -.493  |
| 210 | 308 | -.244  | .045  | .120  | -.597 | 210 | 358 | -.305  | .074  | -.125 | -.669 | 210 | 408 | -.267  | .055  | -.064 | -.587  |
| 210 | 309 | -.253  | .043  | -.126 | -.493 | 210 | 359 | -.312  | .058  | -.111 | -.581 | 210 | 409 | -.163  | .033  | .008  | -.292  |
| 210 | 310 | -.254  | .045  | -.137 | -.562 | 210 | 360 | -.314  | .089  | -.078 | -.944 | 210 | 410 | -.113  | .030  | .010  | -.229  |
| 210 | 311 | -.271  | .045  | -.118 | -.507 | 210 | 361 | -.337  | .065  | -.147 | -.733 | 210 | 411 | -.256  | .057  | -.084 | -.543  |
| 210 | 312 | -.255  | .049  | -.099 | -.537 | 210 | 362 | -.287  | .062  | -.109 | -.717 | 210 | 412 | -.249  | .053  | -.042 | -.508  |
| 210 | 313 | -.254  | .050  | -.128 | -.573 | 210 | 363 | -.293  | .061  | -.140 | -.539 | 210 | 413 | -.132  | .027  | -.027 | -.241  |
| 210 | 314 | -.255  | .047  | -.133 | -.455 | 210 | 364 | -.300  | .057  | -.158 | -.554 | 210 | 414 | -.106  | .038  | .084  | -.291  |
| 210 | 315 | -.265  | .048  | -.135 | -.517 | 210 | 365 | -.329  | .070  | -.175 | -.735 | 210 | 415 | -.093  | .038  | .107  | -.215  |
| 210 | 316 | -.260  | .045  | -.097 | -.526 | 210 | 366 | -.310  | .058  | -.116 | -.626 | 210 | 416 | -.232  | .060  | -.033 | -.570  |
| 210 | 317 | -.254  | .042  | -.135 | -.511 | 210 | 367 | -.323  | .071  | -.130 | -.705 | 210 | 417 | -.132  | .059  | .353  | -.324  |
| 210 | 318 | -.295  | .078  | -.126 | -.919 | 210 | 368 | -.335  | .072  | -.118 | -.651 | 210 | 418 | -.157  | .030  | .024  | -.317  |
| 210 | 319 | -.257  | .053  | -.093 | -.626 | 210 | 369 | -.297  | .058  | -.142 | -.591 | 210 | 419 | -.133  | .027  | -.022 | -.229  |
| 210 | 320 | -.269  | .050  | -.144 | -.630 | 210 | 370 | -.316  | .071  | -.116 | -.705 | 210 | 420 | -.128  | .028  | -.001 | -.241  |
| 210 | 321 | -.278  | .045  | -.148 | -.488 | 210 | 371 | -.319  | .063  | -.151 | -.649 | 210 | 421 | -.126  | .028  | -.004 | -.268  |
| 210 | 322 | -.245  | .052  | -.079 | -.502 | 210 | 372 | -.345  | .076  | -.181 | -.789 | 210 | 422 | -.123  | .030  | -.008 | -.250  |
| 210 | 323 | -.254  | .054  | -.111 | -.479 | 210 | 373 | -.335  | .071  | -.165 | -.670 | 210 | 501 | -.005  | .114  | .385  | -.506  |
| 210 | 324 | -.278  | .072  | -.053 | -.666 | 210 | 374 | -.350  | .072  | -.135 | -.644 | 210 | 502 | -.126  | .087  | .246  | -.565  |
| 210 | 325 | -.265  | .058  | -.117 | -.626 | 210 | 375 | -.338  | .085  | -.060 | -.779 | 210 | 503 | -.060  | .103  | .405  | -.274  |
| 210 | 326 | -.270  | .044  | -.142 | -.522 | 210 | 376 | -.335  | .096  | -.095 | -.080 | 210 | 504 | -.075  | .146  | .487  | -.587  |
| 210 | 327 | -.269  | .044  | -.141 | -.549 | 210 | 377 | -.348  | .082  | -.156 | -.824 | 210 | 505 | -.056  | .173  | .603  | -.523  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 210 | 506 | -.140  | .047  | .152  | -.345 | 210 | 556 | -.339  | .088  | -.128 | -.982 | 210 | 606 | -.024  | .062  | .466  | -.280 |
| 210 | 507 | -.024  | .085  | .373  | -.332 | 210 | 557 | -.321  | .075  | -.082 | -.627 | 210 | 607 | -.103  | .034  | .029  | -.222 |
| 210 | 508 | .084   | .204  | .664  | -.886 | 210 | 558 | -.093  | .170  | .725  | -.630 | 210 | 608 | -.020  | .046  | .219  | -.201 |
| 210 | 509 | .051   | .108  | .474  | -.424 | 210 | 559 | -.149  | .047  | .080  | -.408 | 210 | 609 | -.163  | .048  | -.023 | -.530 |
| 210 | 510 | .016   | .113  | .405  | -.509 | 210 | 560 | .098   | .196  | .891  | -.867 | 210 | 610 | -.105  | .057  | .230  | -.315 |
| 210 | 511 | -.156  | .056  | .191  | -.422 | 210 | 561 | -.189  | .050  | .022  | -.401 | 210 | 611 | -.101  | .037  | .073  | -.237 |
| 210 | 512 | .169   | .243  | .941  | -.748 | 210 | 562 | .122   | .197  | .812  | -.472 | 210 | 612 | -.039  | .050  | .189  | -.342 |
| 210 | 513 | .114   | .125  | .368  | -.511 | 210 | 563 | .119   | .166  | .694  | -.636 | 210 | 613 | -.033  | .055  | .349  | -.486 |
| 210 | 514 | -.012  | .099  | .423  | -.319 | 210 | 564 | .088   | .105  | .510  | -.339 | 210 | 614 | -.017  | .055  | .241  | -.454 |
| 210 | 515 | -.130  | .055  | .132  | -.326 | 210 | 565 | .057   | .091  | .390  | -.452 | 210 | 615 | -.003  | .054  | .284  | -.149 |
| 210 | 516 | .004   | .116  | .512  | -.511 | 210 | 566 | -.011  | .068  | .470  | -.308 | 210 | 616 | -.065  | .050  | .187  | -.302 |
| 210 | 517 | .143   | .157  | .795  | -.388 | 210 | 567 | -.131  | .047  | .071  | -.331 | 210 | 617 | -.086  | .039  | .118  | -.208 |
| 210 | 518 | .101   | .171  | .827  | -.667 | 210 | 568 | -.181  | .047  | .001  | -.383 | 210 | 618 | -.091  | .037  | .053  | -.205 |
| 210 | 519 | .122   | .121  | .530  | -.350 | 210 | 569 | .069   | .093  | .419  | -.245 | 210 | 619 | -.110  | .042  | .129  | -.300 |
| 210 | 520 | -.203  | .111  | .364  | -.772 | 210 | 570 | .047   | .148  | .660  | -.476 | 210 | 620 | -.080  | .049  | .171  | -.226 |
| 210 | 521 | -.167  | .072  | .112  | -.502 | 210 | 571 | .088   | .138  | .662  | -.593 | 210 | 621 | -.073  | .087  | .292  | -.426 |
| 210 | 522 | .186   | .192  | .887  | -.594 | 210 | 572 | .040   | .086  | .417  | -.378 | 210 | 622 | -.036  | .106  | .420  | -.316 |
| 210 | 523 | .173   | .164  | .720  | -.607 | 210 | 573 | .057   | .083  | .375  | -.149 | 210 | 623 | -.028  | .165  | .621  | -.406 |
| 210 | 524 | .120   | .112  | .454  | -.236 | 210 | 574 | -.178  | .099  | .239  | -.649 | 210 | 624 | -.026  | .078  | .292  | -.334 |
| 210 | 525 | .071   | .105  | .469  | -.404 | 210 | 575 | -.140  | .050  | .089  | -.341 | 210 | 625 | -.097  | .065  | .174  | -.302 |
| 210 | 526 | .150   | .142  | .746  | -.270 | 210 | 576 | -.196  | .047  | .015  | -.390 | 210 | 626 | .168   | .157  | .698  | -.504 |
| 210 | 527 | -.208  | .110  | .187  | -.690 | 210 | 577 | -.004  | .111  | .252  | -.471 | 210 | 627 | -.111  | .093  | .353  | -.219 |
| 210 | 528 | -.103  | .059  | .187  | -.405 | 210 | 578 | -.015  | .097  | .625  | -.579 | 210 | 628 | -.125  | .069  | .216  | -.402 |
| 210 | 529 | -.141  | .048  | .065  | -.374 | 210 | 579 | -.009  | .062  | .342  | -.317 | 210 | 629 | -.076  | .128  | .483  | -.491 |
| 210 | 530 | .090   | .110  | .632  | -.254 | 210 | 580 | .008   | .063  | .302  | -.193 | 210 | 630 | .100   | .133  | .677  | -.286 |
| 210 | 531 | .057   | .113  | .638  | -.335 | 210 | 581 | -.182  | .094  | .122  | -.621 | 210 | 631 | .201   | .161  | .834  | -.351 |
| 210 | 532 | .212   | .231  | .900  | -.629 | 210 | 582 | -.156  | .045  | .024  | -.348 | 210 | 632 | -.094  | .067  | .213  | -.325 |
| 210 | 533 | .178   | .205  | .747  | -.681 | 210 | 583 | -.207  | .049  | -.041 | -.425 | 210 | 633 | -.067  | .110  | .515  | -.291 |
| 210 | 534 | .112   | .116  | .483  | -.365 | 210 | 584 | -.048  | .063  | .246  | -.425 | 210 | 634 | .186   | .139  | .841  | -.187 |
| 210 | 535 | .093   | .112  | .666  | -.435 | 210 | 585 | -.051  | .061  | .225  | -.359 | 210 | 635 | .287   | .166  | .909  | -.298 |
| 210 | 536 | .122   | .120  | .598  | -.211 | 210 | 586 | -.035  | .046  | .162  | -.331 | 210 | 636 | .152   | .160  | .722  | -.298 |
| 210 | 537 | .142   | .134  | .663  | -.179 | 210 | 587 | -.054  | .058  | .213  | -.322 | 210 | 637 | .235   | .177  | .978  | -.212 |
| 210 | 538 | -.170  | .108  | .250  | -.660 | 210 | 588 | -.164  | .064  | .064  | -.460 | 210 | 638 | -.121  | .078  | .164  | -.377 |
| 210 | 539 | -.112  | .050  | .119  | -.297 | 210 | 589 | -.169  | .040  | -.023 | -.352 | 210 | 639 | -.171  | .117  | .328  | -.685 |
| 210 | 540 | -.154  | .045  | .042  | -.326 | 210 | 590 | -.216  | .048  | -.088 | -.485 | 210 | 640 | .156   | .139  | .785  | -.331 |
| 210 | 541 | .153   | .131  | .711  | -.195 | 210 | 591 | -.034  | .042  | .165  | -.220 | 210 | 641 | .138   | .152  | .686  | -.338 |
| 210 | 542 | .130   | .115  | .577  | -.502 | 210 | 592 | -.036  | .041  | .208  | -.199 | 210 | 642 | -.116  | .069  | .191  | -.338 |
| 210 | 543 | .184   | .184  | .880  | -.559 | 210 | 593 | -.055  | .047  | .176  | -.330 | 210 | 643 | -.062  | .081  | .348  | -.313 |
| 210 | 544 | .169   | .173  | .794  | -.622 | 210 | 594 | -.044  | .049  | .171  | -.268 | 210 | 644 | -.120  | .147  | .508  | -.624 |
| 210 | 545 | .137   | .120  | .523  | -.468 | 210 | 595 | -.028  | .046  | .194  | -.418 | 210 | 645 | .188   | .158  | .758  | -.239 |
| 210 | 546 | -.027  | .064  | .288  | -.335 | 210 | 596 | -.033  | .042  | .183  | -.333 | 210 | 646 | .094   | .111  | .600  | -.235 |
| 210 | 547 | -.145  | .047  | .076  | -.319 | 210 | 597 | -.129  | .047  | .031  | -.379 | 210 | 647 | .150   | .124  | .751  | -.140 |
| 210 | 548 | -.242  | .048  | -.069 | -.507 | 210 | 598 | -.143  | .034  | -.017 | -.328 | 210 | 648 | .211   | .154  | .794  | -.233 |
| 210 | 549 | .191   | .179  | 1.053 | -.439 | 210 | 599 | -.198  | .042  | -.064 | -.371 | 210 | 649 | .241   | .164  | .920  | -.327 |
| 210 | 550 | .203   | .179  | .863  | -.268 | 210 | 600 | -.321  | .082  | -.063 | -.800 | 210 | 650 | .151   | .141  | .722  | -.265 |
| 210 | 551 | .103   | .205  | 1.082 | -.743 | 210 | 601 | -.056  | .059  | .237  | -.262 | 210 | 651 | .144   | .139  | 1.059 | -.281 |
| 210 | 552 | .073   | .139  | .625  | -.481 | 210 | 602 | -.089  | .050  | .167  | -.291 | 210 | 652 | -.136  | .061  | .152  | -.350 |
| 210 | 553 | .034   | .115  | .437  | -.818 | 210 | 603 | -.050  | .047  | .122  | -.275 | 210 | 653 | -.079  | .077  | .257  | -.288 |
| 210 | 554 | -.039  | .084  | .217  | -.521 | 210 | 604 | -.132  | .035  | -.008 | -.268 | 210 | 654 | -.120  | .152  | .587  | -.675 |
| 210 | 555 | -.179  | .060  | .062  | -.472 | 210 | 605 | -.189  | .054  | -.046 | -.479 | 210 | 655 | .158   | .127  | .693  | -.242 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 210 | 736 | .130   | .123  | .797  | -.265 | 210 | 786 | -.071  | .069  | .212  | -.481 | 210 | 914 | .116   | .110  | .523  | -.238 |
| 210 | 737 | .122   | .110  | .598  | -.142 | 210 | 787 | .010   | .043  | .177  | -.111 | 210 | 915 | -.205  | .050  | .028  | -.405 |
| 210 | 738 | .150   | .115  | .678  | -.126 | 210 | 788 | .007   | .041  | .188  | -.196 | 210 | 916 | -.223  | .153  | .754  | -.182 |
| 210 | 739 | .229   | .148  | .790  | -.375 | 210 | 789 | .002   | .045  | .217  | -.274 | 210 | 917 | -.239  | .098  | .045  | -.828 |
| 210 | 740 | .228   | .174  | .988  | -.381 | 210 | 790 | -.011  | .049  | .212  | -.347 | 210 | 918 | -.224  | .092  | .093  | -.556 |
| 210 | 741 | .141   | .114  | .674  | -.201 | 210 | 791 | .019   | .047  | .295  | -.138 | 210 | 919 | -.094  | .099  | .477  | -.410 |
| 210 | 742 | .123   | .096  | .564  | -.108 | 210 | 792 | .016   | .044  | .270  | -.131 | 210 | 920 | -.191  | .083  | .160  | -.568 |
| 210 | 743 | -.230  | .061  | .029  | -.491 | 210 | 793 | .016   | .047  | .311  | -.147 | 210 | 921 | -.328  | .071  | -.136 | -.706 |
| 210 | 744 | -.126  | .063  | .153  | -.361 | 210 | 794 | .022   | .047  | .275  | -.098 | 210 | 922 | -.283  | .051  | -.149 | -.493 |
| 210 | 745 | .002   | .090  | .459  | -.220 | 210 | 795 | -.055  | .059  | .191  | -.221 | 210 | 923 | -.274  | .058  | -.076 | -.557 |
| 210 | 746 | .142   | .109  | .719  | -.154 | 210 | 796 | -.020  | .066  | .282  | -.235 | 210 | 924 | -.287  | .103  | .376  | -.749 |
| 210 | 747 | .134   | .140  | .747  | -.340 | 210 | 797 | -.292  | .063  | -.146 | -.548 | 210 | 925 | -.269  | .046  | -.123 | -.510 |
| 210 | 748 | .168   | .143  | .863  | -.311 | 210 | 798 | -.150  | .049  | .079  | -.332 | 210 | 926 | -.246  | .097  | -.122 | -.600 |
| 210 | 749 | -.316  | .082  | .132  | -.659 | 210 | 799 | -.098  | .047  | .118  | -.260 | 210 | 927 | -.256  | .042  | -.098 | -.434 |
| 210 | 750 | -.352  | .085  | -.104 | -.730 | 210 | 800 | -.051  | .071  | .323  | -.287 | 210 | 928 | -.255  | .076  | -.060 | -.713 |
| 210 | 751 | -.200  | .089  | -.277 | -.574 | 210 | 801 | .004   | .040  | .238  | -.138 | 210 | 929 | -.266  | .047  | -.138 | -.532 |
| 210 | 752 | -.085  | .108  | .438  | -.779 | 210 | 802 | .012   | .042  | .250  | -.121 | 210 | 930 | -.054  | .061  | .182  | -.226 |
| 210 | 753 | -.007  | .112  | .587  | -.543 | 210 | 803 | -.002  | .040  | .195  | -.273 | 210 | 931 | -.301  | .055  | -.179 | -.608 |
| 210 | 754 | .036   | .107  | .469  | -.568 | 210 | 804 | -.009  | .040  | .150  | -.210 | 210 | 932 | -.124  | .076  | .184  | -.363 |
| 210 | 755 | .065   | .155  | .676  | -.565 | 210 | 805 | -.003  | .070  | .336  | -.223 | 210 | 933 | -.194  | .049  | .066  | -.416 |
| 210 | 756 | .182   | .162  | .832  | -.360 | 210 | 806 | -.067  | .054  | .191  | -.280 | 210 | 934 | -.263  | .041  | -.140 | -.453 |
| 210 | 757 | .210   | .170  | .828  | -.623 | 210 | 807 | -.047  | .048  | .159  | -.221 | 210 | 935 | -.254  | .039  | -.160 | -.442 |
| 210 | 758 | -.144  | .066  | .150  | -.420 | 210 | 808 | -.199  | .046  | -.032 | -.405 | 210 | 936 | -.303  | .034  | -.211 | -.431 |
| 210 | 759 | .016   | .128  | .493  | -.605 | 210 | 809 | -.115  | .040  | .063  | -.371 | 210 | 937 | -.264  | .044  | -.125 | -.497 |
| 210 | 760 | -.166  | .067  | .224  | -.443 | 210 | 810 | .015   | .050  | .380  | -.103 | 210 | 938 | -.283  | .047  | -.160 | -.526 |
| 210 | 761 | .080   | .127  | .808  | -.456 | 210 | 811 | .022   | .045  | .248  | -.116 | 210 | 939 | -.302  | .051  | -.180 | -.618 |
| 210 | 762 | -.178  | .062  | .155  | -.416 | 210 | 812 | -.012  | .039  | .177  | -.255 | 210 | 940 | -.312  | .040  | -.205 | -.475 |
| 210 | 763 | -.119  | .070  | .293  | -.316 | 210 | 813 | -.046  | .049  | .193  | -.241 | 210 | 941 | -.022  | .032  | -.176 | -.050 |
| 210 | 764 | -.025  | .075  | .400  | -.313 | 210 | 814 | -.006  | .058  | .245  | -.280 | 210 | 942 | -.347  | .074  | -.185 | -.705 |
| 210 | 765 | .037   | .070  | .527  | -.151 | 210 | 815 | -.156  | .049  | .145  | -.410 | 210 | 943 | -.387  | .105  | -.088 | -.947 |
| 210 | 766 | .043   | .063  | .398  | -.198 | 210 | 816 | -.100  | .039  | .107  | -.241 | 210 | 944 | -.282  | .064  | -.094 | -.654 |
| 210 | 767 | .081   | .085  | .523  | -.276 | 210 | 817 | -.073  | .038  | .145  | -.180 | 210 | 945 | -.042  | .043  | -.121 | -.399 |
| 210 | 768 | .060   | .130  | .681  | -.778 | 210 | 818 | -.044  | .053  | .207  | -.235 | 210 | 946 | -.319  | .071  | -.150 | -.652 |
| 210 | 769 | .035   | .065  | .394  | -.238 | 210 | 819 | -.026  | .044  | .327  | -.073 | 210 | 947 | -.324  | .072  | -.090 | -.182 |
| 210 | 770 | -.191  | .059  | .043  | -.415 | 210 | 820 | .017   | .041  | .275  | -.100 | 210 | 948 | -.293  | .072  | -.030 | -.658 |
| 210 | 771 | -.126  | .062  | .288  | -.323 | 210 | 821 | -.009  | .033  | .168  | -.097 | 210 | 949 | -.343  | .088  | -.039 | -.847 |
| 210 | 772 | -.154  | .131  | .344  | -.797 | 210 | 822 | -.002  | .031  | .148  | -.088 | 210 | 950 | -.030  | .044  | -.199 | -.181 |
| 210 | 773 | .036   | .056  | .351  | -.335 | 210 | 901 | .203   | .106  | .535  | -.031 | 210 | 951 | -.309  | .107  | -.017 | -.858 |
| 210 | 774 | .020   | .059  | .493  | -.212 | 210 | 902 | .178   | .152  | .814  | -.289 | 210 | 952 | -.212  | .069  | .028  | -.605 |
| 210 | 775 | .043   | .073  | .441  | -.505 | 210 | 903 | .130   | .110  | .743  | -.120 | 210 | 953 | -.217  | .079  | .030  | .645  |
| 210 | 776 | .022   | .101  | .424  | -.441 | 210 | 904 | -.038  | .072  | .291  | -.231 | 210 | 954 | -.207  | .068  | .061  | -.583 |
| 210 | 777 | -.194  | .055  | .007  | -.441 | 210 | 905 | -.306  | .039  | -.186 | -.454 | 210 | 955 | -.191  | .074  | -.048 | -.532 |
| 210 | 778 | -.131  | .052  | .127  | -.340 | 210 | 906 | .069   | .090  | .428  | -.273 | 210 | 956 | -.339  | .082  | -.157 | -.712 |
| 210 | 779 | -.105  | .095  | .257  | -.788 | 210 | 907 | .113   | .108  | .543  | -.415 | 210 | 957 | -.313  | .090  | -.017 | -.765 |
| 210 | 780 | .017   | .046  | .278  | -.137 | 210 | 908 | -.213  | .104  | .131  | -.605 | 210 | 958 | -.252  | .077  | .032  | -.714 |
| 210 | 781 | .006   | .048  | .229  | -.182 | 210 | 909 | -.113  | .079  | .197  | -.340 | 210 | 959 | -.186  | .057  | .028  | -.536 |
| 210 | 782 | .018   | .060  | .278  | -.321 | 210 | 910 | .180   | .170  | .736  | -.652 | 210 | 960 | -.390  | .137  | -.028 | -.460 |
| 210 | 783 | .008   | .073  | .330  | -.578 | 210 | 911 | -.274  | .052  | -.125 | -.521 | 210 | 961 | -.398  | .142  | -.103 | -.426 |
| 210 | 784 | -.169  | .051  | .028  | -.413 | 210 | 912 | .230   | .162  | .891  | -.306 | 210 | 962 | -.147  | .115  | .247  | -.571 |
| 210 | 785 | -.109  | .048  | .108  | -.333 | 210 | 913 | -.250  | .131  | .464  | -.698 | 210 | 963 | -.362  | .105  | -.084 | -.152 |

| WD   | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN  |
|------|------|--------|-------|-------|--------|-----|-------|--------|-------|-------|--------|-----|-------|--------|-------|-------|--------|
| 210  | 964  | -.337  | .101  | -.146 | -1.100 | 220 | 115   | -.263  | .058  | -.108 | -.637  | 220 | 165   | -.326  | .077  | -.151 | -.702  |
| 210  | 965  | -.239  | .131  | -.223 | -.716  | 220 | 116   | -.257  | .049  | -.128 | -.567  | 220 | 166   | -.289  | .062  | -.114 | -.548  |
| 210  | 966  | -.433  | .129  | -.154 | -1.138 | 220 | 117   | -.252  | .047  | -.119 | -.498  | 220 | 167   | -.321  | .119  | -.114 | -1.243 |
| 210  | 967  | -.140  | .048  | -.045 | -.442  | 220 | 118   | -.269  | .052  | -.150 | -.684  | 220 | 168   | -.302  | .093  | -.090 | -1.029 |
| 210  | 968  | -.239  | .061  | -.040 | -.522  | 220 | 119   | -.271  | .047  | -.146 | -.520  | 220 | 169   | -.295  | .061  | -.135 | -.635  |
| 210  | 969  | -.275  | .069  | -.082 | -.644  | 220 | 120   | -.261  | .061  | -.022 | -.527  | 220 | 170   | -.334  | .094  | -.102 | -.860  |
| 210  | 970  | -.232  | .070  | -.004 | -.677  | 220 | 121   | -.342  | .100  | -.123 | -.884  | 220 | 171   | -.338  | .081  | -.142 | -.780  |
| 210  | 971  | -.169  | .072  | -.022 | -.787  | 220 | 122   | -.265  | .060  | -.123 | -.760  | 220 | 172   | -.332  | .072  | -.142 | -.724  |
| 1001 | .040 | .065   | .400  | -.150 | 220    | 123 | -.257 | .048   | -.139 | -.567 | 220    | 173 | -.347 | .076   | -.158 | -.788 |        |
| 1002 | .019 | .049   | .355  | -.103 | 220    | 124 | -.268 | .054   | -.143 | -.538 | 220    | 174 | -.342 | .081   | -.177 | -.780 |        |
| 210  | 1003 | -.045  | .143  | .527  | -.701  | 220 | 125   | -.271  | .054  | -.121 | -.518  | 220 | 175   | -.308  | .062  | -.144 | -.635  |
| 210  | 1004 | -.264  | .059  | -.100 | -.556  | 220 | 126   | -.265  | .063  | -.094 | -.594  | 220 | 176   | -.312  | .068  | -.125 | -.635  |
| 210  | 1005 | -.111  | .117  | -.461 | -.286  | 220 | 127   | -.285  | .079  | -.062 | -.770  | 220 | 177   | -.250  | .085  | -.041 | -.795  |
| 210  | 1006 | -.224  | .056  | -.040 | -.608  | 220 | 128   | -.262  | .058  | -.094 | -.562  | 220 | 178   | -.256  | .073  | -.013 | -.715  |
| 210  | 1007 | -.034  | .042  | .217  | -.256  | 220 | 129   | -.249  | .053  | -.087 | -.503  | 220 | 179   | -.311  | .075  | -.078 | -.658  |
| 210  | 1008 | -.306  | .068  | .003  | -.806  | 220 | 130   | -.254  | .043  | -.132 | -.459  | 220 | 180   | -.363  | .080  | -.161 | -.891  |
| 210  | 1009 | -.048  | .085  | .363  | -.239  | 220 | 131   | -.262  | .048  | -.123 | -.514  | 220 | 181   | -.359  | .080  | -.165 | -.804  |
| 210  | 1010 | -.282  | .064  | -.061 | -.609  | 220 | 132   | -.295  | .072  | -.130 | -.884  | 220 | 182   | -.331  | .076  | -.156 | -.661  |
| 210  | 1011 | -.034  | .040  | .177  | -.174  | 220 | 133   | -.270  | .060  | -.135 | -.661  | 220 | 183   | -.332  | .070  | -.158 | -.762  |
| 210  | 1012 | -.256  | .087  | .245  | -.672  | 220 | 134   | -.279  | .052  | -.146 | -.507  | 220 | 184   | -.193  | .077  | -.065 | -.633  |
| 210  | 1013 | -.249  | .065  | -.053 | -.559  | 220 | 135   | -.277  | .053  | -.139 | -.530  | 220 | 185   | -.184  | .070  | -.067 | -.501  |
| 210  | 1014 | -.272  | .049  | -.131 | -.506  | 220 | 136   | -.262  | .048  | -.121 | -.564  | 220 | 186   | -.239  | .087  | -.140 | -.604  |
| 210  | 1015 | -.263  | .057  | -.105 | -.578  | 220 | 137   | -.263  | .049  | -.114 | -.473  | 220 | 187   | -.337  | .085  | -.083 | -.757  |
| 210  | 1016 | -.279  | .051  | -.153 | -.385  | 220 | 138   | -.263  | .051  | -.112 | -.487  | 220 | 188   | -.364  | .091  | -.146 | -.945  |
| 210  | 1017 | -.330  | .079  | -.108 | -.670  | 220 | 139   | -.253  | .049  | -.101 | -.455  | 220 | 189   | -.351  | .095  | -.149 | -.1076 |
| 210  | 1018 | -.339  | .076  | -.134 | -.787  | 220 | 140   | -.250  | .048  | -.105 | -.580  | 220 | 190   | -.345  | .104  | -.123 | -.1222 |
| 210  | 1019 | -.304  | .087  | -.076 | -.729  | 220 | 141   | -.272  | .048  | -.137 | -.523  | 220 | 191   | -.262  | .085  | -.108 | -.756  |
| 210  | 1020 | -.295  | .057  | -.141 | -.540  | 220 | 142   | -.274  | .048  | -.130 | -.464  | 220 | 192   | -.320  | .088  | -.076 | -.852  |
| 210  | 1021 | -.005  | .052  | .271  | -.143  | 220 | 143   | -.290  | .060  | -.121 | -.580  | 220 | 193   | -.346  | .083  | -.112 | -.724  |
| 210  | 1022 | -.107  | .045  | .038  | -.265  | 220 | 144   | -.296  | .061  | -.151 | -.718  | 220 | 194   | -.176  | .079  | -.074 | -.747  |
| 210  | 1023 | -.145  | .051  | .036  | -.493  | 220 | 145   | -.289  | .052  | -.148 | -.496  | 220 | 195   | -.171  | .073  | -.063 | -.630  |
| 210  | 1024 | -.217  | .077  | -.021 | -.867  | 220 | 146   | -.268  | .050  | -.132 | -.462  | 220 | 196   | -.234  | .085  | -.238 | -.612  |
| 210  | 1025 | -.122  | .042  | .125  | -.366  | 220 | 147   | -.276  | .055  | -.130 | -.566  | 220 | 197   | -.344  | .085  | -.069 | -.771  |
| 210  | 1026 | -.106  | .054  | .158  | -.357  | 220 | 148   | -.273  | .058  | -.119 | -.584  | 220 | 198   | -.115  | .040  | -.034 | -.280  |
| 210  | 1027 | -.107  | .043  | .174  | -.242  | 220 | 149   | -.286  | .056  | -.133 | -.540  | 220 | 199   | -.126  | .041  | -.009 | -.437  |
| 210  | 1028 | -.132  | .029  | -.009 | -.254  | 220 | 150   | -.274  | .049  | -.131 | -.500  | 220 | 200   | -.159  | .049  | -.002 | -.372  |
| 220  | 101  | .243   | .047  | -.081 | -.446  | 220 | 151   | -.305  | .064  | -.125 | -.633  | 220 | 201   | -.204  | .058  | -.009 | -.543  |
| 220  | 102  | -.313  | .064  | -.117 | -.606  | 220 | 152   | -.285  | .052  | -.149 | -.573  | 220 | 202   | -.116  | .061  | -.153 | -.383  |
| 220  | 103  | -.357  | .083  | -.161 | -.702  | 220 | 153   | -.284  | .058  | -.140 | -.558  | 220 | 203   | -.224  | .074  | -.031 | -.662  |
| 220  | 104  | -.120  | .055  | .130  | -.332  | 220 | 154   | -.283  | .056  | -.124 | -.567  | 220 | 204   | -.254  | .064  | -.090 | -.570  |
| 220  | 105  | -.260  | .053  | -.114 | -.641  | 220 | 155   | -.304  | .075  | -.115 | -.887  | 220 | 205   | -.242  | .060  | -.054 | -.583  |
| 220  | 106  | -.246  | .045  | -.101 | -.427  | 220 | 156   | -.304  | .074  | -.055 | -.584  | 220 | 206   | -.208  | .073  | -.114 | -.588  |
| 220  | 107  | -.250  | .046  | -.110 | -.473  | 220 | 157   | -.364  | .097  | -.118 | -.071  | 220 | 207   | -.284  | .066  | -.130 | -.644  |
| 220  | 108  | -.263  | .051  | -.128 | -.511  | 220 | 158   | -.305  | .059  | -.138 | -.653  | 220 | 208   | -.236  | .057  | -.090 | -.713  |
| 220  | 109  | -.259  | .052  | -.112 | -.523  | 220 | 159   | -.333  | .112  | -.075 | -.987  | 220 | 209   | -.105  | .034  | -.029 | -.209  |
| 220  | 110  | -.261  | .052  | -.135 | -.567  | 220 | 160   | -.309  | .062  | -.122 | -.671  | 220 | 210   | -.206  | .062  | -.036 | -.630  |
| 220  | 111  | -.267  | .059  | -.108 | -.693  | 220 | 161   | -.339  | .134  | -.089 | -.1287 | 220 | 211   | -.032  | .084  | -.433 | -.203  |
| 220  | 112  | -.262  | .055  | -.130 | -.671  | 220 | 162   | -.326  | .080  | -.142 | -.902  | 220 | 212   | -.228  | .062  | -.051 | -.820  |
| 220  | 113  | -.255  | .049  | -.119 | -.509  | 220 | 163   | -.316  | .070  | -.138 | -.738  | 220 | 213   | -.126  | .066  | -.204 | -.366  |
| 220  | 114  | -.263  | .058  | -.117 | -.516  | 220 | 164   | -.320  | .069  | -.138 | -.662  | 220 | 214   | -.167  | .050  | -.013 | -.625  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 220 | 215 | -.112  | .031  | .006  | -.221 | 220 | 340 | -.262  | .047  | -.113 | -.482 | 220 | 390 | -.204  | .087  | .040  | -.835  |
| 220 | 216 | -.112  | .030  | -.005 | -.235 | 220 | 341 | -.253  | .040  | -.129 | -.408 | 220 | 391 | -.299  | .071  | -.094 | -.648  |
| 220 | 217 | -.133  | .034  | .006  | -.264 | 220 | 342 | -.259  | .043  | -.158 | -.477 | 220 | 392 | -.293  | .075  | -.058 | -.782  |
| 220 | 218 | -.189  | .049  | -.030 | -.366 | 220 | 343 | -.260  | .045  | -.138 | -.473 | 220 | 393 | -.288  | .065  | -.085 | -.596  |
| 220 | 219 | -.084  | .050  | .190  | -.269 | 220 | 344 | -.251  | .044  | -.102 | -.435 | 220 | 394 | -.224  | .062  | .096  | -.531  |
| 220 | 220 | -.176  | .072  | .095  | -.491 | 220 | 345 | -.264  | .043  | -.138 | -.486 | 220 | 395 | -.190  | .077  | .076  | -.775  |
| 220 | 221 | -.221  | .077  | .011  | -.780 | 220 | 346 | -.270  | .044  | -.164 | -.437 | 220 | 396 | -.191  | .084  | -.058 | -.613  |
| 220 | 222 | -.219  | .077  | .011  | -.904 | 220 | 347 | -.279  | .046  | -.151 | -.578 | 220 | 397 | -.271  | .065  | -.128 | -.712  |
| 220 | 223 | -.101  | .067  | .304  | -.371 | 220 | 348 | -.277  | .045  | -.140 | -.424 | 220 | 398 | -.270  | .063  | -.095 | -.613  |
| 220 | 224 | -.164  | .063  | .072  | -.525 | 220 | 349 | -.301  | .068  | -.134 | -.634 | 220 | 399 | -.263  | .052  | -.078 | -.500  |
| 220 | 225 | -.131  | .058  | .204  | -.480 | 220 | 350 | -.294  | .059  | -.113 | -.529 | 220 | 400 | -.228  | .052  | -.084 | -.615  |
| 220 | 301 | -.279  | .055  | -.117 | -.504 | 220 | 351 | -.272  | .056  | -.126 | -.621 | 220 | 401 | -.195  | .046  | -.047 | -.411  |
| 220 | 302 | -.248  | .050  | -.095 | -.484 | 220 | 352 | -.276  | .047  | -.150 | -.476 | 220 | 402 | -.171  | .048  | -.007 | -.431  |
| 220 | 303 | -.148  | .082  | .044  | -.488 | 220 | 353 | -.274  | .044  | -.156 | -.511 | 220 | 403 | -.123  | .039  | .022  | -.431  |
| 220 | 304 | -.316  | .064  | -.130 | -.610 | 220 | 354 | -.273  | .042  | -.148 | -.452 | 220 | 404 | -.116  | .034  | .018  | -.322  |
| 220 | 305 | -.231  | .041  | -.116 | -.409 | 220 | 355 | -.278  | .047  | -.141 | -.454 | 220 | 405 | -.214  | .057  | -.029 | -.535  |
| 220 | 306 | -.236  | .042  | -.116 | -.396 | 220 | 356 | -.270  | .052  | -.126 | -.643 | 220 | 406 | -.186  | .055  | -.022 | -.469  |
| 220 | 307 | -.238  | .041  | -.117 | -.395 | 220 | 357 | -.270  | .048  | -.106 | -.507 | 220 | 407 | -.197  | .049  | -.075 | -.564  |
| 220 | 308 | -.237  | .042  | -.120 | -.432 | 220 | 358 | -.265  | .051  | -.097 | -.516 | 220 | 408 | -.269  | .058  | -.101 | -.665  |
| 220 | 309 | -.245  | .044  | -.122 | -.473 | 220 | 359 | -.296  | .052  | -.132 | -.568 | 220 | 409 | -.159  | .032  | -.067 | -.302  |
| 220 | 310 | -.245  | .042  | -.091 | -.486 | 220 | 360 | -.278  | .065  | -.106 | -.728 | 220 | 410 | -.108  | .031  | .011  | -.215  |
| 220 | 311 | -.254  | .045  | -.109 | -.513 | 220 | 361 | -.294  | .052  | -.104 | -.540 | 220 | 411 | -.254  | .056  | -.051 | -.631  |
| 220 | 312 | -.245  | .043  | -.108 | -.413 | 220 | 362 | -.267  | .051  | -.097 | -.693 | 220 | 412 | -.256  | .058  | -.045 | -.629  |
| 220 | 313 | -.247  | .044  | -.122 | -.453 | 220 | 363 | -.270  | .050  | -.130 | -.498 | 220 | 413 | -.120  | .029  | .020  | -.247  |
| 220 | 314 | -.246  | .041  | -.137 | -.431 | 220 | 364 | -.287  | .052  | -.145 | -.529 | 220 | 414 | -.132  | .039  | .032  | -.271  |
| 220 | 315 | -.248  | .043  | -.137 | -.477 | 220 | 365 | -.295  | .058  | -.145 | -.621 | 220 | 415 | -.123  | .039  | .044  | -.257  |
| 220 | 316 | -.242  | .043  | -.130 | -.466 | 220 | 366 | -.284  | .053  | -.128 | -.530 | 220 | 416 | -.242  | .063  | -.045 | -.675  |
| 220 | 317 | -.242  | .038  | -.135 | -.426 | 220 | 367 | -.285  | .051  | -.131 | -.570 | 220 | 417 | -.136  | .053  | -.117 | -.367  |
| 220 | 318 | -.271  | .065  | -.111 | -.700 | 220 | 368 | -.292  | .060  | -.117 | -.586 | 220 | 418 | -.152  | .030  | -.027 | -.294  |
| 220 | 319 | -.259  | .050  | -.115 | -.627 | 220 | 369 | -.275  | .049  | -.142 | -.475 | 220 | 419 | -.124  | .029  | -.015 | -.212  |
| 220 | 320 | -.263  | .047  | -.155 | -.722 | 220 | 370 | -.287  | .054  | -.126 | -.563 | 220 | 420 | -.119  | .028  | -.003 | -.219  |
| 220 | 321 | -.261  | .041  | -.144 | -.475 | 220 | 371 | -.281  | .055  | -.135 | -.607 | 220 | 421 | -.125  | .030  | -.005 | -.286  |
| 220 | 322 | -.243  | .045  | -.100 | -.486 | 220 | 372 | -.311  | .062  | -.154 | -.718 | 220 | 422 | -.122  | .029  | -.009 | -.270  |
| 220 | 323 | -.242  | .049  | -.124 | -.508 | 220 | 373 | -.299  | .058  | -.168 | -.565 | 220 | 501 | -.192  | .125  | .278  | -.759  |
| 220 | 324 | -.267  | .068  | -.075 | -.859 | 220 | 374 | -.302  | .063  | -.101 | -.563 | 220 | 502 | -.246  | .112  | .050  | -.716  |
| 220 | 325 | -.244  | .042  | -.126 | -.477 | 220 | 375 | -.283  | .060  | -.119 | -.660 | 220 | 503 | -.046  | .104  | .365  | -.331  |
| 220 | 326 | -.258  | .043  | -.146 | -.495 | 220 | 376 | -.288  | .067  | -.085 | -.644 | 220 | 504 | -.280  | .139  | .226  | -.862  |
| 220 | 327 | -.256  | .041  | -.133 | -.462 | 220 | 377 | -.316  | .064  | -.133 | -.611 | 220 | 505 | -.213  | .177  | .428  | -.920  |
| 220 | 328 | -.255  | .043  | -.050 | -.451 | 220 | 378 | -.310  | .062  | -.149 | -.660 | 220 | 506 | -.175  | .014  | -.009 | -.375  |
| 220 | 329 | -.256  | .044  | -.120 | -.477 | 220 | 379 | -.332  | .073  | -.158 | -.658 | 220 | 507 | -.115  | .095  | .206  | -.515  |
| 220 | 330 | -.245  | .040  | -.138 | -.417 | 220 | 380 | -.317  | .068  | -.161 | -.653 | 220 | 508 | -.215  | .243  | .630  | -.1009 |
| 220 | 331 | -.254  | .041  | -.138 | -.424 | 220 | 381 | -.301  | .068  | -.078 | -.628 | 220 | 509 | -.076  | .118  | .307  | -.700  |
| 220 | 332 | -.238  | .040  | -.129 | -.439 | 220 | 382 | -.239  | .068  | -.031 | -.607 | 220 | 510 | -.092  | .099  | .208  | -.596  |
| 220 | 333 | -.244  | .042  | -.111 | -.399 | 220 | 383 | -.245  | .078  | -.043 | -.683 | 220 | 511 | -.187  | .048  | .020  | -.437  |
| 220 | 334 | -.249  | .042  | -.122 | -.448 | 220 | 384 | -.326  | .085  | -.156 | -.960 | 220 | 512 | -.177  | .219  | .602  | -.898  |
| 220 | 335 | -.248  | .041  | -.115 | -.401 | 220 | 385 | -.317  | .076  | -.163 | -.866 | 220 | 513 | -.047  | .150  | .592  | -.930  |
| 220 | 336 | -.256  | .043  | -.124 | -.489 | 220 | 386 | -.323  | .076  | -.147 | -.727 | 220 | 514 | -.107  | .083  | .239  | -.556  |
| 220 | 337 | -.261  | .044  | -.138 | -.482 | 220 | 387 | -.311  | .071  | -.126 | -.658 | 220 | 515 | -.181  | .049  | -.026 | -.398  |
| 220 | 338 | -.265  | .040  | -.151 | -.437 | 220 | 388 | -.250  | .072  | -.049 | -.581 | 220 | 516 | -.125  | .099  | .320  | -.596  |
| 220 | 339 | -.262  | .042  | -.138 | -.469 | 220 | 389 | -.198  | .080  | -.061 | -.792 | 220 | 517 | -.029  | .123  | .602  | -.540  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 220 | 518 | -.182  | .214  | .537  | -1.092 | 220 | 568 | -.194  | .045  | -.008 | -.415 | 220 | 618 | -.125  | .038  | .054  | -.291 |
| 220 | 519 | -.023  | .116  | .465  | -.673  | 220 | 569 | -.012  | .083  | .315  | -.664 | 220 | 619 | -.143  | .044  | -.018 | -.343 |
| 220 | 520 | -.183  | .091  | .174  | -.700  | 220 | 570 | -.112  | .177  | .477  | -.749 | 220 | 620 | -.095  | .040  | .079  | -.237 |
| 220 | 521 | -.191  | .064  | .129  | -.470  | 220 | 571 | -.103  | .195  | .506  | -.829 | 220 | 701 | -.015  | .100  | .427  | -.443 |
| 220 | 522 | -.152  | .237  | .548  | -1.006 | 220 | 572 | -.039  | .099  | .348  | -.763 | 220 | 702 | -.049  | .109  | .416  | -.294 |
| 220 | 523 | -.034  | .192  | .564  | -.997  | 220 | 573 | -.002  | .080  | .411  | -.391 | 220 | 703 | -.183  | .161  | .728  | -.352 |
| 220 | 524 | -.046  | .117  | .347  | -.696  | 220 | 574 | -.189  | .095  | .164  | -.798 | 220 | 704 | -.035  | .105  | .474  | -.239 |
| 220 | 525 | -.089  | .110  | .338  | -.743  | 220 | 575 | -.165  | .050  | .082  | -.405 | 220 | 705 | -.061  | .078  | .274  | -.287 |
| 220 | 526 | .088   | .149  | .631  | -.297  | 220 | 576 | -.205  | .048  | .018  | -.401 | 220 | 706 | -.102  | .136  | .587  | -.210 |
| 220 | 527 | -.255  | .103  | .221  | -.775  | 220 | 577 | -.124  | .120  | .331  | -.671 | 220 | 707 | -.039  | .102  | .392  | -.235 |
| 220 | 528 | -.144  | .051  | .132  | -.338  | 220 | 578 | -.133  | .116  | .341  | -.652 | 220 | 708 | -.101  | .087  | .207  | -.462 |
| 220 | 529 | -.174  | .045  | .002  | -.436  | 220 | 579 | -.062  | .090  | .240  | -.579 | 220 | 709 | -.099  | .149  | .574  | -.469 |
| 220 | 530 | -.061  | .099  | .385  | -.650  | 220 | 580 | -.043  | .067  | .277  | -.316 | 220 | 710 | -.139  | .152  | .689  | -.348 |
| 220 | 531 | -.060  | .111  | .636  | -.479  | 220 | 581 | -.167  | .080  | .216  | -.575 | 220 | 711 | -.147  | .177  | .770  | -.497 |
| 220 | 532 | -.169  | .227  | .750  | -.960  | 220 | 582 | -.170  | .048  | .032  | -.396 | 220 | 712 | -.028  | .085  | .294  | -.300 |
| 220 | 533 | -.135  | .221  | .718  | -.778  | 220 | 583 | -.206  | .046  | -.052 | -.509 | 220 | 713 | -.130  | .131  | .706  | -.246 |
| 220 | 534 | -.050  | .151  | .401  | -.880  | 220 | 584 | -.116  | .072  | .169  | -.638 | 220 | 714 | -.238  | .162  | 1.010 | -.161 |
| 220 | 535 | -.067  | .128  | .367  | -.871  | 220 | 585 | -.110  | .074  | .256  | -.455 | 220 | 715 | -.262  | .175  | .891  | -.140 |
| 220 | 536 | -.033  | .124  | .472  | -.645  | 220 | 586 | -.083  | .076  | .211  | -.627 | 220 | 716 | -.164  | .176  | .830  | -.450 |
| 220 | 537 | -.054  | .127  | .551  | -.456  | 220 | 587 | -.090  | .064  | .221  | -.419 | 220 | 717 | -.242  | .164  | .826  | -.183 |
| 220 | 538 | -.192  | .106  | .492  | -.618  | 220 | 588 | -.157  | .063  | .094  | -.452 | 220 | 718 | -.059  | .094  | .286  | -.374 |
| 220 | 539 | -.149  | .047  | -.163 | -.310  | 220 | 589 | -.172  | .042  | -.009 | -.358 | 220 | 719 | -.134  | .139  | .424  | -.769 |
| 220 | 540 | -.177  | .042  | -.005 | -.345  | 220 | 590 | -.216  | .046  | -.050 | -.497 | 220 | 720 | -.170  | .178  | .811  | -.361 |
| 220 | 541 | -.015  | .124  | .481  | -.493  | 220 | 591 | -.056  | .053  | .126  | -.339 | 220 | 721 | -.122  | .154  | .763  | -.246 |
| 220 | 542 | -.026  | .116  | .378  | -.586  | 220 | 592 | -.055  | .051  | .328  | -.316 | 220 | 722 | -.045  | .081  | .403  | -.313 |
| 220 | 543 | -.141  | .215  | .645  | -1.085 | 220 | 593 | -.088  | .043  | .126  | -.478 | 220 | 723 | -.015  | .094  | .335  | -.309 |
| 220 | 544 | -.123  | .192  | .547  | -.951  | 220 | 594 | -.079  | .061  | .140  | -.459 | 220 | 724 | -.033  | .151  | .574  | -.563 |
| 220 | 545 | -.051  | .146  | .492  | -.639  | 220 | 595 | -.072  | .066  | .178  | -.651 | 220 | 725 | -.199  | .158  | .808  | -.179 |
| 220 | 546 | -.093  | .064  | .255  | -.459  | 220 | 596 | -.046  | .049  | .196  | -.316 | 220 | 726 | -.157  | .134  | .689  | -.198 |
| 220 | 547 | -.171  | .049  | .036  | -.365  | 220 | 597 | -.127  | .042  | .051  | -.325 | 220 | 727 | -.199  | .148  | .874  | -.246 |
| 220 | 548 | -.246  | .047  | -.064 | -.417  | 220 | 598 | -.152  | .037  | -.001 | -.308 | 220 | 728 | -.248  | .167  | .880  | -.266 |
| 220 | 549 | .021   | .162  | .711  | -.703  | 220 | 599 | -.197  | .043  | -.065 | -.439 | 220 | 729 | -.247  | .171  | 1.030 | -.154 |
| 220 | 550 | -.023  | .163  | .782  | -.674  | 220 | 600 | -.292  | .074  | .034  | -.607 | 220 | 730 | -.254  | .169  | .872  | -.174 |
| 220 | 551 | -.221  | .260  | .690  | -1.322 | 220 | 601 | -.080  | .055  | .216  | -.273 | 220 | 731 | -.231  | .164  | .830  | -.250 |
| 220 | 552 | -.076  | .141  | .429  | -.944  | 220 | 602 | -.121  | .042  | .043  | -.340 | 220 | 732 | -.060  | .074  | .217  | -.294 |
| 220 | 553 | -.085  | .109  | .337  | -.651  | 220 | 603 | -.079  | .073  | .180  | -.649 | 220 | 733 | -.021  | .092  | .367  | -.231 |
| 220 | 554 | -.112  | .088  | .185  | -.698  | 220 | 604 | -.152  | .041  | -.023 | -.306 | 220 | 734 | -.068  | .159  | .630  | -.597 |
| 220 | 555 | -.215  | .062  | -.034 | -.605  | 220 | 605 | -.207  | .047  | -.083 | -.469 | 220 | 735 | -.229  | .141  | .874  | -.198 |
| 220 | 556 | -.311  | .068  | -.146 | -.678  | 220 | 606 | -.065  | .059  | .248  | -.299 | 220 | 736 | -.245  | .153  | .926  | -.187 |
| 220 | 557 | -.302  | .062  | -.032 | -.566  | 220 | 607 | -.119  | .035  | .083  | -.283 | 220 | 737 | -.206  | .130  | .779  | -.088 |
| 220 | 558 | -.199  | .209  | .438  | -1.085 | 220 | 608 | -.039  | .054  | .250  | -.394 | 220 | 738 | -.238  | .145  | .896  | -.114 |
| 220 | 559 | -.183  | .050  | .037  | -.562  | 220 | 609 | -.186  | .047  | -.017 | -.430 | 220 | 739 | -.250  | .160  | 1.041 | -.141 |
| 220 | 560 | -.201  | .275  | .559  | -1.624 | 220 | 610 | -.142  | .059  | .128  | -.421 | 220 | 740 | -.204  | .148  | .872  | -.171 |
| 220 | 561 | -.209  | .047  | -.041 | -.392  | 220 | 611 | -.113  | .036  | .054  | -.230 | 220 | 741 | -.250  | .150  | 1.012 | -.077 |
| 220 | 562 | -.244  | .322  | .610  | -2.371 | 220 | 612 | -.064  | .072  | .209  | -.678 | 220 | 742 | -.220  | .140  | .777  | -.114 |
| 220 | 563 | -.115  | .226  | .503  | -1.305 | 220 | 613 | -.063  | .073  | .234  | -.512 | 220 | 743 | -.170  | .062  | .072  | -.393 |
| 220 | 564 | -.045  | .111  | .418  | -.676  | 220 | 614 | -.038  | .063  | .360  | -.491 | 220 | 744 | -.039  | .079  | .283  | -.268 |
| 220 | 565 | -.040  | .085  | .268  | -.857  | 220 | 615 | -.019  | .052  | .246  | -.304 | 220 | 745 | -.137  | .123  | .705  | -.187 |
| 220 | 566 | -.083  | .072  | .218  | -.514  | 220 | 616 | -.111  | .051  | .113  | -.320 | 220 | 746 | -.206  | .139  | .687  | -.103 |
| 220 | 567 | -.151  | .048  | .061  | -.349  | 220 | 617 | -.111  | .041  | .083  | -.266 | 220 | 747 | -.183  | .147  | 1.060 | -.196 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 220 | 748 | .121   | .126  | .623  | -.310 | 220 | 798 | -.141  | .048  | .058  | -.385 | 220 | 926  | -.258  | .080  | .137  | -.599 |
| 220 | 749 | -.291  | .096  | .261  | -.902 | 220 | 799 | -.087  | .053  | .241  | -.280 | 220 | 927  | -.254  | .044  | -.130 | -.414 |
| 220 | 750 | -.350  | .090  | -.078 | .807  | 220 | 800 | -.039  | .072  | .319  | -.277 | 220 | 928  | -.257  | .071  | -.024 | -.694 |
| 220 | 751 | -.101  | .098  | .255  | -.470 | 220 | 801 | .066   | .070  | .400  | -.095 | 220 | 929  | -.264  | .047  | -.151 | -.612 |
| 220 | 752 | .066   | .138  | .605  | -.434 | 220 | 802 | .037   | .057  | .374  | -.136 | 220 | 930  | -.106  | .059  | .163  | -.309 |
| 220 | 753 | .124   | .151  | .645  | -.423 | 220 | 803 | .012   | .048  | .275  | -.181 | 220 | 931  | -.294  | .051  | -.160 | -.511 |
| 220 | 754 | .136   | .142  | .813  | -.554 | 220 | 804 | -.010  | .048  | .205  | -.207 | 220 | 932  | -.148  | .072  | -.170 | -.338 |
| 220 | 755 | .135   | .150  | .884  | -.498 | 220 | 805 | .020   | .082  | .458  | -.207 | 220 | 933  | -.208  | .043  | -.035 | -.390 |
| 220 | 756 | .046   | .158  | .633  | -.646 | 220 | 806 | -.061  | .065  | .211  | -.305 | 220 | 934  | -.259  | .041  | -.140 | -.424 |
| 220 | 757 | -.095  | .168  | .836  | -.580 | 220 | 807 | -.029  | .058  | .337  | -.241 | 220 | 935  | -.264  | .040  | -.162 | -.422 |
| 220 | 758 | -.043  | .083  | .283  | -.380 | 220 | 808 | -.185  | .049  | .068  | -.367 | 220 | 936  | -.283  | .036  | -.180 | -.430 |
| 220 | 759 | -.136  | .123  | .673  | -.305 | 220 | 809 | -.105  | .044  | .131  | -.268 | 220 | 937  | -.253  | .041  | -.132 | -.441 |
| 220 | 760 | -.102  | .070  | .171  | -.391 | 220 | 810 | .039   | .059  | .376  | -.090 | 220 | 938  | -.266  | .041  | -.165 | -.430 |
| 220 | 761 | .085   | .109  | .596  | -.316 | 220 | 811 | .051   | .067  | .385  | -.092 | 220 | 939  | -.274  | .044  | -.167 | -.483 |
| 220 | 762 | -.112  | .074  | .279  | -.380 | 220 | 812 | -.005  | .043  | .403  | -.248 | 220 | 940  | -.308  | .044  | -.218 | -.458 |
| 220 | 763 | -.033  | .086  | .399  | -.294 | 220 | 813 | -.021  | .064  | .333  | -.218 | 220 | 941  | -.039  | .042  | -.302 | -.037 |
| 220 | 764 | .092   | .112  | .485  | -.209 | 220 | 814 | .019   | .077  | .458  | -.298 | 220 | 942  | -.351  | .082  | -.144 | -.712 |
| 220 | 765 | .122   | .113  | .603  | -.209 | 220 | 815 | -.137  | .054  | .125  | -.319 | 220 | 943  | -.377  | .110  | -.030 | -.806 |
| 220 | 766 | .136   | .105  | .662  | -.127 | 220 | 816 | -.076  | .048  | .159  | -.211 | 220 | 944  | -.245  | .063  | -.036 | -.612 |
| 220 | 767 | .107   | .087  | .573  | -.150 | 220 | 817 | -.046  | .050  | .218  | -.168 | 220 | 945  | -.050  | .047  | -.121 | -.334 |
| 220 | 768 | .060   | .095  | .528  | -.527 | 220 | 818 | -.019  | .066  | .385  | -.266 | 220 | 946  | -.315  | .068  | -.124 | -.574 |
| 220 | 769 | .108   | .099  | .644  | -.152 | 220 | 819 | .054   | .062  | .426  | -.099 | 220 | 947  | -.327  | .068  | -.120 | -.661 |
| 220 | 770 | -.124  | .063  | .110  | -.329 | 220 | 820 | .049   | .060  | .390  | -.161 | 220 | 948  | -.291  | .075  | -.055 | -.750 |
| 220 | 771 | -.054  | .078  | .280  | -.327 | 220 | 821 | .022   | .042  | .208  | -.102 | 220 | 949  | -.342  | .092  | -.071 | -.944 |
| 220 | 772 | .031   | .127  | .639  | -.636 | 220 | 822 | .005   | .034  | .179  | -.149 | 220 | 950  | -.042  | .052  | -.262 | -.271 |
| 220 | 773 | .112   | .100  | .787  | -.122 | 220 | 901 | .102   | .094  | .458  | -.124 | 220 | 951  | -.290  | .090  | -.025 | -.860 |
| 220 | 774 | .074   | .078  | .492  | -.277 | 220 | 902 | .219   | .148  | .841  | -.185 | 220 | 952  | -.237  | .075  | -.007 | -.679 |
| 220 | 775 | .038   | .058  | .298  | -.407 | 220 | 903 | .224   | .140  | .766  | -.065 | 220 | 953  | -.239  | .087  | -.028 | -.764 |
| 220 | 776 | .010   | .068  | .362  | -.304 | 220 | 904 | .060   | .094  | .409  | -.166 | 220 | 954  | -.180  | .068  | .061  | -.536 |
| 220 | 777 | -.135  | .067  | .155  | -.391 | 220 | 905 | -.287  | .039  | -.176 | -.410 | 220 | 955  | -.188  | .072  | -.079 | -.548 |
| 220 | 778 | -.061  | .077  | .337  | -.298 | 220 | 906 | -.015  | .089  | .342  | -.370 | 220 | 956  | -.303  | .072  | -.146 | -.686 |
| 220 | 779 | .018   | .101  | .532  | -.454 | 220 | 907 | .011   | .157  | .498  | -.461 | 220 | 957  | -.294  | .075  | -.073 | -.657 |
| 220 | 780 | .078   | .077  | .546  | -.127 | 220 | 908 | -.201  | .102  | .274  | -.604 | 220 | 958  | -.220  | .063  | .021  | -.532 |
| 220 | 781 | .048   | .068  | .416  | -.229 | 220 | 909 | -.133  | .068  | .238  | -.312 | 220 | 959  | -.177  | .052  | -.132 | -.396 |
| 220 | 782 | .011   | .053  | .273  | -.225 | 220 | 910 | -.091  | .179  | .565  | -.712 | 220 | 960  | -.326  | .100  | -.071 | -.192 |
| 220 | 783 | -.016  | .059  | .264  | -.423 | 220 | 911 | -.278  | .054  | -.147 | -.531 | 220 | 961  | -.308  | .083  | -.129 | -.873 |
| 220 | 784 | -.135  | .062  | .193  | -.386 | 220 | 912 | .265   | .207  | 1.082 | -.611 | 220 | 962  | -.192  | .093  | -.200 | -.529 |
| 220 | 785 | -.067  | .062  | .257  | -.282 | 220 | 913 | -.222  | .182  | .632  | -.856 | 220 | 963  | -.355  | .116  | -.127 | -.451 |
| 220 | 786 | .016   | .083  | .607  | -.247 | 220 | 914 | .090   | .112  | .533  | -.215 | 220 | 964  | -.325  | .090  | -.142 | -.088 |
| 220 | 787 | .065   | .069  | .394  | -.143 | 220 | 915 | -.148  | .058  | .139  | -.380 | 220 | 965  | -.271  | .101  | -.130 | -.719 |
| 220 | 788 | .046   | .062  | .339  | -.209 | 220 | 916 | .100   | .144  | .624  | -.554 | 220 | 966  | -.352  | .115  | -.106 | -.027 |
| 220 | 789 | -.010  | .046  | .214  | -.218 | 220 | 917 | -.212  | .104  | .123  | -.962 | 220 | 967  | -.131  | .054  | -.088 | -.464 |
| 220 | 790 | -.020  | .044  | .160  | -.222 | 220 | 918 | -.299  | .085  | .030  | .697  | 220 | 968  | -.262  | .067  | -.070 | -.855 |
| 220 | 791 | .031   | .058  | .379  | -.133 | 220 | 919 | -.007  | .104  | .418  | -.716 | 220 | 969  | -.285  | .080  | -.065 | -.839 |
| 220 | 792 | .032   | .058  | .457  | -.169 | 220 | 920 | -.207  | .083  | .067  | -.618 | 220 | 970  | -.237  | .101  | .053  | -.056 |
| 220 | 793 | .048   | .067  | .525  | -.131 | 220 | 921 | -.323  | .020  | -.139 | -.666 | 220 | 971  | -.167  | .081  | .065  | -.650 |
| 220 | 794 | -.043  | .065  | .369  | -.106 | 220 | 922 | -.277  | .052  | -.129 | -.571 | 220 | 1001 | -.089  | .095  | .612  | -.159 |
| 220 | 795 | -.030  | .067  | .280  | -.312 | 220 | 923 | -.269  | .056  | -.103 | -.503 | 220 | 1002 | -.035  | .058  | .345  | -.091 |
| 220 | 796 | .001   | .077  | .392  | -.266 | 220 | 924 | -.255  | .088  | .193  | -.679 | 220 | 1003 | -.161  | .152  | .403  | -.824 |
| 220 | 797 | -.288  | .068  | .093  | -.648 | 220 | 925 | -.270  | .050  | -.145 | -.498 | 220 | 1004 | -.266  | .067  | -.058 | -.554 |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 220 | 1005 | .008   | .130  | .474  | -.506  | 230 | 127 | -.277  | .076  | -.102 | -.705  | 230 | 177 | -.284  | .100  | .003  | -.844  |
| 220 | 1006 | -.231  | .067  | -.004 | -.533  | 230 | 128 | -.256  | .058  | -.079 | -.572  | 230 | 178 | -.278  | .087  | .000  | -.788  |
| 220 | 1007 | -.064  | .046  | .124  | -.265  | 230 | 129 | -.249  | .057  | -.075 | -.471  | 230 | 179 | -.334  | .083  | -.058 | -.784  |
| 220 | 1008 | -.316  | .067  | -.084 | -.664  | 230 | 130 | -.254  | .050  | -.104 | -.617  | 230 | 180 | -.354  | .085  | -.175 | -.751  |
| 220 | 1009 | -.016  | .089  | .386  | -.440  | 230 | 131 | -.266  | .051  | -.115 | -.500  | 230 | 181 | -.371  | .094  | -.130 | -.933  |
| 220 | 1010 | -.287  | .063  | -.124 | -.681  | 230 | 132 | -.291  | .080  | -.106 | -.1039 | 230 | 182 | -.349  | .085  | -.161 | -.784  |
| 220 | 1011 | -.044  | .049  | .265  | -.282  | 230 | 133 | -.282  | .068  | -.115 | -.777  | 230 | 183 | -.338  | .081  | -.149 | -.809  |
| 220 | 1012 | -.248  | .086  | .164  | -.610  | 230 | 134 | -.268  | .058  | -.099 | -.629  | 230 | 184 | -.199  | .093  | .084  | -.872  |
| 220 | 1013 | -.243  | .061  | -.054 | -.562  | 230 | 135 | -.287  | .067  | -.111 | -.647  | 230 | 185 | -.192  | .079  | .152  | -.669  |
| 220 | 1014 | -.261  | .047  | -.140 | -.540  | 230 | 136 | -.266  | .056  | -.090 | -.534  | 230 | 186 | -.247  | .085  | .140  | -.681  |
| 220 | 1015 | -.250  | .049  | -.117 | -.538  | 230 | 137 | -.261  | .059  | -.095 | -.543  | 230 | 187 | -.349  | .092  | -.044 | -.910  |
| 220 | 1016 | -.256  | .045  | -.159 | -.498  | 230 | 138 | -.264  | .059  | -.111 | -.611  | 230 | 188 | -.353  | .092  | -.144 | -.956  |
| 220 | 1017 | -.292  | .068  | -.067 | -.593  | 230 | 139 | -.255  | .056  | -.084 | -.561  | 230 | 189 | -.347  | .097  | -.144 | -.984  |
| 220 | 1018 | -.297  | .068  | -.112 | -.676  | 230 | 140 | -.253  | .050  | -.113 | -.455  | 230 | 190 | -.344  | .100  | -.091 | -.1045 |
| 220 | 1019 | -.289  | .085  | -.044 | -.756  | 230 | 141 | -.269  | .054  | -.081 | -.543  | 230 | 191 | -.289  | .091  | .088  | -.778  |
| 220 | 1020 | -.266  | .049  | -.107 | -.445  | 230 | 142 | -.284  | .059  | -.093 | -.762  | 230 | 192 | -.331  | .094  | .007  | -.885  |
| 220 | 1021 | -.019  | .050  | .232  | -.296  | 230 | 143 | -.299  | .074  | -.138 | -.940  | 230 | 193 | -.330  | .083  | -.122 | -.805  |
| 220 | 1022 | -.125  | .043  | -.067 | -.284  | 230 | 144 | -.303  | .073  | -.126 | -.782  | 230 | 194 | -.170  | .078  | -.092 | -.634  |
| 220 | 1023 | -.163  | .059  | -.018 | -.534  | 230 | 145 | -.288  | .067  | -.106 | -.768  | 230 | 195 | -.170  | .073  | .214  | -.749  |
| 220 | 1024 | -.246  | .085  | -.067 | -.751  | 230 | 146 | -.275  | .060  | -.041 | -.568  | 230 | 196 | -.229  | .089  | .134  | -.540  |
| 220 | 1025 | -.155  | .047  | -.025 | -.405  | 230 | 147 | -.267  | .060  | -.097 | -.669  | 230 | 197 | -.341  | .092  | .039  | -.845  |
| 220 | 1026 | -.144  | .055  | .110  | -.353  | 230 | 148 | -.277  | .062  | -.088 | -.712  | 230 | 198 | -.121  | .041  | .039  | -.338  |
| 220 | 1027 | -.118  | .043  | .088  | -.273  | 230 | 149 | -.292  | .068  | -.107 | -.747  | 230 | 199 | -.131  | .044  | .005  | -.393  |
| 220 | 1028 | -.122  | .027  | -.006 | -.230  | 230 | 150 | -.273  | .052  | -.121 | -.513  | 230 | 200 | -.171  | .055  | -.004 | -.674  |
| 230 | 101  | -.256  | .052  | -.111 | -.538  | 230 | 151 | -.307  | .079  | -.063 | -.736  | 230 | 201 | -.229  | .061  | .027  | -.551  |
| 230 | 102  | -.314  | .063  | -.148 | -.645  | 230 | 152 | -.288  | .063  | -.046 | -.681  | 230 | 202 | -.110  | .067  | .177  | -.364  |
| 230 | 103  | -.381  | .090  | -.162 | -.734  | 230 | 153 | -.286  | .067  | -.103 | -.639  | 230 | 203 | -.221  | .079  | .021  | -.565  |
| 230 | 104  | -.154  | .054  | .030  | -.373  | 230 | 154 | -.282  | .061  | -.087 | -.588  | 230 | 204 | -.249  | .066  | -.057 | -.534  |
| 230 | 105  | -.265  | .056  | -.112 | -.704  | 230 | 155 | -.305  | .078  | -.068 | -.793  | 230 | 205 | -.248  | .064  | -.055 | -.603  |
| 230 | 106  | -.254  | .052  | -.079 | -.517  | 230 | 156 | -.318  | .078  | -.074 | -.621  | 230 | 206 | -.197  | .080  | .061  | -.627  |
| 230 | 107  | -.269  | .053  | -.122 | -.536  | 230 | 157 | -.380  | .107  | -.057 | -.1008 | 230 | 207 | -.277  | .074  | -.113 | -.850  |
| 230 | 108  | -.282  | .063  | -.077 | -.717  | 230 | 158 | -.310  | .067  | -.134 | -.674  | 230 | 208 | -.228  | .064  | -.050 | -.810  |
| 230 | 109  | -.282  | .070  | -.073 | -.765  | 230 | 159 | -.330  | .124  | -.072 | -.1030 | 230 | 209 | -.108  | .034  | .016  | -.246  |
| 230 | 110  | -.295  | .083  | -.084 | -.919  | 230 | 160 | -.319  | .074  | -.098 | -.721  | 230 | 210 | -.242  | .068  | -.032 | -.626  |
| 230 | 111  | -.282  | .070  | -.119 | -.746  | 230 | 161 | -.318  | .143  | -.065 | -.1247 | 230 | 211 | -.075  | .087  | .495  | -.158  |
| 230 | 112  | -.270  | .066  | -.070 | -.721  | 230 | 162 | -.337  | .090  | -.059 | -.793  | 230 | 212 | -.227  | .063  | -.020 | -.638  |
| 230 | 113  | -.267  | .059  | -.033 | -.689  | 230 | 163 | -.312  | .080  | -.103 | -.827  | 230 | 213 | -.105  | .074  | .254  | -.457  |
| 230 | 114  | -.295  | .075  | -.106 | -.672  | 230 | 164 | -.309  | .070  | -.116 | -.641  | 230 | 214 | -.152  | .055  | .058  | -.554  |
| 230 | 115  | -.290  | .073  | -.111 | -.669  | 230 | 165 | -.315  | .076  | -.132 | -.679  | 230 | 215 | -.109  | .029  | .025  | -.216  |
| 230 | 116  | -.284  | .067  | -.091 | -.643  | 230 | 166 | -.291  | .068  | -.123 | -.623  | 230 | 216 | -.117  | .029  | .002  | -.225  |
| 230 | 117  | -.265  | .058  | -.073 | -.545  | 230 | 167 | -.321  | .107  | -.116 | -.921  | 230 | 217 | -.146  | .036  | .029  | -.295  |
| 230 | 118  | -.280  | .056  | -.131 | -.569  | 230 | 168 | -.294  | .093  | -.095 | -.1050 | 230 | 218 | -.220  | .057  | -.025 | -.453  |
| 230 | 119  | -.274  | .058  | -.122 | -.649  | 230 | 169 | -.286  | .062  | -.058 | -.632  | 230 | 219 | -.083  | .051  | .142  | -.277  |
| 230 | 120  | -.269  | .080  | -.061 | -.781  | 230 | 170 | -.357  | .105  | -.109 | -.169  | 230 | 220 | -.173  | .082  | .126  | -.550  |
| 230 | 121  | -.390  | .126  | -.104 | -1.005 | 230 | 171 | -.343  | .091  | -.107 | -.947  | 230 | 221 | -.229  | .087  | .020  | -.721  |
| 230 | 122  | -.273  | .069  | -.075 | -.754  | 230 | 172 | -.346  | .079  | -.149 | -.812  | 230 | 222 | -.221  | .082  | .018  | -.755  |
| 230 | 123  | -.263  | .065  | -.017 | -.701  | 230 | 173 | -.323  | .076  | -.116 | -.667  | 230 | 223 | -.094  | .066  | .257  | -.284  |
| 230 | 124  | -.271  | .063  | -.102 | -.578  | 230 | 174 | -.345  | .087  | -.156 | -.809  | 230 | 224 | -.157  | .063  | .065  | -.581  |
| 230 | 125  | -.280  | .065  | -.050 | -.645  | 230 | 175 | -.311  | .069  | -.123 | -.651  | 230 | 225 | -.124  | .064  | .128  | -.471  |
| 230 | 126  | -.273  | .076  | -.097 | -.781  | 230 | 176 | -.307  | .074  | -.102 | -.732  | 230 | 301 | -.280  | .061  | -.100 | -.564  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|--------|
| 230 | 302 | -.269  | .052  | -.120 | -.506 | 230 | 352 | -.264  | .047  | -.091 | -.436   | 230 | 402 | -.165  | .045  | .063  | -.359  |
| 230 | 303 | -.279  | .108  | -.072 | -.856 | 230 | 353 | -.270  | .046  | -.131 | -.502   | 230 | 403 | -.120  | .038  | .034  | -.317  |
| 230 | 304 | -.317  | .062  | -.145 | -.618 | 230 | 354 | -.265  | .043  | -.149 | -.463   | 230 | 404 | -.113  | .036  | .021  | -.277  |
| 230 | 305 | -.252  | .055  | -.033 | -.615 | 230 | 355 | -.276  | .050  | -.144 | -.505   | 230 | 405 | -.248  | .062  | -.063 | -.582  |
| 230 | 306 | -.263  | .048  | -.108 | -.638 | 230 | 356 | -.274  | .055  | -.122 | -.666   | 230 | 406 | -.220  | .057  | -.057 | -.456  |
| 230 | 307 | -.245  | .049  | -.087 | -.444 | 230 | 357 | -.263  | .050  | -.098 | -.471   | 230 | 407 | -.199  | .042  | -.087 | -.511  |
| 230 | 308 | -.247  | .053  | -.074 | -.477 | 230 | 358 | -.259  | .053  | -.111 | -.525   | 230 | 408 | -.259  | .055  | -.081 | -.677  |
| 230 | 309 | -.254  | .054  | -.107 | -.656 | 230 | 359 | -.279  | .051  | -.124 | -.509   | 230 | 409 | -.157  | .032  | -.008 | -.275  |
| 230 | 310 | -.253  | .047  | -.120 | -.589 | 230 | 360 | -.283  | .071  | -.118 | -.737   | 230 | 410 | -.106  | .031  | .023  | -.211  |
| 230 | 311 | -.277  | .051  | -.144 | -.518 | 230 | 361 | -.289  | .059  | -.126 | -.595   | 230 | 411 | -.253  | .056  | -.063 | -.613  |
| 230 | 312 | -.238  | .052  | -.096 | -.553 | 230 | 362 | -.270  | .054  | -.122 | -.527   | 230 | 412 | -.247  | .054  | -.079 | -.485  |
| 230 | 313 | -.246  | .048  | -.085 | -.490 | 230 | 363 | -.277  | .053  | -.126 | -.498   | 230 | 413 | -.120  | .028  | .021  | -.228  |
| 230 | 314 | -.248  | .045  | -.129 | -.535 | 230 | 364 | -.279  | .049  | -.144 | -.567   | 230 | 414 | -.160  | .036  | -.016 | -.310  |
| 230 | 315 | -.257  | .050  | -.127 | -.611 | 230 | 365 | -.305  | .058  | -.160 | -.549   | 230 | 415 | -.151  | .036  | .005  | -.326  |
| 230 | 316 | -.256  | .050  | -.129 | -.618 | 230 | 366 | -.265  | .047  | -.139 | -.468   | 230 | 416 | -.243  | .065  | .021  | -.730  |
| 230 | 317 | -.238  | .040  | -.125 | -.424 | 230 | 367 | -.269  | .053  | -.104 | -.482   | 230 | 417 | -.148  | .047  | -.031 | -.366  |
| 230 | 318 | -.276  | .078  | -.073 | -.921 | 230 | 368 | -.282  | .057  | -.071 | -.552   | 230 | 418 | -.149  | .030  | -.035 | -.256  |
| 230 | 319 | -.254  | .056  | -.109 | -.348 | 230 | 369 | -.271  | .049  | -.125 | -.454   | 230 | 419 | -.118  | .027  | -.007 | -.207  |
| 230 | 320 | -.276  | .055  | -.140 | -.584 | 230 | 370 | -.285  | .056  | -.127 | -.597   | 230 | 420 | -.119  | .029  | -.018 | -.219  |
| 230 | 321 | -.273  | .048  | -.116 | -.468 | 230 | 371 | -.290  | .060  | -.130 | -.655   | 230 | 421 | -.122  | .030  | .014  | -.245  |
| 230 | 322 | -.244  | .051  | -.085 | -.504 | 230 | 372 | -.306  | .064  | -.172 | -.632   | 230 | 422 | -.119  | .030  | .005  | -.265  |
| 230 | 323 | -.250  | .051  | -.033 | -.466 | 230 | 373 | -.301  | .062  | -.176 | -.674   | 230 | 501 | -.324  | .113  | -.059 | -.175  |
| 230 | 324 | -.251  | .058  | -.098 | -.564 | 230 | 374 | -.291  | .059  | -.090 | -.545   | 230 | 502 | -.339  | .109  | -.025 | -.835  |
| 230 | 325 | -.214  | .046  | -.091 | -.426 | 230 | 375 | -.265  | .058  | -.067 | -.529   | 230 | 503 | -.008  | .092  | .308  | -.335  |
| 230 | 326 | -.265  | .041  | -.147 | -.448 | 230 | 376 | -.267  | .059  | -.099 | -.643   | 230 | 504 | -.395  | .109  | -.028 | -.877  |
| 230 | 327 | -.252  | .042  | -.114 | -.428 | 230 | 377 | -.281  | .055  | -.134 | -.555   | 230 | 505 | -.383  | .119  | .230  | -.910  |
| 230 | 328 | -.260  | .045  | -.130 | -.478 | 230 | 378 | -.300  | .062  | -.146 | -.592   | 230 | 506 | -.217  | .063  | .007  | -.545  |
| 230 | 329 | -.263  | .049  | -.128 | -.489 | 230 | 379 | -.307  | .070  | -.155 | -.1,026 | 230 | 507 | -.242  | .103  | .041  | -.677  |
| 230 | 330 | -.245  | .043  | -.121 | -.401 | 230 | 380 | -.307  | .065  | -.151 | -.571   | 230 | 508 | -.404  | .152  | .172  | -.106  |
| 230 | 331 | -.257  | .041  | -.134 | -.421 | 230 | 381 | -.279  | .059  | -.071 | -.548   | 230 | 509 | -.229  | .143  | .126  | -.849  |
| 230 | 332 | -.247  | .047  | -.103 | -.473 | 230 | 382 | -.220  | .062  | -.006 | -.555   | 230 | 510 | -.195  | .109  | -.113 | -.720  |
| 230 | 333 | -.243  | .046  | -.121 | -.448 | 230 | 383 | -.220  | .063  | -.004 | -.622   | 230 | 511 | -.217  | .054  | -.015 | -.576  |
| 230 | 334 | -.253  | .047  | -.121 | -.469 | 230 | 384 | -.301  | .078  | -.148 | -.849   | 230 | 512 | -.372  | .124  | .188  | -.913  |
| 230 | 335 | -.246  | .044  | -.125 | -.428 | 230 | 385 | -.305  | .083  | -.130 | -.1,056 | 230 | 513 | -.272  | .184  | .166  | -.904  |
| 230 | 336 | -.249  | .042  | -.128 | -.502 | 230 | 386 | -.317  | .081  | -.141 | -.909   | 230 | 514 | -.207  | .091  | .110  | -.653  |
| 230 | 337 | -.251  | .042  | -.130 | -.439 | 230 | 387 | -.303  | .071  | -.095 | -.576   | 230 | 515 | -.215  | .056  | .017  | -.757  |
| 230 | 338 | -.251  | .041  | -.132 | -.462 | 230 | 388 | -.256  | .069  | -.003 | -.517   | 230 | 516 | -.243  | .113  | .188  | -.748  |
| 230 | 339 | -.254  | .044  | -.125 | -.482 | 230 | 389 | -.193  | .070  | -.055 | -.569   | 230 | 517 | -.193  | .132  | .302  | -.742  |
| 230 | 340 | -.254  | .049  | -.094 | -.509 | 230 | 390 | -.199  | .079  | -.136 | -.697   | 230 | 518 | -.456  | .210  | .208  | -.358  |
| 230 | 341 | -.254  | .043  | -.137 | -.432 | 230 | 391 | -.283  | .066  | -.086 | -.590   | 230 | 519 | -.193  | .165  | .219  | -.822  |
| 230 | 342 | -.259  | .041  | -.141 | -.401 | 230 | 392 | -.294  | .073  | -.088 | -.807   | 230 | 520 | -.223  | .096  | .044  | -.766  |
| 230 | 343 | -.254  | .044  | -.121 | -.462 | 230 | 393 | -.281  | .061  | -.117 | -.597   | 230 | 521 | -.223  | .059  | -.008 | -.484  |
| 230 | 344 | -.246  | .047  | -.103 | -.460 | 230 | 394 | -.220  | .058  | -.010 | -.465   | 230 | 522 | -.424  | .203  | .239  | -.1265 |
| 230 | 345 | -.259  | .046  | -.141 | -.444 | 230 | 395 | -.186  | .073  | -.056 | -.632   | 230 | 523 | -.278  | .215  | .277  | -.1024 |
| 230 | 346 | -.273  | .046  | -.114 | -.475 | 230 | 396 | -.187  | .080  | -.082 | -.291   | 230 | 524 | -.239  | .152  | .235  | -.1007 |
| 230 | 347 | -.281  | .049  | -.125 | -.514 | 230 | 397 | -.291  | .069  | -.134 | -.736   | 230 | 525 | -.262  | .143  | .093  | -.1015 |
| 230 | 348 | -.284  | .053  | -.130 | -.613 | 230 | 398 | -.259  | .055  | -.090 | -.540   | 230 | 526 | -.038  | .166  | .678  | -.619  |
| 230 | 349 | -.293  | .066  | -.089 | -.631 | 230 | 399 | -.254  | .051  | -.083 | -.487   | 230 | 527 | -.304  | .104  | .009  | -.709  |
| 230 | 350 | -.285  | .058  | -.107 | -.580 | 230 | 400 | -.230  | .050  | -.070 | -.513   | 230 | 528 | -.179  | .043  | -.014 | -.415  |
| 230 | 351 | -.266  | .052  | -.115 | -.485 | 230 | 401 | -.198  | .043  | -.023 | -.383   | 230 | 529 | -.197  | .042  | -.034 | -.543  |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|
| 230 | 530 | -.211  | .110  | .117  | -.667   | 230 | 580 | -.103  | .084  | .165  | -.562   | 230 | 710 | .181   | .157  | .692  | -.300 |
| 230 | 531 | -.182  | .130  | .337  | -.714   | 230 | 581 | -.173  | .071  | .097  | -.520   | 230 | 711 | .113   | .152  | .701  | -.357 |
| 230 | 532 | -.389  | .141  | .337  | -.1.101 | 230 | 582 | -.179  | .042  | .051  | -.392   | 230 | 712 | .024   | .092  | .348  | -.278 |
| 230 | 533 | -.384  | .147  | .337  | -.907   | 230 | 583 | -.213  | .046  | -.068 | -.452   | 230 | 713 | .198   | .138  | .773  | -.187 |
| 230 | 534 | -.262  | .198  | .506  | -.1.020 | 230 | 584 | -.186  | .096  | .167  | -.1.132 | 230 | 714 | .322   | .160  | .907  | -.112 |
| 230 | 535 | -.245  | .166  | .236  | -.808   | 230 | 585 | -.189  | .096  | .113  | -.892   | 230 | 715 | .275   | .161  | .893  | -.192 |
| 230 | 536 | -.189  | .147  | .279  | -.793   | 230 | 586 | -.165  | .108  | .102  | -.881   | 230 | 716 | .190   | .171  | .830  | -.386 |
| 230 | 537 | -.022  | .173  | .690  | -.705   | 230 | 587 | -.125  | .069  | .097  | -.545   | 230 | 717 | .321   | .158  | .955  | -.058 |
| 230 | 538 | -.203  | .099  | .148  | -.698   | 230 | 588 | -.156  | .058  | .060  | -.464   | 230 | 718 | -.053  | .105  | .348  | -.432 |
| 230 | 539 | -.175  | .048  | .040  | -.457   | 230 | 589 | -.175  | .040  | -.045 | -.345   | 230 | 719 | -.150  | .159  | .370  | -.758 |
| 230 | 540 | -.194  | .042  | -.032 | -.401   | 230 | 590 | -.207  | .044  | -.073 | -.420   | 230 | 720 | .219   | .193  | .837  | -.552 |
| 230 | 541 | -.178  | .140  | .270  | -.898   | 230 | 591 | -.106  | .065  | .082  | -.543   | 230 | 721 | .119   | .147  | .669  | -.595 |
| 230 | 542 | -.158  | .148  | .281  | -.896   | 230 | 592 | -.108  | .061  | .122  | -.522   | 230 | 722 | .005   | .090  | .411  | -.232 |
| 230 | 543 | -.327  | .178  | .312  | -.1.351 | 230 | 593 | -.174  | .087  | .084  | -.809   | 230 | 723 | .075   | .104  | .520  | -.185 |
| 230 | 544 | -.315  | .155  | .310  | -.1.108 | 230 | 594 | -.174  | .097  | .031  | -.1.127 | 230 | 724 | .115   | .147  | .597  | -.488 |
| 230 | 545 | -.231  | .172  | .288  | -.892   | 230 | 595 | -.116  | .091  | .068  | -.700   | 230 | 725 | .254   | .160  | .862  | -.176 |
| 230 | 546 | -.165  | .101  | .130  | -.1.015 | 230 | 596 | -.098  | .053  | .089  | -.389   | 230 | 726 | .220   | .137  | .678  | -.171 |
| 230 | 547 | -.194  | .057  | .062  | -.610   | 230 | 597 | -.140  | .051  | .075  | -.401   | 230 | 727 | .250   | .141  | .861  | -.129 |
| 230 | 548 | -.242  | .049  | -.073 | -.516   | 230 | 598 | -.163  | .038  | -.004 | -.324   | 230 | 728 | .283   | .163  | .843  | -.113 |
| 230 | 549 | -.106  | .182  | .656  | -.740   | 230 | 599 | -.208  | .044  | -.054 | -.394   | 230 | 729 | .252   | .176  | .949  | -.193 |
| 230 | 550 | -.109  | .170  | .470  | -.797   | 230 | 600 | -.283  | .066  | .114  | -.634   | 230 | 730 | .315   | .159  | .939  | -.069 |
| 230 | 551 | -.488  | .230  | .473  | -.1.687 | 230 | 601 | -.116  | .047  | .145  | -.306   | 230 | 731 | .329   | .165  | .969  | -.188 |
| 230 | 552 | -.269  | .160  | .254  | -.1.263 | 230 | 602 | -.143  | .043  | .102  | -.299   | 230 | 732 | -.003  | .084  | .421  | -.243 |
| 230 | 553 | -.226  | .146  | .210  | -.875   | 230 | 603 | -.162  | .092  | .088  | -.627   | 230 | 733 | .091   | .096  | .559  | -.170 |
| 230 | 554 | -.189  | .079  | .095  | -.643   | 230 | 604 | -.168  | .035  | -.020 | -.324   | 230 | 734 | .155   | .155  | .772  | -.452 |
| 230 | 555 | -.229  | .065  | -.066 | -.691   | 230 | 605 | -.212  | .043  | -.088 | -.408   | 230 | 735 | .319   | .153  | .875  | -.078 |
| 230 | 556 | -.285  | .065  | -.099 | -.649   | 230 | 606 | -.107  | .059  | .157  | -.368   | 230 | 736 | .351   | .151  | .884  | -.010 |
| 230 | 557 | -.282  | .059  | -.113 | -.510   | 230 | 607 | -.135  | .031  | -.004 | -.262   | 230 | 737 | .332   | .149  | .784  | -.044 |
| 230 | 558 | -.427  | .172  | .082  | -.1.436 | 230 | 608 | -.106  | .068  | .113  | -.833   | 230 | 738 | .377   | .150  | 1.024 | -.019 |
| 230 | 559 | -.206  | .052  | -.035 | -.530   | 230 | 609 | -.200  | .042  | -.050 | -.372   | 230 | 739 | .323   | .160  | .896  | -.085 |
| 230 | 560 | -.418  | .245  | .238  | -.1.610 | 230 | 610 | -.155  | .051  | .073  | -.358   | 230 | 740 | .260   | .163  | .910  | -.129 |
| 230 | 561 | -.326  | .051  | -.057 | -.501   | 230 | 611 | -.134  | .034  | .039  | -.267   | 230 | 741 | .359   | .148  | .910  | -.004 |
| 230 | 562 | -.476  | .279  | .223  | -.2.125 | 230 | 612 | -.157  | .090  | .113  | -.720   | 230 | 742 | .324   | .144  | .864  | -.049 |
| 230 | 563 | -.348  | .221  | .245  | -.1.402 | 230 | 613 | -.158  | .092  | .134  | -.573   | 230 | 743 | -.153  | .064  | .112  | -.470 |
| 230 | 564 | -.216  | .154  | .144  | -.945   | 230 | 614 | -.127  | .089  | .111  | -.811   | 230 | 744 | -.002  | .077  | .304  | -.207 |
| 230 | 565 | -.145  | .125  | .150  | -.1.122 | 230 | 615 | -.088  | .061  | .161  | -.437   | 230 | 745 | .229   | .125  | .685  | -.039 |
| 230 | 566 | -.156  | .085  | .109  | -.648   | 230 | 616 | -.118  | .048  | .077  | -.303   | 230 | 746 | .332   | .159  | .962  | -.019 |
| 230 | 567 | -.182  | .046  | .051  | -.401   | 230 | 617 | -.135  | .034  | .073  | -.263   | 230 | 747 | .251   | .152  | .793  | -.117 |
| 230 | 568 | -.209  | .045  | -.031 | -.406   | 230 | 618 | -.151  | .036  | -.007 | -.265   | 230 | 748 | .095   | .152  | .696  | -.259 |
| 230 | 569 | -.117  | .109  | .146  | -.650   | 230 | 619 | -.164  | .037  | -.041 | -.299   | 230 | 749 | -.320  | .106  | .289  | -.763 |
| 230 | 570 | -.271  | .140  | .183  | -.1.174 | 230 | 620 | -.121  | .036  | .005  | -.258   | 230 | 750 | -.374  | .097  | -.023 | -.790 |
| 230 | 571 | -.288  | .154  | .246  | -.1.074 | 230 | 701 | -.002  | .097  | .511  | -.309   | 230 | 751 | -.042  | .097  | .348  | -.503 |
| 230 | 572 | -.188  | .153  | .176  | -.1.328 | 230 | 702 | -.033  | .099  | .406  | -.246   | 230 | 752 | .175   | .142  | .774  | -.386 |
| 230 | 573 | -.088  | .100  | .223  | -.762   | 230 | 703 | -.220  | .148  | .764  | -.232   | 230 | 753 | .236   | .173  | .817  | -.510 |
| 230 | 574 | -.203  | .091  | .106  | -.634   | 230 | 704 | -.066  | .159  | .615  | -.402   | 230 | 754 | .272   | .173  | .826  | -.429 |
| 230 | 575 | -.176  | .042  | -.029 | -.434   | 230 | 705 | -.034  | .079  | .335  | -.285   | 230 | 755 | .201   | .166  | .785  | -.429 |
| 230 | 576 | -.218  | .045  | -.050 | -.420   | 230 | 706 | -.066  | .116  | .506  | -.432   | 230 | 756 | -.075  | .190  | .637  | -.705 |
| 230 | 577 | -.224  | .107  | .113  | -.964   | 230 | 707 | -.047  | .096  | .477  | -.210   | 230 | 757 | .046   | .221  | .794  | -.669 |
| 230 | 578 | -.246  | .126  | .234  | -.962   | 230 | 708 | -.080  | .095  | .248  | -.488   | 230 | 758 | -.004  | .077  | .447  | -.278 |
| 230 | 579 | -.172  | .128  | .218  | -.932   | 230 | 709 | .137   | .156  | .703  | -.416   | 230 | 759 | .192   | .133  | .736  | -.254 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 230 | 760 | -.064  | .073  | .310  | -.388 | 230 | 810 | .137   | .086  | .507  | -.083 | 230 | 938  | -.265  | .041  | -.118 | -.441 |
| 230 | 761 | -.095  | .129  | .649  | -.312 | 230 | 811 | .130   | .079  | .491  | -.053 | 230 | 939  | -.286  | .049  | -.157 | -.496 |
| 230 | 762 | -.082  | .073  | .204  | -.361 | 230 | 812 | -.017  | .061  | .358  | -.226 | 230 | 940  | -.296  | .038  | -.198 | -.412 |
| 230 | 763 | .014   | .083  | .545  | -.222 | 230 | 813 | .012   | .072  | .305  | -.249 | 230 | 941  | .134   | .051  | .344  | .012  |
| 230 | 764 | .177   | .117  | .772  | -.186 | 230 | 814 | .073   | .091  | .560  | -.217 | 230 | 942  | -.364  | .088  | -.147 | -.797 |
| 230 | 765 | .216   | .121  | .707  | -.184 | 230 | 815 | -.127  | .061  | .188  | -.345 | 230 | 943  | -.399  | .119  | -.066 | -.877 |
| 230 | 766 | .213   | .118  | .701  | -.079 | 230 | 816 | -.032  | .054  | .211  | -.221 | 230 | 944  | -.285  | .081  | -.073 | .628  |
| 230 | 767 | .118   | .104  | .599  | -.124 | 230 | 817 | .010   | .058  | .284  | -.155 | 230 | 945  | -.123  | .062  | .077  | -.635 |
| 230 | 768 | .034   | .104  | .469  | -.328 | 230 | 818 | .082   | .083  | .541  | -.157 | 230 | 946  | -.339  | .072  | -.111 | -.745 |
| 230 | 769 | .191   | .122  | .782  | -.114 | 230 | 819 | .158   | .088  | .380  | -.031 | 230 | 947  | -.334  | .079  | -.131 | .702  |
| 230 | 770 | -.098  | .067  | .210  | -.347 | 230 | 820 | .104   | .078  | .449  | -.184 | 230 | 948  | -.314  | .072  | -.059 | .732  |
| 230 | 771 | -.006  | .076  | .391  | -.261 | 230 | 821 | .040   | .055  | .313  | -.144 | 230 | 949  | -.356  | .104  | -.086 | .971  |
| 230 | 772 | .095   | .110  | .673  | -.411 | 230 | 822 | -.008  | .041  | .167  | -.171 | 230 | 950  | -.096  | .058  | .089  | .371  |
| 230 | 773 | .168   | .105  | .621  | -.084 | 230 | 901 | .004   | .098  | .400  | -.212 | 230 | 951  | -.310  | .098  | .012  | .927  |
| 230 | 774 | .139   | .105  | .549  | -.209 | 230 | 902 | .316   | .158  | 1.005 | -.043 | 230 | 952  | -.291  | .092  | .042  | .841  |
| 230 | 775 | .043   | .075  | .417  | -.219 | 230 | 903 | .344   | .145  | 1.005 | -.018 | 230 | 953  | -.311  | .110  | -.084 | .909  |
| 230 | 776 | -.028  | .070  | .353  | -.314 | 230 | 904 | .116   | .094  | .424  | -.142 | 230 | 954  | -.212  | .077  | .086  | .539  |
| 230 | 777 | -.122  | .068  | .229  | -.465 | 230 | 905 | -.289  | .044  | -.164 | -.415 | 230 | 955  | -.203  | .078  | .062  | .588  |
| 230 | 778 | -.033  | .075  | .329  | -.423 | 230 | 906 | -.130  | .082  | .163  | -.402 | 230 | 956  | -.292  | .064  | -.133 | .682  |
| 230 | 779 | .095   | .108  | .718  | -.214 | 230 | 907 | -.118  | .170  | .519  | -.627 | 230 | 957  | -.286  | .068  | .001  | .597  |
| 230 | 780 | .140   | .091  | .647  | -.126 | 230 | 908 | -.225  | .112  | .265  | -.667 | 230 | 958  | -.217  | .053  | -.003 | .440  |
| 230 | 781 | .083   | .085  | .424  | -.205 | 230 | 909 | -.149  | .064  | .139  | -.379 | 230 | 959  | -.178  | .053  | -.080 | .440  |
| 230 | 782 | .010   | .058  | .343  | -.197 | 230 | 910 | -.293  | .149  | .305  | -.142 | 230 | 960  | -.324  | .092  | -.066 | .841  |
| 230 | 783 | -.041  | .057  | .222  | -.366 | 230 | 911 | -.272  | .056  | -.107 | -.509 | 230 | 961  | -.312  | .088  | -.142 | -.124 |
| 230 | 784 | -.120  | .066  | .201  | -.446 | 230 | 912 | .288   | .204  | .911  | -.802 | 230 | 962  | -.227  | .080  | -.105 | .555  |
| 230 | 785 | -.026  | .074  | .433  | -.302 | 230 | 913 | -.219  | .232  | .699  | -.855 | 230 | 963  | -.341  | .117  | -.123 | .180  |
| 230 | 786 | .079   | .095  | .474  | -.261 | 230 | 914 | .058   | .106  | .452  | -.329 | 230 | 964  | -.327  | .088  | -.158 | .903  |
| 230 | 787 | .116   | .083  | .495  | -.088 | 230 | 915 | -.122  | .071  | .139  | -.501 | 230 | 965  | -.286  | .093  | -.046 | .776  |
| 230 | 788 | .079   | .076  | .455  | -.169 | 230 | 916 | -.006  | .165  | .562  | -.923 | 230 | 966  | -.361  | .105  | -.129 | .978  |
| 230 | 789 | -.011  | .055  | .300  | -.178 | 230 | 917 | -.222  | .130  | -.139 | -.075 | 230 | 967  | -.134  | .059  | -.098 | .457  |
| 230 | 790 | -.035  | .051  | .175  | -.276 | 230 | 918 | -.357  | .089  | -.107 | -.230 | 230 | 968  | -.259  | .061  | -.054 | .547  |
| 230 | 791 | .123   | .088  | .695  | -.188 | 230 | 919 | -.147  | .137  | .333  | -.733 | 230 | 969  | -.276  | .068  | -.063 | .652  |
| 230 | 792 | .129   | .083  | .560  | -.100 | 230 | 920 | -.278  | .083  | .040  | .608  | 230 | 970  | -.253  | .104  | -.063 | .979  |
| 230 | 793 | .127   | .084  | .512  | -.131 | 230 | 921 | -.302  | .062  | -.140 | -.597 | 230 | 971  | -.150  | .067  | -.115 | .592  |
| 230 | 794 | .135   | .084  | .528  | -.058 | 230 | 922 | -.280  | .054  | .110  | -.509 | 230 | 1001 | -.206  | .120  | -.720 | .087  |
| 230 | 795 | .008   | .081  | .393  | -.377 | 230 | 923 | -.278  | .058  | -.120 | -.528 | 230 | 1002 | -.128  | .079  | .616  | .099  |
| 230 | 796 | .064   | .097  | .608  | -.226 | 230 | 924 | -.276  | .074  | .024  | -.602 | 230 | 1003 | -.347  | .131  | -.173 | .956  |
| 230 | 797 | -.286  | .069  | -.102 | -.667 | 230 | 925 | -.270  | .054  | -.102 | -.500 | 230 | 1004 | -.308  | .074  | -.041 | .741  |
| 230 | 798 | -.083  | .064  | .192  | -.281 | 230 | 926 | -.281  | .072  | -.047 | -.655 | 230 | 1005 | -.119  | .149  | .420  | .656  |
| 230 | 799 | -.018  | .073  | .314  | -.345 | 230 | 927 | -.266  | .050  | -.115 | -.496 | 230 | 1006 | -.245  | .079  | .032  | .699  |
| 230 | 800 | .073   | .092  | .500  | -.200 | 230 | 928 | -.284  | .092  | -.083 | -.089 | 230 | 1007 | -.122  | .061  | -.167 | .428  |
| 230 | 801 | .125   | .088  | .603  | -.090 | 230 | 929 | -.269  | .049  | -.124 | -.514 | 230 | 1008 | -.324  | .077  | -.092 | .687  |
| 230 | 802 | .098   | .086  | .541  | -.194 | 230 | 930 | -.148  | .067  | .280  | -.546 | 230 | 1009 | -.121  | .103  | -.207 | .768  |
| 230 | 803 | .021   | .064  | .335  | -.212 | 230 | 931 | -.292  | .064  | -.134 | -.604 | 230 | 1010 | -.294  | .071  | -.099 | .670  |
| 230 | 804 | -.029  | .058  | .297  | -.331 | 230 | 932 | -.124  | .062  | .170  | -.329 | 230 | 1011 | -.098  | .055  | .117  | .362  |
| 230 | 805 | .090   | .104  | .553  | -.235 | 230 | 933 | -.235  | .050  | -.073 | -.484 | 230 | 1012 | -.285  | .091  | .117  | .977  |
| 230 | 806 | -.027  | .074  | .291  | -.295 | 230 | 934 | -.264  | .047  | -.134 | -.502 | 230 | 1013 | -.256  | .059  | -.042 | .583  |
| 230 | 807 | .024   | .078  | .408  | -.194 | 230 | 935 | -.267  | .043  | -.154 | -.451 | 230 | 1014 | -.276  | .049  | -.143 | .579  |
| 230 | 808 | -.168  | .054  | .036  | -.451 | 230 | 936 | -.283  | .035  | -.188 | -.398 | 230 | 1015 | -.267  | .060  | -.029 | .668  |
| 230 | 809 | -.048  | .057  | .289  | -.221 | 230 | 937 | -.252  | .046  | -.126 | -.494 | 230 | 1016 | -.276  | .050  | -.166 | .580  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 230 | 1017 | -.289  | .065  | -.099 | -.557  | 240 | 139 | -.286  | .068  | -.116 | -.771  | 240 | 189 | -.342  | .088  | -.111 | -.821  |
| 230 | 1018 | -.283  | .061  | -.084 | -.504  | 240 | 140 | -.286  | .069  | -.086 | -.660  | 240 | 190 | -.340  | .101  | -.135 | -1.057 |
| 230 | 1019 | -.276  | .072  | -.011 | -.689  | 240 | 141 | -.294  | .067  | -.086 | -.621  | 240 | 191 | -.290  | .080  | -.028 | -.636  |
| 230 | 1020 | -.267  | .051  | -.063 | -.490  | 240 | 142 | -.312  | .073  | -.100 | -.729  | 240 | 192 | -.334  | .089  | -.109 | -.956  |
| 230 | 1021 | -.088  | .059  | -.160 | -.419  | 240 | 143 | -.313  | .088  | -.084 | -.829  | 240 | 193 | -.332  | .082  | -.152 | -.839  |
| 230 | 1022 | -.124  | .050  | -.117 | -.312  | 240 | 144 | -.321  | .092  | -.035 | -.838  | 240 | 194 | -.206  | .095  | -.072 | -.848  |
| 230 | 1023 | -.186  | .073  | -.022 | -.566  | 240 | 145 | -.314  | .083  | -.091 | -.914  | 240 | 195 | -.190  | .079  | -.092 | -.942  |
| 230 | 1024 | -.327  | .116  | -.039 | -.910  | 240 | 146 | -.309  | .081  | -.100 | -.819  | 240 | 196 | -.249  | .083  | -.159 | -.657  |
| 230 | 1025 | -.173  | .039  | -.042 | -.312  | 240 | 147 | -.308  | .078  | -.121 | -.829  | 240 | 197 | -.335  | .087  | -.088 | -.682  |
| 230 | 1026 | -.162  | .047  | -.039 | -.386  | 240 | 148 | -.306  | .076  | -.082 | -.745  | 240 | 198 | -.134  | .040  | -.012 | -.526  |
| 230 | 1027 | -.141  | .038  | -.039 | -.315  | 240 | 149 | -.304  | .069  | -.119 | -.624  | 240 | 199 | -.141  | .043  | -.019 | -.465  |
| 230 | 1028 | -.119  | .029  | -.004 | -.215  | 240 | 150 | -.287  | .062  | -.105 | -.529  | 240 | 200 | -.183  | .053  | -.015 | -.451  |
| 240 | 101  | -.277  | .058  | -.088 | -.531  | 240 | 151 | -.329  | .092  | -.051 | -.937  | 240 | 201 | -.252  | .058  | -.047 | -.531  |
| 240 | 102  | -.342  | .074  | -.104 | -.741  | 240 | 152 | -.314  | .075  | -.055 | -.705  | 240 | 202 | -.122  | .074  | -.227 | -.426  |
| 240 | 103  | -.414  | .092  | -.131 | -.832  | 240 | 153 | -.314  | .077  | -.116 | -.260  | 240 | 203 | -.223  | .079  | -.010 | -.579  |
| 240 | 104  | -.175  | .089  | -.074 | -.474  | 240 | 154 | -.319  | .073  | -.135 | -.710  | 240 | 204 | -.267  | .072  | -.058 | -.645  |
| 240 | 105  | -.308  | .081  | -.089 | -.812  | 240 | 155 | -.341  | .096  | -.103 | -.1075 | 240 | 205 | -.262  | .069  | -.015 | -.586  |
| 240 | 106  | -.299  | .074  | -.111 | -.755  | 240 | 156 | -.323  | .083  | -.072 | -.687  | 240 | 206 | -.205  | .080  | -.074 | -.609  |
| 240 | 107  | -.305  | .071  | -.093 | -.611  | 240 | 157 | -.355  | .105  | .010  | -.900  | 240 | 207 | -.283  | .070  | -.102 | -.631  |
| 240 | 108  | -.309  | .080  | -.080 | -.697  | 240 | 158 | -.317  | .081  | -.087 | -.728  | 240 | 208 | -.244  | .071  | -.067 | -.773  |
| 240 | 109  | -.322  | .087  | -.118 | -.803  | 240 | 159 | -.331  | .102  | -.078 | -.170  | 240 | 209 | -.122  | .033  | -.026 | -.259  |
| 240 | 110  | -.342  | .101  | -.115 | -.912  | 240 | 160 | -.322  | .086  | -.037 | -.170  | 240 | 210 | -.273  | .062  | -.052 | -.729  |
| 240 | 111  | -.328  | .087  | -.093 | -.762  | 240 | 161 | -.319  | .106  | -.060 | -.104  | 240 | 211 | -.092  | .097  | -.497 | -.195  |
| 240 | 112  | -.302  | .086  | -.020 | -.844  | 240 | 162 | -.335  | .093  | -.006 | -.744  | 240 | 212 | -.240  | .065  | -.049 | -.655  |
| 240 | 113  | -.302  | .081  | -.088 | -.846  | 240 | 163 | -.329  | .084  | -.096 | -.708  | 240 | 213 | -.123  | .074  | -.175 | -.440  |
| 240 | 114  | -.361  | .115  | -.083 | -.862  | 240 | 164 | -.315  | .072  | -.069 | -.712  | 240 | 214 | -.167  | .054  | -.010 | -.516  |
| 240 | 115  | -.338  | .094  | -.095 | -.1077 | 240 | 165 | -.333  | .090  | -.101 | -.955  | 240 | 215 | -.129  | .029  | -.010 | -.315  |
| 240 | 116  | -.336  | .097  | -.102 | -.844  | 240 | 166 | -.303  | .071  | -.092 | -.747  | 240 | 216 | -.130  | .029  | -.031 | -.255  |
| 240 | 117  | -.292  | .077  | -.013 | -.679  | 240 | 167 | -.302  | .108  | -.109 | -.1014 | 240 | 217 | -.168  | .036  | -.052 | -.308  |
| 240 | 118  | -.295  | .072  | -.095 | -.759  | 240 | 168 | -.297  | .092  | -.016 | -.950  | 240 | 218 | -.239  | .054  | -.045 | -.440  |
| 240 | 119  | -.297  | .068  | -.115 | -.634  | 240 | 169 | -.301  | .068  | -.111 | -.747  | 240 | 219 | -.098  | .048  | -.120 | -.315  |
| 240 | 120  | -.320  | .098  | -.042 | -.768  | 240 | 170 | -.360  | .099  | -.099 | -.864  | 240 | 220 | -.185  | .085  | -.103 | -.567  |
| 240 | 121  | -.456  | .166  | -.065 | -.1796 | 240 | 171 | -.359  | .100  | -.078 | -.880  | 240 | 221 | -.239  | .088  | -.012 | -.752  |
| 240 | 122  | -.297  | .091  | -.015 | -.796  | 240 | 172 | -.343  | .075  | -.116 | -.911  | 240 | 222 | -.238  | .084  | -.013 | -.688  |
| 240 | 123  | -.291  | .085  | -.054 | -.728  | 240 | 173 | -.333  | .079  | -.094 | -.794  | 240 | 223 | -.101  | .075  | -.231 | -.394  |
| 240 | 124  | -.294  | .082  | -.004 | -.675  | 240 | 174 | -.337  | .076  | -.152 | -.727  | 240 | 224 | -.163  | .067  | -.113 | -.535  |
| 240 | 125  | -.314  | .092  | -.017 | -.1020 | 240 | 175 | -.310  | .069  | -.137 | -.639  | 240 | 225 | -.134  | .062  | -.235 | -.403  |
| 240 | 126  | -.291  | .080  | -.061 | -.700  | 240 | 176 | -.304  | .066  | -.147 | -.656  | 240 | 301 | -.305  | .069  | -.089 | -.599  |
| 240 | 127  | -.303  | .085  | -.031 | -.708  | 240 | 177 | -.318  | .110  | -.006 | -.933  | 240 | 302 | -.291  | .062  | -.125 | -.706  |
| 240 | 128  | -.285  | .071  | -.109 | -.600  | 240 | 178 | -.302  | .086  | -.032 | -.727  | 240 | 303 | -.392  | .119  | -.078 | -.995  |
| 240 | 129  | -.281  | .072  | -.102 | -.683  | 240 | 179 | -.342  | .079  | -.044 | -.861  | 240 | 304 | -.333  | .071  | -.112 | -.784  |
| 240 | 130  | -.295  | .074  | -.100 | -.810  | 240 | 180 | -.351  | .084  | -.113 | -.778  | 240 | 305 | -.276  | .024  | -.003 | -.676  |
| 240 | 131  | -.295  | .068  | -.084 | -.688  | 240 | 181 | -.367  | .092  | -.126 | -.916  | 240 | 306 | -.276  | .055  | -.117 | -.596  |
| 240 | 132  | -.324  | .108  | -.003 | -.1280 | 240 | 182 | -.328  | .078  | -.123 | -.696  | 240 | 307 | -.266  | .050  | -.121 | -.499  |
| 240 | 133  | -.311  | .088  | -.089 | -.843  | 240 | 183 | -.330  | .079  | -.156 | -.748  | 240 | 308 | -.278  | .080  | -.021 | -.719  |
| 240 | 134  | -.308  | .083  | .022  | -.651  | 240 | 184 | -.226  | .099  | .054  | -.845  | 240 | 309 | -.283  | .069  | -.096 | -.808  |
| 240 | 135  | -.310  | .081  | -.018 | -.840  | 240 | 185 | -.220  | .083  | -.180 | -.689  | 240 | 310 | -.274  | .054  | -.109 | -.506  |
| 240 | 136  | -.293  | .066  | -.116 | -.625  | 240 | 186 | -.269  | .081  | -.147 | -.596  | 240 | 311 | -.282  | .059  | -.092 | -.643  |
| 240 | 137  | -.291  | .068  | -.082 | -.614  | 240 | 187 | -.339  | .086  | -.085 | -.852  | 240 | 312 | -.266  | .074  | -.007 | -.666  |
| 240 | 138  | -.307  | .079  | -.072 | -.722  | 240 | 188 | -.352  | .089  | -.173 | -.943  | 240 | 313 | -.264  | .062  | -.094 | -.735  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 240 | 314 | -.267  | .048  | -.121 | -.512 | 240 | 364 | -.277  | .054  | -.098 | -.515 | 240 | 414 | -.199  | .035  | -.044 | -.333  |
| 240 | 315 | -.273  | .064  | -.094 | -.842 | 240 | 365 | -.274  | .056  | -.142 | -.522 | 240 | 415 | -.198  | .036  | -.051 | -.331  |
| 240 | 316 | -.279  | .063  | -.116 | -.646 | 240 | 366 | -.257  | .054  | -.112 | -.591 | 240 | 416 | -.282  | .070  | -.123 | -.684  |
| 240 | 317 | -.242  | .042  | -.112 | -.481 | 240 | 367 | -.291  | .050  | -.091 | -.494 | 240 | 417 | -.178  | .045  | -.011 | -.431  |
| 240 | 318 | -.288  | .086  | -.085 | -.779 | 240 | 368 | -.258  | .055  | -.063 | -.512 | 240 | 418 | -.160  | .031  | -.027 | -.297  |
| 240 | 319 | -.275  | .067  | -.114 | -.610 | 240 | 369 | -.256  | .045  | -.084 | -.501 | 240 | 419 | -.134  | .027  | -.016 | -.223  |
| 240 | 320 | -.291  | .061  | -.145 | -.697 | 240 | 370 | -.263  | .050  | -.131 | -.505 | 240 | 420 | -.130  | .029  | -.008 | -.250  |
| 240 | 321 | -.286  | .056  | -.147 | -.583 | 240 | 371 | -.266  | .046  | -.124 | -.468 | 240 | 421 | -.137  | .030  | -.009 | -.264  |
| 240 | 322 | -.242  | .061  | -.033 | -.541 | 240 | 372 | -.297  | .055  | -.154 | -.538 | 240 | 422 | -.131  | .029  | -.007 | -.248  |
| 240 | 323 | -.243  | .063  | -.049 | -.555 | 240 | 373 | -.274  | .050  | -.129 | -.450 | 240 | 501 | -.409  | .118  | -.082 | -.960  |
| 240 | 324 | -.251  | .058  | -.040 | -.543 | 240 | 374 | -.259  | .051  | -.017 | -.529 | 240 | 502 | -.332  | .100  | -.035 | -.895  |
| 240 | 325 | -.244  | .049  | -.092 | -.454 | 240 | 375 | -.244  | .052  | -.003 | -.498 | 240 | 503 | -.049  | .085  | -.249 | -.514  |
| 240 | 326 | -.273  | .047  | -.141 | -.517 | 240 | 376 | -.253  | .055  | -.056 | -.503 | 240 | 504 | -.468  | .112  | -.127 | -.924  |
| 240 | 327 | -.271  | .048  | -.023 | -.557 | 240 | 377 | -.277  | .051  | -.154 | -.536 | 240 | 505 | -.426  | .120  | -.061 | -.097  |
| 240 | 328 | -.261  | .055  | -.098 | -.656 | 240 | 378 | -.285  | .053  | -.156 | -.512 | 240 | 506 | -.324  | .110  | -.006 | -.997  |
| 240 | 329 | -.261  | .058  | -.103 | -.701 | 240 | 379 | -.296  | .054  | -.175 | -.538 | 240 | 507 | -.381  | .109  | -.005 | -.897  |
| 240 | 330 | -.243  | .042  | -.125 | -.409 | 240 | 380 | -.295  | .055  | -.145 | -.526 | 240 | 508 | -.451  | .132  | -.067 | -.339  |
| 240 | 331 | -.252  | .044  | -.120 | -.463 | 240 | 381 | -.245  | .052  | -.018 | -.484 | 240 | 509 | -.401  | .127  | -.005 | -.958  |
| 240 | 332 | -.239  | .052  | -.030 | -.521 | 240 | 382 | -.222  | .056  | -.042 | -.529 | 240 | 510 | -.348  | .122  | -.067 | -.843  |
| 240 | 333 | -.244  | .053  | -.075 | -.483 | 240 | 383 | -.226  | .057  | -.003 | -.556 | 240 | 511 | -.286  | .096  | -.106 | -.851  |
| 240 | 334 | -.246  | .051  | -.107 | -.607 | 240 | 384 | -.276  | .053  | -.138 | -.554 | 240 | 512 | -.434  | .117  | -.118 | -.005  |
| 240 | 335 | -.238  | .043  | -.080 | -.442 | 240 | 385 | -.280  | .055  | -.135 | -.422 | 240 | 513 | -.423  | .132  | -.019 | -.994  |
| 240 | 336 | -.241  | .040  | -.111 | -.402 | 240 | 386 | -.305  | .064  | -.154 | -.668 | 240 | 514 | -.315  | .104  | -.019 | -.809  |
| 240 | 337 | -.250  | .041  | -.138 | -.420 | 240 | 387 | -.287  | .063  | -.004 | -.589 | 240 | 515 | -.282  | .094  | -.078 | -.942  |
| 240 | 338 | -.250  | .042  | -.109 | -.456 | 240 | 388 | -.251  | .064  | -.001 | -.524 | 240 | 516 | -.370  | .111  | -.071 | -.868  |
| 240 | 339 | -.253  | .047  | -.123 | -.499 | 240 | 389 | -.188  | .071  | -.030 | -.587 | 240 | 517 | -.349  | .116  | -.046 | -.798  |
| 240 | 340 | -.258  | .052  | -.048 | -.519 | 240 | 390 | -.194  | .072  | -.088 | -.522 | 240 | 518 | -.584  | .194  | -.100 | -.543  |
| 240 | 341 | -.246  | .039  | -.134 | -.436 | 240 | 391 | -.290  | .063  | -.065 | -.574 | 240 | 519 | -.401  | .140  | -.082 | -.890  |
| 240 | 342 | -.255  | .045  | -.138 | -.494 | 240 | 392 | -.311  | .070  | -.142 | -.815 | 240 | 520 | -.319  | .111  | -.023 | -.983  |
| 240 | 343 | -.252  | .057  | -.073 | -.542 | 240 | 393 | -.285  | .056  | -.116 | -.542 | 240 | 521 | -.285  | .091  | -.039 | -.893  |
| 240 | 344 | -.250  | .055  | -.093 | -.483 | 240 | 394 | -.228  | .059  | -.017 | -.443 | 240 | 522 | -.504  | .151  | -.031 | -.219  |
| 240 | 345 | -.260  | .050  | -.123 | -.490 | 240 | 395 | -.201  | .073  | -.028 | -.536 | 240 | 523 | -.507  | .164  | -.021 | -.143  |
| 240 | 346 | -.270  | .043  | -.134 | -.436 | 240 | 396 | -.200  | .082  | -.058 | -.674 | 240 | 524 | -.413  | .136  | -.062 | -.041  |
| 240 | 347 | -.281  | .052  | -.134 | -.528 | 240 | 397 | -.267  | .045  | -.159 | -.494 | 240 | 525 | -.431  | .145  | -.066 | -.102  |
| 240 | 348 | -.281  | .059  | -.080 | -.582 | 240 | 398 | -.269  | .050  | -.137 | -.619 | 240 | 526 | -.216  | .172  | -.522 | -.753  |
| 240 | 349 | -.279  | .066  | -.098 | -.643 | 240 | 399 | -.295  | .061  | -.146 | -.624 | 240 | 527 | -.314  | .100  | -.013 | -.849  |
| 240 | 350 | -.274  | .063  | -.085 | -.608 | 240 | 400 | -.265  | .051  | -.116 | -.545 | 240 | 528 | -.241  | .073  | -.017 | -.710  |
| 240 | 351 | -.254  | .058  | -.091 | -.528 | 240 | 401 | -.220  | .044  | -.017 | -.411 | 240 | 529 | -.248  | .071  | -.031 | -.648  |
| 240 | 352 | -.259  | .049  | -.136 | -.477 | 240 | 402 | -.170  | .051  | -.051 | -.325 | 240 | 530 | -.373  | .116  | -.024 | -.853  |
| 240 | 353 | -.263  | .045  | -.142 | -.489 | 240 | 403 | -.134  | .039  | -.031 | -.348 | 240 | 531 | -.383  | .131  | -.110 | -.869  |
| 240 | 354 | -.258  | .041  | -.144 | -.418 | 240 | 404 | -.130  | .038  | -.015 | -.316 | 240 | 532 | -.448  | .120  | -.095 | -.936  |
| 240 | 355 | -.266  | .049  | -.091 | -.559 | 240 | 405 | -.280  | .061  | -.105 | -.613 | 240 | 533 | -.471  | .116  | -.067 | -.1084 |
| 240 | 356 | -.280  | .068  | -.063 | -.749 | 240 | 406 | -.250  | .053  | -.110 | -.547 | 240 | 534 | -.476  | .146  | -.038 | -.072  |
| 240 | 357 | -.258  | .054  | -.060 | -.539 | 240 | 407 | -.240  | .041  | -.130 | -.413 | 240 | 535 | -.434  | .143  | -.038 | -.1054 |
| 240 | 358 | -.259  | .054  | -.105 | -.497 | 240 | 408 | -.283  | .055  | -.141 | -.818 | 240 | 536 | -.387  | .134  | -.085 | -.922  |
| 240 | 359 | -.262  | .049  | -.069 | -.469 | 240 | 409 | -.171  | .033  | -.031 | -.286 | 240 | 537 | -.286  | .157  | .302  | -.819  |
| 240 | 360 | -.268  | .068  | -.102 | -.661 | 240 | 410 | -.122  | .032  | -.012 | -.227 | 240 | 538 | -.280  | .121  | -.101 | -.828  |
| 240 | 361 | -.276  | .059  | -.100 | -.636 | 240 | 411 | -.289  | .061  | -.123 | -.590 | 240 | 539 | -.224  | .072  | -.003 | -.585  |
| 240 | 362 | -.255  | .056  | -.111 | -.579 | 240 | 412 | -.289  | .059  | -.141 | -.563 | 240 | 540 | -.225  | .064  | -.006 | -.714  |
| 240 | 363 | -.258  | .054  | -.113 | -.555 | 240 | 413 | -.135  | .028  | -.042 | -.305 | 240 | 541 | -.345  | .118  | -.110 | -.936  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 240 | 542 | -.355  | .140  | .124  | -.965  | 240 | 592 | -.165  | .078  | .063  | -.591  | 240 | 722 | .072   | .110  | .477  | -.313 |
| 240 | 543 | -.449  | .154  | -.004 | -1.357 | 240 | 593 | -.281  | .106  | -.035 | -.914  | 240 | 723 | .148   | .119  | .581  | -.237 |
| 240 | 544 | -.428  | .134  | -.042 | -1.093 | 240 | 594 | -.277  | .103  | -.037 | -.995  | 240 | 724 | .208   | .154  | .686  | -.538 |
| 240 | 545 | -.403  | .130  | .044  | -.940  | 240 | 595 | -.271  | .130  | .016  | -1.153 | 240 | 725 | .264   | .149  | .815  | -.163 |
| 240 | 546 | -.292  | .124  | .063  | -.924  | 240 | 596 | -.178  | .082  | .171  | -.653  | 240 | 726 | .232   | .143  | 1.045 | -.199 |
| 240 | 547 | -.254  | .083  | .006  | -.753  | 240 | 597 | -.165  | .055  | .104  | -.417  | 240 | 727 | .271   | .154  | .808  | -.224 |
| 240 | 548 | -.272  | .076  | -.013 | -.655  | 240 | 598 | -.189  | .040  | -.004 | -.362  | 240 | 728 | .237   | .147  | .765  | -.190 |
| 240 | 549 | -.264  | .141  | .267  | -.885  | 240 | 599 | -.225  | .040  | .075  | -.394  | 240 | 729 | .207   | .141  | .733  | -.230 |
| 240 | 550 | -.263  | .145  | .256  | -.941  | 240 | 600 | -.276  | .049  | .147  | -.500  | 240 | 730 | .330   | .145  | .833  | -.057 |
| 240 | 551 | -.530  | .193  | -.124 | -1.636 | 240 | 601 | -.155  | .040  | -.009 | -.298  | 240 | 731 | .333   | .168  | .963  | -.145 |
| 240 | 552 | -.424  | .136  | -.050 | -1.173 | 240 | 602 | -.178  | .036  | -.052 | -.326  | 240 | 732 | .035   | .096  | .444  | -.278 |
| 240 | 553 | -.356  | .141  | .075  | -1.122 | 240 | 603 | -.281  | .121  | -.021 | -1.297 | 240 | 733 | .148   | .116  | .645  | -.197 |
| 240 | 554 | -.278  | .099  | -.030 | -.928  | 240 | 604 | -.200  | .036  | -.059 | -.342  | 240 | 734 | .261   | .163  | .842  | -.273 |
| 240 | 555 | -.253  | .080  | -.070 | -.756  | 240 | 605 | -.244  | .042  | .125  | -.442  | 240 | 735 | .313   | .141  | .817  | -.054 |
| 240 | 556 | -.280  | .073  | -.095 | -.765  | 240 | 606 | -.165  | .062  | .104  | -.510  | 240 | 736 | .361   | .156  | .945  | -.020 |
| 240 | 557 | -.276  | .066  | -.074 | -.582  | 240 | 607 | -.165  | .032  | -.042 | -.312  | 240 | 737 | .354   | .152  | .909  | -.084 |
| 240 | 558 | -.470  | .142  | -.130 | -1.238 | 240 | 608 | -.152  | .077  | -.080 | -.647  | 240 | 738 | .348   | .154  | .943  | -.118 |
| 240 | 559 | -.246  | .072  | -.021 | -.722  | 240 | 609 | -.239  | .045  | -.102 | -.101  | 240 | 739 | .277   | .152  | .846  | -.104 |
| 240 | 560 | -.442  | .167  | -.016 | -1.685 | 240 | 610 | -.198  | .049  | .076  | -.412  | 240 | 740 | .163   | .133  | .720  | -.187 |
| 240 | 561 | -.246  | .064  | -.021 | -.582  | 240 | 611 | -.161  | .033  | -.036 | -.301  | 240 | 741 | .365   | .152  | .903  | -.032 |
| 240 | 562 | -.453  | .149  | -.099 | -1.332 | 240 | 612 | -.262  | .128  | .146  | -.140  | 240 | 742 | .353   | .146  | .864  | -.007 |
| 240 | 563 | -.440  | .145  | -.032 | -1.357 | 240 | 613 | -.273  | .123  | -.013 | -.194  | 240 | 743 | -.120  | .080  | .264  | -.395 |
| 240 | 564 | -.384  | .159  | .106  | -.165  | 240 | 614 | -.224  | .137  | .187  | -.1297 | 240 | 744 | .045   | .101  | .467  | -.219 |
| 240 | 565 | -.347  | .193  | .073  | -.1307 | 240 | 615 | -.141  | .072  | .180  | -.504  | 240 | 745 | .249   | .138  | .801  | -.099 |
| 240 | 566 | -.248  | .106  | .113  | -.733  | 240 | 616 | -.154  | .057  | .199  | -.476  | 240 | 746 | .362   | .160  | 1.058 | -.034 |
| 240 | 567 | -.218  | .064  | -.016 | -.631  | 240 | 617 | -.172  | .034  | .050  | -.285  | 240 | 747 | .178   | .133  | .645  | -.167 |
| 240 | 568 | -.241  | .068  | -.021 | -.714  | 240 | 618 | -.189  | .034  | -.075 | -.317  | 240 | 748 | -.030  | .121  | .496  | -.449 |
| 240 | 569 | -.250  | .136  | .142  | -.874  | 240 | 619 | -.212  | .039  | -.070 | -.374  | 240 | 749 | -.292  | .104  | .255  | -.834 |
| 240 | 570 | -.400  | .130  | .078  | -.289  | 240 | 620 | -.155  | .037  | .039  | -.323  | 240 | 750 | -.355  | .095  | .003  | -.790 |
| 240 | 571 | -.405  | .141  | .012  | -.1484 | 240 | 701 | -.003  | .087  | .381  | -.261  | 240 | 751 | -.015  | .122  | .397  | -.534 |
| 240 | 572 | -.360  | .192  | .127  | -.1487 | 240 | 702 | -.014  | .084  | .347  | -.264  | 240 | 752 | .176   | .147  | .766  | -.461 |
| 240 | 573 | -.218  | .138  | .288  | -.817  | 240 | 703 | .247   | .128  | .702  | -.324  | 240 | 753 | .249   | .172  | .779  | -.353 |
| 240 | 574 | -.194  | .091  | .134  | -.688  | 240 | 704 | .174   | .133  | .597  | -.375  | 240 | 754 | .259   | .164  | .942  | -.540 |
| 240 | 575 | -.198  | .056  | .005  | -.492  | 240 | 705 | -.023  | .082  | .338  | -.283  | 240 | 755 | .143   | .165  | .728  | -.624 |
| 240 | 576 | -.221  | .048  | -.071 | -.504  | 240 | 706 | -.001  | .096  | .313  | -.292  | 240 | 756 | -.250  | .158  | .332  | -.867 |
| 240 | 577 | -.363  | .134  | .191  | -.1223 | 240 | 707 | -.039  | .092  | .456  | -.253  | 240 | 757 | -.078  | .230  | .679  | -.898 |
| 240 | 578 | -.364  | .146  | .050  | -.1407 | 240 | 708 | -.065  | .107  | .340  | -.506  | 240 | 758 | .029   | .095  | .503  | -.275 |
| 240 | 579 | -.282  | .173  | .083  | -.1465 | 240 | 709 | .150   | .154  | .688  | -.404  | 240 | 759 | .157   | .133  | .739  | -.377 |
| 240 | 580 | -.162  | .103  | .186  | -.643  | 240 | 710 | .179   | .147  | .655  | -.375  | 240 | 760 | -.030  | .089  | .489  | -.275 |
| 240 | 581 | -.174  | .076  | .238  | -.525  | 240 | 711 | .050   | .126  | .527  | -.499  | 240 | 761 | .055   | .115  | .598  | -.293 |
| 240 | 582 | -.194  | .044  | .019  | -.445  | 240 | 712 | .080   | .110  | .485  | -.340  | 240 | 762 | -.058  | .081  | .273  | -.326 |
| 240 | 583 | -.216  | .041  | -.082 | -.448  | 240 | 713 | .246   | .146  | .760  | -.221  | 240 | 763 | .037   | .091  | .427  | -.182 |
| 240 | 584 | -.293  | .113  | -.038 | -.1128 | 240 | 714 | .316   | .154  | .831  | .168   | 240 | 764 | .188   | .117  | .737  | -.098 |
| 240 | 585 | -.286  | .113  | .052  | -.1150 | 240 | 715 | .207   | .141  | .673  | -.195  | 240 | 765 | .227   | .120  | .732  | -.140 |
| 240 | 586 | -.271  | .144  | .120  | -.1242 | 240 | 716 | .211   | .165  | .733  | -.253  | 240 | 766 | .252   | .130  | .832  | -.043 |
| 240 | 587 | -.180  | .091  | .104  | -.570  | 240 | 717 | .359   | .156  | .885  | -.068  | 240 | 767 | .121   | .116  | .592  | -.275 |
| 240 | 588 | -.169  | .065  | .137  | -.450  | 240 | 718 | .006   | .115  | .430  | -.507  | 240 | 768 | .028   | .107  | .480  | -.342 |
| 240 | 589 | -.189  | .040  | -.016 | -.363  | 240 | 719 | -.055  | .187  | .608  | -.603  | 240 | 769 | .216   | .116  | .662  | -.083 |
| 240 | 590 | -.220  | .040  | -.059 | -.370  | 240 | 720 | .177   | .201  | .813  | .761   | 240 | 770 | -.093  | .066  | .284  | -.286 |
| 240 | 591 | -.171  | .089  | .123  | -.704  | 240 | 721 | .077   | .133  | .521  | -.444  | 240 | 771 | -.012  | .073  | .323  | -.256 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-------|--------|-------|-------|--------|
| 240 | 772 | .093   | .107  | .622  | -.347 | 240 | 822 | -.030  | .044  | .159  | -.211  | 240 | 950   | -.124  | .065  | .137  | -.470  |
| 240 | 773 | .208   | .112  | .774  | -.029 | 240 | 901 | -.117  | .065  | .147  | -.318  | 240 | 951   | -.322  | .092  | -.071 | -1.016 |
| 240 | 774 | .166   | .107  | .657  | -.151 | 240 | 902 | .261   | .832  | -.059 | 240    | 952 | -.322 | .090   | -.028 | -.824 |        |
| 240 | 775 | .057   | .089  | .522  | -.258 | 240 | 903 | .353   | .146  | 1.046 | -.014  | 240 | 953   | -.343  | .102  | -.003 | -.869  |
| 240 | 776 | -.041  | .082  | .321  | -.317 | 240 | 904 | .155   | .105  | .651  | -.121  | 240 | 954   | -.231  | .075  | .116  | -.497  |
| 240 | 777 | -.125  | .057  | .097  | -.359 | 240 | 905 | -.278  | .046  | -.092 | -.106  | 240 | 955   | -.222  | .085  | .101  | -.935  |
| 240 | 778 | -.042  | .061  | .256  | -.305 | 240 | 906 | -.237  | .064  | .001  | -.172  | 240 | 956   | -.283  | .050  | -.132 | -.499  |
| 240 | 779 | .075   | .089  | .519  | -.207 | 240 | 907 | -.237  | .170  | .497  | -.707  | 240 | 957   | -.293  | .064  | -.005 | -.515  |
| 240 | 780 | .154   | .090  | .538  | -.071 | 240 | 908 | -.199  | .110  | .244  | -.612  | 240 | 958   | -.229  | .055  | -.010 | -.425  |
| 240 | 781 | .131   | .092  | .615  | -.193 | 240 | 909 | -.161  | .060  | .096  | -.379  | 240 | 959   | -.196  | .051  | -.035 | -.357  |
| 240 | 782 | .013   | .070  | .365  | -.251 | 240 | 910 | -.431  | .126  | -.077 | -.1053 | 240 | 960   | -.301  | .055  | -.168 | -.680  |
| 240 | 783 | -.058  | .065  | .230  | -.261 | 240 | 911 | -.307  | .079  | -.058 | -.946  | 240 | 961   | -.317  | .072  | -.152 | -.220  |
| 240 | 784 | -.119  | .062  | .150  | -.331 | 240 | 912 | .270   | .241  | .851  | -.740  | 240 | 962   | -.298  | .072  | -.049 | -.624  |
| 240 | 785 | -.041  | .066  | .281  | -.284 | 240 | 913 | -.060  | .303  | .769  | -.792  | 240 | 963   | -.321  | .081  | -.139 | -1.005 |
| 240 | 786 | .066   | .087  | .508  | -.242 | 240 | 914 | -.036  | .113  | .436  | -.350  | 240 | 964   | -.323  | .084  | -.154 | -.947  |
| 240 | 787 | .132   | .075  | .454  | -.118 | 240 | 915 | -.075  | .080  | .231  | -.417  | 240 | 965   | -.316  | .070  | -.134 | -.675  |
| 240 | 788 | .104   | .084  | .538  | -.139 | 240 | 916 | -.135  | .136  | .284  | -.997  | 240 | 966   | -.320  | .079  | -.141 | -.978  |
| 240 | 789 | .004   | .063  | .328  | -.230 | 240 | 917 | -.200  | .152  | .232  | -.1393 | 240 | 967   | -.156  | .058  | -.044 | -.543  |
| 240 | 790 | -.063  | .056  | .162  | -.296 | 240 | 918 | -.408  | .095  | -.170 | -.868  | 240 | 968   | -.281  | .056  | -.111 | -.603  |
| 240 | 791 | .139   | .083  | .516  | -.209 | 240 | 919 | -.360  | .136  | .100  | -.946  | 240 | 969   | -.323  | .084  | -.132 | -.858  |
| 240 | 792 | .139   | .086  | .607  | -.155 | 240 | 920 | -.384  | .096  | -.123 | -.847  | 240 | 970   | -.284  | .104  | -.035 | -.921  |
| 240 | 793 | .133   | .082  | .511  | -.241 | 240 | 921 | -.333  | .070  | -.120 | -.685  | 240 | 971   | -.161  | .061  | .066  | -.627  |
| 240 | 794 | .144   | .079  | .587  | -.056 | 240 | 922 | -.309  | .071  | -.094 | -.805  | 240 | 1001  | -.221  | .116  | .615  | -.108  |
| 240 | 795 | .021   | .077  | .291  | -.244 | 240 | 923 | -.301  | .057  | -.120 | -.501  | 240 | 1002  | -.156  | .080  | .477  | -.046  |
| 240 | 796 | .078   | .101  | .568  | -.246 | 240 | 924 | -.300  | .084  | -.012 | -.706  | 240 | 1003  | -.450  | .124  | -.114 | -.965  |
| 240 | 797 | -.273  | .070  | -.042 | -.651 | 240 | 925 | -.291  | .061  | -.084 | -.567  | 240 | 1004  | -.341  | .079  | -.098 | -.823  |
| 240 | 798 | -.098  | .061  | .156  | -.369 | 240 | 926 | -.301  | .085  | -.021 | -.654  | 240 | 1005  | -.284  | .107  | -.066 | -.651  |
| 240 | 799 | -.026  | .073  | .291  | -.262 | 240 | 927 | -.296  | .063  | -.065 | -.584  | 240 | 1006  | -.260  | .094  | -.017 | -.667  |
| 240 | 800 | .069   | .099  | .445  | -.223 | 240 | 928 | -.292  | .087  | -.055 | -.951  | 240 | 1007  | -.192  | .078  | .080  | -.534  |
| 240 | 801 | .144   | .085  | .636  | -.128 | 240 | 929 | -.290  | .059  | -.132 | -.588  | 240 | 1008  | -.327  | .072  | -.089 | -.675  |
| 240 | 802 | .122   | .091  | .711  | -.297 | 240 | 930 | -.235  | .075  | .013  | -.588  | 240 | 1009  | -.237  | .125  | .154  | -.710  |
| 240 | 803 | .035   | .079  | .526  | -.290 | 240 | 931 | -.328  | .085  | -.116 | -.020  | 240 | 1010  | -.297  | .066  | -.125 | -.639  |
| 240 | 804 | -.052  | .067  | .279  | -.322 | 240 | 932 | -.237  | .070  | .010  | -.579  | 240 | 1011  | -.125  | .065  | .135  | -.474  |
| 240 | 805 | .116   | .108  | .591  | -.232 | 240 | 933 | -.267  | .069  | -.003 | -.647  | 240 | 1012  | -.296  | .080  | .102  | -.701  |
| 240 | 806 | -.039  | .074  | .291  | -.281 | 240 | 934 | -.287  | .058  | -.132 | -.640  | 240 | 1013  | -.297  | .075  | -.068 | -.713  |
| 240 | 807 | .041   | .080  | .390  | -.221 | 240 | 935 | -.288  | .055  | -.130 | -.515  | 240 | 1014  | -.298  | .058  | -.123 | -.651  |
| 240 | 808 | -.179  | .056  | .018  | -.533 | 240 | 936 | -.259  | .037  | -.153 | -.389  | 240 | 1015  | -.287  | .065  | -.118 | -.612  |
| 240 | 809 | -.052  | .059  | .369  | -.234 | 240 | 937 | -.249  | .050  | -.116 | -.020  | 240 | 1016  | -.283  | .056  | -.120 | -.639  |
| 240 | 810 | .155   | .083  | .573  | -.121 | 240 | 938 | -.253  | .043  | -.142 | -.431  | 240 | 1017  | -.292  | .058  | -.128 | -.567  |
| 240 | 811 | .165   | .087  | .556  | -.049 | 240 | 939 | -.271  | .043  | -.131 | -.458  | 240 | 1018  | -.284  | .054  | -.053 | -.524  |
| 240 | 812 | -.033  | .081  | .381  | -.389 | 240 | 940 | -.307  | .046  | -.205 | -.488  | 240 | 1019  | -.294  | .061  | -.046 | -.517  |
| 240 | 813 | .031   | .073  | .371  | -.223 | 240 | 941 | -.164  | .056  | -.423 | -.037  | 240 | 1020  | -.271  | .054  | -.053 | -.474  |
| 240 | 814 | .094   | .094  | .494  | -.195 | 240 | 942 | -.335  | .085  | -.150 | -.757  | 240 | 1021  | -.143  | .070  | .133  | -.486  |
| 240 | 815 | -.144  | .061  | .073  | -.468 | 240 | 943 | -.362  | .114  | -.026 | -.919  | 240 | 1022  | -.142  | .048  | .073  | -.321  |
| 240 | 816 | -.033  | .052  | .230  | -.188 | 240 | 944 | -.280  | .082  | -.030 | -.601  | 240 | 1023  | -.211  | .077  | .016  | -.622  |
| 240 | 817 | .016   | .059  | .314  | -.149 | 240 | 945 | -.192  | .080  | -.065 | -.610  | 240 | 1024  | -.368  | .118  | -.089 | -1.002 |
| 240 | 818 | .078   | .081  | .526  | -.160 | 240 | 946 | -.325  | .081  | -.143 | -.716  | 240 | 1025  | -.221  | .040  | -.077 | -.369  |
| 240 | 819 | .172   | .086  | .626  | -.047 | 240 | 947 | -.331  | .074  | -.125 | -.691  | 240 | 1026  | -.208  | .052  | -.003 | -.440  |
| 240 | 820 | .119   | .086  | .508  | -.204 | 240 | 948 | -.311  | .072  | -.091 | -.648  | 240 | 1027  | -.184  | .041  | -.051 | -.402  |
| 240 | 821 | .032   | .054  | .247  | -.166 | 240 | 949 | -.345  | .098  | -.078 | -1.086 | 240 | 1028  | -.135  | .030  | .023  | -.254  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 250 | 101 | -.286  | .081  | -.034 | -.714  | 250 | 151 | -.306  | .113  | .215  | -1.092 | 250 | 201 | -.221  | .056  | .006  | -.462 |
| 250 | 102 | -.378  | .108  | -.138 | -.889  | 250 | 152 | -.304  | .098  | .028  | -.846  | 250 | 202 | -.125  | .064  | .144  | -.404 |
| 250 | 103 | -.394  | .099  | -.145 | -.883  | 250 | 153 | -.325  | .109  | -.003 | -.931  | 250 | 203 | -.199  | .073  | .027  | -.611 |
| 250 | 104 | -.127  | .076  | .128  | -.404  | 250 | 154 | -.337  | .098  | -.014 | -.891  | 250 | 204 | -.231  | .064  | -.046 | -.631 |
| 250 | 105 | -.327  | .111  | -.028 | -.908  | 250 | 155 | -.385  | .135  | -.086 | -1.246 | 250 | 205 | -.224  | .060  | -.032 | -.557 |
| 250 | 106 | -.355  | .106  | -.103 | -.953  | 250 | 156 | -.328  | .109  | -.142 | -.942  | 250 | 206 | -.208  | .079  | -.054 | -.577 |
| 250 | 107 | -.342  | .100  | -.041 | -.863  | 250 | 157 | -.332  | .113  | .184  | -.851  | 250 | 207 | -.255  | .078  | -.091 | -.764 |
| 250 | 108 | -.316  | .110  | .085  | -1.003 | 250 | 158 | -.284  | .095  | .015  | -.822  | 250 | 208 | -.231  | .069  | -.048 | -.683 |
| 250 | 109 | -.341  | .116  | .011  | -.890  | 250 | 159 | -.309  | .110  | -.063 | -1.072 | 250 | 209 | -.126  | .033  | .031  | -.280 |
| 250 | 110 | -.391  | .130  | -.032 | -1.117 | 250 | 160 | -.302  | .106  | .012  | -.860  | 250 | 210 | -.235  | .057  | -.062 | -.605 |
| 250 | 111 | -.382  | .114  | -.076 | -.985  | 250 | 161 | -.276  | .096  | -.052 | -.969  | 250 | 211 | -.050  | .086  | .389  | -.220 |
| 250 | 112 | -.303  | .102  | -.011 | -1.068 | 250 | 162 | -.307  | .114  | .021  | -.813  | 250 | 212 | -.217  | .061  | -.033 | -.662 |
| 250 | 113 | -.313  | .103  | .067  | -.861  | 250 | 163 | -.290  | .100  | .050  | -.690  | 250 | 213 | -.125  | .069  | .211  | -.422 |
| 250 | 114 | -.396  | .128  | .020  | -.949  | 250 | 164 | -.286  | .090  | .019  | -.701  | 250 | 214 | -.170  | .057  | .024  | -.921 |
| 250 | 115 | -.385  | .111  | -.122 | -.937  | 250 | 165 | -.307  | .099  | -.021 | -1.166 | 250 | 215 | -.126  | .030  | -.003 | -.281 |
| 250 | 116 | -.363  | .115  | .006  | -1.016 | 250 | 166 | -.294  | .098  | -.053 | -1.170 | 250 | 216 | -.131  | .027  | -.033 | -.226 |
| 250 | 117 | -.318  | .098  | .009  | -.744  | 250 | 167 | -.280  | .090  | .062  | -.974  | 250 | 217 | -.155  | .033  | .017  | -.295 |
| 250 | 118 | -.293  | .092  | -.034 | -.825  | 250 | 168 | -.266  | .077  | -.029 | -.762  | 250 | 218 | -.213  | .047  | .027  | -.416 |
| 250 | 119 | -.312  | .090  | -.070 | -.735  | 250 | 169 | -.277  | .029  | -.003 | -.728  | 250 | 219 | -.108  | .044  | .077  | -.318 |
| 250 | 120 | -.365  | .128  | .108  | -.991  | 250 | 170 | -.303  | .107  | .038  | -.903  | 250 | 220 | -.165  | .076  | .061  | -.591 |
| 250 | 121 | -.521  | .186  | -.043 | -1.316 | 250 | 171 | -.296  | .095  | -.008 | -.873  | 250 | 221 | -.221  | .079  | .031  | -.682 |
| 250 | 122 | -.290  | .109  | .082  | -.829  | 250 | 172 | -.294  | .081  | .005  | -.724  | 250 | 222 | -.220  | .081  | .036  | -.805 |
| 250 | 123 | -.284  | .101  | .067  | -.750  | 250 | 173 | -.307  | .087  | .086  | -.783  | 250 | 223 | -.110  | .067  | .316  | -.297 |
| 250 | 124 | -.306  | .103  | .027  | -.822  | 250 | 174 | -.306  | .088  | -.069 | -.866  | 250 | 224 | -.148  | .058  | .081  | -.413 |
| 250 | 125 | -.307  | .123  | .234  | -.904  | 250 | 175 | -.294  | .083  | -.086 | -.623  | 250 | 225 | -.129  | .065  | .184  | -.541 |
| 250 | 126 | -.339  | .115  | -.059 | -.969  | 250 | 176 | -.287  | .078  | -.069 | -.668  | 250 | 301 | -.283  | .067  | -.084 | -.592 |
| 250 | 127 | -.337  | .118  | -.014 | -1.028 | 250 | 177 | -.265  | .093  | .013  | -.908  | 250 | 302 | -.298  | .071  | -.107 | -.601 |
| 250 | 128 | -.348  | .131  | -.026 | -.1058 | 250 | 178 | -.262  | .082  | -.050 | -.741  | 250 | 303 | -.382  | .115  | -.046 | -.182 |
| 250 | 129 | -.339  | .137  | -.003 | -1.243 | 250 | 179 | -.295  | .074  | -.053 | -.630  | 250 | 304 | -.369  | .104  | -.046 | -.107 |
| 250 | 130 | -.315  | .096  | -.012 | -.716  | 250 | 180 | -.308  | .094  | -.126 | -.708  | 250 | 305 | -.285  | .080  | -.074 | -.721 |
| 250 | 131 | -.339  | .109  | -.053 | -.960  | 250 | 181 | -.326  | .100  | -.093 | -.818  | 250 | 306 | -.295  | .077  | -.067 | -.759 |
| 250 | 132 | -.288  | .108  | -.003 | -.951  | 250 | 182 | -.298  | .088  | -.074 | -.811  | 250 | 307 | -.269  | .053  | -.118 | -.531 |
| 250 | 133 | -.285  | .107  | .045  | -.880  | 250 | 183 | -.288  | .085  | -.088 | -.929  | 250 | 308 | -.312  | .101  | .044  | -.891 |
| 250 | 134 | -.310  | .106  | .029  | -.876  | 250 | 184 | -.214  | .086  | .011  | -.807  | 250 | 309 | -.304  | .078  | -.102 | -.784 |
| 250 | 135 | -.225  | .118  | .184  | -.903  | 250 | 185 | -.191  | .073  | .077  | -.632  | 250 | 310 | -.306  | .068  | -.138 | -.680 |
| 250 | 136 | -.323  | .106  | .029  | -.823  | 250 | 186 | -.229  | .068  | .141  | -.545  | 250 | 311 | -.321  | .096  | -.049 | -.972 |
| 250 | 137 | -.343  | .115  | -.055 | -.812  | 250 | 187 | -.306  | .092  | -.050 | -.889  | 250 | 312 | -.279  | .082  | -.028 | -.646 |
| 250 | 138 | -.360  | .126  | -.046 | -.990  | 250 | 188 | -.309  | .097  | -.123 | -.146  | 250 | 313 | -.274  | .065  | -.071 | -.658 |
| 250 | 139 | -.334  | .106  | -.074 | -1.085 | 250 | 189 | -.292  | .101  | -.109 | -.247  | 250 | 314 | -.283  | .064  | -.100 | -.694 |
| 250 | 140 | -.328  | .104  | -.008 | -.933  | 250 | 190 | -.289  | .093  | -.102 | -.833  | 250 | 315 | -.287  | .081  | -.055 | -.825 |
| 250 | 141 | -.317  | .094  | .011  | -.714  | 250 | 191 | -.240  | .073  | .022  | -.816  | 250 | 316 | -.296  | .068  | -.127 | -.771 |
| 250 | 142 | -.330  | .107  | -.028 | -.885  | 250 | 192 | -.272  | .079  | -.030 | -.904  | 250 | 317 | -.241  | .045  | -.093 | -.493 |
| 250 | 143 | -.292  | .099  | -.021 | -.821  | 250 | 193 | -.283  | .079  | .047  | -.685  | 250 | 318 | -.288  | .076  | -.046 | -.701 |
| 250 | 144 | -.294  | .110  | .024  | -.919  | 250 | 194 | -.184  | .077  | .040  | -.600  | 250 | 319 | -.295  | .079  | -.075 | -.780 |
| 250 | 145 | -.298  | .101  | .090  | -.935  | 250 | 195 | -.175  | .069  | .047  | -.545  | 250 | 320 | -.299  | .086  | -.132 | -.809 |
| 250 | 146 | -.345  | .114  | .011  | -.1354 | 250 | 196 | -.202  | .081  | .238  | -.444  | 250 | 321 | -.301  | .072  | -.104 | -.841 |
| 250 | 147 | -.343  | .118  | .090  | -.1345 | 250 | 197 | -.286  | .083  | -.088 | -.856  | 250 | 322 | -.251  | .081  | -.010 | -.610 |
| 250 | 148 | -.356  | .122  | .001  | -1.286 | 250 | 198 | -.131  | .037  | .054  | -.325  | 250 | 323 | -.253  | .078  | -.019 | -.680 |
| 250 | 149 | -.278  | .084  | -.019 | -.679  | 250 | 199 | -.138  | .032  | .081  | -.368  | 250 | 324 | -.268  | .063  | -.093 | -.606 |
| 250 | 150 | -.278  | .080  | -.037 | -.690  | 250 | 200 | -.174  | .047  | -.010 | -.640  | 250 | 325 | -.264  | .058  | -.084 | -.608 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 250 | 326 | -.268  | .055  | -.098 | -.518 | 250 | 376 | -.231  | .063  | -.033 | -.567 | 250 | 504 | -.451  | .111  | -.149 | -.842  |
| 250 | 327 | -.268  | .064  | -.119 | -.647 | 250 | 377 | -.254  | .051  | -.125 | -.492 | 250 | 505 | -.351  | .114  | -.095 | -1.000 |
| 250 | 328 | -.264  | .074  | -.025 | -.773 | 250 | 378 | -.254  | .047  | -.127 | -.473 | 250 | 506 | -.334  | .118  | -.018 | -.922  |
| 250 | 329 | -.265  | .077  | -.009 | -.666 | 250 | 379 | -.273  | .052  | -.144 | -.520 | 250 | 507 | -.359  | .111  | -.056 | -1.090 |
| 250 | 330 | -.244  | .044  | -.112 | -.439 | 250 | 380 | -.264  | .056  | -.049 | -.548 | 250 | 508 | -.378  | .117  | -.127 | -1.005 |
| 250 | 331 | -.267  | .050  | -.121 | -.467 | 250 | 381 | -.227  | .057  | -.022 | -.513 | 250 | 509 | -.365  | .121  | -.035 | -1.040 |
| 250 | 332 | -.256  | .071  | -.018 | -.675 | 250 | 382 | -.185  | .054  | -.057 | -.449 | 250 | 510 | -.343  | .114  | -.015 | -.942  |
| 250 | 333 | -.240  | .067  | -.050 | -.746 | 250 | 383 | -.192  | .051  | -.003 | -.506 | 250 | 511 | -.330  | .120  | -.123 | -1.117 |
| 250 | 334 | -.257  | .067  | -.099 | -.643 | 250 | 384 | -.244  | .045  | -.127 | -.489 | 250 | 512 | -.370  | .112  | -.065 | -.935  |
| 250 | 335 | -.228  | .046  | -.076 | -.425 | 250 | 385 | -.244  | .046  | -.116 | -.437 | 250 | 513 | -.372  | .116  | -.037 | -.887  |
| 250 | 336 | -.221  | .040  | -.101 | -.409 | 250 | 386 | -.283  | .061  | -.149 | -.709 | 250 | 514 | -.332  | .106  | -.010 | -.808  |
| 250 | 337 | -.250  | .045  | -.126 | -.556 | 250 | 387 | -.253  | .049  | -.026 | -.458 | 250 | 515 | -.332  | .124  | -.035 | -.953  |
| 250 | 338 | -.248  | .057  | -.092 | -.663 | 250 | 388 | -.224  | .062  | -.045 | -.487 | 250 | 516 | -.354  | .104  | -.026 | -.812  |
| 250 | 339 | -.255  | .069  | -.083 | -.746 | 250 | 389 | -.182  | .065  | -.033 | -.515 | 250 | 517 | -.351  | .106  | -.001 | -.899  |
| 250 | 340 | -.267  | .079  | -.044 | -.684 | 250 | 390 | -.175  | .059  | -.000 | -.525 | 250 | 518 | -.462  | .191  | -.051 | -1.406 |
| 250 | 341 | -.230  | .042  | -.050 | -.428 | 250 | 391 | -.254  | .057  | -.044 | -.479 | 250 | 519 | -.391  | .127  | -.085 | -1.040 |
| 250 | 342 | -.256  | .048  | -.121 | -.448 | 250 | 392 | -.269  | .058  | -.140 | -.482 | 250 | 520 | -.343  | .105  | -.078 | -.908  |
| 250 | 343 | -.259  | .072  | -.080 | -.618 | 250 | 393 | -.237  | .053  | -.022 | -.500 | 250 | 521 | -.332  | .110  | -.024 | -.901  |
| 250 | 344 | -.253  | .064  | -.071 | -.572 | 250 | 394 | -.185  | .052  | -.066 | -.378 | 250 | 522 | -.393  | .133  | -.047 | -1.026 |
| 250 | 345 | -.259  | .052  | -.103 | -.519 | 250 | 395 | -.182  | .063  | -.057 | -.608 | 250 | 523 | -.412  | .130  | -.065 | -.976  |
| 250 | 346 | -.266  | .059  | -.124 | -.668 | 250 | 396 | -.180  | .064  | -.079 | -.655 | 250 | 524 | -.410  | .117  | -.019 | -.903  |
| 250 | 347 | -.278  | .061  | -.099 | -.570 | 250 | 397 | -.253  | .045  | -.131 | -.463 | 250 | 525 | -.405  | .118  | -.062 | -.976  |
| 250 | 348 | -.268  | .072  | -.073 | -.656 | 250 | 398 | -.235  | .044  | -.130 | -.452 | 250 | 526 | -.335  | .124  | -.099 | -1.010 |
| 250 | 349 | -.271  | .073  | -.082 | -.728 | 250 | 399 | -.275  | .055  | -.141 | -.525 | 250 | 527 | -.331  | .111  | -.006 | -.764  |
| 250 | 350 | -.272  | .078  | -.078 | -.614 | 250 | 400 | -.246  | .049  | -.101 | -.458 | 250 | 528 | -.280  | .106  | -.121 | -.923  |
| 250 | 351 | -.263  | .067  | -.047 | -.641 | 250 | 401 | -.197  | .041  | -.052 | -.416 | 250 | 529 | -.290  | .111  | -.050 | -.776  |
| 250 | 352 | -.258  | .053  | -.118 | -.517 | 250 | 402 | -.157  | .045  | -.091 | -.427 | 250 | 530 | -.356  | .104  | -.100 | -.810  |
| 250 | 353 | -.249  | .047  | -.094 | -.490 | 250 | 403 | -.139  | .036  | -.015 | -.311 | 250 | 531 | -.364  | .112  | -.026 | -.918  |
| 250 | 354 | -.251  | .050  | -.132 | -.605 | 250 | 404 | -.133  | .035  | -.033 | -.316 | 250 | 532 | -.387  | .103  | -.037 | -.829  |
| 250 | 355 | -.253  | .058  | -.026 | -.627 | 250 | 405 | -.244  | .055  | -.092 | -.485 | 250 | 533 | -.385  | .102  | -.074 | -.893  |
| 250 | 356 | -.224  | .082  | -.044 | -.748 | 250 | 406 | -.218  | .048  | -.079 | -.478 | 250 | 534 | -.407  | .120  | -.063 | -1.061 |
| 250 | 357 | -.254  | .070  | -.060 | -.587 | 250 | 407 | -.220  | .038  | -.086 | -.385 | 250 | 535 | -.384  | .111  | -.017 | -.872  |
| 250 | 358 | -.253  | .065  | -.091 | -.589 | 250 | 408 | -.268  | .050  | -.124 | -.594 | 250 | 536 | -.356  | .108  | -.017 | -.858  |
| 250 | 359 | -.242  | .058  | -.073 | -.688 | 250 | 409 | -.157  | .035  | -.010 | -.280 | 250 | 537 | -.357  | .123  | -.147 | -1.215 |
| 250 | 360 | -.253  | .073  | -.062 | -.661 | 250 | 410 | -.128  | .030  | -.010 | -.240 | 250 | 538 | -.327  | .106  | -.020 | -.842  |
| 250 | 361 | -.263  | .070  | -.024 | -.569 | 250 | 411 | -.267  | .059  | -.083 | -.585 | 250 | 539 | -.280  | .104  | -.025 | -.937  |
| 250 | 362 | -.243  | .066  | -.060 | -.540 | 250 | 412 | -.269  | .056  | -.138 | -.651 | 250 | 540 | -.283  | .109  | -.022 | -.891  |
| 250 | 363 | -.248  | .064  | -.047 | -.573 | 250 | 413 | -.134  | .030  | -.018 | -.241 | 250 | 541 | -.352  | .098  | -.050 | -.730  |
| 250 | 364 | -.280  | .065  | -.109 | -.654 | 250 | 414 | -.187  | .033  | -.062 | -.338 | 250 | 542 | -.368  | .113  | -.035 | -1.017 |
| 250 | 365 | -.263  | .073  | -.103 | -.838 | 250 | 415 | -.188  | .035  | -.036 | -.328 | 250 | 543 | -.387  | .134  | -.086 | -1.344 |
| 250 | 366 | -.222  | .054  | -.038 | -.587 | 250 | 416 | -.252  | .064  | -.109 | -.665 | 250 | 544 | -.375  | .120  | -.065 | -1.128 |
| 250 | 367 | -.228  | .060  | -.047 | -.513 | 250 | 417 | -.175  | .046  | -.056 | -.420 | 250 | 545 | -.379  | .115  | -.065 | -.945  |
| 250 | 368 | -.242  | .066  | -.042 | -.695 | 250 | 418 | -.144  | .035  | -.032 | -.279 | 250 | 546 | -.331  | .111  | -.029 | -.948  |
| 250 | 369 | -.226  | .053  | -.080 | -.468 | 250 | 419 | -.129  | .033  | -.039 | -.255 | 250 | 547 | -.304  | .115  | -.096 | -.944  |
| 250 | 370 | -.236  | .050  | -.092 | -.544 | 250 | 420 | -.132  | .027  | -.034 | -.248 | 250 | 548 | -.278  | .102  | -.003 | -.224  |
| 250 | 371 | -.255  | .052  | -.123 | -.579 | 250 | 421 | -.136  | .030  | -.002 | -.259 | 250 | 549 | -.308  | .121  | -.188 | -.899  |
| 250 | 372 | -.280  | .062  | -.137 | -.815 | 250 | 422 | -.136  | .029  | -.007 | -.236 | 250 | 550 | -.283  | .130  | -.206 | -.089  |
| 250 | 373 | -.251  | .057  | -.068 | -.501 | 250 | 501 | -.384  | .108  | -.099 | -.847 | 250 | 551 | -.439  | .139  | -.150 | -.350  |
| 250 | 374 | -.208  | .052  | -.038 | -.444 | 250 | 502 | -.281  | .082  | -.026 | -.107 | 250 | 552 | -.395  | .114  | -.064 | -.885  |
| 250 | 375 | -.208  | .054  | -.012 | -.473 | 250 | 503 | -.118  | .086  | -.169 | -.456 | 250 | 553 | -.368  | .117  | -.037 | -.919  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 250 | 554 | -.320  | .094  | .003  | -.786  | 250 | 604 | -.196  | .038  | -.044 | -.344 | 250 | 734 | .269   | .189  | 1.031 | -.505 |
| 250 | 555 | -.295  | .102  | -.022 | -.854  | 250 | 605 | -.234  | .041  | -.090 | -.397 | 250 | 735 | .360   | .168  | .856  | -.184 |
| 250 | 556 | -.280  | .079  | -.067 | -.664  | 250 | 606 | -.171  | .060  | -.087 | -.446 | 250 | 736 | .374   | .157  | .879  | -.073 |
| 250 | 557 | -.226  | .085  | -.010 | -.651  | 250 | 607 | -.156  | .033  | -.023 | -.295 | 250 | 737 | .314   | .166  | .955  | -.156 |
| 250 | 558 | -.423  | .124  | -.139 | -.139  | 250 | 608 | -.163  | .081  | -.119 | -.669 | 250 | 738 | .322   | .179  | .884  | -.170 |
| 250 | 559 | -.282  | .097  | .109  | -.746  | 250 | 609 | -.222  | .042  | -.053 | -.438 | 250 | 739 | .210   | .141  | .726  | -.165 |
| 250 | 560 | -.397  | .115  | -.132 | -.1449 | 250 | 610 | -.190  | .048  | -.080 | -.358 | 250 | 740 | .107   | .129  | .659  | -.287 |
| 250 | 561 | -.249  | .092  | -.035 | -.852  | 250 | 611 | -.156  | .034  | -.035 | -.291 | 250 | 741 | .362   | .161  | .898  | -.060 |
| 250 | 562 | -.383  | .108  | -.130 | -.876  | 250 | 612 | -.329  | .145  | -.011 | -.349 | 250 | 742 | .311   | .164  | .877  | -.080 |
| 250 | 563 | -.400  | .110  | -.143 | -.1019 | 250 | 613 | -.315  | .130  | -.030 | -.336 | 250 | 743 | -.108  | .104  | .409  | -.501 |
| 250 | 564 | -.402  | .135  | -.037 | -.125  | 250 | 614 | -.225  | .139  | -.295 | -.102 | 250 | 744 | .057   | .119  | .510  | -.253 |
| 250 | 565 | -.400  | .164  | -.006 | -.135  | 250 | 615 | -.151  | .073  | -.130 | -.511 | 250 | 745 | .268   | .163  | .834  | -.129 |
| 250 | 566 | -.308  | .112  | -.032 | -.108  | 250 | 616 | -.159  | .056  | -.061 | -.555 | 250 | 746 | .286   | .167  | 1.019 | -.096 |
| 250 | 567 | -.248  | .094  | -.006 | -.956  | 250 | 617 | -.171  | .034  | -.045 | -.323 | 250 | 747 | .104   | .121  | .613  | -.209 |
| 250 | 568 | -.255  | .094  | -.017 | -.804  | 250 | 618 | -.181  | .035  | -.018 | -.310 | 250 | 748 | -.072  | .108  | .397  | -.533 |
| 250 | 569 | -.313  | .112  | -.049 | -.826  | 250 | 619 | -.202  | .036  | -.072 | -.342 | 250 | 749 | -.304  | .148  | .407  | -.827 |
| 250 | 570 | -.401  | .117  | -.129 | -.954  | 250 | 620 | -.152  | .035  | -.014 | -.275 | 250 | 750 | -.350  | .120  | .176  | -.903 |
| 250 | 571 | -.419  | .117  | -.062 | -.989  | 250 | 701 | -.000  | .090  | -.348 | -.249 | 250 | 751 | -.033  | .145  | .465  | -.598 |
| 250 | 572 | -.410  | .168  | -.092 | -.1313 | 250 | 702 | -.014  | .091  | -.443 | -.337 | 250 | 752 | .146   | .186  | .755  | -.638 |
| 250 | 573 | -.308  | .133  | -.094 | -.1042 | 250 | 703 | -.186  | .140  | -.609 | -.303 | 250 | 753 | .197   | .188  | .884  | -.519 |
| 250 | 574 | -.233  | .105  | -.108 | -.780  | 250 | 704 | -.206  | .143  | -.706 | -.308 | 250 | 754 | .201   | .170  | .710  | -.377 |
| 250 | 575 | -.202  | .068  | -.011 | -.607  | 250 | 705 | -.006  | .093  | -.320 | -.362 | 250 | 755 | .061   | .158  | .643  | -.699 |
| 250 | 576 | -.216  | .059  | -.048 | -.576  | 250 | 706 | -.003  | .100  | -.329 | -.339 | 250 | 756 | -.298  | .134  | .272  | -.784 |
| 250 | 577 | -.407  | .128  | -.151 | -.182  | 250 | 707 | -.036  | .101  | -.446 | -.253 | 250 | 757 | -.201  | .207  | .791  | -.829 |
| 250 | 578 | -.410  | .143  | -.067 | -.1291 | 250 | 708 | -.003  | .120  | -.544 | -.497 | 250 | 758 | .020   | .110  | .497  | -.557 |
| 250 | 579 | -.355  | .128  | -.128 | -.180  | 250 | 709 | -.200  | .151  | -.720 | -.287 | 250 | 759 | .105   | .124  | .652  | -.519 |
| 250 | 580 | -.229  | .121  | -.089 | -.818  | 250 | 710 | -.169  | .148  | -.743 | -.367 | 250 | 760 | -.034  | .096  | .490  | -.305 |
| 250 | 581 | -.182  | .076  | -.087 | -.588  | 250 | 711 | -.010  | .124  | -.453 | -.515 | 250 | 761 | .010   | .108  | .432  | -.503 |
| 250 | 582 | -.186  | .047  | -.078 | -.424  | 250 | 712 | -.139  | .134  | -.609 | -.278 | 250 | 762 | -.064  | .081  | .292  | -.395 |
| 250 | 583 | -.206  | .044  | -.020 | -.555  | 250 | 713 | -.279  | .158  | -.822 | -.330 | 250 | 763 | .016   | .095  | .445  | -.283 |
| 250 | 584 | -.357  | .130  | -.025 | -.1213 | 250 | 714 | -.278  | .162  | -.804 | -.174 | 250 | 764 | .185   | .130  | .688  | -.135 |
| 250 | 585 | -.364  | .140  | -.048 | -.1422 | 250 | 715 | -.161  | .122  | -.638 | -.242 | 250 | 765 | .203   | .133  | .681  | -.126 |
| 250 | 586 | -.312  | .162  | -.087 | -.1341 | 250 | 716 | -.207  | .174  | -.879 | -.389 | 250 | 766 | .217   | .131  | .754  | -.232 |
| 250 | 587 | -.179  | .087  | -.156 | -.650  | 250 | 717 | -.357  | .163  | -.992 | -.269 | 250 | 767 | .091   | .117  | .628  | -.192 |
| 250 | 588 | -.165  | .068  | -.173 | -.643  | 250 | 718 | -.038  | .125  | -.452 | -.650 | 250 | 768 | -.005  | .097  | .452  | -.303 |
| 250 | 589 | -.179  | .040  | -.001 | -.367  | 250 | 719 | -.085  | .195  | -.632 | -.652 | 250 | 769 | .179   | .121  | .701  | -.196 |
| 250 | 590 | -.203  | .040  | -.027 | -.419  | 250 | 720 | -.100  | .191  | -.731 | -.605 | 250 | 770 | -.096  | .059  | .207  | -.315 |
| 250 | 591 | -.175  | .086  | -.112 | -.719  | 250 | 721 | -.056  | .125  | -.602 | -.412 | 250 | 771 | -.022  | .076  | .324  | -.303 |
| 250 | 592 | -.155  | .072  | -.143 | -.566  | 250 | 722 | -.098  | .137  | -.548 | -.324 | 250 | 772 | .066   | .101  | .580  | -.317 |
| 250 | 593 | -.329  | .121  | -.064 | -.1379 | 250 | 723 | -.198  | .146  | -.890 | -.249 | 250 | 773 | .164   | .103  | .623  | -.094 |
| 250 | 594 | -.327  | .125  | -.057 | -.1481 | 250 | 724 | -.268  | .173  | -.920 | -.360 | 250 | 774 | .160   | .111  | .766  | -.118 |
| 250 | 595 | -.280  | .141  | -.087 | -.1080 | 250 | 725 | -.276  | .162  | -.922 | -.181 | 250 | 775 | .045   | .097  | .504  | -.258 |
| 250 | 596 | -.168  | .079  | -.145 | -.571  | 250 | 726 | -.268  | .161  | -.861 | -.224 | 250 | 776 | -.046  | .089  | .329  | -.336 |
| 250 | 597 | -.155  | .062  | -.136 | -.404  | 250 | 727 | -.273  | .162  | -.845 | -.370 | 250 | 777 | -.129  | .057  | .103  | -.410 |
| 250 | 598 | -.174  | .040  | -.011 | -.401  | 250 | 728 | -.200  | .149  | -.742 | -.202 | 250 | 778 | -.059  | .062  | .333  | -.332 |
| 250 | 599 | -.210  | .040  | -.051 | -.381  | 250 | 729 | -.129  | .133  | -.606 | -.294 | 250 | 779 | .034   | .085  | .535  | -.268 |
| 250 | 600 | -.235  | .043  | -.118 | -.434  | 250 | 730 | -.341  | .172  | -.955 | -.133 | 250 | 780 | .098   | .079  | .545  | -.132 |
| 250 | 601 | -.158  | .040  | -.003 | -.358  | 250 | 731 | -.318  | .163  | -.836 | -.179 | 250 | 781 | .097   | .089  | .530  | -.177 |
| 250 | 602 | -.174  | .033  | -.033 | -.328  | 250 | 732 | -.063  | .123  | -.512 | -.338 | 250 | 782 | -.002  | .077  | .376  | -.268 |
| 250 | 603 | -.323  | .123  | -.048 | -.1111 | 250 | 733 | -.162  | .147  | -.638 | -.287 | 250 | 783 | -.073  | .076  | .300  | -.398 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 250 | 784 | -.114  | .062  | .115  | -.386  | 250 | 912 | .200   | .288  | .919  | -.794  | 250 | 962  | -.270  | .062  | -.050 | -.684 |
| 250 | 785 | -.077  | .059  | .184  | -.287  | 250 | 913 | .099   | .337  | 1.061 | -.866  | 250 | 963  | -.264  | .066  | -.023 | -.708 |
| 250 | 786 | .008   | .075  | .369  | -.215  | 250 | 914 | -.006  | .117  | .475  | -.387  | 250 | 964  | -.267  | .061  | -.064 | -.717 |
| 250 | 787 | .101   | .075  | .578  | -.132  | 250 | 915 | -.067  | .093  | .232  | -.465  | 250 | 965  | -.281  | .064  | -.136 | -.573 |
| 250 | 788 | .073   | .074  | .431  | -.222  | 250 | 916 | -.148  | .138  | .273  | -.925  | 250 | 966  | -.307  | .078  | -.154 | -.777 |
| 250 | 789 | -.011  | .068  | .288  | -.325  | 250 | 917 | -.186  | .171  | .319  | -.1210 | 250 | 967  | -.160  | .055  | -.065 | -.595 |
| 250 | 790 | -.087  | .062  | .177  | -.346  | 250 | 918 | -.417  | .093  | -.183 | -.803  | 250 | 968  | -.262  | .052  | -.132 | -.525 |
| 250 | 791 | .095   | .083  | .425  | -.312  | 250 | 919 | -.359  | .115  | .026  | -.944  | 250 | 969  | -.307  | .091  | -.134 | -.187 |
| 250 | 792 | .110   | .074  | .435  | -.127  | 250 | 920 | -.375  | .099  | -.126 | -.851  | 250 | 970  | -.257  | .105  | .012  | -.875 |
| 250 | 793 | .104   | .080  | .464  | -.259  | 250 | 921 | -.370  | .087  | -.106 | -.714  | 250 | 971  | -.160  | .055  | .022  | -.494 |
| 250 | 794 | .117   | .069  | .457  | -.059  | 250 | 922 | -.338  | .116  | .062  | -.1000 | 250 | 1001 | -.189  | .121  | .739  | -.082 |
| 250 | 795 | -.005  | .079  | .296  | -.328  | 250 | 923 | -.304  | .060  | -.103 | -.595  | 250 | 1002 | -.123  | .070  | .465  | -.115 |
| 250 | 796 | .031   | .096  | .503  | -.288  | 250 | 924 | -.301  | .084  | -.032 | -.702  | 250 | 1003 | -.397  | .112  | -.033 | -.957 |
| 250 | 797 | -.257  | .071  | .083  | -.699  | 250 | 925 | -.299  | .079  | -.022 | -.650  | 250 | 1004 | -.358  | .095  | -.040 | -.766 |
| 250 | 798 | -.110  | .056  | .183  | -.319  | 250 | 926 | -.299  | .084  | .032  | -.692  | 250 | 1005 | -.251  | .098  | .021  | -.696 |
| 250 | 799 | -.061  | .066  | .257  | -.265  | 250 | 927 | -.292  | .078  | -.027 | -.648  | 250 | 1006 | -.244  | .102  | .120  | -.724 |
| 250 | 800 | .021   | .092  | .473  | -.288  | 250 | 928 | -.304  | .084  | -.094 | -.892  | 250 | 1007 | -.201  | .076  | -.082 | -.600 |
| 250 | 801 | .100   | .070  | .450  | -.097  | 250 | 929 | -.302  | .091  | -.060 | -.145  | 250 | 1008 | -.279  | .076  | -.072 | -.698 |
| 250 | 802 | .095   | .085  | .638  | -.179  | 250 | 930 | -.297  | .097  | -.003 | -.714  | 250 | 1009 | -.306  | .115  | .132  | -.856 |
| 250 | 803 | .002   | .074  | .287  | -.261  | 250 | 931 | -.289  | .095  | .021  | -.701  | 250 | 1010 | -.290  | .083  | -.038 | -.763 |
| 250 | 804 | -.076  | .070  | .301  | -.370  | 250 | 932 | -.286  | .079  | -.004 | -.755  | 250 | 1011 | -.124  | .069  | .168  | -.468 |
| 250 | 805 | .068   | .102  | .526  | -.263  | 250 | 933 | -.300  | .090  | -.048 | -.750  | 250 | 1012 | -.249  | .077  | .101  | -.638 |
| 250 | 806 | -.054  | .073  | .257  | -.275  | 250 | 934 | -.287  | .074  | -.079 | -.628  | 250 | 1013 | -.309  | .079  | -.116 | -.617 |
| 250 | 807 | -.011  | .075  | .320  | -.205  | 250 | 935 | -.281  | .069  | -.032 | -.563  | 250 | 1014 | -.304  | .076  | -.099 | -.657 |
| 250 | 808 | -.178  | .054  | .025  | -.486  | 250 | 936 | -.268  | .043  | -.163 | -.423  | 250 | 1015 | -.306  | .075  | -.091 | -.665 |
| 250 | 809 | -.072  | .053  | .204  | -.247  | 250 | 937 | -.255  | .056  | -.096 | -.513  | 250 | 1016 | -.309  | .073  | -.134 | -.706 |
| 250 | 810 | .110   | .079  | .485  | -.075  | 250 | 938 | -.253  | .040  | -.145 | -.428  | 250 | 1017 | -.256  | .058  | .026  | -.532 |
| 250 | 811 | .129   | .077  | .438  | -.075  | 250 | 939 | -.275  | .061  | -.062 | -.589  | 250 | 1018 | -.254  | .054  | .036  | -.552 |
| 250 | 812 | -.039  | .081  | .327  | -.370  | 250 | 940 | -.275  | .045  | -.166 | -.461  | 250 | 1019 | -.254  | .061  | -.094 | -.523 |
| 250 | 813 | .011   | .071  | .420  | -.217  | 250 | 941 | -.120  | .045  | .297  | .013   | 250 | 1020 | -.224  | .052  | -.034 | -.424 |
| 250 | 814 | .055   | .088  | .498  | -.230  | 250 | 942 | -.309  | .087  | -.064 | -.768  | 250 | 1021 | -.152  | .072  | .151  | -.542 |
| 250 | 815 | -.139  | .058  | .150  | -.388  | 250 | 943 | -.311  | .114  | .131  | -.836  | 250 | 1022 | -.143  | .043  | .110  | -.297 |
| 250 | 816 | -.049  | .050  | .190  | -.189  | 250 | 944 | -.243  | .071  | .013  | -.553  | 250 | 1023 | -.194  | .062  | -.017 | -.556 |
| 250 | 817 | -.015  | .052  | .225  | -.172  | 250 | 945 | -.222  | .081  | -.023 | -.623  | 250 | 1024 | -.326  | .101  | -.089 | -.791 |
| 250 | 818 | .053   | .080  | .457  | -.210  | 250 | 946 | -.285  | .076  | -.084 | -.623  | 250 | 1025 | -.209  | .038  | -.084 | -.360 |
| 250 | 819 | .158   | .080  | .584  | -.073  | 250 | 947 | -.284  | .079  | -.102 | -.662  | 250 | 1026 | -.197  | .044  | -.024 | -.439 |
| 250 | 820 | .117   | .082  | .471  | -.370  | 250 | 948 | -.278  | .077  | -.052 | -.716  | 250 | 1027 | -.172  | .040  | -.019 | -.329 |
| 250 | 821 | -.028  | .063  | .340  | -.138  | 250 | 949 | -.309  | .097  | -.098 | -.834  | 250 | 1028 | -.135  | .033  | -.000 | -.237 |
| 250 | 822 | -.045  | .051  | .170  | -.220  | 250 | 950 | -.130  | .069  | -.127 | -.444  | 260 | 101  | -.318  | .103  | -.048 | -.907 |
| 250 | 901 | -.191  | .057  | .010  | -.407  | 250 | 951 | -.268  | .084  | -.027 | -.780  | 260 | 102  | -.398  | .117  | -.007 | -.941 |
| 250 | 902 | .218   | .137  | .681  | -.180  | 250 | 952 | -.281  | .080  | -.068 | -.691  | 260 | 103  | -.390  | .092  | -.130 | -.841 |
| 250 | 903 | .317   | .160  | .861  | -.096  | 250 | 953 | -.305  | .095  | -.005 | -.809  | 260 | 104  | -.059  | .079  | .188  | -.421 |
| 250 | 904 | .171   | .142  | .681  | -.168  | 250 | 954 | -.195  | .063  | -.145 | -.456  | 260 | 105  | -.292  | .107  | .074  | -.840 |
| 250 | 905 | -.257  | .052  | .014  | -.460  | 250 | 955 | -.204  | .067  | -.065 | -.605  | 260 | 106  | -.404  | .115  | -.022 | -.982 |
| 250 | 906 | -.193  | .077  | .125  | -.466  | 250 | 956 | -.254  | .048  | -.077 | -.471  | 260 | 107  | -.331  | .107  | -.059 | -.970 |
| 250 | 907 | -.214  | .154  | .344  | -.698  | 250 | 957 | -.256  | .073  | -.047 | -.555  | 260 | 108  | -.258  | .085  | .099  | -.811 |
| 250 | 908 | -.187  | .119  | .269  | -.769  | 250 | 958 | -.198  | .054  | -.054 | -.397  | 260 | 109  | -.302  | .117  | .093  | -.904 |
| 250 | 909 | -.186  | .071  | .124  | -.458  | 250 | 959 | -.180  | .046  | -.043 | -.354  | 260 | 110  | -.365  | .137  | -.029 | -.961 |
| 250 | 910 | -.382  | .106  | -.105 | -.985  | 250 | 960 | -.263  | .051  | -.132 | -.528  | 260 | 111  | -.419  | .129  | -.004 | -.133 |
| 250 | 911 | -.339  | .116  | .001  | -1.103 | 250 | 961 | -.272  | .061  | -.138 | -.621  | 260 | 112  | -.268  | .087  | .079  | -.893 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 260 | 113 | -.277  | .098  | .050  | -.882  | 260 | 163 | -.221  | .077  | .091  | -.668  | 260 | 213 | -.101  | .057  | .231  | -.319 |
| 260 | 114 | -.390  | .147  | .029  | -.977  | 260 | 164 | -.233  | .086  | .057  | -.781  | 260 | 214 | -.140  | .046  | .088  | -.443 |
| 260 | 115 | -.418  | .122  | -.064 | -1.156 | 260 | 165 | -.287  | .116  | .140  | -1.071 | 260 | 215 | -.123  | .025  | -.027 | -.206 |
| 260 | 116 | -.346  | .122  | .029  | -.922  | 260 | 166 | -.299  | .117  | .027  | -.932  | 260 | 216 | -.122  | .025  | -.022 | -.211 |
| 260 | 117 | -.298  | .117  | .143  | -.857  | 260 | 167 | -.300  | .130  | .039  | -1.236 | 260 | 217 | -.138  | .028  | -.017 | -.245 |
| 260 | 118 | -.271  | .079  | -.014 | -.689  | 260 | 168 | -.316  | .162  | -.044 | -1.478 | 260 | 218 | -.185  | .040  | -.050 | -.335 |
| 260 | 119 | -.299  | .102  | .022  | -.709  | 260 | 169 | -.250  | .088  | .079  | -.799  | 260 | 219 | -.105  | .040  | .102  | -.261 |
| 260 | 120 | -.366  | .154  | .097  | -.922  | 260 | 170 | -.214  | .072  | -.006 | -.785  | 260 | 220 | -.149  | .058  | .031  | -.473 |
| 260 | 121 | -.555  | .191  | -.039 | -1.392 | 260 | 171 | -.212  | .072  | .039  | -.614  | 260 | 221 | -.193  | .070  | .012  | -.560 |
| 260 | 122 | -.229  | .077  | .011  | -.629  | 260 | 172 | -.230  | .070  | .094  | -.602  | 260 | 222 | -.187  | .064  | .019  | -.332 |
| 260 | 123 | -.234  | .082  | .020  | -.652  | 260 | 173 | -.240  | .075  | .108  | -.786  | 260 | 223 | -.094  | .060  | .192  | -.342 |
| 260 | 124 | -.292  | .097  | .022  | -.738  | 260 | 174 | -.285  | .098  | -.009 | -.787  | 260 | 224 | -.128  | .053  | .079  | -.431 |
| 260 | 125 | -.198  | .188  | .604  | -.936  | 260 | 175 | -.267  | .090  | -.004 | -.884  | 260 | 225 | -.116  | .051  | -.088 | -.330 |
| 260 | 126 | -.374  | .138  | -.044 | -.961  | 260 | 176 | -.266  | .092  | -.061 | -.880  | 260 | 301 | -.260  | .061  | -.065 | -.535 |
| 260 | 127 | -.386  | .159  | -.017 | -1.084 | 260 | 177 | -.204  | .068  | -.001 | -.668  | 260 | 302 | -.277  | .068  | -.094 | -.573 |
| 260 | 128 | -.457  | .195  | .097  | -1.588 | 260 | 178 | -.195  | .058  | -.018 | -.547  | 260 | 303 | -.336  | .087  | -.130 | -.774 |
| 260 | 129 | -.478  | .200  | .042  | -1.307 | 260 | 179 | -.224  | .060  | -.044 | -.592  | 260 | 304 | -.370  | .125  | -.061 | -.988 |
| 260 | 130 | -.327  | .113  | .003  | -.801  | 260 | 180 | -.247  | .069  | .120  | -.616  | 260 | 305 | -.264  | .059  | -.051 | -.543 |
| 260 | 131 | -.315  | .145  | .330  | -.818  | 260 | 181 | -.259  | .084  | -.025 | -.744  | 260 | 306 | -.257  | .074  | -.015 | -.670 |
| 260 | 132 | -.231  | .078  | .068  | -.820  | 260 | 182 | -.243  | .074  | -.058 | -.775  | 260 | 307 | -.241  | .051  | -.094 | -.584 |
| 260 | 133 | -.215  | .075  | -.011 | -.712  | 260 | 183 | -.232  | .067  | -.068 | -.737  | 260 | 308 | -.286  | .077  | -.092 | -.683 |
| 260 | 134 | -.248  | .106  | .132  | -.795  | 260 | 184 | -.180  | .061  | .018  | -.649  | 260 | 309 | -.278  | .061  | -.110 | -.573 |
| 260 | 135 | -.227  | .159  | .424  | -.829  | 260 | 185 | -.171  | .056  | -.058 | -.602  | 260 | 310 | -.274  | .070  | -.081 | -.606 |
| 260 | 136 | -.314  | .124  | .196  | -.850  | 260 | 186 | -.199  | .057  | .124  | -.538  | 260 | 311 | -.271  | .084  | -.010 | -.706 |
| 260 | 137 | -.362  | .144  | -.004 | -.919  | 260 | 187 | -.237  | .070  | -.054 | -.721  | 260 | 312 | -.247  | .057  | -.050 | -.528 |
| 260 | 138 | -.397  | .169  | .095  | -1.103 | 260 | 188 | -.254  | .073  | -.092 | -.709  | 260 | 313 | -.257  | .053  | -.108 | -.546 |
| 260 | 139 | -.406  | .143  | .040  | -1.061 | 260 | 189 | -.239  | .077  | -.056 | -.659  | 260 | 314 | -.259  | .068  | -.041 | -.582 |
| 260 | 140 | -.436  | .139  | -.001 | -1.057 | 260 | 190 | -.247  | .083  | -.051 | -.782  | 260 | 315 | -.257  | .074  | -.021 | -.655 |
| 260 | 141 | -.291  | .118  | .137  | -.762  | 260 | 191 | -.203  | .057  | -.007 | -.477  | 260 | 316 | -.274  | .065  | -.112 | -.611 |
| 260 | 142 | -.291  | .129  | .120  | -.976  | 260 | 192 | -.226  | .064  | -.025 | -.641  | 260 | 317 | -.224  | .045  | -.090 | -.454 |
| 260 | 143 | -.234  | .076  | -.008 | -.615  | 260 | 193 | -.222  | .060  | -.025 | -.595  | 260 | 318 | -.281  | .065  | -.099 | -.577 |
| 260 | 144 | -.221  | .079  | .031  | -.624  | 260 | 194 | -.165  | .057  | -.038 | -.650  | 260 | 319 | -.293  | .073  | -.103 | -.698 |
| 260 | 145 | -.240  | .101  | .196  | -.824  | 260 | 195 | -.166  | .056  | -.047 | -.616  | 260 | 320 | -.264  | .077  | -.088 | -.763 |
| 260 | 146 | -.344  | .139  | .116  | -.955  | 260 | 196 | -.186  | .050  | .070  | -.432  | 260 | 321 | -.287  | .080  | -.065 | -.722 |
| 260 | 147 | -.379  | .150  | .132  | -.227  | 260 | 197 | -.230  | .067  | .040  | -.575  | 260 | 322 | -.245  | .067  | -.027 | -.608 |
| 260 | 148 | -.392  | .160  | .132  | -.358  | 260 | 198 | -.125  | .030  | -.000 | -.296  | 260 | 323 | -.244  | .062  | -.023 | -.586 |
| 260 | 149 | -.258  | .091  | -.011 | -.754  | 260 | 199 | -.132  | .031  | -.027 | -.330  | 260 | 324 | -.254  | .053  | -.094 | -.528 |
| 260 | 150 | -.249  | .084  | -.051 | -.853  | 260 | 200 | -.154  | .041  | -.007 | -.364  | 260 | 325 | -.254  | .051  | -.067 | -.510 |
| 260 | 151 | -.245  | .085  | -.024 | -.736  | 260 | 201 | -.185  | .044  | -.034 | -.400  | 260 | 326 | -.242  | .053  | -.043 | -.528 |
| 260 | 152 | -.261  | .100  | .156  | -.812  | 260 | 202 | -.111  | .052  | .181  | -.284  | 260 | 327 | -.247  | .069  | -.086 | -.620 |
| 260 | 153 | -.289  | .116  | .061  | -.812  | 260 | 203 | -.176  | .059  | .004  | -.491  | 260 | 328 | -.231  | .072  | -.000 | -.638 |
| 260 | 154 | -.355  | .131  | -.012 | -.882  | 260 | 204 | -.208  | .056  | -.025 | -.548  | 260 | 329 | -.229  | .073  | -.000 | -.611 |
| 260 | 155 | -.435  | .176  | -.038 | -1.526 | 260 | 205 | -.207  | .054  | -.037 | -.493  | 260 | 330 | -.236  | .042  | -.129 | -.529 |
| 260 | 156 | -.283  | .145  | .248  | -.864  | 260 | 206 | -.160  | .061  | .090  | -.461  | 260 | 331 | -.268  | .052  | -.124 | -.509 |
| 260 | 157 | -.261  | .143  | .377  | -.1080 | 260 | 207 | -.205  | .063  | -.044 | -.561  | 260 | 332 | -.248  | .062  | -.043 | -.549 |
| 260 | 158 | -.228  | .074  | .025  | -.567  | 260 | 208 | -.181  | .050  | -.016 | -.466  | 260 | 333 | -.237  | .050  | -.090 | -.491 |
| 260 | 159 | -.370  | .171  | -.042 | -1.483 | 260 | 209 | -.121  | .027  | -.019 | -.243  | 260 | 334 | -.236  | .053  | -.086 | -.742 |
| 260 | 160 | -.220  | .078  | .039  | -.628  | 260 | 210 | -.200  | .050  | -.043 | -.434  | 260 | 335 | -.215  | .043  | -.054 | -.518 |
| 260 | 161 | -.309  | .150  | -.024 | -1.537 | 260 | 211 | -.000  | .079  | .318  | -.215  | 260 | 336 | -.210  | .041  | -.063 | -.400 |
| 260 | 162 | -.226  | .083  | .050  | -.657  | 260 | 212 | -.190  | .051  | -.008 | -.546  | 260 | 337 | -.231  | .052  | -.075 | -.516 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 260 | 338 | -.247  | .073  | -.093 | -.703  | 260 | 388 | -.185  | .054  | .018  | -.452 | 260 | 516 | -.300  | .087  | -.045 | -1.053 |
| 260 | 339 | -.265  | .087  | -.066 | -.773  | 260 | 389 | -.142  | .042  | .034  | -.364 | 260 | 517 | -.294  | .079  | -.037 | -.781  |
| 260 | 340 | -.262  | .087  | -.050 | -.758  | 260 | 390 | -.153  | .046  | .044  | -.424 | 260 | 518 | -.356  | .131  | -.098 | -1.094 |
| 260 | 341 | -.223  | .049  | -.059 | -.423  | 260 | 391 | -.206  | .047  | .077  | -.376 | 260 | 519 | -.327  | .086  | -.116 | -.765  |
| 260 | 342 | -.264  | .059  | -.106 | -.902  | 260 | 392 | -.231  | .045  | -.100 | -.445 | 260 | 520 | -.306  | .084  | -.072 | -.870  |
| 260 | 343 | -.279  | .071  | -.106 | -.665  | 260 | 393 | -.208  | .044  | -.066 | -.344 | 260 | 521 | -.309  | .097  | -.010 | -.923  |
| 260 | 344 | -.261  | .061  | -.086 | -.579  | 260 | 394 | -.169  | .043  | .019  | -.393 | 260 | 522 | -.317  | .090  | -.029 | -.872  |
| 260 | 345 | -.266  | .057  | -.109 | -.687  | 260 | 395 | -.150  | .042  | -.006 | -.393 | 260 | 523 | -.330  | .093  | -.050 | -.781  |
| 260 | 346 | -.267  | .075  | -.127 | -.735  | 260 | 396 | -.153  | .042  | .001  | -.373 | 260 | 524 | -.360  | .106  | -.006 | -.900  |
| 260 | 347 | -.265  | .089  | -.005 | -.918  | 260 | 397 | -.203  | .032  | -.110 | -.333 | 260 | 525 | -.343  | .107  | -.068 | -.980  |
| 260 | 348 | -.256  | .079  | -.059 | -.909  | 260 | 398 | -.201  | .032  | -.083 | -.337 | 260 | 526 | -.312  | .098  | -.104 | -.925  |
| 260 | 349 | -.268  | .064  | -.100 | -.589  | 260 | 399 | -.230  | .038  | -.101 | -.384 | 260 | 527 | -.298  | .087  | -.019 | -.937  |
| 260 | 350 | -.279  | .073  | -.095 | -.767  | 260 | 400 | -.223  | .043  | -.031 | -.447 | 260 | 528 | -.290  | .099  | -.006 | -.840  |
| 260 | 351 | -.261  | .061  | -.064 | -.592  | 260 | 401 | -.174  | .038  | -.024 | -.308 | 260 | 529 | -.298  | .110  | -.043 | -.854  |
| 260 | 352 | -.243  | .042  | -.117 | -.434  | 260 | 402 | -.151  | .036  | -.020 | -.299 | 260 | 530 | -.294  | .075  | -.084 | -.759  |
| 260 | 353 | -.244  | .046  | -.100 | -.483  | 260 | 403 | -.131  | .031  | -.020 | -.279 | 260 | 531 | -.312  | .081  | -.098 | -.877  |
| 260 | 354 | -.241  | .062  | -.095 | -.838  | 260 | 404 | -.128  | .027  | -.020 | -.238 | 260 | 532 | -.312  | .080  | -.114 | -.798  |
| 260 | 355 | -.242  | .078  | -.026 | -.826  | 260 | 405 | -.205  | .048  | -.085 | -.445 | 260 | 533 | -.303  | .069  | -.103 | -.639  |
| 260 | 356 | -.244  | .079  | -.038 | -.725  | 260 | 406 | -.187  | .039  | -.076 | -.418 | 260 | 534 | -.338  | .087  | -.066 | -.734  |
| 260 | 357 | -.252  | .085  | -.009 | -.787  | 260 | 407 | -.190  | .030  | -.089 | -.303 | 260 | 535 | -.313  | .083  | -.082 | -.674  |
| 260 | 358 | -.256  | .058  | -.108 | -.623  | 260 | 408 | -.223  | .040  | -.033 | -.413 | 260 | 536 | -.301  | .073  | -.107 | -.641  |
| 260 | 359 | -.215  | .065  | -.044 | -.598  | 260 | 409 | -.141  | .028  | -.020 | -.243 | 260 | 537 | -.333  | .102  | -.031 | -.872  |
| 260 | 360 | -.262  | .068  | -.046 | -.636  | 260 | 410 | -.124  | .026  | -.016 | -.238 | 260 | 538 | -.296  | .086  | -.045 | -.852  |
| 260 | 361 | -.215  | .066  | -.013 | -.603  | 260 | 411 | -.238  | .047  | -.098 | -.614 | 260 | 539 | -.290  | .103  | -.008 | -.1004 |
| 260 | 362 | -.243  | .063  | -.071 | -.532  | 260 | 412 | -.224  | .042  | -.106 | -.448 | 260 | 540 | -.305  | .113  | -.001 | -.863  |
| 260 | 363 | -.243  | .058  | -.073 | -.536  | 260 | 413 | -.127  | .026  | -.013 | -.220 | 260 | 541 | -.301  | .077  | -.089 | -.741  |
| 260 | 364 | -.267  | .061  | -.102 | -.549  | 260 | 414 | -.169  | .030  | -.051 | -.308 | 260 | 542 | -.321  | .085  | -.054 | -.720  |
| 260 | 365 | -.244  | .062  | -.044 | -.656  | 260 | 415 | -.169  | .033  | -.001 | -.291 | 260 | 543 | -.321  | .093  | -.066 | -.983  |
| 260 | 366 | -.214  | .074  | -.055 | -1.005 | 260 | 416 | -.226  | .049  | -.096 | -.609 | 260 | 544 | -.318  | .086  | -.100 | -.822  |
| 260 | 367 | -.208  | .065  | -.038 | -.530  | 260 | 417 | -.164  | .045  | -.008 | -.329 | 260 | 545 | -.319  | .079  | -.091 | -.757  |
| 260 | 368 | -.219  | .072  | -.027 | -.658  | 260 | 418 | -.131  | .028  | -.013 | -.229 | 260 | 546 | -.325  | .093  | -.068 | -.933  |
| 260 | 369 | -.188  | .043  | -.052 | -.382  | 260 | 419 | -.126  | .024  | -.009 | -.196 | 260 | 547 | -.325  | .105  | -.004 | -.822  |
| 260 | 370 | -.224  | .047  | -.071 | -.436  | 260 | 420 | -.124  | .027  | -.023 | -.208 | 260 | 548 | -.296  | .091  | -.047 | -.928  |
| 260 | 371 | -.222  | .046  | -.120 | -.429  | 260 | 421 | -.126  | .025  | -.013 | -.226 | 260 | 549 | -.323  | .108  | -.248 | -.784  |
| 260 | 372 | -.264  | .061  | -.092 | -.586  | 260 | 422 | -.123  | .025  | -.039 | -.235 | 260 | 550 | -.276  | .112  | -.259 | -.743  |
| 260 | 373 | -.204  | .044  | -.022 | -.366  | 260 | 501 | -.327  | .085  | -.136 | -.909 | 260 | 551 | -.396  | .114  | -.126 | -.945  |
| 260 | 374 | -.176  | .046  | -.029 | -.464  | 260 | 502 | -.248  | .065  | -.091 | -.657 | 260 | 552 | -.336  | .094  | -.077 | -.920  |
| 260 | 375 | -.183  | .059  | -.022 | -.932  | 260 | 503 | -.150  | .073  | -.184 | -.523 | 260 | 553 | -.324  | .088  | -.077 | -.777  |
| 260 | 376 | -.190  | .062  | -.041 | -.712  | 260 | 504 | -.406  | .108  | -.136 | -.927 | 260 | 554 | -.316  | .078  | -.052 | -.655  |
| 260 | 377 | -.211  | .036  | -.092 | -.429  | 260 | 505 | -.275  | .083  | -.094 | -.893 | 260 | 555 | -.288  | .082  | -.029 | -.780  |
| 260 | 378 | -.219  | .041  | -.080 | -.441  | 260 | 506 | -.301  | .098  | -.029 | -.822 | 260 | 556 | -.279  | .073  | -.115 | -.680  |
| 260 | 379 | -.241  | .047  | -.118 | -.490  | 260 | 507 | -.283  | .079  | -.013 | -.671 | 260 | 557 | -.278  | .076  | -.033 | -.623  |
| 260 | 380 | -.213  | .042  | -.022 | -.380  | 260 | 508 | -.294  | .084  | -.098 | -.959 | 260 | 558 | -.385  | .120  | -.072 | -.1075 |
| 260 | 381 | -.183  | .049  | -.004 | -.450  | 260 | 509 | -.298  | .085  | -.050 | -.808 | 260 | 559 | -.285  | .073  | -.077 | -.705  |
| 260 | 382 | -.163  | .044  | -.006 | -.415  | 260 | 510 | -.302  | .088  | -.027 | -.790 | 260 | 560 | -.398  | .146  | -.120 | -.1531 |
| 260 | 383 | -.163  | .045  | -.018 | -.429  | 260 | 511 | -.322  | .108  | -.009 | -.977 | 260 | 561 | -.285  | .082  | -.040 | -.721  |
| 260 | 384 | -.207  | .038  | -.101 | -.452  | 260 | 512 | -.294  | .081  | -.086 | -.952 | 260 | 562 | -.362  | .113  | -.099 | -.331  |
| 260 | 385 | -.209  | .035  | -.094 | -.366  | 260 | 513 | -.304  | .090  | -.072 | -.721 | 260 | 563 | -.374  | .111  | -.142 | -.993  |
| 260 | 386 | -.236  | .047  | -.130 | -.481  | 260 | 514 | -.300  | .088  | -.015 | -.769 | 260 | 564 | -.365  | .106  | -.117 | -.970  |
| 260 | 387 | -.211  | .044  | -.045 | -.408  | 260 | 515 | -.305  | .104  | -.008 | -.854 | 260 | 565 | -.373  | .129  | -.011 | -.1161 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 260 | 566 | -.317  | .092  | .010  | -.942  | 260 | 616 | -.139  | .050  | .092  | -.371 | 260 | 746 | .197   | .155  | .770  | -.135 |
| 260 | 567 | -.274  | .085  | -.023 | -.763  | 260 | 617 | -.143  | .033  | -.002 | -.246 | 260 | 747 | .076   | .128  | .621  | -.229 |
| 260 | 568 | -.272  | .088  | -.047 | -.870  | 260 | 618 | -.154  | .030  | -.008 | -.264 | 260 | 748 | -.115  | .095  | .324  | -.476 |
| 260 | 569 | -.307  | .082  | -.071 | -.882  | 260 | 619 | -.171  | .030  | -.068 | -.273 | 260 | 749 | -.211  | .195  | .509  | -.773 |
| 260 | 570 | -.379  | .105  | -.145 | -.023  | 260 | 620 | -.136  | .031  | -.006 | -.259 | 260 | 750 | -.280  | .149  | .326  | -.858 |
| 260 | 571 | -.380  | .108  | -.121 | -.172  | 260 | 701 | .040   | .085  | .373  | -.254 | 260 | 751 | -.057  | .157  | .594  | -.807 |
| 260 | 572 | -.375  | .125  | -.030 | -.1016 | 260 | 702 | .028   | .095  | .380  | -.293 | 260 | 752 | .066   | .169  | .814  | -.464 |
| 260 | 573 | -.316  | .101  | .022  | -.820  | 260 | 703 | .186   | .136  | .665  | -.342 | 260 | 753 | .068   | .172  | .796  | -.612 |
| 260 | 574 | -.257  | .088  | .041  | -.655  | 260 | 704 | .210   | .148  | .638  | -.358 | 260 | 754 | .069   | .168  | .690  | -.552 |
| 260 | 575 | -.215  | .066  | -.030 | -.535  | 260 | 705 | .043   | .106  | .427  | -.295 | 260 | 755 | -.028  | .169  | .549  | -.778 |
| 260 | 576 | -.219  | .060  | -.057 | -.566  | 260 | 706 | .000   | .084  | .301  | -.331 | 260 | 756 | -.317  | .122  | .290  | -.867 |
| 260 | 577 | -.376  | .116  | -.105 | -.2122 | 260 | 707 | .079   | .102  | .428  | -.288 | 260 | 757 | -.199  | .183  | .643  | -.762 |
| 260 | 578 | -.381  | .122  | -.081 | -.083  | 260 | 708 | .060   | .139  | .536  | -.436 | 260 | 758 | .019   | .114  | .684  | -.513 |
| 260 | 579 | -.370  | .146  | .034  | -.162  | 260 | 709 | .225   | .161  | .757  | -.374 | 260 | 759 | .044   | .128  | .485  | -.453 |
| 260 | 580 | -.242  | .098  | .058  | -.870  | 260 | 710 | .203   | .157  | .827  | -.449 | 260 | 760 | -.040  | .096  | .420  | -.433 |
| 260 | 581 | -.188  | .069  | .140  | -.607  | 260 | 711 | -.000  | .114  | .520  | -.497 | 260 | 761 | -.023  | .115  | .554  | -.502 |
| 260 | 582 | -.171  | .042  | -.023 | -.382  | 260 | 712 | .193   | .154  | .717  | -.277 | 260 | 762 | -.075  | .082  | .294  | -.319 |
| 260 | 583 | -.184  | .039  | .006  | -.437  | 260 | 713 | .307   | .178  | .863  | -.313 | 260 | 763 | -.001  | .091  | .451  | -.263 |
| 260 | 584 | -.359  | .111  | -.081 | -.966  | 260 | 714 | .253   | .166  | .861  | -.218 | 260 | 764 | .093   | .098  | .614  | -.238 |
| 260 | 585 | -.369  | .119  | -.076 | -.1043 | 260 | 715 | .121   | .121  | .559  | -.293 | 260 | 765 | .121   | .107  | .608  | -.361 |
| 260 | 586 | -.306  | .134  | .039  | -.1093 | 260 | 716 | .219   | .167  | .841  | -.469 | 260 | 766 | .141   | .121  | .905  | -.161 |
| 260 | 587 | -.186  | .081  | .094  | -.550  | 260 | 717 | .324   | .171  | 1.042 | -.241 | 260 | 767 | .031   | .110  | .578  | -.291 |
| 260 | 588 | -.151  | .061  | .092  | -.444  | 260 | 718 | .098   | .149  | .613  | -.453 | 260 | 768 | -.063  | .099  | .522  | -.549 |
| 260 | 589 | -.159  | .037  | .051  | -.365  | 260 | 719 | .159   | .226  | .924  | -.853 | 260 | 769 | .106   | .098  | .647  | -.194 |
| 260 | 590 | -.175  | .033  | -.042 | -.318  | 260 | 720 | .032   | .184  | .629  | -.661 | 260 | 770 | -.099  | .062  | .174  | -.371 |
| 260 | 591 | -.176  | .082  | .110  | -.545  | 260 | 721 | .071   | .125  | .588  | -.381 | 260 | 771 | -.030  | .066  | .248  | -.284 |
| 260 | 592 | -.148  | .067  | .089  | -.621  | 260 | 722 | .147   | .163  | .748  | -.471 | 260 | 772 | .056   | .082  | .522  | -.367 |
| 260 | 593 | -.346  | .118  | -.073 | -.1722 | 260 | 723 | .203   | .183  | .929  | -.327 | 260 | 773 | .103   | .076  | .479  | -.093 |
| 260 | 594 | -.338  | .115  | -.030 | -.117  | 260 | 724 | .228   | .189  | .809  | -.679 | 260 | 774 | .083   | .104  | .586  | -.341 |
| 260 | 595 | -.276  | .129  | .041  | -.102  | 260 | 725 | .261   | .155  | .796  | -.236 | 260 | 775 | -.004  | .093  | .515  | -.298 |
| 260 | 596 | -.164  | .078  | .044  | -.585  | 260 | 726 | .279   | .177  | .900  | -.212 | 260 | 776 | -.080  | .088  | .432  | -.362 |
| 260 | 597 | -.148  | .058  | .082  | -.455  | 260 | 727 | .274   | .185  | .907  | -.487 | 260 | 777 | -.101  | .057  | .184  | -.362 |
| 260 | 598 | -.149  | .033  | -.011 | -.279  | 260 | 728 | .142   | .145  | .669  | -.291 | 260 | 778 | -.042  | .061  | .215  | -.378 |
| 260 | 599 | -.179  | .035  | -.006 | -.328  | 260 | 729 | .106   | .121  | .537  | -.284 | 260 | 779 | .028   | .073  | .328  | -.244 |
| 260 | 600 | -.208  | .033  | -.101 | -.388  | 260 | 730 | .296   | .170  | .948  | -.103 | 260 | 780 | .080   | .070  | .541  | -.192 |
| 260 | 601 | -.141  | .035  | -.013 | -.311  | 260 | 731 | .331   | .172  | 1.012 | -.158 | 260 | 781 | .058   | .086  | .664  | -.263 |
| 260 | 602 | -.155  | .031  | .041  | -.268  | 260 | 732 | .082   | .158  | .614  | -.311 | 260 | 782 | -.015  | .087  | .510  | -.324 |
| 260 | 603 | -.343  | .122  | -.088 | -.1286 | 260 | 733 | .199   | .176  | .896  | -.231 | 260 | 783 | -.087  | .080  | .352  | -.494 |
| 260 | 604 | -.166  | .034  | -.013 | -.291  | 260 | 734 | .260   | .187  | .866  | -.311 | 260 | 784 | -.107  | .051  | .101  | -.310 |
| 260 | 605 | -.191  | .031  | -.088 | -.293  | 260 | 735 | .287   | .180  | .877  | -.117 | 260 | 785 | -.054  | .053  | .224  | -.244 |
| 260 | 606 | -.156  | .050  | .113  | -.338  | 260 | 736 | .322   | .174  | .886  | -.078 | 260 | 786 | .018   | .070  | .328  | -.222 |
| 260 | 607 | -.148  | .031  | -.025 | -.291  | 260 | 737 | .276   | .189  | .980  | -.165 | 260 | 787 | .068   | .063  | .378  | -.182 |
| 260 | 608 | -.137  | .063  | .112  | -.511  | 260 | 738 | .233   | .191  | .884  | -.519 | 260 | 788 | .047   | .071  | .477  | -.218 |
| 260 | 609 | -.196  | .036  | -.043 | -.406  | 260 | 739 | .125   | .146  | .637  | -.263 | 260 | 789 | -.027  | .068  | .337  | -.343 |
| 260 | 610 | -.166  | .042  | -.041 | -.335  | 260 | 740 | .042   | .121  | .516  | -.272 | 260 | 790 | -.097  | .067  | .212  | -.378 |
| 260 | 611 | -.139  | .030  | -.017 | -.253  | 260 | 741 | .313   | .168  | .964  | -.110 | 260 | 791 | .063   | .068  | .385  | -.308 |
| 260 | 612 | -.311  | .123  | .001  | -.973  | 260 | 742 | .258   | .162  | .875  | -.101 | 260 | 792 | .066   | .065  | .472  | -.222 |
| 260 | 613 | -.331  | .139  | -.028 | -.1342 | 260 | 743 | -.096  | .117  | .356  | -.462 | 260 | 793 | .069   | .068  | .423  | -.244 |
| 260 | 614 | -.200  | .114  | .065  | -.995  | 260 | 744 | .086   | .142  | .774  | -.256 | 260 | 794 | .075   | .061  | .450  | -.091 |
| 260 | 615 | -.133  | .058  | .074  | -.408  | 260 | 745 | .236   | .173  | .912  | -.181 | 260 | 795 | -.033  | .067  | .220  | -.291 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 260 | 796 | -.003  | .080  | .288  | -.314  | 260 | 924  | -.279  | .065  | -.070 | -.513  | 260 | 1003 | -.320  | .088  | -.068 | -.791  |
| 260 | 797 | -.198  | .055  | -.007 | -.551  | 260 | 925  | -.291  | .084  | -.061 | -.698  | 260 | 1004 | -.383  | .106  | -.057 | -.804  |
| 260 | 798 | -.094  | .048  | .114  | -.260  | 260 | 926  | -.285  | .068  | -.035 | -.685  | 260 | 1005 | -.208  | .075  | -.027 | -.648  |
| 260 | 799 | -.046  | .055  | .238  | -.251  | 260 | 927  | -.292  | .090  | -.058 | -.726  | 260 | 1006 | -.199  | .117  | -.232 | -.801  |
| 260 | 800 | .009   | .076  | .360  | -.339  | 260 | 928  | -.294  | .076  | -.095 | -.694  | 260 | 1007 | -.193  | .072  | -.058 | -.627  |
| 260 | 801 | .074   | .070  | .469  | -.107  | 260 | 929  | -.301  | .108  | -.072 | -1.208 | 260 | 1008 | -.220  | .054  | -.054 | -.464  |
| 260 | 802 | -.058  | .069  | .376  | -.183  | 260 | 930  | -.316  | .096  | -.072 | -.782  | 260 | 1009 | -.283  | .080  | -.016 | -.655  |
| 260 | 803 | -.016  | .071  | .381  | -.269  | 260 | 931  | -.206  | .080  | -.147 | -.592  | 260 | 1010 | -.241  | .077  | -.046 | -.539  |
| 260 | 804 | -.083  | .068  | .272  | -.395  | 260 | 932  | -.279  | .065  | -.095 | -.581  | 260 | 1011 | -.109  | .057  | .151  | -.350  |
| 260 | 805 | -.015  | .082  | .351  | -.212  | 260 | 933  | -.287  | .076  | -.068 | -.737  | 260 | 1012 | -.208  | .058  | .004  | -.497  |
| 260 | 806 | -.078  | .053  | .133  | -.280  | 260 | 934  | -.281  | .076  | -.056 | -.731  | 260 | 1013 | -.287  | .060  | -.124 | -.514  |
| 260 | 807 | -.031  | .060  | .259  | -.246  | 260 | 935  | -.235  | .071  | -.016 | -.558  | 260 | 1014 | -.283  | .069  | -.051 | -.691  |
| 260 | 808 | -.141  | .045  | .038  | -.415  | 260 | 936  | -.290  | .045  | -.168 | -.445  | 260 | 1015 | -.291  | .062  | -.117 | -.592  |
| 260 | 809 | -.070  | .041  | .166  | -.221  | 260 | 937  | -.268  | .054  | -.120 | -.472  | 260 | 1016 | -.285  | .072  | -.040 | -.733  |
| 260 | 810 | -.072  | .064  | .457  | -.088  | 260 | 938  | -.267  | .054  | -.151 | -.547  | 260 | 1017 | -.205  | .045  | -.005 | -.420  |
| 260 | 811 | -.086  | .064  | .317  | -.106  | 260 | 939  | -.263  | .073  | -.084 | -.767  | 260 | 1018 | -.199  | .040  | .002  | -.387  |
| 260 | 812 | -.065  | .076  | .284  | -.291  | 260 | 940  | -.251  | .046  | -.150 | -.450  | 260 | 1019 | -.212  | .051  | -.007 | -.380  |
| 260 | 813 | -.020  | .056  | .250  | -.212  | 260 | 941  | -.076  | .036  | -.247 | -.024  | 260 | 1020 | -.182  | .045  | -.005 | -.415  |
| 260 | 814 | -.013  | .070  | .317  | -.224  | 260 | 942  | -.240  | .070  | -.048 | -.638  | 260 | 1021 | -.132  | .058  | .098  | -.410  |
| 260 | 815 | -.113  | .051  | .227  | -.375  | 260 | 943  | -.266  | .099  | .104  | -.715  | 260 | 1022 | -.126  | .033  | .023  | -.273  |
| 260 | 816 | -.049  | .043  | .119  | -.179  | 260 | 944  | -.201  | .059  | .011  | -.446  | 260 | 1023 | -.158  | .046  | .004  | -.420  |
| 260 | 817 | -.014  | .046  | .234  | -.156  | 260 | 945  | -.202  | .070  | .011  | -.517  | 260 | 1024 | -.234  | .079  | .014  | -.615  |
| 260 | 818 | -.019  | .062  | .302  | -.192  | 260 | 946  | -.228  | .061  | -.074 | -.569  | 260 | 1025 | -.176  | .030  | -.070 | -.294  |
| 260 | 819 | .097   | .065  | .399  | -.057  | 260 | 947  | -.223  | .057  | -.044 | -.510  | 260 | 1026 | -.167  | .042  | .051  | -.336  |
| 260 | 820 | -.067  | .068  | .340  | -.122  | 260 | 948  | -.213  | .056  | -.039 | -.490  | 260 | 1027 | -.154  | .034  | .002  | -.278  |
| 260 | 821 | -.000  | .055  | .227  | -.151  | 260 | 949  | -.232  | .069  | -.004 | -.677  | 260 | 1028 | -.127  | .024  | .004  | -.212  |
| 260 | 822 | -.071  | .049  | .161  | -.220  | 260 | 950  | -.117  | .058  | .137  | -.369  | 270 | 101  | -.415  | .105  | -.075 | -.917  |
| 260 | 901 | -.213  | .064  | -.013 | -.433  | 260 | 951  | -.218  | .063  | -.026 | -.600  | 270 | 102  | -.353  | .099  | -.100 | -.116  |
| 260 | 902 | -.157  | .134  | .845  | -.193  | 260 | 952  | -.215  | .065  | -.028 | -.523  | 270 | 103  | -.467  | .090  | -.137 | -.1050 |
| 260 | 903 | .294   | .160  | .930  | -.046  | 260 | 953  | -.226  | .073  | -.013 | -.679  | 270 | 104  | -.004  | .063  | -.218 | -.302  |
| 260 | 904 | .145   | .144  | .682  | -.162  | 260 | 954  | -.174  | .047  | -.038 | -.407  | 270 | 105  | -.251  | .062  | -.078 | -.534  |
| 260 | 905 | -.154  | .087  | .113  | -.390  | 260 | 955  | -.171  | .051  | -.019 | -.532  | 270 | 106  | -.442  | .111  | -.036 | -.1088 |
| 260 | 906 | -.130  | .081  | .225  | -.435  | 260 | 956  | -.204  | .041  | -.006 | -.391  | 270 | 107  | -.279  | .100  | -.012 | -.702  |
| 260 | 907 | -.164  | .148  | .413  | -.773  | 260 | 957  | -.206  | .050  | -.046 | -.409  | 270 | 108  | -.275  | .052  | -.090 | -.553  |
| 260 | 908 | -.142  | .142  | .415  | -.743  | 260 | 958  | -.158  | .043  | -.011 | -.343  | 270 | 109  | -.218  | .112  | .060  | -.700  |
| 260 | 909 | -.189  | .072  | .091  | -.449  | 260 | 959  | -.152  | .034  | -.030 | -.290  | 270 | 110  | -.242  | .149  | .064  | -.924  |
| 260 | 910 | -.318  | .078  | -.113 | -.904  | 260 | 960  | -.218  | .038  | -.112 | -.440  | 270 | 111  | -.490  | .151  | -.142 | -.1207 |
| 260 | 911 | -.370  | .140  | .014  | -.1204 | 260 | 961  | -.244  | .053  | -.105 | -.660  | 270 | 112  | -.271  | .052  | -.121 | -.503  |
| 260 | 912 | -.128  | .297  | .945  | -.995  | 260 | 962  | -.235  | .051  | -.051 | -.488  | 270 | 113  | -.228  | .082  | -.009 | -.581  |
| 260 | 913 | .167   | .286  | .891  | -.1093 | 260 | 963  | -.246  | .059  | -.112 | -.666  | 270 | 114  | -.270  | .191  | .195  | -.904  |
| 260 | 914 | -.010  | .103  | .346  | -.449  | 260 | 964  | -.240  | .048  | -.137 | -.607  | 270 | 115  | -.446  | .129  | .055  | -.146  |
| 260 | 915 | -.016  | .102  | .352  | -.397  | 260 | 965  | -.229  | .044  | -.114 | -.444  | 270 | 116  | -.295  | .133  | .037  | -.1016 |
| 260 | 916 | -.144  | .120  | .272  | -.616  | 260 | 966  | -.241  | .051  | -.096 | -.602  | 270 | 117  | -.205  | .134  | -.192 | -.753  |
| 260 | 917 | -.146  | .166  | .358  | -.1303 | 260 | 967  | -.140  | .039  | -.032 | -.389  | 270 | 118  | -.273  | .060  | -.016 | -.560  |
| 260 | 918 | -.386  | .099  | -.102 | -.816  | 260 | 968  | -.219  | .040  | -.003 | -.394  | 270 | 119  | -.237  | .097  | .076  | -.647  |
| 260 | 919 | -.330  | .084  | -.067 | -.712  | 260 | 969  | -.267  | .071  | -.119 | -.683  | 270 | 120  | -.159  | .159  | .259  | -.979  |
| 260 | 920 | -.329  | .082  | -.116 | -.815  | 260 | 970  | -.210  | .084  | -.005 | -.772  | 270 | 121  | -.507  | .227  | .115  | -.1384 |
| 260 | 921 | -.351  | .094  | -.063 | -.697  | 260 | 971  | -.138  | .038  | -.019 | -.382  | 270 | 122  | -.214  | .039  | -.089 | -.382  |
| 260 | 922 | -.280  | .131  | -.129 | -.875  | 260 | 1001 | -.114  | .099  | -.559 | -.180  | 270 | 123  | -.195  | .044  | -.043 | -.503  |
| 260 | 923 | -.276  | .058  | -.087 | -.581  | 260 | 1002 | -.076  | .061  | -.410 | -.098  | 270 | 124  | -.361  | .103  | -.100 | -.819  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX  | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|--------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 270 | 125 | .109   | .166  | .664   | -.549  | 270 | 175 | .376   | .128  | -.062 | -1.106 | 270 | 225 | -.094  | .056  | .112  | -.401 |
| 270 | 126 | -.299  | .157  | .057   | -.997  | 270 | 176 | .364   | .118  | .027  | -1.010 | 270 | 301 | -.296  | .053  | -.134 | -.513 |
| 270 | 127 | -.237  | .143  | .195   | -.954  | 270 | 177 | .266   | .071  | -.055 | -.673  | 270 | 302 | -.337  | .060  | -.124 | -.588 |
| 270 | 128 | -.282  | .227  | .293   | -1.585 | 270 | 178 | .215   | .051  | -.059 | -.431  | 270 | 303 | -.374  | .064  | -.207 | -.669 |
| 270 | 129 | -.539  | .276  | .235   | -1.650 | 270 | 179 | .207   | .064  | .027  | -.512  | 270 | 304 | -.282  | .093  | -.037 | -.719 |
| 270 | 130 | -.249  | .100  | .079   | -.768  | 270 | 180 | .202   | .062  | .008  | -.469  | 270 | 305 | -.306  | .046  | -.152 | -.552 |
| 270 | 131 | -.179  | .142  | .623   | -.979  | 270 | 181 | .251   | .073  | -.007 | -.644  | 270 | 306 | -.287  | .051  | -.084 | -.561 |
| 270 | 132 | -.238  | .041  | -.104  | -.436  | 270 | 182 | .276   | .082  | .111  | -.974  | 270 | 307 | -.290  | .045  | -.158 | -.487 |
| 270 | 133 | -.204  | .042  | -.032  | -.427  | 270 | 183 | .277   | .086  | -.028 | -.955  | 270 | 308 | -.339  | .057  | -.161 | -.568 |
| 270 | 134 | -.283  | .136  | .124   | -.847  | 270 | 184 | .213   | .053  | -.043 | -.536  | 270 | 309 | -.324  | .058  | -.165 | -.591 |
| 270 | 135 | .062   | .160  | .699   | -.708  | 270 | 185 | .181   | .042  | -.014 | -.349  | 270 | 310 | -.335  | .064  | -.148 | -.626 |
| 270 | 136 | -.229  | .154  | .483   | -.1021 | 270 | 186 | .171   | .049  | .067  | -.404  | 270 | 311 | -.319  | .061  | -.118 | -.563 |
| 270 | 137 | -.244  | .178  | .242   | -.1023 | 270 | 187 | .183   | .051  | -.004 | -.392  | 270 | 312 | -.313  | .048  | -.165 | -.517 |
| 270 | 138 | -.277  | .203  | .205   | -.1095 | 270 | 188 | .209   | .064  | -.012 | -.783  | 270 | 313 | -.313  | .047  | -.164 | -.506 |
| 270 | 139 | -.484  | .189  | .329   | -.1320 | 270 | 189 | .245   | .094  | .067  | -.708  | 270 | 314 | -.335  | .064  | -.108 | -.565 |
| 270 | 140 | -.489  | .165  | .221   | -.1274 | 270 | 190 | .246   | .088  | .132  | -.886  | 270 | 315 | -.330  | .063  | -.134 | -.643 |
| 270 | 141 | -.193  | .121  | .254   | -.661  | 270 | 191 | .167   | .049  | .057  | -.377  | 270 | 316 | -.323  | .058  | -.139 | -.752 |
| 270 | 142 | -.197  | .148  | .247   | -.835  | 270 | 192 | .182   | .053  | .023  | -.448  | 270 | 317 | -.286  | .042  | -.158 | -.494 |
| 270 | 143 | -.296  | .053  | -.097  | -.554  | 270 | 193 | .193   | .052  | -.018 | -.421  | 270 | 318 | -.350  | .054  | -.200 | -.572 |
| 270 | 144 | -.222  | .060  | .035   | -.501  | 270 | 194 | .180   | .048  | -.011 | -.375  | 270 | 319 | -.364  | .069  | -.193 | -.778 |
| 270 | 145 | -.173  | .081  | .198   | -.575  | 270 | 195 | .161   | .041  | .037  | -.311  | 270 | 320 | -.375  | .074  | -.136 | -.674 |
| 270 | 146 | -.232  | .169  | .295   | -.1028 | 270 | 196 | .163   | .050  | .064  | -.348  | 270 | 321 | -.411  | .086  | -.179 | -.768 |
| 270 | 147 | -.361  | .184  | .309   | -.1327 | 270 | 197 | .205   | .064  | .071  | -.597  | 270 | 322 | -.337  | .056  | -.113 | -.562 |
| 270 | 148 | -.386  | .177  | .265   | -.1383 | 270 | 198 | .141   | .041  | .000  | -.348  | 270 | 323 | -.320  | .048  | -.172 | -.506 |
| 270 | 149 | -.249  | .065  | -.1722 | -.630  | 270 | 199 | .139   | .043  | .028  | -.329  | 270 | 324 | -.325  | .053  | -.179 | -.529 |
| 270 | 150 | -.379  | .084  | -.088  | -.855  | 270 | 200 | .132   | .041  | .064  | -.265  | 270 | 325 | -.314  | .044  | -.155 | -.470 |
| 270 | 151 | -.314  | .081  | -.099  | -.939  | 270 | 201 | .150   | .039  | .037  | -.295  | 270 | 326 | -.302  | .048  | -.162 | -.489 |
| 270 | 152 | -.295  | .112  | .006   | -.1355 | 270 | 202 | .134   | .044  | .048  | -.373  | 270 | 327 | -.263  | .044  | -.122 | -.501 |
| 270 | 153 | -.308  | .150  | .060   | -.1250 | 270 | 203 | .166   | .051  | .005  | -.535  | 270 | 328 | -.248  | .048  | -.088 | -.499 |
| 270 | 154 | -.338  | .153  | .092   | -.1207 | 270 | 204 | .199   | .060  | .037  | -.535  | 270 | 329 | -.248  | .053  | -.079 | -.549 |
| 270 | 155 | -.492  | .278  | .158   | -.1899 | 270 | 205 | .202   | .058  | -.009 | -.471  | 270 | 330 | -.281  | .038  | -.151 | -.437 |
| 270 | 156 | -.144  | .198  | .634   | -.791  | 270 | 206 | .104   | .059  | .202  | -.284  | 270 | 331 | -.303  | .043  | -.172 | -.470 |
| 270 | 157 | -.103  | .213  | .594   | -.835  | 270 | 207 | .126   | .071  | .215  | -.599  | 270 | 332 | -.337  | .055  | -.179 | -.578 |
| 270 | 158 | -.272  | .056  | -.067  | -.510  | 270 | 208 | .159   | .069  | .311  | -.572  | 270 | 333 | -.318  | .049  | -.129 | -.525 |
| 270 | 159 | -.615  | .181  | -.106  | -.1507 | 270 | 209 | .131   | .030  | -.030 | -.263  | 270 | 334 | -.310  | .053  | -.160 | -.613 |
| 270 | 160 | -.274  | .059  | -.067  | -.512  | 270 | 210 | .146   | .040  | .042  | -.366  | 270 | 335 | -.292  | .045  | -.122 | -.520 |
| 270 | 161 | -.611  | .279  | .285   | -.1850 | 270 | 211 | .096   | .055  | .158  | -.248  | 270 | 336 | -.272  | .041  | -.155 | -.446 |
| 270 | 162 | -.276  | .057  | -.051  | -.505  | 270 | 212 | .187   | .066  | .096  | -.575  | 270 | 337 | -.285  | .044  | -.162 | -.542 |
| 270 | 163 | -.257  | .060  | .006   | -.544  | 270 | 213 | .077   | .058  | .221  | -.338  | 270 | 338 | -.281  | .046  | -.139 | -.601 |
| 270 | 164 | -.211  | .073  | .058   | -.712  | 270 | 214 | .120   | .054  | .056  | -.373  | 270 | 339 | -.268  | .045  | -.120 | -.482 |
| 270 | 165 | -.226  | .090  | .110   | -.1023 | 270 | 215 | .130   | .029  | -.004 | -.241  | 270 | 340 | -.267  | .047  | -.131 | -.511 |
| 270 | 166 | -.281  | .105  | -.002  | -.890  | 270 | 216 | .128   | .028  | -.004 | -.220  | 270 | 341 | -.310  | .041  | -.174 | -.465 |
| 270 | 167 | -.455  | .189  | .130   | -.1374 | 270 | 217 | .127   | .031  | .017  | -.220  | 270 | 342 | -.341  | .048  | -.193 | -.528 |
| 270 | 168 | -.730  | .370  | .185   | -.2447 | 270 | 218 | .137   | .033  | .007  | -.250  | 270 | 343 | -.382  | .065  | -.213 | -.656 |
| 270 | 169 | -.227  | .084  | .079   | -.539  | 270 | 219 | .121   | .042  | .042  | -.241  | 270 | 344 | -.376  | .058  | -.196 | -.580 |
| 270 | 170 | -.296  | .063  | -.021  | -.598  | 270 | 220 | .148   | .048  | -.002 | -.394  | 270 | 345 | -.353  | .051  | -.205 | -.592 |
| 270 | 171 | -.267  | .058  | -.064  | -.541  | 270 | 221 | .168   | .060  | .017  | -.605  | 270 | 346 | -.334  | .053  | -.182 | -.585 |
| 270 | 172 | -.284  | .107  | .029   | -.843  | 270 | 222 | .171   | .065  | .063  | -.728  | 270 | 347 | -.320  | .059  | -.136 | -.656 |
| 270 | 173 | -.193  | .076  | .082   | -.505  | 270 | 223 | .062   | .060  | .193  | -.234  | 270 | 348 | -.328  | .064  | -.167 | -.869 |
| 270 | 174 | -.277  | .088  | .077   | -.487  | 270 | 224 | .108   | .060  | .175  | -.568  | 270 | 349 | -.369  | .060  | -.190 | -.609 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 270 | 350 | -.387  | .074  | -.183 | -.668  | 270 | 400 | -.278  | .065  | .001  | -.719 | 270 | 528 | -.370  | .080  | -.139 | -.720  |
| 270 | 351 | -.389  | .057  | -.218 | -.652  | 270 | 401 | -.199  | .040  | -.044 | -.358 | 270 | 529 | -.390  | .089  | -.134 | -.931  |
| 270 | 352 | -.348  | .047  | -.197 | -.528  | 270 | 402 | -.174  | .038  | -.028 | -.346 | 270 | 530 | -.342  | .054  | -.143 | -.567  |
| 270 | 353 | -.326  | .042  | -.190 | -.476  | 270 | 403 | -.140  | .032  | -.033 | -.262 | 270 | 531 | -.370  | .060  | -.191 | -.598  |
| 270 | 354 | -.323  | .049  | -.200 | -.624  | 270 | 404 | -.143  | .029  | -.035 | -.265 | 270 | 533 | -.364  | .060  | -.170 | -.694  |
| 270 | 355 | -.317  | .069  | -.122 | -1.118 | 270 | 405 | -.144  | .033  | -.024 | -.285 | 270 | 534 | -.400  | .074  | -.194 | -1.003 |
| 270 | 356 | -.341  | .070  | -.134 | -.670  | 270 | 406 | -.142  | .034  | -.003 | -.331 | 270 | 535 | -.392  | .063  | -.143 | -.656  |
| 270 | 357 | -.358  | .077  | -.132 | -.743  | 270 | 407 | -.209  | .031  | -.113 | -.333 | 270 | 536 | -.386  | .061  | -.194 | -.665  |
| 270 | 358 | -.387  | .060  | -.216 | -.635  | 270 | 408 | -.208  | .058  | -.011 | -.405 | 270 | 537 | -.391  | .070  | -.198 | -.768  |
| 270 | 359 | -.293  | .058  | -.073 | -.577  | 270 | 409 | -.183  | .030  | -.013 | -.319 | 270 | 538 | -.394  | .068  | -.167 | -.696  |
| 270 | 360 | -.399  | .064  | -.214 | -.654  | 270 | 410 | -.138  | .027  | -.040 | -.247 | 270 | 539 | -.414  | .085  | -.186 | -.830  |
| 270 | 361 | -.283  | .070  | -.071 | -.680  | 270 | 411 | -.268  | .045  | -.092 | -.492 | 270 | 540 | -.409  | .090  | -.179 | -.866  |
| 270 | 362 | -.396  | .066  | -.176 | -.661  | 270 | 412 | -.205  | .063  | -.010 | -.455 | 270 | 541 | -.383  | .060  | -.155 | -.622  |
| 270 | 363 | -.375  | .059  | -.179 | -.614  | 270 | 413 | -.133  | .026  | -.040 | -.229 | 270 | 542 | -.389  | .066  | -.160 | -.711  |
| 270 | 364 | -.377  | .076  | -.167 | -.715  | 270 | 414 | -.196  | .031  | -.081 | -.313 | 270 | 543 | -.380  | .067  | -.153 | -.682  |
| 270 | 365 | -.398  | .088  | -.186 | -.771  | 270 | 415 | -.195  | .031  | -.081 | -.299 | 270 | 544 | -.379  | .064  | -.167 | -.660  |
| 270 | 366 | -.331  | .070  | -.134 | -.940  | 270 | 416 | -.249  | .044  | -.086 | -.476 | 270 | 545 | -.388  | .065  | -.189 | -.675  |
| 270 | 367 | -.288  | .065  | -.087 | -.698  | 270 | 417 | -.208  | .040  | -.026 | -.400 | 270 | 546 | -.410  | .069  | -.167 | -.723  |
| 270 | 368 | -.281  | .065  | -.100 | -.626  | 270 | 418 | -.174  | .029  | -.050 | -.268 | 270 | 547 | -.410  | .078  | -.177 | -.701  |
| 270 | 369 | -.256  | .047  | -.086 | -.544  | 270 | 419 | -.151  | .029  | -.024 | -.270 | 270 | 548 | -.407  | .075  | -.210 | -.845  |
| 270 | 370 | -.313  | .062  | -.152 | -.631  | 270 | 420 | -.137  | .026  | -.026 | -.237 | 270 | 549 | -.479  | .118  | -.093 | -1.092 |
| 270 | 371 | -.327  | .063  | -.134 | -.621  | 270 | 421 | -.145  | .038  | -.030 | -.339 | 270 | 550 | -.433  | .102  | -.079 | -.869  |
| 270 | 372 | -.324  | .075  | -.060 | -.688  | 270 | 422 | -.145  | .043  | -.000 | -.327 | 270 | 551 | -.428  | .086  | -.198 | -.902  |
| 270 | 373 | -.300  | .060  | -.115 | -.646  | 270 | 501 | -.362  | .056  | -.161 | -.623 | 270 | 552 | -.419  | .076  | -.184 | -.759  |
| 270 | 374 | -.370  | .096  | -.120 | -1.214 | 270 | 502 | -.274  | .048  | -.111 | -.496 | 270 | 553 | -.422  | .079  | -.198 | -.921  |
| 270 | 375 | -.321  | .084  | -.120 | -1.303 | 270 | 503 | -.184  | .048  | -.061 | -.418 | 270 | 554 | -.411  | .068  | -.224 | -.694  |
| 270 | 376 | -.330  | .095  | -.073 | -1.110 | 270 | 504 | -.459  | .089  | -.198 | -.798 | 270 | 555 | -.414  | .072  | -.221 | -.743  |
| 270 | 377 | -.248  | .057  | -.050 | -.611  | 270 | 505 | -.284  | .048  | -.110 | -.565 | 270 | 556 | -.414  | .072  | -.221 | -.743  |
| 270 | 378 | -.257  | .056  | -.060 | -.591  | 270 | 506 | -.351  | .073  | -.171 | -.943 | 270 | 557 | -.402  | .075  | -.193 | -.766  |
| 270 | 379 | -.288  | .073  | -.045 | -.683  | 270 | 507 | -.312  | .053  | -.154 | -.812 | 270 | 558 | -.480  | .131  | -.175 | -1.129 |
| 270 | 380 | -.259  | .070  | -.006 | -.616  | 270 | 508 | -.311  | .051  | -.155 | -.570 | 270 | 559 | -.424  | .073  | -.205 | -.818  |
| 270 | 381 | -.383  | .112  | -.092 | -1.187 | 270 | 509 | -.325  | .052  | -.144 | -.647 | 270 | 560 | -.517  | .202  | -.144 | -1.735 |
| 270 | 382 | -.375  | .116  | -.095 | -1.174 | 270 | 510 | -.330  | .056  | -.158 | -.638 | 270 | 561 | -.422  | .078  | -.203 | -.750  |
| 270 | 383 | -.375  | .122  | -.095 | -1.327 | 270 | 511 | -.364  | .080  | -.094 | -.755 | 270 | 562 | -.462  | .129  | -.205 | -1.237 |
| 270 | 384 | -.214  | .043  | -.031 | -.426  | 270 | 512 | -.315  | .049  | -.161 | -.723 | 270 | 563 | -.476  | .141  | -.168 | -1.272 |
| 270 | 385 | -.218  | .041  | -.045 | -.372  | 270 | 513 | -.333  | .050  | -.170 | -.614 | 270 | 564 | -.427  | .092  | -.140 | -.968  |
| 270 | 386 | -.239  | .069  | -.088 | -.542  | 270 | 514 | -.354  | .064  | -.128 | -.725 | 270 | 565 | -.456  | .110  | -.165 | -1.071 |
| 270 | 387 | -.208  | .059  | -.006 | -.759  | 270 | 515 | -.378  | .079  | -.142 | -.987 | 270 | 566 | -.431  | .084  | -.214 | -.837  |
| 270 | 388 | -.257  | .111  | -.009 | -1.041 | 270 | 516 | -.332  | .050  | -.144 | -.555 | 270 | 567 | -.406  | .077  | -.118 | -.746  |
| 270 | 389 | -.348  | .133  | -.068 | -1.483 | 270 | 517 | -.338  | .055  | -.163 | -.815 | 270 | 568 | -.419  | .089  | -.202 | -.904  |
| 270 | 390 | -.339  | .119  | -.122 | -1.362 | 270 | 518 | -.328  | .075  | -.123 | -.895 | 270 | 569 | -.402  | .078  | -.170 | -.793  |
| 270 | 391 | -.222  | .040  | -.105 | -.482  | 270 | 519 | -.368  | .069  | -.165 | -.690 | 270 | 570 | -.453  | .097  | -.162 | -.966  |
| 270 | 392 | -.240  | .041  | -.099 | -.457  | 270 | 520 | -.358  | .058  | -.163 | -.619 | 270 | 571 | -.469  | .103  | -.239 | -1.005 |
| 270 | 393 | -.220  | .034  | -.071 | -.362  | 270 | 521 | -.361  | .066  | -.175 | -.749 | 270 | 572 | -.493  | .129  | -.115 | -1.364 |
| 270 | 394 | -.229  | .072  | -.029 | -.739  | 270 | 522 | -.398  | .082  | -.135 | -.822 | 270 | 573 | -.466  | .103  | -.157 | -.978  |
| 270 | 395 | -.309  | .120  | -.017 | -1.171 | 270 | 523 | -.430  | .101  | -.125 | -.838 | 270 | 574 | -.425  | .096  | -.100 | -.813  |
| 270 | 396 | -.339  | .136  | -.031 | -1.541 | 270 | 524 | -.491  | .128  | -.128 | -.419 | 270 | 575 | -.346  | .079  | -.081 | -.733  |
| 270 | 397 | -.221  | .038  | -.069 | -.462  | 270 | 525 | -.490  | .124  | -.168 | -.051 | 270 | 576 | -.323  | .072  | -.054 | -.679  |
| 270 | 398 | -.214  | .031  | -.115 | -.358  | 270 | 526 | -.365  | .066  | -.142 | -.798 | 270 | 577 | -.489  | .120  | -.185 | -.1262 |
| 270 | 399 | -.271  | .049  | -.103 | -.628  | 270 | 527 | -.373  | .072  | -.139 | -.751 | 270 | 577 |        |       |       |        |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 270 | 578 | -.510  | .134  | -.204 | -1.557 | 270 | 708 | .163   | .138  | .645  | -.378  | 270 | 758 | .161   | .184  | .855  | -.453 |
| 270 | 579 | -.529  | .159  | -.115 | -1.418 | 270 | 709 | .250   | .146  | .822  | -.302  | 270 | 759 | -.068  | .116  | .425  | -.622 |
| 270 | 580 | -.395  | .104  | .060  | -.761  | 270 | 710 | .212   | .137  | .684  | -.261  | 270 | 760 | -.053  | .178  | .846  | -.566 |
| 270 | 581 | -.270  | .080  | .033  | -.684  | 270 | 711 | -.046  | .091  | .351  | -.506  | 270 | 761 | -.111  | .098  | .332  | -.552 |
| 270 | 582 | -.219  | .051  | .001  | -.471  | 270 | 712 | .392   | .165  | .879  | -.182  | 270 | 762 | -.030  | .146  | .584  | -.494 |
| 270 | 583 | -.226  | .049  | -.061 | -.518  | 270 | 713 | .427   | .158  | .940  | -.191  | 270 | 763 | .068   | .142  | .593  | -.325 |
| 270 | 584 | -.486  | .130  | -.145 | -1.445 | 270 | 714 | .291   | .146  | .772  | -.145  | 270 | 764 | .127   | .118  | .643  | -.196 |
| 270 | 585 | -.504  | .143  | -.125 | -1.465 | 270 | 715 | .071   | .097  | .447  | -.313  | 270 | 765 | .102   | .097  | .485  | -.388 |
| 270 | 586 | -.462  | .167  | .045  | -.1260 | 270 | 716 | .288   | .153  | .820  | -.198  | 270 | 766 | .080   | .094  | .545  | -.227 |
| 270 | 587 | -.243  | .102  | .107  | -.625  | 270 | 717 | .458   | .169  | 1.049 | -.107  | 270 | 767 | -.067  | .089  | .438  | -.324 |
| 270 | 588 | -.186  | .066  | .082  | -.471  | 270 | 718 | .228   | .156  | .720  | -.329  | 270 | 768 | -.166  | .091  | .329  | -.495 |
| 270 | 589 | -.184  | .039  | -.009 | -.313  | 270 | 719 | .393   | .193  | 1.024 | -.461  | 270 | 769 | .058   | .090  | .469  | -.265 |
| 270 | 590 | -.193  | .038  | -.014 | -.350  | 270 | 720 | -.128  | .183  | .527  | -.1106 | 270 | 770 | -.124  | .078  | .201  | -.414 |
| 270 | 591 | -.243  | .103  | .135  | -.687  | 270 | 721 | .052   | .111  | .443  | -.341  | 270 | 771 | -.047  | .085  | .329  | -.405 |
| 270 | 592 | -.205  | .087  | .151  | -.555  | 270 | 722 | .409   | .168  | .965  | -.302  | 270 | 772 | .049   | .088  | .431  | -.265 |
| 270 | 593 | -.459  | .127  | -.143 | -1.281 | 270 | 723 | .433   | .173  | .943  | -.191  | 270 | 773 | .070   | .077  | .491  | -.144 |
| 270 | 594 | -.471  | .130  | -.179 | -1.295 | 270 | 724 | .385   | .161  | .829  | -.143  | 270 | 774 | -.029  | .116  | .550  | -.505 |
| 270 | 595 | -.415  | .175  | .051  | -.1202 | 270 | 725 | .304   | .150  | .797  | -.282  | 270 | 775 | -.103  | .081  | .298  | -.426 |
| 270 | 596 | -.224  | .093  | .108  | -.538  | 270 | 726 | .389   | .169  | .893  | -.191  | 270 | 776 | -.190  | .081  | .322  | -.528 |
| 270 | 597 | -.184  | .063  | .036  | -.467  | 270 | 727 | .217   | .180  | .738  | -.457  | 270 | 777 | -.119  | .067  | .144  | -.393 |
| 270 | 598 | -.173  | .036  | .036  | -.299  | 270 | 728 | .121   | .125  | .660  | -.289  | 270 | 778 | -.066  | .078  | .358  | -.367 |
| 270 | 599 | -.201  | .055  | -.010 | -.337  | 270 | 729 | .024   | .113  | .429  | -.344  | 270 | 779 | .016   | .083  | .305  | -.336 |
| 270 | 600 | -.215  | .031  | -.115 | -.323  | 270 | 730 | .434   | .169  | 1.042 | -.084  | 270 | 780 | .041   | .079  | .341  | -.222 |
| 270 | 601 | -.180  | .041  | .040  | -.396  | 270 | 731 | .433   | .181  | .982  | -.128  | 270 | 781 | -.015  | .105  | .431  | -.431 |
| 270 | 602 | -.182  | .042  | .019  | -.351  | 270 | 732 | .295   | .206  | .894  | -.436  | 270 | 782 | -.102  | .086  | .234  | -.519 |
| 270 | 603 | -.457  | .137  | -.140 | -1.125 | 270 | 733 | .395   | .213  | 1.053 | -.308  | 270 | 783 | -.178  | .086  | .215  | -.585 |
| 270 | 604 | -.191  | .032  | -.038 | -.320  | 270 | 734 | .421   | .189  | .968  | -.197  | 270 | 784 | -.101  | .062  | .194  | -.360 |
| 270 | 605 | -.210  | .036  | -.088 | -.365  | 270 | 735 | .372   | .175  | .920  | -.142  | 270 | 785 | -.052  | .070  | .225  | -.300 |
| 270 | 606 | -.188  | .043  | -.009 | -.356  | 270 | 736 | .400   | .188  | 1.014 | -.096  | 270 | 786 | .005   | .079  | .388  | -.300 |
| 270 | 607 | -.195  | .034  | -.080 | -.332  | 270 | 737 | .347   | .182  | 1.026 | -.160  | 270 | 787 | .027   | .082  | .560  | -.189 |
| 270 | 608 | -.194  | .081  | .090  | -.625  | 270 | 738 | .136   | .220  | .816  | -.876  | 270 | 788 | -.018  | .095  | .417  | -.398 |
| 270 | 609 | -.213  | .033  | -.099 | -.338  | 270 | 739 | .085   | .135  | .538  | -.294  | 270 | 789 | -.095  | .087  | .255  | -.412 |
| 270 | 610 | -.191  | .040  | -.041 | -.334  | 270 | 740 | -.022  | .112  | .411  | -.340  | 270 | 790 | -.184  | .085  | .367  | -.552 |
| 270 | 611 | -.172  | .038  | -.034 | -.329  | 270 | 741 | .419   | .184  | 1.028 | -.001  | 270 | 791 | .037   | .071  | .423  | -.166 |
| 270 | 612 | -.443  | .149  | -.114 | -1.355 | 270 | 742 | .368   | .179  | .968  | -.059  | 270 | 792 | .028   | .069  | .376  | -.216 |
| 270 | 613 | -.459  | .152  | -.123 | -1.444 | 270 | 743 | .130   | .201  | .759  | -.471  | 270 | 793 | .032   | .068  | .329  | -.176 |
| 270 | 614 | -.277  | .156  | .132  | -.137  | 270 | 744 | .291   | .206  | .977  | -.220  | 270 | 794 | .028   | .066  | .341  | -.155 |
| 270 | 615 | -.183  | .071  | .144  | -.542  | 270 | 745 | .395   | .197  | 1.090 | -.091  | 270 | 795 | -.090  | .073  | .253  | -.410 |
| 270 | 616 | -.179  | .057  | .082  | -.448  | 270 | 746 | .226   | .155  | .752  | -.135  | 270 | 796 | -.069  | .083  | .293  | -.388 |
| 270 | 617 | -.176  | .034  | .014  | -.294  | 270 | 747 | -.011  | .118  | .450  | -.324  | 270 | 797 | -.164  | .070  | .176  | -.393 |
| 270 | 618 | -.186  | .032  | -.031 | -.296  | 270 | 748 | -.239  | .094  | .137  | -.570  | 270 | 798 | -.087  | .059  | .212  | -.316 |
| 270 | 619 | -.196  | .034  | -.062 | -.322  | 270 | 749 | .023   | .265  | .873  | -.921  | 270 | 799 | -.057  | .060  | .269  | -.282 |
| 270 | 620 | -.171  | .037  | -.034 | -.308  | 270 | 750 | -.102  | .226  | .591  | -.892  | 270 | 800 | -.014  | .073  | .349  | -.263 |
| 270 | 621 | .065   | .089  | .361  | -.211  | 270 | 751 | .147   | .255  | .897  | -.764  | 270 | 801 | -.016  | .070  | .412  | -.185 |
| 270 | 622 | .058   | .092  | .420  | -.316  | 270 | 752 | .113   | .241  | .877  | -.665  | 270 | 802 | -.019  | .085  | .334  | -.304 |
| 270 | 623 | .070   | .181  | .665  | -.352  | 270 | 753 | .029   | .201  | .974  | -.829  | 270 | 803 | -.104  | .083  | .293  | -.376 |
| 270 | 624 | .328   | .135  | .820  | -.336  | 270 | 754 | -.032  | .166  | .681  | -.629  | 270 | 804 | -.178  | .083  | .447  | -.484 |
| 270 | 625 | .113   | .109  | .482  | -.240  | 270 | 755 | -.178  | .155  | .467  | -.743  | 270 | 805 | -.070  | .071  | .269  | -.278 |
| 270 | 626 | -.033  | .072  | .207  | -.328  | 270 | 756 | -.489  | .128  | .060  | -.1079 | 270 | 806 | -.134  | .058  | .190  | -.450 |
| 270 | 627 | .090   | .093  | .429  | -.218  | 270 | 757 | -.417  | .145  | .389  | -.926  | 270 | 807 | -.083  | .064  | .154  | -.350 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 270 | 808 | -.101  | .058  | .185  | -.369  | 270 | 936  | -.410  | .050  | -.249 | -.577 | 270 | 1015 | -.367  | .063  | -.221 | -.759 |
| 270 | 809 | -.073  | .050  | .193  | -.309  | 270 | 937  | -.362  | .049  | -.226 | -.586 | 270 | 1016 | -.364  | .066  | -.190 | -.628 |
| 270 | 810 | .034   | .061  | .351  | -.174  | 270 | 938  | -.327  | .043  | -.214 | -.511 | 270 | 1017 | -.201  | .051  | .062  | -.592 |
| 270 | 811 | -.037  | .068  | .433  | -.129  | 270 | 939  | -.322  | .058  | -.174 | -.616 | 270 | 1018 | -.190  | .048  | .084  | -.342 |
| 270 | 812 | -.179  | .074  | .202  | -.482  | 270 | 940  | -.350  | .048  | -.197 | -.524 | 270 | 1019 | -.219  | .060  | .069  | -.602 |
| 270 | 813 | -.062  | .060  | .243  | -.246  | 270 | 941  | -.034  | .038  | .166  | -.072 | 270 | 1020 | -.250  | .058  | -.027 | -.475 |
| 270 | 814 | -.036  | .064  | .296  | -.246  | 270 | 942  | -.245  | .068  | .014  | -.515 | 270 | 1021 | -.184  | .070  | .126  | -.510 |
| 270 | 815 | -.089  | .053  | .152  | -.278  | 270 | 943  | -.266  | .089  | .091  | -.780 | 270 | 1022 | -.146  | .033  | -.012 | -.275 |
| 270 | 816 | -.049  | .048  | .161  | -.230  | 270 | 944  | -.211  | .063  | .024  | -.454 | 270 | 1023 | -.159  | .036  | -.020 | -.334 |
| 270 | 817 | -.020  | .055  | .212  | -.201  | 270 | 945  | -.286  | .096  | .045  | -.672 | 270 | 1024 | -.195  | .054  | -.059 | -.510 |
| 270 | 818 | .012   | .064  | .289  | -.220  | 270 | 946  | -.211  | .054  | .024  | -.410 | 270 | 1025 | -.199  | .034  | -.062 | -.342 |
| 270 | 819 | .065   | .070  | .423  | -.122  | 270 | 947  | -.209  | .049  | .082  | -.433 | 270 | 1026 | -.189  | .038  | -.030 | -.317 |
| 270 | 820 | .004   | .073  | .365  | -.256  | 270 | 948  | -.191  | .031  | .052  | -.407 | 270 | 1027 | -.180  | .039  | -.040 | -.369 |
| 270 | 821 | -.078  | .055  | .171  | -.236  | 270 | 949  | -.202  | .058  | .101  | -.480 | 270 | 1028 | -.151  | .039  | -.067 | -.272 |
| 270 | 822 | -.152  | .047  | .019  | -.302  | 270 | 950  | -.162  | .068  | .124  | -.480 | 280 | 101  | -.273  | .115  | -.012 | -.741 |
| 270 | 901 | -.380  | .073  | -.130 | -.591  | 270 | 951  | -.196  | .053  | .108  | -.450 | 280 | 102  | -.178  | .107  | .217  | -.563 |
| 270 | 902 | .119   | .128  | .719  | -.203  | 270 | 952  | -.186  | .046  | -.049 | -.424 | 280 | 103  | -.353  | .128  | .160  | -.725 |
| 270 | 903 | .348   | .167  | .909  | -.046  | 270 | 953  | -.201  | .061  | .014  | -.520 | 280 | 104  | .051   | .075  | .295  | -.208 |
| 270 | 904 | .370   | .195  | .978  | -.113  | 270 | 954  | -.173  | .053  | .113  | -.361 | 280 | 105  | -.184  | .037  | -.050 | -.318 |
| 270 | 905 | -.099  | .144  | .515  | -.341  | 270 | 955  | -.192  | .046  | .042  | -.382 | 280 | 106  | -.219  | .175  | .386  | -.731 |
| 270 | 906 | -.127  | .072  | .186  | -.334  | 270 | 956  | -.198  | .045  | .005  | -.443 | 280 | 107  | -.087  | .080  | .165  | -.465 |
| 270 | 907 | -.255  | .138  | .310  | -.633  | 270 | 957  | -.216  | .054  | -.035 | -.522 | 280 | 108  | -.206  | .040  | -.055 | -.363 |
| 270 | 908 | -.107  | .137  | .455  | -.685  | 270 | 958  | -.258  | .095  | .017  | -.569 | 280 | 109  | -.030  | .082  | .277  | -.581 |
| 270 | 909 | -.107  | .083  | .159  | -.458  | 270 | 959  | -.234  | .050  | .024  | -.438 | 280 | 110  | -.026  | .095  | .284  | -.616 |
| 270 | 910 | -.371  | .060  | -.184 | -.673  | 270 | 960  | -.243  | .044  | -.070 | -.492 | 280 | 111  | -.229  | .264  | .708  | -.124 |
| 270 | 911 | -.347  | .175  | .301  | -.103  | 270 | 961  | -.277  | .065  | -.089 | -.768 | 280 | 112  | -.191  | .044  | -.039 | -.336 |
| 270 | 912 | -.181  | .301  | .836  | -.888  | 270 | 962  | -.257  | .055  | .108  | -.669 | 280 | 113  | -.080  | .080  | .181  | -.391 |
| 270 | 913 | .397   | .191  | .959  | -.810  | 270 | 963  | -.203  | .051  | .049  | -.421 | 280 | 114  | .023   | .127  | .348  | -.751 |
| 270 | 914 | -.087  | .081  | .263  | -.361  | 270 | 964  | -.217  | .042  | -.033 | -.400 | 280 | 115  | -.172  | .260  | .704  | -.892 |
| 270 | 915 | -.093  | .110  | .465  | -.392  | 270 | 965  | -.261  | .061  | .056  | -.698 | 280 | 116  | -.067  | .095  | .416  | -.581 |
| 270 | 916 | -.216  | .112  | .192  | -.713  | 270 | 966  | -.244  | .072  | -.020 | -.534 | 280 | 117  | -.020  | .130  | .853  | -.394 |
| 270 | 917 | -.048  | .179  | .671  | -.770  | 270 | 967  | -.187  | .044  | -.087 | -.428 | 280 | 118  | -.189  | .055  | .048  | -.419 |
| 270 | 918 | -.391  | .080  | -.105 | -.885  | 270 | 968  | -.243  | .055  | -.022 | -.508 | 280 | 119  | -.168  | .074  | .105  | -.499 |
| 270 | 919 | -.384  | .063  | -.182 | -.685  | 270 | 969  | -.278  | .089  | -.064 | -.852 | 280 | 120  | -.029  | .115  | .423  | -.494 |
| 270 | 920 | -.360  | .056  | -.160 | -.631  | 270 | 970  | -.212  | .050  | .087  | -.557 | 280 | 121  | -.142  | .223  | .672  | -.150 |
| 270 | 921 | -.341  | .080  | -.088 | -.658  | 270 | 971  | -.177  | .046  | .057  | -.386 | 280 | 122  | -.203  | .048  | -.002 | -.446 |
| 270 | 922 | -.153  | .131  | .305  | -.687  | 270 | 1001 | -.079  | .091  | .513  | -.201 | 280 | 123  | -.155  | .058  | .137  | -.517 |
| 270 | 923 | -.337  | .062  | -.144 | -.687  | 270 | 1002 | -.033  | .067  | .372  | -.144 | 280 | 124  | -.289  | .107  | .080  | -.748 |
| 270 | 924 | -.344  | .058  | -.134 | -.606  | 270 | 1003 | -.365  | .082  | -.104 | -.685 | 280 | 125  | -.222  | .170  | .853  | -.238 |
| 270 | 925 | -.374  | .084  | -.065 | -.680  | 270 | 1004 | -.366  | .125  | .004  | -.869 | 280 | 126  | -.079  | .110  | .320  | -.444 |
| 270 | 926 | -.331  | .048  | -.181 | -.525  | 270 | 1005 | -.243  | .062  | -.065 | -.647 | 280 | 127  | -.026  | .114  | .338  | -.452 |
| 270 | 927 | -.368  | .082  | -.092 | -.663  | 270 | 1006 | -.002  | .142  | .476  | -.598 | 280 | 128  | -.062  | .173  | .544  | -.687 |
| 270 | 928 | -.366  | .072  | -.189 | -.706  | 270 | 1007 | -.270  | .097  | -.030 | -.758 | 280 | 129  | -.054  | .267  | .686  | -.166 |
| 270 | 929 | -.442  | .126  | -.178 | -.1051 | 270 | 1008 | -.210  | .052  | -.027 | -.470 | 280 | 130  | -.079  | .100  | .396  | -.550 |
| 270 | 930 | -.412  | .074  | -.200 | -.743  | 270 | 1009 | -.376  | .080  | -.089 | -.691 | 280 | 131  | -.040  | .137  | .805  | -.657 |
| 270 | 931 | -.148  | .075  | .239  | -.401  | 270 | 1010 | -.252  | .087  | .069  | -.676 | 280 | 132  | -.244  | .043  | -.003 | -.387 |
| 270 | 932 | -.340  | .047  | -.165 | -.535  | 270 | 1011 | -.150  | .066  | .124  | -.480 | 280 | 133  | -.193  | .046  | .047  | -.387 |
| 270 | 933 | -.355  | .063  | -.131 | -.654  | 270 | 1012 | -.186  | .054  | -.097 | -.357 | 280 | 134  | -.298  | .126  | .061  | -.882 |
| 270 | 934 | -.325  | .057  | -.167 | -.580  | 270 | 1013 | -.350  | .054  | -.156 | -.598 | 280 | 135  | -.141  | .141  | .672  | -.315 |
| 270 | 935 | -.218  | .057  | -.044 | -.489  | 270 | 1014 | -.286  | .056  | -.119 | -.512 | 280 | 136  | -.079  | .112  | .442  | -.541 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 111

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 280 | 137 | -.043  | .132  | .335  | -.613  | 280 | 182 | -.112  | .043  | .128  | -.347 | 280 | 312 | -.310  | .041  | -.184 | -.533 |
| 280 | 138 | -.049  | .145  | .363  | -.659  | 280 | 188 | -.122  | .037  | -.001 | -.299 | 280 | 313 | -.313  | .042  | -.172 | -.504 |
| 280 | 139 | -.272  | .252  | .514  | -1.084 | 280 | 189 | -.102  | .078  | .207  | -.606 | 280 | 314 | -.301  | .042  | -.162 | -.455 |
| 280 | 140 | -.316  | .214  | .521  | -1.119 | 280 | 190 | -.107  | .094  | .205  | -.692 | 280 | 315 | -.295  | .041  | -.162 | -.462 |
| 280 | 141 | -.043  | .106  | .319  | -.438  | 280 | 191 | -.107  | .049  | .171  | -.362 | 280 | 316 | -.301  | .039  | -.191 | -.455 |
| 280 | 142 | -.036  | .116  | .321  | -.499  | 280 | 192 | -.109  | .049  | .183  | -.300 | 280 | 317 | -.308  | .040  | -.186 | -.477 |
| 280 | 143 | -.321  | .055  | -.157 | -.545  | 280 | 193 | -.124  | .044  | .114  | -.316 | 280 | 318 | -.332  | .042  | -.189 | -.518 |
| 280 | 144 | -.218  | .057  | .015  | -.413  | 280 | 194 | -.197  | .042  | -.018 | -.451 | 280 | 319 | -.326  | .042  | -.198 | -.533 |
| 280 | 145 | -.113  | .074  | .261  | -.385  | 280 | 195 | -.162  | .038  | .064  | -.300 | 280 | 320 | -.315  | .047  | -.152 | -.562 |
| 280 | 146 | -.055  | .171  | .561  | -.752  | 280 | 196 | -.150  | .048  | .032  | -.375 | 280 | 321 | -.320  | .058  | -.174 | -.685 |
| 280 | 147 | -.186  | .198  | .612  | -1.052 | 280 | 197 | -.120  | .055  | .068  | -.382 | 280 | 322 | -.325  | .047  | -.174 | -.598 |
| 280 | 148 | -.218  | .194  | .702  | -1.119 | 280 | 198 | -.121  | .027  | -.023 | -.215 | 280 | 323 | -.324  | .043  | -.196 | -.501 |
| 280 | 149 | -.393  | .070  | -.185 | -.751  | 280 | 199 | -.123  | .026  | -.023 | -.213 | 280 | 324 | -.327  | .043  | -.174 | -.506 |
| 280 | 150 | -.417  | .081  | -.190 | -.754  | 280 | 200 | -.129  | .030  | -.030 | -.252 | 280 | 325 | -.337  | .045  | -.203 | -.593 |
| 280 | 151 | -.339  | .081  | -.031 | -.906  | 280 | 201 | -.125  | .029  | .004  | -.231 | 280 | 326 | -.335  | .076  | -.145 | -.702 |
| 280 | 152 | -.281  | .103  | .105  | -.956  | 280 | 202 | -.134  | .036  | .030  | -.311 | 280 | 327 | -.385  | .106  | -.154 | -.914 |
| 280 | 153 | -.269  | .150  | .162  | -.931  | 280 | 203 | -.138  | .035  | .009  | -.309 | 280 | 328 | -.330  | .072  | -.132 | -.733 |
| 280 | 154 | -.275  | .142  | .145  | -1.004 | 280 | 204 | -.150  | .040  | -.005 | -.352 | 280 | 329 | -.318  | .060  | -.132 | -.621 |
| 280 | 155 | -.476  | .290  | .342  | -1.865 | 280 | 205 | -.154  | .045  | .009  | -.419 | 280 | 330 | -.302  | .037  | -.171 | -.435 |
| 280 | 156 | -.032  | .169  | .599  | -.533  | 280 | 206 | -.065  | .058  | .201  | -.263 | 280 | 331 | -.325  | .042  | -.203 | -.523 |
| 280 | 157 | -.016  | .177  | .649  | -.601  | 280 | 207 | -.090  | .069  | .199  | -.355 | 280 | 332 | -.339  | .054  | -.188 | -.509 |
| 280 | 158 | -.279  | .056  | -.085 | -.533  | 280 | 208 | -.093  | .076  | .256  | -.417 | 280 | 333 | -.331  | .050  | -.203 | -.523 |
| 280 | 159 | -.492  | .197  | .251  | -1.449 | 280 | 209 | -.129  | .029  | -.032 | -.240 | 280 | 334 | -.341  | .056  | -.186 | -.616 |
| 280 | 160 | -.291  | .063  | -.079 | -.563  | 280 | 210 | -.120  | .029  | -.032 | -.232 | 280 | 335 | -.357  | .061  | -.201 | -.658 |
| 280 | 161 | -.506  | .259  | .276  | -2.086 | 280 | 211 | -.126  | .039  | .045  | -.276 | 280 | 336 | -.341  | .051  | -.208 | -.545 |
| 280 | 162 | -.297  | .060  | -.074 | -.533  | 280 | 212 | -.142  | .039  | .005  | -.378 | 280 | 337 | -.342  | .050  | -.206 | -.550 |
| 280 | 163 | -.254  | .057  | .003  | -.517  | 280 | 213 | -.058  | .061  | .233  | -.285 | 280 | 338 | -.333  | .052  | -.191 | -.543 |
| 280 | 164 | -.167  | .057  | .058  | -.445  | 280 | 214 | -.088  | .070  | -.070 | -.331 | 280 | 339 | -.330  | .049  | -.164 | -.501 |
| 280 | 165 | -.143  | .068  | .119  | -.481  | 280 | 215 | -.132  | .033  | -.027 | -.304 | 280 | 340 | -.324  | .045  | -.201 | -.494 |
| 280 | 166 | -.165  | .088  | .169  | -.568  | 280 | 216 | -.124  | .026  | -.041 | -.208 | 280 | 341 | -.348  | .050  | -.225 | -.562 |
| 280 | 167 | -.338  | .207  | .200  | -1.407 | 280 | 217 | -.119  | .026  | -.009 | -.204 | 280 | 342 | -.361  | .050  | -.230 | -.572 |
| 280 | 168 | -.555  | .309  | .471  | -2.038 | 280 | 218 | -.123  | .025  | -.034 | -.201 | 280 | 343 | -.396  | .059  | -.228 | -.636 |
| 280 | 169 | -.143  | .074  | .131  | -.474  | 280 | 219 | -.130  | .031  | -.009 | -.222 | 280 | 344 | -.399  | .058  | -.225 | -.694 |
| 280 | 170 | -.300  | .065  | -.100 | -.580  | 280 | 220 | -.136  | .032  | -.032 | -.253 | 280 | 345 | -.379  | .047  | -.232 | -.592 |
| 280 | 171 | -.250  | .056  | .042  | -.457  | 280 | 221 | -.142  | .040  | .019  | -.373 | 280 | 346 | -.350  | .049  | -.213 | -.553 |
| 280 | 172 | -.292  | .114  | .015  | -.911  | 280 | 222 | -.135  | .038  | -.025 | -.383 | 280 | 347 | -.349  | .048  | -.196 | -.548 |
| 280 | 173 | -.106  | .053  | .104  | -.323  | 280 | 223 | -.051  | .060  | .184  | -.285 | 280 | 348 | -.359  | .052  | -.210 | -.594 |
| 280 | 174 | -.146  | .067  | .071  | -.551  | 280 | 224 | -.074  | .065  | .161  | -.406 | 280 | 349 | -.382  | .061  | -.187 | -.612 |
| 280 | 175 | -.267  | .134  | .119  | -.851  | 280 | 225 | -.078  | .066  | .131  | -.506 | 280 | 350 | -.400  | .069  | -.175 | -.700 |
| 280 | 176 | -.279  | .130  | .267  | -.875  | 280 | 301 | -.290  | .044  | -.152 | -.470 | 280 | 351 | -.387  | .052  | -.230 | -.609 |
| 280 | 177 | -.270  | .060  | -.088 | -.572  | 280 | 302 | -.342  | .052  | -.174 | -.554 | 280 | 352 | -.366  | .050  | -.237 | -.600 |
| 280 | 178 | -.221  | .049  | -.066 | -.450  | 280 | 303 | -.398  | .061  | -.242 | -.637 | 280 | 353 | -.367  | .051  | -.233 | -.626 |
| 280 | 179 | -.229  | .072  | .051  | -.664  | 280 | 304 | -.143  | .071  | .056  | -.455 | 280 | 354 | -.367  | .054  | -.233 | -.662 |
| 280 | 180 | -.118  | .043  | .035  | -.282  | 280 | 305 | -.292  | .039  | -.167 | -.574 | 280 | 355 | -.370  | .068  | -.201 | -.724 |
| 280 | 181 | -.139  | .050  | .011  | -.402  | 280 | 306 | -.278  | .038  | -.158 | -.428 | 280 | 356 | -.403  | .070  | -.218 | -.664 |
| 280 | 182 | -.174  | .099  | .135  | -.726  | 280 | 307 | -.295  | .044  | -.164 | -.513 | 280 | 357 | -.432  | .080  | -.216 | -.823 |
| 280 | 183 | -.193  | .104  | .167  | -.738  | 280 | 308 | -.306  | .042  | -.187 | -.561 | 280 | 358 | -.408  | .061  | -.199 | -.703 |
| 280 | 184 | -.230  | .044  | -.064 | -.522  | 280 | 309 | -.303  | .038  | -.186 | -.501 | 280 | 359 | -.369  | .064  | -.209 | -.691 |
| 280 | 185 | -.182  | .038  | -.052 | -.378  | 280 | 310 | -.299  | .038  | -.186 | -.436 | 280 | 360 | -.414  | .067  | -.197 | -.662 |
| 280 | 186 | -.178  | .051  | -.006 | -.431  | 280 | 311 | -.290  | .041  | -.147 | -.509 | 280 | 361 | -.408  | .120  | -.180 | -.096 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 280 | 362 | -.406  | .069  | -.182 | -.693  | 280 | 412 | -.190  | .050  | -.038 | -.417  | 280 | 540 | -.383  | .074  | -.201 | -.843  |
| 280 | 363 | -.395  | .067  | -.161 | -.609  | 280 | 413 | -.133  | .023  | -.028 | -.203  | 280 | 541 | -.373  | .057  | -.216 | -.612  |
| 280 | 364 | -.400  | .070  | -.182 | -.803  | 280 | 414 | -.210  | .033  | -.102 | -.323  | 280 | 542 | -.377  | .061  | -.192 | -.720  |
| 280 | 365 | -.521  | .117  | -.228 | -1.175 | 280 | 415 | -.208  | .034  | -.085 | -.320  | 280 | 543 | -.375  | .059  | -.144 | -.624  |
| 280 | 366 | -.413  | .081  | -.233 | -.896  | 280 | 416 | -.243  | .046  | -.129 | -.589  | 280 | 544 | -.357  | .056  | -.161 | -.552  |
| 280 | 367 | -.374  | .075  | -.185 | -.732  | 280 | 417 | -.218  | .036  | -.085 | -.390  | 280 | 545 | -.365  | .058  | -.185 | -.576  |
| 280 | 368 | -.366  | .070  | -.157 | -.673  | 280 | 418 | -.187  | .029  | -.085 | -.328  | 280 | 546 | -.403  | .063  | -.223 | -.677  |
| 280 | 369 | -.336  | .059  | -.150 | -.549  | 280 | 419 | -.171  | .036  | -.047 | -.304  | 280 | 547 | -.396  | .066  | -.216 | -.694  |
| 280 | 370 | -.343  | .065  | -.147 | -.646  | 280 | 420 | -.126  | .024  | -.035 | -.208  | 280 | 548 | -.394  | .066  | -.213 | -.680  |
| 280 | 371 | -.326  | .065  | -.140 | -.640  | 280 | 421 | -.104  | .040  | -.060 | -.276  | 280 | 549 | -.490  | .106  | -.184 | -1.015 |
| 280 | 372 | -.338  | .078  | -.097 | -.764  | 280 | 422 | -.087  | .048  | -.138 | -.274  | 280 | 550 | -.443  | .087  | -.151 | -.837  |
| 280 | 373 | -.403  | .085  | -.135 | -.734  | 280 | 501 | -.365  | .052  | -.188 | -.589  | 280 | 551 | -.413  | .081  | -.147 | -.870  |
| 280 | 374 | -.498  | .119  | -.175 | -1.210 | 280 | 502 | -.284  | .041  | -.157 | -.432  | 280 | 552 | -.401  | .072  | -.229 | -.684  |
| 280 | 375 | -.426  | .093  | -.210 | -.818  | 280 | 503 | -.121  | .054  | -.052 | -.342  | 280 | 553 | -.397  | .077  | -.203 | -.795  |
| 280 | 376 | -.423  | .091  | -.185 | -1.048 | 280 | 504 | -.447  | .071  | -.238 | -.743  | 280 | 554 | -.386  | .061  | -.236 | -.736  |
| 280 | 377 | -.225  | .049  | -.031 | -.529  | 280 | 505 | -.278  | .038  | -.160 | -.430  | 280 | 555 | -.413  | .069  | -.208 | -.835  |
| 280 | 378 | -.230  | .053  | -.046 | -.527  | 280 | 506 | -.297  | .045  | -.169 | -.549  | 280 | 556 | -.389  | .064  | -.189 | -.663  |
| 280 | 379 | -.244  | .061  | -.041 | -.580  | 280 | 507 | -.312  | .044  | -.164 | -.484  | 280 | 557 | -.415  | .071  | -.215 | -.790  |
| 280 | 380 | -.314  | .099  | -.010 | -.795  | 280 | 508 | -.294  | .040  | -.137 | -.574  | 280 | 558 | -.447  | .110  | -.154 | -1.034 |
| 280 | 381 | -.543  | .167  | -.135 | -1.270 | 280 | 509 | -.303  | .043  | -.174 | -.517  | 280 | 559 | -.437  | .075  | -.198 | -.748  |
| 280 | 382 | -.476  | .125  | -.178 | -1.455 | 280 | 510 | -.309  | .042  | -.166 | -.522  | 280 | 560 | -.484  | .167  | -.165 | -1.748 |
| 280 | 383 | -.467  | .123  | -.223 | -1.521 | 280 | 511 | -.312  | .049  | -.183 | -.572  | 280 | 561 | -.453  | .078  | -.245 | -.795  |
| 280 | 384 | -.176  | .044  | -.012 | -.413  | 280 | 512 | -.307  | .043  | -.166 | -.567  | 280 | 562 | -.440  | .108  | -.189 | -.985  |
| 280 | 385 | -.186  | .042  | -.006 | -.398  | 280 | 513 | -.312  | .045  | -.152 | -.534  | 280 | 563 | -.431  | .106  | -.191 | -.999  |
| 280 | 386 | -.217  | .058  | -.022 | -.537  | 280 | 514 | -.316  | .045  | -.166 | -.501  | 280 | 564 | -.408  | .075  | -.149 | -.734  |
| 280 | 387 | -.206  | .069  | -.020 | -.610  | 280 | 515 | -.340  | .056  | -.185 | -.650  | 280 | 565 | -.434  | .087  | -.184 | -.806  |
| 280 | 388 | -.391  | .171  | -.008 | -1.227 | 280 | 516 | -.312  | .043  | -.162 | -.510  | 280 | 566 | -.428  | .075  | -.169 | -.745  |
| 280 | 389 | -.471  | .132  | -.216 | -1.339 | 280 | 517 | -.317  | .043  | -.197 | -.636  | 280 | 567 | -.460  | .084  | -.236 | -.836  |
| 280 | 390 | -.456  | .134  | -.175 | -1.220 | 280 | 518 | -.355  | .096  | -.124 | -.987  | 280 | 568 | -.464  | .090  | -.236 | -.836  |
| 280 | 391 | -.229  | .042  | -.046 | -.422  | 280 | 519 | -.326  | .057  | -.119 | -.562  | 280 | 569 | -.405  | .068  | -.216 | -.735  |
| 280 | 392 | -.241  | .045  | -.090 | -.489  | 280 | 520 | -.329  | .042  | -.207 | -.529  | 280 | 570 | -.443  | .095  | -.214 | -.921  |
| 280 | 393 | -.221  | .037  | -.088 | -.352  | 280 | 521 | -.329  | .042  | -.214 | -.555  | 280 | 571 | -.447  | .094  | -.194 | -.888  |
| 280 | 394 | -.280  | .100  | -.108 | -1.001 | 280 | 522 | -.334  | .072  | -.114 | -.657  | 280 | 572 | -.495  | .109  | -.199 | -1.238 |
| 280 | 395 | -.382  | .132  | -.108 | -1.615 | 280 | 523 | -.352  | .085  | -.143 | -.700  | 280 | 573 | -.472  | .088  | -.241 | -.898  |
| 280 | 396 | -.365  | .134  | -.147 | -1.520 | 280 | 524 | -.448  | .130  | -.143 | -1.053 | 280 | 574 | -.460  | .088  | -.214 | -.779  |
| 280 | 397 | -.204  | .034  | -.083 | -.332  | 280 | 525 | -.409  | .119  | -.155 | -.823  | 280 | 575 | -.409  | .094  | -.147 | -.891  |
| 280 | 398 | -.224  | .035  | -.074 | -.410  | 280 | 526 | -.348  | .054  | -.197 | -.631  | 280 | 576 | -.416  | .107  | -.164 | -.990  |
| 280 | 399 | -.262  | .048  | -.135 | -.524  | 280 | 527 | -.341  | .051  | -.114 | -.569  | 280 | 577 | -.495  | .111  | -.229 | -1.126 |
| 280 | 400 | -.255  | .047  | -.083 | -.536  | 280 | 528 | -.334  | .053  | -.201 | -.624  | 280 | 578 | -.511  | .129  | -.214 | -1.464 |
| 280 | 401 | -.205  | .036  | -.049 | -.376  | 280 | 529 | -.340  | .060  | -.197 | -.680  | 280 | 579 | -.544  | .140  | -.229 | -1.181 |
| 280 | 402 | -.189  | .036  | -.015 | -.345  | 280 | 530 | -.324  | .043  | -.189 | -.507  | 280 | 580 | -.479  | .098  | -.078 | -.898  |
| 280 | 403 | -.135  | .025  | -.049 | -.240  | 280 | 531 | -.345  | .053  | -.201 | -.581  | 280 | 581 | -.345  | .091  | -.038 | -.650  |
| 280 | 404 | -.134  | .025  | -.054 | -.224  | 280 | 532 | -.335  | .051  | -.185 | -.540  | 280 | 582 | -.238  | .065  | -.040 | -.564  |
| 280 | 405 | -.122  | .031  | -.005 | -.238  | 280 | 533 | -.345  | .050  | -.180 | -.533  | 280 | 583 | -.231  | .061  | -.016 | -.564  |
| 280 | 406 | -.117  | .029  | -.017 | -.422  | 280 | 534 | -.359  | .055  | -.218 | -.579  | 280 | 584 | -.524  | .138  | -.209 | -.734  |
| 280 | 407 | -.219  | .036  | -.074 | -.347  | 280 | 535 | -.357  | .052  | -.177 | -.581  | 280 | 585 | -.532  | .129  | -.211 | -.387  |
| 280 | 408 | -.196  | .047  | -.050 | -.403  | 280 | 536 | -.360  | .053  | -.223 | -.576  | 280 | 586 | -.540  | .158  | -.029 | -.258  |
| 280 | 409 | -.193  | .029  | -.085 | -.317  | 280 | 537 | -.383  | .067  | -.185 | -.689  | 280 | 587 | -.333  | .109  | -.059 | -.732  |
| 280 | 410 | -.126  | .027  | -.020 | -.206  | 280 | 538 | -.381  | .062  | -.192 | -.658  | 280 | 588 | -.203  | .071  | -.161 | -.546  |
| 280 | 411 | -.259  | .048  | -.120 | -.508  | 280 | 539 | -.386  | .074  | -.201 | -.749  | 280 | 589 | -.176  | .042  | -.004 | -.368  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|
| 280 | 590 | -.172  | .043  | .004  | -.355   | 280 | 720 | -.191  | .153  | .397  | -.812   | 280 | 770 | -.103  | .074  | .176  | -.403 |
| 280 | 591 | -.307  | .105  | .080  | -.707   | 280 | 721 | -.014  | .088  | .336  | -.336   | 280 | 771 | -.054  | .079  | .312  | -.339 |
| 280 | 592 | -.250  | .088  | .063  | -.652   | 280 | 722 | .456   | .188  | .956  | -.129   | 280 | 772 | -.032  | .086  | .390  | -.205 |
| 280 | 593 | -.512  | .116  | -.227 | -.1,117 | 280 | 723 | .472   | .180  | .934  | -.134   | 280 | 773 | -.058  | .080  | .458  | -.188 |
| 280 | 594 | -.504  | .123  | -.205 | -.1,189 | 280 | 724 | .376   | .142  | .815  | -.062   | 280 | 774 | -.057  | .114  | .383  | -.588 |
| 280 | 595 | -.445  | .154  | .078  | -.1,110 | 280 | 725 | .292   | .125  | .687  | -.091   | 280 | 775 | -.116  | .065  | .188  | -.363 |
| 280 | 596 | -.260  | .091  | .111  | -.592   | 280 | 726 | .361   | .162  | .898  | -.134   | 280 | 776 | -.204  | .064  | .070  | -.487 |
| 280 | 597 | -.200  | .061  | .092  | -.556   | 280 | 727 | .121   | .156  | .634  | -.527   | 280 | 777 | -.096  | .068  | .225  | -.450 |
| 280 | 598 | -.195  | .037  | -.042 | -.359   | 280 | 728 | .081   | .096  | .543  | -.267   | 280 | 778 | -.070  | .066  | .228  | -.299 |
| 280 | 599 | -.186  | .036  | -.027 | -.321   | 280 | 729 | -.015  | .083  | .287  | -.272   | 280 | 779 | -.043  | .070  | .200  | -.325 |
| 280 | 600 | -.226  | .034  | -.102 | -.397   | 280 | 730 | .464   | .161  | 1.010 | -.004   | 280 | 780 | -.020  | .075  | .277  | -.323 |
| 280 | 601 | -.202  | .047  | -.046 | -.445   | 280 | 731 | .422   | .171  | .974  | -.135   | 280 | 781 | -.083  | .088  | .287  | -.388 |
| 280 | 602 | -.207  | .044  | -.048 | -.422   | 280 | 732 | .400   | .181  | 1.115 | -.082   | 280 | 782 | -.143  | .071  | .131  | -.388 |
| 280 | 603 | -.472  | .123  | -.180 | -.1,035 | 280 | 733 | .460   | .179  | 1.019 | -.180   | 280 | 783 | -.225  | .078  | .096  | -.522 |
| 280 | 604 | -.191  | .032  | -.023 | -.309   | 280 | 734 | .413   | .162  | .926  | -.062   | 280 | 784 | -.086  | .063  | .178  | -.353 |
| 280 | 605 | -.196  | .034  | -.093 | -.342   | 280 | 735 | .404   | .143  | .887  | -.011   | 280 | 785 | -.073  | .058  | .115  | -.337 |
| 280 | 606 | -.201  | .035  | -.057 | -.323   | 280 | 736 | .438   | .172  | 1.019 | -.037   | 280 | 786 | -.054  | .057  | .282  | -.261 |
| 280 | 607 | -.206  | .035  | -.023 | -.327   | 280 | 737 | .367   | .162  | .871  | -.117   | 280 | 787 | -.034  | .055  | .214  | -.193 |
| 280 | 608 | -.203  | .091  | .049  | -.744   | 280 | 738 | .099   | .163  | .759  | -.539   | 280 | 788 | -.089  | .073  | .230  | -.327 |
| 280 | 609 | -.219  | .034  | -.104 | -.359   | 280 | 739 | .058   | .095  | .419  | -.253   | 280 | 789 | -.174  | .079  | .254  | -.438 |
| 280 | 610 | -.188  | .033  | -.088 | -.304   | 280 | 740 | -.054  | .075  | .269  | -.292   | 280 | 790 | -.248  | .080  | .134  | -.548 |
| 280 | 611 | -.178  | .038  | -.004 | -.316   | 280 | 741 | .428   | .156  | .967  | -.027   | 280 | 791 | -.005  | .045  | .213  | -.184 |
| 280 | 612 | -.481  | .139  | -.147 | -.1,209 | 280 | 742 | .397   | .163  | .926  | -.018   | 280 | 792 | -.013  | .045  | .237  | -.151 |
| 280 | 613 | -.483  | .151  | -.053 | -.1,458 | 280 | 743 | .228   | .171  | .885  | -.212   | 280 | 793 | -.003  | .046  | .281  | -.182 |
| 280 | 614 | -.271  | .146  | -.070 | -.1,063 | 280 | 744 | .405   | .185  | .960  | -.123   | 280 | 794 | -.010  | .048  | .305  | -.200 |
| 280 | 615 | -.176  | .071  | -.060 | -.480   | 280 | 745 | .454   | .173  | 1.019 | -.023   | 280 | 795 | -.128  | .071  | .148  | -.391 |
| 280 | 616 | -.201  | .058  | -.010 | -.452   | 280 | 746 | .221   | .116  | .705  | -.167   | 280 | 796 | -.109  | .075  | .231  | -.498 |
| 280 | 617 | -.184  | .033  | -.038 | -.314   | 280 | 747 | -.039  | .081  | .298  | -.383   | 280 | 797 | -.066  | .072  | .217  | -.355 |
| 280 | 618 | -.189  | .033  | -.081 | -.311   | 280 | 748 | .261   | .075  | .034  | -.502   | 280 | 798 | -.080  | .065  | .181  | -.544 |
| 280 | 619 | -.196  | .034  | -.078 | -.314   | 280 | 749 | .136   | .224  | .849  | -.651   | 280 | 799 | -.068  | .052  | .131  | -.379 |
| 280 | 620 | -.184  | .035  | -.041 | -.321   | 280 | 750 | .010   | .187  | .700  | -.615   | 280 | 800 | -.036  | .048  | .229  | -.257 |
| 280 | 701 | -.114  | .098  | .449  | -.239   | 280 | 751 | .208   | .227  | .947  | -.566   | 280 | 801 | -.034  | .046  | .187  | -.176 |
| 280 | 702 | -.056  | .088  | .338  | -.295   | 280 | 752 | .221   | .230  | .936  | -.635   | 280 | 802 | -.087  | .056  | .176  | -.317 |
| 280 | 703 | -.045  | .084  | .410  | -.300   | 280 | 753 | .150   | .201  | .869  | -.526   | 280 | 803 | -.179  | .060  | .107  | -.360 |
| 280 | 704 | .372   | .146  | .761  | -.212   | 280 | 754 | .024   | .152  | .535  | -.517   | 280 | 804 | -.253  | .062  | .052  | -.470 |
| 280 | 705 | -.205  | .122  | .582  | -.186   | 280 | 755 | -.120  | .116  | .297  | -.615   | 280 | 805 | -.110  | .047  | .095  | -.267 |
| 280 | 706 | -.067  | .060  | .148  | -.228   | 280 | 756 | .492   | .110  | -.125 | -.1,279 | 280 | 806 | -.144  | .042  | .100  | -.610 |
| 280 | 707 | .093   | .086  | .377  | -.190   | 280 | 757 | -.460  | .100  | -.129 | -.278   | 280 | 807 | -.111  | .061  | .148  | -.393 |
| 280 | 708 | .267   | .156  | .737  | -.317   | 280 | 758 | .246   | .161  | .898  | -.279   | 280 | 808 | -.067  | .063  | .169  | -.336 |
| 280 | 709 | .249   | .131  | .687  | -.239   | 280 | 759 | -.075  | .078  | .301  | -.450   | 280 | 809 | -.065  | .057  | .131  | -.420 |
| 280 | 710 | -.186  | .143  | .642  | -.462   | 280 | 760 | .093   | .160  | .791  | -.664   | 280 | 810 | -.008  | .047  | .317  | -.172 |
| 280 | 711 | -.087  | .080  | .182  | -.414   | 280 | 761 | -.128  | .081  | .212  | -.522   | 280 | 811 | -.016  | .055  | .272  | -.153 |
| 280 | 712 | .497   | .169  | .968  | -.055   | 280 | 762 | .002   | .119  | .491  | -.363   | 280 | 812 | -.231  | .052  | .017  | -.446 |
| 280 | 713 | .404   | .151  | .925  | -.073   | 280 | 763 | .107   | .135  | .689  | -.243   | 280 | 813 | -.098  | .052  | .250  | -.255 |
| 280 | 714 | .227   | .127  | .642  | -.203   | 280 | 764 | .189   | .130  | .642  | -.209   | 280 | 814 | -.076  | .059  | .265  | -.260 |
| 280 | 715 | .008   | .081  | .311  | -.259   | 280 | 765 | .149   | .115  | .936  | -.205   | 280 | 815 | -.056  | .059  | .217  | -.277 |
| 280 | 716 | .256   | .153  | .662  | -.327   | 280 | 766 | .118   | .097  | .529  | -.193   | 280 | 816 | -.025  | .057  | .269  | -.250 |
| 280 | 717 | .444   | .174  | 1.051 | -.046   | 280 | 767 | -.069  | .073  | .240  | -.330   | 280 | 817 | -.003  | .061  | .277  | -.212 |
| 280 | 718 | .281   | .154  | .747  | -.196   | 280 | 768 | -.163  | .073  | .296  | -.452   | 280 | 818 | -.025  | .058  | .305  | -.200 |
| 280 | 719 | .419   | .169  | .974  | -.217   | 280 | 769 | .101   | .112  | .578  | -.297   | 280 | 819 | -.063  | .066  | .389  | -.098 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 280 | 820 | .004   | .064  | .355  | -.236  | 280 | 948  | -.104  | .050  | .174  | -.284 | 280 | 1027 | -.187  | .035  | -.048 | -.358 |
| 280 | 821 | -.100  | .050  | .098  | -.226  | 280 | 949  | -.099  | .061  | .121  | -.254 | 280 | 1028 | -.141  | .030  | -.031 | -.247 |
| 280 | 822 | -.178  | .045  | -.005 | -.347  | 280 | 950  | -.189  | .081  | .114  | -.509 | 290 | 101  | -.122  | .064  | .162  | -.454 |
| 280 | 901 | -.415  | .051  | -.234 | -.597  | 280 | 951  | -.135  | .038  | .095  | -.261 | 290 | 102  | -.028  | .102  | .354  | -.451 |
| 280 | 902 | .120   | .099  | .493  | -.187  | 280 | 952  | -.147  | .039  | .042  | -.323 | 290 | 103  | -.109  | .142  | .466  | -.556 |
| 280 | 903 | .389   | .154  | .872  | -.100  | 280 | 953  | -.133  | .033  | .049  | -.286 | 290 | 104  | -.054  | .086  | .329  | -.198 |
| 280 | 904 | .475   | .185  | 1.066 | -.016  | 280 | 954  | -.154  | .047  | .093  | -.342 | 290 | 105  | -.144  | .046  | .048  | -.297 |
| 280 | 905 | .162   | .146  | .700  | -.194  | 280 | 955  | -.149  | .037  | .063  | -.284 | 290 | 106  | -.159  | .171  | .657  | -.528 |
| 280 | 906 | -.133  | .072  | .144  | -.311  | 280 | 956  | -.170  | .046  | .051  | -.468 | 290 | 107  | -.015  | .078  | .262  | -.235 |
| 280 | 907 | -.285  | .114  | .210  | -.567  | 280 | 957  | -.237  | .080  | .044  | -.628 | 290 | 108  | -.156  | .049  | .038  | -.355 |
| 280 | 908 | .069   | .152  | .565  | -.477  | 280 | 958  | -.353  | .138  | .002  | -.163 | 290 | 109  | -.099  | .110  | .450  | -.239 |
| 280 | 909 | .072   | .098  | .350  | -.386  | 280 | 959  | -.272  | .055  | .023  | -.561 | 290 | 110  | -.125  | .113  | .448  | -.269 |
| 280 | 910 | -.353  | .052  | -.189 | -.626  | 280 | 960  | -.213  | .038  | -.070 | -.356 | 290 | 111  | -.231  | .199  | .683  | -.938 |
| 280 | 911 | -.156  | .196  | .676  | -.779  | 280 | 961  | -.246  | .052  | -.091 | -.486 | 290 | 112  | -.126  | .057  | .101  | -.356 |
| 280 | 912 | .340   | .165  | .572  | -.848  | 280 | 962  | -.251  | .046  | -.110 | -.499 | 290 | 113  | -.073  | .102  | .411  | -.264 |
| 280 | 913 | .413   | .179  | 1.051 | -.390  | 280 | 963  | -.194  | .057  | .065  | -.554 | 290 | 114  | -.181  | .144  | .664  | -.319 |
| 280 | 914 | -.106  | .073  | .214  | -.338  | 280 | 964  | -.209  | .045  | -.009 | -.496 | 290 | 115  | -.293  | .232  | .819  | -.746 |
| 280 | 915 | .146   | .102  | .468  | -.178  | 280 | 965  | -.224  | .046  | -.051 | -.512 | 290 | 116  | -.147  | .159  | .641  | -.328 |
| 280 | 916 | -.231  | .102  | .060  | -.1386 | 280 | 966  | -.236  | .059  | -.063 | -.533 | 290 | 117  | -.257  | .209  | .845  | -.333 |
| 280 | 917 | -.182  | .143  | .725  | -.482  | 280 | 967  | -.165  | .041  | -.036 | -.402 | 290 | 118  | -.110  | .062  | .103  | -.335 |
| 280 | 918 | .385   | .078  | -.017 | -.640  | 280 | 968  | -.224  | .046  | -.033 | -.478 | 290 | 119  | -.181  | .093  | .142  | -.515 |
| 280 | 919 | .368   | .052  | -.196 | -.634  | 280 | 969  | -.236  | .054  | -.060 | -.569 | 290 | 120  | -.160  | .144  | .600  | -.331 |
| 280 | 920 | -.351  | .052  | -.199 | -.582  | 280 | 970  | -.209  | .046  | -.031 | -.459 | 290 | 121  | -.204  | .198  | .705  | -.515 |
| 280 | 921 | -.215  | .087  | .068  | -.572  | 280 | 971  | -.157  | .040  | -.036 | -.461 | 290 | 122  | -.158  | .074  | .130  | -.529 |
| 280 | 922 | -.005  | .115  | .421  | -.524  | 280 | 1001 | -.109  | .092  | .535  | -.171 | 290 | 123  | -.091  | .084  | .313  | -.561 |
| 280 | 923 | -.386  | .063  | -.192 | -.612  | 280 | 1002 | -.001  | .044  | -.176 | -.146 | 290 | 124  | -.178  | .143  | .315  | -.947 |
| 280 | 924 | .315   | .045  | -.176 | -.491  | 280 | 1003 | -.319  | .067  | -.111 | -.588 | 290 | 125  | -.266  | .181  | .845  | -.235 |
| 280 | 925 | -.268  | .085  | .063  | -.675  | 280 | 1004 | -.125  | .150  | .419  | -.704 | 290 | 126  | -.036  | .128  | .475  | -.431 |
| 280 | 926 | -.303  | .041  | -.170 | -.460  | 280 | 1005 | -.278  | .064  | -.088 | -.574 | 290 | 127  | -.114  | .143  | .566  | -.339 |
| 280 | 927 | -.274  | .086  | .061  | -.652  | 280 | 1006 | -.144  | .118  | .460  | -.272 | 290 | 128  | -.233  | .183  | .812  | -.806 |
| 280 | 928 | -.322  | .044  | -.174 | -.601  | 280 | 1007 | -.308  | .090  | -.013 | -.668 | 290 | 129  | -.235  | .222  | .964  | -.675 |
| 280 | 929 | -.272  | .068  | -.060 | -.719  | 280 | 1008 | -.134  | .042  | .048  | -.382 | 290 | 130  | -.122  | .162  | .763  | -.302 |
| 280 | 930 | -.393  | .063  | -.224 | -.694  | 280 | 1009 | -.365  | .066  | -.114 | -.633 | 290 | 131  | -.162  | .853  | -.288 |       |
| 280 | 931 | -.119  | .066  | -.167 | -.329  | 280 | 1010 | -.160  | .072  | -.127 | -.463 | 290 | 132  | -.222  | .061  | .080  | -.457 |
| 280 | 932 | -.317  | .038  | -.199 | -.477  | 280 | 1011 | -.169  | .073  | .090  | -.505 | 290 | 133  | -.155  | .072  | .150  | -.364 |
| 280 | 933 | -.323  | .042  | -.191 | -.477  | 280 | 1012 | -.104  | .047  | -.107 | -.336 | 290 | 134  | -.215  | .154  | .448  | -.915 |
| 280 | 934 | -.265  | .038  | -.131 | -.465  | 280 | 1013 | -.319  | .044  | -.203 | -.532 | 290 | 135  | -.129  | .165  | .749  | -.288 |
| 280 | 935 | -.124  | .071  | .174  | -.331  | 280 | 1014 | -.231  | .048  | -.047 | -.501 | 290 | 136  | -.041  | .136  | .705  | -.313 |
| 280 | 936 | -.440  | .046  | -.324 | -.580  | 280 | 1015 | -.326  | .042  | -.213 | -.540 | 290 | 137  | -.058  | .129  | .492  | -.448 |
| 280 | 937 | -.389  | .048  | -.247 | -.667  | 280 | 1016 | -.278  | .050  | -.122 | -.542 | 290 | 138  | -.074  | .134  | .550  | -.482 |
| 280 | 938 | -.357  | .048  | -.223 | -.561  | 280 | 1017 | -.184  | .068  | .171  | -.510 | 290 | 139  | -.121  | .224  | .747  | -.712 |
| 280 | 939 | -.341  | .049  | -.194 | -.561  | 280 | 1018 | -.159  | .049  | .201  | -.304 | 290 | 140  | -.038  | .271  | .805  | -.193 |
| 280 | 940 | -.375  | .044  | -.249 | -.538  | 280 | 1019 | -.214  | .068  | -.004 | -.594 | 290 | 141  | -.067  | .125  | .744  | -.397 |
| 280 | 941 | -.003  | .027  | .107  | -.075  | 280 | 1020 | -.306  | .066  | -.065 | -.562 | 290 | 142  | -.038  | .117  | .555  | -.306 |
| 280 | 942 | -.127  | .067  | .267  | -.384  | 280 | 1021 | -.176  | .070  | .051  | -.478 | 290 | 143  | -.311  | .063  | .050  | -.589 |
| 280 | 943 | -.166  | .064  | .125  | -.495  | 280 | 1022 | -.134  | .027  | -.033 | -.220 | 290 | 144  | -.188  | .069  | .101  | -.436 |
| 280 | 944 | -.152  | .048  | .081  | -.395  | 280 | 1023 | -.137  | .027  | -.040 | -.237 | 290 | 145  | -.056  | .100  | .346  | -.306 |
| 280 | 945 | -.358  | .097  | -.033 | -.740  | 280 | 1024 | -.144  | .033  | -.055 | -.446 | 290 | 146  | -.083  | .142  | .578  | -.450 |
| 280 | 946 | -.133  | .046  | .205  | -.295  | 280 | 1025 | -.194  | .033  | -.082 | -.309 | 290 | 147  | -.053  | .193  | .832  | -.545 |
| 280 | 947 | -.128  | .050  | .135  | -.302  | 280 | 1026 | -.193  | .033  | -.077 | -.326 | 290 | 148  | -.032  | .184  | .744  | -.515 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 290 | 149 | -.414  | .082  | -.149 | -.842  | 290 | 199 | -.123  | .031  | -.016 | -.237 | 290 | 324 | -.347  | .048  | -.220 | -.556  |
| 290 | 150 | -.445  | .086  | -.201 | -.797  | 290 | 200 | -.125  | .030  | -.007 | -.221 | 290 | 325 | -.341  | .050  | -.193 | -.571  |
| 290 | 151 | -.350  | .101  | -.134 | -.790  | 290 | 201 | -.110  | .028  | -.011 | -.205 | 290 | 326 | -.400  | .095  | -.152 | -.835  |
| 290 | 152 | -.295  | .112  | -.164 | -.756  | 290 | 202 | -.133  | .029  | -.022 | -.239 | 290 | 327 | -.455  | .119  | -.144 | -.910  |
| 290 | 153 | -.290  | .151  | .225  | -.895  | 290 | 203 | -.127  | .024  | -.057 | -.230 | 290 | 328 | -.380  | .085  | -.105 | -.737  |
| 290 | 154 | -.247  | .146  | .298  | -.926  | 290 | 204 | -.124  | .025  | -.041 | -.223 | 290 | 329 | -.362  | .078  | -.127 | -.798  |
| 290 | 155 | -.164  | .196  | .529  | -.994  | 290 | 205 | -.123  | .023  | -.048 | -.194 | 290 | 330 | -.311  | .042  | -.170 | -.473  |
| 290 | 156 | -.017  | .165  | .810  | -.450  | 290 | 206 | -.103  | .037  | -.078 | -.267 | 290 | 331 | -.341  | .052  | -.192 | -.551  |
| 290 | 157 | -.034  | .175  | .760  | -.564  | 290 | 207 | -.106  | .043  | -.112 | -.328 | 290 | 332 | -.357  | .063  | -.202 | -.856  |
| 290 | 158 | -.260  | .072  | .012  | -.530  | 290 | 208 | -.108  | .051  | -.169 | -.305 | 290 | 333 | -.363  | .055  | -.188 | -.656  |
| 290 | 159 | -.220  | .169  | .289  | -.1022 | 290 | 209 | -.128  | .034  | -.013 | -.267 | 290 | 334 | -.372  | .062  | -.190 | -.644  |
| 290 | 160 | -.265  | .071  | .003  | -.514  | 290 | 210 | -.102  | .028  | -.003 | -.198 | 290 | 335 | -.382  | .066  | -.209 | -.802  |
| 290 | 161 | -.282  | .182  | .608  | -.1087 | 290 | 211 | -.133  | .027  | -.033 | -.239 | 290 | 336 | -.367  | .056  | -.197 | -.610  |
| 290 | 162 | -.283  | .063  | -.024 | -.552  | 290 | 212 | -.124  | .026  | -.040 | -.272 | 290 | 337 | -.363  | .056  | -.200 | -.571  |
| 290 | 163 | -.220  | .059  | .060  | -.539  | 290 | 213 | -.098  | .043  | -.101 | -.269 | 290 | 338 | -.377  | .058  | -.202 | -.627  |
| 290 | 164 | -.132  | .066  | .230  | -.376  | 290 | 214 | -.098  | .058  | -.233 | -.288 | 290 | 339 | -.349  | .052  | -.188 | -.571  |
| 290 | 165 | -.115  | .061  | .227  | -.335  | 290 | 215 | -.156  | .044  | -.017 | -.320 | 290 | 340 | -.349  | .052  | -.195 | -.539  |
| 290 | 166 | -.103  | .067  | .299  | -.445  | 290 | 216 | -.131  | .028  | -.017 | -.258 | 290 | 341 | -.366  | .055  | -.195 | -.622  |
| 290 | 167 | -.133  | .121  | .378  | -.825  | 290 | 217 | -.121  | .027  | -.011 | -.205 | 290 | 342 | -.377  | .054  | -.222 | -.678  |
| 290 | 168 | -.192  | .175  | .280  | -.1139 | 290 | 218 | -.120  | .025  | -.015 | -.209 | 290 | 343 | -.398  | .064  | -.224 | -.707  |
| 290 | 169 | -.126  | .063  | .258  | -.459  | 290 | 219 | -.129  | .027  | -.008 | -.214 | 290 | 344 | -.389  | .060  | -.239 | -.615  |
| 290 | 170 | -.285  | .060  | -.084 | -.550  | 290 | 220 | -.124  | .025  | -.033 | -.223 | 290 | 345 | -.379  | .058  | -.224 | -.639  |
| 290 | 171 | -.219  | .051  | .031  | -.471  | 290 | 221 | -.123  | .026  | -.015 | -.262 | 290 | 346 | -.360  | .053  | -.209 | -.583  |
| 290 | 172 | -.214  | .082  | .117  | -.787  | 290 | 222 | -.122  | .025  | -.050 | -.295 | 290 | 347 | -.346  | .054  | -.188 | -.558  |
| 290 | 173 | -.093  | .045  | .093  | -.309  | 290 | 223 | -.094  | .043  | -.147 | -.230 | 290 | 348 | -.356  | .056  | -.175 | -.629  |
| 290 | 174 | -.105  | .046  | .081  | -.344  | 290 | 224 | -.100  | .044  | -.122 | -.272 | 290 | 349 | -.373  | .058  | -.181 | -.646  |
| 290 | 175 | -.120  | .075  | .148  | -.557  | 290 | 225 | -.098  | .050  | -.136 | -.295 | 290 | 350 | -.380  | .059  | -.193 | -.622  |
| 290 | 176 | -.127  | .074  | .165  | -.591  | 290 | 301 | -.285  | .041  | -.142 | -.479 | 290 | 351 | -.389  | .062  | -.210 | -.699  |
| 290 | 177 | -.249  | .065  | -.002 | -.565  | 290 | 302 | -.375  | .053  | -.198 | -.551 | 290 | 352 | -.397  | .058  | -.234 | -.742  |
| 290 | 178 | -.189  | .056  | .062  | -.431  | 290 | 303 | -.420  | .065  | -.217 | -.702 | 290 | 353 | -.385  | .063  | -.234 | -.689  |
| 290 | 179 | -.168  | .064  | .215  | -.505  | 290 | 304 | -.075  | .057  | -.088 | -.288 | 290 | 354 | -.396  | .062  | -.224 | -.735  |
| 290 | 180 | -.106  | .036  | .074  | -.256  | 290 | 305 | -.294  | .042  | -.160 | -.636 | 290 | 355 | -.397  | .075  | -.200 | -.770  |
| 290 | 181 | -.112  | .035  | .041  | -.268  | 290 | 306 | -.291  | .040  | -.162 | -.440 | 290 | 356 | -.430  | .081  | -.212 | -.792  |
| 290 | 182 | -.106  | .050  | .072  | -.469  | 290 | 307 | -.323  | .046  | -.154 | -.542 | 290 | 357 | -.468  | .095  | -.227 | -.149  |
| 290 | 183 | -.110  | .061  | .160  | -.387  | 290 | 308 | -.324  | .049  | -.207 | -.577 | 290 | 358 | -.386  | .061  | -.234 | -.655  |
| 290 | 184 | -.211  | .037  | -.057 | -.514  | 290 | 309 | -.313  | .041  | -.186 | -.530 | 290 | 359 | -.396  | .077  | -.169 | -.775  |
| 290 | 185 | -.170  | .032  | -.045 | -.285  | 290 | 310 | -.306  | .042  | -.164 | -.520 | 290 | 360 | -.385  | .060  | -.217 | -.605  |
| 290 | 186 | -.140  | .043  | .041  | -.342  | 290 | 311 | -.292  | .040  | -.146 | -.460 | 290 | 361 | -.450  | .139  | -.169 | -.422  |
| 290 | 187 | -.100  | .039  | .172  | -.309  | 290 | 312 | -.338  | .047  | -.174 | -.610 | 290 | 362 | -.364  | .059  | -.179 | -.639  |
| 290 | 188 | -.107  | .031  | .019  | -.215  | 290 | 313 | -.329  | .043  | -.193 | -.484 | 290 | 363 | -.371  | .062  | -.205 | -.694  |
| 290 | 189 | -.109  | .044  | .074  | -.452  | 290 | 314 | -.317  | .042  | -.176 | -.474 | 290 | 364 | -.425  | .079  | -.195 | -.919  |
| 290 | 190 | -.109  | .056  | .084  | -.502  | 290 | 315 | -.299  | .039  | -.174 | -.455 | 290 | 365 | -.512  | .118  | -.329 | -.1293 |
| 290 | 191 | -.098  | .044  | .130  | -.335  | 290 | 316 | -.318  | .039  | -.174 | -.486 | 290 | 366 | -.409  | .084  | -.209 | -.840  |
| 290 | 192 | -.100  | .042  | .101  | -.362  | 290 | 317 | -.331  | .043  | -.188 | -.508 | 290 | 367 | -.415  | .083  | -.178 | -.926  |
| 290 | 193 | -.108  | .039  | .030  | -.308  | 290 | 318 | -.334  | .045  | -.208 | -.515 | 290 | 368 | -.409  | .086  | -.186 | -.871  |
| 290 | 194 | -.179  | .038  | .003  | -.376  | 290 | 319 | -.319  | .040  | -.193 | -.559 | 290 | 369 | -.358  | .063  | -.141 | -.643  |
| 290 | 195 | -.148  | .036  | .030  | -.258  | 290 | 320 | -.323  | .043  | -.188 | -.472 | 290 | 370 | -.330  | .056  | -.113 | -.585  |
| 290 | 196 | -.116  | .042  | .085  | -.285  | 290 | 321 | -.310  | .057  | -.166 | -.595 | 290 | 371 | -.312  | .057  | -.067 | -.628  |
| 290 | 197 | -.118  | .042  | .030  | -.333  | 290 | 322 | -.329  | .049  | -.193 | -.663 | 290 | 372 | -.347  | .080  | -.113 | -.694  |
| 290 | 198 | -.126  | .031  | .003  | -.223  | 290 | 323 | -.333  | .049  | -.176 | -.537 | 290 | 373 | -.422  | .091  | -.186 | -.762  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 290 | 374 | -.500  | .123  | -.224 | -1.474 | 290 | 502 | -.285  | .041  | -.149 | -.475 | 290 | 552 | -.356  | .059  | -.159 | -.635  |
| 290 | 375 | -.448  | .098  | -.242 | -.997  | 290 | 503 | -.064  | .058  | .108  | -.290 | 290 | 553 | -.360  | .061  | -.188 | -.692  |
| 290 | 376 | -.433  | .091  | -.221 | -.913  | 290 | 504 | -.433  | .071  | -.233 | -.760 | 290 | 554 | -.363  | .054  | -.207 | -.701  |
| 290 | 377 | -.246  | .053  | -.067 | -.429  | 290 | 505 | -.288  | .032  | -.189 | -.433 | 290 | 555 | -.372  | .056  | -.233 | -.866  |
| 290 | 378 | -.236  | .043  | -.037 | -.391  | 290 | 506 | -.286  | .036  | -.175 | -.454 | 290 | 556 | -.362  | .056  | -.180 | -.582  |
| 290 | 379 | -.239  | .055  | -.034 | -.507  | 290 | 507 | -.308  | .044  | -.190 | -.496 | 290 | 557 | -.389  | .059  | -.197 | -.628  |
| 290 | 380 | -.307  | .092  | -.031 | -.729  | 290 | 508 | -.290  | .042  | -.130 | -.481 | 290 | 558 | -.369  | .083  | -.111 | -.901  |
| 290 | 381 | -.528  | .179  | -.014 | -1.532 | 290 | 509 | -.309  | .046  | -.178 | -.679 | 290 | 559 | -.396  | .065  | -.230 | -.732  |
| 290 | 382 | -.478  | .127  | -.234 | -1.393 | 290 | 510 | -.307  | .041  | -.185 | -.492 | 290 | 560 | -.390  | .106  | -.154 | -.191  |
| 290 | 383 | -.451  | .118  | -.209 | -1.421 | 290 | 511 | -.301  | .039  | -.182 | -.483 | 290 | 561 | -.420  | .069  | -.223 | -.749  |
| 290 | 384 | -.198  | .036  | -.070 | -.370  | 290 | 512 | -.314  | .051  | -.187 | -.544 | 290 | 562 | -.359  | .075  | -.119 | -.089  |
| 290 | 385 | -.195  | .034  | -.047 | -.315  | 290 | 513 | -.325  | .049  | -.175 | -.561 | 290 | 563 | -.369  | .079  | -.159 | -.896  |
| 290 | 386 | -.207  | .047  | -.024 | -.421  | 290 | 514 | -.311  | .040  | -.178 | -.508 | 290 | 564 | -.352  | .068  | -.178 | -.765  |
| 290 | 387 | -.211  | .061  | -.004 | -.676  | 290 | 515 | -.317  | .044  | -.185 | -.532 | 290 | 565 | -.402  | .087  | -.214 | -.944  |
| 290 | 388 | -.390  | .136  | -.012 | -1.012 | 290 | 516 | -.308  | .045  | -.178 | -.552 | 290 | 566 | -.372  | .062  | -.208 | -.592  |
| 290 | 389 | -.430  | .122  | -.128 | -.315  | 290 | 517 | -.310  | .040  | -.187 | -.472 | 290 | 567 | -.414  | .074  | -.203 | -.740  |
| 290 | 390 | -.404  | .115  | -.156 | -1.358 | 290 | 518 | -.405  | .097  | -.199 | -.861 | 290 | 568 | -.421  | .082  | -.196 | -.795  |
| 290 | 391 | -.225  | .035  | -.029 | -.364  | 290 | 519 | -.334  | .059  | -.132 | -.588 | 290 | 569 | -.347  | .060  | -.163 | -.594  |
| 290 | 392 | -.226  | .035  | -.084 | -.367  | 290 | 520 | -.338  | .049  | -.202 | -.578 | 290 | 570 | -.380  | .078  | -.178 | -.780  |
| 290 | 393 | -.220  | .034  | -.063 | -.374  | 290 | 521 | -.331  | .043  | -.182 | -.518 | 290 | 571 | -.398  | .080  | -.195 | -.805  |
| 290 | 394 | -.297  | .091  | -.042 | -.876  | 290 | 522 | -.295  | .054  | -.118 | -.710 | 290 | 572 | -.409  | .099  | -.165 | -.1026 |
| 290 | 395 | -.322  | .097  | -.156 | -1.067 | 290 | 523 | -.302  | .058  | -.139 | -.609 | 290 | 573 | -.397  | .077  | -.223 | -.758  |
| 290 | 396 | -.323  | .100  | -.142 | -1.674 | 290 | 524 | -.320  | .086  | -.048 | -.284 | 290 | 574 | -.408  | .073  | -.210 | -.760  |
| 290 | 397 | -.198  | .031  | -.094 | -.314  | 290 | 525 | -.316  | .068  | -.149 | -.803 | 290 | 575 | -.401  | .087  | -.165 | -.846  |
| 290 | 398 | -.209  | .033  | -.088 | -.376  | 290 | 526 | -.326  | .049  | -.178 | -.554 | 290 | 576 | -.406  | .089  | -.178 | -.996  |
| 290 | 399 | -.243  | .043  | -.092 | -.425  | 290 | 527 | -.316  | .040  | -.174 | -.548 | 290 | 577 | -.431  | .101  | -.120 | -.280  |
| 290 | 400 | -.232  | .043  | -.065 | -.632  | 290 | 528 | -.318  | .043  | -.186 | -.516 | 290 | 578 | -.437  | .112  | -.203 | -.107  |
| 290 | 401 | -.215  | .031  | -.106 | -.344  | 290 | 529 | -.326  | .046  | -.144 | -.509 | 290 | 579 | -.469  | .120  | -.225 | -.1051 |
| 290 | 402 | -.219  | .033  | -.106 | -.425  | 290 | 530 | -.310  | .040  | -.174 | -.468 | 290 | 580 | -.415  | .084  | -.218 | -.775  |
| 290 | 403 | -.127  | .028  | -.020 | -.230  | 290 | 531 | -.322  | .042  | -.186 | -.487 | 290 | 581 | -.337  | .070  | -.072 | -.632  |
| 290 | 404 | -.130  | .027  | -.031 | -.233  | 290 | 532 | -.322  | .050  | -.164 | -.521 | 290 | 582 | -.277  | .072  | -.021 | -.622  |
| 290 | 405 | -.108  | .027  | -.011 | -.206  | 290 | 533 | -.314  | .052  | -.162 | -.628 | 290 | 583 | -.287  | .081  | -.070 | -.610  |
| 290 | 406 | -.105  | .027  | -.013 | -.251  | 290 | 534 | -.320  | .051  | -.169 | -.694 | 290 | 584 | -.438  | .108  | -.185 | -.388  |
| 290 | 407 | -.202  | .031  | -.088 | -.317  | 290 | 535 | -.331  | .051  | -.152 | -.521 | 290 | 585 | -.459  | .116  | -.213 | -.1295 |
| 290 | 408 | -.193  | .035  | -.059 | -.342  | 290 | 536 | -.336  | .048  | -.198 | -.526 | 290 | 586 | -.469  | .125  | -.102 | -.1255 |
| 290 | 409 | -.212  | .029  | -.117 | -.321  | 290 | 537 | -.339  | .053  | -.200 | -.733 | 290 | 587 | -.347  | .077  | -.041 | -.740  |
| 290 | 410 | -.102  | .034  | -.035 | -.206  | 290 | 538 | -.349  | .051  | -.186 | -.653 | 290 | 588 | -.239  | .062  | -.038 | -.487  |
| 290 | 411 | -.241  | .046  | -.092 | -.598  | 290 | 539 | -.355  | .053  | -.200 | -.580 | 290 | 589 | -.200  | .041  | -.019 | -.376  |
| 290 | 412 | -.190  | .036  | -.083 | -.361  | 290 | 540 | -.353  | .056  | -.208 | -.643 | 290 | 590 | -.195  | .041  | -.025 | -.411  |
| 290 | 413 | -.132  | .026  | -.043 | -.220  | 290 | 541 | -.338  | .050  | -.198 | -.575 | 290 | 591 | -.335  | .077  | -.002 | -.679  |
| 290 | 414 | -.196  | .034  | -.055 | -.332  | 290 | 542 | -.347  | .055  | -.208 | -.548 | 290 | 592 | -.288  | .073  | -.038 | -.579  |
| 290 | 415 | -.194  | .034  | -.086 | -.347  | 290 | 543 | -.352  | .054  | -.198 | -.638 | 290 | 593 | -.419  | .092  | -.179 | -.129  |
| 290 | 416 | -.234  | .041  | -.127 | -.555  | 290 | 544 | -.345  | .059  | -.188 | -.604 | 290 | 594 | -.435  | .095  | -.225 | -.074  |
| 290 | 417 | -.210  | .030  | -.093 | -.368  | 290 | 545 | -.344  | .055  | -.179 | -.640 | 290 | 595 | -.427  | .120  | -.108 | -.253  |
| 290 | 418 | -.208  | .026  | -.134 | -.306  | 290 | 546 | -.370  | .055  | -.234 | -.631 | 290 | 596 | -.297  | .078  | -.062 | -.677  |
| 290 | 419 | -.218  | .040  | -.098 | -.371  | 290 | 547 | -.374  | .055  | -.217 | -.601 | 290 | 597 | -.220  | .054  | -.024 | -.498  |
| 290 | 420 | -.115  | .027  | -.014 | -.218  | 290 | 548 | -.365  | .053  | -.198 | -.587 | 290 | 598 | -.194  | .034  | -.012 | -.332  |
| 290 | 421 | -.071  | .043  | -.151 | -.225  | 290 | 549 | -.434  | .087  | -.180 | -.922 | 290 | 599 | -.184  | .031  | -.057 | -.312  |
| 290 | 422 | -.047  | .050  | -.186 | -.197  | 290 | 550 | -.393  | .071  | -.161 | -.689 | 290 | 600 | -.212  | .034  | -.110 | -.471  |
| 290 | 501 | -.364  | .052  | -.173 | -.556  | 290 | 551 | -.365  | .072  | -.161 | -.968 | 290 | 601 | -.197  | .037  | -.076 | -.445  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|
| 290 | 602 | -.199  | .034  | -.083 | -.358  | 290 | 732 | .218   | .210  | .975  | -.649   | 290 | 782 | -.197  | .062  | .116  | -.501 |
| 290 | 603 | -.409  | .104  | -.181 | -1.097 | 290 | 733 | .245   | .185  | .888  | -.306   | 290 | 783 | -.241  | .062  | .017  | -.503 |
| 290 | 604 | -.192  | .031  | -.062 | -.314  | 290 | 734 | .190   | .137  | .630  | -.217   | 290 | 784 | -.107  | .055  | .087  | -.484 |
| 290 | 605 | -.197  | .032  | -.073 | -.337  | 290 | 735 | .167   | .131  | .600  | -.192   | 290 | 785 | -.100  | .046  | .069  | -.288 |
| 290 | 606 | -.192  | .040  | -.036 | -.380  | 290 | 736 | .197   | .160  | .968  | -.224   | 290 | 786 | -.099  | .041  | .031  | -.212 |
| 290 | 607 | -.189  | .036  | -.050 | -.333  | 290 | 737 | .202   | .154  | .769  | -.224   | 290 | 787 | -.102  | .041  | .028  | -.274 |
| 290 | 608 | -.247  | .081  | -.020 | -.599  | 290 | 738 | -.078  | .167  | .488  | -.858   | 290 | 788 | -.180  | .058  | .094  | -.383 |
| 290 | 609 | -.208  | .037  | -.082 | -.334  | 290 | 739 | -.048  | .089  | .337  | -.308   | 290 | 789 | -.225  | .063  | .038  | -.453 |
| 290 | 610 | -.184  | .032  | -.071 | -.356  | 290 | 740 | -.144  | .074  | .117  | -.354   | 290 | 790 | -.276  | .064  | -.028 | -.224 |
| 290 | 611 | -.181  | .029  | -.066 | -.298  | 290 | 741 | .185   | .145  | .788  | -.265   | 290 | 791 | -.089  | .041  | .053  | -.260 |
| 290 | 612 | -.400  | .117  | -.139 | -1.330 | 290 | 742 | .171   | .139  | .710  | -.180   | 290 | 792 | -.093  | .039  | .072  | -.260 |
| 290 | 613 | -.401  | .119  | -.136 | -1.239 | 290 | 743 | .094   | .150  | .806  | -.352   | 290 | 793 | -.085  | .042  | .083  | -.218 |
| 290 | 614 | -.306  | .121  | -.004 | -1.052 | 290 | 744 | .164   | .162  | .778  | -.254   | 290 | 794 | -.088  | .040  | .069  | -.263 |
| 290 | 615 | -.231  | .074  | -.207 | -.484  | 290 | 745 | .205   | .153  | .781  | -.176   | 290 | 795 | -.135  | .029  | .024  | -.248 |
| 290 | 616 | -.195  | .052  | -.065 | -.487  | 290 | 746 | .054   | .111  | .502  | -.254   | 290 | 796 | -.130  | .031  | .026  | -.286 |
| 290 | 617 | -.186  | .033  | -.050 | -.312  | 290 | 747 | -.105  | .085  | .284  | -.398   | 290 | 797 | -.090  | .049  | .187  | -.305 |
| 290 | 618 | -.187  | .030  | -.076 | -.293  | 290 | 748 | -.263  | .063  | .021  | -.560   | 290 | 798 | -.107  | .055  | .086  | -.634 |
| 290 | 619 | -.190  | .029  | -.078 | -.335  | 290 | 749 | .008   | .174  | .755  | -.618   | 290 | 799 | -.103  | .047  | .048  | -.433 |
| 290 | 620 | -.179  | .030  | -.057 | -.288  | 290 | 750 | -.030  | .163  | .640  | -.555   | 290 | 800 | -.092  | .039  | .071  | -.272 |
| 290 | 701 | -.096  | .102  | -.418 | -.309  | 290 | 751 | -.026  | .189  | .743  | -.1.066 | 290 | 801 | -.102  | .041  | .046  | -.330 |
| 290 | 702 | -.046  | .085  | -.240 | -.388  | 290 | 752 | -.073  | .195  | .622  | -.725   | 290 | 802 | -.161  | .051  | .033  | -.364 |
| 290 | 703 | -.042  | .097  | -.371 | -.277  | 290 | 753 | -.092  | .196  | .600  | -.875   | 290 | 803 | -.214  | .049  | .107  | -.495 |
| 290 | 704 | -.088  | .180  | -.725 | -.381  | 290 | 754 | -.122  | .154  | .352  | -.958   | 290 | 804 | -.273  | .055  | .003  | -.454 |
| 290 | 705 | -.237  | .143  | .618  | -.334  | 290 | 755 | -.230  | .120  | .246  | -.739   | 290 | 805 | -.130  | .028  | -.030 | -.286 |
| 290 | 706 | -.121  | .054  | .078  | -.430  | 290 | 756 | -.434  | .094  | -.188 | -.916   | 290 | 806 | -.143  | .027  | -.026 | -.260 |
| 290 | 707 | -.043  | .078  | .434  | -.200  | 290 | 757 | -.370  | .078  | .005  | -.786   | 290 | 807 | -.125  | .028  | .090  | -.213 |
| 290 | 708 | .335   | .164  | .771  | -.285  | 290 | 758 | -.005  | .140  | .600  | -.826   | 290 | 808 | -.079  | .050  | .161  | -.234 |
| 290 | 709 | .178   | .129  | .612  | -.279  | 290 | 759 | -.139  | .093  | .296  | -.510   | 290 | 809 | -.107  | .052  | .062  | -.473 |
| 290 | 710 | .157   | .123  | .563  | -.413  | 290 | 760 | -.094  | .153  | .466  | -.875   | 290 | 810 | -.084  | .042  | .133  | -.239 |
| 290 | 711 | -.129  | .066  | .112  | -.452  | 290 | 761 | -.160  | .084  | .224  | -.535   | 290 | 811 | -.092  | .042  | .071  | -.284 |
| 290 | 712 | .410   | .199  | .917  | -.395  | 290 | 762 | -.061  | .094  | .414  | -.1.126 | 290 | 812 | -.240  | .049  | -.033 | -.421 |
| 290 | 713 | .279   | .149  | .777  | -.212  | 290 | 763 | -.032  | .089  | .439  | -.513   | 290 | 813 | -.122  | .029  | .031  | -.215 |
| 290 | 714 | .132   | .118  | .522  | -.354  | 290 | 764 | -.005  | .108  | .605  | -.320   | 290 | 814 | -.119  | .034  | .102  | -.265 |
| 290 | 715 | -.086  | .072  | .249  | -.358  | 290 | 765 | -.002  | .104  | .461  | -.295   | 290 | 815 | -.084  | .050  | .152  | -.312 |
| 290 | 716 | .180   | .163  | .687  | -.397  | 290 | 766 | -.005  | .104  | .458  | -.357   | 290 | 816 | -.099  | .044  | .095  | -.293 |
| 290 | 717 | .323   | .203  | 1.021 | -.196  | 290 | 767 | -.106  | .081  | .307  | -.390   | 290 | 817 | -.089  | .043  | .102  | -.319 |
| 290 | 718 | .249   | .174  | .748  | -.239  | 290 | 768 | -.175  | .069  | .180  | -.449   | 290 | 818 | -.076  | .050  | .145  | -.270 |
| 290 | 719 | .263   | .156  | .840  | -.419  | 290 | 769 | -.030  | .101  | .579  | -.326   | 290 | 819 | -.060  | .057  | .346  | -.194 |
| 290 | 720 | -.196  | .124  | .308  | -.285  | 290 | 770 | -.102  | .056  | .144  | -.418   | 290 | 820 | -.092  | .070  | .280  | -.383 |
| 290 | 721 | -.107  | .085  | .296  | -.476  | 290 | 771 | -.093  | .053  | .130  | -.385   | 290 | 821 | -.143  | .049  | .120  | -.307 |
| 290 | 722 | .362   | .211  | 1.007 | -.270  | 290 | 772 | -.081  | .060  | .234  | -.314   | 290 | 822 | -.198  | .043  | -.004 | -.328 |
| 290 | 723 | .322   | .184  | .899  | -.200  | 290 | 773 | -.054  | .065  | .243  | -.239   | 290 | 823 | -.384  | .049  | -.257 | -.561 |
| 290 | 724 | .235   | .145  | .678  | -.200  | 290 | 774 | -.111  | .095  | .274  | -.524   | 290 | 824 | -.014  | .102  | .390  | -.264 |
| 290 | 725 | .156   | .134  | .696  | -.358  | 290 | 775 | -.151  | .068  | .189  | -.371   | 290 | 825 | .175   | .133  | .654  | -.161 |
| 290 | 726 | .282   | .188  | .892  | -.279  | 290 | 776 | -.217  | .070  | .035  | -.501   | 290 | 826 | .004   | .165  | .900  | -.255 |
| 290 | 727 | -.086  | .163  | .431  | -.668  | 290 | 777 | -.101  | .054  | .104  | -.368   | 290 | 827 | .092   | .123  | .580  | -.197 |
| 290 | 728 | -.023  | .094  | .328  | -.503  | 290 | 778 | -.100  | .053  | .094  | -.319   | 290 | 828 | -.075  | .092  | .226  | -.330 |
| 290 | 729 | -.095  | .077  | .199  | -.457  | 290 | 779 | -.109  | .051  | .094  | -.357   | 290 | 829 | -.201  | .112  | .219  | -.580 |
| 290 | 730 | .232   | .173  | .900  | -.288  | 290 | 780 | -.111  | .053  | .090  | -.293   | 290 | 830 | .195   | .124  | .648  | -.247 |
| 290 | 731 | .210   | .165  | .879  | -.199  | 290 | 781 | -.164  | .075  | .113  | -.529   | 290 | 831 | .120   | .101  | .405  | -.192 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 290 | 910 | -.334  | .051  | -.202 | -.601 | 290 | 960  | -.203  | .031  | -.092 | -.330 | 300 | 111 | .281   | .192  | .857  | -.442 |
| 290 | 911 | .107   | .199  | .910  | -.568 | 290 | 961  | -.235  | .043  | -.101 | -.476 | 300 | 112 | -.068  | .083  | .212  | -.377 |
| 290 | 912 | -.253  | .128  | .449  | -.733 | 290 | 962  | -.237  | .038  | -.122 | -.566 | 300 | 113 | .152   | .137  | .779  | -.267 |
| 290 | 913 | .362   | .178  | .845  | -.187 | 290 | 963  | -.201  | .049  | -.057 | -.491 | 300 | 114 | .311   | .170  | .849  | -.197 |
| 290 | 914 | -.171  | .063  | .106  | -.371 | 290 | 964  | -.213  | .042  | -.007 | -.457 | 300 | 115 | .409   | .209  | .989  | -.288 |
| 290 | 915 | .163   | .117  | .535  | -.197 | 290 | 965  | -.212  | .036  | -.076 | -.389 | 300 | 116 | .269   | .172  | .715  | -.272 |
| 290 | 916 | -.272  | .101  | -.001 | -.900 | 290 | 966  | -.229  | .046  | -.078 | -.476 | 300 | 117 | .334   | .209  | .964  | -.224 |
| 290 | 917 | .305   | .188  | .858  | -.212 | 290 | 967  | -.159  | .038  | -.020 | -.376 | 300 | 118 | -.073  | .086  | .219  | -.357 |
| 290 | 918 | -.284  | .105  | .032  | -.641 | 290 | 968  | -.215  | .036  | -.085 | -.376 | 300 | 119 | -.148  | .143  | .402  | -.615 |
| 290 | 919 | .344   | .048  | -.192 | -.518 | 290 | 969  | -.217  | .038  | -.061 | -.393 | 300 | 120 | .264   | .183  | .920  | -.318 |
| 290 | 920 | -.329  | .055  | -.165 | -.550 | 290 | 970  | -.208  | .039  | -.027 | -.376 | 300 | 121 | .229   | .181  | .806  | -.322 |
| 290 | 921 | -.172  | .095  | .101  | -.580 | 290 | 971  | -.165  | .039  | -.047 | -.354 | 300 | 122 | -.107  | .095  | .210  | -.649 |
| 290 | 922 | .069   | .121  | .606  | -.251 | 290 | 1001 | -.033  | .092  | .382  | -.359 | 300 | 123 | -.020  | .110  | .324  | -.480 |
| 290 | 923 | -.395  | .071  | -.183 | -.723 | 290 | 1002 | -.084  | .037  | -.049 | -.249 | 300 | 124 | -.013  | .178  | .605  | -.912 |
| 290 | 924 | -.323  | .049  | -.197 | -.558 | 290 | 1003 | -.285  | .072  | -.049 | -.593 | 300 | 125 | .291   | .195  | .913  | -.322 |
| 290 | 925 | -.257  | .097  | .173  | -.732 | 290 | 1004 | -.158  | .155  | .540  | -.674 | 300 | 126 | .134   | .155  | .621  | -.377 |
| 290 | 926 | -.312  | .039  | -.188 | -.461 | 290 | 1005 | -.288  | .062  | -.123 | -.699 | 300 | 127 | .197   | .163  | .692  | -.351 |
| 290 | 927 | -.196  | .082  | .094  | -.503 | 290 | 1006 | -.188  | .136  | .638  | -.355 | 300 | 128 | .282   | .209  | .838  | -.341 |
| 290 | 928 | -.319  | .041  | -.202 | -.517 | 290 | 1007 | -.326  | .075  | -.039 | -.628 | 300 | 129 | .317   | .229  | 1.056 | -.478 |
| 290 | 929 | -.223  | .063  | .031  | -.640 | 290 | 1008 | -.113  | .039  | -.067 | -.256 | 300 | 130 | .281   | .192  | .899  | -.232 |
| 290 | 930 | -.375  | .052  | -.245 | -.649 | 290 | 1009 | -.331  | .058  | -.149 | -.581 | 300 | 131 | .223   | .209  | .906  | -.259 |
| 290 | 931 | -.086  | .083  | .286  | -.301 | 290 | 1010 | -.136  | .060  | .155  | -.393 | 300 | 132 | -.154  | .090  | .194  | -.443 |
| 290 | 932 | -.321  | .037  | -.203 | -.454 | 290 | 1011 | -.210  | .064  | .040  | -.442 | 300 | 133 | -.067  | .117  | .359  | -.385 |
| 290 | 933 | -.306  | .043  | .158  | -.502 | 290 | 1012 | -.102  | .044  | .142  | -.327 | 300 | 134 | -.058  | .202  | .623  | -.877 |
| 290 | 934 | -.243  | .041  | -.049 | -.480 | 290 | 1013 | -.333  | .052  | -.197 | -.716 | 300 | 135 | .174   | .191  | .924  | -.302 |
| 290 | 935 | -.051  | .082  | .311  | -.330 | 290 | 1014 | -.253  | .048  | -.067 | -.550 | 300 | 136 | .179   | .191  | .880  | -.205 |
| 290 | 936 | -.419  | .044  | -.298 | -.572 | 290 | 1015 | -.330  | .043  | -.215 | -.493 | 300 | 137 | .147   | .163  | .660  | -.221 |
| 290 | 937 | -.391  | .056  | -.258 | -.617 | 290 | 1016 | -.244  | .044  | -.102 | -.507 | 300 | 138 | .168   | .175  | .792  | -.302 |
| 290 | 938 | -.371  | .054  | -.212 | -.598 | 290 | 1017 | -.189  | .054  | .042  | -.623 | 300 | 139 | .192   | .195  | .959  | -.376 |
| 290 | 939 | -.353  | .053  | -.172 | -.617 | 290 | 1018 | -.165  | .048  | .084  | -.310 | 300 | 140 | .193   | .212  | .896  | -.564 |
| 290 | 940 | -.394  | .048  | -.264 | -.568 | 290 | 1019 | -.224  | .054  | -.017 | -.493 | 300 | 141 | .202   | .186  | .966  | -.209 |
| 290 | 941 | -.081  | .021  | -.014 | -.131 | 290 | 1020 | -.333  | .069  | -.043 | -.589 | 300 | 142 | .155   | .160  | .836  | -.188 |
| 290 | 942 | -.120  | .048  | .072  | -.494 | 290 | 1021 | -.229  | .073  | -.079 | -.484 | 300 | 143 | -.279  | .077  | .094  | -.566 |
| 290 | 943 | -.134  | .040  | .012  | -.277 | 290 | 1022 | -.130  | .023  | -.053 | -.210 | 300 | 144 | -.123  | .104  | .289  | -.478 |
| 290 | 944 | -.120  | .032  | -.037 | -.229 | 290 | 1023 | -.134  | .024  | -.058 | -.234 | 300 | 145 | .063   | .153  | .660  | -.258 |
| 290 | 945 | -.351  | .074  | -.125 | -.700 | 290 | 1024 | -.126  | .023  | -.036 | -.207 | 300 | 146 | .163   | .166  | .808  | -.202 |
| 290 | 946 | -.110  | .039  | .146  | -.240 | 290 | 1025 | -.189  | .029  | .080  | -.337 | 300 | 147 | .130   | .162  | .799  | -.318 |
| 290 | 947 | -.108  | .044  | .213  | -.238 | 290 | 1026 | -.188  | .030  | -.063 | -.290 | 300 | 148 | .063   | .150  | .790  | -.369 |
| 290 | 948 | -.104  | .042  | .072  | -.231 | 290 | 1027 | -.181  | .029  | -.068 | -.317 | 300 | 149 | -.428  | .097  | .024  | -.833 |
| 290 | 949 | -.097  | .049  | .243  | -.286 | 290 | 1028 | -.137  | .029  | -.036 | -.237 | 300 | 150 | -.489  | .106  | -.207 | -.976 |
| 290 | 950 | -.231  | .062  | .032  | -.483 | 300 | 101  | -.049  | .080  | .253  | -.345 | 300 | 151 | .286   | .154  | .215  | -.822 |
| 290 | 951 | -.113  | .033  | .056  | -.268 | 300 | 102  | -.070  | .098  | .418  | -.423 | 300 | 152 | -.164  | .175  | .444  | -.767 |
| 290 | 952 | -.127  | .031  | -.018 | -.286 | 300 | 103  | -.149  | .188  | .715  | -.471 | 300 | 153 | -.150  | .206  | .750  | -.994 |
| 290 | 953 | -.119  | .029  | .019  | -.240 | 300 | 104  | -.052  | .068  | .235  | -.277 | 300 | 154 | -.145  | .184  | .541  | -.101 |
| 290 | 954 | -.120  | .042  | .127  | -.252 | 300 | 105  | -.103  | .061  | .175  | -.348 | 300 | 155 | -.060  | .186  | .713  | -.021 |
| 290 | 955 | -.136  | .033  | .046  | -.293 | 300 | 106  | -.214  | .150  | .657  | -.293 | 300 | 156 | -.034  | .174  | .700  | -.570 |
| 290 | 956 | -.128  | .043  | .021  | -.353 | 300 | 107  | -.038  | .087  | .372  | -.238 | 300 | 157 | -.028  | .166  | .741  | -.552 |
| 290 | 957 | -.239  | .062  | .039  | -.563 | 300 | 108  | -.134  | .072  | .141  | -.466 | 300 | 158 | -.182  | .118  | .333  | -.749 |
| 290 | 958 | -.327  | .108  | -.037 | -.824 | 300 | 109  | -.164  | .137  | .564  | -.363 | 300 | 159 | -.048  | .140  | .552  | -.765 |
| 290 | 959 | -.237  | .048  | .053  | -.515 | 300 | 110  | .201   | .139  | .573  | -.240 | 300 | 160 | -.206  | .100  | .278  | -.547 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 300 | 161 | -.107  | .133  | .382  | -.749 | 300 | 211 | -.127  | .035  | -.001 | -.378  | 300 | 336 | -.392  | .056  | -.231 | -.612 |
| 300 | 162 | -.233  | .093  | .235  | -.590 | 300 | 212 | -.112  | .029  | -.019 | -.365  | 300 | 337 | -.381  | .057  | -.182 | -.588 |
| 300 | 163 | -.144  | .101  | .303  | -.477 | 300 | 213 | -.102  | .040  | .141  | -.237  | 300 | 338 | -.394  | .087  | -.204 | -.673 |
| 300 | 164 | -.030  | .119  | .482  | -.504 | 300 | 214 | -.118  | .049  | .187  | -.321  | 300 | 339 | -.365  | .055  | -.194 | -.588 |
| 300 | 165 | -.043  | .096  | .469  | -.296 | 300 | 215 | -.146  | .048  | -.001 | -.332  | 300 | 340 | -.358  | .053  | -.211 | -.714 |
| 300 | 166 | -.036  | .086  | .474  | -.263 | 300 | 216 | -.115  | .031  | .004  | -.221  | 300 | 341 | -.385  | .056  | -.238 | -.617 |
| 300 | 167 | -.055  | .078  | .330  | -.498 | 300 | 217 | -.106  | .030  | .004  | -.195  | 300 | 342 | -.390  | .059  | -.223 | -.690 |
| 300 | 168 | -.075  | .086  | .510  | -.555 | 300 | 218 | -.103  | .029  | .016  | -.225  | 300 | 343 | -.409  | .068  | -.221 | -.773 |
| 300 | 169 | -.066  | .089  | .469  | -.369 | 300 | 219 | -.120  | .031  | .002  | -.212  | 300 | 344 | -.408  | .065  | -.240 | -.678 |
| 300 | 170 | -.249  | .074  | .165  | -.522 | 300 | 220 | -.112  | .029  | .013  | -.212  | 300 | 345 | -.404  | .063  | -.226 | -.685 |
| 300 | 171 | -.173  | .073  | .268  | -.381 | 300 | 221 | -.109  | .029  | -.003 | -.216  | 300 | 346 | -.381  | .056  | -.223 | -.639 |
| 300 | 172 | -.108  | .092  | .479  | -.575 | 300 | 222 | -.113  | .027  | -.024 | -.232  | 300 | 347 | -.376  | .059  | -.182 | -.620 |
| 300 | 173 | -.050  | .065  | .359  | -.220 | 300 | 223 | -.094  | .041  | .097  | -.221  | 300 | 348 | -.387  | .061  | -.187 | -.683 |
| 300 | 174 | -.068  | .061  | .215  | -.342 | 300 | 224 | -.092  | .044  | .138  | -.263  | 300 | 349 | -.409  | .069  | -.199 | -.700 |
| 300 | 175 | -.082  | .059  | .199  | -.316 | 300 | 225 | -.087  | .051  | .141  | -.260  | 300 | 350 | -.400  | .060  | -.215 | -.645 |
| 300 | 176 | -.100  | .057  | .148  | -.405 | 300 | 301 | -.303  | .045  | -.151 | -.498  | 300 | 351 | -.411  | .066  | -.220 | -.747 |
| 300 | 177 | -.226  | .076  | .029  | -.620 | 300 | 302 | -.396  | .059  | -.206 | -.657  | 300 | 352 | -.408  | .068  | -.237 | -.771 |
| 300 | 178 | -.153  | .071  | .235  | -.462 | 300 | 303 | -.453  | .072  | -.223 | -.768  | 300 | 353 | -.409  | .071  | -.223 | -.802 |
| 300 | 179 | -.104  | .070  | .211  | -.412 | 300 | 304 | -.106  | .060  | .063  | -.325  | 300 | 354 | -.418  | .069  | -.246 | -.733 |
| 300 | 180 | -.072  | .055  | .182  | -.254 | 300 | 305 | -.321  | .051  | -.173 | -.551  | 300 | 355 | -.436  | .080  | -.218 | -.859 |
| 300 | 181 | -.085  | .048  | .098  | -.295 | 300 | 306 | -.306  | .042  | -.160 | -.462  | 300 | 356 | -.441  | .091  | -.130 | -.874 |
| 300 | 182 | -.097  | .046  | .074  | -.302 | 300 | 307 | -.357  | .053  | -.209 | -.590  | 300 | 357 | -.500  | .106  | -.170 | -.048 |
| 300 | 183 | -.105  | .049  | .108  | -.354 | 300 | 308 | -.357  | .045  | -.198 | -.677  | 300 | 358 | -.422  | .067  | -.230 | -.731 |
| 300 | 184 | -.211  | .049  | -.002 | -.390 | 300 | 309 | -.338  | .046  | -.190 | -.539  | 300 | 359 | -.481  | .119  | -.237 | -.120 |
| 300 | 185 | -.149  | .047  | .098  | -.318 | 300 | 310 | -.326  | .045  | -.153 | -.539  | 300 | 360 | -.422  | .066  | -.206 | -.790 |
| 300 | 186 | -.081  | .057  | .201  | -.237 | 300 | 311 | -.315  | .046  | -.164 | -.542  | 300 | 361 | -.527  | .170  | -.223 | -.511 |
| 300 | 187 | -.037  | .058  | .259  | -.218 | 300 | 312 | -.370  | .064  | -.202 | -.667  | 300 | 362 | -.419  | .077  | -.208 | -.907 |
| 300 | 188 | -.076  | .043  | .170  | -.211 | 300 | 313 | -.354  | .053  | -.194 | -.570  | 300 | 363 | -.421  | .077  | -.218 | -.826 |
| 300 | 189 | -.113  | .034  | .048  | -.295 | 300 | 314 | -.334  | .046  | -.194 | -.525  | 300 | 364 | -.455  | .085  | -.251 | -.821 |
| 300 | 190 | -.130  | .039  | .038  | -.347 | 300 | 315 | -.326  | .045  | -.178 | -.565  | 300 | 365 | -.489  | .106  | -.215 | -.332 |
| 300 | 191 | -.030  | .066  | .347  | -.274 | 300 | 316 | -.343  | .046  | -.185 | -.525  | 300 | 366 | -.421  | .080  | -.234 | -.889 |
| 300 | 192 | -.034  | .070  | .505  | -.194 | 300 | 317 | -.352  | .048  | -.180 | -.527  | 300 | 367 | -.465  | .120  | -.201 | -.403 |
| 300 | 193 | -.033  | .065  | .299  | -.254 | 300 | 318 | -.362  | .052  | -.226 | -.599  | 300 | 368 | -.477  | .118  | -.231 | -.127 |
| 300 | 194 | -.167  | .049  | .125  | -.347 | 300 | 319 | -.354  | .049  | -.219 | -.611  | 300 | 369 | -.406  | .065  | -.181 | -.813 |
| 300 | 195 | -.118  | .052  | .173  | -.315 | 300 | 320 | -.354  | .050  | -.168 | -.578  | 300 | 370 | -.346  | .066  | -.171 | -.801 |
| 300 | 196 | -.070  | .058  | .217  | -.240 | 300 | 321 | -.324  | .055  | -.161 | -.614  | 300 | 371 | -.339  | .068  | -.151 | -.685 |
| 300 | 197 | -.086  | .046  | .153  | -.347 | 300 | 322 | -.382  | .049  | -.204 | -.758  | 300 | 372 | -.399  | .093  | -.116 | -.992 |
| 300 | 198 | -.113  | .032  | .007  | -.254 | 300 | 323 | -.376  | .063  | -.226 | -.679  | 300 | 373 | -.460  | .102  | -.103 | -.846 |
| 300 | 199 | -.110  | .033  | .009  | -.219 | 300 | 324 | -.387  | .066  | -.231 | -.676  | 300 | 374 | -.508  | .115  | -.259 | -.097 |
| 300 | 200 | -.110  | .036  | .061  | -.238 | 300 | 325 | -.382  | .061  | -.197 | -.698  | 300 | 375 | -.475  | .095  | -.264 | -.992 |
| 300 | 201 | -.097  | .033  | .041  | -.215 | 300 | 326 | -.485  | .116  | -.139 | -.927  | 300 | 376 | -.458  | .096  | -.224 | -.886 |
| 300 | 202 | -.124  | .034  | -.002 | -.272 | 300 | 327 | -.529  | .129  | -.231 | -.1020 | 300 | 377 | -.265  | .055  | -.100 | -.515 |
| 300 | 203 | -.114  | .030  | -.012 | -.240 | 300 | 328 | -.420  | .094  | -.134 | -.833  | 300 | 378 | -.251  | .047  | -.095 | -.472 |
| 300 | 204 | -.108  | .028  | .009  | -.199 | 300 | 329 | -.412  | .084  | -.206 | -.792  | 300 | 379 | -.254  | .067  | -.030 | -.603 |
| 300 | 205 | -.112  | .028  | -.005 | -.210 | 300 | 330 | -.347  | .045  | -.199 | -.496  | 300 | 380 | -.342  | .104  | -.018 | -.881 |
| 300 | 206 | -.099  | .039  | .107  | -.231 | 300 | 331 | -.376  | .056  | -.211 | -.610  | 300 | 381 | -.514  | .168  | -.116 | -.441 |
| 300 | 207 | -.111  | .037  | .089  | -.242 | 300 | 332 | -.408  | .071  | -.223 | -.717  | 300 | 382 | -.508  | .128  | -.203 | -.574 |
| 300 | 208 | -.128  | .039  | .151  | -.274 | 300 | 333 | -.410  | .071  | -.236 | -.765  | 300 | 383 | -.494  | .125  | -.203 | -.406 |
| 300 | 209 | -.116  | .039  | .023  | -.277 | 300 | 334 | -.406  | .066  | -.223 | -.680  | 300 | 384 | -.208  | .042  | -.048 | -.392 |
| 300 | 210 | -.082  | .032  | .078  | -.195 | 300 | 335 | -.406  | .067  | -.219 | -.751  | 300 | 385 | -.203  | .035  | -.023 | -.352 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

PAGE A 120

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 300 | 386 | -.216  | .051  | .033  | -.497  | 300 | 514 | -.333  | .044  | -.189 | -.538  | 300 | 564 | -.361  | .070  | -.156 | -.669  |
| 300 | 387 | -.236  | .069  | .060  | -.786  | 300 | 515 | -.336  | .042  | -.223 | -.497  | 300 | 565 | -.430  | .098  | -.228 | -.951  |
| 300 | 388 | -.375  | .138  | .075  | -.138  | 300 | 516 | -.336  | .046  | -.206 | -.546  | 300 | 566 | -.394  | .065  | -.167 | -.825  |
| 300 | 389 | -.431  | .123  | -.173 | -.124  | 300 | 517 | -.321  | .044  | -.191 | -.524  | 300 | 567 | -.409  | .065  | -.170 | -.679  |
| 300 | 390 | -.405  | .118  | -.161 | -.1080 | 300 | 518 | -.441  | .096  | -.196 | -.929  | 300 | 568 | -.419  | .062  | -.250 | -.674  |
| 300 | 391 | -.230  | .043  | -.031 | -.469  | 300 | 519 | -.377  | .068  | -.162 | -.719  | 300 | 569 | -.329  | .055  | -.157 | -.550  |
| 300 | 392 | -.230  | .038  | -.084 | -.434  | 300 | 520 | -.376  | .058  | -.244 | -.637  | 300 | 570 | -.348  | .071  | -.147 | -.724  |
| 300 | 393 | -.225  | .042  | -.026 | -.427  | 300 | 521 | -.362  | .048  | -.218 | -.533  | 300 | 571 | -.349  | .070  | -.162 | -.691  |
| 300 | 394 | -.274  | .092  | -.005 | -.799  | 300 | 522 | -.293  | .048  | -.114 | -.524  | 300 | 572 | -.381  | .081  | -.165 | -.744  |
| 300 | 395 | -.377  | .140  | -.105 | -.391  | 300 | 523 | -.295  | .052  | -.136 | -.570  | 300 | 573 | -.378  | .074  | -.210 | -.727  |
| 300 | 396 | -.378  | .149  | -.114 | -.606  | 300 | 524 | -.302  | .058  | -.126 | -.921  | 300 | 574 | -.384  | .068  | -.198 | -.787  |
| 300 | 397 | -.199  | .034  | -.055 | -.342  | 300 | 525 | -.314  | .047  | -.121 | -.514  | 300 | 575 | -.407  | .085  | -.097 | -.890  |
| 300 | 398 | -.206  | .035  | -.044 | -.361  | 300 | 526 | -.340  | .046  | -.208 | -.560  | 300 | 576 | -.415  | .084  | -.155 | -.827  |
| 300 | 399 | -.234  | .041  | -.098 | -.418  | 300 | 527 | -.348  | .046  | -.204 | -.518  | 300 | 577 | -.382  | .079  | -.198 | -.948  |
| 300 | 400 | -.233  | .039  | -.094 | -.454  | 300 | 528 | -.344  | .045  | -.191 | -.521  | 300 | 578 | -.380  | .077  | -.190 | -.163  |
| 300 | 401 | -.245  | .032  | -.121 | -.377  | 300 | 529 | -.351  | .046  | -.206 | -.518  | 300 | 579 | -.421  | .090  | -.150 | -.928  |
| 300 | 402 | -.268  | .043  | -.153 | -.482  | 300 | 530 | -.323  | .041  | -.184 | -.489  | 300 | 580 | -.383  | .073  | -.195 | -.754  |
| 300 | 403 | -.116  | .031  | -.008 | -.232  | 300 | 531 | -.340  | .045  | -.201 | -.604  | 300 | 581 | -.336  | .062  | -.049 | -.681  |
| 300 | 404 | -.120  | .031  | -.001 | -.239  | 300 | 532 | -.315  | .052  | -.147 | -.592  | 300 | 582 | -.317  | .089  | -.117 | -.712  |
| 300 | 405 | -.085  | .036  | -.047 | -.230  | 300 | 533 | -.317  | .050  | -.172 | -.548  | 300 | 583 | -.339  | .096  | -.082 | -.782  |
| 300 | 406 | -.088  | .037  | -.049 | -.443  | 300 | 534 | -.328  | .054  | -.177 | -.680  | 300 | 584 | -.398  | .092  | -.205 | -.903  |
| 300 | 407 | -.200  | .033  | -.078 | -.341  | 300 | 535 | -.330  | .050  | -.174 | -.660  | 300 | 585 | -.418  | .103  | -.228 | -.986  |
| 300 | 408 | -.193  | .032  | -.092 | -.314  | 300 | 536 | -.335  | .050  | -.196 | -.562  | 300 | 586 | -.426  | .102  | -.167 | -.999  |
| 300 | 409 | -.244  | .032  | -.137 | -.348  | 300 | 537 | -.351  | .050  | -.211 | -.536  | 300 | 587 | -.389  | .077  | -.046 | -.742  |
| 300 | 410 | -.086  | .036  | -.072 | -.198  | 300 | 538 | -.357  | .051  | -.213 | -.621  | 300 | 588 | -.269  | .066  | -.022 | -.513  |
| 300 | 411 | -.234  | .038  | -.112 | -.395  | 300 | 539 | -.364  | .050  | -.213 | -.582  | 300 | 589 | -.217  | .055  | -.039 | -.641  |
| 300 | 412 | -.193  | .030  | -.090 | -.352  | 300 | 540 | -.376  | .053  | -.223 | -.621  | 300 | 590 | -.226  | .060  | -.074 | -.704  |
| 300 | 413 | -.122  | .029  | -.005 | -.220  | 300 | 541 | -.355  | .050  | -.221 | -.582  | 300 | 591 | -.379  | .077  | -.034 | -.794  |
| 300 | 414 | -.197  | .032  | -.086 | -.299  | 300 | 542 | -.380  | .054  | -.247 | -.682  | 300 | 592 | -.357  | .075  | -.110 | -.881  |
| 300 | 415 | -.192  | .032  | -.081 | -.292  | 300 | 543 | -.372  | .068  | -.213 | -.719  | 300 | 593 | -.394  | .091  | -.187 | -.1063 |
| 300 | 416 | -.228  | .036  | -.117 | -.407  | 300 | 544 | -.376  | .074  | -.194 | -.811  | 300 | 594 | -.404  | .094  | -.220 | -.1034 |
| 300 | 417 | -.222  | .029  | -.103 | -.381  | 300 | 545 | -.378  | .066  | -.186 | -.738  | 300 | 595 | -.430  | .120  | -.060 | -.104  |
| 300 | 418 | -.237  | .030  | -.108 | -.426  | 300 | 546 | -.395  | .055  | -.243 | -.611  | 300 | 596 | -.369  | .073  | -.057 | -.704  |
| 300 | 419 | -.269  | .045  | -.115 | -.448  | 300 | 547 | -.399  | .057  | -.213 | -.680  | 300 | 597 | -.238  | .071  | -.045 | -.529  |
| 300 | 420 | -.098  | .028  | -.000 | -.192  | 300 | 548 | -.399  | .053  | -.247 | -.663  | 300 | 598 | -.192  | .040  | -.053 | -.347  |
| 300 | 421 | -.065  | .048  | -.151 | -.214  | 300 | 549 | -.417  | .088  | -.204 | -.970  | 300 | 599 | -.193  | .040  | -.015 | -.492  |
| 300 | 422 | -.027  | .054  | -.245 | -.216  | 300 | 550 | -.402  | .085  | -.180 | -.867  | 300 | 600 | -.208  | .035  | -.086 | -.335  |
| 300 | 501 | -.372  | .054  | -.223 | -.599  | 300 | 551 | -.394  | .100  | -.159 | -1.142 | 300 | 601 | -.202  | .032  | -.034 | -.368  |
| 300 | 502 | -.303  | .045  | -.117 | -.490  | 300 | 552 | -.366  | .060  | -.206 | -.672  | 300 | 602 | -.200  | .033  | -.087 | -.354  |
| 300 | 503 | -.109  | .060  | -.112 | -.524  | 300 | 553 | -.365  | .050  | -.230 | -.619  | 300 | 603 | -.400  | .103  | -.195 | -.982  |
| 300 | 504 | -.439  | .072  | -.215 | -.719  | 300 | 554 | -.384  | .049  | -.244 | -.629  | 300 | 604 | -.192  | .035  | -.090 | -.389  |
| 300 | 505 | -.296  | .040  | -.158 | -.446  | 300 | 555 | -.394  | .053  | -.252 | -.641  | 300 | 605 | -.202  | .032  | -.085 | -.305  |
| 300 | 506 | -.310  | .040  | -.192 | -.462  | 300 | 556 | -.401  | .066  | -.225 | -.715  | 300 | 606 | -.191  | .036  | -.053 | -.414  |
| 300 | 507 | -.327  | .044  | -.206 | -.512  | 300 | 557 | -.401  | .059  | -.232 | -.667  | 300 | 607 | -.198  | .034  | -.092 | -.322  |
| 300 | 508 | -.315  | .046  | -.181 | -.615  | 300 | 558 | -.328  | .066  | -.139 | -.621  | 300 | 608 | -.355  | .086  | -.046 | -.763  |
| 300 | 509 | -.338  | .053  | -.206 | -.644  | 300 | 559 | -.409  | .056  | -.237 | -.648  | 300 | 609 | -.203  | .035  | -.049 | -.367  |
| 300 | 510 | -.340  | .048  | -.196 | -.546  | 300 | 560 | -.349  | .086  | -.130 | -.872  | 300 | 610 | -.191  | .029  | -.080 | -.300  |
| 300 | 511 | -.324  | .041  | -.206 | -.548  | 300 | 561 | -.423  | .064  | -.221 | -.681  | 300 | 611 | -.196  | .031  | -.034 | -.312  |
| 300 | 512 | -.350  | .055  | -.179 | -.558  | 300 | 562 | -.328  | .064  | -.137 | -.688  | 300 | 612 | -.411  | .110  | -.197 | -.220  |
| 300 | 513 | -.352  | .056  | -.191 | -.688  | 300 | 563 | -.329  | .064  | -.161 | -.629  | 300 | 613 | -.385  | .110  | -.188 | -.491  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 300 | 614 | -.370  | .105  | -.097 | -1.379 | 300 | 744 | .001   | .189  | .876  | -.748  | 300 | 794 | -.119  | .040  | .054  | -.283  |
| 300 | 615 | -.334  | .067  | -.076 | -.602  | 300 | 745 | .047   | .148  | .669  | -.516  | 300 | 795 | -.121  | .030  | .030  | -.228  |
| 300 | 616 | -.235  | .066  | .065  | -.469  | 300 | 746 | -.081  | .090  | .348  | -.346  | 300 | 796 | -.120  | .030  | -.017 | -.259  |
| 300 | 617 | -.195  | .036  | -.048 | -.408  | 300 | 747 | -.193  | .070  | .172  | -.446  | 300 | 797 | -.104  | .046  | .097  | -.309  |
| 300 | 618 | -.198  | .033  | -.045 | -.445  | 300 | 748 | -.309  | .066  | -.058 | -.622  | 300 | 798 | -.148  | .052  | .044  | -.356  |
| 300 | 619 | -.203  | .030  | -.099 | -.324  | 300 | 749 | -.049  | .174  | .791  | -.741  | 300 | 799 | -.142  | .048  | .042  | -.313  |
| 300 | 620 | -.200  | .028  | -.104 | -.310  | 300 | 750 | -.051  | .151  | .655  | -.752  | 300 | 800 | -.126  | .041  | .047  | -.264  |
| 300 | 701 | -.078  | .124  | .326  | -.714  | 300 | 751 | -.179  | .198  | .582  | -1.232 | 300 | 801 | -.129  | .039  | .010  | -.296  |
| 300 | 702 | -.179  | .084  | .076  | -.689  | 300 | 752 | -.207  | .154  | .425  | -.1039 | 300 | 802 | -.166  | .053  | .068  | -.342  |
| 300 | 703 | -.101  | .105  | .363  | -.249  | 300 | 753 | -.232  | .150  | .339  | -.962  | 300 | 803 | -.199  | .058  | .063  | -.439  |
| 300 | 704 | -.173  | .141  | .420  | -.677  | 300 | 754 | -.242  | .112  | .114  | -.673  | 300 | 804 | -.245  | .054  | .025  | -.553  |
| 300 | 705 | .022   | .201  | .528  | -.712  | 300 | 755 | -.304  | .101  | .057  | -.762  | 300 | 805 | -.113  | .038  | .049  | -.335  |
| 300 | 706 | -.190  | .046  | -.011 | -.435  | 300 | 756 | -.419  | .090  | -.214 | -.843  | 300 | 806 | -.130  | .032  | -.001 | -.271  |
| 300 | 707 | -.037  | .079  | .280  | -.400  | 300 | 757 | -.389  | .079  | -.068 | -.859  | 300 | 807 | -.120  | .032  | .056  | -.249  |
| 300 | 708 | .059   | .271  | .687  | -.1071 | 300 | 758 | -.205  | .163  | .430  | -.955  | 300 | 808 | -.092  | .044  | .116  | -.259  |
| 300 | 709 | .033   | .111  | .438  | -.448  | 300 | 759 | -.234  | .073  | .016  | -.680  | 300 | 809 | -.151  | .060  | .063  | -.427  |
| 300 | 710 | .013   | .108  | .342  | -.379  | 300 | 760 | -.232  | .182  | .348  | -.1375 | 300 | 810 | -.125  | .037  | .025  | -.237  |
| 300 | 711 | -.204  | .054  | .042  | -.426  | 300 | 761 | -.218  | .063  | .045  | -.555  | 300 | 811 | -.115  | .041  | .082  | -.278  |
| 300 | 712 | .085   | .291  | .823  | -.963  | 300 | 762 | -.208  | .190  | .327  | -1.664 | 300 | 812 | -.226  | .064  | .101  | -.479  |
| 300 | 713 | .105   | .131  | .557  | -.478  | 300 | 763 | -.145  | .108  | .359  | -.946  | 300 | 813 | -.108  | .031  | .049  | -.228  |
| 300 | 714 | -.021  | .105  | .351  | -.411  | 300 | 764 | -.125  | .072  | .214  | -.489  | 300 | 814 | -.107  | .036  | .063  | -.254  |
| 300 | 715 | -.176  | .060  | .099  | -.386  | 300 | 765 | -.127  | .060  | .202  | -.421  | 300 | 815 | -.087  | .042  | .144  | -.242  |
| 300 | 716 | -.019  | .123  | .530  | -.343  | 300 | 766 | -.129  | .060  | .183  | -.472  | 300 | 816 | -.145  | .061  | .118  | -.489  |
| 300 | 717 | .137   | .197  | .855  | -.350  | 300 | 767 | -.200  | .056  | .161  | -.446  | 300 | 817 | -.124  | .046  | .047  | -.313  |
| 300 | 718 | .052   | .216  | .667  | -.741  | 300 | 768 | -.231  | .056  | .017  | -.484  | 300 | 818 | -.119  | .035  | -.005 | -.237  |
| 300 | 719 | .098   | .144  | .573  | -.318  | 300 | 769 | -.143  | .058  | .238  | -.453  | 300 | 819 | -.114  | .039  | .044  | -.299  |
| 300 | 720 | -.214  | .103  | .145  | -.730  | 300 | 770 | -.172  | .080  | .065  | -.662  | 300 | 820 | -.152  | .052  | .075  | -.361  |
| 300 | 721 | -.195  | .064  | .037  | -.448  | 300 | 771 | -.164  | .080  | .075  | -.830  | 300 | 821 | -.177  | .045  | .030  | -.338  |
| 300 | 722 | .136   | .235  | .724  | -.794  | 300 | 772 | -.135  | .047  | .072  | -.484  | 300 | 822 | -.224  | .044  | -.002 | -.426  |
| 300 | 723 | .154   | .183  | .713  | -.560  | 300 | 773 | -.123  | .044  | .053  | -.283  | 300 | 901 | -.395  | .050  | -.278 | -.624  |
| 300 | 724 | .071   | .146  | .539  | -.423  | 300 | 774 | -.234  | .089  | .072  | -.815  | 300 | 902 | -.095  | .087  | .323  | -.357  |
| 300 | 725 | .002   | .128  | .415  | -.421  | 300 | 775 | -.224  | .047  | .005  | .400   | 300 | 903 | -.031  | .108  | .523  | -.259  |
| 300 | 726 | .200   | .195  | .818  | -.249  | 300 | 776 | -.258  | .054  | -.081 | -.506  | 300 | 904 | -.038  | .191  | .755  | -.612  |
| 300 | 727 | -.234  | .136  | .276  | -.813  | 300 | 777 | -.163  | .064  | .024  | -.489  | 300 | 905 | -.070  | .116  | .457  | -.221  |
| 300 | 728 | -.124  | .075  | .221  | -.432  | 300 | 778 | -.145  | .057  | .024  | -.448  | 300 | 906 | -.114  | .087  | .235  | -.342  |
| 300 | 729 | -.171  | .063  | .063  | -.497  | 300 | 779 | -.134  | .043  | -.007 | -.357  | 300 | 907 | -.250  | .101  | .140  | -.605  |
| 300 | 730 | .024   | .146  | .667  | -.404  | 300 | 780 | -.129  | .040  | .031  | -.288  | 300 | 908 | -.140  | .123  | .495  | -.474  |
| 300 | 731 | .040   | .153  | .729  | -.555  | 300 | 781 | -.216  | .063  | -.021 | -.619  | 300 | 909 | -.076  | .104  | .434  | -.216  |
| 300 | 732 | -.029  | .275  | .866  | -.1010 | 300 | 782 | -.233  | .049  | -.053 | -.494  | 300 | 910 | -.365  | .065  | -.213 | -.769  |
| 300 | 733 | .007   | .244  | .760  | -.897  | 300 | 783 | -.261  | .050  | -.037 | -.482  | 300 | 911 | -.186  | .183  | .865  | -.291  |
| 300 | 734 | .029   | .130  | .630  | -.511  | 300 | 784 | -.154  | .058  | .084  | -.400  | 300 | 912 | -.288  | .097  | .260  | -.794  |
| 300 | 735 | .029   | .117  | .474  | -.304  | 300 | 785 | -.148  | .053  | .070  | -.393  | 300 | 913 | -.225  | .181  | .873  | -.223  |
| 300 | 736 | .003   | .133  | .546  | -.423  | 300 | 786 | -.132  | .040  | .027  | -.319  | 300 | 914 | -.250  | .054  | -.050 | -.453  |
| 300 | 737 | .085   | .146  | .692  | -.288  | 300 | 787 | -.124  | .040  | .103  | -.355  | 300 | 915 | -.113  | .128  | .559  | -.314  |
| 300 | 738 | -.217  | .134  | .286  | -.871  | 300 | 788 | -.177  | .057  | .065  | -.463  | 300 | 916 | -.389  | .117  | -.081 | -.1090 |
| 300 | 739 | -.164  | .064  | .081  | -.367  | 300 | 789 | -.211  | .050  | .077  | -.436  | 300 | 917 | -.346  | .210  | .994  | -.362  |
| 300 | 740 | -.208  | .058  | .002  | -.406  | 300 | 790 | -.261  | .056  | -.033 | -.559  | 300 | 918 | -.197  | .083  | .063  | -.666  |
| 300 | 741 | .029   | .128  | .623  | -.307  | 300 | 791 | -.139  | .036  | .027  | -.268  | 300 | 919 | -.375  | .055  | -.223 | -.700  |
| 300 | 742 | .022   | .119  | .502  | -.386  | 300 | 792 | -.133  | .041  | .041  | -.307  | 300 | 920 | -.340  | .058  | -.107 | -.538  |
| 300 | 743 | -.028  | .186  | .729  | -.762  | 300 | 793 | -.129  | .043  | .062  | -.303  | 300 | 921 | -.334  | .117  | .041  | -.711  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 300 | 922 | .151   | .165  | .766  | -.257  | 300 | 1001 | -.145  | .057  | .125  | -.394 | 310 | 123 | .051   | .094  | .389  | -.384 |
| 300 | 923 | -.417  | .073  | -.195 | -.718  | 300 | 1002 | -.118  | .041  | .144  | -.270 | 310 | 124 | .091   | .145  | .649  | -.515 |
| 300 | 924 | -.372  | .059  | -.219 | -.649  | 300 | 1003 | -.271  | .061  | -.080 | -.602 | 310 | 125 | .284   | .164  | .826  | -.354 |
| 300 | 925 | -.230  | .200  | -.672 | -.844  | 300 | 1004 | -.137  | .132  | .527  | -.355 | 310 | 126 | .221   | .127  | .679  | -.184 |
| 300 | 926 | -.370  | .053  | -.234 | -.571  | 300 | 1005 | -.351  | .060  | -.166 | -.581 | 310 | 127 | .285   | .145  | .716  | -.183 |
| 300 | 927 | -.211  | .130  | -.231 | -.673  | 300 | 1006 | -.033  | .182  | .518  | -.547 | 310 | 128 | .345   | .195  | 1.027 | -.176 |
| 300 | 928 | -.347  | .049  | -.216 | -.530  | 300 | 1007 | -.380  | .079  | -.101 | -.754 | 310 | 129 | .313   | .191  | .990  | -.304 |
| 300 | 929 | -.208  | .081  | -.178 | -.538  | 300 | 1008 | -.044  | .061  | .435  | -.238 | 310 | 130 | .328   | .169  | .853  | -.134 |
| 300 | 930 | -.391  | .051  | -.259 | -.629  | 300 | 1009 | -.296  | .058  | -.088 | -.534 | 310 | 131 | .334   | .176  | 1.142 | -.148 |
| 300 | 931 | .004   | .120  | .430  | -.366  | 300 | 1010 | -.078  | .084  | .320  | -.331 | 310 | 132 | -.052  | .071  | .273  | -.283 |
| 300 | 932 | -.345  | .040  | -.225 | -.492  | 300 | 1011 | -.265  | .091  | .066  | -.639 | 310 | 133 | .049   | .098  | .457  | -.311 |
| 300 | 933 | -.330  | .048  | -.180 | -.544  | 300 | 1012 | -.037  | .070  | .289  | -.265 | 310 | 134 | .117   | .154  | .611  | -.497 |
| 300 | 934 | -.222  | .047  | -.053 | -.386  | 300 | 1013 | -.379  | .059  | -.225 | -.715 | 310 | 135 | .291   | .159  | .820  | -.220 |
| 300 | 935 | -.110  | .093  | -.226 | -.420  | 300 | 1014 | -.291  | .065  | -.107 | -.634 | 310 | 136 | .325   | .172  | .911  | -.144 |
| 300 | 936 | -.440  | .045  | -.320 | -.592  | 300 | 1015 | -.363  | .051  | -.218 | -.623 | 310 | 137 | .289   | .160  | .790  | -.176 |
| 300 | 937 | -.419  | .056  | -.268 | -.754  | 300 | 1016 | -.248  | .056  | -.020 | -.440 | 310 | 138 | .314   | .183  | .827  | -.274 |
| 300 | 938 | -.390  | .059  | -.220 | -.630  | 300 | 1017 | -.222  | .062  | -.034 | -.686 | 310 | 139 | .290   | .182  | .892  | -.174 |
| 300 | 939 | -.379  | .055  | -.203 | -.592  | 300 | 1018 | -.187  | .063  | .112  | -.370 | 310 | 140 | .238   | .196  | .872  | -.234 |
| 300 | 940 | -.409  | .054  | -.225 | -.602  | 300 | 1019 | -.241  | .056  | -.042 | -.527 | 310 | 141 | .332   | .174  | 1.144 | -.118 |
| 300 | 941 | -.116  | .022  | -.037 | -.180  | 300 | 1020 | -.374  | .064  | -.177 | -.647 | 310 | 142 | .300   | .165  | .953  | -.172 |
| 300 | 942 | -.067  | .059  | -.303 | -.294  | 300 | 1021 | -.329  | .065  | -.042 | -.571 | 310 | 143 | -.198  | .069  | .092  | -.514 |
| 300 | 943 | -.079  | .048  | -.198 | -.243  | 300 | 1022 | -.118  | .025  | -.003 | -.201 | 310 | 144 | -.035  | .085  | .278  | -.372 |
| 300 | 944 | -.078  | .041  | -.141 | -.229  | 300 | 1023 | -.125  | .030  | -.015 | .255  | 310 | 145 | .182   | .129  | .606  | -.255 |
| 300 | 945 | -.396  | .082  | -.162 | -.296  | 300 | 1024 | -.111  | .027  | -.012 | .208  | 310 | 146 | .303   | .189  | 1.109 | -.130 |
| 300 | 946 | -.033  | .064  | -.264 | -.192  | 300 | 1025 | -.196  | .030  | -.093 | .306  | 310 | 147 | .216   | .167  | .830  | -.167 |
| 300 | 947 | -.017  | .081  | -.586 | -.189  | 300 | 1026 | -.191  | .030  | -.047 | .304  | 310 | 148 | .077   | .151  | .746  | -.274 |
| 300 | 948 | -.032  | .069  | -.347 | -.220  | 300 | 1027 | -.195  | .027  | -.096 | .301  | 310 | 149 | -.374  | .113  | .212  | -.845 |
| 300 | 949 | -.013  | .087  | .502  | -.206  | 300 | 1028 | -.137  | .033  | -.000 | .243  | 310 | 150 | -.456  | .116  | -.126 | -.945 |
| 300 | 950 | -.290  | .083  | .042  | -.613  | 310 | 101  | .008   | .083  | .350  | -.246 | 310 | 151 | -.120  | .131  | .273  | -.594 |
| 300 | 951 | -.072  | .053  | .167  | -.210  | 310 | 102  | .026   | .093  | .424  | -.221 | 310 | 152 | .074   | .184  | .798  | -.669 |
| 300 | 952 | -.118  | .041  | .086  | -.303  | 310 | 103  | .243   | .143  | .734  | -.319 | 310 | 153 | .098   | .207  | .796  | -.557 |
| 300 | 953 | -.094  | .038  | .077  | -.208  | 310 | 104  | -.040  | .112  | .575  | -.264 | 310 | 154 | .115   | .204  | .773  | -.514 |
| 300 | 954 | -.071  | .070  | .528  | -.257  | 310 | 105  | -.050  | .066  | .187  | -.250 | 310 | 155 | -.090  | .213  | 1.223 | -.612 |
| 300 | 955 | -.115  | .044  | .109  | -.233  | 310 | 106  | .146   | .126  | .567  | -.269 | 310 | 156 | -.072  | .187  | .810  | -.665 |
| 300 | 956 | -.193  | .054  | .125  | -.534  | 310 | 107  | .062   | .090  | .389  | -.262 | 310 | 157 | -.002  | .205  | .810  | -.530 |
| 300 | 957 | -.251  | .062  | -.016 | -.583  | 310 | 108  | -.086  | .079  | .223  | -.365 | 310 | 158 | -.052  | .097  | .321  | -.562 |
| 300 | 958 | -.318  | .108  | -.079 | -1.247 | 310 | 109  | .151   | .132  | .555  | -.372 | 310 | 159 | -.103  | .143  | .753  | -.473 |
| 300 | 959 | -.225  | .060  | .121  | -.460  | 310 | 110  | .213   | .139  | .759  | -.290 | 310 | 160 | -.117  | .090  | .196  | -.439 |
| 300 | 960 | -.208  | .035  | -.074 | -.358  | 310 | 111  | .206   | .144  | .839  | -.491 | 310 | 161 | -.026  | .131  | .568  | -.560 |
| 300 | 961 | -.237  | .044  | -.092 | -.507  | 310 | 112  | .002   | .083  | .364  | -.294 | 310 | 162 | -.136  | .084  | .228  | -.514 |
| 300 | 962 | -.239  | .038  | -.123 | -.536  | 310 | 113  | .189   | .126  | .601  | -.248 | 310 | 163 | -.021  | .098  | .406  | -.432 |
| 300 | 963 | -.194  | .058  | .226  | -.377  | 310 | 114  | .324   | .173  | .888  | -.154 | 310 | 164 | -.120  | .119  | .520  | -.240 |
| 300 | 964 | -.203  | .047  | -.005 | .412   | 310 | 115  | .361   | .179  | 1.010 | -.237 | 310 | 165 | .116   | .120  | .584  | -.256 |
| 300 | 965 | -.217  | .037  | -.088 | -.386  | 310 | 116  | .254   | .167  | .851  | -.388 | 310 | 166 | -.120  | .115  | .588  | -.202 |
| 300 | 966 | -.249  | .052  | -.113 | -.571  | 310 | 117  | .346   | .172  | .973  | -.218 | 310 | 167 | -.053  | .118  | .790  | -.252 |
| 300 | 967 | -.165  | .052  | .014  | -.397  | 310 | 118  | -.022  | .083  | .269  | -.372 | 310 | 168 | -.012  | .101  | .612  | -.565 |
| 300 | 968 | -.213  | .035  | -.091 | -.387  | 310 | 119  | -.122  | .145  | .419  | -.683 | 310 | 169 | -.092  | .117  | .609  | -.233 |
| 300 | 969 | -.232  | .045  | -.064 | -.434  | 310 | 120  | .312   | .195  | .913  | -.566 | 310 | 170 | -.145  | .075  | .167  | -.411 |
| 300 | 970 | -.209  | .053  | -.083 | -.402  | 310 | 121  | .201   | .148  | .782  | -.278 | 310 | 171 | -.055  | .078  | .487  | -.286 |
| 300 | 971 | -.166  | .042  | -.000 | -.451  | 310 | 122  | -.052  | .082  | .295  | -.345 | 310 | 172 | -.026  | .098  | .427  | -.435 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 310 | 173 | .076   | .087  | .571  | -.173 | 310 | 223 | -.048  | .038  | .115  | -.223  | 310 | 348 | -.330  | .058  | -.109 | -.553 |
| 310 | 174 | .037   | .082  | .441  | -.245 | 310 | 224 | -.047  | .044  | .136  | -.192  | 310 | 349 | -.381  | .071  | -.192 | -.818 |
| 310 | 175 | -.018  | .068  | .304  | -.245 | 310 | 225 | -.049  | .048  | .231  | -.276  | 310 | 350 | -.361  | .059  | -.199 | -.678 |
| 310 | 176 | -.060  | .068  | .260  | -.346 | 310 | 301 | -.261  | .046  | .092  | -.473  | 310 | 351 | -.383  | .069  | -.211 | -.716 |
| 310 | 177 | -.166  | .074  | .171  | -.440 | 310 | 302 | -.335  | .057  | .161  | -.585  | 310 | 352 | -.369  | .067  | -.196 | -.777 |
| 310 | 178 | -.087  | .068  | .174  | -.315 | 310 | 303 | -.401  | .072  | .178  | -.741  | 310 | 353 | -.371  | .064  | -.172 | -.680 |
| 310 | 179 | -.015  | .070  | .335  | -.257 | 310 | 304 | -.136  | .052  | .051  | -.344  | 310 | 354 | -.382  | .064  | -.213 | -.687 |
| 310 | 180 | .021   | .062  | .340  | -.158 | 310 | 305 | -.292  | .057  | .149  | -.752  | 310 | 355 | -.400  | .072  | -.146 | -.917 |
| 310 | 181 | -.010  | .059  | .304  | -.259 | 310 | 306 | -.262  | .039  | .124  | -.473  | 310 | 356 | -.381  | .089  | -.002 | -.733 |
| 310 | 182 | -.044  | .051  | .244  | -.262 | 310 | 307 | -.295  | .048  | .119  | -.617  | 310 | 357 | -.456  | .119  | -.121 | -.004 |
| 310 | 183 | -.066  | .051  | .121  | -.243 | 310 | 308 | -.321  | .065  | .162  | -.651  | 310 | 358 | -.382  | .068  | -.194 | -.665 |
| 310 | 184 | -.178  | .046  | .087  | -.363 | 310 | 309 | -.298  | .046  | .139  | -.680  | 310 | 359 | -.505  | .151  | -.182 | -.154 |
| 310 | 185 | -.090  | .051  | .205  | -.235 | 310 | 310 | -.289  | .044  | .156  | -.502  | 310 | 360 | -.381  | .069  | -.136 | -.670 |
| 310 | 186 | .013   | .065  | .309  | -.170 | 310 | 311 | -.273  | .042  | .151  | -.605  | 310 | 361 | -.502  | .186  | -.143 | -.650 |
| 310 | 187 | .052   | .069  | .489  | -.132 | 310 | 312 | -.330  | .070  | .166  | -.704  | 310 | 362 | -.381  | .078  | -.177 | -.743 |
| 310 | 188 | .011   | .052  | .248  | -.185 | 310 | 313 | -.309  | .051  | .129  | -.585  | 310 | 363 | -.377  | .074  | -.095 | -.711 |
| 310 | 189 | -.061  | .034  | .104  | -.214 | 310 | 314 | -.289  | .044  | .156  | -.492  | 310 | 364 | -.388  | .075  | -.189 | -.731 |
| 310 | 190 | -.087  | .041  | .116  | -.286 | 310 | 315 | -.281  | .042  | .149  | -.465  | 310 | 365 | -.398  | .080  | -.201 | -.900 |
| 310 | 191 | .090   | .087  | .474  | -.106 | 310 | 316 | -.295  | .046  | .161  | -.587  | 310 | 366 | -.379  | .073  | -.163 | -.742 |
| 310 | 192 | .087   | .085  | .453  | -.099 | 310 | 317 | -.300  | .050  | .129  | -.502  | 310 | 367 | -.461  | .129  | -.209 | -.204 |
| 310 | 193 | .092   | .086  | .476  | -.147 | 310 | 318 | -.326  | .057  | .168  | -.673  | 310 | 368 | -.463  | .129  | -.196 | -.059 |
| 310 | 194 | -.112  | .052  | .152  | -.331 | 310 | 319 | -.313  | .052  | .170  | -.575  | 310 | 369 | -.361  | .066  | -.155 | -.686 |
| 310 | 195 | -.032  | .068  | .290  | -.221 | 310 | 320 | -.308  | .055  | .117  | -.521  | 310 | 370 | -.334  | .079  | -.122 | -.679 |
| 310 | 196 | .039   | .073  | .421  | -.140 | 310 | 321 | -.284  | .058  | .100  | -.656  | 310 | 371 | -.334  | .080  | -.081 | -.658 |
| 310 | 197 | -.010  | .052  | .281  | -.214 | 310 | 322 | -.343  | .072  | .141  | -.758  | 310 | 372 | -.386  | .095  | -.102 | -.796 |
| 310 | 198 | -.081  | .039  | .095  | -.255 | 310 | 323 | -.332  | .067  | .175  | -.646  | 310 | 373 | -.433  | .099  | -.181 | -.911 |
| 310 | 199 | -.081  | .039  | .074  | -.296 | 310 | 324 | -.333  | .061  | .161  | -.609  | 310 | 374 | -.470  | .105  | -.153 | -.977 |
| 310 | 200 | -.064  | .035  | .104  | -.230 | 310 | 325 | -.339  | .062  | .175  | -.675  | 310 | 375 | -.433  | .081  | -.229 | -.768 |
| 310 | 201 | -.052  | .036  | .095  | -.191 | 310 | 326 | -.444  | .100  | .163  | -.894  | 310 | 376 | -.434  | .085  | -.206 | -.786 |
| 310 | 202 | -.064  | .036  | .099  | -.301 | 310 | 327 | -.461  | .112  | .188  | -.1015 | 310 | 377 | -.251  | .062  | -.020 | -.559 |
| 310 | 203 | -.054  | .030  | .622  | -.152 | 310 | 328 | -.373  | .089  | .131  | -.748  | 310 | 378 | -.224  | .057  | -.038 | -.530 |
| 310 | 204 | -.057  | .028  | .049  | -.163 | 310 | 329 | -.356  | .078  | .119  | -.741  | 310 | 379 | -.248  | .094  | -.067 | -.709 |
| 310 | 205 | -.059  | .031  | .055  | -.175 | 310 | 330 | -.298  | .045  | .171  | -.497  | 310 | 380 | -.337  | .118  | .013  | -.842 |
| 310 | 206 | -.043  | .040  | .125  | -.188 | 310 | 331 | -.333  | .052  | .178  | -.504  | 310 | 381 | -.491  | .152  | -.107 | -.712 |
| 310 | 207 | -.063  | .033  | .072  | -.204 | 310 | 332 | -.378  | .078  | .163  | -.716  | 310 | 382 | -.486  | .124  | -.204 | -.386 |
| 310 | 208 | -.090  | .036  | .099  | -.308 | 310 | 333 | -.375  | .078  | .107  | -.731  | 310 | 383 | -.482  | .115  | -.145 | -.049 |
| 310 | 209 | -.075  | .041  | .053  | -.315 | 310 | 334 | -.361  | .064  | .183  | -.583  | 310 | 384 | -.179  | .051  | -.002 | -.390 |
| 310 | 210 | -.051  | .040  | .115  | -.239 | 310 | 335 | -.360  | .057  | .163  | -.581  | 310 | 385 | -.168  | .041  | -.017 | -.344 |
| 310 | 211 | -.074  | .033  | .082  | -.192 | 310 | 336 | -.347  | .051  | .181  | -.524  | 310 | 386 | -.188  | .066  | -.087 | -.505 |
| 310 | 212 | -.065  | .030  | .036  | -.209 | 310 | 337 | -.343  | .055  | .193  | -.546  | 310 | 387 | -.174  | .091  | -.103 | -.750 |
| 310 | 213 | -.048  | .037  | .110  | -.169 | 310 | 338 | -.346  | .059  | .161  | -.716  | 310 | 388 | -.326  | .149  | -.082 | -.220 |
| 310 | 214 | -.087  | .044  | .143  | -.288 | 310 | 339 | -.315  | .047  | .151  | -.531  | 310 | 389 | -.442  | .133  | -.148 | -.207 |
| 310 | 215 | -.080  | .050  | .075  | -.302 | 310 | 340 | -.307  | .047  | .161  | -.504  | 310 | 390 | -.435  | .133  | -.125 | -.230 |
| 310 | 216 | -.064  | .031  | .054  | -.199 | 310 | 341 | -.339  | .051  | .178  | -.519  | 310 | 391 | -.133  | .079  | -.257 | -.663 |
| 310 | 217 | -.057  | .030  | .106  | -.151 | 310 | 342 | -.341  | .055  | .178  | -.585  | 310 | 392 | -.207  | .063  | -.066 | -.493 |
| 310 | 218 | -.060  | .031  | .082  | -.165 | 310 | 343 | -.360  | .072  | .171  | -.477  | 310 | 393 | -.136  | .072  | -.180 | -.549 |
| 310 | 219 | -.053  | .032  | .087  | -.141 | 310 | 344 | -.369  | .068  | .200  | -.677  | 310 | 394 | -.211  | .168  | -.262 | -.434 |
| 310 | 220 | -.045  | .032  | .145  | -.146 | 310 | 345 | -.358  | .061  | .173  | -.608  | 310 | 395 | -.426  | .165  | -.051 | -.450 |
| 310 | 221 | -.049  | .030  | .110  | -.190 | 310 | 346 | -.335  | .055  | .183  | -.551  | 310 | 396 | -.403  | .151  | -.122 | -.379 |
| 310 | 222 | -.051  | .029  | .047  | -.230 | 310 | 347 | -.326  | .055  | .144  | -.583  | 310 | 397 | -.159  | .036  | -.045 | -.376 |

| WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP   | CPMEAN | CPRMS | CPMAX  | CPMIN |
|-----|-------|--------|-------|-------|-------|-----|-------|--------|-------|-------|-------|-----|-------|--------|-------|--------|-------|
| 310 | 398   | -.162  | .038  | -.012 | -.400 | 310 | 526   | -.295  | .041  | -.189 | -.477 | 310 | 576   | -.340  | .064  | -.167  | -.610 |
| 310 | 399   | -.159  | .036  | -.018 | -.423 | 310 | 527   | -.300  | .042  | -.175 | -.460 | 310 | 577   | -.275  | .061  | -.074  | -.751 |
| 400 | -.166 | .037   | -.007 | -.352 | 310   | 528 | -.295 | .045   | -.159 | -.502 | 310   | 578 | -.285 | .065   | -.112 | -.773  |       |
| 401 | -.167 | .035   | -.007 | -.350 | 310   | 529 | -.297 | .047   | -.156 | -.502 | 310   | 579 | -.324 | .086   | -.072 | -.981  |       |
| 402 | -.171 | .037   | -.007 | -.363 | 310   | 530 | -.277 | .039   | -.175 | -.446 | 310   | 580 | -.288 | .063   | -.079 | -.607  |       |
| 403 | -.117 | .050   | .052  | -.423 | 310   | 531 | -.299 | .045   | -.156 | -.502 | 310   | 581 | -.309 | .084   | -.017 | -.737  |       |
| 404 | -.107 | .054   | .063  | -.450 | 310   | 532 | -.271 | .057   | -.068 | -.592 | 310   | 582 | -.325 | .102   | -.029 | -.840  |       |
| 405 | -.048 | .038   | .139  | -.224 | 310   | 533 | -.266 | .053   | -.122 | -.543 | 310   | 583 | -.316 | .095   | -.060 | -.930  |       |
| 406 | -.057 | .047   | .075  | -.318 | 310   | 534 | -.289 | .067   | -.138 | -.659 | 310   | 584 | -.317 | .085   | -.129 | -.363  |       |
| 407 | -.157 | .031   | -.055 | -.290 | 310   | 535 | -.283 | .051   | -.126 | -.585 | 310   | 585 | -.313 | .074   | -.124 | -.737  |       |
| 408 | -.152 | .033   | -.004 | -.293 | 310   | 536 | -.276 | .046   | -.126 | -.643 | 310   | 586 | -.328 | .095   | -.122 | -.208  |       |
| 409 | -.173 | .032   | -.060 | -.368 | 310   | 537 | -.284 | .044   | -.152 | -.483 | 310   | 587 | -.289 | .069   | -.052 | -.753  |       |
| 410 | -.060 | .047   | .129  | -.233 | 310   | 538 | -.296 | .044   | -.017 | -.543 | 310   | 588 | -.220 | .061   | -.060 | -.560  |       |
| 411 | -.153 | .033   | -.037 | -.322 | 310   | 539 | -.311 | .045   | -.152 | -.485 | 310   | 589 | -.207 | .076   | -.014 | -.665  |       |
| 412 | -.152 | .032   | .003  | -.345 | 310   | 540 | -.320 | .052   | -.140 | -.529 | 310   | 590 | -.219 | .097   | -.007 | -.808  |       |
| 413 | -.130 | .031   | .010  | -.257 | 310   | 541 | -.302 | .051   | -.154 | -.564 | 310   | 591 | -.292 | .071   | -.011 | -.647  |       |
| 414 | -.146 | .030   | -.024 | -.310 | 310   | 542 | -.338 | .060   | -.182 | -.636 | 310   | 592 | -.267 | .067   | -.004 | -.567  |       |
| 415 | -.148 | .032   | -.024 | -.339 | 310   | 543 | -.343 | .082   | -.143 | -.782 | 310   | 593 | -.286 | .064   | -.115 | -.733  |       |
| 416 | -.143 | .029   | -.024 | -.262 | 310   | 544 | -.341 | .085   | -.161 | -.965 | 310   | 594 | -.305 | .072   | -.091 | -.1099 |       |
| 417 | -.143 | .030   | .003  | -.245 | 310   | 545 | -.349 | .078   | -.159 | -.759 | 310   | 595 | -.340 | .098   | -.096 | -.957  |       |
| 418 | -.146 | .035   | .051  | -.259 | 310   | 546 | -.343 | .057   | -.180 | -.592 | 310   | 596 | -.284 | .068   | -.017 | -.555  |       |
| 419 | -.223 | .060   | .058  | -.447 | 310   | 547 | -.342 | .054   | -.205 | -.567 | 310   | 597 | -.187 | .058   | -.058 | -.387  |       |
| 420 | -.083 | .032   | .044  | -.190 | 310   | 548 | -.355 | .058   | -.180 | -.601 | 310   | 598 | -.149 | .048   | -.037 | -.329  |       |
| 421 | -.031 | .050   | .192  | -.217 | 310   | 549 | -.360 | .094   | -.133 | -.814 | 310   | 599 | -.159 | .050   | -.007 | -.473  |       |
| 422 | -.015 | .058   | .312  | -.210 | 310   | 550 | -.356 | .093   | -.126 | -.966 | 310   | 600 | -.154 | .036   | -.014 | -.322  |       |
| 501 | -.310 | .051   | -.154 | -.495 | 310   | 551 | -.359 | .118   | -.112 | -.497 | 310   | 601 | -.159 | .034   | -.028 | -.305  |       |
| 502 | -.266 | .046   | -.136 | -.450 | 310   | 552 | -.323 | .061   | -.173 | -.757 | 310   | 602 | -.163 | .035   | -.009 | -.314  |       |
| 503 | -.154 | .074   | .049  | -.495 | 310   | 553 | -.319 | .050   | -.162 | -.544 | 310   | 603 | -.312 | .076   | -.137 | -.870  |       |
| 504 | -.352 | .059   | -.186 | -.626 | 310   | 554 | -.328 | .047   | -.153 | -.537 | 310   | 604 | -.155 | .039   | -.002 | -.390  |       |
| 505 | -.260 | .041   | -.108 | -.423 | 310   | 555 | -.342 | .056   | -.173 | -.580 | 310   | 605 | -.155 | .032   | -.042 | -.298  |       |
| 506 | -.273 | .042   | -.156 | -.444 | 310   | 556 | -.368 | .066   | -.162 | -.666 | 310   | 606 | -.153 | .036   | -.028 | -.305  |       |
| 507 | -.269 | .044   | -.152 | -.452 | 310   | 557 | -.346 | .058   | -.148 | -.641 | 310   | 607 | -.152 | .037   | -.003 | -.345  |       |
| 508 | -.276 | .051   | -.096 | -.517 | 310   | 558 | -.257 | .058   | -.053 | -.675 | 310   | 608 | -.273 | .088   | -.031 | -.811  |       |
| 509 | -.293 | .054   | -.147 | -.566 | 310   | 559 | -.354 | .053   | -.176 | -.698 | 310   | 609 | -.152 | .035   | -.041 | -.369  |       |
| 510 | -.286 | .045   | -.173 | -.548 | 310   | 560 | -.248 | .065   | -.060 | -.521 | 310   | 610 | -.155 | .033   | -.037 | -.331  |       |
| 511 | -.300 | .047   | -.156 | -.474 | 310   | 561 | -.356 | .061   | -.185 | -.603 | 310   | 611 | -.155 | .030   | -.052 | -.298  |       |
| 512 | -.294 | .052   | -.136 | -.518 | 310   | 562 | -.248 | .059   | -.085 | -.500 | 310   | 612 | -.325 | .101   | -.153 | -.137  |       |
| 513 | -.297 | .049   | -.159 | -.564 | 310   | 563 | -.252 | .059   | -.053 | -.510 | 310   | 613 | -.330 | .086   | -.132 | -.986  |       |
| 514 | -.286 | .043   | -.166 | -.466 | 310   | 564 | -.281 | .070   | -.137 | -.632 | 310   | 614 | -.310 | .099   | -.040 | -.948  |       |
| 515 | -.282 | .042   | -.154 | -.491 | 310   | 565 | -.355 | .083   | -.133 | -.705 | 310   | 615 | -.255 | .067   | -.012 | -.539  |       |
| 516 | -.287 | .048   | -.145 | -.514 | 310   | 566 | -.354 | .071   | -.141 | -.689 | 310   | 616 | -.181 | .058   | -.055 | -.385  |       |
| 517 | -.265 | .038   | -.159 | -.422 | 310   | 567 | -.346 | .057   | -.134 | -.658 | 310   | 617 | -.146 | .038   | -.015 | -.326  |       |
| 518 | -.370 | .081   | -.159 | -.750 | 310   | 568 | -.352 | .062   | -.124 | -.655 | 310   | 618 | -.147 | .034   | -.010 | -.274  |       |
| 519 | -.325 | .059   | -.099 | -.576 | 310   | 569 | -.260 | .050   | -.107 | -.555 | 310   | 619 | -.155 | .032   | -.040 | -.283  |       |
| 520 | -.330 | .062   | -.175 | -.674 | 310   | 570 | -.252 | .062   | -.093 | -.617 | 310   | 620 | -.154 | .029   | -.059 | -.293  |       |
| 521 | -.310 | .045   | -.184 | -.486 | 310   | 571 | -.265 | .071   | -.060 | -.686 | 310   | 701 | -.210 | .098   | -.147 | -.672  |       |
| 522 | -.246 | .053   | -.095 | -.530 | 310   | 572 | -.278 | .064   | -.079 | -.617 | 310   | 702 | -.284 | .113   | -.037 | -.732  |       |
| 523 | -.248 | .052   | -.093 | -.466 | 310   | 573 | -.280 | .054   | -.117 | -.514 | 310   | 703 | -.072 | .091   | -.375 | -.258  |       |
| 524 | -.249 | .051   | -.115 | -.578 | 310   | 574 | -.339 | .074   | -.170 | -.648 | 310   | 704 | -.321 | .137   | .401  | -.797  |       |
| 525 | -.270 | .047   | -.145 | -.479 | 310   | 575 | -.354 | .069   | -.136 | -.629 | 310   | 705 | -.251 | .156   | .312  | -.763  |       |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|-------|
| 310 | 706 | -.190  | .037  | -.046 | -.390   | 310 | 756 | -.360  | .100  | -.146 | -.902   | 310 | 806 | -.079  | .036  | .105  | -.209 |
| 310 | 707 | -.114  | .076  | .104  | -.437   | 310 | 757 | -.352  | .099  | .000  | -.926   | 310 | 807 | -.080  | .036  | .059  | -.274 |
| 310 | 708 | -.272  | .230  | .551  | -.1060  | 310 | 758 | -.327  | .158  | .224  | -.1.112 | 310 | 808 | -.056  | .037  | .103  | -.214 |
| 310 | 709 | -.066  | .096  | .182  | -.634   | 310 | 759 | -.209  | .054  | .036  | -.472   | 310 | 809 | -.159  | .068  | .023  | -.628 |
| 310 | 710 | -.081  | .090  | .223  | -.464   | 310 | 760 | -.360  | .232  | .295  | -.1.611 | 310 | 810 | -.106  | .033  | .016  | -.274 |
| 310 | 711 | -.210  | .045  | -.039 | -.417   | 310 | 761 | -.187  | .054  | .104  | -.452   | 310 | 811 | -.099  | .036  | .081  | -.247 |
| 310 | 712 | -.205  | .203  | .622  | -.900   | 310 | 762 | -.442  | .312  | .213  | -.2.225 | 310 | 812 | -.197  | .045  | .071  | -.365 |
| 310 | 713 | -.050  | .145  | .375  | -.824   | 310 | 763 | -.280  | .205  | .162  | -.1.398 | 310 | 813 | -.062  | .040  | .179  | -.317 |
| 310 | 714 | -.108  | .079  | .231  | -.439   | 310 | 764 | -.165  | .098  | .129  | -.824   | 310 | 814 | -.060  | .039  | .115  | -.254 |
| 310 | 715 | -.200  | .047  | -.026 | -.392   | 310 | 765 | -.117  | .066  | .133  | -.667   | 310 | 815 | -.054  | .037  | .112  | -.197 |
| 310 | 716 | -.124  | .079  | .225  | -.607   | 310 | 766 | -.118  | .054  | .230  | -.417   | 310 | 816 | -.148  | .068  | .026  | -.566 |
| 310 | 717 | -.022  | .126  | .728  | -.497   | 310 | 767 | -.164  | .048  | .092  | -.342   | 310 | 817 | -.122  | .050  | .023  | -.350 |
| 310 | 718 | -.198  | .199  | .454  | -.1.123 | 310 | 768 | -.189  | .048  | -.015 | -.473   | 310 | 818 | -.100  | .036  | .047  | -.235 |
| 310 | 719 | -.021  | .112  | .364  | -.551   | 310 | 769 | -.118  | .062  | .139  | -.352   | 310 | 819 | -.091  | .035  | .059  | -.219 |
| 310 | 720 | -.177  | .078  | .083  | -.587   | 310 | 770 | -.255  | .114  | .083  | -.908   | 310 | 820 | -.118  | .040  | .059  | -.319 |
| 310 | 721 | -.205  | .053  | .012  | -.428   | 310 | 771 | -.261  | .128  | .111  | -.873   | 310 | 821 | -.143  | .035  | .045  | -.271 |
| 310 | 722 | -.131  | .223  | .663  | -.967   | 310 | 772 | -.144  | .072  | .036  | -.595   | 310 | 822 | -.176  | .034  | .028  | -.303 |
| 310 | 723 | -.025  | .201  | .444  | -.1.031 | 310 | 773 | -.087  | .053  | .181  | -.457   | 310 | 901 | -.358  | .060  | -.214 | -.623 |
| 310 | 724 | -.079  | .125  | .307  | -.844   | 310 | 774 | -.202  | .083  | .069  | -.742   | 310 | 902 | -.109  | .070  | -.217 | -.359 |
| 310 | 725 | -.111  | .113  | .323  | -.580   | 310 | 775 | -.171  | .039  | -.024 | -.349   | 310 | 903 | -.024  | .107  | .426  | -.434 |
| 310 | 726 | -.151  | .160  | .725  | -.263   | 310 | 776 | -.198  | .047  | -.050 | -.454   | 310 | 904 | -.131  | .158  | .707  | -.671 |
| 310 | 727 | -.283  | .111  | .139  | -.723   | 310 | 777 | -.189  | .074  | .018  | -.569   | 310 | 905 | -.066  | .112  | .441  | -.202 |
| 310 | 728 | -.136  | .053  | .121  | -.418   | 310 | 778 | -.191  | .082  | .006  | -.730   | 310 | 906 | -.152  | .064  | .224  | -.326 |
| 310 | 729 | -.164  | .050  | .155  | -.359   | 310 | 779 | -.139  | .066  | .034  | -.711   | 310 | 907 | -.292  | .083  | .033  | -.569 |
| 310 | 730 | -.083  | .098  | .429  | -.388   | 310 | 780 | -.108  | .044  | .043  | -.312   | 310 | 908 | -.107  | .100  | .447  | -.176 |
| 310 | 731 | -.056  | .120  | .490  | -.504   | 310 | 781 | -.173  | .061  | .015  | -.513   | 310 | 909 | -.017  | .090  | .301  | -.319 |
| 310 | 732 | -.267  | .208  | .702  | -.1.013 | 310 | 782 | -.177  | .042  | -.022 | -.366   | 310 | 910 | -.349  | .082  | -.155 | -.841 |
| 310 | 733 | -.241  | .199  | .454  | -.1.028 | 310 | 783 | -.192  | .042  | -.057 | -.403   | 310 | 911 | -.271  | .176  | .946  | -.117 |
| 310 | 734 | -.067  | .147  | .374  | -.737   | 310 | 784 | -.162  | .067  | .041  | -.520   | 310 | 912 | -.263  | .076  | .212  | -.617 |
| 310 | 735 | -.058  | .126  | .327  | -.730   | 310 | 785 | -.158  | .066  | .060  | -.587   | 310 | 913 | -.120  | .135  | .589  | -.413 |
| 310 | 736 | -.064  | .112  | .510  | -.506   | 310 | 786 | -.123  | .043  | -.008 | -.372   | 310 | 914 | -.239  | .048  | -.075 | -.467 |
| 310 | 737 | -.083  | .138  | .666  | -.404   | 310 | 787 | -.102  | .037  | .043  | -.298   | 310 | 915 | -.029  | .138  | .507  | -.463 |
| 310 | 738 | -.209  | .115  | .193  | -.728   | 310 | 788 | -.149  | .051  | .071  | -.391   | 310 | 916 | -.363  | .104  | -.140 | -.122 |
| 310 | 739 | -.152  | .051  | .096  | -.334   | 310 | 789 | -.168  | .040  | .027  | -.316   | 310 | 917 | -.328  | .174  | .924  | -.445 |
| 310 | 740 | -.193  | .050  | .076  | -.402   | 310 | 790 | -.205  | .044  | -.017 | -.384   | 310 | 918 | -.231  | .084  | -.046 | -.561 |
| 310 | 741 | -.050  | .107  | .395  | -.479   | 310 | 791 | -.112  | .036  | .015  | -.309   | 310 | 919 | -.338  | .062  | -.210 | -.775 |
| 310 | 742 | -.047  | .112  | .422  | -.479   | 310 | 792 | -.109  | .037  | .019  | -.288   | 310 | 920 | -.312  | .054  | -.146 | -.518 |
| 310 | 743 | -.168  | .177  | .494  | -.1.015 | 310 | 793 | -.109  | .032  | .050  | -.366   | 310 | 921 | -.359  | .086  | .027  | -.678 |
| 310 | 744 | -.162  | .161  | .564  | -.771   | 310 | 794 | -.106  | .037  | .095  | -.245   | 310 | 922 | -.304  | .167  | .940  | -.115 |
| 310 | 745 | -.080  | .151  | .533  | -.802   | 310 | 795 | -.078  | .033  | .035  | -.250   | 310 | 923 | -.339  | .060  | -.148 | -.673 |
| 310 | 746 | -.090  | .072  | .250  | -.397   | 310 | 796 | -.076  | .034  | .062  | -.226   | 310 | 924 | -.334  | .057  | -.198 | -.600 |
| 310 | 747 | -.180  | .064  | .137  | -.424   | 310 | 797 | -.059  | .042  | .105  | -.288   | 310 | 925 | -.252  | .209  | .622  | -.800 |
| 310 | 748 | -.281  | .066  | -.099 | -.565   | 310 | 798 | -.154  | .058  | .062  | -.499   | 310 | 926 | -.325  | .051  | -.165 | -.559 |
| 310 | 749 | -.071  | .162  | .667  | -.720   | 310 | 799 | -.152  | .053  | .031  | -.458   | 310 | 927 | -.231  | .119  | .210  | -.691 |
| 310 | 750 | -.071  | .144  | .507  | -.472   | 310 | 800 | -.117  | .039  | .007  | -.276   | 310 | 928 | -.303  | .046  | -.173 | -.551 |
| 310 | 751 | -.359  | .214  | .561  | -.502   | 310 | 801 | -.107  | .035  | .036  | -.300   | 310 | 929 | -.203  | .087  | -.122 | -.563 |
| 310 | 752 | -.202  | .134  | .324  | -.1.050 | 310 | 802 | -.131  | .059  | .162  | -.298   | 310 | 930 | -.344  | .051  | -.173 | -.605 |
| 310 | 753 | -.191  | .119  | .180  | -.818   | 310 | 803 | -.172  | .041  | .035  | -.343   | 310 | 931 | -.095  | .102  | .481  | -.252 |
| 310 | 754 | -.206  | .092  | .126  | -.849   | 310 | 804 | -.211  | .049  | .071  | -.480   | 310 | 932 | -.304  | .042  | -.182 | -.547 |
| 310 | 755 | -.264  | .084  | -.002 | -.462   | 310 | 805 | -.052  | .055  | .155  | -.317   | 310 | 933 | -.298  | .047  | -.102 | -.561 |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 310 | 934  | -.175  | .047  | .022  | -.350 | 310 | 1013 | -.332  | .057  | -.198 | -.662 | 320 | 135 | .368   | .143  | .915  | .005  |
| 310 | 935  | -.137  | .076  | .196  | -.332 | 310 | 1014 | -.301  | .076  | -.108 | -.683 | 320 | 136 | .423   | .156  | .999  | .002  |
| 310 | 936  | -.374  | .043  | -.264 | -.508 | 310 | 1015 | -.319  | .047  | -.163 | -.494 | 320 | 137 | .359   | .148  | .855  | -.072 |
| 310 | 937  | -.359  | .061  | -.201 | -.629 | 310 | 1016 | -.225  | .062  | -.020 | -.450 | 320 | 138 | .414   | .160  | .987  | -.107 |
| 310 | 938  | -.338  | .052  | -.189 | -.566 | 310 | 1017 | -.140  | .081  | -.293 | -.573 | 320 | 139 | .355   | .173  | .959  | -.186 |
| 310 | 939  | -.324  | .052  | -.141 | -.540 | 310 | 1018 | -.091  | .080  | -.360 | -.434 | 320 | 140 | .262   | .163  | .906  | -.242 |
| 310 | 940  | -.347  | .054  | -.179 | -.512 | 310 | 1019 | -.202  | .080  | -.093 | -.655 | 320 | 141 | .406   | .152  | .901  | -.040 |
| 310 | 941  | -.104  | .022  | .005  | -.166 | 310 | 1020 | -.370  | .068  | -.142 | -.679 | 320 | 142 | .396   | .143  | .852  | -.093 |
| 310 | 942  | .072   | .096  | .563  | -.282 | 310 | 1021 | -.252  | .065  | -.014 | -.531 | 320 | 143 | -.177  | .078  | .149  | -.440 |
| 310 | 943  | .036   | .067  | .556  | -.128 | 310 | 1022 | -.061  | .028  | -.070 | -.167 | 320 | 144 | .025   | .091  | .389  | -.275 |
| 310 | 944  | -.028  | .055  | .342  | -.152 | 310 | 1023 | -.061  | .032  | -.083 | -.192 | 320 | 145 | .258   | .120  | .701  | -.068 |
| 310 | 945  | -.323  | .075  | -.079 | -.825 | 310 | 1024 | -.065  | .035  | -.056 | -.204 | 320 | 146 | .384   | .152  | .897  | -.009 |
| 310 | 946  | .087   | .084  | .521  | -.093 | 310 | 1025 | -.152  | .031  | -.043 | -.291 | 320 | 147 | .256   | .155  | .943  | -.126 |
| 310 | 947  | .125   | .107  | .678  | -.126 | 310 | 1026 | -.151  | .031  | -.063 | -.281 | 320 | 148 | .089   | .151  | .624  | -.389 |
| 310 | 948  | .103   | .090  | .519  | -.098 | 310 | 1027 | -.147  | .029  | -.041 | -.315 | 320 | 149 | -.377  | .132  | .380  | -.767 |
| 310 | 949  | .128   | .113  | .790  | -.098 | 310 | 1028 | -.085  | .032  | -.041 | -.234 | 320 | 150 | .514   | .135  | .079  | -.112 |
| 310 | 950  | -.229  | .070  | .012  | -.481 | 320 | 101  | -.000  | .089  | .431  | .262  | 320 | 151 | -.032  | .114  | .408  | -.858 |
| 310 | 951  | -.029  | .062  | .318  | -.142 | 320 | 102  | -.028  | .090  | .368  | .278  | 320 | 152 | .234   | .148  | .796  | -.516 |
| 310 | 952  | -.076  | .042  | .098  | -.273 | 320 | 103  | .261   | .142  | .750  | .227  | 320 | 153 | .292   | .173  | .913  | -.502 |
| 310 | 953  | -.002  | .059  | .484  | -.135 | 320 | 104  | -.090  | .169  | .638  | .336  | 320 | 154 | .309   | .167  | .911  | -.445 |
| 310 | 954  | -.053  | .079  | .421  | -.145 | 320 | 105  | -.040  | .072  | .193  | .354  | 320 | 155 | .227   | .172  | .874  | -.458 |
| 310 | 955  | -.029  | .052  | .190  | -.177 | 320 | 106  | -.044  | .104  | .408  | .274  | 320 | 156 | -.124  | .215  | .730  | -.187 |
| 310 | 956  | -.117  | .081  | .276  | -.642 | 320 | 107  | -.038  | .094  | .440  | .198  | 320 | 157 | .014   | .249  | .778  | -.797 |
| 310 | 957  | -.205  | .083  | .049  | -.682 | 320 | 108  | -.087  | .095  | .244  | .427  | 320 | 158 | .034   | .093  | .348  | -.271 |
| 310 | 958  | -.248  | .148  | .166  | -.177 | 320 | 109  | .146   | .144  | .621  | .398  | 320 | 159 | .215   | .146  | .805  | -.164 |
| 310 | 959  | -.148  | .074  | .239  | -.411 | 320 | 110  | .173   | .154  | .831  | .347  | 320 | 160 | -.079  | .085  | .266  | -.401 |
| 310 | 960  | -.168  | .040  | -.023 | -.409 | 320 | 111  | .102   | .132  | .645  | .395  | 320 | 161 | .102   | .142  | .853  | -.324 |
| 310 | 961  | -.242  | .066  | -.053 | -.684 | 320 | 112  | -.044  | .095  | .431  | .292  | 320 | 162 | -.089  | .084  | .229  | -.372 |
| 310 | 962  | -.226  | .061  | -.092 | -.587 | 320 | 113  | .232   | .141  | .801  | .163  | 320 | 163 | .049   | .095  | .426  | -.239 |
| 310 | 963  | -.064  | .086  | .333  | -.361 | 320 | 114  | .334   | .158  | .918  | .080  | 320 | 164 | .245   | .118  | .783  | -.129 |
| 310 | 964  | -.098  | .064  | .155  | -.259 | 320 | 115  | .297   | .150  | .849  | .165  | 320 | 165 | .274   | .132  | 1.000 | -.077 |
| 310 | 965  | -.183  | .046  | -.035 | -.406 | 320 | 116  | .203   | .163  | .732  | .409  | 320 | 166 | .278   | .135  | .788  | -.079 |
| 310 | 966  | -.243  | .077  | -.035 | -.771 | 320 | 117  | .380   | .153  | .907  | .078  | 320 | 167 | .164   | .127  | .745  | -.166 |
| 310 | 967  | -.101  | .045  | .115  | -.313 | 320 | 118  | -.001  | .112  | .375  | .455  | 320 | 168 | .044   | .120  | .620  | -.279 |
| 310 | 968  | -.177  | .037  | -.026 | -.372 | 320 | 119  | -.160  | .167  | .488  | .814  | 320 | 169 | .228   | .117  | .767  | -.120 |
| 310 | 969  | -.166  | .042  | .063  | -.343 | 320 | 120  | -.256  | .182  | .946  | .672  | 320 | 170 | -.085  | .077  | .272  | -.331 |
| 310 | 970  | -.120  | .056  | .300  | -.301 | 320 | 121  | -.137  | .147  | .674  | .359  | 320 | 171 | .030   | .090  | .370  | -.257 |
| 310 | 971  | -.100  | .047  | .150  | -.276 | 320 | 122  | -.001  | .095  | .479  | .326  | 320 | 172 | .140   | .119  | .613  | -.269 |
| 310 | 1001 | -.125  | .057  | .098  | -.407 | 320 | 123  | .093   | .105  | .449  | .237  | 320 | 173 | .219   | .103  | .654  | -.041 |
| 310 | 1002 | -.103  | .034  | .036  | -.214 | 320 | 124  | .180   | .151  | .702  | .552  | 320 | 174 | .169   | .104  | .579  | -.182 |
| 310 | 1003 | -.245  | .049  | -.069 | -.459 | 320 | 125  | .290   | .143  | .764  | .094  | 320 | 175 | .064   | .091  | .495  | -.274 |
| 310 | 1004 | -.044  | .121  | .423  | -.434 | 320 | 126  | .249   | .135  | .693  | .246  | 320 | 176 | -.031  | .084  | .430  | -.392 |
| 310 | 1005 | -.312  | .061  | -.144 | -.575 | 320 | 127  | .306   | .153  | .850  | .100  | 320 | 177 | -.133  | .077  | .161  | -.437 |
| 310 | 1006 | -.184  | .146  | .374  | -.688 | 320 | 128  | .316   | .152  | .887  | .142  | 320 | 178 | -.022  | .083  | .574  | -.315 |
| 310 | 1007 | -.307  | .076  | -.033 | -.711 | 320 | 129  | .281   | .167  | .920  | .200  | 320 | 179 | .068   | .096  | .536  | -.202 |
| 310 | 1008 | .090   | .080  | .407  | -.083 | 320 | 130  | .372   | .154  | .943  | .070  | 320 | 180 | .116   | .073  | .442  | -.072 |
| 310 | 1009 | -.252  | .059  | .041  | -.484 | 320 | 131  | .347   | .165  | .948  | .102  | 320 | 181 | .087   | .080  | .464  | -.288 |
| 310 | 1010 | .090   | .109  | .511  | -.209 | 320 | 132  | -.004  | .082  | .326  | .240  | 320 | 182 | .008   | .068  | .325  | -.221 |
| 310 | 1011 | -.200  | .075  | .073  | -.456 | 320 | 133  | .124   | .101  | .596  | .179  | 320 | 183 | -.054  | .062  | .243  | -.365 |
| 310 | 1012 | .097   | .084  | .496  | -.098 | 320 | 134  | .240   | .156  | .738  | .363  | 320 | 184 | -.159  | .048  | .051  | -.406 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|--------|
| 320 | 185 | -.038  | .051  | .240  | -.245 | 320 | 310 | -.316  | .058  | -.157 | -.681   | 320 | 360 | -.395  | .089  | -.113 | -.884  |
| 320 | 186 | .094   | .079  | .608  | -.113 | 320 | 311 | -.314  | .050  | -.163 | -.518   | 320 | 361 | -.527  | .184  | -.198 | -1.643 |
| 320 | 187 | .129   | .095  | .591  | -.091 | 320 | 312 | -.350  | .078  | -.117 | -.909   | 320 | 362 | -.595  | .088  | -.137 | -.783  |
| 320 | 188 | .075   | .075  | .572  | -.154 | 320 | 313 | -.326  | .057  | -.164 | -.617   | 320 | 363 | -.399  | .087  | -.148 | -.820  |
| 320 | 189 | -.039  | .043  | .185  | -.214 | 320 | 314 | -.315  | .054  | -.136 | -.572   | 320 | 364 | -.400  | .083  | -.106 | -.910  |
| 320 | 190 | -.099  | .049  | .224  | -.372 | 320 | 315 | -.311  | .052  | -.169 | -.558   | 320 | 365 | -.397  | .081  | -.111 | -.849  |
| 320 | 191 | .205   | .099  | .762  | -.030 | 320 | 316 | -.315  | .052  | -.164 | -.667   | 320 | 366 | -.406  | .078  | -.183 | -.811  |
| 320 | 192 | .193   | .102  | .631  | -.032 | 320 | 317 | -.318  | .050  | -.124 | -.570   | 320 | 367 | -.535  | .151  | -.248 | -1.332 |
| 320 | 193 | .193   | .096  | .649  | -.025 | 320 | 318 | -.344  | .070  | -.167 | -.776   | 320 | 368 | -.497  | .135  | -.226 | -1.034 |
| 320 | 194 | -.073  | .062  | .161  | -.315 | 320 | 319 | -.341  | .061  | -.159 | -.878   | 320 | 369 | -.390  | .069  | -.169 | -.816  |
| 320 | 195 | .030   | .072  | .440  | -.158 | 320 | 320 | -.341  | .075  | -.086 | -.634   | 320 | 370 | -.362  | .083  | -.111 | -.816  |
| 320 | 196 | .127   | .087  | .601  | -.078 | 320 | 321 | -.335  | .082  | -.126 | -.871   | 320 | 371 | -.375  | .091  | -.094 | -.756  |
| 320 | 197 | .080   | .072  | .474  | -.152 | 320 | 322 | -.361  | .095  | -.046 | -.887   | 320 | 372 | -.428  | .099  | -.094 | -.935  |
| 320 | 198 | -.062  | .041  | .074  | -.391 | 320 | 323 | -.353  | .086  | -.012 | -.714   | 320 | 373 | -.447  | .094  | -.203 | -1.056 |
| 320 | 199 | -.059  | .038  | .081  | -.299 | 320 | 324 | -.348  | .076  | -.126 | -.852   | 320 | 374 | -.479  | .096  | -.188 | -.977  |
| 320 | 200 | -.048  | .038  | .148  | -.230 | 320 | 325 | -.354  | .076  | -.110 | -.1.056 | 320 | 375 | -.441  | .081  | -.171 | -.903  |
| 320 | 201 | -.059  | .047  | .150  | -.241 | 320 | 326 | -.432  | .107  | -.164 | -.821   | 320 | 376 | -.432  | .079  | -.221 | -.828  |
| 320 | 202 | -.057  | .040  | .097  | -.280 | 320 | 327 | -.430  | .104  | -.166 | -.1.044 | 320 | 377 | -.269  | .067  | -.025 | -.590  |
| 320 | 203 | -.045  | .040  | .148  | -.198 | 320 | 328 | -.370  | .076  | -.159 | -.785   | 320 | 378 | -.251  | .073  | -.013 | -.538  |
| 320 | 204 | -.048  | .037  | .118  | -.227 | 320 | 329 | -.355  | .076  | -.113 | -.821   | 320 | 379 | -.282  | .102  | -.052 | -.697  |
| 320 | 205 | -.054  | .035  | .115  | -.186 | 320 | 330 | -.321  | .051  | -.163 | -.554   | 320 | 380 | -.416  | .114  | -.010 | -.863  |
| 320 | 206 | -.051  | .042  | .120  | -.211 | 320 | 331 | -.340  | .055  | -.159 | -.595   | 320 | 381 | -.523  | .140  | -.104 | -1.215 |
| 320 | 207 | -.081  | .040  | .184  | -.237 | 320 | 332 | -.399  | .111  | -.075 | -.981   | 320 | 382 | -.490  | .105  | -.186 | -1.180 |
| 320 | 208 | -.124  | .049  | .049  | -.338 | 320 | 333 | -.403  | .102  | -.096 | -.972   | 320 | 383 | -.492  | .109  | -.245 | -1.153 |
| 320 | 209 | -.058  | .039  | .104  | -.299 | 320 | 334 | -.365  | .070  | -.159 | -.660   | 320 | 384 | -.264  | .061  | -.015 | -.511  |
| 320 | 210 | -.068  | .053  | .126  | -.249 | 320 | 335 | -.378  | .069  | -.182 | -.753   | 320 | 385 | -.221  | .047  | -.010 | -.446  |
| 320 | 211 | -.082  | .045  | .088  | -.284 | 320 | 336 | -.354  | .060  | -.171 | -.590   | 320 | 386 | -.218  | .083  | -.072 | -.687  |
| 320 | 212 | -.076  | .039  | .056  | -.214 | 320 | 337 | -.344  | .060  | -.115 | -.588   | 320 | 387 | -.193  | .117  | -.199 | -.900  |
| 320 | 213 | -.062  | .042  | .088  | -.242 | 320 | 338 | -.359  | .062  | -.178 | -.588   | 320 | 388 | -.385  | .168  | -.112 | -.466  |
| 320 | 214 | -.119  | .054  | .028  | -.368 | 320 | 339 | -.328  | .052  | -.163 | -.528   | 320 | 389 | -.512  | .141  | -.159 | -1.188 |
| 320 | 215 | -.044  | .045  | .102  | -.352 | 320 | 340 | -.323  | .054  | -.135 | -.573   | 320 | 390 | -.506  | .127  | -.156 | -1.366 |
| 320 | 216 | -.038  | .035  | .098  | -.217 | 320 | 341 | -.351  | .060  | -.190 | -.600   | 320 | 391 | -.136  | .120  | -.424 | -.638  |
| 320 | 217 | -.036  | .034  | .100  | -.165 | 320 | 342 | -.352  | .062  | -.171 | -.734   | 320 | 392 | -.281  | .092  | -.077 | -.708  |
| 320 | 218 | -.051  | .038  | .079  | -.200 | 320 | 343 | -.378  | .081  | -.171 | -.849   | 320 | 393 | -.145  | .107  | -.158 | -.724  |
| 320 | 219 | -.021  | .042  | .151  | -.154 | 320 | 344 | -.384  | .087  | -.135 | -.1.044 | 320 | 394 | -.234  | .192  | -.305 | -1.146 |
| 320 | 220 | -.000  | .047  | .200  | -.121 | 320 | 345 | -.381  | .072  | -.137 | -.741   | 320 | 395 | -.519  | .164  | -.102 | -1.309 |
| 320 | 221 | -.023  | .036  | .177  | -.123 | 320 | 346 | -.351  | .062  | -.171 | -.633   | 320 | 396 | -.508  | .155  | -.072 | -1.295 |
| 320 | 222 | -.030  | .040  | .149  | -.147 | 320 | 347 | -.344  | .058  | -.166 | -.583   | 320 | 397 | -.236  | .074  | -.056 | -.505  |
| 320 | 223 | -.058  | .041  | .128  | -.224 | 320 | 348 | -.335  | .058  | -.147 | -.557   | 320 | 398 | -.205  | .061  | -.045 | -.422  |
| 320 | 224 | -.054  | .044  | .126  | -.233 | 320 | 349 | -.396  | .072  | -.195 | -.778   | 320 | 399 | -.208  | .050  | -.020 | -.408  |
| 320 | 225 | -.064  | .054  | .210  | -.268 | 320 | 350 | -.373  | .073  | -.160 | -.625   | 320 | 400 | -.191  | .042  | -.033 | -.353  |
| 320 | 301 | -.286  | .052  | -.129 | -.641 | 320 | 351 | -.395  | .089  | -.104 | -.888   | 320 | 401 | -.180  | .037  | -.056 | -.308  |
| 320 | 302 | -.352  | .056  | -.124 | -.643 | 320 | 352 | -.393  | .072  | -.198 | -.665   | 320 | 402 | -.167  | .035  | -.047 | -.328  |
| 320 | 303 | -.434  | .087  | -.183 | -.781 | 320 | 353 | -.392  | .070  | -.202 | -.705   | 320 | 403 | -.121  | .060  | -.076 | -.436  |
| 320 | 304 | -.186  | .051  | .104  | -.427 | 320 | 354 | -.393  | .061  | -.216 | -.733   | 320 | 404 | -.108  | .061  | -.120 | -.422  |
| 320 | 305 | -.332  | .071  | -.150 | -.751 | 320 | 355 | -.411  | .073  | -.209 | -.971   | 320 | 405 | -.059  | .051  | -.147 | -.264  |
| 320 | 306 | -.298  | .048  | -.131 | -.524 | 320 | 356 | -.371  | .093  | -.094 | -.830   | 320 | 406 | -.088  | .072  | -.108 | -.401  |
| 320 | 307 | -.307  | .035  | -.148 | -.894 | 320 | 357 | -.470  | .116  | -.115 | -.1.086 | 320 | 407 | -.197  | .055  | -.010 | -.424  |
| 320 | 308 | -.361  | .079  | -.008 | -.956 | 320 | 358 | -.390  | .080  | -.139 | -.842   | 320 | 408 | -.203  | .056  | -.013 | -.429  |
| 320 | 309 | -.320  | .055  | -.112 | -.660 | 320 | 359 | -.578  | .173  | -.202 | -.1.368 | 320 | 409 | -.198  | .039  | -.061 | -.392  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 320 | 410 | -.088  | .059  | .149  | -.276 | 320 | 538 | -.294  | .045  | -.158 | -.481  | 320 | 588 | -.273  | .061  | -.082 | -.587  |
| 320 | 411 | -.181  | .045  | -.038 | -.372 | 320 | 539 | -.311  | .051  | -.145 | -.495  | 320 | 589 | -.349  | .099  | -.091 | -.935  |
| 320 | 412 | -.193  | .047  | -.053 | -.397 | 320 | 540 | -.321  | .054  | -.115 | -.558  | 320 | 590 | -.363  | .127  | -.063 | -1.136 |
| 320 | 413 | -.126  | .035  | .029  | -.360 | 320 | 541 | -.306  | .050  | -.168 | -.590  | 320 | 591 | -.234  | .060  | -.038 | -.536  |
| 320 | 414 | -.181  | .052  | -.041 | -.447 | 320 | 542 | -.347  | .063  | -.181 | -.650  | 320 | 592 | -.224  | .055  | -.029 | -.485  |
| 320 | 415 | -.169  | .045  | -.007 | -.413 | 320 | 543 | -.383  | .102  | -.133 | -.837  | 320 | 593 | -.231  | .073  | -.038 | -.632  |
| 320 | 416 | -.165  | .037  | -.038 | -.274 | 320 | 544 | -.386  | .100  | -.145 | -.927  | 320 | 594 | -.219  | .081  | -.036 | -.680  |
| 320 | 417 | -.157  | .039  | .077  | -.288 | 320 | 545 | -.379  | .088  | -.205 | -.881  | 320 | 595 | -.251  | .081  | -.041 | -.745  |
| 320 | 418 | -.142  | .041  | .063  | -.274 | 320 | 546 | -.361  | .057  | -.214 | -.641  | 320 | 596 | -.220  | .062  | -.038 | -.504  |
| 320 | 419 | -.189  | .080  | .096  | -.524 | 320 | 547 | -.355  | .059  | -.181 | -.578  | 320 | 597 | -.221  | .052  | -.084 | -.603  |
| 320 | 420 | -.085  | .046  | .159  | -.259 | 320 | 548 | -.370  | .070  | -.172 | -.648  | 320 | 598 | -.234  | .090  | -.009 | -.589  |
| 320 | 421 | -.066  | .073  | .276  | -.284 | 320 | 549 | -.352  | .095  | -.129 | -.962  | 320 | 599 | -.295  | .138  | -.037 | -.940  |
| 320 | 422 | -.046  | .096  | .274  | -.265 | 320 | 550 | -.346  | .091  | -.102 | -.824  | 320 | 600 | -.183  | .053  | -.021 | -.382  |
| 320 | 501 | -.331  | .059  | -.146 | -.635 | 320 | 551 | -.355  | .126  | -.106 | -1.213 | 320 | 601 | -.232  | .068  | -.065 | -.474  |
| 320 | 502 | -.308  | .052  | -.153 | -.555 | 320 | 552 | -.330  | .061  | -.165 | -.620  | 320 | 602 | -.221  | .073  | -.037 | -.587  |
| 320 | 503 | -.311  | .095  | -.060 | -.869 | 320 | 553 | -.326  | .052  | -.165 | -.564  | 320 | 603 | -.225  | .082  | -.009 | -.747  |
| 320 | 504 | -.368  | .062  | -.194 | -.630 | 320 | 554 | -.334  | .049  | -.177 | -.543  | 320 | 604 | -.191  | .057  | -.025 | -.434  |
| 320 | 505 | -.291  | .055  | -.103 | -.550 | 320 | 555 | -.352  | .058  | -.174 | -.593  | 320 | 605 | -.188  | .050  | -.039 | -.378  |
| 320 | 506 | -.303  | .046  | -.154 | -.485 | 320 | 556 | -.392  | .082  | -.170 | -.822  | 320 | 606 | -.220  | .064  | -.060 | -.526  |
| 320 | 507 | -.290  | .046  | -.158 | -.479 | 320 | 557 | -.374  | .074  | -.100 | -.758  | 320 | 607 | -.204  | .066  | -.043 | -.448  |
| 320 | 508 | -.308  | .062  | -.089 | -.577 | 320 | 558 | -.257  | .061  | -.050 | -.559  | 320 | 608 | -.182  | .077  | -.078 | -.561  |
| 320 | 509 | -.321  | .062  | -.160 | -.628 | 320 | 559 | -.361  | .061  | -.162 | -.623  | 320 | 609 | -.178  | .053  | -.026 | -.423  |
| 320 | 510 | -.319  | .056  | -.181 | -.612 | 320 | 560 | -.240  | .067  | -.032 | -.566  | 320 | 610 | -.228  | .072  | -.018 | -.481  |
| 320 | 511 | -.330  | .058  | -.154 | -.596 | 320 | 561 | -.373  | .067  | -.190 | -.661  | 320 | 611 | -.235  | .076  | -.065 | -.592  |
| 320 | 512 | -.314  | .063  | -.096 | -.648 | 320 | 562 | -.245  | .064  | -.063 | -.718  | 320 | 612 | -.227  | .089  | -.053 | -.698  |
| 320 | 513 | -.325  | .060  | -.169 | -.607 | 320 | 563 | -.253  | .060  | -.032 | -.720  | 320 | 613 | -.243  | .082  | -.001 | -.629  |
| 320 | 514 | -.301  | .042  | -.165 | -.464 | 320 | 564 | -.279  | .061  | -.106 | -.620  | 320 | 614 | -.187  | .100  | -.126 | -.780  |
| 320 | 515 | -.300  | .047  | -.142 | -.521 | 320 | 565 | -.345  | .072  | -.152 | -.731  | 320 | 615 | -.182  | .071  | -.055 | -.493  |
| 320 | 516 | -.316  | .057  | -.172 | -.628 | 320 | 566 | -.348  | .065  | -.163 | -.730  | 320 | 616 | -.157  | .053  | -.069 | -.385  |
| 320 | 517 | -.281  | .043  | -.142 | -.450 | 320 | 567 | -.352  | .055  | -.134 | -.544  | 320 | 617 | -.154  | .045  | -.034 | -.345  |
| 320 | 518 | -.392  | .090  | -.162 | -.817 | 320 | 568 | -.366  | .064  | -.146 | -.690  | 320 | 618 | -.155  | .050  | -.069 | -.380  |
| 320 | 519 | -.334  | .073  | -.142 | -.644 | 320 | 569 | -.269  | .055  | -.063 | -.611  | 320 | 619 | -.175  | .045  | -.034 | -.385  |
| 320 | 520 | -.361  | .070  | -.210 | -.972 | 320 | 570 | -.238  | .071  | -.029 | -.807  | 320 | 620 | -.197  | .052  | -.037 | -.418  |
| 320 | 521 | -.336  | .051  | -.172 | -.541 | 320 | 571 | -.234  | .061  | -.001 | -.630  | 320 | 621 | -.366  | .105  | -.049 | -1.123 |
| 320 | 522 | -.253  | .051  | -.085 | -.466 | 320 | 572 | -.245  | .052  | -.039 | -.511  | 320 | 622 | -.405  | .109  | -.106 | -.878  |
| 320 | 523 | -.259  | .052  | -.076 | -.514 | 320 | 573 | -.282  | .051  | -.072 | -.559  | 320 | 623 | -.005  | .087  | -.303 | -.339  |
| 320 | 524 | -.267  | .052  | -.108 | -.584 | 320 | 574 | -.368  | .068  | -.189 | -.664  | 320 | 624 | -.485  | .116  | -.102 | -.981  |
| 320 | 525 | -.284  | .048  | -.121 | -.452 | 320 | 575 | -.344  | .062  | -.137 | -.602  | 320 | 625 | -.420  | .104  | -.029 | -.842  |
| 320 | 526 | -.312  | .043  | -.197 | -.498 | 320 | 576 | -.346  | .061  | -.151 | -.635  | 320 | 626 | -.257  | .063  | -.048 | -.657  |
| 320 | 527 | -.315  | .044  | -.188 | -.530 | 320 | 577 | -.221  | .070  | -.002 | -.854  | 320 | 627 | -.291  | .098  | -.024 | -.810  |
| 320 | 528 | -.309  | .050  | -.105 | -.509 | 320 | 578 | -.226  | .063  | -.027 | -.628  | 320 | 628 | -.450  | .144  | -.132 | -.440  |
| 320 | 529 | -.313  | .056  | -.126 | -.601 | 320 | 579 | -.239  | .058  | -.044 | -.563  | 320 | 629 | -.301  | .154  | -.054 | -.1036 |
| 320 | 530 | -.297  | .044  | -.163 | -.456 | 320 | 580 | -.274  | .050  | -.048 | -.490  | 320 | 630 | -.258  | .126  | -.131 | -.888  |
| 320 | 531 | -.328  | .050  | -.193 | -.578 | 320 | 581 | -.352  | .073  | -.137 | -.850  | 320 | 631 | -.266  | .058  | -.057 | -.603  |
| 320 | 532 | -.294  | .071  | -.126 | -.754 | 320 | 582 | -.325  | .062  | -.172 | -.709  | 320 | 632 | -.426  | .124  | -.223 | -.1226 |
| 320 | 533 | -.296  | .067  | -.129 | -.728 | 320 | 583 | -.323  | .063  | -.165 | -.635  | 320 | 633 | -.312  | .189  | -.163 | -.945  |
| 320 | 534 | -.311  | .069  | -.151 | -.701 | 320 | 584 | -.239  | .076  | -.060 | -1.005 | 320 | 634 | -.258  | .102  | -.074 | -.842  |
| 320 | 535 | -.299  | .053  | -.142 | -.518 | 320 | 585 | -.231  | .068  | -.072 | -.685  | 320 | 635 | -.272  | .061  | -.097 | -.719  |
| 320 | 536 | -.282  | .044  | -.138 | -.486 | 320 | 586 | -.261  | .080  | -.060 | -.759  | 320 | 636 | -.323  | .126  | -.006 | -.856  |
| 320 | 537 | -.286  | .044  | -.124 | -.532 | 320 | 587 | -.241  | .051  | -.010 | -.571  | 320 | 637 | -.246  | .140  | -.152 | -.844  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 320 | 718 | -.534  | .225  | .207  | -1.431 | 320 | 768 | -.208  | .062  | -.013 | -.548  | 320 | 818 | -.127  | .043  | .035  | -.337 |
| 320 | 719 | -.235  | .181  | .225  | -.897  | 320 | 769 | -.192  | .121  | .111  | -.253  | 320 | 819 | -.103  | .043  | .195  | -.253 |
| 320 | 720 | -.257  | .103  | .033  | -.684  | 320 | 770 | -.384  | .134  | -.056 | -1.015 | 320 | 820 | -.110  | .047  | .161  | -.306 |
| 320 | 721 | -.283  | .063  | -.081 | -.559  | 320 | 771 | -.406  | .148  | -.004 | -1.435 | 320 | 821 | -.125  | .039  | .021  | -.253 |
| 320 | 722 | -.494  | .197  | .515  | -1.271 | 320 | 772 | -.309  | .151  | .072  | -.192  | 320 | 822 | -.151  | .041  | -.014 | -.267 |
| 320 | 723 | -.354  | .251  | .360  | -1.027 | 320 | 773 | -.128  | .118  | .154  | -.734  | 320 | 901 | -.374  | .062  | -.231 | -.652 |
| 320 | 724 | -.280  | .158  | .129  | -1.027 | 320 | 774 | -.235  | .108  | .151  | -.724  | 320 | 902 | -.165  | .088  | .258  | -.568 |
| 320 | 725 | -.357  | .191  | .097  | -1.303 | 320 | 775 | -.177  | .057  | .063  | -.555  | 320 | 903 | -.191  | .156  | .211  | -.840 |
| 320 | 726 | .074   | .167  | .570  | -.593  | 320 | 776 | -.191  | .052  | -.009 | -.452  | 320 | 904 | -.345  | .133  | .217  | -.944 |
| 320 | 727 | -.354  | .119  | .012  | -.857  | 320 | 777 | -.321  | .110  | -.078 | -.998  | 320 | 905 | -.012  | .106  | .288  | -.249 |
| 320 | 728 | -.193  | .046  | .010  | -.476  | 320 | 778 | -.318  | .120  | -.021 | -1.235 | 320 | 906 | -.222  | .057  | .059  | -.471 |
| 320 | 729 | -.214  | .044  | -.002 | -.422  | 320 | 779 | -.292  | .138  | .025  | -.960  | 320 | 907 | -.361  | .078  | -.115 | -.643 |
| 320 | 730 | -.261  | .122  | .188  | -.857  | 320 | 780 | -.187  | .093  | .216  | -.715  | 320 | 908 | -.073  | .105  | .454  | -.314 |
| 320 | 731 | -.200  | .158  | .470  | -.899  | 320 | 781 | -.179  | .076  | .187  | -.641  | 320 | 909 | -.153  | .088  | .120  | -.414 |
| 320 | 732 | -.453  | .144  | .232  | -.973  | 320 | 782 | -.168  | .046  | .041  | -.376  | 320 | 910 | -.392  | .094  | -.156 | -.806 |
| 320 | 733 | -.146  | .147  | .230  | -.984  | 320 | 783 | -.174  | .051  | .020  | -.414  | 320 | 911 | -.335  | .151  | .945  | -.047 |
| 320 | 734 | -.329  | .210  | .183  | -.1098 | 320 | 784 | -.278  | .121  | -.047 | -.975  | 320 | 912 | -.326  | .076  | -.031 | -.597 |
| 320 | 735 | -.331  | .197  | .204  | -.987  | 320 | 785 | -.292  | .122  | -.030 | -1.034 | 320 | 913 | -.003  | .159  | .502  | -.813 |
| 320 | 736 | -.265  | .168  | .567  | -.950  | 320 | 786 | -.207  | .094  | .070  | -.658  | 320 | 914 | -.294  | .056  | -.050 | -.528 |
| 320 | 737 | -.031  | .196  | .607  | -.818  | 320 | 787 | -.154  | .065  | .089  | -.507  | 320 | 915 | -.169  | .167  | .475  | -.657 |
| 320 | 738 | -.226  | .130  | .158  | -.832  | 320 | 788 | -.166  | .056  | .103  | -.474  | 320 | 916 | -.418  | .124  | -.124 | -.165 |
| 320 | 739 | -.198  | .058  | .019  | -.628  | 320 | 789 | -.163  | .042  | -.021 | -.331  | 320 | 917 | -.334  | .206  | .949  | -.839 |
| 320 | 740 | -.229  | .057  | -.071 | -.547  | 320 | 790 | -.183  | .046  | -.025 | -.381  | 320 | 918 | -.337  | .082  | -.048 | -.768 |
| 320 | 741 | -.227  | .147  | .246  | -.765  | 320 | 791 | -.172  | .069  | .088  | -.832  | 320 | 919 | -.357  | .058  | -.183 | -.627 |
| 320 | 742 | -.237  | .169  | .220  | -.832  | 320 | 792 | -.157  | .062  | .043  | -.474  | 320 | 920 | -.318  | .054  | .165  | -.612 |
| 320 | 743 | -.374  | .171  | .220  | -.1294 | 320 | 793 | -.144  | .082  | .147  | -.716  | 320 | 921 | -.399  | .086  | -.156 | -.793 |
| 320 | 744 | -.358  | .150  | .276  | -.165  | 320 | 794 | -.138  | .051  | .056  | -.363  | 320 | 922 | -.378  | .150  | -.109 | -.095 |
| 320 | 745 | -.298  | .184  | .297  | -.1049 | 320 | 795 | -.093  | .049  | .085  | -.425  | 320 | 923 | -.369  | .060  | .194  | -.649 |
| 320 | 746 | -.192  | .111  | .216  | -.707  | 320 | 796 | -.088  | .045  | .083  | -.346  | 320 | 924 | -.349  | .065  | -.187 | -.892 |
| 320 | 747 | -.233  | .074  | .091  | -.568  | 320 | 797 | -.078  | .044  | .064  | -.334  | 320 | 925 | -.262  | .273  | .822  | -.955 |
| 320 | 748 | -.313  | .074  | -.083 | -.641  | 320 | 798 | -.238  | .079  | -.010 | -.666  | 320 | 926 | -.343  | .062  | -.172 | -.891 |
| 320 | 749 | -.139  | .189  | .593  | -.1114 | 320 | 799 | -.241  | .091  | -.041 | -.806  | 320 | 927 | -.279  | .121  | .258  | -.680 |
| 320 | 750 | -.156  | .171  | .448  | -.759  | 320 | 800 | -.178  | .075  | .059  | -.589  | 320 | 928 | -.328  | .058  | -.137 | -.578 |
| 320 | 751 | -.634  | .270  | .283  | -.2000 | 320 | 801 | -.148  | .049  | .038  | -.406  | 320 | 929 | -.238  | .111  | .198  | -.617 |
| 320 | 752 | -.372  | .176  | .186  | -.974  | 320 | 802 | -.153  | .045  | .075  | -.372  | 320 | 930 | -.349  | .055  | -.181 | -.580 |
| 320 | 753 | -.286  | .170  | .181  | -.1248 | 320 | 803 | -.159  | .039  | -.010 | -.325  | 320 | 931 | -.156  | .099  | .533  | -.116 |
| 320 | 754 | -.247  | .107  | .097  | -.806  | 320 | 804 | -.181  | .045  | -.041 | -.332  | 320 | 932 | -.328  | .049  | -.184 | -.536 |
| 320 | 755 | -.281  | .092  | -.009 | -.908  | 320 | 805 | -.009  | .079  | .316  | -.313  | 320 | 933 | -.321  | .052  | -.161 | -.576 |
| 320 | 756 | -.367  | .107  | -.106 | -.910  | 320 | 806 | -.023  | .045  | .140  | -.225  | 320 | 934 | -.158  | .063  | .101  | -.413 |
| 320 | 757 | -.358  | .099  | -.095 | -.865  | 320 | 807 | -.099  | .048  | .071  | -.363  | 320 | 935 | -.186  | .062  | -.099 | -.415 |
| 320 | 758 | -.522  | .190  | .007  | -.1542 | 320 | 808 | -.068  | .040  | .114  | -.244  | 320 | 936 | -.382  | .049  | -.261 | -.543 |
| 320 | 759 | -.249  | .068  | -.032 | -.654  | 320 | 809 | -.258  | .125  | -.010 | -1.485 | 320 | 937 | -.382  | .071  | -.141 | -.712 |
| 320 | 760 | -.532  | .279  | .154  | -.1609 | 320 | 810 | -.146  | .048  | .013  | -.473  | 320 | 938 | -.353  | .058  | -.141 | -.644 |
| 320 | 761 | -.224  | .069  | .048  | -.571  | 320 | 811 | -.113  | .037  | .054  | -.246  | 320 | 939 | -.337  | .057  | -.146 | -.562 |
| 320 | 762 | -.686  | .371  | .272  | -.2690 | 320 | 812 | -.171  | .048  | -.003 | -.334  | 320 | 940 | -.332  | .056  | -.125 | -.518 |
| 320 | 763 | -.514  | .272  | .136  | -.1923 | 320 | 813 | -.096  | .050  | .094  | -.435  | 320 | 941 | -.139  | .026  | -.058 | -.269 |
| 320 | 764 | -.306  | .150  | .100  | -.908  | 320 | 814 | -.095  | .046  | .116  | -.377  | 320 | 942 | -.177  | .114  | .656  | -.167 |
| 320 | 765 | -.227  | .142  | .093  | -.949  | 320 | 815 | -.062  | .041  | .092  | -.208  | 320 | 943 | -.112  | .066  | .461  | -.148 |
| 320 | 766 | -.188  | .104  | .115  | -.922  | 320 | 816 | -.251  | .113  | -.013 | -.964  | 320 | 944 | -.093  | .065  | .349  | -.102 |
| 320 | 767 | -.187  | .063  | .089  | -.555  | 320 | 817 | -.202  | .081  | .035  | -.728  | 320 | 945 | -.222  | .070  | -.034 | -.676 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 320 | 946  | .200   | .105  | .744  | -.023  | 320 | 1025 | -.175  | .047  | -.031 | -.424 | 330 | 147 | .186   | .130  | .673  | -.199 |
| 320 | 947  | .243   | .130  | .872  | -.072  | 320 | 1026 | -.198  | .063  | -.045 | -.470 | 330 | 148 | -.014  | .133  | .521  | -.505 |
| 320 | 948  | .186   | .095  | .679  | -.048  | 320 | 1027 | -.189  | .051  | -.040 | -.375 | 330 | 149 | -.313  | .186  | .537  | -.784 |
| 320 | 949  | .253   | .141  | .937  | -.111  | 320 | 1028 | -.094  | .046  | -.051 | -.281 | 330 | 150 | -.435  | .151  | .049  | -.981 |
| 320 | 950  | -.222  | .045  | -.088 | -.402  | 330 | 101  | -.021  | .093  | .307  | -.385 | 330 | 151 | .056   | .121  | .516  | -.434 |
| 320 | 951  | .115   | .071  | .444  | -.158  | 330 | 102  | -.019  | .087  | .330  | -.432 | 330 | 152 | .285   | .145  | .810  | -.306 |
| 320 | 952  | -.073  | .056  | .263  | -.346  | 330 | 103  | .229   | .139  | .704  | -.276 | 330 | 153 | .335   | .155  | .830  | -.226 |
| 320 | 953  | .073   | .066  | .489  | -.093  | 330 | 104  | .183   | .134  | .736  | -.292 | 330 | 154 | .341   | .148  | .823  | -.301 |
| 320 | 954  | .127   | .089  | .682  | -.088  | 330 | 105  | -.043  | .086  | .347  | -.364 | 330 | 155 | .202   | .149  | .828  | -.393 |
| 320 | 955  | .042   | .058  | .319  | -.107  | 330 | 106  | -.034  | .095  | .423  | -.359 | 330 | 156 | -.286  | .181  | .544  | -.929 |
| 320 | 956  | .104   | .105  | .261  | -.634  | 330 | 107  | .013   | .097  | .374  | -.260 | 330 | 157 | -.033  | .256  | .798  | -.833 |
| 320 | 957  | -.259  | .125  | .077  | -.788  | 330 | 108  | -.074  | .111  | .287  | -.525 | 330 | 158 | .089   | .105  | .521  | -.331 |
| 320 | 958  | -.286  | .176  | .200  | -1.308 | 330 | 109  | .137   | .158  | .736  | -.417 | 330 | 159 | .228   | .140  | .773  | -.301 |
| 320 | 959  | -.133  | .083  | .342  | -.441  | 330 | 110  | .158   | .161  | .838  | -.532 | 330 | 160 | -.024  | .098  | .436  | -.361 |
| 320 | 960  | -.201  | .057  | .000  | -.504  | 330 | 111  | -.022  | .129  | .471  | -.591 | 330 | 161 | .093   | .122  | .647  | -.299 |
| 320 | 961  | -.335  | .094  | -.120 | -.836  | 330 | 112  | .086   | .112  | .473  | -.246 | 330 | 162 | -.033  | .099  | .425  | -.324 |
| 320 | 962  | -.319  | .085  | -.104 | -.680  | 330 | 113  | .254   | .149  | .773  | -.230 | 330 | 163 | .110   | .104  | .631  | -.191 |
| 320 | 963  | -.002  | .092  | .376  | -.330  | 330 | 114  | .297   | .157  | .815  | -.136 | 330 | 164 | .295   | .122  | .826  | -.004 |
| 320 | 964  | -.055  | .068  | .329  | -.420  | 330 | 115  | .198   | .138  | .692  | -.256 | 330 | 165 | .337   | .130  | .823  | -.020 |
| 320 | 965  | -.222  | .062  | .052  | -.504  | 330 | 116  | .187   | .176  | .826  | -.408 | 330 | 166 | .328   | .129  | .822  | -.022 |
| 320 | 966  | -.388  | .123  | -.139 | -1.015 | 330 | 117  | .339   | .161  | 1.112 | -.059 | 330 | 167 | .193   | .130  | .759  | -.164 |
| 320 | 967  | -.065  | .045  | .097  | -.232  | 330 | 118  | .004   | .120  | .386  | -.509 | 330 | 168 | .075   | .115  | .562  | -.306 |
| 320 | 968  | -.226  | .056  | -.050 | -.554  | 330 | 119  | -.082  | .215  | .895  | -.908 | 330 | 169 | .305   | .126  | .824  | -.147 |
| 320 | 969  | -.169  | .045  | .058  | -.392  | 330 | 120  | .130   | .214  | .706  | -.795 | 330 | 170 | -.055  | .085  | .415  | -.316 |
| 320 | 970  | -.083  | .063  | .269  | -.340  | 330 | 121  | .038   | .129  | .478  | -.486 | 330 | 171 | .062   | .090  | .415  | -.171 |
| 320 | 971  | -.067  | .048  | .191  | -.210  | 330 | 122  | .055   | .115  | .489  | -.276 | 330 | 172 | .199   | .125  | .728  | -.212 |
| 320 | 1001 | -.192  | .104  | .087  | -.643  | 330 | 123  | .152   | .130  | .667  | -.223 | 330 | 173 | .269   | .118  | .769  | -.014 |
| 320 | 1002 | -.137  | .052  | .075  | -.362  | 330 | 124  | .233   | .155  | .822  | -.435 | 330 | 174 | .247   | .117  | .788  | -.103 |
| 320 | 1003 | -.308  | .056  | -.131 | -.636  | 330 | 125  | .287   | .155  | .810  | -.140 | 330 | 175 | .130   | .099  | .574  | -.142 |
| 320 | 1004 | -.148  | .152  | .288  | -.693  | 330 | 126  | .256   | .162  | .810  | -.364 | 330 | 176 | -.003  | .086  | .340  | -.308 |
| 320 | 1005 | -.343  | .064  | -.181 | -.616  | 330 | 127  | .290   | .156  | .855  | -.136 | 330 | 177 | -.114  | .072  | .174  | -.373 |
| 320 | 1006 | -.429  | .127  | .034  | -1.048 | 330 | 128  | .239   | .148  | .698  | -.185 | 330 | 178 | -.003  | .074  | .330  | -.291 |
| 320 | 1007 | -.226  | .074  | .016  | -.665  | 330 | 129  | .182   | .144  | .696  | -.393 | 330 | 179 | .115   | .097  | .494  | -.169 |
| 320 | 1008 | -.197  | .101  | .712  | -.028  | 330 | 130  | .360   | .154  | 1.042 | -.047 | 330 | 180 | .179   | .093  | .605  | -.055 |
| 320 | 1009 | -.245  | .059  | .011  | -.480  | 330 | 131  | .333   | .159  | .890  | -.105 | 330 | 181 | .166   | .112  | .646  | -.234 |
| 320 | 1010 | .235   | .117  | .790  | -.114  | 330 | 132  | .041   | .100  | .437  | -.267 | 330 | 182 | .037   | .077  | .400  | -.209 |
| 320 | 1011 | -.198  | .051  | -.038 | -.409  | 330 | 133  | .177   | .123  | .766  | -.150 | 330 | 183 | -.043  | .074  | .306  | -.299 |
| 320 | 1012 | -.209  | .104  | .756  | -.028  | 330 | 134  | .307   | .167  | .864  | -.311 | 330 | 184 | -.139  | .054  | .077  | -.434 |
| 320 | 1013 | -.353  | .061  | .217  | -.638  | 330 | 135  | .371   | .145  | .810  | -.003 | 330 | 185 | -.010  | .056  | .253  | -.190 |
| 320 | 1014 | -.367  | .082  | -.150 | -.728  | 330 | 136  | .413   | .157  | 1.014 | -.023 | 330 | 186 | .122   | .086  | .475  | -.135 |
| 320 | 1015 | -.338  | .055  | -.174 | -.595  | 330 | 137  | .401   | .161  | .981  | -.011 | 330 | 187 | .245   | .119  | .728  | -.012 |
| 320 | 1016 | -.247  | .069  | .011  | -.588  | 330 | 138  | .397   | .162  | .974  | -.035 | 330 | 188 | .115   | .090  | .521  | -.176 |
| 320 | 1017 | -.153  | .125  | .306  | -.665  | 330 | 139  | .287   | .148  | .934  | -.096 | 330 | 189 | -.053  | .048  | .140  | -.202 |
| 320 | 1018 | -.055  | .107  | .370  | -.478  | 330 | 140  | .179   | .135  | .768  | -.267 | 330 | 190 | -.139  | .053  | .128  | -.337 |
| 320 | 1019 | -.255  | .105  | .068  | -.716  | 330 | 141  | .114   | .152  | 1.189 | -.056 | 330 | 191 | .252   | .117  | .794  | -.009 |
| 320 | 1020 | -.411  | .075  | -.117 | -.753  | 330 | 142  | .405   | .158  | .983  | -.042 | 330 | 192 | .230   | .121  | .723  | -.050 |
| 320 | 1021 | -.184  | .070  | .048  | -.498  | 330 | 143  | -.131  | .094  | .299  | -.435 | 330 | 193 | .240   | .108  | .771  | -.071 |
| 320 | 1022 | -.040  | .035  | .119  | -.156  | 330 | 144  | .075   | .106  | .516  | -.215 | 330 | 194 | -.044  | .062  | .298  | -.322 |
| 320 | 1023 | -.038  | .033  | .132  | -.149  | 330 | 145  | .326   | .134  | .859  | -.028 | 330 | 195 | .071   | .083  | .453  | -.138 |
| 320 | 1024 | -.088  | .048  | .078  | -.308  | 330 | 146  | .386   | .155  | .934  | -.063 | 330 | 196 | .148   | .094  | .690  | -.110 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 330 | 197 | .117   | .088  | .543  | -.200   | 330 | 322 | -.394  | .140  | -.028 | -.1,240 | 330 | 372 | -.423  | .132  | -.000 | -1,063  |
| 330 | 198 | -.060  | .048  | .102  | -.375   | 330 | 323 | -.376  | .123  | -.008 | -.898   | 330 | 373 | -.466  | .124  | -.005 | -1,328  |
| 330 | 199 | -.051  | .044  | .102  | -.276   | 330 | 324 | -.387  | .105  | -.111 | -.878   | 330 | 374 | -.507  | .130  | -.119 | -1,462  |
| 330 | 200 | -.032  | .036  | .102  | -.343   | 330 | 325 | -.422  | .112  | -.082 | -.991   | 330 | 375 | -.477  | .096  | -.185 | -.906   |
| 330 | 201 | -.029  | .044  | .116  | -.226   | 330 | 326 | -.461  | .110  | -.183 | -.994   | 330 | 376 | -.463  | .088  | -.242 | -.950   |
| 330 | 202 | -.063  | .045  | .116  | -.186   | 330 | 327 | -.456  | .106  | -.160 | -.916   | 330 | 377 | -.261  | .069  | -.065 | -.569   |
| 330 | 203 | -.036  | .040  | .114  | -.364   | 330 | 328 | -.428  | .095  | -.189 | -.854   | 330 | 378 | -.255  | .082  | -.023 | -.641   |
| 330 | 204 | -.056  | .035  | .107  | -.182   | 330 | 329 | -.405  | .094  | -.152 | -.954   | 330 | 379 | -.289  | .128  | -.087 | -.911   |
| 330 | 205 | -.066  | .037  | .077  | -.216   | 330 | 330 | -.392  | .086  | -.150 | -.812   | 330 | 380 | -.393  | .152  | -.182 | -.076   |
| 330 | 206 | -.086  | .042  | .116  | -.246   | 330 | 331 | -.400  | .090  | -.132 | -.926   | 330 | 381 | -.556  | .166  | -.062 | -.1,237 |
| 330 | 207 | -.130  | .045  | .033  | -.343   | 330 | 332 | -.408  | .146  | -.005 | -.1,048 | 330 | 382 | -.549  | .136  | -.237 | -.1,449 |
| 330 | 208 | -.197  | .058  | .012  | -.518   | 330 | 333 | -.408  | .133  | -.085 | -.961   | 330 | 383 | -.523  | .113  | -.219 | -.1,217 |
| 330 | 209 | -.051  | .043  | .118  | -.369   | 330 | 334 | -.397  | .097  | -.018 | -.844   | 330 | 384 | -.313  | .059  | -.149 | -.558   |
| 330 | 210 | -.048  | .054  | .133  | -.304   | 330 | 335 | -.424  | .109  | -.060 | -.996   | 330 | 385 | -.257  | .044  | -.080 | -.486   |
| 330 | 211 | -.125  | .055  | .047  | -.423   | 330 | 336 | -.393  | .080  | -.194 | -.924   | 330 | 386 | -.250  | .093  | -.162 | -.744   |
| 330 | 212 | -.114  | .040  | .079  | -.316   | 330 | 337 | -.396  | .086  | -.162 | -.837   | 330 | 387 | -.203  | .144  | -.159 | -.911   |
| 330 | 213 | -.103  | .041  | .075  | -.416   | 330 | 338 | -.428  | .090  | -.157 | -.911   | 330 | 388 | -.384  | .207  | -.100 | -.1,480 |
| 330 | 214 | -.196  | .079  | .028  | -.809   | 330 | 339 | -.387  | .075  | -.199 | -.787   | 330 | 389 | -.532  | .163  | -.093 | -.1,230 |
| 330 | 215 | -.046  | .059  | .166  | -.442   | 330 | 340 | -.386  | .077  | -.135 | -.732   | 330 | 390 | -.536  | .144  | -.185 | -.1,443 |
| 330 | 216 | -.024  | .040  | .142  | -.152   | 330 | 341 | -.382  | .080  | -.152 | -.757   | 330 | 391 | -.135  | .147  | -.334 | -.895   |
| 330 | 217 | -.022  | .037  | .156  | -.131   | 330 | 342 | -.410  | .090  | -.189 | -.886   | 330 | 392 | -.300  | .094  | -.138 | -.647   |
| 330 | 218 | -.033  | .035  | .168  | -.159   | 330 | 343 | -.412  | .127  | -.097 | -.1,093 | 330 | 393 | -.137  | .128  | -.217 | -.652   |
| 330 | 219 | -.026  | .050  | .205  | -.152   | 330 | 344 | -.407  | .115  | -.005 | -.991   | 330 | 394 | -.256  | .232  | -.402 | -.1,623 |
| 330 | 220 | -.033  | .064  | .299  | -.124   | 330 | 345 | -.415  | .101  | -.072 | -.929   | 330 | 395 | -.504  | .185  | -.093 | -.1,481 |
| 330 | 221 | -.005  | .053  | .254  | -.140   | 330 | 346 | -.399  | .086  | -.157 | -.876   | 330 | 396 | -.487  | .168  | -.063 | -.1,323 |
| 330 | 222 | -.027  | .047  | .175  | -.143   | 330 | 347 | -.384  | .081  | -.172 | -.857   | 330 | 397 | -.290  | .066  | -.110 | -.592   |
| 330 | 223 | -.090  | .038  | .079  | -.231   | 330 | 348 | -.392  | .081  | -.155 | -.998   | 330 | 398 | -.250  | .053  | -.102 | -.491   |
| 330 | 224 | -.066  | .052  | .173  | -.297   | 330 | 349 | -.385  | .105  | -.098 | -.843   | 330 | 399 | -.233  | .042  | -.091 | -.430   |
| 330 | 225 | -.080  | .071  | .229  | -.381   | 330 | 350 | -.384  | .093  | -.100 | -.816   | 330 | 400 | -.209  | .038  | -.086 | -.409   |
| 330 | 301 | -.320  | .067  | -.126 | -.689   | 330 | 351 | -.408  | .123  | -.041 | -.1,164 | 330 | 401 | -.185  | .034  | -.070 | -.331   |
| 330 | 302 | -.409  | .086  | -.210 | -.1,122 | 330 | 352 | -.422  | .101  | -.093 | -.882   | 330 | 402 | -.169  | .035  | -.049 | -.430   |
| 330 | 303 | -.459  | .105  | -.180 | -.922   | 330 | 353 | -.439  | .101  | -.049 | -.926   | 330 | 403 | -.155  | .077  | -.148 | -.601   |
| 330 | 304 | -.204  | .073  | -.046 | -.473   | 330 | 354 | -.439  | .082  | -.105 | -.767   | 330 | 404 | -.138  | .089  | -.127 | -.592   |
| 330 | 305 | -.372  | .099  | -.107 | -.1,012 | 330 | 355 | -.465  | .109  | -.123 | -.1,357 | 330 | 405 | -.038  | .048  | -.216 | -.212   |
| 330 | 306 | -.339  | .083  | -.132 | -.883   | 330 | 356 | -.402  | .110  | -.097 | -.801   | 330 | 406 | -.054  | .077  | -.155 | -.391   |
| 330 | 307 | -.367  | .090  | -.109 | -.927   | 330 | 357 | -.451  | .140  | -.024 | -.1,064 | 330 | 407 | -.230  | .048  | -.093 | -.436   |
| 330 | 308 | -.394  | .120  | -.022 | -.1,068 | 330 | 358 | -.399  | .107  | -.059 | -.1,004 | 330 | 408 | -.234  | .048  | -.117 | -.443   |
| 330 | 309 | -.372  | .086  | -.057 | -.846   | 330 | 359 | -.550  | .153  | -.210 | -.1,301 | 330 | 409 | -.204  | .033  | -.111 | -.324   |
| 330 | 310 | -.376  | .093  | -.138 | -.839   | 330 | 360 | -.389  | .115  | -.015 | -.896   | 330 | 410 | -.081  | .072  | -.246 | -.356   |
| 330 | 311 | -.352  | .074  | -.132 | -.775   | 330 | 361 | -.480  | .125  | -.175 | -.1,627 | 330 | 411 | -.211  | .037  | -.088 | -.386   |
| 330 | 312 | -.409  | .126  | -.045 | -.1,247 | 330 | 362 | -.411  | .128  | -.024 | -.984   | 330 | 412 | -.211  | .036  | -.092 | -.413   |
| 330 | 313 | -.375  | .084  | -.062 | -.876   | 330 | 363 | -.399  | .125  | -.063 | -.928   | 330 | 413 | -.123  | .037  | -.019 | -.347   |
| 330 | 314 | -.379  | .086  | -.138 | -.809   | 330 | 364 | -.424  | .112  | -.073 | -.943   | 330 | 414 | -.186  | .051  | -.041 | -.431   |
| 330 | 315 | -.361  | .084  | -.156 | -.952   | 330 | 365 | -.438  | .118  | -.093 | -.1,201 | 330 | 415 | -.186  | .041  | -.043 | -.424   |
| 330 | 316 | -.382  | .082  | -.131 | -.834   | 330 | 366 | -.454  | .102  | -.175 | -.1,055 | 330 | 416 | -.189  | .030  | -.055 | -.308   |
| 330 | 317 | -.380  | .078  | -.165 | -.777   | 330 | 367 | -.500  | .126  | -.193 | -.1,207 | 330 | 417 | -.170  | .034  | -.002 | -.284   |
| 330 | 318 | -.385  | .102  | -.079 | -.1,045 | 330 | 368 | -.454  | .107  | -.191 | -.1,263 | 330 | 418 | -.143  | .039  | -.121 | -.258   |
| 330 | 319 | -.398  | .094  | -.114 | -.927   | 330 | 369 | -.437  | .101  | -.013 | -.903   | 330 | 419 | -.204  | .084  | -.101 | -.501   |
| 330 | 320 | -.400  | .097  | -.072 | -.974   | 330 | 370 | -.345  | .110  | -.088 | -.1,202 | 330 | 420 | -.069  | .050  | -.121 | -.243   |
| 330 | 321 | -.423  | .140  | -.099 | -.1,215 | 330 | 371 | -.345  | .115  | -.013 | -.834   | 330 | 421 | -.018  | .079  | -.222 | -.234   |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 330 | 422 | -.016  | .107  | .315  | -.259  | 330 | 550 | -.102  | .154  | .026  | -.806  | 330 | 600 | -.226  | .044  | -.087 | -.419  |
| 330 | 501 | -.346  | .073  | -.129 | -.640  | 330 | 551 | -.100  | .152  | .026  | -1.041 | 330 | 601 | -.274  | .053  | -.143 | -.524  |
| 330 | 502 | -.333  | .063  | -.143 | -.610  | 330 | 552 | -.090  | .136  | .026  | -.626  | 330 | 602 | -.254  | .055  | -.078 | -.562  |
| 330 | 503 | -.470  | .131  | -.129 | -1.240 | 330 | 553 | -.310  | .054  | -.166 | -.519  | 330 | 603 | -.122  | .058  | -.064 | -.373  |
| 330 | 504 | -.407  | .083  | -.150 | -.842  | 330 | 554 | -.325  | .056  | -.134 | -.526  | 330 | 604 | -.278  | .071  | -.092 | -.615  |
| 330 | 505 | -.332  | .081  | -.066 | -.818  | 330 | 555 | -.352  | .074  | -.095 | -.599  | 330 | 605 | -.209  | .038  | -.045 | -.424  |
| 330 | 506 | -.325  | .067  | -.083 | -.666  | 330 | 556 | -.387  | .099  | -.126 | -.791  | 330 | 606 | -.263  | .061  | -.099 | -.561  |
| 330 | 507 | -.318  | .055  | -.138 | -.561  | 330 | 557 | -.361  | .084  | -.061 | -.688  | 330 | 607 | -.266  | .050  | -.126 | -.512  |
| 330 | 508 | -.340  | .090  | -.028 | -.742  | 330 | 558 | -.295  | .079  | -.054 | -.592  | 330 | 608 | -.143  | .050  | -.099 | -.334  |
| 330 | 509 | -.085  | .154  | .041  | -.704  | 330 | 559 | -.341  | .068  | -.083 | -.585  | 330 | 609 | -.208  | .052  | -.065 | -.421  |
| 330 | 510 | -.084  | .151  | .041  | -.665  | 330 | 560 | -.296  | .097  | -.024 | -.743  | 330 | 610 | -.247  | .050  | -.117 | -.464  |
| 330 | 511 | -.355  | .085  | -.099 | -.712  | 330 | 561 | -.348  | .084  | -.118 | -.676  | 330 | 611 | -.282  | .060  | -.120 | -.599  |
| 330 | 512 | -.074  | .136  | .041  | -.745  | 330 | 562 | -.293  | .092  | -.015 | -.781  | 330 | 612 | -.125  | .060  | -.085 | -.383  |
| 330 | 513 | -.344  | .080  | -.125 | -.773  | 330 | 563 | -.297  | .084  | -.033 | -.649  | 330 | 613 | -.134  | .061  | -.052 | -.376  |
| 330 | 514 | -.328  | .060  | -.141 | -.674  | 330 | 564 | -.294  | .067  | -.120 | -.617  | 330 | 614 | -.123  | .062  | -.122 | -.564  |
| 330 | 515 | -.329  | .069  | -.108 | -.647  | 330 | 565 | -.343  | .076  | -.115 | -.729  | 330 | 615 | -.138  | .037  | -.064 | -.264  |
| 330 | 516 | -.350  | .074  | -.184 | -.842  | 330 | 566 | -.358  | .083  | -.149 | -.759  | 330 | 616 | -.156  | .038  | -.020 | -.348  |
| 330 | 517 | -.294  | .048  | -.134 | -.504  | 330 | 567 | -.334  | .077  | -.118 | -.608  | 330 | 617 | -.170  | .049  | -.110 | -.355  |
| 330 | 518 | -.383  | .099  | -.127 | -.932  | 330 | 568 | -.343  | .081  | -.075 | -.658  | 330 | 618 | -.165  | .055  | -.113 | -.399  |
| 330 | 519 | -.331  | .075  | -.138 | -.808  | 330 | 569 | -.250  | .050  | -.089 | -.495  | 330 | 619 | -.182  | .040  | -.017 | -.329  |
| 330 | 520 | -.390  | .091  | -.152 | -.904  | 330 | 570 | -.253  | .077  | -.012 | -.925  | 330 | 620 | -.231  | .037  | -.129 | -.394  |
| 330 | 521 | -.351  | .071  | -.088 | -.667  | 330 | 571 | -.293  | .066  | -.082 | -.536  | 330 | 701 | -.477  | .129  | -.143 | -.091  |
| 330 | 522 | -.287  | .075  | -.042 | -.739  | 330 | 572 | -.245  | .053  | -.072 | -.524  | 330 | 702 | -.368  | .102  | -.006 | -.940  |
| 330 | 523 | -.289  | .074  | -.037 | -.676  | 330 | 573 | -.281  | .057  | -.087 | -.584  | 330 | 703 | -.101  | .088  | -.182 | -.396  |
| 330 | 524 | -.300  | .064  | -.083 | -.676  | 330 | 574 | -.366  | .085  | -.190 | -.807  | 330 | 704 | -.508  | .116  | -.184 | -.1010 |
| 330 | 525 | -.308  | .061  | -.102 | -.607  | 330 | 575 | -.065  | .161  | -.067 | -.687  | 330 | 705 | -.497  | .125  | -.092 | -.1065 |
| 330 | 526 | -.323  | .052  | -.166 | -.557  | 330 | 576 | -.064  | .158  | -.067 | .651   | 330 | 706 | -.377  | .120  | -.108 | -.1058 |
| 330 | 527 | -.322  | .055  | -.164 | -.557  | 330 | 577 | -.053  | .142  | -.067 | .711   | 330 | 707 | -.435  | .122  | -.091 | -.983  |
| 330 | 528 | -.317  | .072  | -.080 | -.685  | 330 | 578 | -.201  | .053  | -.029 | -.586  | 330 | 708 | -.507  | .132  | -.128 | -.222  |
| 330 | 529 | -.320  | .080  | -.052 | -.796  | 330 | 579 | -.210  | .049  | -.007 | -.502  | 330 | 709 | -.466  | .133  | -.035 | -.125  |
| 330 | 530 | -.297  | .046  | -.130 | -.466  | 330 | 580 | -.279  | .053  | -.027 | -.502  | 330 | 710 | -.400  | .123  | -.033 | -.908  |
| 330 | 531 | -.328  | .056  | -.173 | -.771  | 330 | 581 | -.370  | .080  | -.190 | -.944  | 330 | 711 | -.351  | .106  | -.024 | -.883  |
| 330 | 532 | -.322  | .095  | -.071 | -.913  | 330 | 582 | -.305  | .060  | -.163 | -.540  | 330 | 712 | -.500  | .127  | -.191 | -.057  |
| 330 | 533 | -.317  | .092  | -.085 | -.890  | 330 | 583 | -.314  | .059  | -.171 | -.596  | 330 | 713 | -.475  | .138  | -.010 | -.168  |
| 330 | 534 | -.302  | .068  | -.136 | -.736  | 330 | 584 | -.171  | .046  | -.039 | -.447  | 330 | 714 | -.381  | .120  | -.028 | -.071  |
| 330 | 535 | -.289  | .052  | -.159 | -.576  | 330 | 585 | -.171  | .044  | -.024 | -.406  | 330 | 715 | -.349  | .100  | -.015 | -.992  |
| 330 | 536 | -.088  | .155  | -.039 | -.787  | 330 | 586 | -.185  | .038  | -.060 | -.430  | 330 | 716 | -.428  | .114  | -.087 | -.938  |
| 330 | 537 | -.088  | .153  | -.039 | -.808  | 330 | 587 | -.224  | .037  | -.053 | -.365  | 330 | 717 | -.416  | .124  | -.148 | -.913  |
| 330 | 538 | -.078  | .138  | -.039 | -.736  | 330 | 588 | -.309  | .056  | -.139 | -.574  | 330 | 718 | -.680  | .225  | -.159 | -.660  |
| 330 | 539 | -.310  | .066  | -.055 | -.641  | 330 | 589 | -.417  | .099  | -.202 | -.898  | 330 | 719 | -.465  | .160  | -.026 | -.123  |
| 330 | 540 | -.324  | .073  | -.061 | -.622  | 330 | 590 | -.424  | .101  | -.180 | -.944  | 330 | 720 | -.394  | .120  | -.044 | -.951  |
| 330 | 541 | -.304  | .052  | -.127 | -.513  | 330 | 591 | -.212  | .036  | -.041 | -.364  | 330 | 721 | -.354  | .100  | -.062 | -.926  |
| 330 | 542 | -.324  | .056  | -.180 | -.685  | 330 | 592 | -.204  | .038  | -.026 | -.383  | 330 | 722 | -.537  | .147  | -.150 | -.317  |
| 330 | 543 | -.332  | .090  | -.113 | -.969  | 330 | 593 | -.134  | .041  | -.022 | -.330  | 330 | 723 | -.549  | .172  | -.085 | -.357  |
| 330 | 544 | -.341  | .089  | -.085 | -.959  | 330 | 594 | -.139  | .042  | -.007 | -.303  | 330 | 724 | -.491  | .145  | -.114 | -.134  |
| 330 | 545 | -.321  | .062  | -.145 | -.717  | 330 | 595 | -.176  | .053  | -.010 | .501   | 330 | 725 | -.425  | .147  | -.148 | -.026  |
| 330 | 546 | -.340  | .061  | -.175 | -.594  | 330 | 596 | -.198  | .037  | -.005 | .414   | 330 | 726 | -.236  | .197  | -.459 | -.978  |
| 330 | 547 | -.334  | .071  | -.122 | -.643  | 330 | 597 | -.258  | .053  | -.113 | -.730  | 330 | 727 | -.360  | .109  | -.056 | -.010  |
| 330 | 548 | -.361  | .085  | -.085 | -.745  | 330 | 598 | -.383  | .090  | -.152 | -.752  | 330 | 728 | -.282  | .088  | -.037 | -.024  |
| 330 | 549 | -.314  | .083  | -.086 | -.699  | 330 | 599 | -.450  | .143  | -.143 | -1.213 | 330 | 729 | -.281  | .089  | -.001 | -.074  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 330 | 730 | -.421  | .119  | -.028 | -.907  | 330 | 780 | -.329  | .132  | .070  | -.941  | 330 | 908 | .006   | .110  | .426  | -.332  |
| 330 | 731 | -.445  | .138  | .079  | -.1037 | 330 | 781 | -.227  | .103  | .243  | -.597  | 330 | 909 | -.279  | .071  | -.044 | -.523  |
| 330 | 732 | -.497  | .120  | -.133 | -1.101 | 330 | 782 | -.172  | .069  | .070  | -.482  | 330 | 910 | -.331  | .073  | -.141 | -.718  |
| 330 | 733 | -.503  | .125  | -.124 | -1.195 | 330 | 783 | -.175  | .066  | .009  | -.467  | 330 | 911 | -.269  | .137  | .881  | -.068  |
| 330 | 734 | -.524  | .166  | .022  | -1.284 | 330 | 784 | -.426  | .159  | -.085 | -1.319 | 330 | 912 | -.360  | .090  | -.020 | -.701  |
| 330 | 735 | -.484  | .140  | -.065 | -1.071 | 330 | 785 | -.459  | .161  | -.059 | -1.479 | 330 | 913 | -.163  | .143  | .321  | -.900  |
| 330 | 736 | -.448  | .139  | .170  | -.964  | 330 | 786 | -.332  | .157  | .290  | -1.191 | 330 | 914 | -.333  | .082  | .018  | -.752  |
| 330 | 737 | -.337  | .182  | .467  | -1.010 | 330 | 787 | -.209  | .110  | .188  | -.665  | 330 | 915 | -.321  | .154  | .404  | -.760  |
| 330 | 738 | -.338  | .137  | .134  | -.880  | 330 | 788 | -.161  | .076  | .266  | -.654  | 330 | 916 | -.372  | .128  | -.087 | -.1557 |
| 330 | 739 | -.269  | .092  | .013  | -.704  | 330 | 789 | -.135  | .049  | .026  | -.371  | 330 | 917 | -.234  | .304  | 1.033 | -.1010 |
| 330 | 740 | -.284  | .094  | .001  | -.909  | 330 | 790 | -.140  | .041  | .026  | -.390  | 330 | 918 | -.448  | .115  | -.165 | -.926  |
| 330 | 741 | -.420  | .128  | .070  | -.852  | 330 | 791 | -.307  | .145  | .089  | -1.073 | 330 | 919 | -.321  | .054  | -.163 | -.699  |
| 330 | 742 | -.417  | .141  | .054  | -1.081 | 330 | 792 | -.200  | .091  | .092  | .617   | 330 | 920 | -.356  | .064  | -.182 | -.654  |
| 330 | 743 | -.489  | .179  | -.097 | -1.450 | 330 | 793 | -.180  | .119  | .282  | -.841  | 330 | 921 | -.480  | .096  | -.213 | -.020  |
| 330 | 744 | -.483  | .145  | -.040 | -1.229 | 330 | 794 | -.189  | .081  | .196  | -.539  | 330 | 922 | -.388  | .145  | .919  | -.045  |
| 330 | 745 | -.453  | .142  | .125  | -1.037 | 330 | 795 | -.162  | .062  | .038  | -.442  | 330 | 923 | -.387  | .077  | -.163 | -.809  |
| 330 | 746 | -.370  | .134  | .026  | -1.003 | 330 | 796 | -.148  | .058  | .019  | -.513  | 330 | 924 | -.379  | .083  | -.132 | -.784  |
| 330 | 747 | -.319  | .120  | -.017 | -1.103 | 330 | 797 | -.121  | .040  | .055  | -.346  | 330 | 925 | -.134  | .377  | .934  | -.1002 |
| 330 | 748 | -.318  | .101  | -.051 | -.761  | 330 | 798 | -.389  | .132  | -.124 | -1.093 | 330 | 926 | -.375  | .081  | -.161 | -.765  |
| 330 | 749 | -.272  | .152  | .415  | -.800  | 330 | 799 | -.403  | .143  | -.112 | -1.143 | 330 | 927 | -.275  | .120  | .189  | -.765  |
| 330 | 750 | -.290  | .173  | .312  | -1.109 | 330 | 800 | -.287  | .115  | .260  | -1.110 | 330 | 928 | -.371  | .079  | -.060 | -.685  |
| 330 | 751 | -.559  | .190  | -.169 | -1.217 | 330 | 801 | -.189  | .079  | .207  | -.695  | 330 | 929 | -.246  | .136  | .292  | -.907  |
| 330 | 752 | -.475  | .147  | -.028 | -1.232 | 330 | 802 | -.156  | .055  | .116  | -.480  | 330 | 930 | -.338  | .063  | -.115 | -.553  |
| 330 | 753 | -.417  | .150  | .135  | -.997  | 330 | 803 | -.132  | .042  | .027  | -.322  | 330 | 931 | -.199  | .110  | .574  | -.111  |
| 330 | 754 | -.360  | .123  | .086  | -.934  | 330 | 804 | -.135  | .043  | .019  | -.289  | 330 | 932 | -.364  | .073  | -.076 | -.750  |
| 330 | 755 | -.319  | .114  | -.010 | -.923  | 330 | 805 | -.032  | .083  | .404  | -.327  | 330 | 933 | -.373  | .074  | -.067 | -.722  |
| 330 | 756 | -.310  | .088  | -.055 | -.901  | 330 | 806 | -.096  | .056  | .095  | -.355  | 330 | 934 | -.140  | .086  | .244  | -.572  |
| 330 | 757 | -.319  | .095  | .021  | -.253  | 330 | 807 | -.156  | .055  | .057  | -.438  | 330 | 935 | -.237  | .070  | .063  | -.530  |
| 330 | 758 | -.536  | .173  | -.147 | -1.308 | 330 | 808 | -.111  | .041  | .067  | -.289  | 330 | 936 | -.365  | .062  | -.197 | -.585  |
| 330 | 759 | -.311  | .113  | .023  | -.858  | 330 | 809 | -.467  | .198  | -.046 | -1.529 | 330 | 937 | -.421  | .112  | -.046 | -.892  |
| 330 | 760 | -.441  | .143  | -.113 | -1.541 | 330 | 810 | -.199  | .064  | -.013 | .520   | 330 | 938 | -.404  | .095  | -.154 | -.1026 |
| 330 | 761 | -.303  | .117  | .057  | -.887  | 330 | 811 | -.111  | .046  | .149  | -.292  | 330 | 939 | -.386  | .084  | -.151 | -.870  |
| 330 | 762 | -.471  | .156  | -.111 | -1.659 | 330 | 812 | -.114  | .043  | .041  | -.244  | 330 | 940 | -.294  | .065  | -.052 | -.523  |
| 330 | 763 | -.473  | .162  | -.037 | -1.662 | 330 | 813 | -.143  | .055  | .045  | -.452  | 330 | 941 | -.186  | .036  | -.101 | -.356  |
| 330 | 764 | -.457  | .146  | -.006 | -.116  | 330 | 814 | -.141  | .056  | .076  | -.424  | 330 | 942 | -.217  | .122  | .723  | -.119  |
| 330 | 765 | -.413  | .166  | .023  | -1.431 | 330 | 815 | -.088  | .042  | .107  | -.266  | 330 | 943 | -.152  | .089  | .594  | -.055  |
| 330 | 766 | -.336  | .137  | .040  | -.199  | 330 | 816 | -.432  | .185  | -.065 | -1.338 | 330 | 944 | -.143  | .080  | .451  | -.055  |
| 330 | 767 | -.284  | .119  | .108  | -.859  | 330 | 817 | -.295  | .104  | .005  | -.841  | 330 | 945 | -.180  | .032  | -.057 | -.335  |
| 330 | 768 | -.281  | .115  | .042  | -.857  | 330 | 818 | -.143  | .063  | .104  | -.513  | 330 | 946 | -.230  | .114  | .760  | -.004  |
| 330 | 769 | -.362  | .130  | -.049 | -1.022 | 330 | 819 | -.093  | .066  | .283  | -.282  | 330 | 947 | -.313  | .144  | 1.010 | -.016  |
| 330 | 770 | -.439  | .116  | -.116 | -.949  | 330 | 820 | -.115  | .057  | .142  | -.409  | 330 | 948 | -.265  | .120  | 1.180 | -.001  |
| 330 | 771 | -.446  | .126  | -.066 | -1.022 | 330 | 821 | -.098  | .039  | .074  | -.241  | 330 | 949 | -.289  | .145  | .992  | -.020  |
| 330 | 772 | -.467  | .173  | -.043 | -1.557 | 330 | 822 | -.107  | .041  | .033  | -.229  | 330 | 950 | -.237  | .041  | -.080 | -.413  |
| 330 | 773 | -.381  | .147  | .087  | -.932  | 330 | 901 | -.329  | .043  | -.223 | -.558  | 330 | 951 | -.144  | .083  | .504  | -.055  |
| 330 | 774 | -.306  | .128  | .108  | -.932  | 330 | 902 | -.288  | .115  | .032  | -.887  | 330 | 952 | -.075  | .057  | .157  | -.314  |
| 330 | 775 | -.241  | .102  | .042  | -.649  | 330 | 903 | -.416  | .137  | .068  | -.993  | 330 | 953 | -.120  | .073  | .525  | -.105  |
| 330 | 776 | -.235  | .095  | .042  | -.807  | 330 | 904 | -.463  | .125  | -.077 | -1.127 | 330 | 954 | -.150  | .103  | .665  | -.101  |
| 330 | 777 | -.475  | .138  | -.158 | -1.173 | 330 | 905 | -.148  | .075  | .209  | -.429  | 330 | 955 | -.059  | .064  | .350  | -.114  |
| 330 | 778 | -.462  | .146  | -.111 | -1.248 | 330 | 906 | -.290  | .073  | -.015 | .615   | 330 | 956 | -.104  | .126  | .362  | -.784  |
| 330 | 779 | -.465  | .178  | -.022 | -1.380 | 330 | 907 | -.363  | .093  | -.031 | -.827  | 330 | 957 | -.240  | .143  | .116  | -.779  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|
| 330 | 958  | -.314  | .202  | .228  | -1.294 | 340 | 109 | .138   | .154  | .710  | -.612 | 340 | 159 | .167   | .128  | .700  | -.230 |
| 330 | 959  | -.130  | .073  | .311  | -.374  | 340 | 110 | -.119  | .154  | .666  | -.403 | 340 | 160 | .026   | .110  | .467  | -.315 |
| 330 | 960  | -.214  | .055  | .047  | -.512  | 340 | 111 | -.069  | .136  | .453  | -.589 | 340 | 161 | .047   | .119  | .599  | -.283 |
| 330 | 961  | -.381  | .097  | -.160 | -.910  | 340 | 112 | .136   | .123  | .601  | -.290 | 340 | 162 | .014   | .111  | .432  | -.399 |
| 330 | 962  | -.340  | .085  | -.155 | -.853  | 340 | 113 | .285   | .159  | .802  | -.188 | 340 | 163 | .321   | .134  | .800  | -.002 |
| 330 | 963  | -.013  | .105  | .423  | -.576  | 340 | 114 | .249   | .162  | .878  | -.168 | 340 | 164 | .320   | .140  | .864  | -.116 |
| 330 | 964  | -.043  | .080  | .280  | -.455  | 340 | 115 | .131   | .123  | .671  | -.274 | 340 | 165 | .358   | .147  | .985  | -.011 |
| 330 | 965  | -.249  | .067  | -.055 | -.653  | 340 | 116 | .156   | .171  | .797  | -.409 | 340 | 166 | .180   | .121  | .648  | -.206 |
| 330 | 966  | -.396  | .112  | -.167 | -.952  | 340 | 117 | .357   | .154  | .857  | -.099 | 340 | 167 | .046   | .102  | .401  | -.271 |
| 330 | 967  | -.065  | .043  | .125  | -.247  | 340 | 118 | .008   | .139  | .196  | -.536 | 340 | 168 | .299   | .126  | .798  | -.006 |
| 330 | 968  | -.251  | .052  | -.087 | -.454  | 340 | 119 | -.010  | .230  | .772  | -.105 | 340 | 169 | .441   | .099  | .494  | -.141 |
| 330 | 969  | -.171  | .047  | -.004 | -.401  | 340 | 120 | .003   | .198  | .562  | -.743 | 340 | 170 | -.031  | .095  | .441  | -.423 |
| 330 | 970  | -.070  | .054  | .198  | -.235  | 340 | 121 | .018   | .128  | .433  | -.624 | 340 | 171 | .110   | .099  | .494  | -.141 |
| 330 | 971  | -.058  | .054  | .178  | -.262  | 340 | 122 | .090   | .132  | .634  | -.361 | 340 | 172 | .193   | .121  | .706  | -.370 |
| 330 | 1001 | -.361  | .126  | .054  | -.977  | 340 | 123 | .195   | .139  | .710  | -.244 | 340 | 173 | .264   | .114  | .750  | -.021 |
| 330 | 1002 | -.181  | .072  | .088  | -.673  | 340 | 124 | .263   | .148  | .862  | -.308 | 340 | 174 | .236   | .135  | .819  | -.220 |
| 330 | 1003 | -.356  | .082  | -.098 | -.733  | 340 | 125 | .296   | .143  | .738  | -.126 | 340 | 175 | .129   | .115  | .617  | -.199 |
| 330 | 1004 | -.345  | .119  | .048  | -.899  | 340 | 126 | .258   | .155  | .760  | -.191 | 340 | 176 | -.007  | .096  | .437  | -.418 |
| 330 | 1005 | -.358  | .080  | -.138 | -.702  | 340 | 127 | .295   | .164  | .803  | -.302 | 340 | 177 | -.112  | .068  | .232  | -.355 |
| 330 | 1006 | -.496  | .120  | -.139 | -.101  | 340 | 128 | .201   | .136  | .687  | -.185 | 340 | 178 | -.001  | .070  | .386  | -.211 |
| 330 | 1007 | -.149  | .039  | .023  | -.359  | 340 | 129 | .128   | .125  | .605  | -.276 | 340 | 179 | .096   | .090  | .605  | -.189 |
| 330 | 1008 | -.260  | .118  | .740  | -.016  | 340 | 130 | .354   | .152  | .878  | -.048 | 340 | 180 | .154   | .086  | .535  | -.040 |
| 330 | 1009 | -.235  | .060  | -.016 | -.469  | 340 | 131 | .305   | .163  | 1.050 | -.188 | 340 | 181 | .142   | .104  | .639  | -.206 |
| 330 | 1010 | -.295  | .126  | .835  | -.072  | 340 | 132 | .097   | .114  | .519  | -.285 | 340 | 182 | .040   | .090  | .441  | -.269 |
| 330 | 1011 | -.214  | .043  | .003  | -.374  | 340 | 133 | .213   | .132  | .710  | -.127 | 340 | 183 | -.053  | .084  | .352  | -.314 |
| 330 | 1012 | -.243  | .113  | .794  | -.002  | 340 | 134 | .368   | .156  | .887  | -.223 | 340 | 184 | -.115  | .050  | .105  | -.394 |
| 330 | 1013 | -.374  | .074  | -.161 | -.761  | 340 | 135 | .393   | .165  | .915  | -.080 | 340 | 185 | -.003  | .052  | .215  | -.177 |
| 330 | 1014 | -.411  | .094  | -.125 | -.846  | 340 | 136 | .411   | .165  | 1.004 | -.043 | 340 | 186 | .120   | .093  | .523  | -.184 |
| 330 | 1015 | -.379  | .079  | -.161 | -.911  | 340 | 137 | .361   | .151  | .925  | -.052 | 340 | 187 | .235   | .116  | .730  | -.047 |
| 330 | 1016 | -.270  | .087  | -.024 | -.694  | 340 | 138 | .364   | .183  | .922  | -.157 | 340 | 188 | .092   | .098  | .533  | -.225 |
| 330 | 1017 | -.130  | .137  | .363  | -.919  | 340 | 139 | .241   | .138  | .787  | -.150 | 340 | 189 | -.093  | .048  | .172  | -.252 |
| 330 | 1018 | -.055  | .118  | .373  | -.620  | 340 | 140 | .108   | .119  | .526  | -.220 | 340 | 190 | -.188  | .050  | .068  | -.439 |
| 330 | 1019 | -.234  | .132  | .115  | -.819  | 340 | 141 | .405   | .148  | 1.036 | -.008 | 340 | 191 | .232   | .111  | .758  | -.043 |
| 330 | 1020 | -.400  | .095  | -.067 | -.196  | 340 | 142 | .392   | .193  | 1.002 | -.050 | 340 | 192 | .238   | .122  | .707  | -.032 |
| 330 | 1021 | -.134  | .038  | .093  | -.257  | 340 | 143 | -.077  | .111  | .419  | -.446 | 340 | 193 | .238   | .116  | .820  | -.027 |
| 330 | 1022 | -.032  | .033  | .088  | -.148  | 340 | 144 | .121   | .126  | .645  | -.325 | 340 | 194 | -.021  | .061  | .275  | -.204 |
| 330 | 1023 | -.032  | .036  | .115  | -.133  | 340 | 145 | .330   | .146  | .911  | -.017 | 340 | 195 | .064   | .070  | .392  | -.112 |
| 330 | 1024 | -.077  | .053  | .096  | -.308  | 340 | 146 | .337   | .154  | .957  | -.080 | 340 | 196 | .133   | .091  | .537  | -.105 |
| 330 | 1025 | -.196  | .039  | -.065 | -.364  | 340 | 147 | .133   | .132  | .752  | -.260 | 340 | 197 | .089   | .096  | .595  | -.253 |
| 330 | 1026 | -.246  | .051  | -.097 | -.493  | 340 | 148 | -.069  | .115  | .414  | -.465 | 340 | 198 | -.062  | .050  | .113  | -.601 |
| 330 | 1027 | -.240  | .041  | -.128 | -.415  | 340 | 149 | -.149  | .216  | .661  | -.856 | 340 | 199 | -.054  | .044  | .148  | -.285 |
| 330 | 1028 | -.067  | .045  | .086  | -.260  | 340 | 150 | .359   | .184  | .220  | -.993 | 340 | 200 | -.035  | .037  | .125  | -.239 |
| 340 | 101  | -.037  | .086  | .362  | -.379  | 340 | 151 | .099   | .140  | .589  | -.529 | 340 | 201 | -.024  | .036  | .123  | -.193 |
| 340 | 102  | -.017  | .087  | .371  | -.294  | 340 | 152 | .300   | .154  | .859  | -.251 | 340 | 202 | -.091  | .055  | .093  | -.340 |
| 340 | 103  | .198   | .134  | .650  | -.414  | 340 | 153 | .341   | .166  | .869  | -.299 | 340 | 203 | -.049  | .044  | .120  | -.198 |
| 340 | 104  | .220   | .133  | .696  | -.444  | 340 | 154 | .306   | .147  | .837  | -.221 | 340 | 204 | -.076  | .037  | .081  | -.209 |
| 340 | 105  | -.044  | .092  | .317  | -.341  | 340 | 155 | .125   | .135  | .729  | -.433 | 340 | 205 | -.085  | .035  | .065  | -.218 |
| 340 | 106  | -.052  | .093  | .319  | -.390  | 340 | 156 | -.351  | .141  | .167  | -.836 | 340 | 206 | -.116  | .042  | .074  | -.294 |
| 340 | 107  | -.009  | .098  | .364  | -.303  | 340 | 157 | -.155  | .246  | .857  | -.856 | 340 | 207 | -.165  | .045  | -.004 | -.363 |
| 340 | 108  | -.061  | .125  | .463  | -.582  | 340 | 158 | .145   | .128  | .677  | -.248 | 340 | 208 | -.258  | .069  | -.043 | -.670 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 340 | 209 | -.046  | .047  | .141  | -.359  | 340 | 334 | -.378  | .117  | .090  | -.864  | 340 | 384 | -.313  | .056  | -.145 | -.601 |
| 340 | 210 | -.024  | .043  | .123  | -.234  | 340 | 335 | -.422  | .133  | .151  | -1.047 | 340 | 385 | -.261  | .043  | -.107 | -.498 |
| 340 | 211 | -.176  | .068  | -.034 | -.505  | 340 | 336 | -.449  | .108  | -.115 | -.871  | 340 | 386 | -.264  | .096  | -.178 | -.808 |
| 340 | 212 | -.144  | .041  | -.015 | -.313  | 340 | 337 | -.481  | .118  | -.080 | -.991  | 340 | 387 | -.147  | .106  | -.231 | -.745 |
| 340 | 213 | -.141  | .040  | .029  | -.334  | 340 | 338 | -.506  | .127  | -.171 | -1.115 | 340 | 388 | -.303  | .191  | -.140 | -.562 |
| 340 | 214 | -.246  | .083  | -.006 | -.738  | 340 | 339 | -.481  | .105  | -.185 | -1.001 | 340 | 389 | -.462  | .173  | -.074 | -.199 |
| 340 | 215 | -.063  | .070  | .162  | -.528  | 340 | 340 | -.462  | .103  | -.203 | -.905  | 340 | 390 | -.434  | .156  | -.107 | -.337 |
| 340 | 216 | -.030  | .040  | .132  | -.178  | 340 | 341 | -.438  | .105  | -.100 | -.920  | 340 | 391 | -.102  | .110  | -.316 | -.684 |
| 340 | 217 | -.026  | .033  | .134  | -.150  | 340 | 342 | -.437  | .127  | -.073 | -1.125 | 340 | 392 | -.303  | .083  | -.027 | -.617 |
| 340 | 218 | -.040  | .033  | .195  | -.150  | 340 | 343 | -.345  | .114  | -.061 | -.962  | 340 | 393 | -.107  | .105  | -.302 | -.638 |
| 340 | 219 | -.061  | .047  | .220  | -.195  | 340 | 344 | -.337  | .119  | -.042 | -.964  | 340 | 394 | -.168  | .207  | -.389 | -.690 |
| 340 | 220 | -.005  | .069  | .398  | -.153  | 340 | 345 | -.383  | .126  | -.003 | -1.044 | 340 | 395 | -.437  | .198  | -.020 | -.395 |
| 340 | 221 | -.002  | .056  | .225  | -.164  | 340 | 346 | -.458  | .121  | -.041 | -1.320 | 340 | 396 | -.398  | .174  | -.020 | -.190 |
| 340 | 222 | -.042  | .051  | .174  | -.195  | 340 | 347 | -.461  | .117  | -.163 | -1.135 | 340 | 397 | -.301  | .061  | -.146 | -.575 |
| 340 | 223 | -.119  | .038  | .046  | -.306  | 340 | 348 | -.435  | .109  | -.163 | -.974  | 340 | 398 | -.242  | .047  | -.082 | -.427 |
| 340 | 224 | -.082  | .056  | .190  | -.309  | 340 | 349 | -.334  | .095  | -.065 | -.862  | 340 | 399 | -.223  | .036  | -.077 | -.456 |
| 340 | 225 | -.089  | .075  | .239  | -.358  | 340 | 350 | -.331  | .084  | -.101 | .737   | 340 | 400 | -.195  | .034  | -.075 | -.360 |
| 340 | 301 | -.350  | .091  | -.096 | -1.000 | 340 | 351 | -.359  | .127  | -.052 | -1.094 | 340 | 401 | -.177  | .032  | -.057 | -.312 |
| 340 | 302 | -.459  | .120  | -.191 | -1.225 | 340 | 352 | -.394  | .122  | -.066 | -.890  | 340 | 402 | -.165  | .037  | -.038 | -.342 |
| 340 | 303 | -.476  | .104  | -.101 | -.865  | 340 | 353 | -.451  | .139  | -.015 | -1.101 | 340 | 403 | -.171  | .084  | -.060 | -.534 |
| 340 | 304 | -.148  | .076  | .126  | -.444  | 340 | 354 | -.467  | .119  | -.139 | -1.166 | 340 | 404 | -.164  | .095  | -.215 | -.587 |
| 340 | 305 | -.421  | .141  | .078  | -.1393 | 340 | 355 | -.562  | .165  | -.230 | -1.343 | 340 | 405 | -.030  | .042  | -.131 | -.189 |
| 340 | 306 | -.431  | .118  | -.115 | -.1048 | 340 | 356 | -.357  | .150  | -.310 | -.922  | 340 | 406 | -.025  | .069  | -.163 | -.372 |
| 340 | 307 | -.431  | .120  | -.072 | -.978  | 340 | 357 | -.371  | .153  | -.207 | -1.053 | 340 | 407 | -.231  | .046  | -.041 | -.433 |
| 340 | 308 | -.407  | .143  | -.115 | -.1046 | 340 | 358 | -.343  | .119  | -.008 | -1.056 | 340 | 408 | -.223  | .040  | -.098 | -.433 |
| 340 | 309 | -.416  | .114  | .041  | -.923  | 340 | 359 | -.523  | .133  | -.226 | -1.256 | 340 | 409 | -.199  | .034  | -.107 | -.383 |
| 340 | 310 | -.442  | .118  | -.058 | -.1017 | 340 | 360 | -.327  | .114  | -.033 | -.900  | 340 | 410 | -.069  | .074  | -.211 | -.381 |
| 340 | 311 | -.435  | .114  | -.154 | -.955  | 340 | 361 | -.514  | .149  | -.113 | -1.398 | 340 | 411 | -.218  | .037  | -.102 | -.408 |
| 340 | 312 | -.398  | .137  | -.106 | -.973  | 340 | 362 | -.332  | .115  | -.002 | -.886  | 340 | 412 | -.205  | .034  | -.102 | -.440 |
| 340 | 313 | -.406  | .115  | -.029 | -.1024 | 340 | 363 | -.344  | .122  | -.035 | .914   | 340 | 413 | -.114  | .042  | -.035 | -.295 |
| 340 | 314 | -.439  | .119  | -.048 | -.041  | 340 | 364 | -.399  | .142  | -.138 | -.974  | 340 | 414 | -.181  | .041  | -.040 | -.399 |
| 340 | 315 | -.439  | .113  | -.179 | -.954  | 340 | 365 | -.441  | .181  | -.049 | -1.560 | 340 | 415 | -.186  | .040  | -.057 | -.341 |
| 340 | 316 | -.424  | .113  | -.063 | -.942  | 340 | 366 | -.461  | .140  | -.046 | -1.171 | 340 | 416 | -.193  | .029  | -.076 | -.300 |
| 340 | 317 | -.420  | .109  | -.111 | -.956  | 340 | 367 | -.491  | .137  | -.122 | -1.277 | 340 | 417 | -.174  | .030  | -.054 | -.290 |
| 340 | 318 | -.389  | .126  | -.072 | -.942  | 340 | 368 | -.502  | .141  | -.185 | -1.337 | 340 | 418 | -.146  | .031  | -.049 | -.266 |
| 340 | 319 | -.409  | .114  | -.101 | -.1014 | 340 | 369 | -.371  | .142  | -.009 | -1.072 | 340 | 419 | -.233  | .074  | -.052 | -.533 |
| 340 | 320 | -.447  | .125  | -.072 | -.1159 | 340 | 370 | -.278  | .094  | -.049 | -.795  | 340 | 420 | -.037  | .043  | -.136 | -.230 |
| 340 | 321 | -.551  | .195  | -.145 | -.1497 | 340 | 371 | -.266  | .098  | -.006 | -.798  | 340 | 421 | -.004  | .074  | -.361 | -.272 |
| 340 | 322 | -.341  | .121  | -.046 | -.1053 | 340 | 372 | -.325  | .137  | -.138 | -.941  | 340 | 422 | -.033  | .091  | -.343 | -.343 |
| 340 | 323 | -.345  | .120  | -.024 | -.952  | 340 | 373 | -.378  | .172  | -.087 | -.957  | 340 | 501 | -.346  | .071  | -.154 | -.628 |
| 340 | 324 | -.410  | .133  | -.010 | -.968  | 340 | 374 | -.495  | .176  | -.024 | -1.420 | 340 | 502 | -.351  | .072  | -.113 | -.794 |
| 340 | 325 | -.384  | .169  | -.343 | -.000  | 340 | 375 | -.507  | .136  | -.089 | -1.337 | 340 | 503 | -.438  | .109  | -.140 | -.020 |
| 340 | 326 | -.507  | .125  | -.164 | -.014  | 340 | 376 | -.510  | .138  | -.177 | -1.347 | 340 | 504 | -.473  | .127  | -.157 | -.249 |
| 340 | 327 | -.501  | .124  | -.044 | -.071  | 340 | 377 | -.243  | .095  | -.084 | -.563  | 340 | 505 | -.338  | .081  | -.096 | -.849 |
| 340 | 328 | -.536  | .138  | -.122 | -.1203 | 340 | 378 | -.226  | .066  | -.047 | -.548  | 340 | 506 | -.356  | .088  | -.117 | -.100 |
| 340 | 329 | -.523  | .134  | -.185 | -.1540 | 340 | 379 | -.252  | .109  | -.284 | -.762  | 340 | 507 | -.309  | .058  | -.150 | -.563 |
| 340 | 330 | -.420  | .108  | -.120 | -.1069 | 340 | 380 | -.321  | .171  | -.228 | -1.148 | 340 | 508 | -.359  | .096  | -.071 | -.803 |
| 340 | 331 | -.449  | .122  | -.085 | -.1071 | 340 | 381 | -.433  | .211  | -.024 | -1.569 | 340 | 509 | -.360  | .077  | -.173 | -.803 |
| 340 | 332 | -.315  | .120  | -.012 | -.1337 | 340 | 382 | -.528  | .157  | -.102 | -.952  | 340 | 510 | -.346  | .075  | -.152 | -.757 |
| 340 | 333 | -.318  | .115  | .083  | -.983  | 340 | 383 | -.524  | .160  | -.147 | -.1514 | 340 | 511 | -.351  | .107  | -.043 | -.999 |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|
| 340 | 512 | -.337  | .087  | -.050 | -.919 | 340 | 562 | -.334  | .087  | -.095 | -.725 | 340 | 612 | -.096  | .045  | .127  | -.300  |
| 340 | 513 | -.327  | .067  | -.145 | -.716 | 340 | 563 | -.314  | .076  | -.052 | -.592 | 340 | 613 | -.100  | .041  | .065  | -.323  |
| 340 | 514 | -.330  | .074  | -.122 | -.778 | 340 | 564 | -.303  | .058  | -.139 | -.551 | 340 | 614 | -.116  | .053  | .095  | -.561  |
| 340 | 515 | -.332  | .091  | -.030 | -.831 | 340 | 565 | -.330  | .076  | -.150 | -.904 | 340 | 615 | -.135  | .036  | .102  | -.247  |
| 340 | 516 | -.339  | .070  | -.168 | -.732 | 340 | 566 | -.327  | .076  | -.163 | -.793 | 340 | 616 | -.153  | .040  | .106  | -.300  |
| 340 | 517 | -.297  | .049  | -.140 | -.545 | 340 | 567 | -.312  | .075  | -.125 | -.619 | 340 | 617 | -.172  | .044  | .054  | -.371  |
| 340 | 518 | -.348  | .077  | -.168 | -.741 | 340 | 568 | -.308  | .081  | -.079 | -.817 | 340 | 618 | -.172  | .050  | .175  | -.453  |
| 340 | 519 | -.346  | .080  | -.157 | -.785 | 340 | 569 | -.256  | .049  | -.084 | -.487 | 340 | 619 | -.174  | .039  | -.022 | -.378  |
| 340 | 520 | -.356  | .090  | -.110 | -.840 | 340 | 570 | -.292  | .079  | -.043 | -.600 | 340 | 620 | -.231  | .032  | -.109 | -.385  |
| 340 | 521 | -.353  | .083  | -.082 | -.820 | 340 | 571 | -.279  | .068  | -.079 | -.634 | 340 | 701 | -.423  | .108  | -.134 | -.948  |
| 340 | 522 | -.319  | .088  | -.055 | -.789 | 340 | 572 | -.248  | .046  | -.101 | -.511 | 340 | 702 | -.338  | .084  | -.077 | -.891  |
| 340 | 523 | -.314  | .084  | -.085 | -.773 | 340 | 573 | -.280  | .056  | -.089 | -.670 | 340 | 703 | -.160  | .079  | -.140 | -.469  |
| 340 | 524 | -.317  | .062  | -.124 | -.646 | 340 | 574 | -.321  | .075  | -.171 | -.873 | 340 | 704 | -.499  | .124  | -.136 | -.980  |
| 340 | 525 | -.311  | .055  | -.168 | -.614 | 340 | 575 | -.311  | .073  | -.142 | -.783 | 340 | 705 | -.405  | .120  | -.118 | -.1099 |
| 340 | 526 | -.310  | .055  | -.145 | -.531 | 340 | 576 | -.296  | .070  | -.125 | -.658 | 340 | 706 | -.388  | .123  | -.026 | -.034  |
| 340 | 527 | -.323  | .075  | -.125 | -.711 | 340 | 577 | -.219  | .060  | -.022 | -.455 | 340 | 707 | -.405  | .125  | -.029 | -.007  |
| 340 | 528 | -.319  | .088  | -.069 | -.767 | 340 | 578 | -.215  | .054  | -.027 | -.453 | 340 | 708 | -.416  | .123  | -.147 | -.959  |
| 340 | 529 | -.314  | .089  | -.037 | -.744 | 340 | 579 | -.220  | .051  | -.005 | -.436 | 340 | 709 | -.431  | .126  | -.008 | -.975  |
| 340 | 530 | -.296  | .045  | -.157 | -.545 | 340 | 580 | -.291  | .055  | -.091 | -.687 | 340 | 710 | -.397  | .111  | -.001 | -.980  |
| 340 | 531 | -.318  | .055  | -.183 | -.520 | 340 | 581 | -.363  | .081  | -.190 | -.863 | 340 | 711 | -.328  | .117  | -.029 | -.952  |
| 340 | 532 | -.305  | .075  | -.097 | -.852 | 340 | 582 | -.314  | .065  | -.121 | -.687 | 340 | 712 | -.433  | .123  | -.141 | -.083  |
| 340 | 533 | -.281  | .060  | -.108 | -.660 | 340 | 583 | -.308  | .067  | -.159 | -.634 | 340 | 713 | -.438  | .132  | -.086 | -.121  |
| 340 | 534 | -.285  | .048  | -.136 | -.522 | 340 | 584 | -.162  | .044  | -.008 | -.385 | 340 | 714 | -.375  | .112  | -.020 | -.902  |
| 340 | 535 | -.281  | .044  | -.129 | -.506 | 340 | 585 | -.159  | .039  | -.021 | -.373 | 340 | 715 | -.386  | .122  | -.005 | -.133  |
| 340 | 536 | -.281  | .044  | -.132 | -.438 | 340 | 586 | -.186  | .037  | -.063 | -.340 | 340 | 716 | -.414  | .123  | -.084 | -.144  |
| 340 | 537 | -.377  | .045  | -.155 | -.464 | 340 | 587 | -.235  | .037  | -.067 | -.513 | 340 | 717 | -.393  | .109  | -.008 | -.948  |
| 340 | 538 | -.329  | .058  | -.150 | -.655 | 340 | 588 | -.318  | .056  | -.192 | -.615 | 340 | 718 | -.531  | .192  | -.093 | -.1343 |
| 340 | 539 | -.297  | .069  | -.057 | -.641 | 340 | 589 | -.472  | .108  | -.238 | -.943 | 340 | 719 | -.429  | .131  | -.031 | -.003  |
| 340 | 540 | -.306  | .076  | -.094 | -.737 | 340 | 590 | -.462  | .106  | -.236 | -.979 | 340 | 720 | -.397  | .111  | -.099 | -.959  |
| 340 | 541 | -.288  | .043  | -.162 | -.478 | 340 | 591 | -.226  | .038  | -.062 | -.394 | 340 | 721 | -.357  | .103  | -.005 | -.791  |
| 340 | 542 | -.297  | .048  | -.167 | -.555 | 340 | 592 | -.215  | .037  | -.066 | -.362 | 340 | 722 | -.403  | .105  | -.134 | -.251  |
| 340 | 543 | -.344  | .088  | -.111 | -.772 | 340 | 593 | -.123  | .041  | -.044 | -.336 | 340 | 723 | -.422  | .118  | -.141 | -.912  |
| 340 | 544 | -.332  | .075  | -.122 | -.646 | 340 | 594 | -.132  | .042  | -.056 | -.293 | 340 | 724 | -.429  | .115  | -.127 | -.998  |
| 340 | 545 | -.313  | .056  | -.167 | -.576 | 340 | 595 | -.168  | .041  | -.009 | -.415 | 340 | 725 | -.425  | .117  | -.097 | -.966  |
| 340 | 546 | -.303  | .054  | -.167 | -.592 | 340 | 596 | -.205  | .036  | -.028 | -.353 | 340 | 726 | -.384  | .125  | -.256 | -.1023 |
| 340 | 547 | -.312  | .069  | -.104 | -.625 | 340 | 597 | -.281  | .049  | -.127 | -.541 | 340 | 727 | -.361  | .107  | -.001 | -.837  |
| 340 | 548 | -.331  | .083  | -.104 | -.707 | 340 | 598 | -.409  | .087  | -.208 | -.849 | 340 | 728 | -.342  | .112  | -.096 | -.846  |
| 340 | 549 | -.319  | .076  | -.120 | -.821 | 340 | 599 | -.539  | .145  | -.206 | -.582 | 340 | 729 | -.328  | .110  | -.049 | -.978  |
| 340 | 550 | -.356  | .098  | -.077 | -.846 | 340 | 600 | -.232  | .042  | -.107 | -.430 | 340 | 730 | -.393  | .110  | -.098 | -.888  |
| 340 | 551 | -.311  | .071  | -.113 | -.718 | 340 | 601 | -.271  | .045  | -.153 | -.481 | 340 | 731 | -.412  | .109  | -.103 | -.1167 |
| 340 | 552 | -.306  | .052  | -.173 | -.592 | 340 | 602 | -.262  | .042  | -.155 | -.481 | 340 | 732 | -.386  | .095  | -.142 | -.966  |
| 340 | 553 | -.296  | .047  | -.164 | -.517 | 340 | 603 | -.100  | .045  | -.088 | -.274 | 340 | 733 | -.402  | .105  | -.114 | -.377  |
| 340 | 554 | -.306  | .054  | -.166 | -.654 | 340 | 604 | -.292  | .063  | -.121 | -.648 | 340 | 734 | -.434  | .117  | -.116 | -.058  |
| 340 | 555 | -.315  | .071  | -.107 | -.656 | 340 | 605 | -.210  | .038  | -.024 | -.391 | 340 | 735 | -.398  | .104  | -.121 | -.865  |
| 340 | 556 | -.321  | .084  | -.120 | -.746 | 340 | 606 | -.262  | .050  | -.127 | -.579 | 340 | 736 | -.398  | .101  | -.066 | -.920  |
| 340 | 557 | -.334  | .085  | -.111 | -.709 | 340 | 607 | -.280  | .047  | -.152 | -.485 | 340 | 737 | -.417  | .127  | -.061 | -.056  |
| 340 | 558 | -.317  | .070  | -.104 | -.629 | 340 | 608 | -.129  | .048  | -.093 | -.318 | 340 | 738 | -.385  | .113  | -.098 | -.906  |
| 340 | 559 | -.307  | .071  | -.104 | -.642 | 340 | 609 | -.205  | .050  | -.008 | -.498 | 340 | 739 | -.361  | .120  | -.043 | -.948  |
| 340 | 560 | -.329  | .087  | -.084 | -.727 | 340 | 610 | -.249  | .050  | -.059 | -.582 | 340 | 740 | -.351  | .126  | -.033 | -.901  |
| 340 | 561 | -.320  | .084  | -.109 | -.734 | 340 | 611 | -.283  | .050  | -.160 | -.518 | 340 | 741 | -.398  | .049  | -.777 |        |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 340 | 742 | -.408  | .108  | -.096 | -.991  | 340 | 792 | -.253  | .111  | .180  | -.850  | 340 | 920 | -.366  | .068  | -.141 | -.777  |
| 340 | 743 | -.398  | .128  | -.144 | -1.451 | 340 | 793 | -.252  | .156  | .216  | -1.047 | 340 | 921 | -.495  | .099  | -.204 | -.933  |
| 340 | 744 | -.399  | .110  | -.170 | -1.167 | 340 | 794 | -.223  | .092  | .096  | -.657  | 340 | 922 | -.376  | .156  | 1.143 | -.015  |
| 340 | 745 | -.401  | .102  | -.096 | -1.102 | 340 | 795 | -.212  | .063  | -.041 | -.503  | 340 | 923 | -.444  | .098  | -.156 | -.959  |
| 340 | 746 | -.400  | .115  | -.010 | -1.056 | 340 | 796 | -.197  | .066  | .020  | -.736  | 340 | 924 | -.358  | .098  | -.005 | -.769  |
| 340 | 747 | -.366  | .118  | -.003 | -1.098 | 340 | 797 | -.151  | .041  | -.018 | -.376  | 340 | 925 | -.048  | .391  | .871  | -1.111 |
| 340 | 748 | -.380  | .120  | .024  | -1.031 | 340 | 798 | -.474  | .163  | -.115 | -1.143 | 340 | 926 | -.355  | .091  | -.058 | -.797  |
| 340 | 749 | -.361  | .127  | .070  | -.875  | 340 | 799 | -.496  | .160  | -.178 | -1.410 | 340 | 927 | -.294  | .127  | .318  | -.766  |
| 340 | 750 | -.333  | .141  | .246  | -.778  | 340 | 800 | -.350  | .122  | .027  | -1.050 | 340 | 928 | -.386  | .100  | .007  | -.825  |
| 340 | 751 | -.486  | .138  | -.181 | -1.298 | 340 | 801 | -.234  | .090  | .238  | -.669  | 340 | 929 | -.232  | .160  | .241  | -1.136 |
| 340 | 752 | -.431  | .106  | -.129 | -1.022 | 340 | 802 | -.163  | .061  | .171  | -.541  | 340 | 930 | -.310  | .065  | -.111 | -.585  |
| 340 | 753 | -.428  | .120  | -.097 | -.934  | 340 | 803 | -.123  | .040  | .057  | -.343  | 340 | 931 | -.237  | .130  | .670  | -.079  |
| 340 | 754 | -.385  | .102  | -.043 | -.841  | 340 | 804 | -.123  | .039  | .033  | -.262  | 340 | 932 | -.338  | .082  | -.096 | -.728  |
| 340 | 755 | -.381  | .125  | -.009 | -1.070 | 340 | 805 | -.013  | .084  | .329  | -.334  | 340 | 933 | -.357  | .101  | .029  | -.835  |
| 340 | 756 | -.338  | .086  | -.043 | -.733  | 340 | 806 | -.169  | .079  | .103  | -.457  | 340 | 934 | -.113  | .098  | .231  | -.539  |
| 340 | 757 | -.361  | .111  | .022  | -.932  | 340 | 807 | -.200  | .054  | .003  | -.434  | 340 | 935 | -.289  | .070  | .017  | -.577  |
| 340 | 758 | -.457  | .122  | -.183 | -1.171 | 340 | 808 | -.141  | .036  | .024  | -.292  | 340 | 936 | -.339  | .058  | -.204 | -.520  |
| 340 | 759 | -.364  | .108  | -.032 | -.868  | 340 | 809 | -.566  | .251  | -.145 | -1.982 | 340 | 937 | -.326  | .109  | -.034 | -.998  |
| 340 | 760 | -.429  | .116  | -.127 | -1.217 | 340 | 810 | -.233  | .080  | -.027 | -.680  | 340 | 938 | -.441  | .127  | -.082 | -1.158 |
| 340 | 761 | -.350  | .111  | -.000 | -.855  | 340 | 811 | -.115  | .053  | .136  | -.311  | 340 | 939 | -.447  | .108  | -.159 | -1.340 |
| 340 | 762 | -.416  | .095  | -.140 | -.950  | 340 | 812 | -.106  | .042  | .068  | -.276  | 340 | 940 | -.238  | .068  | -.003 | -.465  |
| 340 | 763 | -.423  | .099  | -.125 | -.882  | 340 | 813 | -.177  | .055  | .033  | -.499  | 340 | 941 | -.223  | .042  | -.115 | -.444  |
| 340 | 764 | -.434  | .109  | -.120 | -1.158 | 340 | 814 | -.181  | .052  | .027  | -.424  | 340 | 942 | -.236  | .127  | .842  | -.242  |
| 340 | 765 | -.432  | .138  | .020  | -1.318 | 340 | 815 | -.115  | .040  | .050  | -.278  | 340 | 943 | -.150  | .093  | .635  | -.099  |
| 340 | 766 | -.379  | .116  | .005  | -.876  | 340 | 816 | -.465  | .168  | -.059 | -1.626 | 340 | 944 | -.144  | .079  | .529  | -.056  |
| 340 | 767 | -.366  | .125  | .040  | -.952  | 340 | 817 | -.305  | .098  | .064  | -.766  | 340 | 945 | -.180  | .033  | -.013 | -.308  |
| 340 | 768 | -.344  | .123  | -.048 | -1.024 | 340 | 818 | -.153  | .075  | .180  | -.450  | 340 | 946 | -.236  | .118  | .776  | -.045  |
| 340 | 769 | -.395  | .101  | -.102 | -1.060 | 340 | 819 | -.070  | .084  | .459  | -.443  | 340 | 947 | -.286  | .145  | 1.055 | -.018  |
| 340 | 770 | -.444  | .106  | -.193 | -.983  | 340 | 820 | -.106  | .076  | .187  | -.571  | 340 | 948 | -.228  | .114  | .706  | -.022  |
| 340 | 771 | -.447  | .115  | -.167 | -1.119 | 340 | 821 | -.090  | .041  | .127  | -.308  | 340 | 949 | -.296  | .159  | 1.060 | -.045  |
| 340 | 772 | -.491  | .139  | .031  | -1.169 | 340 | 822 | -.092  | .038  | .032  | -.220  | 340 | 950 | -.252  | .039  | -.111 | -.428  |
| 340 | 773 | -.443  | .124  | .017  | -.938  | 340 | 901 | -.360  | .053  | -.228 | -.533  | 340 | 951 | -.139  | .087  | .527  | -.095  |
| 340 | 774 | -.384  | .120  | .043  | -.855  | 340 | 902 | -.381  | .114  | -.023 | -.975  | 340 | 952 | -.098  | .065  | .148  | -.385  |
| 340 | 775 | -.323  | .111  | .040  | -.805  | 340 | 903 | -.413  | .106  | .115  | -.988  | 340 | 953 | -.102  | .080  | .484  | -.258  |
| 340 | 776 | -.312  | .112  | -.014 | -.810  | 340 | 904 | -.400  | .104  | -.140 | -1.011 | 340 | 954 | -.142  | .095  | .579  | -.136  |
| 340 | 777 | -.494  | .150  | -.157 | -1.202 | 340 | 905 | -.215  | .058  | -.023 | -.416  | 340 | 955 | -.057  | .058  | .302  | -.093  |
| 340 | 778 | -.512  | .159  | -.102 | -.560  | 340 | 906 | -.341  | .072  | .001  | -.624  | 340 | 956 | -.086  | .100  | .329  | -.755  |
| 340 | 779 | -.490  | .174  | .095  | -1.564 | 340 | 907 | -.360  | .088  | -.116 | -.791  | 340 | 957 | -.187  | .122  | .116  | -.882  |
| 340 | 780 | -.404  | .133  | .157  | -.971  | 340 | 908 | -.017  | .115  | .431  | -.403  | 340 | 958 | -.246  | .199  | .318  | -1.127 |
| 340 | 781 | -.299  | .123  | .088  | -.855  | 340 | 909 | -.244  | .073  | .068  | -.516  | 340 | 959 | -.091  | .081  | .381  | -.383  |
| 340 | 782 | -.226  | .097  | .050  | -.640  | 340 | 910 | -.326  | .060  | -.143 | -.562  | 340 | 960 | -.198  | .049  | .064  | -.564  |
| 340 | 783 | -.214  | .083  | -.002 | -.605  | 340 | 911 | -.276  | .136  | .869  | -.043  | 340 | 961 | -.357  | .085  | -.149 | -.843  |
| 340 | 784 | -.461  | .149  | -.133 | -1.331 | 340 | 912 | -.359  | .082  | -.085 | -.695  | 340 | 962 | -.323  | .066  | -.159 | -.746  |
| 340 | 785 | -.478  | .148  | -.117 | -1.440 | 340 | 913 | -.195  | .153  | .341  | -1.179 | 340 | 963 | -.000  | .108  | .565  | -.306  |
| 340 | 786 | -.398  | .152  | .086  | -1.200 | 340 | 914 | -.345  | .085  | -.104 | -.833  | 340 | 964 | -.044  | .074  | .275  | -.439  |
| 340 | 787 | -.277  | .117  | .140  | -.783  | 340 | 915 | -.314  | .126  | .197  | -.780  | 340 | 965 | -.226  | .058  | -.034 | -.578  |
| 340 | 788 | -.189  | .085  | .152  | -.624  | 340 | 916 | -.352  | .085  | -.148 | -.854  | 340 | 966 | -.377  | .094  | -.195 | -.879  |
| 340 | 789 | -.146  | .053  | .040  | -.357  | 340 | 917 | -.055  | .365  | .936  | -.922  | 340 | 967 | -.066  | .046  | .096  | -.264  |
| 340 | 790 | -.146  | .047  | .050  | -.345  | 340 | 918 | -.419  | .094  | -.127 | -.886  | 340 | 968 | -.225  | .044  | -.052 | -.484  |
| 340 | 791 | -.381  | .174  | .111  | -1.219 | 340 | 919 | -.308  | .048  | -.198 | -.487  | 340 | 969 | -.149  | .045  | .027  | -.436  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|-------|
| 340 | 970  | -.055  | .057  | .209  | -.249  | 350 | 121 | -.015  | .117  | .399  | -.490  | 350 | 171 | .135   | .116  | .572  | -.184 |
| 340 | 971  | -.062  | .054  | .175  | -.218  | 350 | 122 | .154   | .146  | .799  | -.281  | 350 | 172 | .210   | .119  | .733  | -.255 |
| 340 | 1001 | -.394  | .099  | -.026 | .885   | 350 | 123 | .211   | .147  | .742  | -.194  | 350 | 173 | .247   | .110  | .700  | -.010 |
| 340 | 1002 | -.216  | .083  | .103  | -.571  | 350 | 124 | .257   | .151  | .881  | -.224  | 350 | 174 | .172   | .143  | .828  | -.471 |
| 340 | 1003 | -.367  | .076  | -.181 | -.710  | 350 | 125 | .231   | .149  | .708  | -.217  | 350 | 175 | .081   | .104  | .520  | -.210 |
| 340 | 1004 | -.325  | .107  | -.020 | .755   | 350 | 126 | .254   | .154  | .808  | -.256  | 350 | 176 | -.030  | .093  | .368  | -.305 |
| 340 | 1005 | -.341  | .071  | -.146 | -.746  | 350 | 127 | .218   | .153  | .739  | -.317  | 350 | 177 | -.069  | .076  | .322  | -.307 |
| 340 | 1006 | -.451  | .113  | -.109 | -1.199 | 350 | 128 | .133   | .120  | .608  | -.273  | 350 | 178 | .007   | .068  | .379  | -.243 |
| 340 | 1007 | -.166  | .035  | .039  | -.280  | 350 | 129 | .068   | .111  | .472  | -.223  | 350 | 179 | .082   | .077  | .408  | -.236 |
| 340 | 1008 | .236   | .122  | .945  | -.029  | 350 | 130 | .322   | .148  | .933  | -.064  | 350 | 180 | .134   | .080  | .463  | -.058 |
| 340 | 1009 | -.230  | .051  | -.017 | .482   | 350 | 131 | .293   | .173  | .903  | -.232  | 350 | 181 | .054   | .109  | .581  | -.355 |
| 340 | 1010 | .301   | .139  | .893  | -.045  | 350 | 132 | .155   | .135  | .647  | -.340  | 350 | 182 | -.008  | .093  | .365  | -.291 |
| 340 | 1011 | -.226  | .041  | .003  | -.412  | 350 | 133 | .300   | .152  | 1.041 | -.142  | 350 | 183 | -.083  | .091  | .327  | -.438 |
| 340 | 1012 | .241   | .122  | .801  | -.014  | 350 | 134 | .393   | .160  | .930  | -.020  | 350 | 184 | -.076  | .045  | .097  | -.274 |
| 340 | 1013 | -.374  | .091  | -.097 | .768   | 350 | 135 | .384   | .161  | 1.082 | -.016  | 350 | 185 | .007   | .049  | .237  | -.143 |
| 340 | 1014 | -.422  | .096  | -.125 | -.904  | 350 | 136 | .380   | .158  | .928  | -.024  | 350 | 186 | .111   | .079  | .465  | -.160 |
| 340 | 1015 | .379   | .091  | -.127 | .833   | 350 | 137 | .354   | .160  | .958  | -.025  | 350 | 187 | .200   | .113  | .664  | -.051 |
| 340 | 1016 | .287   | .096  | -.008 | .766   | 350 | 138 | .289   | .169  | .866  | -.234  | 350 | 188 | .041   | .096  | .470  | -.245 |
| 340 | 1017 | -.104  | .101  | .336  | -.837  | 350 | 139 | .178   | .126  | .652  | -.190  | 350 | 189 | -.125  | .046  | .097  | -.281 |
| 340 | 1018 | -.050  | .096  | .403  | -.527  | 350 | 140 | .034   | .102  | .426  | -.232  | 350 | 190 | -.221  | .052  | -.025 | -.419 |
| 340 | 1019 | -.175  | .101  | .163  | -.669  | 350 | 141 | .403   | .149  | .914  | -.083  | 350 | 191 | .195   | .105  | .747  | -.026 |
| 340 | 1020 | .378   | .126  | .053  | -.986  | 350 | 142 | .354   | .149  | .843  | -.068  | 350 | 192 | .191   | .106  | .644  | -.078 |
| 340 | 1021 | -.131  | .038  | -.082 | -.256  | 350 | 143 | .009   | .136  | .530  | -.398  | 350 | 193 | .204   | .105  | .658  | -.062 |
| 340 | 1022 | -.050  | .034  | .091  | -.151  | 350 | 144 | .181   | .135  | .804  | -.202  | 350 | 194 | .008   | .062  | .451  | -.185 |
| 340 | 1023 | -.060  | .037  | .123  | -.201  | 350 | 145 | .361   | .148  | 1.027 | -.073  | 350 | 195 | .074   | .074  | .406  | -.119 |
| 340 | 1024 | -.063  | .048  | .103  | -.300  | 350 | 146 | .293   | .140  | .845  | -.034  | 350 | 196 | .127   | .090  | .572  | -.142 |
| 340 | 1025 | -.185  | .038  | -.069 | -.374  | 350 | 147 | .074   | .111  | .484  | -.264  | 350 | 197 | .040   | .097  | .497  | -.292 |
| 340 | 1026 | -.244  | .045  | -.098 | -.479  | 350 | 148 | -.124  | .092  | .263  | -.480  | 350 | 198 | -.056  | .051  | .106  | -.403 |
| 340 | 1027 | .238   | .035  | -.122 | -.398  | 350 | 149 | .017   | .244  | .725  | -.902  | 350 | 199 | -.044  | .043  | .165  | -.274 |
| 340 | 1028 | -.049  | .040  | .096  | -.213  | 350 | 150 | -.211  | .207  | .513  | -.828  | 350 | 200 | -.033  | .035  | .122  | -.233 |
| 350 | 101  | -.032  | .088  | .385  | -.330  | 350 | 151 | .178   | .151  | .734  | -.469  | 350 | 201 | -.030  | .035  | .115  | -.183 |
| 350 | 102  | -.011  | .086  | .435  | -.330  | 350 | 152 | .314   | .160  | .993  | -.192  | 350 | 202 | -.125  | .059  | .081  | -.394 |
| 350 | 103  | .162   | .138  | .637  | -.337  | 350 | 153 | .308   | .161  | .772  | -.366  | 350 | 203 | -.067  | .046  | .090  | -.299 |
| 350 | 104  | .222   | .133  | .681  | -.258  | 350 | 154 | .251   | .139  | .786  | -.285  | 350 | 204 | -.089  | .039  | .056  | -.242 |
| 350 | 105  | -.024  | .101  | .342  | -.402  | 350 | 155 | .068   | .122  | .475  | -.160  | 350 | 205 | -.105  | .038  | -.017 | -.283 |
| 350 | 106  | -.064  | .079  | .240  | -.309  | 350 | 156 | -.382  | .117  | .126  | -.1080 | 350 | 206 | -.143  | .043  | -.026 | -.292 |
| 350 | 107  | -.004  | .094  | .408  | -.292  | 350 | 157 | -.254  | .200  | .540  | -.762  | 350 | 207 | -.198  | .047  | -.021 | -.405 |
| 350 | 108  | -.022  | .141  | .488  | -.568  | 350 | 158 | .196   | .132  | .671  | -.138  | 350 | 208 | -.299  | .070  | -.081 | -.569 |
| 350 | 109  | .115   | .156  | .640  | -.521  | 350 | 159 | .096   | .113  | .558  | -.348  | 350 | 209 | -.049  | .045  | .163  | -.312 |
| 350 | 110  | -.100  | .159  | .681  | -.446  | 350 | 160 | .085   | .130  | .642  | -.298  | 350 | 210 | -.021  | .036  | .116  | -.207 |
| 350 | 111  | -.090  | .116  | .372  | -.686  | 350 | 161 | .001   | .102  | .396  | -.393  | 350 | 211 | -.194  | .068  | -.022 | -.520 |
| 350 | 112  | .170   | .143  | .908  | -.294  | 350 | 162 | .057   | .130  | .536  | -.359  | 350 | 212 | -.159  | .039  | .012  | -.308 |
| 350 | 113  | .289   | .164  | .881  | -.185  | 350 | 163 | .192   | .129  | .673  | -.145  | 350 | 213 | -.168  | .041  | .017  | -.384 |
| 350 | 114  | .209   | .142  | .865  | -.169  | 350 | 164 | .308   | .139  | .829  | -.037  | 350 | 214 | -.274  | .087  | -.043 | -.763 |
| 350 | 115  | .070   | .104  | .447  | -.228  | 350 | 165 | .305   | .135  | .784  | -.134  | 350 | 215 | -.064  | .063  | .139  | -.379 |
| 350 | 116  | .132   | .173  | .685  | -.485  | 350 | 166 | .283   | .133  | .788  | -.188  | 350 | 216 | -.036  | .041  | .157  | -.211 |
| 350 | 117  | .353   | .152  | .887  | -.108  | 350 | 167 | .120   | .107  | .603  | -.181  | 350 | 217 | -.029  | .032  | .093  | -.135 |
| 350 | 118  | .033   | .131  | .440  | -.424  | 350 | 168 | .007   | .099  | .377  | -.276  | 350 | 218 | -.041  | .033  | .143  | -.138 |
| 350 | 119  | .131   | .225  | .810  | -.717  | 350 | 169 | .268   | .122  | .752  | -.017  | 350 | 219 | -.083  | .041  | .118  | -.255 |
| 350 | 120  | -.124  | .198  | .610  | -.814  | 350 | 170 | .013   | .115  | .479  | -.298  | 350 | 220 | -.006  | .070  | .332  | -.188 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 350 | 221 | -.030  | .053  | .233  | -.181  | 350 | 346 | -.450  | .145  | -.000 | -1.231 | 350 | 396 | -.266  | .143  | .175  | -1.382 |
| 350 | 222 | -.067  | .048  | .152  | -.204  | 350 | 347 | -.477  | .131  | -.059 | -1.217 | 350 | 397 | -.333  | .066  | -.139 | -.690  |
| 350 | 223 | -.142  | .040  | .053  | -.276  | 350 | 348 | -.460  | .142  | -.105 | -1.253 | 350 | 398 | -.262  | .047  | -.089 | -.438  |
| 350 | 224 | -.106  | .057  | .159  | -.303  | 350 | 349 | -.312  | .056  | -.139 | -.574  | 350 | 399 | -.225  | .030  | -.120 | -.343  |
| 350 | 225 | -.104  | .078  | .309  | -.409  | 350 | 350 | -.313  | .065  | -.142 | -.805  | 350 | 400 | -.187  | .028  | -.098 | -.312  |
| 350 | 301 | -.372  | .098  | -.079 | -.840  | 350 | 351 | -.290  | .082  | -.046 | -1.006 | 350 | 401 | -.168  | .029  | -.062 | -.300  |
| 350 | 302 | -.468  | .128  | -.137 | -1.151 | 350 | 352 | -.314  | .119  | -.050 | -1.932 | 350 | 402 | -.162  | .038  | -.023 | -.409  |
| 350 | 303 | -.459  | .090  | -.202 | -.987  | 350 | 353 | -.409  | .177  | -.009 | -1.080 | 350 | 403 | -.186  | .102  | -.253 | -.670  |
| 350 | 304 | -.102  | .070  | .126  | -.404  | 350 | 354 | -.475  | .163  | -.008 | -1.102 | 350 | 404 | -.136  | .103  | .373  | -.551  |
| 350 | 305 | -.357  | .116  | -.000 | -.951  | 350 | 355 | -.710  | .234  | -.051 | -1.818 | 350 | 405 | -.029  | .037  | .195  | -.212  |
| 350 | 306 | -.490  | .115  | -.161 | -1.047 | 350 | 356 | -.255  | .192  | -.329 | -.989  | 350 | 406 | -.018  | .059  | -.189 | -.325  |
| 350 | 307 | -.102  | .117  | -.016 | -.881  | 350 | 357 | -.259  | .182  | -.348 | -.896  | 350 | 407 | -.243  | .045  | -.068 | -.474  |
| 350 | 308 | -.327  | .103  | .089  | -.895  | 350 | 358 | -.273  | .070  | -.022 | -.794  | 350 | 408 | -.228  | .033  | -.132 | -.389  |
| 350 | 309 | -.373  | .133  | -.066 | -.995  | 350 | 359 | -.614  | .180  | -.161 | -1.426 | 350 | 409 | -.183  | .033  | -.093 | -.339  |
| 350 | 310 | -.441  | .135  | -.055 | -1.185 | 350 | 360 | -.277  | .061  | -.067 | -.655  | 350 | 410 | -.052  | .068  | .220  | -.379  |
| 350 | 311 | -.498  | .118  | -.111 | -1.151 | 350 | 361 | -.367  | .189  | -.061 | -1.689 | 350 | 411 | -.216  | .031  | -.098 | -.332  |
| 350 | 312 | -.321  | .099  | .032  | -.828  | 350 | 362 | -.271  | .068  | -.091 | -.736  | 350 | 412 | -.205  | .031  | -.099 | -.324  |
| 350 | 313 | -.363  | .129  | -.037 | -.901  | 350 | 363 | -.260  | .074  | -.024 | -.796  | 350 | 413 | -.095  | .044  | -.073 | -.336  |
| 350 | 314 | -.475  | .147  | -.027 | -1.055 | 350 | 364 | -.284  | .106  | -.007 | -.965  | 350 | 414 | -.178  | .040  | -.011 | -.333  |
| 350 | 315 | -.198  | .114  | -.185 | -1.033 | 350 | 365 | -.321  | .192  | -.028 | -1.398 | 350 | 415 | -.182  | .035  | -.046 | -.336  |
| 350 | 316 | -.422  | .125  | -.031 | -.932  | 350 | 366 | -.362  | .179  | -.030 | -1.381 | 350 | 416 | -.192  | .027  | -.089 | -.286  |
| 350 | 317 | -.385  | .132  | -.003 | -.966  | 350 | 367 | -.574  | .190  | -.032 | -1.480 | 350 | 417 | -.166  | .028  | -.053 | -.298  |
| 350 | 318 | -.320  | .088  | -.060 | -.778  | 350 | 368 | -.599  | .185  | -.207 | -2.087 | 350 | 418 | -.140  | .028  | -.003 | -.248  |
| 350 | 319 | -.372  | .127  | -.009 | -.922  | 350 | 369 | -.275  | .163  | -.118 | -1.011 | 350 | 419 | -.225  | .064  | -.068 | -.531  |
| 350 | 320 | -.417  | .166  | -.102 | -1.036 | 350 | 370 | -.257  | .055  | -.061 | -.653  | 350 | 420 | -.028  | .042  | .192  | -.184  |
| 350 | 321 | -.668  | .194  | -.093 | -1.527 | 350 | 371 | -.230  | .056  | -.023 | -.598  | 350 | 421 | -.039  | .064  | .375  | -.192  |
| 350 | 322 | -.268  | .068  | -.008 | -.862  | 350 | 372 | -.300  | .117  | -.183 | -.777  | 350 | 422 | -.053  | .079  | .586  | -.278  |
| 350 | 323 | -.262  | .073  | -.062 | -.766  | 350 | 373 | -.329  | .166  | -.150 | -.079  | 350 | 501 | -.335  | .058  | -.168 | -.709  |
| 350 | 324 | -.335  | .100  | .020  | -.802  | 350 | 374 | -.381  | .210  | -.050 | -.1359 | 350 | 502 | -.355  | .069  | -.158 | -.684  |
| 350 | 325 | -.196  | .205  | -.483 | -.867  | 350 | 375 | -.506  | .169  | -.166 | -.276  | 350 | 503 | -.391  | .071  | -.147 | -.786  |
| 350 | 326 | -.465  | .161  | -.011 | -1.156 | 350 | 376 | -.505  | .146  | -.099 | -1.379 | 350 | 504 | -.465  | .130  | -.109 | -1.142 |
| 350 | 327 | -.435  | .150  | -.029 | -.139  | 350 | 377 | -.265  | .044  | -.056 | -.492  | 350 | 505 | -.319  | .059  | -.149 | -.760  |
| 350 | 328 | -.554  | .174  | -.127 | -1.173 | 350 | 378 | -.236  | .047  | -.036 | -.467  | 350 | 506 | -.317  | .077  | -.081 | -.708  |
| 350 | 329 | -.555  | .149  | -.046 | -.1287 | 350 | 379 | -.281  | .101  | -.133 | -.832  | 350 | 507 | -.313  | .049  | -.161 | -.530  |
| 350 | 330 | -.408  | .129  | -.007 | -.934  | 350 | 380 | -.193  | .129  | -.309 | -.734  | 350 | 508 | -.335  | .064  | -.131 | -.764  |
| 350 | 331 | -.428  | .152  | -.112 | -.997  | 350 | 381 | -.309  | .193  | -.125 | -.412  | 350 | 509 | -.336  | .059  | -.179 | -.840  |
| 350 | 332 | -.258  | .063  | -.022 | -.939  | 350 | 382 | -.453  | .188  | -.035 | -.638  | 350 | 510 | -.336  | .072  | -.142 | -.928  |
| 350 | 333 | -.238  | .068  | -.042 | -.639  | 350 | 383 | -.452  | .178  | -.047 | -.414  | 350 | 511 | -.083  | .056  | -.687 |        |
| 350 | 334 | -.295  | .126  | -.168 | -.914  | 350 | 384 | -.360  | .067  | -.172 | -.600  | 350 | 512 | -.315  | .052  | -.165 | -.602  |
| 350 | 335 | -.288  | .198  | -.383 | -.992  | 350 | 385 | -.286  | .042  | -.107 | -.464  | 350 | 513 | -.321  | .053  | -.191 | -.698  |
| 350 | 336 | -.413  | .154  | -.129 | -1.068 | 350 | 386 | -.300  | .079  | -.067 | -.656  | 350 | 514 | -.322  | .070  | -.100 | -.756  |
| 350 | 337 | -.479  | .144  | -.005 | -1.158 | 350 | 387 | -.126  | .070  | -.287 | -.689  | 350 | 515 | -.331  | .083  | -.061 | -.744  |
| 350 | 338 | -.517  | .181  | .046  | -.265  | 350 | 388 | -.201  | .140  | -.128 | -1.233 | 350 | 516 | -.332  | .062  | -.165 | -.691  |
| 350 | 339 | -.523  | .119  | -.012 | -.929  | 350 | 389 | -.296  | .134  | -.004 | -.981  | 350 | 517 | -.297  | .047  | -.181 | -.633  |
| 350 | 340 | -.501  | .114  | -.112 | -1.136 | 350 | 390 | -.318  | .135  | -.024 | -.981  | 350 | 518 | -.327  | .051  | -.165 | -.607  |
| 350 | 341 | -.409  | .128  | -.003 | -.917  | 350 | 391 | -.107  | .073  | -.251 | -.717  | 350 | 519 | -.338  | .064  | -.177 | -.826  |
| 350 | 342 | -.408  | .165  | -.088 | -1.331 | 350 | 392 | -.298  | .068  | -.053 | -.566  | 350 | 520 | -.326  | .068  | -.163 | -.675  |
| 350 | 343 | -.294  | .068  | -.115 | -.700  | 350 | 393 | -.100  | .065  | -.178 | -.524  | 350 | 521 | -.356  | .083  | -.081 | -.775  |
| 350 | 344 | -.273  | .076  | -.066 | -.734  | 350 | 394 | -.110  | .130  | -.299 | -1.204 | 350 | 522 | -.309  | .054  | -.098 | -.579  |
| 350 | 345 | -.349  | .142  | .012  | -1.119 | 350 | 395 | -.279  | .139  | -.002 | -1.028 | 350 | 523 | -.310  | .053  | -.156 | -.721  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|-------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 350 | 524 | -.308  | .043  | -.149 | -.540 | 350 | 574 | -.337  | .050  | -.205 | -.606  | 350 | 704 | -.474  | .099  | -.187 | -.918  |
| 350 | 525 | -.323  | .047  | -.195 | -.558 | 350 | 575 | -.302  | .048  | -.145 | -.553  | 350 | 705 | -.326  | .067  | -.144 | -.771  |
| 350 | 526 | -.299  | .050  | -.165 | -.540 | 350 | 576 | -.302  | .049  | -.171 | -.701  | 350 | 706 | -.310  | .073  | -.115 | -.768  |
| 350 | 527 | -.301  | .053  | -.147 | -.519 | 350 | 577 | -.277  | .066  | -.040 | -.546  | 350 | 707 | -.339  | .068  | -.150 | -.829  |
| 350 | 528 | -.295  | .064  | -.076 | -.670 | 350 | 578 | -.264  | .057  | -.079 | -.495  | 350 | 708 | -.371  | .091  | -.149 | -.862  |
| 350 | 529 | -.292  | .058  | -.043 | -.622 | 350 | 579 | -.255  | .050  | -.045 | -.441  | 350 | 709 | -.382  | .111  | -.166 | -.1050 |
| 350 | 530 | -.298  | .041  | -.152 | -.498 | 350 | 580 | -.326  | .047  | -.198 | -.512  | 350 | 710 | -.361  | .086  | -.110 | -.877  |
| 350 | 531 | -.308  | .048  | -.159 | -.625 | 350 | 581 | -.390  | .076  | -.220 | -.847  | 350 | 711 | -.352  | .080  | -.103 | -.754  |
| 350 | 532 | -.310  | .054  | -.128 | -.658 | 350 | 582 | -.349  | .061  | -.186 | -.667  | 350 | 712 | -.373  | .100  | -.102 | -.188  |
| 350 | 533 | -.291  | .044  | -.163 | -.498 | 350 | 583 | -.334  | .057  | -.171 | -.474  | 350 | 713 | -.383  | .104  | -.080 | -.932  |
| 350 | 534 | -.291  | .038  | -.180 | -.493 | 350 | 584 | -.191  | .049  | -.028 | -.383  | 350 | 714 | -.341  | .071  | -.115 | -.732  |
| 350 | 535 | -.298  | .037  | -.180 | -.458 | 350 | 585 | -.189  | .040  | -.047 | -.325  | 350 | 715 | -.354  | .088  | -.069 | -.969  |
| 350 | 536 | -.286  | .039  | -.161 | -.448 | 350 | 586 | -.221  | .043  | -.072 | -.478  | 350 | 716 | -.368  | .094  | -.134 | -.882  |
| 350 | 537 | -.290  | .042  | -.180 | -.512 | 350 | 587 | -.276  | .040  | -.145 | -.502  | 350 | 717 | -.332  | .069  | -.122 | -.716  |
| 350 | 538 | -.295  | .045  | -.170 | -.472 | 350 | 588 | -.376  | .062  | -.188 | -.643  | 350 | 718 | -.328  | .185  | -.150 | -.597  |
| 350 | 539 | -.297  | .054  | -.121 | -.630 | 350 | 589 | -.527  | .112  | -.276 | -.146  | 350 | 719 | -.361  | .090  | -.058 | -.813  |
| 350 | 540 | -.295  | .052  | -.128 | -.594 | 350 | 590 | -.555  | .140  | -.256 | -.1253 | 350 | 720 | -.336  | .063  | -.145 | -.762  |
| 350 | 541 | -.303  | .058  | -.161 | -.429 | 350 | 591 | -.254  | .039  | -.101 | -.474  | 350 | 721 | -.340  | .075  | -.148 | -.730  |
| 350 | 542 | -.299  | .042  | -.182 | -.474 | 350 | 592 | -.237  | .038  | -.091 | -.426  | 350 | 722 | -.322  | .067  | -.127 | -.661  |
| 350 | 543 | -.335  | .065  | -.114 | -.625 | 350 | 593 | -.132  | .040  | -.016 | -.305  | 350 | 723 | -.327  | .068  | -.145 | -.686  |
| 350 | 544 | -.321  | .049  | -.154 | -.580 | 350 | 594 | -.133  | .040  | -.011 | -.310  | 350 | 724 | -.357  | .086  | -.125 | -.817  |
| 350 | 545 | -.313  | .044  | -.213 | -.604 | 350 | 595 | -.177  | .046  | -.013 | -.438  | 350 | 725 | -.351  | .087  | -.099 | -.872  |
| 350 | 546 | -.298  | .044  | -.170 | -.502 | 350 | 596 | -.219  | .036  | -.048 | -.421  | 350 | 726 | -.356  | .088  | -.136 | -.792  |
| 350 | 547 | -.305  | .053  | -.149 | -.590 | 350 | 597 | -.314  | .056  | -.112 | -.592  | 350 | 727 | -.340  | .074  | -.110 | -.799  |
| 350 | 548 | -.308  | .056  | -.128 | -.787 | 350 | 598 | -.476  | .092  | -.264 | -.937  | 350 | 728 | -.337  | .081  | -.087 | -.858  |
| 350 | 549 | -.323  | .054  | -.165 | -.564 | 350 | 599 | -.643  | .163  | -.234 | -.1412 | 350 | 729 | -.343  | .092  | -.011 | -.890  |
| 350 | 550 | -.346  | .075  | -.130 | -.670 | 350 | 600 | -.245  | .039  | -.124 | -.443  | 350 | 730 | -.331  | .063  | -.154 | -.671  |
| 350 | 551 | -.320  | .051  | -.183 | -.569 | 350 | 601 | -.284  | .042  | -.176 | -.477  | 350 | 731 | -.343  | .070  | -.096 | -.751  |
| 350 | 552 | -.301  | .036  | -.183 | -.435 | 350 | 602 | -.279  | .038  | -.143 | -.435  | 350 | 732 | -.324  | .060  | -.117 | -.618  |
| 350 | 553 | -.304  | .040  | -.193 | -.479 | 350 | 603 | -.105  | .048  | -.109 | -.292  | 350 | 733 | -.326  | .061  | -.140 | -.688  |
| 350 | 554 | -.304  | .044  | -.177 | -.534 | 350 | 604 | -.344  | .082  | -.141 | -.743  | 350 | 734 | -.352  | .081  | -.050 | -.799  |
| 350 | 555 | -.314  | .057  | -.149 | -.613 | 350 | 605 | -.221  | .037  | -.111 | -.368  | 350 | 735 | -.340  | .074  | -.136 | -.813  |
| 350 | 556 | -.310  | .058  | -.149 | -.700 | 350 | 606 | -.270  | .047  | -.134 | -.552  | 350 | 736 | -.334  | .068  | -.168 | -.692  |
| 350 | 557 | -.324  | .068  | -.130 | -.781 | 350 | 607 | -.287  | .039  | -.176 | -.471  | 350 | 737 | -.352  | .080  | -.106 | -.806  |
| 350 | 558 | -.313  | .045  | -.128 | -.527 | 350 | 608 | -.132  | .053  | -.118 | -.338  | 350 | 738 | -.342  | .074  | -.068 | -.662  |
| 350 | 559 | -.302  | .050  | -.135 | -.633 | 350 | 609 | -.209  | .044  | -.018 | -.404  | 350 | 739 | -.356  | .094  | -.078 | -.909  |
| 350 | 560 | -.328  | .061  | -.140 | -.594 | 350 | 610 | -.263  | .044  | -.093 | -.426  | 350 | 740 | -.362  | .100  | -.143 | -.923  |
| 350 | 561 | -.297  | .056  | -.142 | -.624 | 350 | 611 | -.317  | .050  | -.185 | -.562  | 350 | 741 | -.349  | .070  | -.131 | -.774  |
| 350 | 562 | -.328  | .058  | -.112 | -.580 | 350 | 612 | -.096  | .050  | -.100 | -.319  | 350 | 742 | -.358  | .083  | -.150 | -.948  |
| 350 | 563 | -.321  | .050  | -.186 | -.518 | 350 | 613 | -.101  | .049  | -.069 | -.389  | 350 | 743 | -.334  | .070  | -.140 | -.879  |
| 350 | 564 | -.303  | .041  | -.137 | -.502 | 350 | 614 | -.120  | .060  | -.238 | -.491  | 350 | 744 | -.353  | .078  | -.154 | -.209  |
| 350 | 565 | -.348  | .064  | -.179 | -.737 | 350 | 615 | -.135  | .042  | -.081 | -.280  | 350 | 745 | -.348  | .074  | -.136 | -.869  |
| 350 | 566 | -.310  | .047  | -.179 | -.563 | 350 | 616 | -.162  | .041  | -.049 | -.347  | 350 | 746 | -.359  | .083  | -.168 | -.830  |
| 350 | 567 | -.292  | .049  | -.140 | -.599 | 350 | 617 | -.186  | .050  | -.215 | -.361  | 350 | 747 | -.371  | .104  | -.094 | -.1086 |
| 350 | 568 | -.287  | .046  | -.150 | -.563 | 350 | 618 | -.181  | .053  | -.072 | -.435  | 350 | 748 | -.361  | .094  | -.150 | -.1084 |
| 350 | 569 | -.282  | .038  | -.159 | -.436 | 350 | 619 | -.181  | .042  | -.005 | -.359  | 350 | 749 | -.399  | .114  | -.009 | -.931  |
| 350 | 570 | -.330  | .073  | -.079 | -.728 | 350 | 620 | -.246  | .029  | -.153 | -.363  | 350 | 750 | -.346  | .106  | -.135 | -.815  |
| 350 | 571 | -.308  | .053  | -.113 | -.534 | 350 | 701 | -.380  | .072  | -.191 | -.909  | 350 | 751 | -.388  | .095  | -.164 | -.241  |
| 350 | 572 | -.274  | .038  | -.133 | -.441 | 350 | 702 | -.314  | .055  | -.113 | -.592  | 350 | 752 | -.362  | .075  | -.180 | -.945  |
| 350 | 573 | -.300  | .045  | -.130 | -.507 | 350 | 703 | -.197  | .067  | -.046 | -.484  | 350 | 753 | -.362  | .081  | -.082 | -.770  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 350 | 754 | -.363  | .079  | -.127 | -.954  | 350 | 804 | -.157  | .058  | .013  | -.605  | 350 | 932  | -.274  | .069  | .023  | -.576  |
| 350 | 755 | -.374  | .102  | -.054 | -.970  | 350 | 805 | -.002  | .076  | .342  | -.361  | 350 | 933  | -.348  | .091  | .056  | -.861  |
| 350 | 756 | -.333  | .069  | -.114 | -.774  | 350 | 806 | -.207  | .087  | .062  | -.584  | 350 | 934  | -.054  | .103  | .319  | -.476  |
| 350 | 757 | -.343  | .070  | -.136 | -.708  | 350 | 807 | -.238  | .056  | -.048 | -.483  | 350 | 935  | -.285  | .065  | .033  | -.627  |
| 350 | 758 | -.419  | .122  | -.089 | -1.009 | 350 | 808 | -.175  | .039  | -.032 | -.379  | 350 | 936  | -.310  | .032  | -.216 | -.454  |
| 350 | 759 | -.355  | .085  | -.038 | -.893  | 350 | 809 | -.565  | .220  | -.135 | -2.131 | 350 | 937  | -.266  | .086  | -.058 | -.765  |
| 350 | 760 | -.374  | .104  | -.134 | -1.038 | 350 | 810 | -.360  | .114  | -.020 | -.931  | 350 | 938  | -.420  | .160  | -.047 | -1.097 |
| 350 | 761 | -.362  | .093  | -.043 | -.881  | 350 | 811 | -.181  | .074  | .165  | -.501  | 350 | 939  | -.467  | .128  | -.122 | -.142  |
| 350 | 762 | -.370  | .095  | -.141 | -.981  | 350 | 812 | -.110  | .057  | .109  | -.459  | 350 | 940  | -.136  | .085  | -.126 | -.409  |
| 350 | 763 | -.365  | .090  | -.159 | -1.138 | 350 | 813 | -.207  | .052  | -.055 | -.452  | 350 | 941  | -.362  | .057  | -.215 | -.558  |
| 350 | 764 | -.382  | .090  | -.125 | -1.052 | 350 | 814 | -.216  | .057  | .024  | -.485  | 350 | 942  | -.185  | .140  | .719  | -.240  |
| 350 | 765 | -.391  | .101  | -.136 | -.088  | 350 | 815 | -.142  | .041  | .029  | -.295  | 350 | 943  | -.117  | .086  | .453  | -.135  |
| 350 | 766 | -.362  | .089  | -.095 | -.957  | 350 | 816 | -.564  | .187  | -.156 | -1.713 | 350 | 944  | -.114  | .079  | .440  | -.085  |
| 350 | 767 | -.368  | .093  | -.032 | -.854  | 350 | 817 | -.396  | .111  | .006  | -.950  | 350 | 945  | -.198  | .034  | -.048 | -.421  |
| 350 | 768 | -.359  | .101  | -.112 | -.950  | 350 | 818 | -.256  | .088  | .109  | -.649  | 350 | 946  | -.205  | .107  | .703  | -.039  |
| 350 | 769 | -.355  | .085  | -.119 | -.746  | 350 | 819 | -.142  | .099  | .292  | -.457  | 350 | 947  | -.263  | .135  | .792  | -.057  |
| 350 | 770 | -.390  | .092  | -.140 | -1.001 | 350 | 820 | -.099  | .084  | .215  | -.600  | 350 | 948  | -.217  | .111  | .707  | -.032  |
| 350 | 771 | -.393  | .088  | -.162 | -.840  | 350 | 821 | -.091  | .043  | .094  | -.348  | 350 | 949  | -.283  | .148  | 1.099 | -.066  |
| 350 | 772 | -.415  | .105  | -.044 | -1.075 | 350 | 822 | -.095  | .042  | .041  | -.313  | 350 | 950  | -.291  | .046  | .153  | -.519  |
| 350 | 773 | -.402  | .093  | -.025 | -1.068 | 350 | 901 | -.351  | .038  | -.253 | -.500  | 350 | 951  | -.123  | .080  | .524  | -.080  |
| 350 | 774 | -.399  | .105  | -.028 | -.1054 | 350 | 902 | -.369  | .090  | .164  | -.920  | 350 | 952  | -.113  | .073  | .195  | -.483  |
| 350 | 775 | -.396  | .110  | -.088 | -1.143 | 350 | 903 | -.360  | .077  | -.143 | -.961  | 350 | 953  | -.079  | .084  | .465  | -.167  |
| 350 | 776 | -.408  | .122  | -.066 | -.895  | 350 | 904 | -.339  | .066  | .161  | -.699  | 350 | 954  | -.150  | .102  | .865  | -.142  |
| 350 | 777 | -.429  | .095  | -.193 | -.001  | 350 | 905 | -.255  | .056  | .029  | -.478  | 350 | 955  | -.039  | .057  | .291  | -.123  |
| 350 | 778 | -.438  | .110  | -.203 | -.137  | 350 | 906 | -.335  | .055  | .165  | -.673  | 350 | 956  | -.089  | .072  | .314  | -.567  |
| 350 | 779 | -.473  | .138  | -.066 | -1.325 | 350 | 907 | -.336  | .057  | .160  | -.594  | 350 | 957  | -.137  | .061  | .076  | -.563  |
| 350 | 780 | -.439  | .115  | -.076 | -.957  | 350 | 908 | -.034  | .109  | .346  | -.385  | 350 | 958  | -.138  | .145  | .371  | -.092  |
| 350 | 781 | -.391  | .103  | -.040 | -.801  | 350 | 909 | -.203  | .063  | .167  | -.435  | 350 | 959  | -.034  | .086  | .392  | -.307  |
| 350 | 782 | -.335  | .100  | -.052 | -.782  | 350 | 910 | -.321  | .045  | -.153 | -.516  | 350 | 960  | -.205  | .043  | .023  | -.462  |
| 350 | 783 | -.346  | .131  | -.018 | -.1010 | 350 | 911 | -.179  | .123  | .739  | -.145  | 350 | 961  | -.343  | .069  | -.137 | -.794  |
| 350 | 784 | -.462  | .116  | -.179 | -.1445 | 350 | 912 | -.331  | .056  | -.184 | -.594  | 350 | 962  | -.301  | .050  | -.158 | -.564  |
| 350 | 785 | -.489  | .122  | -.135 | -.1325 | 350 | 913 | -.213  | .142  | .223  | -.902  | 350 | 963  | -.048  | .076  | .466  | -.361  |
| 350 | 786 | -.488  | .133  | -.028 | -.1097 | 350 | 914 | -.340  | .062  | -.173 | -.865  | 350 | 964  | -.054  | .058  | .185  | -.412  |
| 350 | 787 | -.387  | .103  | -.016 | -.748  | 350 | 915 | -.323  | .105  | .353  | -.460  | 350 | 965  | -.217  | .046  | -.036 | -.540  |
| 350 | 788 | -.316  | .099  | .085  | -.782  | 350 | 916 | -.336  | .059  | .196  | -.670  | 350 | 966  | -.348  | .065  | -.197 | -.856  |
| 350 | 789 | -.217  | .072  | -.037 | -.645  | 350 | 917 | -.162  | .353  | 1.122 | -1.049 | 350 | 967  | -.071  | .042  | -.100 | -.239  |
| 350 | 790 | -.207  | .072  | -.025 | -.794  | 350 | 918 | -.363  | .067  | -.176 | -.675  | 350 | 968  | -.218  | .037  | -.033 | -.372  |
| 350 | 791 | -.470  | .159  | -.051 | -1.308 | 350 | 919 | -.305  | .042  | .177  | -.566  | 350 | 969  | -.137  | .036  | .064  | -.305  |
| 350 | 792 | -.366  | .105  | -.069 | -.972  | 350 | 920 | -.341  | .060  | .179  | -.635  | 350 | 970  | -.069  | .053  | .158  | -.256  |
| 350 | 793 | -.446  | .197  | -.248 | -1.192 | 350 | 921 | -.462  | .098  | -.201 | -.933  | 350 | 971  | -.081  | .046  | .149  | -.229  |
| 350 | 794 | -.362  | .104  | -.006 | -.790  | 350 | 922 | -.354  | .157  | .919  | -.003  | 350 | 1001 | -.357  | .080  | -.103 | -.976  |
| 350 | 795 | -.251  | .069  | -.077 | -.628  | 350 | 923 | -.413  | .100  | -.103 | -.904  | 350 | 1002 | -.331  | .096  | .073  | -.721  |
| 350 | 796 | -.251  | .085  | -.070 | -.821  | 350 | 924 | -.351  | .099  | -.110 | -.963  | 350 | 1003 | -.339  | .058  | -.191 | -.829  |
| 350 | 797 | -.181  | .043  | -.013 | -.393  | 350 | 925 | -.174  | .342  | .979  | -1.083 | 350 | 1004 | -.323  | .087  | -.038 | -.792  |
| 350 | 798 | -.512  | .144  | -.208 | -.1119 | 350 | 926 | -.320  | .068  | -.106 | -.691  | 350 | 1005 | -.335  | .048  | -.181 | -.560  |
| 350 | 799 | -.524  | .141  | -.234 | -1.232 | 350 | 927 | -.288  | .123  | .357  | -.704  | 350 | 1006 | -.418  | .093  | -.116 | -.740  |
| 350 | 800 | -.450  | .114  | -.070 | -.891  | 350 | 928 | -.347  | .088  | -.007 | -.817  | 350 | 1007 | -.180  | .039  | .015  | -.334  |
| 350 | 801 | -.351  | .109  | -.022 | -.992  | 350 | 929 | -.203  | .179  | .320  | -1.097 | 350 | 1008 | -.212  | .111  | .691  | -.108  |
| 350 | 802 | -.242  | .083  | .092  | -.649  | 350 | 930 | -.309  | .050  | -.158 | -.684  | 350 | 1009 | -.259  | .042  | -.084 | -.399  |
| 350 | 803 | -.165  | .054  | .041  | -.372  | 350 | 931 | .257   | .141  | .795  | -.062  | 350 | 1010 | .286   | .130  | .888  | -.048  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION A : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 350 | 1011 | -.261  | .048  | -.079 | -.448 | 350 | 1017 | -.106  | .070  | .430  | -.595 | 350 | 1023 | -.069  | .037  | .093  | -.229 |
| 350 | 1012 | -.227  | .114  | .813  | -.024 | 350 | 1018 | -.087  | .065  | .308  | -.377 | 350 | 1024 | -.054  | .049  | .081  | -.452 |
| 350 | 1013 | -.343  | .071  | -.107 | -.712 | 350 | 1019 | -.140  | .057  | .081  | -.600 | 350 | 1025 | -.200  | .041  | -.077 | -.358 |
| 350 | 1014 | -.456  | .098  | -.190 | -.929 | 350 | 1020 | -.263  | .145  | .054  | -.879 | 350 | 1026 | -.262  | .044  | -.062 | -.452 |
| 350 | 1015 | -.333  | .068  | -.139 | -.610 | 350 | 1021 | -.134  | .045  | .119  | -.285 | 350 | 1027 | -.254  | .033  | -.171 | -.385 |
| 350 | 1016 | -.283  | .119  | .124  | -.784 | 350 | 1022 | -.064  | .031  | .059  | -.176 | 350 | 1028 | -.040  | .038  | .129  | -.176 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA.

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| WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|----|-----|--------|-------|-------|--------|
| 0  | 160 | .183   | .132  | .764  | -.189  | 10 | 160 | .263   | .146  | .880  | -.182  | 58 | 160 | -.430  | .215  | .250  | -1.773 |
| 0  | 161 | -.052  | .092  | .298  | -.321  | 10 | 161 | -.108  | .065  | .210  | -.304  | 58 | 161 | -.174  | .047  | -.005 | -.446  |
| 0  | 168 | -.071  | .088  | .248  | -.360  | 10 | 168 | -.123  | .066  | .181  | -.290  | 58 | 168 | -.169  | .048  | -.005 | -.692  |
| 0  | 360 | -.281  | .036  | -.164 | -.456  | 10 | 360 | -.229  | .033  | -.088 | -.349  | 58 | 360 | -.101  | .058  | .146  | -.519  |
| 0  | 362 | -.274  | .030  | -.164 | -.400  | 10 | 362 | -.230  | .030  | -.100 | -.326  | 58 | 362 | -.112  | .045  | .072  | -.267  |
| 0  | 378 | -.258  | .038  | -.110 | -.403  | 10 | 378 | -.217  | .035  | -.069 | -.343  | 58 | 378 | -.080  | .060  | .198  | -.370  |
| 0  | 562 | -.329  | .041  | -.164 | -.550  | 10 | 562 | -.305  | .040  | -.180 | -.488  | 58 | 562 | -.309  | .070  | -.087 | -.631  |
| 0  | 599 | -.700  | .200  | -.241 | -1.514 | 10 | 599 | -.485  | .180  | -.188 | -.502  | 58 | 599 | -.426  | .190  | -.032 | -1.533 |
| 0  | 762 | -.343  | .070  | -.167 | -.967  | 10 | 762 | -.314  | .049  | -.153 | -.696  | 58 | 762 | -.176  | .043  | -.051 | -.364  |
| 0  | 809 | -.448  | .122  | -.167 | -1.174 | 10 | 809 | -.407  | .091  | -.200 | -.206  | 58 | 809 | -.285  | .086  | -.087 | -.786  |
| 0  | 160 | .201   | .137  | .728  | -.233  | 50 | 160 | .297   | .249  | .377  | -.123  | 60 | 160 | -.465  | .196  | .210  | -1.438 |
| 0  | 161 | -.076  | .079  | .288  | -.300  | 50 | 161 | -.182  | .040  | -.047 | -.380  | 60 | 161 | -.167  | .042  | -.002 | -.407  |
| 0  | 168 | -.080  | .081  | .273  | -.352  | 50 | 168 | -.167  | .038  | -.054 | -.349  | 60 | 168 | -.156  | .038  | -.007 | -.377  |
| 0  | 360 | -.272  | .034  | -.172 | -.378  | 50 | 360 | -.109  | .062  | .282  | -.308  | 60 | 360 | -.105  | .055  | .138  | -.295  |
| 0  | 362 | -.260  | .030  | -.142 | -.374  | 50 | 362 | -.119  | .057  | .095  | -.319  | 60 | 362 | -.117  | .043  | .055  | -.301  |
| 0  | 378 | -.249  | .035  | -.121 | -.400  | 50 | 378 | -.096  | .067  | .220  | -.326  | 60 | 378 | -.074  | .057  | .181  | -.255  |
| 0  | 562 | -.321  | .042  | -.156 | -.485  | 50 | 562 | -.308  | .063  | -.137 | -.579  | 60 | 562 | -.275  | .065  | -.105 | -.556  |
| 0  | 599 | -.660  | .193  | -.260 | -1.675 | 50 | 599 | -.568  | .249  | -.098 | -.764  | 60 | 599 | -.384  | .153  | -.079 | -1.135 |
| 0  | 762 | -.335  | .052  | -.177 | -.606  | 50 | 762 | -.196  | .043  | -.065 | -.346  | 60 | 762 | -.173  | .044  | -.052 | -.399  |
| 0  | 809 | -.432  | .110  | -.172 | -1.107 | 50 | 809 | -.320  | .080  | -.127 | -.694  | 60 | 809 | -.258  | .071  | -.075 | -1.118 |
| 4  | 160 | .191   | .133  | .717  | -.284  | 52 | 160 | .335   | .244  | .343  | -.1424 | 62 | 160 | -.491  | .193  | .156  | -1.652 |
| 4  | 161 | -.088  | .077  | .272  | -.364  | 52 | 161 | .175   | .040  | -.049 | -.380  | 62 | 161 | -.169  | .043  | -.033 | -.402  |
| 4  | 168 | -.091  | .079  | .324  | -.298  | 52 | 168 | .168   | .038  | -.019 | -.350  | 62 | 168 | -.162  | .040  | -.014 | -.480  |
| 4  | 360 | -.261  | .034  | -.151 | -.450  | 52 | 360 | -.103  | .060  | .170  | -.336  | 62 | 360 | -.115  | .059  | .114  | -.376  |
| 4  | 362 | -.252  | .030  | -.149 | -.362  | 52 | 362 | -.110  | .052  | .134  | -.291  | 62 | 362 | -.122  | .041  | .029  | -.289  |
| 4  | 378 | -.241  | .035  | -.094 | -.441  | 52 | 378 | -.089  | .064  | .190  | -.291  | 62 | 378 | -.073  | .060  | .183  | -.296  |
| 4  | 562 | -.320  | .041  | -.180 | -.549  | 52 | 562 | -.313  | .065  | -.143 | -.654  | 62 | 562 | -.264  | .067  | -.078 | -.677  |
| 4  | 599 | -.611  | .192  | -.225 | -1.421 | 52 | 599 | -.518  | .231  | -.099 | -.583  | 62 | 599 | -.388  | .161  | -.042 | -1.098 |
| 4  | 762 | -.332  | .061  | -.150 | -.855  | 52 | 762 | -.192  | .043  | -.056 | -.405  | 62 | 762 | -.168  | .043  | -.031 | -.433  |
| 4  | 809 | -.432  | .104  | -.193 | -1.032 | 52 | 809 | -.317  | .079  | -.147 | -.784  | 62 | 809 | -.253  | .074  | -.063 | -.611  |
| 6  | 160 | .227   | .143  | .817  | -.121  | 54 | 160 | .371   | .239  | .405  | -.1255 | 64 | 160 | -.455  | .180  | .089  | -1.547 |
| 6  | 161 | -.102  | .075  | .238  | -.322  | 54 | 161 | .172   | .044  | -.043 | -.554  | 64 | 161 | -.170  | .045  | -.022 | -.501  |
| 6  | 168 | -.092  | .078  | .314  | -.317  | 54 | 168 | .164   | .041  | -.034 | -.431  | 64 | 168 | -.161  | .041  | -.045 | -.503  |
| 6  | 360 | -.254  | .034  | -.125 | -.429  | 54 | 360 | -.101  | .062  | .161  | -.306  | 64 | 360 | -.106  | .056  | .122  | -.447  |
| 6  | 362 | -.251  | .032  | -.123 | -.363  | 54 | 362 | -.109  | .045  | .094  | -.288  | 64 | 362 | -.122  | .043  | .078  | -.272  |
| 6  | 378 | -.235  | .036  | -.087 | -.396  | 54 | 378 | -.078  | .065  | .321  | -.330  | 64 | 378 | -.065  | .058  | .189  | -.270  |
| 6  | 562 | -.323  | .043  | -.191 | -.497  | 54 | 562 | -.309  | .066  | -.091 | -.676  | 64 | 562 | -.242  | .061  | -.057 | -.509  |
| 6  | 599 | -.611  | .219  | -.225 | -1.797 | 54 | 599 | -.481  | .204  | -.120 | -.935  | 64 | 599 | -.384  | .181  | -.053 | -1.476 |
| 6  | 762 | -.331  | .050  | -.186 | -.551  | 54 | 762 | -.183  | .046  | -.030 | -.418  | 64 | 762 | -.162  | .038  | -.030 | -.369  |
| 6  | 809 | -.435  | .108  | -.188 | -1.301 | 54 | 809 | -.306  | .088  | -.123 | -.942  | 64 | 809 | -.245  | .069  | -.043 | -.748  |
| 8  | 160 | .242   | .133  | .739  | -.116  | 56 | 160 | .411   | .218  | .315  | -.1349 | 66 | 160 | -.447  | .177  | .104  | -.535  |
| 8  | 161 | -.100  | .075  | .237  | -.327  | 56 | 161 | .171   | .042  | -.028 | -.418  | 66 | 161 | -.162  | .038  | -.005 | -.587  |
| 8  | 168 | -.102  | .068  | .265  | -.301  | 56 | 168 | .163   | .042  | -.002 | -.443  | 66 | 168 | -.153  | .033  | -.026 | -.371  |
| 8  | 360 | -.240  | .033  | -.095 | -.398  | 56 | 360 | -.102  | .057  | .192  | -.303  | 66 | 360 | -.109  | .055  | .266  | -.373  |
| 8  | 362 | -.238  | .030  | -.125 | -.345  | 56 | 362 | -.114  | .046  | .072  | -.294  | 66 | 362 | -.109  | .043  | .091  | -.255  |
| 8  | 378 | -.226  | .033  | -.116 | -.344  | 56 | 378 | -.074  | .061  | .228  | -.298  | 66 | 378 | -.063  | .053  | .153  | -.310  |
| 8  | 562 | -.311  | .039  | -.178 | -.456  | 56 | 562 | -.307  | .068  | -.103 | -.649  | 66 | 562 | -.208  | .051  | -.048 | -.501  |
| 8  | 599 | -.568  | .201  | -.218 | -1.527 | 56 | 599 | -.445  | .184  | -.079 | -.550  | 66 | 599 | -.315  | .138  | -.033 | -.160  |
| 8  | 762 | -.321  | .050  | -.178 | -.699  | 56 | 762 | -.178  | .044  | -.005 | -.465  | 66 | 762 | -.159  | .038  | -.037 | -.358  |
| 8  | 809 | -.415  | .097  | -.191 | -1.192 | 56 | 809 | -.288  | .080  | -.119 | -.107  | 66 | 809 | -.225  | .064  | -.074 | -.543  |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 68  | 160 | -.428  | .163  | -.000 | -1.213  | 116 | 160 | -.234  | .053  | -.025 | -.489   | 126 | 160 | -.272  | .055  | -.057 | -.474   |
| 68  | 161 | -.160  | .035  | -.033 | -.410   | 116 | 161 | -.337  | .052  | -.153 | -.614   | 126 | 161 | -.421  | .059  | -.175 | -.669   |
| 68  | 168 | -.154  | .036  | -.037 | -.327   | 116 | 168 | -.324  | .050  | -.132 | -.601   | 126 | 168 | -.417  | .060  | -.156 | -.619   |
| 68  | 360 | -.105  | .056  | .113  | -.314   | 116 | 360 | -.183  | .191  | -.628 | -.124   | 126 | 360 | -.215  | .250  | .388  | -.1.501 |
| 68  | 362 | -.104  | .041  | .068  | -.269   | 116 | 362 | -.290  | .223  | -.367 | -.1.438 | 126 | 362 | -.544  | .296  | .218  | -.2.103 |
| 68  | 378 | -.057  | .053  | .227  | -.320   | 116 | 378 | -.226  | .128  | -.145 | -.1.007 | 126 | 378 | -.275  | .158  | .210  | -.973   |
| 68  | 562 | -.187  | .043  | -.029 | -.422   | 116 | 562 | -.170  | .066  | -.130 | -.349   | 126 | 562 | -.205  | .076  | .134  | -.447   |
| 68  | 599 | -.283  | .134  | -.051 | -1.192  | 116 | 599 | -.099  | .044  | -.088 | -.315   | 126 | 599 | -.137  | .055  | .176  | -.528   |
| 68  | 762 | -.156  | .033  | -.045 | -.305   | 116 | 762 | -.387  | .082  | -.171 | -.880   | 126 | 762 | -.484  | .089  | -.227 | -.954   |
| 68  | 809 | -.210  | .059  | -.071 | -.516   | 116 | 809 | -.192  | .065  | -.057 | -.876   | 126 | 809 | -.253  | .067  | .031  | -.946   |
| 70  | 160 | -.418  | .161  | -.063 | -1.655  | 118 | 160 | -.228  | .049  | -.030 | -.526   | 128 | 160 | -.236  | .060  | -.004 | -.440   |
| 70  | 161 | -.163  | .038  | -.025 | -.363   | 118 | 161 | -.351  | .050  | -.184 | -.565   | 128 | 161 | -.420  | .058  | -.214 | -.679   |
| 70  | 168 | -.155  | .036  | -.047 | -.438   | 118 | 168 | -.336  | .049  | -.179 | -.547   | 128 | 168 | -.410  | .063  | -.165 | -.656   |
| 70  | 360 | -.107  | .057  | .133  | -.307   | 118 | 360 | -.172  | .196  | -.473 | -.1.104 | 128 | 360 | -.171  | .274  | .502  | -.1.529 |
| 70  | 362 | -.101  | .044  | .080  | -.394   | 118 | 362 | -.310  | .235  | -.437 | -.1.884 | 128 | 362 | -.402  | .294  | .376  | -.2.082 |
| 70  | 378 | -.053  | .051  | .198  | -.258   | 118 | 378 | -.214  | .125  | -.158 | -.909   | 128 | 378 | -.192  | .164  | .251  | -.1.145 |
| 70  | 562 | -.175  | .041  | -.000 | -.402   | 118 | 562 | -.170  | .042  | -.164 | -.385   | 128 | 562 | -.182  | .077  | .157  | -.465   |
| 70  | 599 | -.268  | .129  | -.019 | -1.039  | 118 | 599 | -.098  | .043  | -.069 | -.312   | 128 | 599 | -.095  | .057  | .196  | -.373   |
| 70  | 762 | -.157  | .034  | -.057 | -.279   | 118 | 762 | -.398  | .083  | -.172 | -.942   | 128 | 762 | -.487  | .092  | -.252 | -.949   |
| 70  | 809 | -.198  | .056  | -.059 | -.603   | 118 | 809 | -.186  | .048  | -.065 | -.615   | 128 | 809 | -.254  | .105  | -.039 | -.1.363 |
| 110 | 160 | -.277  | .092  | -.030 | -.894   | 120 | 160 | -.269  | .058  | -.070 | -.655   | 130 | 160 | -.251  | .048  | -.072 | -.466   |
| 110 | 161 | -.321  | .054  | -.130 | -.688   | 120 | 161 | -.371  | .051  | -.178 | -.612   | 130 | 161 | -.405  | .055  | -.208 | -.666   |
| 110 | 168 | -.315  | .056  | -.116 | -.663   | 120 | 168 | -.364  | .057  | -.117 | -.610   | 130 | 168 | -.400  | .057  | -.210 | -.630   |
| 110 | 360 | -.065  | .173  | .480  | -.227   | 120 | 360 | -.012  | .219  | -.610 | -.1.275 | 130 | 360 | -.109  | .217  | .503  | -.1.215 |
| 110 | 362 | -.171  | .211  | .564  | -.1.211 | 120 | 362 | -.353  | .299  | -.386 | -.1.673 | 130 | 362 | -.383  | .261  | .401  | -.1.667 |
| 110 | 378 | -.172  | .129  | .244  | -.856   | 120 | 378 | -.192  | .160  | -.244 | -.987   | 130 | 378 | -.193  | .147  | .408  | -.912   |
| 110 | 562 | -.164  | .061  | .080  | -.365   | 120 | 562 | -.175  | .058  | -.129 | -.412   | 130 | 562 | -.218  | .059  | .193  | -.442   |
| 110 | 599 | -.082  | .048  | .133  | -.407   | 120 | 599 | -.075  | .051  | -.205 | -.359   | 130 | 599 | -.101  | .050  | .101  | -.321   |
| 110 | 762 | -.370  | .087  | -.066 | -.803   | 120 | 762 | -.134  | .079  | -.225 | -.853   | 130 | 762 | -.450  | .094  | -.214 | -.889   |
| 110 | 809 | -.246  | .120  | -.017 | -.1.105 | 120 | 809 | -.294  | .125  | -.025 | -.1.055 | 130 | 809 | -.242  | .061  | -.019 | -.881   |
| 112 | 160 | -.261  | .071  | -.071 | -.887   | 122 | 160 | -.263  | .053  | -.041 | -.446   | 132 | 160 | -.256  | .051  | -.055 | -.550   |
| 112 | 161 | -.322  | .051  | -.151 | -.569   | 122 | 161 | -.395  | .058  | -.197 | -.604   | 132 | 161 | -.421  | .058  | -.217 | -.661   |
| 112 | 168 | -.310  | .053  | -.103 | -.537   | 122 | 168 | -.401  | .056  | -.117 | -.631   | 132 | 168 | -.407  | .056  | -.251 | -.649   |
| 112 | 360 | -.105  | .178  | .532  | -.948   | 122 | 360 | -.039  | .224  | -.613 | -.958   | 132 | 360 | -.148  | .241  | .474  | -.1.236 |
| 112 | 362 | -.234  | .200  | .287  | -.1.188 | 122 | 362 | -.415  | .289  | -.361 | -.1.683 | 132 | 362 | -.394  | .263  | .461  | -.1.595 |
| 112 | 378 | -.202  | .127  | .130  | -.783   | 122 | 378 | -.184  | .169  | -.254 | -.955   | 132 | 378 | -.176  | .135  | .268  | -.817   |
| 112 | 562 | -.167  | .062  | .198  | -.405   | 122 | 562 | -.206  | .061  | -.086 | -.428   | 132 | 562 | -.224  | .066  | .149  | -.464   |
| 112 | 599 | -.095  | .044  | .080  | -.368   | 122 | 599 | -.109  | .053  | -.112 | -.465   | 132 | 599 | -.113  | .053  | .110  | -.479   |
| 112 | 762 | -.378  | .089  | -.138 | -.921   | 122 | 762 | -.456  | .086  | -.198 | -.928   | 132 | 762 | -.464  | .095  | -.230 | -.941   |
| 112 | 809 | -.215  | .082  | -.029 | -.817   | 122 | 809 | -.292  | .098  | -.069 | -.982   | 132 | 809 | -.232  | .043  | -.066 | -.601   |
| 114 | 160 | -.242  | .058  | -.028 | -.585   | 124 | 160 | -.240  | .052  | -.030 | -.429   | 134 | 160 | -.254  | .051  | -.075 | -.439   |
| 114 | 161 | -.326  | .051  | -.135 | -.582   | 124 | 161 | -.387  | .057  | -.218 | -.637   | 134 | 161 | -.433  | .059  | -.283 | -.670   |
| 114 | 168 | -.317  | .053  | -.121 | -.617   | 124 | 168 | -.381  | .057  | -.165 | -.603   | 134 | 168 | -.409  | .059  | -.191 | -.640   |
| 114 | 360 | -.162  | .175  | .511  | -.1.450 | 124 | 360 | -.072  | .224  | -.660 | -.1.075 | 134 | 360 | -.284  | .290  | .436  | -.1.486 |
| 114 | 362 | -.273  | .210  | .331  | -.1.813 | 124 | 362 | -.365  | .275  | -.456 | -.1.681 | 134 | 362 | -.442  | .296  | .319  | -.1.794 |
| 114 | 378 | -.216  | .124  | .162  | -.880   | 124 | 378 | -.167  | .143  | -.258 | -.1.117 | 134 | 378 | -.206  | .128  | .241  | -.926   |
| 114 | 562 | -.164  | .070  | .173  | -.419   | 124 | 562 | -.195  | .069  | -.083 | -.413   | 134 | 562 | -.210  | .075  | .207  | -.483   |
| 114 | 599 | -.097  | .046  | .101  | -.323   | 124 | 599 | -.092  | .058  | -.125 | -.488   | 134 | 599 | -.103  | .058  | .167  | -.433   |
| 114 | 762 | -.385  | .085  | -.113 | -.871   | 124 | 762 | -.452  | .082  | -.251 | -.890   | 134 | 762 | -.467  | .093  | -.210 | -.853   |
| 114 | 809 | -.205  | .079  | .046  | -.911   | 124 | 809 | -.250  | .087  | -.029 | -.889   | 134 | 809 | -.228  | .041  | -.077 | -.694   |

| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 136 | 160 | -.258  | .057  | -.011 | -.610  | 146 | 160 | -.346  | .083  | -.101 | -.788  | 156 | 160 | -.379  | .117  | .024  | -.836  |
| 136 | 161 | -.432  | .061  | -.257 | -.681  | 146 | 161 | -.448  | .083  | -.178 | -.779  | 156 | 161 | -.457  | .109  | -.131 | -.922  |
| 136 | 168 | -.430  | .063  | -.244 | -.690  | 146 | 168 | -.415  | .077  | -.120 | -.735  | 156 | 168 | -.451  | .106  | -.134 | -.895  |
| 136 | 360 | -.392  | .324  | .383  | -.1818 | 146 | 360 | -.635  | .292  | -.061 | -.2091 | 156 | 360 | -.568  | .188  | -.215 | -.1871 |
| 136 | 362 | -.570  | .321  | .264  | -.1780 | 146 | 362 | -.715  | .279  | -.111 | -.2064 | 156 | 362 | -.573  | .150  | -.215 | -.436  |
| 136 | 378 | -.240  | .135  | .259  | -.876  | 146 | 378 | -.397  | .145  | -.025 | -.1942 | 156 | 378 | -.606  | .219  | -.053 | -.950  |
| 136 | 562 | -.185  | .090  | .175  | -.576  | 146 | 562 | -.144  | .130  | -.377 | -.452  | 156 | 562 | -.039  | .135  | -.495 | -.453  |
| 136 | 599 | -.115  | .046  | .076  | -.361  | 146 | 599 | -.170  | .060  | -.042 | -.422  | 156 | 599 | -.242  | .085  | -.012 | -.644  |
| 136 | 762 | -.469  | .094  | -.249 | -.102  | 146 | 762 | -.494  | .134  | -.119 | -.1243 | 156 | 762 | -.547  | .187  | -.105 | -.579  |
| 136 | 809 | -.231  | .039  | -.060 | -.356  | 146 | 809 | -.195  | .056  | -.160 | -.552  | 156 | 809 | -.211  | .120  | -.314 | -.617  |
| 138 | 160 | -.261  | .062  | -.043 | -.569  | 148 | 160 | -.331  | .086  | -.052 | -.785  | 158 | 160 | -.376  | .115  | -.064 | -.004  |
| 138 | 161 | -.438  | .064  | -.253 | -.741  | 148 | 161 | -.452  | .089  | -.138 | -.820  | 158 | 161 | -.417  | .105  | -.128 | -.802  |
| 138 | 168 | -.433  | .064  | -.244 | -.730  | 148 | 168 | -.426  | .087  | -.170 | -.829  | 158 | 168 | -.419  | .099  | -.017 | -.826  |
| 138 | 360 | -.505  | .345  | .379  | -.1994 | 148 | 360 | -.733  | .302  | -.090 | -.2375 | 158 | 360 | -.566  | .178  | -.088 | -.1796 |
| 138 | 362 | -.649  | .333  | .188  | -.2149 | 148 | 362 | -.778  | .261  | -.100 | -.2086 | 158 | 362 | -.552  | .145  | -.211 | -.506  |
| 138 | 378 | -.288  | .160  | .286  | -.199  | 148 | 378 | -.421  | .160  | -.010 | -.505  | 158 | 378 | -.619  | .215  | -.045 | -.1909 |
| 138 | 562 | -.165  | .087  | .243  | -.465  | 148 | 562 | -.128  | .130  | -.643 | -.527  | 158 | 562 | -.068  | .131  | -.584 | -.493  |
| 138 | 599 | -.122  | .048  | -.063 | -.367  | 148 | 599 | -.181  | .062  | -.133 | -.539  | 158 | 599 | -.239  | .087  | -.058 | -.618  |
| 138 | 762 | -.498  | .101  | -.226 | -.1055 | 148 | 762 | -.513  | .143  | -.158 | -.596  | 158 | 762 | -.525  | .181  | -.099 | -.1563 |
| 138 | 809 | -.217  | .044  | -.066 | -.398  | 148 | 809 | -.195  | .052  | -.027 | -.499  | 158 | 809 | -.228  | .129  | -.099 | -.1730 |
| 140 | 160 | -.306  | .085  | -.080 | -.715  | 150 | 160 | -.362  | .104  | -.013 | -.962  | 160 | 160 | -.374  | .110  | -.010 | -.869  |
| 140 | 161 | -.431  | .068  | -.183 | -.809  | 150 | 161 | -.471  | .100  | -.123 | -.1029 | 160 | 161 | -.421  | .100  | -.117 | -.804  |
| 140 | 168 | -.423  | .071  | -.176 | -.823  | 150 | 168 | -.472  | .098  | -.184 | -.147  | 160 | 168 | -.411  | .098  | -.108 | -.953  |
| 140 | 360 | -.432  | .295  | .343  | -.1727 | 150 | 360 | -.612  | .213  | -.036 | -.1979 | 160 | 360 | -.531  | .148  | -.106 | -.1557 |
| 140 | 362 | -.493  | .205  | .045  | -.1421 | 150 | 362 | -.608  | .182  | -.135 | -.2037 | 160 | 362 | -.516  | .120  | -.215 | -.1298 |
| 140 | 378 | -.321  | .138  | .097  | -.1137 | 150 | 378 | -.570  | .254  | -.231 | -.2371 | 160 | 378 | -.605  | .200  | -.074 | -.880  |
| 140 | 562 | -.183  | .125  | .491  | -.553  | 150 | 562 | -.046  | .135  | -.199 | -.526  | 160 | 562 | -.079  | .123  | -.338 | -.514  |
| 140 | 599 | -.135  | .060  | -.116 | -.419  | 150 | 599 | -.184  | .080  | -.118 | -.561  | 160 | 599 | -.263  | .086  | -.117 | -.629  |
| 140 | 762 | -.473  | .113  | -.151 | -.1069 | 150 | 762 | -.532  | .150  | -.175 | -.1309 | 160 | 762 | -.515  | .180  | -.087 | -.395  |
| 140 | 809 | -.210  | .055  | -.137 | -.472  | 150 | 809 | -.177  | .070  | -.161 | -.676  | 160 | 809 | -.233  | .113  | -.185 | -.602  |
| 142 | 160 | -.314  | .072  | -.069 | -.709  | 152 | 160 | -.369  | .108  | -.066 | -.1004 | 210 | 160 | -.331  | .066  | -.112 | -.627  |
| 142 | 161 | -.421  | .066  | -.187 | -.674  | 152 | 161 | -.472  | .105  | -.140 | -.967  | 210 | 161 | -.295  | .108  | -.101 | -.222  |
| 142 | 168 | -.416  | .073  | -.159 | -.723  | 152 | 168 | -.473  | .098  | -.142 | -.851  | 210 | 168 | -.286  | .073  | -.108 | -.718  |
| 142 | 360 | -.432  | .265  | -.201 | -.715  | 152 | 360 | -.586  | .183  | -.181 | -.771  | 210 | 360 | -.343  | .094  | -.124 | -.961  |
| 142 | 362 | -.537  | .225  | .156  | -.1545 | 152 | 362 | -.604  | .163  | -.183 | -.1579 | 210 | 362 | -.302  | .054  | -.151 | -.577  |
| 142 | 378 | -.328  | .145  | .119  | -.1363 | 152 | 378 | -.620  | .245  | -.010 | -.291  | 210 | 378 | -.358  | .089  | -.161 | -.972  |
| 142 | 562 | -.180  | .131  | .519  | -.561  | 152 | 562 | -.033  | .124  | -.402 | -.472  | 210 | 562 | -.094  | .208  | -.571 | -.514  |
| 142 | 599 | -.156  | .062  | -.039 | -.465  | 152 | 599 | -.201  | .086  | -.113 | -.613  | 210 | 599 | -.202  | .042  | -.083 | -.458  |
| 142 | 762 | -.472  | .115  | -.148 | -.1048 | 152 | 762 | -.556  | .172  | -.132 | -.616  | 210 | 762 | -.169  | .062  | -.127 | -.430  |
| 142 | 809 | -.206  | .058  | -.133 | -.623  | 152 | 809 | -.170  | .067  | -.192 | -.444  | 210 | 809 | -.116  | .036  | -.073 | -.229  |
| 144 | 160 | -.332  | .086  | -.100 | -.912  | 154 | 160 | -.363  | .105  | -.008 | -.851  | 212 | 160 | -.346  | .067  | -.004 | -.764  |
| 144 | 161 | -.423  | .081  | -.128 | -.767  | 154 | 161 | -.473  | .117  | -.140 | -.064  | 212 | 161 | -.320  | .110  | -.091 | -.026  |
| 144 | 168 | -.410  | .076  | -.162 | -.740  | 154 | 168 | -.459  | .106  | -.117 | -.900  | 212 | 168 | -.290  | .083  | -.100 | -.808  |
| 144 | 360 | -.523  | .280  | .261  | -.1969 | 154 | 360 | -.583  | .198  | -.134 | -.697  | 212 | 360 | -.340  | .092  | -.153 | -.876  |
| 144 | 362 | -.571  | .228  | .016  | -.1547 | 154 | 362 | -.588  | .160  | -.225 | -.381  | 212 | 362 | -.303  | .055  | -.126 | -.595  |
| 144 | 378 | -.348  | .140  | .036  | -.1355 | 154 | 378 | -.591  | .232  | -.025 | -.472  | 212 | 378 | -.355  | .086  | -.164 | -.043  |
| 144 | 562 | -.173  | .126  | .370  | -.564  | 154 | 562 | -.042  | .133  | -.456 | -.534  | 212 | 562 | -.111  | .211  | -.513 | -.647  |
| 144 | 599 | -.156  | .067  | .065  | -.530  | 154 | 599 | -.235  | .094  | -.011 | -.729  | 212 | 599 | -.209  | .044  | -.020 | -.399  |
| 144 | 762 | -.468  | .126  | -.104 | -.171  | 154 | 762 | -.531  | .174  | -.111 | -.586  | 212 | 762 | -.175  | .069  | -.138 | -.455  |
| 144 | 809 | -.199  | .056  | .174  | -.553  | 154 | 809 | -.186  | .092  | -.251 | -.177  | 212 | 809 | -.118  | .040  | -.112 | -.253  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|--------|
| 214 | 160 | -.337  | .070  | -.163 | -.734  | 224 | 160 | -.329  | .066  | -.165 | -.600  | 262 | 160 | -.269  | .078  | .066  | -.691  |
| 214 | 161 | -.335  | .127  | -.103 | -1.436 | 224 | 161 | -.363  | .138  | -.133 | -1.146 | 262 | 161 | -.486  | .225  | -.058 | -1.789 |
| 214 | 168 | -.321  | .090  | -.117 | -.833  | 224 | 168 | -.358  | .108  | -.103 | -1.166 | 262 | 168 | -.468  | .227  | -.067 | -2.148 |
| 214 | 360 | -.329  | .080  | -.138 | -.746  | 224 | 360 | -.290  | .061  | -.144 | -.775  | 262 | 360 | -.341  | .067  | -.136 | -.628  |
| 214 | 362 | -.301  | .053  | -.161 | -.552  | 224 | 362 | -.273  | .045  | -.157 | -.435  | 262 | 362 | -.335  | .059  | -.168 | -.561  |
| 214 | 378 | -.342  | .081  | -.136 | -.845  | 224 | 378 | -.303  | .061  | -.162 | -.759  | 262 | 378 | -.269  | .043  | -.125 | -.507  |
| 214 | 562 | -.162  | .267  | -.592 | -1.728 | 224 | 562 | -.432  | .346  | .616  | -.214  | 262 | 562 | -.435  | .120  | -.137 | -1.341 |
| 214 | 599 | -.207  | .044  | -.055 | -.394  | 224 | 599 | -.218  | .040  | -.086 | -.394  | 262 | 599 | -.218  | .040  | -.058 | -.371  |
| 214 | 762 | -.161  | .069  | .121  | -.463  | 224 | 762 | -.123  | .071  | .164  | -.478  | 262 | 762 | -.097  | .107  | .452  | -.536  |
| 214 | 809 | -.115  | .039  | .042  | -.247  | 224 | 809 | -.099  | .044  | .155  | -.238  | 262 | 809 | -.093  | .050  | .135  | -.266  |
| 216 | 160 | -.339  | .068  | -.184 | -.674  | 226 | 160 | -.333  | .065  | -.180 | -.694  | 264 | 160 | -.271  | .075  | .002  | -.696  |
| 216 | 161 | -.337  | .135  | -.083 | -1.144 | 226 | 161 | -.363  | .139  | -.122 | -1.214 | 264 | 161 | -.494  | .230  | .032  | -2.095 |
| 216 | 168 | -.329  | .110  | -.126 | -1.016 | 226 | 168 | -.343  | .109  | -.125 | -1.170 | 264 | 168 | -.524  | .264  | -.092 | -2.449 |
| 216 | 360 | -.314  | .080  | -.127 | -.834  | 226 | 360 | -.290  | .061  | -.128 | -.728  | 264 | 360 | -.359  | .070  | -.175 | -.703  |
| 216 | 362 | -.294  | .048  | -.145 | -.478  | 226 | 362 | -.279  | .043  | -.133 | -.480  | 264 | 362 | -.335  | .057  | -.143 | -.561  |
| 216 | 378 | -.335  | .078  | -.171 | -.667  | 226 | 378 | -.303  | .057  | -.179 | -.626  | 264 | 378 | -.272  | .044  | -.136 | -.560  |
| 216 | 562 | -.206  | .284  | .611  | -2.056 | 226 | 562 | -.480  | .319  | .471  | -2.140 | 264 | 562 | -.449  | .128  | -.188 | -1.375 |
| 216 | 599 | -.206  | .044  | -.026 | -.406  | 226 | 599 | -.222  | .040  | -.071 | -.408  | 264 | 599 | -.220  | .040  | -.051 | -.360  |
| 216 | 762 | -.152  | .070  | .191  | -.456  | 226 | 762 | -.128  | .073  | .184  | -.434  | 264 | 762 | -.096  | .120  | .449  | -.546  |
| 216 | 809 | -.110  | .039  | .057  | -.240  | 226 | 809 | -.097  | .042  | .090  | -.241  | 264 | 809 | -.091  | .052  | .170  | -.297  |
| 218 | 160 | -.341  | .076  | -.142 | -.695  | 228 | 160 | -.337  | .073  | -.158 | -.730  | 266 | 160 | -.256  | .064  | .029  | -.610  |
| 218 | 161 | -.354  | .134  | -.095 | -1.279 | 228 | 161 | -.381  | .152  | .126  | -1.401 | 266 | 161 | -.556  | .252  | .094  | -1.912 |
| 218 | 168 | -.303  | .090  | -.120 | -.961  | 228 | 168 | -.343  | .107  | .130  | -.956  | 266 | 168 | -.624  | .315  | -.054 | -2.528 |
| 218 | 360 | -.324  | .081  | -.126 | -.714  | 228 | 360 | -.285  | .058  | -.138 | -.557  | 266 | 360 | -.372  | .067  | -.170 | -.672  |
| 218 | 362 | -.292  | .046  | -.155 | -.507  | 228 | 362 | -.273  | .044  | .140  | -.484  | 266 | 362 | -.349  | .058  | -.188 | -.581  |
| 218 | 378 | -.344  | .083  | -.157 | -.166  | 228 | 378 | -.296  | .058  | -.106 | -.652  | 266 | 378 | -.263  | .046  | -.107 | -.459  |
| 218 | 562 | -.259  | .290  | -.539 | -1.566 | 228 | 562 | -.503  | .320  | .473  | -2.432 | 266 | 562 | -.461  | .139  | -.166 | -1.331 |
| 218 | 599 | -.214  | .044  | -.050 | -.414  | 228 | 599 | -.219  | .039  | -.028 | -.378  | 266 | 599 | -.207  | .036  | -.040 | -.329  |
| 218 | 762 | -.149  | .072  | .134  | -.413  | 228 | 762 | -.116  | .077  | .361  | -.448  | 266 | 762 | -.083  | .133  | .514  | -.610  |
| 218 | 809 | -.104  | .040  | -.107 | -.262  | 228 | 809 | -.088  | .043  | .097  | -.217  | 266 | 809 | -.086  | .051  | .153  | -.312  |
| 220 | 160 | -.331  | .064  | -.159 | -.663  | 230 | 160 | -.333  | .066  | -.159 | -.679  | 268 | 160 | -.255  | .061  | -.043 | -.585  |
| 220 | 161 | -.341  | .131  | -.126 | -1.643 | 230 | 161 | -.360  | .150  | -.120 | -1.661 | 268 | 161 | -.655  | .284  | .225  | -2.241 |
| 220 | 168 | -.314  | .089  | -.106 | -.877  | 230 | 168 | -.331  | .104  | -.125 | -.964  | 268 | 168 | -.704  | .342  | -.088 | -2.535 |
| 220 | 360 | -.317  | .075  | -.141 | -.733  | 230 | 360 | -.277  | .055  | .160  | -.577  | 268 | 360 | -.389  | .062  | -.194 | -.621  |
| 220 | 362 | -.286  | .047  | -.170 | -.630  | 230 | 362 | -.260  | .040  | -.153 | -.402  | 268 | 362 | -.395  | .061  | -.217 | -.633  |
| 220 | 378 | -.333  | .072  | -.151 | -.749  | 230 | 378 | -.290  | .055  | -.114 | -.528  | 268 | 378 | -.262  | .053  | -.107 | -.607  |
| 220 | 562 | -.322  | .338  | -.716 | -2.234 | 230 | 562 | -.490  | .271  | .458  | -1.848 | 268 | 562 | -.468  | .141  | -.157 | -1.630 |
| 220 | 599 | -.211  | .044  | -.085 | -.405  | 230 | 599 | -.211  | .038  | -.053 | -.399  | 268 | 599 | -.204  | .035  | -.051 | -.349  |
| 220 | 762 | -.130  | .071  | .155  | -.436  | 230 | 762 | -.099  | .075  | .195  | -.329  | 268 | 762 | -.062  | .135  | .551  | -.502  |
| 220 | 809 | -.095  | .047  | .198  | -.253  | 230 | 809 | -.089  | .042  | .160  | -.249  | 268 | 809 | -.079  | .050  | .200  | -.288  |
| 222 | 160 | -.329  | .061  | -.146 | -.599  | 260 | 160 | -.276  | .083  | .053  | -.735  | 270 | 160 | -.253  | .058  | -.047 | -.509  |
| 222 | 161 | -.343  | .125  | -.053 | -1.447 | 260 | 161 | -.393  | .174  | -.024 | -2.078 | 270 | 161 | -.611  | .269  | .194  | -1.962 |
| 222 | 168 | -.312  | .101  | -.123 | -.819  | 260 | 168 | -.399  | .190  | -.059 | -.387  | 270 | 168 | -.751  | .347  | .060  | -2.379 |
| 222 | 360 | -.294  | .064  | -.124 | -.767  | 260 | 360 | -.330  | .065  | -.142 | -.591  | 270 | 360 | -.398  | .065  | -.181 | -.621  |
| 222 | 362 | -.280  | .044  | -.150 | -.479  | 260 | 362 | -.318  | .061  | -.172 | -.578  | 270 | 362 | -.382  | .058  | -.224 | -.610  |
| 222 | 378 | -.309  | .065  | -.158 | -.875  | 260 | 378 | -.282  | .042  | -.168 | -.475  | 270 | 378 | -.256  | .054  | -.068 | -.558  |
| 222 | 562 | -.330  | .320  | -.414 | -2.002 | 260 | 562 | -.447  | .129  | -.166 | -.786  | 270 | 562 | -.458  | .132  | -.184 | -1.533 |
| 222 | 599 | -.216  | .039  | -.076 | -.461  | 260 | 599 | -.232  | .040  | -.038 | -.422  | 270 | 599 | -.199  | .034  | -.032 | -.405  |
| 222 | 762 | -.133  | .071  | .172  | -.409  | 260 | 762 | -.102  | .099  | .338  | -.454  | 270 | 762 | -.043  | .137  | .476  | -.428  |
| 222 | 809 | -.098  | .041  | .090  | -.239  | 260 | 809 | -.095  | .052  | .191  | -.260  | 270 | 809 | -.068  | .050  | .264  | -.274  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA.

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|--------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 272 | 160 | -.254  | .057  | -.054 | -.507  | 282 | 160 | -.277  | .062  | -.035 | -.554   | 310 | 160 | -.120  | .085  | .245  | -.439   |
| 272 | 161 | -.647  | .284  | .251  | -.827  | 282 | 161 | -.484  | .245  | .429  | -.1.697 | 310 | 161 | .015   | .130  | .627  | -.448   |
| 272 | 168 | -.799  | .372  | .042  | -2.330 | 282 | 168 | -.549  | .321  | .314  | -2.121  | 310 | 168 | -.030  | .104  | .515  | -.465   |
| 272 | 360 | -.413  | .058  | -.226 | -.652  | 282 | 360 | -.403  | .061  | -.227 | -.650   | 310 | 360 | -.384  | .066  | -.236 | -.695   |
| 272 | 362 | -.409  | .057  | -.247 | -.633  | 282 | 362 | -.386  | .061  | -.216 | -.609   | 310 | 362 | -.392  | .066  | -.229 | -.654   |
| 272 | 378 | -.250  | .061  | -.057 | -.627  | 282 | 378 | -.226  | .055  | -.027 | -.664   | 310 | 378 | -.241  | .065  | -.039 | -.599   |
| 272 | 562 | -.451  | .123  | -.160 | -1.317 | 282 | 562 | -.420  | .109  | -.164 | -1.216  | 310 | 562 | -.260  | .060  | -.101 | -.681   |
| 272 | 599 | -.194  | .035  | -.062 | -.342  | 282 | 599 | -.187  | .034  | -.039 | -.332   | 310 | 599 | -.166  | .043  | -.008 | -.446   |
| 272 | 762 | -.026  | .133  | .511  | -.471  | 282 | 762 | -.009  | .113  | .445  | -.368   | 310 | 762 | -.472  | .303  | .288  | -2.568  |
| 272 | 809 | -.059  | .045  | .192  | -.265  | 282 | 809 | -.066  | .057  | .115  | -.476   | 310 | 809 | -.159  | .061  | .036  | -.483   |
| 274 | 160 | -.260  | .055  | -.071 | -.513  | 284 | 160 | -.282  | .058  | -.052 | -.538   | 312 | 160 | -.115  | .083  | .307  | -.640   |
| 274 | 161 | -.606  | .275  | .425  | -1.788 | 284 | 161 | -.441  | .245  | .460  | -.1.657 | 312 | 161 | .046   | .137  | .613  | -.535   |
| 274 | 168 | -.820  | .392  | .427  | -2.657 | 284 | 168 | -.442  | .300  | .279  | -2.098  | 312 | 168 | .018   | .118  | .509  | -.366   |
| 274 | 360 | -.419  | .060  | -.218 | -.654  | 284 | 360 | -.395  | .056  | -.199 | -.679   | 312 | 360 | -.399  | .064  | -.226 | -.629   |
| 274 | 362 | -.397  | .059  | -.227 | -.716  | 284 | 362 | -.389  | .058  | -.235 | -.638   | 312 | 362 | -.402  | .068  | -.216 | -.736   |
| 274 | 378 | -.244  | .058  | -.055 | -.610  | 284 | 378 | -.229  | .048  | -.038 | -.510   | 312 | 378 | -.251  | .066  | -.049 | -.538   |
| 274 | 562 | -.459  | .129  | -.182 | -1.067 | 284 | 562 | -.396  | .098  | -.136 | -.940   | 312 | 562 | -.259  | .061  | -.069 | -.683   |
| 274 | 599 | -.189  | .035  | -.019 | -.303  | 284 | 599 | -.191  | .035  | -.024 | -.373   | 312 | 599 | -.176  | .062  | -.012 | -.735   |
| 274 | 762 | -.013  | .130  | .591  | -.405  | 284 | 762 | -.010  | .108  | .457  | -.359   | 312 | 762 | .541   | .334  | .341  | -2.420  |
| 274 | 809 | -.049  | .043  | .113  | -.299  | 284 | 809 | -.075  | .057  | .108  | -.532   | 312 | 809 | -.170  | .059  | -.029 | -.602   |
| 276 | 160 | -.266  | .057  | -.071 | -.567  | 286 | 160 | -.280  | .063  | -.045 | -.557   | 314 | 160 | -.108  | .090  | .250  | -.556   |
| 276 | 161 | -.632  | .287  | .269  | -1.638 | 286 | 161 | -.357  | .212  | .447  | -.1.442 | 314 | 161 | .045   | .151  | .622  | -.584   |
| 276 | 168 | -.868  | .421  | .362  | -2.655 | 286 | 168 | -.362  | .264  | .490  | -.1.833 | 314 | 168 | -.007  | .116  | .520  | -.365   |
| 276 | 360 | -.419  | .061  | -.258 | -.747  | 286 | 360 | -.394  | .056  | -.232 | -.638   | 314 | 360 | -.407  | .070  | -.186 | -.779   |
| 276 | 362 | -.414  | .059  | -.221 | -.657  | 286 | 362 | -.379  | .053  | -.229 | -.601   | 314 | 362 | -.412  | .071  | -.244 | -.714   |
| 276 | 378 | -.234  | .056  | -.042 | -.659  | 286 | 378 | -.229  | .047  | -.060 | -.471   | 314 | 378 | -.265  | .025  | -.035 | -.644   |
| 276 | 562 | -.465  | .130  | -.187 | -1.412 | 286 | 562 | -.380  | .086  | -.147 | -.774   | 314 | 562 | -.251  | .059  | -.055 | -.510   |
| 276 | 599 | -.189  | .035  | -.064 | -.355  | 286 | 599 | -.189  | .033  | -.050 | -.314   | 314 | 599 | -.181  | .068  | .019  | -.630   |
| 276 | 762 | -.007  | .128  | .590  | -.445  | 286 | 762 | -.025  | .102  | .461  | -.408   | 314 | 762 | -.613  | .354  | -.173 | -3.025  |
| 276 | 809 | -.048  | .046  | .167  | -.298  | 286 | 809 | -.088  | .059  | -.088 | -.430   | 314 | 809 | -.194  | .071  | -.030 | -.691   |
| 278 | 160 | -.274  | .058  | -.061 | -.552  | 288 | 160 | -.277  | .070  | -.014 | -.604   | 316 | 160 | -.095  | .082  | .201  | -.371   |
| 278 | 161 | -.565  | .271  | .345  | -1.843 | 288 | 161 | -.321  | .209  | .440  | -.1.399 | 316 | 161 | .084   | .149  | .811  | -.399   |
| 278 | 168 | -.733  | .376  | .244  | -2.252 | 288 | 168 | -.268  | .227  | .348  | -.1.494 | 316 | 168 | .006   | .132  | .608  | -.441   |
| 278 | 360 | -.420  | .059  | -.234 | -.657  | 288 | 360 | -.397  | .057  | -.204 | -.605   | 316 | 360 | -.404  | .073  | -.164 | -.725   |
| 278 | 362 | -.392  | .056  | -.236 | -.579  | 288 | 362 | -.380  | .054  | -.238 | -.525   | 316 | 362 | -.414  | .075  | -.187 | -.718   |
| 278 | 378 | -.220  | .052  | -.052 | -.465  | 288 | 378 | -.228  | .047  | -.031 | -.457   | 316 | 378 | -.262  | .072  | -.036 | -.577   |
| 278 | 562 | -.448  | .129  | -.141 | -1.157 | 288 | 562 | -.361  | .085  | -.146 | -.820   | 316 | 562 | -.252  | .059  | -.077 | -.572   |
| 278 | 599 | -.185  | .033  | -.032 | -.326  | 288 | 599 | -.192  | .033  | -.048 | -.307   | 316 | 599 | -.226  | .102  | -.000 | -.790   |
| 278 | 762 | -.003  | .124  | .465  | -.463  | 288 | 762 | -.043  | .094  | .455  | -.571   | 316 | 762 | -.655  | .364  | -.149 | -2.410  |
| 278 | 809 | -.054  | .050  | .099  | -.445  | 288 | 809 | -.096  | .056  | .090  | -.433   | 316 | 809 | -.210  | .086  | -.012 | -.942   |
| 280 | 160 | -.276  | .056  | -.094 | -.511  | 290 | 160 | -.269  | .071  | -.028 | -.646   | 318 | 160 | -.091  | .085  | .273  | -.444   |
| 280 | 161 | -.533  | .260  | .540  | -1.937 | 290 | 161 | -.246  | .173  | .537  | -.1.008 | 318 | 161 | .088   | .146  | .667  | -.502   |
| 280 | 168 | -.590  | .333  | .360  | -2.543 | 290 | 168 | -.199  | .191  | .297  | -.1.873 | 318 | 168 | .020   | .128  | .505  | -.347   |
| 280 | 360 | -.402  | .058  | -.231 | -.663  | 290 | 360 | -.379  | .059  | -.228 | -.650   | 318 | 360 | -.401  | .074  | -.147 | -.711   |
| 280 | 362 | -.394  | .058  | -.231 | -.624  | 290 | 362 | -.361  | .052  | -.230 | -.574   | 318 | 362 | -.417  | .077  | -.230 | -.775   |
| 280 | 378 | -.217  | .049  | -.031 | -.470  | 290 | 378 | -.228  | .043  | -.053 | -.421   | 318 | 378 | -.261  | .073  | -.045 | -.604   |
| 280 | 562 | -.430  | .119  | -.150 | -1.174 | 290 | 562 | -.351  | .077  | -.156 | -.818   | 318 | 562 | -.249  | .057  | -.068 | -.512   |
| 280 | 599 | -.187  | .034  | -.053 | -.315  | 290 | 599 | -.187  | .034  | -.056 | -.309   | 318 | 599 | -.242  | .119  | -.006 | -.1.071 |
| 280 | 762 | -.007  | .109  | .547  | -.339  | 290 | 762 | -.051  | .092  | .396  | -.800   | 318 | 762 | -.658  | .346  | -.064 | -2.336  |
| 280 | 809 | -.061  | .052  | .122  | -.407  | 290 | 809 | -.102  | .051  | .076  | -.484   | 318 | 809 | -.230  | .091  | -.021 | -.711   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH,PA.

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| WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|-----|-----|--------|-------|-------|---------|
| 320 | 160 | -.086  | .086  | .257  | -.417   | 330 | 160 | -.028  | .098  | .339  | -.317   | 348 | 160 | .069   | .121  | .546  | -.353   |
| 320 | 161 | .118   | .153  | .778  | -.313   | 330 | 161 | .082   | .126  | .667  | -.314   | 348 | 161 | .013   | .100  | .368  | -.353   |
| 320 | 168 | .036   | .127  | .576  | -.462   | 330 | 168 | .070   | .121  | .639  | -.264   | 348 | 168 | .011   | .113  | .439  | -.334   |
| 320 | 360 | -.418  | .078  | -.149 | -.733   | 330 | 360 | -.397  | .105  | -.085 | -.831   | 348 | 360 | -.304  | .075  | -.116 | -.757   |
| 320 | 362 | -.440  | .085  | -.202 | -.878   | 330 | 362 | -.387  | .099  | -.113 | -.806   | 348 | 362 | -.293  | .064  | -.153 | -.769   |
| 320 | 378 | -.272  | .075  | -.014 | -.632   | 330 | 378 | -.251  | .085  | -.054 | -.771   | 348 | 378 | -.241  | .053  | -.011 | -.509   |
| 320 | 562 | -.255  | .062  | -.064 | -.742   | 330 | 562 | -.302  | .091  | -.064 | -.713   | 348 | 562 | -.325  | .066  | -.123 | -.654   |
| 320 | 599 | -.368  | .156  | -.017 | -.1044  | 330 | 599 | -.457  | .146  | -.166 | -.202   | 348 | 599 | -.592  | .149  | -.242 | -.400   |
| 320 | 762 | -.714  | .390  | -.171 | -.2730  | 330 | 762 | -.474  | .161  | -.120 | -.599   | 348 | 762 | -.388  | .104  | -.149 | -.418   |
| 320 | 809 | -.275  | .130  | -.041 | -.1.261 | 330 | 809 | -.462  | .196  | -.102 | -.711   | 348 | 809 | -.573  | .219  | -.144 | -.839   |
| 322 | 160 | -.078  | .088  | .402  | -.427   | 340 | 160 | -.027  | .109  | .492  | -.268   | 350 | 160 | -.070  | .126  | .632  | -.339   |
| 322 | 161 | .114   | .149  | .754  | -.420   | 340 | 161 | .034   | .115  | .617  | -.322   | 350 | 161 | -.004  | .105  | .406  | -.472   |
| 322 | 168 | .037   | .128  | .711  | -.345   | 340 | 168 | .028   | .113  | .499  | -.282   | 350 | 168 | -.002  | .112  | .401  | -.332   |
| 322 | 360 | -.426  | .082  | -.169 | -.720   | 340 | 360 | -.333  | .103  | -.051 | -.777   | 350 | 360 | -.287  | .055  | -.134 | -.651   |
| 322 | 362 | -.430  | .086  | -.206 | -.868   | 340 | 362 | -.321  | .093  | -.147 | -.706   | 350 | 362 | -.288  | .050  | -.176 | -.574   |
| 322 | 378 | -.288  | .085  | -.038 | -.607   | 340 | 378 | -.226  | .067  | -.026 | .644    | 350 | 378 | -.247  | .046  | -.060 | -.509   |
| 322 | 562 | -.256  | .063  | -.057 | -.611   | 340 | 562 | -.318  | .081  | -.096 | -.767   | 350 | 562 | -.326  | .061  | -.142 | -.593   |
| 322 | 599 | -.330  | .146  | -.052 | -.1.062 | 340 | 599 | -.507  | .135  | -.220 | -.1.168 | 350 | 599 | -.607  | .149  | -.241 | -.315   |
| 322 | 762 | -.656  | .341  | -.118 | -.2.580 | 340 | 762 | -.409  | .102  | -.117 | -.1.141 | 350 | 762 | -.369  | .092  | -.139 | -.958   |
| 322 | 809 | -.299  | .135  | -.033 | -.1.136 | 340 | 809 | -.559  | .234  | -.099 | -.1.904 | 350 | 809 | -.555  | .199  | -.202 | -.202   |
| 324 | 160 | -.065  | .089  | .302  | -.372   | 342 | 160 | -.027  | .112  | .443  | -.381   | 352 | 160 | -.109  | .136  | .829  | -.264   |
| 324 | 161 | .103   | .139  | .687  | -.478   | 342 | 161 | .029   | .114  | .570  | -.350   | 352 | 161 | -.011  | .097  | .376  | -.400   |
| 324 | 168 | .053   | .122  | .595  | -.351   | 342 | 168 | .013   | .106  | .450  | -.327   | 352 | 168 | -.017  | .103  | .397  | -.353   |
| 324 | 360 | -.419  | .090  | -.132 | -.751   | 342 | 360 | -.310  | .088  | -.128 | -.789   | 352 | 360 | -.286  | .049  | -.126 | -.552   |
| 324 | 362 | -.418  | .098  | -.139 | -.845   | 342 | 362 | -.317  | .092  | -.148 | -.776   | 352 | 362 | -.273  | .040  | -.158 | -.536   |
| 324 | 378 | -.275  | .086  | -.032 | -.682   | 342 | 378 | -.226  | .057  | -.026 | .561    | 352 | 378 | -.251  | .046  | -.015 | -.493   |
| 324 | 562 | -.264  | .070  | -.041 | -.708   | 342 | 562 | -.323  | .078  | -.045 | .678    | 352 | 562 | -.320  | .056  | -.158 | -.602   |
| 324 | 599 | -.366  | .137  | -.037 | -.933   | 342 | 599 | -.528  | .139  | -.225 | -.1.269 | 352 | 599 | -.628  | .154  | -.243 | -.1.293 |
| 324 | 762 | -.589  | .282  | -.078 | -.2.508 | 342 | 762 | -.398  | .101  | -.131 | -.864   | 352 | 762 | -.354  | .090  | -.135 | -.965   |
| 324 | 809 | -.343  | .150  | -.066 | -.1.384 | 342 | 809 | -.568  | .233  | -.155 | -.2.108 | 352 | 809 | -.513  | .191  | -.170 | -.829   |
| 326 | 160 | -.055  | .089  | .320  | -.336   | 344 | 160 | .046   | .116  | .503  | -.370   | 354 | 160 | -.119  | .130  | .697  | -.256   |
| 326 | 161 | .112   | .136  | .626  | -.291   | 344 | 161 | .025   | .112  | .496  | -.372   | 354 | 161 | -.013  | .097  | .534  | -.367   |
| 326 | 168 | .065   | .122  | .626  | -.333   | 344 | 168 | .011   | .104  | .466  | -.311   | 354 | 168 | -.017  | .102  | .420  | -.410   |
| 326 | 360 | -.428  | .096  | -.124 | -.843   | 344 | 360 | -.302  | .081  | -.098 | -.729   | 354 | 360 | -.284  | .041  | -.127 | -.576   |
| 326 | 362 | -.430  | .092  | -.161 | -.838   | 344 | 362 | -.311  | .087  | -.158 | -.777   | 354 | 362 | -.280  | .037  | -.143 | -.534   |
| 326 | 378 | -.280  | .090  | -.059 | -.693   | 344 | 378 | -.226  | .055  | -.015 | .529    | 354 | 378 | -.254  | .040  | -.051 | -.485   |
| 326 | 562 | -.278  | .081  | -.025 | -.718   | 344 | 562 | -.312  | .068  | -.107 | -.626   | 354 | 562 | -.321  | .048  | -.160 | -.546   |
| 326 | 599 | -.430  | .142  | -.059 | -.1.053 | 344 | 599 | -.538  | .139  | -.222 | -.1.443 | 354 | 599 | -.658  | .174  | -.247 | -.1.516 |
| 326 | 762 | -.540  | .234  | -.043 | -.1.991 | 344 | 762 | -.388  | .094  | -.118 | -.891   | 354 | 762 | -.342  | .080  | -.151 | -.892   |
| 326 | 809 | -.397  | .154  | -.086 | -.1.300 | 344 | 809 | -.568  | .220  | -.111 | -.796   | 354 | 809 | -.504  | .165  | -.188 | -.621   |
| 328 | 160 | -.047  | .087  | .321  | -.333   | 346 | 160 | .060   | .126  | .592  | -.364   | 356 | 160 | -.146  | .132  | .578  | -.308   |
| 328 | 161 | .089   | .133  | .632  | -.338   | 346 | 161 | .021   | .107  | .478  | -.302   | 356 | 161 | -.026  | .099  | .403  | -.322   |
| 328 | 168 | .071   | .122  | .681  | -.429   | 346 | 168 | .007   | .107  | .452  | -.305   | 356 | 168 | -.034  | .105  | .446  | -.308   |
| 328 | 360 | -.398  | .103  | -.099 | -.838   | 346 | 360 | -.309  | .077  | -.135 | .661    | 356 | 360 | -.286  | .039  | -.170 | -.532   |
| 328 | 362 | -.393  | .093  | -.149 | -.715   | 346 | 362 | -.304  | .078  | -.167 | .723    | 356 | 362 | -.279  | .035  | -.180 | -.415   |
| 328 | 378 | -.253  | .086  | .013  | -.627   | 346 | 378 | -.240  | .059  | -.015 | .589    | 356 | 378 | -.260  | .041  | -.061 | -.449   |
| 328 | 562 | -.285  | .087  | -.015 | -.760   | 346 | 562 | -.323  | .065  | -.109 | .701    | 356 | 562 | -.321  | .044  | -.187 | -.550   |
| 328 | 599 | -.421  | .138  | -.105 | -.1.176 | 346 | 599 | -.584  | .147  | -.245 | -.1.315 | 356 | 599 | -.700  | .184  | -.256 | -.1.792 |
| 328 | 762 | -.496  | .184  | -.105 | -.1.762 | 346 | 762 | -.401  | .108  | -.146 | -.948   | 356 | 762 | -.338  | .076  | -.135 | -.878   |
| 328 | 809 | -.433  | .182  | -.110 | -.1.570 | 346 | 809 | -.581  | .230  | -.154 | -.2.249 | 356 | 809 | -.480  | .149  | -.182 | -.1.404 |

**APPENDIX A -- PRESSURE DATA ; CONFIGURATION B : JENKINS/EMPIRE BUILDING - PITTSBURGH, PA.**

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 0  | 2101 | -.265  | .051  | -.098 | -.552  | 0  | 2153 | -.260  | .063  | .001  | -.577  | 0  | 2206 | -.101  | .047  | .097  | -.392 |
| 0  | 2102 | -.302  | .074  | -.101 | -.623  | 0  | 2154 | -.251  | .079  | .093  | -.553  | 0  | 2207 | -.099  | .032  | .042  | -.248 |
| 0  | 2103 | -.512  | .161  | -.010 | -1.224 | 0  | 2155 | -.356  | .083  | -.110 | -.720  | 0  | 2208 | -.334  | .089  | -.026 | -.723 |
| 0  | 2104 | -.304  | .048  | -.165 | -.516  | 0  | 2156 | -.016  | .084  | .456  | -.251  | 0  | 2209 | -.153  | .030  | -.057 | -.331 |
| 0  | 2105 | -.166  | .050  | .097  | -.411  | 0  | 2157 | -.191  | .054  | .044  | -.517  | 0  | 2210 | -.155  | .025  | -.055 | -.272 |
| 0  | 2106 | -.396  | .215  | .321  | -1.322 | 0  | 2158 | -.194  | .046  | .117  | -.347  | 0  | 2211 | -.038  | .108  | .581  | -.296 |
| 0  | 2107 | -.167  | .131  | .682  | -.261  | 0  | 2159 | -.166  | .067  | .095  | -.362  | 0  | 2212 | -.339  | .075  | -.128 | -.839 |
| 0  | 2108 | -.301  | .048  | -.158 | -.497  | 0  | 2160 | -.203  | .090  | .264  | -.601  | 0  | 2213 | -.182  | .044  | -.048 | -.426 |
| 0  | 2109 | -.206  | .059  | .014  | -.566  | 0  | 2161 | -.345  | .097  | -.028 | -1.008 | 0  | 2214 | -.166  | .026  | -.081 | -.317 |
| 0  | 2110 | -.365  | .145  | .238  | -1.012 | 0  | 2162 | -.216  | .032  | -.110 | -.331  | 0  | 2215 | -.169  | .025  | -.083 | -.286 |
| 0  | 2111 | -.124  | .112  | .591  | -.170  | 0  | 2163 | -.248  | .031  | -.139 | -.403  | 0  | 2216 | -.059  | .113  | .581  | -.340 |
| 0  | 2112 | -.295  | .044  | -.151 | -.528  | 0  | 2164 | -.436  | .091  | -.166 | .817   | 0  | 2217 | -.227  | .074  | .033  | -.553 |
| 0  | 2113 | -.222  | .045  | -.072 | -.452  | 0  | 2165 | -.257  | .063  | -.019 | -.531  | 0  | 2218 | -.153  | .056  | -.024 | -.539 |
| 0  | 2114 | -.362  | .160  | .026  | -1.193 | 0  | 2166 | -.218  | .032  | -.010 | -.395  | 0  | 2219 | -.136  | .040  | -.029 | -.418 |
| 0  | 2115 | -.034  | .077  | .562  | -.254  | 0  | 2167 | -.577  | .145  | -.130 | -1.211 | 0  | 2220 | -.041  | .064  | .243  | -.281 |
| 0  | 2116 | -.306  | .055  | -.110 | -.642  | 0  | 2168 | -.432  | .106  | -.144 | .918   | 0  | 2221 | -.198  | .100  | -.106 | -.648 |
| 0  | 2117 | -.168  | .057  | .045  | -.397  | 0  | 2170 | -.032  | .101  | .419  | -.338  | 0  | 2222 | -.100  | .038  | .212  | -.296 |
| 0  | 2118 | -.159  | .115  | .140  | -.754  | 0  | 2171 | -.073  | .126  | .654  | -.377  | 0  | 2223 | -.155  | .042  | -.019 | -.485 |
| 0  | 2119 | -.046  | .060  | .288  | -.285  | 0  | 2172 | -.090  | .133  | .593  | -.316  | 0  | 2224 | -.098  | .061  | .137  | -.477 |
| 0  | 2120 | -.247  | .071  | .059  | -.487  | 0  | 2173 | -.006  | .102  | .441  | -.297  | 0  | 2225 | -.144  | .031  | -.013 | -.295 |
| 0  | 2121 | -.172  | .077  | .159  | -.373  | 0  | 2174 | -.199  | .045  | .001  | -.364  | 0  | 2226 | -.157  | .025  | -.060 | -.260 |
| 0  | 2122 | -.123  | .099  | .236  | -.912  | 0  | 2175 | -.221  | .038  | -.094 | -.391  | 0  | 2227 | -.179  | .026  | -.095 | -.368 |
| 0  | 2123 | -.015  | .052  | .245  | -.170  | 0  | 2177 | -.223  | .039  | -.055 | -.425  | 0  | 2228 | -.130  | .052  | .115  | -.328 |
| 0  | 2124 | -.298  | .061  | -.141 | -.630  | 0  | 2178 | -.085  | .048  | .146  | -.227  | 0  | 2229 | -.065  | .055  | .242  | -.310 |
| 0  | 2125 | -.274  | .063  | -.058 | -.573  | 0  | 2179 | -.021  | .085  | .364  | -.321  | 0  | 2230 | -.162  | .042  | -.035 | -.320 |
| 0  | 2126 | -.265  | .041  | -.137 | -.487  | 0  | 2180 | -.047  | .104  | .453  | -.210  | 0  | 2231 | -.117  | .041  | .067  | -.373 |
| 0  | 2127 | -.263  | .047  | -.132 | -.647  | 0  | 2181 | -.020  | .080  | .364  | -.224  | 0  | 2233 | -.104  | .030  | -.010 | -.230 |
| 0  | 2128 | -.264  | .042  | -.141 | -.440  | 0  | 2182 | -.195  | .028  | -.081 | -.297  | 0  | 2234 | -.205  | .042  | -.005 | -.400 |
| 0  | 2129 | -.209  | .091  | .164  | -.483  | 0  | 2183 | -.207  | .031  | -.048 | -.331  | 0  | 2235 | -.159  | .028  | -.053 | -.255 |
| 0  | 2130 | -.259  | .037  | -.144 | -.437  | 0  | 2184 | -.206  | .030  | -.100 | -.326  | 0  | 2236 | -.143  | .028  | -.043 | -.255 |
| 0  | 2131 | -.252  | .031  | -.158 | -.406  | 0  | 2185 | -.208  | .030  | -.090 | -.317  | 0  | 2237 | -.144  | .030  | -.058 | -.273 |
| 0  | 2132 | -.277  | .062  | -.101 | -.645  | 0  | 2187 | -.219  | .030  | -.116 | -.317  | 0  | 2238 | -.068  | .041  | .107  | -.213 |
| 0  | 2133 | -.280  | .026  | .023  | -.592  | 0  | 2188 | -.099  | .036  | .035  | -.253  | 0  | 2239 | -.057  | .041  | .092  | -.250 |
| 0  | 2134 | -.241  | .034  | -.084 | -.468  | 0  | 2189 | -.061  | .051  | .208  | -.267  | 0  | 2240 | -.032  | .029  | .085  | -.210 |
| 0  | 2136 | -.264  | .044  | -.122 | -.514  | 0  | 2190 | -.039  | .061  | .252  | -.234  | 0  | 2241 | -.022  | .032  | .087  | -.198 |
| 0  | 2137 | -.292  | .062  | -.058 | -.573  | 0  | 2191 | -.102  | .056  | .257  | -.300  | 0  | 2242 | -.025  | .032  | .105  | -.135 |
| 0  | 2138 | -.230  | .031  | -.115 | -.358  | 0  | 2192 | -.226  | .026  | -.128 | -.340  | 0  | 2243 | -.030  | .031  | .150  | -.198 |
| 0  | 2140 | -.262  | .060  | -.106 | -.800  | 0  | 2193 | -.259  | .034  | -.159 | .410   | 0  | 2244 | -.073  | .037  | .085  | -.200 |
| 0  | 2141 | -.179  | .069  | .107  | -.413  | 0  | 2194 | -.250  | .031  | -.107 | .400   | 0  | 2245 | -.093  | .046  | .072  | -.378 |
| 0  | 2142 | -.190  | .058  | .047  | -.385  | 0  | 2195 | -.071  | .043  | .212  | -.218  | 0  | 2246 | -.129  | .059  | .037  | -.537 |
| 0  | 2143 | -.243  | .075  | -.038 | -.686  | 0  | 2196 | -.063  | .047  | .132  | -.199  | 0  | 2247 | -.053  | .042  | .085  | -.335 |
| 0  | 2144 | -.232  | .048  | -.101 | -.585  | 0  | 2197 | -.042  | .065  | .295  | -.196  | 0  | 2248 | -.028  | .036  | .210  | -.225 |
| 0  | 2145 | -.179  | .079  | .243  | -.468  | 0  | 2198 | -.049  | .074  | .302  | -.225  | 0  | 2249 | -.034  | .031  | .112  | -.185 |
| 0  | 2146 | -.270  | .053  | -.055 | -.531  | 0  | 2199 | -.197  | .030  | -.076 | .303   | 0  | 2250 | -.031  | .027  | .110  | -.133 |
| 0  | 2147 | -.289  | .052  | -.127 | -.930  | 0  | 2200 | -.255  | .041  | -.161 | .485   | 0  | 2251 | -.025  | .028  | .120  | -.123 |
| 0  | 2148 | -.331  | .067  | -.147 | -.684  | 0  | 2201 | -.224  | .034  | -.085 | -.444  | 0  | 2252 | -.081  | .053  | .112  | -.395 |
| 0  | 2149 | -.358  | .073  | -.048 | -.875  | 0  | 2202 | -.127  | .040  | -.026 | .322   | 0  | 2253 | -.086  | .052  | .130  | -.265 |
| 0  | 2150 | -.204  | .069  | .146  | -.471  | 0  | 2203 | -.230  | .081  | -.040 | .603   | 0  | 2254 | -.022  | .076  | .392  | -.245 |
| 0  | 2151 | -.313  | .061  | -.110 | -.601  | 0  | 2204 | -.144  | .045  | -.026 | .473   | 0  | 2255 | -.068  | .075  | .574  | -.110 |
| 0  | 2152 | -.294  | .060  | -.077 | -.558  | 0  | 2205 | -.152  | .077  | .068  | -.532  | 0  | 2256 | -.000  | .050  | .330  | -.128 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 0  | 2257 | -.051  | .036  | .085  | -.213  | 10 | 2144 | -.229  | .043  | -.095 | -.474 | 10 | 2197 | .044   | .080  | .506  | -.174 |
| 0  | 2258 | -.032  | .026  | .082  | -.120  | 10 | 2145 | -.172  | .074  | .182  | -.430 | 10 | 2198 | .021   | .071  | .316  | -.167 |
| 0  | 2259 | -.016  | .053  | .227  | -.278  | 10 | 2146 | -.241  | .071  | .055  | -.739 | 10 | 2199 | -.200  | .032  | -.068 | -.339 |
| 0  | 2260 | -.021  | .041  | .162  | -.155  | 10 | 2147 | -.276  | .061  | -.032 | -.532 | 10 | 2200 | -.292  | .055  | -.167 | -.553 |
| 0  | 2261 | -.001  | .050  | .290  | -.198  | 10 | 2148 | -.299  | .067  | -.124 | -.640 | 10 | 2201 | -.242  | .055  | .080  | -.466 |
| 0  | 2262 | .034   | .050  | .282  | -.173  | 10 | 2149 | -.307  | .089  | -.114 | -.838 | 10 | 2202 | -.091  | .040  | .017  | -.348 |
| 0  | 2263 | -.008  | .034  | .210  | -.115  | 10 | 2150 | -.097  | .121  | .363  | -.466 | 10 | 2203 | -.172  | .078  | .031  | -.772 |
| 0  | 2264 | -.032  | .012  | .100  | -.268  | 10 | 2151 | -.288  | .061  | -.129 | -.544 | 10 | 2204 | -.105  | .042  | .033  | -.391 |
| 0  | 2265 | .003   | .042  | .260  | -.130  | 10 | 2152 | -.310  | .065  | -.124 | -.606 | 10 | 2205 | -.120  | .071  | .090  | -.511 |
| 10 | 2101 | -.262  | .058  | -.120 | -.565  | 10 | 2153 | -.286  | .059  | -.100 | -.594 | 10 | 2206 | -.053  | .041  | .198  | -.268 |
| 10 | 2102 | -.327  | .074  | -.093 | -.595  | 10 | 2154 | -.274  | .068  | -.030 | -.553 | 10 | 2207 | -.063  | .030  | .087  | -.179 |
| 10 | 2103 | -.490  | .211  | -.197 | -.409  | 10 | 2155 | -.316  | .108  | -.119 | -.787 | 10 | 2208 | -.249  | .084  | .005  | -.671 |
| 10 | 2104 | -.327  | .053  | -.136 | -.548  | 10 | 2156 | -.084  | .101  | .554  | -.177 | 10 | 2209 | -.129  | .035  | -.028 | -.473 |
| 10 | 2105 | -.137  | .066  | .178  | -.338  | 10 | 2157 | -.212  | .068  | .011  | -.621 | 10 | 2210 | -.141  | .030  | -.038 | -.344 |
| 10 | 2106 | -.274  | .271  | .530  | -.1383 | 10 | 2158 | -.207  | .030  | -.073 | -.317 | 10 | 2211 | -.052  | .092  | .485  | -.214 |
| 10 | 2107 | .154   | .139  | .683  | -.396  | 10 | 2159 | -.205  | .047  | .038  | -.392 | 10 | 2212 | -.283  | .076  | -.096 | -.702 |
| 10 | 2108 | -.315  | .055  | -.131 | -.598  | 10 | 2160 | -.237  | .070  | .105  | -.534 | 10 | 2213 | -.166  | .049  | -.038 | -.410 |
| 10 | 2109 | -.181  | .060  | .149  | -.679  | 10 | 2161 | -.315  | .096  | -.126 | -.891 | 10 | 2214 | -.154  | .033  | -.059 | -.318 |
| 10 | 2110 | -.306  | .170  | .402  | -.1060 | 10 | 2162 | -.247  | .041  | -.109 | -.433 | 10 | 2215 | -.156  | .034  | -.047 | -.313 |
| 10 | 2111 | -.100  | .102  | .578  | -.262  | 10 | 2163 | -.287  | .045  | -.167 | -.476 | 10 | 2216 | -.064  | .104  | .502  | -.235 |
| 10 | 2112 | -.289  | .058  | -.091 | -.565  | 10 | 2164 | -.504  | .085  | -.228 | -.920 | 10 | 2217 | -.176  | .072  | -.009 | -.727 |
| 10 | 2113 | -.210  | .058  | .121  | -.662  | 10 | 2165 | -.289  | .073  | -.071 | -.717 | 10 | 2218 | -.116  | .046  | .033  | -.362 |
| 10 | 2114 | -.312  | .142  | -.097 | -.1029 | 10 | 2166 | -.249  | .040  | -.080 | -.414 | 10 | 2219 | -.096  | .037  | .021  | -.318 |
| 10 | 2115 | .023   | .074  | .335  | -.229  | 10 | 2167 | -.636  | .151  | -.218 | -.143 | 10 | 2220 | -.021  | .062  | .292  | -.186 |
| 10 | 2116 | -.299  | .060  | -.108 | -.626  | 10 | 2168 | -.503  | .112  | -.206 | -.120 | 10 | 2221 | -.163  | .029  | .061  | -.530 |
| 10 | 2117 | -.168  | .054  | .090  | -.391  | 10 | 2170 | -.011  | .099  | .547  | -.254 | 10 | 2222 | -.063  | .033  | .052  | -.249 |
| 10 | 2118 | -.175  | .126  | .138  | -.843  | 10 | 2171 | -.109  | .122  | .643  | -.606 | 10 | 2223 | -.121  | .042  | .010  | -.400 |
| 10 | 2119 | -.021  | .065  | .266  | -.241  | 10 | 2172 | -.124  | .121  | .629  | -.283 | 10 | 2224 | -.085  | .063  | .085  | -.558 |
| 10 | 2120 | -.255  | .076  | .138  | -.498  | 10 | 2173 | -.063  | .109  | .602  | -.235 | 10 | 2225 | -.115  | .035  | .055  | -.259 |
| 10 | 2121 | -.160  | .091  | .209  | -.398  | 10 | 2174 | -.181  | .046  | -.025 | -.375 | 10 | 2226 | -.138  | .029  | -.032 | -.261 |
| 10 | 2122 | -.113  | .109  | .242  | -.695  | 10 | 2175 | -.251  | .049  | -.126 | -.551 | 10 | 2227 | -.152  | .032  | -.052 | -.421 |
| 10 | 2123 | -.028  | .051  | .264  | -.229  | 10 | 2177 | -.262  | .046  | -.076 | -.430 | 10 | 2228 | -.108  | .039  | .065  | -.284 |
| 10 | 2124 | -.290  | .050  | -.131 | -.555  | 10 | 2178 | -.036  | .053  | .187  | -.196 | 10 | 2229 | -.045  | .042  | .122  | -.211 |
| 10 | 2125 | -.284  | .059  | -.086 | -.638  | 10 | 2179 | -.053  | .085  | .402  | -.298 | 10 | 2230 | -.109  | .043  | .043  | -.351 |
| 10 | 2126 | -.272  | .042  | -.141 | -.574  | 10 | 2180 | -.120  | .100  | .609  | -.179 | 10 | 2231 | -.089  | .040  | .030  | -.391 |
| 10 | 2127 | -.295  | .060  | -.129 | -.650  | 10 | 2181 | -.044  | .083  | .441  | -.165 | 10 | 2233 | -.063  | .028  | .050  | -.147 |
| 10 | 2128 | -.289  | .040  | -.160 | -.519  | 10 | 2182 | -.198  | .028  | -.080 | -.314 | 10 | 2234 | -.147  | .042  | -.023 | -.311 |
| 10 | 2129 | -.140  | .104  | .230  | -.534  | 10 | 2183 | -.243  | .045  | -.080 | -.423 | 10 | 2235 | -.123  | .027  | -.022 | -.214 |
| 10 | 2130 | -.271  | .034  | -.153 | -.403  | 10 | 2184 | -.239  | .039  | -.094 | -.391 | 10 | 2236 | -.118  | .029  | .015  | -.211 |
| 10 | 2131 | -.284  | .036  | -.198 | -.491  | 10 | 2185 | -.250  | .036  | -.106 | -.402 | 10 | 2237 | -.127  | .036  | .020  | -.316 |
| 10 | 2132 | -.325  | .074  | -.093 | -.781  | 10 | 2187 | -.255  | .037  | -.136 | -.393 | 10 | 2238 | -.043  | .040  | .140  | -.196 |
| 10 | 2133 | -.223  | .100  | .292  | -.553  | 10 | 2188 | -.058  | .040  | .108  | -.188 | 10 | 2239 | -.030  | .036  | .110  | -.169 |
| 10 | 2134 | -.261  | .030  | -.155 | -.450  | 10 | 2189 | -.005  | .061  | .351  | -.205 | 10 | 2240 | -.011  | .031  | .105  | -.134 |
| 10 | 2136 | -.274  | .050  | -.139 | -.684  | 10 | 2190 | -.069  | .072  | .393  | -.127 | 10 | 2241 | -.007  | .031  | .135  | -.221 |
| 10 | 2137 | -.276  | .069  | -.023 | -.534  | 10 | 2191 | -.030  | .063  | .252  | -.212 | 10 | 2242 | -.006  | .034  | .190  | -.172 |
| 10 | 2138 | -.249  | .033  | -.139 | -.460  | 10 | 2192 | -.236  | .030  | -.134 | -.377 | 10 | 2243 | -.011  | .030  | .110  | -.162 |
| 10 | 2140 | -.269  | .053  | -.105 | -.619  | 10 | 2193 | -.290  | .047  | -.148 | -.515 | 10 | 2244 | -.044  | .037  | .090  | -.164 |
| 10 | 2141 | -.175  | .062  | .092  | -.405  | 10 | 2194 | -.283  | .041  | -.136 | -.454 | 10 | 2245 | -.061  | .045  | .085  | -.289 |
| 10 | 2142 | -.181  | .068  | -.059 | -.448  | 10 | 2195 | -.028  | .049  | .250  | -.179 | 10 | 2246 | -.076  | .057  | .068  | -.371 |
| 10 | 2143 | -.248  | .080  | -.006 | -.763  | 10 | 2196 | .018   | .063  | .342  | -.174 | 10 | 2247 | -.028  | .034  | .157  | -.331 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 10 | 2248 | .000   | .039  | .247  | -.117  | 20 | 2133 | -.119  | .111  | .351  | -.504  | 20 | 2188 | -.031  | .038  | .136  | -.156 |
| 10 | 2249 | -.011  | .029  | .152  | -.119  | 20 | 2134 | -.259  | .032  | -.173 | -.444  | 20 | 2189 | .042   | .058  | .245  | -.208 |
| 10 | 2250 | -.010  | .030  | .117  | -.094  | 20 | 2136 | -.283  | .065  | -.109 | -.710  | 20 | 2190 | .106   | .076  | .433  | -.141 |
| 10 | 2251 | -.009  | .027  | .095  | -.117  | 20 | 2137 | -.210  | .103  | .289  | -.557  | 20 | 2191 | .028   | .072  | .350  | -.213 |
| 10 | 2252 | -.050  | .054  | .122  | -.289  | 20 | 2138 | -.239  | .031  | -.106 | -.363  | 20 | 2192 | -.235  | .030  | -.118 | -.376 |
| 10 | 2253 | -.054  | .050  | .122  | -.249  | 20 | 2140 | -.257  | .046  | -.085 | -.545  | 20 | 2193 | -.319  | .054  | -.173 | -.591 |
| 10 | 2254 | .015   | .065  | .384  | -.199  | 20 | 2141 | -.207  | .061  | .052  | -.406  | 20 | 2194 | -.312  | .054  | -.127 | -.806 |
| 10 | 2255 | .061   | .069  | .429  | -.099  | 20 | 2142 | -.189  | .062  | -.097 | -.466  | 20 | 2195 | .000   | .047  | .191  | -.120 |
| 10 | 2256 | -.001  | .034  | .185  | -.104  | 20 | 2143 | -.248  | .065  | -.032 | -.652  | 20 | 2196 | .055   | .068  | .390  | -.139 |
| 10 | 2257 | .023   | .028  | .090  | -.137  | 20 | 2144 | -.233  | .040  | -.095 | -.402  | 20 | 2197 | .116   | .091  | .554  | -.084 |
| 10 | 2258 | -.019  | .024  | .115  | -.094  | 20 | 2145 | -.157  | .064  | .111  | -.346  | 20 | 2198 | .094   | .096  | .485  | -.137 |
| 10 | 2259 | .011   | .049  | .289  | -.164  | 20 | 2146 | -.209  | .080  | .024  | .717   | 20 | 2199 | -.203  | .038  | -.008 | -.376 |
| 10 | 2260 | .010   | .042  | .167  | -.134  | 20 | 2147 | -.250  | .062  | -.052 | -.606  | 20 | 2200 | -.325  | .067  | -.160 | -.630 |
| 10 | 2261 | .012   | .044  | .249  | -.119  | 20 | 2148 | -.257  | .050  | -.120 | -.545  | 20 | 2201 | -.234  | .076  | .151  | -.497 |
| 10 | 2262 | -.032  | .045  | .237  | -.097  | 20 | 2149 | -.243  | .047  | -.098 | -.484  | 20 | 2202 | -.060  | .038  | .089  | -.357 |
| 10 | 2263 | -.006  | .027  | .102  | -.109  | 20 | 2150 | -.070  | .120  | .551  | -.304  | 20 | 2203 | -.102  | .062  | .072  | -.485 |
| 10 | 2264 | -.030  | .036  | .092  | -.181  | 20 | 2151 | -.247  | .062  | -.044 | -.581  | 20 | 2204 | -.063  | .038  | .079  | -.270 |
| 10 | 2265 | .005   | .033  | .212  | -.084  | 20 | 2152 | -.295  | .063  | -.142 | -.686  | 20 | 2205 | -.077  | .058  | .101  | -.407 |
| 20 | 2101 | -.237  | .058  | .023  | -.542  | 20 | 2153 | -.268  | .050  | -.127 | -.504  | 20 | 2206 | -.029  | .039  | .165  | -.175 |
| 20 | 2102 | -.324  | .073  | -.070 | .700   | 20 | 2154 | -.225  | .043  | -.047 | -.482  | 20 | 2207 | -.040  | .029  | .079  | -.141 |
| 20 | 2103 | .309   | .199  | -.090 | -1.105 | 20 | 2155 | -.226  | .049  | -.108 | -.620  | 20 | 2208 | -.188  | .076  | .022  | .611  |
| 20 | 2104 | -.320  | .066  | -.121 | -.660  | 20 | 2156 | -.161  | .113  | .694  | -.142  | 20 | 2209 | -.104  | .040  | -.011 | .516  |
| 20 | 2105 | -.091  | .090  | .289  | -.327  | 20 | 2157 | -.214  | .105  | .247  | -.768  | 20 | 2210 | -.125  | .037  | -.001 | .466  |
| 20 | 2106 | -.088  | .272  | .504  | -.1436 | 20 | 2158 | -.208  | .029  | -.100 | -.326  | 20 | 2211 | .044   | .079  | .412  | -.239 |
| 20 | 2107 | -.090  | .146  | .622  | -.957  | 20 | 2159 | -.199  | .031  | -.035 | -.319  | 20 | 2212 | -.229  | .070  | -.063 | -.595 |
| 20 | 2108 | -.289  | .068  | -.066 | -.583  | 20 | 2160 | -.201  | .039  | -.018 | -.397  | 20 | 2213 | -.144  | .048  | -.006 | -.357 |
| 20 | 2109 | -.126  | .080  | .210  | -.559  | 20 | 2161 | -.227  | .046  | -.103 | -.576  | 20 | 2214 | -.134  | .034  | -.030 | .284  |
| 20 | 2110 | -.117  | .201  | .445  | -.1115 | 20 | 2162 | -.273  | .036  | .154  | -.423  | 20 | 2215 | -.137  | .040  | -.030 | .450  |
| 20 | 2111 | .058   | .094  | .540  | -.341  | 20 | 2163 | -.323  | .049  | -.207 | -.632  | 20 | 2216 | .052   | .085  | .554  | -.222 |
| 20 | 2112 | -.242  | .056  | -.039 | -.478  | 20 | 2164 | -.512  | .098  | -.103 | -.987  | 20 | 2217 | -.117  | .064  | -.039 | -.545 |
| 20 | 2113 | -.148  | .075  | .227  | -.427  | 20 | 2165 | -.297  | .067  | -.093 | -.625  | 20 | 2218 | -.076  | .041  | .067  | -.277 |
| 20 | 2114 | -.176  | .152  | .253  | -.794  | 20 | 2166 | -.286  | .043  | -.120 | -.464  | 20 | 2219 | -.064  | .034  | .079  | -.227 |
| 20 | 2115 | -.004  | .063  | .270  | -.269  | 20 | 2167 | -.653  | .169  | .024  | -1.507 | 20 | 2220 | -.007  | .059  | .298  | -.172 |
| 20 | 2116 | -.247  | .058  | -.066 | -.499  | 20 | 2168 | -.529  | .113  | -.171 | -1.436 | 20 | 2221 | -.110  | .063  | .136  | -.478 |
| 20 | 2117 | -.151  | .048  | .016  | -.336  | 20 | 2169 | -.015  | .102  | .521  | -.389  | 20 | 2222 | -.032  | .034  | .105  | -.198 |
| 20 | 2118 | -.151  | .134  | .172  | -.1057 | 20 | 2171 | -.079  | .135  | .551  | -.538  | 20 | 2223 | -.089  | .043  | .048  | -.293 |
| 20 | 2119 | -.001  | .071  | .454  | -.250  | 20 | 2172 | -.138  | .146  | .716  | -.474  | 20 | 2224 | -.062  | .059  | .141  | -.459 |
| 20 | 2120 | -.214  | .067  | .109  | -.403  | 20 | 2173 | -.080  | .120  | .640  | -.331  | 20 | 2225 | -.088  | .035  | .123  | -.231 |
| 20 | 2121 | -.103  | .101  | .236  | -.351  | 20 | 2174 | -.151  | .056  | .116  | -.368  | 20 | 2226 | -.109  | .031  | -.000 | -.226 |
| 20 | 2122 | -.083  | .112  | .267  | -.691  | 20 | 2175 | -.291  | .055  | -.117 | -.555  | 20 | 2227 | -.131  | .038  | -.023 | -.349 |
| 20 | 2123 | .032   | .046  | .239  | -.169  | 20 | 2176 | -.294  | .043  | -.159 | -.489  | 20 | 2228 | -.069  | .039  | .093  | -.286 |
| 20 | 2124 | -.278  | .048  | -.097 | -.490  | 20 | 2178 | -.017  | .049  | .252  | -.168  | 20 | 2229 | -.014  | .038  | .216  | -.130 |
| 20 | 2125 | -.284  | .060  | -.094 | -.902  | 20 | 2179 | -.077  | .084  | .470  | -.389  | 20 | 2230 | -.070  | .038  | .065  | -.258 |
| 20 | 2126 | -.260  | .041  | -.102 | -.468  | 20 | 2180 | -.156  | .093  | .650  | -.229  | 20 | 2231 | -.056  | .043  | .075  | -.328 |
| 20 | 2127 | -.298  | .068  | -.116 | -.614  | 20 | 2181 | -.081  | .093  | .631  | -.222  | 20 | 2233 | -.038  | .029  | .105  | -.120 |
| 20 | 2128 | -.278  | .035  | -.188 | -.497  | 20 | 2182 | -.201  | .030  | -.088 | -.341  | 20 | 2234 | -.085  | .042  | .125  | -.236 |
| 20 | 2129 | -.062  | .098  | .334  | -.434  | 20 | 2183 | -.271  | .042  | -.156 | -.438  | 20 | 2235 | -.082  | .030  | .068  | -.181 |
| 20 | 2130 | -.259  | .035  | -.159 | -.461  | 20 | 2184 | -.267  | .040  | -.153 | -.443  | 20 | 2236 | -.093  | .031  | -.008 | -.201 |
| 20 | 2131 | -.287  | .041  | -.161 | -.509  | 20 | 2185 | -.289  | .039  | -.196 | -.445  | 20 | 2237 | -.106  | .038  | .025  | -.233 |
| 20 | 2132 | -.312  | .070  | -.149 | -.775  | 20 | 2187 | -.286  | .037  | -.179 | -.457  | 20 | 2238 | -.003  | .040  | .161  | -.175 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD   | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|------|-------|--------|-------|-------|-------|
| 20 | 2239 | -.004  | .035  | .171  | -.120  | 30 | 2124 | -.270  | .049  | -.099 | -.514 | 30   | 2178  | -.013  | .059  | .345  | -.213 |
| 20 | 2240 | -.002  | .031  | .156  | -.150  | 30 | 2125 | -.292  | .076  | -.089 | -.616 | 30   | 2179  | -.037  | .080  | .415  | -.285 |
| 20 | 2241 | .006   | .034  | .223  | -.085  | 30 | 2126 | -.244  | .040  | -.084 | -.528 | 30   | 2180  | -.074  | .113  | .477  | -.729 |
| 20 | 2242 | .014   | .034  | .156  | -.093  | 30 | 2127 | -.285  | .075  | -.075 | -.838 | 30   | 2181  | -.009  | .106  | .453  | -.311 |
| 20 | 2243 | -.004  | .028  | .108  | -.118  | 30 | 2128 | -.270  | .039  | -.167 | -.442 | 30   | 2182  | -.201  | .030  | -.102 | -.330 |
| 20 | 2244 | -.006  | .035  | .105  | -.138  | 30 | 2129 | -.005  | .116  | .483  | -.357 | 30   | 2183  | -.256  | .044  | -.104 | -.552 |
| 20 | 2245 | -.016  | .039  | .128  | -.268  | 30 | 2130 | -.251  | .034  | -.153 | -.440 | 30   | 2184  | -.250  | .039  | -.096 | -.414 |
| 20 | 2246 | -.026  | .032  | .080  | -.221  | 30 | 2131 | -.274  | .042  | -.163 | -.559 | 30   | 2185  | -.286  | .041  | -.174 | -.458 |
| 20 | 2247 | -.019  | .030  | .100  | -.170  | 30 | 2132 | -.281  | .070  | -.108 | .860  | 30   | 2187  | -.283  | .039  | -.193 | -.446 |
| 20 | 2248 | .025   | .046  | .376  | -.105  | 30 | 2133 | -.015  | .113  | .423  | -.414 | 30   | 2188  | -.022  | .040  | .141  | -.160 |
| 20 | 2249 | .012   | .032  | .168  | -.093  | 30 | 2134 | -.250  | .034  | -.139 | .542  | 30   | 2189  | -.043  | .057  | .284  | -.209 |
| 20 | 2250 | .001   | .030  | .120  | -.090  | 30 | 2136 | -.296  | .069  | -.099 | -.725 | 30   | 2190  | -.083  | .079  | .446  | -.315 |
| 20 | 2251 | .002   | .029  | .123  | -.135  | 30 | 2137 | -.166  | .120  | .357  | -.525 | 30   | 2191  | -.009  | .074  | .341  | -.270 |
| 20 | 2252 | -.008  | .047  | .196  | -.241  | 30 | 2138 | -.231  | .028  | -.136 | .348  | 30   | 2192  | -.230  | .035  | -.078 | -.390 |
| 20 | 2253 | -.014  | .044  | .193  | -.183  | 30 | 2140 | -.248  | .052  | -.080 | .744  | 30   | 2193  | -.300  | .053  | -.176 | -.600 |
| 20 | 2254 | .022   | .057  | .359  | -.143  | 30 | 2141 | -.204  | .066  | .165  | .433  | 30   | 2194  | -.286  | .052  | -.052 | -.658 |
| 20 | 2255 | .051   | .062  | .449  | -.080  | 30 | 2142 | -.205  | .051  | .030  | .390  | 30   | 2195  | -.003  | .046  | .223  | -.146 |
| 20 | 2256 | .006   | .035  | .186  | -.085  | 30 | 2143 | -.238  | .055  | -.059 | .703  | 30   | 2196  | -.050  | .065  | .451  | -.200 |
| 20 | 2257 | -.011  | .026  | .113  | -.100  | 30 | 2144 | -.233  | .036  | -.138 | .455  | 30   | 2197  | -.093  | .091  | .580  | -.164 |
| 20 | 2258 | -.007  | .024  | .090  | -.088  | 30 | 2145 | -.168  | .061  | .131  | .330  | 30   | 2198  | -.052  | .093  | .402  | -.202 |
| 20 | 2259 | .028   | .044  | .186  | -.226  | 30 | 2146 | -.219  | .082  | -.049 | .804  | 30   | 2199  | -.187  | .040  | -.002 | -.357 |
| 20 | 2260 | .033   | .040  | .221  | -.103  | 30 | 2147 | -.258  | .067  | -.068 | .585  | 30   | 2200  | -.305  | .075  | -.153 | -.832 |
| 20 | 2261 | .038   | .043  | .286  | -.078  | 30 | 2148 | -.257  | .061  | -.056 | .607  | 30   | 2201  | -.245  | .060  | .012  | -.519 |
| 20 | 2262 | .032   | .041  | .201  | -.078  | 30 | 2149 | -.237  | .071  | -.078 | .766  | 30   | 2202  | -.055  | .032  | .056  | -.230 |
| 20 | 2263 | -.001  | .026  | .105  | -.093  | 30 | 2150 | -.013  | .122  | .660  | .412  | 30   | 2203  | -.077  | .060  | .080  | -.759 |
| 20 | 2264 | -.011  | .031  | .098  | -.153  | 30 | 2151 | -.238  | .065  | -.027 | .710  | 30   | 2204  | -.048  | .034  | .092  | -.202 |
| 20 | 2265 | .008   | .027  | .118  | -.073  | 30 | 2152 | -.281  | .071  | -.136 | .729  | 30   | 2205  | -.066  | .050  | .132  | -.378 |
| 30 | 2101 | -.186  | .058  | .075  | -.376  | 30 | 2153 | -.253  | .058  | -.092 | .681  | 30   | 2206  | -.026  | .037  | .181  | -.183 |
| 30 | 2102 | -.327  | .070  | -.075 | -.646  | 30 | 2154 | -.206  | .052  | -.064 | .451  | 30   | 2207  | -.039  | .030  | .087  | -.219 |
| 30 | 2103 | -.348  | .215  | -.148 | -.1398 | 30 | 2155 | -.186  | .043  | -.044 | .547  | 30   | 2208  | -.134  | .067  | .047  | -.465 |
| 30 | 2104 | -.312  | .073  | -.046 | -.789  | 30 | 2156 | -.115  | .111  | .735  | .246  | 30   | 2209  | -.123  | .069  | .047  | -.660 |
| 30 | 2105 | -.029  | .092  | .290  | -.319  | 30 | 2157 | -.126  | .088  | .218  | .626  | 30   | 2210  | -.130  | .043  | -.000 | -.486 |
| 30 | 2106 | .152   | .169  | .770  | -.843  | 30 | 2158 | -.180  | .032  | -.056 | .297  | 30   | 2211  | -.004  | .070  | .303  | -.219 |
| 30 | 2107 | .071   | .184  | .691  | -.651  | 30 | 2159 | -.177  | .035  | -.037 | .304  | 30   | 2212  | -.190  | .066  | .009  | -.526 |
| 30 | 2108 | -.247  | .075  | .105  | -.627  | 30 | 2160 | -.170  | .039  | -.016 | .393  | 30   | 2213  | -.133  | .048  | .019  | -.465 |
| 30 | 2109 | -.047  | .085  | .302  | -.319  | 30 | 2161 | -.191  | .040  | -.080 | .429  | 30   | 2214  | -.137  | .039  | .016  | -.298 |
| 30 | 2110 | .084   | .134  | .689  | -.461  | 30 | 2162 | -.276  | .041  | -.164 | .458  | 30   | 2215  | -.146  | .046  | -.021 | -.406 |
| 30 | 2111 | -.018  | .115  | .502  | -.578  | 30 | 2163 | -.311  | .055  | -.150 | .677  | 30   | 2216  | -.019  | .068  | .366  | -.242 |
| 30 | 2112 | -.187  | .057  | .030  | -.407  | 30 | 2164 | -.470  | .105  | -.138 | .919  | 30   | 2217  | -.085  | .058  | .061  | -.505 |
| 30 | 2113 | -.075  | .078  | .236  | -.357  | 30 | 2165 | -.273  | .054  | -.102 | .554  | 30   | 2218  | -.057  | .039  | .075  | -.327 |
| 30 | 2114 | .002   | .112  | .411  | -.592  | 30 | 2166 | -.277  | .046  | -.155 | .533  | 30   | 2219  | -.052  | .032  | .068  | -.211 |
| 30 | 2115 | -.021  | .071  | .269  | -.355  | 30 | 2167 | -.541  | .124  | -.030 | -.299 | 30   | 2220  | -.020  | .058  | .282  | -.294 |
| 30 | 2116 | -.202  | .051  | .003  | -.447  | 30 | 2168 | -.447  | .124  | -.049 | -.049 | 30   | 2221  | -.080  | .052  | .080  | -.338 |
| 30 | 2117 | -.129  | .050  | .072  | -.324  | 30 | 2170 | -.059  | .085  | .511  | .362  | 30   | 2222  | -.032  | .031  | .101  | -.155 |
| 30 | 2118 | -.087  | .102  | .162  | -.725  | 30 | 2171 | -.003  | .125  | .482  | .434  | 30   | 2223  | -.069  | .035  | .056  | -.233 |
| 30 | 2119 | -.010  | .068  | .295  | -.302  | 30 | 2172 | -.011  | .150  | .511  | .612  | 30   | 2224  | -.073  | .045  | .153  | -.529 |
| 30 | 2120 | -.194  | .071  | .226  | -.404  | 30 | 2173 | -.005  | .143  | .581  | .527  | 30   | 2225  | -.088  | .034  | .188  | -.216 |
| 30 | 2121 | -.131  | .102  | .274  | -.367  | 30 | 2174 | -.137  | .073  | .439  | .30   | 2226 | -.115 | .035   | -.005 | -.271 |       |
| 30 | 2122 | -.081  | .098  | .255  | -.727  | 30 | 2175 | -.276  | .050  | -.133 | .580  | 30   | 2227  | -.139  | .052  | -.009 | -.432 |
| 30 | 2123 | .008   | .060  | .364  | -.265  | 30 | 2177 | -.283  | .041  | -.164 | .472  | 30   | 2228  | -.051  | .037  | .081  | -.231 |

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|
| 30 | 2229 | -.013  | .033  | .126  | -.120 | 40 | 2115 | -.037  | .072  | .220  | -.531 | 40 | 2167 | -.401  | .139  | -.023 | -1.146 |
| 30 | 2230 | -.055  | .038  | .057  | -.276 | 40 | 2116 | -.175  | .052  | .022  | -.394 | 40 | 2168 | -.340  | .113  | .062  | -.821  |
| 30 | 2231 | -.044  | .038  | .114  | -.259 | 40 | 2117 | -.111  | .055  | .143  | -.298 | 40 | 2170 | -.045  | .094  | .521  | -.331  |
| 30 | 2233 | -.032  | .026  | .096  | -.112 | 40 | 2118 | -.074  | .067  | .147  | -.507 | 40 | 2171 | -.068  | .098  | .504  | -.467  |
| 30 | 2234 | -.072  | .042  | .208  | -.202 | 40 | 2119 | -.053  | .065  | .246  | -.339 | 40 | 2172 | -.112  | .142  | .465  | -.645  |
| 30 | 2235 | -.074  | .029  | .091  | -.157 | 40 | 2120 | -.182  | .061  | .099  | -.404 | 40 | 2173 | -.090  | .111  | .499  | -.482  |
| 30 | 2236 | -.086  | .033  | .044  | -.199 | 40 | 2121 | -.125  | .091  | .258  | -.353 | 40 | 2174 | -.147  | .070  | .226  | -.382  |
| 30 | 2237 | -.111  | .044  | .027  | -.375 | 40 | 2122 | -.076  | .089  | .253  | -.558 | 40 | 2175 | -.235  | .048  | -.094 | -.462  |
| 30 | 2238 | -.002  | .034  | .139  | -.132 | 40 | 2123 | -.010  | .050  | .297  | -.252 | 40 | 2177 | -.247  | .040  | -.106 | -.436  |
| 30 | 2239 | -.004  | .034  | .129  | -.149 | 40 | 2124 | -.263  | .056  | -.086 | -.500 | 40 | 2178 | -.007  | .071  | .365  | -.226  |
| 30 | 2240 | -.012  | .030  | .129  | -.159 | 40 | 2125 | -.296  | .083  | -.093 | -.813 | 40 | 2179 | -.045  | .069  | .218  | -.277  |
| 30 | 2241 | .006   | .034  | .173  | -.152 | 40 | 2126 | -.237  | .048  | -.079 | -.613 | 40 | 2180 | -.075  | .111  | .431  | -.606  |
| 30 | 2242 | -.008  | .033  | .181  | -.189 | 40 | 2127 | -.281  | .082  | -.050 | -.854 | 40 | 2181 | -.095  | .081  | .253  | -.328  |
| 30 | 2243 | -.012  | .030  | .104  | -.107 | 40 | 2128 | -.247  | .045  | -.158 | -.664 | 40 | 2182 | -.195  | .033  | -.082 | -.370  |
| 30 | 2244 | .004   | .033  | .158  | -.127 | 40 | 2129 | -.032  | .115  | .518  | -.291 | 40 | 2183 | -.216  | .049  | -.072 | -.492  |
| 30 | 2245 | -.004  | .036  | .114  | -.172 | 40 | 2130 | -.236  | .035  | -.086 | -.384 | 40 | 2184 | -.214  | .038  | -.103 | -.386  |
| 30 | 2246 | -.018  | .030  | .124  | -.144 | 40 | 2131 | -.269  | .047  | -.151 | -.500 | 40 | 2185 | -.243  | .035  | -.153 | -.398  |
| 30 | 2247 | -.028  | .030  | .094  | -.162 | 40 | 2132 | -.261  | .068  | -.096 | -.948 | 40 | 2187 | -.239  | .033  | -.148 | -.396  |
| 30 | 2248 | .036   | .052  | .310  | -.140 | 40 | 2133 | -.011  | .116  | .441  | -.363 | 40 | 2188 | -.024  | .044  | .293  | -.203  |
| 30 | 2249 | -.001  | .031  | .114  | -.140 | 40 | 2134 | -.243  | .035  | -.146 | -.389 | 40 | 2189 | -.003  | .062  | .300  | -.286  |
| 30 | 2250 | -.021  | .031  | .131  | -.162 | 40 | 2136 | -.285  | .070  | -.110 | -.632 | 40 | 2190 | -.024  | .083  | .305  | -.415  |
| 30 | 2251 | -.005  | .028  | .136  | -.107 | 40 | 2137 | -.164  | .120  | .292  | -.603 | 40 | 2191 | -.091  | .077  | .269  | -.415  |
| 30 | 2252 | .003   | .038  | .141  | -.219 | 40 | 2138 | -.223  | .029  | -.132 | -.411 | 40 | 2192 | -.224  | .046  | -.046 | -.465  |
| 30 | 2253 | .001   | .041  | .146  | -.284 | 40 | 2140 | -.243  | .052  | -.081 | -.577 | 40 | 2193 | -.272  | .059  | -.123 | -.597  |
| 30 | 2254 | -.004  | .042  | .208  | -.144 | 40 | 2141 | -.201  | .064  | -.147 | -.471 | 40 | 2194 | -.244  | .054  | -.062 | -.653  |
| 30 | 2255 | .024   | .046  | .352  | -.090 | 40 | 2142 | -.217  | .050  | -.043 | -.454 | 40 | 2195 | -.017  | .041  | .197  | -.141  |
| 30 | 2256 | -.007  | .035  | .161  | -.120 | 40 | 2143 | -.234  | .048  | -.074 | -.562 | 40 | 2196 | -.008  | .063  | .398  | -.236  |
| 30 | 2257 | -.021  | .025  | .079  | -.110 | 40 | 2144 | -.235  | .042  | -.104 | -.470 | 40 | 2197 | -.038  | .091  | .788  | -.248  |
| 30 | 2258 | -.011  | .025  | .096  | -.082 | 40 | 2145 | -.158  | .056  | .052  | -.311 | 40 | 2198 | -.017  | .093  | .667  | -.205  |
| 30 | 2259 | -.032  | .041  | .238  | -.423 | 40 | 2146 | -.247  | .087  | -.143 | -.907 | 40 | 2199 | -.166  | .048  | -.066 | -.379  |
| 30 | 2260 | -.034  | .039  | .181  | -.097 | 40 | 2147 | -.235  | .066  | -.050 | -.597 | 40 | 2200 | -.297  | .095  | -.089 | -.808  |
| 30 | 2261 | -.032  | .044  | .278  | -.097 | 40 | 2148 | -.211  | .060  | -.052 | -.648 | 40 | 2201 | -.197  | .060  | -.026 | -.472  |
| 30 | 2262 | -.010  | .036  | .151  | -.102 | 40 | 2149 | -.225  | .088  | -.052 | -.833 | 40 | 2202 | -.052  | .036  | .900  | -.274  |
| 30 | 2263 | -.010  | .028  | .089  | -.095 | 40 | 2150 | -.047  | .105  | .397  | -.377 | 40 | 2203 | -.053  | .045  | .114  | -.408  |
| 30 | 2264 | -.018  | .029  | .089  | -.187 | 40 | 2151 | -.217  | .070  | .018  | -.619 | 40 | 2204 | -.045  | .036  | .114  | -.220  |
| 30 | 2265 | -.001  | .024  | .109  | -.070 | 40 | 2152 | -.221  | .059  | -.057 | -.677 | 40 | 2205 | -.055  | .045  | .147  | -.336  |
| 40 | 2101 | -.164  | .068  | .063  | -.454 | 40 | 2153 | -.200  | .060  | -.067 | -.750 | 40 | 2206 | -.031  | .033  | .085  | -.248  |
| 40 | 2102 | -.324  | .078  | -.052 | -.683 | 40 | 2154 | -.164  | .055  | -.006 | -.489 | 40 | 2207 | -.047  | .034  | .097  | -.239  |
| 40 | 2103 | -.453  | .241  | .116  | -.631 | 40 | 2155 | -.135  | .038  | -.023 | -.336 | 40 | 2208 | -.101  | .043  | .050  | -.336  |
| 40 | 2104 | -.308  | .081  | -.014 | -.589 | 40 | 2156 | -.043  | .103  | .543  | -.331 | 40 | 2209 | -.114  | .062  | .047  | -.560  |
| 40 | 2105 | .011   | .107  | .537  | -.264 | 40 | 2157 | -.055  | .082  | .318  | -.448 | 40 | 2210 | -.129  | .050  | .047  | -.427  |
| 40 | 2106 | .166   | .150  | .730  | -.298 | 40 | 2158 | -.146  | .033  | -.026 | -.270 | 40 | 2211 | -.057  | .056  | .162  | -.346  |
| 40 | 2107 | -.038  | .162  | .540  | -.591 | 40 | 2159 | -.143  | .037  | -.006 | -.304 | 40 | 2212 | -.158  | .060  | .042  | -.408  |
| 40 | 2108 | -.237  | .087  | .171  | -.801 | 40 | 2160 | -.124  | .034  | -.038 | -.282 | 40 | 2213 | -.125  | .049  | .062  | -.351  |
| 40 | 2109 | -.018  | .086  | .470  | -.262 | 40 | 2161 | -.139  | .045  | -.028 | -.614 | 40 | 2214 | -.124  | .040  | .014  | -.391  |
| 40 | 2110 | .150   | .121  | .739  | -.250 | 40 | 2162 | -.237  | .038  | -.116 | -.399 | 40 | 2215 | -.136  | .050  | .011  | -.441  |
| 40 | 2111 | .005   | .119  | .487  | -.514 | 40 | 2163 | -.277  | .055  | -.101 | -.702 | 40 | 2216 | -.019  | .051  | .312  | -.232  |
| 40 | 2112 | -.171  | .058  | .085  | -.476 | 40 | 2164 | -.389  | .094  | -.035 | -.860 | 40 | 2217 | -.065  | .048  | .054  | -.353  |
| 40 | 2113 | -.051  | .063  | .287  | -.223 | 40 | 2165 | -.231  | .043  | -.096 | -.450 | 40 | 2218 | -.051  | .035  | .100  | -.279  |
| 40 | 2114 | .044   | .087  | .436  | -.329 | 40 | 2166 | -.243  | .052  | -.110 | -.672 | 40 | 2219 | -.048  | .031  | .059  | -.210  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|
| 40 | 2220 | -.061  | .046  | .124  | -.320 | 50 | 2106 | -.147  | .137  | .732  | -.263 | 50 | 2158 | -.107  | .029  | -.000 | -.232  |
| 40 | 2221 | -.057  | .040  | .121  | -.272 | 50 | 2107 | -.049  | .122  | .424  | -.656 | 50 | 2159 | -.104  | .026  | .016  | -.215  |
| 40 | 2222 | -.034  | .028  | .085  | -.179 | 50 | 2108 | -.186  | .079  | .111  | -.545 | 50 | 2160 | -.089  | .025  | .024  | -.196  |
| 40 | 2223 | -.061  | .033  | .047  | -.224 | 50 | 2109 | .007   | .085  | .361  | -.214 | 50 | 2161 | -.092  | .032  | .016  | -.480  |
| 40 | 2224 | -.075  | .078  | .319  | -.565 | 50 | 2110 | .139   | .119  | .688  | -.157 | 50 | 2162 | -.171  | .035  | -.070 | -.361  |
| 40 | 2225 | -.066  | .032  | .278  | -.200 | 50 | 2111 | -.008  | .106  | .530  | -.487 | 50 | 2163 | -.198  | .045  | -.084 | -.483  |
| 40 | 2226 | -.102  | .035  | .021  | -.243 | 50 | 2112 | -.136  | .053  | .069  | -.538 | 50 | 2164 | -.277  | .071  | -.027 | -.850  |
| 40 | 2227 | -.127  | .056  | .047  | -.460 | 50 | 2113 | -.040  | .063  | .375  | -.188 | 50 | 2165 | -.169  | .037  | -.065 | -.361  |
| 40 | 2228 | -.045  | .035  | .077  | -.271 | 50 | 2114 | -.038  | .068  | .363  | -.350 | 50 | 2166 | -.176  | .042  | -.059 | -.532  |
| 40 | 2229 | -.012  | .033  | .155  | -.142 | 50 | 2115 | -.049  | .073  | .276  | -.421 | 50 | 2167 | -.268  | .097  | .064  | -.1036 |
| 40 | 2230 | -.048  | .042  | .120  | -.329 | 50 | 2116 | -.125  | .054  | .083  | -.390 | 50 | 2168 | -.230  | .085  | .040  | -.888  |
| 40 | 2231 | -.044  | .031  | .059  | -.256 | 50 | 2117 | -.072  | .048  | .158  | -.242 | 50 | 2170 | -.019  | .076  | .434  | -.237  |
| 40 | 2233 | -.031  | .030  | .092  | -.208 | 50 | 2118 | -.065  | .045  | .095  | -.261 | 50 | 2171 | -.077  | .066  | .315  | -.303  |
| 40 | 2234 | -.066  | .042  | .162  | -.263 | 50 | 2119 | -.081  | .053  | .121  | -.298 | 50 | 2172 | -.170  | .105  | .296  | -.640  |
| 40 | 2235 | -.065  | .032  | .193  | -.155 | 50 | 2120 | -.113  | .060  | .189  | -.317 | 50 | 2173 | -.101  | .080  | .320  | -.354  |
| 40 | 2236 | -.072  | .040  | .094  | -.268 | 50 | 2121 | -.068  | .084  | .354  | -.277 | 50 | 2174 | -.132  | .053  | .200  | -.354  |
| 40 | 2237 | -.087  | .053  | .072  | -.429 | 50 | 2122 | -.053  | .069  | .229  | -.303 | 50 | 2175 | -.175  | .039  | -.072 | -.401  |
| 40 | 2238 | -.008  | .035  | .140  | -.145 | 50 | 2123 | -.011  | .049  | .203  | -.150 | 50 | 2177 | -.178  | .033  | -.091 | -.373  |
| 40 | 2239 | -.027  | .032  | .097  | -.241 | 50 | 2124 | -.236  | .066  | -.016 | -.633 | 50 | 2178 | -.003  | .054  | .265  | -.187  |
| 40 | 2240 | -.039  | .032  | .115  | -.203 | 50 | 2125 | -.300  | .097  | -.035 | -.875 | 50 | 2179 | -.084  | .045  | .117  | -.246  |
| 40 | 2241 | -.014  | .037  | .178  | -.145 | 50 | 2126 | -.215  | .055  | -.072 | -.508 | 50 | 2180 | -.157  | .075  | .143  | -.514  |
| 40 | 2242 | -.016  | .031  | .099  | -.145 | 50 | 2127 | -.255  | .098  | -.005 | -.033 | 50 | 2181 | -.116  | .049  | .145  | -.253  |
| 40 | 2243 | -.032  | .031  | .110  | -.213 | 50 | 2128 | -.254  | .054  | -.129 | -.548 | 50 | 2182 | -.148  | .030  | -.010 | -.308  |
| 40 | 2244 | -.009  | .034  | .162  | -.162 | 50 | 2129 | -.042  | .128  | .558  | -.355 | 50 | 2183 | -.165  | .045  | -.046 | -.549  |
| 40 | 2245 | -.025  | .040  | .120  | -.205 | 50 | 2130 | -.206  | .039  | -.089 | -.414 | 50 | 2184 | -.149  | .035  | -.029 | -.325  |
| 40 | 2246 | -.039  | .032  | .089  | -.203 | 50 | 2131 | -.251  | .058  | -.105 | -.522 | 50 | 2185 | -.169  | .027  | -.087 | -.332  |
| 40 | 2247 | -.057  | .032  | .054  | -.220 | 50 | 2132 | -.242  | .073  | -.079 | -.764 | 50 | 2187 | -.170  | .032  | -.078 | -.294  |
| 40 | 2248 | -.023  | .066  | .475  | -.188 | 50 | 2133 | -.001  | .100  | .537  | -.280 | 50 | 2188 | -.008  | .044  | .181  | -.164  |
| 40 | 2249 | -.032  | .030  | .115  | -.145 | 50 | 2134 | -.207  | .037  | -.091 | -.421 | 50 | 2189 | -.044  | .055  | .262  | -.262  |
| 40 | 2250 | -.050  | .029  | .069  | -.178 | 50 | 2136 | -.258  | .075  | -.101 | -.762 | 50 | 2190 | -.090  | .077  | .236  | -.518  |
| 40 | 2251 | -.030  | .028  | .137  | -.120 | 50 | 2137 | -.131  | .104  | .236  | -.512 | 50 | 2191 | -.128  | .062  | .160  | -.420  |
| 40 | 2252 | -.024  | .040  | .110  | -.233 | 50 | 2138 | -.199  | .032  | -.115 | -.360 | 50 | 2192 | -.187  | .041  | -.062 | -.392  |
| 40 | 2253 | -.022  | .040  | .117  | -.173 | 50 | 2140 | -.213  | .048  | -.087 | -.647 | 50 | 2193 | -.229  | .062  | -.043 | -.599  |
| 40 | 2254 | -.032  | .037  | .152  | -.155 | 50 | 2141 | -.164  | .061  | .144  | -.381 | 50 | 2194 | -.177  | .044  | -.052 | -.492  |
| 40 | 2255 | -.022  | .036  | .137  | -.125 | 50 | 2142 | -.199  | .039  | -.030 | -.385 | 50 | 2195 | -.014  | .038  | .202  | -.143  |
| 40 | 2256 | -.018  | .031  | .157  | -.112 | 50 | 2143 | -.192  | .036  | -.079 | -.459 | 50 | 2196 | -.009  | .062  | .297  | -.232  |
| 40 | 2257 | -.046  | .025  | .052  | -.125 | 50 | 2144 | -.217  | .047  | -.105 | -.552 | 50 | 2197 | -.053  | .095  | .460  | -.257  |
| 40 | 2258 | -.030  | .025  | .117  | -.107 | 50 | 2145 | -.121  | .051  | .114  | -.265 | 50 | 2198 | -.053  | .093  | .609  | -.187  |
| 40 | 2259 | .002   | .042  | .253  | -.251 | 50 | 2146 | -.209  | .065  | .002  | .714  | 50 | 2199 | -.120  | .051  | .141  | -.311  |
| 40 | 2260 | -.002  | .037  | .145  | -.142 | 50 | 2147 | -.164  | .044  | -.053 | -.449 | 50 | 2200 | -.284  | .098  | -.064 | -.765  |
| 40 | 2261 | -.010  | .039  | .188  | -.127 | 50 | 2148 | -.140  | .041  | -.022 | -.459 | 50 | 2201 | -.106  | .047  | .046  | -.343  |
| 40 | 2262 | -.031  | .032  | .092  | -.157 | 50 | 2149 | -.157  | .060  | -.017 | -.635 | 50 | 2202 | -.052  | .038  | .104  | -.364  |
| 40 | 2263 | -.028  | .027  | .104  | -.117 | 50 | 2150 | -.076  | .075  | .346  | -.349 | 50 | 2203 | -.036  | .031  | .067  | -.166  |
| 40 | 2264 | -.036  | .025  | .047  | -.155 | 50 | 2151 | -.169  | .061  | .026  | -.440 | 50 | 2204 | -.037  | .033  | .129  | -.201  |
| 40 | 2265 | -.019  | .024  | .089  | -.107 | 50 | 2152 | -.149  | .044  | -.034 | -.547 | 50 | 2205 | -.042  | .035  | .132  | -.222  |
| 50 | 2101 | -.142  | .074  | .184  | -.470 | 50 | 2153 | -.129  | .035  | -.015 | -.351 | 50 | 2206 | -.025  | .035  | .150  | -.192  |
| 50 | 2102 | -.257  | .078  | .029  | -.571 | 50 | 2154 | -.111  | .034  | -.022 | -.442 | 50 | 2207 | -.042  | .042  | .218  | -.243  |
| 50 | 2103 | -.411  | .221  | .057  | -.147 | 50 | 2155 | -.094  | .032  | .002  | -.294 | 50 | 2208 | -.072  | .039  | .106  | -.260  |
| 50 | 2104 | -.263  | .084  | -.030 | -.614 | 50 | 2156 | -.030  | .083  | .513  | -.241 | 50 | 2209 | -.071  | .051  | .087  | -.350  |
| 50 | 2105 | .030   | .115  | .483  | -.291 | 50 | 2157 | -.018  | .071  | .320  | -.416 | 50 | 2210 | -.087  | .041  | .062  | -.378  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 156

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|--------|
| 50 | 2211 | -.061  | .042  | .120  | -.297 | 50 | 2262 | -.071  | .028  | .028  | -.204  | 60 | 2149 | -.130  | .037  | -.027 | -.401  |
| 50 | 2212 | -.105  | .043  | .046  | -.339 | 50 | 2263 | -.041  | .026  | .117  | -.127  | 60 | 2150 | -.103  | .048  | .171  | -.288  |
| 50 | 2213 | -.071  | .039  | .085  | -.241 | 50 | 2264 | -.052  | .025  | .033  | -.147  | 60 | 2151 | -.145  | .044  | -.041 | -.359  |
| 50 | 2214 | -.087  | .036  | .039  | -.304 | 50 | 2265 | -.032  | .026  | .082  | -.103  | 60 | 2152 | -.120  | .029  | -.015 | -.300  |
| 50 | 2215 | -.104  | .044  | .027  | -.385 | 60 | 2101 | -.129  | .074  | .238  | -.415  | 60 | 2153 | -.109  | .026  | -.032 | -.298  |
| 50 | 2216 | -.040  | .032  | .141  | -.197 | 60 | 2102 | -.174  | .076  | .082  | -.587  | 60 | 2154 | -.092  | .026  | -.008 | -.220  |
| 50 | 2217 | -.041  | .031  | .080  | -.241 | 60 | 2103 | -.308  | .211  | .193  | -.1300 | 60 | 2155 | -.081  | .027  | .032  | -.187  |
| 50 | 2218 | -.041  | .029  | .073  | -.201 | 60 | 2104 | -.170  | .081  | .154  | -.529  | 60 | 2156 | -.011  | .068  | .514  | -.173  |
| 50 | 2219 | -.042  | .028  | .064  | -.159 | 60 | 2105 | -.078  | .132  | .653  | -.396  | 60 | 2157 | -.043  | .057  | .197  | -.310  |
| 50 | 2220 | -.059  | .043  | .195  | -.225 | 60 | 2106 | -.140  | .135  | .688  | -.313  | 60 | 2158 | -.097  | .024  | -.011 | -.199  |
| 50 | 2221 | -.035  | .030  | .092  | -.213 | 60 | 2107 | -.063  | .099  | .312  | -.561  | 60 | 2159 | -.100  | .024  | .006  | -.183  |
| 50 | 2222 | -.030  | .031  | .101  | -.178 | 60 | 2108 | -.128  | .076  | .173  | -.573  | 60 | 2160 | -.074  | .024  | .036  | -.159  |
| 50 | 2223 | -.058  | .039  | .132  | -.199 | 60 | 2109 | -.051  | .106  | .486  | -.199  | 60 | 2161 | -.071  | .027  | .027  | -.175  |
| 50 | 2224 | .011   | .071  | .325  | -.283 | 60 | 2110 | -.119  | .102  | .670  | -.125  | 60 | 2162 | -.136  | .030  | -.048 | -.248  |
| 50 | 2225 | .009   | .065  | .326  | -.174 | 60 | 2111 | -.013  | .097  | .400  | -.455  | 60 | 2163 | -.160  | .041  | -.060 | -.550  |
| 50 | 2226 | -.066  | .034  | .113  | -.214 | 60 | 2112 | -.099  | .054  | .126  | -.503  | 60 | 2164 | -.208  | .053  | -.025 | -.463  |
| 50 | 2227 | -.091  | .052  | .053  | -.359 | 60 | 2113 | -.020  | .064  | .384  | -.194  | 60 | 2165 | -.135  | .029  | -.041 | -.319  |
| 50 | 2228 | -.037  | .028  | .065  | -.172 | 60 | 2114 | -.021  | .061  | .282  | -.143  | 60 | 2166 | -.141  | .032  | -.042 | -.292  |
| 50 | 2229 | -.006  | .044  | .280  | -.152 | 60 | 2115 | -.042  | .070  | .226  | -.403  | 60 | 2167 | -.205  | .071  | -.034 | .613   |
| 50 | 2230 | -.086  | .059  | .119  | -.411 | 60 | 2116 | -.102  | .055  | .117  | -.429  | 60 | 2168 | -.162  | .054  | -.032 | -.456  |
| 50 | 2231 | -.038  | .025  | .092  | -.177 | 60 | 2117 | -.055  | .044  | .221  | -.266  | 60 | 2170 | -.003  | .055  | .288  | -.246  |
| 50 | 2233 | -.029  | .025  | .062  | -.155 | 60 | 2118 | -.060  | .041  | .103  | -.255  | 60 | 2171 | -.050  | .052  | .232  | -.220  |
| 50 | 2234 | -.060  | .034  | .092  | -.263 | 60 | 2119 | -.073  | .048  | .098  | -.336  | 60 | 2172 | -.148  | .076  | .220  | -.437  |
| 50 | 2235 | -.026  | .037  | .154  | -.140 | 60 | 2120 | -.066  | .050  | .161  | -.218  | 60 | 2173 | -.094  | .052  | .380  | -.267  |
| 50 | 2236 | -.038  | .033  | .102  | -.162 | 60 | 2121 | -.032  | .068  | .430  | -.199  | 60 | 2174 | -.121  | .035  | -.081 | -.305  |
| 50 | 2237 | -.064  | .049  | .082  | -.386 | 60 | 2122 | -.031  | .061  | .270  | -.336  | 60 | 2175 | -.141  | .035  | -.025 | -.321  |
| 50 | 2238 | -.035  | .032  | .092  | -.169 | 60 | 2123 | -.003  | .053  | .317  | -.215  | 60 | 2177 | -.151  | .031  | -.077 | -.385  |
| 50 | 2239 | -.052  | .031  | .058  | -.271 | 60 | 2124 | -.212  | .069  | .005  | .552   | 60 | 2178 | -.005  | .048  | .220  | -.143  |
| 50 | 2240 | -.066  | .030  | .062  | -.192 | 60 | 2125 | -.300  | .109  | .022  | .859   | 60 | 2179 | -.079  | .032  | .091  | -.192  |
| 50 | 2241 | -.031  | .037  | .134  | -.229 | 60 | 2126 | -.184  | .056  | -.041 | .506   | 60 | 2180 | -.145  | .052  | .133  | -.352  |
| 50 | 2242 | -.035  | .031  | .092  | -.214 | 60 | 2127 | -.231  | .099  | .066  | .924   | 60 | 2181 | -.099  | .033  | .098  | -.239  |
| 50 | 2243 | -.046  | .032  | .097  | -.261 | 60 | 2128 | -.254  | .073  | -.111 | .612   | 60 | 2182 | -.120  | .029  | -.037 | -.300  |
| 50 | 2244 | -.035  | .035  | .082  | -.162 | 60 | 2129 | -.057  | .132  | .526  | -.427  | 60 | 2183 | -.126  | .034  | -.020 | -.281  |
| 50 | 2245 | -.039  | .037  | .104  | -.221 | 60 | 2130 | -.185  | .045  | -.034 | .457   | 60 | 2184 | -.118  | .026  | -.042 | -.256  |
| 50 | 2246 | -.063  | .030  | .095  | -.184 | 60 | 2131 | -.230  | .063  | -.069 | .554   | 60 | 2185 | -.134  | .024  | -.062 | -.272  |
| 50 | 2247 | -.099  | .036  | .021  | -.268 | 60 | 2132 | -.230  | .073  | -.025 | .687   | 60 | 2187 | -.129  | .028  | -.049 | -.285  |
| 50 | 2248 | .017   | .066  | .395  | -.167 | 60 | 2133 | -.026  | .110  | .495  | -.327  | 60 | 2188 | -.010  | .036  | .149  | -.141  |
| 50 | 2249 | -.048  | .029  | .077  | -.189 | 60 | 2134 | -.182  | .040  | -.060 | .401   | 60 | 2189 | -.063  | .035  | .080  | -.212  |
| 50 | 2250 | -.069  | .034  | .065  | -.271 | 60 | 2136 | -.228  | .077  | -.071 | .914   | 60 | 2190 | -.114  | .045  | -.092 | -.343  |
| 50 | 2251 | -.040  | .035  | .151  | -.147 | 60 | 2137 | -.081  | .098  | .389  | -.420  | 60 | 2191 | -.127  | .048  | .103  | -.334  |
| 50 | 2252 | -.055  | .046  | .070  | -.268 | 60 | 2138 | -.170  | .036  | -.025 | .327   | 60 | 2192 | -.160  | .043  | -.049 | -.343  |
| 50 | 2253 | -.047  | .041  | .072  | -.189 | 60 | 2140 | -.211  | .063  | -.069 | .921   | 60 | 2193 | -.172  | .045  | -.060 | -.394  |
| 50 | 2254 | -.055  | .031  | .092  | -.172 | 60 | 2141 | -.116  | .058  | -.177 | .315   | 60 | 2194 | -.132  | .035  | -.039 | .614   |
| 50 | 2255 | -.054  | .033  | .070  | -.174 | 60 | 2142 | -.170  | .038  | -.057 | .362   | 60 | 2195 | -.008  | .034  | .156  | -.106  |
| 50 | 2256 | -.030  | .034  | .166  | -.137 | 60 | 2143 | -.172  | .036  | -.046 | .347   | 60 | 2196 | -.006  | .057  | .255  | -.350  |
| 50 | 2257 | -.066  | .025  | .028  | -.164 | 60 | 2144 | -.203  | .058  | -.062 | .531   | 60 | 2197 | -.051  | .086  | .496  | -.212  |
| 50 | 2258 | -.040  | .026  | .067  | -.137 | 60 | 2145 | -.076  | .041  | -.081 | .204   | 60 | 2198 | -.050  | .092  | .593  | -.166  |
| 50 | 2259 | -.021  | .037  | .297  | -.206 | 60 | 2146 | -.156  | .041  | -.001 | .369   | 60 | 2199 | -.087  | .044  | .154  | -.269  |
| 50 | 2260 | -.028  | .033  | .092  | -.221 | 60 | 2147 | -.130  | .032  | -.025 | .456   | 60 | 2200 | -.267  | .099  | -.055 | -.1051 |
| 50 | 2261 | -.051  | .030  | .198  | -.162 | 60 | 2148 | -.112  | .027  | -.039 | .288   | 60 | 2201 | -.074  | .033  | .087  | -.313  |

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 60 | 2202 | -.059  | .041  | .071  | -.313 | 60 | 2253 | -.084  | .028  | .008  | -.179  | 70 | 2140 | -.219  | .085  | -.032 | -.944 |
| 60 | 2203 | -.038  | .030  | .062  | -.170 | 60 | 2254 | -.071  | .026  | .030  | -.167  | 70 | 2141 | -.096  | .053  | .175  | -.348 |
| 60 | 2204 | -.041  | .031  | .101  | -.198 | 60 | 2255 | -.085  | .026  | .023  | -.184  | 70 | 2142 | -.153  | .037  | -.046 | -.454 |
| 60 | 2205 | -.037  | .033  | .145  | -.279 | 60 | 2256 | -.055  | .030  | .091  | -.172  | 70 | 2143 | -.149  | .040  | -.038 | -.419 |
| 60 | 2206 | -.023  | .035  | .163  | -.203 | 60 | 2257 | -.081  | .027  | .071  | -.204  | 70 | 2144 | -.204  | .076  | -.010 | -.614 |
| 60 | 2207 | -.035  | .042  | .154  | -.203 | 60 | 2258 | -.052  | .030  | .132  | -.148  | 70 | 2145 | -.073  | .038  | .085  | -.182 |
| 60 | 2208 | -.035  | .039  | .139  | -.168 | 60 | 2259 | -.023  | .050  | .324  | -.143  | 70 | 2146 | -.106  | .038  | .004  | -.412 |
| 60 | 2209 | -.053  | .043  | .122  | -.352 | 60 | 2260 | -.058  | .032  | .066  | -.432  | 70 | 2147 | -.088  | .024  | -.024 | .240  |
| 60 | 2210 | -.071  | .036  | .050  | -.281 | 60 | 2261 | -.073  | .023  | .006  | -.172  | 70 | 2148 | -.095  | .021  | -.019 | -.236 |
| 60 | 2211 | -.042  | .036  | .126  | -.205 | 60 | 2262 | -.090  | .024  | -.021 | -.194  | 70 | 2149 | -.114  | .028  | -.024 | -.231 |
| 60 | 2212 | -.057  | .035  | .078  | -.207 | 60 | 2263 | -.061  | .023  | .071  | -.143  | 70 | 2150 | -.066  | .040  | .141  | -.196 |
| 60 | 2213 | -.051  | .032  | .071  | -.205 | 60 | 2264 | -.070  | .024  | .035  | -.145  | 70 | 2151 | -.102  | .030  | .018  | -.273 |
| 60 | 2214 | -.074  | .032  | .039  | -.251 | 60 | 2265 | -.052  | .025  | .054  | -.123  | 70 | 2152 | -.094  | .022  | -.017 | .205  |
| 60 | 2215 | -.085  | .036  | .025  | -.389 | 70 | 2101 | -.120  | .081  | .246  | -.456  | 70 | 2153 | -.099  | .022  | -.019 | -.203 |
| 60 | 2216 | -.043  | .033  | .103  | -.239 | 70 | 2102 | -.139  | .077  | .115  | -.784  | 70 | 2154 | -.092  | .022  | -.006 | -.189 |
| 60 | 2217 | -.041  | .032  | .092  | -.175 | 70 | 2103 | -.192  | .121  | .126  | -1.004 | 70 | 2155 | -.084  | .021  | -.003 | -.168 |
| 60 | 2218 | -.045  | .032  | .133  | -.210 | 70 | 2104 | -.124  | .066  | .117  | -.566  | 70 | 2156 | -.040  | .051  | .299  | -.177 |
| 60 | 2219 | -.045  | .030  | .078  | -.166 | 70 | 2105 | -.063  | .111  | .567  | -.220  | 70 | 2157 | -.083  | .043  | .083  | -.270 |
| 60 | 2220 | -.042  | .039  | .165  | -.193 | 70 | 2106 | -.132  | .136  | .606  | -.195  | 70 | 2158 | -.083  | .019  | -.017 | .140  |
| 60 | 2221 | -.040  | .028  | .092  | -.173 | 70 | 2107 | -.114  | .096  | .223  | -.651  | 70 | 2159 | -.086  | .018  | -.017 | .140  |
| 60 | 2222 | -.026  | .032  | .151  | -.164 | 70 | 2108 | -.088  | .061  | .154  | -.520  | 70 | 2160 | -.076  | .019  | -.001 | .152  |
| 60 | 2223 | -.051  | .041  | .122  | -.212 | 70 | 2109 | -.057  | .097  | .475  | -.231  | 70 | 2161 | -.079  | .023  | .004  | -.173 |
| 60 | 2224 | -.043  | .067  | .402  | -.164 | 70 | 2110 | -.077  | .100  | .569  | -.135  | 70 | 2162 | -.088  | .024  | -.008 | .184  |
| 60 | 2225 | -.022  | .056  | .422  | -.133 | 70 | 2111 | -.040  | .091  | .404  | -.630  | 70 | 2163 | -.107  | .033  | -.010 | .294  |
| 60 | 2226 | -.055  | .030  | .052  | -.177 | 70 | 2112 | -.088  | .046  | .087  | -.483  | 70 | 2164 | -.161  | .045  | .020  | .524  |
| 60 | 2227 | -.072  | .044  | .052  | -.311 | 70 | 2113 | -.020  | .062  | .324  | -.162  | 70 | 2165 | -.096  | .026  | -.001 | .229  |
| 60 | 2228 | -.047  | .024  | .047  | -.177 | 70 | 2114 | -.009  | .064  | .305  | -.178  | 70 | 2166 | -.094  | .028  | -.008 | .275  |
| 60 | 2229 | -.031  | .039  | .193  | -.177 | 70 | 2115 | -.059  | .064  | .326  | -.389  | 70 | 2167 | -.155  | .055  | .020  | .526  |
| 60 | 2230 | -.073  | .050  | .088  | -.413 | 70 | 2116 | -.091  | .044  | .087  | -.438  | 70 | 2168 | -.118  | .042  | .029  | -.333 |
| 60 | 2231 | -.052  | .023  | .047  | -.216 | 70 | 2117 | -.054  | .042  | .136  | -.286  | 70 | 2169 | -.016  | .042  | .176  | -.131 |
| 60 | 2233 | -.039  | .026  | .081  | -.121 | 70 | 2118 | -.063  | .039  | .197  | -.192  | 70 | 2171 | -.058  | .036  | .120  | -.180 |
| 60 | 2234 | -.051  | .031  | .057  | -.187 | 70 | 2119 | -.067  | .040  | .078  | -.289  | 70 | 2172 | -.134  | .054  | .066  | -.396 |
| 60 | 2235 | -.019  | .037  | .210  | -.148 | 70 | 2120 | -.061  | .037  | .152  | -.190  | 70 | 2173 | -.081  | .028  | .104  | -.217 |
| 60 | 2236 | -.026  | .030  | .110  | -.145 | 70 | 2121 | -.035  | .067  | .385  | -.169  | 70 | 2174 | -.093  | .028  | .104  | -.212 |
| 60 | 2237 | -.047  | .038  | .081  | -.369 | 70 | 2122 | -.026  | .064  | .246  | -.300  | 70 | 2175 | -.104  | .028  | -.017 | .240  |
| 60 | 2238 | -.058  | .029  | .074  | -.165 | 70 | 2123 | -.018  | .042  | .204  | -.165  | 70 | 2177 | -.106  | .024  | -.040 | .189  |
| 60 | 2239 | -.077  | .027  | .032  | -.252 | 70 | 2124 | -.186  | .062  | .014  | -.506  | 70 | 2178 | -.019  | .048  | .315  | -.089 |
| 60 | 2240 | -.094  | .029  | .030  | -.240 | 70 | 2125 | -.282  | .097  | -.016 | -.703  | 70 | 2179 | -.065  | .028  | .062  | -.168 |
| 60 | 2241 | -.047  | .038  | .159  | -.201 | 70 | 2126 | -.175  | .054  | -.029 | -.476  | 70 | 2180 | -.141  | .051  | .066  | -.417 |
| 60 | 2242 | -.055  | .030  | .076  | -.228 | 70 | 2127 | -.205  | .089  | -.099 | -.699  | 70 | 2181 | -.082  | .024  | .050  | -.175 |
| 60 | 2243 | -.067  | .037  | .071  | -.281 | 70 | 2128 | -.259  | .075  | -.084 | -.876  | 70 | 2182 | -.095  | .025  | -.010 | -.217 |
| 60 | 2244 | -.065  | .029  | .028  | -.189 | 70 | 2129 | -.018  | .115  | .530  | -.311  | 70 | 2183 | -.097  | .033  | -.015 | .280  |
| 60 | 2245 | -.065  | .029  | .059  | -.267 | 70 | 2130 | -.180  | .054  | -.020 | -.502  | 70 | 2184 | -.087  | .025  | -.019 | .205  |
| 60 | 2246 | -.080  | .027  | .037  | -.260 | 70 | 2131 | -.207  | .069  | -.055 | -.467  | 70 | 2185 | -.101  | .022  | -.010 | .169  |
| 60 | 2247 | -.121  | .034  | -.004 | -.303 | 70 | 2132 | -.238  | .074  | -.032 | -.912  | 70 | 2187 | -.093  | .024  | -.014 | .200  |
| 60 | 2248 | -.002  | .062  | .285  | -.238 | 70 | 2133 | -.005  | .097  | .408  | -.270  | 70 | 2188 | -.020  | .044  | .240  | -.094 |
| 60 | 2249 | -.063  | .029  | .052  | -.196 | 70 | 2134 | -.172  | .051  | -.019 | -.408  | 70 | 2189 | -.046  | .030  | .094  | -.162 |
| 60 | 2250 | -.088  | .044  | .088  | -.493 | 70 | 2136 | -.238  | .079  | -.059 | -.697  | 70 | 2190 | -.124  | .056  | .115  | -.400 |
| 60 | 2251 | -.041  | .047  | .358  | -.204 | 70 | 2137 | -.046  | .084  | .305  | -.330  | 70 | 2191 | -.074  | .032  | .083  | -.232 |
| 60 | 2252 | -.110  | .047  | .023  | -.306 | 70 | 2138 | -.161  | .041  | -.034 | -.369  | 70 | 2192 | -.091  | .028  | -.005 | -.257 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 158

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 70 | 2193 | -.096  | .030  | -.019 | -.289 | 70 | 2244 | -.077  | .027  | .025  | -.184 | 80 | 2129 | -.083  | .065  | .225  | -.326 |
| 70 | 2194 | -.091  | .027  | .008  | -.280 | 70 | 2245 | -.076  | .028  | .037  | -.182 | 80 | 2130 | -.150  | .033  | -.043 | -.296 |
| 70 | 2195 | .011   | .039  | .176  | -.087 | 70 | 2246 | -.085  | .030  | .049  | -.254 | 80 | 2131 | -.153  | .041  | -.017 | -.397 |
| 70 | 2196 | -.022  | .035  | .153  | -.153 | 70 | 2247 | -.123  | .040  | .049  | -.357 | 80 | 2132 | -.178  | .053  | .014  | -.530 |
| 70 | 2197 | -.052  | .058  | .244  | -.311 | 70 | 2248 | -.027  | .065  | .356  | -.230 | 80 | 2133 | -.076  | .067  | .269  | -.268 |
| 70 | 2198 | -.020  | .052  | .394  | -.125 | 70 | 2249 | -.074  | .031  | .065  | -.225 | 80 | 2134 | -.145  | .031  | -.040 | -.296 |
| 70 | 2199 | -.067  | .031  | .054  | -.191 | 70 | 2250 | -.083  | .054  | .116  | -.638 | 80 | 2136 | -.167  | .052  | -.019 | -.411 |
| 70 | 2200 | -.098  | .046  | .002  | -.364 | 70 | 2251 | -.025  | .062  | .339  | -.213 | 80 | 2137 | -.086  | .055  | .220  | -.336 |
| 70 | 2201 | -.069  | .025  | .038  | -.193 | 70 | 2252 | -.111  | .035  | -.009 | -.345 | 80 | 2138 | -.143  | .029  | -.059 | -.305 |
| 70 | 2202 | -.077  | .044  | .047  | -.364 | 70 | 2253 | -.089  | .025  | .012  | -.196 | 80 | 2140 | -.155  | .051  | .037  | -.505 |
| 70 | 2203 | -.056  | .031  | .092  | -.155 | 70 | 2254 | -.076  | .025  | .041  | -.151 | 80 | 2141 | -.097  | .040  | -.119 | -.226 |
| 70 | 2204 | -.057  | .034  | .101  | -.234 | 70 | 2255 | -.086  | .024  | .029  | -.172 | 80 | 2142 | -.140  | .026  | -.045 | -.301 |
| 70 | 2205 | -.050  | .036  | .110  | -.280 | 70 | 2256 | -.066  | .030  | .080  | -.160 | 80 | 2143 | -.135  | .030  | -.027 | -.346 |
| 70 | 2206 | -.032  | .035  | .133  | -.239 | 70 | 2257 | -.086  | .033  | .080  | -.247 | 80 | 2144 | -.155  | .049  | -.039 | -.467 |
| 70 | 2207 | -.036  | .037  | .165  | -.169 | 70 | 2258 | -.052  | .038  | .178  | -.163 | 80 | 2145 | -.114  | .032  | -.004 | -.203 |
| 70 | 2208 | -.040  | .036  | .113  | -.284 | 70 | 2259 | -.026  | .046  | .315  | -.206 | 80 | 2146 | -.102  | .032  | -.001 | -.291 |
| 70 | 2209 | -.053  | .034  | .076  | -.282 | 70 | 2260 | -.073  | .033  | .063  | -.266 | 80 | 2147 | -.099  | .027  | -.004 | -.246 |
| 70 | 2210 | -.058  | .030  | .063  | -.307 | 70 | 2261 | -.076  | .026  | .051  | -.177 | 80 | 2148 | -.107  | .023  | -.025 | -.308 |
| 70 | 2211 | -.046  | .030  | .097  | -.207 | 70 | 2262 | -.091  | .022  | -.009 | -.189 | 80 | 2149 | -.108  | .025  | -.018 | -.222 |
| 70 | 2212 | -.031  | .030  | .065  | -.230 | 70 | 2263 | -.069  | .027  | .065  | -.139 | 80 | 2150 | -.076  | .038  | .180  | -.186 |
| 70 | 2213 | -.056  | .027  | .070  | -.184 | 70 | 2264 | -.077  | .028  | .061  | -.175 | 80 | 2151 | -.105  | .027  | .011  | -.227 |
| 70 | 2214 | -.057  | .023  | .031  | -.164 | 70 | 2265 | -.061  | .026  | .058  | -.139 | 80 | 2152 | -.106  | .024  | -.025 | -.258 |
| 70 | 2215 | -.064  | .027  | .033  | -.184 | 80 | 2101 | -.148  | .051  | .089  | -.472 | 80 | 2153 | -.112  | .022  | -.008 | -.203 |
| 70 | 2216 | -.068  | .041  | .090  | -.391 | 80 | 2102 | -.163  | .059  | .244  | -.512 | 80 | 2154 | -.103  | .023  | -.006 | -.239 |
| 70 | 2217 | -.058  | .034  | .081  | -.212 | 80 | 2103 | -.197  | .097  | .117  | -.870 | 80 | 2155 | -.098  | .021  | -.022 | -.177 |
| 70 | 2218 | -.068  | .038  | .063  | -.293 | 80 | 2104 | -.144  | .044  | .014  | -.373 | 80 | 2156 | -.070  | .037  | .139  | -.165 |
| 70 | 2219 | -.062  | .032  | .079  | -.273 | 80 | 2105 | -.053  | .072  | .307  | -.270 | 80 | 2157 | -.103  | .031  | .035  | -.272 |
| 70 | 2220 | -.043  | .036  | .128  | -.203 | 80 | 2106 | -.014  | .093  | .513  | -.254 | 80 | 2158 | -.097  | .020  | -.018 | -.163 |
| 70 | 2221 | -.057  | .033  | .067  | -.262 | 80 | 2107 | -.130  | .076  | .173  | -.725 | 80 | 2159 | -.100  | .019  | -.003 | -.163 |
| 70 | 2222 | -.033  | .032  | .099  | -.175 | 80 | 2108 | -.125  | .040  | .044  | -.378 | 80 | 2160 | -.093  | .022  | -.008 | -.163 |
| 70 | 2223 | -.035  | .038  | .128  | -.169 | 80 | 2109 | -.033  | .063  | .309  | -.193 | 80 | 2161 | -.095  | .020  | -.034 | -.167 |
| 70 | 2224 | -.008  | .047  | .299  | -.153 | 80 | 2110 | -.019  | .092  | .525  | -.202 | 80 | 2162 | -.099  | .021  | -.022 | -.167 |
| 70 | 2225 | -.004  | .042  | .229  | -.129 | 80 | 2111 | -.083  | .072  | .312  | -.460 | 80 | 2163 | -.106  | .027  | -.025 | -.317 |
| 70 | 2226 | -.040  | .024  | .058  | -.156 | 80 | 2112 | -.121  | .039  | .009  | -.427 | 80 | 2164 | -.141  | .033  | .054  | -.267 |
| 70 | 2227 | -.053  | .034  | .085  | -.273 | 80 | 2113 | -.061  | .052  | .297  | -.214 | 80 | 2165 | -.106  | .026  | -.028 | -.277 |
| 70 | 2228 | -.057  | .029  | .053  | -.268 | 80 | 2114 | -.036  | .068  | .368  | -.237 | 80 | 2166 | -.099  | .023  | -.015 | -.183 |
| 70 | 2229 | -.053  | .025  | .080  | -.148 | 80 | 2115 | -.095  | .058  | .129  | -.444 | 80 | 2167 | -.140  | .042  | -.018 | -.370 |
| 70 | 2230 | -.031  | .035  | .118  | -.199 | 80 | 2116 | -.128  | .040  | -.012 | -.446 | 80 | 2168 | -.117  | .037  | -.011 | -.365 |
| 70 | 2231 | -.053  | .022  | .037  | -.160 | 80 | 2117 | -.094  | .037  | .136  | -.277 | 80 | 2169 | -.063  | .036  | .137  | -.189 |
| 70 | 2232 | -.050  | .025  | .041  | -.180 | 80 | 2118 | -.094  | .036  | .154  | -.228 | 80 | 2171 | -.090  | .030  | .070  | -.217 |
| 70 | 2233 | -.038  | .022  | .044  | -.117 | 80 | 2119 | -.101  | .038  | .096  | -.385 | 80 | 2172 | -.146  | .044  | -.018 | -.408 |
| 70 | 2234 | -.028  | .026  | .075  | -.108 | 80 | 2120 | -.106  | .029  | .018  | -.209 | 80 | 2173 | -.100  | .026  | -.004 | -.206 |
| 70 | 2235 | -.026  | .023  | .065  | -.093 | 80 | 2121 | -.096  | .042  | .194  | -.216 | 80 | 2174 | -.101  | .024  | .013  | -.182 |
| 70 | 2236 | -.026  | .022  | .046  | -.115 | 80 | 2122 | -.072  | .048  | .157  | -.294 | 80 | 2175 | -.106  | .027  | -.011 | -.225 |
| 70 | 2237 | -.075  | .028  | .056  | -.189 | 80 | 2123 | -.063  | .036  | .140  | -.200 | 80 | 2176 | -.109  | .023  | -.030 | -.206 |
| 70 | 2238 | -.091  | .033  | .034  | -.271 | 80 | 2124 | -.149  | .040  | -.019 | -.369 | 80 | 2177 | -.018  | .049  | .253  | -.120 |
| 70 | 2239 | -.116  | .033  | .032  | -.364 | 80 | 2125 | -.189  | .055  | .028  | -.476 | 80 | 2178 | -.081  | .031  | .063  | -.184 |
| 70 | 2240 | -.063  | .041  | .195  | -.208 | 80 | 2126 | -.145  | .033  | -.026 | -.359 | 80 | 2179 | -.101  | .050  | -.030 | -.420 |
| 70 | 2241 | -.080  | .036  | .099  | -.268 | 80 | 2127 | -.147  | .050  | .035  | -.753 | 80 | 2180 | -.154  | .023  | -.011 | -.191 |
| 70 | 2242 | -.085  | .047  | .142  | -.413 | 80 | 2128 | -.181  | .049  | .044  | -.430 | 80 | 2182 | -.097  | .022  | -.015 | -.167 |

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 80 | 2183 | -.098  | .022  | -.027 | -.208 | 80 | 2235 | -.070  | .021  | .014  | -.143 | 90 | 2120 | -.114  | .028  | -.016 | -.270 |
| 80 | 2184 | -.096  | .020  | -.029 | -.169 | 80 | 2236 | -.066  | .022  | .031  | -.148 | 90 | 2121 | -.117  | .030  | .137  | -.268 |
| 80 | 2185 | -.102  | .019  | -.034 | -.159 | 80 | 2237 | -.064  | .020  | .014  | -.129 | 90 | 2122 | -.109  | .031  | .107  | -.266 |
| 80 | 2187 | -.097  | .020  | -.027 | -.173 | 80 | 2238 | -.102  | .028  | .046  | -.217 | 90 | 2123 | -.097  | .025  | .042  | -.170 |
| 80 | 2188 | -.002  | .046  | .298  | -.122 | 80 | 2239 | -.123  | .032  | .129  | -.288 | 90 | 2124 | -.159  | .054  | -.000 | -.652 |
| 80 | 2189 | -.069  | .030  | .038  | -.183 | 80 | 2240 | -.160  | .035  | -.030 | -.323 | 90 | 2125 | -.164  | .045  | .033  | -.384 |
| 80 | 2190 | -.159  | .062  | .026  | -.468 | 80 | 2241 | -.096  | .043  | .134  | -.409 | 90 | 2126 | -.144  | .039  | -.030 | -.373 |
| 80 | 2191 | -.085  | .024  | .001  | -.187 | 80 | 2242 | -.109  | .038  | .090  | -.337 | 90 | 2127 | -.124  | .049  | .123  | -.398 |
| 80 | 2192 | -.095  | .022  | .003  | -.180 | 80 | 2243 | -.110  | .055  | .117  | -.418 | 90 | 2128 | -.138  | .044  | .061  | -.343 |
| 80 | 2193 | -.100  | .024  | -.022 | -.189 | 80 | 2244 | -.105  | .026  | .014  | -.207 | 90 | 2129 | -.143  | .058  | .061  | -.492 |
| 80 | 2194 | -.100  | .024  | -.027 | -.213 | 80 | 2245 | -.106  | .028  | .004  | -.246 | 90 | 2130 | -.136  | .031  | -.026 | -.338 |
| 80 | 2195 | -.013  | .038  | .212  | -.139 | 80 | 2246 | -.118  | .028  | -.011 | -.232 | 90 | 2131 | -.113  | .036  | .040  | -.263 |
| 80 | 2196 | -.063  | .031  | .089  | -.178 | 80 | 2247 | -.178  | .057  | -.013 | -.473 | 90 | 2132 | -.121  | .058  | .093  | -.415 |
| 80 | 2197 | -.120  | .047  | .033  | -.343 | 80 | 2248 | -.048  | .078  | .459  | -.283 | 90 | 2133 | -.123  | .059  | .135  | -.475 |
| 80 | 2198 | -.077  | .025  | .084  | -.162 | 80 | 2249 | -.111  | .035  | .012  | -.281 | 90 | 2134 | -.134  | .029  | .012  | -.373 |
| 80 | 2199 | -.090  | .023  | -.006 | -.206 | 80 | 2250 | -.122  | .069  | .095  | -.686 | 90 | 2136 | -.110  | .049  | .100  | -.391 |
| 80 | 2200 | -.098  | .027  | -.011 | -.231 | 80 | 2251 | -.042  | .080  | .469  | -.293 | 90 | 2137 | -.117  | .049  | .042  | -.447 |
| 80 | 2201 | -.094  | .025  | .008  | -.211 | 80 | 2252 | -.123  | .027  | -.035 | -.303 | 90 | 2138 | -.134  | .027  | -.012 | -.303 |
| 80 | 2202 | -.112  | .040  | .133  | -.406 | 80 | 2253 | -.113  | .025  | -.001 | -.222 | 90 | 2140 | -.108  | .045  | .100  | -.364 |
| 80 | 2203 | -.098  | .036  | .026  | -.296 | 80 | 2254 | -.109  | .024  | -.003 | -.187 | 90 | 2141 | -.112  | .040  | .030  | -.298 |
| 80 | 2204 | -.099  | .035  | .061  | -.273 | 80 | 2255 | -.123  | .025  | -.006 | -.224 | 90 | 2142 | -.131  | .026  | -.042 | -.240 |
| 80 | 2205 | -.087  | .038  | .077  | -.269 | 80 | 2256 | -.092  | .033  | .174  | -.234 | 90 | 2143 | -.116  | .027  | .009  | -.230 |
| 80 | 2206 | -.081  | .033  | .052  | -.245 | 80 | 2257 | -.099  | .038  | .098  | -.337 | 90 | 2144 | -.112  | .035  | .046  | -.270 |
| 80 | 2207 | -.087  | .030  | .033  | -.224 | 80 | 2258 | -.068  | .048  | .218  | -.197 | 90 | 2145 | -.118  | .032  | .101  | -.240 |
| 80 | 2208 | -.092  | .031  | .033  | -.257 | 80 | 2259 | -.075  | .036  | .112  | -.165 | 90 | 2146 | -.076  | .025  | .027  | -.181 |
| 80 | 2209 | -.096  | .031  | .031  | -.285 | 80 | 2260 | -.101  | .031  | .043  | -.249 | 90 | 2147 | -.079  | .023  | .013  | -.192 |
| 80 | 2210 | -.096  | .028  | -.004 | -.220 | 80 | 2261 | -.104  | .022  | -.015 | -.178 | 90 | 2148 | -.096  | .026  | -.008 | -.192 |
| 80 | 2211 | -.093  | .027  | .008  | -.262 | 80 | 2262 | -.126  | .022  | -.057 | -.200 | 90 | 2149 | -.104  | .025  | -.020 | -.199 |
| 80 | 2212 | -.094  | .026  | .005  | -.187 | 80 | 2263 | -.085  | .033  | .063  | -.180 | 90 | 2150 | -.061  | .032  | .113  | -.228 |
| 80 | 2213 | -.095  | .024  | -.004 | -.180 | 80 | 2264 | -.093  | .031  | .066  | -.183 | 90 | 2151 | -.087  | .023  | -.008 | -.195 |
| 80 | 2214 | -.091  | .024  | -.015 | -.187 | 80 | 2265 | -.073  | .033  | .105  | -.165 | 90 | 2152 | -.089  | .023  | .011  | -.173 |
| 80 | 2215 | -.097  | .026  | -.011 | -.306 | 90 | 2101 | -.148  | .054  | .065  | -.615 | 90 | 2153 | -.101  | .023  | -.015 | -.197 |
| 80 | 2216 | -.111  | .046  | .054  | -.329 | 90 | 2102 | -.175  | .067  | .056  | -.501 | 90 | 2154 | -.095  | .022  | -.015 | -.190 |
| 80 | 2217 | -.101  | .036  | .031  | -.303 | 90 | 2103 | -.196  | .116  | .266  | -.135 | 90 | 2155 | -.090  | .022  | -.025 | -.214 |
| 80 | 2218 | -.103  | .037  | .029  | -.336 | 90 | 2104 | -.142  | .041  | .012  | -.357 | 90 | 2156 | -.066  | .028  | .098  | -.249 |
| 80 | 2219 | -.104  | .031  | .003  | -.248 | 90 | 2105 | -.115  | .065  | .158  | -.366 | 90 | 2157 | -.086  | .023  | .004  | -.216 |
| 80 | 2220 | -.088  | .029  | .036  | -.227 | 90 | 2106 | -.064  | .096  | .562  | -.475 | 90 | 2158 | -.079  | .021  | .027  | -.147 |
| 80 | 2221 | -.098  | .039  | .045  | -.313 | 90 | 2107 | -.159  | .079  | .098  | -.741 | 90 | 2159 | -.086  | .021  | .027  | -.164 |
| 80 | 2222 | -.081  | .032  | .043  | -.231 | 90 | 2108 | -.137  | .046  | -.000 | -.538 | 90 | 2160 | -.085  | .021  | -.015 | -.178 |
| 80 | 2223 | -.087  | .027  | .008  | -.236 | 90 | 2109 | -.092  | .046  | .135  | -.305 | 90 | 2161 | -.086  | .022  | .006  | -.162 |
| 80 | 2224 | -.058  | .029  | .159  | -.157 | 90 | 2110 | -.062  | .062  | .338  | -.238 | 90 | 2162 | -.068  | .023  | .027  | -.143 |
| 80 | 2225 | -.051  | .026  | .093  | -.133 | 90 | 2111 | -.127  | .059  | .068  | -.557 | 90 | 2163 | -.067  | .024  | .027  | -.145 |
| 80 | 2226 | -.067  | .025  | .036  | -.160 | 90 | 2112 | -.126  | .044  | .009  | -.415 | 90 | 2164 | -.084  | .027  | .004  | -.197 |
| 80 | 2227 | -.077  | .027  | .039  | -.192 | 90 | 2113 | -.092  | .035  | .086  | -.235 | 90 | 2165 | -.076  | .031  | .046  | -.211 |
| 80 | 2228 | -.098  | .034  | .036  | -.256 | 90 | 2114 | -.093  | .041  | .123  | -.282 | 90 | 2166 | -.063  | .025  | .020  | -.255 |
| 80 | 2229 | -.081  | .027  | .100  | -.168 | 90 | 2115 | -.124  | .046  | .065  | -.604 | 90 | 2167 | -.082  | .031  | .082  | -.280 |
| 80 | 2230 | -.065  | .031  | .061  | -.251 | 90 | 2116 | -.111  | .031  | -.012 | -.347 | 90 | 2168 | -.077  | .033  | .070  | -.306 |
| 80 | 2231 | -.086  | .029  | .051  | -.217 | 90 | 2117 | -.095  | .031  | .070  | -.224 | 90 | 2169 | -.078  | .025  | .039  | -.162 |
| 80 | 2233 | -.083  | .025  | .004  | -.160 | 90 | 2118 | -.103  | .029  | .021  | -.277 | 90 | 2170 | -.078  | .024  | .025  | -.176 |
| 80 | 2234 | -.073  | .021  | .012  | -.160 | 90 | 2119 | -.116  | .030  | -.023 | -.308 | 90 | 2172 | -.084  | .028  | .013  | -.244 |

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 90 | 2173 | -.074  | .026  | .053  | -.185 | 90  | 2225 | -.076  | .028  | .082  | -.169 | 100 | 2111 | -.166  | .053  | .081  | -.506 |
| 90 | 2174 | -.069  | .029  | .030  | -.195 | 90  | 2226 | -.086  | .025  | .024  | -.204 | 100 | 2112 | -.103  | .043  | .146  | -.293 |
| 90 | 2175 | -.067  | .032  | .044  | -.242 | 90  | 2227 | -.082  | .025  | .028  | -.213 | 100 | 2113 | -.140  | .074  | .243  | -.487 |
| 90 | 2177 | -.069  | .025  | .070  | -.166 | 90  | 2228 | -.093  | .033  | -.003 | -.228 | 100 | 2114 | -.128  | .064  | .206  | -.471 |
| 90 | 2178 | -.067  | .034  | .087  | -.190 | 90  | 2229 | -.070  | .031  | .121  | -.184 | 100 | 2115 | -.152  | .040  | .039  | -.356 |
| 90 | 2179 | -.074  | .026  | .035  | -.192 | 90  | 2230 | -.072  | .034  | .107  | -.289 | 100 | 2116 | -.109  | .035  | .049  | -.249 |
| 90 | 2180 | -.097  | .039  | .020  | -.320 | 90  | 2231 | -.089  | .030  | .009  | -.255 | 100 | 2117 | -.141  | .054  | .072  | -.536 |
| 90 | 2181 | -.070  | .024  | .035  | -.155 | 90  | 2233 | -.085  | .025  | .038  | -.187 | 100 | 2118 | -.130  | .041  | .106  | -.411 |
| 90 | 2182 | -.064  | .024  | .058  | -.155 | 90  | 2234 | -.078  | .024  | .021  | -.184 | 100 | 2119 | -.139  | .035  | -.018 | -.298 |
| 90 | 2183 | -.063  | .024  | .011  | -.169 | 90  | 2235 | -.082  | .023  | -.003 | -.165 | 100 | 2120 | -.109  | .027  | .012  | -.210 |
| 90 | 2184 | -.060  | .023  | .038  | -.174 | 90  | 2236 | -.088  | .030  | .024  | -.222 | 100 | 2121 | -.132  | .043  | .148  | -.374 |
| 90 | 2185 | -.062  | .020  | .011  | -.128 | 90  | 2237 | -.079  | .023  | -.008 | -.199 | 100 | 2122 | -.132  | .035  | .173  | -.314 |
| 90 | 2187 | -.064  | .020  | .022  | -.128 | 90  | 2238 | -.126  | .030  | .102  | -.360 | 100 | 2123 | -.132  | .028  | .000  | -.240 |
| 90 | 2188 | -.053  | .038  | .133  | -.146 | 90  | 2239 | -.143  | .034  | .048  | -.489 | 100 | 2124 | -.187  | .064  | -.023 | -.799 |
| 90 | 2189 | -.064  | .027  | .119  | -.169 | 90  | 2240 | -.170  | .038  | .151  | -.487 | 100 | 2125 | -.193  | .059  | .005  | -.723 |
| 90 | 2190 | -.100  | .043  | .015  | -.340 | 90  | 2241 | -.127  | .042  | .234  | -.616 | 100 | 2126 | -.144  | .037  | -.002 | -.312 |
| 90 | 2191 | -.066  | .023  | .015  | -.158 | 90  | 2242 | -.147  | .035  | .024  | -.294 | 100 | 2127 | -.091  | .052  | .157  | -.323 |
| 90 | 2192 | -.064  | .021  | .004  | -.158 | 90  | 2243 | -.173  | .067  | .028  | -.616 | 100 | 2128 | -.072  | .061  | .169  | -.291 |
| 90 | 2193 | -.068  | .023  | .013  | -.173 | 90  | 2244 | -.128  | .024  | -.045 | -.245 | 100 | 2129 | -.196  | .058  | -.011 | -.589 |
| 90 | 2194 | -.067  | .023  | .022  | -.158 | 90  | 2245 | -.128  | .026  | -.033 | -.419 | 100 | 2130 | -.134  | .034  | -.014 | -.326 |
| 90 | 2195 | -.054  | .035  | .112  | -.149 | 90  | 2246 | -.145  | .030  | .045  | -.399 | 100 | 2131 | -.063  | .040  | .111  | -.210 |
| 90 | 2196 | -.061  | .028  | .085  | -.151 | 90  | 2247 | -.166  | .044  | .041  | -.426 | 100 | 2132 | -.012  | .077  | .280  | -.356 |
| 90 | 2197 | -.083  | .030  | .020  | -.287 | 90  | 2248 | -.110  | .055  | .177  | -.594 | 100 | 2133 | -.164  | .076  | .039  | -.547 |
| 90 | 2198 | -.064  | .021  | .038  | -.139 | 90  | 2249 | -.122  | .037  | .158  | -.279 | 100 | 2134 | -.138  | .043  | .002  | -.545 |
| 90 | 2199 | -.063  | .021  | .011  | -.139 | 90  | 2250 | -.112  | .045  | .075  | -.416 | 100 | 2135 | -.064  | .058  | .227  | -.268 |
| 90 | 2200 | -.063  | .023  | .031  | -.153 | 90  | 2251 | -.104  | .067  | .278  | -.350 | 100 | 2137 | -.129  | .064  | .093  | -.580 |
| 90 | 2201 | -.065  | .022  | .013  | -.160 | 90  | 2252 | -.131  | .023  | -.042 | -.248 | 100 | 2138 | -.127  | .040  | .058  | -.492 |
| 90 | 2202 | -.114  | .032  | -.024 | -.317 | 90  | 2253 | -.127  | .020  | -.035 | -.204 | 100 | 2140 | -.093  | .042  | .104  | -.296 |
| 90 | 2203 | -.104  | .027  | .008  | -.225 | 90  | 2254 | -.128  | .026  | -.018 | -.270 | 100 | 2141 | -.108  | .040  | .074  | -.570 |
| 90 | 2204 | -.104  | .028  | -.008 | -.229 | 90  | 2255 | -.141  | .032  | .031  | -.260 | 100 | 2142 | -.110  | .040  | .067  | -.580 |
| 90 | 2205 | -.095  | .032  | .071  | -.373 | 90  | 2256 | -.078  | .047  | .307  | -.213 | 100 | 2143 | -.103  | .036  | .096  | -.214 |
| 90 | 2206 | -.094  | .026  | -.003 | -.213 | 90  | 2257 | -.091  | .036  | .099  | -.304 | 100 | 2144 | -.110  | .033  | .070  | -.228 |
| 90 | 2207 | -.107  | .031  | -.019 | -.467 | 90  | 2258 | -.104  | .050  | .136  | -.389 | 100 | 2145 | -.120  | .029  | .021  | -.228 |
| 90 | 2208 | -.104  | .029  | -.019 | -.310 | 90  | 2259 | -.122  | .024  | -.008 | -.270 | 100 | 2146 | -.108  | .030  | .011  | -.211 |
| 90 | 2209 | -.101  | .032  | .011  | -.296 | 90  | 2260 | -.119  | .022  | -.018 | -.213 | 100 | 2147 | -.095  | .025  | .072  | -.185 |
| 90 | 2210 | -.104  | .035  | .001  | -.310 | 90  | 2261 | -.126  | .023  | -.042 | -.218 | 100 | 2148 | -.102  | .023  | -.021 | -.246 |
| 90 | 2211 | -.106  | .026  | -.015 | -.216 | 90  | 2262 | -.159  | .027  | -.038 | -.306 | 100 | 2149 | -.117  | .030  | .014  | -.363 |
| 90 | 2212 | -.100  | .024  | -.003 | -.280 | 90  | 2263 | -.091  | .031  | .107  | -.177 | 100 | 2150 | -.089  | .034  | .065  | -.300 |
| 90 | 2213 | -.099  | .025  | -.010 | -.216 | 90  | 2264 | -.094  | .031  | .063  | -.223 | 100 | 2151 | -.125  | .034  | .035  | -.331 |
| 90 | 2214 | -.100  | .028  | .001  | -.232 | 90  | 2265 | -.086  | .030  | .168  | -.184 | 100 | 2152 | -.100  | .025  | .023  | -.281 |
| 90 | 2215 | -.089  | .028  | .006  | -.262 | 100 | 2101 | -.193  | .049  | -.018 | -.436 | 100 | 2153 | -.104  | .023  | -.024 | -.206 |
| 90 | 2216 | -.107  | .031  | .006  | -.292 | 100 | 2102 | -.194  | .043  | -.046 | -.411 | 100 | 2154 | -.098  | .026  | -.003 | -.197 |
| 90 | 2217 | -.103  | .028  | .004  | -.306 | 100 | 2103 | -.201  | .048  | .028  | -.483 | 100 | 2155 | -.091  | .026  | .037  | -.202 |
| 90 | 2218 | -.108  | .027  | -.003 | -.225 | 100 | 2104 | -.148  | .045  | .007  | -.346 | 100 | 2156 | -.073  | .040  | .060  | -.420 |
| 90 | 2219 | -.107  | .028  | -.022 | -.329 | 100 | 2105 | -.190  | .047  | .033  | -.497 | 100 | 2157 | -.088  | .047  | .119  | -.286 |
| 90 | 2220 | -.104  | .027  | -.029 | -.250 | 100 | 2106 | -.186  | .063  | .224  | -.492 | 100 | 2158 | -.087  | .024  | .089  | -.160 |
| 90 | 2221 | -.098  | .036  | .036  | -.315 | 100 | 2107 | -.182  | .048  | .023  | .575  | 100 | 2159 | -.103  | .022  | -.010 | -.164 |
| 90 | 2222 | -.093  | .028  | .001  | -.250 | 100 | 2108 | -.109  | .047  | .079  | -.289 | 100 | 2160 | -.085  | .023  | -.000 | -.188 |
| 90 | 2223 | -.097  | .028  | .052  | -.287 | 100 | 2109 | -.179  | .062  | .016  | -.508 | 100 | 2161 | -.080  | .026  | .016  | -.176 |
| 90 | 2224 | -.071  | .029  | .096  | -.165 | 100 | 2110 | -.150  | .073  | .173  | -.453 | 100 | 2162 | -.076  | .023  | .009  | -.160 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 100 | 2163 | -.066  | .022  | .016  | -.164 | 100 | 2216 | -.102  | .029  | -.007 | -.278 | 110 | 2102 | -.238  | .050  | -.108 | -.498  |
| 100 | 2164 | -.095  | .030  | .023  | -.225 | 100 | 2217 | -.101  | .028  | -.009 | -.313 | 110 | 2103 | -.258  | .052  | -.046 | -.477  |
| 100 | 2165 | -.085  | .037  | .065  | -.384 | 100 | 2218 | -.105  | .030  | -.018 | -.304 | 110 | 2104 | -.197  | .046  | -.012 | -.398  |
| 100 | 2166 | -.059  | .022  | .041  | -.219 | 100 | 2219 | -.100  | .029  | -.044 | -.304 | 110 | 2105 | -.251  | .055  | -.090 | -.598  |
| 100 | 2167 | -.085  | .031  | .070  | -.221 | 100 | 2220 | -.103  | .033  | -.000 | -.377 | 110 | 2106 | -.261  | .066  | -.018 | -.605  |
| 100 | 2168 | -.080  | .032  | .114  | -.221 | 100 | 2221 | -.097  | .027  | -.009 | -.251 | 110 | 2107 | -.238  | .053  | -.071 | -.445  |
| 100 | 2170 | -.091  | .026  | .028  | -.206 | 100 | 2222 | -.095  | .029  | -.009 | -.251 | 110 | 2108 | -.140  | .051  | -.082 | -.306  |
| 100 | 2171 | -.090  | .027  | .063  | -.209 | 100 | 2223 | -.098  | .033  | -.053 | -.306 | 110 | 2109 | -.257  | .068  | -.005 | -.605  |
| 100 | 2172 | -.085  | .025  | .004  | -.185 | 100 | 2224 | -.077  | .027  | -.117 | -.160 | 110 | 2110 | -.254  | .104  | -.086 | -.765  |
| 100 | 2173 | -.081  | .026  | .007  | -.206 | 100 | 2225 | -.084  | .028  | -.018 | -.205 | 110 | 2111 | -.228  | .059  | -.025 | -.466  |
| 100 | 2174 | -.081  | .031  | .014  | -.319 | 100 | 2226 | -.108  | .033  | -.020 | -.296 | 110 | 2112 | -.098  | .063  | -.195 | -.282  |
| 100 | 2175 | -.079  | .034  | .035  | -.480 | 100 | 2227 | -.059  | .039  | -.107 | -.188 | 110 | 2113 | -.239  | .075  | -.195 | -.653  |
| 100 | 2177 | -.071  | .024  | .021  | -.169 | 100 | 2228 | -.095  | .033  | -.004 | -.275 | 110 | 2114 | -.238  | .125  | -.209 | -.936  |
| 100 | 2178 | -.088  | .023  | -.005 | -.176 | 100 | 2229 | -.078  | .032  | -.284 | -.176 | 110 | 2115 | -.209  | .058  | -.021 | -.463  |
| 100 | 2179 | -.093  | .026  | .016  | -.190 | 100 | 2230 | -.086  | .037  | -.105 | -.422 | 110 | 2116 | -.114  | .062  | -.237 | -.319  |
| 100 | 2180 | -.086  | .024  | .021  | -.188 | 100 | 2231 | -.091  | .030  | -.013 | -.247 | 110 | 2117 | -.238  | .078  | -.079 | -.690  |
| 100 | 2181 | -.081  | .028  | .067  | -.202 | 100 | 2233 | -.091  | .026  | -.066 | -.178 | 110 | 2118 | -.208  | .090  | -.260 | -.793  |
| 100 | 2182 | -.080  | .028  | .007  | -.206 | 100 | 2234 | -.077  | .022  | -.064 | -.144 | 110 | 2119 | -.188  | .047  | -.006 | -.410  |
| 100 | 2183 | -.078  | .029  | .018  | -.225 | 100 | 2235 | -.077  | .026  | -.018 | -.171 | 110 | 2120 | -.107  | .043  | -.072 | -.238  |
| 100 | 2184 | -.064  | .022  | .016  | -.141 | 100 | 2236 | -.105  | .046  | -.107 | -.463 | 110 | 2121 | -.279  | .111  | -.168 | -.962  |
| 100 | 2185 | -.062  | .019  | .014  | -.134 | 100 | 2237 | -.064  | .028  | -.037 | -.207 | 110 | 2122 | -.192  | .065  | -.193 | -.711  |
| 100 | 2187 | -.074  | .022  | .003  | -.185 | 100 | 2238 | -.147  | .038  | -.076 | -.359 | 110 | 2123 | -.169  | .035  | -.050 | -.345  |
| 100 | 2188 | -.080  | .023  | .046  | -.169 | 100 | 2239 | -.154  | .047  | -.054 | -.432 | 110 | 2124 | -.227  | .088  | -.063 | -.964  |
| 100 | 2189 | -.086  | .025  | .110  | -.178 | 100 | 2240 | -.169  | .064  | -.170 | -.478 | 110 | 2125 | -.239  | .082  | -.021 | -.762  |
| 100 | 2190 | -.081  | .024  | .012  | -.203 | 100 | 2241 | -.116  | .072  | -.296 | -.623 | 110 | 2126 | -.163  | .056  | -.010 | -.435  |
| 100 | 2191 | -.076  | .028  | .051  | -.224 | 100 | 2242 | -.142  | .059  | -.262 | -.580 | 110 | 2127 | -.051  | .083  | -.284 | -.447  |
| 100 | 2192 | -.074  | .028  | .046  | -.194 | 100 | 2243 | -.174  | .050  | -.025 | -.442 | 110 | 2128 | -.055  | .091  | -.337 | -.359  |
| 100 | 2193 | -.075  | .026  | .032  | -.211 | 100 | 2244 | -.157  | .042  | -.009 | -.430 | 110 | 2129 | -.237  | .088  | -.019 | -.739  |
| 100 | 2194 | -.062  | .022  | .019  | -.166 | 100 | 2245 | -.131  | .036  | -.013 | -.330 | 110 | 2130 | -.139  | .046  | -.052 | -.415  |
| 100 | 2195 | -.074  | .025  | .025  | -.272 | 100 | 2246 | -.137  | .048  | -.004 | -.599 | 110 | 2131 | -.013  | .055  | -.237 | -.171  |
| 100 | 2196 | -.080  | .031  | .053  | -.230 | 100 | 2247 | -.134  | .061  | -.175 | -.609 | 110 | 2132 | -.076  | .125  | .506  | -.359  |
| 100 | 2197 | -.068  | .024  | .039  | -.146 | 100 | 2248 | -.090  | .087  | -.405 | -.853 | 110 | 2133 | -.258  | .128  | .142  | -.994  |
| 100 | 2198 | -.047  | .028  | .133  | -.121 | 100 | 2249 | -.085  | .050  | -.185 | -.301 | 110 | 2134 | -.137  | .049  | .082  | -.656  |
| 100 | 2199 | -.040  | .032  | .137  | -.114 | 100 | 2250 | -.088  | .040  | -.187 | -.282 | 110 | 2136 | -.084  | .116  | .550  | -.213  |
| 100 | 2200 | -.053  | .026  | .071  | -.194 | 100 | 2251 | -.145  | .054  | -.062 | -.422 | 110 | 2137 | -.217  | .138  | .214  | -.1247 |
| 100 | 2201 | -.054  | .028  | .035  | -.146 | 100 | 2252 | -.160  | .041  | -.006 | -.369 | 110 | 2138 | -.145  | .062  | .084  | -.486  |
| 100 | 2202 | -.106  | .030  | .007  | -.306 | 100 | 2253 | -.116  | .034  | -.049 | -.255 | 110 | 2140 | -.024  | .089  | .736  | -.331  |
| 100 | 2203 | -.099  | .026  | -.007 | -.269 | 100 | 2254 | -.096  | .030  | -.035 | -.241 | 110 | 2141 | -.100  | .080  | .249  | -.612  |
| 100 | 2204 | -.103  | .031  | .003  | -.393 | 100 | 2255 | -.098  | .031  | -.163 | -.200 | 110 | 2142 | -.132  | .075  | .119  | -.857  |
| 100 | 2205 | -.097  | .029  | .021  | -.304 | 100 | 2256 | -.054  | .047  | -.204 | -.236 | 110 | 2143 | -.083  | .048  | .157  | -.269  |
| 100 | 2206 | -.097  | .030  | .007  | -.315 | 100 | 2257 | -.071  | .035  | -.149 | -.251 | 110 | 2144 | -.064  | .059  | .319  | -.351  |
| 100 | 2207 | -.116  | .045  | -.009 | -.484 | 100 | 2258 | -.140  | .055  | -.078 | -.434 | 110 | 2145 | -.095  | .063  | .248  | -.304  |
| 100 | 2208 | -.101  | .031  | .060  | -.301 | 100 | 2259 | -.161  | .047  | -.013 | -.405 | 110 | 2146 | -.149  | .053  | .058  | -.339  |
| 100 | 2209 | -.102  | .035  | .028  | -.299 | 100 | 2260 | -.111  | .030  | -.033 | -.357 | 110 | 2147 | -.075  | .039  | .093  | -.241  |
| 100 | 2210 | -.127  | .040  | .057  | -.363 | 100 | 2261 | -.094  | .029  | -.100 | -.224 | 110 | 2148 | -.077  | .030  | .034  | -.168  |
| 100 | 2211 | -.105  | .028  | .014  | -.310 | 100 | 2262 | -.117  | .030  | -.016 | -.270 | 110 | 2149 | -.091  | .033  | .032  | -.231  |
| 100 | 2212 | -.098  | .026  | -.002 | -.205 | 100 | 2263 | -.066  | .039  | -.192 | -.166 | 110 | 2150 | -.067  | .051  | .145  | -.481  |
| 100 | 2213 | -.094  | .029  | .025  | -.258 | 100 | 2264 | -.078  | .029  | -.081 | -.185 | 110 | 2151 | -.142  | .049  | .077  | -.389  |
| 100 | 2214 | -.121  | .035  | .005  | -.336 | 100 | 2265 | -.087  | .040  | -.091 | -.505 | 110 | 2152 | -.080  | .037  | .060  | -.243  |
| 100 | 2215 | -.065  | .041  | .128  | -.237 | 110 | 2101 | -.245  | .060  | -.088 | -.809 | 110 | 2153 | -.084  | .029  | .051  | -.243  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 110 | 2154 | -.081  | .029  | .086  | -.172 | 110 | 2207 | -.151  | .059  | .006  | -.556 | 110 | 2258 | -.191  | .061  | .013  | -.548  |
| 110 | 2155 | -.075  | .029  | .037  | -.191 | 110 | 2208 | -.087  | .033  | .041  | -.324 | 110 | 2259 | -.166  | .120  | .261  | -.1410 |
| 110 | 2156 | -.017  | .079  | .192  | -.522 | 110 | 2209 | -.088  | .043  | .091  | -.393 | 110 | 2260 | -.083  | .056  | .229  | -.344  |
| 110 | 2157 | -.057  | .097  | .848  | -.344 | 110 | 2210 | -.184  | .084  | .073  | -.616 | 110 | 2261 | -.081  | .040  | .093  | -.218  |
| 110 | 2158 | -.047  | .044  | .255  | -.184 | 110 | 2211 | -.104  | .028  | .013  | -.209 | 110 | 2262 | -.111  | .049  | .069  | -.392  |
| 110 | 2159 | -.093  | .033  | .131  | -.203 | 110 | 2212 | -.093  | .030  | .018  | -.212 | 110 | 2263 | -.035  | .050  | .372  | -.154  |
| 110 | 2160 | -.074  | .028  | .020  | -.168 | 110 | 2213 | -.092  | .042  | .064  | -.409 | 110 | 2264 | -.055  | .043  | .151  | -.191  |
| 110 | 2161 | -.065  | .030  | .065  | -.187 | 110 | 2214 | -.174  | .074  | .020  | -.660 | 110 | 2265 | -.085  | .052  | .096  | -.723  |
| 110 | 2162 | -.058  | .033  | .056  | -.276 | 110 | 2215 | -.024  | .067  | .413  | -.251 | 120 | 2101 | -.373  | .086  | -.130 | -1.030 |
| 110 | 2163 | -.031  | .041  | .215  | -.184 | 110 | 2216 | -.123  | .037  | .004  | -.320 | 120 | 2102 | -.353  | .061  | -.172 | -.751  |
| 110 | 2164 | -.100  | .061  | .089  | -.358 | 110 | 2217 | -.113  | .034  | -.005 | -.517 | 120 | 2103 | -.369  | .051  | -.216 | -.601  |
| 110 | 2165 | -.070  | .059  | .133  | -.325 | 110 | 2218 | -.128  | .039  | .002  | -.384 | 120 | 2104 | -.310  | .063  | -.061 | -.520  |
| 110 | 2166 | -.039  | .038  | .128  | -.170 | 110 | 2219 | -.090  | .040  | .252  | -.370 | 120 | 2105 | -.357  | .058  | -.199 | -.978  |
| 110 | 2167 | -.079  | .046  | .143  | -.285 | 110 | 2220 | -.103  | .035  | .052  | -.271 | 120 | 2106 | -.370  | .063  | -.216 | -.722  |
| 110 | 2168 | -.064  | .039  | .105  | -.307 | 110 | 2221 | -.116  | .032  | .002  | -.285 | 120 | 2107 | -.341  | .048  | -.179 | -.576  |
| 110 | 2169 | -.098  | .043  | .058  | -.288 | 110 | 2222 | -.095  | .030  | .032  | -.223 | 120 | 2108 | -.231  | .071  | -.050 | -.500  |
| 110 | 2170 | -.093  | .041  | .110  | -.335 | 110 | 2223 | -.115  | .058  | .167  | -.333 | 120 | 2109 | -.353  | .057  | -.132 | -.608  |
| 110 | 2171 | -.086  | .039  | .103  | -.304 | 110 | 2224 | -.064  | .034  | .091  | -.173 | 120 | 2110 | -.391  | .083  | -.061 | -.885  |
| 110 | 2172 | -.083  | .036  | .039  | -.281 | 110 | 2225 | -.076  | .039  | .086  | -.278 | 120 | 2111 | -.333  | .055  | -.103 | -.599  |
| 110 | 2173 | -.085  | .040  | .065  | -.255 | 110 | 2226 | -.150  | .072  | .076  | -.433 | 120 | 2112 | -.188  | .068  | -.127 | -.446  |
| 110 | 2174 | -.084  | .040  | .081  | -.368 | 110 | 2227 | -.037  | .078  | .428  | -.208 | 120 | 2113 | -.332  | .063  | -.167 | -.784  |
| 110 | 2175 | -.046  | .033  | .086  | -.172 | 110 | 2228 | -.121  | .039  | -.014 | -.349 | 120 | 2114 | -.367  | .095  | -.072 | -1.020 |
| 110 | 2176 | -.101  | .044  | .025  | -.288 | 110 | 2229 | -.075  | .032  | .134  | -.169 | 120 | 2115 | -.313  | .058  | -.034 | -.700  |
| 110 | 2177 | -.108  | .037  | .030  | -.307 | 110 | 2230 | -.110  | .057  | .149  | -.519 | 120 | 2116 | -.158  | .078  | -.245 | -.428  |
| 110 | 2178 | -.099  | .034  | .027  | -.243 | 110 | 2231 | -.122  | .042  | .064  | -.366 | 120 | 2117 | -.332  | .061  | -.137 | -.774  |
| 110 | 2179 | -.101  | .036  | .013  | -.290 | 110 | 2232 | -.095  | .040  | .098  | -.227 | 120 | 2118 | -.335  | .073  | -.105 | -.766  |
| 110 | 2180 | -.094  | .039  | .067  | -.278 | 110 | 2233 | -.053  | .031  | .066  | -.162 | 120 | 2119 | -.294  | .049  | -.135 | -.599  |
| 110 | 2181 | -.093  | .042  | .049  | -.372 | 110 | 2234 | -.058  | .034  | .134  | -.188 | 120 | 2120 | -.015  | .067  | -.220 | -.204  |
| 110 | 2182 | -.056  | .027  | .048  | -.186 | 110 | 2235 | -.100  | .091  | .236  | -.693 | 120 | 2121 | -.696  | .157  | -.258 | -.1550 |
| 110 | 2183 | -.043  | .027  | .103  | -.129 | 110 | 2236 | -.227  | .019  | .049  | -.287 | 120 | 2122 | -.432  | .059  | -.253 | -.675  |
| 110 | 2184 | -.056  | .030  | .052  | -.216 | 110 | 2237 | -.238  | .194  | .060  | -.009 | 120 | 2123 | -.312  | .048  | -.142 | -.554  |
| 110 | 2185 | -.079  | .042  | .091  | -.331 | 110 | 2238 | -.238  | .076  | -.021 | -.803 | 120 | 2124 | -.383  | .158  | -.082 | -1.356 |
| 110 | 2186 | -.114  | .047  | .057  | -.350 | 110 | 2239 | -.241  | .104  | .183  | -.761 | 120 | 2125 | -.432  | .171  | -.045 | -.469  |
| 110 | 2187 | -.095  | .036  | .032  | -.265 | 110 | 2240 | -.099  | .108  | .494  | -.589 | 120 | 2126 | -.232  | .080  | -.077 | -.742  |
| 110 | 2188 | -.085  | .046  | .066  | -.462 | 110 | 2241 | -.150  | .095  | .341  | -.601 | 120 | 2127 | -.018  | .122  | -.437 | -.576  |
| 110 | 2189 | -.094  | .047  | .078  | -.304 | 110 | 2242 | -.221  | .088  | .149  | -.640 | 120 | 2128 | -.035  | .157  | -.418 | -.463  |
| 110 | 2190 | -.093  | .047  | .077  | -.330 | 110 | 2243 | -.221  | .088  | .147  | -.863 | 120 | 2129 | -.377  | .150  | -.048 | -1.427 |
| 110 | 2191 | -.023  | .044  | .119  | -.205 | 110 | 2244 | -.210  | .091  | .147  | -.863 | 120 | 2130 | -.215  | .062  | -.020 | -.599  |
| 110 | 2192 | -.054  | .047  | .149  | -.382 | 110 | 2245 | -.136  | .069  | .159  | -.460 | 120 | 2131 | -.002  | .082  | -.294 | -.209  |
| 110 | 2193 | -.112  | .074  | .144  | -.637 | 110 | 2246 | -.179  | .064  | .018  | -.628 | 120 | 2132 | -.085  | .163  | -.694 | -.557  |
| 110 | 2194 | -.046  | .038  | .151  | -.168 | 110 | 2247 | -.165  | .088  | .147  | -.888 | 120 | 2133 | -.388  | .193  | -.117 | -.287  |
| 110 | 2195 | -.049  | .061  | .438  | -.081 | 110 | 2248 | -.053  | .125  | .571  | -.492 | 120 | 2134 | -.206  | .078  | -.060 | -.899  |
| 110 | 2196 | -.059  | .067  | .445  | -.099 | 110 | 2249 | -.009  | .087  | .460  | -.213 | 120 | 2135 | -.147  | .627  | -.369 |        |
| 110 | 2197 | -.004  | .054  | .280  | -.214 | 110 | 2250 | -.032  | .068  | .299  | -.266 | 120 | 2136 | -.067  | .147  | -.627 |        |
| 110 | 2198 | -.022  | .042  | .208  | -.141 | 110 | 2251 | -.216  | .074  | .076  | -.815 | 120 | 2137 | -.368  | .260  | -.139 | -1.849 |
| 110 | 2199 | -.111  | .045  | .041  | -.524 | 110 | 2252 | -.218  | .082  | .154  | -.623 | 120 | 2138 | -.202  | .076  | -.023 | -.828  |
| 110 | 2200 | -.202  | .034  | .002  | -.363 | 110 | 2253 | -.119  | .066  | .198  | -.375 | 120 | 2140 | -.024  | .128  | .536  | -.268  |
| 110 | 2201 | -.116  | .041  | .036  | -.389 | 110 | 2254 | -.086  | .054  | .188  | -.470 | 120 | 2141 | -.133  | .154  | .390  | -.311  |
| 110 | 2202 | -.122  | .042  | .029  | -.492 | 110 | 2255 | -.087  | .046  | .156  | -.247 | 120 | 2142 | -.232  | .077  | .011  | -.218  |
| 110 | 2203 | -.114  | .042  | .029  | -.492 | 110 | 2256 | -.019  | .063  | .343  | -.264 | 120 | 2143 | -.077  | .098  | .393  | -.183  |
| 110 | 2204 | -.102  | .034  | .004  | -.402 | 110 | 2257 | -.040  | .053  | .287  | -.203 | 120 | 2144 | .218   | .113  | .633  | -.128  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 120 | 2145 | .137   | .108  | .478  | -.278 | 120 | 2198 | .100   | .086  | .585  | -.114 | 120 | 2249 | -.029  | .122  | .697  | -.302  |
| 120 | 2146 | -.236  | .073  | -.013 | -.648 | 120 | 2199 | .138   | .114  | .686  | -.129 | 120 | 2250 | -.040  | .095  | .467  | -.333  |
| 120 | 2147 | -.124  | .048  | .067  | -.316 | 120 | 2200 | -.007  | .085  | .326  | -.388 | 120 | 2251 | -.360  | .095  | .104  | -.952  |
| 120 | 2148 | -.107  | .036  | .047  | -.243 | 120 | 2201 | .027   | .056  | .243  | -.131 | 120 | 2252 | -.265  | .148  | .257  | -.019  |
| 120 | 2149 | -.120  | .042  | .017  | -.336 | 120 | 2202 | -.168  | .041  | .020  | -.461 | 120 | 2253 | -.048  | .089  | .296  | -.613  |
| 120 | 2150 | -.111  | .073  | .230  | -.453 | 120 | 2203 | -.186  | .032  | -.082 | -.354 | 120 | 2254 | -.098  | .107  | .259  | -.1224 |
| 120 | 2151 | -.197  | .062  | .085  | -.433 | 120 | 2204 | -.189  | .037  | -.026 | -.432 | 120 | 2255 | -.103  | .063  | .127  | -.375  |
| 120 | 2152 | -.136  | .045  | .112  | -.316 | 120 | 2205 | -.191  | .035  | -.060 | -.332 | 120 | 2256 | -.001  | .082  | .412  | -.206  |
| 120 | 2153 | -.124  | .033  | -.010 | -.260 | 120 | 2206 | -.156  | .034  | -.014 | -.300 | 120 | 2257 | -.060  | .060  | .218  | -.240  |
| 120 | 2154 | -.105  | .037  | .090  | -.238 | 120 | 2207 | -.216  | .060  | -.031 | -.672 | 120 | 2258 | -.294  | .045  | -.113 | -.732  |
| 120 | 2155 | -.093  | .038  | .045  | -.243 | 120 | 2208 | -.137  | .036  | -.038 | -.327 | 120 | 2259 | -.231  | .169  | .280  | -.1260 |
| 120 | 2156 | -.157  | .168  | .250  | -.974 | 120 | 2209 | -.136  | .044  | -.030 | -.491 | 120 | 2260 | -.067  | .088  | .306  | -.561  |
| 120 | 2157 | .178   | .117  | .696  | -.113 | 120 | 2210 | -.289  | .105  | .011  | -.740 | 120 | 2261 | -.106  | .064  | .089  | -.597  |
| 120 | 2158 | -.004  | .072  | .433  | -.185 | 120 | 2211 | -.160  | .035  | -.043 | -.337 | 120 | 2262 | -.117  | .086  | .195  | -.566  |
| 120 | 2159 | -.086  | .053  | .177  | -.230 | 120 | 2212 | -.145  | .035  | -.021 | -.317 | 120 | 2263 | -.021  | .071  | .392  | -.173  |
| 120 | 2160 | -.107  | .032  | .015  | -.200 | 120 | 2213 | -.144  | .047  | -.006 | -.405 | 120 | 2264 | -.081  | .049  | .138  | -.227  |
| 120 | 2161 | -.101  | .036  | .040  | -.230 | 120 | 2214 | -.247  | .086  | -.033 | -.860 | 120 | 2265 | -.162  | .065  | .091  | -.574  |
| 120 | 2162 | -.094  | .039  | .085  | -.250 | 120 | 2215 | -.025  | .092  | .561  | -.227 | 130 | 2101 | -.418  | .125  | -.153 | -.1384 |
| 120 | 2163 | -.065  | .049  | .172  | -.351 | 120 | 2216 | -.217  | .032  | -.134 | -.356 | 130 | 2102 | -.391  | .091  | -.138 | -.988  |
| 120 | 2164 | -.145  | .064  | .127  | -.443 | 120 | 2217 | -.188  | .031  | -.065 | -.373 | 130 | 2103 | -.360  | .068  | -.124 | -.725  |
| 120 | 2165 | -.104  | .067  | .097  | -.426 | 120 | 2218 | -.217  | .045  | -.036 | -.528 | 130 | 2104 | -.232  | .077  | .155  | -.490  |
| 120 | 2166 | -.081  | .042  | .148  | -.214 | 120 | 2219 | -.149  | .041  | -.035 | -.327 | 130 | 2105 | -.541  | .054  | -.170 | -.642  |
| 120 | 2167 | -.114  | .050  | .087  | -.431 | 120 | 2220 | -.158  | .041  | -.016 | -.532 | 130 | 2106 | -.359  | .056  | -.182 | -.654  |
| 120 | 2168 | -.100  | .043  | .032  | -.243 | 120 | 2221 | -.225  | .044  | -.107 | -.508 | 130 | 2107 | -.322  | .046  | -.153 | -.522  |
| 120 | 2170 | -.141  | .052  | .090  | -.453 | 120 | 2222 | -.146  | .030  | -.035 | -.285 | 130 | 2108 | -.165  | .077  | -.206 | -.385  |
| 120 | 2171 | -.138  | .048  | .060  | -.348 | 120 | 2223 | -.181  | .064  | .172  | -.452 | 130 | 2109 | -.331  | .051  | -.212 | -.595  |
| 120 | 2172 | -.130  | .046  | .050  | -.356 | 120 | 2224 | -.107  | .040  | .101  | -.280 | 130 | 2110 | -.351  | .066  | -.158 | -.952  |
| 120 | 2173 | -.133  | .043  | .045  | -.306 | 120 | 2225 | -.130  | .045  | .065  | -.315 | 130 | 2111 | -.319  | .044  | -.195 | -.507  |
| 120 | 2174 | -.135  | .050  | .035  | -.346 | 120 | 2226 | -.239  | .096  | .014  | -.882 | 130 | 2112 | -.205  | .062  | .128  | -.502  |
| 120 | 2175 | -.135  | .050  | .015  | -.383 | 120 | 2227 | -.002  | .094  | -.448 | -.214 | 130 | 2113 | -.324  | .055  | -.180 | -.766  |
| 120 | 2177 | -.070  | .043  | .115  | -.298 | 120 | 2228 | -.208  | .037  | -.095 | -.458 | 130 | 2114 | -.345  | .075  | -.151 | -.932  |
| 120 | 2178 | -.138  | .056  | .072  | -.528 | 120 | 2229 | -.112  | .036  | -.086 | -.227 | 130 | 2115 | -.296  | .038  | -.160 | -.451  |
| 120 | 2179 | -.168  | .053  | .007  | -.373 | 120 | 2230 | -.155  | .069  | .159  | -.522 | 130 | 2116 | -.178  | .066  | -.089 | -.471  |
| 120 | 2180 | -.159  | .042  | -.033 | -.331 | 120 | 2231 | -.213  | .051  | -.054 | -.514 | 130 | 2117 | -.341  | .057  | -.156 | -.795  |
| 120 | 2181 | -.161  | .048  | .020  | -.438 | 120 | 2233 | -.145  | .043  | .122  | -.344 | 130 | 2118 | -.533  | .068  | -.153 | -.829  |
| 120 | 2182 | -.164  | .052  | -.013 | -.428 | 120 | 2234 | -.092  | .037  | .071  | -.188 | 130 | 2119 | -.289  | .043  | -.143 | -.505  |
| 120 | 2183 | -.154  | .053  | .067  | -.416 | 120 | 2235 | -.096  | .042  | .083  | -.250 | 130 | 2120 | -.053  | .061  | -.203 | -.226  |
| 120 | 2184 | -.100  | .033  | .057  | -.217 | 120 | 2236 | -.063  | .123  | .319  | -.109 | 130 | 2121 | -.703  | .147  | -.204 | -.1289 |
| 120 | 2185 | -.077  | .030  | .055  | -.212 | 120 | 2237 | -.079  | .058  | .190  | -.305 | 130 | 2122 | -.445  | .056  | -.241 | -.698  |
| 120 | 2187 | -.088  | .036  | .057  | -.205 | 120 | 2238 | -.346  | .126  | -.064 | -.348 | 130 | 2123 | -.317  | .044  | -.070 | -.537  |
| 120 | 2188 | -.118  | .049  | .091  | -.369 | 120 | 2239 | -.397  | .117  | -.098 | -.048 | 130 | 2124 | -.279  | .110  | -.057 | -.1242 |
| 120 | 2189 | -.197  | .085  | .079  | -.491 | 120 | 2240 | -.512  | .149  | -.157 | -.167 | 130 | 2125 | -.373  | .168  | .042  | -.1391 |
| 120 | 2190 | -.154  | .048  | .001  | -.354 | 120 | 2241 | -.236  | .103  | .153  | -.724 | 130 | 2126 | -.198  | .063  | .025  | -.573  |
| 120 | 2191 | -.136  | .064  | .047  | -.576 | 120 | 2242 | -.308  | .094  | .117  | -.058 | 130 | 2127 | -.062  | .104  | .379  | -.436  |
| 120 | 2192 | -.164  | .063  | .079  | -.493 | 120 | 2243 | -.370  | .113  | .179  | -.022 | 130 | 2128 | -.056  | .134  | .567  | -.290  |
| 120 | 2193 | -.165  | .058  | -.003 | -.478 | 120 | 2244 | -.250  | .124  | .120  | -.911 | 130 | 2129 | -.331  | .153  | .189  | -.108  |
| 120 | 2194 | -.063  | .052  | .152  | -.293 | 120 | 2245 | -.136  | .099  | .203  | -.706 | 130 | 2130 | -.215  | .063  | .054  | -.561  |
| 120 | 2195 | -.098  | .060  | .172  | -.405 | 120 | 2246 | -.226  | .096  | .086  | -.615 | 130 | 2131 | -.082  | .057  | .235  | -.241  |
| 120 | 2196 | -.214  | .116  | .104  | -.787 | 120 | 2247 | -.293  | .114  | .019  | -.014 | 130 | 2132 | -.057  | .144  | .682  | -.251  |
| 120 | 2197 | -.068  | .053  | .145  | -.256 | 120 | 2248 | -.166  | .115  | .291  | -.561 | 130 | 2133 | -.255  | .160  | .167  | -.1176 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 164

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|---------|
| 130 | 2134 | -.215  | .099  | .050  | -.869  | 130 | 2189 | -.170  | .071  | .041  | -.531  | 130 | 2240 | -.469  | .145  | -.106 | -.1.233 |
| 130 | 2136 | -.055  | .104  | .489  | -.297  | 130 | 2190 | -.155  | .047  | .015  | -.317  | 130 | 2241 | -.295  | .092  | .058  | -.903   |
| 130 | 2137 | -.170  | .112  | .262  | -1.963 | 130 | 2191 | -.150  | .059  | .105  | -.431  | 130 | 2242 | -.388  | .108  | -.008 | -.1.341 |
| 130 | 2138 | -.171  | .061  | .091  | -.810  | 130 | 2192 | -.161  | .055  | -.014 | -.429  | 130 | 2243 | -.438  | .116  | -.142 | -.1.251 |
| 130 | 2140 | -.107  | .068  | .340  | -.275  | 130 | 2193 | -.156  | .051  | -.005 | -.394  | 130 | 2244 | -.269  | .116  | .210  | -.954   |
| 130 | 2141 | -.151  | .069  | .211  | -.512  | 130 | 2194 | -.075  | .043  | .136  | -.310  | 130 | 2245 | -.159  | .085  | .371  | -.547   |
| 130 | 2142 | -.205  | .076  | .042  | -.593  | 130 | 2195 | -.108  | .047  | .107  | -.446  | 130 | 2246 | -.221  | .074  | .002  | -.726   |
| 130 | 2143 | -.142  | .101  | .434  | -.144  | 130 | 2196 | -.178  | .108  | .126  | -.895  | 130 | 2247 | -.348  | .126  | -.039 | -.923   |
| 130 | 2144 | -.146  | .096  | .533  | -.111  | 130 | 2197 | -.087  | .047  | .088  | -.286  | 130 | 2248 | -.237  | .099  | .222  | -.657   |
| 130 | 2145 | .016   | .085  | .416  | -.235  | 130 | 2198 | .027   | .078  | .442  | -.165  | 130 | 2249 | -.012  | .118  | .612  | -.334   |
| 130 | 2146 | -.190  | .053  | -.007 | -.409  | 130 | 2199 | .054   | .095  | .531  | -.136  | 130 | 2250 | -.060  | .102  | .507  | -.339   |
| 130 | 2147 | -.122  | .037  | -.002 | -.275  | 130 | 2200 | -.043  | .067  | .238  | -.274  | 130 | 2251 | -.411  | .089  | -.070 | -.821   |
| 130 | 2148 | -.134  | .040  | -.003 | -.701  | 130 | 2201 | -.016  | .044  | .175  | -.235  | 130 | 2252 | -.349  | .121  | .133  | -.880   |
| 130 | 2149 | -.157  | .055  | .037  | -.503  | 130 | 2202 | -.206  | .042  | -.036 | -.499  | 130 | 2253 | -.092  | .076  | .286  | -.544   |
| 130 | 2150 | -.122  | .061  | .074  | -.433  | 130 | 2203 | -.214  | .032  | .087  | -.444  | 130 | 2254 | -.105  | .074  | .166  | -.780   |
| 130 | 2151 | -.182  | .053  | -.007 | -.500  | 130 | 2204 | -.225  | .039  | -.053 | -.422  | 130 | 2255 | -.129  | .058  | .112  | -.347   |
| 130 | 2152 | -.137  | .037  | .010  | -.302  | 130 | 2205 | -.217  | .033  | -.121 | -.393  | 130 | 2256 | -.049  | .080  | .394  | -.277   |
| 130 | 2153 | -.140  | .031  | -.010 | -.317  | 130 | 2206 | -.192  | .036  | -.070 | -.344  | 130 | 2257 | -.103  | .055  | .138  | -.295   |
| 130 | 2154 | -.125  | .039  | -.000 | -.329  | 130 | 2207 | -.263  | .061  | -.089 | -.647  | 130 | 2258 | -.342  | .069  | -.121 | -.762   |
| 130 | 2155 | -.100  | .052  | .072  | -.401  | 130 | 2208 | -.175  | .034  | -.048 | -.356  | 130 | 2259 | -.349  | .114  | .117  | -.1.374 |
| 130 | 2156 | -.116  | .136  | .183  | -1.117 | 130 | 2209 | -.170  | .045  | .015  | .378   | 130 | 2260 | -.127  | .064  | .202  | -.326   |
| 130 | 2157 | .058   | .122  | .602  | -.334  | 130 | 2210 | -.363  | .103  | -.089 | -.912  | 130 | 2261 | -.112  | .046  | .048  | -.467   |
| 130 | 2158 | -.050  | .067  | .280  | -.215  | 130 | 2211 | -.204  | .036  | -.031 | -.359  | 130 | 2262 | -.124  | .062  | .102  | -.411   |
| 130 | 2159 | -.122  | .044  | .074  | -.260  | 130 | 2212 | -.180  | .033  | -.058 | -.330  | 130 | 2263 | -.066  | .062  | .248  | -.213   |
| 130 | 2160 | -.109  | .038  | .027  | -.240  | 130 | 2213 | -.175  | .049  | -.026 | -.473  | 130 | 2264 | -.118  | .045  | .138  | -.260   |
| 130 | 2161 | -.096  | .046  | .114  | -.287  | 130 | 2214 | -.300  | .083  | -.077 | -.829  | 130 | 2265 | -.212  | .069  | .010  | -.654   |
| 130 | 2162 | -.091  | .037  | .089  | -.225  | 130 | 2215 | -.014  | .102  | .602  | -.242  | 140 | 2101 | -.452  | .171  | .021  | -.1.536 |
| 130 | 2163 | -.077  | .039  | .094  | -.267  | 130 | 2216 | -.239  | .035  | -.128 | -.444  | 140 | 2102 | -.439  | .147  | -.086 | -.1.247 |
| 130 | 2164 | -.159  | .057  | .035  | -.585  | 130 | 2217 | -.216  | .032  | -.123 | -.393  | 140 | 2103 | -.375  | .109  | -.009 | -.853   |
| 130 | 2165 | -.136  | .069  | .114  | -.426  | 130 | 2218 | -.243  | .049  | -.063 | -.475  | 140 | 2104 | -.121  | .129  | .563  | -.398   |
| 130 | 2166 | -.093  | .036  | .063  | -.220  | 130 | 2219 | -.180  | .043  | -.037 | -.364  | 140 | 2105 | -.347  | .072  | .083  | -.663   |
| 130 | 2167 | -.132  | .045  | .030  | -.359  | 130 | 2220 | -.201  | .046  | .003  | -.509  | 140 | 2106 | -.353  | .084  | -.096 | -.989   |
| 130 | 2168 | -.120  | .041  | .065  | -.267  | 130 | 2221 | -.233  | .036  | -.133 | -.429  | 140 | 2107 | -.321  | .066  | -.066 | -.1.096 |
| 130 | 2169 | -.162  | .050  | .035  | -.468  | 130 | 2222 | -.179  | .031  | -.036 | -.283  | 140 | 2108 | -.076  | .095  | .375  | -.370   |
| 130 | 2171 | -.151  | .043  | .015  | -.431  | 130 | 2223 | -.226  | .076  | -.083 | -.572  | 140 | 2109 | -.308  | .046  | -.172 | -.578   |
| 130 | 2172 | -.150  | .045  | -.007 | -.495  | 130 | 2224 | -.140  | .037  | -.008 | -.257  | 140 | 2110 | -.330  | .059  | -.168 | -.707   |
| 130 | 2173 | -.149  | .042  | .005  | -.369  | 130 | 2225 | -.153  | .044  | -.043 | -.413  | 140 | 2111 | -.302  | .039  | -.133 | -.482   |
| 130 | 2174 | -.158  | .060  | .005  | -.818  | 130 | 2226 | -.303  | .108  | -.016 | -1.049 | 140 | 2112 | -.084  | .094  | .367  | -.370   |
| 130 | 2175 | -.156  | .055  | .032  | -.490  | 130 | 2227 | -.035  | .085  | .466  | -.293  | 140 | 2113 | -.305  | .052  | -.130 | -.1.002 |
| 130 | 2177 | -.082  | .038  | .109  | -.255  | 130 | 2228 | -.227  | .034  | -.134 | -.383  | 140 | 2114 | -.331  | .076  | -.140 | -.984   |
| 130 | 2178 | -.174  | .053  | .012  | -.463  | 130 | 2229 | -.151  | .032  | -.043 | -.265  | 140 | 2115 | -.290  | .037  | -.168 | -.509   |
| 130 | 2179 | -.169  | .045  | -.022 | -.357  | 130 | 2230 | -.222  | .081  | .038  | -.652  | 140 | 2116 | -.129  | .077  | .209  | -.415   |
| 130 | 2180 | -.167  | .040  | -.040 | -.332  | 130 | 2231 | -.224  | .052  | .007  | -.462  | 140 | 2117 | -.323  | .062  | -.116 | -.687   |
| 130 | 2181 | -.164  | .046  | -.012 | -.372  | 130 | 2232 | -.184  | .045  | .117  | -.377  | 140 | 2118 | -.332  | .077  | -.140 | -.885   |
| 130 | 2182 | -.164  | .048  | -.017 | -.364  | 130 | 2233 | -.122  | .034  | .020  | -.254  | 140 | 2119 | -.285  | .047  | -.118 | -.514   |
| 130 | 2183 | -.158  | .051  | .012  | -.426  | 130 | 2235 | -.125  | .042  | .040  | -.398  | 140 | 2120 | -.016  | .072  | .308  | -.227   |
| 130 | 2184 | -.099  | .034  | .090  | -.225  | 130 | 2236 | -.110  | .097  | .356  | -.762  | 140 | 2121 | -.589  | .180  | -.168 | -.1.507 |
| 130 | 2185 | -.079  | .034  | .088  | -.177  | 130 | 2237 | -.082  | .060  | .220  | -.508  | 140 | 2122 | -.432  | .077  | -.138 | -.714   |
| 130 | 2187 | -.093  | .031  | .066  | -.211  | 130 | 2238 | -.366  | .130  | -.101 | -1.339 | 140 | 2123 | -.303  | .060  | -.049 | -.640   |
| 130 | 2188 | -.131  | .048  | .073  | -.475  | 130 | 2239 | -.349  | .093  | -.144 | -.890  | 140 | 2124 | -.290  | .107  | .050  | -.883   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 140 | 2125 | -.452  | .258  | .164  | -2.058 | 140 | 2179 | -.144  | .042  | .010  | -.296 | 140 | 2230 | -.276  | .106  | .035  | -.739  |
| 140 | 2126 | -.231  | .083  | .043  | -.719  | 140 | 2180 | -.145  | .042  | .015  | -.356 | 140 | 2231 | -.254  | .060  | -.025 | -.526  |
| 140 | 2127 | -.037  | .121  | .469  | -.405  | 140 | 2181 | -.133  | .046  | .051  | -.477 | 140 | 2233 | -.224  | .058  | .131  | -.458  |
| 140 | 2128 | .105   | .158  | .659  | -.229  | 140 | 2182 | -.142  | .053  | .010  | -.479 | 140 | 2234 | -.149  | .039  | .035  | -.290  |
| 140 | 2129 | -.185  | .174  | .627  | -.133  | 140 | 2183 | -.138  | .055  | .048  | -.489 | 140 | 2235 | -.146  | .045  | .072  | -.342  |
| 140 | 2130 | -.208  | .072  | .026  | -.551  | 140 | 2184 | -.066  | .048  | .195  | -.250 | 140 | 2236 | -.135  | .120  | .217  | -.1293 |
| 140 | 2131 | -.000  | .080  | .283  | -.219  | 140 | 2185 | -.045  | .052  | .193  | -.191 | 140 | 2237 | -.094  | .060  | .137  | -.438  |
| 140 | 2132 | .166   | .170  | .966  | -.249  | 140 | 2187 | -.075  | .042  | .109  | -.208 | 140 | 2238 | -.693  | .344  | -.022 | -.758  |
| 140 | 2133 | -.078  | .152  | .669  | -.677  | 140 | 2188 | -.130  | .051  | .057  | -.554 | 140 | 2239 | -.347  | .100  | -.095 | -.939  |
| 140 | 2134 | -.179  | .072  | .058  | -.536  | 140 | 2189 | -.143  | .058  | .033  | -.503 | 140 | 2240 | -.302  | .086  | -.063 | -.929  |
| 140 | 2136 | .141   | .150  | .934  | -.249  | 140 | 2190 | -.141  | .045  | .055  | -.338 | 140 | 2241 | -.267  | .073  | -.009 | -.801  |
| 140 | 2137 | -.059  | .132  | .491  | -.591  | 140 | 2191 | -.145  | .057  | .021  | -.461 | 140 | 2242 | -.295  | .095  | -.043 | -.900  |
| 140 | 2138 | -.188  | .081  | .130  | -.586  | 140 | 2192 | -.145  | .061  | .080  | -.598 | 140 | 2243 | -.339  | .112  | -.045 | -.1004 |
| 140 | 2140 | .044   | .117  | .592  | -.440  | 140 | 2193 | -.123  | .053  | .033  | -.527 | 140 | 2244 | -.127  | .145  | .386  | -.804  |
| 140 | 2141 | -.021  | .111  | .585  | -.462  | 140 | 2194 | -.120  | .074  | .055  | -.692 | 140 | 2245 | -.072  | .121  | .563  | -.581  |
| 140 | 2142 | -.251  | .092  | .065  | -.747  | 140 | 2195 | -.099  | .047  | .092  | -.320 | 140 | 2246 | -.258  | .058  | -.040 | -.531  |
| 140 | 2143 | .062   | .107  | .432  | -.304  | 140 | 2196 | -.137  | .073  | .072  | -.535 | 140 | 2247 | -.227  | .073  | .051  | -.723  |
| 140 | 2144 | .196   | .109  | .591  | -.138  | 140 | 2197 | -.088  | .046  | .112  | -.257 | 140 | 2248 | -.253  | .077  | .233  | -.916  |
| 140 | 2145 | .100   | .102  | .495  | -.228  | 140 | 2198 | -.031  | .050  | .284  | -.215 | 140 | 2249 | -.150  | .088  | .329  | -.583  |
| 140 | 2146 | -.150  | .057  | .133  | -.472  | 140 | 2199 | -.039  | .086  | .421  | -.340 | 140 | 2250 | -.131  | .088  | .303  | -.422  |
| 140 | 2147 | -.109  | .048  | .058  | -.346  | 140 | 2200 | -.042  | .068  | .360  | -.279 | 140 | 2251 | -.336  | .082  | -.079 | -.703  |
| 140 | 2148 | -.179  | .057  | .008  | -.612  | 140 | 2201 | -.076  | .069  | .163  | -.390 | 140 | 2252 | -.157  | .139  | .448  | -.716  |
| 140 | 2149 | -.196  | .060  | .018  | -.472  | 140 | 2202 | -.234  | .046  | -.070 | -.505 | 140 | 2253 | -.006  | .100  | .534  | -.370  |
| 140 | 2150 | -.164  | .077  | .046  | -.648  | 140 | 2203 | -.245  | .042  | -.107 | -.485 | 140 | 2254 | -.157  | .054  | .111  | -.347  |
| 140 | 2151 | -.180  | .068  | .121  | -.575  | 140 | 2204 | -.247  | .048  | -.073 | -.655 | 140 | 2255 | -.141  | .057  | .072  | -.344  |
| 140 | 2152 | -.133  | .055  | .053  | -.427  | 140 | 2205 | -.245  | .040  | -.105 | -.505 | 140 | 2256 | -.146  | .073  | .360  | -.477  |
| 140 | 2153 | -.174  | .046  | .003  | -.409  | 140 | 2206 | -.225  | .041  | -.043 | -.431 | 140 | 2257 | -.166  | .055  | .256  | -.323  |
| 140 | 2154 | -.158  | .048  | .028  | -.321  | 140 | 2207 | -.311  | .066  | -.073 | -.709 | 140 | 2258 | -.306  | .070  | -.095 | -.703  |
| 140 | 2155 | -.169  | .057  | .008  | -.467  | 140 | 2208 | -.213  | .038  | -.060 | -.404 | 140 | 2259 | -.093  | .172  | .674  | -.705  |
| 140 | 2156 | -.118  | .109  | .146  | -.622  | 140 | 2209 | -.209  | .052  | -.029 | -.544 | 140 | 2260 | -.016  | .099  | .428  | -.344  |
| 140 | 2157 | -.092  | .121  | .322  | -.645  | 140 | 2210 | -.389  | .104  | -.090 | -.898 | 140 | 2261 | -.136  | .042  | .040  | -.274  |
| 140 | 2158 | -.106  | .064  | .375  | -.324  | 140 | 2211 | -.245  | .042  | -.090 | -.441 | 140 | 2262 | -.120  | .047  | .066  | -.329  |
| 140 | 2159 | -.159  | .048  | .083  | -.376  | 140 | 2212 | -.219  | .037  | -.026 | -.392 | 140 | 2263 | -.133  | .053  | .124  | -.326  |
| 140 | 2160 | -.156  | .041  | -.017 | -.301  | 140 | 2213 | -.216  | .062  | -.014 | -.606 | 140 | 2264 | -.177  | .039  | .017  | -.297  |
| 140 | 2161 | -.152  | .046  | .003  | -.351  | 140 | 2214 | -.334  | .084  | -.011 | -.780 | 140 | 2265 | -.216  | .047  | -.022 | -.586  |
| 140 | 2162 | -.066  | .053  | .231  | -.253  | 140 | 2215 | -.012  | .104  | .406  | -.279 | 150 | 2101 | -.504  | .178  | -.058 | -.1391 |
| 140 | 2163 | -.094  | .052  | .126  | -.414  | 140 | 2216 | -.268  | .046  | -.129 | -.439 | 150 | 2102 | -.506  | .181  | -.088 | -.1474 |
| 140 | 2164 | -.149  | .053  | .020  | -.449  | 140 | 2217 | -.244  | .038  | -.110 | -.429 | 150 | 2103 | -.420  | .151  | .001  | -.1123 |
| 140 | 2165 | -.149  | .071  | .159  | -.818  | 140 | 2218 | -.260  | .052  | -.080 | -.542 | 150 | 2104 | -.059  | .152  | .662  | -.603  |
| 140 | 2166 | -.071  | .044  | .141  | -.237  | 140 | 2219 | -.207  | .048  | -.013 | -.407 | 150 | 2105 | -.358  | .092  | -.098 | -.895  |
| 140 | 2167 | -.132  | .046  | .043  | -.437  | 140 | 2220 | -.249  | .057  | -.063 | -.662 | 150 | 2106 | -.367  | .106  | -.095 | -.912  |
| 140 | 2168 | -.131  | .052  | .076  | -.527  | 140 | 2221 | -.262  | .043  | -.122 | -.525 | 150 | 2107 | -.351  | .086  | -.120 | -.214  |
| 140 | 2170 | -.145  | .044  | -.007 | -.394  | 140 | 2222 | -.210  | .034  | -.070 | -.338 | 150 | 2108 | -.023  | .114  | .494  | -.380  |
| 140 | 2171 | -.140  | .044  | .020  | -.391  | 140 | 2223 | -.292  | .088  | -.136 | -.724 | 150 | 2109 | -.313  | .057  | .120  | -.774  |
| 140 | 2172 | -.131  | .042  | .068  | -.366  | 140 | 2224 | -.169  | .044  | -.006 | -.345 | 150 | 2110 | -.338  | .066  | .160  | -.816  |
| 140 | 2173 | -.131  | .047  | .043  | -.359  | 140 | 2225 | -.188  | .054  | .095  | -.557 | 150 | 2111 | -.322  | .049  | .162  | -.551  |
| 140 | 2174 | -.137  | .058  | .033  | -.474  | 140 | 2226 | -.331  | .122  | -.079 | -.861 | 150 | 2112 | -.041  | .101  | .459  | -.395  |
| 140 | 2175 | -.128  | .053  | .056  | -.409  | 140 | 2227 | -.070  | .079  | .334  | -.282 | 150 | 2113 | -.313  | .059  | .162  | -.744  |
| 140 | 2177 | -.069  | .055  | .267  | -.226  | 140 | 2228 | -.295  | .038  | -.108 | -.440 | 150 | 2114 | -.340  | .083  | -.157 | -.964  |
| 140 | 2178 | -.151  | .044  | .000  | -.489  | 140 | 2229 | -.192  | .032  | -.071 | -.318 | 150 | 2115 | -.302  | .044  | -.125 | -.504  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|
| 150 | 2116 | -.123  | .086  | .286  | -.402  | 150 | 2168 | -.132  | .059  | .101  | -.447   | 150 | 2221 | -.285  | .047  | -.141 | -.535   |
| 150 | 2117 | -.338  | .072  | -.150 | -.704  | 150 | 2170 | -.148  | .043  | -.007 | -.357   | 150 | 2222 | -.243  | .032  | -.112 | -.380   |
| 150 | 2118 | -.351  | .086  | -.142 | -.949  | 150 | 2171 | -.142  | .044  | .005  | -.384   | 150 | 2223 | -.320  | .079  | -.149 | -.790   |
| 150 | 2119 | -.296  | .095  | -.103 | -.610  | 150 | 2172 | -.136  | .046  | .038  | -.329   | 150 | 2224 | -.212  | .042  | -.048 | -.414   |
| 150 | 2120 | -.013  | .073  | .410  | -.246  | 150 | 2173 | -.136  | .055  | .111  | -.440   | 150 | 2225 | -.242  | .064  | -.063 | -.569   |
| 150 | 2121 | -.583  | .194  | -.006 | -.1576 | 150 | 2174 | -.142  | .063  | .065  | -.404   | 150 | 2226 | -.355  | .112  | -.052 | -.860   |
| 150 | 2122 | -.435  | .079  | -.160 | -.739  | 150 | 2175 | -.139  | .060  | .091  | -.553   | 150 | 2227 | -.105  | .072  | .208  | -.361   |
| 150 | 2123 | -.293  | .069  | -.070 | -.571  | 150 | 2177 | -.037  | .075  | .332  | -.274   | 150 | 2228 | -.282  | .038  | -.156 | -.610   |
| 150 | 2124 | -.350  | .126  | -.011 | -.982  | 150 | 2178 | -.164  | .046  | -.038 | -.425   | 150 | 2230 | -.287  | .101  | .154  | -.350   |
| 150 | 2125 | -.661  | .350  | -.088 | -2.051 | 150 | 2179 | -.161  | .052  | .018  | -.495   | 150 | 2231 | -.276  | .087  | .109  | -.888   |
| 150 | 2126 | -.268  | .085  | -.036 | -.736  | 150 | 2180 | -.158  | .050  | .003  | -.497   | 150 | 2232 | -.240  | .071  | .128  | -.815   |
| 150 | 2127 | -.050  | .103  | .291  | -.481  | 150 | 2181 | -.159  | .063  | .013  | -.462   | 150 | 2233 | -.174  | .036  | .008  | -.348   |
| 150 | 2128 | -.186  | .149  | .712  | -.259  | 150 | 2182 | -.170  | .066  | .008  | -.575   | 150 | 2234 | -.164  | .065  | .203  | -.511   |
| 150 | 2129 | -.162  | .177  | .610  | -.826  | 150 | 2183 | -.164  | .070  | .081  | -.528   | 150 | 2235 | -.077  | .164  | .507  | -.875   |
| 150 | 2130 | -.243  | .073  | -.006 | -.533  | 150 | 2184 | -.053  | .048  | .196  | -.193   | 150 | 2236 | -.114  | .164  | .507  | -.576   |
| 150 | 2131 | -.022  | .066  | .254  | -.246  | 150 | 2185 | -.013  | .059  | .252  | -.173   | 150 | 2237 | -.821  | .380  | .047  | -2.745  |
| 150 | 2132 | -.249  | .177  | .908  | -.251  | 150 | 2186 | -.039  | .054  | .316  | -.217   | 150 | 2238 | -.438  | .119  | -.080 | -.176   |
| 150 | 2133 | -.005  | .175  | .672  | -.868  | 150 | 2188 | -.134  | .055  | .070  | -.473   | 150 | 2239 | -.305  | .073  | -.062 | -.797   |
| 150 | 2134 | -.210  | .075  | .036  | -.660  | 150 | 2189 | -.177  | .072  | -.001 | -.650   | 150 | 2240 | -.289  | .068  | -.109 | -.727   |
| 150 | 2136 | -.177  | .144  | .816  | -.172  | 150 | 2190 | -.160  | .063  | .026  | -.476   | 150 | 2241 | -.271  | .065  | -.031 | -.732   |
| 150 | 2137 | -.021  | .158  | .749  | -.536  | 150 | 2191 | -.174  | .080  | .041  | -.544   | 150 | 2242 | -.282  | .077  | .003  | -.789   |
| 150 | 2138 | -.214  | .086  | .048  | -.672  | 150 | 2192 | -.162  | .071  | .068  | -.515   | 150 | 2243 | -.305  | .073  | -.062 | -.797   |
| 150 | 2140 | -.064  | .114  | .541  | -.429  | 150 | 2193 | -.117  | .055  | .055  | -.407   | 150 | 2244 | -.094  | .168  | .548  | -.1.041 |
| 150 | 2141 | -.038  | .118  | .554  | -.415  | 150 | 2194 | -.057  | .063  | .196  | -.375   | 150 | 2245 | -.015  | .146  | .645  | -.558   |
| 150 | 2142 | -.266  | .101  | .058  | -.865  | 150 | 2195 | -.100  | .059  | .119  | -.409   | 150 | 2246 | -.273  | .060  | -.018 | -.545   |
| 150 | 2143 | -.048  | .111  | .427  | -.352  | 150 | 2196 | -.204  | .132  | .085  | -.1.048 | 150 | 2247 | -.246  | .059  | -.037 | -.454   |
| 150 | 2144 | -.174  | .105  | .583  | -.133  | 150 | 2197 | -.083  | .056  | .159  | -.299   | 150 | 2248 | -.278  | .072  | .083  | -.1.122 |
| 150 | 2145 | -.099  | .103  | .498  | -.264  | 150 | 2198 | -.025  | .088  | .613  | -.161   | 150 | 2249 | -.170  | .079  | .265  | -.410   |
| 150 | 2146 | -.145  | .073  | .126  | -.394  | 150 | 2199 | -.071  | .113  | .911  | -.225   | 150 | 2250 | -.173  | .077  | .346  | -.465   |
| 150 | 2147 | -.096  | .050  | .103  | -.344  | 150 | 2200 | -.037  | .093  | .535  | -.208   | 150 | 2251 | -.328  | .070  | -.106 | -.826   |
| 150 | 2148 | -.149  | .043  | .008  | -.316  | 150 | 2201 | -.007  | .076  | .336  | -.407   | 150 | 2252 | -.150  | .161  | .395  | -.862   |
| 150 | 2149 | -.201  | .054  | .035  | -.452  | 150 | 2202 | -.253  | .043  | -.090 | -.532   | 150 | 2253 | -.029  | .113  | .720  | -.374   |
| 150 | 2150 | -.146  | .068  | .103  | -.490  | 150 | 2203 | -.254  | .036  | -.001 | -.449   | 150 | 2254 | -.173  | .054  | .174  | -.382   |
| 150 | 2151 | -.171  | .067  | .053  | -.475  | 150 | 2204 | -.258  | .040  | -.109 | -.510   | 150 | 2255 | -.151  | .061  | .146  | -.348   |
| 150 | 2152 | -.121  | .051  | .055  | -.457  | 150 | 2205 | -.265  | .044  | -.104 | -.616   | 150 | 2256 | -.161  | .080  | .146  | -.722   |
| 150 | 2153 | -.153  | .040  | .000  | -.296  | 150 | 2206 | -.258  | .041  | -.087 | -.471   | 150 | 2257 | -.190  | .049  | .190  | -.361   |
| 150 | 2154 | -.177  | .045  | -.023 | -.342  | 150 | 2207 | -.343  | .064  | -.134 | -.743   | 150 | 2258 | -.288  | .052  | -.158 | -.600   |
| 150 | 2155 | -.187  | .052  | -.007 | -.445  | 150 | 2208 | -.253  | .042  | -.082 | -.537   | 150 | 2259 | -.012  | .154  | .624  | -.634   |
| 150 | 2156 | -.085  | .121  | .221  | -.834  | 150 | 2209 | -.255  | .053  | -.043 | -.557   | 150 | 2260 | -.045  | .101  | .538  | -.293   |
| 150 | 2157 | .018   | .144  | .731  | -.585  | 150 | 2210 | -.404  | .095  | -.075 | -.869   | 150 | 2261 | -.145  | .046  | .091  | -.283   |
| 150 | 2158 | -.057  | .078  | .299  | -.244  | 150 | 2211 | -.281  | .040  | -.158 | -.488   | 150 | 2262 | -.116  | .054  | .159  | -.309   |
| 150 | 2159 | -.137  | .054  | .113  | -.319  | 150 | 2212 | -.251  | .037  | -.112 | -.498   | 150 | 2263 | -.143  | .060  | .122  | -.332   |
| 150 | 2160 | -.171  | .039  | -.023 | -.364  | 150 | 2213 | -.239  | .049  | -.028 | -.596   | 150 | 2264 | -.200  | .035  | -.033 | -.327   |
| 150 | 2161 | -.171  | .043  | -.035 | -.362  | 150 | 2214 | -.353  | .089  | -.041 | -.788   | 150 | 2265 | -.237  | .039  | -.072 | -.472   |
| 150 | 2162 | -.033  | .062  | .246  | -.178  | 150 | 2215 | -.063  | .084  | .277  | -.338   | 160 | 2101 | -.326  | .110  | -.066 | -.1.018 |
| 150 | 2163 | -.044  | .062  | .246  | -.296  | 150 | 2216 | -.277  | .039  | -.161 | -.476   | 160 | 2102 | -.333  | .115  | -.063 | -.1.013 |
| 150 | 2164 | -.155  | .050  | .015  | -.374  | 150 | 2217 | -.256  | .036  | -.129 | -.426   | 160 | 2103 | -.289  | .089  | -.023 | -.769   |
| 150 | 2165 | -.167  | .095  | .179  | -.827  | 150 | 2218 | -.271  | .043  | -.085 | -.547   | 160 | 2104 | -.051  | .114  | .515  | -.447   |
| 150 | 2166 | -.039  | .049  | .164  | -.198  | 150 | 2219 | -.235  | .045  | -.166 | -.402   | 160 | 2105 | -.273  | .069  | -.082 | -.651   |
| 150 | 2167 | -.127  | .046  | .065  | -.374  | 150 | 2220 | -.286  | .053  | -.104 | -.591   | 160 | 2106 | -.279  | .079  | -.018 | -.707   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 160 | 2107 | -.248  | .053  | -.084 | -.509 | 160 | 2159 | -.049  | .054  | .220  | -.222  | 160 | 2212 | -.204  | .037  | -.019 | -.390  |
| 160 | 2108 | -.022  | .098  | .351  | -.407 | 160 | 2160 | -.094  | .034  | .062  | -.265  | 160 | 2213 | -.177  | .049  | .070  | -.381  |
| 160 | 2109 | -.245  | .050  | -.099 | -.599 | 160 | 2161 | -.098  | .039  | .064  | -.328  | 160 | 2214 | -.280  | .104  | .227  | -.955  |
| 160 | 2110 | -.265  | .071  | -.118 | -.781 | 160 | 2162 | -.010  | .066  | .384  | -.179  | 160 | 2215 | -.021  | .091  | .539  | -.270  |
| 160 | 2111 | -.236  | .035  | -.111 | -.428 | 160 | 2163 | -.007  | .058  | .199  | -.272  | 160 | 2216 | -.226  | .037  | -.101 | -.620  |
| 160 | 2112 | -.043  | .093  | .361  | -.291 | 160 | 2164 | -.096  | .041  | .062  | -.275  | 160 | 2217 | -.210  | .038  | .025  | -.381  |
| 160 | 2113 | -.254  | .060  | -.099 | -.973 | 160 | 2165 | -.155  | .104  | .218  | -.667  | 160 | 2218 | -.224  | .046  | -.015 | -.575  |
| 160 | 2114 | -.273  | .085  | -.037 | -.930 | 160 | 2166 | -.006  | .049  | .220  | -.207  | 160 | 2219 | -.193  | .053  | .178  | -.399  |
| 160 | 2115 | -.225  | .037  | -.118 | -.383 | 160 | 2167 | -.090  | .037  | .035  | -.258  | 160 | 2220 | -.218  | .036  | -.078 | -.435  |
| 160 | 2116 | -.113  | .083  | .411  | -.411 | 160 | 2168 | -.098  | .060  | .091  | -.445  | 160 | 2221 | -.235  | .041  | -.111 | -.491  |
| 160 | 2117 | -.279  | .066  | -.106 | -.793 | 160 | 2170 | -.124  | .038  | -.001 | -.299  | 160 | 2222 | -.198  | .037  | .011  | -.381  |
| 160 | 2118 | -.262  | .065  | -.063 | -.658 | 160 | 2171 | -.124  | .046  | .033  | -.366  | 160 | 2223 | -.232  | .078  | .314  | -.458  |
| 160 | 2119 | -.228  | .043  | -.042 | -.423 | 160 | 2172 | -.110  | .047  | .040  | -.328  | 160 | 2224 | -.186  | .039  | -.045 | -.359  |
| 160 | 2120 | -.087  | .055  | .205  | -.274 | 160 | 2173 | -.111  | .052  | .062  | -.448  | 160 | 2225 | -.211  | .054  | .068  | -.421  |
| 160 | 2121 | -.364  | .124  | .081  | -.165 | 160 | 2174 | -.135  | .061  | .047  | -.334  | 160 | 2226 | -.256  | .103  | .140  | -.809  |
| 160 | 2122 | -.255  | .051  | .023  | -.537 | 160 | 2175 | -.131  | .056  | .042  | -.395  | 160 | 2227 | -.096  | .069  | .267  | -.292  |
| 160 | 2123 | -.221  | .045  | -.061 | -.456 | 160 | 2177 | -.023  | .080  | .463  | -.239  | 160 | 2228 | -.231  | .036  | -.096 | -.421  |
| 160 | 2124 | .209   | .070  | .003  | -.622 | 160 | 2178 | -.152  | .044  | -.034 | -.345  | 160 | 2229 | -.163  | .036  | .033  | -.287  |
| 160 | 2125 | -.309  | .158  | .015  | -.137 | 160 | 2179 | -.161  | .054  | .030  | -.433  | 160 | 2230 | -.152  | .111  | .448  | -.675  |
| 160 | 2126 | -.161  | .052  | .041  | -.433 | 160 | 2180 | -.157  | .054  | -.003 | -.594  | 160 | 2231 | -.238  | .065  | -.004 | .712   |
| 160 | 2127 | -.083  | .069  | .226  | -.317 | 160 | 2181 | -.160  | .059  | .018  | -.421  | 160 | 2233 | -.118  | .114  | .374  | -.396  |
| 160 | 2128 | -.006  | .109  | .463  | -.288 | 160 | 2182 | -.176  | .067  | -.003 | -.494  | 160 | 2234 | -.155  | .037  | .033  | -.329  |
| 160 | 2129 | -.157  | .117  | .273  | -.632 | 160 | 2183 | -.168  | .062  | .004  | -.594  | 160 | 2235 | -.071  | .070  | .247  | -.322  |
| 160 | 2130 | -.167  | .077  | .067  | -.613 | 160 | 2184 | -.032  | .043  | .211  | -.174  | 160 | 2236 | -.059  | .116  | .513  | -.486  |
| 160 | 2131 | -.050  | .046  | .141  | -.201 | 160 | 2185 | -.028  | .059  | .333  | -.120  | 160 | 2237 | -.100  | .080  | .115  | -.451  |
| 160 | 2132 | -.092  | .145  | 1.041 | -.466 | 160 | 2187 | -.007  | .054  | .241  | -.195  | 160 | 2238 | -.565  | .272  | -.056 | -.1892 |
| 160 | 2133 | -.048  | .131  | .704  | -.587 | 160 | 2188 | -.120  | .045  | .067  | .301   | 160 | 2239 | -.299  | .092  | -.051 | -.888  |
| 160 | 2134 | -.129  | .097  | .178  | -.707 | 160 | 2189 | -.213  | .087  | .035  | -.573  | 160 | 2240 | -.234  | .075  | -.036 | -.938  |
| 160 | 2135 | -.041  | .112  | .558  | -.319 | 160 | 2190 | -.172  | .058  | .028  | -.423  | 160 | 2241 | -.224  | .078  | -.014 | -.891  |
| 160 | 2137 | -.054  | .109  | .439  | -.762 | 160 | 2191 | -.183  | .061  | .011  | -.524  | 160 | 2242 | -.256  | .085  | -.036 | -.804  |
| 160 | 2138 | -.089  | .084  | .221  | -.705 | 160 | 2192 | -.189  | .075  | .009  | -.556  | 160 | 2243 | -.319  | .122  | -.014 | -.176  |
| 160 | 2140 | -.015  | .077  | .477  | -.255 | 160 | 2193 | -.103  | .055  | .086  | -.436  | 160 | 2244 | -.147  | .158  | .523  | -.839  |
| 160 | 2141 | -.040  | .084  | .354  | -.499 | 160 | 2194 | -.018  | .071  | .246  | -.685  | 160 | 2245 | -.036  | .122  | .490  | -.553  |
| 160 | 2142 | -.066  | .060  | .223  | -.516 | 160 | 2195 | -.072  | .049  | .128  | -.280  | 160 | 2246 | -.196  | .051  | .023  | -.434  |
| 160 | 2143 | -.033  | .047  | .151  | -.198 | 160 | 2196 | -.222  | .124  | .070  | -1.005 | 160 | 2247 | -.169  | .060  | .066  | -.362  |
| 160 | 2144 | -.019  | .065  | .417  | -.203 | 160 | 2197 | -.069  | .053  | .215  | -.268  | 160 | 2248 | -.210  | .076  | .083  | -.853  |
| 160 | 2145 | -.060  | .060  | .292  | -.542 | 160 | 2198 | -.046  | .076  | .438  | -.254  | 160 | 2249 | -.114  | .074  | .215  | -.337  |
| 160 | 2146 | -.084  | .069  | .155  | -.378 | 160 | 2199 | -.084  | .116  | .643  | -.524  | 160 | 2250 | -.102  | .112  | .582  | -.394  |
| 160 | 2147 | -.042  | .044  | .146  | -.270 | 160 | 2200 | -.076  | .092  | .745  | -.362  | 160 | 2251 | -.322  | .096  | -.049 | -.079  |
| 160 | 2148 | -.065  | .037  | .110  | -.196 | 160 | 2201 | -.023  | .053  | .316  | -.176  | 160 | 2252 | -.189  | .142  | .394  | -.821  |
| 160 | 2149 | -.096  | .037  | .074  | -.289 | 160 | 2202 | -.219  | .049  | -.066 | -.669  | 160 | 2253 | -.020  | .113  | .615  | -.526  |
| 160 | 2150 | -.118  | .062  | .088  | -.373 | 160 | 2203 | -.212  | .035  | -.094 | -.413  | 160 | 2254 | -.126  | .061  | .140  | -.411  |
| 160 | 2151 | -.103  | .063  | .100  | -.405 | 160 | 2204 | -.219  | .047  | .002  | -.596  | 160 | 2255 | -.097  | .061  | .202  | -.344  |
| 160 | 2152 | -.062  | .043  | .129  | -.217 | 160 | 2205 | -.215  | .036  | -.097 | -.505  | 160 | 2256 | -.106  | .073  | .242  | -.434  |
| 160 | 2153 | -.078  | .038  | .062  | -.222 | 160 | 2206 | -.209  | .049  | .035  | -.460  | 160 | 2257 | -.131  | .060  | .235  | -.287  |
| 160 | 2154 | -.094  | .034  | .042  | -.292 | 160 | 2207 | -.270  | .055  | -.059 | -.653  | 160 | 2258 | -.275  | .074  | -.044 | -.764  |
| 160 | 2155 | -.111  | .040  | .059  | -.342 | 160 | 2208 | -.211  | .040  | -.052 | -.416  | 160 | 2259 | -.066  | .143  | .530  | -.906  |
| 160 | 2156 | -.066  | .123  | .280  | -.674 | 160 | 2209 | -.225  | .058  | -.059 | -.587  | 160 | 2260 | -.028  | .081  | .421  | -.369  |
| 160 | 2157 | -.067  | .095  | .653  | -.515 | 160 | 2210 | -.320  | .104  | -.089 | -.718  | 160 | 2261 | -.107  | .048  | .140  | -.255  |
| 160 | 2158 | .025   | .073  | .367  | -.157 | 160 | 2211 | -.218  | .034  | -.090 | -.374  | 160 | 2262 | -.077  | .056  | .197  | -.230  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 160 | 2263 | -.098  | .055  | .173  | -.270 | 170 | 2150 | -.120  | .060  | .107  | -.419 | 170 | 2203 | -.204  | .035  | -.067 | -.454 |
| 160 | 2264 | -.150  | .038  | .073  | -.257 | 170 | 2151 | -.068  | .051  | .142  | -.417 | 170 | 2204 | -.209  | .043  | -.030 | -.454 |
| 160 | 2265 | -.184  | .047  | .066  | -.421 | 170 | 2152 | -.047  | .043  | .102  | -.245 | 170 | 2205 | -.205  | .039  | -.044 | -.472 |
| 170 | 2101 | -.280  | .084  | -.054 | -.846 | 170 | 2153 | -.069  | .039  | .130  | -.219 | 170 | 2206 | -.209  | .046  | -.066 | -.433 |
| 170 | 2102 | -.270  | .062  | -.111 | -.598 | 170 | 2154 | -.086  | .039  | .081  | -.492 | 170 | 2207 | -.260  | .053  | -.060 | -.630 |
| 170 | 2103 | -.242  | .055  | -.086 | -.573 | 170 | 2155 | -.088  | .041  | .036  | -.342 | 170 | 2208 | -.217  | .042  | -.085 | -.424 |
| 170 | 2104 | -.115  | .091  | .424  | -.399 | 170 | 2156 | -.039  | .062  | .203  | -.426 | 170 | 2209 | -.234  | .062  | -.053 | -.674 |
| 170 | 2105 | -.258  | .061  | -.098 | -.477 | 170 | 2157 | -.033  | .082  | .436  | -.384 | 170 | 2210 | -.356  | .114  | -.010 | -.813 |
| 170 | 2106 | -.232  | .047  | -.095 | -.485 | 170 | 2158 | -.042  | .075  | .454  | -.180 | 170 | 2211 | -.218  | .034  | -.101 | -.392 |
| 170 | 2107 | -.217  | .034  | -.118 | -.366 | 170 | 2159 | -.015  | .061  | .281  | -.227 | 170 | 2212 | -.202  | .036  | -.005 | -.474 |
| 170 | 2108 | -.120  | .094  | .292  | -.401 | 170 | 2160 | -.066  | .038  | .142  | -.205 | 170 | 2213 | -.181  | .047  | -.023 | -.413 |
| 170 | 2109 | -.252  | .056  | -.107 | -.596 | 170 | 2161 | -.085  | .037  | .097  | -.276 | 170 | 2214 | -.310  | .116  | -.151 | -.884 |
| 170 | 2110 | -.239  | .055  | -.091 | -.651 | 170 | 2162 | -.007  | .072  | .360  | -.215 | 170 | 2215 | -.017  | .088  | -.487 | -.289 |
| 170 | 2111 | -.217  | .032  | -.116 | -.440 | 170 | 2163 | -.059  | .060  | .166  | -.370 | 170 | 2216 | -.214  | .036  | -.124 | -.397 |
| 170 | 2112 | -.142  | .085  | .308  | -.345 | 170 | 2164 | -.110  | .039  | .278  | -.917 | 170 | 2217 | -.205  | .038  | -.058 | -.406 |
| 170 | 2113 | -.253  | .062  | -.095 | -.712 | 170 | 2165 | -.243  | .108  | .060  | -.917 | 170 | 2218 | -.210  | .046  | -.059 | -.445 |
| 170 | 2114 | -.242  | .061  | -.072 | -.607 | 170 | 2166 | -.030  | .054  | .165  | -.255 | 170 | 2219 | -.196  | .048  | -.302 | -.495 |
| 170 | 2115 | -.210  | .036  | -.084 | -.401 | 170 | 2167 | -.118  | .037  | .011  | -.290 | 170 | 2220 | -.216  | .034  | -.101 | -.358 |
| 170 | 2116 | -.111  | .089  | .368  | -.336 | 170 | 2168 | -.154  | .065  | .086  | -.520 | 170 | 2221 | -.215  | .036  | -.122 | -.394 |
| 170 | 2117 | -.260  | .070  | -.079 | -.800 | 170 | 2170 | -.143  | .039  | -.036 | -.335 | 170 | 2222 | -.198  | .036  | -.019 | -.461 |
| 170 | 2118 | -.225  | .057  | -.035 | -.681 | 170 | 2171 | -.152  | .042  | -.004 | -.344 | 170 | 2223 | -.241  | .068  | -.236 | -.481 |
| 170 | 2119 | -.196  | .041  | -.040 | -.394 | 170 | 2172 | -.135  | .043  | -.008 | -.313 | 170 | 2224 | -.192  | .033  | -.042 | -.353 |
| 170 | 2120 | -.127  | .047  | .164  | -.297 | 170 | 2173 | -.150  | .055  | .043  | -.398 | 170 | 2225 | -.225  | .053  | -.198 | -.462 |
| 170 | 2121 | -.327  | .090  | -.130 | -.864 | 170 | 2174 | -.174  | .056  | .015  | -.492 | 170 | 2226 | -.288  | .136  | -.200 | -.833 |
| 170 | 2122 | -.236  | .045  | -.081 | -.508 | 170 | 2175 | -.172  | .053  | .029  | -.419 | 170 | 2227 | -.071  | .085  | -.365 | -.319 |
| 170 | 2123 | -.193  | .040  | -.044 | -.364 | 170 | 2177 | -.051  | .085  | .417  | -.236 | 170 | 2228 | -.214  | .035  | -.115 | -.389 |
| 170 | 2124 | -.248  | .064  | -.054 | -.630 | 170 | 2178 | -.175  | .046  | -.039 | -.541 | 170 | 2229 | -.162  | .029  | -.004 | -.280 |
| 170 | 2125 | -.258  | .061  | -.091 | -.651 | 170 | 2179 | -.191  | .055  | -.034 | -.482 | 170 | 2230 | -.154  | .097  | -.331 | -.569 |
| 170 | 2126 | -.154  | .049  | -.069 | -.341 | 170 | 2180 | -.187  | .050  | -.046 | -.407 | 170 | 2231 | -.223  | .063  | -.042 | -.661 |
| 170 | 2127 | -.174  | .074  | .102  | -.709 | 170 | 2181 | -.188  | .058  | -.022 | -.482 | 170 | 2233 | -.116  | .120  | -.430 | -.515 |
| 170 | 2128 | -.149  | .054  | .127  | -.334 | 170 | 2182 | -.214  | .059  | -.053 | -.504 | 170 | 2234 | -.156  | .038  | -.016 | -.324 |
| 170 | 2129 | -.222  | .067  | .099  | -.712 | 170 | 2183 | -.205  | .057  | -.036 | -.464 | 170 | 2235 | -.071  | .065  | -.205 | -.275 |
| 170 | 2130 | -.053  | .054  | .171  | -.355 | 170 | 2184 | -.051  | .043  | .155  | -.186 | 170 | 2236 | -.099  | .098  | -.637 | -.161 |
| 170 | 2131 | -.125  | .074  | .141  | -.434 | 170 | 2185 | -.039  | .068  | .332  | -.147 | 170 | 2237 | -.151  | .083  | -.137 | -.615 |
| 170 | 2132 | -.111  | .056  | .218  | -.431 | 170 | 2187 | -.036  | .061  | .288  | -.277 | 170 | 2238 | -.440  | .162  | -.103 | -.405 |
| 170 | 2133 | -.181  | .058  | .104  | -.427 | 170 | 2188 | -.139  | .044  | .020  | -.387 | 170 | 2239 | -.294  | .071  | -.096 | -.668 |
| 170 | 2134 | -.008  | .062  | .287  | -.211 | 170 | 2189 | -.218  | .075  | -.048 | -.600 | 170 | 2240 | -.238  | .058  | -.067 | -.552 |
| 170 | 2135 | -.125  | .048  | .180  | -.355 | 170 | 2190 | -.189  | .053  | -.042 | -.490 | 170 | 2241 | -.228  | .061  | -.042 | -.940 |
| 170 | 2136 | -.188  | .057  | .048  | -.668 | 170 | 2191 | -.196  | .051  | -.057 | -.415 | 170 | 2242 | -.258  | .073  | -.071 | -.709 |
| 170 | 2137 | -.064  | .081  | .447  | -.378 | 170 | 2192 | -.244  | .084  | -.014 | -.646 | 170 | 2243 | -.294  | .097  | -.055 | -.915 |
| 170 | 2138 | -.110  | .053  | .408  | -.301 | 170 | 2193 | -.145  | .070  | .032  | -.525 | 170 | 2244 | -.224  | .113  | -.110 | -.755 |
| 170 | 2139 | -.192  | .066  | .136  | -.790 | 170 | 2194 | -.085  | .089  | .187  | -.681 | 170 | 2245 | -.080  | .091  | -.438 | -.375 |
| 170 | 2140 | -.035  | .070  | .299  | -.257 | 170 | 2195 | -.075  | .046  | .121  | -.287 | 170 | 2246 | -.177  | .045  | -.059 | -.319 |
| 170 | 2141 | -.122  | .091  | .102  | -.656 | 170 | 2196 | -.209  | .095  | .036  | .710  | 170 | 2247 | -.179  | .046  | -.042 | -.467 |
| 170 | 2142 | -.087  | .054  | .255  | -.391 | 170 | 2197 | -.087  | .051  | .254  | -.291 | 170 | 2248 | -.223  | .054  | -.052 | -.610 |
| 170 | 2143 | -.139  | .075  | .267  | -.358 | 170 | 2198 | -.011  | .072  | .332  | -.316 | 170 | 2249 | -.122  | .066  | -.178 | -.389 |
| 170 | 2144 | -.049  | .059  | .156  | -.297 | 170 | 2199 | -.015  | .117  | .469  | -.472 | 170 | 2250 | -.116  | .095  | -.377 | -.430 |
| 170 | 2145 | -.033  | .045  | .161  | -.229 | 170 | 2200 | -.014  | .094  | .371  | -.364 | 170 | 2251 | -.299  | .085  | -.069 | -.877 |
| 170 | 2146 | -.057  | .036  | .213  | -.234 | 170 | 2201 | -.004  | .056  | .270  | -.234 | 170 | 2252 | -.244  | .129  | -.249 | -.961 |
| 170 | 2147 | -.089  | .041  | .062  | -.349 | 170 | 2202 | -.212  | .044  | -.071 | -.536 | 170 | 2253 | .003   | .077  | .355  | -.217 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A.169

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 170 | 2254 | -.106  | .041  | .142  | -.256 | 180 | 2141 | -.183  | .048  | .010  | -.455 | 180 | 2194 | -.147  | .116  | .114  | -.934 |
| 170 | 2255 | -.101  | .056  | .207  | -.263 | 180 | 2142 | -.035  | .072  | .285  | -.462 | 180 | 2195 | -.091  | .043  | .072  | -.404 |
| 170 | 2256 | -.109  | .070  | .268  | -.554 | 180 | 2143 | -.201  | .121  | .095  | -.901 | 180 | 2196 | -.180  | .075  | .040  | -.662 |
| 170 | 2257 | -.131  | .053  | .195  | -.275 | 180 | 2144 | -.143  | .061  | .135  | -.534 | 180 | 2197 | -.110  | .043  | .119  | -.288 |
| 170 | 2258 | -.265  | .066  | -.071 | -.741 | 180 | 2145 | -.160  | .065  | .235  | -.401 | 180 | 2198 | -.063  | .061  | .251  | -.430 |
| 170 | 2259 | -.229  | .133  | .190  | -.879 | 180 | 2146 | -.067  | .058  | .247  | -.322 | 180 | 2199 | -.091  | .104  | .502  | -.788 |
| 170 | 2260 | -.001  | .069  | .377  | -.268 | 180 | 2147 | -.065  | .039  | .130  | -.265 | 180 | 2200 | -.052  | .074  | .261  | -.328 |
| 170 | 2261 | -.086  | .041  | .086  | -.219 | 180 | 2148 | -.024  | .030  | .038  | -.193 | 180 | 2201 | -.054  | .052  | .314  | -.297 |
| 170 | 2262 | -.089  | .042  | .103  | -.249 | 180 | 2149 | -.093  | .034  | .023  | -.251 | 180 | 2202 | -.213  | .047  | -.076 | -.523 |
| 170 | 2263 | -.097  | .053  | .110  | -.232 | 180 | 2150 | -.123  | .060  | .078  | -.379 | 180 | 2203 | -.202  | .039  | -.063 | -.446 |
| 170 | 2264 | -.146  | .034  | .021  | -.261 | 180 | 2151 | -.081  | .047  | .097  | -.365 | 180 | 2204 | -.204  | .045  | -.007 | -.423 |
| 170 | 2265 | -.190  | .042  | .001  | -.426 | 180 | 2152 | -.073  | .041  | .071  | -.284 | 180 | 2205 | -.202  | .038  | -.023 | -.383 |
| 180 | 2101 | -.260  | .081  | .029  | -.697 | 180 | 2153 | -.083  | .035  | .038  | -.241 | 180 | 2206 | -.219  | .047  | -.007 | -.541 |
| 180 | 2102 | -.253  | .061  | -.072 | -.570 | 180 | 2154 | -.091  | .032  | .035  | -.270 | 180 | 2207 | -.265  | .055  | -.021 | -.593 |
| 180 | 2103 | -.205  | .041  | -.034 | -.478 | 180 | 2155 | -.098  | .033  | .038  | -.293 | 180 | 2208 | -.228  | .048  | -.044 | .502  |
| 180 | 2104 | -.126  | .068  | .238  | -.375 | 180 | 2156 | -.081  | .049  | .185  | -.432 | 180 | 2209 | -.256  | .062  | -.060 | -.604 |
| 180 | 2105 | -.245  | .062  | -.084 | -.728 | 180 | 2157 | -.023  | .062  | .364  | -.410 | 180 | 2210 | -.388  | .131  | -.040 | -.939 |
| 180 | 2106 | -.208  | .041  | -.063 | -.514 | 180 | 2158 | -.002  | .062  | .321  | -.203 | 180 | 2211 | -.231  | .040  | -.088 | -.402 |
| 180 | 2107 | -.195  | .031  | -.086 | -.333 | 180 | 2159 | -.029  | .044  | .197  | -.155 | 180 | 2212 | -.213  | .044  | -.039 | -.481 |
| 180 | 2108 | -.143  | .060  | .104  | -.335 | 180 | 2160 | -.069  | .033  | .078  | -.215 | 180 | 2213 | -.209  | .058  | -.010 | -.432 |
| 180 | 2109 | -.229  | .048  | -.067 | -.518 | 180 | 2161 | -.092  | .030  | .035  | -.229 | 180 | 2214 | -.328  | .115  | .114  | -.883 |
| 180 | 2110 | -.213  | .036  | -.096 | -.403 | 180 | 2162 | -.043  | .097  | .471  | -.355 | 180 | 2215 | -.039  | .099  | .600  | -.358 |
| 180 | 2111 | -.204  | .029  | -.131 | -.429 | 180 | 2163 | -.102  | .064  | .147  | -.479 | 180 | 2216 | -.202  | .037  | -.074 | -.441 |
| 180 | 2112 | -.157  | .061  | .114  | -.396 | 180 | 2164 | -.123  | .040  | .014  | -.291 | 180 | 2217 | -.200  | .044  | -.025 | -.453 |
| 180 | 2113 | -.220  | .048  | -.081 | -.737 | 180 | 2165 | -.305  | .123  | .245  | -.972 | 180 | 2218 | -.204  | .043  | -.030 | -.407 |
| 180 | 2114 | -.212  | .042  | -.084 | -.460 | 180 | 2166 | -.074  | .052  | .191  | -.265 | 180 | 2219 | -.204  | .048  | -.086 | -.418 |
| 180 | 2115 | -.197  | .032  | -.098 | -.335 | 180 | 2167 | -.141  | .036  | -.022 | -.265 | 180 | 2220 | -.217  | .037  | -.083 | -.474 |
| 180 | 2116 | -.128  | .068  | .118  | -.347 | 180 | 2168 | -.178  | .066  | .026  | -.548 | 180 | 2221 | -.208  | .033  | -.109 | -.458 |
| 180 | 2117 | -.218  | .048  | -.065 | -.481 | 180 | 2169 | -.155  | .040  | -.031 | -.391 | 180 | 2222 | -.205  | .036  | -.007 | -.444 |
| 180 | 2118 | -.198  | .044  | -.034 | -.486 | 180 | 2171 | -.168  | .041  | -.029 | -.372 | 180 | 2223 | -.258  | .063  | .254  | -.597 |
| 180 | 2119 | -.181  | .036  | -.025 | -.319 | 180 | 2172 | -.171  | .046  | -.029 | -.398 | 180 | 2224 | -.190  | .034  | -.028 | -.351 |
| 180 | 2120 | -.142  | .042  | -.048 | -.295 | 180 | 2173 | -.181  | .054  | -.015 | -.420 | 180 | 2225 | -.216  | .046  | -.001 | -.385 |
| 180 | 2121 | -.260  | .064  | -.105 | -.716 | 180 | 2174 | -.193  | .061  | -.008 | -.577 | 180 | 2226 | -.330  | .141  | .102  | -.178 |
| 180 | 2122 | -.211  | .036  | -.089 | -.385 | 180 | 2175 | -.197  | .057  | -.022 | -.484 | 180 | 2227 | -.063  | .096  | .353  | -.459 |
| 180 | 2123 | -.181  | .032  | -.058 | -.333 | 180 | 2176 | -.030  | .096  | .450  | -.262 | 180 | 2228 | -.210  | .031  | -.112 | -.361 |
| 180 | 2124 | -.251  | .081  | .020  | -.915 | 180 | 2178 | -.191  | .045  | -.060 | -.389 | 180 | 2229 | -.192  | .031  | -.080 | -.331 |
| 180 | 2125 | -.240  | .068  | .001  | -.725 | 180 | 2179 | -.197  | .046  | -.070 | -.434 | 180 | 2230 | -.236  | .070  | .072  | -.545 |
| 180 | 2126 | -.138  | .061  | .370  | -.401 | 180 | 2180 | -.201  | .046  | -.086 | -.427 | 180 | 2231 | -.200  | .046  | -.033 | -.442 |
| 180 | 2127 | -.206  | .094  | .128  | -.962 | 180 | 2181 | -.210  | .051  | -.031 | -.443 | 180 | 2232 | -.216  | .059  | .195  | -.523 |
| 180 | 2128 | -.158  | .049  | -.153 | -.338 | 180 | 2182 | -.235  | .053  | -.039 | -.567 | 180 | 2233 | -.162  | .036  | -.021 | -.311 |
| 180 | 2129 | -.218  | .062  | -.039 | -.605 | 180 | 2183 | -.225  | .055  | -.035 | -.465 | 180 | 2234 | -.132  | .052  | .100  | -.297 |
| 180 | 2130 | -.077  | .063  | .203  | -.302 | 180 | 2184 | -.091  | .044  | .123  | -.225 | 180 | 2235 | -.017  | .095  | .397  | -.720 |
| 180 | 2131 | -.221  | .083  | .062  | -.591 | 180 | 2185 | -.007  | .064  | .275  | -.149 | 180 | 2236 | -.115  | .090  | .144  | -.592 |
| 180 | 2132 | -.152  | .059  | .189  | -.591 | 180 | 2187 | -.079  | .081  | .240  | -.355 | 180 | 2237 | -.392  | .134  | -.085 | -.148 |
| 180 | 2133 | -.187  | .046  | -.013 | -.422 | 180 | 2188 | -.157  | .046  | -.009 | -.404 | 180 | 2238 | -.278  | .065  | -.073 | -.806 |
| 180 | 2134 | -.023  | .075  | .318  | -.356 | 180 | 2189 | -.205  | .058  | -.046 | -.462 | 180 | 2239 | -.222  | .044  | -.100 | -.464 |
| 180 | 2135 | -.151  | .051  | .114  | -.589 | 180 | 2190 | -.192  | .045  | -.025 | -.414 | 180 | 2240 | -.215  | .039  | -.100 | -.402 |
| 180 | 2137 | -.184  | .040  | -.016 | -.422 | 180 | 2191 | -.197  | .050  | -.019 | -.418 | 180 | 2242 | -.211  | .051  | .016  | -.629 |
| 180 | 2138 | -.005  | .086  | .327  | -.469 | 180 | 2192 | -.274  | .076  | -.060 | -.716 | 180 | 2243 | -.222  | .057  | -.021 | -.631 |
| 180 | 2140 | -.135  | .060  | .130  | -.387 | 180 | 2193 | -.205  | .072  | -.031 | -.596 | 180 | 2244 | -.207  | .080  | .109  | -.592 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 180 | 2245 | -.121  | .062  | .188  | -.309   | 190 | 2130 | -.077  | .101  | .513  | -.275 | 190 | 2184 | -.055  | .041  | .190  | -.203 |
| 180 | 2246 | -.181  | .041  | .043  | -.373   | 190 | 2131 | -.185  | .118  | .172  | -.651 | 190 | 2185 | -.026  | .042  | .158  | -.176 |
| 180 | 2247 | -.198  | .035  | -.058 | -.351   | 190 | 2132 | -.109  | .055  | .197  | -.434 | 190 | 2187 | -.043  | .055  | .301  | -.308 |
| 180 | 2248 | -.213  | .037  | -.063 | -.388   | 190 | 2133 | -.177  | .058  | .119  | -.485 | 190 | 2188 | -.103  | .040  | .039  | -.319 |
| 180 | 2249 | -.165  | .049  | .102  | -.405   | 190 | 2134 | -.061  | .081  | .398  | -.331 | 190 | 2189 | -.113  | .041  | .018  | -.370 |
| 180 | 2250 | -.164  | .060  | .252  | -.341   | 190 | 2136 | -.116  | .047  | .059  | -.476 | 190 | 2190 | -.117  | .037  | .002  | -.267 |
| 180 | 2251 | -.225  | .050  | .001  | -.639   | 190 | 2137 | -.156  | .042  | .008  | -.354 | 190 | 2191 | -.126  | .040  | -.009 | -.328 |
| 180 | 2252 | -.196  | .090  | .134  | -.681   | 190 | 2138 | -.029  | .074  | .439  | -.195 | 190 | 2192 | -.196  | .080  | -.018 | -.598 |
| 180 | 2253 | -.056  | .063  | .195  | -.240   | 190 | 2140 | -.116  | .045  | .031  | -.529 | 190 | 2193 | -.150  | .066  | .137  | -.553 |
| 180 | 2254 | -.133  | .033  | .023  | -.245   | 190 | 2141 | -.158  | .048  | .013  | -.379 | 190 | 2194 | -.106  | .082  | .107  | -.760 |
| 180 | 2255 | -.147  | .037  | .026  | -.287   | 190 | 2142 | -.002  | .064  | .317  | -.199 | 190 | 2195 | -.083  | .043  | .075  | -.415 |
| 180 | 2256 | -.165  | .049  | .092  | -.417   | 190 | 2143 | -.137  | .096  | .209  | -.922 | 190 | 2196 | -.098  | .050  | .059  | -.445 |
| 180 | 2257 | -.166  | .037  | .043  | -.294   | 190 | 2144 | -.086  | .048  | .093  | -.433 | 190 | 2197 | -.084  | .033  | .064  | -.260 |
| 180 | 2258 | -.208  | .037  | -.021 | -.481   | 190 | 2145 | -.132  | .043  | .027  | -.307 | 190 | 2198 | -.077  | .038  | .160  | -.265 |
| 180 | 2259 | -.163  | .091  | .154  | -.560   | 190 | 2146 | -.048  | .036  | .100  | -.300 | 190 | 2199 | -.103  | .063  | .260  | -.650 |
| 180 | 2260 | -.044  | .056  | .166  | -.220   | 190 | 2147 | -.053  | .037  | .081  | -.251 | 190 | 2200 | -.052  | .048  | .171  | -.255 |
| 180 | 2261 | -.117  | .033  | .038  | -.250   | 190 | 2148 | -.061  | .036  | .046  | -.211 | 190 | 2201 | -.054  | .034  | .126  | -.246 |
| 180 | 2262 | -.133  | .034  | .043  | -.243   | 190 | 2149 | -.078  | .040  | .029  | -.359 | 190 | 2202 | -.197  | .042  | -.041 | -.445 |
| 180 | 2263 | -.155  | .042  | .021  | -.297   | 190 | 2150 | -.062  | .036  | .079  | -.389 | 190 | 2203 | -.176  | .032  | -.073 | -.356 |
| 180 | 2264 | -.170  | .028  | -.038 | -.262   | 190 | 2151 | -.052  | .036  | .088  | -.279 | 190 | 2204 | -.183  | .036  | -.050 | -.354 |
| 180 | 2265 | -.186  | .026  | -.095 | -.351   | 190 | 2152 | -.048  | .031  | .072  | -.230 | 190 | 2205 | -.178  | .034  | -.055 | -.445 |
| 190 | 2101 | -.245  | .114  | .153  | -.907   | 190 | 2153 | -.044  | .027  | .053  | -.158 | 190 | 2206 | -.207  | .046  | -.030 | -.427 |
| 190 | 2102 | -.229  | .075  | -.006 | -.888   | 190 | 2154 | -.050  | .031  | .086  | -.174 | 190 | 2207 | -.252  | .052  | -.116 | -.570 |
| 190 | 2103 | -.178  | .042  | -.031 | -.448   | 190 | 2155 | -.072  | .039  | .137  | -.375 | 190 | 2208 | -.208  | .047  | -.032 | -.575 |
| 190 | 2104 | -.070  | .069  | .324  | -.356   | 190 | 2156 | -.057  | .038  | .065  | -.326 | 190 | 2209 | -.247  | .068  | -.011 | -.716 |
| 190 | 2105 | -.227  | .069  | -.059 | -.741   | 190 | 2157 | -.036  | .035  | .170  | -.218 | 190 | 2210 | -.322  | .129  | -.075 | -.995 |
| 190 | 2106 | -.197  | .055  | .022  | -.517   | 190 | 2158 | -.025  | .030  | .174  | -.134 | 190 | 2211 | -.206  | .038  | -.064 | -.386 |
| 190 | 2107 | -.125  | .035  | -.045 | -.434   | 190 | 2159 | -.025  | .029  | .100  | -.104 | 190 | 2212 | -.192  | .040  | -.020 | -.349 |
| 190 | 2108 | -.098  | .071  | .213  | -.372   | 190 | 2160 | -.045  | .028  | .118  | -.139 | 190 | 2213 | -.185  | .057  | .128  | -.376 |
| 190 | 2109 | -.231  | .066  | -.073 | -.603   | 190 | 2161 | -.066  | .035  | .100  | -.398 | 190 | 2214 | -.248  | .134  | .201  | -.801 |
| 190 | 2110 | -.200  | .046  | -.038 | -.586   | 190 | 2162 | -.032  | .063  | .296  | -.331 | 190 | 2215 | -.058  | .095  | .404  | -.447 |
| 190 | 2111 | -.191  | .039  | -.082 | -.497   | 190 | 2163 | -.070  | .045  | .118  | -.389 | 190 | 2216 | -.178  | .029  | -.064 | -.338 |
| 190 | 2112 | -.151  | .069  | .116  | -.480   | 190 | 2164 | -.093  | .039  | .055  | -.333 | 190 | 2217 | -.176  | .035  | -.034 | -.383 |
| 190 | 2113 | -.196  | .057  | -.033 | -.520   | 190 | 2165 | -.191  | .106  | .165  | -.744 | 190 | 2218 | -.185  | .041  | -.002 | -.522 |
| 190 | 2114 | -.129  | .046  | -.015 | -.462   | 190 | 2166 | -.063  | .039  | .126  | -.192 | 190 | 2219 | -.185  | .047  | -.119 | -.399 |
| 190 | 2115 | -.170  | .036  | -.015 | -.358   | 190 | 2167 | -.101  | .038  | .015  | -.412 | 190 | 2220 | -.199  | .038  | -.071 | -.390 |
| 190 | 2116 | -.138  | .055  | .084  | -.386   | 190 | 2168 | -.124  | .057  | .041  | -.436 | 190 | 2221 | -.178  | .028  | -.075 | -.370 |
| 190 | 2117 | -.170  | .041  | -.052 | -.485   | 190 | 2170 | -.103  | .034  | -.003 | -.249 | 190 | 2222 | -.190  | .037  | -.050 | -.406 |
| 190 | 2118 | -.160  | .040  | -.031 | -.421   | 190 | 2171 | -.113  | .034  | -.006 | -.258 | 190 | 2223 | -.234  | .091  | -.475 | -.575 |
| 190 | 2119 | -.147  | .035  | -.003 | -.294   | 190 | 2172 | -.120  | .042  | -.006 | -.338 | 190 | 2224 | -.156  | .032  | -.023 | -.258 |
| 190 | 2120 | -.103  | .036  | -.036 | -.273   | 190 | 2173 | -.141  | .051  | .018  | -.394 | 190 | 2225 | -.151  | .046  | -.039 | -.393 |
| 190 | 2121 | -.221  | .067  | -.052 | -.513   | 190 | 2174 | -.173  | .066  | -.020 | -.620 | 190 | 2226 | -.196  | .131  | -.179 | -.692 |
| 190 | 2122 | -.175  | .037  | -.082 | -.361   | 190 | 2175 | -.177  | .072  | .058  | -.681 | 190 | 2227 | -.057  | .062  | -.256 | -.337 |
| 190 | 2123 | -.150  | .033  | -.015 | -.271   | 190 | 2177 | -.009  | .080  | .378  | -.251 | 190 | 2228 | -.174  | .027  | -.084 | -.303 |
| 190 | 2124 | -.247  | .139  | .262  | -.1,020 | 190 | 2178 | -.128  | .043  | -.017 | -.401 | 190 | 2229 | -.164  | .027  | -.062 | -.287 |
| 190 | 2125 | -.218  | .079  | .061  | -.649   | 190 | 2179 | -.132  | .045  | .015  | -.370 | 190 | 2230 | -.216  | .089  | -.230 | -.687 |
| 190 | 2126 | .016   | .119  | .550  | -.356   | 190 | 2180 | -.125  | .035  | .001  | -.263 | 190 | 2231 | -.182  | .040  | -.057 | -.455 |
| 190 | 2127 | -.170  | .165  | .331  | -.1,273 | 190 | 2181 | -.134  | .042  | .011  | -.321 | 190 | 2233 | -.191  | .063  | .235  | -.528 |
| 190 | 2128 | -.115  | .047  | .098  | -.280   | 190 | 2182 | -.171  | .052  | -.006 | -.522 | 190 | 2234 | -.131  | .031  | -.008 | -.255 |
| 190 | 2129 | -.211  | .067  | .015  | -.658   | 190 | 2183 | -.173  | .059  | .032  | -.625 | 190 | 2235 | -.124  | .037  | .129  | -.359 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 190 | 2236 | -.076  | .098  | .232  | -.600  | 200 | 2121 | -.236  | .075  | -.039 | -.810 | 200 | 2174 | -.167  | .081  | .001  | -.631 |
| 190 | 2237 | -.071  | .054  | .112  | -.521  | 200 | 2122 | -.175  | .037  | -.043 | -.303 | 200 | 2175 | -.167  | .089  | .147  | -.776 |
| 190 | 2238 | -.436  | .177  | .119  | -1.237 | 200 | 2123 | -.145  | .038  | .001  | -.352 | 200 | 2177 | -.012  | .069  | .448  | -.224 |
| 190 | 2239 | -.298  | .067  | -.108 | -.740  | 200 | 2124 | -.174  | .139  | .362  | -.970 | 200 | 2178 | -.088  | .030  | .004  | -.236 |
| 190 | 2240 | -.221  | .039  | -.093 | -.451  | 200 | 2125 | -.180  | .074  | .193  | -.495 | 200 | 2179 | -.086  | .036  | .009  | -.447 |
| 190 | 2241 | -.215  | .041  | -.086 | -.400  | 200 | 2126 | -.098  | .121  | .394  | -.389 | 200 | 2180 | -.086  | .032  | .030  | -.224 |
| 190 | 2242 | -.197  | .035  | -.050 | -.410  | 200 | 2127 | -.013  | .154  | .492  | -.987 | 200 | 2181 | -.097  | .035  | .020  | -.339 |
| 190 | 2243 | -.194  | .043  | -.048 | -.537  | 200 | 2128 | -.072  | .049  | .151  | -.257 | 200 | 2182 | -.152  | .062  | .006  | -.560 |
| 190 | 2244 | -.135  | .091  | .131  | -.656  | 200 | 2129 | -.193  | .061  | .010  | .502  | 200 | 2183 | -.148  | .084  | .095  | -.743 |
| 190 | 2245 | -.073  | .076  | .399  | -.489  | 200 | 2130 | -.092  | .088  | .559  | -.201 | 200 | 2184 | -.027  | .041  | .184  | -.172 |
| 190 | 2246 | -.177  | .047  | .129  | -.369  | 200 | 2131 | -.050  | .116  | .362  | -.509 | 200 | 2185 | -.018  | .036  | .186  | -.156 |
| 190 | 2247 | -.202  | .038  | -.072 | -.383  | 200 | 2132 | -.080  | .048  | .163  | -.333 | 200 | 2187 | -.010  | .046  | .260  | -.170 |
| 190 | 2248 | -.231  | .045  | -.077 | -.487  | 200 | 2133 | -.164  | .055  | .010  | .465  | 200 | 2188 | -.075  | .031  | .046  | -.206 |
| 190 | 2249 | -.163  | .039  | .030  | -.378  | 200 | 2134 | -.070  | .071  | .448  | -.161 | 200 | 2189 | -.078  | .035  | .032  | -.248 |
| 190 | 2250 | -.139  | .054  | .143  | -.463  | 200 | 2136 | -.078  | .039  | .107  | -.333 | 200 | 2190 | -.077  | .030  | .026  | -.199 |
| 190 | 2251 | -.198  | .040  | -.072 | -.441  | 200 | 2137 | -.131  | .040  | -.009 | -.504 | 200 | 2191 | -.095  | .033  | .032  | -.266 |
| 190 | 2252 | -.132  | .083  | .109  | -.658  | 200 | 2138 | -.033  | .065  | .429  | -.263 | 200 | 2192 | -.138  | .059  | -.011 | -.642 |
| 190 | 2253 | -.024  | .069  | .355  | -.255  | 200 | 2140 | -.078  | .041  | .086  | -.328 | 200 | 2193 | -.095  | .058  | .128  | -.426 |
| 190 | 2254 | -.110  | .037  | .056  | -.226  | 200 | 2141 | -.132  | .048  | .045  | .467  | 200 | 2194 | -.048  | .042  | .161  | -.461 |
| 190 | 2255 | -.134  | .037  | .032  | -.267  | 200 | 2142 | -.009  | .063  | .302  | -.208 | 200 | 2195 | -.066  | .034  | .060  | -.248 |
| 190 | 2256 | -.159  | .055  | .080  | -.562  | 200 | 2143 | -.055  | .070  | .241  | -.638 | 200 | 2196 | -.080  | .043  | .032  | -.399 |
| 190 | 2257 | -.142  | .037  | .107  | -.277  | 200 | 2144 | -.057  | .036  | .088  | -.212 | 200 | 2197 | -.064  | .030  | .035  | -.206 |
| 190 | 2258 | -.179  | .038  | .063  | -.388  | 200 | 2145 | -.104  | .041  | .124  | -.342 | 200 | 2198 | -.052  | .034  | .186  | -.149 |
| 190 | 2259 | -.108  | .081  | .138  | -.472  | 200 | 2146 | -.048  | .040  | .133  | -.374 | 200 | 2199 | -.049  | .059  | .271  | -.252 |
| 190 | 2260 | -.005  | .063  | .404  | -.176  | 200 | 2147 | -.053  | .037  | .105  | -.339 | 200 | 2200 | -.017  | .049  | .283  | -.142 |
| 190 | 2261 | -.095  | .034  | .037  | -.207  | 200 | 2148 | -.067  | .040  | .086  | -.370 | 200 | 2201 | -.035  | .029  | .085  | -.135 |
| 190 | 2262 | -.114  | .033  | .034  | -.238  | 200 | 2149 | -.077  | .046  | .056  | -.337 | 200 | 2202 | -.214  | .054  | -.011 | -.645 |
| 190 | 2263 | -.146  | .045  | .022  | -.457  | 200 | 2150 | -.055  | .034  | .065  | -.374 | 200 | 2203 | -.190  | .037  | -.073 | -.371 |
| 190 | 2264 | -.146  | .028  | .034  | -.274  | 200 | 2151 | -.043  | .031  | .072  | -.179 | 200 | 2204 | -.204  | .043  | -.064 | -.410 |
| 190 | 2265 | -.161  | .028  | -.045 | -.306  | 200 | 2152 | -.038  | .029  | .105  | -.144 | 200 | 2205 | -.183  | .041  | -.036 | -.472 |
| 200 | 2101 | -.204  | .119  | .135  | -.769  | 200 | 2153 | -.040  | .028  | .091  | -.194 | 200 | 2206 | -.214  | .053  | -.048 | -.674 |
| 200 | 2102 | -.196  | .061  | -.011 | -.544  | 200 | 2154 | -.043  | .030  | .079  | -.205 | 200 | 2207 | -.281  | .074  | -.112 | -.739 |
| 200 | 2103 | -.167  | .039  | -.018 | -.352  | 200 | 2155 | -.050  | .040  | .110  | -.283 | 200 | 2208 | -.227  | .057  | .069  | -.626 |
| 200 | 2104 | -.053  | .068  | .383  | -.328  | 200 | 2156 | -.053  | .039  | .048  | -.370 | 200 | 2209 | -.295  | .095  | -.073 | -.869 |
| 200 | 2105 | -.196  | .054  | -.043 | -.227  | 200 | 2157 | -.026  | .030  | .161  | -.111 | 200 | 2210 | -.324  | .171  | -.021 | -.803 |
| 200 | 2106 | -.194  | .060  | -.027 | -.369  | 200 | 2158 | -.019  | .030  | .227  | -.097 | 200 | 2211 | -.219  | .045  | -.108 | -.406 |
| 200 | 2107 | -.166  | .038  | -.057 | -.521  | 200 | 2159 | -.022  | .027  | .102  | -.111 | 200 | 2212 | -.199  | .043  | -.004 | -.530 |
| 200 | 2108 | -.080  | .068  | .168  | -.312  | 200 | 2160 | -.031  | .029  | .079  | -.191 | 200 | 2213 | -.157  | .073  | .276  | -.440 |
| 200 | 2109 | -.224  | .067  | .107  | -.794  | 200 | 2161 | -.048  | .036  | .074  | -.335 | 200 | 2214 | -.124  | .138  | .468  | -.656 |
| 200 | 2110 | -.205  | .053  | -.043 | -.553  | 200 | 2162 | -.011  | .052  | .354  | -.201 | 200 | 2215 | -.072  | .085  | .276  | -.577 |
| 200 | 2111 | -.187  | .040  | -.053 | -.537  | 200 | 2163 | -.037  | .037  | .157  | -.252 | 200 | 2216 | -.188  | .034  | -.059 | -.390 |
| 200 | 2112 | -.124  | .068  | .226  | -.400  | 200 | 2164 | -.076  | .031  | .058  | -.245 | 200 | 2217 | -.188  | .042  | .023  | -.433 |
| 200 | 2113 | -.196  | .062  | -.011 | -.574  | 200 | 2165 | -.136  | .086  | .173  | -.689 | 200 | 2218 | -.200  | .048  | .014  | -.498 |
| 200 | 2114 | -.170  | .044  | -.039 | -.437  | 200 | 2166 | -.034  | .043  | .195  | -.259 | 200 | 2219 | -.206  | .054  | .081  | -.576 |
| 200 | 2115 | -.164  | .037  | -.027 | -.342  | 200 | 2167 | -.075  | .031  | .039  | -.335 | 200 | 2220 | -.205  | .038  | -.085 | -.369 |
| 200 | 2116 | -.102  | .061  | .200  | -.382  | 200 | 2168 | -.088  | .038  | .046  | -.304 | 200 | 2221 | -.177  | .032  | -.080 | -.397 |
| 200 | 2117 | -.173  | .050  | -.022 | -.567  | 200 | 2169 | -.082  | .033  | .018  | -.398 | 200 | 2222 | -.203  | .046  | -.013 | -.546 |
| 200 | 2118 | -.165  | .048  | -.004 | -.593  | 200 | 2171 | -.084  | .030  | .051  | -.229 | 200 | 2223 | -.219  | .109  | .283  | -.638 |
| 200 | 2119 | -.144  | .039  | .017  | -.307  | 200 | 2172 | -.091  | .037  | .020  | -.332 | 200 | 2224 | -.160  | .030  | -.046 | -.275 |
| 200 | 2120 | -.073  | .035  | .105  | -.201  | 200 | 2173 | -.114  | .049  | .048  | -.440 | 200 | 2225 | -.125  | .049  | .157  | -.283 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 200 | 2226 | -.071  | .105  | .378  | -.518  | 210 | 2112 | -.112  | .065  | .124  | -.392 | 210 | 2164 | -.079  | .034  | .074  | -.292  |
| 200 | 2227 | -.071  | .068  | .152  | -.513  | 210 | 2113 | -.177  | .054  | -.036 | -.597 | 210 | 2165 | -.205  | .130  | .222  | -.110  |
| 200 | 2228 | -.170  | .027  | -.093 | -.344  | 210 | 2114 | -.171  | .050  | -.033 | -.445 | 210 | 2166 | -.009  | .059  | .340  | -.251  |
| 200 | 2229 | -.158  | .028  | -.062 | -.285  | 210 | 2115 | -.152  | .036  | -.004 | -.297 | 210 | 2167 | -.075  | .034  | .076  | -.275  |
| 200 | 2230 | -.199  | .091  | .193  | -.632  | 210 | 2116 | -.061  | .058  | .163  | -.299 | 210 | 2168 | -.101  | .046  | .039  | -.355  |
| 200 | 2231 | -.180  | .042  | -.062 | -.511  | 210 | 2117 | -.168  | .048  | -.022 | -.422 | 210 | 2169 | -.076  | .032  | .032  | -.320  |
| 200 | 2232 | -.158  | .087  | .271  | -.472  | 210 | 2118 | -.167  | .047  | -.040 | -.516 | 210 | 2170 | -.086  | .037  | .051  | -.292  |
| 200 | 2233 | -.134  | .031  | .011  | -.220  | 210 | 2119 | -.142  | .041  | .011  | -.327 | 210 | 2171 | -.090  | .042  | .039  | -.400  |
| 200 | 2234 | -.093  | .050  | .149  | -.220  | 210 | 2120 | -.071  | .032  | .071  | -.179 | 210 | 2172 | -.131  | .067  | .043  | -.662  |
| 200 | 2235 | -.014  | .086  | .329  | -.443  | 210 | 2121 | -.241  | .077  | -.025 | -.639 | 210 | 2173 | -.227  | .115  | .025  | -.979  |
| 200 | 2236 | -.094  | .065  | .089  | -.533  | 210 | 2122 | -.176  | .039  | -.052 | -.403 | 210 | 2174 | -.235  | .150  | .172  | -.128  |
| 200 | 2237 | -.426  | .176  | .205  | -.1426 | 210 | 2123 | -.144  | .041  | .052  | -.338 | 210 | 2175 | -.017  | .090  | .498  | -.315  |
| 200 | 2238 | -.297  | .067  | .028  | -.1060 | 210 | 2124 | -.172  | .113  | .265  | -.713 | 210 | 2176 | -.081  | .032  | .034  | -.334  |
| 200 | 2239 | -.227  | .046  | -.086 | -.470  | 210 | 2125 | -.170  | .056  | .073  | -.482 | 210 | 2177 | -.081  | .034  | .032  | -.313  |
| 200 | 2240 | -.220  | .048  | -.038 | -.472  | 210 | 2126 | -.091  | .112  | .609  | -.405 | 210 | 2178 | -.081  | .034  | .055  | -.273  |
| 200 | 2241 | -.192  | .040  | -.008 | -.501  | 210 | 2127 | -.032  | .136  | .531  | -.771 | 210 | 2179 | -.096  | .041  | .109  | -.428  |
| 200 | 2242 | -.182  | .040  | -.035 | -.426  | 210 | 2128 | -.068  | .042  | .122  | -.204 | 210 | 2180 | -.201  | .092  | .008  | -.674  |
| 200 | 2243 | -.101  | .088  | .222  | -.666  | 210 | 2129 | -.165  | .048  | .025  | -.424 | 210 | 2181 | -.187  | .135  | .114  | -.089  |
| 200 | 2244 | -.034  | .077  | .324  | -.305  | 210 | 2130 | -.077  | .081  | .457  | -.352 | 210 | 2182 | -.002  | .064  | .450  | -.187  |
| 200 | 2245 | -.172  | .051  | .123  | -.394  | 210 | 2131 | -.050  | .103  | .323  | -.468 | 210 | 2183 | -.151  | .086  | .303  | -.114  |
| 200 | 2246 | -.209  | .042  | -.081 | -.489  | 210 | 2132 | -.075  | .040  | .092  | -.246 | 210 | 2184 | -.020  | .058  | .505  | -.130  |
| 200 | 2247 | -.241  | .055  | -.091 | -.533  | 210 | 2133 | -.141  | .046  | -.006 | -.394 | 210 | 2185 | -.074  | .033  | .026  | -.221  |
| 200 | 2248 | -.151  | .042  | .045  | -.409  | 210 | 2134 | -.060  | .068  | .376  | -.133 | 210 | 2186 | -.075  | .035  | .063  | -.268  |
| 200 | 2249 | -.114  | .062  | .198  | -.319  | 210 | 2135 | -.069  | .036  | .080  | -.204 | 210 | 2187 | -.077  | .032  | .049  | -.276  |
| 200 | 2250 | -.192  | .049  | -.021 | -.487  | 210 | 2136 | -.126  | .039  | -.010 | -.373 | 210 | 2188 | -.094  | .042  | .044  | -.317  |
| 200 | 2251 | -.099  | .080  | .137  | -.591  | 210 | 2137 | -.126  | .057  | .362  | -.172 | 210 | 2189 | -.151  | .086  | .033  | -.016  |
| 200 | 2252 | -.004  | .073  | .339  | -.290  | 210 | 2138 | -.036  | .041  | .687  | -.256 | 210 | 2190 | -.104  | .088  | .142  | -.709  |
| 200 | 2253 | -.115  | .036  | .052  | -.256  | 210 | 2139 | -.129  | .046  | .045  | -.401 | 210 | 2191 | -.029  | .051  | .248  | -.381  |
| 200 | 2254 | -.129  | .036  | .067  | -.327  | 210 | 2140 | -.004  | .051  | .253  | -.220 | 210 | 2192 | -.067  | .040  | .081  | -.365  |
| 200 | 2255 | -.148  | .055  | .096  | -.386  | 210 | 2141 | -.032  | .060  | .175  | .510  | 210 | 2193 | -.078  | .050  | .054  | -.492  |
| 200 | 2256 | -.120  | .049  | .237  | -.273  | 210 | 2142 | -.044  | .033  | .140  | -.158 | 210 | 2194 | -.062  | .035  | .106  | -.206  |
| 200 | 2257 | -.165  | .054  | .072  | -.443  | 210 | 2143 | -.026  | .035  | .076  | -.224 | 210 | 2195 | -.055  | .037  | .200  | -.166  |
| 200 | 2258 | -.081  | .084  | .290  | -.523  | 210 | 2144 | -.058  | .043  | .123  | -.498 | 210 | 2196 | -.056  | .065  | .305  | -.249  |
| 200 | 2259 | -.017  | .062  | .361  | -.193  | 210 | 2145 | -.061  | .048  | .097  | -.325 | 210 | 2197 | -.029  | .050  | .218  | -.166  |
| 200 | 2260 | -.090  | .033  | .052  | -.200  | 210 | 2146 | -.067  | .046  | .123  | -.332 | 210 | 2198 | -.026  | .034  | .136  | -.120  |
| 200 | 2261 | -.105  | .035  | .045  | -.234  | 210 | 2147 | -.067  | .046  | .132  | -.451 | 210 | 2199 | -.026  | .067  | .022  | -.652  |
| 200 | 2262 | -.133  | .038  | .021  | -.319  | 210 | 2148 | -.072  | .054  | .137  | -.451 | 210 | 2200 | -.029  | .050  | .218  | -.166  |
| 200 | 2263 | -.127  | .039  | .239  | -.251  | 210 | 2149 | -.065  | .043  | .095  | -.322 | 210 | 2201 | -.026  | .034  | .136  | -.120  |
| 200 | 2264 | -.147  | .041  | .096  | -.426  | 210 | 2150 | -.047  | .032  | .086  | -.219 | 210 | 2202 | -.023  | .067  | .024  | -.695  |
| 200 | 2265 | -.216  | .094  | .066  | -.731  | 210 | 2151 | -.037  | .033  | .109  | -.217 | 210 | 2203 | -.197  | .047  | .054  | -.647  |
| 210 | 2101 | -.181  | .054  | -.052 | -.699  | 210 | 2152 | -.033  | .030  | .208  | -.236 | 210 | 2204 | -.207  | .053  | .070  | -.532  |
| 210 | 2102 | -.162  | .037  | -.033 | -.394  | 210 | 2153 | -.034  | .033  | .100  | -.205 | 210 | 2205 | -.184  | .047  | .054  | -.531  |
| 210 | 2103 | -.057  | .064  | .357  | -.306  | 210 | 2154 | -.031  | .044  | .210  | -.266 | 210 | 2206 | -.222  | .068  | .052  | -.862  |
| 210 | 2104 | -.181  | .050  | -.038 | -.646  | 210 | 2155 | -.058  | .053  | .097  | -.449 | 210 | 2207 | -.296  | .087  | .109  | -.812  |
| 210 | 2105 | -.177  | .051  | -.006 | -.556  | 210 | 2156 | -.026  | .033  | .236  | -.125 | 210 | 2208 | -.237  | .066  | .024  | -.695  |
| 210 | 2106 | -.154  | .034  | -.045 | -.301  | 210 | 2157 | -.017  | .031  | .102  | -.125 | 210 | 2209 | -.330  | .121  | .024  | -.1025 |
| 210 | 2107 | -.177  | .055  | -.016 | -.334  | 210 | 2158 | -.016  | .026  | .086  | -.132 | 210 | 2210 | -.381  | .219  | .118  | -.538  |
| 210 | 2108 | -.083  | .065  | .168  | -.375  | 210 | 2159 | -.021  | .052  | .283  | -.214 | 210 | 2211 | -.218  | .048  | .088  | -.496  |
| 210 | 2109 | -.204  | .055  | -.054 | -.489  | 210 | 2160 | -.024  | .034  | .140  | -.257 | 210 | 2212 | -.214  | .051  | .036  | -.521  |
| 210 | 2110 | -.190  | .043  | -.059 | -.408  | 210 | 2161 | -.026  | .035  | .137  | -.266 | 210 | 2213 | -.118  | .079  | .283  | -.342  |
| 210 | 2111 | -.166  | .030  | -.066 | -.334  | 210 | 2162 | -.022  | .069  | .414  | -.139 | 210 | 2214 | -.029  | .154  | .711  | -.855  |
| 210 | 2112 | -.119  | .043  | -.059 | -.408  | 210 | 2163 | -.021  | .052  | .283  | -.214 | 210 | 2215 | -.092  | .119  | .420  | -.1020 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 210 | 2217 | -.187  | .057  | .099  | -.587  | 220 | 2103 | -.144  | .034  | -.031 | -.336 | 220 | 2155 | -.038  | .062  | .196  | -.366  |
| 210 | 2218 | -.198  | .062  | .088  | -.592  | 220 | 2104 | -.070  | .059  | .242  | -.283 | 220 | 2156 | -.045  | .047  | .129  | -.389  |
| 210 | 2219 | -.203  | .066  | .131  | -.505  | 220 | 2105 | -.158  | .040  | -.017 | -.391 | 220 | 2157 | -.032  | .034  | .143  | -.180  |
| 210 | 2220 | -.200  | .040  | -.081 | -.386  | 220 | 2106 | -.149  | .044  | -.008 | -.388 | 220 | 2158 | -.005  | .040  | .315  | -.110  |
| 210 | 2221 | -.173  | .038  | -.027 | -.413  | 220 | 2107 | -.144  | .030  | -.024 | -.329 | 220 | 2159 | -.005  | .039  | .299  | -.094  |
| 210 | 2222 | -.197  | .055  | .065  | -.626  | 220 | 2108 | -.105  | .066  | .194  | .340  | 220 | 2160 | -.001  | .044  | .343  | -.171  |
| 210 | 2223 | -.205  | .111  | .349  | -.848  | 220 | 2109 | -.173  | .054  | -.003 | -.492 | 220 | 2161 | -.043  | .051  | .122  | -.266  |
| 210 | 2224 | -.153  | .030  | -.024 | -.288  | 220 | 2110 | -.155  | .038  | -.042 | -.407 | 220 | 2162 | -.069  | .100  | .638  | -.152  |
| 210 | 2225 | -.101  | .052  | .206  | -.302  | 220 | 2111 | -.150  | .030  | -.051 | .311  | 220 | 2163 | -.009  | .072  | .396  | -.208  |
| 210 | 2226 | -.005  | .091  | .383  | -.375  | 220 | 2112 | -.088  | .063  | -.123 | -.384 | 220 | 2164 | -.097  | .038  | .045  | -.324  |
| 210 | 2227 | -.113  | .104  | .138  | -.883  | 220 | 2113 | -.158  | .049  | -.015 | -.425 | 220 | 2165 | -.301  | .140  | .062  | -.1091 |
| 210 | 2228 | -.160  | .029  | -.077 | -.350  | 220 | 2114 | -.153  | .048  | -.019 | -.496 | 220 | 2166 | -.019  | .073  | .426  | -.286  |
| 210 | 2229 | -.154  | .035  | -.009 | -.314  | 220 | 2115 | -.136  | .031  | -.040 | -.313 | 220 | 2167 | -.097  | .039  | .038  | -.269  |
| 210 | 2230 | -.210  | .090  | .211  | -.694  | 220 | 2116 | -.013  | .055  | .235  | .191  | 220 | 2168 | -.129  | .053  | .013  | -.506  |
| 210 | 2231 | -.168  | .041  | -.065 | -.459  | 220 | 2117 | -.163  | .049  | -.031 | .411  | 220 | 2170 | -.093  | .039  | .048  | -.280  |
| 210 | 2232 | -.169  | .091  | .272  | -.607  | 220 | 2118 | -.192  | .045  | .013  | .480  | 220 | 2171 | -.104  | .049  | .043  | -.564  |
| 210 | 2233 | -.127  | .032  | .003  | -.275  | 220 | 2119 | -.131  | .039  | .022  | .315  | 220 | 2172 | -.117  | .052  | .029  | -.482  |
| 210 | 2234 | -.080  | .050  | .252  | -.222  | 220 | 2120 | -.052  | .036  | .118  | .171  | 220 | 2173 | -.170  | .084  | .045  | -.719  |
| 210 | 2235 | -.026  | .070  | .380  | -.287  | 220 | 2121 | -.246  | .073  | -.061 | .606  | 220 | 2174 | -.288  | .141  | .020  | -.117  |
| 210 | 2236 | -.096  | .071  | .144  | -.588  | 220 | 2122 | -.161  | .036  | .088  | .299  | 220 | 2175 | -.281  | .158  | .157  | -.408  |
| 210 | 2237 | -.463  | .182  | .080  | -1.222 | 220 | 2123 | -.129  | .039  | .010  | .425  | 220 | 2177 | -.063  | .122  | .757  | -.269  |
| 210 | 2238 | -.291  | .063  | -.002 | -.728  | 220 | 2124 | -.207  | .112  | .123  | .932  | 220 | 2178 | -.094  | .034  | .050  | -.255  |
| 210 | 2239 | -.223  | .047  | -.087 | -.542  | 220 | 2125 | -.175  | .055  | .020  | .510  | 220 | 2179 | -.098  | .042  | .015  | -.466  |
| 210 | 2240 | -.214  | .050  | -.075 | -.469  | 220 | 2126 | -.121  | .124  | .689  | .297  | 220 | 2180 | -.098  | .037  | .015  | -.375  |
| 210 | 2241 | -.190  | .051  | -.007 | -.626  | 220 | 2127 | -.060  | .128  | .428  | .934  | 220 | 2181 | -.129  | .051  | .015  | -.364  |
| 210 | 2242 | -.172  | .045  | .046  | -.440  | 220 | 2128 | -.066  | .039  | .118  | .198  | 220 | 2182 | -.275  | .120  | -.001 | -.166  |
| 210 | 2243 | -.101  | .085  | .247  | -.580  | 220 | 2129 | -.148  | .043  | .020  | .345  | 220 | 2183 | -.261  | .163  | .185  | -.122  |
| 210 | 2244 | -.034  | .077  | .363  | -.2958 | 220 | 2130 | -.102  | .086  | .517  | .194  | 220 | 2184 | -.050  | .080  | .488  | -.241  |
| 210 | 2245 | -.162  | .050  | .131  | -.338  | 220 | 2131 | -.041  | .101  | .348  | .402  | 220 | 2185 | -.032  | .074  | .492  | -.209  |
| 210 | 2246 | -.204  | .043  | -.058 | -.462  | 220 | 2132 | -.064  | .036  | .100  | .200  | 220 | 2187 | -.058  | .087  | .597  | -.128  |
| 210 | 2247 | -.232  | .054  | -.041 | -.568  | 220 | 2133 | -.132  | .035  | -.019 | .329  | 220 | 2188 | -.091  | .036  | .015  | -.268  |
| 210 | 2248 | -.145  | .042  | .046  | -.302  | 220 | 2134 | -.076  | .067  | .421  | .242  | 220 | 2189 | -.088  | .040  | .022  | -.541  |
| 210 | 2249 | -.114  | .062  | .262  | -.350  | 220 | 2136 | -.063  | .034  | .107  | .189  | 220 | 2190 | -.094  | .037  | .036  | -.246  |
| 210 | 2250 | -.175  | .051  | .008  | .401   | 220 | 2137 | -.123  | .036  | .004  | .329  | 220 | 2191 | -.112  | .042  | .020  | -.445  |
| 210 | 2251 | -.098  | .083  | .165  | -.493  | 220 | 2138 | -.056  | .061  | .331  | .255  | 220 | 2192 | -.222  | .126  | .038  | -.1049 |
| 210 | 2252 | -.000  | .066  | .472  | -.174  | 220 | 2140 | -.049  | .040  | .139  | .253  | 220 | 2193 | -.147  | .141  | .264  | -.1287 |
| 210 | 2253 | -.106  | .038  | .046  | -.271  | 220 | 2141 | -.133  | .041  | .020  | .329  | 220 | 2194 | -.039  | .093  | .245  | -.879  |
| 210 | 2254 | -.125  | .035  | .046  | -.295  | 220 | 2142 | -.028  | .057  | .258  | .187  | 220 | 2195 | -.083  | .044  | .054  | -.473  |
| 210 | 2255 | -.151  | .055  | .051  | -.704  | 220 | 2143 | -.003  | .063  | .334  | .355  | 220 | 2196 | -.091  | .054  | .052  | -.457  |
| 210 | 2256 | -.092  | .056  | .347  | -.336  | 220 | 2144 | -.022  | .039  | .217  | .148  | 220 | 2197 | -.080  | .038  | .040  | -.252  |
| 210 | 2257 | -.138  | .065  | .160  | -.600  | 220 | 2145 | -.081  | .035  | .038  | .248  | 220 | 2198 | -.083  | .034  | .075  | -.193  |
| 210 | 2258 | -.100  | .086  | .148  | -.588  | 220 | 2146 | -.069  | .054  | .124  | .485  | 220 | 2199 | -.111  | .065  | .188  | -.432  |
| 210 | 2259 | -.004  | .053  | .315  | -.152  | 220 | 2147 | -.075  | .059  | .199  | .594  | 220 | 2200 | -.049  | .056  | .236  | -.234  |
| 210 | 2260 | -.074  | .039  | .141  | -.217  | 220 | 2148 | -.081  | .061  | .134  | .389  | 220 | 2201 | -.031  | .037  | .177  | -.148  |
| 210 | 2261 | -.107  | .033  | .027  | -.225  | 220 | 2149 | -.087  | .075  | .120  | .629  | 220 | 2202 | -.199  | .058  | -.046 | -.491  |
| 210 | 2262 | -.128  | .036  | .017  | -.280  | 220 | 2150 | -.078  | .040  | .064  | .320  | 220 | 2203 | -.182  | .054  | -.044 | -.632  |
| 210 | 2263 | -.113  | .040  | .167  | -.275  | 220 | 2151 | -.051  | .033  | .103  | .178  | 220 | 2204 | -.194  | .060  | .015  | -.561  |
| 210 | 2264 | -.139  | .055  | .163  | -.520  | 220 | 2152 | -.036  | .037  | .257  | .231  | 220 | 2205 | -.173  | .057  | -.007 | -.536  |
| 220 | 2101 | -.184  | .070  | .024  | -.606  | 220 | 2153 | -.021  | .039  | .220  | .199  | 220 | 2206 | -.207  | .067  | -.014 | -.550  |
| 220 | 2102 | -.153  | .046  | -.022 | -.372  | 220 | 2154 | -.020  | .038  | .138  | .238  | 220 | 2207 | -.247  | .070  | -.055 | -.702  |

## APPENDIX A -- PRESSURE DATA ; CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 174

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD   | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN | WD   | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|---------|------|-------|--------|-------|-------|-------|------|-------|--------|-------|-------|---------|
| 220 | 2208 | -.236  | .062  | -.073 | -.670   | 220  | 2259  | -.152  | .086  | .216  | -.569 | 230  | 2146  | -.086  | .051  | .059  | -.413   |
| 220 | 2209 | -.354  | .113  | .025  | -.215   | 220  | 2260  | .021   | .061  | .319  | -.163 | 230  | 2147  | -.097  | .068  | .142  | -.584   |
| 220 | 2210 | -.466  | .245  | .183  | -.218   | 220  | 2261  | -.036  | .048  | .216  | -.156 | 230  | 2148  | -.114  | .074  | .196  | -.407   |
| 220 | 2211 | -.197  | .044  | -.069 | -.393   | 220  | 2262  | -.093  | .035  | .050  | -.257 | 230  | 2149  | -.118  | .102  | .268  | -.717   |
| 220 | 2212 | -.204  | .046  | -.028 | -.427   | 220  | 2263  | -.130  | .036  | .031  | -.278 | 230  | 2150  | -.098  | .041  | .039  | -.418   |
| 220 | 2213 | -.123  | .072  | .358  | -.418   | 220  | 2264  | -.104  | .042  | .264  | -.276 | 230  | 2151  | -.073  | .036  | .102  | -.229   |
| 220 | 2214 | .007   | .148  | .597  | -.604   | 220  | 2265  | -.149  | .060  | .106  | -.489 | 230  | 2152  | -.047  | .045  | .264  | -.220   |
| 220 | 2215 | -.123  | .128  | .442  | -.117   | 230  | 2101  | -.147  | .063  | .072  | -.547 | 230  | 2153  | -.014  | .053  | .282  | -.240   |
| 220 | 2216 | -.168  | .049  | .020  | -.402   | 230  | 2102  | -.129  | .046  | .026  | -.423 | 230  | 2154  | -.006  | .052  | .210  | -.218   |
| 220 | 2217 | -.167  | .066  | .152  | -.588   | 230  | 2103  | -.116  | .031  | .006  | -.288 | 230  | 2155  | -.080  | .070  | .138  | -.411   |
| 220 | 2218 | -.174  | .069  | .149  | -.604   | 230  | 2104  | -.059  | .051  | .172  | -.268 | 230  | 2156  | -.056  | .039  | .095  | -.265   |
| 220 | 2219 | -.182  | .064  | .174  | -.543   | 230  | 2105  | -.140  | .042  | .014  | -.372 | 230  | 2157  | -.041  | .035  | .097  | -.180   |
| 220 | 2220 | -.183  | .038  | -.057 | -.364   | 230  | 2106  | -.122  | .036  | -.008 | -.307 | 230  | 2158  | -.009  | .052  | .380  | -.153   |
| 220 | 2221 | -.160  | .044  | .054  | -.473   | 230  | 2107  | -.118  | .028  | -.025 | -.314 | 230  | 2159  | -.028  | .049  | .302  | -.123   |
| 220 | 2222 | -.186  | .061  | .077  | -.536   | 230  | 2108  | -.089  | .062  | .192  | -.334 | 230  | 2160  | -.025  | .057  | .389  | -.139   |
| 220 | 2223 | -.196  | .096  | .299  | -.650   | 230  | 2109  | -.145  | .054  | -.008 | -.423 | 230  | 2161  | -.067  | .065  | .214  | -.454   |
| 220 | 2224 | -.151  | .029  | -.021 | -.261   | 230  | 2110  | -.123  | .035  | -.012 | -.399 | 230  | 2162  | -.044  | .075  | .632  | -.213   |
| 220 | 2225 | -.099  | .047  | .127  | -.269   | 230  | 2111  | -.119  | .026  | .006  | -.216 | 230  | 2163  | -.011  | .066  | .268  | -.314   |
| 220 | 2226 | .018   | .074  | .362  | -.310   | 230  | 2112  | -.056  | .066  | .217  | -.285 | 230  | 2164  | -.114  | .035  | .000  | -.265   |
| 220 | 2227 | -.140  | .116  | .151  | -.725   | 230  | 2113  | -.127  | .041  | .014  | -.361 | 230  | 2165  | -.271  | .116  | .086  | -.904   |
| 220 | 2228 | -.147  | .034  | -.053 | -.430   | 230  | 2114  | -.126  | .043  | -.008 | -.507 | 230  | 2166  | -.010  | .067  | .267  | -.333   |
| 220 | 2229 | -.143  | .038  | .017  | -.314   | 230  | 2115  | -.108  | .027  | -.005 | -.228 | 230  | 2167  | -.112  | .037  | .054  | -.339   |
| 220 | 2230 | -.201  | .090  | .264  | -.653   | 230  | 2116  | -.037  | .070  | .361  | -.174 | 230  | 2168  | -.150  | .051  | .003  | -.447   |
| 220 | 2231 | -.150  | .041  | -.058 | -.542   | 230  | 2117  | -.147  | .054  | .017  | -.414 | 230  | 2170  | -.105  | .034  | -.002 | -.348   |
| 220 | 2233 | -.153  | .093  | .290  | -.545   | 230  | 2118  | -.131  | .043  | -.006 | -.383 | 230  | 2171  | -.112  | .035  | -.000 | -.386   |
| 220 | 2234 | -.121  | .030  | -.005 | -.230   | 230  | 2119  | -.106  | .033  | .026  | -.228 | 230  | 2172  | -.124  | .043  | -.006 | -.530   |
| 220 | 2235 | -.092  | .046  | .132  | -.233   | 230  | 2120  | -.025  | .039  | .168  | -.150 | 230  | 2173  | -.177  | .073  | -.040 | -.753   |
| 220 | 2236 | -.002  | .065  | .521  | -.192   | 230  | 2121  | -.243  | .075  | -.023 | -.692 | 230  | 2174  | -.315  | .123  | -.020 | -.960   |
| 220 | 2237 | -.100  | .072  | .094  | -.595   | 230  | 2122  | -.141  | .039  | -.021 | -.325 | 230  | 2175  | -.298  | .183  | -.270 | -.1.293 |
| 220 | 2238 | -.541  | .208  | .103  | -.1.435 | 230  | 2123  | -.102  | .034  | -.043 | -.263 | 230  | 2177  | -.015  | .101  | .729  | -.256   |
| 220 | 2239 | -.300  | .071  | .036  | -.691   | 230  | 2124  | -.213  | .099  | .103  | -.792 | 230  | 2178  | -.109  | .031  | .032  | -.278   |
| 220 | 2240 | -.239  | .056  | -.007 | -.566   | 230  | 2125  | -.158  | .057  | .063  | -.450 | 230  | 2179  | -.113  | .037  | -.000 | -.346   |
| 220 | 2241 | -.217  | .057  | -.029 | -.540   | 230  | 2126  | -.095  | .134  | .643  | -.445 | 230  | 2180  | -.115  | .035  | .003  | -.332   |
| 220 | 2242 | -.190  | .050  | -.007 | -.446   | 230  | 2127  | -.084  | .100  | .339  | -.652 | 230  | 2181  | -.147  | .045  | -.027 | -.434   |
| 220 | 2243 | -.163  | .046  | -.012 | -.458   | 230  | 2128  | -.079  | .036  | .081  | -.199 | 230  | 2182  | -.302  | .111  | -.024 | -.1.012 |
| 220 | 2244 | -.080  | .095  | .230  | -.691   | 230  | 2129  | -.131  | .039  | -.010 | -.323 | 230  | 2183  | -.257  | .165  | .268  | -.933   |
| 220 | 2245 | -.009  | .083  | .394  | -.317   | 230  | 2130  | -.105  | .095  | .621  | -.319 | 230  | 2184  | -.030  | .062  | .304  | -.262   |
| 220 | 2246 | -.133  | .054  | .199  | -.358   | 230  | 2131  | -.035  | .084  | .399  | -.361 | 230  | 2185  | -.007  | .059  | .278  | -.161   |
| 220 | 2247 | -.202  | .041  | -.038 | -.348   | 230  | 2132  | -.053  | .035  | .179  | -.161 | 230  | 2187  | -.037  | .067  | .557  | -.142   |
| 220 | 2248 | -.255  | .059  | -.084 | -.504   | 230  | 2133  | -.117  | .030  | -.014 | -.239 | 230  | 2188  | -.110  | .038  | -.003 | -.383   |
| 220 | 2249 | -.158  | .043  | .050  | -.329   | 230  | 2134  | -.105  | .075  | .439  | -.114 | 230  | 2189  | -.099  | .033  | .021  | -.250   |
| 220 | 2250 | -.129  | .051  | .185  | -.398   | 230  | 2135  | -.043  | .035  | .139  | -.143 | 230  | 2190  | -.101  | .033  | .025  | -.280   |
| 220 | 2251 | -.164  | .049  | -.002 | -.420   | 230  | 2137  | -.112  | .035  | .012  | -.254 | 230  | 2191  | -.130  | .040  | .014  | -.445   |
| 220 | 2252 | -.100  | .110  | .295  | -.585   | 230  | 2138  | -.116  | .077  | .565  | -.485 | 230  | 2192  | -.270  | .103  | -.016 | -.920   |
| 220 | 2253 | .042   | .088  | .490  | -.281   | 230  | 2140  | -.016  | .047  | .188  | -.185 | 230  | 2193  | -.127  | .119  | .293  | -.780   |
| 220 | 2254 | -.075  | .047  | .134  | -.247   | 230  | 2141  | -.124  | .036  | .046  | -.276 | 230  | 2194  | -.021  | .089  | .440  | -.680   |
| 220 | 2255 | -.118  | .039  | .058  | -.266   | 230  | 2142  | -.093  | .065  | .341  | -.163 | 230  | 2195  | -.097  | .037  | .001  | -.302   |
| 220 | 2256 | -.148  | .056  | .010  | -.600   | 230  | 2143  | -.082  | .048  | .524  | -.224 | 230  | 2196  | -.096  | .035  | .012  | -.280   |
| 220 | 2257 | -.093  | .051  | .180  | -.326   | 230  | 2144  | -.002  | .042  | .201  | -.117 | 230  | 2197  | -.097  | .033  | .012  | -.225   |
| 220 | 2258 | -.153  | .062  | -.432 | 230     | 2145 | -.086 | .044   | .151  | -.274 | 230   | 2198 | -.110 | .033   | .041  | -.251 |         |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 230 | 2199 | -.175  | .067  | .087  | -.565  | 230 | 2250 | -.138  | .047  | .107  | -.457 | 240 | 2136 | -.062  | .033  | .139  | -.183  |
| 230 | 2200 | -.085  | .070  | .227  | -.317  | 230 | 2251 | -.156  | .045  | .002  | -.457 | 240 | 2137 | -.127  | .035  | .000  | -.267  |
| 230 | 2201 | -.057  | .040  | .129  | -.218  | 230 | 2252 | -.053  | .124  | .309  | -.691 | 240 | 2138 | -.119  | .068  | .406  | -.138  |
| 230 | 2202 | -.185  | .059  | -.008 | -.489  | 230 | 2253 | -.105  | .103  | .550  | -.241 | 240 | 2140 | -.026  | .045  | .211  | -.171  |
| 230 | 2203 | -.174  | .066  | -.012 | -.765  | 230 | 2254 | -.038  | .055  | .248  | -.225 | 240 | 2141 | -.139  | .037  | .000  | -.300  |
| 230 | 2204 | -.176  | .062  | -.019 | -.592  | 230 | 2255 | -.110  | .042  | .090  | -.281 | 240 | 2142 | -.079  | .059  | .310  | -.115  |
| 230 | 2205 | -.176  | .072  | .001  | -.655  | 230 | 2256 | -.165  | .070  | .067  | -.891 | 240 | 2143 | -.084  | .063  | .366  | -.202  |
| 230 | 2206 | -.180  | .058  | -.023 | -.576  | 230 | 2257 | -.104  | .041  | .135  | -.313 | 240 | 2144 | -.012  | .045  | .259  | -.130  |
| 230 | 2207 | -.199  | .058  | -.065 | -.627  | 230 | 2258 | -.160  | .052  | .009  | -.432 | 240 | 2145 | -.105  | .041  | .041  | -.290  |
| 230 | 2208 | -.227  | .061  | -.034 | -.612  | 230 | 2259 | -.158  | .089  | .253  | -.657 | 240 | 2146 | -.109  | .052  | .069  | -.430  |
| 230 | 2209 | -.335  | .102  | -.012 | -.937  | 230 | 2260 | -.083  | .079  | .448  | -.172 | 240 | 2147 | -.128  | .073  | .095  | -.606  |
| 230 | 2210 | -.434  | .189  | .146  | -1.354 | 230 | 2261 | -.015  | .064  | .443  | -.153 | 240 | 2148 | -.148  | .082  | .147  | -.522  |
| 230 | 2211 | -.186  | .042  | -.052 | -.388  | 230 | 2262 | -.084  | .043  | .118  | -.262 | 240 | 2149 | -.164  | .122  | .169  | -.147  |
| 230 | 2212 | -.198  | .045  | -.069 | -.425  | 230 | 2263 | -.146  | .046  | .035  | -.385 | 240 | 2150 | -.107  | .039  | .010  | -.323  |
| 230 | 2213 | -.150  | .057  | .131  | -.370  | 230 | 2264 | -.110  | .034  | .016  | -.237 | 240 | 2151 | -.096  | .037  | .098  | -.249  |
| 230 | 2214 | .002   | .121  | .631  | -.517  | 230 | 2265 | -.146  | .046  | .042  | -.418 | 240 | 2152 | -.074  | .046  | .190  | -.290  |
| 230 | 2215 | -.147  | .118  | .273  | -.818  | 240 | 2101 | -.135  | .057  | .052  | -.426 | 240 | 2153 | -.033  | .055  | .254  | -.366  |
| 230 | 2216 | -.156  | .060  | .034  | -.449  | 240 | 2102 | -.128  | .044  | .045  | -.344 | 240 | 2154 | -.033  | .055  | .278  | -.254  |
| 230 | 2217 | -.165  | .078  | .260  | -.623  | 240 | 2103 | -.115  | .033  | -.007 | -.293 | 240 | 2155 | -.105  | .083  | .171  | -.494  |
| 230 | 2218 | -.167  | .075  | .159  | -.640  | 240 | 2104 | -.076  | .052  | .122  | -.326 | 240 | 2156 | -.083  | .048  | .048  | -.235  |
| 230 | 2219 | -.181  | .063  | .212  | -.506  | 240 | 2105 | -.142  | .046  | -.011 | -.450 | 240 | 2157 | -.076  | .076  | .204  | -.204  |
| 230 | 2220 | -.165  | .033  | -.047 | -.317  | 240 | 2106 | -.125  | .037  | -.014 | -.328 | 240 | 2158 | -.050  | .047  | .254  | -.185  |
| 230 | 2221 | -.152  | .035  | .181  | -.445  | 240 | 2107 | -.125  | .032  | -.007 | -.293 | 240 | 2159 | -.007  | .050  | .273  | -.221  |
| 230 | 2222 | -.179  | .059  | .087  | -.548  | 240 | 2108 | -.102  | .056  | .183  | -.344 | 240 | 2160 | -.024  | .070  | .414  | -.164  |
| 230 | 2223 | -.194  | .065  | .148  | -.449  | 240 | 2109 | -.141  | .049  | -.011 | -.469 | 240 | 2161 | -.074  | .091  | .349  | -.423  |
| 230 | 2224 | -.148  | .026  | -.043 | -.256  | 240 | 2110 | -.126  | .033  | -.014 | -.302 | 240 | 2162 | -.013  | .070  | .342  | -.304  |
| 230 | 2225 | -.114  | .041  | .058  | -.288  | 240 | 2111 | -.125  | .027  | -.021 | -.269 | 240 | 2163 | -.044  | .073  | .290  | -.465  |
| 230 | 2226 | .015   | .064  | .341  | -.202  | 240 | 2112 | -.069  | .065  | .169  | -.251 | 240 | 2164 | -.153  | .037  | .014  | -.356  |
| 230 | 2227 | -.154  | .100  | .095  | -.740  | 240 | 2113 | -.143  | .051  | -.007 | -.494 | 240 | 2165 | -.384  | .136  | .036  | -.1259 |
| 230 | 2228 | -.129  | .032  | .023  | -.332  | 240 | 2114 | -.134  | .047  | -.012 | -.424 | 240 | 2166 | -.028  | .075  | .255  | -.472  |
| 230 | 2229 | -.138  | .037  | .005  | -.306  | 240 | 2115 | -.116  | .030  | -.002 | -.262 | 240 | 2167 | -.155  | .037  | -.033 | -.290  |
| 230 | 2230 | -.185  | .059  | .160  | -.508  | 240 | 2116 | -.035  | .074  | -.422 | -.286 | 240 | 2168 | -.204  | .058  | -.031 | -.534  |
| 230 | 2231 | -.134  | .047  | -.019 | -.513  | 240 | 2117 | -.144  | .053  | -.021 | -.457 | 240 | 2170 | -.151  | .036  | -.040 | -.363  |
| 230 | 2233 | -.158  | .072  | .264  | -.429  | 240 | 2118 | -.137  | .046  | -.024 | -.441 | 240 | 2171 | -.157  | .037  | -.033 | -.340  |
| 230 | 2234 | -.125  | .026  | .016  | -.225  | 240 | 2119 | -.117  | .038  | -.033 | -.309 | 240 | 2172 | -.170  | .045  | -.012 | -.435  |
| 230 | 2235 | -.109  | .038  | .086  | -.232  | 240 | 2120 | -.028  | .040  | .132  | -.162 | 240 | 2173 | -.227  | .069  | -.057 | -.644  |
| 230 | 2236 | -.022  | .059  | .246  | -.369  | 240 | 2121 | -.249  | .078  | -.007 | -.673 | 240 | 2174 | -.389  | .130  | -.085 | -.413  |
| 230 | 2237 | -.084  | .061  | .093  | -.522  | 240 | 2122 | -.143  | .037  | .040  | -.340 | 240 | 2175 | -.385  | .197  | .307  | -.1449 |
| 230 | 2238 | -.712  | .250  | .074  | -1.798 | 240 | 2123 | -.110  | .034  | .049  | -.227 | 240 | 2177 | -.010  | .121  | .587  | -.387  |
| 230 | 2239 | -.322  | .079  | -.060 | -.747  | 240 | 2124 | -.226  | .106  | .122  | -.806 | 240 | 2178 | -.155  | .033  | -.066 | -.344  |
| 230 | 2240 | -.246  | .061  | -.026 | -.536  | 240 | 2125 | -.162  | .060  | .021  | -.506 | 240 | 2179 | -.159  | .032  | -.040 | -.487  |
| 230 | 2241 | -.225  | .065  | -.021 | -.613  | 240 | 2126 | -.074  | .131  | .704  | -.283 | 240 | 2180 | -.161  | .037  | -.033 | -.411  |
| 230 | 2242 | -.210  | .060  | .025  | -.499  | 240 | 2127 | -.098  | .087  | .277  | -.584 | 240 | 2181 | -.203  | .048  | -.083 | -.461  |
| 230 | 2243 | -.157  | .044  | -.026 | -.508  | 240 | 2128 | -.091  | .033  | .042  | -.215 | 240 | 2182 | -.388  | .126  | -.121 | -.271  |
| 230 | 2244 | -.071  | .104  | .246  | -.566  | 240 | 2129 | -.140  | .042  | .007  | -.361 | 240 | 2183 | -.354  | .191  | .463  | -.378  |
| 230 | 2245 | .018   | .085  | .387  | -.306  | 240 | 2130 | -.099  | .102  | .540  | -.234 | 240 | 2184 | -.004  | .064  | .315  | -.263  |
| 230 | 2246 | -.119  | .060  | .376  | -.327  | 240 | 2131 | -.047  | .080  | .289  | -.373 | 240 | 2185 | -.024  | .057  | .290  | -.200  |
| 230 | 2247 | -.203  | .046  | -.016 | -.406  | 240 | 2132 | -.073  | .031  | .045  | -.166 | 240 | 2187 | -.006  | .064  | .378  | -.195  |
| 230 | 2248 | -.268  | .062  | -.077 | -.664  | 240 | 2133 | -.126  | .035  | -.002 | -.295 | 240 | 2188 | -.150  | .036  | -.044 | -.381  |
| 230 | 2249 | -.173  | .044  | -.021 | -.427  | 240 | 2134 | .105   | .080  | .523  | -.309 | 240 | 2189 | -.146  | .033  | -.028 | -.337  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A176

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 240 | 2190 | -.151  | .032  | -.056 | -.318  | 240 | 2241 | -.233  | .064  | -.002 | -.655 | 250 | 2126 | -.003  | .111  | .580  | -.473 |
| 240 | 2191 | -.184  | .041  | -.058 | -.486  | 240 | 2242 | -.211  | .054  | -.034 | -.579 | 250 | 2127 | -.117  | .066  | .149  | -.588 |
| 240 | 2192 | -.354  | .124  | -.063 | -1.066 | 240 | 2243 | -.169  | .047  | -.010 | -.417 | 250 | 2128 | -.099  | .032  | .024  | -.224 |
| 240 | 2193 | -.204  | .132  | -.157 | -1.074 | 240 | 2244 | -.095  | .111  | .249  | -.739 | 250 | 2129 | -.129  | .044  | .033  | -.324 |
| 240 | 2194 | -.052  | .095  | .478  | -.532  | 240 | 2245 | -.010  | .085  | .339  | -.314 | 250 | 2130 | -.022  | .085  | .483  | -.255 |
| 240 | 2195 | -.138  | .038  | -.035 | -.430  | 240 | 2246 | -.126  | .061  | .219  | -.383 | 250 | 2131 | -.076  | .078  | .218  | -.359 |
| 240 | 2196 | -.147  | .044  | -.035 | -.430  | 240 | 2247 | -.217  | .042  | -.073 | -.407 | 250 | 2132 | -.076  | .031  | .044  | -.204 |
| 240 | 2197 | -.144  | .036  | -.005 | -.346  | 240 | 2248 | -.280  | .057  | -.071 | -.545 | 250 | 2133 | -.114  | .033  | .010  | -.259 |
| 240 | 2198 | -.159  | .034  | -.002 | -.286  | 240 | 2249 | -.192  | .042  | -.036 | -.395 | 250 | 2134 | -.071  | .077  | .557  | -.204 |
| 240 | 2199 | -.250  | .066  | -.047 | -.571  | 240 | 2250 | -.195  | .041  | -.000 | -.420 | 250 | 2135 | -.075  | .033  | .086  | -.217 |
| 240 | 2200 | -.141  | .065  | .241  | -.330  | 240 | 2251 | -.162  | .041  | -.029 | -.447 | 250 | 2136 | -.121  | .034  | -.007 | -.250 |
| 240 | 2201 | -.093  | .033  | .041  | -.214  | 240 | 2252 | -.095  | .135  | .342  | -.475 | 250 | 2137 | -.105  | .077  | .457  | -.204 |
| 240 | 2202 | -.217  | .074  | .018  | -.537  | 240 | 2253 | .118   | .104  | .563  | -.243 | 250 | 2138 | -.033  | .046  | .179  | -.187 |
| 240 | 2203 | -.208  | .077  | -.024 | -.657  | 240 | 2254 | -.035  | .053  | .209  | -.275 | 250 | 2139 | -.125  | .036  | .005  | -.287 |
| 240 | 2204 | -.211  | .075  | .018  | -.806  | 240 | 2255 | -.127  | .042  | -.047 | -.373 | 250 | 2140 | -.063  | .067  | .353  | -.236 |
| 240 | 2205 | -.204  | .073  | .035  | -.674  | 240 | 2256 | -.197  | .077  | -.027 | -.776 | 250 | 2141 | -.052  | .071  | .312  | -.195 |
| 240 | 2206 | -.199  | .054  | -.010 | -.527  | 240 | 2257 | -.125  | .035  | -.010 | -.302 | 250 | 2142 | -.019  | .047  | .190  | -.188 |
| 240 | 2207 | -.183  | .043  | -.056 | -.474  | 240 | 2258 | -.159  | .044  | -.009 | -.456 | 250 | 2143 | -.096  | .048  | .160  | -.343 |
| 240 | 2208 | -.219  | .057  | -.047 | -.595  | 240 | 2259 | -.178  | .090  | .185  | -.754 | 250 | 2144 | -.106  | .045  | .016  | -.428 |
| 240 | 2209 | -.327  | .100  | -.054 | -.852  | 240 | 2260 | .097   | .084  | .563  | -.157 | 250 | 2145 | -.140  | .064  | .026  | -.550 |
| 240 | 2210 | -.496  | .204  | .081  | -1.760 | 240 | 2261 | .012   | .059  | .295  | -.184 | 250 | 2146 | -.168  | .076  | .066  | -.512 |
| 240 | 2211 | -.180  | .037  | -.010 | -.351  | 240 | 2262 | -.100  | .042  | -.067 | -.270 | 250 | 2147 | -.206  | .142  | .113  | -.947 |
| 240 | 2212 | -.202  | .041  | -.049 | -.453  | 240 | 2263 | -.180  | .050  | -.027 | -.405 | 250 | 2148 | -.092  | .032  | .049  | -.235 |
| 240 | 2213 | -.177  | .048  | .009  | -.374  | 240 | 2264 | -.122  | .031  | -.013 | -.233 | 250 | 2149 | -.093  | .033  | .066  | -.242 |
| 240 | 2214 | -.029  | .111  | .548  | -.418  | 240 | 2265 | -.150  | .044  | -.024 | -.442 | 250 | 2150 | -.092  | .043  | .099  | -.249 |
| 240 | 2215 | -.209  | .126  | .332  | -.794  | 250 | 2101 | -.118  | .051  | -.065 | -.384 | 250 | 2151 | -.060  | .048  | .164  | -.280 |
| 240 | 2216 | -.170  | .069  | .123  | -.465  | 250 | 2102 | -.113  | .049  | -.109 | -.343 | 250 | 2152 | -.039  | .060  | .254  | -.270 |
| 240 | 2217 | -.177  | .104  | .311  | -.646  | 250 | 2103 | -.107  | .038  | -.005 | -.340 | 250 | 2153 | -.065  | .073  | .195  | -.321 |
| 240 | 2218 | -.194  | .084  | .232  | -.597  | 250 | 2104 | -.083  | .051  | .165  | -.282 | 250 | 2154 | -.086  | .028  | .040  | -.179 |
| 240 | 2219 | -.199  | .069  | .120  | -.773  | 250 | 2105 | -.133  | .056  | -.026 | -.473 | 250 | 2155 | -.088  | .029  | .031  | -.207 |
| 240 | 2220 | -.166  | .030  | -.058 | -.309  | 250 | 2106 | -.110  | .036  | -.024 | -.340 | 250 | 2156 | -.075  | .043  | .171  | -.209 |
| 240 | 2221 | -.162  | .067  | .165  | -.502  | 250 | 2107 | -.108  | .035  | -.007 | -.598 | 250 | 2157 | -.016  | .050  | .204  | -.207 |
| 240 | 2222 | -.198  | .063  | .165  | -.518  | 250 | 2108 | -.102  | .050  | .128  | -.350 | 250 | 2158 | -.026  | .070  | .341  | -.237 |
| 240 | 2223 | -.190  | .051  | .132  | -.386  | 250 | 2109 | -.128  | .047  | -.003 | -.484 | 250 | 2159 | -.032  | .095  | .390  | -.385 |
| 240 | 2224 | -.172  | .025  | -.075 | -.270  | 250 | 2110 | -.119  | .036  | -.002 | -.343 | 250 | 2160 | -.014  | .065  | .392  | -.263 |
| 240 | 2225 | -.145  | .036  | -.022 | -.312  | 250 | 2111 | -.116  | .034  | -.017 | -.271 | 250 | 2161 | -.075  | .062  | .235  | -.331 |
| 240 | 2226 | -.002  | .069  | .381  | -.216  | 250 | 2112 | -.076  | .058  | .186  | -.241 | 250 | 2162 | -.075  | .040  | -.019 | -.345 |
| 240 | 2227 | -.209  | .099  | .069  | -.778  | 250 | 2113 | -.135  | .056  | -.035 | -.442 | 250 | 2163 | -.150  | .040  | -.014 | -.312 |
| 240 | 2228 | -.139  | .040  | -.007 | -.351  | 250 | 2114 | -.126  | .050  | -.026 | -.493 | 250 | 2164 | -.320  | .112  | -.014 | -.207 |
| 240 | 2229 | -.154  | .044  | .032  | -.356  | 250 | 2115 | -.113  | .043  | -.042 | -.368 | 250 | 2165 | -.063  | .066  | .042  | -.566 |
| 240 | 2230 | -.204  | .054  | .074  | -.501  | 250 | 2116 | .004   | .079  | .309  | -.231 | 250 | 2166 | -.153  | .042  | .143  | -.328 |
| 240 | 2231 | -.135  | .045  | -.034 | -.589  | 250 | 2117 | -.164  | .069  | -.028 | -.456 | 250 | 2167 | -.194  | .057  | -.042 | -.575 |
| 240 | 2232 | -.175  | .057  | .106  | -.454  | 250 | 2118 | -.122  | .053  | -.054 | -.456 | 250 | 2168 | -.145  | .037  | -.014 | -.312 |
| 240 | 2233 | -.158  | .025  | -.076 | -.277  | 250 | 2119 | -.106  | .052  | .137  | -.343 | 250 | 2169 | -.149  | .036  | -.002 | -.312 |
| 240 | 2234 | -.150  | .033  | .008  | -.277  | 250 | 2120 | -.031  | .046  | .179  | -.169 | 250 | 2170 | -.153  | .038  | -.005 | -.324 |
| 240 | 2235 | -.048  | .063  | .298  | -.270  | 250 | 2121 | -.201  | .085  | .119  | -.565 | 250 | 2171 | -.207  | .057  | -.007 | -.789 |
| 240 | 2236 | -.124  | .074  | .273  | -.616  | 250 | 2122 | -.110  | .065  | .260  | -.375 | 250 | 2172 | -.351  | .119  | -.049 | -.940 |
| 240 | 2237 | -.726  | .246  | -.035 | -1.665 | 250 | 2123 | -.096  | .050  | .114  | -.575 | 250 | 2173 | -.280  | .184  | .451  | -.102 |
| 240 | 2238 | -.336  | .079  | -.059 | -.788  | 250 | 2124 | -.178  | .090  | .123  | -.490 | 250 | 2174 | -.073  | .088  | .458  | -.322 |
| 240 | 2239 | -.248  | .061  | -.029 | -.655  | 250 | 2125 | -.145  | .068  | .091  | -.575 | 250 | 2175 | -.151  | .037  | -.047 | -.373 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 250 | 2180 | -.150  | .035  | -.024 | -.338  | 250 | 2231 | -.123  | .040  | .024  | -.552  | 260 | 2117 | -.129  | .063  | .075  | -.542 |
| 250 | 2181 | -.181  | .047  | .014  | -.397  | 250 | 2233 | -.160  | .053  | .235  | -.360  | 260 | 2118 | -.109  | .050  | .091  | -.372 |
| 250 | 2182 | -.363  | .117  | -.049 | -.951  | 250 | 2234 | -.146  | .027  | -.044 | -.270  | 260 | 2119 | -.151  | .085  | .089  | -.591 |
| 250 | 2183 | -.283  | .207  | .460  | -.1205 | 250 | 2235 | -.144  | .029  | -.035 | -.258  | 260 | 2120 | -.033  | .038  | .154  | -.216 |
| 250 | 2184 | -.010  | .057  | .253  | -.219  | 250 | 2236 | -.023  | .068  | .339  | -.253  | 260 | 2121 | -.107  | .082  | .124  | -.633 |
| 250 | 2185 | -.050  | .019  | .210  | -.197  | 250 | 2237 | -.139  | .083  | .152  | -.532  | 260 | 2122 | -.058  | .084  | .243  | -.290 |
| 250 | 2187 | -.021  | .051  | .191  | -.226  | 250 | 2238 | -.460  | .229  | -.025 | -2.043 | 260 | 2123 | -.017  | .090  | .094  | -.633 |
| 250 | 2188 | -.139  | .034  | -.024 | -.288  | 250 | 2239 | -.252  | .073  | .072  | -.676  | 260 | 2124 | -.017  | .083  | .189  | -.472 |
| 250 | 2189 | -.134  | .032  | -.038 | -.295  | 250 | 2240 | -.202  | .050  | .016  | -.472  | 260 | 2125 | -.011  | .072  | .061  | -.442 |
| 250 | 2190 | -.136  | .031  | -.011 | -.277  | 250 | 2241 | -.191  | .050  | -.006 | -.382  | 260 | 2126 | -.007  | .068  | .201  | -.414 |
| 250 | 2191 | -.172  | .042  | -.024 | -.378  | 250 | 2242 | -.178  | .051  | .043  | -.523  | 260 | 2127 | -.136  | .067  | .098  | -.674 |
| 250 | 2192 | -.329  | .113  | -.075 | -1.335 | 250 | 2243 | -.141  | .040  | .016  | -.401  | 260 | 2128 | -.102  | .037  | .035  | -.335 |
| 250 | 2193 | -.186  | .113  | .308  | -.914  | 250 | 2244 | -.082  | .101  | .240  | -.664  | 260 | 2129 | -.126  | .049  | .019  | -.439 |
| 250 | 2194 | -.070  | .072  | .373  | -.369  | 250 | 2245 | -.051  | .079  | .259  | -.426  | 260 | 2130 | -.008  | .065  | .333  | -.353 |
| 250 | 2195 | -.132  | .036  | -.008 | -.323  | 250 | 2246 | -.128  | .055  | .257  | -.302  | 260 | 2131 | -.129  | .063  | .070  | -.390 |
| 250 | 2196 | -.130  | .035  | -.001 | -.325  | 250 | 2247 | -.186  | .038  | .002  | -.353  | 260 | 2132 | -.091  | .029  | .010  | -.253 |
| 250 | 2197 | -.132  | .034  | .003  | -.284  | 250 | 2248 | -.222  | .050  | -.059 | -.440  | 260 | 2133 | -.111  | .036  | .008  | -.344 |
| 250 | 2198 | -.155  | .036  | -.029 | -.357  | 250 | 2249 | -.164  | .038  | -.025 | -.372  | 260 | 2134 | -.045  | .072  | .361  | -.244 |
| 250 | 2199 | -.234  | .066  | -.059 | -.626  | 250 | 2250 | -.129  | .037  | .024  | -.363  | 260 | 2136 | -.080  | .029  | .017  | -.186 |
| 250 | 2200 | -.144  | .057  | .205  | -.293  | 250 | 2251 | -.132  | .034  | .065  | -.263  | 260 | 2137 | -.109  | .033  | -.006 | -.244 |
| 250 | 2201 | -.097  | .030  | .015  | -.219  | 250 | 2252 | -.077  | .117  | .327  | -.644  | 260 | 2138 | -.082  | .078  | .427  | -.190 |
| 250 | 2202 | -.182  | .063  | -.077 | -.580  | 250 | 2253 | -.049  | .105  | .458  | -.435  | 260 | 2140 | -.049  | .042  | .136  | -.200 |
| 250 | 2203 | -.211  | .077  | -.027 | -.708  | 250 | 2254 | -.059  | .062  | .198  | -.363  | 260 | 2141 | -.118  | .036  | -.004 | -.311 |
| 250 | 2204 | -.199  | .067  | -.020 | -.651  | 250 | 2255 | -.119  | .039  | .053  | -.282  | 260 | 2142 | -.033  | .069  | .345  | -.181 |
| 250 | 2205 | -.191  | .071  | -.051 | -.766  | 250 | 2256 | -.168  | .062  | .058  | -.576  | 260 | 2143 | -.027  | .092  | .306  | -.541 |
| 250 | 2206 | -.182  | .056  | -.015 | -.536  | 250 | 2257 | -.110  | .030  | .028  | -.316  | 260 | 2144 | -.046  | .040  | .181  | -.253 |
| 250 | 2207 | -.168  | .055  | -.013 | -.685  | 250 | 2258 | -.125  | .033  | -.008 | -.333  | 260 | 2145 | -.097  | .042  | .042  | -.298 |
| 250 | 2208 | -.192  | .056  | -.036 | -.901  | 250 | 2259 | -.109  | .094  | .164  | -.671  | 260 | 2146 | -.112  | .034  | .030  | -.331 |
| 250 | 2209 | -.209  | .073  | -.018 | -.651  | 250 | 2260 | -.071  | .086  | .478  | -.593  | 260 | 2147 | -.143  | .052  | .030  | -.534 |
| 250 | 2210 | -.362  | .191  | -.006 | -1.491 | 250 | 2261 | -.007  | .058  | .223  | -.190  | 260 | 2148 | -.169  | .069  | .077  | -.614 |
| 250 | 2211 | -.154  | .038  | .040  | -.412  | 250 | 2262 | -.092  | .039  | .075  | -.210  | 260 | 2149 | -.183  | .112  | .120  | -.822 |
| 250 | 2212 | -.178  | .041  | -.015 | -.458  | 250 | 2263 | -.157  | .044  | .024  | -.372  | 260 | 2150 | -.103  | .031  | .040  | -.256 |
| 250 | 2213 | -.166  | .042  | .008  | -.359  | 250 | 2264 | -.107  | .026  | .075  | -.222  | 260 | 2151 | -.105  | .032  | .040  | -.239 |
| 250 | 2214 | -.040  | .096  | .396  | -.428  | 250 | 2265 | -.115  | .031  | -.006 | -.324  | 260 | 2152 | -.113  | .039  | .285  | -.315 |
| 250 | 2215 | -.202  | .110  | .210  | -.727  | 260 | 2101 | -.120  | .063  | .138  | -.470  | 260 | 2153 | -.084  | .043  | .153  | -.256 |
| 250 | 2216 | -.153  | .059  | .104  | -.534  | 260 | 2102 | -.113  | .060  | .066  | -.484  | 260 | 2154 | -.058  | .057  | .238  | -.263 |
| 250 | 2217 | -.133  | .098  | .398  | -.486  | 260 | 2103 | -.101  | .041  | .022  | -.290  | 260 | 2155 | -.075  | .065  | .240  | -.378 |
| 250 | 2218 | -.160  | .085  | .230  | -.589  | 260 | 2104 | -.079  | .049  | .117  | -.363  | 260 | 2156 | -.096  | .029  | .011  | -.197 |
| 250 | 2219 | -.173  | .065  | .070  | -.465  | 260 | 2105 | -.139  | .064  | .024  | -.553  | 260 | 2157 | -.101  | .028  | .009  | -.206 |
| 250 | 2220 | -.146  | .030  | -.077 | -.300  | 260 | 2106 | -.107  | .041  | .040  | -.351  | 260 | 2158 | -.094  | .038  | .129  | -.215 |
| 250 | 2221 | -.149  | .061  | .116  | -.433  | 260 | 2107 | -.111  | .047  | .033  | -.458  | 260 | 2159 | -.050  | .043  | .309  | -.171 |
| 250 | 2222 | -.162  | .066  | .095  | -.499  | 260 | 2108 | -.099  | .048  | .091  | -.332  | 260 | 2160 | -.010  | .067  | .283  | -.400 |
| 250 | 2223 | -.168  | .050  | .187  | -.385  | 260 | 2109 | -.132  | .055  | .015  | -.493  | 260 | 2161 | -.044  | .074  | .320  | -.409 |
| 250 | 2224 | -.153  | .029  | .008  | -.284  | 260 | 2110 | -.114  | .036  | -.002 | -.300  | 260 | 2162 | -.036  | .057  | .257  | -.206 |
| 250 | 2225 | -.142  | .037  | .019  | -.316  | 260 | 2111 | -.113  | .041  | .008  | -.351  | 260 | 2163 | -.093  | .054  | .148  | -.345 |
| 250 | 2226 | -.007  | .075  | .346  | -.229  | 260 | 2112 | -.095  | .054  | .278  | -.286  | 260 | 2164 | -.147  | .041  | .018  | -.341 |
| 250 | 2227 | -.188  | .096  | .167  | -.637  | 260 | 2113 | -.125  | .046  | .061  | -.339  | 260 | 2165 | -.058  | .090  | .063  | -.570 |
| 250 | 2228 | -.131  | .038  | -.001 | -.418  | 260 | 2114 | -.122  | .044  | .052  | -.386  | 260 | 2166 | -.071  | .063  | .261  | -.376 |
| 250 | 2229 | -.142  | .047  | .135  | -.314  | 260 | 2115 | -.135  | .054  | .001  | -.444  | 260 | 2167 | -.054  | .073  | .021  | -.437 |
| 250 | 2230 | -.165  | .060  | .138  | -.392  | 260 | 2116 | -.021  | .065  | .208  | -.221  | 260 | 2168 | -.048  | .069  | .231  | -.461 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|---------|
| 260 | 2170 | -.139  | .036  | .002  | -.369   | 260 | 2222 | -.139  | .046  | .106  | -.353  | 270 | 2108 | -.114  | .054  | .078  | -.387   |
| 260 | 2171 | -.140  | .036  | .004  | -.279   | 260 | 2223 | -.153  | .041  | .109  | -.327  | 270 | 2109 | -.204  | .086  | .031  | -.692   |
| 260 | 2172 | -.146  | .036  | .011  | -.319   | 260 | 2224 | -.143  | .025  | -.004 | -.261  | 270 | 2110 | -.174  | .047  | -.033 | -.451   |
| 260 | 2173 | -.187  | .051  | -.029 | -.815   | 260 | 2225 | -.138  | .031  | .001  | -.275  | 270 | 2111 | -.204  | .066  | -.045 | -.576   |
| 260 | 2174 | -.310  | .094  | -.005 | -.716   | 260 | 2226 | -.028  | .067  | .491  | -.211  | 270 | 2112 | -.099  | .064  | .181  | -.468   |
| 260 | 2175 | -.231  | .173  | .476  | -.1.190 | 260 | 2227 | -.179  | .083  | .106  | -.689  | 270 | 2113 | -.153  | .078  | .053  | -.485   |
| 260 | 2177 | -.099  | .066  | .533  | -.350   | 260 | 2228 | -.112  | .027  | .038  | -.367  | 270 | 2114 | -.165  | .053  | .043  | -.426   |
| 260 | 2178 | -.134  | .030  | -.041 | -.303   | 260 | 2229 | -.136  | .032  | -.006 | -.257  | 270 | 2115 | -.245  | .083  | -.006 | -.677   |
| 260 | 2179 | -.136  | .033  | -.029 | -.253   | 260 | 2230 | -.153  | .043  | .040  | -.306  | 270 | 2116 | -.061  | .064  | .211  | -.321   |
| 260 | 2180 | -.141  | .031  | -.012 | -.277   | 260 | 2231 | -.106  | .027  | -.016 | -.228  | 270 | 2117 | -.115  | .074  | .110  | -.630   |
| 260 | 2181 | -.169  | .041  | .014  | -.357   | 260 | 2233 | -.146  | .039  | .077  | -.314  | 270 | 2118 | -.129  | .067  | .100  | -.397   |
| 260 | 2182 | -.325  | .105  | -.057 | -.881   | 260 | 2234 | -.133  | .024  | -.040 | -.262  | 270 | 2119 | -.249  | .115  | .090  | -.985   |
| 260 | 2183 | -.251  | .182  | .431  | -.1.438 | 260 | 2235 | -.137  | .025  | -.036 | -.226  | 270 | 2120 | -.049  | .043  | .174  | -.210   |
| 260 | 2184 | -.027  | .056  | .219  | -.212   | 260 | 2236 | -.045  | .054  | .245  | -.209  | 270 | 2121 | -.092  | .067  | .149  | -.478   |
| 260 | 2185 | -.060  | .040  | .173  | -.177   | 260 | 2237 | -.138  | .069  | .077  | -.557  | 270 | 2122 | -.114  | .073  | .171  | -.431   |
| 260 | 2187 | -.041  | .046  | .213  | -.168   | 260 | 2238 | -.290  | .167  | .004  | -1.033 | 270 | 2123 | -.105  | .122  | .341  | -.781   |
| 260 | 2188 | -.130  | .028  | -.046 | -.270   | 260 | 2239 | -.180  | .068  | -.006 | -.550  | 270 | 2124 | -.177  | .078  | .068  | -.569   |
| 260 | 2189 | -.129  | .029  | -.027 | -.374   | 260 | 2240 | -.155  | .040  | -.018 | -.440  | 270 | 2125 | -.147  | .070  | .066  | -.525   |
| 260 | 2190 | -.136  | .030  | -.027 | -.270   | 260 | 2241 | -.155  | .042  | .006  | -.409  | 270 | 2126 | -.000  | .092  | .353  | -.488   |
| 260 | 2191 | -.154  | .039  | -.004 | -.346   | 260 | 2242 | -.145  | .040  | .113  | -.409  | 270 | 2127 | -.255  | .153  | .046  | -.1.260 |
| 260 | 2192 | -.274  | .090  | -.046 | -.780   | 260 | 2243 | -.121  | .034  | -.006 | -.394  | 270 | 2128 | -.171  | .077  | .014  | -.542   |
| 260 | 2193 | -.060  | .088  | .139  | -.553   | 260 | 2244 | -.062  | .069  | .184  | -.389  | 270 | 2129 | -.163  | .071  | .024  | -.699   |
| 260 | 2194 | -.084  | .062  | .300  | -.325   | 260 | 2245 | -.084  | .087  | .208  | -.521  | 270 | 2130 | -.071  | .072  | .287  | -.338   |
| 260 | 2195 | -.133  | .032  | -.037 | -.339   | 260 | 2246 | -.114  | .045  | .094  | -.284  | 270 | 2131 | -.214  | .095  | .016  | -.672   |
| 260 | 2196 | -.126  | .028  | -.027 | -.297   | 260 | 2247 | -.025  | .096  | .099  | -.638  | 270 | 2132 | -.129  | .044  | .024  | -.362   |
| 260 | 2197 | -.129  | .032  | -.025 | -.314   | 260 | 2248 | -.025  | .087  | .201  | -.445  | 270 | 2133 | -.150  | .057  | -.003 | -.869   |
| 260 | 2198 | -.150  | .033  | -.034 | -.341   | 260 | 2249 | -.019  | .075  | .064  | -.501  | 270 | 2134 | -.066  | .107  | .430  | -.621   |
| 260 | 2199 | -.202  | .061  | -.032 | -.542   | 260 | 2250 | -.014  | .070  | .172  | -.343  | 270 | 2136 | -.114  | .035  | .031  | -.308   |
| 260 | 2200 | -.143  | .045  | .127  | -.295   | 260 | 2251 | -.112  | .028  | -.008 | -.284  | 270 | 2137 | -.131  | .038  | .009  | -.271   |
| 260 | 2201 | -.107  | .028  | .012  | -.203   | 260 | 2252 | -.036  | .077  | .250  | -.362  | 270 | 2138 | -.018  | .122  | .434  | -.596   |
| 260 | 2202 | -.150  | .043  | .019  | -.501   | 260 | 2253 | -.055  | .116  | .455  | -.460  | 270 | 2140 | -.100  | .047  | .093  | -.394   |
| 260 | 2203 | -.165  | .046  | .016  | -.424   | 260 | 2254 | -.077  | .048  | .133  | -.260  | 270 | 2141 | -.129  | .046  | -.003 | -.407   |
| 260 | 2204 | -.159  | .045  | .028  | -.452   | 260 | 2255 | -.116  | .033  | .018  | -.270  | 270 | 2142 | -.020  | .086  | .383  | -.303   |
| 260 | 2205 | -.160  | .049  | -.037 | -.447   | 260 | 2256 | -.147  | .047  | -.001 | -.423  | 270 | 2143 | -.126  | .086  | .214  | -.572   |
| 260 | 2206 | -.059  | .087  | .093  | -.558   | 260 | 2257 | -.101  | .026  | -.004 | -.238  | 270 | 2144 | -.095  | .048  | .067  | -.379   |
| 260 | 2207 | -.058  | .083  | .113  | -.510   | 260 | 2258 | -.100  | .022  | -.016 | -.177  | 270 | 2145 | -.090  | .044  | .070  | -.277   |
| 260 | 2208 | -.054  | .072  | .012  | -.413   | 260 | 2259 | -.049  | .071  | .301  | -.633  | 270 | 2146 | -.174  | .038  | -.023 | -.547   |
| 260 | 2209 | -.048  | .066  | .127  | -.408   | 260 | 2260 | -.035  | .099  | .299  | -.426  | 270 | 2147 | -.206  | .047  | -.040 | -.509   |
| 260 | 2210 | -.221  | .115  | -.009 | -.1.204 | 260 | 2261 | -.039  | .053  | .191  | -.199  | 270 | 2148 | -.234  | .072  | -.000 | -.691   |
| 260 | 2211 | -.147  | .037  | .060  | -.420   | 260 | 2262 | -.100  | .034  | .023  | -.221  | 270 | 2149 | -.235  | .116  | .052  | -.948   |
| 260 | 2212 | -.162  | .039  | -.007 | -.401   | 260 | 2263 | -.131  | .035  | -.033 | -.316  | 270 | 2150 | -.166  | .032  | -.040 | -.337   |
| 260 | 2213 | -.151  | .032  | -.034 | -.360   | 260 | 2264 | -.099  | .023  | -.009 | -.184  | 270 | 2151 | -.170  | .033  | -.058 | -.350   |
| 260 | 2214 | -.062  | .076  | .289  | -.339   | 260 | 2265 | -.099  | .022  | -.001 | -.201  | 270 | 2152 | -.191  | .043  | .097  | -.377   |
| 260 | 2215 | -.173  | .078  | .111  | -.687   | 270 | 2101 | -.200  | .045  | .016  | .544   | 270 | 2153 | -.163  | .051  | .065  | -.347   |
| 260 | 2216 | -.130  | .047  | .097  | -.390   | 270 | 2102 | -.204  | .083  | .068  | .621   | 270 | 2154 | -.123  | .069  | .149  | -.404   |
| 260 | 2217 | -.133  | .064  | .176  | -.385   | 270 | 2103 | -.193  | .087  | .171  | .699   | 270 | 2155 | -.121  | .084  | .222  | -.517   |
| 260 | 2218 | -.135  | .054  | .194  | -.431   | 270 | 2104 | -.148  | .062  | .075  | .397   | 270 | 2156 | -.156  | .032  | -.048 | -.285   |
| 260 | 2219 | -.140  | .049  | .217  | -.413   | 270 | 2105 | -.206  | .074  | .029  | .586   | 270 | 2157 | -.153  | .032  | -.018 | -.270   |
| 260 | 2220 | -.135  | .031  | .222  | -.281   | 270 | 2106 | -.169  | .062  | .102  | .483   | 270 | 2158 | -.138  | .055  | .204  | -.287   |
| 260 | 2221 | -.125  | .047  | .093  | -.401   | 270 | 2107 | -.193  | .092  | .243  | .938   | 270 | 2159 | -.091  | .062  | .249  | -.267   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 179

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 270 | 2160 | -.075  | .068  | .287  | -.342   | 270 | 2213 | -.213  | .047  | -.009 | -.549 | 270 | 2264 | -.128  | .033  | -.017 | -.262  |
| 270 | 2161 | -.098  | .078  | .356  | -.534   | 270 | 2214 | -.144  | .074  | .205  | -.415 | 270 | 2265 | -.118  | .025  | -.002 | -.198  |
| 270 | 2162 | -.079  | .067  | .259  | -.322   | 270 | 2215 | -.196  | .072  | .127  | -.537 | 280 | 2101 | -.189  | .068  | .019  | -.599  |
| 270 | 2163 | -.155  | .059  | .144  | -.404   | 270 | 2216 | -.146  | .066  | .069  | -.532 | 280 | 2102 | -.200  | .099  | .114  | -.750  |
| 270 | 2164 | -.186  | .046  | -.010 | -.399   | 270 | 2217 | -.146  | .090  | .456  | -.581 | 280 | 2103 | -.180  | .086  | .204  | -.579  |
| 270 | 2165 | -.376  | .121  | .075  | -.951   | 270 | 2218 | -.160  | .084  | .563  | -.447 | 280 | 2104 | -.133  | .049  | .087  | -.399  |
| 270 | 2166 | -.119  | .067  | .347  | -.420   | 270 | 2219 | -.171  | .088  | .483  | -.471 | 280 | 2105 | -.161  | .063  | .050  | -.462  |
| 270 | 2167 | -.198  | .053  | -.005 | -.651   | 270 | 2220 | -.162  | .075  | .298  | -.440 | 280 | 2106 | -.161  | .061  | .116  | -.428  |
| 270 | 2168 | -.244  | .058  | -.008 | -.517   | 270 | 2221 | -.162  | .058  | .135  | -.457 | 280 | 2107 | -.198  | .085  | .109  | -.594  |
| 270 | 2170 | -.184  | .044  | -.038 | -.462   | 270 | 2222 | -.164  | .070  | .451  | -.559 | 280 | 2108 | -.112  | .040  | .062  | -.325  |
| 270 | 2171 | -.183  | .039  | -.033 | -.377   | 270 | 2223 | -.212  | .091  | .020  | -.900 | 280 | 2109 | -.143  | .049  | .055  | -.352  |
| 270 | 2172 | -.192  | .044  | -.023 | -.399   | 270 | 2224 | -.184  | .052  | .123  | -.440 | 280 | 2110 | -.175  | .047  | -.030 | -.374  |
| 270 | 2173 | -.245  | .062  | -.038 | -.796   | 270 | 2225 | -.185  | .047  | .070  | .360  | 280 | 2111 | -.211  | .074  | .101  | -.565  |
| 270 | 2174 | -.417  | .121  | -.113 | -.971   | 270 | 2226 | -.107  | .062  | .168  | -.337 | 280 | 2112 | -.104  | .038  | .043  | -.252  |
| 270 | 2175 | -.250  | .180  | .267  | -.1225  | 270 | 2227 | -.206  | .076  | .001  | .600  | 280 | 2113 | -.122  | .048  | .019  | -.491  |
| 270 | 2177 | -.147  | .057  | .217  | -.362   | 270 | 2228 | -.152  | .043  | .047  | .412  | 280 | 2114 | -.161  | .051  | .036  | -.399  |
| 270 | 2178 | -.174  | .028  | -.080 | -.315   | 270 | 2229 | -.154  | .040  | .078  | -.332 | 280 | 2115 | -.194  | .083  | .092  | -.704  |
| 270 | 2179 | -.178  | .033  | -.060 | -.327   | 270 | 2230 | -.173  | .055  | .214  | -.427 | 280 | 2116 | -.095  | .041  | .082  | -.279  |
| 270 | 2180 | -.183  | .037  | -.050 | -.327   | 270 | 2231 | -.151  | .034  | -.043 | .291  | 280 | 2117 | -.106  | .044  | .050  | -.406  |
| 270 | 2181 | -.212  | .050  | -.000 | -.482   | 270 | 2233 | -.156  | .048  | .060  | -.538 | 280 | 2118 | -.132  | .053  | .048  | -.364  |
| 270 | 2182 | -.381  | .121  | -.098 | -.891   | 270 | 2234 | -.174  | .040  | .006  | .365  | 280 | 2119 | -.150  | .088  | .119  | -.596  |
| 270 | 2183 | -.282  | .170  | .184  | -.1.001 | 270 | 2235 | -.174  | .035  | -.025 | .301  | 280 | 2120 | -.072  | .039  | .079  | -.223  |
| 270 | 2184 | -.061  | .066  | .215  | -.274   | 270 | 2236 | -.115  | .050  | .142  | -.267 | 280 | 2121 | -.111  | .057  | .116  | -.399  |
| 270 | 2185 | -.109  | .039  | .045  | -.252   | 270 | 2237 | -.192  | .064  | -.035 | .571  | 280 | 2122 | -.151  | .068  | .131  | -.640  |
| 270 | 2187 | -.086  | .054  | .271  | -.277   | 270 | 2238 | -.236  | .092  | -.035 | -.009 | 280 | 2123 | -.039  | .079  | .289  | -.560  |
| 270 | 2188 | -.168  | .024  | -.067 | -.279   | 270 | 2239 | -.190  | .066  | -.020 | .819  | 280 | 2124 | -.175  | .072  | .077  | -.604  |
| 270 | 2189 | -.172  | .028  | -.075 | -.316   | 270 | 2240 | -.124  | .044  | -.025 | .455  | 280 | 2125 | -.161  | .066  | .023  | -.469  |
| 270 | 2190 | -.184  | .032  | -.072 | -.369   | 270 | 2241 | -.179  | .048  | .001  | .391  | 280 | 2126 | -.067  | .107  | .565  | -.316  |
| 270 | 2191 | -.214  | .043  | -.055 | -.394   | 270 | 2242 | -.169  | .043  | -.002 | .406  | 280 | 2127 | -.238  | .110  | .053  | -.991  |
| 270 | 2192 | -.288  | .080  | -.050 | -.642   | 270 | 2243 | -.153  | .037  | -.028 | .404  | 280 | 2128 | -.211  | .084  | -.021 | -.608  |
| 270 | 2193 | -.250  | .087  | .047  | -.896   | 270 | 2244 | -.142  | .071  | .163  | -.404 | 280 | 2129 | -.140  | .056  | .043  | -.433  |
| 270 | 2194 | -.150  | .066  | .317  | -.359   | 270 | 2245 | -.211  | .092  | .147  | -.883 | 280 | 2130 | -.090  | .068  | .165  | -.501  |
| 270 | 2195 | -.172  | .027  | -.053 | -.338   | 270 | 2246 | -.159  | .060  | .227  | .517  | 280 | 2131 | -.233  | .094  | -.025 | .616   |
| 270 | 2196 | -.174  | .031  | -.062 | -.345   | 270 | 2247 | -.161  | .036  | -.002 | .301  | 280 | 2132 | -.157  | .066  | -.021 | -.555  |
| 270 | 2197 | -.174  | .030  | -.082 | -.350   | 270 | 2248 | -.192  | .043  | -.079 | .466  | 280 | 2133 | -.140  | .044  | -.023 | -.391  |
| 270 | 2198 | -.190  | .037  | -.021 | -.340   | 270 | 2249 | -.154  | .034  | .052  | .365  | 280 | 2134 | -.134  | .086  | .370  | -.506  |
| 270 | 2199 | -.242  | .063  | -.094 | -.569   | 270 | 2250 | -.142  | .036  | -.035 | .401  | 280 | 2136 | -.110  | .034  | -.006 | -.306  |
| 270 | 2200 | -.189  | .046  | .030  | -.350   | 270 | 2251 | -.140  | .031  | -.002 | .288  | 280 | 2137 | -.117  | .034  | -.021 | -.267  |
| 270 | 2201 | -.165  | .030  | -.062 | -.262   | 270 | 2252 | -.128  | .058  | .168  | -.432 | 280 | 2138 | -.120  | .091  | .370  | -.438  |
| 270 | 2202 | -.204  | .058  | .049  | -.768   | 270 | 2253 | -.195  | .064  | .204  | -.574 | 280 | 2140 | -.099  | .036  | .019  | -.257  |
| 270 | 2203 | -.212  | .065  | .179  | -.749   | 270 | 2254 | -.146  | .054  | .068  | .360  | 280 | 2141 | -.107  | .038  | -.011 | -.362  |
| 270 | 2204 | -.206  | .060  | .086  | -.656   | 270 | 2255 | -.132  | .034  | .006  | .298  | 280 | 2142 | -.062  | .083  | .275  | -.404  |
| 270 | 2205 | -.201  | .061  | .132  | -.523   | 270 | 2256 | -.138  | .031  | -.010 | .283  | 280 | 2143 | -.102  | .058  | .069  | -.626  |
| 270 | 2206 | -.199  | .081  | .437  | -.571   | 270 | 2257 | -.130  | .033  | -.020 | .296  | 280 | 2144 | -.086  | .049  | .076  | -.337  |
| 270 | 2207 | -.205  | .063  | .089  | -.644   | 270 | 2258 | -.129  | .030  | -.010 | .226  | 280 | 2145 | -.066  | .038  | .091  | -.211  |
| 270 | 2208 | -.271  | .107  | .020  | -.975   | 270 | 2259 | -.124  | .048  | .145  | -.352 | 280 | 2146 | -.210  | .047  | -.030 | -.520  |
| 270 | 2209 | -.228  | .061  | -.016 | -.656   | 270 | 2260 | -.182  | .073  | .080  | .718  | 280 | 2147 | -.249  | .058  | -.022 | -.646  |
| 270 | 2210 | -.240  | .081  | -.040 | -.764   | 270 | 2261 | -.109  | .061  | .140  | .388  | 280 | 2148 | -.299  | .067  | -.050 | -.599  |
| 270 | 2211 | -.155  | .117  | .571  | -.569   | 270 | 2262 | -.128  | .036  | .019  | .249  | 280 | 2149 | -.326  | .114  | .059  | -1.103 |
| 270 | 2212 | -.233  | .116  | .237  | -1.129  | 270 | 2263 | -.133  | .028  | -.046 | .229  | 280 | 2150 | -.200  | .035  | -.070 | -.391  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|-------|
| 280 | 2151 | -.199  | .036  | -.018 | -.344   | 280 | 2204 | -.217  | .048  | .094  | -.529   | 280 | 2255 | -.124  | .031  | .049  | -.237 |
| 280 | 2152 | -.211  | .050  | .093  | -.458   | 280 | 2205 | -.228  | .061  | .072  | -.601   | 280 | 2256 | -.139  | .031  | .024  | -.234 |
| 280 | 2153 | -.178  | .063  | .133  | -.384   | 280 | 2206 | -.209  | .057  | .106  | -.481   | 280 | 2257 | -.140  | .032  | -.004 | -.272 |
| 280 | 2154 | -.139  | .080  | .200  | -.436   | 280 | 2207 | -.195  | .049  | .147  | -.582   | 280 | 2258 | -.130  | .027  | -.037 | -.229 |
| 280 | 2155 | -.215  | .108  | .348  | -.584   | 280 | 2208 | -.294  | .109  | .053  | -.1.031 | 280 | 2259 | -.115  | .043  | .080  | -.267 |
| 280 | 2156 | -.190  | .034  | -.080 | -.344   | 280 | 2209 | -.238  | .071  | -.034 | -.659   | 280 | 2260 | -.132  | .063  | .172  | -.538 |
| 280 | 2157 | -.176  | .032  | -.015 | -.315   | 280 | 2210 | -.217  | .058  | -.013 | -.727   | 280 | 2261 | -.107  | .045  | .085  | -.265 |
| 280 | 2158 | -.111  | .067  | .170  | -.280   | 280 | 2211 | -.090  | .124  | .612  | -.493   | 280 | 2262 | -.127  | .031  | .001  | -.231 |
| 280 | 2159 | -.040  | .082  | .336  | -.265   | 280 | 2212 | -.268  | .129  | .137  | -.1.30  | 280 | 2263 | -.143  | .026  | -.045 | -.231 |
| 280 | 2160 | -.077  | .061  | .242  | -.282   | 280 | 2213 | -.210  | .051  | -.010 | -.512   | 280 | 2264 | -.141  | .032  | -.032 | -.288 |
| 280 | 2161 | -.181  | .094  | .242  | -.710   | 280 | 2214 | -.169  | .059  | .144  | -.416   | 280 | 2265 | -.126  | .026  | -.032 | -.229 |
| 280 | 2162 | -.086  | .086  | .264  | -.344   | 280 | 2215 | -.206  | .053  | -.008 | -.493   | 290 | 2101 | -.163  | .056  | .037  | -.732 |
| 280 | 2163 | -.178  | .069  | .294  | -.413   | 280 | 2216 | -.185  | .066  | .217  | -.430   | 290 | 2102 | -.161  | .060  | .016  | -.451 |
| 280 | 2164 | -.211  | .049  | -.033 | -.468   | 280 | 2217 | -.191  | .076  | .222  | -.688   | 290 | 2103 | -.163  | .060  | .093  | -.529 |
| 280 | 2165 | -.423  | .168  | .160  | -.1.207 | 280 | 2218 | -.189  | .066  | .325  | -.432   | 290 | 2104 | -.135  | .039  | -.016 | -.407 |
| 280 | 2166 | -.146  | .086  | .294  | -.432   | 280 | 2219 | -.199  | .059  | .282  | -.597   | 290 | 2105 | -.141  | .042  | -.005 | -.517 |
| 280 | 2167 | -.234  | .065  | .012  | -.814   | 280 | 2220 | -.121  | .079  | .296  | -.437   | 290 | 2106 | -.158  | .042  | -.016 | -.407 |
| 280 | 2168 | -.294  | .076  | -.038 | -.868   | 280 | 2221 | -.210  | .066  | .057  | -.548   | 290 | 2107 | -.167  | .050  | .042  | -.370 |
| 280 | 2170 | -.202  | .044  | -.062 | -.376   | 280 | 2222 | -.177  | .064  | .234  | -.529   | 290 | 2108 | -.127  | .031  | -.010 | -.306 |
| 280 | 2171 | -.208  | .045  | -.055 | -.413   | 280 | 2223 | -.224  | .073  | -.046 | -.852   | 290 | 2109 | -.133  | .031  | -.017 | -.274 |
| 280 | 2172 | -.221  | .052  | -.075 | -.577   | 280 | 2224 | -.168  | .055  | .084  | -.584   | 290 | 2110 | -.164  | .041  | -.032 | -.453 |
| 280 | 2173 | -.293  | .077  | -.070 | -.747   | 280 | 2225 | -.166  | .048  | .057  | -.362   | 290 | 2111 | -.157  | .054  | -.196 | -.431 |
| 280 | 2174 | -.524  | .171  | -.040 | -.1.341 | 280 | 2226 | -.127  | .062  | .246  | -.428   | 290 | 2112 | -.120  | .030  | -.016 | -.223 |
| 280 | 2175 | -.332  | .212  | .323  | -.1.299 | 280 | 2227 | -.224  | .069  | .067  | -.671   | 290 | 2113 | -.129  | .032  | -.016 | -.257 |
| 280 | 2177 | -.143  | .068  | .118  | -.394   | 280 | 2228 | -.194  | .045  | -.035 | -.456   | 290 | 2114 | -.192  | .064  | -.017 | -.556 |
| 280 | 2178 | -.188  | .029  | -.075 | -.300   | 280 | 2229 | -.167  | .055  | .223  | -.339   | 290 | 2115 | -.131  | .067  | -.186 | -.478 |
| 280 | 2179 | -.193  | .036  | -.065 | -.399   | 280 | 2230 | -.192  | .048  | .031  | -.568   | 290 | 2116 | -.117  | .032  | -.010 | -.247 |
| 280 | 2180 | -.202  | .037  | -.087 | -.433   | 280 | 2231 | -.180  | .035  | -.050 | -.298   | 290 | 2117 | -.124  | .034  | -.002 | -.269 |
| 280 | 2181 | -.243  | .055  | -.067 | -.601   | 280 | 2233 | -.171  | .034  | .062  | -.293   | 290 | 2118 | -.185  | .078  | -.086 | -.590 |
| 280 | 2182 | -.467  | .155  | -.055 | -.1.256 | 280 | 2234 | -.163  | .036  | -.027 | -.323   | 290 | 2119 | -.088  | .072  | -.269 | -.338 |
| 280 | 2183 | -.346  | .197  | .232  | -.1.323 | 280 | 2235 | -.165  | .034  | -.012 | -.308   | 290 | 2120 | -.117  | .034  | -.005 | -.265 |
| 280 | 2184 | -.064  | .081  | .214  | -.324   | 280 | 2236 | -.134  | .046  | .187  | -.288   | 290 | 2121 | -.138  | .041  | .012  | -.355 |
| 280 | 2185 | -.128  | .046  | .084  | -.309   | 280 | 2237 | -.229  | .065  | -.048 | .566    | 290 | 2122 | -.189  | .089  | .189  | -.647 |
| 280 | 2187 | -.093  | .069  | .193  | -.305   | 280 | 2238 | -.192  | .064  | -.017 | -.546   | 290 | 2123 | -.040  | .077  | .299  | -.377 |
| 280 | 2188 | -.185  | .031  | -.099 | -.331   | 280 | 2239 | -.152  | .042  | .003  | -.487   | 290 | 2124 | -.156  | .065  | .010  | -.598 |
| 280 | 2189 | -.180  | .031  | -.083 | -.321   | 280 | 2240 | -.153  | .035  | -.045 | -.448   | 290 | 2125 | -.146  | .052  | .071  | -.448 |
| 280 | 2190 | -.185  | .031  | -.073 | -.372   | 280 | 2241 | -.158  | .035  | -.017 | -.295   | 290 | 2126 | -.007  | .119  | .602  | -.272 |
| 280 | 2191 | -.228  | .044  | -.087 | -.394   | 280 | 2242 | -.146  | .031  | -.032 | -.313   | 290 | 2127 | -.156  | .058  | .039  | -.517 |
| 280 | 2192 | -.340  | .096  | -.087 | -.845   | 280 | 2243 | -.144  | .030  | -.027 | -.298   | 290 | 2128 | -.126  | .060  | -.029 | -.571 |
| 280 | 2193 | -.270  | .088  | .091  | -.735   | 280 | 2244 | -.143  | .038  | -.034 | -.283   | 290 | 2129 | -.129  | .041  | -.003 | -.358 |
| 280 | 2194 | -.195  | .066  | .222  | -.628   | 280 | 2245 | -.163  | .038  | -.043 | -.364   | 290 | 2130 | -.137  | .059  | .206  | -.348 |
| 280 | 2195 | -.179  | .033  | -.068 | -.343   | 280 | 2246 | -.155  | .036  | -.159 | -.316   | 290 | 2131 | -.169  | .061  | -.042 | -.487 |
| 280 | 2196 | -.175  | .030  | -.075 | -.288   | 280 | 2247 | -.145  | .030  | -.014 | -.257   | 290 | 2132 | -.146  | .049  | -.039 | -.453 |
| 280 | 2197 | -.181  | .033  | -.005 | -.319   | 280 | 2248 | -.163  | .031  | -.030 | -.349   | 290 | 2133 | -.128  | .030  | -.029 | -.269 |
| 280 | 2198 | -.194  | .038  | -.022 | -.367   | 280 | 2249 | -.148  | .028  | -.017 | -.288   | 290 | 2134 | -.183  | .053  | -.022 | -.483 |
| 280 | 2199 | -.276  | .071  | -.039 | -.630   | 280 | 2250 | -.143  | .029  | -.020 | -.341   | 290 | 2135 | -.126  | .030  | -.015 | -.277 |
| 280 | 2200 | -.176  | .072  | -.094 | -.375   | 280 | 2251 | -.140  | .027  | -.014 | -.298   | 290 | 2137 | -.128  | .028  | -.032 | -.247 |
| 280 | 2201 | -.191  | .032  | -.042 | -.336   | 280 | 2252 | -.128  | .034  | -.017 | -.293   | 290 | 2138 | -.168  | .055  | -.098 | -.429 |
| 280 | 2202 | -.215  | .046  | -.007 | -.519   | 280 | 2253 | -.151  | .044  | -.065 | -.405   | 290 | 2140 | -.122  | .030  | -.027 | -.279 |
| 280 | 2203 | -.223  | .049  | .091  | -.486   | 280 | 2254 | -.133  | .037  | .052  | -.262   | 290 | 2141 | -.126  | .031  | -.015 | -.289 |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 290 | 2142 | -.136  | .053  | .086  | -.424  | 290 | 2195 | -.177  | .027  | -.083 | -.323 | 290 | 2246 | -.133  | .024  | -.054 | -.249 |
| 290 | 2143 | -.135  | .039  | .004  | -.436  | 290 | 2196 | -.178  | .028  | -.079 | -.326 | 290 | 2247 | -.124  | .027  | -.031 | -.246 |
| 290 | 2144 | -.123  | .031  | .014  | -.289  | 290 | 2197 | -.177  | .030  | -.081 | -.319 | 290 | 2248 | -.146  | .030  | -.043 | -.369 |
| 290 | 2145 | -.122  | .030  | -.006 | -.239  | 290 | 2198 | -.195  | .036  | -.047 | -.323 | 290 | 2249 | -.135  | .029  | -.023 | -.264 |
| 290 | 2146 | -.247  | .057  | .096  | -.784  | 290 | 2199 | -.254  | .066  | -.076 | -.609 | 290 | 2250 | -.139  | .033  | -.018 | -.300 |
| 290 | 2147 | -.298  | .071  | .034  | -.806  | 290 | 2200 | -.176  | .079  | -.333 | -.386 | 290 | 2251 | -.136  | .032  | -.023 | -.264 |
| 290 | 2148 | -.355  | .081  | -.078 | -.776  | 290 | 2201 | -.217  | .037  | -.003 | -.416 | 290 | 2252 | -.125  | .028  | -.023 | -.290 |
| 290 | 2149 | -.401  | .132  | -.080 | -1.179 | 290 | 2202 | -.205  | .040  | -.062 | -.445 | 290 | 2253 | -.126  | .025  | -.033 | -.249 |
| 290 | 2150 | -.234  | .039  | -.118 | -.530  | 290 | 2203 | -.246  | .070  | -.003 | -.660 | 290 | 2254 | -.133  | .024  | -.054 | -.226 |
| 290 | 2151 | -.229  | .037  | -.085 | -.428  | 290 | 2204 | -.221  | .045  | -.047 | -.423 | 290 | 2255 | -.120  | .027  | -.003 | -.210 |
| 290 | 2152 | -.195  | .067  | .153  | -.582  | 290 | 2205 | -.185  | .096  | -.307 | -.503 | 290 | 2256 | -.154  | .032  | -.041 | -.272 |
| 290 | 2153 | -.160  | .072  | .255  | -.401  | 290 | 2206 | -.208  | .048  | -.093 | -.322 | 290 | 2257 | -.152  | .032  | -.054 | -.292 |
| 290 | 2154 | -.130  | .075  | .220  | -.580  | 290 | 2207 | -.201  | .041  | -.147 | -.629 | 290 | 2258 | -.128  | .026  | -.023 | -.228 |
| 290 | 2155 | -.166  | .125  | .320  | -.550  | 290 | 2208 | -.294  | .086  | -.159 | -.803 | 290 | 2259 | -.107  | .027  | -.005 | -.210 |
| 290 | 2156 | -.222  | .038  | -.113 | -.446  | 290 | 2209 | -.236  | .055  | -.001 | -.643 | 290 | 2260 | -.112  | .028  | -.005 | -.213 |
| 290 | 2157 | -.209  | .034  | -.060 | -.329  | 290 | 2210 | -.215  | .042  | -.079 | -.505 | 290 | 2261 | -.127  | .024  | -.051 | -.213 |
| 290 | 2158 | -.149  | .065  | .136  | -.321  | 290 | 2211 | -.116  | .092  | -.353 | -.430 | 290 | 2262 | -.123  | .024  | -.033 | -.208 |
| 290 | 2159 | -.070  | .089  | .459  | -.252  | 290 | 2212 | -.278  | .095  | -.137 | -.864 | 290 | 2263 | -.149  | .028  | -.054 | -.267 |
| 290 | 2160 | -.092  | .065  | .148  | -.552  | 290 | 2213 | -.212  | .044  | -.047 | -.539 | 290 | 2264 | -.151  | .032  | -.025 | -.292 |
| 290 | 2161 | -.151  | .112  | .195  | -.866  | 290 | 2214 | -.193  | .039  | -.025 | -.447 | 290 | 2265 | -.123  | .025  | -.036 | -.218 |
| 290 | 2162 | -.131  | .073  | .320  | -.374  | 290 | 2215 | -.209  | .040  | -.076 | -.447 | 300 | 2101 | -.153  | .048  | -.000 | -.643 |
| 290 | 2163 | -.190  | .071  | .163  | -.451  | 290 | 2216 | -.088  | .113  | -.527 | -.488 | 300 | 2102 | -.153  | .055  | -.121 | -.614 |
| 290 | 2164 | -.220  | .059  | -.058 | -.789  | 290 | 2217 | -.231  | .105  | -.377 | -.622 | 300 | 2103 | -.155  | .053  | -.136 | -.546 |
| 290 | 2165 | -.374  | .131  | -.089 | -.980  | 290 | 2218 | -.202  | .060  | -.207 | -.503 | 300 | 2104 | -.137  | .037  | -.034 | -.415 |
| 290 | 2166 | -.165  | .088  | .285  | -.534  | 290 | 2219 | -.222  | .047  | -.074 | -.527 | 300 | 2105 | -.138  | .040  | -.039 | -.364 |
| 290 | 2167 | -.244  | .069  | -.058 | -.709  | 290 | 2220 | -.123  | .062  | -.273 | -.306 | 300 | 2106 | -.156  | .045  | -.007 | -.393 |
| 290 | 2168 | -.285  | .077  | -.075 | -.856  | 290 | 2221 | -.227  | .100  | -.341 | -.631 | 300 | 2107 | -.140  | .050  | -.165 | -.328 |
| 290 | 2169 | -.206  | .041  | -.003 | -.403  | 290 | 2222 | -.202  | .042  | -.159 | -.447 | 300 | 2108 | -.127  | .031  | -.010 | -.267 |
| 290 | 2171 | -.215  | .041  | -.068 | -.391  | 290 | 2223 | -.229  | .050  | -.083 | -.629 | 300 | 2109 | -.133  | .033  | -.044 | -.384 |
| 290 | 2172 | -.230  | .052  | -.060 | -.488  | 290 | 2224 | -.175  | .044  | -.023 | -.353 | 300 | 2110 | -.180  | .058  | -.027 | -.546 |
| 290 | 2173 | -.274  | .069  | -.056 | -.766  | 290 | 2225 | -.165  | .033  | -.046 | -.333 | 300 | 2111 | -.127  | .058  | -.233 | -.328 |
| 290 | 2174 | -.433  | .146  | -.125 | -1.290 | 290 | 2226 | -.161  | .035  | -.010 | -.287 | 300 | 2112 | -.127  | .029  | -.010 | -.284 |
| 290 | 2175 | -.326  | .171  | .133  | -1.392 | 290 | 2227 | -.208  | .049  | -.069 | -.551 | 300 | 2113 | -.128  | .032  | -.031 | -.291 |
| 290 | 2177 | -.179  | .064  | .176  | -.413  | 290 | 2228 | -.237  | .040  | -.102 | -.433 | 300 | 2114 | -.219  | .087  | -.092 | -.784 |
| 290 | 2178 | -.191  | .026  | -.075 | -.299  | 290 | 2229 | -.197  | .041  | -.080 | -.326 | 300 | 2115 | -.090  | .065  | -.219 | -.352 |
| 290 | 2179 | -.196  | .034  | -.011 | -.354  | 290 | 2230 | -.204  | .039  | -.102 | -.508 | 300 | 2116 | -.129  | .032  | -.017 | -.257 |
| 290 | 2180 | -.205  | .037  | -.043 | -.384  | 290 | 2231 | -.206  | .029  | -.102 | -.326 | 300 | 2117 | -.123  | .034  | -.012 | -.306 |
| 290 | 2181 | -.239  | .055  | -.063 | -.630  | 290 | 2233 | -.183  | .027  | -.028 | -.308 | 300 | 2118 | -.202  | .095  | -.102 | -.736 |
| 290 | 2182 | -.393  | .124  | -.123 | -1.072 | 290 | 2234 | -.169  | .034  | -.051 | -.351 | 300 | 2119 | -.050  | .082  | .316  | -.347 |
| 290 | 2183 | -.317  | .156  | .076  | -.123  | 290 | 2235 | -.162  | .025  | -.074 | -.261 | 300 | 2120 | -.124  | .037  | .015  | -.267 |
| 290 | 2184 | -.125  | .070  | .173  | -.367  | 290 | 2236 | -.158  | .030  | -.118 | -.264 | 300 | 2121 | -.144  | .041  | -.039 | -.296 |
| 290 | 2185 | -.159  | .043  | .013  | -.316  | 290 | 2237 | -.191  | .045  | -.074 | -.585 | 300 | 2122 | -.187  | .095  | -.216 | -.823 |
| 290 | 2187 | -.133  | .061  | .210  | -.374  | 290 | 2238 | -.150  | .038  | -.049 | -.405 | 300 | 2123 | -.060  | .094  | -.277 | -.498 |
| 290 | 2188 | -.180  | .024  | -.093 | -.294  | 290 | 2239 | -.137  | .028  | -.003 | -.331 | 300 | 2124 | -.146  | .051  | -.073 | -.563 |
| 290 | 2189 | -.184  | .028  | -.098 | -.323  | 290 | 2240 | -.127  | .025  | -.036 | -.233 | 300 | 2125 | -.141  | .044  | -.010 | -.439 |
| 290 | 2190 | -.184  | .031  | -.098 | -.355  | 290 | 2241 | -.137  | .033  | -.002 | -.287 | 300 | 2126 | -.108  | .063  | .304  | -.318 |
| 290 | 2191 | -.218  | .044  | -.069 | -.483  | 290 | 2242 | -.126  | .033  | -.007 | -.233 | 300 | 2127 | -.148  | .045  | -.017 | -.371 |
| 290 | 2192 | -.319  | .097  | -.062 | -.849  | 290 | 2243 | -.133  | .032  | -.005 | -.308 | 300 | 2128 | -.147  | .036  | -.048 | -.432 |
| 290 | 2193 | -.245  | .083  | .071  | -.880  | 290 | 2244 | -.130  | .031  | -.008 | -.259 | 300 | 2129 | -.133  | .038  | -.034 | -.330 |
| 290 | 2194 | -.197  | .085  | .292  | -.612  | 290 | 2245 | -.135  | .027  | -.038 | -.256 | 300 | 2130 | -.178  | .060  | -.097 | -.498 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 300 | 2131 | -.154  | .035  | -.039 | -.342  | 300 | 2185 | -.179  | .037  | -.048 | -.372 | 300 | 2237 | -.178  | .030  | -.074 | -.313 |
| 300 | 2132 | -.138  | .031  | -.044 | -.323  | 300 | 2187 | -.168  | .051  | .084  | -.307 | 300 | 2238 | -.117  | .035  | .040  | -.387 |
| 300 | 2133 | -.132  | .029  | -.014 | -.282  | 300 | 2188 | -.180  | .032  | -.036 | -.310 | 300 | 2239 | -.101  | .032  | .043  | -.272 |
| 300 | 2134 | -.186  | .072  | -.066 | -.544  | 300 | 2189 | -.197  | .036  | -.050 | -.326 | 300 | 2240 | -.098  | .033  | .045  | -.293 |
| 300 | 2136 | -.137  | .031  | -.041 | -.306  | 300 | 2190 | -.215  | .051  | -.005 | -.504 | 300 | 2241 | -.104  | .043  | .106  | -.305 |
| 300 | 2137 | -.138  | .032  | -.036 | -.294  | 300 | 2191 | -.226  | .051  | -.002 | -.610 | 300 | 2242 | -.100  | .044  | .088  | -.293 |
| 300 | 2138 | -.177  | .087  | .265  | -.626  | 300 | 2192 | -.290  | .093  | -.033 | -.906 | 300 | 2243 | -.118  | .036  | .020  | -.280 |
| 300 | 2140 | -.135  | .036  | -.015 | -.308  | 300 | 2193 | -.219  | .075  | -.003 | -.701 | 300 | 2244 | -.118  | .032  | .055  | -.265 |
| 300 | 2141 | -.137  | .036  | -.014 | -.376  | 300 | 2194 | -.217  | .064  | .125  | -.528 | 300 | 2245 | -.119  | .028  | -.023 | -.270 |
| 300 | 2142 | -.140  | .081  | -.189 | -.736  | 300 | 2195 | -.175  | .033  | -.010 | -.312 | 300 | 2246 | -.112  | .028  | -.006 | -.211 |
| 300 | 2143 | -.142  | .055  | .037  | -.770  | 300 | 2196 | -.182  | .037  | .027  | -.300 | 300 | 2247 | -.102  | .033  | .017  | -.229 |
| 300 | 2144 | -.132  | .045  | .017  | -.478  | 300 | 2197 | -.202  | .042  | -.079 | -.466 | 300 | 2248 | -.126  | .037  | .015  | -.526 |
| 300 | 2145 | -.123  | .033  | .012  | -.273  | 300 | 2198 | -.206  | .042  | -.091 | -.370 | 300 | 2249 | -.109  | .035  | .106  | -.214 |
| 300 | 2146 | -.259  | .040  | -.071 | -.490  | 300 | 2199 | -.244  | .066  | -.062 | -.627 | 300 | 2250 | -.124  | .037  | -.007 | -.277 |
| 300 | 2147 | -.320  | .058  | .066  | -.603  | 300 | 2200 | -.205  | .060  | .096  | -.374 | 300 | 2251 | -.120  | .035  | -.003 | -.277 |
| 300 | 2148 | -.374  | .081  | -.099 | -.765  | 300 | 2201 | -.245  | .031  | -.125 | -.360 | 300 | 2252 | -.112  | .030  | .015  | -.267 |
| 300 | 2149 | -.368  | .115  | -.084 | -1.282 | 300 | 2202 | -.197  | .050  | -.021 | -.420 | 300 | 2253 | -.107  | .031  | .007  | -.234 |
| 300 | 2150 | -.246  | .033  | -.135 | -.404  | 300 | 2203 | -.216  | .078  | .092  | -.747 | 300 | 2254 | -.103  | .032  | .060  | -.209 |
| 300 | 2151 | -.242  | .030  | -.128 | -.399  | 300 | 2204 | -.213  | .060  | .080  | -.569 | 300 | 2255 | -.085  | .040  | .152  | -.211 |
| 300 | 2152 | -.243  | .064  | .108  | -.682  | 300 | 2205 | -.142  | .110  | .394  | -.567 | 300 | 2256 | -.129  | .039  | .043  | -.280 |
| 300 | 2153 | -.213  | .061  | .155  | -.500  | 300 | 2206 | -.206  | .078  | .130  | -.610 | 300 | 2257 | -.135  | .038  | .017  | -.275 |
| 300 | 2154 | -.255  | .147  | .165  | -.913  | 300 | 2207 | -.206  | .050  | .032  | -.612 | 300 | 2258 | -.114  | .030  | -.013 | -.204 |
| 300 | 2155 | -.062  | .092  | .404  | -.421  | 300 | 2208 | -.335  | .114  | .188  | -.874 | 300 | 2259 | -.100  | .030  | .025  | -.219 |
| 300 | 2156 | -.233  | .031  | -.130 | -.340  | 300 | 2209 | -.270  | .068  | -.045 | -.617 | 300 | 2260 | -.107  | .027  | -.016 | -.234 |
| 300 | 2157 | -.236  | .029  | -.128 | -.357  | 300 | 2210 | -.225  | .050  | -.007 | -.473 | 300 | 2261 | -.109  | .027  | -.000 | -.206 |
| 300 | 2158 | -.220  | .057  | .113  | -.394  | 300 | 2211 | -.062  | .134  | .587  | -.454 | 300 | 2262 | -.101  | .029  | .027  | -.214 |
| 300 | 2159 | -.162  | .067  | .135  | -.389  | 300 | 2212 | -.323  | .148  | .500  | -.985 | 300 | 2263 | -.125  | .032  | -.013 | -.242 |
| 300 | 2160 | -.223  | .143  | .071  | -.1009 | 300 | 2213 | -.242  | .049  | -.060 | -.509 | 300 | 2264 | -.138  | .039  | -.006 | -.305 |
| 300 | 2161 | -.048  | .086  | .367  | -.517  | 300 | 2214 | -.208  | .040  | -.057 | -.391 | 300 | 2265 | -.109  | .030  | .035  | -.216 |
| 300 | 2162 | -.161  | .060  | .199  | -.364  | 300 | 2215 | -.210  | .037  | -.086 | -.377 | 310 | 2101 | -.109  | .039  | .047  | -.357 |
| 300 | 2163 | -.222  | .055  | .111  | -.495  | 300 | 2216 | -.073  | .114  | .531  | -.420 | 310 | 2102 | -.108  | .048  | .075  | -.397 |
| 300 | 2164 | -.267  | .075  | -.089 | -.667  | 300 | 2217 | -.154  | .141  | .361  | -.591 | 310 | 2103 | -.122  | .057  | .125  | -.501 |
| 300 | 2165 | -.292  | .072  | -.091 | -.810  | 300 | 2218 | -.164  | .090  | .257  | -.483 | 310 | 2104 | -.104  | .035  | .018  | -.272 |
| 300 | 2166 | -.202  | .069  | .197  | -.545  | 300 | 2219 | -.199  | .065  | .293  | -.507 | 310 | 2105 | -.098  | .038  | .030  | -.310 |
| 300 | 2167 | -.261  | .060  | -.047 | -.679  | 300 | 2220 | -.091  | .087  | .382  | -.374 | 310 | 2106 | -.125  | .050  | .037  | -.537 |
| 300 | 2168 | -.278  | .055  | -.123 | -.733  | 300 | 2221 | -.157  | .129  | .462  | -.699 | 310 | 2107 | -.083  | .049  | .226  | -.334 |
| 300 | 2170 | -.207  | .050  | .059  | -.438  | 300 | 2222 | -.178  | .066  | .200  | -.435 | 310 | 2108 | -.097  | .032  | .007  | -.331 |
| 300 | 2171 | -.217  | .056  | .108  | -.399  | 300 | 2223 | -.286  | .087  | -.091 | -.812 | 310 | 2109 | -.094  | .030  | .028  | -.298 |
| 300 | 2172 | -.237  | .064  | .106  | -.576  | 300 | 2224 | -.169  | .058  | .154  | -.362 | 310 | 2110 | -.138  | .052  | -.000 | -.478 |
| 300 | 2173 | -.266  | .056  | -.003 | -.741  | 300 | 2225 | -.179  | .037  | -.044 | -.321 | 310 | 2111 | -.063  | .048  | .174  | -.251 |
| 300 | 2174 | -.318  | .080  | -.084 | -.825  | 300 | 2226 | -.183  | .034  | -.011 | -.389 | 310 | 2112 | -.094  | .029  | -.010 | -.211 |
| 300 | 2175 | -.303  | .094  | .022  | -.938  | 300 | 2227 | -.205  | .041  | -.069 | -.458 | 310 | 2113 | -.089  | .028  | .028  | -.201 |
| 300 | 2177 | -.220  | .048  | -.025 | -.473  | 300 | 2228 | -.229  | .050  | -.023 | -.514 | 310 | 2114 | -.155  | .026  | .059  | -.553 |
| 300 | 2178 | -.192  | .038  | .037  | -.335  | 300 | 2229 | -.173  | .055  | .137  | -.333 | 310 | 2115 | -.041  | .053  | .243  | -.272 |
| 300 | 2179 | -.208  | .049  | .138  | -.362  | 300 | 2230 | -.223  | .042  | -.097 | -.524 | 310 | 2116 | -.098  | .031  | -.005 | -.223 |
| 300 | 2180 | -.223  | .059  | .089  | -.551  | 300 | 2231 | -.192  | .040  | -.023 | -.354 | 310 | 2117 | -.092  | .029  | .016  | -.206 |
| 300 | 2181 | -.245  | .051  | -.005 | -.446  | 300 | 2233 | -.190  | .034  | -.044 | -.331 | 310 | 2118 | -.134  | .076  | .132  | -.572 |
| 300 | 2182 | -.323  | .101  | -.067 | -.815  | 300 | 2234 | -.187  | .052  | .086  | -.496 | 310 | 2119 | -.012  | .072  | .342  | -.251 |
| 300 | 2183 | -.289  | .126  | .020  | -1.147 | 300 | 2235 | -.170  | .030  | -.067 | -.295 | 310 | 2120 | -.101  | .035  | .087  | -.230 |
| 300 | 2184 | -.148  | .058  | .072  | -.346  | 300 | 2236 | -.169  | .026  | -.041 | -.280 | 310 | 2121 | -.105  | .035  | .139  | -.234 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 183

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 310 | 2122 | -.111  | .070  | .252  | -.449 | 310 | 2175 | -.226  | .075  | .053  | -.781  | 310 | 2227 | -.160  | .033  | -.059 | -.371 |
| 310 | 2123 | -.048  | .069  | .262  | -.350 | 310 | 2177 | -.183  | .049  | .024  | -.450  | 310 | 2228 | -.152  | .047  | .035  | -.322 |
| 310 | 2124 | -.103  | .043  | .040  | -.331 | 310 | 2178 | -.120  | .055  | .194  | -.282  | 310 | 2229 | -.100  | .061  | .243  | -.309 |
| 310 | 2125 | -.102  | .039  | .056  | -.341 | 310 | 2179 | -.105  | .079  | .328  | -.301  | 310 | 2230 | -.183  | .048  | -.069 | -.512 |
| 310 | 2126 | -.087  | .050  | .174  | -.348 | 310 | 2180 | -.106  | .090  | .185  | -.412  | 310 | 2231 | -.131  | .037  | .010  | -.302 |
| 310 | 2127 | -.107  | .041  | .016  | -.378 | 310 | 2181 | -.154  | .063  | .393  | -.620  | 310 | 2233 | -.152  | .034  | -.037 | -.319 |
| 310 | 2128 | -.102  | .031  | .004  | -.277 | 310 | 2182 | -.195  | .068  | .015  | -.154  | 310 | 2234 | -.136  | .039  | -.040 | -.423 |
| 310 | 2129 | -.096  | .033  | .011  | -.267 | 310 | 2183 | -.203  | .099  | .082  | -1.154 | 310 | 2235 | -.126  | .030  | -.000 | -.275 |
| 310 | 2130 | -.116  | .051  | .160  | -.338 | 310 | 2184 | -.143  | .071  | .059  | -.570  | 310 | 2236 | -.126  | .025  | -.027 | -.230 |
| 310 | 2131 | -.114  | .032  | -.012 | -.289 | 310 | 2185 | -.148  | .040  | .048  | -.490  | 310 | 2237 | -.133  | .028  | -.027 | -.307 |
| 310 | 2132 | -.098  | .029  | -.002 | -.310 | 310 | 2186 | -.144  | .043  | .020  | -.413  | 310 | 2238 | -.055  | .029  | .054  | -.289 |
| 310 | 2133 | -.097  | .028  | -.010 | -.253 | 310 | 2188 | -.132  | .034  | .038  | -.249  | 310 | 2239 | -.043  | .032  | .089  | -.193 |
| 310 | 2134 | -.130  | .068  | .200  | -.442 | 310 | 2189 | -.130  | .045  | .136  | -.310  | 310 | 2240 | -.038  | .033  | .092  | -.183 |
| 310 | 2136 | -.097  | .027  | -.005 | -.282 | 310 | 2190 | -.135  | .055  | .172  | -.324  | 310 | 2241 | -.042  | .043  | .146  | -.282 |
| 310 | 2137 | -.105  | .032  | -.015 | -.277 | 310 | 2191 | -.159  | .045  | -.008 | -.689  | 310 | 2242 | -.039  | .043  | .158  | -.324 |
| 310 | 2138 | -.124  | .075  | .189  | -.497 | 310 | 2192 | -.171  | .064  | .034  | -.609  | 310 | 2243 | -.058  | .033  | .072  | -.171 |
| 310 | 2140 | -.093  | .033  | -.004 | -.286 | 310 | 2193 | -.166  | .059  | .079  | -.510  | 310 | 2244 | -.058  | .029  | .069  | -.195 |
| 310 | 2141 | -.102  | .035  | .040  | -.263 | 310 | 2194 | -.160  | .057  | .151  | -.355  | 310 | 2245 | -.057  | .027  | .042  | -.238 |
| 310 | 2142 | -.099  | .069  | .203  | -.492 | 310 | 2195 | -.124  | .036  | .104  | -.226  | 310 | 2246 | -.052  | .031  | .074  | -.178 |
| 310 | 2143 | -.087  | .048  | .072  | -.381 | 310 | 2196 | -.127  | .039  | .281  | -.261  | 310 | 2247 | -.040  | .036  | .099  | -.282 |
| 310 | 2144 | -.081  | .040  | .034  | -.304 | 310 | 2197 | -.142  | .036  | -.027 | -.340  | 310 | 2248 | -.062  | .036  | .054  | -.250 |
| 310 | 2145 | -.080  | .043  | .204  | -.361 | 310 | 2198 | -.140  | .040  | .036  | -.282  | 310 | 2249 | -.045  | .035  | .097  | -.168 |
| 310 | 2146 | -.198  | .039  | -.069 | -.455 | 310 | 2199 | -.163  | .056  | .045  | -.450  | 310 | 2250 | -.061  | .033  | .052  | -.215 |
| 310 | 2147 | -.238  | .051  | -.004 | -.620 | 310 | 2200 | -.142  | .051  | .083  | -.315  | 310 | 2251 | -.059  | .030  | .084  | -.178 |
| 310 | 2148 | -.268  | .058  | -.060 | -.565 | 310 | 2201 | -.178  | .032  | .008  | -.319  | 310 | 2252 | -.045  | .031  | .072  | -.200 |
| 310 | 2149 | -.287  | .097  | -.021 | -.955 | 310 | 2202 | -.142  | .045  | .031  | -.411  | 310 | 2253 | -.045  | .036  | .111  | -.181 |
| 310 | 2150 | -.184  | .031  | -.091 | -.378 | 310 | 2203 | -.158  | .055  | .099  | -.434  | 310 | 2254 | -.013  | .051  | .233  | -.163 |
| 310 | 2151 | -.182  | .030  | .048  | -.321 | 310 | 2204 | -.150  | .047  | .048  | -.373  | 310 | 2255 | -.024  | .063  | .334  | -.136 |
| 310 | 2152 | -.182  | .050  | .029  | -.452 | 310 | 2205 | -.123  | .075  | .174  | -.499  | 310 | 2256 | -.036  | .044  | .181  | -.171 |
| 310 | 2153 | -.160  | .058  | .134  | -.433 | 310 | 2206 | -.161  | .062  | .097  | -.525  | 310 | 2257 | -.071  | .043  | .101  | -.282 |
| 310 | 2154 | -.188  | .113  | .132  | -.687 | 310 | 2207 | -.151  | .046  | .052  | -.572  | 310 | 2258 | -.057  | .030  | .059  | -.156 |
| 310 | 2155 | -.087  | .083  | .288  | -.507 | 310 | 2208 | -.277  | .098  | .186  | -.757  | 310 | 2259 | -.043  | .028  | .074  | -.139 |
| 310 | 2156 | -.175  | .029  | -.079 | -.416 | 310 | 2209 | -.215  | .058  | -.001 | -.560  | 310 | 2260 | -.044  | .030  | .047  | -.188 |
| 310 | 2157 | -.172  | .030  | -.043 | -.270 | 310 | 2210 | -.173  | .045  | -.023 | -.380  | 310 | 2261 | -.042  | .028  | .099  | -.136 |
| 310 | 2158 | -.154  | .049  | .070  | -.299 | 310 | 2211 | -.001  | .137  | .513  | -.371  | 310 | 2262 | -.031  | .033  | .109  | -.129 |
| 310 | 2159 | -.117  | .056  | .146  | -.290 | 310 | 2212 | -.232  | .138  | .239  | -1.166 | 310 | 2263 | -.044  | .031  | .101  | -.139 |
| 310 | 2160 | -.167  | .112  | .087  | -.661 | 310 | 2213 | -.186  | .044  | -.034 | -.385  | 310 | 2264 | -.058  | .032  | .042  | -.205 |
| 310 | 2161 | -.042  | .087  | .300  | -.531 | 310 | 2214 | -.161  | .037  | .008  | -.329  | 310 | 2265 | -.048  | .028  | .134  | -.148 |
| 310 | 2162 | -.147  | .046  | .168  | -.383 | 310 | 2215 | -.158  | .033  | -.037 | -.366  | 320 | 2101 | -.123  | .042  | .033  | -.338 |
| 310 | 2163 | -.181  | .053  | .079  | -.812 | 310 | 2216 | -.061  | .075  | .274  | -.406  | 320 | 2102 | -.124  | .053  | .047  | -.562 |
| 310 | 2164 | -.220  | .078  | .015  | -.872 | 310 | 2217 | -.136  | .111  | .410  | -.680  | 320 | 2103 | -.154  | .070  | .062  | -.545 |
| 310 | 2165 | -.233  | .064  | -.036 | -.587 | 310 | 2218 | -.132  | .077  | .272  | -.483  | 320 | 2104 | -.119  | .040  | .018  | -.295 |
| 310 | 2166 | -.165  | .058  | .118  | -.481 | 310 | 2219 | -.155  | .060  | .195  | -.434  | 320 | 2105 | -.112  | .045  | .035  | -.492 |
| 310 | 2167 | -.218  | .063  | -.016 | -.670 | 310 | 2220 | -.071  | .079  | .464  | -.289  | 320 | 2106 | -.160  | .063  | .040  | -.601 |
| 310 | 2168 | -.217  | .051  | -.043 | -.622 | 310 | 2221 | -.111  | .081  | .312  | -.525  | 320 | 2107 | -.057  | .068  | .346  | -.475 |
| 310 | 2170 | -.124  | .071  | .312  | -.390 | 310 | 2222 | -.131  | .056  | .141  | -.345  | 320 | 2108 | -.113  | .033  | .004  | -.249 |
| 310 | 2171 | -.114  | .091  | .542  | -.335 | 310 | 2223 | -.200  | .062  | -.076 | -.705  | 320 | 2109 | -.102  | .031  | -.008 | -.278 |
| 310 | 2172 | -.130  | .077  | .218  | -.548 | 310 | 2224 | -.102  | .057  | .167  | -.366  | 320 | 2110 | -.167  | .073  | .182  | -.532 |
| 310 | 2173 | -.184  | .050  | -.046 | -.366 | 310 | 2225 | -.132  | .038  | .040  | -.344  | 320 | 2111 | -.034  | .057  | .276  | -.237 |
| 310 | 2174 | -.222  | .060  | -.007 | -.630 | 310 | 2226 | -.141  | .028  | -.037 | -.277  | 320 | 2112 | -.115  | .032  | -.006 | -.235 |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 320 | 2113 | -.103  | .028  | .009  | -.268 | 320 | 2165 | -.252  | .068  | -.063 | -.618  | 320 | 2218 | -.165  | .065  | .113  | -.515 |
| 320 | 2114 | -.160  | .083  | .134  | -.606 | 320 | 2166 | -.210  | .058  | -.049 | -.708  | 320 | 2219 | -.173  | .057  | .056  | -.400 |
| 320 | 2115 | -.021  | .064  | .324  | -.179 | 320 | 2167 | -.335  | .145  | -.035 | -1.092 | 320 | 2220 | -.097  | .081  | .258  | -.331 |
| 320 | 2116 | -.125  | .034  | -.015 | -.302 | 320 | 2168 | -.267  | .087  | -.019 | -.999  | 320 | 2221 | -.118  | .055  | .125  | -.395 |
| 320 | 2117 | -.104  | .030  | .002  | -.230 | 320 | 2170 | -.071  | .110  | -.381 | -.300  | 320 | 2222 | -.148  | .046  | .125  | -.329 |
| 320 | 2118 | -.117  | .059  | .132  | -.507 | 320 | 2171 | -.043  | .121  | -.538 | -.351  | 320 | 2223 | -.213  | .055  | -.054 | -.732 |
| 320 | 2119 | -.019  | .073  | .334  | -.222 | 320 | 2172 | -.117  | .120  | -.406 | -.647  | 320 | 2224 | -.125  | .064  | .142  | -.412 |
| 320 | 2120 | -.122  | .037  | .122  | -.292 | 320 | 2173 | -.190  | .067  | -.113 | -.483  | 320 | 2225 | -.183  | .044  | -.026 | -.344 |
| 320 | 2121 | -.115  | .034  | .028  | -.283 | 320 | 2174 | -.244  | .053  | -.046 | -.515  | 320 | 2226 | -.152  | .026  | -.057 | -.251 |
| 320 | 2122 | -.089  | .054  | .269  | -.362 | 320 | 2175 | -.229  | .049  | -.075 | -.559  | 320 | 2227 | -.157  | .025  | -.084 | -.294 |
| 320 | 2123 | -.067  | .046  | .216  | -.398 | 320 | 2177 | -.213  | .052  | -.034 | -.447  | 320 | 2228 | -.121  | .059  | -.057 | -.395 |
| 320 | 2124 | -.122  | .045  | .059  | -.360 | 320 | 2178 | -.059  | .085  | -.421 | -.241  | 320 | 2229 | -.021  | .087  | .370  | -.316 |
| 320 | 2125 | -.116  | .042  | .023  | -.357 | 320 | 2179 | -.010  | .108  | -.511 | -.327  | 320 | 2230 | -.195  | .041  | -.051 | -.445 |
| 320 | 2126 | -.111  | .049  | .182  | -.314 | 320 | 2180 | -.012  | .114  | -.506 | -.400  | 320 | 2231 | -.112  | .058  | .196  | -.344 |
| 320 | 2127 | -.121  | .039  | .009  | -.362 | 320 | 2181 | -.122  | .074  | -.230 | -.351  | 320 | 2233 | -.172  | .050  | -.021 | -.422 |
| 320 | 2128 | -.116  | .030  | -.010 | -.242 | 320 | 2182 | -.221  | .046  | -.029 | -.412  | 320 | 2234 | -.149  | .071  | -.067 | -.518 |
| 320 | 2129 | -.111  | .038  | .009  | -.321 | 320 | 2183 | -.216  | .061  | -.014 | -1.001 | 320 | 2235 | -.163  | .037  | -.004 | -.301 |
| 320 | 2130 | -.127  | .056  | .158  | -.451 | 320 | 2184 | -.219  | .069  | -.056 | -.813  | 320 | 2236 | -.136  | .026  | -.036 | -.233 |
| 320 | 2131 | -.123  | .029  | -.037 | -.251 | 320 | 2185 | -.194  | .043  | -.071 | -.431  | 320 | 2237 | -.137  | .026  | -.024 | -.241 |
| 320 | 2132 | -.110  | .029  | -.010 | -.222 | 320 | 2187 | -.203  | .055  | -.058 | -.507  | 320 | 2238 | -.041  | .032  | .110  | -.243 |
| 320 | 2133 | -.123  | .037  | -.001 | -.345 | 320 | 2188 | -.078  | .063  | -.280 | -.238  | 320 | 2239 | -.034  | .032  | .110  | -.198 |
| 320 | 2134 | -.136  | .052  | .117  | -.427 | 320 | 2189 | -.048  | .083  | -.328 | -.262  | 320 | 2240 | -.018  | .035  | .112  | -.188 |
| 320 | 2135 | -.114  | .029  | -.010 | -.220 | 320 | 2190 | -.040  | .088  | -.394 | -.355  | 320 | 2241 | -.026  | .041  | .191  | -.215 |
| 320 | 2136 | -.123  | .035  | -.032 | -.447 | 320 | 2191 | -.126  | .059  | -.115 | -.324  | 320 | 2242 | -.028  | .038  | .148  | -.264 |
| 320 | 2137 | -.123  | .063  | .141  | -.497 | 320 | 2192 | -.189  | .050  | -.103 | -.369  | 320 | 2243 | -.033  | .034  | .119  | -.203 |
| 320 | 2138 | -.123  | .063  | .141  | -.497 | 320 | 2193 | -.194  | .067  | -.057 | -.471  | 320 | 2244 | -.048  | .027  | .065  | -.180 |
| 320 | 2139 | -.113  | .037  | .030  | -.285 | 320 | 2194 | -.187  | .065  | -.196 | -.419  | 320 | 2245 | -.046  | .029  | .072  | -.185 |
| 320 | 2140 | -.117  | .036  | .033  | .316  | 320 | 2195 | -.072  | .062  | -.194 | -.216  | 320 | 2246 | -.052  | .033  | .090  | -.175 |
| 320 | 2141 | -.110  | .057  | .194  | -.454 | 320 | 2196 | -.080  | .053  | -.180 | -.255  | 320 | 2247 | -.032  | .036  | .158  | -.195 |
| 320 | 2142 | -.097  | .049  | .066  | -.376 | 320 | 2197 | -.110  | .049  | -.094 | -.317  | 320 | 2248 | -.050  | .040  | .092  | -.268 |
| 320 | 2143 | -.096  | .046  | .059  | -.305 | 320 | 2198 | -.121  | .043  | -.049 | -.271  | 320 | 2249 | -.034  | .035  | .112  | -.188 |
| 320 | 2144 | -.078  | .051  | .169  | -.283 | 320 | 2199 | -.166  | .056  | -.094 | -.405  | 320 | 2250 | -.041  | .036  | .085  | -.205 |
| 320 | 2145 | -.212  | .058  | .071  | -.478 | 320 | 2200 | -.176  | .080  | -.106 | -.565  | 320 | 2251 | -.039  | .030  | .087  | -.190 |
| 320 | 2146 | -.241  | .074  | .071  | -.662 | 320 | 2201 | -.154  | .048  | -.020 | -.345  | 320 | 2252 | -.030  | .035  | .133  | -.155 |
| 320 | 2147 | -.257  | .066  | .083  | -.652 | 320 | 2202 | -.154  | .044  | -.020 | -.336  | 320 | 2253 | -.028  | .037  | .128  | -.160 |
| 320 | 2148 | -.285  | .093  | -.027 | -.867 | 320 | 2203 | -.126  | .053  | -.134 | -.426  | 320 | 2254 | -.058  | .071  | .519  | -.173 |
| 320 | 2149 | -.164  | .084  | .213  | -.554 | 320 | 2204 | -.153  | .040  | -.034 | -.405  | 320 | 2255 | -.103  | .076  | .481  | -.087 |
| 320 | 2150 | -.166  | .062  | .149  | -.444 | 320 | 2205 | -.157  | .072  | -.182 | -.703  | 320 | 2256 | -.025  | .060  | .264  | -.140 |
| 320 | 2151 | -.140  | .049  | .140  | -.349 | 320 | 2206 | -.178  | .054  | -.049 | -.465  | 320 | 2257 | -.046  | .042  | .095  | -.261 |
| 320 | 2152 | -.108  | .062  | .347  | -.305 | 320 | 2207 | -.166  | .046  | -.037 | -.570  | 320 | 2258 | -.036  | .031  | .085  | -.152 |
| 320 | 2153 | -.086  | .064  | .296  | -.293 | 320 | 2208 | -.311  | .095  | -.082 | -.717  | 320 | 2259 | -.024  | .031  | .138  | -.127 |
| 320 | 2154 | -.172  | .068  | .086  | -.493 | 320 | 2209 | -.222  | .052  | -.142 | -.498  | 320 | 2260 | -.021  | .031  | .128  | -.140 |
| 320 | 2155 | -.122  | .097  | .232  | -.669 | 320 | 2210 | -.172  | .039  | -.020 | -.412  | 320 | 2261 | -.004  | .038  | .218  | -.102 |
| 320 | 2156 | -.130  | .058  | .113  | -.403 | 320 | 2211 | -.016  | .152  | -.709 | -.457  | 320 | 2262 | -.029  | .051  | .312  | -.115 |
| 320 | 2157 | -.097  | .049  | .113  | -.251 | 320 | 2212 | -.322  | .137  | -.168 | -.966  | 320 | 2263 | -.004  | .038  | .183  | -.122 |
| 320 | 2158 | -.067  | .053  | .245  | -.232 | 320 | 2213 | -.226  | .048  | -.068 | -.498  | 320 | 2264 | -.031  | .028  | .130  | -.170 |
| 320 | 2159 | -.084  | .052  | .210  | -.405 | 320 | 2214 | -.168  | .035  | -.011 | -.343  | 320 | 2265 | -.033  | .030  | .133  | -.165 |
| 320 | 2160 | -.210  | .054  | -.024 | -.518 | 320 | 2215 | -.162  | .031  | -.030 | -.276  | 320 | 2101 | -.163  | .041  | -.044 | -.359 |
| 320 | 2161 | -.163  | .073  | .162  | -.620 | 320 | 2216 | -.077  | .072  | -.335 | -.302  | 320 | 2102 | -.177  | .075  | -.001 | -.742 |
| 320 | 2162 | -.210  | .054  | -.024 | -.518 | 320 | 2217 | -.181  | .087  | -.177 | -.601  | 320 | 2103 | -.282  | .137  | .044  | -.941 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 330 | 2104 | -.157  | .038  | -.001 | -.389  | 330 | 2156 | -.051  | .081  | .361  | -.376  | 330 | 2209 | -.203  | .038  | -.082 | -.424  |
| 330 | 2105 | -.129  | .041  | .001  | -.352  | 330 | 2157 | -.113  | .054  | .166  | -.367  | 330 | 2210 | -.171  | .030  | -.052 | -.354  |
| 330 | 2106 | -.231  | .100  | .046  | -.797  | 330 | 2158 | -.093  | .050  | .140  | -.211  | 330 | 2211 | -.067  | .121  | .447  | -.415  |
| 330 | 2107 | .011   | .112  | .505  | -.494  | 330 | 2159 | -.020  | .058  | .219  | -.232  | 330 | 2212 | -.372  | .105  | .026  | -.1083 |
| 330 | 2108 | -.151  | .035  | -.049 | -.302  | 330 | 2160 | -.090  | .052  | .224  | -.244  | 330 | 2213 | -.226  | .043  | -.087 | -.495  |
| 330 | 2109 | -.123  | .031  | -.020 | -.307  | 330 | 2161 | -.189  | .054  | -.038 | -.501  | 330 | 2214 | -.171  | .031  | -.056 | -.330  |
| 330 | 2110 | -.219  | .106  | .179  | -.638  | 330 | 2162 | -.193  | .030  | -.088 | -.333  | 330 | 2215 | -.170  | .026  | -.080 | -.260  |
| 330 | 2111 | .046   | .094  | .529  | -.259  | 330 | 2163 | -.192  | .032  | -.098 | -.760  | 330 | 2216 | -.072  | .086  | .347  | -.373  |
| 330 | 2112 | -.153  | .033  | -.037 | -.292  | 330 | 2164 | -.357  | .152  | .046  | -1.123 | 330 | 2217 | -.208  | .080  | .108  | -.726  |
| 330 | 2113 | -.130  | .028  | -.034 | -.257  | 330 | 2165 | -.246  | .072  | -.021 | -.724  | 330 | 2218 | -.174  | .057  | .145  | -.480  |
| 330 | 2114 | -.197  | .105  | .098  | -.801  | 330 | 2166 | -.187  | .028  | -.101 | -.347  | 330 | 2219 | -.181  | .050  | .058  | -.420  |
| 330 | 2115 | .051   | .093  | .441  | -.198  | 330 | 2167 | -.419  | .183  | -.101 | -1.428 | 330 | 2220 | -.109  | .068  | .255  | -.307  |
| 330 | 2116 | -.162  | .033  | -.060 | -.302  | 330 | 2168 | -.306  | .098  | -.009 | -.775  | 330 | 2221 | -.123  | .057  | .136  | -.483  |
| 330 | 2117 | -.129  | .030  | -.001 | -.247  | 330 | 2170 | -.062  | .110  | .459  | -.359  | 330 | 2222 | -.153  | .047  | .094  | -.330  |
| 330 | 2118 | -.135  | .064  | .141  | -.432  | 330 | 2171 | -.010  | .137  | .567  | -.566  | 330 | 2223 | -.203  | .049  | -.075 | -.598  |
| 330 | 2119 | .050   | .068  | .328  | -.231  | 330 | 2172 | -.054  | .133  | .514  | -.643  | 330 | 2224 | -.119  | .071  | .155  | -.415  |
| 330 | 2120 | -.157  | .040  | .015  | -.380  | 330 | 2173 | -.167  | .087  | .212  | -.513  | 330 | 2225 | -.183  | .039  | -.050 | -.363  |
| 330 | 2121 | -.145  | .042  | .150  | -.378  | 330 | 2174 | -.215  | .044  | -.071 | -.455  | 330 | 2226 | -.159  | .023  | .075  | -.253  |
| 330 | 2122 | -.116  | .047  | .174  | -.373  | 330 | 2175 | -.204  | .037  | -.091 | -.379  | 330 | 2227 | -.160  | .024  | -.062 | -.258  |
| 330 | 2123 | -.071  | .037  | .067  | -.382  | 330 | 2177 | -.196  | .042  | -.074 | -.395  | 330 | 2228 | -.101  | .062  | .126  | -.303  |
| 330 | 2124 | -.158  | .048  | .020  | -.385  | 330 | 2178 | -.065  | .072  | .342  | -.227  | 330 | 2229 | -.004  | .094  | .449  | -.298  |
| 330 | 2125 | -.154  | .047  | -.025 | -.477  | 330 | 2179 | -.109  | .109  | .519  | -.295  | 330 | 2230 | -.187  | .039  | -.055 | -.464  |
| 330 | 2126 | -.142  | .038  | -.001 | -.363  | 330 | 2180 | -.013  | .113  | .634  | -.383  | 330 | 2231 | -.091  | .065  | .228  | -.395  |
| 330 | 2127 | -.153  | .039  | -.011 | -.371  | 330 | 2181 | -.103  | .073  | .250  | -.347  | 330 | 2233 | -.163  | .049  | -.013 | -.482  |
| 330 | 2128 | -.146  | .031  | -.056 | -.316  | 330 | 2182 | -.192  | .029  | -.091 | -.331  | 330 | 2234 | -.173  | .075  | .153  | -.410  |
| 330 | 2129 | -.148  | .046  | .020  | -.340  | 330 | 2183 | -.189  | .029  | -.100 | -.316  | 330 | 2235 | -.165  | .033  | -.020 | -.281  |
| 330 | 2130 | -.149  | .032  | .022  | -.276  | 330 | 2184 | -.183  | .026  | -.106 | -.286  | 330 | 2236 | -.140  | .026  | .038  | -.238  |
| 330 | 2131 | -.145  | .026  | -.056 | -.281  | 330 | 2185 | -.183  | .025  | -.113 | -.272  | 330 | 2237 | -.140  | .025  | -.052 | -.231  |
| 330 | 2132 | -.146  | .029  | -.063 | -.262  | 330 | 2187 | -.192  | .028  | -.103 | -.349  | 330 | 2238 | -.040  | .032  | .086  | -.159  |
| 330 | 2133 | -.172  | .044  | -.046 | -.408  | 330 | 2188 | -.079  | .059  | .227  | -.220  | 330 | 2239 | -.032  | .033  | .119  | -.137  |
| 330 | 2134 | -.149  | .033  | -.001 | -.359  | 330 | 2189 | -.046  | .079  | .422  | -.248  | 330 | 2240 | -.021  | .033  | .116  | -.124  |
| 330 | 2135 | -.154  | .030  | -.068 | -.283  | 330 | 2190 | -.014  | .096  | .483  | -.394  | 330 | 2241 | -.027  | .038  | .161  | -.169  |
| 330 | 2137 | -.170  | .041  | -.058 | -.397  | 330 | 2191 | -.108  | .059  | .136  | -.377  | 330 | 2242 | -.032  | .034  | .139  | -.221  |
| 330 | 2138 | -.146  | .036  | -.034 | -.394  | 330 | 2192 | -.193  | .032  | -.045 | -.338  | 330 | 2243 | -.035  | .033  | .173  | -.204  |
| 330 | 2140 | -.154  | .039  | -.044 | -.385  | 330 | 2193 | -.206  | .037  | -.021 | -.379  | 330 | 2244 | -.050  | .029  | .059  | -.196  |
| 330 | 2141 | -.151  | .040  | .013  | -.427  | 330 | 2194 | -.204  | .034  | -.040 | -.450  | 330 | 2245 | -.050  | .033  | .067  | -.181  |
| 330 | 2142 | -.141  | .043  | .091  | -.311  | 330 | 2195 | -.069  | .052  | .225  | -.188  | 330 | 2246 | -.060  | .035  | .062  | -.229  |
| 330 | 2143 | -.144  | .044  | -.009 | -.410  | 330 | 2196 | -.063  | .063  | .258  | -.279  | 330 | 2247 | -.032  | .038  | .111  | -.199  |
| 330 | 2144 | -.142  | .044  | .015  | -.369  | 330 | 2197 | -.093  | .058  | .297  | -.375  | 330 | 2248 | -.039  | .037  | .141  | -.224  |
| 330 | 2145 | -.100  | .058  | .185  | -.275  | 330 | 2198 | -.099  | .056  | .197  | -.244  | 330 | 2249 | -.041  | .033  | .121  | -.142  |
| 330 | 2146 | -.200  | .045  | -.002 | -.516  | 330 | 2199 | -.173  | .035  | -.002 | -.333  | 330 | 2250 | -.042  | .032  | .139  | -.238  |
| 330 | 2147 | -.217  | .064  | .005  | -.686  | 330 | 2200 | -.213  | .049  | -.026 | -.351  | 330 | 2251 | -.036  | .029  | .139  | -.199  |
| 330 | 2148 | -.243  | .074  | .020  | -.837  | 330 | 2201 | -.176  | .040  | -.012 | -.389  | 330 | 2252 | -.033  | .034  | .099  | -.219  |
| 330 | 2149 | -.264  | .090  | -.002 | -1.024 | 330 | 2202 | -.193  | .042  | -.014 | -.326  | 330 | 2253 | -.035  | .037  | .096  | -.184  |
| 330 | 2150 | -.145  | .073  | .197  | -.494  | 330 | 2203 | -.185  | .056  | -.021 | -.560  | 330 | 2254 | -.050  | .076  | .434  | -.154  |
| 330 | 2151 | -.185  | .060  | .051  | -.484  | 330 | 2204 | -.162  | .040  | -.024 | -.434  | 330 | 2255 | -.123  | .081  | .545  | -.070  |
| 330 | 2152 | -.147  | .047  | .051  | -.364  | 330 | 2205 | -.164  | .024  | -.108 | -.642  | 330 | 2256 | -.049  | .068  | .372  | -.119  |
| 330 | 2153 | -.118  | .059  | .195  | -.335  | 330 | 2206 | -.173  | .048  | -.056 | -.387  | 330 | 2257 | -.021  | .045  | .148  | -.194  |
| 330 | 2154 | -.090  | .071  | .267  | -.290  | 330 | 2207 | -.156  | .036  | -.035 | -.436  | 330 | 2258 | -.031  | .032  | .089  | -.211  |
| 330 | 2155 | -.215  | .056  | -.028 | -.547  | 330 | 2208 | -.326  | .088  | -.077 | -.701  | 330 | 2259 | -.029  | .031  | .109  | -.112  |

## APPENDIX A -- PRESSURE DATA ; CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 330 | 2260 | -.021  | .034  | .101  | -.112  | 340 | 2147 | -.232  | .060  | -.014 | -.580  | 340 | 2200 | -.226  | .042  | -.097 | -.450 |
| 330 | 2261 | .015   | .048  | .245  | -.127  | 340 | 2148 | -.248  | .067  | -.055 | -.656  | 340 | 2201 | -.184  | .034  | -.042 | -.378 |
| 330 | 2262 | .055   | .058  | .394  | -.100  | 340 | 2149 | -.258  | .081  | -.054 | -.831  | 340 | 2202 | -.195  | .042  | -.027 | -.426 |
| 330 | 2263 | .024   | .048  | .230  | -.109  | 340 | 2150 | -.160  | .066  | .291  | -.417  | 340 | 2203 | -.223  | .074  | -.042 | -.709 |
| 330 | 2264 | -.020  | .037  | .134  | -.234  | 340 | 2151 | -.212  | .055  | -.015 | -.501  | 340 | 2204 | -.169  | .041  | -.013 | -.366 |
| 330 | 2265 | -.014  | .045  | .285  | -.184  | 340 | 2152 | -.173  | .048  | -.032 | -.390  | 340 | 2205 | -.175  | .085  | -.126 | -.633 |
| 340 | 2101 | -.203  | .048  | -.055 | -.429  | 340 | 2153 | -.138  | .053  | .200  | -.417  | 340 | 2206 | -.173  | .057  | -.006 | -.448 |
| 340 | 2102 | -.196  | .072  | -.019 | -.584  | 340 | 2154 | -.129  | .068  | .281  | -.431  | 340 | 2207 | -.140  | .034  | -.034 | -.356 |
| 340 | 2103 | -.419  | .142  | -.056 | -1.149 | 340 | 2155 | -.233  | .061  | -.056 | -.560  | 340 | 2208 | -.367  | .092  | -.054 | -.921 |
| 340 | 2104 | -.196  | .041  | -.085 | -.417  | 340 | 2156 | -.042  | .073  | .364  | -.319  | 340 | 2209 | -.191  | .039  | -.066 | -.464 |
| 340 | 2105 | -.142  | .037  | -.014 | -.419  | 340 | 2157 | -.133  | .052  | .133  | -.400  | 340 | 2210 | -.174  | .029  | -.061 | -.354 |
| 340 | 2106 | -.408  | .149  | .141  | -1.079 | 340 | 2158 | -.111  | .049  | .190  | -.240  | 340 | 2211 | -.058  | .119  | .446  | -.412 |
| 340 | 2107 | .128   | .132  | .626  | -.354  | 340 | 2159 | -.084  | .064  | .335  | -.236  | 340 | 2212 | -.375  | .092  | -.018 | -.971 |
| 340 | 2108 | -.191  | .034  | -.089 | -.351  | 340 | 2160 | -.114  | .053  | .158  | -.299  | 340 | 2213 | -.204  | .042  | -.054 | -.443 |
| 340 | 2109 | -.154  | .036  | -.043 | -.380  | 340 | 2161 | -.210  | .058  | -.050 | -.597  | 340 | 2214 | -.175  | .029  | -.080 | -.325 |
| 340 | 2110 | .354   | .117  | .114  | -.933  | 340 | 2162 | -.193  | .027  | -.098 | -.292  | 340 | 2215 | -.177  | .026  | -.087 | -.270 |
| 340 | 2111 | .102   | .107  | .646  | -.225  | 340 | 2163 | -.207  | .027  | -.122 | -.314  | 340 | 2216 | -.025  | .104  | .501  | -.392 |
| 340 | 2112 | -.196  | .032  | -.094 | -.332  | 340 | 2164 | -.318  | .115  | -.057 | -1.644 | 340 | 2217 | -.242  | .086  | -.057 | -.741 |
| 340 | 2113 | .159   | .030  | -.041 | -.286  | 340 | 2165 | -.242  | .065  | -.029 | -.504  | 340 | 2218 | -.188  | .067  | -.008 | -.575 |
| 340 | 2114 | -.298  | .120  | -.059 | -.785  | 340 | 2166 | -.194  | .026  | -.126 | -.431  | 340 | 2219 | -.181  | .047  | -.037 | -.484 |
| 340 | 2115 | .071   | .100  | .493  | -.373  | 340 | 2167 | -.434  | .164  | -.143 | -1.376 | 340 | 2220 | -.088  | .064  | .335  | -.316 |
| 340 | 2116 | -.209  | .037  | -.099 | -.550  | 340 | 2168 | -.353  | .110  | -.052 | -.867  | 340 | 2221 | -.139  | .076  | .107  | -.517 |
| 340 | 2117 | -.139  | .043  | -.059 | -.283  | 340 | 2170 | -.093  | .087  | .313  | -.358  | 340 | 2222 | -.160  | .046  | -.086 | -.390 |
| 340 | 2118 | -.139  | .087  | .105  | -.479  | 340 | 2171 | -.023  | .134  | .596  | -.577  | 340 | 2223 | -.194  | .049  | -.051 | -.512 |
| 340 | 2119 | -.071  | .067  | .376  | -.402  | 340 | 2172 | -.026  | .116  | .566  | -.356  | 340 | 2224 | -.108  | .064  | .095  | -.376 |
| 340 | 2120 | -.166  | .046  | .148  | -.346  | 340 | 2173 | -.097  | .102  | .330  | -.415  | 340 | 2225 | -.167  | .035  | -.045 | -.327 |
| 340 | 2121 | -.139  | .059  | .381  | -.334  | 340 | 2174 | -.224  | .047  | -.029 | -.484  | 340 | 2226 | -.166  | .023  | -.078 | -.243 |
| 340 | 2122 | -.123  | .068  | .148  | -.548  | 340 | 2175 | -.212  | .035  | -.103 | -.403  | 340 | 2227 | -.181  | .028  | -.081 | -.330 |
| 340 | 2123 | -.035  | .047  | .170  | -.351  | 340 | 2177 | -.204  | .038  | -.026 | -.403  | 340 | 2228 | -.106  | .068  | .150  | -.347 |
| 340 | 2124 | -.204  | .046  | -.029 | -.439  | 340 | 2178 | -.107  | .049  | .283  | -.285  | 340 | 2229 | -.022  | .096  | .450  | -.281 |
| 340 | 2125 | -.198  | .056  | -.004 | -.480  | 340 | 2179 | -.074  | .083  | .423  | -.317  | 340 | 2230 | -.190  | .040  | -.056 | -.403 |
| 340 | 2126 | -.192  | .042  | -.031 | -.516  | 340 | 2180 | -.047  | .083  | .487  | -.253  | 340 | 2231 | -.101  | .059  | .221  | -.540 |
| 340 | 2127 | -.183  | .038  | -.068 | -.385  | 340 | 2181 | -.099  | .070  | .210  | -.272  | 340 | 2233 | -.147  | .044  | -.020 | -.500 |
| 340 | 2128 | -.179  | .033  | -.060 | -.334  | 340 | 2182 | -.190  | .026  | -.103 | -.307  | 340 | 2234 | -.194  | .068  | .092  | -.431 |
| 340 | 2129 | -.177  | .055  | -.049 | -.647  | 340 | 2183 | -.189  | .026  | -.108 | -.295  | 340 | 2235 | -.169  | .031  | -.005 | -.289 |
| 340 | 2130 | -.176  | .035  | -.034 | -.346  | 340 | 2184 | -.183  | .024  | -.090 | -.265  | 340 | 2236 | -.147  | .025  | -.068 | -.238 |
| 340 | 2131 | -.174  | .027  | -.094 | -.293  | 340 | 2185 | -.185  | .025  | -.111 | -.275  | 340 | 2237 | -.148  | .027  | -.061 | -.320 |
| 340 | 2132 | -.183  | .031  | -.072 | -.320  | 340 | 2187 | -.197  | .028  | -.104 | -.318  | 340 | 2238 | -.058  | .037  | .084  | -.188 |
| 340 | 2133 | -.216  | .048  | -.070 | -.436  | 340 | 2188 | -.102  | .047  | .191  | -.229  | 340 | 2239 | -.050  | .038  | .125  | -.185 |
| 340 | 2134 | -.173  | .030  | -.065 | -.303  | 340 | 2189 | -.063  | .071  | .335  | -.241  | 340 | 2240 | -.038  | .033  | .092  | -.177 |
| 340 | 2135 | -.188  | .031  | -.099 | -.334  | 340 | 2190 | -.047  | .074  | .364  | -.243  | 340 | 2241 | -.036  | .038  | .191  | -.180 |
| 340 | 2136 | -.213  | .045  | -.082 | -.499  | 340 | 2191 | -.118  | .054  | .273  | -.263  | 340 | 2242 | -.037  | .033  | .117  | -.157 |
| 340 | 2137 | -.169  | .033  | -.051 | -.351  | 340 | 2192 | -.197  | .026  | -.092 | -.306  | 340 | 2243 | -.044  | .033  | .117  | -.248 |
| 340 | 2138 | -.190  | .043  | -.077 | -.427  | 340 | 2193 | -.211  | .030  | -.115 | -.356  | 340 | 2244 | -.062  | .035  | .066  | -.203 |
| 340 | 2139 | -.161  | .044  | -.039 | -.322  | 340 | 2194 | -.207  | .028  | -.128 | -.352  | 340 | 2245 | -.068  | .045  | .087  | -.284 |
| 340 | 2140 | -.160  | .042  | -.049 | -.417  | 340 | 2195 | -.090  | .047  | .196  | -.195  | 340 | 2246 | -.090  | .048  | .087  | -.457 |
| 340 | 2141 | -.180  | .045  | -.056 | -.445  | 340 | 2196 | -.078  | .057  | .208  | -.253  | 340 | 2247 | -.058  | .047  | .148  | -.274 |
| 340 | 2142 | -.183  | .044  | -.061 | -.383  | 340 | 2197 | -.092  | .050  | .187  | -.289  | 340 | 2248 | -.040  | .034  | .102  | -.182 |
| 340 | 2143 | -.112  | .072  | -.202 | -.280  | 340 | 2198 | -.098  | .056  | .203  | -.258  | 340 | 2249 | -.052  | .033  | .115  | -.175 |
| 340 | 2144 | -.216  | .045  | -.056 | -.565  | 340 | 2199 | -.175  | .034  | -.001 | -.318  | 340 | 2250 | -.044  | .029  | .092  | -.157 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 340 | 2251 | -.039  | .030  | .130  | -.190  | 350 | 2137 | -.264  | .054  | -.127 | -.657 | 350 | 2191 | -.129  | .046  | .094  | -.262 |
| 340 | 2252 | -.058  | .046  | .094  | -.279  | 350 | 2138 | -.195  | .033  | .022  | -.341 | 350 | 2192 | -.223  | .027  | -.067 | -.352 |
| 340 | 2253 | -.057  | .045  | .117  | -.236  | 350 | 2140 | -.220  | .045  | -.101 | -.424 | 350 | 2193 | -.239  | .035  | -.009 | -.432 |
| 340 | 2254 | -.040  | .081  | .447  | -.228  | 350 | 2141 | -.174  | .055  | .057  | -.381 | 350 | 2194 | -.240  | .032  | -.058 | -.404 |
| 340 | 2255 | .112   | .086  | .579  | -.127  | 350 | 2142 | -.180  | .045  | -.017 | -.369 | 350 | 2195 | -.099  | .038  | .094  | -.203 |
| 340 | 2256 | .058   | .073  | .412  | -.157  | 350 | 2143 | -.208  | .049  | -.055 | -.461 | 350 | 2196 | -.089  | .046  | .125  | -.241 |
| 340 | 2257 | -.040  | .053  | .170  | -.231  | 350 | 2144 | -.204  | .043  | -.082 | -.473 | 350 | 2197 | -.094  | .047  | .163  | -.271 |
| 340 | 2258 | -.028  | .035  | .127  | -.162  | 350 | 2145 | -.150  | .073  | .217  | -.369 | 350 | 2198 | -.097  | .056  | .311  | -.276 |
| 340 | 2259 | -.034  | .041  | .135  | -.241  | 350 | 2146 | -.242  | .050  | -.021 | -.881 | 350 | 2199 | -.195  | .029  | -.074 | -.286 |
| 340 | 2260 | -.034  | .036  | .117  | -.147  | 350 | 2147 | -.272  | .073  | -.087 | -.952 | 350 | 2200 | -.251  | .044  | .018  | -.540 |
| 340 | 2261 | -.004  | .056  | .320  | -.157  | 350 | 2148 | -.283  | .067  | -.031 | -.648 | 350 | 2201 | -.205  | .036  | -.053 | -.407 |
| 340 | 2262 | .061   | .065  | .412  | -.111  | 350 | 2149 | -.319  | .095  | -.101 | -.102 | 350 | 2202 | -.156  | .043  | -.041 | -.445 |
| 340 | 2263 | .029   | .049  | .231  | -.142  | 350 | 2150 | -.179  | .066  | .147  | -.381 | 350 | 2203 | -.246  | .078  | -.014 | -.602 |
| 340 | 2264 | -.016  | .039  | .158  | -.205  | 350 | 2151 | -.235  | .062  | .047  | -.459 | 350 | 2204 | -.168  | .044  | -.022 | -.442 |
| 340 | 2265 | .001   | .048  | .234  | -.177  | 350 | 2152 | -.199  | .058  | .105  | -.502 | 350 | 2205 | -.163  | .089  | .085  | -.925 |
| 350 | 2101 | -.234  | .047  | -.079 | -.496  | 350 | 2153 | -.167  | .064  | .188  | -.444 | 350 | 2206 | -.145  | .053  | .026  | -.345 |
| 350 | 2102 | -.234  | .073  | -.041 | -.532  | 350 | 2154 | -.136  | .086  | .275  | -.376 | 350 | 2207 | -.128  | .033  | -.015 | -.293 |
| 350 | 2103 | -.493  | .135  | -.139 | -1.053 | 350 | 2155 | -.281  | .070  | -.031 | -.714 | 350 | 2208 | -.378  | .086  | -.124 | -.739 |
| 350 | 2104 | -.239  | .038  | -.118 | -.415  | 350 | 2156 | -.040  | .069  | .399  | -.223 | 350 | 2209 | -.173  | .033  | -.074 | -.369 |
| 350 | 2105 | -.157  | .039  | -.012 | -.446  | 350 | 2157 | -.137  | .054  | .093  | -.369 | 350 | 2210 | -.171  | .024  | -.074 | -.257 |
| 350 | 2106 | -.443  | .172  | -.069 | -1.177 | 350 | 2158 | -.114  | .058  | .125  | -.315 | 350 | 2211 | -.014  | .113  | .399  | -.383 |
| 350 | 2107 | .163   | .128  | .695  | -.211  | 350 | 2159 | -.078  | .072  | .266  | -.327 | 350 | 2212 | -.375  | .080  | -.150 | -.770 |
| 350 | 2108 | -.241  | .036  | -.122 | -.434  | 350 | 2160 | -.108  | .080  | .290  | -.356 | 350 | 2213 | -.196  | .041  | -.079 | -.414 |
| 350 | 2109 | -.203  | .062  | -.034 | -.528  | 350 | 2161 | -.252  | .083  | .025  | -.813 | 350 | 2214 | -.175  | .026  | -.079 | -.307 |
| 350 | 2110 | -.370  | .124  | -.069 | -1.410 | 350 | 2162 | -.218  | .027  | -.121 | -.322 | 350 | 2215 | -.181  | .025  | -.093 | -.274 |
| 350 | 2111 | -.107  | .102  | .535  | -.254  | 350 | 2163 | -.235  | .028  | -.145 | -.354 | 350 | 2216 | -.021  | .114  | .413  | -.333 |
| 350 | 2112 | -.248  | .034  | -.151 | -.446  | 350 | 2164 | -.365  | .093  | -.053 | -.835 | 350 | 2217 | -.261  | .080  | .054  | -.668 |
| 350 | 2113 | -.192  | .035  | -.077 | -.422  | 350 | 2165 | -.258  | .057  | -.077 | -.541 | 350 | 2218 | -.187  | .062  | -.015 | -.557 |
| 350 | 2114 | -.372  | .147  | -.055 | -1.127 | 350 | 2166 | -.222  | .029  | -.100 | -.352 | 350 | 2219 | -.179  | .049  | -.048 | -.469 |
| 350 | 2115 | .044   | .086  | .530  | -.221  | 350 | 2167 | -.501  | .149  | .151  | -.212 | 350 | 2220 | -.068  | .066  | .192  | -.271 |
| 350 | 2116 | -.260  | .045  | -.130 | -.551  | 350 | 2168 | -.422  | .113  | -.062 | -.962 | 350 | 2221 | -.192  | .108  | .083  | -.770 |
| 350 | 2117 | -.154  | .050  | -.069 | -.336  | 350 | 2170 | -.086  | .085  | .278  | -.332 | 350 | 2222 | -.139  | .043  | .018  | -.295 |
| 350 | 2118 | -.148  | .104  | .120  | -.803  | 350 | 2171 | -.012  | .127  | .460  | -.565 | 350 | 2223 | -.176  | .044  | -.048 | -.426 |
| 350 | 2119 | -.067  | .057  | .194  | -.283  | 350 | 2172 | -.019  | .124  | .667  | -.332 | 350 | 2224 | -.104  | .062  | .208  | -.390 |
| 350 | 2120 | -.216  | .053  | .062  | -.386  | 350 | 2173 | -.041  | .097  | .375  | -.395 | 350 | 2225 | -.157  | .030  | -.029 | -.278 |
| 350 | 2121 | -.158  | .074  | .194  | -.348  | 350 | 2174 | -.221  | .016  | -.072 | -.410 | 350 | 2226 | -.171  | .023  | -.084 | -.262 |
| 350 | 2122 | -.119  | .084  | .127  | -.767  | 350 | 2175 | -.229  | .031  | -.128 | -.359 | 350 | 2227 | -.187  | .026  | -.097 | -.370 |
| 350 | 2123 | .002   | .048  | .182  | -.134  | 350 | 2177 | -.226  | .036  | -.089 | -.366 | 350 | 2228 | -.120  | .067  | .149  | -.325 |
| 350 | 2124 | -.260  | .055  | -.072 | -.616  | 350 | 2178 | -.113  | .045  | .093  | -.245 | 350 | 2229 | -.050  | .088  | .473  | -.290 |
| 350 | 2125 | -.245  | .064  | .007  | -.640  | 350 | 2179 | -.071  | .075  | .273  | -.371 | 350 | 2230 | -.190  | .041  | -.079 | -.408 |
| 350 | 2126 | -.234  | .042  | -.113 | -.417  | 350 | 2180 | -.026  | .089  | .407  | -.225 | 350 | 2231 | -.113  | .057  | .240  | -.426 |
| 350 | 2127 | -.226  | .038  | -.079 | -.386  | 350 | 2181 | -.077  | .070  | .244  | -.303 | 350 | 2233 | -.135  | .035  | -.042 | -.413 |
| 350 | 2128 | -.215  | .036  | -.115 | -.379  | 350 | 2182 | -.204  | .028  | -.123 | -.318 | 350 | 2234 | -.227  | .052  | .044  | -.453 |
| 350 | 2129 | -.220  | .066  | -.038 | -.525  | 350 | 2183 | -.210  | .029  | -.118 | -.315 | 350 | 2235 | -.172  | .029  | -.052 | -.303 |
| 350 | 2130 | -.220  | .039  | -.067 | -.393  | 350 | 2184 | -.211  | .026  | -.110 | -.321 | 350 | 2236 | -.154  | .025  | -.064 | -.232 |
| 350 | 2131 | -.211  | .027  | -.127 | -.333  | 350 | 2185 | -.212  | .027  | -.134 | -.324 | 350 | 2237 | -.152  | .027  | -.064 | -.290 |
| 350 | 2132 | -.217  | .035  | -.110 | -.422  | 350 | 2187 | -.221  | .028  | -.143 | -.326 | 350 | 2238 | -.075  | .042  | .107  | -.288 |
| 350 | 2133 | -.260  | .056  | -.026 | -.568  | 350 | 2188 | -.118  | .033  | .016  | -.238 | 350 | 2239 | -.067  | .039  | .092  | -.212 |
| 350 | 2134 | -.207  | .034  | -.079 | -.506  | 350 | 2189 | -.097  | .047  | .206  | -.276 | 350 | 2240 | -.042  | .032  | .099  | -.175 |
| 350 | 2136 | -.223  | .034  | -.113 | -.374  | 350 | 2190 | -.071  | .057  | .363  | -.231 | 350 | 2241 | -.040  | .033  | .114  | -.202 |

## APPENDIX A -- PRESSURE DATA ; CONFIGURATION C : JENKINS/EMPIRE BUILDING IN PLACE

PAGE A 188

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 350 | 2242 | -.033  | .032  | .102  | -.175 | 350 | 2250 | -.034  | .029  | .074  | -.157 | 350 | 2258 | -.034  | .033  | .124  | -.144 |
| 350 | 2243 | -.038  | .036  | .122  | -.290 | 350 | 2251 | -.031  | .028  | .099  | -.129 | 350 | 2259 | -.026  | .052  | .207  | -.383 |
| 350 | 2244 | -.079  | .036  | .081  | -.220 | 350 | 2252 | -.081  | .052  | .079  | -.228 | 350 | 2260 | -.028  | .044  | .184  | -.192 |
| 350 | 2245 | -.091  | .049  | .117  | -.380 | 350 | 2253 | -.087  | .051  | .079  | -.275 | 350 | 2261 | .004   | .059  | .262  | -.192 |
| 350 | 2246 | -.128  | .053  | .056  | -.443 | 350 | 2254 | .022   | .079  | .513  | -.401 | 350 | 2262 | .049   | .061  | .418  | -.117 |
| 350 | 2247 | -.080  | .053  | .087  | -.350 | 350 | 2255 | .077   | .079  | .571  | -.154 | 350 | 2263 | .009   | .045  | .235  | -.117 |
| 350 | 2248 | -.039  | .034  | .107  | -.207 | 350 | 2256 | .024   | .067  | .430  | -.139 | 350 | 2264 | -.025  | .044  | .117  | -.242 |
| 350 | 2249 | -.045  | .034  | .114  | -.235 | 350 | 2257 | -.048  | .048  | .174  | -.202 | 350 | 2265 | .001   | .042  | .290  | -.177 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 189

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 0  | 2101 | -.251  | .055  | -.059 | -.620  | 0  | 2153 | -.181  | .028  | -.097 | -.339 | 0  | 2206 | -.147  | .040  | -.009 | -.341 |
| 0  | 2102 | -.275  | .078  | -.028 | -.580  | 0  | 2154 | -.159  | .026  | -.056 | -.299 | 0  | 2207 | -.112  | .030  | -.072 | -.274 |
| 0  | 2103 | -.475  | .132  | -.082 | -1.052 | 0  | 2155 | -.153  | .026  | -.044 | -.256 | 0  | 2208 | -.266  | .071  | -.095 | -.717 |
| 0  | 2104 | -.250  | .046  | -.127 | -.441  | 0  | 2156 | -.028  | .075  | .353  | -.239 | 0  | 2209 | -.163  | .039  | -.046 | -.555 |
| 0  | 2105 | -.211  | .053  | -.056 | -.542  | 0  | 2157 | -.111  | .020  | .113  | -.598 | 0  | 2210 | -.140  | .031  | -.018 | -.327 |
| 0  | 2106 | -.523  | .168  | -.009 | -1.432 | 0  | 2158 | -.151  | .030  | -.044 | -.258 | 0  | 2211 | -.029  | .094  | -.472 | -.241 |
| 0  | 2107 | -.158  | .140  | -.650 | -.265  | 0  | 2159 | -.160  | .025  | -.078 | -.251 | 0  | 2212 | -.270  | .064  | -.118 | -.648 |
| 0  | 2108 | -.259  | .047  | -.113 | -.486  | 0  | 2160 | -.150  | .024  | -.056 | -.239 | 0  | 2213 | -.188  | .042  | -.065 | -.422 |
| 0  | 2109 | -.243  | .072  | -.059 | -.693  | 0  | 2161 | -.149  | .026  | -.068 | -.289 | 0  | 2214 | -.150  | .033  | -.037 | -.353 |
| 0  | 2110 | -.457  | .121  | -.005 | -1.059 | 0  | 2162 | -.168  | .032  | -.068 | -.413 | 0  | 2215 | -.147  | .028  | -.053 | -.288 |
| 0  | 2111 | -.096  | .116  | -.620 | -.242  | 0  | 2163 | -.182  | .036  | -.073 | -.418 | 0  | 2216 | -.002  | .130  | -.598 | -.325 |
| 0  | 2112 | -.258  | .011  | -.136 | -.561  | 0  | 2164 | -.296  | .091  | -.001 | -.886 | 0  | 2217 | -.244  | .068  | -.104 | -.641 |
| 0  | 2113 | -.200  | .047  | -.028 | -.462  | 0  | 2165 | -.178  | .053  | -.025 | -.470 | 0  | 2218 | -.220  | .052  | -.074 | -.518 |
| 0  | 2114 | -.450  | .149  | -.012 | -1.188 | 0  | 2166 | -.173  | .032  | -.074 | -.418 | 0  | 2219 | -.195  | .044  | -.090 | -.413 |
| 0  | 2115 | -.024  | .088  | -.378 | -.310  | 0  | 2167 | -.356  | .151  | -.056 | -.126 | 0  | 2220 | -.107  | .047  | -.219 | -.276 |
| 0  | 2116 | -.258  | .041  | -.139 | -.528  | 0  | 2168 | -.328  | .098  | -.034 | -.993 | 0  | 2221 | -.224  | .052  | -.097 | -.783 |
| 0  | 2117 | -.169  | .043  | -.019 | -.416  | 0  | 2170 | -.054  | .097  | .495  | -.301 | 0  | 2222 | -.177  | .041  | -.037 | -.413 |
| 0  | 2118 | -.263  | .116  | -.007 | -.911  | 0  | 2171 | -.036  | .142  | .526  | -.415 | 0  | 2223 | -.158  | .033  | -.030 | -.346 |
| 0  | 2119 | -.097  | .066  | -.338 | -.340  | 0  | 2172 | -.066  | .130  | .617  | -.301 | 0  | 2224 | -.239  | .079  | -.053 | -.590 |
| 0  | 2120 | -.211  | .034  | -.092 | -.425  | 0  | 2173 | -.057  | .092  | .484  | -.284 | 0  | 2225 | -.142  | .028  | -.055 | -.271 |
| 0  | 2121 | -.190  | .046  | -.023 | -.350  | 0  | 2174 | -.001  | .077  | .403  | -.220 | 0  | 2226 | -.136  | .022  | -.048 | -.234 |
| 0  | 2122 | -.188  | .093  | -.073 | -.617  | 0  | 2175 | -.170  | .036  | -.035 | -.358 | 0  | 2227 | -.147  | .028  | -.035 | -.303 |
| 0  | 2123 | -.021  | .048  | -.225 | -.193  | 0  | 2177 | -.166  | .033  | -.063 | -.327 | 0  | 2228 | -.175  | .030  | -.092 | -.305 |
| 0  | 2124 | -.272  | .063  | -.089 | -.683  | 0  | 2178 | -.052  | .053  | .189  | -.230 | 0  | 2229 | -.155  | .027  | -.040 | -.249 |
| 0  | 2125 | -.254  | .068  | -.037 | -.603  | 0  | 2179 | -.024  | .075  | .343  | -.242 | 0  | 2230 | -.118  | .026  | -.035 | -.291 |
| 0  | 2126 | -.225  | .039  | -.068 | -.416  | 0  | 2180 | -.001  | .088  | .394  | -.282 | 0  | 2231 | -.160  | .037  | -.048 | -.387 |
| 0  | 2127 | -.245  | .043  | -.066 | -.453  | 0  | 2181 | -.037  | .053  | .165  | -.249 | 0  | 2233 | -.101  | .028  | -.009 | -.202 |
| 0  | 2128 | -.239  | .038  | -.094 | -.392  | 0  | 2182 | -.114  | .029  | .029  | -.218 | 0  | 2234 | -.105  | .032  | -.036 | -.222 |
| 0  | 2129 | -.269  | .064  | -.010 | -.669  | 0  | 2183 | -.161  | .031  | -.051 | -.275 | 0  | 2235 | -.113  | .022  | -.020 | -.195 |
| 0  | 2130 | -.212  | .034  | -.103 | -.420  | 0  | 2184 | -.164  | .028  | -.058 | -.260 | 0  | 2236 | -.110  | .025  | -.038 | -.219 |
| 0  | 2131 | -.237  | .034  | -.141 | -.390  | 0  | 2185 | -.165  | .027  | -.083 | -.281 | 0  | 2237 | -.111  | .029  | -.004 | -.283 |
| 0  | 2132 | -.261  | .045  | -.155 | -.615  | 0  | 2187 | -.174  | .032  | -.072 | -.334 | 0  | 2238 | -.099  | .036  | -.038 | -.247 |
| 0  | 2133 | -.275  | .050  | -.132 | -.545  | 0  | 2188 | -.060  | .035  | .061  | -.178 | 0  | 2239 | -.108  | .028  | -.003 | -.266 |
| 0  | 2134 | -.205  | .029  | -.082 | -.343  | 0  | 2189 | -.045  | .046  | .196  | -.195 | 0  | 2240 | -.131  | .028  | -.050 | -.291 |
| 0  | 2135 | -.250  | .045  | -.127 | -.465  | 0  | 2190 | -.078  | .037  | .093  | -.239 | 0  | 2241 | -.116  | .034  | -.048 | -.261 |
| 0  | 2136 | -.235  | .063  | -.035 | -.592  | 0  | 2191 | -.129  | .031  | -.013 | -.255 | 0  | 2242 | -.107  | .025  | -.002 | -.254 |
| 0  | 2137 | -.200  | .033  | -.099 | -.392  | 0  | 2192 | -.181  | .028  | -.086 | -.281 | 0  | 2243 | -.129  | .026  | -.043 | -.237 |
| 0  | 2138 | -.218  | .056  | -.068 | -.542  | 0  | 2193 | -.207  | .039  | -.099 | -.468 | 0  | 2244 | -.093  | .031  | -.068 | -.247 |
| 0  | 2139 | -.153  | .053  | -.059 | -.390  | 0  | 2194 | -.186  | .039  | -.025 | -.455 | 0  | 2245 | -.094  | .034  | -.046 | -.242 |
| 0  | 2140 | -.185  | .034  | -.031 | -.336  | 0  | 2195 | -.052  | .038  | .126  | -.160 | 0  | 2246 | -.126  | .031  | -.016 | -.296 |
| 0  | 2141 | -.177  | .025  | -.080 | -.311  | 0  | 2196 | -.058  | .040  | .170  | -.169 | 0  | 2247 | -.184  | .058  | -.025 | -.485 |
| 0  | 2142 | -.191  | .030  | -.087 | -.334  | 0  | 2197 | -.087  | .033  | .031  | -.220 | 0  | 2248 | -.124  | .032  | -.021 | -.256 |
| 0  | 2143 | -.182  | .030  | -.068 | -.277  | 0  | 2198 | -.062  | .050  | .191  | -.227 | 0  | 2249 | -.111  | .023  | -.020 | -.237 |
| 0  | 2144 | -.104  | .063  | -.136 | -.330  | 0  | 2199 | -.083  | .041  | .082  | -.204 | 0  | 2250 | -.131  | .026  | -.050 | -.237 |
| 0  | 2145 | -.152  | .038  | -.039 | -.294  | 0  | 2200 | -.149  | .047  | .010  | -.362 | 0  | 2251 | -.114  | .022  | -.020 | -.190 |
| 0  | 2146 | -.163  | .026  | -.049 | -.313  | 0  | 2201 | -.087  | .045  | .135  | -.241 | 0  | 2252 | -.104  | .035  | -.002 | -.298 |
| 0  | 2147 | -.130  | .057  | -.129 | -.339  | 0  | 2202 | -.204  | .051  | -.039 | -.481 | 0  | 2253 | -.103  | .037  | -.021 | -.244 |
| 0  | 2148 | -.227  | .064  | -.013 | -.515  | 0  | 2204 | -.198  | .048  | -.076 | -.699 | 0  | 2254 | -.141  | .028  | -.023 | -.254 |
| 0  | 2149 | -.222  | .014  | -.104 | -.408  | 0  | 2205 | -.228  | .072  | -.013 | -.585 | 0  | 2255 | -.111  | .025  | -.025 | -.224 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 0  | 2257 | -.141  | .032  | -.045 | -.313  | 10 | 2144 | -.185  | .028  | -.095 | -.315  | 10 | 2197 | -.084  | .039  | .080  | -.300 |
| 0  | 2258 | -.109  | .024  | -.030 | -.212  | 10 | 2145 | -.182  | .031  | -.031 | -.329  | 10 | 2198 | -.086  | .044  | .174  | -.226 |
| 0  | 2259 | -.041  | .041  | .188  | -.156  | 10 | 2146 | -.109  | .071  | .209  | -.425  | 10 | 2199 | -.098  | .045  | .205  | -.258 |
| 0  | 2260 | -.065  | .029  | .041  | -.175  | 10 | 2147 | -.142  | .038  | .042  | -.287  | 10 | 2200 | -.154  | .040  | .009  | -.499 |
| 0  | 2261 | -.093  | .023  | -.008 | -.192  | 10 | 2148 | -.150  | .026  | -.040 | -.278  | 10 | 2201 | -.104  | .041  | .114  | -.271 |
| 0  | 2262 | -.090  | .023  | -.006 | -.183  | 10 | 2149 | -.148  | .027  | -.063 | -.246  | 10 | 2202 | -.183  | .051  | -.059 | -.544 |
| 0  | 2263 | -.093  | .024  | .009  | -.183  | 10 | 2150 | -.126  | .066  | .136  | -.349  | 10 | 2203 | -.215  | .076  | -.014 | -.633 |
| 0  | 2264 | -.146  | .050  | .075  | -.369  | 10 | 2151 | -.213  | .062  | -.006 | -.553  | 10 | 2204 | -.174  | .045  | -.054 | -.510 |
| 0  | 2265 | -.063  | .041  | .134  | -.190  | 10 | 2152 | -.206  | .045  | -.086 | -.425  | 10 | 2205 | -.195  | .057  | -.038 | -.508 |
| 10 | 2101 | -.260  | .058  | -.075 | -.536  | 10 | 2153 | -.175  | .030  | -.082 | -.324  | 10 | 2206 | -.127  | .038  | -.062 | -.314 |
| 10 | 2102 | .303   | .079  | -.019 | -.602  | 10 | 2154 | -.144  | .024  | -.068 | -.251  | 10 | 2207 | -.103  | -.029 | -.000 | -.269 |
| 10 | 2103 | .503   | .151  | -.073 | -1.365 | 10 | 2155 | -.138  | .022  | -.063 | -.223  | 10 | 2208 | -.229  | .059  | -.056 | -.620 |
| 10 | 2104 | .280   | .046  | -.130 | -.464  | 10 | 2156 | -.031  | .082  | .451  | -.175  | 10 | 2209 | -.157  | .039  | -.032 | -.497 |
| 10 | 2105 | -.194  | .044  | -.006 | -.484  | 10 | 2157 | -.093  | .058  | .175  | -.493  | 10 | 2210 | -.138  | .041  | -.032 | -.392 |
| 10 | 2106 | .519   | .210  | .230  | -.1627 | 10 | 2158 | -.139  | .030  | -.036 | -.278  | 10 | 2211 | -.047  | .074  | .311  | -.329 |
| 10 | 2107 | .157   | .138  | .727  | -.270  | 10 | 2159 | -.149  | .025  | -.056 | -.260  | 10 | 2212 | -.234  | .050  | -.108 | -.589 |
| 10 | 2108 | .282   | .047  | -.139 | -.690  | 10 | 2160 | -.138  | .023  | -.056 | -.223  | 10 | 2213 | -.178  | .043  | -.054 | -.461 |
| 10 | 2109 | .231   | .061  | -.005 | -.620  | 10 | 2161 | -.138  | .025  | -.066 | -.244  | 10 | 2214 | -.139  | .035  | -.034 | -.343 |
| 10 | 2110 | .457   | .145  | .214  | -.1074 | 10 | 2162 | -.159  | .027  | -.066 | -.271  | 10 | 2215 | -.141  | .034  | -.043 | -.320 |
| 10 | 2111 | .101   | .115  | .654  | -.254  | 10 | 2163 | -.175  | .035  | -.066 | -.599  | 10 | 2216 | -.034  | .110  | .418  | -.331 |
| 10 | 2112 | .264   | .044  | -.150 | -.606  | 10 | 2164 | -.265  | .079  | .122  | -.759  | 10 | 2217 | -.204  | .054  | -.074 | -.557 |
| 10 | 2113 | .210   | .093  | -.037 | -.563  | 10 | 2165 | -.173  | .039  | -.003 | -.665  | 10 | 2218 | -.197  | .045  | -.090 | -.461 |
| 10 | 2114 | .402   | .130  | .015  | -.128  | 10 | 2166 | -.161  | .031  | -.063 | -.410  | 10 | 2219 | -.169  | .037  | -.072 | -.369 |
| 10 | 2115 | .008   | .077  | .451  | -.265  | 10 | 2167 | -.311  | .140  | -.037 | -1.111 | 10 | 2220 | -.109  | .044  | .143  | -.273 |
| 10 | 2116 | .264   | .041  | -.154 | -.516  | 10 | 2168 | -.294  | .102  | -.008 | -.923  | 10 | 2221 | -.194  | .044  | -.094 | -.499 |
| 10 | 2117 | .174   | .044  | -.008 | -.385  | 10 | 2169 | -.270  | .084  | .070  | -.274  | 10 | 2222 | -.157  | .036  | -.029 | -.376 |
| 10 | 2118 | .291   | .123  | .017  | -.1119 | 10 | 2171 | -.053  | .119  | .550  | -.498  | 10 | 2223 | -.142  | .031  | -.023 | -.309 |
| 10 | 2119 | -.074  | .067  | .293  | -.274  | 10 | 2172 | -.026  | .142  | .552  | -.624  | 10 | 2224 | -.235  | .072  | -.036 | -.566 |
| 10 | 2120 | .226   | .034  | -.082 | -.403  | 10 | 2173 | -.031  | .106  | .463  | -.283  | 10 | 2225 | -.130  | .026  | -.048 | -.242 |
| 10 | 2121 | .200   | .046  | .047  | -.346  | 10 | 2174 | -.025  | .073  | .353  | -.267  | 10 | 2226 | -.119  | .025  | -.031 | -.233 |
| 10 | 2122 | .213   | .107  | .080  | -.1060 | 10 | 2175 | -.159  | .034  | -.061 | -.297  | 10 | 2227 | -.133  | .031  | -.010 | -.322 |
| 10 | 2123 | -.006  | .054  | .227  | -.161  | 10 | 2177 | -.157  | .033  | -.031 | -.333  | 10 | 2228 | -.154  | .029  | -.057 | -.296 |
| 10 | 2124 | .276   | .057  | -.114 | -.773  | 10 | 2178 | -.044  | .055  | .310  | -.207  | 10 | 2229 | -.135  | .028  | -.027 | -.258 |
| 10 | 2125 | -.247  | .068  | .069  | -.593  | 10 | 2179 | -.046  | .058  | .170  | -.336  | 10 | 2230 | -.099  | .025  | -.005 | -.199 |
| 10 | 2126 | .236   | .038  | -.098 | -.417  | 10 | 2180 | -.032  | .077  | .298  | -.336  | 10 | 2231 | -.142  | .036  | -.031 | -.419 |
| 10 | 2127 | .256   | .048  | -.073 | -.489  | 10 | 2181 | -.034  | .060  | .248  | -.230  | 10 | 2233 | -.087  | .026  | .021  | -.246 |
| 10 | 2128 | .253   | .041  | -.064 | -.466  | 10 | 2182 | -.102  | .033  | .060  | -.221  | 10 | 2234 | -.093  | .032  | .044  | -.242 |
| 10 | 2129 | .249   | .067  | .006  | -.575  | 10 | 2183 | -.153  | .028  | -.054 | -.308  | 10 | 2235 | -.096  | .024  | .009  | -.178 |
| 10 | 2130 | .228   | .033  | -.100 | -.389  | 10 | 2184 | -.148  | .025  | -.067 | -.255  | 10 | 2236 | -.087  | .025  | .004  | -.171 |
| 10 | 2131 | -.254  | .037  | .159  | -.482  | 10 | 2185 | -.146  | .026  | -.056 | -.244  | 10 | 2237 | -.088  | .027  | .004  | -.251 |
| 10 | 2132 | .264   | .046  | -.143 | -.493  | 10 | 2187 | -.162  | .024  | -.085 | -.269  | 10 | 2238 | -.089  | .037  | .028  | -.343 |
| 10 | 2133 | .284   | .052  | -.062 | -.595  | 10 | 2188 | -.048  | .036  | .141  | -.166  | 10 | 2239 | -.094  | .026  | -.025 | -.220 |
| 10 | 2134 | .214   | .030  | .122  | -.421  | 10 | 2189 | -.048  | .044  | .138  | -.195  | 10 | 2240 | -.107  | .027  | .023  | -.220 |
| 10 | 2135 | .234   | .044  | -.116 | -.507  | 10 | 2190 | -.086  | .049  | .100  | -.356  | 10 | 2241 | -.094  | .032  | .077  | -.244 |
| 10 | 2136 | .234   | .044  | -.116 | -.507  | 10 | 2190 | -.086  | .049  | .100  | -.356  | 10 | 2242 | -.099  | .027  | -.028 | -.246 |
| 10 | 2137 | .250   | .063  | .060  | -.518  | 10 | 2191 | -.113  | .034  | .029  | -.271  | 10 | 2243 | -.119  | .024  | -.029 | -.218 |
| 10 | 2138 | -.196  | .029  | -.100 | -.340  | 10 | 2192 | -.168  | .029  | -.070 | -.280  | 10 | 2244 | -.080  | .030  | -.030 | -.192 |
| 10 | 2139 | .235   | .055  | -.073 | -.590  | 10 | 2193 | -.195  | .034  | -.095 | -.461  | 10 | 2245 | -.084  | .031  | -.028 | -.211 |
| 10 | 2140 | .140   | .062  | .090  | -.396  | 10 | 2194 | -.128  | .036  | -.043 | -.347  | 10 | 2246 | -.110  | .026  | -.022 | -.239 |
| 10 | 2141 | .165   | .042  | .053  | -.310  | 10 | 2195 | -.043  | .037  | .109  | -.166  | 10 | 2247 | -.156  | .047  | -.020 | -.414 |
| 10 | 2142 | .178   | .030  | -.086 | -.370  | 10 | 2196 | -.051  | .045  | .183  | -.191  | 10 | 2247 | -.156  | .047  | -.020 | -.414 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN     | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN    | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-----------|----|------|--------|-------|-------|----------|----|------|--------|-------|-------|-------|
| 10 | 2248 | -.103  | .033  | .030  | -.242     | 20 | 2133 | -.237  | .060  | -.061 | -.454    | 20 | 2188 | -.028  | .041  | .174  | -.160 |
| 10 | 2249 | -.103  | .024  | -.010 | -.216     | 20 | 2134 | -.208  | .029  | -.108 | -.317    | 20 | 2189 | -.056  | .046  | .206  | -.273 |
| 10 | 2250 | -.126  | .026  | -.048 | -.242     | 20 | 2136 | -.234  | .043  | -.103 | -.506    | 20 | 2190 | -.104  | .056  | .065  | -.407 |
| 10 | 2251 | -.104  | .022  | -.008 | -.202     | 20 | 2137 | -.242  | .058  | -.023 | -.584    | 20 | 2191 | -.107  | .030  | .025  | -.246 |
| 10 | 2252 | -.087  | .034  | .032  | -.270     | 20 | 2138 | -.187  | .025  | -.099 | -.306    | 20 | 2192 | -.155  | .026  | -.066 | -.266 |
| 10 | 2253 | -.087  | .032  | .035  | -.199     | 20 | 2140 | -.229  | .053  | -.090 | -.535    | 20 | 2193 | -.175  | .030  | -.087 | -.345 |
| 10 | 2254 | -.116  | .025  | -.029 | -.211     | 20 | 2141 | -.150  | .062  | -.072 | -.333    | 20 | 2194 | -.167  | .031  | -.008 | -.315 |
| 10 | 2255 | -.099  | .024  | .013  | -.204     | 20 | 2142 | -.156  | .047  | -.039 | -.299    | 20 | 2195 | -.035  | .036  | .286  | -.139 |
| 10 | 2256 | -.097  | .024  | .009  | -.224     | 20 | 2143 | -.172  | .037  | -.065 | -.445    | 20 | 2196 | -.064  | .043  | .161  | -.204 |
| 10 | 2257 | -.127  | .026  | -.050 | -.239     | 20 | 2144 | -.176  | .029  | -.094 | -.379    | 20 | 2197 | -.108  | .049  | .048  | -.436 |
| 10 | 2258 | -.101  | .022  | -.029 | -.199     | 20 | 2145 | -.172  | .030  | -.046 | -.336    | 20 | 2198 | -.097  | .034  | .154  | -.224 |
| 10 | 2259 | -.026  | .050  | .302  | -.161     | 20 | 2146 | -.118  | .062  | -.145 | -.434    | 20 | 2199 | -.118  | .035  | .081  | -.264 |
| 10 | 2260 | -.058  | .027  | .030  | -.168     | 20 | 2147 | -.129  | .034  | -.020 | -.301    | 20 | 2200 | -.147  | .034  | -.021 | -.304 |
| 10 | 2261 | -.078  | .022  | .025  | -.154     | 20 | 2148 | -.133  | .026  | -.005 | -.247    | 20 | 2201 | -.117  | .034  | .065  | -.235 |
| 10 | 2262 | -.075  | .022  | .006  | -.152     | 20 | 2149 | -.133  | .026  | -.046 | -.233    | 20 | 2202 | -.154  | .041  | .001  | -.445 |
| 10 | 2263 | -.086  | .026  | .013  | -.192     | 20 | 2150 | -.110  | .063  | -.113 | -.299    | 20 | 2203 | -.167  | .056  | -.015 | -.542 |
| 10 | 2264 | -.142  | .042  | .002  | -.381     | 20 | 2151 | -.186  | .059  | -.024 | -.447    | 20 | 2204 | -.136  | .037  | -.019 | -.411 |
| 10 | 2265 | -.065  | .031  | .139  | -.173     | 20 | 2152 | -.175  | .040  | -.051 | -.358    | 20 | 2205 | -.164  | .053  | -.013 | -.600 |
| 20 | 2101 | -.243  | .055  | -.076 | -.510     | 20 | 2153 | -.152  | .029  | -.053 | -.281    | 20 | 2206 | -.105  | .032  | -.034 | -.327 |
| 20 | 2102 | -.288  | .074  | -.074 | -.596     | 20 | 2154 | -.127  | .023  | -.019 | -.210    | 20 | 2207 | -.102  | .033  | -.005 | -.306 |
| 20 | 2103 | -.388  | .183  | -.048 | -.1-0.91  | 20 | 2155 | -.123  | .023  | -.049 | -.224    | 20 | 2208 | -.198  | .057  | -.055 | -.589 |
| 20 | 2104 | -.292  | .048  | -.162 | -.513     | 20 | 2156 | -.102  | .026  | .061  | -.291    | 20 | 2209 | -.161  | .056  | -.004 | -.805 |
| 20 | 2105 | -.149  | .057  | .135  | -.328     | 20 | 2157 | -.102  | .044  | -.081 | -.386    | 20 | 2210 | -.142  | .047  | .043  | -.473 |
| 20 | 2106 | -.316  | .307  | .511  | -.1-4.433 | 20 | 2158 | -.130  | .026  | -.014 | -.233    | 20 | 2211 | -.074  | .075  | .235  | -.556 |
| 20 | 2107 | -.151  | .140  | .707  | -.308     | 20 | 2159 | -.130  | .024  | -.055 | -.240    | 20 | 2212 | -.209  | .045  | -.084 | -.431 |
| 20 | 2108 | -.285  | .017  | -.137 | -.506     | 20 | 2160 | -.117  | .021  | -.046 | -.190    | 20 | 2213 | -.164  | .041  | -.035 | -.442 |
| 20 | 2109 | -.213  | .056  | -.033 | -.535     | 20 | 2161 | -.116  | .026  | -.024 | -.281    | 20 | 2214 | -.133  | .034  | -.026 | -.289 |
| 20 | 2110 | -.405  | .165  | .198  | -.1-1.31  | 20 | 2162 | -.146  | .025  | -.055 | -.265    | 20 | 2215 | -.137  | .035  | -.035 | -.315 |
| 20 | 2111 | -.077  | .113  | .525  | -.252     | 20 | 2163 | -.165  | .031  | -.058 | -.443    | 20 | 2216 | -.049  | .084  | .571  | -.338 |
| 20 | 2112 | -.254  | .049  | -.123 | -.843     | 20 | 2164 | -.236  | .067  | -.035 | .718     | 20 | 2217 | -.168  | .048  | -.055 | -.547 |
| 20 | 2113 | -.211  | .057  | -.042 | -.760     | 20 | 2165 | -.172  | .056  | -.015 | -.465    | 20 | 2218 | -.162  | .040  | -.059 | -.413 |
| 20 | 2114 | -.365  | .110  | -.024 | -.866     | 20 | 2166 | -.152  | .028  | -.057 | -.291    | 20 | 2219 | -.139  | .031  | -.035 | -.369 |
| 20 | 2115 | -.019  | .072  | .372  | -.270     | 20 | 2167 | -.256  | .110  | -.058 | -.1-2.22 | 20 | 2220 | -.108  | .055  | -.094 | -.440 |
| 20 | 2116 | -.255  | .044  | -.144 | -.607     | 20 | 2168 | -.234  | .091  | -.056 | -.648    | 20 | 2221 | -.170  | .039  | -.059 | -.424 |
| 20 | 2117 | -.179  | .049  | -.022 | -.416     | 20 | 2170 | -.069  | .073  | -.293 | -.274    | 20 | 2222 | -.133  | .035  | -.019 | -.338 |
| 20 | 2118 | -.312  | .122  | .025  | -.1-0.43  | 20 | 2171 | -.089  | .073  | -.107 | -.420    | 20 | 2223 | -.124  | .030  | -.013 | -.271 |
| 20 | 2119 | -.050  | .066  | .268  | -.258     | 20 | 2172 | -.101  | .093  | -.491 | -.516    | 20 | 2224 | -.210  | .074  | -.035 | -.750 |
| 20 | 2120 | -.219  | .038  | -.078 | -.398     | 20 | 2173 | -.045  | .088  | -.452 | -.279    | 20 | 2225 | -.116  | .026  | -.042 | -.237 |
| 20 | 2121 | -.192  | .054  | .111  | -.362     | 20 | 2174 | -.054  | .070  | -.380 | -.254    | 20 | 2226 | -.105  | .027  | -.014 | -.223 |
| 20 | 2122 | -.249  | .129  | .135  | -.1-0.19  | 20 | 2175 | -.156  | .036  | -.042 | -.331    | 20 | 2227 | -.126  | .044  | -.004 | -.360 |
| 20 | 2123 | -.001  | .047  | .248  | -.132     | 20 | 2177 | -.148  | .031  | -.053 | -.322    | 20 | 2228 | -.138  | .029  | -.033 | -.336 |
| 20 | 2124 | -.249  | .060  | -.078 | -.661     | 20 | 2178 | -.016  | .063  | -.364 | -.192    | 20 | 2229 | -.112  | .027  | -.016 | -.212 |
| 20 | 2125 | -.222  | .060  | .016  | -.492     | 20 | 2179 | -.041  | .054  | -.218 | -.260    | 20 | 2230 | -.084  | .025  | -.038 | -.193 |
| 20 | 2126 | -.217  | .038  | -.087 | -.400     | 20 | 2180 | -.071  | .079  | -.243 | -.409    | 20 | 2231 | -.131  | .033  | -.035 | -.318 |
| 20 | 2127 | -.245  | .057  | -.094 | -.582     | 20 | 2181 | -.042  | .063  | -.275 | -.217    | 20 | 2232 | -.078  | .023  | -.012 | -.164 |
| 20 | 2128 | -.245  | .041  | -.146 | -.472     | 20 | 2182 | -.103  | .034  | -.104 | -.210    | 20 | 2234 | -.095  | .032  | .050  | -.266 |
| 20 | 2129 | -.182  | .080  | .108  | -.461     | 20 | 2183 | -.147  | .031  | -.040 | -.313    | 20 | 2235 | -.088  | .023  | -.003 | -.179 |
| 20 | 2130 | -.221  | .030  | -.123 | -.400     | 20 | 2184 | -.143  | .026  | -.062 | -.269    | 20 | 2236 | -.075  | .025  | -.036 | -.244 |
| 20 | 2131 | -.241  | .041  | -.128 | -.443     | 20 | 2185 | -.138  | .023  | -.057 | -.246    | 20 | 2237 | -.074  | .025  | -.010 | -.169 |
| 20 | 2132 | -.255  | .050  | -.121 | -.596     | 20 | 2187 | -.151  | .023  | -.064 | -.271    | 20 | 2238 | -.077  | .037  | .055  | -.358 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 20 | 2239 | -.074  | .028  | .048  | -.169  | 30 | 2124 | -.212  | .047  | -.043 | -.516 | 30 | 2178 | -.012  | .071  | .354  | -.367 |
| 20 | 2240 | -.080  | .029  | .045  | -.181  | 30 | 2125 | -.197  | .043  | -.025 | .478  | 30 | 2179 | -.069  | .048  | .133  | -.365 |
| 20 | 2241 | -.072  | .029  | .059  | -.207  | 30 | 2126 | -.191  | .036  | -.038 | -.427 | 30 | 2180 | -.109  | .078  | .158  | -.507 |
| 20 | 2242 | -.084  | .025  | .015  | -.219  | 30 | 2127 | -.232  | .067  | -.068 | -.858 | 30 | 2181 | -.063  | .049  | .230  | -.238 |
| 20 | 2243 | -.105  | .024  | -.023 | -.209  | 30 | 2128 | -.215  | .034  | -.126 | -.440 | 30 | 2182 | -.103  | .032  | -.033 | -.206 |
| 20 | 2244 | -.063  | .028  | .055  | -.174  | 30 | 2129 | -.082  | .086  | -.234 | -.335 | 30 | 2183 | -.137  | .029  | -.048 | -.281 |
| 20 | 2245 | -.071  | .031  | .059  | -.223  | 30 | 2130 | -.195  | .030  | -.090 | -.322 | 30 | 2184 | -.139  | .025  | -.057 | -.267 |
| 20 | 2246 | -.087  | .026  | .007  | -.176  | 30 | 2131 | -.224  | .040  | -.126 | -.416 | 30 | 2185 | -.131  | .022  | -.059 | -.227 |
| 20 | 2247 | -.109  | .031  | -.028 | -.240  | 30 | 2132 | -.247  | .060  | -.099 | -.550 | 30 | 2187 | -.139  | .023  | -.070 | -.242 |
| 20 | 2248 | -.079  | .034  | .097  | -.235  | 30 | 2133 | -.153  | .079  | -.187 | -.476 | 30 | 2188 | -.026  | .048  | .290  | -.185 |
| 20 | 2249 | -.098  | .025  | -.023 | -.261  | 30 | 2134 | -.189  | .026  | -.117 | .360  | 30 | 2189 | -.071  | .041  | .098  | -.245 |
| 20 | 2250 | -.117  | .025  | -.037 | -.219  | 30 | 2136 | -.203  | .041  | -.094 | .476  | 30 | 2190 | -.132  | .070  | -.029 | -.408 |
| 20 | 2251 | -.094  | .022  | -.004 | -.181  | 30 | 2137 | -.200  | .058  | -.098 | .505  | 30 | 2191 | -.108  | .025  | -.010 | -.216 |
| 20 | 2252 | -.069  | .034  | .038  | -.226  | 30 | 2138 | -.174  | .022  | -.101 | .288  | 30 | 2192 | -.137  | .023  | -.066 | -.267 |
| 20 | 2253 | -.069  | .032  | .031  | -.174  | 30 | 2140 | -.192  | .035  | -.088 | .400  | 30 | 2193 | -.151  | .026  | -.071 | -.288 |
| 20 | 2254 | -.085  | .024  | .007  | -.176  | 30 | 2141 | -.175  | .054  | -.109 | .396  | 30 | 2194 | -.142  | .027  | -.028 | -.309 |
| 20 | 2255 | -.075  | .024  | .015  | -.157  | 30 | 2142 | -.164  | .041  | -.031 | .311  | 30 | 2195 | -.036  | .038  | .195  | -.165 |
| 20 | 2256 | -.084  | .024  | .007  | -.195  | 30 | 2143 | -.170  | .034  | -.066 | .351  | 30 | 2196 | -.079  | .038  | .087  | -.220 |
| 20 | 2257 | -.112  | .022  | -.040 | -.221  | 30 | 2144 | -.177  | .028  | -.086 | .299  | 30 | 2197 | -.122  | .051  | .018  | -.441 |
| 20 | 2258 | -.093  | .022  | -.016 | -.179  | 30 | 2145 | -.173  | .032  | -.028 | .317  | 30 | 2198 | -.103  | .027  | .065  | -.189 |
| 20 | 2259 | -.016  | .047  | .274  | -.136  | 30 | 2146 | -.106  | .041  | -.065 | .274  | 30 | 2199 | -.116  | .028  | -.089 | -.212 |
| 20 | 2260 | -.047  | .030  | .052  | -.160  | 30 | 2147 | -.116  | .029  | -.027 | .252  | 30 | 2200 | -.126  | .026  | -.039 | -.249 |
| 20 | 2261 | -.060  | .023  | .059  | -.148  | 30 | 2148 | -.110  | .024  | -.025 | .195  | 30 | 2201 | -.114  | .028  | -.014 | -.209 |
| 20 | 2262 | -.062  | .022  | .031  | -.143  | 30 | 2149 | -.109  | .027  | -.019 | .240  | 30 | 2202 | -.142  | .042  | -.024 | -.430 |
| 20 | 2263 | -.077  | .026  | .017  | -.193  | 30 | 2150 | -.089  | .044  | -.081 | .227  | 30 | 2203 | -.136  | .050  | -.003 | -.528 |
| 20 | 2264 | -.126  | .037  | -.023 | -.362  | 30 | 2151 | -.141  | .041  | -.023 | .371  | 30 | 2204 | -.121  | .031  | -.010 | -.349 |
| 20 | 2265 | -.063  | .028  | .090  | -.148  | 30 | 2152 | -.132  | .031  | -.032 | .310  | 30 | 2205 | -.148  | .045  | -.003 | -.488 |
| 30 | 2101 | -.197  | .049  | -.030 | -.483  | 30 | 2153 | -.115  | .023  | -.032 | .240  | 30 | 2206 | -.097  | .030  | .038  | -.231 |
| 30 | 2102 | -.281  | .072  | -.036 | -.594  | 30 | 2154 | -.103  | .025  | -.006 | .229  | 30 | 2207 | -.120  | .038  | -.005 | -.326 |
| 30 | 2103 | -.250  | .163  | .254  | -.179  | 30 | 2155 | -.097  | .024  | -.020 | .190  | 30 | 2208 | -.167  | .047  | -.050 | -.501 |
| 30 | 2104 | -.272  | .049  | -.119 | -.455  | 30 | 2156 | -.059  | .043  | -.131 | .213  | 30 | 2209 | -.183  | .073  | .014  | -.771 |
| 30 | 2105 | -.107  | .072  | .238  | -.340  | 30 | 2157 | -.104  | .030  | -.008 | .254  | 30 | 2210 | -.142  | .054  | .058  | -.494 |
| 30 | 2106 | -.080  | .298  | .528  | -.253  | 30 | 2158 | -.111  | .022  | -.034 | .206  | 30 | 2211 | -.131  | .070  | .255  | -.609 |
| 30 | 2107 | -.117  | .158  | .718  | -.405  | 30 | 2159 | -.103  | .021  | -.032 | .193  | 30 | 2212 | -.205  | .053  | -.090 | -.585 |
| 30 | 2108 | -.249  | .047  | -.090 | -.456  | 30 | 2160 | -.095  | .021  | -.005 | .170  | 30 | 2213 | -.171  | .047  | -.017 | -.391 |
| 30 | 2109 | -.157  | .061  | .234  | -.552  | 30 | 2161 | -.094  | .023  | -.019 | .206  | 30 | 2214 | -.130  | .036  | -.025 | -.324 |
| 30 | 2110 | -.229  | .205  | .486  | -.1250 | 30 | 2162 | -.136  | .024  | -.064 | .265  | 30 | 2215 | -.133  | .038  | -.017 | -.346 |
| 30 | 2111 | -.021  | .107  | .546  | -.480  | 30 | 2163 | -.141  | .029  | -.041 | .324  | 30 | 2216 | -.056  | .077  | .332  | -.309 |
| 30 | 2112 | -.211  | .044  | -.097 | -.572  | 30 | 2164 | -.224  | .079  | -.008 | .479  | 30 | 2217 | -.145  | .040  | -.033 | -.439 |
| 30 | 2113 | -.174  | .057  | .055  | -.554  | 30 | 2165 | -.141  | .042  | -.012 | .419  | 30 | 2218 | -.142  | .039  | -.044 | -.386 |
| 30 | 2114 | -.259  | .111  | .392  | -.802  | 30 | 2166 | -.132  | .027  | -.052 | .315  | 30 | 2219 | -.127  | .030  | -.035 | -.280 |
| 30 | 2115 | -.055  | .061  | .216  | -.380  | 30 | 2167 | -.213  | .079  | -.011 | .842  | 30 | 2220 | -.140  | .057  | .082  | -.492 |
| 30 | 2116 | -.220  | .046  | -.094 | -.634  | 30 | 2168 | -.170  | .062  | -.036 | .523  | 30 | 2221 | -.162  | .039  | -.059 | -.386 |
| 30 | 2117 | -.168  | .044  | -.027 | -.507  | 30 | 2170 | -.040  | .090  | .567  | .306  | 30 | 2222 | -.123  | .035  | .012  | -.333 |
| 30 | 2118 | -.242  | .110  | .008  | -.931  | 30 | 2171 | -.100  | .049  | -.137 | .310  | 30 | 2223 | -.125  | .033  | -.030 | -.342 |
| 30 | 2119 | -.046  | .065  | .325  | -.271  | 30 | 2172 | -.143  | .072  | -.264 | .550  | 30 | 2224 | -.207  | .081  | .018  | -.943 |
| 30 | 2120 | -.200  | .035  | -.076 | -.405  | 30 | 2173 | -.087  | .061  | -.255 | .317  | 30 | 2225 | -.115  | .026  | -.037 | -.223 |
| 30 | 2121 | -.180  | .051  | .165  | -.398  | 30 | 2174 | -.087  | .055  | -.201 | .326  | 30 | 2226 | -.112  | .030  | -.011 | -.240 |
| 30 | 2122 | -.200  | .102  | .075  | -.840  | 30 | 2175 | -.144  | .035  | -.034 | .335  | 30 | 2227 | -.129  | .043  | -.004 | -.445 |
| 30 | 2123 | -.001  | .046  | .305  | -.235  | 30 | 2177 | -.131  | .030  | -.046 | .306  | 30 | 2228 | -.131  | .031  | -.034 | -.354 |

## APPENDIX A -- PRESSURE DATA # CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 30 | 2229 | -.102  | .026  | .005  | -.212  | 40 | 2115 | -.064  | .063  | .231  | -.492 | 40 | 2167 | -.185  | .070  | .124  | -.649 |
| 30 | 2230 | -.079  | .022  | .005  | -.158  | 40 | 2116 | -.174  | .044  | -.001 | -.382 | 40 | 2168 | -.140  | .051  | .041  | -.505 |
| 30 | 2231 | -.123  | .035  | -.016 | -.406  | 40 | 2117 | -.139  | .038  | -.019 | -.312 | 40 | 2170 | -.030  | .085  | .425  | -.308 |
| 30 | 2233 | -.076  | .022  | .003  | -.174  | 40 | 2118 | -.153  | .074  | .049  | -.562 | 40 | 2171 | -.100  | .046  | .102  | -.486 |
| 30 | 2234 | -.106  | .035  | .062  | -.303  | 40 | 2119 | -.068  | .061  | .303  | -.293 | 40 | 2172 | -.157  | .061  | .152  | -.493 |
| 30 | 2235 | -.091  | .025  | .008  | -.188  | 40 | 2120 | -.163  | .040  | .002  | -.335 | 40 | 2173 | -.096  | .040  | .358  | -.329 |
| 30 | 2236 | -.081  | .027  | .008  | -.205  | 40 | 2121 | -.151  | .052  | .250  | -.300 | 40 | 2174 | -.093  | .041  | .159  | -.353 |
| 30 | 2237 | -.079  | .029  | .038  | -.209  | 40 | 2122 | -.159  | .083  | .208  | -.690 | 40 | 2175 | -.122  | .034  | -.033 | -.305 |
| 30 | 2238 | -.050  | .039  | .083  | -.268  | 40 | 2123 | -.019  | .045  | .339  | -.220 | 40 | 2177 | -.117  | .030  | -.019 | -.272 |
| 30 | 2239 | -.056  | .031  | .073  | -.200  | 40 | 2124 | -.204  | .043  | -.057 | -.379 | 40 | 2178 | -.006  | .073  | .462  | -.249 |
| 30 | 2240 | -.065  | .028  | .050  | -.195  | 40 | 2125 | -.209  | .058  | -.075 | -.564 | 40 | 2179 | -.090  | .040  | .069  | -.275 |
| 30 | 2241 | -.065  | .028  | .048  | -.198  | 40 | 2126 | -.189  | .038  | -.066 | -.431 | 40 | 2180 | -.152  | .068  | .048  | -.486 |
| 30 | 2242 | -.077  | .026  | .029  | -.212  | 40 | 2127 | -.234  | .064  | -.047 | -.707 | 40 | 2181 | -.087  | .035  | .102  | -.232 |
| 30 | 2243 | -.096  | .025  | .015  | -.181  | 40 | 2128 | -.214  | .035  | -.115 | -.407 | 40 | 2182 | -.103  | .029  | -.076 | -.199 |
| 30 | 2244 | -.045  | .030  | .062  | -.163  | 40 | 2129 | -.012  | .100  | .423  | -.323 | 40 | 2183 | -.121  | .031  | -.031 | -.360 |
| 30 | 2245 | -.052  | .033  | .059  | -.205  | 40 | 2130 | -.190  | .030  | -.089 | -.300 | 40 | 2184 | -.117  | .028  | -.035 | -.285 |
| 30 | 2246 | -.063  | .027  | .024  | -.167  | 40 | 2131 | -.226  | .045  | -.101 | -.485 | 40 | 2185 | -.108  | .020  | -.045 | -.190 |
| 30 | 2247 | -.083  | .027  | .026  | -.235  | 40 | 2132 | -.241  | .065  | -.082 | -.613 | 40 | 2187 | -.117  | .023  | -.052 | -.248 |
| 30 | 2248 | -.068  | .038  | .188  | -.263  | 40 | 2133 | -.046  | .098  | .346  | -.377 | 40 | 2188 | -.013  | .054  | .282  | -.184 |
| 30 | 2249 | -.092  | .025  | .016  | -.214  | 40 | 2134 | -.182  | .029  | -.094 | -.337 | 40 | 2189 | -.095  | .037  | -.073 | -.244 |
| 30 | 2250 | -.111  | .024  | -.013 | -.242  | 40 | 2136 | -.224  | .057  | -.094 | -.833 | 40 | 2190 | -.161  | .066  | .016  | -.461 |
| 30 | 2251 | -.089  | .024  | .052  | -.207  | 40 | 2137 | -.159  | .083  | -.201 | -.466 | 40 | 2191 | -.103  | .022  | -.009 | -.181 |
| 30 | 2252 | -.051  | .030  | .052  | -.214  | 40 | 2138 | -.173  | .025  | -.094 | -.300 | 40 | 2192 | -.112  | .021  | -.047 | -.258 |
| 30 | 2253 | -.052  | .030  | .064  | -.172  | 40 | 2140 | -.190  | .041  | -.073 | -.576 | 40 | 2193 | -.112  | .025  | -.033 | -.298 |
| 30 | 2254 | -.064  | .026  | .024  | -.167  | 40 | 2141 | -.165  | .047  | -.088 | -.326 | 40 | 2194 | -.117  | .027  | -.005 | -.308 |
| 30 | 2255 | -.062  | .025  | .062  | -.179  | 40 | 2142 | -.166  | .032  | -.095 | -.314 | 40 | 2195 | -.030  | .044  | .284  | -.156 |
| 30 | 2256 | -.081  | .027  | .029  | -.198  | 40 | 2143 | -.167  | .029  | -.073 | -.365 | 40 | 2196 | -.094  | .030  | -.059 | -.232 |
| 30 | 2257 | -.105  | .023  | -.025 | -.209  | 40 | 2144 | -.176  | .031  | -.071 | -.369 | 40 | 2197 | -.139  | .045  | -.019 | -.445 |
| 30 | 2258 | -.084  | .020  | -.009 | -.170  | 40 | 2145 | -.156  | .040  | -.029 | -.282 | 40 | 2198 | -.105  | .023  | -.026 | -.216 |
| 30 | 2259 | -.017  | .041  | .251  | -.132  | 40 | 2146 | -.112  | .033  | .150  | -.275 | 40 | 2199 | -.106  | .021  | -.042 | -.181 |
| 30 | 2260 | -.037  | .029  | .059  | -.153  | 40 | 2147 | -.112  | .030  | -.024 | -.270 | 40 | 2200 | -.110  | .023  | -.047 | -.209 |
| 30 | 2261 | -.045  | .023  | .042  | -.139  | 40 | 2148 | -.100  | .025  | -.016 | -.208 | 40 | 2201 | -.108  | .022  | -.028 | -.202 |
| 30 | 2262 | -.052  | .023  | .043  | -.130  | 40 | 2149 | -.095  | .029  | -.007 | -.239 | 40 | 2202 | -.139  | .047  | -.038 | -.526 |
| 30 | 2263 | -.080  | .027  | .031  | -.160  | 40 | 2150 | -.098  | .038  | -.102 | -.241 | 40 | 2203 | -.115  | .035  | -.010 | -.359 |
| 30 | 2264 | -.103  | .031  | -.006 | -.333  | 40 | 2151 | -.120  | .029  | -.038 | -.339 | 40 | 2204 | -.113  | .032  | -.012 | -.327 |
| 30 | 2265 | -.061  | .024  | .038  | -.135  | 40 | 2152 | -.110  | .026  | -.012 | -.341 | 40 | 2205 | -.130  | .039  | -.008 | -.424 |
| 40 | 2101 | -.156  | .053  | .056  | -.393  | 40 | 2153 | -.100  | .022  | -.023 | -.189 | 40 | 2206 | -.098  | .030  | -.018 | -.253 |
| 40 | 2102 | -.275  | .021  | -.064 | -.580  | 40 | 2154 | -.090  | .025  | -.031 | -.199 | 40 | 2207 | -.117  | .036  | -.001 | -.373 |
| 40 | 2103 | -.313  | .223  | -.154 | -1.534 | 40 | 2155 | -.087  | .023  | -.004 | -.166 | 40 | 2208 | -.161  | .048  | -.047 | -.417 |
| 40 | 2104 | -.272  | .064  | -.075 | -.562  | 40 | 2156 | -.080  | .036  | .083  | -.305 | 40 | 2209 | -.171  | .074  | -.010 | -.713 |
| 40 | 2105 | -.028  | .091  | .327  | -.260  | 40 | 2157 | -.104  | .031  | -.019 | -.341 | 40 | 2210 | -.128  | .055  | -.036 | -.545 |
| 40 | 2106 | -.133  | .167  | .766  | -.676  | 40 | 2158 | -.099  | .020  | -.033 | -.178 | 40 | 2211 | -.146  | .056  | -.048 | -.477 |
| 40 | 2107 | -.087  | .171  | .671  | -.585  | 40 | 2159 | -.092  | .021  | .005  | -.206 | 40 | 2212 | -.190  | .048  | -.054 | -.503 |
| 40 | 2108 | -.226  | .063  | -.003 | -.604  | 40 | 2160 | -.084  | .024  | -.005 | -.194 | 40 | 2213 | -.153  | .048  | -.017 | -.410 |
| 40 | 2109 | -.077  | .074  | .271  | -.305  | 40 | 2161 | -.086  | .023  | -.033 | -.189 | 40 | 2214 | -.110  | .035  | -.009 | -.336 |
| 40 | 2110 | -.028  | .153  | .656  | -.601  | 40 | 2162 | -.116  | .024  | -.047 | -.351 | 40 | 2215 | -.122  | .041  | -.010 | -.431 |
| 40 | 2111 | -.015  | .123  | .535  | -.482  | 40 | 2163 | -.126  | .031  | -.040 | -.329 | 40 | 2216 | -.089  | .058  | -.217 | -.304 |
| 40 | 2112 | -.146  | .043  | -.005 | -.396  | 40 | 2164 | -.200  | .065  | .055  | -.573 | 40 | 2217 | -.130  | .039  | -.040 | -.380 |
| 40 | 2113 | -.109  | .051  | .102  | -.265  | 40 | 2165 | -.124  | .040  | -.012 | -.346 | 40 | 2218 | -.130  | .037  | -.045 | -.433 |
| 40 | 2114 | -.086  | .102  | .289  | -.494  | 40 | 2166 | -.121  | .028  | -.038 | -.262 | 40 | 2219 | -.123  | .029  | -.047 | -.267 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 194

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 40 | 2220 | -.158  | .053  | -.015 | -.489  | 50 | 2106 | .164   | .148  | .714  | -.360 | 50 | 2158 | -.084  | .019  | -.012 | -.143 |
| 40 | 2221 | -.140  | .036  | -.028 | -.378  | 50 | 2107 | -.004  | .151  | .497  | -.694 | 50 | 2159 | -.076  | .020  | -.012 | -.145 |
| 40 | 2222 | -.118  | .034  | -.002 | -.271  | 50 | 2108 | -.177  | .074  | .107  | -.505 | 50 | 2160 | -.071  | .023  | -.012 | -.159 |
| 40 | 2223 | -.123  | .033  | -.022 | -.258  | 50 | 2109 | -.015  | .079  | .310  | -.249 | 50 | 2161 | -.066  | .023  | -.026 | -.133 |
| 40 | 2224 | -.123  | .028  | -.059 | -.732  | 50 | 2110 | .109   | .119  | .601  | -.332 | 50 | 2162 | -.092  | .019  | -.035 | -.175 |
| 40 | 2225 | -.116  | .030  | -.038 | -.247  | 50 | 2111 | -.005  | .118  | .506  | -.470 | 50 | 2163 | -.104  | .023  | -.037 | -.234 |
| 40 | 2226 | -.107  | .030  | -.001 | -.247  | 50 | 2112 | -.112  | .048  | .146  | -.348 | 50 | 2164 | -.125  | .052  | -.030 | -.557 |
| 40 | 2227 | -.127  | .044  | -.003 | -.396  | 50 | 2113 | -.060  | .045  | .208  | -.212 | 50 | 2165 | -.099  | .026  | -.005 | -.271 |
| 40 | 2228 | -.121  | .031  | -.002 | -.306  | 50 | 2114 | -.007  | .068  | .365  | -.313 | 50 | 2166 | -.101  | .024  | -.039 | -.279 |
| 40 | 2229 | -.096  | .025  | .001  | -.240  | 50 | 2115 | -.051  | .067  | .298  | -.336 | 50 | 2167 | -.165  | .058  | .042  | -.660 |
| 40 | 2230 | -.081  | .023  | -.003 | -.183  | 50 | 2116 | -.113  | .039  | .008  | -.380 | 50 | 2168 | -.113  | .039  | .040  | -.409 |
| 40 | 2231 | -.118  | .034  | -.024 | -.333  | 50 | 2117 | -.093  | .037  | .049  | -.276 | 50 | 2170 | -.017  | .061  | .264  | -.206 |
| 40 | 2233 | -.077  | .021  | .006  | -.163  | 50 | 2118 | -.098  | .045  | .070  | -.323 | 50 | 2171 | -.082  | .041  | .218  | -.246 |
| 40 | 2234 | -.104  | .029  | .045  | -.235  | 50 | 2119 | -.082  | .045  | .139  | -.293 | 50 | 2172 | -.147  | .059  | .068  | -.538 |
| 40 | 2235 | -.088  | .024  | -.006 | -.205  | 50 | 2120 | -.101  | .041  | .079  | -.270 | 50 | 2173 | -.083  | .033  | .098  | -.260 |
| 40 | 2236 | -.078  | .027  | .033  | -.198  | 50 | 2121 | -.077  | .070  | .354  | -.221 | 50 | 2174 | -.081  | .033  | .098  | -.222 |
| 40 | 2237 | -.072  | .025  | .023  | -.171  | 50 | 2122 | -.081  | .059  | .185  | -.450 | 50 | 2175 | -.100  | .026  | -.033 | -.217 |
| 40 | 2238 | -.039  | .033  | .082  | -.178  | 50 | 2123 | -.021  | .042  | .208  | -.189 | 50 | 2177 | -.095  | .022  | -.023 | -.201 |
| 40 | 2239 | -.059  | .032  | .065  | -.208  | 50 | 2124 | -.187  | .044  | -.043 | -.415 | 50 | 2178 | -.006  | .059  | .325  | -.194 |
| 40 | 2240 | -.072  | .030  | .052  | -.217  | 50 | 2125 | -.229  | .078  | -.041 | -.840 | 50 | 2179 | -.085  | .032  | .063  | -.229 |
| 40 | 2241 | -.071  | .031  | .084  | -.190  | 50 | 2126 | -.169  | .041  | -.046 | -.369 | 50 | 2180 | -.150  | .059  | .016  | -.536 |
| 40 | 2242 | -.080  | .028  | .023  | -.222  | 50 | 2127 | -.222  | .077  | .001  | -.752 | 50 | 2181 | -.082  | .027  | .101  | -.194 |
| 40 | 2243 | -.099  | .027  | -.004 | -.210  | 50 | 2128 | -.210  | .044  | -.103 | -.452 | 50 | 2182 | -.091  | .024  | .031  | -.194 |
| 40 | 2244 | -.044  | .031  | .055  | -.166  | 50 | 2129 | -.057  | .113  | .541  | -.394 | 50 | 2183 | -.101  | .028  | -.026 | -.388 |
| 40 | 2245 | -.049  | .034  | .072  | -.200  | 50 | 2130 | -.172  | .033  | -.046 | -.396 | 50 | 2184 | -.096  | .023  | -.037 | -.215 |
| 40 | 2246 | -.061  | .026  | .033  | -.166  | 50 | 2131 | -.214  | .050  | -.080 | -.463 | 50 | 2185 | -.090  | .016  | .042  | -.163 |
| 40 | 2247 | -.085  | .027  | .018  | -.308  | 50 | 2132 | -.207  | .060  | -.050 | -.611 | 50 | 2187 | -.097  | .017  | -.032 | -.172 |
| 40 | 2248 | -.064  | .030  | .307  | -.210  | 50 | 2133 | -.010  | .092  | .492  | -.281 | 50 | 2188 | -.007  | .044  | .219  | -.156 |
| 40 | 2249 | -.103  | .027  | -.014 | -.254  | 50 | 2134 | -.172  | .034  | -.064 | -.346 | 50 | 2189 | -.090  | .028  | .032  | -.193 |
| 40 | 2250 | -.115  | .027  | -.024 | -.222  | 50 | 2136 | -.230  | .068  | -.080 | -.637 | 50 | 2190 | -.164  | .056  | -.035 | -.611 |
| 40 | 2251 | -.090  | .027  | .089  | -.190  | 50 | 2137 | -.106  | .091  | -.335 | -.459 | 50 | 2191 | -.089  | .020  | -.012 | -.211 |
| 40 | 2252 | -.058  | .039  | -.077 | -.296  | 50 | 2138 | -.172  | .029  | -.092 | -.323 | 50 | 2192 | -.094  | .020  | -.028 | -.172 |
| 40 | 2253 | -.051  | .029  | .050  | -.208  | 50 | 2140 | -.201  | .050  | -.089 | -.671 | 50 | 2193 | -.093  | .023  | -.014 | -.220 |
| 40 | 2254 | -.062  | .026  | .043  | -.161  | 50 | 2141 | -.143  | .049  | .151  | -.355 | 50 | 2194 | -.098  | .023  | -.028 | -.202 |
| 40 | 2255 | -.062  | .027  | .069  | -.181  | 50 | 2142 | -.177  | .034  | -.027 | -.313 | 50 | 2195 | -.020  | .036  | .148  | -.119 |
| 40 | 2256 | -.090  | .028  | .001  | -.178  | 50 | 2143 | -.165  | .029  | -.084 | -.316 | 50 | 2196 | -.085  | .025  | .020  | -.211 |
| 40 | 2257 | -.107  | .024  | -.002 | -.247  | 50 | 2144 | -.200  | .055  | -.040 | -.526 | 50 | 2197 | -.129  | .040  | -.037 | -.387 |
| 40 | 2258 | -.089  | .021  | -.014 | -.156  | 50 | 2145 | -.102  | .042  | -.136 | -.239 | 50 | 2198 | -.084  | .020  | .004  | -.170 |
| 40 | 2259 | -.026  | .039  | .371  | -.129  | 50 | 2146 | -.100  | .030  | -.005 | -.367 | 50 | 2199 | -.088  | .021  | -.016 | -.188 |
| 40 | 2260 | -.041  | .029  | .084  | -.161  | 50 | 2147 | -.092  | .025  | -.012 | -.210 | 50 | 2200 | -.087  | .021  | -.028 | -.199 |
| 40 | 2261 | -.047  | .024  | .079  | -.127  | 50 | 2148 | -.088  | .025  | -.005 | -.206 | 50 | 2201 | -.092  | .020  | -.010 | -.202 |
| 40 | 2262 | -.056  | .023  | .087  | -.134  | 50 | 2149 | -.086  | .027  | -.019 | -.201 | 50 | 2202 | -.129  | .048  | -.021 | -.618 |
| 40 | 2263 | -.089  | .027  | .020  | -.176  | 50 | 2150 | -.089  | .030  | -.045 | -.194 | 50 | 2203 | -.095  | .030  | -.019 | -.577 |
| 40 | 2264 | -.096  | .025  | -.024 | -.291  | 50 | 2151 | -.100  | .026  | -.009 | -.224 | 50 | 2204 | -.099  | .030  | -.007 | -.289 |
| 40 | 2265 | -.069  | .022  | .025  | -.173  | 50 | 2152 | -.092  | .022  | -.016 | -.196 | 50 | 2205 | -.104  | .031  | -.027 | -.325 |
| 50 | 2101 | -.107  | .066  | .139  | -.376  | 50 | 2153 | -.085  | .023  | -.007 | -.175 | 50 | 2206 | -.090  | .029  | -.025 | -.259 |
| 50 | 2102 | -.231  | .078  | .125  | -.623  | 50 | 2154 | -.074  | .025  | -.028 | -.182 | 50 | 2207 | -.102  | .035  | -.012 | -.305 |
| 50 | 2103 | -.362  | .220  | .176  | -1.560 | 50 | 2155 | -.071  | .024  | -.047 | -.152 | 50 | 2208 | -.137  | .043  | -.010 | -.396 |
| 50 | 2104 | -.249  | .085  | .017  | -.611  | 50 | 2156 | -.068  | .033  | -.147 | -.180 | 50 | 2209 | -.132  | .063  | -.041 | -.483 |
| 50 | 2105 | .018   | .096  | .448  | -.258  | 50 | 2157 | -.088  | .027  | -.007 | -.203 | 50 | 2210 | -.107  | .048  | -.032 | -.394 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 50 | 2211 | -.120  | .046  | -.027 | -.474 | 50 | 2262 | -.057  | .021  | .017  | -.131  | 60 | 2149 | -.074  | .021  | -.003 | -.177 |
| 50 | 2212 | -.145  | .041  | -.039 | -.366 | 50 | 2263 | -.085  | .024  | .029  | -.167  | 60 | 2150 | -.071  | .025  | -.064 | -.184 |
| 50 | 2213 | -.118  | .041  | -.005 | -.316 | 50 | 2264 | -.090  | .023  | -.026 | -.232  | 60 | 2151 | -.078  | .022  | -.010 | -.154 |
| 50 | 2214 | -.093  | .034  | -.016 | -.273 | 50 | 2265 | -.069  | .022  | .044  | -.177  | 60 | 2152 | -.074  | .020  | -.003 | -.145 |
| 50 | 2215 | -.104  | .041  | -.034 | -.403 | 60 | 2101 | -.064  | .069  | .184  | -.327  | 60 | 2153 | -.074  | .019  | -.009 | -.136 |
| 50 | 2216 | -.089  | .038  | -.093 | -.314 | 60 | 2102 | -.157  | .085  | .114  | -.571  | 60 | 2154 | -.068  | .020  | -.000 | -.188 |
| 50 | 2217 | -.111  | .035  | -.028 | -.382 | 60 | 2103 | -.270  | .208  | .168  | -.1462 | 60 | 2155 | -.066  | .020  | -.000 | -.147 |
| 50 | 2218 | -.111  | .036  | -.016 | -.332 | 60 | 2104 | -.177  | .091  | .195  | -.666  | 60 | 2156 | -.064  | .023  | -.061 | -.138 |
| 50 | 2219 | -.110  | .029  | -.037 | -.298 | 60 | 2105 | -.072  | .116  | .543  | -.216  | 60 | 2157 | -.076  | .024  | -.011 | -.197 |
| 50 | 2220 | -.133  | .048  | -.002 | -.398 | 60 | 2106 | -.142  | .130  | .650  | -.155  | 60 | 2158 | -.068  | .018  | -.003 | -.126 |
| 50 | 2221 | -.109  | .029  | -.030 | -.270 | 60 | 2107 | -.039  | .107  | .356  | -.565  | 60 | 2159 | -.066  | .018  | -.005 | -.129 |
| 50 | 2222 | -.103  | .032  | -.000 | -.282 | 60 | 2108 | -.118  | .081  | .200  | .522   | 60 | 2160 | -.064  | .020  | -.009 | -.147 |
| 50 | 2223 | -.104  | .032  | -.010 | -.295 | 60 | 2109 | -.022  | .078  | .453  | -.189  | 60 | 2161 | -.067  | .020  | -.000 | -.152 |
| 50 | 2224 | -.174  | .064  | -.048 | -.472 | 60 | 2110 | .116   | .109  | .620  | -.137  | 60 | 2162 | -.078  | .017  | -.023 | -.158 |
| 50 | 2225 | -.093  | .025  | -.026 | -.218 | 60 | 2111 | -.019  | .104  | .541  | -.436  | 60 | 2163 | -.087  | .022  | -.021 | -.193 |
| 50 | 2226 | -.087  | .026  | -.010 | -.208 | 60 | 2112 | -.077  | .046  | .136  | -.307  | 60 | 2164 | -.148  | .044  | -.023 | -.385 |
| 50 | 2227 | -.108  | .037  | -.017 | -.399 | 60 | 2113 | -.021  | .051  | .290  | -.169  | 60 | 2165 | -.081  | .021  | -.014 | -.200 |
| 50 | 2228 | -.099  | .027  | -.032 | -.307 | 60 | 2114 | -.014  | .062  | .444  | -.225  | 60 | 2166 | -.086  | .022  | -.019 | -.191 |
| 50 | 2229 | -.079  | .023  | -.017 | -.193 | 60 | 2115 | -.042  | .071  | .252  | -.307  | 60 | 2167 | -.130  | .048  | -.029 | -.440 |
| 50 | 2230 | -.072  | .023  | -.020 | -.164 | 60 | 2116 | -.073  | .038  | .087  | -.305  | 60 | 2168 | -.091  | .030  | -.029 | -.277 |
| 50 | 2231 | -.098  | .031  | -.002 | -.360 | 60 | 2117 | -.061  | .030  | .053  | -.250  | 60 | 2170 | -.013  | .049  | -.228 | -.163 |
| 50 | 2233 | -.067  | .023  | -.029 | -.191 | 60 | 2118 | -.069  | .035  | .057  | -.232  | 60 | 2171 | -.065  | .034  | -.132 | -.200 |
| 50 | 2234 | -.086  | .026  | -.051 | -.198 | 60 | 2119 | -.075  | .042  | .075  | -.280  | 60 | 2172 | -.128  | .054  | -.100 | -.396 |
| 50 | 2235 | -.070  | .023  | -.012 | -.145 | 60 | 2120 | -.041  | .043  | .123  | -.182  | 60 | 2173 | -.068  | .028  | -.091 | -.170 |
| 50 | 2236 | -.064  | .022  | -.012 | -.145 | 60 | 2121 | -.029  | .065  | .326  | -.173  | 60 | 2174 | -.069  | .025  | -.084 | -.197 |
| 50 | 2237 | -.063  | .022  | -.007 | -.179 | 60 | 2122 | -.035  | .056  | .227  | -.366  | 60 | 2175 | -.084  | .022  | -.023 | -.190 |
| 50 | 2238 | -.041  | .032  | -.104 | -.179 | 60 | 2123 | -.011  | .053  | .206  | -.144  | 60 | 2177 | -.081  | .019  | -.002 | -.149 |
| 50 | 2239 | -.058  | .030  | -.056 | -.201 | 60 | 2124 | -.173  | .053  | .005  | .501   | 60 | 2178 | -.001  | .048  | -.235 | -.156 |
| 50 | 2240 | -.073  | .028  | -.046 | -.208 | 60 | 2125 | -.254  | .088  | -.024 | .673   | 60 | 2179 | -.073  | .027  | -.045 | -.190 |
| 50 | 2241 | -.064  | .032  | -.114 | -.189 | 60 | 2126 | -.148  | .043  | -.011 | .402   | 60 | 2180 | -.129  | .045  | -.010 | -.431 |
| 50 | 2242 | -.077  | .027  | -.087 | -.206 | 60 | 2127 | -.197  | .080  | -.059 | .621   | 60 | 2181 | -.070  | .023  | -.084 | -.172 |
| 50 | 2243 | -.089  | .022  | -.041 | -.201 | 60 | 2128 | -.247  | .067  | -.106 | .657   | 60 | 2182 | -.077  | .021  | -.025 | -.156 |
| 50 | 2244 | -.044  | .030  | -.068 | -.147 | 60 | 2129 | -.060  | .117  | .534  | -.241  | 60 | 2183 | -.082  | .022  | -.021 | -.241 |
| 50 | 2245 | -.054  | .036  | -.073 | -.305 | 60 | 2130 | -.157  | .040  | .012  | .357   | 60 | 2184 | -.080  | .022  | -.021 | -.212 |
| 50 | 2246 | -.063  | .029  | -.049 | -.510 | 60 | 2131 | -.209  | .061  | -.067 | .531   | 60 | 2185 | -.078  | .016  | -.024 | -.131 |
| 50 | 2247 | -.083  | .025  | -.005 | -.235 | 60 | 2132 | -.208  | .069  | -.058 | .838   | 60 | 2187 | -.079  | .016  | -.028 | -.147 |
| 50 | 2248 | -.047  | .054  | .281  | -.225 | 60 | 2133 | -.026  | .091  | .466  | -.291  | 60 | 2188 | -.020  | .037  | -.122 | -.127 |
| 50 | 2249 | -.094  | .022  | -.003 | -.242 | 60 | 2134 | -.157  | .039  | -.047 | .354   | 60 | 2189 | -.078  | .023  | -.014 | -.162 |
| 50 | 2250 | -.104  | .026  | -.051 | -.237 | 60 | 2136 | -.231  | .076  | -.069 | .813   | 60 | 2190 | -.128  | .039  | -.035 | -.330 |
| 50 | 2251 | -.085  | .030  | -.078 | -.213 | 60 | 2137 | -.054  | .087  | .313  | -.388  | 60 | 2191 | -.075  | .019  | -.001 | -.165 |
| 50 | 2252 | -.064  | .035  | -.058 | -.227 | 60 | 2138 | -.157  | .036  | -.051 | .341   | 60 | 2192 | -.074  | .017  | -.021 | -.151 |
| 50 | 2253 | -.058  | .031  | -.058 | -.191 | 60 | 2140 | -.202  | .063  | -.054 | .619   | 60 | 2193 | -.072  | .018  | -.000 | -.188 |
| 50 | 2254 | -.062  | .024  | -.034 | -.157 | 60 | 2141 | -.104  | .051  | -.177 | .341   | 60 | 2194 | -.077  | .020  | -.001 | -.151 |
| 50 | 2255 | -.063  | .024  | -.012 | -.186 | 60 | 2142 | -.162  | .032  | -.072 | .347   | 60 | 2195 | -.025  | .029  | -.166 | -.111 |
| 50 | 2256 | -.084  | .025  | -.024 | -.179 | 60 | 2143 | -.141  | .028  | -.039 | .284   | 60 | 2196 | -.068  | .022  | -.050 | -.174 |
| 50 | 2257 | -.099  | .022  | -.026 | -.201 | 60 | 2144 | -.189  | .063  | -.012 | .614   | 60 | 2197 | -.098  | .030  | -.021 | -.270 |
| 50 | 2258 | -.084  | .023  | -.020 | -.201 | 60 | 2145 | -.054  | .038  | -.105 | .163   | 60 | 2198 | -.067  | .019  | -.017 | -.142 |
| 50 | 2259 | -.030  | .036  | .191  | -.118 | 60 | 2146 | -.074  | .024  | -.018 | .266   | 60 | 2199 | -.067  | .018  | -.006 | -.124 |
| 50 | 2260 | -.045  | .028  | -.068 | -.232 | 60 | 2147 | -.073  | .021  | -.000 | .156   | 60 | 2200 | -.067  | .018  | -.010 | -.133 |
| 50 | 2261 | -.048  | .022  | -.027 | -.123 | 60 | 2148 | -.072  | .020  | -.011 | .158   | 60 | 2201 | -.073  | .019  | -.001 | -.144 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 196

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 60 | 2202 | -.124  | .047  | -.006 | -.426 | 60 | 2253 | -.076  | .031  | .007  | -.305 | 70 | 2140 | -.225  | .084  | -.080 | -.773 |
| 60 | 2203 | -.089  | .029  | .039  | -.241 | 60 | 2254 | -.065  | .028  | .083  | -.178 | 70 | 2141 | -.079  | .043  | .138  | -.290 |
| 60 | 2204 | -.090  | .030  | .021  | -.245 | 60 | 2255 | -.058  | .024  | .057  | -.154 | 70 | 2142 | -.158  | .041  | -.036 | -.354 |
| 60 | 2205 | -.086  | .028  | .019  | -.252 | 60 | 2256 | -.072  | .023  | .045  | -.178 | 70 | 2143 | -.128  | .030  | -.002 | -.280 |
| 60 | 2206 | -.080  | .028  | .028  | -.207 | 60 | 2257 | -.079  | .021  | .028  | -.182 | 70 | 2144 | -.176  | .059  | .017  | -.636 |
| 60 | 2207 | -.087  | .030  | .005  | -.216 | 60 | 2258 | -.068  | .024  | .059  | -.144 | 70 | 2145 | -.042  | .039  | .147  | -.199 |
| 60 | 2208 | -.108  | .040  | .017  | -.355 | 60 | 2259 | -.015  | .051  | .296  | -.308 | 70 | 2146 | -.055  | .026  | .040  | -.273 |
| 60 | 2209 | -.105  | .055  | .039  | -.523 | 60 | 2260 | -.066  | .040  | .042  | -.341 | 70 | 2147 | -.058  | .023  | .019  | -.229 |
| 60 | 2210 | -.090  | .043  | .039  | -.402 | 60 | 2261 | -.055  | .026  | .033  | -.163 | 70 | 2148 | -.065  | .022  | .008  | -.224 |
| 60 | 2211 | -.106  | .041  | .028  | -.361 | 60 | 2262 | -.056  | .022  | .035  | -.137 | 70 | 2149 | -.068  | .022  | .010  | -.187 |
| 60 | 2212 | -.112  | .037  | .003  | -.332 | 60 | 2263 | -.066  | .023  | .059  | -.154 | 70 | 2150 | -.054  | .025  | .100  | -.173 |
| 60 | 2213 | -.093  | .034  | .012  | -.288 | 60 | 2264 | -.073  | .020  | .014  | -.220 | 70 | 2151 | -.064  | .025  | .019  | -.175 |
| 60 | 2214 | -.081  | .030  | .021  | -.263 | 60 | 2265 | -.062  | .021  | .040  | -.149 | 70 | 2152 | -.063  | .022  | .040  | -.168 |
| 60 | 2215 | -.090  | .036  | .037  | -.297 | 70 | 2101 | -.043  | .084  | .316  | -.443 | 70 | 2153 | -.065  | .019  | -.002 | -.148 |
| 60 | 2216 | -.085  | .033  | .070  | -.261 | 70 | 2102 | -.121  | .098  | .220  | -.102 | 70 | 2154 | -.063  | .020  | .010  | -.141 |
| 60 | 2217 | -.097  | .034  | -.008 | -.323 | 70 | 2103 | -.128  | .106  | .213  | -.949 | 70 | 2155 | -.061  | .020  | .026  | -.127 |
| 60 | 2218 | -.101  | .034  | -.008 | -.285 | 70 | 2104 | -.106  | .091  | .225  | -.786 | 70 | 2156 | -.053  | .023  | .038  | -.145 |
| 60 | 2219 | -.102  | .033  | -.013 | -.319 | 70 | 2105 | -.109  | .129  | .675  | -.281 | 70 | 2157 | -.066  | .023  | .026  | -.199 |
| 60 | 2220 | -.114  | .037  | .019  | -.308 | 70 | 2106 | -.118  | .136  | .630  | -.176 | 70 | 2158 | -.055  | .018  | .012  | -.120 |
| 60 | 2221 | -.087  | .026  | .028  | -.241 | 70 | 2107 | -.093  | .100  | .277  | -.718 | 70 | 2159 | -.056  | .018  | .003  | -.117 |
| 60 | 2222 | -.082  | .028  | -.004 | -.243 | 70 | 2108 | -.054  | .078  | .330  | -.681 | 70 | 2160 | -.055  | .018  | .005  | -.113 |
| 60 | 2223 | -.085  | .028  | .012  | -.196 | 70 | 2109 | -.052  | .092  | .476  | -.160 | 70 | 2161 | -.060  | .020  | .031  | -.134 |
| 60 | 2224 | -.145  | .046  | -.019 | -.346 | 70 | 2110 | -.057  | .093  | .490  | -.130 | 70 | 2162 | -.059  | .018  | -.004 | -.122 |
| 60 | 2225 | -.073  | .022  | -.007 | -.173 | 70 | 2111 | -.035  | .087  | .382  | -.539 | 70 | 2163 | -.071  | .023  | -.004 | -.194 |
| 60 | 2226 | -.072  | .021  | -.005 | -.159 | 70 | 2112 | -.055  | .052  | .209  | -.462 | 70 | 2164 | -.116  | .037  | .010  | -.319 |
| 60 | 2227 | -.087  | .031  | .019  | -.305 | 70 | 2113 | -.008  | .059  | .399  | -.176 | 70 | 2165 | -.065  | .023  | .024  | -.182 |
| 60 | 2228 | -.081  | .025  | .014  | -.258 | 70 | 2114 | -.009  | .057  | .280  | -.240 | 70 | 2166 | -.063  | .022  | .014  | -.163 |
| 60 | 2229 | -.069  | .024  | .028  | -.163 | 70 | 2115 | -.049  | .053  | .257  | -.301 | 70 | 2167 | -.111  | .044  | .035  | -.456 |
| 60 | 2230 | -.063  | .023  | .024  | -.170 | 70 | 2116 | -.050  | .033  | .069  | -.249 | 70 | 2168 | -.074  | .030  | .015  | -.240 |
| 60 | 2231 | -.077  | .027  | .007  | -.267 | 70 | 2117 | -.047  | .034  | .156  | -.178 | 70 | 2170 | -.014  | .042  | .256  | -.189 |
| 60 | 2233 | -.057  | .020  | .031  | -.147 | 70 | 2118 | -.052  | .033  | .106  | -.224 | 70 | 2171 | -.060  | .029  | .126  | -.168 |
| 60 | 2234 | -.070  | .026  | .052  | -.220 | 70 | 2119 | -.060  | .037  | .083  | -.308 | 70 | 2172 | -.123  | .049  | .024  | -.521 |
| 60 | 2235 | -.064  | .019  | .014  | -.132 | 70 | 2120 | -.037  | .039  | .167  | -.217 | 70 | 2173 | -.063  | .023  | .049  | -.168 |
| 60 | 2236 | -.060  | .018  | .002  | -.125 | 70 | 2121 | -.020  | .071  | .291  | -.164 | 70 | 2174 | -.059  | .021  | .038  | -.178 |
| 60 | 2237 | -.057  | .021  | .026  | -.189 | 70 | 2122 | -.022  | .062  | .259  | -.279 | 70 | 2175 | -.062  | .022  | .015  | -.148 |
| 60 | 2238 | -.056  | .029  | .064  | -.178 | 70 | 2123 | -.003  | .048  | .250  | -.279 | 70 | 2177 | -.063  | .019  | -.002 | -.129 |
| 60 | 2239 | -.064  | .029  | .057  | -.182 | 70 | 2124 | -.170  | .053  | -.020 | -.539 | 70 | 2178 | -.011  | .046  | .358  | -.092 |
| 60 | 2240 | -.074  | .027  | .047  | -.215 | 70 | 2125 | -.291  | .103  | -.003 | -.768 | 70 | 2179 | -.062  | .026  | .052  | -.164 |
| 60 | 2241 | -.053  | .032  | .109  | -.189 | 70 | 2126 | -.167  | .049  | -.029 | -.478 | 70 | 2180 | -.135  | .048  | -.011 | -.402 |
| 60 | 2242 | -.067  | .026  | .052  | -.187 | 70 | 2127 | -.194  | .086  | .044  | .697  | 70 | 2181 | -.061  | .021  | .016  | -.143 |
| 60 | 2243 | -.081  | .027  | .052  | -.258 | 70 | 2128 | -.309  | .075  | -.141 | -.693 | 70 | 2182 | -.055  | .019  | .005  | -.124 |
| 60 | 2244 | -.066  | .032  | .068  | -.272 | 70 | 2129 | -.058  | .106  | .529  | -.235 | 70 | 2183 | -.058  | .020  | .005  | -.129 |
| 60 | 2245 | -.067  | .034  | .052  | -.277 | 70 | 2130 | -.176  | .052  | -.013 | -.450 | 70 | 2184 | -.056  | .018  | .012  | -.140 |
| 60 | 2246 | -.067  | .029  | .059  | -.241 | 70 | 2131 | -.209  | .073  | -.064 | .542  | 70 | 2185 | -.061  | .016  | -.006 | -.122 |
| 60 | 2247 | -.079  | .028  | .009  | -.237 | 70 | 2132 | -.253  | .079  | -.059 | .839  | 70 | 2186 | -.060  | .017  | .000  | -.108 |
| 60 | 2248 | -.015  | .055  | .305  | -.204 | 70 | 2133 | -.025  | .086  | .408  | -.304 | 70 | 2187 | -.010  | .046  | .288  | -.095 |
| 60 | 2249 | -.077  | .027  | .094  | -.211 | 70 | 2134 | -.171  | .053  | -.034 | .475  | 70 | 2188 | -.063  | .027  | .048  | -.172 |
| 60 | 2250 | -.089  | .029  | .042  | -.267 | 70 | 2135 | -.267  | .090  | -.077 | .793  | 70 | 2189 | -.063  | .027  | .048  | -.172 |
| 60 | 2251 | -.066  | .040  | .234  | -.199 | 70 | 2137 | -.025  | .070  | .334  | -.297 | 70 | 2190 | -.135  | .051  | -.011 | -.552 |
| 60 | 2252 | -.089  | .032  | .009  | -.201 | 70 | 2138 | -.157  | .037  | -.054 | .343  | 70 | 2191 | -.059  | .018  | .010  | -.131 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|--------|----|------|--------|-------|-------|-------|
| 70 | 2193 | -.053  | .019  | .010  | -.129 | 70 | 2244 | -.075  | .026  | .010  | -.188  | 80 | 2129 | -.032  | .071  | .312  | -.321 |
| 70 | 2194 | -.055  | .018  | .021  | -.122 | 70 | 2245 | -.071  | .031  | .056  | -.320  | 80 | 2130 | -.149  | .037  | -.028 | -.344 |
| 70 | 2195 | -.007  | .033  | .152  | -.099 | 70 | 2246 | -.070  | .031  | .089  | -.337  | 80 | 2131 | -.166  | .048  | -.048 | -.420 |
| 70 | 2196 | -.056  | .024  | .053  | -.151 | 70 | 2247 | -.079  | .036  | .084  | -.289  | 80 | 2132 | -.196  | .056  | -.030 | -.546 |
| 70 | 2197 | -.100  | .040  | -.002 | -.305 | 70 | 2248 | -.031  | .056  | .446  | -.203  | 80 | 2133 | -.028  | .068  | .319  | -.239 |
| 70 | 2198 | -.052  | .018  | .021  | -.115 | 70 | 2249 | -.071  | .030  | .044  | -.198  | 80 | 2134 | -.144  | .036  | -.028 | -.590 |
| 70 | 2199 | -.048  | .018  | .030  | -.106 | 70 | 2250 | -.085  | .036  | .056  | -.387  | 80 | 2135 | -.195  | .054  | -.048 | -.617 |
| 70 | 2200 | -.048  | .018  | .019  | -.167 | 70 | 2251 | -.049  | .060  | .525  | -.172  | 80 | 2136 | -.050  | .063  | .287  | -.312 |
| 70 | 2201 | -.052  | .018  | .016  | -.142 | 70 | 2252 | -.097  | .033  | -.004 | -.325  | 80 | 2138 | -.143  | .030  | -.057 | -.351 |
| 70 | 2202 | -.110  | .050  | .050  | -.439 | 70 | 2253 | -.082  | .028  | .046  | -.267  | 80 | 2140 | -.175  | .051  | -.039 | -.500 |
| 70 | 2203 | -.079  | .030  | .057  | -.289 | 70 | 2254 | -.067  | .030  | .135  | -.164  | 80 | 2141 | -.085  | .038  | -.099 | -.246 |
| 70 | 2204 | -.082  | .031  | .048  | -.210 | 70 | 2255 | -.057  | .028  | .068  | -.181  | 80 | 2142 | -.140  | .028  | -.046 | -.285 |
| 70 | 2205 | -.074  | .033  | .064  | -.253 | 70 | 2256 | -.063  | .027  | .075  | -.174  | 80 | 2143 | -.131  | .027  | -.020 | -.252 |
| 70 | 2206 | -.067  | .031  | .053  | -.197 | 70 | 2257 | -.069  | .024  | .065  | -.200  | 80 | 2144 | -.169  | .055  | -.031 | -.459 |
| 70 | 2207 | -.070  | .030  | .048  | -.199 | 70 | 2258 | -.057  | .031  | .190  | -.150  | 80 | 2145 | -.067  | .035  | -.069 | -.185 |
| 70 | 2208 | -.078  | .033  | .041  | -.285 | 70 | 2259 | -.006  | .048  | .257  | -.129  | 80 | 2146 | -.086  | .026  | -.006 | -.227 |
| 70 | 2209 | -.087  | .044  | .025  | -.462 | 70 | 2260 | -.089  | .055  | .087  | -.368  | 80 | 2147 | -.083  | .026  | -.001 | -.224 |
| 70 | 2210 | -.084  | .038  | .021  | -.382 | 70 | 2261 | -.055  | .030  | .070  | -.169  | 80 | 2148 | -.089  | .026  | -.008 | -.227 |
| 70 | 2211 | -.076  | .034  | .057  | -.237 | 70 | 2262 | -.054  | .024  | .039  | -.117  | 80 | 2149 | -.089  | .027  | -.001 | -.241 |
| 70 | 2212 | -.076  | .028  | .053  | -.224 | 70 | 2263 | -.059  | .024  | .070  | -.131  | 80 | 2150 | -.073  | .029  | -.111 | -.178 |
| 70 | 2213 | -.075  | .026  | .023  | -.208 | 70 | 2264 | -.061  | .025  | .070  | -.181  | 80 | 2151 | -.090  | .024  | -.015 | -.211 |
| 70 | 2214 | -.078  | .028  | .023  | -.226 | 70 | 2265 | -.058  | .023  | .070  | -.124  | 80 | 2152 | -.086  | .022  | -.006 | -.169 |
| 70 | 2215 | -.090  | .036  | .019  | -.337 | 80 | 2101 | -.089  | .062  | .193  | -.386  | 80 | 2153 | -.089  | .020  | -.024 | -.194 |
| 70 | 2216 | -.082  | .038  | .136  | -.269 | 80 | 2102 | -.133  | .076  | .269  | -.675  | 80 | 2154 | -.081  | .022  | -.017 | -.297 |
| 70 | 2217 | -.084  | .035  | .021  | -.455 | 80 | 2103 | -.145  | .090  | .133  | -1.005 | 80 | 2155 | -.077  | .022  | -.006 | -.166 |
| 70 | 2218 | -.083  | .032  | .039  | -.237 | 80 | 2104 | -.110  | .069  | .154  | -.700  | 80 | 2156 | -.074  | .024  | -.066 | -.155 |
| 70 | 2219 | -.090  | .033  | .030  | -.258 | 80 | 2105 | -.011  | .078  | .395  | -.298  | 80 | 2157 | -.088  | .023  | -.003 | -.194 |
| 70 | 2220 | -.076  | .027  | .010  | -.201 | 80 | 2106 | -.102  | .100  | .535  | -.195  | 80 | 2158 | -.080  | .019  | -.008 | -.159 |
| 70 | 2221 | -.076  | .028  | .012  | -.231 | 80 | 2107 | -.106  | .076  | .165  | -.675  | 80 | 2159 | -.080  | .019  | -.010 | -.145 |
| 70 | 2222 | -.063  | .027  | .032  | -.149 | 80 | 2108 | -.082  | .056  | .115  | -.347  | 80 | 2160 | -.078  | .021  | -.008 | -.143 |
| 70 | 2223 | -.068  | .028  | .039  | -.240 | 80 | 2109 | -.009  | .072  | .360  | -.156  | 80 | 2161 | -.076  | .021  | -.015 | -.150 |
| 70 | 2224 | -.077  | .028  | .025  | -.199 | 80 | 2110 | -.023  | .089  | .583  | -.207  | 80 | 2162 | -.085  | .019  | -.015 | -.169 |
| 70 | 2225 | -.064  | .021  | .013  | -.136 | 80 | 2111 | -.071  | .068  | .195  | -.395  | 80 | 2163 | -.090  | .023  | -.010 | -.211 |
| 70 | 2226 | -.069  | .021  | -.004 | -.145 | 80 | 2112 | -.078  | .047  | .099  | -.429  | 80 | 2164 | -.117  | .029  | -.029 | -.250 |
| 70 | 2227 | -.079  | .031  | .025  | -.279 | 80 | 2113 | -.014  | .060  | .335  | -.156  | 80 | 2165 | -.095  | .026  | -.010 | -.250 |
| 70 | 2228 | -.069  | .026  | .036  | -.208 | 80 | 2114 | -.010  | .071  | .427  | -.172  | 80 | 2166 | -.086  | .022  | -.010 | -.198 |
| 70 | 2229 | -.061  | .025  | .058  | -.155 | 80 | 2115 | -.070  | .055  | .163  | -.340  | 80 | 2167 | -.114  | .030  | -.031 | -.329 |
| 70 | 2230 | -.059  | .025  | .051  | -.164 | 80 | 2116 | -.074  | .037  | .071  | -.301  | 80 | 2168 | -.099  | .028  | -.008 | -.264 |
| 70 | 2231 | -.063  | .025  | .034  | -.193 | 80 | 2117 | -.055  | .037  | .152  | -.186  | 80 | 2170 | -.070  | .033  | -.090 | -.169 |
| 70 | 2232 | -.051  | .021  | .027  | -.129 | 80 | 2118 | -.059  | .040  | .131  | -.202  | 80 | 2171 | -.095  | .026  | -.022 | -.208 |
| 70 | 2233 | -.058  | .020  | .008  | -.141 | 80 | 2119 | -.071  | .039  | .119  | -.262  | 80 | 2172 | -.131  | .038  | -.024 | -.397 |
| 70 | 2234 | -.062  | .020  | .005  | -.150 | 80 | 2120 | -.063  | .035  | .099  | -.181  | 80 | 2173 | -.096  | .023  | -.024 | -.224 |
| 70 | 2235 | -.065  | .020  | .010  | -.131 | 80 | 2121 | -.058  | .049  | .223  | -.184  | 80 | 2174 | -.090  | .023  | -.008 | -.269 |
| 70 | 2236 | -.056  | .019  | .017  | -.131 | 80 | 2122 | -.049  | .054  | .236  | -.209  | 80 | 2175 | -.088  | .023  | -.013 | -.227 |
| 70 | 2237 | -.065  | .029  | .082  | -.179 | 80 | 2123 | -.038  | .041  | .168  | -.156  | 80 | 2176 | -.089  | .021  | -.010 | -.178 |
| 70 | 2238 | -.073  | .031  | .106  | -.229 | 80 | 2124 | -.150  | .046  | .069  | -.392  | 80 | 2177 | -.039  | .047  | .206  | -.159 |
| 70 | 2239 | -.082  | .030  | .034  | -.255 | 80 | 2125 | -.217  | .085  | .298  | -.670  | 80 | 2178 | -.094  | .029  | .020  | -.220 |
| 70 | 2240 | -.055  | .039  | .139  | -.200 | 80 | 2126 | -.143  | .033  | -.034 | -.289  | 80 | 2179 | -.094  | .029  | -.020 | -.159 |
| 70 | 2241 | -.066  | .034  | .101  | -.243 | 80 | 2127 | -.149  | .052  | .051  | -.539  | 80 | 2180 | -.162  | .050  | -.055 | -.604 |
| 70 | 2242 | -.079  | .035  | .080  | -.397 | 80 | 2128 | -.236  | .066  | .021  | -.794  | 80 | 2181 | -.093  | .022  | -.022 | -.183 |
| 70 | 2243 | -.079  | .035  | .080  | -.397 | 80 | 2129 | -.236  | .066  | .021  | -.794  | 80 | 2182 | -.084  | .020  | -.008 | -.155 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|----|------|--------|-------|-------|-------|
| 80 | 2183 | -.082  | .021  | -.008 | -.162 | 80 | 2235 | -.101  | .021  | -.025 | -.200 | 90 | 2120 | -.082  | .028  | .076  | -.164 |
| 80 | 2184 | -.082  | .020  | -.030 | -.169 | 80 | 2236 | -.099  | .021  | -.022 | -.191 | 90 | 2121 | -.096  | .035  | .130  | -.283 |
| 80 | 2185 | -.084  | .018  | -.019 | -.144 | 80 | 2237 | -.092  | .018  | -.034 | -.164 | 90 | 2122 | -.096  | .026  | .214  | -.198 |
| 80 | 2187 | -.085  | .017  | -.030 | -.139 | 80 | 2238 | -.078  | .032  | -.074 | -.217 | 90 | 2123 | -.097  | .023  | .004  | -.173 |
| 80 | 2188 | -.026  | .048  | -.168 | -.144 | 80 | 2239 | -.089  | .035  | -.067 | -.301 | 90 | 2124 | -.129  | .048  | .121  | -.537 |
| 80 | 2189 | -.087  | .028  | -.034 | -.198 | 80 | 2240 | -.110  | .034  | -.023 | -.311 | 90 | 2125 | -.139  | .080  | .245  | -.598 |
| 80 | 2190 | -.177  | .056  | -.060 | -.430 | 80 | 2241 | -.068  | .043  | -.148 | -.253 | 90 | 2126 | -.129  | .035  | -.026 | -.344 |
| 80 | 2191 | -.090  | .020  | -.028 | -.180 | 80 | 2242 | -.082  | .040  | -.079 | -.306 | 90 | 2127 | -.106  | .044  | -.094 | -.494 |
| 80 | 2192 | -.085  | .021  | -.014 | -.164 | 80 | 2243 | -.095  | .046  | -.177 | -.380 | 90 | 2128 | -.115  | .066  | .137  | -.439 |
| 80 | 2193 | -.083  | .020  | -.022 | -.152 | 80 | 2244 | -.087  | .027  | -.014 | -.198 | 90 | 2129 | -.061  | .070  | .408  | -.347 |
| 80 | 2194 | -.086  | .021  | -.010 | -.164 | 80 | 2245 | -.083  | .028  | -.004 | -.195 | 90 | 2130 | -.124  | .028  | -.035 | -.340 |
| 80 | 2195 | -.039  | .035  | .211  | -.171 | 80 | 2246 | -.088  | .032  | .083  | -.248 | 90 | 2131 | -.107  | .028  | -.003 | -.231 |
| 80 | 2196 | -.083  | .027  | .061  | -.178 | 80 | 2247 | -.125  | .048  | .004  | -.428 | 90 | 2132 | -.108  | .062  | .209  | -.525 |
| 80 | 2197 | -.137  | .041  | -.007 | -.371 | 80 | 2248 | -.027  | .080  | .530  | -.279 | 90 | 2133 | -.071  | .048  | .110  | -.340 |
| 80 | 2198 | -.088  | .020  | -.007 | -.162 | 80 | 2249 | -.096  | .037  | .057  | -.287 | 90 | 2134 | -.120  | .030  | -.026 | -.369 |
| 80 | 2199 | -.082  | .021  | -.005 | -.157 | 80 | 2250 | -.123  | .060  | .052  | -.597 | 90 | 2135 | -.120  | .041  | .033  | -.301 |
| 80 | 2200 | -.082  | .020  | -.014 | -.198 | 80 | 2251 | -.059  | .071  | .494  | -.282 | 90 | 2136 | -.087  | .035  | .067  | -.238 |
| 80 | 2201 | -.086  | .022  | -.016 | -.169 | 80 | 2252 | -.111  | .032  | -.008 | -.316 | 90 | 2137 | -.120  | .028  | -.026 | -.426 |
| 80 | 2202 | -.142  | .049  | .045  | -.641 | 80 | 2253 | -.095  | .025  | -.006 | -.251 | 90 | 2140 | -.123  | .033  | .074  | -.263 |
| 80 | 2203 | -.117  | .035  | .029  | -.296 | 80 | 2254 | -.081  | .027  | .033  | -.198 | 90 | 2141 | -.094  | .026  | .015  | -.186 |
| 80 | 2204 | -.116  | .035  | .034  | -.264 | 80 | 2255 | -.079  | .031  | .074  | -.193 | 90 | 2142 | -.116  | .025  | .004  | -.274 |
| 80 | 2205 | -.107  | .038  | .040  | -.323 | 80 | 2256 | -.083  | .031  | .079  | -.174 | 90 | 2143 | -.112  | .024  | -.024 | -.191 |
| 80 | 2206 | -.100  | .033  | .029  | -.278 | 80 | 2257 | -.094  | .031  | .074  | -.265 | 90 | 2144 | -.123  | .029  | .022  | -.283 |
| 80 | 2207 | -.103  | .030  | .061  | -.225 | 80 | 2258 | -.077  | .040  | .228  | -.212 | 90 | 2145 | -.087  | .032  | .054  | -.173 |
| 80 | 2208 | -.114  | .033  | .013  | -.310 | 80 | 2259 | -.048  | .040  | .151  | -.318 | 90 | 2146 | -.073  | .023  | .001  | -.230 |
| 80 | 2209 | -.121  | .035  | -.025 | -.325 | 80 | 2260 | -.083  | .037  | .047  | -.296 | 90 | 2147 | -.074  | .021  | -.024 | -.159 |
| 80 | 2210 | -.121  | .031  | -.007 | -.478 | 80 | 2261 | -.072  | .029  | .023  | -.181 | 90 | 2148 | -.084  | .020  | -.003 | -.159 |
| 80 | 2211 | -.111  | .031  | .043  | -.257 | 80 | 2262 | -.071  | .029  | .127  | -.150 | 90 | 2149 | -.091  | .025  | -.008 | -.184 |
| 80 | 2212 | -.109  | .027  | .002  | -.266 | 80 | 2263 | -.075  | .031  | .079  | -.150 | 90 | 2150 | -.068  | .025  | .049  | -.150 |
| 80 | 2213 | -.110  | .022  | -.016 | -.205 | 80 | 2264 | -.082  | .029  | .105  | -.219 | 90 | 2151 | -.081  | .022  | .019  | -.161 |
| 80 | 2214 | -.115  | .025  | -.025 | -.248 | 80 | 2265 | -.080  | .029  | .117  | -.195 | 90 | 2152 | -.080  | .021  | -.001 | -.168 |
| 80 | 2215 | -.120  | .031  | -.028 | -.346 | 90 | 2101 | -.098  | .075  | .284  | -.451 | 90 | 2153 | -.088  | .020  | -.013 | -.166 |
| 80 | 2216 | -.121  | .046  | .061  | -.373 | 90 | 2102 | -.120  | .069  | .178  | -.550 | 90 | 2154 | -.080  | .021  | .008  | -.177 |
| 80 | 2217 | -.118  | .036  | .020  | -.357 | 90 | 2103 | -.110  | .052  | .119  | -.399 | 90 | 2155 | -.076  | .022  | .015  | -.159 |
| 80 | 2218 | -.121  | .038  | .013  | -.344 | 90 | 2104 | -.076  | .070  | .390  | .677  | 90 | 2156 | -.073  | .021  | .061  | -.150 |
| 80 | 2219 | -.125  | .035  | .047  | -.355 | 90 | 2105 | -.075  | .082  | .404  | -.496 | 90 | 2157 | -.080  | .019  | .008  | -.148 |
| 80 | 2220 | -.107  | .027  | .011  | -.246 | 90 | 2106 | -.083  | .054  | .379  | -.333 | 90 | 2158 | -.073  | .020  | .019  | -.139 |
| 80 | 2221 | -.113  | .036  | .004  | -.366 | 90 | 2107 | -.116  | .041  | .038  | -.358 | 90 | 2159 | -.075  | .021  | .008  | -.145 |
| 80 | 2222 | -.099  | .029  | .025  | -.198 | 90 | 2108 | -.080  | .046  | .137  | -.338 | 90 | 2160 | -.073  | .021  | .029  | -.155 |
| 80 | 2223 | -.103  | .025  | .006  | -.214 | 90 | 2109 | -.077  | .061  | .142  | -.473 | 90 | 2161 | -.075  | .022  | .006  | -.148 |
| 80 | 2224 | -.099  | .023  | -.028 | -.216 | 90 | 2110 | -.085  | .040  | .225  | -.270 | 90 | 2162 | -.068  | .020  | .001  | -.129 |
| 80 | 2225 | -.100  | .020  | -.030 | -.179 | 90 | 2111 | -.112  | .035  | .013  | -.326 | 90 | 2163 | -.071  | .022  | .038  | -.159 |
| 80 | 2226 | -.100  | .020  | -.032 | -.270 | 90 | 2112 | -.085  | .033  | .058  | -.304 | 90 | 2164 | -.099  | .025  | .019  | -.329 |
| 80 | 2227 | -.103  | .025  | -.018 | -.246 | 90 | 2113 | -.076  | .040  | .069  | -.308 | 90 | 2165 | -.095  | .030  | .006  | -.271 |
| 80 | 2228 | -.103  | .034  | .047  | -.349 | 90 | 2114 | -.084  | .035  | .121  | -.252 | 90 | 2166 | -.067  | .021  | -.003 | -.138 |
| 80 | 2229 | -.090  | .027  | .035  | -.193 | 90 | 2115 | -.105  | .035  | .038  | -.455 | 90 | 2167 | -.095  | .026  | -.003 | -.203 |
| 80 | 2230 | -.089  | .024  | -.015 | -.195 | 90 | 2116 | -.084  | .028  | .065  | -.188 | 90 | 2168 | -.094  | .028  | .001  | -.255 |
| 80 | 2231 | -.092  | .033  | .115  | -.255 | 90 | 2117 | -.079  | .036  | .110  | -.256 | 90 | 2169 | -.093  | .025  | .015  | -.187 |
| 80 | 2232 | -.086  | .022  | .009  | -.167 | 90 | 2118 | -.085  | .027  | .035  | -.186 | 90 | 2171 | -.094  | .024  | .015  | -.210 |
| 80 | 2233 | -.088  | .021  | -.010 | -.167 | 90 | 2119 | -.103  | .031  | .004  | -.315 | 90 | 2172 | -.100  | .024  | -.029 | -.226 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 199

| WD | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 90 | 2173 | -.092  | .027  | .015  | -.287 | 90  | 2225 | -.100  | .020  | -.040 | -.187 | 100 | 2111 | -.142  | .035  | .013  | -.460 |
| 90 | 2174 | -.080  | .025  | .008  | -.260 | 90  | 2226 | -.100  | .019  | -.040 | -.172 | 100 | 2112 | -.083  | .039  | .137  | -.309 |
| 90 | 2175 | -.076  | .027  | -.063 | -.194 | 90  | 2227 | -.097  | .023  | -.007 | -.196 | 100 | 2113 | -.159  | .055  | .043  | -.497 |
| 90 | 2177 | -.078  | .022  | -.006 | -.180 | 90  | 2228 | -.095  | .026  | -.009 | -.234 | 100 | 2114 | -.134  | .042  | .034  | -.385 |
| 90 | 2178 | -.082  | .040  | .113  | -.187 | 90  | 2229 | -.090  | .021  | -.007 | -.187 | 100 | 2115 | -.142  | .036  | .002  | -.396 |
| 90 | 2179 | -.090  | .027  | .063  | -.180 | 90  | 2230 | -.092  | .019  | -.023 | -.177 | 100 | 2116 | -.092  | .029  | .038  | -.186 |
| 90 | 2180 | -.118  | .037  | -.015 | -.324 | 90  | 2231 | -.090  | .023  | -.009 | -.170 | 100 | 2117 | -.146  | .043  | .009  | -.513 |
| 90 | 2181 | -.083  | .023  | -.017 | -.177 | 90  | 2233 | -.089  | .020  | -.019 | -.158 | 100 | 2118 | -.124  | .036  | -.010 | -.483 |
| 90 | 2182 | -.070  | .022  | .013  | -.223 | 90  | 2234 | -.091  | .020  | -.007 | -.168 | 100 | 2119 | -.135  | .039  | .029  | -.577 |
| 90 | 2183 | -.069  | .023  | .022  | -.157 | 90  | 2235 | -.106  | .020  | -.037 | -.177 | 100 | 2120 | -.070  | .034  | .102  | -.168 |
| 90 | 2184 | -.064  | .020  | .001  | -.133 | 90  | 2236 | -.103  | .021  | -.040 | -.208 | 100 | 2121 | -.148  | .057  | .098  | -.442 |
| 90 | 2185 | -.065  | .019  | .005  | -.131 | 90  | 2237 | -.093  | .019  | -.035 | -.175 | 100 | 2122 | -.123  | .028  | .029  | -.255 |
| 90 | 2187 | -.071  | .018  | -.008 | -.180 | 90  | 2238 | -.100  | .025  | -.038 | -.402 | 100 | 2123 | -.120  | .026  | -.005 | -.229 |
| 90 | 2188 | -.068  | .047  | .196  | -.189 | 90  | 2239 | -.098  | .026  | -.017 | -.208 | 100 | 2124 | -.139  | .045  | .077  | -.417 |
| 90 | 2189 | -.080  | .027  | .046  | -.169 | 90  | 2240 | -.110  | .026  | -.019 | -.241 | 100 | 2125 | -.179  | .106  | .194  | -.703 |
| 90 | 2190 | -.123  | .044  | -.035 | -.406 | 90  | 2241 | -.082  | .030  | -.036 | -.196 | 100 | 2126 | -.125  | .032  | .018  | -.261 |
| 90 | 2191 | -.079  | .021  | .017  | -.158 | 90  | 2242 | -.092  | .027  | -.057 | -.236 | 100 | 2127 | -.079  | .047  | .171  | -.460 |
| 90 | 2192 | -.070  | .022  | .019  | -.160 | 90  | 2243 | -.103  | .035  | -.034 | -.274 | 100 | 2128 | -.042  | .087  | .274  | -.440 |
| 90 | 2193 | -.069  | .021  | .001  | -.152 | 90  | 2244 | -.114  | .023  | -.049 | -.255 | 100 | 2129 | -.021  | .087  | .404  | -.390 |
| 90 | 2194 | -.071  | .020  | .001  | -.145 | 90  | 2245 | -.100  | .024  | -.005 | -.206 | 100 | 2130 | -.125  | .031  | -.035 | -.415 |
| 90 | 2195 | -.073  | .031  | .077  | -.196 | 90  | 2246 | -.092  | .025  | -.026 | -.198 | 100 | 2131 | -.075  | .037  | .059  | -.243 |
| 90 | 2196 | -.076  | .026  | .055  | -.176 | 90  | 2247 | -.110  | .034  | -.008 | -.312 | 100 | 2132 | -.020  | .089  | .400  | -.591 |
| 90 | 2197 | -.096  | .029  | -.006 | -.342 | 90  | 2248 | -.058  | .047  | -.237 | -.179 | 100 | 2133 | -.029  | .073  | .386  | -.419 |
| 90 | 2198 | -.073  | .019  | -.008 | -.142 | 90  | 2249 | -.094  | .025  | -.014 | -.191 | 100 | 2134 | -.124  | .032  | -.014 | -.291 |
| 90 | 2199 | -.068  | .020  | .003  | -.149 | 90  | 2250 | -.117  | .054  | -.026 | -.572 | 100 | 2136 | -.035  | .064  | .292  | -.433 |
| 90 | 2200 | -.068  | .022  | .014  | -.145 | 90  | 2251 | -.062  | .052  | -.329 | -.234 | 100 | 2137 | -.057  | .050  | .137  | -.376 |
| 90 | 2201 | -.071  | .020  | .010  | -.163 | 90  | 2252 | -.112  | .020  | -.037 | -.201 | 100 | 2138 | -.122  | .036  | -.007 | -.380 |
| 90 | 2202 | -.111  | .030  | -.015 | -.382 | 90  | 2253 | -.102  | .019  | -.028 | -.191 | 100 | 2140 | -.074  | .053  | .150  | -.419 |
| 90 | 2203 | -.102  | .025  | -.015 | -.234 | 90  | 2254 | -.089  | .019  | -.012 | -.153 | 100 | 2141 | -.064  | .036  | .075  | -.250 |
| 90 | 2204 | -.105  | .027  | -.013 | -.277 | 90  | 2255 | -.089  | .021  | -.019 | -.165 | 100 | 2142 | -.117  | .038  | .015  | -.630 |
| 90 | 2205 | -.098  | .030  | .012  | -.391 | 90  | 2256 | -.088  | .022  | -.015 | -.170 | 100 | 2143 | -.090  | .031  | .073  | -.192 |
| 90 | 2206 | -.094  | .024  | .023  | -.198 | 90  | 2257 | -.104  | .031  | -.019 | -.246 | 100 | 2144 | -.084  | .037  | .094  | -.275 |
| 90 | 2207 | -.102  | .020  | -.037 | -.189 | 90  | 2258 | -.077  | .032  | -.112 | -.163 | 100 | 2145 | -.070  | .038  | .133  | -.192 |
| 90 | 2208 | -.108  | .024  | -.028 | -.221 | 90  | 2259 | -.105  | .024  | -.007 | -.208 | 100 | 2146 | -.090  | .027  | .003  | -.250 |
| 90 | 2209 | -.114  | .026  | .028  | -.261 | 90  | 2260 | -.094  | .021  | -.002 | -.191 | 100 | 2147 | -.079  | .022  | .017  | -.173 |
| 90 | 2210 | -.114  | .029  | -.026 | -.295 | 90  | 2261 | -.089  | .020  | -.007 | -.168 | 100 | 2148 | -.082  | .024  | .012  | -.201 |
| 90 | 2211 | -.105  | .022  | .003  | -.227 | 90  | 2262 | -.087  | .020  | -.007 | -.142 | 100 | 2149 | -.095  | .027  | .012  | -.194 |
| 90 | 2212 | -.103  | .020  | -.039 | -.187 | 90  | 2263 | -.085  | .022  | -.017 | -.149 | 100 | 2150 | -.089  | .027  | -.006 | -.215 |
| 90 | 2213 | -.107  | .019  | -.042 | -.189 | 90  | 2264 | -.094  | .027  | -.026 | -.374 | 100 | 2151 | -.085  | .022  | -.006 | -.171 |
| 90 | 2214 | -.109  | .025  | -.015 | -.277 | 90  | 2265 | -.083  | .026  | -.124 | -.163 | 100 | 2152 | -.079  | .021  | .003  | -.182 |
| 90 | 2215 | -.101  | .025  | -.006 | -.232 | 100 | 2101 | -.139  | .103  | -.320 | -.582 | 100 | 2153 | -.082  | .020  | -.013 | -.152 |
| 90 | 2216 | -.108  | .034  | .046  | -.297 | 100 | 2102 | -.153  | .099  | -.345 | -.600 | 100 | 2154 | -.082  | .023  | .003  | -.187 |
| 90 | 2217 | -.103  | .026  | .001  | -.306 | 100 | 2103 | -.132  | .054  | -.152 | -.476 | 100 | 2155 | -.081  | .027  | .022  | -.189 |
| 90 | 2218 | -.107  | .026  | -.033 | -.227 | 100 | 2104 | -.010  | .088  | -.402 | -.428 | 100 | 2156 | -.076  | .022  | -.001 | -.159 |
| 90 | 2219 | -.105  | .023  | -.033 | -.239 | 100 | 2105 | -.149  | .141  | -.384 | -.927 | 100 | 2157 | -.073  | .025  | .050  | -.196 |
| 90 | 2220 | -.103  | .020  | -.035 | -.201 | 100 | 2106 | -.104  | .056  | -.293 | -.499 | 100 | 2158 | -.055  | .030  | .124  | -.145 |
| 90 | 2221 | -.099  | .028  | .008  | -.265 | 100 | 2107 | -.139  | .035  | -.013 | -.355 | 100 | 2159 | -.070  | .025  | .064  | -.148 |
| 90 | 2222 | -.092  | .021  | -.013 | -.174 | 100 | 2108 | -.055  | .061  | -.349 | -.287 | 100 | 2160 | -.074  | .023  | .015  | -.171 |
| 90 | 2223 | -.098  | .019  | -.030 | -.178 | 100 | 2109 | -.173  | .086  | -.137 | -.584 | 100 | 2161 | -.070  | .025  | .038  | -.201 |
| 90 | 2224 | -.099  | .020  | -.035 | -.183 | 100 | 2110 | -.122  | .041  | -.096 | -.312 | 100 | 2162 | -.097  | .030  | -.006 | -.231 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 100 | 2163 | -.089  | .030  | .003  | -.194 | 100 | 2216 | -.092  | .022  | -.014 | -.193  | 110 | 2102 | -.189  | .150  | .352  | -.851  |
| 100 | 2164 | -.122  | .038  | .091  | -.352 | 100 | 2217 | -.091  | .024  | -.005 | -.190  | 110 | 2103 | -.142  | .059  | .188  | -.447  |
| 100 | 2165 | -.103  | .036  | .026  | -.361 | 100 | 2218 | -.094  | .021  | -.027 | -.215  | 110 | 2104 | .087   | .116  | .640  | -.292  |
| 100 | 2166 | -.076  | .028  | .007  | -.166 | 100 | 2219 | -.095  | .020  | -.023 | -.197  | 110 | 2105 | -.172  | .201  | .521  | -.205  |
| 100 | 2167 | -.109  | .031  | .045  | -.289 | 100 | 2220 | -.100  | .023  | -.002 | -.302  | 110 | 2106 | -.096  | .057  | .229  | -.326  |
| 100 | 2168 | -.097  | .034  | .038  | -.273 | 100 | 2221 | -.088  | .022  | -.007 | -.186  | 110 | 2107 | -.148  | .034  | .010  | -.299  |
| 100 | 2170 | -.112  | .027  | -.008 | -.273 | 100 | 2222 | -.088  | .022  | -.009 | -.202  | 110 | 2108 | .023   | .097  | .441  | -.283  |
| 100 | 2171 | -.111  | .031  | .040  | -.287 | 100 | 2223 | -.100  | .025  | -.032 | -.247  | 110 | 2109 | -.224  | .140  | .258  | -.1093 |
| 100 | 2172 | -.105  | .028  | .019  | -.245 | 100 | 2224 | -.092  | .024  | -.005 | -.220  | 110 | 2110 | -.126  | .044  | .089  | -.465  |
| 100 | 2173 | -.093  | .029  | .040  | -.213 | 100 | 2225 | -.109  | .027  | -.014 | -.228  | 110 | 2111 | -.157  | .037  | .003  | -.427  |
| 100 | 2174 | -.090  | .030  | .043  | -.331 | 100 | 2226 | -.127  | .028  | -.031 | -.295  | 110 | 2112 | -.078  | .054  | .163  | -.308  |
| 100 | 2175 | -.091  | .031  | .024  | -.210 | 100 | 2227 | -.067  | .042  | .230  | .211   | 110 | 2113 | -.208  | .089  | .131  | -.646  |
| 100 | 2177 | -.085  | .025  | .029  | -.229 | 100 | 2228 | -.083  | .023  | .007  | -.165  | 110 | 2114 | -.148  | .051  | .019  | -.454  |
| 100 | 2178 | -.110  | .023  | -.029 | -.236 | 100 | 2229 | -.085  | .020  | .000  | -.163  | 110 | 2115 | -.165  | .048  | -.006 | -.424  |
| 100 | 2179 | -.112  | .026  | -.006 | -.240 | 100 | 2230 | -.101  | .025  | .041  | -.201  | 110 | 2116 | -.085  | .034  | .147  | -.212  |
| 100 | 2180 | -.106  | .023  | -.020 | -.196 | 100 | 2231 | -.081  | .022  | -.007 | -.192  | 110 | 2117 | -.160  | .054  | -.002 | -.456  |
| 100 | 2181 | -.095  | .025  | -.001 | -.210 | 100 | 2233 | -.093  | .022  | -.026 | -.177  | 110 | 2118 | -.134  | .046  | .067  | -.427  |
| 100 | 2182 | -.091  | .032  | .006  | -.245 | 100 | 2234 | -.079  | .023  | -.007 | -.173  | 110 | 2119 | -.170  | .075  | .012  | -.726  |
| 100 | 2183 | -.089  | .032  | .008  | -.254 | 100 | 2235 | -.096  | .026  | -.014 | -.266  | 110 | 2120 | -.045  | .042  | .124  | -.201  |
| 100 | 2184 | -.074  | .026  | .048  | -.161 | 100 | 2236 | -.135  | .041  | -.043 | -.369  | 110 | 2121 | -.182  | .083  | .158  | -.666  |
| 100 | 2185 | -.072  | .022  | .014  | -.136 | 100 | 2237 | -.070  | .030  | .158  | -.199  | 110 | 2122 | -.125  | .043  | .204  | -.296  |
| 100 | 2187 | -.104  | .032  | -.005 | -.220 | 100 | 2238 | -.127  | .045  | .103  | -.468  | 110 | 2123 | -.116  | .032  | -.000 | -.283  |
| 100 | 2188 | -.108  | .024  | -.032 | -.227 | 100 | 2239 | -.115  | .035  | .223  | -.249  | 110 | 2124 | -.151  | .053  | .071  | -.388  |
| 100 | 2189 | -.113  | .030  | .027  | -.265 | 100 | 2240 | -.109  | .029  | .089  | -.249  | 110 | 2125 | -.184  | .152  | .281  | -.975  |
| 100 | 2190 | -.100  | .023  | -.014 | -.193 | 100 | 2241 | -.096  | .030  | .042  | -.235  | 110 | 2126 | -.129  | .041  | .016  | -.338  |
| 100 | 2191 | -.087  | .024  | -.009 | -.186 | 100 | 2242 | -.105  | .026  | .041  | -.228  | 110 | 2127 | -.047  | .058  | .185  | -.342  |
| 100 | 2192 | -.093  | .042  | .014  | -.292 | 100 | 2243 | -.114  | .030  | .108  | -.237  | 110 | 2128 | -.034  | .105  | .453  | -.486  |
| 100 | 2193 | -.090  | .035  | .010  | -.282 | 100 | 2244 | -.135  | .036  | .053  | -.321  | 110 | 2129 | -.071  | .124  | .663  | -.488  |
| 100 | 2194 | -.096  | .035  | .016  | -.372 | 100 | 2245 | -.092  | .035  | .058  | -.295  | 110 | 2130 | -.122  | .036  | .014  | -.276  |
| 100 | 2195 | -.102  | .028  | .002  | -.290 | 100 | 2246 | -.091  | .034  | .120  | -.384  | 110 | 2131 | -.044  | .048  | .167  | -.196  |
| 100 | 2196 | -.102  | .031  | .016  | -.356 | 100 | 2247 | -.091  | .032  | .091  | -.278  | 110 | 2132 | -.037  | .125  | .487  | -.495  |
| 100 | 2197 | -.091  | .025  | .005  | -.197 | 100 | 2248 | -.093  | .033  | .098  | -.223  | 110 | 2133 | -.028  | .102  | .526  | -.555  |
| 100 | 2198 | -.076  | .023  | .014  | -.161 | 100 | 2249 | -.086  | .029  | .094  | -.194  | 110 | 2134 | -.120  | .037  | .030  | -.404  |
| 100 | 2199 | -.093  | .034  | .007  | -.247 | 100 | 2250 | -.086  | .031  | .063  | -.271  | 110 | 2136 | -.009  | .096  | .437  | -.625  |
| 100 | 2200 | -.075  | .024  | .011  | -.159 | 100 | 2251 | -.094  | .031  | .118  | -.218  | 110 | 2137 | -.020  | .068  | .290  | -.356  |
| 100 | 2201 | -.082  | .024  | .002  | -.184 | 100 | 2252 | -.128  | .031  | -.007 | -.321  | 110 | 2138 | -.119  | .046  | .035  | -.502  |
| 100 | 2202 | -.098  | .025  | .063  | -.277 | 100 | 2253 | -.094  | .032  | .031  | -.216  | 110 | 2140 | -.040  | .075  | .332  | -.607  |
| 100 | 2203 | -.092  | .023  | .016  | -.252 | 100 | 2254 | -.090  | .026  | .015  | -.192  | 110 | 2141 | -.030  | .053  | .240  | -.251  |
| 100 | 2204 | -.093  | .025  | -.009 | -.283 | 100 | 2255 | -.087  | .025  | .053  | -.199  | 110 | 2142 | -.114  | .051  | .048  | -.543  |
| 100 | 2205 | -.090  | .024  | .009  | -.263 | 100 | 2256 | -.086  | .022  | .000  | -.201  | 110 | 2143 | -.061  | .040  | .144  | -.168  |
| 100 | 2206 | -.091  | .025  | .036  | -.281 | 100 | 2257 | -.075  | .030  | .074  | -.194  | 110 | 2144 | -.041  | .059  | .348  | -.310  |
| 100 | 2207 | -.102  | .024  | -.020 | -.252 | 100 | 2258 | -.082  | .028  | .036  | -.256  | 110 | 2145 | -.037  | .049  | .197  | -.212  |
| 100 | 2208 | -.104  | .022  | .034  | -.299 | 100 | 2259 | -.090  | .046  | .168  | -.268  | 110 | 2146 | -.083  | .034  | .045  | -.277  |
| 100 | 2209 | -.115  | .030  | -.009 | -.292 | 100 | 2260 | -.070  | .034  | .106  | -.386  | 110 | 2147 | -.065  | .027  | .031  | -.159  |
| 100 | 2210 | -.140  | .035  | -.011 | -.404 | 100 | 2261 | -.083  | .024  | .039  | -.168  | 110 | 2148 | -.067  | .025  | .045  | -.178  |
| 100 | 2211 | -.104  | .022  | -.002 | -.215 | 100 | 2262 | -.081  | .021  | .000  | -.165  | 110 | 2149 | -.078  | .029  | .042  | -.201  |
| 100 | 2212 | -.101  | .025  | .023  | -.265 | 100 | 2263 | -.081  | .021  | -.002 | -.151  | 110 | 2150 | -.098  | .036  | .021  | -.284  |
| 100 | 2213 | -.113  | .026  | -.007 | -.234 | 100 | 2264 | -.076  | .027  | .019  | -.187  | 110 | 2151 | -.076  | .027  | .049  | -.208  |
| 100 | 2214 | -.136  | .035  | .023  | -.315 | 100 | 2265 | -.075  | .028  | .077  | -.189  | 110 | 2152 | -.069  | .024  | .033  | -.178  |
| 100 | 2215 | -.076  | .038  | .091  | -.211 | 110 | 2101 | -.179  | .133  | .386  | -1.265 | 110 | 2153 | -.065  | .026  | .047  | -.173  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 201

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 110 | 2154 | -.069  | .027  | .063  | -.187 | 110 | 2207 | -.133  | .038  | -.028 | -.365 | 110 | 2258 | -.102  | .051  | .103  | -.404  |
| 110 | 2155 | -.069  | .028  | .040  | -.185 | 110 | 2208 | -.104  | .027  | .035  | -.261 | 110 | 2259 | -.033  | .062  | .263  | -.306  |
| 110 | 2156 | -.063  | .029  | .061  | -.162 | 110 | 2209 | -.115  | .033  | .008  | -.306 | 110 | 2260 | -.027  | .062  | .232  | -.388  |
| 110 | 2157 | -.047  | .037  | .156  | -.182 | 110 | 2210 | -.200  | .062  | .058  | -.722 | 110 | 2261 | -.077  | .027  | .046  | -.170  |
| 110 | 2158 | -.021  | .046  | .244  | -.134 | 110 | 2211 | -.109  | .025  | -.026 | -.239 | 110 | 2262 | -.077  | .029  | .053  | -.196  |
| 110 | 2159 | -.042  | .037  | .172  | -.152 | 110 | 2212 | -.104  | .024  | .015  | -.214 | 110 | 2263 | -.075  | .026  | .014  | -.170  |
| 110 | 2160 | -.059  | .027  | .070  | -.164 | 110 | 2213 | -.123  | .041  | -.001 | -.379 | 110 | 2264 | -.063  | .039  | .129  | -.249  |
| 110 | 2161 | -.059  | .029  | .033  | -.173 | 110 | 2214 | -.197  | .059  | -.055 | -.505 | 110 | 2265 | -.107  | .064  | .050  | -.455  |
| 110 | 2162 | -.122  | .044  | .042  | -.303 | 110 | 2215 | -.026  | .063  | .338  | -.205 | 120 | 2101 | -.230  | .100  | .141  | -.819  |
| 110 | 2163 | -.099  | .033  | -.004 | -.259 | 110 | 2216 | -.106  | .027  | -.024 | -.259 | 120 | 2102 | -.263  | .136  | .143  | -.844  |
| 110 | 2164 | -.155  | .061  | .042  | -.488 | 110 | 2217 | -.102  | .025  | .001  | -.193 | 120 | 2103 | -.175  | .059  | .019  | -.436  |
| 110 | 2165 | -.115  | .051  | .084  | -.504 | 110 | 2218 | -.104  | .028  | -.003 | -.245 | 120 | 2104 | -.170  | .167  | .819  | -.521  |
| 110 | 2166 | -.070  | .029  | .064  | -.180 | 110 | 2219 | -.095  | .026  | .073  | -.214 | 120 | 2105 | -.169  | .195  | .388  | -.1278 |
| 110 | 2167 | -.130  | .049  | .056  | -.460 | 110 | 2220 | -.103  | .026  | -.006 | -.225 | 120 | 2106 | -.098  | .050  | .152  | -.436  |
| 110 | 2168 | -.099  | .037  | .019  | -.298 | 110 | 2221 | -.109  | .033  | .008  | -.272 | 120 | 2107 | -.160  | .032  | -.003 | -.310  |
| 110 | 2170 | -.134  | .047  | .028  | -.414 | 110 | 2222 | -.097  | .025  | .006  | -.196 | 120 | 2108 | -.053  | .135  | .787  | -.285  |
| 110 | 2171 | -.138  | .051  | .021  | -.562 | 110 | 2223 | -.122  | .041  | .082  | -.376 | 120 | 2109 | -.230  | .167  | .361  | -.880  |
| 110 | 2172 | -.120  | .040  | .047  | -.314 | 110 | 2224 | -.081  | .026  | .028  | -.166 | 120 | 2110 | -.134  | .042  | .037  | -.612  |
| 110 | 2173 | -.097  | .033  | .086  | -.263 | 110 | 2225 | -.112  | .043  | .048  | -.397 | 120 | 2111 | -.171  | .034  | -.071 | -.398  |
| 110 | 2174 | -.095  | .038  | .021  | -.356 | 110 | 2226 | -.182  | .051  | -.026 | -.416 | 120 | 2112 | -.079  | .061  | .215  | -.344  |
| 110 | 2175 | -.094  | .036  | .038  | -.266 | 110 | 2227 | -.003  | .020  | .393  | -.172 | 120 | 2113 | -.210  | .096  | .163  | -.695  |
| 110 | 2177 | -.084  | .031  | .047  | -.231 | 110 | 2228 | -.099  | .026  | .031  | -.215 | 120 | 2114 | -.157  | .047  | .019  | -.395  |
| 110 | 2178 | -.118  | .034  | .008  | -.298 | 110 | 2229 | -.088  | .020  | -.007 | -.158 | 120 | 2115 | -.196  | .062  | -.012 | -.704  |
| 110 | 2179 | -.135  | .042  | .047  | -.338 | 110 | 2230 | -.112  | .041  | .062  | -.311 | 120 | 2116 | -.092  | .036  | .105  | -.298  |
| 110 | 2180 | -.121  | .033  | .033  | -.259 | 110 | 2231 | -.099  | .026  | -.005 | -.263 | 120 | 2117 | -.162  | .053  | -.003 | -.456  |
| 110 | 2181 | -.105  | .032  | .012  | -.240 | 110 | 2232 | -.108  | .033  | .058  | -.242 | 120 | 2118 | -.139  | .042  | .001  | -.416  |
| 110 | 2182 | -.104  | .037  | .003  | -.319 | 110 | 2233 | -.069  | .025  | .012  | -.153 | 120 | 2119 | -.192  | .091  | -.024 | -.171  |
| 110 | 2183 | -.106  | .039  | .014  | -.284 | 110 | 2235 | -.081  | .029  | .072  | -.215 | 120 | 2120 | -.055  | .047  | .211  | -.193  |
| 110 | 2184 | -.084  | .028  | .008  | -.175 | 110 | 2236 | -.206  | .078  | -.002 | -.668 | 120 | 2121 | -.151  | .078  | .195  | -.553  |
| 110 | 2185 | -.079  | .025  | .010  | -.153 | 110 | 2237 | -.029  | .048  | .180  | -.151 | 120 | 2122 | -.126  | .039  | .222  | -.287  |
| 110 | 2187 | -.123  | .041  | .039  | -.315 | 110 | 2238 | -.144  | .057  | .038  | -.548 | 120 | 2123 | -.126  | .035  | .044  | -.344  |
| 110 | 2188 | -.121  | .043  | .006  | -.446 | 110 | 2239 | -.125  | .047  | .117  | -.371 | 120 | 2124 | -.154  | .057  | .060  | -.438  |
| 110 | 2189 | -.131  | .044  | -.017 | -.343 | 110 | 2240 | -.114  | .042  | .093  | -.285 | 120 | 2125 | -.162  | .122  | .260  | -.877  |
| 110 | 2190 | -.115  | .032  | -.017 | -.263 | 110 | 2241 | -.093  | .043  | .160  | -.275 | 120 | 2126 | -.127  | .042  | .044  | -.267  |
| 110 | 2191 | -.095  | .031  | .030  | -.245 | 110 | 2242 | -.117  | .040  | .067  | -.316 | 120 | 2127 | -.041  | .066  | .269  | -.339  |
| 110 | 2192 | -.118  | .057  | .069  | -.440 | 110 | 2243 | -.128  | .031  | .036  | -.313 | 120 | 2128 | -.014  | .115  | .544  | -.404  |
| 110 | 2193 | -.094  | .041  | .031  | -.294 | 110 | 2244 | -.149  | .052  | .098  | -.397 | 120 | 2129 | -.072  | .166  | .699  | -.596  |
| 110 | 2194 | -.109  | .041  | .021  | -.291 | 110 | 2245 | -.086  | .048  | .115  | -.304 | 120 | 2130 | -.124  | .039  | .206  | -.285  |
| 110 | 2195 | -.116  | .051  | .003  | -.494 | 110 | 2246 | -.072  | .046  | .259  | -.517 | 120 | 2131 | -.059  | .043  | .150  | -.177  |
| 110 | 2196 | -.119  | .055  | .044  | -.562 | 110 | 2247 | -.070  | .049  | .261  | -.313 | 120 | 2132 | -.013  | .115  | .562  | -.499  |
| 110 | 2197 | -.098  | .041  | .058  | -.347 | 110 | 2248 | -.086  | .044  | .225  | -.280 | 120 | 2133 | -.030  | .120  | .602  | -.438  |
| 110 | 2198 | -.073  | .033  | .055  | -.254 | 110 | 2249 | -.085  | .039  | .160  | -.299 | 120 | 2134 | -.127  | .048  | .037  | -.445  |
| 110 | 2199 | -.094  | .041  | .096  | -.268 | 110 | 2250 | -.083  | .039  | .127  | -.194 | 120 | 2136 | -.040  | .079  | .296  | -.393  |
| 110 | 2200 | -.069  | .032  | .103  | -.171 | 110 | 2251 | -.116  | .038  | .127  | -.359 | 120 | 2137 | -.032  | .071  | .334  | -.483  |
| 110 | 2201 | -.062  | .034  | .132  | -.193 | 110 | 2252 | -.121  | .060  | .156  | -.419 | 120 | 2138 | -.122  | .053  | .046  | -.564  |
| 110 | 2202 | -.106  | .030  | -.015 | -.322 | 110 | 2253 | -.074  | .055  | .194  | -.364 | 120 | 2140 | -.068  | .064  | .267  | -.458  |
| 110 | 2203 | -.102  | .028  | .017  | -.365 | 110 | 2254 | -.086  | .030  | .070  | -.189 | 120 | 2141 | -.047  | .054  | .269  | -.303  |
| 110 | 2204 | -.102  | .029  | .012  | -.272 | 110 | 2255 | -.088  | .030  | .034  | -.239 | 120 | 2142 | -.101  | .050  | .053  | -.639  |
| 110 | 2205 | -.101  | .030  | .008  | -.340 | 110 | 2256 | -.085  | .028  | .120  | -.261 | 120 | 2143 | -.074  | .038  | .080  | -.205  |
| 110 | 2206 | -.100  | .031  | .015  | -.286 | 110 | 2257 | -.066  | .047  | .175  | -.208 | 120 | 2144 | -.062  | .049  | .224  | -.264  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 120 | 2145 | -.058  | .053  | .258  | -.187 | 120 | 2198 | -.084  | .037  | .091  | -.228 | 120 | 2249 | -.032  | .070  | .373  | -.250  |
| 120 | 2146 | -.074  | .032  | .082  | -.225 | 120 | 2199 | -.078  | .037  | .102  | -.263 | 120 | 2250 | -.050  | .061  | .295  | -.224  |
| 120 | 2147 | -.064  | .028  | .085  | -.162 | 120 | 2200 | -.061  | .033  | .124  | -.176 | 120 | 2251 | -.110  | .045  | .130  | -.443  |
| 120 | 2148 | -.067  | .027  | .032  | -.155 | 120 | 2201 | -.064  | .033  | .100  | -.188 | 120 | 2252 | -.165  | .051  | .076  | -.558  |
| 120 | 2149 | -.078  | .030  | .071  | -.198 | 120 | 2202 | -.123  | .034  | .026  | -.332 | 120 | 2253 | -.109  | .046  | .243  | -.370  |
| 120 | 2150 | -.083  | .035  | .080  | -.251 | 120 | 2203 | -.128  | .028  | -.036 | -.286 | 120 | 2254 | -.088  | .033  | .033  | -.224  |
| 120 | 2151 | -.072  | .028  | .048  | -.189 | 120 | 2204 | -.130  | .032  | -.009 | -.272 | 120 | 2255 | -.086  | .032  | .055  | -.207  |
| 120 | 2152 | -.067  | .026  | .044  | -.162 | 120 | 2205 | -.132  | .033  | -.007 | -.288 | 120 | 2256 | -.082  | .030  | .064  | -.219  |
| 120 | 2153 | -.070  | .025  | .016  | -.191 | 120 | 2206 | -.117  | .032  | -.001 | -.257 | 120 | 2257 | -.045  | .056  | .304  | -.200  |
| 120 | 2154 | -.067  | .029  | .085  | -.187 | 120 | 2207 | -.162  | .046  | -.058 | -.479 | 120 | 2258 | -.070  | .049  | .125  | -.285  |
| 120 | 2155 | -.064  | .029  | .053  | -.157 | 120 | 2208 | -.115  | .030  | -.018 | -.274 | 120 | 2259 | -.069  | .076  | .377  | -.344  |
| 120 | 2156 | -.063  | .027  | .037  | -.166 | 120 | 2209 | -.138  | .037  | -.007 | -.388 | 120 | 2260 | -.051  | .059  | .333  | -.412  |
| 120 | 2157 | -.054  | .037  | .242  | -.216 | 120 | 2210 | -.268  | .083  | -.005 | -.822 | 120 | 2261 | -.073  | .031  | .057  | -.195  |
| 120 | 2158 | -.033  | .040  | .258  | -.123 | 120 | 2211 | -.133  | .029  | -.025 | -.297 | 120 | 2262 | -.070  | .029  | .064  | -.179  |
| 120 | 2159 | -.047  | .032  | .144  | -.139 | 120 | 2212 | -.119  | .029  | -.006 | -.277 | 120 | 2263 | -.072  | .029  | .080  | -.167  |
| 120 | 2160 | -.061  | .030  | .105  | -.182 | 120 | 2213 | -.156  | .050  | -.021 | -.137 | 120 | 2264 | -.067  | .037  | .146  | -.179  |
| 120 | 2161 | -.061  | .028  | .048  | -.168 | 120 | 2214 | -.230  | .062  | -.043 | -.695 | 120 | 2265 | -.066  | .054  | .163  | -.516  |
| 120 | 2162 | -.107  | .040  | .041  | -.292 | 120 | 2215 | -.004  | .082  | -.434 | -.194 | 130 | 2101 | -.323  | .107  | .148  | -.0105 |
| 120 | 2163 | -.081  | .035  | .053  | -.210 | 120 | 2216 | -.152  | .029  | -.041 | -.330 | 130 | 2102 | -.351  | .132  | .050  | -.0108 |
| 120 | 2164 | -.184  | .071  | .089  | -.556 | 120 | 2217 | -.131  | .028  | -.034 | -.252 | 130 | 2103 | -.248  | .070  | .005  | -.702  |
| 120 | 2165 | -.114  | .055  | .053  | -.435 | 120 | 2218 | -.137  | .036  | -.034 | -.435 | 130 | 2104 | -.019  | .147  | .609  | -.372  |
| 120 | 2166 | -.064  | .031  | .062  | -.165 | 120 | 2219 | -.110  | .032  | -.057 | -.230 | 130 | 2105 | -.323  | .165  | .291  | -.141  |
| 120 | 2167 | -.146  | .060  | .082  | -.620 | 120 | 2220 | -.124  | .033  | -.012 | -.319 | 130 | 2106 | -.210  | .068  | -.015 | -.835  |
| 120 | 2168 | -.099  | .035  | .067  | -.276 | 120 | 2221 | -.158  | .034  | -.032 | -.346 | 130 | 2107 | -.233  | .047  | -.027 | -.505  |
| 120 | 2170 | -.159  | .061  | .060  | -.547 | 120 | 2222 | -.111  | .024  | -.001 | -.214 | 130 | 2108 | -.092  | .095  | .412  | -.404  |
| 120 | 2171 | -.155  | .067  | .124  | -.561 | 120 | 2223 | -.151  | .058  | -.140 | -.482 | 130 | 2109 | -.300  | .106  | .266  | -.897  |
| 120 | 2172 | -.135  | .051  | .094  | -.367 | 120 | 2224 | -.081  | .030  | -.062 | -.203 | 130 | 2110 | -.229  | .065  | -.047 | -.680  |
| 120 | 2173 | -.102  | .035  | .057  | -.248 | 120 | 2225 | -.128  | .046  | -.036 | -.365 | 130 | 2111 | -.234  | .044  | -.081 | -.545  |
| 120 | 2174 | -.091  | .038  | .076  | -.253 | 120 | 2226 | -.241  | .077  | -.012 | -.756 | 130 | 2112 | -.140  | .059  | .247  | -.350  |
| 120 | 2175 | -.092  | .040  | .071  | -.283 | 120 | 2227 | -.006  | .081  | -.443 | -.257 | 130 | 2113 | -.276  | .066  | -.108 | -.781  |
| 120 | 2177 | -.081  | .034  | .067  | -.221 | 120 | 2228 | -.140  | .028  | -.044 | -.268 | 130 | 2114 | -.261  | .064  | -.059 | -.653  |
| 120 | 2178 | -.144  | .049  | .082  | -.440 | 120 | 2229 | -.100  | .023  | -.007 | -.181 | 130 | 2115 | -.251  | .051  | -.098 | -.628  |
| 120 | 2179 | -.151  | .054  | .032  | -.392 | 120 | 2230 | -.137  | .058  | -.269 | -.521 | 130 | 2116 | -.105  | .072  | .175  | -.315  |
| 120 | 2180 | -.135  | .039  | .009  | -.283 | 120 | 2231 | -.128  | .031  | -.016 | -.290 | 130 | 2117 | -.319  | .068  | -.108 | -.845  |
| 120 | 2181 | -.109  | .033  | .046  | -.216 | 120 | 2233 | -.130  | .039  | -.088 | -.278 | 130 | 2118 | -.255  | .050  | -.061 | -.515  |
| 120 | 2182 | -.094  | .037  | .057  | -.251 | 120 | 2234 | -.068  | .027  | -.019 | -.155 | 130 | 2119 | -.248  | .042  | -.106 | -.614  |
| 120 | 2183 | -.096  | .040  | .048  | -.276 | 120 | 2235 | -.081  | .030  | -.057 | -.169 | 130 | 2120 | -.110  | .057  | .156  | -.283  |
| 120 | 2184 | -.080  | .030  | .013  | -.194 | 120 | 2236 | -.215  | .093  | -.064 | -.900 | 130 | 2121 | -.387  | .131  | -.042 | -.914  |
| 120 | 2185 | -.083  | .026  | .017  | -.165 | 120 | 2237 | -.037  | .062  | -.323 | -.217 | 130 | 2122 | -.276  | .051  | -.140 | -.542  |
| 120 | 2187 | -.110  | .032  | .022  | -.272 | 120 | 2238 | -.138  | .049  | -.089 | -.459 | 130 | 2123 | -.244  | .033  | -.125 | -.419  |
| 120 | 2188 | -.145  | .052  | .055  | -.537 | 120 | 2239 | -.121  | .057  | -.168 | -.549 | 130 | 2124 | -.182  | .068  | .126  | -.525  |
| 120 | 2189 | -.149  | .055  | .064  | -.413 | 120 | 2240 | -.092  | .053  | -.125 | -.318 | 130 | 2125 | -.228  | .103  | .141  | -.126  |
| 120 | 2190 | -.130  | .041  | .080  | -.335 | 120 | 2241 | -.045  | .065  | -.274 | -.299 | 130 | 2126 | -.145  | .057  | .121  | -.542  |
| 120 | 2191 | -.096  | .032  | .028  | -.201 | 120 | 2242 | -.075  | .057  | -.177 | -.478 | 130 | 2127 | -.075  | .089  | .449  | -.291  |
| 120 | 2192 | -.099  | .050  | .060  | -.359 | 120 | 2243 | -.123  | .046  | -.123 | -.351 | 130 | 2128 | -.037  | .092  | .429  | -.352  |
| 120 | 2193 | -.079  | .040  | .051  | -.262 | 120 | 2244 | -.160  | .045  | -.055 | -.426 | 130 | 2129 | -.108  | .123  | .432  | -.737  |
| 120 | 2194 | -.079  | .037  | .055  | -.286 | 120 | 2245 | -.100  | .050  | -.205 | -.323 | 130 | 2130 | -.149  | .052  | .069  | -.404  |
| 120 | 2195 | -.133  | .062  | .040  | -.551 | 120 | 2246 | -.025  | .053  | -.220 | -.228 | 130 | 2131 | -.072  | .063  | .242  | -.212  |
| 120 | 2196 | -.119  | .055  | .131  | -.620 | 120 | 2247 | -.042  | .068  | -.330 | -.405 | 130 | 2132 | -.013  | .116  | .552  | -.515  |
| 120 | 2197 | -.107  | .042  | .031  | -.497 | 120 | 2248 | -.033  | .072  | -.498 | -.273 | 130 | 2133 | -.089  | .089  | .311  | -.567  |

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 130 | 2134 | -.149  | .055  | .035  | -.456 | 130 | 2189 | -.216  | .062  | -.044 | -.531 | 130 | 2240 | -.260  | .076  | .088  | -.674 |
| 130 | 2136 | -.060  | .093  | .466  | -.557 | 130 | 2190 | -.210  | .045  | -.071 | -.421 | 130 | 2241 | -.228  | .074  | .145  | -.556 |
| 130 | 2137 | -.093  | .070  | .210  | -.488 | 130 | 2191 | -.168  | .033  | -.035 | -.286 | 130 | 2242 | -.299  | .087  | .029  | -.789 |
| 130 | 2138 | -.143  | .058  | .146  | -.488 | 130 | 2192 | -.134  | .028  | -.030 | -.294 | 130 | 2243 | -.257  | .068  | -.002 | -.691 |
| 130 | 2140 | -.036  | .073  | .397  | -.443 | 130 | 2193 | -.124  | .030  | -.007 | -.220 | 130 | 2244 | -.221  | .085  | .171  | -.559 |
| 130 | 2141 | -.100  | .068  | .220  | -.421 | 130 | 2194 | -.094  | .031  | -.039 | -.216 | 130 | 2245 | -.111  | .072  | .179  | -.540 |
| 130 | 2142 | -.119  | .066  | .121  | -.434 | 130 | 2195 | -.201  | .081  | -.056 | -.648 | 130 | 2246 | -.161  | .050  | .192  | -.533 |
| 130 | 2143 | .071   | .092  | .395  | -.207 | 130 | 2196 | -.147  | .056  | -.014 | -.572 | 130 | 2247 | -.159  | .064  | .285  | -.562 |
| 130 | 2144 | .040   | .082  | .338  | -.270 | 130 | 2197 | -.151  | .050  | -.061 | -.394 | 130 | 2248 | -.215  | .077  | .210  | -.550 |
| 130 | 2145 | -.114  | .081  | .258  | -.365 | 130 | 2198 | -.108  | .075  | -.166 | -.543 | 130 | 2249 | -.160  | .065  | .270  | -.388 |
| 130 | 2146 | -.157  | .040  | -.030 | -.410 | 130 | 2199 | -.063  | .074  | -.317 | -.179 | 130 | 2250 | -.188  | .076  | .205  | -.491 |
| 130 | 2147 | -.122  | .032  | -.015 | -.282 | 130 | 2200 | -.087  | .044  | -.151 | -.245 | 130 | 2251 | -.217  | .056  | -.002 | -.533 |
| 130 | 2148 | -.134  | .030  | -.020 | -.355 | 130 | 2201 | -.252  | .164  | -.669 | -.184 | 130 | 2252 | -.280  | .091  | .055  | -.564 |
| 130 | 2149 | -.151  | .042  | .010  | -.385 | 130 | 2202 | -.209  | .041  | -.005 | -.448 | 130 | 2253 | -.125  | .063  | .246  | -.310 |
| 130 | 2150 | -.136  | .037  | .033  | -.280 | 130 | 2203 | -.202  | .032  | -.064 | -.377 | 130 | 2254 | -.166  | .043  | .057  | -.531 |
| 130 | 2151 | -.146  | .033  | .013  | -.267 | 130 | 2204 | -.205  | .036  | -.086 | -.377 | 130 | 2255 | -.154  | .039  | -.007 | -.284 |
| 130 | 2152 | -.135  | .030  | -.002 | -.300 | 130 | 2205 | -.203  | .035  | -.074 | -.428 | 130 | 2256 | -.161  | .033  | -.041 | -.276 |
| 130 | 2153 | -.134  | .029  | -.030 | -.242 | 130 | 2206 | -.212  | .040  | -.044 | -.396 | 130 | 2257 | -.117  | .076  | -.371 | -.515 |
| 130 | 2154 | -.126  | .034  | .010  | -.260 | 130 | 2207 | -.279  | .065  | -.047 | -.690 | 130 | 2258 | -.196  | .075  | -.002 | -.517 |
| 130 | 2155 | -.115  | .039  | .010  | -.307 | 130 | 2208 | -.194  | .037  | -.044 | -.382 | 130 | 2259 | -.280  | .051  | .019  | -.512 |
| 130 | 2156 | -.554  | .102  | -.055 | -.802 | 130 | 2209 | -.221  | .043  | -.079 | -.470 | 130 | 2260 | -.156  | .042  | .135  | -.287 |
| 130 | 2157 | -.330  | .188  | .830  | -.165 | 130 | 2210 | -.389  | .083  | -.135 | -.927 | 130 | 2261 | -.206  | .049  | .389  | -.020 |
| 130 | 2158 | -.009  | .057  | .235  | -.215 | 130 | 2211 | -.225  | .042  | -.086 | -.475 | 130 | 2262 | -.353  | .054  | .710  | -.197 |
| 130 | 2159 | -.119  | .030  | .023  | -.260 | 130 | 2212 | -.201  | .044  | -.064 | -.658 | 130 | 2263 | -.264  | .058  | .534  | -.055 |
| 130 | 2160 | -.108  | .036  | .033  | -.247 | 130 | 2213 | -.254  | .059  | -.069 | -.560 | 130 | 2264 | -.254  | .090  | .536  | -.054 |
| 130 | 2161 | -.105  | .036  | .018  | -.237 | 130 | 2214 | -.331  | .062  | -.154 | -.614 | 130 | 2265 | -.403  | .064  | -.183 | -.662 |
| 130 | 2162 | -.109  | .033  | .120  | -.237 | 130 | 2215 | -.051  | .098  | -.396 | -.284 | 140 | 2101 | -.445  | .183  | -.002 | -.408 |
| 130 | 2163 | -.091  | .032  | .050  | -.212 | 130 | 2216 | -.217  | .033  | -.120 | -.396 | 140 | 2102 | -.438  | .166  | .005  | -.373 |
| 130 | 2164 | -.254  | .070  | -.030 | -.700 | 130 | 2217 | -.210  | .033  | -.088 | -.350 | 140 | 2103 | -.295  | .105  | .015  | -.158 |
| 130 | 2165 | -.184  | .059  | .028  | -.502 | 130 | 2218 | -.220  | .040  | -.015 | -.416 | 140 | 2104 | -.005  | .170  | .670  | -.542 |
| 130 | 2166 | -.083  | .029  | .031  | -.194 | 130 | 2219 | -.190  | .042  | -.085 | -.377 | 140 | 2105 | -.422  | .188  | .024  | -.192 |
| 130 | 2167 | -.204  | .057  | -.017 | -.532 | 130 | 2220 | -.189  | .032  | -.037 | -.404 | 140 | 2106 | -.291  | .105  | .084  | -.878 |
| 130 | 2168 | -.151  | .044  | .043  | -.440 | 130 | 2221 | -.217  | .035  | -.113 | -.372 | 140 | 2107 | -.269  | .074  | -.047 | -.599 |
| 130 | 2169 | -.255  | .065  | -.062 | -.625 | 130 | 2222 | -.206  | .033  | -.059 | -.340 | 140 | 2108 | -.000  | .125  | .643  | -.312 |
| 130 | 2171 | -.241  | .072  | -.030 | -.625 | 130 | 2223 | -.256  | .057  | -.095 | -.506 | 140 | 2109 | -.320  | .101  | -.067 | -.099 |
| 130 | 2172 | -.200  | .051  | -.008 | -.507 | 130 | 2224 | -.185  | .042  | -.003 | -.352 | 140 | 2110 | -.328  | .117  | -.008 | -.104 |
| 130 | 2173 | -.147  | .040  | -.007 | -.347 | 130 | 2225 | -.230  | .058  | -.056 | -.680 | 140 | 2111 | -.270  | .065  | -.013 | -.666 |
| 130 | 2174 | -.139  | .040  | .003  | -.312 | 130 | 2226 | -.340  | .090  | -.147 | -.908 | 140 | 2112 | -.064  | .096  | .398  | -.302 |
| 130 | 2175 | -.134  | .041  | .040  | -.347 | 130 | 2227 | -.071  | .076  | -.102 | -.328 | 140 | 2113 | -.296  | .069  | -.117 | -.901 |
| 130 | 2177 | -.119  | .049  | .075  | -.272 | 130 | 2228 | -.206  | .031  | -.093 | -.341 | 140 | 2114 | -.327  | .105  | -.052 | -.185 |
| 130 | 2178 | -.254  | .055  | -.070 | -.532 | 130 | 2229 | -.211  | .039  | -.093 | -.384 | 140 | 2115 | -.272  | .058  | -.082 | -.582 |
| 130 | 2179 | -.237  | .059  | -.072 | -.532 | 130 | 2230 | -.242  | .088  | -.109 | -.900 | 140 | 2116 | -.127  | .074  | .470  | -.337 |
| 130 | 2180 | -.219  | .048  | -.080 | -.457 | 130 | 2231 | -.201  | .028  | -.111 | -.302 | 140 | 2117 | -.359  | .088  | -.112 | -.923 |
| 130 | 2181 | -.147  | .030  | -.067 | -.292 | 130 | 2232 | -.128  | .116  | -.378 | -.522 | 140 | 2118 | -.326  | .083  | -.023 | -.710 |
| 130 | 2182 | -.144  | .031  | -.042 | -.265 | 130 | 2233 | -.133  | .169  | -.647 | -.339 | 140 | 2119 | -.281  | .058  | -.119 | -.592 |
| 130 | 2183 | -.141  | .036  | -.030 | -.385 | 130 | 2235 | -.192  | .043  | -.031 | -.447 | 140 | 2120 | -.052  | .074  | .242  | -.349 |
| 130 | 2184 | -.102  | .031  | .066  | -.211 | 130 | 2236 | -.195  | .115  | -.057 | -.810 | 140 | 2121 | -.480  | .198  | .225  | -.477 |
| 130 | 2185 | -.096  | .033  | .127  | -.191 | 130 | 2237 | -.099  | .052  | -.135 | -.279 | 140 | 2122 | -.312  | .070  | .069  | -.733 |
| 130 | 2187 | -.113  | .029  | .034  | -.242 | 130 | 2238 | -.297  | .097  | -.050 | -.729 | 140 | 2123 | -.269  | .049  | -.102 | -.577 |
| 130 | 2188 | -.256  | .070  | .002  | -.726 | 130 | 2239 | -.248  | .071  | -.000 | -.613 | 140 | 2124 | -.317  | .135  | .111  | -.069 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 204

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|--------|
| 140 | 2125 | -.505  | .317  | .250  | -1.984 | 140 | 2179 | -.249  | .052  | -.079 | -.499  | 140 | 2230 | -.304  | .092  | .012  | -.946  |
| 140 | 2126 | -.274  | .098  | .039  | -.456  | 140 | 2180 | -.234  | .042  | -.099 | -.468  | 140 | 2231 | -.243  | .047  | -.126 | -.536  |
| 140 | 2127 | -.072  | .119  | .391  | -.488  | 140 | 2181 | -.195  | .034  | -.067 | -.328  | 140 | 2233 | -.196  | .050  | -.004 | -.416  |
| 140 | 2128 | -.093  | .140  | .759  | -.324  | 140 | 2182 | -.182  | .049  | -.046 | -.549  | 140 | 2234 | -.166  | .047  | .116  | -.323  |
| 140 | 2129 | -.058  | .197  | .685  | -.822  | 140 | 2183 | -.183  | .055  | -.006 | -.571  | 140 | 2235 | -.092  | .066  | .204  | -.318  |
| 140 | 2130 | -.232  | .081  | -.018 | -.520  | 140 | 2184 | -.070  | .063  | .242  | -.262  | 140 | 2236 | -.210  | .096  | -.019 | -1.029 |
| 140 | 2131 | -.030  | .071  | .259  | -.243  | 140 | 2185 | -.058  | .059  | .235  | -.169  | 140 | 2237 | -.117  | .050  | .181  | -.310  |
| 140 | 2132 | .210   | .173  | .942  | -.245  | 140 | 2187 | -.081  | .049  | .193  | -.191  | 140 | 2238 | -.484  | .204  | .048  | -1.444 |
| 140 | 2133 | .015   | .176  | .754  | -.814  | 140 | 2188 | -.262  | .075  | .026  | -.663  | 140 | 2239 | -.318  | .093  | .066  | -.803  |
| 140 | 2134 | -.193  | .071  | .089  | -.532  | 140 | 2189 | -.225  | .074  | -.009 | -.552  | 140 | 2240 | -.253  | .068  | .066  | -.738  |
| 140 | 2136 | .130   | .157  | .707  | -.349  | 140 | 2190 | -.205  | .046  | -.056 | -.409  | 140 | 2241 | -.249  | .067  | .061  | -.590  |
| 140 | 2137 | .012   | .137  | .596  | -.433  | 140 | 2191 | -.180  | .037  | -.036 | -.333  | 140 | 2242 | -.304  | .094  | -.037 | -.925  |
| 140 | 2138 | -.199  | .077  | .037  | -.545  | 140 | 2192 | -.158  | .038  | -.045 | -.331  | 140 | 2243 | -.282  | .069  | -.053 | -.754  |
| 140 | 2140 | .045   | .110  | .579  | -.339  | 140 | 2193 | -.129  | .037  | -.036 | -.280  | 140 | 2244 | -.117  | .137  | .438  | -.749  |
| 140 | 2141 | .017   | .100  | .460  | -.359  | 140 | 2194 | -.091  | .048  | .109  | -.274  | 140 | 2245 | -.018  | .120  | .565  | -.414  |
| 140 | 2142 | -.208  | .088  | .086  | -.566  | 140 | 2195 | -.196  | .074  | .109  | -.545  | 140 | 2246 | -.167  | .052  | .113  | -.442  |
| 140 | 2143 | -.046  | .077  | .257  | -.293  | 140 | 2196 | -.147  | .086  | .087  | -.569  | 140 | 2247 | -.189  | .055  | .103  | -.383  |
| 140 | 2144 | .072   | .104  | .524  | -.275  | 140 | 2197 | -.107  | .068  | .269  | -.392  | 140 | 2248 | -.242  | .076  | .326  | -.572  |
| 140 | 2145 | .019   | .117  | .411  | -.318  | 140 | 2198 | -.016  | .074  | .298  | -.272  | 140 | 2249 | -.174  | .063  | .183  | -.398  |
| 140 | 2146 | -.186  | .053  | .004  | -.451  | 140 | 2199 | -.151  | .085  | .451  | -.110  | 140 | 2250 | -.194  | .059  | .199  | -.409  |
| 140 | 2147 | -.123  | .053  | .084  | -.358  | 140 | 2200 | -.051  | .082  | .530  | -.210  | 140 | 2251 | -.270  | .049  | -.001 | -.479  |
| 140 | 2148 | -.151  | .046  | -.016 | -.511  | 140 | 2201 | -.383  | .133  | .720  | -.198  | 140 | 2252 | -.156  | .121  | .357  | -.705  |
| 140 | 2149 | -.194  | .057  | .034  | -.466  | 140 | 2202 | -.226  | .041  | -.078 | -.405  | 140 | 2253 | -.043  | .092  | .318  | -.341  |
| 140 | 2150 | -.190  | .045  | .014  | -.551  | 140 | 2203 | -.222  | .033  | -.073 | -.365  | 140 | 2254 | -.115  | .085  | .181  | -.331  |
| 140 | 2151 | -.163  | .053  | .031  | -.426  | 140 | 2204 | -.229  | .041  | -.073 | -.429  | 140 | 2255 | -.202  | .060  | .038  | -.486  |
| 140 | 2152 | -.137  | .049  | .064  | -.325  | 140 | 2205 | -.230  | .038  | -.114 | -.454  | 140 | 2256 | -.175  | .043  | .009  | -.494  |
| 140 | 2153 | -.157  | .036  | -.024 | -.315  | 140 | 2206 | -.218  | .037  | -.078 | -.459  | 140 | 2257 | -.198  | .052  | .103  | -.385  |
| 140 | 2154 | -.164  | .044  | -.009 | -.355  | 140 | 2207 | -.305  | .069  | .112  | -.709  | 140 | 2258 | -.358  | .076  | -.081 | -.598  |
| 140 | 2155 | -.165  | .053  | .006  | -.413  | 140 | 2208 | -.217  | .041  | -.056 | -.473  | 140 | 2259 | -.171  | .159  | .536  | -.572  |
| 140 | 2156 | -.636  | .168  | -.026 | -1.091 | 140 | 2209 | -.240  | .052  | -.036 | -.468  | 140 | 2260 | -.113  | .080  | .243  | -.463  |
| 140 | 2157 | .451   | .244  | 1.051 | -.192  | 140 | 2210 | -.411  | .099  | -.134 | -.864  | 140 | 2261 | -.212  | .078  | .471  | -.250  |
| 140 | 2158 | .036   | .086  | .468  | -.330  | 140 | 2211 | -.254  | .041  | -.119 | -.468  | 140 | 2262 | -.368  | .059  | 1.053 | .155   |
| 140 | 2159 | -.146  | .041  | .087  | -.323  | 140 | 2212 | -.222  | .041  | -.068 | -.454  | 140 | 2263 | -.233  | .058  | .521  | .043   |
| 140 | 2160 | -.156  | .040  | -.011 | -.335  | 140 | 2213 | -.252  | .056  | -.065 | -.626  | 140 | 2264 | -.233  | .112  | .612  | -.102  |
| 140 | 2161 | -.159  | .051  | .004  | -.408  | 140 | 2214 | -.318  | .066  | -.144 | -.700  | 140 | 2265 | -.433  | .047  | -.198 | -.608  |
| 140 | 2162 | -.072  | .062  | .431  | -.212  | 140 | 2215 | -.033  | .105  | -.443 | -.289  | 150 | 2101 | -.449  | .165  | .098  | -1.387 |
| 140 | 2163 | -.075  | .055  | .217  | -.363  | 140 | 2216 | -.250  | .040  | -.137 | -.456  | 150 | 2102 | -.492  | .180  | -.041 | -1.731 |
| 140 | 2164 | -.252  | .066  | -.014 | -.775  | 140 | 2217 | -.222  | .033  | -.085 | -.402  | 150 | 2103 | -.308  | .138  | .083  | -1.231 |
| 140 | 2165 | -.208  | .058  | -.006 | -.629  | 140 | 2218 | -.232  | .045  | -.095 | -.527  | 150 | 2104 | -.101  | .187  | .781  | -.625  |
| 140 | 2166 | -.071  | .044  | .119  | -.289  | 140 | 2219 | -.203  | .041  | -.016 | -.400  | 150 | 2105 | -.497  | .229  | .132  | -2.450 |
| 140 | 2167 | -.196  | .049  | .006  | -.478  | 140 | 2220 | -.267  | .050  | -.132 | -.586  | 150 | 2106 | -.261  | .099  | .021  | -.795  |
| 140 | 2168 | -.200  | .056  | .001  | -.463  | 140 | 2221 | -.241  | .039  | -.134 | -.449  | 150 | 2107 | -.256  | .082  | -.009 | -.672  |
| 140 | 2170 | -.237  | .058  | -.009 | -.684  | 140 | 2222 | -.210  | .030  | -.097 | -.341  | 150 | 2108 | -.028  | .144  | .637  | -.459  |
| 140 | 2171 | -.234  | .057  | -.036 | -.599  | 140 | 2223 | -.284  | .075  | -.109 | -.660  | 150 | 2109 | -.368  | .144  | .026  | -1.233 |
| 140 | 2172 | -.197  | .047  | -.029 | -.496  | 140 | 2224 | -.196  | .043  | -.008 | -.336  | 150 | 2110 | -.310  | .126  | .068  | -1.016 |
| 140 | 2173 | -.183  | .046  | -.036 | -.383  | 140 | 2225 | -.230  | .066  | -.051 | -.484  | 150 | 2111 | -.261  | .079  | -.006 | -.758  |
| 140 | 2174 | -.178  | .047  | -.016 | -.380  | 140 | 2226 | -.327  | .101  | -.081 | -.1016 | 150 | 2112 | -.057  | .096  | .365  | -.390  |
| 140 | 2175 | -.176  | .044  | -.024 | -.365  | 140 | 2227 | -.066  | .081  | -.277 | -.357  | 150 | 2113 | -.299  | .084  | -.038 | -.922  |
| 140 | 2177 | -.112  | .058  | -.237 | -.257  | 140 | 2228 | -.240  | .033  | -.120 | -.362  | 150 | 2114 | -.308  | .106  | .085  | -.865  |
| 140 | 2178 | -.262  | .056  | -.114 | -.459  | 140 | 2229 | -.206  | .031  | -.089 | -.359  | 150 | 2115 | -.252  | .060  | -.051 | -.533  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 205

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 150 | 2116 | -.141  | .075  | .268  | -.343  | 150 | 2168 | -.207  | .069  | .061  | -.498 | 150 | 2221 | -.271  | .039  | -.161 | -.481  |
| 150 | 2117 | -.360  | .081  | -.113 | -.805  | 150 | 2170 | -.237  | .047  | -.087 | -.448 | 150 | 2222 | -.231  | .028  | -.132 | -.336  |
| 150 | 2118 | -.304  | .075  | -.078 | -1.119 | 150 | 2171 | -.234  | .046  | -.082 | -.513 | 150 | 2223 | -.283  | .052  | -.034 | -.604  |
| 150 | 2119 | -.273  | .058  | -.073 | -.558  | 150 | 2172 | -.210  | .046  | -.021 | -.393 | 150 | 2224 | -.228  | .039  | -.051 | -.412  |
| 150 | 2120 | -.074  | .070  | .271  | -.340  | 150 | 2173 | -.192  | .053  | .061  | -.395 | 150 | 2225 | -.265  | .065  | -.023 | -.496  |
| 150 | 2121 | -.440  | .181  | .192  | -1.520 | 150 | 2174 | -.182  | .056  | .061  | -.463 | 150 | 2226 | -.307  | .076  | -.088 | -1.018 |
| 150 | 2122 | -.292  | .065  | .063  | -.748  | 150 | 2175 | -.169  | .054  | .039  | -.378 | 150 | 2227 | -.095  | .064  | -.325 | -.342  |
| 150 | 2123 | -.253  | .047  | -.068 | -.521  | 150 | 2177 | -.082  | .073  | .280  | -.323 | 150 | 2228 | -.266  | .032  | -.158 | -.397  |
| 150 | 2124 | -.340  | .115  | -.043 | -.865  | 150 | 2178 | -.246  | .044  | -.112 | -.476 | 150 | 2229 | -.222  | .027  | -.119 | -.327  |
| 150 | 2125 | -.534  | .252  | .174  | -1.928 | 150 | 2179 | -.263  | .057  | -.039 | -.556 | 150 | 2230 | -.323  | .091  | -.090 | -.849  |
| 150 | 2126 | -.249  | .076  | -.041 | -.639  | 150 | 2180 | -.242  | .043  | -.089 | -.413 | 150 | 2231 | -.275  | .045  | -.127 | -.503  |
| 150 | 2127 | -.116  | .093  | .259  | -.432  | 150 | 2181 | -.200  | .037  | -.074 | -.358 | 150 | 2233 | -.218  | .047  | -.072 | -.428  |
| 150 | 2128 | .070   | .111  | .521  | -.320  | 150 | 2182 | -.181  | .043  | .011  | -.488 | 150 | 2234 | -.170  | .058  | -.229 | -.355  |
| 150 | 2129 | -.051  | .179  | .494  | -.840  | 150 | 2183 | -.176  | .052  | -.039 | -.508 | 150 | 2235 | -.118  | .066  | -.138 | -.462  |
| 150 | 2130 | -.227  | .061  | -.021 | -.486  | 150 | 2184 | -.058  | .057  | .200  | -.228 | 150 | 2236 | -.226  | .089  | -.008 | -.774  |
| 150 | 2131 | -.054  | .055  | .150  | -.229  | 150 | 2185 | -.020  | .066  | .264  | -.171 | 150 | 2237 | -.136  | .041  | -.047 | -.342  |
| 150 | 2132 | .217   | .164  | .828  | -.424  | 150 | 2187 | -.061  | .054  | .187  | -.193 | 150 | 2238 | -.436  | .199  | -.107 | -1.444 |
| 150 | 2133 | .065   | .173  | .847  | -.781  | 150 | 2188 | -.261  | .063  | -.024 | -.559 | 150 | 2239 | -.366  | .090  | -.007 | -.781  |
| 150 | 2134 | -.210  | .070  | -.016 | -.701  | 150 | 2189 | -.240  | .079  | -.003 | -.685 | 150 | 2240 | -.305  | .069  | -.108 | -.623  |
| 150 | 2135 | .134   | .151  | .719  | -.249  | 150 | 2190 | -.215  | .045  | -.071 | -.400 | 150 | 2241 | -.284  | .065  | -.015 | -.662  |
| 150 | 2136 | .027   | .149  | .721  | -.573  | 150 | 2191 | -.182  | .036  | -.048 | -.326 | 150 | 2242 | -.320  | .087  | -.054 | -.820  |
| 150 | 2138 | -.204  | .074  | .083  | -.511  | 150 | 2192 | -.170  | .039  | -.031 | -.471 | 150 | 2243 | -.298  | .064  | -.106 | -.805  |
| 150 | 2140 | -.018  | .095  | .588  | -.315  | 150 | 2193 | -.135  | .040  | -.004 | -.262 | 150 | 2244 | -.076  | .134  | -.520 | -.641  |
| 150 | 2141 | -.003  | .111  | .640  | -.602  | 150 | 2194 | -.071  | .057  | .241  | -.240 | 150 | 2245 | -.026  | .121  | -.525 | -.529  |
| 150 | 2142 | -.216  | .087  | .056  | -.832  | 150 | 2195 | -.243  | .072  | -.001 | -.547 | 150 | 2246 | -.190  | .063  | -.102 | -.506  |
| 150 | 2143 | -.043  | .081  | .315  | -.343  | 150 | 2196 | -.174  | .121  | .205  | -.687 | 150 | 2247 | -.229  | .049  | -.040 | -.537  |
| 150 | 2144 | -.046  | .097  | .481  | -.265  | 150 | 2197 | -.097  | .087  | .293  | -.333 | 150 | 2248 | -.293  | .073  | -.064 | -.701  |
| 150 | 2145 | -.025  | .110  | .458  | -.368  | 150 | 2198 | -.031  | .060  | .244  | -.257 | 150 | 2249 | -.203  | .063  | -.105 | -.420  |
| 150 | 2146 | -.215  | .066  | .009  | -.619  | 150 | 2199 | -.203  | .095  | .504  | -.105 | 150 | 2250 | -.229  | .051  | -.076 | -.381  |
| 150 | 2147 | -.135  | .053  | .056  | -.363  | 150 | 2200 | -.094  | .086  | .711  | -.129 | 150 | 2251 | -.307  | .044  | -.075 | -.519  |
| 150 | 2148 | -.158  | .038  | -.006 | -.481  | 150 | 2201 | -.420  | .129  | .792  | -.068 | 150 | 2252 | -.106  | .105  | -.507 | -.612  |
| 150 | 2149 | -.205  | .053  | -.024 | -.488  | 150 | 2202 | -.248  | .046  | -.088 | -.721 | 150 | 2253 | -.058  | .086  | -.461 | -.433  |
| 150 | 2150 | -.191  | .064  | .001  | -.523  | 150 | 2203 | -.244  | .033  | -.129 | -.437 | 150 | 2254 | -.122  | .086  | -.107 | -.360  |
| 150 | 2151 | -.185  | .056  | -.001 | -.468  | 150 | 2204 | -.244  | .036  | -.112 | -.451 | 150 | 2255 | -.250  | .066  | -.001 | -.558  |
| 150 | 2152 | -.156  | .053  | -.009 | -.370  | 150 | 2205 | -.247  | .034  | -.134 | -.410 | 150 | 2256 | -.202  | .044  | -.051 | -.558  |
| 150 | 2153 | -.163  | .035  | -.036 | -.302  | 150 | 2206 | -.238  | .037  | -.125 | -.419 | 150 | 2257 | -.245  | .043  | -.077 | -.394  |
| 150 | 2154 | -.179  | .040  | -.001 | -.338  | 150 | 2207 | -.318  | .065  | -.149 | -.729 | 150 | 2258 | -.446  | .064  | -.192 | -.683  |
| 150 | 2155 | -.182  | .051  | -.024 | -.463  | 150 | 2208 | -.246  | .045  | -.093 | -.648 | 150 | 2259 | -.123  | .140  | -.484 | -.522  |
| 150 | 2156 | .672   | .178  | -.031 | -1.143 | 150 | 2209 | -.268  | .058  | -.056 | -.788 | 150 | 2260 | -.113  | .085  | -.442 | -.423  |
| 150 | 2157 | .534   | .243  | 1.113 | -.154  | 150 | 2210 | -.386  | .087  | -.114 | -.756 | 150 | 2261 | -.193  | .103  | -.629 | -.353  |
| 150 | 2158 | -.042  | .090  | .425  | -.230  | 150 | 2211 | -.278  | .048  | -.137 | -.564 | 150 | 2262 | -.360  | .064  | -.788 | -.154  |
| 150 | 2159 | -.136  | .041  | .079  | -.292  | 150 | 2212 | -.245  | .041  | -.080 | -.525 | 150 | 2263 | -.251  | .062  | -.580 | -.045  |
| 150 | 2160 | -.165  | .034  | -.041 | -.287  | 150 | 2213 | -.269  | .055  | -.105 | -.547 | 150 | 2264 | -.225  | .116  | -.619 | -.129  |
| 150 | 2161 | -.174  | .044  | -.034 | -.378  | 150 | 2214 | -.321  | .058  | -.102 | -.667 | 150 | 2265 | -.477  | .047  | -.308 | -.667  |
| 150 | 2162 | -.043  | .069  | .292  | -.212  | 150 | 2215 | -.080  | .084  | .323  | -.368 | 160 | 2101 | -.253  | .089  | -.013 | -.874  |
| 150 | 2163 | -.044  | .060  | .199  | -.255  | 150 | 2216 | -.265  | .036  | -.164 | -.591 | 160 | 2102 | -.293  | .107  | -.029 | -.931  |
| 150 | 2164 | -.240  | .054  | -.044 | -.451  | 150 | 2217 | -.237  | .031  | -.125 | -.390 | 160 | 2103 | -.240  | .096  | -.095 | -.750  |
| 150 | 2165 | -.226  | .080  | .082  | -.824  | 150 | 2218 | -.243  | .038  | -.090 | -.481 | 160 | 2104 | -.008  | .131  | -.601 | -.465  |
| 150 | 2166 | -.057  | .047  | .153  | -.225  | 150 | 2219 | -.219  | .037  | -.031 | -.373 | 160 | 2105 | -.348  | .147  | -.090 | -1.186 |
| 150 | 2167 | -.200  | .046  | -.024 | -.466  | 150 | 2220 | -.287  | .048  | -.137 | -.739 | 160 | 2106 | -.200  | .064  | -.011 | -.531  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 206

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 160 | 2107 | -.196  | .055  | -.000 | -.436 | 160 | 2159 | -.044  | .050  | .243  | -.221 | 160 | 2212 | -.175  | .036  | -.039 | -.394  |
| 160 | 2108 | -.000  | .118  | .621  | -.330 | 160 | 2160 | -.090  | .034  | .069  | -.233 | 160 | 2213 | -.180  | .052  | .085  | -.473  |
| 160 | 2109 | -.321  | .123  | .016  | -.928 | 160 | 2161 | -.098  | .037  | .024  | -.269 | 160 | 2214 | -.279  | .067  | .100  | -.851  |
| 160 | 2110 | -.205  | .072  | .011  | -.576 | 160 | 2162 | -.046  | .065  | .207  | -.235 | 160 | 2215 | -.063  | .076  | .371  | -.282  |
| 160 | 2111 | -.192  | .046  | -.041 | -.423 | 160 | 2163 | -.108  | .046  | .047  | -.381 | 160 | 2216 | -.209  | .028  | -.115 | -.502  |
| 160 | 2112 | -.062  | .088  | .452  | -.303 | 160 | 2164 | -.136  | .044  | .035  | -.313 | 160 | 2217 | -.183  | .026  | -.052 | -.327  |
| 160 | 2113 | -.258  | .085  | .036  | -.764 | 160 | 2165 | -.190  | .087  | .040  | -.736 | 160 | 2218 | -.195  | .037  | .044  | -.374  |
| 160 | 2114 | -.205  | .068  | .011  | -.637 | 160 | 2166 | -.077  | .042  | .154  | -.251 | 160 | 2219 | -.157  | .038  | .116  | -.296  |
| 160 | 2115 | -.182  | .041  | -.052 | -.411 | 160 | 2167 | -.129  | .039  | -.004 | -.311 | 160 | 2220 | -.194  | .038  | -.003 | -.484  |
| 160 | 2116 | -.123  | .065  | .260  | -.332 | 160 | 2168 | -.156  | .063  | .051  | -.455 | 160 | 2221 | -.224  | .036  | -.141 | -.403  |
| 160 | 2117 | -.234  | .056  | -.070 | -.628 | 160 | 2170 | -.147  | .036  | -.004 | -.308 | 160 | 2222 | -.162  | .026  | -.045 | -.294  |
| 160 | 2118 | -.183  | .052  | -.000 | -.569 | 160 | 2171 | -.149  | .043  | .021  | -.430 | 160 | 2223 | -.195  | .059  | .132  | -.457  |
| 160 | 2119 | -.172  | .034  | -.048 | -.375 | 160 | 2172 | -.134  | .038  | .005  | -.320 | 160 | 2224 | -.141  | .029  | -.039 | -.235  |
| 160 | 2120 | -.093  | .046  | .162  | -.233 | 160 | 2173 | -.130  | .047  | .051  | -.336 | 160 | 2225 | -.179  | .052  | -.001 | -.461  |
| 160 | 2121 | -.258  | .080  | .068  | -.707 | 160 | 2174 | -.138  | .051  | .069  | -.356 | 160 | 2226 | -.254  | .063  | -.054 | -.801  |
| 160 | 2122 | -.187  | .037  | -.027 | -.404 | 160 | 2175 | -.141  | .049  | .021  | -.322 | 160 | 2227 | -.057  | .065  | .289  | -.300  |
| 160 | 2123 | -.161  | .030  | -.032 | -.328 | 160 | 2177 | -.028  | .078  | .406  | -.253 | 160 | 2228 | -.217  | .031  | -.115 | -.338  |
| 160 | 2124 | -.187  | .053  | .047  | -.443 | 160 | 2178 | -.160  | .040  | -.059 | -.359 | 160 | 2229 | -.150  | .024  | -.049 | -.243  |
| 160 | 2125 | -.212  | .066  | -.011 | -.714 | 160 | 2179 | -.159  | .042  | -.038 | -.347 | 160 | 2230 | -.199  | .057  | .029  | -.581  |
| 160 | 2126 | -.159  | .042  | .018  | -.357 | 160 | 2180 | -.153  | .035  | -.020 | -.285 | 160 | 2231 | -.205  | .054  | -.018 | -.527  |
| 160 | 2127 | -.131  | .047  | .024  | -.332 | 160 | 2181 | -.152  | .046  | -.015 | -.407 | 160 | 2233 | -.170  | .031  | -.007 | -.357  |
| 160 | 2128 | -.067  | .076  | .334  | -.310 | 160 | 2182 | -.180  | .064  | -.008 | -.420 | 160 | 2234 | -.129  | .030  | .064  | -.347  |
| 160 | 2129 | -.113  | .094  | .406  | -.581 | 160 | 2183 | -.180  | .061  | .010  | -.404 | 160 | 2235 | -.155  | .042  | .017  | -.361  |
| 160 | 2130 | -.133  | .072  | -.090 | -.470 | 160 | 2184 | -.076  | .042  | .085  | -.211 | 160 | 2236 | -.200  | .097  | .228  | -.688  |
| 160 | 2131 | -.080  | .040  | .120  | -.258 | 160 | 2185 | -.021  | .061  | .286  | -.184 | 160 | 2237 | -.109  | .053  | .289  | -.312  |
| 160 | 2132 | -.013  | .110  | .705  | -.583 | 160 | 2187 | -.091  | .047  | .163  | -.291 | 160 | 2238 | -.322  | .140  | .168  | -.1057 |
| 160 | 2133 | -.042  | .109  | .517  | -.407 | 160 | 2188 | -.150  | .046  | .082  | -.464 | 160 | 2239 | -.223  | .080  | .133  | -.617  |
| 160 | 2134 | -.058  | .071  | .178  | -.678 | 160 | 2189 | -.160  | .056  | .008  | -.383 | 160 | 2240 | -.165  | .057  | .154  | -.411  |
| 160 | 2135 | -.038  | .085  | .461  | -.416 | 160 | 2190 | -.145  | .040  | .017  | -.305 | 160 | 2241 | -.149  | .057  | .400  | -.401  |
| 160 | 2136 | -.083  | .091  | .300  | -.513 | 160 | 2191 | -.149  | .058  | .064  | -.486 | 160 | 2242 | -.127  | .066  | .197  | -.418  |
| 160 | 2137 | -.005  | .073  | .303  | -.362 | 160 | 2192 | -.235  | .096  | .024  | -.746 | 160 | 2243 | -.205  | .047  | .015  | -.463  |
| 160 | 2138 | -.052  | .062  | .330  | -.357 | 160 | 2193 | -.163  | .072  | .047  | -.462 | 160 | 2244 | -.155  | .097  | .199  | -.860  |
| 160 | 2139 | -.076  | .067  | .533  | -.371 | 160 | 2194 | -.150  | .079  | .035  | -.759 | 160 | 2245 | -.029  | .097  | .471  | -.503  |
| 160 | 2140 | -.052  | .058  | .258  | -.232 | 160 | 2195 | -.124  | .051  | .051  | -.484 | 160 | 2246 | -.128  | .059  | .216  | -.423  |
| 160 | 2141 | -.062  | .048  | .115  | -.407 | 160 | 2196 | -.150  | .077  | .100  | -.578 | 160 | 2247 | -.122  | .054  | .225  | -.413  |
| 160 | 2142 | -.062  | .046  | .179  | -.224 | 160 | 2197 | -.103  | .047  | .123  | -.303 | 160 | 2248 | -.138  | .058  | .249  | -.297  |
| 160 | 2143 | -.091  | .056  | .214  | -.487 | 160 | 2198 | -.078  | .048  | .156  | -.303 | 160 | 2249 | -.091  | .070  | .384  | -.312  |
| 160 | 2144 | -.083  | .043  | .083  | -.308 | 160 | 2199 | -.126  | .068  | .134  | -.459 | 160 | 2250 | -.140  | .054  | .256  | -.305  |
| 160 | 2145 | -.062  | .039  | .143  | -.246 | 160 | 2200 | -.069  | .050  | .235  | -.271 | 160 | 2251 | -.229  | .051  | -.061 | -.652  |
| 160 | 2146 | -.077  | .033  | .097  | -.228 | 160 | 2201 | -.049  | .054  | .246  | -.240 | 160 | 2252 | -.133  | .075  | .216  | -.624  |
| 160 | 2147 | -.105  | .039  | .042  | -.290 | 160 | 2202 | -.195  | .040  | -.074 | -.571 | 160 | 2253 | -.030  | .076  | .369  | -.619  |
| 160 | 2148 | -.122  | .053  | .051  | -.368 | 160 | 2203 | -.191  | .026  | -.090 | -.323 | 160 | 2254 | -.142  | .034  | .008  | -.267  |
| 160 | 2149 | -.083  | .044  | .092  | -.308 | 160 | 2204 | -.197  | .032  | -.012 | -.524 | 160 | 2255 | -.140  | .032  | -.009 | -.276  |
| 160 | 2150 | -.073  | .038  | .134  | -.228 | 160 | 2205 | -.198  | .027  | .115  | -.356 | 160 | 2256 | -.145  | .031  | -.040 | -.295  |
| 160 | 2151 | -.084  | .035  | .069  | -.214 | 160 | 2206 | -.173  | .029  | -.043 | -.298 | 160 | 2257 | -.173  | .027  | -.021 | -.307  |
| 160 | 2152 | -.100  | .034  | .037  | -.258 | 160 | 2207 | -.225  | .046  | -.097 | -.562 | 160 | 2258 | -.191  | .027  | -.073 | -.314  |
| 160 | 2153 | -.106  | .042  | .065  | -.404 | 160 | 2208 | -.178  | .036  | -.061 | -.415 | 160 | 2259 | -.102  | .082  | .284  | -.425  |
| 160 | 2154 | -.056  | .042  | .175  | -.317 | 160 | 2209 | -.191  | .050  | -.027 | -.587 | 160 | 2260 | -.044  | .072  | .313  | -.328  |
| 160 | 2155 | -.012  | .062  | .335  | -.256 | 160 | 2210 | -.311  | .079  | -.041 | -.728 | 160 | 2261 | -.144  | .033  | -.036 | -.274  |
| 160 | 2156 | .006   | .062  | .305  | -.148 | 160 | 2211 | -.192  | .033  | -.086 | -.399 | 160 | 2262 | -.131  | .033  | -.016 | -.250  |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 160 | 2263 | -.128  | .030  | .017  | -.252 | 170 | 2150 | -.140  | .057  | .054  | -.492 | 170 | 2203 | -.196  | .033  | -.102 | -.388 |
| 160 | 2264 | -.156  | .027  | -.007 | -.243 | 170 | 2151 | -.072  | .041  | .099  | -.346 | 170 | 2204 | -.205  | .039  | -.077 | -.537 |
| 160 | 2265 | -.179  | .030  | -.044 | -.383 | 170 | 2152 | -.067  | .039  | .080  | -.229 | 170 | 2205 | -.202  | .029  | -.098 | -.374 |
| 170 | 2101 | -.234  | .091  | .028  | -.746 | 170 | 2153 | -.080  | .038  | .058  | -.243 | 170 | 2206 | -.167  | .036  | -.059 | -.381 |
| 170 | 2102 | -.230  | .063  | -.042 | -.697 | 170 | 2154 | -.103  | .041  | .071  | -.276 | 170 | 2207 | -.212  | .048  | -.031 | -.503 |
| 170 | 2103 | -.188  | .017  | -.044 | -.509 | 170 | 2155 | -.111  | .045  | .052  | -.408 | 170 | 2208 | -.171  | .037  | -.020 | -.335 |
| 170 | 2104 | -.107  | .082  | .323  | -.391 | 170 | 2156 | -.061  | .046  | .174  | -.273 | 170 | 2209 | -.185  | .051  | -.024 | -.390 |
| 170 | 2105 | -.244  | .075  | .009  | -.853 | 170 | 2157 | -.010  | .071  | .490  | -.191 | 170 | 2210 | -.321  | .091  | -.003 | -.809 |
| 170 | 2106 | -.187  | .043  | -.019 | -.493 | 170 | 2158 | -.037  | .077  | .441  | -.186 | 170 | 2211 | -.179  | .031  | -.086 | -.330 |
| 170 | 2107 | -.178  | .033  | -.066 | -.300 | 170 | 2159 | -.018  | .058  | .247  | -.205 | 170 | 2212 | -.160  | .035  | -.001 | -.314 |
| 170 | 2108 | -.125  | .088  | .232  | -.602 | 170 | 2160 | -.075  | .043  | .123  | -.276 | 170 | 2213 | -.157  | .045  | .148  | -.358 |
| 170 | 2109 | -.225  | .061  | -.026 | -.634 | 170 | 2161 | -.103  | .037  | .097  | -.250 | 170 | 2214 | -.297  | .095  | .100  | -.802 |
| 170 | 2110 | -.186  | .041  | -.040 | -.381 | 170 | 2162 | -.019  | .092  | .417  | -.431 | 170 | 2215 | -.034  | .091  | .443  | -.312 |
| 170 | 2111 | -.129  | .032  | -.082 | -.321 | 170 | 2163 | -.118  | .048  | .094  | -.426 | 170 | 2216 | -.214  | .031  | -.123 | -.408 |
| 170 | 2112 | -.157  | .081  | .290  | -.569 | 170 | 2164 | -.136  | .042  | .007  | -.384 | 170 | 2217 | -.184  | .030  | -.001 | -.392 |
| 170 | 2113 | -.212  | .055  | -.065 | -.525 | 170 | 2165 | -.217  | .091  | .130  | -.803 | 170 | 2218 | -.193  | .041  | -.008 | -.404 |
| 170 | 2114 | -.182  | .040  | -.068 | -.395 | 170 | 2166 | -.076  | .041  | .102  | -.231 | 170 | 2219 | -.149  | .045  | .204  | -.289 |
| 170 | 2115 | -.174  | .032  | -.042 | -.321 | 170 | 2167 | -.139  | .035  | -.005 | -.342 | 170 | 2220 | -.181  | .036  | -.054 | -.397 |
| 170 | 2116 | -.129  | .076  | .181  | -.404 | 170 | 2168 | -.186  | .063  | -.012 | -.471 | 170 | 2221 | -.226  | .037  | -.132 | -.335 |
| 170 | 2117 | -.207  | .052  | -.068 | -.488 | 170 | 2169 | -.156  | .033  | -.042 | -.320 | 170 | 2222 | -.157  | .033  | -.054 | -.282 |
| 170 | 2118 | -.177  | .036  | -.037 | -.395 | 170 | 2171 | -.154  | .035  | -.000 | -.365 | 170 | 2223 | -.175  | .063  | .326  | -.484 |
| 170 | 2119 | -.164  | .030  | -.037 | -.263 | 170 | 2172 | -.149  | .033  | -.014 | -.313 | 170 | 2224 | -.138  | .031  | .003  | -.263 |
| 170 | 2120 | -.119  | .044  | -.118 | -.286 | 170 | 2173 | -.167  | .051  | -.014 | -.393 | 170 | 2225 | -.158  | .041  | -.001 | -.333 |
| 170 | 2121 | -.251  | .055  | -.075 | -.602 | 170 | 2174 | -.166  | .046  | -.007 | -.356 | 170 | 2226 | -.251  | .068  | -.006 | -.613 |
| 170 | 2122 | -.194  | .035  | -.070 | -.349 | 170 | 2175 | -.171  | .046  | -.012 | -.339 | 170 | 2227 | -.029  | .081  | .444  | -.243 |
| 170 | 2123 | -.161  | .030  | -.049 | -.286 | 170 | 2177 | -.004  | .088  | -.419 | -.226 | 170 | 2228 | -.222  | .035  | -.101 | -.381 |
| 170 | 2124 | -.259  | .076  | -.004 | -.704 | 170 | 2178 | -.164  | .036  | -.068 | -.377 | 170 | 2229 | -.144  | .026  | -.045 | -.245 |
| 170 | 2125 | -.247  | .067  | .009  | -.676 | 170 | 2179 | -.162  | .036  | -.047 | -.415 | 170 | 2230 | -.174  | .045  | .006  | -.430 |
| 170 | 2126 | -.127  | .054  | .172  | -.339 | 170 | 2180 | -.165  | .034  | -.045 | -.342 | 170 | 2231 | -.192  | .059  | -.006 | -.437 |
| 170 | 2127 | -.185  | .087  | .181  | -.758 | 170 | 2181 | -.182  | .042  | -.052 | -.351 | 170 | 2233 | -.154  | .031  | -.038 | -.279 |
| 170 | 2128 | -.158  | .043  | .011  | -.307 | 170 | 2182 | -.204  | .049  | -.009 | -.485 | 170 | 2234 | -.126  | .026  | -.026 | -.235 |
| 170 | 2129 | -.209  | .061  | .083  | -.535 | 170 | 2183 | -.194  | .047  | -.049 | -.393 | 170 | 2235 | -.142  | .032  | -.006 | -.320 |
| 170 | 2130 | -.042  | .067  | .311  | -.335 | 170 | 2184 | -.080  | .041  | -.130 | -.199 | 170 | 2236 | -.170  | .110  | .356  | -.649 |
| 170 | 2131 | -.198  | .092  | .079  | -.586 | 170 | 2185 | -.002  | .064  | -.362 | -.183 | 170 | 2237 | -.082  | .062  | .261  | -.391 |
| 170 | 2132 | -.129  | .049  | .197  | -.402 | 170 | 2187 | -.090  | .064  | -.176 | -.316 | 170 | 2238 | -.354  | .128  | .025  | -.963 |
| 170 | 2133 | -.182  | .047  | -.005 | -.432 | 170 | 2188 | -.153  | .039  | -.026 | -.339 | 170 | 2239 | -.239  | .076  | .042  | -.654 |
| 170 | 2134 | -.024  | .076  | .306  | -.325 | 170 | 2189 | -.171  | .045  | -.012 | -.399 | 170 | 2240 | -.181  | .049  | .018  | -.462 |
| 170 | 2135 | -.136  | .044  | .097  | -.451 | 170 | 2190 | -.158  | .037  | -.052 | -.298 | 170 | 2241 | -.158  | .051  | .113  | -.415 |
| 170 | 2136 | -.185  | .014  | -.046 | -.346 | 170 | 2191 | -.182  | .050  | -.024 | -.385 | 170 | 2242 | -.137  | .064  | .183  | -.513 |
| 170 | 2137 | -.065  | .082  | .374  | -.263 | 170 | 2192 | -.242  | .079  | -.033 | -.703 | 170 | 2243 | -.208  | .054  | .025  | -.557 |
| 170 | 2138 | -.130  | .049  | .151  | -.493 | 170 | 2193 | -.188  | .063  | -.005 | -.532 | 170 | 2244 | -.175  | .091  | .110  | -.564 |
| 170 | 2139 | -.188  | .056  | .130  | -.393 | 170 | 2194 | -.160  | .088  | -.008 | -.977 | 170 | 2245 | -.054  | .075  | .254  | -.328 |
| 170 | 2140 | -.040  | .070  | .239  | -.284 | 170 | 2195 | -.119  | .046  | -.024 | -.484 | 170 | 2246 | -.112  | .066  | .247  | -.313 |
| 170 | 2141 | -.169  | .102  | .134  | -.780 | 170 | 2196 | -.173  | .066  | -.015 | -.588 | 170 | 2247 | -.112  | .052  | .159  | -.359 |
| 170 | 2142 | -.110  | .052  | .132  | -.297 | 170 | 2197 | -.118  | .042  | -.029 | -.282 | 170 | 2248 | -.155  | .044  | .074  | -.306 |
| 170 | 2143 | -.159  | .058  | .196  | -.365 | 170 | 2198 | -.094  | .047  | -.105 | -.268 | 170 | 2249 | -.066  | .070  | .339  | -.255 |
| 170 | 2144 | -.062  | .050  | .141  | -.285 | 170 | 2199 | -.136  | .082  | -.298 | -.519 | 170 | 2250 | -.117  | .065  | .322  | -.328 |
| 170 | 2145 | -.054  | .042  | .170  | -.210 | 170 | 2200 | -.078  | .067  | -.337 | -.358 | 170 | 2251 | -.253  | .063  | .047  | -.644 |
| 170 | 2146 | -.077  | .036  | .090  | -.276 | 170 | 2201 | -.039  | .062  | -.300 | -.277 | 170 | 2252 | -.138  | .093  | .120  | -.615 |
| 170 | 2147 | -.109  | .040  | .045  | -.316 | 170 | 2202 | -.197  | .048  | -.049 | -.579 | 170 | 2253 | .002   | .080  | .320  | -.235 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 208

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|
| 170 | 2254 | -.138  | .033  | -.011 | -.279   | 180 | 2141 | -.195  | .043  | -.060 | -.388   | 180 | 2194 | -.204  | .093  | -.013 | -.1.023 |
| 170 | 2255 | -.136  | .032  | -.028 | -.306   | 180 | 2142 | -.020  | .069  | .323  | -.276   | 180 | 2195 | -.127  | .045  | -.037 | -.502   |
| 170 | 2256 | -.136  | .033  | -.004 | -.313   | 180 | 2143 | -.192  | .111  | .052  | -.898   | 180 | 2196 | -.167  | .061  | .058  | -.615   |
| 170 | 2257 | -.172  | .028  | -.070 | -.289   | 180 | 2144 | -.132  | .047  | .033  | -.390   | 180 | 2197 | -.127  | .039  | .046  | -.328   |
| 170 | 2258 | -.195  | .028  | -.111 | -.401   | 180 | 2145 | -.165  | .046  | .069  | -.404   | 180 | 2198 | -.114  | .044  | .074  | -.307   |
| 170 | 2259 | -.129  | .084  | -.225 | -.232   | 180 | 2146 | -.081  | .048  | .085  | -.355   | 180 | 2199 | -.145  | .082  | .271  | -.576   |
| 170 | 2260 | -.035  | .065  | .376  | -.260   | 180 | 2147 | -.078  | .038  | .078  | -.244   | 180 | 2200 | -.102  | .063  | .182  | -.330   |
| 170 | 2261 | -.137  | .034  | .050  | -.289   | 180 | 2148 | -.093  | .034  | .036  | -.338   | 180 | 2201 | -.083  | .056  | .140  | -.350   |
| 170 | 2262 | -.121  | .034  | -.006 | -.267   | 180 | 2149 | -.113  | .036  | .019  | -.268   | 180 | 2202 | -.203  | .057  | -.069 | -.624   |
| 170 | 2263 | -.116  | .031  | .030  | -.252   | 180 | 2150 | -.144  | .052  | .040  | -.369   | 180 | 2203 | -.191  | .033  | -.050 | -.431   |
| 170 | 2264 | -.147  | .027  | -.014 | -.243   | 180 | 2151 | -.088  | .039  | .028  | -.261   | 180 | 2204 | -.203  | .040  | -.075 | -.438   |
| 170 | 2265 | -.170  | .029  | -.033 | -.303   | 180 | 2152 | -.088  | .037  | .057  | -.329   | 180 | 2205 | -.193  | .028  | -.103 | -.353   |
| 180 | 2101 | -.206  | .063  | .146  | -.747   | 180 | 2153 | -.097  | .034  | .050  | -.225   | 180 | 2206 | -.156  | .039  | .074  | -.296   |
| 180 | 2102 | -.207  | .050  | -.030 | -.545   | 180 | 2154 | -.106  | .038  | .104  | -.272   | 180 | 2207 | -.210  | .056  | -.034 | -.555   |
| 180 | 2103 | -.175  | .035  | -.053 | -.381   | 180 | 2155 | -.114  | .037  | .007  | -.324   | 180 | 2208 | -.167  | .037  | -.013 | -.326   |
| 180 | 2104 | -.120  | .061  | .281  | -.306   | 180 | 2156 | -.101  | .045  | .101  | -.334   | 180 | 2209 | -.177  | .055  | .044  | -.528   |
| 180 | 2105 | -.209  | .047  | -.086 | -.473   | 180 | 2157 | -.032  | .065  | .294  | -.256   | 180 | 2210 | -.324  | .111  | .021  | -.826   |
| 180 | 2106 | -.177  | .032  | -.079 | -.381   | 180 | 2158 | -.013  | .071  | .424  | -.200   | 180 | 2211 | -.175  | .031  | -.048 | -.326   |
| 180 | 2107 | -.170  | .027  | -.077 | -.316   | 180 | 2159 | -.020  | .052  | .327  | -.192   | 180 | 2212 | -.155  | .038  | .012  | -.316   |
| 180 | 2108 | -.153  | .060  | .181  | -.469   | 180 | 2160 | -.079  | .034  | .078  | -.216   | 180 | 2213 | -.151  | .053  | .078  | -.374   |
| 180 | 2109 | -.195  | .042  | -.083 | -.559   | 180 | 2161 | -.108  | .033  | .024  | -.261   | 180 | 2214 | -.287  | .108  | .241  | -.1.078 |
| 180 | 2110 | -.177  | .030  | -.088 | -.355   | 180 | 2162 | -.070  | .102  | .419  | -.501   | 180 | 2215 | -.032  | .103  | .496  | -.323   |
| 180 | 2111 | -.176  | .026  | -.102 | -.320   | 180 | 2163 | -.147  | .056  | .057  | -.425   | 180 | 2216 | -.210  | .033  | -.096 | -.404   |
| 180 | 2112 | -.176  | .063  | .137  | -.511   | 180 | 2164 | -.130  | .038  | -.021 | -.287   | 180 | 2217 | -.175  | .031  | -.018 | -.367   |
| 180 | 2113 | -.190  | .040  | -.072 | -.457   | 180 | 2165 | -.292  | .109  | .033  | -.1.432 | 180 | 2218 | -.187  | .050  | .053  | -.484   |
| 180 | 2114 | -.178  | .033  | -.070 | -.376   | 180 | 2166 | -.096  | .046  | .149  | -.252   | 180 | 2219 | -.137  | .053  | .285  | -.353   |
| 180 | 2115 | -.168  | .025  | -.077 | -.269   | 180 | 2167 | -.142  | .031  | .037  | -.268   | 180 | 2220 | -.177  | .039  | -.009 | -.429   |
| 180 | 2116 | -.149  | .067  | .114  | -.418   | 180 | 2168 | -.192  | .063  | -.011 | -.590   | 180 | 2221 | -.212  | .032  | -.124 | -.374   |
| 180 | 2117 | -.192  | .040  | -.065 | -.453   | 180 | 2169 | -.153  | .033  | .065  | -.329   | 180 | 2222 | -.149  | .033  | .021  | -.316   |
| 180 | 2118 | -.169  | .031  | -.056 | -.323   | 180 | 2171 | -.160  | .033  | -.070 | -.350   | 180 | 2223 | -.176  | .068  | .175  | -.452   |
| 180 | 2119 | -.162  | .027  | -.060 | -.276   | 180 | 2172 | -.155  | .034  | -.044 | -.294   | 180 | 2224 | -.134  | .032  | .021  | -.289   |
| 180 | 2120 | -.130  | .035  | .023  | -.297   | 180 | 2173 | -.172  | .047  | -.007 | -.451   | 180 | 2225 | -.161  | .044  | .068  | -.360   |
| 180 | 2121 | -.234  | .061  | -.093 | -.576   | 180 | 2174 | -.178  | .044  | -.023 | -.359   | 180 | 2226 | -.239  | .067  | -.037 | -.637   |
| 180 | 2122 | -.186  | .034  | -.083 | -.355   | 180 | 2175 | -.176  | .041  | -.026 | -.357   | 180 | 2227 | -.010  | .087  | .532  | -.236   |
| 180 | 2123 | -.158  | .031  | -.021 | -.306   | 180 | 2177 | -.020  | .101  | .504  | -.261   | 180 | 2228 | -.200  | .027  | -.107 | -.309   |
| 180 | 2124 | -.291  | .099  | -.030 | -.850   | 180 | 2178 | -.163  | .033  | -.070 | -.317   | 180 | 2229 | -.141  | .026  | -.020 | -.248   |
| 180 | 2125 | -.265  | .082  | -.035 | -.745   | 180 | 2179 | -.170  | .033  | -.049 | -.409   | 180 | 2230 | -.174  | .045  | -.005 | -.413   |
| 180 | 2126 | -.100  | .087  | .392  | -.429   | 180 | 2180 | -.165  | .032  | -.036 | -.383   | 180 | 2231 | -.199  | .047  | -.009 | -.438   |
| 180 | 2127 | -.265  | .127  | .118  | -.1.154 | 180 | 2181 | -.186  | .035  | -.091 | -.369   | 180 | 2233 | -.153  | .029  | -.015 | -.326   |
| 180 | 2128 | -.169  | .047  | .142  | -.320   | 180 | 2182 | -.201  | .038  | -.049 | -.359   | 180 | 2234 | -.123  | .030  | -.003 | -.270   |
| 180 | 2129 | -.230  | .058  | -.065 | -.608   | 180 | 2183 | -.192  | .040  | -.070 | -.376   | 180 | 2235 | -.148  | .039  | .002  | -.336   |
| 180 | 2130 | -.019  | .095  | .416  | -.262   | 180 | 2184 | -.097  | .044  | .138  | -.250   | 180 | 2236 | -.194  | .091  | .201  | -.1.072 |
| 180 | 2131 | -.284  | .106  | .072  | -.696   | 180 | 2185 | -.015  | .068  | .264  | -.206   | 180 | 2237 | -.020  | .058  | .204  | -.290   |
| 180 | 2132 | -.160  | .057  | .114  | -.555   | 180 | 2187 | -.132  | .083  | .218  | -.445   | 180 | 2238 | -.278  | .087  | -.073 | -.717   |
| 180 | 2133 | -.205  | .043  | -.058 | -.406   | 180 | 2188 | -.157  | .039  | -.027 | -.401   | 180 | 2239 | -.201  | .048  | -.042 | -.503   |
| 180 | 2134 | -.019  | .097  | .520  | -.355   | 180 | 2189 | -.173  | .040  | -.069 | -.466   | 180 | 2240 | -.172  | .041  | .002  | -.457   |
| 180 | 2135 | -.147  | .045  | -.002 | -.580   | 180 | 2190 | -.162  | .034  | -.023 | -.321   | 180 | 2241 | -.149  | .042  | .089  | -.328   |
| 180 | 2136 | -.192  | .037  | -.044 | -.374   | 180 | 2191 | -.180  | .044  | -.011 | -.433   | 180 | 2242 | -.146  | .055  | .116  | -.516   |
| 180 | 2137 | -.023  | .097  | .515  | -.467   | 180 | 2192 | -.247  | .063  | -.069 | -.677   | 180 | 2243 | -.216  | .059  | .046  | -.632   |
| 180 | 2138 | -.023  | .097  | .515  | -.467   | 180 | 2193 | -.214  | .060  | -.026 | -.484   | 180 | 2244 | -.178  | .075  | .051  | -.579   |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 209

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 180 | 2245 | -.096  | .056  | .157  | -.268  | 190 | 2130 | .091   | .102  | .770  | -.245 | 190 | 2184 | -.065  | .035  | .092  | -.194 |
| 180 | 2246 | -.127  | .041  | .075  | -.273  | 190 | 2131 | -.214  | .139  | .181  | -.736 | 190 | 2185 | -.043  | .044  | .134  | -.185 |
| 180 | 2247 | -.114  | .040  | .109  | -.270  | 190 | 2132 | -.128  | .050  | .164  | -.618 | 190 | 2187 | -.063  | .061  | .211  | -.286 |
| 180 | 2248 | -.146  | .037  | .102  | -.297  | 190 | 2133 | -.195  | .044  | -.047 | -.487 | 190 | 2188 | -.117  | .053  | -.004 | -.530 |
| 180 | 2249 | -.076  | .054  | .194  | -.243  | 190 | 2134 | -.064  | .084  | .492  | -.247 | 190 | 2189 | -.123  | .055  | -.000 | -.376 |
| 180 | 2250 | -.106  | .069  | .289  | -.353  | 190 | 2136 | -.125  | .043  | .050  | -.463 | 190 | 2190 | -.109  | .038  | -.004 | -.314 |
| 180 | 2251 | -.250  | .063  | -.037 | -.630  | 190 | 2137 | -.170  | .038  | -.052 | -.389 | 190 | 2191 | -.097  | .033  | .044  | -.215 |
| 180 | 2252 | -.146  | .081  | .070  | -.567  | 190 | 2138 | -.020  | .074  | .452  | -.412 | 190 | 2192 | -.138  | .062  | -.007 | -.758 |
| 180 | 2253 | -.037  | .076  | .502  | -.224  | 190 | 2140 | -.130  | .042  | -.005 | .441  | 190 | 2193 | -.127  | .052  | .061  | -.387 |
| 180 | 2254 | -.137  | .028  | -.027 | -.333  | 190 | 2141 | -.172  | .042  | -.036 | .463  | 190 | 2194 | -.115  | .067  | .024  | -.627 |
| 180 | 2255 | -.132  | .027  | -.039 | -.248  | 190 | 2142 | -.002  | .072  | .519  | -.230 | 190 | 2195 | -.109  | .057  | .035  | -.451 |
| 180 | 2256 | -.134  | .029  | -.035 | -.287  | 190 | 2143 | -.139  | .090  | .104  | -.736 | 190 | 2196 | -.108  | .064  | .028  | -.662 |
| 180 | 2257 | -.166  | .028  | -.039 | -.302  | 190 | 2144 | -.094  | .039  | .052  | -.311 | 190 | 2197 | -.085  | .042  | .033  | -.336 |
| 180 | 2258 | -.190  | .030  | -.059 | -.353  | 190 | 2145 | -.138  | .038  | .014  | .306  | 190 | 2198 | -.068  | .033  | .079  | -.215 |
| 180 | 2259 | -.124  | .082  | .121  | -.498  | 190 | 2146 | -.064  | .036  | .099  | .248  | 190 | 2199 | -.088  | .044  | .141  | -.301 |
| 180 | 2260 | -.045  | .065  | .314  | -.239  | 190 | 2147 | -.067  | .040  | .065  | .353  | 190 | 2200 | -.072  | .033  | .077  | -.237 |
| 180 | 2261 | -.137  | .026  | -.020 | -.256  | 190 | 2148 | -.072  | .034  | .090  | .252  | 190 | 2201 | -.080  | .032  | .064  | -.244 |
| 180 | 2262 | -.131  | .028  | -.042 | -.239  | 190 | 2149 | -.090  | .035  | .032  | .297  | 190 | 2202 | -.151  | .045  | .004  | -.448 |
| 180 | 2263 | -.119  | .027  | -.008 | -.214  | 190 | 2150 | -.079  | .036  | .050  | .279  | 190 | 2203 | -.142  | .026  | -.040 | -.281 |
| 180 | 2264 | -.141  | .025  | -.022 | -.239  | 190 | 2151 | -.072  | .038  | .047  | .349  | 190 | 2204 | -.160  | .036  | -.026 | -.374 |
| 180 | 2265 | -.167  | .029  | -.064 | -.353  | 190 | 2152 | -.059  | .034  | .099  | -.232 | 190 | 2205 | -.143  | .023  | -.029 | -.255 |
| 190 | 2101 | -.171  | .086  | .146  | -.621  | 190 | 2153 | -.058  | .034  | .081  | -.180 | 190 | 2206 | -.112  | .031  | .039  | -.275 |
| 190 | 2102 | -.170  | .056  | .024  | -.527  | 190 | 2154 | -.068  | .031  | .095  | -.207 | 190 | 2207 | -.170  | .060  | .055  | -.499 |
| 190 | 2103 | -.150  | .037  | -.023 | -.307  | 190 | 2155 | -.089  | .037  | .070  | -.324 | 190 | 2208 | -.120  | .037  | .011  | -.330 |
| 190 | 2104 | -.089  | .065  | .297  | -.367  | 190 | 2156 | -.075  | .030  | .018  | -.225 | 190 | 2209 | -.121  | .046  | .070  | -.347 |
| 190 | 2105 | -.179  | .053  | -.027 | -.518  | 190 | 2157 | -.059  | .032  | .117  | .257  | 190 | 2210 | -.210  | .111  | .130  | -.763 |
| 190 | 2106 | -.169  | .054  | .013  | -.576  | 190 | 2158 | -.034  | .039  | .173  | -.187 | 190 | 2211 | -.127  | .029  | -.035 | -.273 |
| 190 | 2107 | -.149  | .033  | -.018 | -.367  | 190 | 2159 | -.029  | .034  | .160  | -.128 | 190 | 2212 | -.108  | .033  | .070  | -.273 |
| 190 | 2108 | -.129  | .066  | .241  | -.365  | 190 | 2160 | -.057  | .027  | .074  | .149  | 190 | 2213 | -.098  | .046  | .143  | -.459 |
| 190 | 2109 | -.188  | .056  | -.036 | -.534  | 190 | 2161 | -.080  | .033  | .059  | .320  | 190 | 2214 | -.201  | .127  | .347  | -.991 |
| 190 | 2110 | -.167  | .042  | -.038 | -.614  | 190 | 2162 | -.059  | .065  | .259  | .306  | 190 | 2215 | -.002  | .099  | .534  | -.314 |
| 190 | 2111 | -.161  | .031  | -.070 | -.318  | 190 | 2163 | -.090  | .044  | .077  | .308  | 190 | 2216 | -.159  | .025  | -.090 | -.259 |
| 190 | 2112 | -.163  | .062  | .077  | -.461  | 190 | 2164 | -.095  | .040  | .043  | .342  | 190 | 2217 | -.132  | .028  | -.018 | -.277 |
| 190 | 2113 | -.168  | .043  | -.010 | -.403  | 190 | 2165 | -.176  | .089  | .101  | .274  | 190 | 2218 | -.145  | .043  | .163  | -.413 |
| 190 | 2114 | -.150  | .035  | -.018 | -.365  | 190 | 2166 | -.067  | .039  | .143  | .248  | 190 | 2219 | -.088  | .047  | .158  | -.321 |
| 190 | 2115 | -.145  | .030  | -.038 | -.276  | 190 | 2167 | -.096  | .038  | .027  | .295  | 190 | 2220 | -.130  | .036  | .002  | -.341 |
| 190 | 2116 | -.137  | .060  | .101  | -.327  | 190 | 2168 | -.108  | .042  | .032  | .349  | 190 | 2221 | -.157  | .028  | -.077 | -.277 |
| 190 | 2117 | -.165  | .044  | .024  | -.358  | 190 | 2169 | -.110  | .040  | .000  | .288  | 190 | 2222 | -.108  | .026  | .018  | -.215 |
| 190 | 2118 | -.139  | .032  | -.047 | -.298  | 190 | 2171 | -.119  | .046  | .014  | .371  | 190 | 2223 | -.154  | .075  | .314  | -.554 |
| 190 | 2119 | -.132  | .031  | -.001 | -.267  | 190 | 2172 | -.098  | .036  | .036  | .304  | 190 | 2224 | -.086  | .028  | .066  | -.183 |
| 190 | 2120 | -.094  | .034  | .086  | -.298  | 190 | 2173 | -.100  | .038  | .032  | .286  | 190 | 2225 | -.102  | .038  | .048  | -.296 |
| 190 | 2121 | -.209  | .063  | -.050 | -.614  | 190 | 2174 | -.107  | .040  | .014  | .315  | 190 | 2226 | -.160  | .052  | .004  | -.496 |
| 190 | 2122 | -.156  | .038  | .235  | -.338  | 190 | 2175 | -.105  | .038  | .018  | .335  | 190 | 2227 | -.005  | .069  | .372  | -.212 |
| 190 | 2123 | -.128  | .033  | .013  | -.265  | 190 | 2177 | -.016  | .073  | .399  | .326  | 190 | 2228 | -.148  | .023  | -.059 | -.238 |
| 190 | 2124 | -.247  | .149  | .337  | -.985  | 190 | 2178 | -.127  | .046  | -.009 | .425  | 190 | 2229 | -.100  | .023  | -.015 | -.194 |
| 190 | 2125 | -.218  | .073  | .097  | -.716  | 190 | 2179 | -.120  | .042  | -.016 | .306  | 190 | 2230 | -.165  | .056  | .004  | -.492 |
| 190 | 2126 | -.046  | .124  | .681  | -.312  | 190 | 2180 | -.115  | .037  | -.016 | .293  | 190 | 2231 | -.151  | .028  | -.019 | -.301 |
| 190 | 2127 | -.172  | .177  | .335  | -.1285 | 190 | 2181 | -.111  | .031  | -.004 | .239  | 190 | 2232 | -.127  | .030  | .069  | -.264 |
| 190 | 2128 | -.130  | .042  | .055  | -.365  | 190 | 2182 | -.112  | .036  | .016  | .275  | 190 | 2233 | -.077  | .026  | .030  | -.173 |
| 190 | 2129 | -.211  | .052  | -.072 | -.525  | 190 | 2183 | -.114  | .040  | .014  | .362  | 190 | 2234 | -.088  | .032  | .048  | -.226 |

## APPENDIX A -- PRESSURE DATA :

## CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 190 | 2236 | -.138  | .064  | .111  | -.608 | 200 | 2121 | -.212  | .066  | -.000 | -.565 | 200 | 2174 | -.091  | .043  | .051  | -.591 |
| 190 | 2237 | -.064  | .039  | .139  | -.201 | 200 | 2122 | -.159  | .037  | -.030 | -.336 | 200 | 2175 | -.092  | .041  | .100  | -.400 |
| 190 | 2238 | -.263  | .103  | .111  | -.783 | 200 | 2123 | -.126  | .036  | .004  | -.303 | 200 | 2177 | -.034  | .063  | .422  | -.258 |
| 190 | 2239 | -.175  | .050  | .004  | -.613 | 200 | 2124 | -.197  | .135  | .296  | -.850 | 200 | 2178 | -.113  | .046  | .003  | -.407 |
| 190 | 2240 | -.142  | .032  | .009  | -.322 | 200 | 2125 | -.203  | .065  | .110  | -.595 | 200 | 2179 | -.094  | .035  | .017  | -.312 |
| 190 | 2241 | -.135  | .033  | .032  | -.361 | 200 | 2126 | -.096  | .116  | .680  | -.446 | 200 | 2180 | -.087  | .030  | .017  | -.228 |
| 190 | 2242 | -.129  | .033  | .067  | -.298 | 200 | 2127 | -.053  | .169  | .645  | -.862 | 200 | 2181 | -.085  | .027  | .019  | -.216 |
| 190 | 2243 | -.158  | .035  | -.029 | -.496 | 200 | 2128 | -.105  | .046  | .177  | -.340 | 200 | 2182 | -.096  | .036  | .065  | -.475 |
| 190 | 2244 | -.136  | .086  | .142  | -.731 | 200 | 2129 | -.216  | .052  | -.083 | -.531 | 200 | 2183 | -.094  | .042  | .089  | -.454 |
| 190 | 2245 | -.053  | .068  | .361  | -.294 | 200 | 2130 | -.111  | .100  | .719  | -.173 | 200 | 2184 | -.058  | .032  | .128  | -.197 |
| 190 | 2246 | -.107  | .039  | .146  | -.226 | 200 | 2131 | -.089  | .130  | .367  | -.641 | 200 | 2185 | -.044  | .032  | .153  | -.131 |
| 190 | 2247 | -.104  | .034  | .109  | -.259 | 200 | 2132 | -.110  | .041  | .186  | -.301 | 200 | 2187 | -.047  | .041  | .201  | -.190 |
| 190 | 2248 | -.135  | .029  | .055  | -.261 | 200 | 2133 | -.195  | .046  | -.058 | -.467 | 200 | 2188 | -.103  | .051  | .062  | -.443 |
| 190 | 2249 | -.089  | .035  | .065  | -.205 | 200 | 2134 | -.065  | .076  | .611  | -.145 | 200 | 2189 | -.081  | .037  | .048  | -.293 |
| 190 | 2250 | -.104  | .039  | .134  | -.224 | 200 | 2136 | -.104  | .035  | -.039 | -.462 | 200 | 2190 | -.077  | .033  | .037  | -.247 |
| 190 | 2251 | -.173  | .035  | -.038 | -.394 | 200 | 2137 | -.159  | .036  | -.007 | -.432 | 200 | 2191 | -.074  | .027  | .035  | -.197 |
| 190 | 2252 | -.124  | .093  | .148  | -.622 | 200 | 2138 | -.025  | .066  | .351  | -.200 | 200 | 2192 | -.096  | .043  | .023  | -.334 |
| 190 | 2253 | -.007  | .076  | .493  | -.210 | 200 | 2140 | -.112  | .039  | .023  | -.299 | 200 | 2193 | -.084  | .037  | .061  | -.351 |
| 190 | 2254 | -.118  | .029  | .011  | -.245 | 200 | 2141 | -.172  | .042  | -.042 | -.391 | 200 | 2194 | -.067  | .035  | .205  | -.295 |
| 190 | 2255 | -.112  | .027  | -.006 | -.245 | 200 | 2142 | -.007  | .068  | .285  | -.352 | 200 | 2195 | -.078  | .043  | .085  | -.304 |
| 190 | 2256 | -.103  | .024  | -.015 | -.219 | 200 | 2143 | -.093  | .072  | .187  | -.577 | 200 | 2196 | -.064  | .036  | .053  | -.345 |
| 190 | 2257 | -.121  | .028  | .041  | -.224 | 200 | 2144 | -.080  | .039  | .63   | -.473 | 200 | 2197 | -.060  | .029  | .039  | -.249 |
| 190 | 2258 | -.151  | .029  | -.029 | -.345 | 200 | 2145 | -.126  | .038  | .070  | -.389 | 200 | 2198 | -.058  | .027  | .062  | -.161 |
| 190 | 2259 | -.101  | .076  | .334  | -.545 | 200 | 2146 | -.061  | .033  | .096  | -.305 | 200 | 2199 | -.057  | .032  | .094  | -.252 |
| 190 | 2260 | -.006  | .067  | .439  | -.168 | 200 | 2147 | -.067  | .040  | .044  | -.354 | 200 | 2200 | -.051  | .027  | .155  | -.149 |
| 190 | 2261 | -.119  | .031  | -.022 | -.275 | 200 | 2148 | -.075  | .035  | .089  | -.321 | 200 | 2201 | -.060  | .025  | .048  | -.147 |
| 190 | 2262 | -.107  | .026  | -.003 | -.226 | 200 | 2149 | -.087  | .045  | .091  | -.296 | 200 | 2202 | -.130  | .039  | .005  | -.525 |
| 190 | 2263 | -.093  | .022  | -.017 | -.173 | 200 | 2150 | -.061  | .028  | .051  | -.193 | 200 | 2203 | -.128  | .025  | -.006 | -.290 |
| 190 | 2264 | -.111  | .024  | .011  | -.217 | 200 | 2151 | -.059  | .029  | .054  | -.268 | 200 | 2204 | -.137  | .034  | -.004 | -.356 |
| 190 | 2265 | -.151  | .036  | -.054 | -.401 | 200 | 2152 | -.053  | .031  | .119  | -.198 | 200 | 2205 | -.129  | .022  | -.049 | -.245 |
| 200 | 2101 | -.144  | .079  | .250  | -.607 | 200 | 2153 | -.053  | .029  | .142  | -.177 | 200 | 2206 | -.097  | .031  | .112  | -.231 |
| 200 | 2102 | -.145  | .042  | -.027 | -.790 | 200 | 2154 | -.065  | .027  | .079  | -.167 | 200 | 2207 | -.144  | .050  | .096  | -.434 |
| 200 | 2103 | -.144  | .038  | .034  | -.336 | 200 | 2155 | -.080  | .039  | .044  | -.340 | 200 | 2208 | -.106  | .033  | .010  | -.500 |
| 200 | 2104 | -.071  | .061  | .478  | -.297 | 200 | 2156 | -.058  | .028  | .042  | -.265 | 200 | 2209 | -.110  | .042  | .083  | .611  |
| 200 | 2105 | -.162  | .044  | -.046 | -.471 | 200 | 2157 | -.056  | .025  | .070  | -.130 | 200 | 2210 | -.159  | .080  | .087  | -.650 |
| 200 | 2106 | -.167  | .058  | -.021 | -.607 | 200 | 2158 | -.044  | .027  | .056  | -.135 | 200 | 2211 | -.114  | .028  | -.011 | -.277 |
| 200 | 2107 | -.140  | .035  | -.028 | -.444 | 200 | 2159 | -.039  | .028  | .112  | -.139 | 200 | 2212 | -.097  | .036  | .196  | -.254 |
| 200 | 2108 | -.120  | .056  | .218  | -.356 | 200 | 2160 | -.058  | .027  | .054  | -.158 | 200 | 2213 | -.093  | .042  | .185  | -.288 |
| 200 | 2109 | -.195  | .059  | -.044 | -.579 | 200 | 2161 | -.073  | .032  | .063  | -.247 | 200 | 2214 | -.163  | .095  | .235  | -.747 |
| 200 | 2110 | -.124  | .047  | -.023 | -.478 | 200 | 2162 | -.045  | .046  | .228  | -.293 | 200 | 2215 | -.031  | .079  | .462  | -.825 |
| 200 | 2111 | -.154  | .032  | -.062 | -.303 | 200 | 2163 | -.062  | .031  | .072  | -.193 | 200 | 2216 | -.140  | .025  | -.065 | -.274 |
| 200 | 2112 | -.162  | .064  | .064  | -.503 | 200 | 2164 | -.087  | .038  | .054  | -.323 | 200 | 2217 | -.113  | .028  | .078  | -.215 |
| 200 | 2113 | -.167  | .048  | -.030 | -.685 | 200 | 2165 | -.119  | .065  | .086  | .717  | 200 | 2218 | -.125  | .045  | .253  | -.418 |
| 200 | 2114 | -.152  | .040  | -.030 | -.457 | 200 | 2166 | -.052  | .034  | .194  | -.186 | 200 | 2219 | -.078  | .046  | .235  | -.254 |
| 200 | 2115 | -.144  | .035  | -.032 | -.329 | 200 | 2167 | -.076  | .033  | .047  | -.207 | 200 | 2220 | -.113  | .030  | .014  | -.304 |
| 200 | 2116 | -.096  | .067  | .142  | -.308 | 200 | 2168 | -.079  | .037  | .051  | -.321 | 200 | 2221 | -.142  | .027  | -.070 | -.268 |
| 200 | 2117 | -.166  | .049  | -.028 | -.430 | 200 | 2170 | -.093  | .043  | .024  | -.349 | 200 | 2222 | -.095  | .026  | .055  | -.220 |
| 200 | 2118 | -.139  | .039  | -.009 | -.333 | 200 | 2171 | -.089  | .039  | .026  | -.314 | 200 | 2223 | -.121  | .060  | .230  | -.368 |
| 200 | 2119 | -.128  | .036  | -.005 | -.264 | 200 | 2172 | -.076  | .034  | .040  | -.303 | 200 | 2224 | -.082  | .027  | .017  | -.172 |
| 200 | 2120 | -.082  | .032  | .094  | -.186 | 200 | 2173 | -.080  | .035  | .065  | -.396 | 200 | 2225 | -.093  | .033  | .026  | -.251 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 200 | 2226 | -.135  | .045  | .057  | -.410 | 210 | 2112 | -.134  | .065  | .222  | -.378 | 210 | 2164 | -.069  | .033  | .056  | -.193 |
| 200 | 2227 | -.032  | .049  | .283  | -.273 | 210 | 2113 | -.160  | .046  | -.014 | -.433 | 210 | 2165 | -.112  | .068  | .136  | -.618 |
| 200 | 2228 | -.135  | .023  | -.035 | -.285 | 210 | 2114 | -.146  | .041  | -.010 | -.462 | 210 | 2166 | -.048  | .035  | .141  | -.229 |
| 200 | 2229 | -.093  | .023  | -.011 | -.169 | 210 | 2115 | -.133  | .031  | -.021 | -.251 | 210 | 2167 | -.068  | .041  | .091  | -.373 |
| 200 | 2230 | -.140  | .050  | .148  | -.441 | 210 | 2116 | -.052  | .062  | .190  | -.269 | 210 | 2168 | -.075  | .048  | .118  | -.449 |
| 200 | 2231 | -.137  | .030  | .035  | -.280 | 210 | 2117 | -.163  | .054  | -.016 | -.551 | 210 | 2170 | -.071  | .035  | .044  | -.244 |
| 200 | 2233 | -.114  | .029  | -.001 | -.283 | 210 | 2118 | -.135  | .038  | -.003 | -.409 | 210 | 2171 | -.072  | .037  | .091  | -.322 |
| 200 | 2234 | -.069  | .026  | .062  | -.181 | 210 | 2119 | -.123  | .037  | -.012 | -.319 | 210 | 2172 | -.071  | .039  | .073  | -.309 |
| 200 | 2235 | -.079  | .029  | .028  | -.239 | 210 | 2120 | -.028  | .028  | -.062 | -.174 | 210 | 2173 | -.080  | .043  | .064  | -.442 |
| 200 | 2236 | -.114  | .055  | .132  | -.345 | 210 | 2121 | -.199  | .058  | -.043 | -.440 | 210 | 2174 | -.098  | .056  | .073  | -.553 |
| 200 | 2237 | -.064  | .032  | .079  | -.191 | 210 | 2122 | -.148  | .032  | -.036 | -.275 | 210 | 2175 | -.102  | .063  | .153  | -.531 |
| 200 | 2238 | -.288  | .122  | .394  | -.810 | 210 | 2123 | -.116  | .032  | -.032 | -.238 | 210 | 2177 | -.025  | .025  | .414  | -.302 |
| 200 | 2239 | -.174  | .050  | .009  | -.535 | 210 | 2124 | -.208  | .105  | -.159 | -.628 | 210 | 2178 | -.084  | .038  | .022  | -.269 |
| 200 | 2240 | -.139  | .035  | -.001 | -.326 | 210 | 2125 | -.184  | .055  | -.010 | -.453 | 210 | 2179 | -.073  | .032  | .027  | -.280 |
| 200 | 2241 | -.133  | .035  | .016  | -.334 | 210 | 2126 | -.091  | .108  | -.621 | -.323 | 210 | 2180 | -.069  | .029  | .018  | -.184 |
| 200 | 2242 | -.128  | .033  | -.015 | -.364 | 210 | 2127 | -.100  | .152  | -.391 | -.957 | 210 | 2181 | -.076  | .036  | .064  | -.293 |
| 200 | 2243 | -.151  | .034  | -.018 | -.441 | 210 | 2128 | -.102  | .045  | -.065 | -.352 | 210 | 2182 | -.098  | .055  | .038  | -.533 |
| 200 | 2244 | -.109  | .076  | .153  | -.581 | 210 | 2129 | -.174  | .038  | -.041 | -.372 | 210 | 2183 | -.102  | .070  | .205  | -.796 |
| 200 | 2245 | -.021  | .077  | .461  | -.316 | 210 | 2130 | -.089  | .082  | -.532 | -.234 | 210 | 2184 | -.049  | .046  | .254  | -.331 |
| 200 | 2246 | -.099  | .040  | .124  | -.234 | 210 | 2131 | -.118  | .110  | -.249 | -.534 | 210 | 2185 | -.037  | .040  | .273  | -.201 |
| 200 | 2247 | -.098  | .036  | .187  | -.275 | 210 | 2132 | -.104  | .034  | -.027 | -.255 | 210 | 2187 | -.032  | .049  | .241  | -.190 |
| 200 | 2248 | -.132  | .029  | .050  | -.266 | 210 | 2133 | -.162  | .035  | -.074 | -.321 | 210 | 2188 | -.067  | .036  | .030  | -.270 |
| 200 | 2249 | -.084  | .032  | .059  | -.249 | 210 | 2134 | -.058  | .072  | -.424 | -.299 | 210 | 2189 | -.060  | .032  | .062  | -.209 |
| 200 | 2250 | -.101  | .038  | .146  | -.251 | 210 | 2136 | -.100  | .029  | -.005 | -.262 | 210 | 2190 | -.061  | .028  | .062  | -.196 |
| 200 | 2251 | -.167  | .031  | -.071 | -.340 | 210 | 2137 | -.149  | .034  | -.045 | -.317 | 210 | 2191 | -.061  | .030  | .073  | -.207 |
| 200 | 2252 | -.084  | .072  | .156  | -.795 | 210 | 2138 | -.030  | .063  | -.301 | -.168 | 210 | 2192 | -.086  | .050  | .071  | -.368 |
| 200 | 2253 | .010   | .074  | .502  | -.206 | 210 | 2140 | -.095  | .035  | -.056 | -.284 | 210 | 2193 | -.073  | .046  | .071  | -.431 |
| 200 | 2254 | -.108  | .027  | -.003 | -.232 | 210 | 2141 | -.160  | .040  | -.052 | -.350 | 210 | 2194 | -.059  | .032  | .086  | -.364 |
| 200 | 2255 | -.105  | .025  | -.011 | -.237 | 210 | 2142 | -.014  | .055  | -.282 | -.216 | 210 | 2195 | -.054  | .032  | .054  | -.281 |
| 200 | 2256 | -.096  | .024  | .035  | -.232 | 210 | 2143 | -.070  | .056  | -.185 | -.418 | 210 | 2196 | -.049  | .030  | .052  | -.179 |
| 200 | 2257 | -.116  | .024  | -.011 | -.213 | 210 | 2144 | -.068  | .030  | -.093 | -.180 | 210 | 2197 | -.048  | .027  | .045  | -.181 |
| 200 | 2258 | -.145  | .026  | -.071 | -.321 | 210 | 2145 | -.113  | .030  | -.022 | -.238 | 210 | 2198 | -.047  | .028  | .086  | -.168 |
| 200 | 2259 | -.059  | .064  | .199  | -.350 | 210 | 2146 | -.062  | .038  | -.064 | -.338 | 210 | 2199 | -.051  | .031  | .169  | -.227 |
| 200 | 2260 | .001   | .059  | .271  | -.150 | 210 | 2147 | -.064  | .039  | -.058 | -.367 | 210 | 2200 | -.040  | .035  | .201  | -.205 |
| 200 | 2261 | -.109  | .026  | -.003 | -.230 | 210 | 2148 | -.076  | .041  | -.040 | -.376 | 210 | 2201 | -.049  | .028  | .115  | -.157 |
| 200 | 2262 | -.097  | .027  | .023  | -.206 | 210 | 2149 | -.084  | .038  | -.047 | -.413 | 210 | 2202 | -.137  | .059  | .034  | -.516 |
| 200 | 2263 | -.084  | .022  | .023  | -.157 | 210 | 2150 | -.062  | .033  | -.073 | -.300 | 210 | 2203 | -.120  | .031  | -.014 | -.364 |
| 200 | 2264 | -.104  | .024  | .011  | -.198 | 210 | 2151 | -.054  | .031  | -.078 | -.236 | 210 | 2204 | -.130  | .047  | -.006 | -.535 |
| 200 | 2265 | -.144  | .037  | -.044 | -.340 | 210 | 2152 | -.052  | .026  | -.087 | -.162 | 210 | 2205 | -.113  | .023  | -.014 | -.264 |
| 210 | 2101 | -.150  | .059  | .181  | -.532 | 210 | 2153 | -.053  | .026  | -.071 | -.182 | 210 | 2206 | -.075  | .039  | .134  | -.201 |
| 210 | 2102 | -.137  | .037  | .049  | -.321 | 210 | 2154 | -.062  | .026  | -.031 | -.184 | 210 | 2207 | -.105  | .047  | .186  | -.350 |
| 210 | 2103 | -.138  | .037  | .012  | -.334 | 210 | 2155 | -.063  | .034  | -.127 | -.216 | 210 | 2208 | -.101  | .043  | .034  | -.527 |
| 210 | 2104 | -.095  | .054  | .231  | -.306 | 210 | 2156 | -.061  | .033  | -.040 | -.360 | 210 | 2209 | -.102  | .048  | .165  | -.485 |
| 210 | 2105 | -.146  | .038  | -.032 | -.350 | 210 | 2157 | -.048  | .027  | -.067 | -.133 | 210 | 2210 | -.138  | .059  | .210  | -.555 |
| 210 | 2106 | -.147  | .045  | -.017 | -.402 | 210 | 2158 | -.039  | .027  | -.136 | -.120 | 210 | 2211 | -.098  | .029  | -.011 | -.253 |
| 210 | 2107 | -.133  | .031  | -.032 | -.284 | 210 | 2159 | -.038  | .027  | -.220 | -.120 | 210 | 2212 | -.075  | .045  | .199  | -.246 |
| 210 | 2108 | -.136  | .054  | .106  | -.361 | 210 | 2160 | -.053  | .028  | -.047 | -.244 | 210 | 2213 | -.074  | .054  | .243  | -.337 |
| 210 | 2109 | -.164  | .046  | -.049 | -.437 | 210 | 2161 | -.057  | .033  | -.060 | -.302 | 210 | 2214 | -.113  | .074  | .291  | -.644 |
| 210 | 2110 | -.153  | .037  | -.065 | -.383 | 210 | 2162 | -.039  | .045  | -.300 | -.209 | 210 | 2215 | -.056  | .056  | .306  | -.490 |
| 210 | 2111 | -.144  | .031  | -.054 | -.321 | 210 | 2163 | -.054  | .033  | -.162 | -.382 | 210 | 2216 | -.133  | .031  | -.055 | -.505 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 212

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 210 | 2217 | -.095  | .034  | .180  | -.229  | 220 | 2103 | -.152  | .042  | -.020 | -.400 | 220 | 2155 | -.061  | .049  | .091  | -.372 |
| 210 | 2218 | -.100  | .060  | .260  | -.592  | 220 | 2104 | -.111  | .042  | -.146 | -.328 | 220 | 2156 | -.072  | .041  | .100  | -.369 |
| 210 | 2219 | -.059  | .057  | .308  | -.220  | 220 | 2105 | -.134  | .036  | -.032 | -.312 | 220 | 2157 | -.057  | .032  | .110  | -.188 |
| 210 | 2220 | -.099  | .029  | .006  | -.227  | 220 | 2106 | -.136  | .036  | -.018 | -.400 | 220 | 2158 | -.035  | .032  | .152  | -.137 |
| 210 | 2221 | -.126  | .026  | -.055 | -.309  | 220 | 2107 | -.139  | .032  | -.036 | -.328 | 220 | 2159 | -.021  | .037  | .251  | -.144 |
| 210 | 2222 | -.080  | .036  | .097  | -.272  | 220 | 2108 | -.167  | .056  | -.086 | -.423 | 220 | 2160 | -.040  | .039  | .115  | -.320 |
| 210 | 2223 | -.074  | .077  | .314  | -.290  | 220 | 2109 | -.150  | .040  | -.006 | -.353 | 220 | 2161 | -.064  | .044  | .086  | -.325 |
| 210 | 2224 | -.077  | .028  | .047  | -.203  | 220 | 2110 | -.142  | .035  | -.039 | -.386 | 220 | 2162 | -.027  | .071  | .657  | -.252 |
| 210 | 2225 | -.078  | .031  | .089  | -.193  | 220 | 2111 | -.136  | .029  | -.043 | -.286 | 220 | 2163 | -.053  | .047  | .218  | -.254 |
| 210 | 2226 | -.093  | .052  | .144  | -.303  | 220 | 2112 | -.138  | .061  | -.112 | -.448 | 220 | 2164 | -.067  | .041  | .129  | -.327 |
| 210 | 2227 | -.039  | .041  | .163  | -.370  | 220 | 2113 | -.151  | .048  | -.016 | -.351 | 220 | 2165 | -.147  | .094  | .178  | -.611 |
| 210 | 2228 | -.119  | .023  | -.025 | -.278  | 220 | 2114 | -.143  | .046  | -.025 | -.432 | 220 | 2166 | -.044  | .056  | .305  | -.265 |
| 210 | 2229 | -.081  | .024  | .037  | -.195  | 220 | 2115 | -.127  | .032  | -.016 | -.265 | 220 | 2167 | -.067  | .046  | .086  | -.365 |
| 210 | 2230 | -.109  | .046  | .115  | -.336  | 220 | 2116 | -.023  | .064  | -.338 | -.296 | 220 | 2168 | -.089  | .057  | .117  | -.477 |
| 210 | 2231 | -.121  | .027  | .004  | -.294  | 220 | 2117 | -.164  | .053  | -.011 | -.492 | 220 | 2170 | -.063  | .034  | .129  | -.268 |
| 210 | 2233 | -.092  | .032  | .046  | -.297  | 220 | 2118 | -.143  | .044  | -.002 | -.427 | 220 | 2171 | -.066  | .039  | .075  | -.259 |
| 210 | 2234 | -.065  | .023  | .064  | -.136  | 220 | 2119 | -.122  | .038  | -.052 | -.286 | 220 | 2172 | -.065  | .046  | .124  | -.313 |
| 210 | 2235 | -.072  | .026  | .059  | -.216  | 220 | 2120 | -.067  | .032  | -.068 | -.175 | 220 | 2173 | -.084  | .049  | .115  | -.456 |
| 210 | 2236 | -.084  | .056  | .133  | -.620  | 220 | 2121 | -.225  | .067  | -.050 | -.608 | 220 | 2174 | -.129  | .074  | .051  | -.700 |
| 210 | 2237 | -.053  | .031  | .099  | -.168  | 220 | 2122 | -.151  | .039  | -.036 | -.298 | 220 | 2175 | -.129  | .099  | .122  | -.853 |
| 210 | 2238 | -.297  | .104  | .059  | -1.045 | 220 | 2123 | -.113  | .037  | -.017 | -.252 | 220 | 2177 | -.008  | .116  | .699  | -.336 |
| 210 | 2239 | -.176  | .050  | -.007 | -.450  | 220 | 2124 | -.273  | .112  | -.102 | -.934 | 220 | 2178 | -.071  | .032  | .030  | -.205 |
| 210 | 2240 | -.141  | .042  | -.023 | -.439  | 220 | 2125 | -.206  | .056  | -.003 | -.425 | 220 | 2179 | -.062  | .031  | .058  | -.188 |
| 210 | 2241 | -.130  | .035  | -.009 | -.345  | 220 | 2126 | -.108  | .129  | -.704 | -.291 | 220 | 2180 | -.061  | .029  | .060  | -.172 |
| 210 | 2242 | -.119  | .035  | -.005 | -.421  | 220 | 2127 | -.116  | .133  | -.445 | -.638 | 220 | 2181 | -.070  | .036  | .079  | -.294 |
| 210 | 2243 | -.139  | .036  | .046  | -.464  | 220 | 2128 | -.118  | .031  | -.021 | -.291 | 220 | 2182 | -.122  | .075  | .051  | -.759 |
| 210 | 2244 | -.110  | .068  | .177  | -.533  | 220 | 2129 | -.181  | .040  | -.069 | -.416 | 220 | 2183 | -.125  | .116  | .145  | -.935 |
| 210 | 2245 | -.026  | .069  | .301  | -.232  | 220 | 2130 | -.107  | .101  | -.709 | -.270 | 220 | 2184 | -.037  | .057  | .312  | -.449 |
| 210 | 2246 | -.089  | .038  | .085  | -.205  | 220 | 2131 | -.102  | .105  | -.352 | -.474 | 220 | 2185 | -.031  | .058  | .291  | -.222 |
| 210 | 2247 | -.080  | .036  | .172  | -.244  | 220 | 2132 | -.107  | .034  | -.052 | -.245 | 220 | 2187 | -.016  | .067  | .358  | -.263 |
| 210 | 2248 | -.125  | .030  | .004  | -.253  | 220 | 2133 | -.175  | .036  | -.066 | -.312 | 220 | 2188 | -.055  | .029  | .047  | -.233 |
| 210 | 2249 | -.071  | .034  | .089  | -.205  | 220 | 2134 | -.083  | .083  | -.463 | -.228 | 220 | 2189 | -.046  | .031  | .112  | -.146 |
| 210 | 2250 | -.089  | .036  | .131  | -.232  | 220 | 2135 | -.104  | .030  | -.012 | -.215 | 220 | 2190 | -.047  | .032  | .095  | -.217 |
| 210 | 2251 | -.145  | .031  | -.051 | -.363  | 220 | 2137 | -.121  | .037  | -.043 | -.363 | 220 | 2191 | -.059  | .034  | .038  | -.238 |
| 210 | 2252 | -.079  | .062  | .138  | -.561  | 220 | 2138 | -.059  | .067  | -.329 | -.261 | 220 | 2192 | -.087  | .051  | .100  | -.328 |
| 210 | 2253 | -.016  | .056  | .349  | -.186  | 220 | 2140 | -.081  | .036  | -.130 | -.224 | 220 | 2193 | -.069  | .061  | .103  | -.541 |
| 210 | 2254 | -.105  | .024  | -.009 | -.195  | 220 | 2141 | -.171  | .037  | -.062 | -.337 | 220 | 2194 | -.056  | .053  | .245  | -.456 |
| 210 | 2255 | -.096  | .023  | .004  | -.212  | 220 | 2142 | -.011  | .067  | -.304 | -.265 | 220 | 2195 | -.041  | .031  | .141  | -.171 |
| 210 | 2256 | -.090  | .022  | -.003 | -.175  | 220 | 2143 | -.017  | .067  | -.317 | -.412 | 220 | 2196 | -.040  | .031  | .056  | -.169 |
| 210 | 2257 | -.104  | .022  | -.018 | -.202  | 220 | 2144 | -.055  | .036  | -.124 | -.158 | 220 | 2197 | -.040  | .028  | .066  | -.153 |
| 210 | 2258 | -.129  | .027  | -.039 | -.267  | 220 | 2145 | -.117  | .038  | -.086 | -.322 | 220 | 2198 | -.042  | .030  | .141  | -.134 |
| 210 | 2259 | -.063  | .058  | .105  | -.425  | 220 | 2146 | -.080  | .031  | -.084 | -.400 | 220 | 2199 | -.059  | .037  | .183  | -.307 |
| 210 | 2260 | -.015  | .053  | .365  | -.147  | 220 | 2147 | -.090  | .050  | -.082 | -.456 | 220 | 2200 | -.034  | .037  | .210  | -.197 |
| 210 | 2261 | -.104  | .022  | -.028 | -.232  | 220 | 2148 | -.099  | .046  | -.050 | -.311 | 220 | 2201 | -.049  | .031  | .125  | -.167 |
| 210 | 2262 | -.088  | .024  | .032  | -.184  | 220 | 2149 | -.106  | .054  | -.030 | -.400 | 220 | 2202 | -.140  | .060  | -.013 | -.599 |
| 210 | 2263 | -.078  | .023  | .011  | -.154  | 220 | 2150 | -.079  | .042  | -.056 | -.343 | 220 | 2203 | -.121  | .031  | -.033 | -.288 |
| 210 | 2264 | -.084  | .029  | .115  | -.189  | 220 | 2151 | -.064  | .033  | -.049 | -.224 | 220 | 2204 | -.142  | .062  | -.049 | -.633 |
| 210 | 2265 | -.126  | .031  | .002  | -.340  | 220 | 2152 | -.058  | .033  | -.084 | -.193 | 220 | 2205 | -.111  | .024  | -.022 | -.222 |
| 220 | 2101 | -.158  | .054  | .095  | -.502  | 220 | 2153 | -.054  | .032  | -.110 | -.217 | 220 | 2206 | -.064  | .038  | .174  | -.305 |
| 220 | 2102 | -.130  | .037  | .012  | -.335  | 220 | 2154 | -.065  | .033  | -.110 | -.214 | 220 | 2207 | -.075  | .044  | .135  | -.286 |

## APPENDIX A -- PRESSURE DATA ; CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 213

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 220 | 2208 | -.104  | .057  | .059  | -.870  | 220 | 2259 | -.117  | .076  | .169  | -.528 | 230 | 2146 | -.094  | .051  | .138  | -.426 |
| 220 | 2209 | -.116  | .067  | .089  | -.587  | 220 | 2260 | -.049  | .086  | .524  | -.144 | 230 | 2147 | -.102  | .052  | .071  | -.474 |
| 220 | 2210 | -.133  | .084  | .178  | -.937  | 220 | 2261 | -.116  | .032  | -.005 | -.307 | 230 | 2148 | -.120  | .049  | .080  | -.356 |
| 220 | 2211 | -.090  | .029  | .026  | -.243  | 220 | 2262 | -.082  | .028  | .048  | -.188 | 230 | 2149 | -.119  | .059  | .085  | -.454 |
| 220 | 2212 | -.052  | .047  | .197  | -.203  | 220 | 2263 | -.061  | .026  | .058  | -.144 | 230 | 2150 | -.095  | .043  | .067  | -.345 |
| 220 | 2213 | -.040  | .065  | .291  | -.277  | 220 | 2264 | -.080  | .026  | .148  | -.166 | 230 | 2151 | -.074  | .034  | .062  | -.269 |
| 220 | 2214 | -.067  | .084  | .443  | -.461  | 220 | 2265 | -.113  | .032  | -.005 | -.287 | 230 | 2152 | -.065  | .033  | .099  | -.220 |
| 220 | 2215 | -.066  | .065  | .385  | -.562  | 230 | 2101 | -.158  | .048  | .053  | -.480 | 230 | 2153 | -.058  | .034  | .113  | -.192 |
| 220 | 2216 | -.134  | .032  | -.047 | -.341  | 230 | 2102 | -.128  | .043  | .053  | -.348 | 230 | 2154 | -.065  | .037  | .122  | -.227 |
| 220 | 2217 | -.089  | .032  | .061  | -.217  | 230 | 2103 | -.148  | .043  | -.018 | -.432 | 230 | 2155 | -.081  | .061  | .108  | -.370 |
| 220 | 2218 | -.106  | .078  | .220  | -.585  | 230 | 2104 | -.121  | .042  | .055  | -.384 | 230 | 2156 | -.084  | .042  | .071  | -.255 |
| 220 | 2219 | -.035  | .063  | .443  | -.178  | 230 | 2105 | -.126  | .035  | -.008 | -.430 | 230 | 2157 | -.066  | .032  | .076  | -.190 |
| 220 | 2220 | -.088  | .030  | .024  | -.231  | 230 | 2106 | -.129  | .032  | -.024 | -.314 | 230 | 2158 | -.037  | .037  | .122  | -.162 |
| 220 | 2221 | -.130  | .030  | -.047 | -.279  | 230 | 2107 | -.132  | .032  | -.038 | -.446 | 230 | 2159 | -.013  | .040  | .263  | -.148 |
| 220 | 2222 | -.069  | .032  | .114  | -.270  | 230 | 2108 | -.164  | .055  | .210  | -.471 | 230 | 2160 | -.030  | .044  | .152  | -.192 |
| 220 | 2223 | -.030  | .076  | .431  | -.316  | 230 | 2109 | -.138  | .036  | .055  | -.455 | 230 | 2161 | -.082  | .057  | .104  | -.359 |
| 220 | 2224 | -.072  | .026  | .020  | -.183  | 230 | 2110 | -.131  | .034  | -.020 | -.396 | 230 | 2162 | -.011  | .072  | .464  | -.208 |
| 220 | 2225 | -.067  | .032  | .063  | -.265  | 230 | 2111 | -.128  | .027  | -.034 | -.277 | 230 | 2163 | -.061  | .054  | .277  | -.310 |
| 220 | 2226 | -.059  | .062  | .383  | -.321  | 230 | 2112 | -.133  | .057  | .137  | -.444 | 230 | 2164 | -.076  | .044  | .074  | -.354 |
| 220 | 2227 | -.040  | .040  | .128  | -.328  | 230 | 2113 | -.141  | .044  | .033  | -.409 | 230 | 2165 | -.186  | .108  | .136  | -.821 |
| 220 | 2228 | -.126  | .031  | -.001 | -.319  | 230 | 2114 | -.133  | .045  | -.020 | -.469 | 230 | 2166 | -.054  | .057  | .255  | -.333 |
| 220 | 2229 | -.071  | .025  | .012  | -.173  | 230 | 2115 | -.118  | .029  | -.018 | -.284 | 230 | 2167 | -.076  | .045  | .064  | -.375 |
| 220 | 2230 | -.075  | .045  | .143  | -.273  | 230 | 2116 | -.010  | .075  | .333  | -.245 | 230 | 2168 | -.097  | .048  | .108  | -.361 |
| 220 | 2231 | -.117  | .044  | .179  | -.389  | 230 | 2117 | -.146  | .048  | -.008 | -.371 | 230 | 2169 | -.072  | .037  | .076  | -.241 |
| 220 | 2233 | -.059  | .040  | .162  | -.183  | 230 | 2118 | -.138  | .043  | -.002 | -.380 | 230 | 2171 | -.075  | .038  | .039  | -.308 |
| 220 | 2234 | -.055  | .026  | .089  | -.144  | 230 | 2119 | -.111  | .034  | .062  | -.282 | 230 | 2172 | -.082  | .043  | .048  | -.310 |
| 220 | 2235 | -.058  | .028  | .114  | -.224  | 230 | 2120 | -.053  | .035  | .110  | -.175 | 230 | 2173 | -.096  | .051  | .050  | -.562 |
| 220 | 2236 | -.062  | .045  | .182  | -.280  | 230 | 2121 | -.123  | .068  | -.038 | -.615 | 230 | 2174 | -.144  | .074  | .048  | -.715 |
| 220 | 2237 | -.047  | .031  | .109  | -.311  | 230 | 2122 | -.139  | .036  | -.027 | -.312 | 230 | 2175 | -.142  | .082  | .113  | -.759 |
| 220 | 2238 | -.429  | .165  | -.022 | -.1465 | 230 | 2123 | -.105  | .036  | .074  | -.252 | 230 | 2177 | -.001  | .105  | .538  | -.310 |
| 220 | 2239 | -.232  | .079  | -.020 | -.661  | 230 | 2124 | -.262  | .091  | .090  | .931  | 230 | 2178 | -.077  | .033  | .037  | -.232 |
| 220 | 2240 | -.161  | .052  | .033  | -.569  | 230 | 2125 | -.204  | .061  | -.018 | -.496 | 230 | 2179 | -.076  | .031  | .030  | -.232 |
| 220 | 2241 | -.143  | .043  | .012  | -.452  | 230 | 2126 | -.062  | .128  | .814  | -.564 | 230 | 2180 | -.072  | .034  | .046  | -.252 |
| 220 | 2242 | -.124  | .046  | .014  | -.370  | 230 | 2127 | -.152  | .107  | .274  | -.715 | 230 | 2181 | -.087  | .038  | .048  | -.338 |
| 220 | 2243 | -.139  | .041  | .002  | -.387  | 230 | 2128 | -.132  | .031  | -.038 | -.264 | 230 | 2182 | -.140  | .079  | .013  | -.627 |
| 220 | 2244 | -.094  | .086  | .223  | -.508  | 230 | 2129 | -.174  | .036  | -.054 | -.359 | 230 | 2183 | -.136  | .108  | .168  | -.833 |
| 220 | 2245 | .006   | .074  | .366  | -.241  | 230 | 2130 | -.084  | .103  | .573  | -.223 | 230 | 2184 | -.036  | .057  | .294  | -.229 |
| 220 | 2246 | -.073  | .048  | .169  | -.246  | 230 | 2131 | -.112  | .090  | .226  | -.560 | 230 | 2185 | -.035  | .061  | .337  | -.188 |
| 220 | 2247 | -.074  | .042  | .092  | -.282  | 230 | 2132 | -.107  | .030  | .092  | -.318 | 230 | 2187 | -.018  | .067  | .452  | -.161 |
| 220 | 2248 | -.139  | .037  | -.018 | -.343  | 230 | 2133 | -.162  | .031  | -.043 | -.277 | 230 | 2188 | -.067  | .030  | .034  | -.220 |
| 220 | 2249 | -.047  | .045  | .131  | -.231  | 230 | 2134 | -.089  | .078  | .445  | -.270 | 230 | 2189 | -.062  | .033  | .061  | -.294 |
| 220 | 2250 | -.080  | .036  | .070  | -.229  | 230 | 2136 | -.100  | .034  | .064  | -.255 | 230 | 2190 | -.059  | .031  | .047  | -.186 |
| 220 | 2251 | -.152  | .038  | -.069 | -.350  | 230 | 2137 | -.160  | .033  | -.072 | -.339 | 230 | 2191 | -.068  | .036  | .142  | -.278 |
| 220 | 2252 | -.069  | .091  | .240  | -.506  | 230 | 2138 | -.112  | .075  | .452  | -.250 | 230 | 2192 | -.113  | .064  | .045  | -.509 |
| 220 | 2253 | .080   | .088  | .621  | -.124  | 230 | 2140 | -.067  | .037  | .101  | -.184 | 230 | 2193 | -.081  | .071  | .111  | -.645 |
| 220 | 2254 | -.115  | .030  | -.010 | -.273  | 230 | 2141 | -.120  | .036  | -.047 | -.364 | 230 | 2194 | -.066  | .065  | .176  | -.133 |
| 220 | 2255 | -.095  | .026  | -.001 | -.200  | 230 | 2142 | -.056  | .070  | .340  | -.175 | 230 | 2195 | -.053  | .029  | .052  | -.240 |
| 220 | 2256 | -.083  | .026  | .026  | -.192  | 230 | 2143 | -.033  | .071  | .307  | -.273 | 230 | 2196 | -.057  | .037  | .088  | -.292 |
| 220 | 2257 | -.100  | .024  | -.013 | -.209  | 230 | 2144 | -.050  | .040  | .157  | -.178 | 230 | 2197 | -.053  | .029  | .047  | -.143 |
| 220 | 2258 | -.120  | .028  | -.039 | -.268  | 230 | 2145 | -.132  | .038  | -.028 | -.292 | 230 | 2198 | -.055  | .029  | .083  | -.206 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 214

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 230 | 2199 | -.077  | .043  | .126  | -.389 | 230 | 2250 | -.071  | .039  | .112  | -.234 | 240 | 2136 | -.118  | .031  | .063  | -.229 |
| 230 | 2200 | -.036  | .042  | .172  | -.342 | 230 | 2251 | -.140  | .035  | -.046 | -.356 | 240 | 2137 | -.175  | .031  | -.071 | -.301 |
| 230 | 2201 | -.061  | .035  | .074  | -.272 | 230 | 2252 | -.021  | .100  | .329  | -.528 | 240 | 2138 | -.120  | .073  | .465  | -.115 |
| 230 | 2202 | -.143  | .046  | -.005 | -.364 | 230 | 2253 | -.121  | .094  | .582  | -.103 | 240 | 2140 | -.069  | .044  | .138  | -.193 |
| 230 | 2203 | -.117  | .029  | -.032 | -.267 | 230 | 2254 | -.127  | .032  | -.020 | -.260 | 240 | 2141 | -.186  | .038  | -.071 | -.331 |
| 230 | 2204 | -.149  | .058  | -.009 | -.523 | 230 | 2255 | -.099  | .026  | -.002 | -.220 | 240 | 2142 | -.065  | .067  | .382  | -.262 |
| 230 | 2205 | -.108  | .024  | .002  | -.226 | 230 | 2256 | -.082  | .024  | .016  | -.189 | 240 | 2143 | -.045  | .066  | .286  | -.232 |
| 230 | 2206 | -.068  | .032  | .063  | -.213 | 230 | 2257 | -.097  | .023  | -.003 | -.186 | 240 | 2144 | -.056  | .041  | -.130 | -.194 |
| 230 | 2207 | -.077  | .044  | .129  | -.344 | 230 | 2258 | -.107  | .025  | -.024 | -.249 | 240 | 2145 | -.158  | .036  | -.022 | -.320 |
| 230 | 2208 | -.115  | .054  | .065  | -.602 | 230 | 2259 | -.132  | .080  | .138  | -.630 | 240 | 2146 | -.094  | .050  | .086  | -.428 |
| 230 | 2209 | -.124  | .064  | .063  | -.514 | 230 | 2260 | -.117  | .100  | .703  | -.165 | 240 | 2147 | -.105  | .056  | .074  | -.418 |
| 230 | 2210 | -.138  | .082  | .126  | -.595 | 230 | 2261 | -.127  | .032  | -.029 | -.272 | 240 | 2148 | -.126  | .055  | .123  | -.407 |
| 230 | 2211 | -.095  | .030  | .002  | -.319 | 230 | 2262 | -.092  | .029  | .040  | -.237 | 240 | 2149 | -.139  | .055  | .048  | -.537 |
| 230 | 2212 | -.051  | .043  | .214  | -.161 | 230 | 2263 | -.063  | .026  | .040  | -.144 | 240 | 2150 | -.087  | .037  | .074  | -.344 |
| 230 | 2213 | -.032  | .063  | .296  | -.249 | 230 | 2264 | -.077  | .022  | .019  | -.182 | 240 | 2151 | -.083  | .037  | .051  | -.330 |
| 230 | 2214 | -.032  | .093  | .524  | -.358 | 230 | 2265 | -.100  | .027  | .026  | -.337 | 240 | 2152 | -.075  | .038  | .076  | -.232 |
| 230 | 2215 | -.076  | .071  | .276  | -.550 | 240 | 2101 | -.163  | .044  | .010  | -.393 | 240 | 2153 | -.066  | .039  | .244  | -.204 |
| 230 | 2216 | -.125  | .029  | .018  | -.290 | 240 | 2102 | -.139  | .047  | .023  | -.372 | 240 | 2154 | -.089  | .040  | .086  | -.262 |
| 230 | 2217 | -.088  | .030  | .142  | -.222 | 240 | 2103 | -.154  | .045  | .033  | -.324 | 240 | 2155 | -.122  | .058  | .079  | -.421 |
| 230 | 2218 | -.108  | .066  | .233  | -.482 | 240 | 2104 | -.145  | .053  | .035  | -.496 | 240 | 2156 | -.080  | .035  | .079  | -.262 |
| 230 | 2219 | -.037  | .052  | .271  | -.236 | 240 | 2105 | -.137  | .039  | -.009 | -.379 | 240 | 2157 | -.075  | .032  | .079  | -.194 |
| 230 | 2220 | -.094  | .029  | -.007 | -.269 | 240 | 2106 | -.138  | .031  | -.025 | -.321 | 240 | 2158 | -.057  | .038  | .212  | -.187 |
| 230 | 2221 | -.138  | .034  | -.037 | -.326 | 240 | 2107 | -.147  | .036  | -.029 | -.340 | 240 | 2159 | -.023  | .046  | .310  | -.148 |
| 230 | 2222 | -.072  | .031  | .065  | -.267 | 240 | 2108 | -.182  | .055  | -.097 | -.561 | 240 | 2160 | -.046  | .049  | .151  | -.236 |
| 230 | 2223 | -.019  | .062  | .373  | -.177 | 240 | 2109 | -.153  | .040  | .063  | -.351 | 240 | 2161 | -.111  | .062  | .149  | -.395 |
| 230 | 2224 | -.078  | .026  | .018  | -.186 | 240 | 2110 | -.144  | .040  | -.009 | -.423 | 240 | 2162 | -.016  | .081  | .527  | -.232 |
| 230 | 2225 | -.068  | .031  | .052  | -.229 | 240 | 2111 | -.141  | .032  | .016  | -.335 | 240 | 2163 | -.079  | .053  | .242  | -.281 |
| 230 | 2226 | -.054  | .050  | .207  | -.356 | 240 | 2112 | -.149  | .061  | .155  | -.356 | 240 | 2164 | -.108  | .041  | .065  | -.346 |
| 230 | 2227 | -.058  | .040  | .100  | -.399 | 240 | 2113 | -.148  | .046  | -.009 | -.386 | 240 | 2165 | -.228  | .119  | .167  | -.925 |
| 230 | 2228 | -.124  | .036  | .059  | -.294 | 240 | 2114 | -.145  | .054  | .063  | -.430 | 240 | 2166 | -.061  | .054  | .246  | -.268 |
| 230 | 2229 | -.071  | .023  | .031  | -.151 | 240 | 2115 | -.123  | .034  | .074  | -.303 | 240 | 2167 | -.111  | .047  | .069  | -.488 |
| 230 | 2230 | -.061  | .041  | .143  | -.303 | 240 | 2116 | -.009  | .079  | .329  | -.287 | 240 | 2168 | -.134  | .057  | .088  | -.537 |
| 230 | 2231 | -.105  | .054  | .226  | -.373 | 240 | 2117 | -.152  | .052  | .010  | -.397 | 240 | 2170 | -.099  | .034  | .030  | -.276 |
| 230 | 2233 | -.048  | .039  | .167  | -.234 | 240 | 2118 | -.146  | .052  | .065  | -.489 | 240 | 2171 | -.108  | .036  | .016  | -.313 |
| 230 | 2234 | -.058  | .025  | .071  | -.167 | 240 | 2119 | -.119  | .042  | .127  | -.315 | 240 | 2172 | -.119  | .046  | .020  | -.404 |
| 230 | 2235 | -.061  | .029  | .105  | -.167 | 240 | 2120 | -.056  | .038  | .122  | -.204 | 240 | 2173 | -.140  | .056  | .044  | -.565 |
| 230 | 2236 | -.062  | .035  | .114  | -.213 | 240 | 2121 | -.242  | .074  | -.041 | -.597 | 240 | 2174 | -.182  | .075  | .018  | -.607 |
| 230 | 2237 | -.053  | .032  | .121  | -.229 | 240 | 2122 | -.147  | .039  | -.009 | -.324 | 240 | 2175 | -.184  | .083  | .076  | -.654 |
| 230 | 2238 | -.451  | .169  | .035  | -.182 | 240 | 2123 | -.112  | .041  | .033  | -.315 | 240 | 2177 | -.002  | .115  | .667  | -.262 |
| 230 | 2239 | -.247  | .090  | -.020 | -.740 | 240 | 2124 | -.267  | .110  | .115  | -.906 | 240 | 2178 | -.104  | .028  | -.022 | -.225 |
| 230 | 2240 | -.168  | .054  | -.036 | -.168 | 240 | 2125 | -.205  | .063  | .005  | -.487 | 240 | 2179 | -.107  | .028  | -.012 | -.318 |
| 230 | 2241 | -.144  | .043  | -.017 | -.435 | 240 | 2126 | -.001  | .127  | .610  | -.413 | 240 | 2180 | -.108  | .029  | -.017 | -.260 |
| 230 | 2242 | -.123  | .048  | .012  | -.411 | 240 | 2127 | -.173  | .098  | .212  | -.689 | 240 | 2181 | -.132  | .044  | -.017 | -.407 |
| 230 | 2243 | -.128  | .040  | .033  | -.322 | 240 | 2128 | -.154  | .030  | -.057 | -.303 | 240 | 2182 | -.181  | .071  | -.036 | -.768 |
| 230 | 2244 | -.068  | .087  | .198  | -.597 | 240 | 2129 | -.177  | .038  | -.032 | -.404 | 240 | 2183 | -.177  | .097  | .093  | -.834 |
| 230 | 2245 | -.017  | .073  | .472  | -.241 | 240 | 2130 | -.047  | .100  | .518  | -.243 | 240 | 2184 | -.044  | .058  | .347  | -.238 |
| 230 | 2246 | -.082  | .047  | .169  | -.249 | 240 | 2131 | -.126  | .083  | .122  | -.446 | 240 | 2185 | -.027  | .064  | .276  | -.167 |
| 230 | 2247 | -.075  | .044  | .178  | -.222 | 240 | 2132 | -.130  | .030  | -.033 | -.269 | 240 | 2187 | -.019  | .075  | .363  | -.192 |
| 230 | 2248 | -.142  | .037  | -.015 | -.308 | 240 | 2133 | -.172  | .034  | -.073 | -.344 | 240 | 2188 | -.103  | .025  | -.028 | -.213 |
| 230 | 2249 | -.036  | .049  | .226  | -.182 | 240 | 2134 | .080   | .082  | .566  | -.193 | 240 | 2189 | -.101  | .028  | -.005 | -.227 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 215

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 240 | 2190 | -.102  | .026  | -.017 | -.204  | 240 | 2241 | -.153  | .048  | .003  | -.538 | 250 | 2126 | -.060  | .105  | .550  | -.382 |
| 240 | 2191 | -.117  | .035  | .004  | -.279  | 240 | 2242 | -.130  | .045  | .003  | -.379 | 250 | 2127 | -.188  | .067  | .073  | -.587 |
| 240 | 2192 | -.177  | .079  | .025  | -.681  | 240 | 2243 | -.127  | .038  | .007  | -.289 | 250 | 2128 | -.159  | .032  | -.067 | -.303 |
| 240 | 2193 | -.148  | .079  | .086  | -.516  | 240 | 2244 | -.060  | .085  | .208  | -.441 | 250 | 2129 | -.178  | .048  | -.018 | -.461 |
| 240 | 2194 | -.133  | .108  | .123  | -.213  | 240 | 2245 | -.011  | .072  | .304  | -.263 | 250 | 2130 | -.006  | .090  | .478  | -.289 |
| 240 | 2195 | -.089  | .028  | .013  | -.213  | 240 | 2246 | -.102  | .043  | .099  | -.326 | 250 | 2131 | -.188  | .086  | .114  | -.492 |
| 240 | 2196 | -.101  | .027  | -.012 | -.215  | 240 | 2247 | -.086  | .047  | .150  | -.270 | 250 | 2132 | -.138  | .030  | -.025 | -.251 |
| 240 | 2197 | -.095  | .026  | -.003 | -.202  | 240 | 2248 | -.154  | .037  | -.043 | -.379 | 250 | 2133 | -.163  | .035  | -.039 | -.349 |
| 240 | 2198 | -.094  | .029  | .002  | -.238  | 240 | 2249 | -.059  | .044  | .217  | -.200 | 250 | 2134 | -.066  | .080  | .408  | -.207 |
| 240 | 2199 | -.143  | .052  | .061  | -.608  | 240 | 2250 | -.077  | .037  | .102  | -.236 | 250 | 2135 | -.133  | .033  | -.005 | -.265 |
| 240 | 2200 | -.092  | .044  | .146  | -.254  | 240 | 2251 | -.130  | .032  | -.043 | -.328 | 250 | 2137 | -.174  | .036  | -.065 | -.338 |
| 240 | 2201 | -.086  | .032  | .050  | -.208  | 240 | 2252 | -.005  | .099  | .343  | -.376 | 250 | 2138 | -.112  | .081  | .541  | -.328 |
| 240 | 2202 | -.123  | .038  | .002  | -.391  | 240 | 2253 | -.114  | .087  | .579  | -.174 | 250 | 2140 | -.076  | .047  | .126  | -.233 |
| 240 | 2203 | -.112  | .029  | .027  | -.286  | 240 | 2254 | -.145  | .033  | -.041 | -.326 | 250 | 2141 | -.184  | .039  | -.065 | -.345 |
| 240 | 2204 | -.126  | .044  | .068  | -.423  | 240 | 2255 | -.117  | .025  | -.034 | -.234 | 250 | 2142 | -.029  | .074  | .282  | -.233 |
| 240 | 2205 | -.105  | .023  | .036  | -.195  | 240 | 2256 | -.097  | .024  | -.007 | -.200 | 250 | 2143 | -.029  | .096  | .357  | -.530 |
| 240 | 2206 | -.088  | .029  | .041  | -.259  | 240 | 2257 | -.099  | .023  | -.024 | -.195 | 250 | 2144 | -.069  | .047  | .149  | -.232 |
| 240 | 2207 | -.088  | .036  | .084  | -.229  | 240 | 2258 | -.100  | .022  | -.022 | -.229 | 250 | 2145 | -.166  | .040  | -.022 | -.348 |
| 240 | 2208 | -.126  | .048  | .004  | -.414  | 240 | 2259 | -.141  | .086  | .159  | -.533 | 250 | 2146 | -.092  | .037  | .018  | -.422 |
| 240 | 2209 | -.142  | .070  | .043  | -.526  | 240 | 2260 | -.138  | .105  | .391  | -.123 | 250 | 2147 | -.113  | .050  | .066  | -.417 |
| 240 | 2210 | -.142  | .074  | .184  | -.514  | 240 | 2261 | -.147  | .032  | -.034 | -.292 | 250 | 2148 | -.139  | .051  | .035  | -.507 |
| 240 | 2211 | -.109  | .032  | .018  | -.334  | 240 | 2262 | -.107  | .029  | .036  | -.217 | 250 | 2149 | -.151  | .059  | .021  | -.672 |
| 240 | 2212 | -.066  | .045  | .260  | -.302  | 240 | 2263 | -.074  | .026  | .036  | -.164 | 250 | 2150 | -.083  | .030  | .054  | -.242 |
| 240 | 2213 | -.052  | .058  | .262  | -.309  | 240 | 2264 | -.084  | .021  | .005  | -.154 | 250 | 2151 | -.086  | .032  | .028  | -.289 |
| 240 | 2214 | -.047  | .099  | .465  | -.556  | 240 | 2265 | -.096  | .023  | -.022 | -.232 | 250 | 2152 | -.085  | .036  | .075  | -.251 |
| 240 | 2215 | -.096  | .072  | .253  | -.770  | 250 | 2101 | -.198  | .041  | .014  | -.410 | 250 | 2153 | -.076  | .039  | .163  | -.194 |
| 240 | 2216 | -.114  | .027  | .011  | -.345  | 250 | 2102 | -.160  | .053  | .028  | -.464 | 250 | 2154 | -.094  | .044  | .163  | -.284 |
| 240 | 2217 | -.095  | .033  | .269  | -.224  | 250 | 2103 | -.170  | .058  | .042  | -.508 | 250 | 2155 | -.127  | .061  | .134  | -.452 |
| 240 | 2218 | -.109  | .053  | .321  | -.359  | 250 | 2104 | -.167  | .053  | .054  | -.492 | 250 | 2156 | -.078  | .027  | .018  | -.180 |
| 240 | 2219 | -.067  | .044  | .205  | -.263  | 250 | 2105 | -.152  | .041  | .005  | -.319 | 250 | 2157 | -.080  | .028  | .021  | -.180 |
| 240 | 2220 | -.109  | .025  | -.001 | -.227  | 250 | 2106 | -.146  | .040  | .003  | -.391 | 250 | 2158 | -.066  | .036  | .125  | -.164 |
| 240 | 2221 | -.119  | .028  | -.012 | -.313  | 250 | 2107 | -.130  | .045  | .012  | -.436 | 250 | 2159 | -.032  | .047  | .189  | -.194 |
| 240 | 2222 | -.089  | .029  | .052  | -.252  | 250 | 2108 | -.183  | .057  | .028  | -.457 | 250 | 2160 | -.045  | .056  | .227  | -.332 |
| 240 | 2223 | -.052  | .055  | .253  | -.256  | 250 | 2109 | -.166  | .045  | -.030 | -.452 | 250 | 2161 | -.107  | .079  | .260  | -.431 |
| 240 | 2224 | -.095  | .026  | -.017 | -.215  | 250 | 2110 | -.153  | .048  | -.032 | -.459 | 250 | 2162 | -.034  | .072  | .600  | -.261 |
| 240 | 2225 | -.086  | .028  | .036  | -.210  | 250 | 2111 | -.144  | .044  | -.021 | -.405 | 250 | 2163 | -.091  | .041  | .120  | -.308 |
| 240 | 2226 | -.078  | .038  | .097  | -.222  | 250 | 2112 | -.147  | .065  | .133  | -.426 | 250 | 2164 | -.116  | .043  | .042  | -.362 |
| 240 | 2227 | -.081  | .037  | .053  | -.328  | 250 | 2113 | -.154  | .059  | .042  | -.426 | 250 | 2165 | -.194  | .099  | .118  | -.862 |
| 240 | 2228 | -.106  | .039  | .063  | -.253  | 250 | 2114 | -.148  | .069  | .028  | -.562 | 250 | 2166 | -.080  | .046  | .249  | -.413 |
| 240 | 2229 | -.085  | .023  | -.007 | -.174  | 250 | 2115 | -.127  | .053  | .073  | -.473 | 250 | 2167 | -.121  | .046  | .009  | -.381 |
| 240 | 2230 | -.079  | .033  | .133  | -.224  | 250 | 2116 | -.019  | .093  | .327  | -.291 | 250 | 2168 | -.143  | .055  | .047  | -.507 |
| 240 | 2231 | -.076  | .051  | .188  | -.314  | 250 | 2117 | -.145  | .069  | .047  | -.520 | 250 | 2170 | -.106  | .032  | -.002 | -.244 |
| 240 | 2232 | -.070  | .031  | .135  | -.169  | 250 | 2118 | -.134  | .066  | .075  | -.475 | 250 | 2171 | -.113  | .033  | -.005 | -.341 |
| 240 | 2233 | -.076  | .024  | .019  | -.159  | 250 | 2119 | -.114  | .049  | .131  | -.741 | 250 | 2172 | -.117  | .037  | .033  | -.313 |
| 240 | 2234 | -.081  | .027  | .070  | -.186  | 250 | 2120 | -.063  | .044  | .163  | -.182 | 250 | 2173 | -.134  | .044  | .047  | -.381 |
| 240 | 2235 | -.085  | .031  | .063  | -.234  | 250 | 2121 | -.208  | .083  | .128  | -.406 | 250 | 2174 | -.166  | .060  | .042  | -.616 |
| 240 | 2236 | -.071  | .028  | .056  | -.260  | 250 | 2122 | -.123  | .067  | .245  | -.342 | 250 | 2175 | -.168  | .079  | .286  | -.618 |
| 240 | 2237 | -.371  | .176  | -.077 | -1.173 | 250 | 2123 | -.104  | .050  | .138  | -.391 | 250 | 2177 | -.036  | .100  | .496  | -.325 |
| 240 | 2238 | -.236  | .094  | .024  | -.719  | 250 | 2124 | -.212  | .083  | .005  | -.785 | 250 | 2178 | -.106  | .026  | -.001 | -.204 |
| 240 | 2239 | -.172  | .058  | -.007 | -.690  | 250 | 2125 | -.187  | .064  | -.002 | -.569 | 250 | 2179 | -.109  | .025  | -.027 | -.218 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 216

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|
| 250 | 2180 | -.109  | .026  | -.036 | -.216 | 250 | 2231 | -.065  | .034  | .138  | -.195  | 260 | 2117 | -.121  | .074  | .119  | -.513 |
| 250 | 2181 | -.125  | .034  | -.018 | -.306 | 250 | 2233 | -.079  | .025  | .045  | -.158  | 260 | 2118 | -.112  | .064  | .120  | -.420 |
| 250 | 2182 | -.165  | .057  | -.029 | -.682 | 250 | 2234 | -.083  | .022  | .008  | -.155  | 260 | 2119 | -.139  | .093  | .151  | -.651 |
| 250 | 2183 | -.167  | .078  | -.052 | -.451 | 250 | 2235 | -.083  | .023  | .006  | -.175  | 260 | 2120 | -.062  | .041  | .105  | -.236 |
| 250 | 2184 | -.055  | .052  | -.203 | -.235 | 250 | 2236 | -.085  | .027  | .037  | -.197  | 260 | 2121 | -.110  | .086  | .165  | -.765 |
| 250 | 2185 | -.043  | .061  | -.300 | -.188 | 250 | 2237 | -.074  | .028  | .052  | -.195  | 260 | 2122 | -.077  | .084  | .263  | -.394 |
| 250 | 2187 | -.043  | .058  | -.335 | -.209 | 250 | 2238 | -.216  | .098  | -.028 | -1.013 | 260 | 2123 | -.083  | .079  | .317  | -.676 |
| 250 | 2188 | -.100  | .025  | -.019 | -.205 | 250 | 2239 | -.169  | .077  | .015  | -.715  | 260 | 2124 | -.174  | .056  | .056  | -.450 |
| 250 | 2189 | -.107  | .026  | -.031 | -.218 | 250 | 2240 | -.133  | .048  | .013  | -.458  | 260 | 2125 | -.147  | .048  | -.017 | -.483 |
| 250 | 2190 | -.108  | .024  | -.036 | -.221 | 250 | 2241 | -.135  | .050  | .030  | -.439  | 260 | 2126 | -.074  | .068  | .258  | -.308 |
| 250 | 2191 | -.121  | .033  | -.022 | -.283 | 250 | 2242 | -.112  | .039  | .018  | -.375  | 260 | 2127 | -.182  | .066  | .023  | -.753 |
| 250 | 2192 | -.172  | .056  | -.001 | -.593 | 250 | 2243 | -.109  | .035  | .011  | -.343  | 260 | 2128 | -.139  | .042  | -.026 | -.417 |
| 250 | 2193 | -.145  | .059  | -.134 | -.556 | 250 | 2244 | -.057  | .081  | .257  | -.580  | 260 | 2129 | -.150  | .049  | -.000 | -.583 |
| 250 | 2194 | -.117  | .065  | -.212 | -.661 | 250 | 2245 | -.012  | .071  | .291  | -.302  | 260 | 2130 | -.040  | .075  | .352  | -.289 |
| 250 | 2195 | -.094  | .026  | -.001 | -.239 | 250 | 2246 | -.100  | .041  | .130  | -.282  | 260 | 2131 | -.201  | .077  | .126  | -.690 |
| 250 | 2196 | -.101  | .028  | -.019 | -.225 | 250 | 2247 | -.081  | .046  | .121  | -.251  | 260 | 2132 | -.133  | .032  | -.003 | -.296 |
| 250 | 2197 | -.097  | .028  | -.010 | -.276 | 250 | 2248 | -.137  | .038  | -.019 | -.351  | 260 | 2133 | -.145  | .037  | -.040 | -.424 |
| 250 | 2198 | -.111  | .031  | -.022 | -.293 | 250 | 2249 | -.068  | .043  | .196  | -.234  | 260 | 2134 | -.021  | .084  | .338  | -.341 |
| 250 | 2199 | -.153  | .045  | -.026 | -.464 | 250 | 2250 | -.085  | .031  | .128  | -.231  | 260 | 2136 | -.122  | .031  | .009  | -.236 |
| 250 | 2200 | -.109  | .036  | -.161 | -.272 | 250 | 2251 | -.106  | .026  | -.021 | -.221  | 260 | 2137 | -.152  | .033  | -.052 | -.289 |
| 250 | 2201 | -.088  | .027  | -.025 | -.177 | 250 | 2252 | -.007  | .089  | .353  | -.578  | 260 | 2138 | -.071  | .094  | .485  | -.401 |
| 250 | 2202 | -.105  | .029  | -.048 | -.376 | 250 | 2253 | -.091  | .102  | .570  | -.334  | 260 | 2140 | -.088  | .046  | .184  | -.245 |
| 250 | 2203 | -.101  | .026  | -.032 | -.288 | 250 | 2254 | -.139  | .033  | -.033 | -.268  | 260 | 2141 | -.165  | .039  | -.035 | -.378 |
| 250 | 2204 | -.105  | .028  | -.029 | -.297 | 250 | 2255 | -.114  | .027  | -.024 | -.246  | 260 | 2142 | -.026  | .075  | .352  | -.275 |
| 250 | 2205 | -.100  | .026  | -.034 | -.251 | 250 | 2256 | -.098  | .022  | -.011 | -.209  | 260 | 2143 | -.063  | .118  | .390  | -.819 |
| 250 | 2206 | -.099  | .026  | -.096 | -.214 | 250 | 2257 | -.091  | .022  | -.006 | -.221  | 260 | 2144 | -.082  | .044  | .123  | -.294 |
| 250 | 2207 | -.094  | .036  | -.133 | -.357 | 250 | 2258 | -.091  | .020  | -.014 | -.170  | 260 | 2145 | -.134  | .048  | .004  | -.348 |
| 250 | 2208 | -.114  | .046  | -.034 | -.431 | 250 | 2259 | -.076  | .084  | .184  | -.458  | 260 | 2146 | -.092  | .032  | .037  | -.289 |
| 250 | 2209 | -.127  | .067  | -.106 | -.658 | 250 | 2260 | -.097  | .110  | .643  | -.700  | 260 | 2147 | -.119  | .045  | .014  | -.478 |
| 250 | 2210 | -.130  | .058  | -.080 | -.547 | 250 | 2261 | -.136  | .033  | -.033 | -.278  | 260 | 2148 | -.142  | .049  | .011  | -.478 |
| 250 | 2211 | -.110  | .036  | -.022 | -.459 | 250 | 2262 | -.105  | .027  | .003  | -.214  | 260 | 2149 | -.154  | .055  | .044  | -.448 |
| 250 | 2212 | -.074  | .051  | -.210 | -.221 | 250 | 2263 | -.079  | .023  | .018  | -.165  | 260 | 2150 | -.086  | .026  | .037  | -.192 |
| 250 | 2213 | -.054  | .063  | -.413 | -.239 | 250 | 2264 | -.081  | .019  | -.016 | -.165  | 260 | 2151 | -.088  | .028  | .028  | -.216 |
| 250 | 2214 | -.069  | .065  | .501  | -.320 | 250 | 2265 | -.084  | .020  | -.021 | -.163  | 260 | 2152 | -.091  | .033  | .082  | -.239 |
| 250 | 2215 | -.106  | .048  | -.210 | -.478 | 260 | 2101 | -.154  | .039  | -.010 | -.376  | 260 | 2153 | -.088  | .035  | .120  | -.218 |
| 250 | 2216 | -.102  | .024  | -.024 | -.299 | 260 | 2102 | -.159  | .054  | -.009 | -.683  | 260 | 2154 | -.092  | .042  | .193  | -.275 |
| 250 | 2217 | -.093  | .036  | -.154 | -.262 | 260 | 2103 | -.167  | .064  | -.051 | -.567  | 260 | 2155 | -.109  | .051  | .151  | -.360 |
| 250 | 2218 | -.101  | .034  | -.119 | -.265 | 260 | 2104 | -.154  | .043  | -.012 | -.390  | 260 | 2156 | -.082  | .025  | .030  | -.199 |
| 250 | 2219 | -.088  | .035  | -.244 | -.258 | 260 | 2105 | -.146  | .038  | -.007 | -.301  | 260 | 2157 | -.080  | .028  | .042  | -.183 |
| 250 | 2220 | -.103  | .026  | -.006 | -.304 | 260 | 2106 | -.137  | .044  | .072  | -.359  | 260 | 2158 | -.080  | .033  | .094  | -.192 |
| 250 | 2221 | -.100  | .024  | -.011 | -.258 | 260 | 2107 | -.136  | .056  | .130  | -.522  | 260 | 2159 | -.055  | .039  | .160  | -.228 |
| 250 | 2222 | -.097  | .027  | .064  | -.297 | 260 | 2108 | -.159  | .041  | -.019 | -.357  | 260 | 2160 | -.044  | .057  | .243  | -.268 |
| 250 | 2223 | -.079  | .040  | -.217 | -.283 | 260 | 2109 | -.152  | .043  | -.014 | -.334  | 260 | 2161 | -.089  | .067  | .191  | -.393 |
| 250 | 2224 | -.093  | .023  | -.001 | -.207 | 260 | 2110 | -.134  | .040  | -.002 | -.303  | 260 | 2162 | -.057  | .048  | .253  | -.242 |
| 250 | 2225 | -.086  | .027  | -.033 | -.231 | 260 | 2111 | -.143  | .048  | -.012 | -.420  | 260 | 2163 | -.098  | .041  | .078  | -.282 |
| 250 | 2226 | -.091  | .032  | -.052 | -.209 | 260 | 2112 | -.146  | .055  | .098  | -.366  | 260 | 2164 | -.116  | .038  | .021  | -.410 |
| 250 | 2227 | -.084  | .030  | -.013 | -.309 | 260 | 2113 | -.148  | .052  | .016  | -.436  | 260 | 2165 | -.152  | .063  | .056  | -.658 |
| 250 | 2228 | -.080  | .031  | -.096 | -.192 | 260 | 2114 | -.137  | .059  | .039  | -.588  | 260 | 2166 | -.083  | .038  | .117  | -.301 |
| 250 | 2229 | -.090  | .022  | -.014 | -.155 | 260 | 2115 | -.149  | .065  | .058  | -.539  | 260 | 2167 | -.116  | .036  | .035  | -.325 |
| 250 | 2230 | -.086  | .027  | -.077 | -.231 | 260 | 2116 | -.063  | .084  | .352  | -.287  | 260 | 2168 | -.133  | .049  | .082  | -.398 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 217

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 260 | 2170 | -.105  | .031  | .070  | -.239 | 260 | 2222 | -.092  | .023  | -.005 | -.200 | 270 | 2108 | -.128  | .048  | .057  | -.404 |
| 260 | 2171 | -.111  | .030  | -.003 | -.301 | 260 | 2223 | -.081  | .031  | .150  | -.186 | 270 | 2109 | -.130  | .043  | .014  | -.361 |
| 260 | 2172 | -.109  | .031  | .026  | -.268 | 260 | 2224 | -.089  | .024  | .008  | -.195 | 270 | 2110 | -.133  | .040  | -.006 | -.293 |
| 260 | 2173 | -.122  | .036  | .101  | -.301 | 260 | 2225 | -.081  | .026  | .043  | -.236 | 270 | 2111 | -.167  | .056  | -.015 | -.411 |
| 260 | 2174 | -.157  | .061  | .059  | -.750 | 260 | 2226 | -.078  | .028  | .077  | -.214 | 270 | 2112 | -.097  | .064  | .191  | -.404 |
| 260 | 2175 | -.144  | .080  | .326  | -.568 | 260 | 2227 | -.085  | .027  | .052  | -.302 | 270 | 2113 | -.105  | .055  | .064  | -.576 |
| 260 | 2177 | -.079  | .060  | .321  | -.308 | 260 | 2228 | -.061  | .029  | .062  | -.167 | 270 | 2114 | -.114  | .049  | .062  | -.307 |
| 260 | 2178 | -.101  | .024  | -.019 | -.213 | 260 | 2229 | -.087  | .020  | -.019 | -.172 | 270 | 2115 | -.190  | .070  | -.026 | -.539 |
| 260 | 2179 | -.105  | .023  | -.019 | -.225 | 260 | 2230 | -.082  | .022  | -.004 | -.260 | 270 | 2116 | -.041  | .067  | .254  | -.377 |
| 260 | 2180 | -.107  | .026  | -.002 | -.249 | 260 | 2231 | -.059  | .027  | .062  | -.146 | 270 | 2117 | -.069  | .058  | .105  | -.444 |
| 260 | 2181 | -.116  | .030  | .028  | -.258 | 260 | 2233 | -.084  | .020  | .011  | -.148 | 270 | 2118 | -.081  | .050  | .087  | -.336 |
| 260 | 2182 | -.160  | .055  | -.003 | -.483 | 260 | 2234 | -.082  | .021  | -.009 | -.150 | 270 | 2119 | -.154  | .096  | .150  | -.704 |
| 260 | 2183 | -.152  | .080  | .262  | -.627 | 260 | 2235 | -.082  | .021  | .013  | -.160 | 270 | 2120 | -.047  | .037  | .127  | -.243 |
| 260 | 2184 | -.057  | .045  | .182  | -.214 | 260 | 2236 | -.080  | .024  | .082  | -.170 | 270 | 2121 | -.066  | .047  | .184  | -.345 |
| 260 | 2185 | -.054  | .046  | .157  | -.188 | 260 | 2237 | -.079  | .023  | .030  | -.158 | 270 | 2122 | -.076  | .059  | .265  | -.345 |
| 260 | 2187 | -.060  | .042  | .272  | -.195 | 260 | 2238 | -.164  | .073  | .035  | -.649 | 270 | 2123 | -.034  | .087  | .288  | -.790 |
| 260 | 2188 | -.098  | .022  | -.029 | -.207 | 260 | 2239 | -.122  | .056  | .025  | -.561 | 270 | 2124 | -.146  | .056  | .037  | -.467 |
| 260 | 2189 | -.100  | .025  | -.017 | -.218 | 260 | 2240 | -.108  | .038  | .013  | -.439 | 270 | 2125 | -.121  | .050  | .026  | -.413 |
| 260 | 2190 | -.101  | .024  | -.008 | -.186 | 260 | 2241 | -.105  | .038  | .060  | -.282 | 270 | 2126 | -.024  | .080  | .308  | -.279 |
| 260 | 2191 | -.114  | .028  | -.017 | -.255 | 260 | 2242 | -.097  | .034  | .003  | -.304 | 270 | 2127 | -.192  | .101  | -.014 | -.802 |
| 260 | 2192 | -.162  | .054  | -.022 | -.579 | 260 | 2243 | -.088  | .027  | .006  | -.229 | 270 | 2128 | -.136  | .062  | -.006 | -.535 |
| 260 | 2193 | -.135  | .054  | .127  | -.398 | 260 | 2244 | -.067  | .067  | .179  | -.360 | 270 | 2129 | -.122  | .049  | .035  | -.433 |
| 260 | 2194 | -.109  | .060  | .189  | -.808 | 260 | 2245 | -.081  | .092  | .235  | -.597 | 270 | 2130 | -.059  | .068  | .191  | -.307 |
| 260 | 2195 | -.094  | .023  | -.001 | -.193 | 260 | 2246 | -.093  | .038  | .172  | -.417 | 270 | 2131 | -.203  | .080  | -.001 | -.605 |
| 260 | 2196 | -.099  | .024  | .006  | -.193 | 260 | 2247 | -.089  | .034  | .123  | -.277 | 270 | 2132 | -.116  | .039  | .005  | -.546 |
| 260 | 2197 | -.100  | .024  | -.001 | -.239 | 260 | 2248 | -.119  | .033  | -.021 | -.290 | 270 | 2133 | -.116  | .037  | -.008 | -.379 |
| 260 | 2198 | -.108  | .029  | -.005 | -.264 | 260 | 2249 | -.082  | .029  | .069  | -.170 | 270 | 2134 | -.026  | .090  | .304  | -.433 |
| 260 | 2199 | -.143  | .039  | -.012 | -.392 | 260 | 2250 | -.082  | .024  | .030  | -.172 | 270 | 2136 | -.100  | .034  | .028  | -.257 |
| 260 | 2200 | -.106  | .031  | .062  | -.220 | 260 | 2251 | -.085  | .022  | -.009 | -.182 | 270 | 2137 | -.118  | .034  | .010  | -.259 |
| 260 | 2201 | -.090  | .027  | .036  | -.190 | 260 | 2252 | -.032  | .076  | .292  | -.402 | 270 | 2138 | -.008  | .106  | .426  | -.447 |
| 260 | 2202 | -.094  | .025  | .013  | -.202 | 260 | 2253 | -.036  | .127  | .448  | -.505 | 270 | 2140 | -.084  | .043  | .064  | -.277 |
| 260 | 2203 | -.098  | .025  | .008  | -.218 | 260 | 2254 | -.115  | .035  | -.004 | -.358 | 270 | 2141 | -.127  | .039  | .014  | -.279 |
| 260 | 2204 | -.097  | .028  | .013  | -.234 | 260 | 2255 | -.102  | .024  | -.021 | -.241 | 270 | 2142 | -.014  | .079  | .292  | -.282 |
| 260 | 2205 | -.096  | .028  | .006  | -.218 | 260 | 2256 | -.089  | .022  | .016  | -.167 | 270 | 2143 | -.104  | .087  | .257  | -.591 |
| 260 | 2206 | -.093  | .023  | .013  | -.172 | 260 | 2257 | -.075  | .020  | .008  | -.158 | 270 | 2144 | -.081  | .043  | .057  | -.309 |
| 260 | 2207 | -.095  | .027  | .034  | -.276 | 260 | 2258 | -.075  | .020  | -.009 | -.141 | 270 | 2145 | -.088  | .038  | .051  | -.229 |
| 260 | 2208 | -.107  | .038  | .057  | -.359 | 260 | 2259 | -.055  | .067  | .196  | -.373 | 270 | 2146 | -.093  | .030  | .057  | -.277 |
| 260 | 2209 | -.113  | .053  | .103  | -.584 | 260 | 2260 | -.073  | .122  | .345  | -.981 | 270 | 2147 | -.117  | .037  | .023  | -.318 |
| 260 | 2210 | -.120  | .054  | .055  | -.466 | 260 | 2261 | -.118  | .033  | -.019 | -.253 | 270 | 2148 | -.139  | .046  | .005  | -.421 |
| 260 | 2211 | -.096  | .028  | .036  | -.271 | 260 | 2262 | -.098  | .025  | -.021 | -.202 | 270 | 2149 | -.142  | .062  | .080  | -.540 |
| 260 | 2212 | -.085  | .039  | .140  | -.241 | 260 | 2263 | -.079  | .020  | -.011 | -.150 | 270 | 2150 | -.084  | .026  | .007  | -.220 |
| 260 | 2213 | -.068  | .053  | .277  | -.267 | 260 | 2264 | -.070  | .019  | .030  | -.138 | 270 | 2151 | -.087  | .025  | .048  | -.174 |
| 260 | 2214 | -.071  | .049  | .323  | -.262 | 260 | 2265 | -.071  | .018  | .008  | -.141 | 270 | 2152 | -.094  | .028  | .053  | -.210 |
| 260 | 2215 | -.113  | .050  | .034  | -.456 | 270 | 2101 | -.145  | .046  | -.020 | -.383 | 270 | 2153 | -.084  | .035  | .092  | -.233 |
| 260 | 2216 | -.087  | .026  | .052  | -.274 | 270 | 2102 | -.161  | .073  | .055  | -.874 | 270 | 2154 | -.079  | .048  | .163  | -.291 |
| 260 | 2217 | -.083  | .031  | .087  | -.170 | 270 | 2103 | -.155  | .083  | .177  | -.571 | 270 | 2155 | -.080  | .052  | .190  | -.403 |
| 260 | 2218 | -.087  | .029  | .073  | -.223 | 270 | 2104 | -.132  | .044  | .051  | -.481 | 270 | 2156 | -.079  | .025  | .055  | -.162 |
| 260 | 2219 | -.086  | .029  | .108  | -.253 | 270 | 2105 | -.132  | .045  | .069  | -.354 | 270 | 2157 | -.080  | .025  | .035  | -.188 |
| 260 | 2220 | -.094  | .023  | .002  | -.227 | 270 | 2106 | -.119  | .053  | .098  | -.379 | 270 | 2158 | -.081  | .031  | .085  | -.199 |
| 260 | 2221 | -.080  | .027  | .043  | -.202 | 270 | 2107 | -.145  | .075  | .177  | -.682 | 270 | 2159 | -.058  | .036  | .179  | -.174 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 218

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|--------|
| 270 | 2160 | -.055  | .046  | .229  | -.263 | 270 | 2213 | -.085  | .029  | .042  | -.213 | 270 | 2264 | -.067  | .023  | .008  | -.166  |
| 270 | 2161 | -.070  | .054  | .257  | -.275 | 270 | 2214 | -.079  | .036  | .173  | -.206 | 270 | 2265 | -.060  | .020  | .008  | -.122  |
| 270 | 2162 | -.058  | .040  | .117  | -.190 | 270 | 2215 | -.098  | .031  | -.005 | -.369 | 280 | 2101 | -.198  | .075  | .064  | -.603  |
| 270 | 2163 | -.103  | .039  | .094  | -.256 | 270 | 2216 | -.084  | .033  | .113  | -.211 | 280 | 2102 | -.224  | .117  | .226  | -.91   |
| 270 | 2164 | -.103  | .032  | .016  | -.284 | 270 | 2217 | -.087  | .038  | .100  | -.329 | 280 | 2103 | -.200  | .091  | .221  | -.652  |
| 270 | 2165 | -.141  | .053  | .106  | -.433 | 270 | 2218 | -.086  | .032  | .131  | -.200 | 280 | 2104 | -.168  | .055  | .032  | -.433  |
| 270 | 2166 | -.075  | .045  | .167  | -.327 | 270 | 2219 | -.092  | .026  | .093  | -.224 | 280 | 2105 | -.179  | .065  | .096  | -.509  |
| 270 | 2167 | -.104  | .030  | .025  | -.263 | 270 | 2220 | -.080  | .023  | .006  | -.155 | 280 | 2106 | -.179  | .064  | .123  | -.489  |
| 270 | 2168 | -.112  | .038  | .046  | -.309 | 270 | 2221 | -.093  | .036  | .102  | -.244 | 280 | 2107 | -.210  | .086  | .103  | -.762  |
| 270 | 2169 | -.102  | .029  | .021  | -.254 | 270 | 2222 | -.088  | .027  | .033  | -.329 | 280 | 2108 | -.145  | .042  | .030  | -.312  |
| 270 | 2170 | -.110  | .030  | -.004 | -.302 | 270 | 2223 | -.092  | .020  | -.012 | -.177 | 280 | 2109 | -.162  | .043  | -.007 | -.487  |
| 270 | 2171 | -.102  | .031  | .025  | -.254 | 270 | 2224 | -.085  | .021  | -.012 | -.159 | 280 | 2110 | -.186  | .049  | -.032 | -.391  |
| 270 | 2172 | -.104  | .033  | .053  | -.309 | 270 | 2225 | -.078  | .021  | .008  | -.185 | 280 | 2111 | -.228  | .080  | .162  | -.573  |
| 270 | 2173 | -.137  | .058  | .119  | -.504 | 270 | 2226 | -.076  | .024  | .034  | -.166 | 280 | 2112 | -.074  | .070  | .221  | -.302  |
| 270 | 2175 | -.096  | .081  | .286  | -.426 | 270 | 2227 | -.085  | .023  | .022  | -.197 | 280 | 2113 | -.132  | .045  | .020  | -.470  |
| 270 | 2177 | -.089  | .035  | .037  | -.286 | 270 | 2228 | -.087  | .033  | .065  | -.223 | 280 | 2114 | -.168  | .055  | .039  | -.440  |
| 270 | 2178 | -.098  | .022  | -.011 | -.231 | 270 | 2229 | -.086  | .020  | -.013 | -.188 | 280 | 2115 | -.214  | .091  | .120  | -.632  |
| 270 | 2179 | -.101  | .023  | -.027 | -.233 | 270 | 2230 | -.083  | .020  | -.015 | -.152 | 280 | 2116 | -.112  | .047  | .133  | -.312  |
| 270 | 2180 | -.099  | .023  | -.014 | -.229 | 270 | 2231 | -.090  | .025  | .060  | -.192 | 280 | 2117 | -.113  | .041  | .025  | -.298  |
| 270 | 2181 | -.102  | .025  | .032  | -.201 | 270 | 2233 | -.083  | .018  | -.018 | -.136 | 280 | 2118 | -.152  | .059  | .054  | -.462  |
| 270 | 2182 | -.149  | .051  | .009  | -.400 | 270 | 2234 | -.079  | .019  | -.020 | -.136 | 280 | 2119 | -.167  | .092  | .155  | -.644  |
| 270 | 2183 | -.118  | .083  | .275  | -.510 | 270 | 2235 | -.078  | .018  | .006  | -.143 | 280 | 2120 | -.096  | .038  | .022  | -.239  |
| 270 | 2184 | -.048  | .042  | .182  | -.168 | 270 | 2236 | -.076  | .024  | .070  | -.178 | 280 | 2121 | -.130  | .042  | -.012 | -.310  |
| 270 | 2185 | -.068  | .030  | .082  | -.168 | 270 | 2237 | -.080  | .022  | .029  | -.197 | 280 | 2122 | -.181  | .075  | .202  | -.576  |
| 270 | 2187 | -.060  | .035  | .113  | -.162 | 270 | 2238 | -.144  | .057  | .018  | -.561 | 280 | 2123 | -.033  | .083  | .320  | -.457  |
| 270 | 2188 | -.095  | .019  | -.025 | -.168 | 270 | 2239 | -.110  | .037  | .086  | -.310 | 280 | 2124 | -.220  | .078  | .032  | -.716  |
| 270 | 2189 | -.100  | .021  | -.032 | -.191 | 270 | 2240 | -.095  | .028  | .025  | -.237 | 280 | 2125 | -.192  | .069  | .003  | -.568  |
| 270 | 2190 | -.098  | .019  | -.028 | -.202 | 270 | 2241 | -.093  | .031  | .072  | -.332 | 280 | 2126 | -.036  | .115  | .472  | -.283  |
| 270 | 2191 | -.106  | .023  | -.034 | -.209 | 270 | 2242 | -.080  | .031  | .091  | -.310 | 280 | 2127 | -.298  | .134  | -.025 | -.1279 |
| 270 | 2192 | -.148  | .041  | -.039 | -.387 | 270 | 2243 | -.075  | .028  | .084  | -.266 | 280 | 2128 | -.252  | .097  | -.052 | -.676  |
| 270 | 2193 | -.114  | .040  | .071  | -.380 | 270 | 2244 | -.093  | .047  | .206  | -.367 | 280 | 2129 | -.172  | .061  | .000  | -.514  |
| 270 | 2194 | -.086  | .048  | .251  | -.276 | 270 | 2245 | -.135  | .061  | .105  | -.627 | 280 | 2130 | -.111  | .080  | .219  | -.492  |
| 270 | 2195 | -.095  | .022  | -.025 | -.191 | 270 | 2246 | -.114  | .040  | .039  | -.308 | 280 | 2131 | -.283  | .103  | -.002 | -.721  |
| 270 | 2196 | -.096  | .022  | -.014 | -.204 | 270 | 2247 | -.092  | .030  | .022  | -.268 | 280 | 2132 | -.196  | .078  | -.022 | -.703  |
| 270 | 2197 | -.093  | .021  | -.008 | -.166 | 270 | 2248 | -.099  | .028  | -.011 | -.211 | 280 | 2133 | -.178  | .053  | -.010 | -.467  |
| 270 | 2198 | -.103  | .023  | -.005 | -.217 | 270 | 2249 | -.080  | .024  | -.001 | -.235 | 280 | 2134 | -.156  | .105  | .276  | -.799  |
| 270 | 2199 | -.135  | .035  | -.028 | -.354 | 270 | 2250 | -.076  | .029  | .034  | -.346 | 280 | 2136 | -.151  | .038  | -.017 | -.342  |
| 270 | 2200 | -.100  | .027  | .028  | -.206 | 270 | 2251 | -.074  | .025  | .011  | -.282 | 280 | 2137 | -.157  | .037  | .015  | -.362  |
| 270 | 2201 | -.090  | .024  | .012  | -.172 | 270 | 2252 | -.081  | .042  | .129  | -.372 | 280 | 2138 | -.139  | .112  | .285  | -.647  |
| 270 | 2202 | -.095  | .025  | .012  | -.242 | 270 | 2253 | -.120  | .051  | .190  | -.374 | 280 | 2140 | -.131  | .042  | .113  | -.332  |
| 270 | 2203 | -.100  | .028  | .012  | -.293 | 270 | 2254 | -.113  | .035  | .004  | -.268 | 280 | 2141 | -.142  | .038  | -.002 | -.386  |
| 270 | 2204 | -.099  | .025  | .006  | -.240 | 270 | 2255 | -.085  | .025  | -.004 | -.185 | 280 | 2142 | -.076  | .092  | .298  | -.379  |
| 270 | 2205 | -.100  | .031  | .102  | -.209 | 270 | 2256 | -.071  | .021  | .015  | -.152 | 280 | 2143 | -.126  | .133  | .410  | -.683  |
| 270 | 2206 | -.092  | .024  | .028  | -.242 | 270 | 2257 | -.064  | .024  | .015  | -.150 | 280 | 2144 | -.098  | .106  | .504  | -.411  |
| 270 | 2207 | -.087  | .021  | .039  | -.193 | 270 | 2258 | -.063  | .022  | -.001 | -.164 | 280 | 2145 | -.107  | .082  | .375  | -.334  |
| 270 | 2208 | -.099  | .029  | .028  | -.284 | 270 | 2259 | -.078  | .035  | .093  | -.221 | 280 | 2146 | -.151  | .033  | -.009 | -.324  |
| 270 | 2209 | -.096  | .032  | .037  | -.338 | 270 | 2260 | -.116  | .042  | .140  | -.447 | 280 | 2147 | -.184  | .044  | .018  | -.468  |
| 270 | 2210 | -.100  | .036  | .042  | -.427 | 270 | 2261 | -.105  | .036  | .018  | -.275 | 280 | 2148 | -.226  | .055  | -.009 | -.491  |
| 270 | 2211 | -.081  | .029  | .064  | -.269 | 270 | 2262 | -.075  | .025  | .034  | -.176 | 280 | 2149 | -.229  | .086  | .008  | -.703  |
| 270 | 2212 | -.087  | .032  | .073  | -.240 | 270 | 2263 | -.065  | .021  | .018  | -.152 | 280 | 2150 | -.142  | .026  | -.037 | -.254  |

## APPENDIX A -- PRESSURE DATA § CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 219

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 280 | 2151 | -.142  | .027  | .011  | -.256 | 280 | 2204 | -.148  | .031  | -.017 | -.299 | 280 | 2255 | -.115  | .030  | .011  | -.220 |
| 280 | 2152 | -.148  | .032  | .070  | -.291 | 280 | 2205 | -.156  | .036  | .080  | -.306 | 280 | 2256 | -.115  | .030  | -.001 | -.220 |
| 280 | 2153 | -.137  | .040  | .108  | -.269 | 280 | 2206 | -.139  | .027  | .107  | -.243 | 280 | 2257 | -.138  | .035  | -.020 | -.264 |
| 280 | 2154 | -.088  | .076  | .305  | -.384 | 280 | 2207 | -.137  | .023  | -.007 | -.253 | 280 | 2258 | -.122  | .026  | -.017 | -.218 |
| 280 | 2155 | -.130  | .086  | .228  | -.483 | 280 | 2208 | -.149  | .030  | -.017 | -.311 | 280 | 2259 | -.131  | .029  | -.022 | -.236 |
| 280 | 2156 | -.130  | .025  | -.044 | -.204 | 280 | 2209 | -.140  | .029  | .049  | -.445 | 280 | 2260 | -.154  | .033  | -.043 | -.285 |
| 280 | 2157 | -.133  | .025  | -.039 | -.214 | 280 | 2210 | -.139  | .032  | -.015 | -.375 | 280 | 2261 | -.157  | .039  | -.014 | -.339 |
| 280 | 2158 | -.125  | .033  | .053  | -.226 | 280 | 2211 | -.125  | .032  | .073  | -.341 | 280 | 2262 | -.104  | .027  | -.037 | -.223 |
| 280 | 2159 | -.079  | .051  | .160  | -.202 | 280 | 2212 | -.134  | .033  | .054  | -.294 | 280 | 2263 | -.109  | .026  | -.030 | -.205 |
| 280 | 2160 | -.079  | .057  | .233  | -.591 | 280 | 2213 | -.131  | .029  | -.012 | -.321 | 280 | 2264 | -.145  | .040  | -.050 | -.344 |
| 280 | 2161 | -.126  | .078  | .190  | -.436 | 280 | 2214 | -.127  | .033  | .229  | -.314 | 280 | 2265 | -.110  | .023  | -.025 | -.189 |
| 280 | 2162 | -.105  | .041  | .108  | -.259 | 280 | 2215 | -.142  | .031  | -.027 | -.450 | 290 | 2101 | -.195  | .059  | .002  | -.499 |
| 280 | 2163 | -.147  | .039  | .028  | -.304 | 280 | 2216 | -.129  | .054  | .238  | -.272 | 290 | 2102 | -.202  | .069  | .060  | -.622 |
| 280 | 2164 | -.142  | .036  | .030  | -.321 | 280 | 2217 | -.152  | .041  | .268  | -.440 | 290 | 2103 | -.190  | .059  | .077  | -.422 |
| 280 | 2165 | -.157  | .051  | .023  | -.434 | 280 | 2218 | -.151  | .032  | -.012 | -.302 | 290 | 2104 | -.163  | .036  | .048  | -.328 |
| 280 | 2166 | -.123  | .044  | .075  | -.302 | 280 | 2219 | -.144  | .028  | -.005 | -.292 | 290 | 2105 | -.176  | .046  | .012  | -.470 |
| 280 | 2167 | -.148  | .042  | .045  | -.324 | 280 | 2220 | -.129  | .025  | .034  | -.285 | 290 | 2106 | -.190  | .045  | .021  | -.487 |
| 280 | 2168 | -.152  | .047  | .178  | -.371 | 280 | 2221 | -.153  | .034  | .093  | -.336 | 290 | 2107 | -.195  | .051  | .115  | -.448 |
| 280 | 2170 | -.141  | .035  | -.019 | -.349 | 280 | 2222 | -.143  | .026  | -.044 | -.258 | 290 | 2108 | -.154  | .033  | -.036 | -.282 |
| 280 | 2171 | -.147  | .037  | -.042 | -.379 | 280 | 2223 | -.137  | .022  | -.051 | -.231 | 290 | 2109 | -.165  | .035  | .053  | -.330 |
| 280 | 2172 | -.139  | .040  | .063  | -.454 | 280 | 2224 | -.131  | .022  | -.032 | -.224 | 290 | 2110 | -.207  | .047  | -.041 | -.439 |
| 280 | 2173 | -.140  | .043  | .083  | -.361 | 280 | 2225 | -.125  | .022  | -.027 | -.215 | 290 | 2111 | -.187  | .059  | .127  | -.436 |
| 280 | 2174 | -.161  | .057  | .105  | -.463 | 280 | 2226 | -.124  | .025  | .014  | -.269 | 290 | 2112 | -.142  | .033  | .029  | -.304 |
| 280 | 2175 | -.154  | .059  | .175  | -.536 | 280 | 2227 | -.140  | .023  | -.009 | -.269 | 290 | 2113 | -.146  | .033  | .029  | -.260 |
| 280 | 2177 | -.137  | .038  | .035  | -.351 | 280 | 2228 | -.151  | .026  | .011  | -.272 | 290 | 2114 | -.224  | .077  | .024  | -.684 |
| 280 | 2178 | -.134  | .025  | -.039 | -.291 | 280 | 2229 | -.146  | .022  | -.040 | -.231 | 290 | 2115 | -.135  | .071  | .190  | -.583 |
| 280 | 2179 | -.138  | .025  | -.032 | -.256 | 280 | 2230 | -.139  | .022  | -.063 | -.218 | 290 | 2116 | -.130  | .033  | -.007 | -.246 |
| 280 | 2180 | -.140  | .027  | -.049 | -.246 | 280 | 2231 | -.149  | .021  | -.050 | -.223 | 290 | 2117 | -.135  | .036  | .048  | -.272 |
| 280 | 2181 | -.145  | .028  | -.029 | -.264 | 280 | 2233 | -.136  | .021  | .068  | -.223 | 290 | 2118 | -.203  | .084  | .067  | -.634 |
| 280 | 2182 | -.172  | .047  | .006  | -.424 | 280 | 2234 | -.133  | .019  | .061  | -.189 | 290 | 2119 | -.094  | .078  | .272  | -.494 |
| 280 | 2183 | -.166  | .057  | .060  | -.553 | 280 | 2235 | -.130  | .020  | -.058 | -.210 | 290 | 2120 | -.128  | .037  | -.010 | -.270 |
| 280 | 2184 | -.100  | .052  | .100  | -.258 | 280 | 2236 | -.106  | .055  | .148  | -.280 | 290 | 2121 | -.153  | .043  | -.005 | -.309 |
| 280 | 2185 | -.117  | .033  | .017  | -.224 | 280 | 2237 | -.132  | .026  | -.030 | -.326 | 290 | 2122 | -.202  | .093  | .176  | -.641 |
| 280 | 2187 | .038   | .085  | -.226 | -.371 | 280 | 2238 | -.178  | .058  | -.007 | -.519 | 290 | 2123 | -.043  | .079  | .419  | -.362 |
| 280 | 2188 | -.140  | .022  | -.068 | -.253 | 280 | 2239 | -.154  | .036  | .011  | -.347 | 290 | 2124 | -.207  | .073  | -.000 | -.687 |
| 280 | 2189 | -.145  | .020  | -.090 | -.219 | 280 | 2240 | -.135  | .033  | -.007 | -.272 | 290 | 2125 | -.185  | .055  | .021  | -.511 |
| 280 | 2190 | -.147  | .021  | -.075 | -.233 | 280 | 2241 | -.137  | .035  | .017  | -.303 | 290 | 2126 | -.019  | .117  | .547  | -.306 |
| 280 | 2191 | -.156  | .025  | -.075 | -.260 | 280 | 2242 | -.134  | .034  | .004  | -.295 | 290 | 2127 | -.233  | .090  | .041  | -.918 |
| 280 | 2192 | -.190  | .043  | -.078 | -.394 | 280 | 2243 | -.129  | .031  | -.025 | -.352 | 290 | 2128 | -.222  | .074  | -.044 | -.617 |
| 280 | 2193 | -.153  | .037  | .050  | -.371 | 280 | 2244 | -.134  | .034  | .022  | -.267 | 290 | 2129 | -.162  | .046  | -.029 | -.431 |
| 280 | 2194 | -.134  | .050  | .221  | -.353 | 280 | 2245 | -.146  | .032  | -.032 | -.380 | 290 | 2130 | -.160  | .066  | .123  | -.468 |
| 280 | 2195 | -.118  | .056  | .153  | -.229 | 280 | 2246 | -.154  | .030  | .058  | -.323 | 290 | 2131 | -.230  | .075  | -.070 | -.651 |
| 280 | 2196 | -.133  | .021  | -.044 | -.209 | 280 | 2247 | -.132  | .030  | -.009 | -.352 | 290 | 2132 | -.191  | .057  | -.070 | -.566 |
| 280 | 2197 | -.132  | .023  | -.051 | -.246 | 280 | 2248 | -.144  | .032  | -.032 | -.316 | 290 | 2133 | -.168  | .037  | -.075 | -.340 |
| 280 | 2198 | -.141  | .025  | -.051 | -.248 | 280 | 2249 | -.128  | .027  | -.027 | -.226 | 290 | 2134 | -.209  | .067  | .111  | -.456 |
| 280 | 2199 | -.159  | .034  | -.041 | -.348 | 280 | 2250 | -.134  | .036  | -.027 | -.336 | 290 | 2135 | -.153  | .032  | -.048 | -.325 |
| 280 | 2200 | -.137  | .028  | -.054 | -.238 | 280 | 2251 | -.123  | .029  | -.027 | -.231 | 290 | 2137 | -.159  | .033  | -.053 | -.354 |
| 280 | 2201 | -.138  | .027  | -.034 | -.233 | 280 | 2252 | -.130  | .030  | .022  | -.241 | 290 | 2138 | -.197  | .071  | .125  | -.612 |
| 280 | 2202 | -.148  | .030  | .000  | -.348 | 280 | 2253 | -.140  | .030  | -.053 | -.295 | 290 | 2140 | -.143  | .035  | -.036 | -.330 |
| 280 | 2203 | -.151  | .034  | .056  | -.338 | 280 | 2254 | -.159  | .032  | -.050 | -.310 | 290 | 2141 | -.143  | .032  | -.051 | -.335 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 290 | 2142 | -.146  | .068  | .178  | -.417 | 290 | 2195 | -.109  | .031  | .041  | -.214 | 290 | 2246 | -.143  | .027  | -.058 | -.268 |
| 290 | 2143 | -.151  | .052  | .004  | -.541 | 290 | 2196 | -.112  | .035  | .088  | -.274 | 290 | 2247 | -.135  | .037  | -.010 | -.381 |
| 290 | 2144 | -.146  | .045  | -.009 | -.382 | 290 | 2197 | -.121  | .026  | .019  | -.257 | 290 | 2248 | -.156  | .036  | -.038 | -.313 |
| 290 | 2145 | -.130  | .031  | -.013 | -.282 | 290 | 2198 | -.124  | .025  | -.007 | -.217 | 290 | 2249 | -.149  | .035  | -.008 | -.283 |
| 290 | 2146 | -.172  | .034  | -.050 | -.365 | 290 | 2199 | -.152  | .041  | -.009 | -.372 | 290 | 2250 | -.176  | .057  | -.028 | -.464 |
| 290 | 2147 | -.204  | .045  | -.048 | -.485 | 290 | 2200 | -.115  | .040  | .081  | -.224 | 290 | 2251 | -.145  | .038  | -.023 | -.326 |
| 290 | 2148 | -.238  | .051  | -.067 | -.436 | 290 | 2201 | -.151  | .026  | -.067 | -.262 | 290 | 2252 | -.125  | .030  | -.008 | -.311 |
| 290 | 2149 | -.259  | .088  | -.013 | -.793 | 290 | 2202 | -.121  | .041  | .084  | -.324 | 290 | 2253 | -.128  | .028  | -.043 | -.250 |
| 290 | 2150 | -.161  | .030  | -.070 | -.282 | 290 | 2203 | -.139  | .068  | .148  | -.536 | 290 | 2254 | -.140  | .026  | -.053 | -.265 |
| 290 | 2151 | -.154  | .029  | -.031 | -.312 | 290 | 2204 | -.130  | .045  | .065  | -.338 | 290 | 2255 | -.129  | .029  | -.020 | -.278 |
| 290 | 2152 | -.141  | .035  | .023  | -.270 | 290 | 2205 | -.072  | .079  | .301  | -.558 | 290 | 2256 | -.143  | .031  | -.021 | -.263 |
| 290 | 2153 | -.117  | .048  | .121  | -.287 | 290 | 2206 | -.107  | .046  | .139  | -.384 | 290 | 2257 | -.176  | .037  | -.036 | -.313 |
| 290 | 2154 | -.103  | .069  | .118  | -.534 | 290 | 2207 | -.125  | .030  | .086  | -.224 | 290 | 2258 | -.128  | .028  | -.005 | -.232 |
| 290 | 2155 | -.100  | .090  | .253  | -.397 | 290 | 2208 | -.191  | .077  | .050  | -.720 | 290 | 2259 | -.124  | .029  | .010  | -.263 |
| 290 | 2156 | -.152  | .026  | -.055 | -.263 | 290 | 2209 | -.164  | .037  | -.036 | -.346 | 290 | 2260 | -.126  | .030  | -.033 | -.242 |
| 290 | 2157 | -.114  | .023  | -.055 | -.214 | 290 | 2210 | -.147  | .027  | -.028 | -.293 | 290 | 2261 | -.126  | .026  | -.005 | -.270 |
| 290 | 2158 | -.128  | .031  | .013  | -.231 | 290 | 2211 | -.060  | .076  | .365  | -.236 | 290 | 2262 | -.120  | .025  | -.021 | -.215 |
| 290 | 2159 | -.085  | .043  | .175  | -.238 | 290 | 2212 | -.173  | .081  | .129  | -.684 | 290 | 2263 | -.134  | .029  | -.033 | -.255 |
| 290 | 2160 | -.083  | .059  | .113  | -.500 | 290 | 2213 | -.139  | .029  | .093  | -.319 | 290 | 2264 | -.181  | .045  | -.021 | -.394 |
| 290 | 2161 | -.089  | .074  | .275  | -.385 | 290 | 2214 | -.133  | .026  | .091  | -.219 | 290 | 2265 | -.107  | .026  | -.020 | -.205 |
| 290 | 2162 | -.138  | .037  | .062  | -.280 | 290 | 2215 | -.142  | .025  | -.062 | -.233 | 300 | 2101 | -.190  | .057  | .035  | -.516 |
| 290 | 2163 | -.159  | .037  | -.006 | -.375 | 290 | 2216 | -.013  | .101  | .520  | -.305 | 300 | 2102 | -.188  | .057  | .081  | -.514 |
| 290 | 2164 | -.151  | .036  | .011  | -.370 | 290 | 2217 | -.097  | .100  | .384  | -.622 | 300 | 2103 | -.184  | .053  | .083  | -.465 |
| 290 | 2165 | -.155  | .044  | .018  | -.456 | 290 | 2218 | -.103  | .058  | .170  | -.343 | 300 | 2104 | -.162  | .037  | -.012 | -.356 |
| 290 | 2166 | -.149  | .041  | .048  | -.341 | 290 | 2219 | -.123  | .049  | .103  | -.429 | 300 | 2105 | -.177  | .044  | -.038 | -.387 |
| 290 | 2167 | -.152  | .036  | .013  | -.339 | 290 | 2220 | -.060  | .061  | .305  | -.214 | 300 | 2106 | -.192  | .045  | -.036 | -.538 |
| 290 | 2168 | -.155  | .040  | .062  | -.378 | 290 | 2221 | -.096  | .103  | .472  | -.427 | 300 | 2107 | -.180  | .051  | .151  | -.583 |
| 290 | 2170 | -.135  | .029  | -.040 | -.356 | 290 | 2222 | -.121  | .051  | .141  | -.326 | 300 | 2108 | -.161  | .033  | -.058 | -.298 |
| 290 | 2171 | -.136  | .029  | -.038 | -.307 | 290 | 2223 | -.192  | .056  | -.069 | -.563 | 300 | 2109 | -.170  | .036  | -.050 | -.429 |
| 290 | 2172 | -.143  | .031  | -.011 | -.314 | 290 | 2224 | -.125  | .030  | -.005 | -.284 | 300 | 2110 | -.226  | .063  | -.084 | -.606 |
| 290 | 2173 | -.142  | .038  | .072  | -.353 | 290 | 2225 | -.123  | .023  | -.026 | -.215 | 300 | 2111 | -.164  | .058  | -.173 | -.353 |
| 290 | 2174 | -.158  | .049  | .065  | .466  | 290 | 2226 | -.120  | .021  | -.041 | -.220 | 300 | 2112 | -.149  | .035  | -.009 | -.295 |
| 290 | 2175 | -.162  | .050  | .113  | -.422 | 290 | 2227 | -.126  | .023  | -.048 | -.250 | 300 | 2113 | -.152  | .038  | -.019 | -.351 |
| 290 | 2177 | -.154  | .041  | -.035 | -.512 | 290 | 2228 | -.163  | .036  | -.061 | -.336 | 300 | 2114 | -.264  | .094  | .049  | -.902 |
| 290 | 2178 | -.127  | .024  | -.034 | -.204 | 290 | 2229 | -.133  | .030  | -.027 | -.258 | 300 | 2115 | -.119  | .071  | .260  | -.363 |
| 290 | 2179 | -.131  | .024  | .013  | -.270 | 290 | 2230 | -.133  | .025  | -.021 | -.255 | 300 | 2116 | -.138  | .037  | .005  | -.336 |
| 290 | 2180 | -.140  | .027  | -.043 | -.319 | 290 | 2231 | -.129  | .029  | -.021 | -.245 | 300 | 2117 | -.136  | .038  | .003  | -.317 |
| 290 | 2181 | -.147  | .027  | -.040 | -.287 | 290 | 2233 | -.117  | .024  | -.021 | -.207 | 300 | 2118 | -.229  | .102  | .105  | -.732 |
| 290 | 2182 | -.161  | .033  | -.058 | -.417 | 290 | 2234 | -.121  | .033  | .040  | -.298 | 300 | 2119 | -.069  | .090  | .403  | -.438 |
| 290 | 2183 | -.163  | .042  | .018  | -.480 | 290 | 2235 | -.115  | .022  | -.038 | -.184 | 300 | 2120 | -.127  | .038  | .010  | -.273 |
| 290 | 2184 | -.138  | .041  | .069  | -.248 | 290 | 2236 | -.114  | .020  | -.026 | -.192 | 300 | 2121 | -.151  | .047  | .032  | -.395 |
| 290 | 2185 | -.142  | .029  | -.024 | -.238 | 290 | 2237 | -.120  | .019  | -.046 | -.192 | 300 | 2122 | -.197  | .098  | .212  | -.805 |
| 290 | 2187 | -.134  | .031  | .041  | -.226 | 290 | 2238 | -.163  | .043  | -.036 | -.417 | 300 | 2123 | -.062  | .104  | .313  | -.492 |
| 290 | 2188 | -.120  | .026  | -.014 | -.210 | 290 | 2239 | -.140  | .028  | -.021 | -.265 | 300 | 2124 | -.179  | .052  | .003  | -.417 |
| 290 | 2189 | -.123  | .024  | -.038 | -.226 | 290 | 2240 | -.132  | .034  | -.000 | -.250 | 300 | 2125 | -.168  | .044  | -.031 | -.441 |
| 290 | 2190 | -.131  | .023  | -.059 | -.243 | 290 | 2241 | -.150  | .041  | .053  | -.323 | 300 | 2126 | -.128  | .068  | .253  | -.424 |
| 290 | 2191 | -.136  | .026  | -.043 | -.260 | 290 | 2242 | -.138  | .040  | -.037 | -.293 | 300 | 2127 | -.190  | .057  | -.021 | -.623 |
| 290 | 2192 | -.162  | .045  | -.040 | -.448 | 290 | 2243 | -.141  | .036  | -.022 | -.316 | 300 | 2128 | -.176  | .041  | -.058 | -.385 |
| 290 | 2193 | -.140  | .038  | .047  | -.341 | 290 | 2244 | -.141  | .033  | -.012 | -.295 | 300 | 2129 | -.166  | .041  | -.041 | -.421 |
| 290 | 2194 | -.133  | .043  | .160  | -.324 | 290 | 2245 | -.140  | .028  | -.053 | -.250 | 300 | 2130 | -.192  | .070  | .209  | -.514 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 221

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 300 | 2131 | -.192  | .043  | -.065 | -.443 | 300 | 2185 | -.143  | .027  | -.031 | -.225 | 300 | 2237 | -.123  | .027  | -.027 | -.311 |
| 300 | 2132 | -.171  | .036  | -.062 | -.334 | 300 | 2187 | -.124  | .041  | .058  | -.247 | 300 | 2238 | -.146  | .040  | -.027 | -.438 |
| 300 | 2133 | -.170  | .033  | -.053 | -.366 | 300 | 2188 | -.129  | .039  | .014  | -.316 | 300 | 2239 | -.140  | .033  | -.014 | -.352 |
| 300 | 2134 | -.218  | .092  | -.197 | -.615 | 300 | 2189 | -.143  | .038  | .005  | -.331 | 300 | 2240 | -.139  | .039  | -.016 | -.336 |
| 300 | 2136 | -.159  | .035  | -.038 | -.395 | 300 | 2190 | -.150  | .032  | -.048 | -.295 | 300 | 2241 | -.155  | .050  | -.073 | -.489 |
| 300 | 2137 | -.164  | .035  | -.060 | -.363 | 300 | 2191 | -.143  | .033  | -.017 | -.268 | 300 | 2242 | -.140  | .042  | -.057 | -.301 |
| 300 | 2138 | -.190  | .103  | -.141 | -.678 | 300 | 2192 | -.202  | .022  | -.031 | -.594 | 300 | 2243 | -.136  | .037  | -.006 | -.298 |
| 300 | 2140 | -.153  | .042  | -.018 | -.392 | 300 | 2193 | -.134  | .051  | .094  | -.387 | 300 | 2244 | -.140  | .034  | -.004 | -.314 |
| 300 | 2141 | -.153  | .037  | -.038 | -.404 | 300 | 2194 | -.119  | .060  | .225  | -.278 | 300 | 2245 | -.139  | .032  | -.024 | -.293 |
| 300 | 2142 | -.140  | .092  | -.185 | -.603 | 300 | 2195 | -.099  | .046  | .125  | -.309 | 300 | 2246 | -.142  | .029  | -.006 | -.268 |
| 300 | 2143 | -.155  | .063  | -.131 | -.532 | 300 | 2196 | -.116  | .059  | .211  | -.395 | 300 | 2247 | -.150  | .050  | -.014 | -.402 |
| 300 | 2144 | -.149  | .052  | -.040 | -.525 | 300 | 2197 | -.124  | .038  | .034  | -.285 | 300 | 2248 | -.175  | .046  | -.021 | -.352 |
| 300 | 2145 | -.133  | .036  | -.016 | -.292 | 300 | 2198 | -.126  | .032  | .005  | -.259 | 300 | 2249 | -.159  | .045  | -.022 | -.342 |
| 300 | 2146 | -.185  | .033  | -.080 | -.363 | 300 | 2199 | -.156  | .048  | .002  | -.465 | 300 | 2250 | -.167  | .058  | -.032 | -.611 |
| 300 | 2147 | -.220  | .041  | -.058 | -.500 | 300 | 2200 | -.116  | .050  | .108  | -.288 | 300 | 2251 | -.133  | .038  | -.004 | -.308 |
| 300 | 2148 | -.243  | .060  | -.073 | -.527 | 300 | 2201 | -.161  | .027  | -.043 | -.261 | 300 | 2252 | -.121  | .034  | -.006 | -.303 |
| 300 | 2149 | -.269  | .095  | -.028 | -.695 | 300 | 2202 | -.116  | .050  | .086  | -.391 | 300 | 2253 | -.121  | .032  | -.024 | -.245 |
| 300 | 2150 | -.185  | .030  | -.097 | -.323 | 300 | 2203 | -.120  | .060  | .197  | -.403 | 300 | 2254 | -.143  | .029  | -.062 | -.303 |
| 300 | 2151 | -.173  | .027  | -.080 | -.282 | 300 | 2204 | -.121  | .055  | .089  | -.400 | 300 | 2255 | -.143  | .035  | -.011 | -.273 |
| 300 | 2152 | -.177  | .039  | -.011 | -.323 | 300 | 2205 | -.073  | .091  | .408  | -.328 | 300 | 2256 | -.150  | .035  | -.032 | -.319 |
| 300 | 2153 | -.164  | .051  | -.185 | -.414 | 300 | 2206 | -.084  | .067  | .204  | -.386 | 300 | 2257 | -.184  | .044  | -.027 | -.375 |
| 300 | 2154 | -.234  | .139  | -.129 | -.896 | 300 | 2207 | -.104  | .048  | .103  | -.273 | 300 | 2258 | -.124  | .027  | -.027 | -.220 |
| 300 | 2155 | -.021  | .093  | -.399 | -.365 | 300 | 2208 | -.176  | .096  | .134  | -.738 | 300 | 2259 | -.111  | .033  | -.055 | -.248 |
| 300 | 2156 | -.164  | .030  | -.063 | -.373 | 300 | 2209 | -.171  | .064  | .072  | -.482 | 300 | 2260 | -.113  | .034  | -.021 | -.240 |
| 300 | 2157 | -.159  | .026  | -.048 | -.272 | 300 | 2210 | -.151  | .043  | .050  | -.343 | 300 | 2261 | -.124  | .029  | -.014 | -.248 |
| 300 | 2158 | -.155  | .037  | -.008 | -.260 | 300 | 2211 | -.043  | .130  | .640  | -.321 | 300 | 2262 | -.122  | .029  | -.004 | -.222 |
| 300 | 2159 | -.134  | .052  | -.131 | -.314 | 300 | 2212 | -.158  | .145  | .276  | -.959 | 300 | 2263 | -.127  | .032  | -.050 | -.281 |
| 300 | 2160 | -.216  | .131  | -.131 | -.771 | 300 | 2213 | -.121  | .049  | .144  | -.302 | 300 | 2264 | -.179  | .056  | -.027 | -.489 |
| 300 | 2161 | -.002  | .097  | .416  | -.294 | 300 | 2214 | -.128  | .033  | .007  | -.288 | 300 | 2265 | -.094  | .035  | -.146 | -.202 |
| 300 | 2162 | -.121  | .048  | .062  | -.257 | 300 | 2215 | -.144  | .029  | -.038 | -.266 | 310 | 2101 | -.129  | .051  | -.048 | -.520 |
| 300 | 2163 | -.176  | .047  | -.038 | -.552 | 300 | 2216 | -.033  | .100  | .417  | -.307 | 310 | 2102 | -.128  | .054  | -.096 | -.557 |
| 300 | 2164 | -.181  | .045  | -.031 | -.473 | 300 | 2217 | -.070  | .118  | .503  | -.506 | 310 | 2103 | -.137  | .050  | -.096 | -.380 |
| 300 | 2165 | -.179  | .036  | -.058 | -.331 | 300 | 2218 | -.074  | .085  | .331  | -.415 | 310 | 2104 | -.111  | .035  | -.045 | -.362 |
| 300 | 2166 | -.146  | .057  | .084  | -.520 | 300 | 2219 | -.104  | .059  | .213  | -.372 | 310 | 2105 | -.126  | .043  | -.041 | -.369 |
| 300 | 2167 | -.190  | .052  | -.055 | -.584 | 300 | 2220 | -.012  | .093  | .410  | -.374 | 310 | 2106 | -.144  | .045  | -.006 | -.454 |
| 300 | 2168 | -.186  | .037  | -.043 | -.417 | 300 | 2221 | -.111  | .102  | .463  | -.422 | 310 | 2107 | -.115  | .048  | -.196 | -.323 |
| 300 | 2170 | -.149  | .036  | -.038 | -.289 | 300 | 2222 | -.088  | .073  | .228  | .314  | 310 | 2108 | -.110  | .028  | -.010 | -.218 |
| 300 | 2171 | -.153  | .049  | .102  | -.338 | 300 | 2223 | -.230  | .089  | -.048 | -.820 | 310 | 2109 | -.115  | .030  | -.012 | -.337 |
| 300 | 2172 | -.141  | .052  | .129  | -.360 | 300 | 2224 | -.120  | .041  | .048  | .362  | 310 | 2110 | -.167  | .055  | -.021 | -.495 |
| 300 | 2173 | -.148  | .044  | .030  | -.346 | 300 | 2225 | -.121  | .035  | .042  | -.273 | 310 | 2111 | -.091  | .050  | -.196 | -.238 |
| 300 | 2174 | -.178  | .045  | .028  | -.412 | 300 | 2226 | -.122  | .028  | -.009 | -.245 | 310 | 2112 | -.100  | .029  | -.004 | -.220 |
| 300 | 2175 | -.187  | .046  | .055  | .510  | 300 | 2227 | -.141  | .032  | -.029 | .321  | 310 | 2113 | -.099  | .028  | -.003 | -.211 |
| 300 | 2177 | -.172  | .031  | -.024 | -.323 | 300 | 2228 | -.153  | .040  | -.027 | -.446 | 310 | 2114 | -.192  | .082  | -.016 | -.769 |
| 300 | 2178 | -.143  | .037  | .038  | -.289 | 300 | 2229 | -.126  | .037  | .062  | -.281 | 310 | 2115 | -.065  | .056  | -.279 | -.314 |
| 300 | 2179 | -.159  | .039  | .008  | -.358 | 300 | 2230 | -.132  | .032  | -.004 | -.288 | 310 | 2116 | -.094  | .031  | -.045 | -.213 |
| 300 | 2180 | -.149  | .035  | .003  | -.274 | 300 | 2231 | -.124  | .033  | .034  | .263  | 310 | 2117 | -.092  | .033  | -.066 | -.213 |
| 300 | 2181 | -.152  | .036  | .018  | -.336 | 300 | 2233 | -.105  | .035  | .062  | -.204 | 310 | 2118 | -.147  | .075  | -.068 | -.566 |
| 300 | 2182 | -.190  | .061  | -.033 | -.486 | 300 | 2234 | -.112  | .044  | .144  | -.359 | 310 | 2119 | -.028  | .075  | -.407 | -.270 |
| 300 | 2183 | -.170  | .071  | .114  | -.515 | 300 | 2235 | -.104  | .031  | .078  | .199  | 310 | 2120 | -.086  | .033  | -.034 | -.211 |
| 300 | 2184 | -.138  | .056  | .074  | -.453 | 300 | 2236 | -.110  | .025  | .009  | -.184 | 310 | 2121 | -.103  | .037  | -.036 | -.270 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 222

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 310 | 2122 | -.126  | .077  | .224  | -.632 | 310 | 2175 | -.145  | .043  | .024  | -.351 | 310 | 2227 | -.104  | .029  | .006  | -.269 |
| 310 | 2123 | -.042  | .078  | .288  | -.511 | 310 | 2177 | -.134  | .030  | -.027 | -.333 | 310 | 2228 | -.102  | .027  | .006  | -.353 |
| 310 | 2124 | -.127  | .046  | .032  | -.373 | 310 | 2178 | -.090  | .039  | .059  | -.212 | 310 | 2229 | -.092  | .027  | .013  | -.200 |
| 310 | 2125 | -.121  | .043  | .045  | -.623 | 310 | 2179 | -.108  | .045  | .071  | -.277 | 310 | 2230 | -.094  | .028  | .006  | -.248 |
| 310 | 2126 | -.095  | .055  | .132  | -.433 | 310 | 2180 | -.094  | .045  | .115  | -.268 | 310 | 2231 | -.094  | .026  | -.006 | -.186 |
| 310 | 2127 | -.134  | .051  | .004  | -.531 | 310 | 2181 | -.085  | .040  | .085  | -.226 | 310 | 2233 | -.078  | .025  | .025  | -.200 |
| 310 | 2128 | -.121  | .035  | -.021 | -.300 | 310 | 2182 | -.124  | .045  | .052  | -.456 | 310 | 2234 | -.082  | .030  | .058  | -.212 |
| 310 | 2129 | -.115  | .036  | .032  | -.321 | 310 | 2183 | -.129  | .061  | .122  | -.467 | 310 | 2235 | -.075  | .026  | .032  | -.171 |
| 310 | 2130 | -.128  | .063  | .162  | -.383 | 310 | 2184 | -.116  | .052  | .061  | -.368 | 310 | 2236 | -.077  | .023  | .017  | -.183 |
| 310 | 2131 | -.140  | .039  | -.026 | -.351 | 310 | 2185 | -.116  | .026  | .029  | -.214 | 310 | 2237 | -.092  | .029  | -.004 | -.310 |
| 310 | 2132 | -.115  | .031  | -.007 | -.296 | 310 | 2187 | -.097  | .031  | .027  | -.207 | 310 | 2238 | -.088  | .033  | .032  | -.286 |
| 310 | 2133 | -.120  | .030  | -.000 | -.264 | 310 | 2188 | -.090  | .036  | .070  | -.245 | 310 | 2239 | -.087  | .028  | .032  | -.214 |
| 310 | 2134 | -.143  | .080  | .192  | -.481 | 310 | 2189 | -.101  | .038  | .018  | -.293 | 310 | 2240 | -.097  | .032  | .053  | -.257 |
| 310 | 2136 | -.114  | .032  | .011  | -.497 | 310 | 2190 | -.100  | .031  | .013  | -.209 | 310 | 2241 | -.117  | .042  | .065  | -.386 |
| 310 | 2137 | -.119  | .033  | -.019 | -.298 | 310 | 2191 | -.098  | .031  | .009  | -.291 | 310 | 2242 | -.094  | .033  | .053  | -.264 |
| 310 | 2138 | -.139  | .089  | .247  | -.591 | 310 | 2192 | -.114  | .050  | .049  | -.415 | 310 | 2243 | -.092  | .030  | .022  | -.243 |
| 310 | 2140 | -.109  | .043  | .039  | -.378 | 310 | 2193 | -.093  | .044  | .087  | -.275 | 310 | 2244 | -.084  | .029  | .006  | -.243 |
| 310 | 2141 | -.112  | .035  | -.000 | -.325 | 310 | 2194 | -.101  | .042  | .131  | -.234 | 310 | 2245 | -.080  | .029  | .015  | -.210 |
| 310 | 2142 | -.098  | .074  | .194  | -.449 | 310 | 2195 | -.075  | .035  | .113  | -.234 | 310 | 2246 | -.088  | .027  | .003  | -.214 |
| 310 | 2143 | -.106  | .063  | .089  | -.651 | 310 | 2196 | -.093  | .043  | .081  | -.281 | 310 | 2247 | -.115  | .046  | .027  | -.609 |
| 310 | 2144 | -.097  | .045  | .045  | -.537 | 310 | 2197 | -.090  | .031  | .076  | -.214 | 310 | 2248 | -.124  | .038  | -.016 | -.389 |
| 310 | 2145 | -.090  | .033  | .024  | -.203 | 310 | 2198 | -.085  | .028  | .040  | -.200 | 310 | 2249 | -.108  | .035  | .029  | -.300 |
| 310 | 2146 | -.134  | .029  | -.031 | -.317 | 310 | 2199 | -.110  | .047  | .058  | -.352 | 310 | 2250 | -.109  | .040  | .006  | -.339 |
| 310 | 2147 | -.169  | .036  | -.050 | -.386 | 310 | 2200 | -.077  | .042  | .095  | -.209 | 310 | 2251 | -.087  | .028  | .015  | -.262 |
| 310 | 2148 | -.196  | .053  | -.041 | -.567 | 310 | 2201 | -.113  | .025  | -.003 | -.218 | 310 | 2252 | -.065  | .028  | .053  | -.284 |
| 310 | 2149 | -.207  | .080  | -.015 | -.713 | 310 | 2202 | -.086  | .038  | .086  | -.331 | 310 | 2253 | -.063  | .026  | -.029 | -.166 |
| 310 | 2150 | -.129  | .030  | -.038 | -.300 | 310 | 2203 | -.104  | .048  | .063  | -.474 | 310 | 2254 | -.093  | .023  | -.006 | -.186 |
| 310 | 2151 | -.124  | .026  | -.022 | -.228 | 310 | 2204 | -.093  | .040  | .058  | -.263 | 310 | 2255 | -.104  | .031  | -.002 | -.231 |
| 310 | 2152 | -.133  | .032  | .082  | -.254 | 310 | 2205 | -.080  | .050  | .215  | -.263 | 310 | 2256 | -.101  | .028  | .013  | -.202 |
| 310 | 2153 | -.118  | .042  | .147  | -.235 | 310 | 2206 | -.076  | .042  | .131  | -.243 | 310 | 2257 | -.121  | .039  | .001  | -.300 |
| 310 | 2154 | -.147  | .088  | .113  | -.542 | 310 | 2207 | -.077  | .035  | .092  | -.200 | 310 | 2258 | -.079  | .027  | .037  | -.210 |
| 310 | 2155 | -.022  | .070  | .331  | -.256 | 310 | 2208 | -.145  | .080  | .074  | -.642 | 310 | 2259 | -.062  | .025  | .046  | -.186 |
| 310 | 2156 | -.124  | .029  | -.013 | -.277 | 310 | 2209 | -.126  | .055  | .108  | -.481 | 310 | 2260 | -.064  | .025  | .027  | -.157 |
| 310 | 2157 | -.116  | .026  | .006  | -.226 | 310 | 2210 | -.112  | .039  | .067  | -.352 | 310 | 2261 | -.079  | .023  | .041  | -.155 |
| 310 | 2158 | -.111  | .033  | .027  | -.224 | 310 | 2211 | -.028  | .099  | .611  | -.243 | 310 | 2262 | -.086  | .026  | .013  | -.221 |
| 310 | 2159 | -.088  | .042  | .110  | -.203 | 310 | 2212 | -.101  | .127  | .502  | -.651 | 310 | 2263 | -.081  | .026  | .027  | -.186 |
| 310 | 2160 | -.127  | .091  | .133  | -.572 | 310 | 2213 | -.070  | .048  | .231  | -.250 | 310 | 2264 | -.097  | .038  | .037  | -.284 |
| 310 | 2161 | -.006  | .079  | .377  | -.386 | 310 | 2214 | -.086  | .034  | .067  | -.252 | 310 | 2265 | -.030  | .047  | .197  | -.133 |
| 310 | 2162 | -.105  | .034  | .057  | -.268 | 310 | 2215 | -.105  | .024  | -.016 | -.216 | 320 | 2101 | -.124  | .049  | .056  | -.382 |
| 310 | 2163 | -.139  | .036  | -.024 | -.307 | 310 | 2216 | -.042  | .062  | .387  | -.286 | 320 | 2102 | -.127  | .052  | .063  | -.424 |
| 310 | 2164 | -.154  | .066  | .066  | -.806 | 310 | 2217 | -.100  | .074  | .319  | -.456 | 320 | 2103 | -.148  | .058  | .114  | -.536 |
| 310 | 2165 | -.139  | .039  | .010  | -.363 | 310 | 2218 | -.086  | .056  | .244  | -.370 | 320 | 2104 | -.111  | .036  | .021  | -.253 |
| 310 | 2166 | -.128  | .044  | .042  | -.381 | 310 | 2219 | -.083  | .044  | .194  | -.252 | 320 | 2105 | -.124  | .045  | .009  | -.428 |
| 310 | 2167 | -.181  | .084  | .110  | -.804 | 310 | 2220 | -.016  | .067  | .446  | -.225 | 320 | 2106 | -.163  | .059  | .025  | -.529 |
| 310 | 2168 | -.176  | .057  | .038  | -.516 | 310 | 2221 | -.119  | .057  | .346  | -.429 | 320 | 2107 | -.090  | .066  | .311  | -.534 |
| 310 | 2169 | -.078  | .047  | .180  | -.289 | 310 | 2222 | -.081  | .052  | .167  | -.293 | 320 | 2108 | -.107  | .028  | -.010 | -.239 |
| 310 | 2171 | -.084  | .065  | .259  | -.372 | 310 | 2223 | -.166  | .066  | -.028 | .558  | 320 | 2109 | -.118  | .033  | -.012 | -.281 |
| 310 | 2172 | -.045  | .072  | .307  | -.242 | 310 | 2224 | -.087  | .036  | .036  | -.275 | 320 | 2110 | -.179  | .069  | -.014 | -.564 |
| 310 | 2173 | -.069  | .063  | .305  | -.291 | 310 | 2225 | -.081  | .030  | .034  | -.214 | 320 | 2111 | -.068  | .058  | .381  | -.255 |
| 310 | 2174 | -.109  | .047  | .266  | -.319 | 310 | 2226 | -.088  | .025  | .006  | -.193 | 320 | 2112 | -.102  | .028  | -.007 | -.199 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

PAGE A 223

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 320 | 2113 | -.102  | .029  | .009  | -.215 | 320 | 2165 | -.155  | .050  | .061  | -.456 | 320 | 2218 | -.120  | .049  | .129  | -.369 |
| 320 | 2114 | -.186  | .080  | .051  | -.643 | 320 | 2166 | -.156  | .054  | .082  | -.415 | 320 | 2219 | -.107  | .036  | .103  | -.251 |
| 320 | 2115 | -.049  | .063  | .390  | -.279 | 320 | 2167 | -.248  | .120  | .118  | -.861 | 320 | 2220 | -.035  | .052  | .263  | -.181 |
| 320 | 2116 | -.103  | .029  | -.010 | -.197 | 320 | 2168 | -.254  | .106  | .118  | -.730 | 320 | 2221 | -.151  | .050  | .043  | -.466 |
| 320 | 2117 | -.097  | .031  | .016  | -.244 | 320 | 2170 | -.058  | .052  | .291  | -.261 | 320 | 2222 | -.113  | .042  | .103  | -.309 |
| 320 | 2118 | -.130  | .066  | .103  | -.348 | 320 | 2171 | -.100  | .094  | .355  | -.787 | 320 | 2223 | -.148  | .044  | -.033 | -.554 |
| 320 | 2119 | -.043  | .070  | .315  | -.353 | 320 | 2172 | -.026  | .091  | .418  | -.306 | 320 | 2224 | -.097  | .033  | .032  | -.295 |
| 320 | 2120 | -.100  | .034  | .007  | -.227 | 320 | 2173 | -.039  | .099  | .504  | -.214 | 320 | 2225 | -.093  | .028  | .026  | -.205 |
| 320 | 2121 | -.108  | .035  | .047  | -.253 | 320 | 2174 | -.038  | .085  | .485  | -.240 | 320 | 2226 | -.103  | .022  | -.004 | -.200 |
| 320 | 2122 | -.102  | .057  | .213  | -.414 | 320 | 2175 | -.173  | .051  | .054  | -.425 | 320 | 2227 | -.111  | .025  | -.014 | -.239 |
| 320 | 2123 | -.082  | .064  | .234  | -.375 | 320 | 2177 | -.158  | .039  | .004  | -.337 | 320 | 2228 | -.114  | .026  | -.031 | -.290 |
| 320 | 2124 | -.127  | .048  | .065  | -.449 | 320 | 2178 | -.072  | .035  | .113  | -.188 | 320 | 2229 | -.101  | .022  | -.018 | -.200 |
| 320 | 2125 | -.127  | .050  | .061  | -.421 | 320 | 2179 | -.110  | .063  | .139  | -.408 | 320 | 2230 | -.103  | .026  | -.009 | -.271 |
| 320 | 2126 | -.117  | .055  | .236  | -.377 | 320 | 2180 | -.049  | .054  | .215  | -.221 | 320 | 2231 | -.101  | .024  | -.023 | -.202 |
| 320 | 2127 | -.135  | .049  | -.005 | -.520 | 320 | 2181 | -.040  | .056  | .286  | -.207 | 320 | 2233 | -.090  | .024  | .013  | -.212 |
| 320 | 2128 | -.121  | .031  | -.024 | -.288 | 320 | 2182 | -.110  | .033  | .058  | -.249 | 320 | 2234 | -.092  | .025  | .021  | -.202 |
| 320 | 2129 | -.119  | .037  | -.007 | -.325 | 320 | 2183 | -.182  | .047  | -.003 | -.520 | 320 | 2235 | -.088  | .026  | .031  | -.273 |
| 320 | 2130 | -.132  | .063  | .149  | -.424 | 320 | 2184 | -.180  | .041  | -.010 | -.410 | 320 | 2236 | -.090  | .022  | -.004 | -.200 |
| 320 | 2131 | -.135  | .037  | -.024 | -.393 | 320 | 2185 | -.153  | .028  | -.061 | -.269 | 320 | 2237 | -.103  | .024  | -.033 | -.261 |
| 320 | 2132 | -.114  | .031  | -.012 | -.325 | 320 | 2187 | -.135  | .030  | -.043 | -.248 | 320 | 2238 | -.071  | .031  | .055  | -.222 |
| 320 | 2133 | -.119  | .034  | -.007 | -.286 | 320 | 2188 | -.080  | .031  | -.034 | -.225 | 320 | 2239 | -.078  | .029  | .053  | -.197 |
| 320 | 2134 | -.137  | .075  | .173  | -.520 | 320 | 2189 | -.095  | .038  | .043  | -.262 | 320 | 2240 | -.092  | .030  | .006  | -.207 |
| 320 | 2136 | -.109  | .031  | -.010 | -.370 | 320 | 2190 | -.095  | .032  | .018  | -.239 | 320 | 2241 | -.109  | .043  | .072  | -.376 |
| 320 | 2137 | -.121  | .036  | -.003 | -.377 | 320 | 2191 | -.102  | .028  | -.015 | -.239 | 320 | 2242 | -.091  | .032  | .028  | -.219 |
| 320 | 2138 | -.129  | .088  | .283  | -.583 | 320 | 2192 | -.112  | .040  | .055  | -.262 | 320 | 2243 | -.097  | .029  | .013  | -.278 |
| 320 | 2140 | -.105  | .035  | .021  | -.360 | 320 | 2193 | -.112  | .061  | .080  | -.368 | 320 | 2244 | -.069  | .028  | .028  | -.224 |
| 320 | 2141 | -.116  | .038  | -.003 | -.330 | 320 | 2194 | -.117  | .035  | .057  | -.276 | 320 | 2245 | -.066  | .028  | .040  | -.185 |
| 320 | 2142 | -.110  | .075  | .189  | -.524 | 320 | 2195 | -.067  | .030  | .094  | -.165 | 320 | 2246 | -.080  | .026  | .004  | -.214 |
| 320 | 2143 | -.110  | .047  | .047  | -.460 | 320 | 2196 | -.065  | .032  | .076  | -.188 | 320 | 2247 | -.114  | .047  | .016  | -.400 |
| 320 | 2144 | -.100  | .038  | .006  | -.290 | 320 | 2197 | -.062  | .037  | .106  | -.172 | 320 | 2248 | -.107  | .037  | .008  | -.327 |
| 320 | 2145 | -.098  | .033  | .054  | -.240 | 320 | 2198 | -.049  | .039  | .129  | -.179 | 320 | 2249 | -.096  | .030  | .023  | -.266 |
| 320 | 2146 | -.144  | .033  | -.009 | -.394 | 320 | 2199 | -.079  | .032  | .036  | -.184 | 320 | 2250 | -.107  | .031  | .006  | -.288 |
| 320 | 2147 | -.164  | .035  | -.058 | -.470 | 320 | 2200 | -.098  | .037  | .045  | -.269 | 320 | 2251 | -.096  | .028  | .031  | -.209 |
| 320 | 2148 | -.198  | .045  | -.053 | -.451 | 320 | 2201 | -.107  | .028  | -.005 | -.205 | 320 | 2252 | -.052  | .028  | .060  | -.224 |
| 320 | 2149 | -.228  | .079  | -.055 | -.716 | 320 | 2202 | -.099  | .033  | .043  | -.267 | 320 | 2253 | -.045  | .027  | .065  | -.138 |
| 320 | 2150 | -.139  | .029  | .018  | -.245 | 320 | 2203 | -.126  | .052  | .108  | -.503 | 320 | 2254 | -.088  | .025  | -.001 | -.190 |
| 320 | 2151 | -.135  | .025  | -.020 | -.259 | 320 | 2204 | -.104  | .037  | .076  | -.387 | 320 | 2255 | -.099  | .028  | .011  | -.207 |
| 320 | 2152 | -.126  | .026  | -.002 | -.216 | 320 | 2205 | -.096  | .050  | .177  | -.369 | 320 | 2256 | -.096  | .027  | .006  | -.251 |
| 320 | 2153 | -.104  | .040  | .184  | -.214 | 320 | 2206 | -.082  | .036  | .140  | -.272 | 320 | 2257 | -.127  | .037  | -.023 | -.300 |
| 320 | 2154 | -.098  | .051  | .186  | -.335 | 320 | 2207 | -.083  | .029  | .029  | -.179 | 320 | 2258 | -.078  | .030  | .048  | -.173 |
| 320 | 2155 | -.094  | .059  | .146  | -.377 | 320 | 2208 | -.178  | .090  | .087  | -.788 | 320 | 2259 | -.045  | .027  | .062  | -.124 |
| 320 | 2156 | -.106  | .054  | .061  | -.380 | 320 | 2209 | -.122  | .049  | .032  | -.531 | 320 | 2260 | -.046  | .027  | .053  | -.153 |
| 320 | 2157 | -.114  | .036  | .006  | -.311 | 320 | 2210 | -.115  | .036  | .055  | -.357 | 320 | 2261 | -.075  | .023  | .018  | -.153 |
| 320 | 2158 | -.104  | .025  | .013  | -.190 | 320 | 2211 | -.020  | .092  | .545  | -.207 | 320 | 2262 | -.083  | .025  | .026  | -.173 |
| 320 | 2159 | -.077  | .039  | .096  | -.169 | 320 | 2212 | -.182  | .120  | .348  | -.894 | 320 | 2263 | -.083  | .028  | .013  | -.173 |
| 320 | 2160 | -.080  | .052  | .111  | -.434 | 320 | 2213 | -.088  | .044  | .119  | -.281 | 320 | 2264 | -.089  | .042  | .104  | -.276 |
| 320 | 2161 | -.078  | .061  | .160  | -.595 | 320 | 2214 | -.098  | .032  | .087  | -.209 | 320 | 2265 | -.016  | .053  | .278  | -.121 |
| 320 | 2162 | -.145  | .034  | -.008 | -.290 | 320 | 2215 | -.115  | .023  | -.036 | -.214 | 330 | 2101 | -.147  | .049  | .052  | -.400 |
| 320 | 2163 | -.142  | .042  | .051  | -.382 | 320 | 2216 | -.028  | .068  | .279  | -.343 | 330 | 2102 | -.156  | .063  | .046  | -.704 |
| 320 | 2164 | -.161  | .079  | .080  | -.702 | 320 | 2217 | -.143  | .056  | .175  | -.612 | 330 | 2103 | -.217  | .093  | .011  | -.731 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION II : EXISTING CONFIGURATION

PAGE A 224

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 330 | 2104 | -.141  | .043  | .041  | -.318  | 330 | 2156 | -.056  | .037  | .146  | -.176 | 330 | 2209 | -.110  | .031  | .039  | -.275 |
| 330 | 2105 | -.146  | .046  | .004  | -.416  | 330 | 2157 | -.155  | .042  | -.025 | -.393 | 330 | 2210 | -.113  | .025  | -.022 | -.260 |
| 330 | 2106 | -.240  | .088  | .025  | -.715  | 330 | 2158 | -.121  | .021  | -.046 | -.199 | 330 | 2211 | -.035  | .083  | .408  | -.189 |
| 330 | 2107 | -.060  | .097  | .427  | -.425  | 330 | 2159 | -.115  | .025  | -.016 | -.199 | 330 | 2212 | -.254  | .083  | .093  | -.710 |
| 330 | 2108 | -.135  | .032  | -.016 | -.274  | 330 | 2160 | -.101  | .035  | -.035 | -.233 | 330 | 2213 | -.120  | .043  | .050  | -.395 |
| 330 | 2109 | -.134  | .033  | -.018 | -.295  | 330 | 2161 | -.112  | .029  | -.009 | -.317 | 330 | 2214 | -.120  | .026  | -.016 | -.255 |
| 330 | 2110 | -.267  | .102  | .016  | -.818  | 330 | 2162 | -.168  | .039  | -.048 | -.382 | 330 | 2215 | -.128  | .023  | -.054 | -.235 |
| 330 | 2111 | -.023  | .083  | .349  | -.311  | 330 | 2163 | -.129  | .060  | -.098 | -.389 | 330 | 2216 | -.009  | .090  | .385  | -.337 |
| 330 | 2112 | -.141  | .031  | -.044 | -.263  | 330 | 2164 | -.171  | .068  | .028  | -.588 | 330 | 2217 | -.194  | .056  | -.013 | -.522 |
| 330 | 2113 | -.130  | .028  | -.032 | -.254  | 330 | 2165 | -.151  | .042  | .040  | -.403 | 330 | 2218 | -.156  | .049  | .039  | -.386 |
| 330 | 2114 | -.222  | .103  | .064  | -.1017 | 330 | 2166 | -.172  | .048  | -.013 | -.626 | 330 | 2219 | -.133  | .038  | .032  | -.352 |
| 330 | 2115 | -.020  | .083  | .418  | -.304  | 330 | 2167 | -.261  | .103  | .047  | -.768 | 330 | 2220 | -.040  | .048  | .159  | -.198 |
| 330 | 2116 | -.146  | .032  | -.055 | -.288  | 330 | 2168 | -.299  | .097  | .100  | -.731 | 330 | 2221 | -.176  | .054  | -.022 | -.481 |
| 330 | 2117 | -.126  | .031  | -.014 | -.261  | 330 | 2170 | -.029  | .060  | .325  | -.194 | 330 | 2222 | -.130  | .039  | .014  | -.418 |
| 330 | 2118 | -.140  | .061  | .050  | -.626  | 330 | 2171 | -.071  | .110  | .387  | -.532 | 330 | 2223 | -.144  | .033  | -.049 | -.395 |
| 330 | 2119 | -.068  | .059  | .285  | -.277  | 330 | 2172 | -.037  | .092  | .561  | -.203 | 330 | 2224 | -.106  | .036  | .014  | -.411 |
| 330 | 2120 | -.148  | .035  | -.037 | -.313  | 330 | 2173 | -.090  | .114  | .705  | -.171 | 330 | 2225 | -.093  | .024  | .013  | -.229 |
| 330 | 2121 | -.146  | .031  | .014  | -.274  | 330 | 2174 | -.046  | .106  | .600  | -.233 | 330 | 2226 | -.113  | .021  | -.042 | -.202 |
| 330 | 2122 | -.119  | .052  | .203  | -.457  | 330 | 2175 | -.120  | .066  | .109  | -.384 | 330 | 2227 | -.127  | .024  | -.043 | -.305 |
| 330 | 2123 | -.089  | .038  | .046  | -.322  | 330 | 2177 | -.120  | .039  | -.039 | -.333 | 330 | 2228 | -.122  | .025  | -.042 | -.303 |
| 330 | 2124 | -.152  | .059  | .034  | -.512  | 330 | 2178 | -.057  | .036  | .186  | -.166 | 330 | 2229 | -.107  | .023  | -.021 | -.217 |
| 330 | 2125 | -.150  | .051  | .009  | -.546  | 330 | 2179 | -.094  | .065  | .170  | -.504 | 330 | 2230 | -.101  | .025  | -.016 | -.214 |
| 330 | 2126 | -.129  | .043  | .039  | -.439  | 330 | 2180 | -.041  | .046  | .260  | -.261 | 330 | 2231 | -.107  | .024  | -.028 | -.202 |
| 330 | 2127 | -.144  | .050  | .011  | -.526  | 330 | 2181 | -.024  | .055  | .248  | -.196 | 330 | 2233 | -.089  | .024  | .003  | -.193 |
| 330 | 2128 | -.137  | .030  | -.039 | -.304  | 330 | 2182 | -.099  | .032  | .047  | -.220 | 330 | 2234 | -.087  | .025  | .013  | -.224 |
| 330 | 2129 | -.148  | .045  | -.007 | -.478  | 330 | 2183 | -.192  | .040  | .078  | -.419 | 330 | 2235 | -.085  | .022  | -.020 | -.179 |
| 330 | 2130 | -.133  | .033  | .004  | -.274  | 330 | 2184 | -.187  | .036  | -.083 | -.425 | 330 | 2236 | -.091  | .025  | .058  | -.174 |
| 330 | 2131 | -.131  | .025  | -.057 | -.261  | 330 | 2185 | -.174  | .029  | -.092 | -.309 | 330 | 2237 | -.116  | .026  | -.009 | -.238 |
| 330 | 2132 | -.134  | .028  | -.039 | -.245  | 330 | 2187 | -.157  | .037  | .016  | -.366 | 330 | 2238 | -.064  | .029  | .073  | -.188 |
| 330 | 2133 | -.152  | .040  | -.034 | -.407  | 330 | 2188 | -.076  | .030  | .055  | -.196 | 330 | 2239 | -.077  | .026  | .018  | -.179 |
| 330 | 2134 | -.134  | .035  | .089  | -.350  | 330 | 2189 | -.091  | .039  | .059  | -.266 | 330 | 2240 | -.101  | .028  | .027  | -.234 |
| 330 | 2135 | -.134  | .029  | -.034 | -.304  | 330 | 2190 | -.097  | .032  | .016  | -.248 | 330 | 2241 | -.103  | .037  | .058  | -.267 |
| 330 | 2136 | -.143  | .037  | .023  | -.425  | 330 | 2191 | -.117  | .026  | .007  | -.255 | 330 | 2242 | -.090  | .027  | .008  | -.224 |
| 330 | 2137 | -.134  | .039  | .089  | -.395  | 330 | 2192 | -.140  | .030  | -.040 | -.287 | 330 | 2243 | -.109  | .028  | .010  | -.313 |
| 330 | 2138 | -.130  | .032  | -.037 | -.274  | 330 | 2193 | -.176  | .046  | -.050 | -.433 | 330 | 2244 | -.063  | .027  | .039  | -.186 |
| 330 | 2139 | -.141  | .040  | .025  | -.398  | 330 | 2194 | -.123  | .036  | -.002 | -.298 | 330 | 2245 | -.062  | .027  | .061  | -.171 |
| 330 | 2140 | -.129  | .041  | .078  | -.357  | 330 | 2195 | -.054  | .030  | .134  | -.144 | 330 | 2246 | -.085  | .028  | .032  | -.210 |
| 330 | 2141 | -.123  | .033  | -.011 | -.333  | 330 | 2196 | -.060  | .032  | .087  | -.260 | 330 | 2247 | -.121  | .051  | .030  | -.442 |
| 330 | 2142 | -.128  | .037  | -.002 | -.314  | 330 | 2197 | -.054  | .037  | .132  | -.160 | 330 | 2248 | -.102  | .034  | .013  | -.322 |
| 330 | 2143 | -.127  | .039  | .026  | -.326  | 330 | 2198 | -.026  | .047  | .231  | -.137 | 330 | 2249 | -.098  | .027  | -.001 | -.253 |
| 330 | 2144 | -.130  | .029  | -.004 | -.289  | 330 | 2199 | -.070  | .031  | .057  | -.174 | 330 | 2250 | -.115  | .029  | -.018 | -.267 |
| 330 | 2145 | -.134  | .021  | -.074 | -.273  | 330 | 2200 | -.096  | .031  | .026  | -.264 | 330 | 2251 | -.101  | .024  | -.016 | -.183 |
| 330 | 2146 | -.149  | .025  | -.062 | -.317  | 330 | 2201 | -.079  | .029  | .030  | -.178 | 330 | 2252 | -.048  | .025  | .044  | -.150 |
| 330 | 2147 | -.156  | .034  | -.041 | -.359  | 330 | 2202 | -.126  | .037  | .021  | -.327 | 330 | 2253 | -.043  | .025  | .063  | -.128 |
| 330 | 2148 | -.122  | .029  | .019  | -.247  | 330 | 2203 | -.178  | .064  | .019  | -.567 | 330 | 2254 | -.101  | .028  | -.006 | -.226 |
| 330 | 2149 | -.141  | .032  | -.041 | -.389  | 330 | 2204 | -.131  | .040  | .007  | -.305 | 330 | 2255 | -.106  | .026  | .003  | -.219 |
| 330 | 2150 | -.135  | .021  | -.060 | -.240  | 330 | 2205 | -.118  | .063  | .116  | -.493 | 330 | 2256 | -.103  | .025  | -.006 | -.207 |
| 330 | 2151 | -.127  | .024  | .005  | -.217  | 330 | 2206 | -.097  | .037  | .016  | -.303 | 330 | 2257 | -.150  | .045  | -.013 | -.425 |
| 330 | 2152 | -.108  | .038  | .135  | -.254  | 330 | 2207 | -.085  | .026  | .014  | -.189 | 330 | 2258 | -.090  | .029  | .073  | -.207 |
| 330 | 2153 | -.119  | .031  | -.020 | -.324  | 330 | 2208 | -.243  | .095  | .014  | -.692 | 330 | 2259 | -.038  | .027  | .087  | -.124 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN  | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|--------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 330 | 2260 | -.042  | .025  | .061  | -.126  | 340 | 2147 | -.145  | .026  | -.062 | -.246 | 340 | 2200 | -.108  | .035  | .032  | -.282 |
| 330 | 2261 | -.078  | .024  | .013  | -.167  | 340 | 2148 | -.144  | .023  | -.010 | -.241 | 340 | 2201 | -.078  | .030  | .045  | -.192 |
| 330 | 2262 | -.084  | .024  | -.001 | -.164  | 340 | 2149 | -.141  | .025  | -.024 | -.269 | 340 | 2202 | -.162  | .045  | -.026 | -.431 |
| 330 | 2263 | -.080  | .026  | .010  | -.179  | 340 | 2150 | -.121  | .035  | -.049 | -.248 | 340 | 2203 | -.254  | .083  | -.067 | -.673 |
| 330 | 2264 | -.081  | .046  | .135  | -.246  | 340 | 2151 | -.162  | .040  | -.067 | -.399 | 340 | 2204 | -.177  | .048  | -.003 | -.431 |
| 330 | 2265 | -.034  | .057  | .353  | -.112  | 340 | 2152 | -.153  | .025  | -.074 | -.314 | 340 | 2205 | -.182  | .086  | -.094 | -.565 |
| 340 | 2101 | -.202  | .056  | -.020 | -.522  | 340 | 2153 | -.146  | .025  | -.060 | -.224 | 340 | 2206 | -.122  | .043  | .124  | -.323 |
| 340 | 2102 | -.199  | .074  | .036  | -.676  | 340 | 2154 | -.139  | .029  | -.027 | -.305 | 340 | 2207 | -.091  | .028  | .020  | -.212 |
| 340 | 2103 | -.356  | .145  | .003  | -1.020 | 340 | 2155 | -.131  | .025  | -.010 | -.321 | 340 | 2208 | -.314  | .095  | -.031 | -.776 |
| 340 | 2104 | -.183  | .043  | -.043 | -.415  | 340 | 2156 | -.043  | .046  | .188  | -.163 | 340 | 2209 | -.129  | .032  | -.019 | -.316 |
| 340 | 2105 | -.180  | .045  | -.032 | -.385  | 340 | 2157 | -.179  | .048  | -.008 | .406  | 340 | 2210 | -.123  | .025  | -.042 | -.240 |
| 340 | 2106 | -.411  | .142  | -.101 | -1.229 | 340 | 2158 | -.141  | .023  | -.065 | -.269 | 340 | 2211 | -.064  | .093  | .586  | -.189 |
| 340 | 2107 | .056   | .135  | .631  | -.362  | 340 | 2159 | -.136  | .021  | -.053 | -.218 | 340 | 2212 | -.289  | .080  | -.061 | .730  |
| 340 | 2108 | -.174  | .034  | -.039 | -.313  | 340 | 2160 | -.130  | .023  | -.032 | -.211 | 340 | 2213 | -.156  | .048  | -.010 | -.380 |
| 340 | 2109 | -.165  | .037  | -.057 | -.371  | 340 | 2161 | -.127  | .023  | -.046 | -.201 | 340 | 2214 | -.133  | .027  | -.056 | -.272 |
| 340 | 2110 | -.386  | .120  | -.043 | -1.011 | 340 | 2162 | -.180  | .037  | -.083 | -.347 | 340 | 2215 | -.138  | .026  | -.044 | -.235 |
| 340 | 2111 | -.061  | .114  | .673  | -.399  | 340 | 2163 | -.156  | .053  | -.086 | -.359 | 340 | 2216 | -.000  | .109  | .572  | -.438 |
| 340 | 2112 | -.187  | .031  | -.099 | -.346  | 340 | 2164 | -.228  | .077  | -.065 | -.257 | 340 | 2217 | -.252  | .071  | -.084 | -.705 |
| 340 | 2113 | -.159  | .033  | -.041 | -.348  | 340 | 2165 | -.164  | .042  | -.050 | -.394 | 340 | 2218 | -.206  | .056  | -.042 | -.489 |
| 340 | 2114 | -.310  | .124  | .029  | -1.206 | 340 | 2166 | -.176  | .040  | -.033 | -.431 | 340 | 2219 | -.168  | .040  | -.038 | -.367 |
| 340 | 2115 | .042   | .102  | .645  | -.341  | 340 | 2167 | -.307  | .121  | -.039 | -.891 | 340 | 2220 | -.058  | .058  | .213  | -.215 |
| 340 | 2116 | -.192  | .034  | -.080 | -.392  | 340 | 2168 | -.295  | .091  | -.039 | -.906 | 340 | 2221 | -.211  | .060  | -.028 | -.664 |
| 340 | 2117 | -.144  | .034  | -.011 | -.292  | 340 | 2170 | -.024  | .084  | .482  | -.168 | 340 | 2222 | -.157  | .043  | -.006 | -.351 |
| 340 | 2118 | -.178  | .080  | .059  | -.585  | 340 | 2171 | -.024  | .131  | .560  | -.588 | 340 | 2223 | -.152  | .032  | -.072 | -.300 |
| 340 | 2119 | -.085  | .072  | .506  | -.378  | 340 | 2172 | -.059  | .096  | .555  | -.159 | 340 | 2224 | -.139  | .056  | -.009 | -.558 |
| 340 | 2120 | -.162  | .034  | -.046 | -.341  | 340 | 2173 | -.060  | .098  | .696  | -.189 | 340 | 2225 | -.108  | .027  | -.011 | -.257 |
| 340 | 2121 | -.160  | .038  | .103  | -.329  | 340 | 2174 | -.032  | .095  | .539  | -.236 | 340 | 2226 | -.120  | .022  | -.040 | -.203 |
| 340 | 2122 | -.152  | .058  | .157  | -.557  | 340 | 2175 | -.168  | .052  | .140  | -.408 | 340 | 2227 | -.136  | .025  | -.060 | -.293 |
| 340 | 2123 | -.071  | .040  | .115  | -.353  | 340 | 2177 | -.174  | .040  | -.053 | -.413 | 340 | 2228 | -.149  | .027  | -.047 | -.298 |
| 340 | 2124 | -.190  | .060  | -.008 | -.715  | 340 | 2178 | -.035  | .049  | .251  | -.166 | 340 | 2229 | -.133  | .030  | -.033 | -.288 |
| 340 | 2125 | -.181  | .052  | .006  | -.436  | 340 | 2179 | -.042  | .065  | .249  | -.432 | 340 | 2230 | -.110  | .028  | -.009 | -.279 |
| 340 | 2126 | -.153  | .042  | .010  | -.413  | 340 | 2180 | -.030  | .050  | .243  | -.286 | 340 | 2231 | -.128  | .029  | -.033 | -.291 |
| 340 | 2127 | -.172  | .043  | -.013 | -.373  | 340 | 2181 | -.044  | .048  | .235  | -.180 | 340 | 2233 | -.084  | .026  | -.004 | -.228 |
| 340 | 2128 | -.169  | .033  | -.043 | -.294  | 340 | 2182 | -.102  | .032  | -.030 | -.208 | 340 | 2234 | -.092  | .029  | -.030 | -.203 |
| 340 | 2129 | -.195  | .057  | .010  | .560   | 340 | 2183 | -.176  | .036  | -.067 | -.354 | 340 | 2235 | -.091  | .022  | -.004 | -.169 |
| 340 | 2130 | -.151  | .030  | -.057 | -.334  | 340 | 2184 | -.176  | .032  | -.095 | -.417 | 340 | 2236 | -.106  | .026  | -.067 | -.194 |
| 340 | 2131 | -.162  | .033  | -.043 | -.346  | 340 | 2185 | -.178  | .031  | -.095 | -.360 | 340 | 2237 | -.122  | .030  | -.004 | -.291 |
| 340 | 2132 | -.176  | .030  | -.087 | -.332  | 340 | 2187 | -.176  | .030  | -.067 | -.311 | 340 | 2238 | -.081  | .032  | -.023 | -.230 |
| 340 | 2133 | -.193  | .043  | -.083 | -.439  | 340 | 2188 | -.059  | .040  | .128  | -.215 | 340 | 2239 | -.096  | .030  | -.001 | -.208 |
| 340 | 2134 | -.151  | .027  | -.055 | -.276  | 340 | 2189 | -.067  | .044  | .149  | -.238 | 340 | 2240 | -.115  | .030  | -.001 | -.242 |
| 340 | 2136 | -.182  | .035  | -.067 | -.373  | 340 | 2190 | -.098  | .035  | .015  | -.229 | 340 | 2241 | -.106  | .030  | -.001 | -.325 |
| 340 | 2137 | -.195  | .042  | -.064 | -.476  | 340 | 2191 | -.123  | .026  | -.033 | -.219 | 340 | 2242 | -.097  | .027  | -.016 | -.215 |
| 340 | 2138 | -.155  | .028  | -.069 | -.301  | 340 | 2192 | -.154  | .026  | .065  | -.284 | 340 | 2243 | -.123  | .029  | -.045 | -.323 |
| 340 | 2140 | -.183  | .043  | -.067 | -.404  | 340 | 2193 | -.188  | .042  | -.050 | -.371 | 340 | 2244 | -.077  | .030  | -.060 | -.189 |
| 340 | 2141 | -.156  | .045  | -.043 | -.329  | 340 | 2194 | -.146  | .044  | .050  | -.346 | 340 | 2245 | -.076  | .032  | -.030 | -.194 |
| 340 | 2142 | -.150  | .029  | -.020 | -.292  | 340 | 2195 | -.043  | .036  | .151  | -.176 | 340 | 2246 | -.109  | .032  | -.006 | -.245 |
| 340 | 2143 | -.153  | .030  | -.072 | -.375  | 340 | 2196 | -.061  | .032  | .066  | -.196 | 340 | 2247 | -.153  | .057  | -.045 | -.459 |
| 340 | 2144 | -.165  | .037  | -.046 | -.305  | 340 | 2197 | -.071  | .032  | .082  | -.210 | 340 | 2248 | -.107  | .032  | -.060 | -.269 |
| 340 | 2145 | -.139  | .047  | .027  | -.298  | 340 | 2198 | -.035  | .045  | .211  | -.178 | 340 | 2249 | -.104  | .026  | -.021 | -.208 |
| 340 | 2146 | -.131  | .038  | .030  | -.298  | 340 | 2199 | -.073  | .033  | .080  | -.171 | 340 | 2250 | -.127  | .030  | -.026 | -.276 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION N : EXISTING CONFIGURATION

PAGE A 226

| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN   | WD   | TAP   | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|---------|-----|------|--------|-------|-------|---------|------|-------|--------|-------|-------|-------|
| 340 | 2251 | -.112  | .024  | -.018 | -.196   | 350 | 2137 | -.212  | .050  | -.016 | -.468   | 350  | 2191  | -.127  | .029  | -.007 | -.246 |
| 340 | 2252 | -.064  | .030  | -.038 | -.184   | 350 | 2138 | -.177  | .026  | -.069 | -.331   | 350  | 2192  | -.174  | .028  | -.078 | -.285 |
| 340 | 2253 | -.069  | .031  | -.035 | -.220   | 350 | 2140 | -.200  | .045  | -.065 | -.440   | 350  | 2193  | -.211  | .040  | -.088 | -.457 |
| 340 | 2254 | -.130  | .028  | -.043 | -.220   | 350 | 2141 | -.151  | .042  | -.014 | -.297   | 350  | 2194  | -.174  | .040  | -.009 | -.386 |
| 340 | 2255 | -.125  | .027  | -.045 | -.235   | 350 | 2142 | -.170  | .025  | -.072 | -.308   | 350  | 2195  | -.038  | .038  | -.172 | -.140 |
| 340 | 2256 | -.113  | .027  | -.026 | -.218   | 350 | 2143 | -.166  | .023  | -.062 | -.426   | 350  | 2196  | -.063  | .035  | -.151 | -.193 |
| 340 | 2257 | -.159  | .045  | -.004 | -.366   | 350 | 2144 | -.170  | .033  | -.041 | -.422   | 350  | 2197  | -.077  | .032  | -.067 | -.218 |
| 340 | 2258 | -.110  | .027  | -.004 | -.245   | 350 | 2145 | -.150  | .035  | -.046 | -.248   | 350  | 2198  | -.046  | .046  | -.246 | -.163 |
| 340 | 2259 | -.049  | .028  | -.113 | -.162   | 350 | 2146 | -.117  | .054  | -.071 | -.309   | 350  | 2199  | -.078  | .036  | -.110 | -.218 |
| 340 | 2260 | -.054  | .028  | -.047 | -.142   | 350 | 2147 | -.158  | .030  | -.037 | -.292   | 350  | 2200  | -.132  | .043  | -.057 | -.342 |
| 340 | 2261 | -.095  | .024  | -.001 | -.189   | 350 | 2148 | -.160  | .024  | -.025 | -.257   | 350  | 2201  | -.076  | .036  | -.083 | -.193 |
| 340 | 2262 | -.091  | .026  | -.001 | -.189   | 350 | 2149 | -.157  | .025  | -.053 | -.260   | 350  | 2202  | -.195  | .049  | -.053 | -.555 |
| 340 | 2263 | -.085  | .025  | -.030 | -.162   | 350 | 2150 | -.119  | .044  | -.046 | -.292   | 350  | 2203  | -.287  | .086  | -.096 | -.702 |
| 340 | 2264 | -.094  | .049  | -.128 | -.301   | 350 | 2151 | -.199  | .055  | -.076 | -.527   | 350  | 2204  | -.198  | .047  | -.071 | -.443 |
| 340 | 2265 | -.001  | .062  | -.335 | -.155   | 350 | 2152 | -.182  | .034  | -.098 | -.403   | 350  | 2205  | -.213  | .081  | -.092 | -.578 |
| 350 | 2101 | -.223  | .052  | -.072 | -.447   | 350 | 2153 | -.165  | .024  | -.098 | -.285   | 350  | 2206  | -.148  | .042  | -.057 | -.337 |
| 350 | 2102 | -.228  | .069  | -.032 | -.739   | 350 | 2154 | -.153  | .023  | -.051 | -.253   | 350  | 2207  | -.108  | .030  | -.044 | -.289 |
| 350 | 2103 | -.440  | .128  | -.090 | -.1,041 | 350 | 2155 | -.148  | .025  | -.060 | -.248   | 350  | 2208  | -.296  | .084  | -.085 | -.838 |
| 350 | 2104 | -.215  | .039  | -.072 | -.422   | 350 | 2156 | -.002  | .065  | -.353 | -.199   | 350  | 2209  | -.150  | .030  | -.046 | -.303 |
| 350 | 2105 | -.200  | .050  | -.021 | -.542   | 350 | 2157 | -.165  | .064  | -.050 | -.154   | 350  | 2210  | -.136  | .026  | -.050 | -.340 |
| 350 | 2106 | -.486  | .141  | -.113 | -.1,173 | 350 | 2158 | -.154  | .026  | -.062 | -.269   | 350  | 2211  | -.027  | .104  | -.503 | -.250 |
| 350 | 2107 | -.129  | .133  | -.728 | -.273   | 350 | 2159 | -.154  | .022  | -.081 | -.243   | 350  | 2212  | -.299  | .081  | -.110 | -.895 |
| 350 | 2108 | -.216  | .038  | -.106 | -.422   | 350 | 2160 | -.143  | .022  | -.048 | -.384   | 350  | 2213  | -.184  | .050  | -.037 | -.454 |
| 350 | 2109 | -.214  | .062  | -.058 | -.465   | 350 | 2161 | -.141  | .023  | -.067 | -.224   | 350  | 2214  | -.149  | .032  | -.046 | -.638 |
| 350 | 2110 | -.434  | .120  | -.113 | -.076   | 350 | 2162 | -.179  | .033  | -.079 | -.363   | 350  | 2215  | -.148  | .027  | -.044 | -.353 |
| 350 | 2111 | -.090  | .116  | -.538 | -.264   | 350 | 2163 | -.179  | .043  | -.013 | -.445   | 350  | 2216  | -.001  | .123  | -.519 | -.386 |
| 350 | 2112 | -.219  | .032  | -.118 | -.373   | 350 | 2164 | -.281  | .080  | -.027 | -.635   | 350  | 2217  | -.269  | .069  | -.112 | -.622 |
| 350 | 2113 | -.175  | .038  | -.018 | -.378   | 350 | 2165 | -.181  | .050  | -.027 | -.459   | 350  | 2218  | -.231  | .054  | -.062 | -.475 |
| 350 | 2114 | -.400  | .149  | -.004 | -.1,06  | 350 | 2166 | -.177  | .034  | -.060 | -.420   | 350  | 2219  | -.195  | .043  | -.071 | -.422 |
| 350 | 2115 | -.031  | .096  | -.450 | -.299   | 350 | 2167 | -.369  | .123  | -.067 | -.1,032 | 350  | 2220  | -.084  | .062  | -.191 | -.252 |
| 350 | 2116 | -.226  | .035  | -.132 | -.401   | 350 | 2168 | -.304  | .085  | -.088 | -.807   | 350  | 2221  | -.231  | .055  | -.028 | -.613 |
| 350 | 2117 | -.154  | .039  | -.042 | -.306   | 350 | 2169 | -.013  | .097  | -.103 | -.248   | 350  | 2222  | -.185  | .044  | -.055 | -.381 |
| 350 | 2118 | -.196  | .090  | -.042 | -.753   | 350 | 2170 | -.087  | .126  | -.628 | -.429   | 350  | 2223  | -.164  | .032  | -.057 | -.353 |
| 350 | 2119 | -.109  | .061  | -.397 | -.299   | 350 | 2171 | -.103  | .113  | -.348 | -.227   | 350  | 2224  | -.205  | .080  | -.011 | -.728 |
| 350 | 2120 | -.174  | .031  | -.046 | -.282   | 350 | 2172 | -.063  | .097  | -.574 | -.177   | 350  | 2225  | -.130  | .025  | -.043 | -.266 |
| 350 | 2121 | -.169  | .039  | -.047 | -.327   | 350 | 2173 | -.011  | .076  | -.370 | -.222   | 350  | 2226  | -.131  | .022  | -.055 | -.215 |
| 350 | 2122 | -.164  | .072  | -.056 | -.617   | 350 | 2174 | -.176  | .043  | -.067 | -.356   | 350  | 2227  | -.145  | .027  | -.043 | -.285 |
| 350 | 2123 | -.039  | .044  | -.204 | -.202   | 350 | 2175 | -.169  | .036  | -.034 | -.354   | 350  | 2228  | -.173  | .029  | -.086 | -.353 |
| 350 | 2124 | -.230  | .059  | -.055 | -.570   | 350 | 2176 | -.035  | .054  | -.226 | -.217   | 350  | 2229  | -.155  | .030  | -.055 | -.273 |
| 350 | 2125 | -.221  | .059  | -.032 | -.528   | 350 | 2177 | -.000  | .074  | -.280 | -.262   | 350  | 2230  | -.120  | .025  | -.018 | -.244 |
| 350 | 2126 | -.191  | .039  | -.016 | -.392   | 350 | 2178 | -.001  | .062  | -.288 | -.192   | 350  | 2231  | -.154  | .034  | -.040 | -.443 |
| 350 | 2127 | -.203  | .039  | -.074 | -.380   | 350 | 2179 | -.045  | .046  | -.203 | -.177   | 350  | 2232  | -.092  | .030  | -.016 | -.210 |
| 350 | 2128 | -.201  | .033  | -.058 | -.350   | 350 | 2180 | -.110  | .031  | -.039 | -.208   | 350  | 2233  | -.104  | .031  | -.045 | -.205 |
| 350 | 2129 | -.236  | .063  | -.004 | -.663   | 350 | 2181 | -.176  | .036  | -.044 | -.386   | 350  | 2234  | -.110  | .021  | -.023 | -.227 |
| 350 | 2130 | -.181  | .028  | -.076 | -.315   | 350 | 2182 | -.123  | .032  | -.064 | -.317   | 350  | 2235  | -.117  | .023  | -.026 | -.193 |
| 350 | 2131 | -.196  | .032  | -.102 | -.389   | 350 | 2183 | -.176  | .030  | -.092 | -.317   | 350  | 2236  | -.124  | .030  | -.028 | -.317 |
| 350 | 2132 | -.221  | .035  | -.123 | -.466   | 350 | 2184 | -.031  | .101  | -.333 | 350     | 2237 | -.097 | .034   | -.050 | -.232 |       |
| 350 | 2133 | -.233  | .042  | -.127 | -.489   | 350 | 2185 | -.055  | .036  | -.106 | -.186   | 350  | 2238  | -.109  | .029  | -.001 | -.232 |
| 350 | 2134 | -.177  | .025  | -.102 | -.310   | 350 | 2186 | -.056  | .042  | -.140 | -.211   | 350  | 2239  | -.132  | .029  | -.023 | -.254 |
| 350 | 2136 | -.211  | .035  | -.109 | -.392   | 350 | 2187 | -.091  | .036  | -.055 | -.234   | 350  | 2240  | -.120  | .033  | -.018 | -.356 |

## APPENDIX A -- PRESSURE DATA : CONFIGURATION D : EXISTING CONFIGURATION

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| WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN | WD  | TAP  | CPMEAN | CPRMS | CPMAX | CPMIN |
|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|-----|------|--------|-------|-------|-------|
| 350 | 2242 | -.105  | .023  | -.013 | -.215 | 350 | 2250 | -.130  | .027  | -.045 | -.273 | 350 | 2258 | -.113  | .025  | -.033 | -.222 |
| 350 | 2243 | -.129  | .027  | -.030 | -.249 | 350 | 2251 | -.116  | .022  | -.030 | -.200 | 350 | 2259 | -.047  | .037  | .132  | -.149 |
| 350 | 2244 | -.093  | .029  | .025  | -.193 | 350 | 2252 | -.096  | .036  | .021  | -.266 | 350 | 2260 | -.066  | .027  | .040  | -.186 |
| 350 | 2245 | -.093  | .032  | .008  | -.227 | 350 | 2253 | -.095  | .035  | .021  | -.227 | 350 | 2261 | -.100  | .025  | -.006 | -.186 |
| 350 | 2246 | -.128  | .033  | -.006 | -.254 | 350 | 2254 | -.147  | .029  | -.057 | -.249 | 350 | 2262 | -.092  | .023  | .004  | -.174 |
| 350 | 2247 | -.186  | .064  | -.028 | -.463 | 350 | 2255 | -.131  | .028  | -.038 | -.264 | 350 | 2263 | -.088  | .026  | .028  | -.179 |
| 350 | 2248 | -.121  | .030  | .013  | -.276 | 350 | 2256 | -.112  | .026  | .021  | -.217 | 350 | 2264 | -.119  | .052  | .105  | -.344 |
| 350 | 2249 | -.110  | .023  | -.038 | -.237 | 350 | 2257 | -.149  | .040  | -.045 | -.370 | 350 | 2265 | -.020  | .070  | .326  | -.171 |