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CAVE3 — A General Transient Heat Transfer Computer Code Utilizing Eigenvectors and Eigenvalues

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Langley Research Center
Hampton, Virginia 23665

GRUMMAN AEROSPACE CORPORATION
BETHPAGE NEW YORK 11714

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Gentlemen:

Enclosed is a corrected copy of "CAVE3-A General Transient Heat Transfer Computer Code Utilizing Eigenvector and Eigenvalues". The previous copy of the report you received had an erroneous report and contract number printed on the cover. Please discard it and replace it with this corrected copy. Please accept our apologies for any inconveniences.

Sincerely,

GRUMMAN AEROSPACE CORPORATION

Dr. Kenneth A. Rathjen

Joseph V. Palmieri

Enc.

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16. Abstract

This report describes a digital computer code CAVE3 (Conduction Analysis Via Eigenvalues for Three Dimensional Geometries) which provides a convenient and economical tool for predicting the transient temperature response of structures. This code is an extension of the work done under contract NAS1-13655 for two-dimensional geometries. CAVE3 is written in FORTRAN IV and is operational on both the IBM 370/165 and CDC 6600 computers.

The method of solution is a hybrid analytical-numerical technique which utilizes eigenvalues (thermal frequencies) and eigenvectors (thermal mode vectors). The method is inherently stable, permitting large time steps even with the best of conductors with the finest of mesh sizes which can provide a factor-of-five reduction in machine time compared to conventional explicit finite difference methods when structures with small time constants are analyzed over long time periods. This code will find utility in analyzing hypersonic missile and aircraft structures which fall naturally into this class.

The code is a completely general one in that problems involving any geometry, boundary conditions and materials can be analyzed. This is made possible by requiring the user to establish the thermal network, e.g., node capacitances, conductances between nodes, etc. Dynamic storage allocation is used to minimize core storage requirements.

This report is primarily a user's manual for the CAVE3 code. Input and output formats are presented and explained. Sample problems are included which illustrate the usage of the code as well as establish the validity and accuracy of the method.

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SUMMARY

This report describes a digital computer code CAVE3 (Conduction Analysis Via Eigenvalues for Three Dimensional Geometries) which provides a convenient and economical tool for predicting the transient temperature response of structures. This code is an extension of the work done under contract NAS1-13655 for two-dimensional geometries. CAVE3 is written in FORTRAN IV and is operational on both the IBM 370/165 and CDC 6600 computers.

The method of solution is a hybrid analytical-numerical technique which utilizes eigenvalues (thermal frequencies) and eigenvectors (thermal mode vectors). The method is inherently stable, permitting large time steps even with the best of conductors with the finest of mesh sizes, which can provide a factor-of-five reduction in machine time compared to conventional explicit finite difference methods when structures with small time constants are analyzed over long time periods. This code will find utility in analyzing hypersonic missile and aircraft structures which fall naturally into this class.

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Section 1

INTRODUCTION

The computer code CAVE3 (Conduction Analysis Via Eigenvalues for Three Dimensional Geometries) provides a convenient and economical tool for predicting the transient temperature response of structures. It will find special utility in the analysis of thermal protection systems for hypersonic missiles and aircraft where the flight trajectory time is large in comparison to the time constants of the structures.

The method employed by CAVE3 to solve the partial differential heat conduction equation is a hybrid analytical-numerical (HAN) technique which was developed under a previous NASA contract NAS1-13655 (Ref. 1).

Mr. James L. Hunt, of the High Speed Aerodynamics Division, Langley Research Center, Virginia, served as the NASA technical monitor for that program.

In the HAN method, spatial deviatives are replaced by appropriate finite difference representations and the temporal derivatives are retained as ordinary derivatives. In effect the problem is subdivided into a number of uniform temperature systems or nodes that are coupled and changing in temperature. The problem is thereby specified by a set of first order, linear, ordinary differential equations whose solution is expressed in terms of eigenvectors (thermal mode vectors for the system) and eigenvalues (thermal frequencies of the system). The complete solution for a system involving N nodes contains N eigenvalues and N eigenvectors. The determination of all N eigenvalues and eigenvectors involves formidable computations for typical heat transfer problems involving hundreds of nodes - however the accuracy requirements of most problems do not require the determination of all N eigenvalues and eigenvectors. In fact, a small number say 10 or so are sufficient when the heat flux response is contained in the first few thermal modes (characteristic of materials with high thermal diffusivity) or if the response for a large number of time increments is required, which is precisely the situation in predicting the temperatures throughout the flight trajectory of a hypersonic vehicle. A reduction by a factor of five in computer time can be expected over conventional explicit finite difference codes for typical flight trajectory analyses. The savings in computer time is due to the HAN method being inherently stable and, therefore, permitting large time steps in comparison to an explicit algorithm.

This report is basically a user's manual for CAVE3. The next section discusses the overall operation and running of CAVE3 while Section 3 describes the input data format. Sections 4 and 5 present two sample problems provided by the contract monitor. These problems are used to illustrate the input data and output of CAVE3 and to establish the validity and accuracy of the code. Section 6 provides the programmer oriented documentation of CAVE3, i.e., list of subroutines, variables and logic diagrams.

Mr. Charles B. Johnson, of the High Speed Aerodynamics Division, Langley Research Center, Virginia, served as the NASA technical monitor for the program.

At Grumman, the contract was administered by the Advanced Development office, under Fred Berger, Manager of Advanced Development System Engineering. The Study Manager was Dr. Kenneth A. Rathjen. Mr. Joseph V. Palmieri developed much of the code and Mr. Michael J. Rossi developed the matrix routines.

Section 2

DESCRIPTION OF CAVE3 CODE OPERATION

This section provides an overview of the CAVE3 code capabilities, method of solution and input/output.

CAVE3 has been designed to be a completely general digital computer code for operation on the CDC 6600 and IBM 370/165 computers. Operation of CAVE3 requires the following type of information from the user:

- Initial temperatures of nodes
- Capacitance (mass times specific heat) of each node
- Conductance (and convection) links between nodes
- Radiation links between nodes
- Heat generated at a node
- Boundary conditions (e.g. adiabatic wall temperature or recovery temperature and convective heat transfer coefficient)
- Thermal properties as a function of temperature
- Initial and final time
- Time steps (which can be variable)

The user may assign any node numbering system desired; CAVE3 establishes a node labeling array that is packed to ensure efficient matrix operations. The input for CAVE3 has been designed to be totally generalized and options have been provided to minimize the amount of input. The data is structured in blocks and resides on one data file. A detailed description of the input is provided in Section 3.

The user, via input, establishes the overall core size available. CAVE3 dynamically allocates storage for the individual arrays based on the data input. In this fashion the user does not pay for excess overhead by executing a program designed for a large scale problem with fixed storage when running a smaller problem. The code is designed so that the data storage is set-up and maintained in the main program and the program flow is controlled by subroutine CAVE3. The program is modular in structure which aids the user to understand the logic and make changes if desired.

A description of each subroutine and its specific task, along with flow charts, is presented in Section 6.

The main advantage of CAVE3 over other general thermal analyzer codes is in execution time. CAVE3 will prove economical in solving transient heat conduction problems involving structures with time constants that are small compared to the time period of interest (e.g. flight trajectory). The method employed in CAVE3 is a hybrid analytical-numerical technique that is inherently stable permitting large time steps in comparison to explicit finite difference methods. It is noted that there is a significant amount of computer time required to determine the eigenvectors and eigenvalues of the solution, and therefore the method is not advantageous compared to conventional explicit schemes for problems involving a short time period (e.g. total time of interest on the order of 100 times the maximum permissible time step).

A detailed description of the method is presented in Ref. (1) and therefore only a brief overview is presented here. The transient heat conduction problem being solved is characterized by the following system of n first-order linear differential equations with constant coefficients

$$C_i \frac{dT_i}{dt} = \sum_j K_{ij} (T_j - T_i) + H_i (T_{AW,i} - T_i) + \dot{Q}_i \qquad i = 1,n \qquad \text{Eq. (1)}$$

where

C_i = thermal capacitance of node i

K_{ij} = conductive coupling between nodes i and j

T_i = temperature of node i

T_j = temperature of node j which is adjacent to node i

H_i = convective coupling between node i and the fluid (for interior nodes $H_i = 0$)

t = time

$T_{AW,i}$ = adiabatic wall temperature of the fluid in contact with node i

$\dot{Q}_i$ = heat generated at node i

There are n such coupled differential equations, one for each of the n nodes.
It is noted that radiation between nodes is considered via a linearization process described in Appendix C of Ref. (1) which leads to modified conductive and/or convective couplings.

The system of equations given in Eq. (1) has the following exact solution for a particular time-subinterval (Appendix F of Ref. (1) gives the details):

$$T_i = T_{\infty_i} + \sum_{j-1}^{n} c_{ij} \exp (\lambda_j t) \qquad \text{Eq. (2)}$$

where

T_i = temperature at node i at time t seconds into the time subinterval

$T_{\infty i}$ = steady-state temperature at node i for the particular time subinterval

c_{ij} = constants that depend on the T_{∞_i}, a set of eigenvectors of a matrix A, and the temperatures of the nodes at the start of the time subinterval

λ_j = the eigenvalues of a matrix A

t = time into the particular time subinterval. If τ represents the time in the flight trajectory, and if τ_s and τ_e represent the time at the start and end of a time subinterval, then the following relationships hold:

$$0 \leq t \leq \tau_e - \tau_s \text{ and } \tau = \tau_s + t \text{ for } \tau_s \leq t \leq \tau_e$$

A = symmetric matrix whose elements depend on the C_i, K_{ij} and H_i of Eq. (1). (Refer to Appendixes A and F of Ref. (1).)

Considering a thermal network with n nodes, there are then n eigenvalues and eigenvectors to be determined and used in Eq. (2). Considerable machine time can be saved by calculating only those eigenvalues and eigenvectors that are "significant" or "dominant". This was noted very aptly by Maise and Rossi in NASA CR-2435 and used by them in the CAPE code for the inverse heat transfer problem of finding the boundary conditions given the temperature history, and it was used in Ref. (1). When the series in Eq. (2) is truncated to the "dominant" terms, we obtain:

$$T_i = T_{\infty_i} + \sum_{j=1}^{ne} c_{ij} \exp (\lambda_j t) \qquad \text{Eq. (3)}$$

where ne is a number substantially less than n. It represents the number of dominant eigenvalues and eigenvectors that will be found and utilized by the code. This is an input number decided upon by the user. Appendix A of Ref. (1) discusses the effect of ne on solution accuracy.

It may be interesting to digress for a moment to note that the usual thermal analyzers take equation (1) a step further and replace the ordinary derivative $\frac{dT_i}{dt}$ with a finite difference approximation. Depending on the form of the approximation either an explicit or implicit algorithm is obtained. In the common explicit and implicit formulations, the T_i's and T_j's are taken to be constant during the time step interval. In the current HAN method, the ordinary derivative is retained and the T_i's and T_j's are treated as time-dependent variables in Eq. (1). This leads to a more accurate solution with no limitation on the time step from a stability standpoint. However, in solving Eq. (1), the HAN method treats the C_i, K_{ij}, H_i and $T_{AW,i}$ as constants. This is necessary, as discussed in Appendix E of Ref. (1), for an eigenvalue solution to exist. The technique used within CAVE3 to handle variations in these parameters is to subdivide the total time interval (e.g., the flight trajectory) and take these parameters to be piecewise constant within each time subinterval.

Thus, the single problem of determining the temperature distribution in the structure where the boundary conditions are varying is solved by considering a number of subproblems where the boundary conditions are piecewise constant. These subproblems are interconnected in that the temperature at the end of one time subinterval becomes the initial temperature for the next time subinterval. It should be noted that the time subintervals, or time steps in the HAN method, are typically of the order of seconds or tens of seconds which is probably 100 to 1000 times larger than is permissible with the explicit method.

CAVE3 uses the convective coefficient and adiabatic wall temperatures at the beginning of the time interval for the entire time interval. Therefore in selecting the time subintervals, the user should be guided by the variation in the boundary conditions with particular concern for abrupt changes that affect the convective heating. For those problems in which the temperature dependency of the material properties plays a dominant role for some reason, or if radiation heat transfer is of great importance, a second run with smaller subintervals should be made to determine the effect of subinterval selection on the predicted temperatures.

The problem solution is accomplished in CAVE3 using the following sequence:

1. Storage requirements for the various arrays are determined and allocated.

2. Initial conditions are printed out.

Then for each time step the following are done:

3. Using the temperature distribution at the start of the time step, the thermal properties of the materials are determined, followed by the capacitances and conductances for the network. This step is not exercised if the material properties are independent of temperature.

4. The convective heat transfer and conduction couplings are then modified to account for radiation if it is being considered. Appendix C of Ref. (1) gives the details of the linearized treatment that is given to the radiation heat transfer.

5. Set up a matrix A in compact form which depends on the C_i, K_{ij} and H_i of Eq. (1) (Refer to Appendix F of Ref. (1).)

6. Obtain the ne dominant eigenvectors and eigenvalues of matrix A using Jennings[2] method of simultaneous vector iteration.

7. Determine the steady-state solution to Eq. (1).

8. Calculate the c_{ij} of Eq. (3) for $i = 1, 2, \ldots, n$ and $j = 1, 2, \ldots, ne$.

9. Calculate the temperatures of the nodes at the end of the time subinterval using Eq. (3).

10. Set the initial temperatures for the next time subinterval equal to the final temperature of the present subinterval. Increment time.

11. Print temperatures.

12. Repeat steps 3 through 11 until the final time has been reached. The solution is then completed.

The following sections describe in detail the input data format for CAVE3 and two sample problems which will enable the reader to use CAVE3.

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Section 3

INPUT DATA FORMAT

The input to CAVE3 consists of one data file containing 3 control cards, 4 title cards and 9 distinct blocks of information. The unit input is general in that any set of consistent units can be used. The general format is displayed in Figure 3-1 and a more detailed set of descriptions is presented in Figure 3-2.

First Control Card:

This card consists of 11 variables describing the storage size, the degree of accuracy and the input output options. The variable NUMBND indicates the number of boundary nodes, NUMITR, the number of iterated nodes, NUMCON, the number of conductors, which includes conduction and convection links, NUMRAD, indicates the number of radiators, NUMNOD, the highest node number, NUMFLX, number of heat fluxes. These variables are used to determine the size of the data array. Care should be taken to minimize the size of each variable to truly represent the problem to be solved for excess size will cause a need for excessive core storage and increase the running time. Variable NSTR, is a storage parameter which indicates the size of the problem. The program will compute the value during execution and output the input value versus the computed value, thereby allowing the user to modify NSTR to the proper value. NEVALU is used to indicate the number of eigenvalues to be used to solve the problem. The higher the number of eigenvalues used the more accurate the solution and the longer the execution time. The user should investigate the proper size of NEVALU and minimize its size. Generally the smaller the size problem the smaller the number of eigenvalues needed to obtain the proper solution. IDIAG, is the diagnostic flag. If the user wants a more detailed output indicating the steady state solution at each time step and the dominant eigenvectors the user should set IDIAG equal to 1. Leaving IDIAG blank or setting it to 0 indicates the user wants only the temperature time history written out. IFLUX is also an output flag. If IFLUX is equal to one it indicates that the user wants the cumulative fluxes printed out for each node at each time step; a zero indicates no fluxes should be written out.

Title Block:

The user can use four cards to describe the problem (four cards are required). The title block will be printed out in the output.

Second Control Card:

This card consists of two variables KODE and NMTRIC. KODE should be left blank. NMTRIC is a flag indicating the units of input; 0 indicating degrees Fahrenheit; 1, degrees Rankine; 2, degrees Centigrade and 3, degrees Kelvin.

Third Control Card:

This card consists of variables KODE, TIME, DTIME, FTIME, and SIG. KODE again should be left blank, TIME indicates the initial time, DTIME indicates the time step, FTIME, the final time and SIG the Stefan-Boltzmann constant. If SIG is left blank or set to zero it indicates that the Stefan-Boltzmann constant has been folded into the radiation couplings.

Initial Temperature Block for Iterated Nodes:

This block of data establishes the initial temperature values for each of the iterated nodes. Variables II and JJ, the multiple parameter input are used to condense the input where the user numbering scheme allows. This Multiple Parameter Input option is explained at the end of this section.

Temperature Block for Boundary and/or Specified Temperature Nodes:

This block of data consists of the temperature values of boundary nodes and/or nodes within the structure with specified temperatures. The multiple parameter input is available to minimize the input. These values can be made to vary with time by using the proper table format (discussed in Table Block).

Capacitance Block

Within this block the node thermal capacitance (mass times specific heat) is stored in the CAP(N) array for each node N. Again the multiple parameter option is available.

Conductance Block

The nodal conductance (and convection) values are contained in this block of data. The program requires a conductance sequence number N, the two node numbers I and J that are linked and the conductance value COND(N). The conductance value represents an overall UA and therefore is associated with both conduction and convection links. Note the link need only be established in one direction i.e., if a conductor is input from node 6 to 12 it need not be listed again from 12 to 6.

Radiation Coupling Block

The radiation links are stored in this block of data. Similar to the conductance block, N represents the radiation sequence number, followed by I and J the node numbers connected by the radiation link, followed by the radiation coupling value. (As with the conductor links it should only be input once.) This value can contain the Stefan-Boltzmann constant or can be computed without it, but the SIG flag must indicate which option the user selected.

Heat Source Block

The heat source or sinks are stored in this block. The heat source sequence number (N) should be input followed by (I) the number of the node to which the source is applied and $\dot{Q}(I)$, the heat source value.

Conductor Constant Block

This block contains the parameter $A/\Delta X$, the conductor constant. This parameter is used when adjusting the conductance to represent the effect of changing thermal properties. The symbol A represents the cross sectional area perpendicular to the flow of heat. The ΔX term represents the distance from the node center to the node boundary. The parameter is stored as a function of the conductor number it is associated with (N). DIS1(N) represents the value of the constant associated with the node from which the conductance is emanating from. DIS2(N) represents the value of the constant associated with node to which the conductance is emanating to. Figure 3-3 is presented to demonstrate the computation of the conductance term and the geometric positions of variables A and ΔX.

Table Block

The table format is simple and permits convenient manipulation. Tables are assigned consecutive table numbers according to their position in the input data array. Each table starts with a header card specifying the table dimensions, i.e., the number of values of the independent variable and the number of dependent variables, followed by a table index which indicates the type of table, and then an optional title. A list of table types and their descriptions are listed in Figure 3-2 in the Table Block section and explained below. The values of the independent variable are specified on the next card. These values are listed consecutively, up to 7 per line as required. The dependent variables follow with all values of each variable being specified consecutively. The tables make no use of sequence numbers to identify variables or records. No blank record or delimeter is used at the end of a table; the next table or the 11100 record (to indicate the end of the table block) follows immediately.

The LFLAG index, as mentioned previously, is used to distinguish the use of each table. The table options are broken up in seven segments. The user has the option to vary: (1) the time step as a function of time (LFLAG equal to 1), (2) the boundary temperature with time (10000 < LFLAG < 20000), (3) heat sources or sinks with time (20000 < LFLAG < 30000), (4) conductance value versus temperature (30000 < LFLAG < 40000), (5) conductance value versus time (40000 < LFLAG < 50000), (6) capacitance value versus temperature (50000 < LFLAG < 60000) and (7) thermal properties versus temperature (LFLAG = 99999). In all cases except the first and last, LFLAG also related the node number, or conductor number with the changing parameter it was associated with i.e., if node 99 was a boundary node and its temperature was a function of time the user would have input a value of 10099 for LFLAG indicating boundary temperature (node number 10099-10000) was changing with time and at every new time step a new value would be extracted from the table. If the user wants to adjust the time step he must input in the <u>first</u> table the desired time steps as a function of increment. Note the first time step is set by the initial input in control card 3. An example would be if the user input an initial DTIME equal to .001 and wanted it increased by .001 four times. The user would have put in the first table of his input a L1 = 4, L2 = 1, and LFLAG = 1 followed by a card with the increments 1., 2., 3., and 4., and finally a card with .002, .003, .004, and .005. The program would have understood this to mean the first time step should be .001, the second .002, the third .003, the fourth .004 and the fifth .005. The final LFLAG segment is used when conductivity and/or specific heat are changing with temperature. This option assumes the first dependent variable input in the table is specific heat and the second the conductivity. When this table option is activated an additional block of information has to be input. That is a node table number correspondence table. A value must be entered for each node whose property changes with time and the table number associated with the properties of that node. If all iterated node properties are represented by a single table (same material), the user can set the variable J1(1)=0 and J2(1)=table number. The program will then automatically assign the table number stored in J2(1) to all nodes.

<u>Termination Card:</u>

The last data entry must be a 11100, card indicating data termination.

First Control Card

Title Block (4 cards)

Second Control Card

Third Control Card

Initial Temperature Block for Iterated Nodes

11100

Temperature Block for Boundary and/or Fixed Temperature Nodes

11100

Capacitance Block

11100

Conductance Block

11100

Radiator Block

11100

Heat Source Block

11100

Conductor Constant Block

11100

Table Block

11100

Node/Table Information

11100

Termination

Figure 3-1. General Data Format

First Control Card (10I5)

NUMBND	=	Number of boundary nodes
NUMITR	=	Number of iterated nodes
NUMCON	=	Number of conductors
NUMRAD	=	Number of radiators
NUMNOD	=	Highest node number
NUMFLX	=	Number of fluxes
NSTR	=	Storage parameter
NEVALU	=	Number of eigenvalues
IDIAG	=	Diagnostic flag (0, no diagnostic; 1, diagnostics)
IFLUX	=	Flux option (0, fluxes not to be printed; 1, fluxes to be printed out)

Title Block

4 Title Cards (any format)

Second Control Card

KODE, NMTRIC (I5, 15X, I5)

KODE	=	0 or blank
NMTRIC	=	0, input in degrees Fahrenheit
	=	1, input in degrees Rankine
	=	2, input in degrees Centigrade
	=	3, input in degrees Kelvin

Figure 3-2. Detailed Input Description (Sheet 1 of 6)

Third Control Card

KODE, TIME, DTIME, FTIME, SIG (I5, 4E10.0)

KODE = 0 or blank

TIME = initial time

DTIME = computing interval

FTIME = end of computing time

SIG = Stefan-Boltzmann constant

Values for the Stefan-Boltzmann constant, in various units are given in the following table. It should be noted that if a zero is input or no Stefan-Boltzmann constant is input the program assumes it will be included in the radiation links.

Stefan-Boltzmann Constants

0.1714×10^{-8}	BTU/hr. - sq. ft. - $^oR^4$
5.673×10^{-12}	Watts/sq. cm. - $^oK^4$
1.355×10^{-12}	Cal/sec - sq. cm. - $^oK^4$
5.669×10^{-5}	ergs/sec - sq. cm. - $^oK^4$

Initial Temperature Block for Iterated Nodes

KODE, N, T(N), II, JJ (2I5, E10.0, 2I5)

.

.

.

11100 (I5)

KODE = 0 or blank

N = node number

T (N) = node initial temperature

II = limit for multiple parameter input

JJ = spacing for multiple parameter input

Figure 3-2. Detailed Input Description (Sheet 2 of 6)

Temperature Block for Boundary and/or Fixed Temperature Nodes

KODE, N, T (N), II, JJ (2I5, E10 0, 2I5)

.

.

.

11100 (I5)

KODE	=	0 or blank
N	=	node number
T (N)	=	boundary node temperature
II	=	limit for multiple parameter input
JJ	=	spacing for multiple parameter input

Capacitance Block (for iterated nodes)

KODE, N, CAP (N), II, JJ (2I5, E10 0, 2I5)

.

.

.

11100 (I5)

KODE	=	0 or blank	
N	=	node number	
CAP (N)	=	node capacitance	(mass x specific heat)
II	=	limit for multiple parameter input	
JJ	=	spacing for multiple parameter input	

Conductance Block

KODE, N, I, J, COND (N), II, JJ (4I5, E10.0, 2I5)

.

.

.

11100 (I5)

KODE	=	0 or blank
N	=	conductance sequence number
I	=	first connected node number
J	=	second connected node number
COND (N)	=	conductance value (overall UA)
II	=	limit for multiple parameter input
JJ	=	spacing for multiple parameter input

Figure 3-2. Detailed Input Description (Sheet 3 of 6)

Radiation Coupling Block

KODE, N, I, J, RAD(N), II, JJ (4I5, E10.0, 2I5)

.

.

.

11100 (I5)

KODE = 0 or blank

N = radiation coupling sequence number

I = first connected node number

J = second connected node number

RAD(N) = radiation coupling value (Stefan-Boltzmann constant must be input either in the second control card or in each value for radiators)

II = limit for multiple parameter input

JJ = spacing for multiple parameter input

Heat Source Block

KODE, N, I, $\dot{Q}$(I) (3I5, E10.0)

.

.

.

11100 (I5)

KODE = 0 or blank

N = heat source sequence number

I = number of node to which source is applied

$\dot{Q}$(I) = heat source value

Conductive Constant Block

KODE, N, DIS1 (N), DIS2 (N) (2I5, 2F15.5)

.

.

.

1110

KODE = 0 or blank

N = Conductor number constant is associated with

DIS1 (N) = Constant $\frac{A}{\Delta X}$ for conductor N associated with node NCOND (1, N)

DIS2 (N) = Constant $\frac{A}{\Delta X}$ for conductor N associated with node NCOND (2, N)

Figure 3-2. Detailed Input Description (Sheet 4 of 6)

Table Block

KODE, L1, L2, LFLAG, Title	(4I5, A60)
X(1), X(2), X(3), X(4), X(5), X(6), X(7)	(7E10.0)
X(8), ... X(L1)	(7E10.0)
Y1 (1), Y1 (2), Y1 (3), ... , Y1(7)	(7E10.0)
Y1(8) . . . . , Y1 (L1)	(7E10.0)
Y2(1), Y2(2), Y2(3), ... , Y2(7)	(7E 10 0)
Y2(8), ... , Y2(L1)	(7E10.0)
.	
.	
.	
YL2(1), ... ,YL2(L1)	(7E10.0)

Repeat above cards for each table with no blank or additional records between tables. Tables are numbered consecutively starting with 1 by the program.

11100 (at end of table block only) (I5)

KODE = 0, or blank

L1 = number of values of independent variable

L2 = number of dependent variables

LFLAG = index indicating type of table and node number associated with table

= 1	DTIME vs. TIME
> 10000: < 20000	Boundary Temperature vs. Time for node # = LFLAG - 10000
> 20000 < 30000	Heat Sources vs. Time for node # = LFLAG - 20000
> 30000 < 40000	Conductance vs. Temperature for node # = LFLAG - 30000
> 40000 < 50000	Conductance vs. Time for node # = LFLAG - 40000
> 50000 < 50000	Capacitance vs. Temperature for node # = LFLAG - 50000
= 99999	Variable Properties C_p(T) 1st Table K (T) 2nd Table

Node Number vs. Table Number Block

KODE, (J1(I), J2(I), I = 1, 7) I5, 7(2I5)

.

.

.

11100

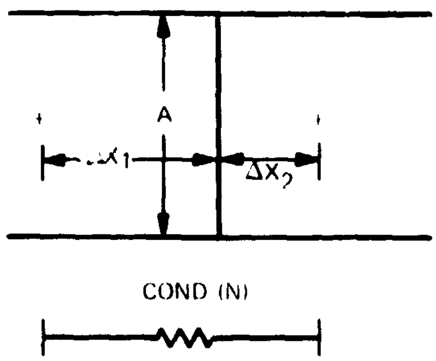
Figure 3-2. Detailed Input Description (Sheet 5 of 6)

KODE	0, or blank
J1(I)	Node number
J2(I)	Table number associated with node number J1(I)
IF J1(1) =	0 indicates all nodes are associated with J2(1) (table number)

Termination Card

KODE = 11100 Job is terminated

Figure 3-2. Detailed Input Description (Sheet 6 of 6)



$$\text{COND (N)} \quad \frac{\dfrac{K_1 A}{\Delta X_1} \times \dfrac{K_2 A}{\Delta X_2}}{\dfrac{K_1 A}{\Delta X_1} + \dfrac{K_2 A}{\Delta X_2}} \qquad \frac{K_1\ \text{DIS1(N)} \times K_2\ \text{DIS2(N)}}{K_1\ \text{DIS1(N)} + K_2\ \text{DIS2(N)}}$$

Figure 3-3. Parameter A/ ΔX

Multiple Parameter Option

This option permits specification of the same value for a series of parameters, with a single data line. For temperatures or capacitances the node number is incremented by the spacing (JJ) until the limit (II) is reached. Each node so specified is assigned the same temperature or capacitance. An example follows showing an application of this feature in the Temperature Block.

Node Number
Temperature
Kode → 0, 7, 500, 11, 1

II - Limit for multiple parameter input

JJ - Spacing for multiple parameter input

Equivalent to:

```
0, 7, 500,
0, 8, 500,
0, 9, 500,
0, 10, 500,
0, 11, 500,
```

The node number in this case is increased by one to the limit 11, spaced by one.

For conductances or radiation couplings the feature is similar except that the parameter number (N) and the two node numbers (I and J) are incremented by the spacing until the parameter number reaches the limit value. Again the same value is assigned to each parameter. An example follows showing application of this feature in the Conductance Block.

First connected node number
Conductor sequence number
Second connected node number
Conductor value

KODE → 0, 8, 13, 23, 7.2, 14, 1

II - Limit for multiple parameter input

JJ - Spacing for multiple parameter input

This single card using Multiple Parameter Input is equivalent to the following seven cards.

NOTE: The conductor sequence no., and both node numbers advance by JJ interval

0, 8, 13, 23, 7.2,
0, 9, 14, 24, 7.2,
0, 10, 15, 25, 7.2,
0, 11, 16, 26, 7.2,
0, 12, 17, 27, 7.2,
0, 13, 18, 28, 7.2,
0, 14, 19, 29, 7.2,

The conductor sequence number, the first node number and the second node number are incremented by 1 until the limit conductor is reached.

If the value of JJ (spacing) was 2, the equivalent would be:

0, 8, 13, 23, 7.2,
0, 10, 15, 25, 7.2,
0, 12, 17, 27, 7.2,
0, 14, 19, 29, 7.2,

Section 4

SAMPLE PROBLEM NO. 1

The first sample problem provided by the Technical Monitor was a Lockalloy structure with a one inch diameter perturbance. The structure is depicted in Figure 4-1. As shown, it is horseshoe shaped and symmetric about axis A. The model for this structure is comprised of a number of rectangular and circular segmented nodes. It is three layers deep except for the perturbance. The node numbering scheme was provided by the Technical Monitor. Figure 4-2 shows the external boundary conditions and material properties. Note that the heat transfer coefficients vary near the rod. A math model was created representing the structure and is highlighted in Figure 4-3. The model contains 181 iterated nodes, 2 boundary nodes, 181 capacitances, 488 conductors, 60 radiators, 488 conductor constants, a table of physical properties versus temperature and a node/table correspondence block. The first data card is used to set the core allocation for the program; the values just mentioned and the requested 18 eigenvalues for this solution are shown on this card. This input data file was created and executed on the Grumman Cyber 173 computer. The solution is displayed in Figure 4-4. Note the output option taken in this problem was the briefest one (i.e., no heat fluxes, steady-state temperatures or eigenvalues). The initial conditions and the temperatures of each node at each time step were written out. This same problem was run using the Grumman Thermal Analyzer, which employs a forward difference technique. A comparison plot is presented in Figure 4-5. The solid symbols represent the CAVE results while the open symbols represent the thermal analyzer results. The comparison between the two techniques is excellent.

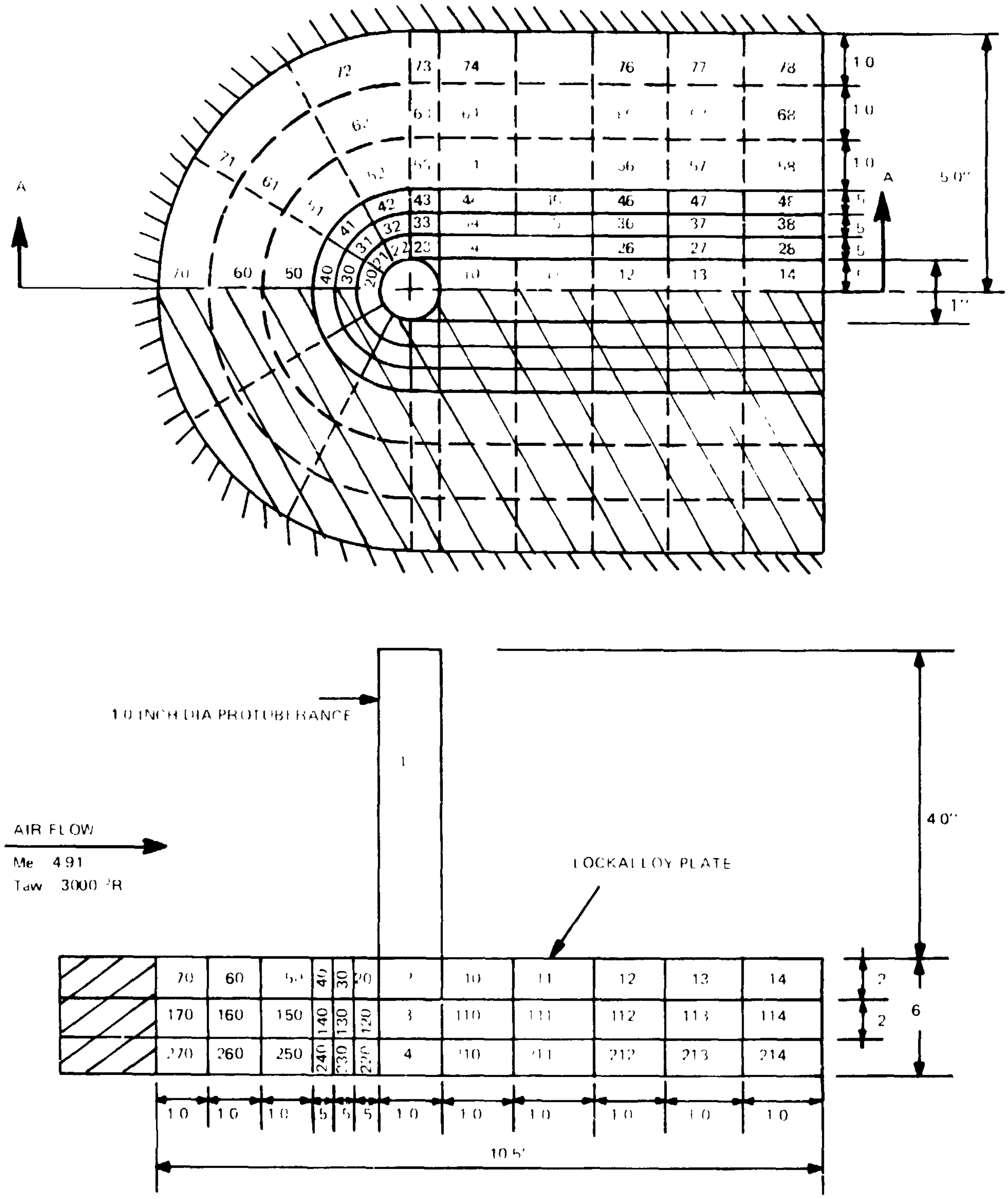


Figure 4-1. Sample Problem No. 1 Geometry Configuration

Taw = 3000 °R

Tinitial = 960°R (time = 0)

Start time = 0

Final time = 40 sec

Lockalloy Emissivity = 0.8

View Factor = 1.0

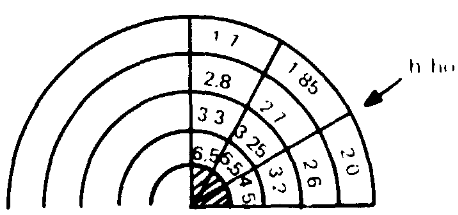
Background Temperature = 519°R

Convection Nodes Surface: 10 to 14, 23 to 28, 33 to 38
43 to 48, 53 to 58, 60 to 68
and 70 to 78 have:

h/ho = 1.0

where h_o = 24.5 BTU/hr ft^2 °R

The interference heating to the remaining surface nodes is listed below: (See NASA TND-1372)



NODE	h/ho
20	6.5
21	5.5
22	4.5
30	3.3
31	3.25
32	3.2
40	2.8
41	2.7
42	2.6
50	1.7
51	1.85
52	2.00

Physical Properties

	540°R	860°R	1060°R	1260°R
ρ(lbm/in^3)	.0756	.0756	.0756	.0756
Cp (Btu/lbm °R)	.395	.511	.548	.562
K BTU/(HR FT2 °R/FT)	123.0	99.5	89.0	81.5

Figure 4-2. Sample Problem No. 1 Boundary Conditions and Properties

```
    2  181   488    60 1000     0 6500    14
LANGLEY
    CAVE
       MODEL
       NUMBER UNE
    0     0     0     0     0     0   0
    0  0.0               .0010    .011111  1.714E-09
22200     0  0.0              0     0
    0    10  5.000E 02        0     0
    0    11  5.000E 02        0     0
    0    12  5.000E 02        0     0
    0    13  5.000E 02        0     0
    0    14  5.000E 02        0     0
    0    23  5.000E 02        0     0
    0    24  5.000E 02        0     0
    0    25  5.000E 02        0     0
    0    26  5.000E 02        0     0
    .     .      .      .     .     .
    .     .      .      .     .     .
    .     .      .      .     .     .
    0   270  5.000E 02        0     0
    0   271  5.000E 02        0     0
    0   272  5.000E 02        0     0
    0     1  5.000E 02        0     0
    0     2  5.000E 02        0     0
    0     3  5.000E 02        0     0
    0     4  5.000E 02        0     0
11100     0  0.0              0     0
22200     0  0.0              0     0
    0   998  5.900E 01        0     0
    0   999  2.540E 03        0     0
11100     0  0.0              0     0
22200     0  0.0              0     0
    0    10  2.890E-03        0     0
    0    11  2.855E-03        0     0
    0    12  2.855E-03        0     0
    0    13  2.890E-03        0     0
    0    14  2.890E-03        0     0
    0    23  1.535E-03        0     0
    0    24  3.106E-03        0     0
    0    25  3.069E-03        0     0
    0    26  3.069E-03        0     0
    0    27  3.106E-03        0     0
    0    28  3.106E-03        0     0
    0    33  1.535E-03        0     0
    .     .      .                .     .
    .     .      .                .     .
    .     .      .                .     .
```

1ST CONTROL CARD

TITLE BLOCK

2ND CONTROL CARD

3RD CONTROL CARD

INITIAL TEMPERATURE BLOCK

A 22200 CARD IS AN UNNECESSARY CARD. IT IS BEING USED AS A SPACER

BOUNDARY NODE BLOCK

CAPACITANCE BLOCK

Figure 4-3. Input File for Sample Problem No. 1 (Sheet 1 of 3)

```
    0   252 7.818E-03           0         0
    0   260 1.094E-02           0         0
    0   261 1.094E-02           0         0
    0   262 1.094E-02           0         0
    0   270 1.407E-02           0         0
    0   271 1.407E-02           0         0
    0   272 1.407E-02           0         0
    0     1 5.466E-02           0         0
    0     2 2.733E-03           0         0
    0     3 2.733E-03           0         0
    0     4 2.733E-03           0         0
11100     0 0.0                 0         0
22200     0     0     0 0.0                     0     0
    0     1    10    24 4.149E 00               0     0
    0     2    10    11 9.820E-01               0     0
    0     3    11    25 4.100E 00               0     0
    0     4    11    12 9.880E-01               0     0
    0     5    12    26 4.100E 00               0     0
    0     6    12    13 9.820E-01               0     0
    0     7    13    27 4.149E 00               0     0
    .     .     .     .     .                   .     .
    .     .     .     .     .                   .     .
    .     .     .     .     .                   .     .
    .     .     .     .     .                   .     .
    0   480   999    30 6.387E-01               0     0
    0   481   999    31 5.880E-01               0     0
    0   482   999    32 5.701E-01               0     0
    0   483   999    20 1.411E 00               0     0
    0   484   999    21 1.010E 00               0     0
    0   485   999    22 6.765E-01               0     0
    0   486   210     4 3.574E-01               0     0
    0   487   999     1 2.138E 00               0     0
    0   488     1     2 2.930E+00
11100     0     0     0 0.0                     0     0
22200     0     0     0 0.0                     0     0
    0     1   998    10 2.800E-03               0     0
    0     2   998    11 2.800E-03               0     0
    0     3   998    12 2.800E-03               0     0
    0     4   998    13 2.800E-03               0     0
    0     5   998    14 2.800E-03               0     0
    0     6   998    24 2.800E-03               0     0
    0     7   998    25 2.800E-03               0     0
    .     .     .     .     .                   .     .
    .     .     .     .     .                   .     .
    .     .     .     .     .                   .     .
```

CAPACITANCE BLOCK (first 12 rows, through 11100)

CONDUCTANCE BLOCK (from 22200 row through second 11100 row)

RADIATION BLOCK (from second 22200 row onward)

Figure 4-3. Input File for Sample Problem No. : (Sheet 2 of 3)

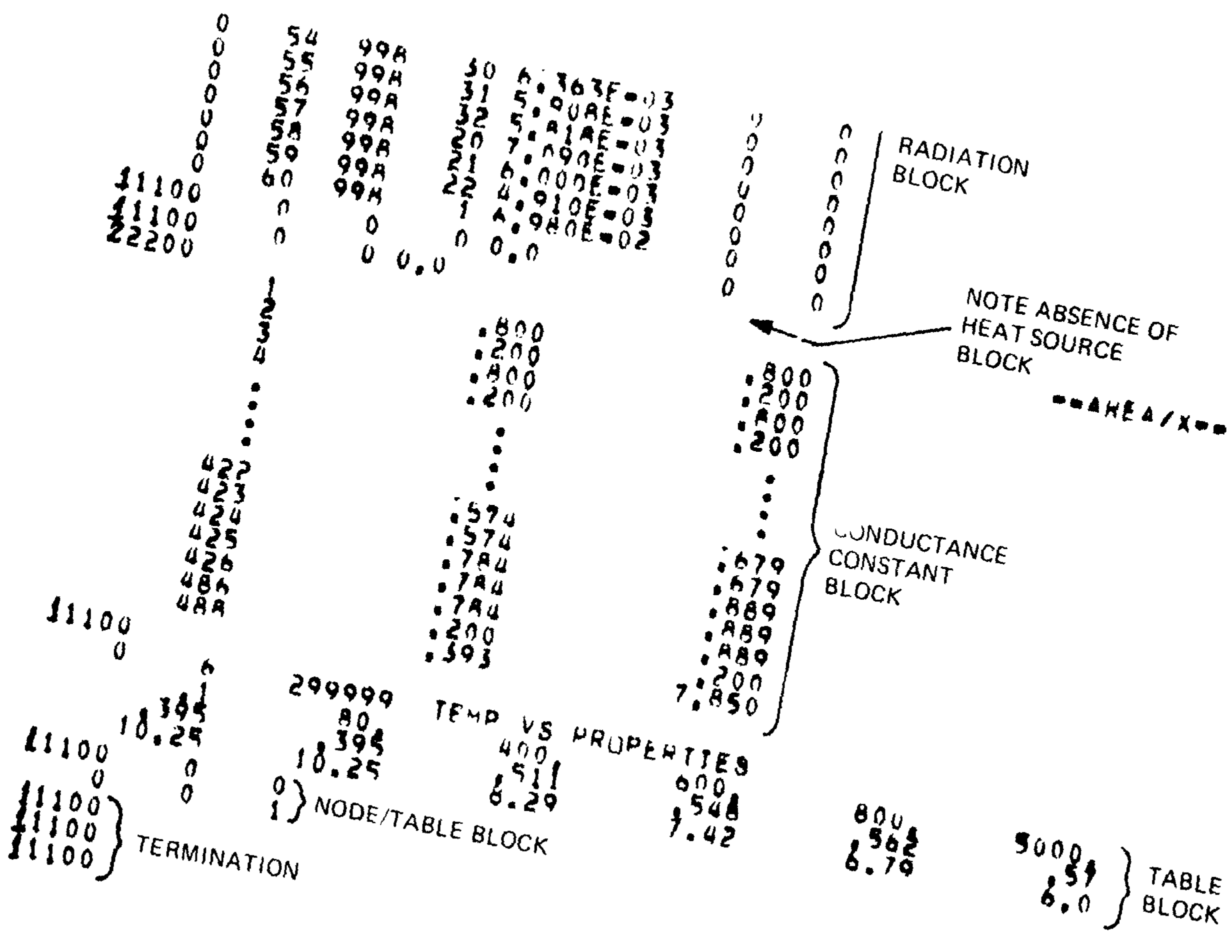


Figure 4-3. Input File for Sample Problem No. 1 (Sheet 3 of 3)

```
$STORE
NUMBND  = 7,
NUMITR  = 181,
NUMCON  = 488,
NUMTCN  = 1096,
NUMNOD  = 1000,
NUMFLX  = 0,
NSTR    = 6500,
NEVALU  = 10,
NUMTOT  = 183,
NUMSCR  = 1523,
NUMRAD  = 60,
SEND
THIS RUN REQUIRES A DATA AREA OF     18148 WORDS
         1       362       183       183       488       976       183       120      1000         0
         0       183       183        60      2192       181        10      1810      1523      6500
       183       181       183       488       488       488
         1       363       546       729      1217      2193      2376      2496      3496      3496
      3496      3679      3862      5922      6114      6295      6305      8115      9638     16138
     16321     16502     16685     17173     17661
HIGHEST MEMORY IN HEXADECIMAL IS  00011894
  183   181    10   488    60  1000     0  1523  6500
```

Figure 4-4. Output for Sample Problem No. 1 (Sheet 1 of 14)

```
LANGLEY
    CAVE
        MODEL
        NUMBER ONE
NUMBER OF ITERATED NODES     =     181
NUMBER OF BOUNDARY NODES     =       2
NUMBER OF CONDUCTION LINKS   =     488
NUMBER OF RADIATION LINKS    =      60
NUMBER OF HEAT SOURCES       =       0

TIME = 0.                DTIME =  .10000000E-02       FTIME =  .11111000E-01

INITIAL TEMPERATURES OF ITERATED NODES
 T( 10) =  .500000E+03  T( 11) =  .500000E+03  T( 12) =  .500000E+03  T( 13) =  .500000E+03  T( 14) =  .500000E+03
 T( 23) =  .500000E+03  T( 24) =  .500000E+03  T( 25) =  .500000E+03  T( 26) =  .500000E+03  T( 27) =  .500000E+03
 T( 28) =  .500000E+03  T( 33) =  .500000E+03  T( 34) =  .500000E+03  T( 35) =  .500000E+03  T( 36) =  .500000E+03
 T( 37) =  .500000E+03  T( 38) =  .500000E+03  T( 43) =  .500000E+03  T( 44) =  .500000E+03  T( 45) =  .500000E+03
 T( 46) =  .500000E+03  T( 47) =  .500000E+03  T( 48) =  .500000E+03  T( 53) =  .500000E+03  T( 54) =  .500000E+03
 T( 55) =  .500000E+03  T( 56) =  .500000E+03  T( 57) =  .500000E+03  T( 58) =  .500000E+03  T( 63) =  .500000E+03
 T( 64) =  .500000E+03  T( 65) =  .500000E+03  T( 66) =  .500000E+03  T( 67) =  .500000E+03  T( 68) =  .500000E+03
 T( 73) =  .500000E+03  T( 74) =  .500000E+03  T( 75) =  .500000E+03  T( 76) =  .500000E+03  T( 77) =  .500000E+03
 T( 78) =  .500000E+03  T(110) =  .500000E+03  T(111) =  .500000E+03  T(112) =  .500000E+03  T(113) =  .500000E+03
 T(114) =  .500000E+03  T(123) =  .500000E+03  T(124) =  .500000E+03  T(125) =  .500000E+03  T(126) =  .500000E+03
 T(127) =  .500000E+03  T(128) =  .500000E+03  T(133) =  .500000E+03  T(134) =  .500000E+03  T(135) =  .500000E+03
 T(136) =  .500000E+03  T(137) =  .500000E+03  T(138) =  .500000E+03  T(143) =  .500000E+03  T(144) =  .500000E+03
 T(145) =  .500000E+03  T(146) =  .500000E+03  T(147) =  .500000E+03  T(148) =  .500000E+03  T(153) =  .500000E+03
 T(154) =  .500000E+03  T(155) =  .500000E+03  T(156) =  .500000E+03  T(157) =  .500000E+03  T(158) =  .500000E+03
 T(163) =  .500000E+03  T(164) =  .500000E+03  T(165) =  .500000E+03  T(166) =  .500000E+03  T(167) =  .500000E+03
 T(168) =  .500000E+03  T(173) =  .500000E+03  T(174) =  .500000E+03  T(175) =  .500000E+03  T(176) =  .500000E+03
 T(177) =  .500000E+03  T(178) =  .500000E+03  T(210) =  .500000E+03  T(211) =  .500000E+03  T(212) =  .500000E+03
 T(213) =  .500000E+03  T(214) =  .500000E+03  T(223) =  .500000E+03  T(224) =  .500000E+03  T(225) =  .500000E+03
 T(226) =  .500000E+03  T(227) =  .500000E+03  T(228) =  .500000E+03  T(233) =  .500000E+03  T(234) =  .500000E+03
 T(235) =  .500000E+03  T(236) =  .500000E+03  T(237) =  .500000E+03  T(238) =  .500000E+03  T(243) =  .500000E+03
 T(244) =  .500000E+03  T(245) =  .500000E+03  T(246) =  .500000E+03  T(247) =  .500000E+03  T(248) =  .500000E+03
 T(253) =  .500000E+03  T(254) =  .500000E+03  T(255) =  .500000E+03  T(256) =  .500000E+03  T(257) =  .500000E+03
 T(258) =  .500000E+03  T(263) =  .500000E+03  T(264) =  .500000E+03  T(265) =  .500000E+03  T(266) =  .500000E+03
 T(267) =  .500000E+03  T(268) =  .500000E+03  T(273) =  .500000E+03  T(274) =  .500000E+03  T(275) =  .500000E+03
 T(276) =  .500000E+03  T(277) =  .500000E+03  T(278) =  .500000E+03  T( 20) =  .500000E+03  T( 21) =  .500000E+03
 T( 22) =  .500000E+03  T( 30) =  .500000E+03  T( 31) =  .500000E+03  T( 32) =  .500000E+03  T( 40) =  .500000E+03
 T( 41) =  .500000E+03  T( 42) =  .500000E+03  T( 50) =  .500000E+03  T( 51) =  .500000E+03  T( 52) =  .500000E+03
 T( 60) =  .500000E+03  T( 61) =  .500000E+03  T( 62) =  .500000E+03  T( 70) =  .500000E+03  T( 71) =  .500000E+03
 T( 72) =  .500000E+03  T(120) =  .500000E+03  T(121) =  .500000E+03  T(122) =  .500000E+03  T(130) =  .500000E+03
 T(131) =  .500000E+03  T(132) =  .500000E+03  T(140) =  .500000E+03  T(141) =  .500000E+03  T(142) =  .500000E+03
 T(150) =  .500000E+03  T(151) =  .500000E+03  T(152) =  .500000E+03  T(160) =  .500000E+03  T(161) =  .500000E+03
 T(162) =  .500000E+03  T(170) =  .500000E+03  T(171) =  .500000E+03  T(172) =  .500000E+03  T(220) =  .500000E+03
 T(221) =  .500000E+03  T(222) =  .500000E+03  T(230) =  .500000E+03  T(231) =  .500000E+03  T(232) =  .500000E+03
 T(240) =  .500000E+03  T(241) =  .500000E+03  T(242) =  .500000E+03  T(250) =  .500000E+03  T(251) =  .500000E+03
 T(252) =  .500000E+03  T(260) =  .500000E+03  T(261) =  .500000E+03  T(262) =  .500000E+03  T(270) =  .500000E+03
 T(271) =  .500000E+03  T(272) =  .500000E+03  T(  1) =  .500000E+03  T(  2) =  .500000E+03  T(  3) =  .500000E+03
 T(  4) =  .500000E+03  T(

INITIAL TEMPERATURES OF BOUNDARY NODES
 T(998) =  .590000E+02  T(999) =  .254000E+04  T(

INITIAL THERMAL CAPACITANCES OF ITERATED NODES
CAP( 10) =  .289000E-02   CAP( 11) =  .285500E-02   CAP( 12) =  .285500E-02   CAP( 13) =  .289000E-02
CAP( 14) =  .289000E-02   CAP( 23) =  .153500E-02   CAP( 24) =  .310600E-02   CAP( 25) =  .306900E-02
CAP( 26) =  .306900E-02   CAP( 27) =  .310600E-02   CAP( 28) =  .310600E-02   CAP( 33) =  .153500E-02
```

Figure 4-4. Output for Sample Problem No. 1 (Sheet 2 of 14)

CAP(34) =	.296200E-02	CAP(35) =	.292700E-02	CAP(36) =	.292700E-02	CAP(37) =	.296200E-02
CAP(38) =	.296200E-02	CAP(43) =	.150000E-02	CAP(44) =	.303400E-02	CAP(45) =	.299800E-02
CAP(46) =	.299800E-02	CAP(47) =	.303400E-02	CAP(48) =	.303400E-02	CAP(53) =	.300000E-02
CAP(54) =	.599600E-02	CAP(55) =	.592500E-02	CAP(56) =	.592500E-02	CAP(57) =	.599600E-02
CAP(58) =	.599600E-02	CAP(63) =	.300000E-02	CAP(64) =	.606800E-02	CAP(65) =	.599600E-02
CAP(66) =	.599600E-02	CAP(67) =	.606800E-02	CAP(68) =	.606800E-02	CAP(73) =	.300000E-02
CAP(74) =	.599600E-02	CAP(75) =	.592500E-02	CAP(76) =	.592500E-02	CAP(77) =	.599600E-02
CAP(78) =	.599600E-02	CAP(110) =	.289000E-02	CAP(111) =	.285500E-02	CAP(112) =	.285500E-02
CAP(113) =	.289000E-02	CAP(114) =	.289000E-02	CAP(123) =	.150000E-02	CAP(124) =	.310600E-02
CAP(125) =	.306900E-02	CAP(126) =	.306900E-02	CAP(127) =	.310600E-02	CAP(128) =	.310600E-02
CAP(133) =	.150000E-02	CAP(134) =	.296200E-02	CAP(135) =	.292700E-02	CAP(136) =	.292700E-02
CAP(137) =	.296200E-02	CAP(138) =	.296200E-02	CAP(143) =	.150000E-02	CAP(144) =	.303400E-02
CAP(145) =	.299800E-02	CAP(146) =	.299800E-02	CAP(147) =	.303400E-02	CAP(148) =	.303400E-02
CAP(153) =	.300000E-02	CAP(154) =	.599600E-02	CAP(155) =	.592500E-02	CAP(156) =	.592500E-02
CAP(157) =	.599600E-02	CAP(158) =	.599600E-02	CAP(163) =	.300000E-02	CAP(164) =	.606800E-02
CAP(165) =	.599600E-02	CAP(166) =	.599600E-02	CAP(167) =	.606800E-02	CAP(168) =	.606800E-02
CAP(173) =	.300000E-02	CAP(174) =	.599600E-02	CAP(175) =	.592500E-02	CAP(176) =	.592500E-02
CAP(177) =	.599600E-02	CAP(178) =	.599600E-02	CAP(210) =	.289000E-02	CAP(211) =	.285500E-02
CAP(212) =	.285500E-02	CAP(213) =	.289000E-02	CAP(214) =	.289000E-02	CAP(223) =	.150000E-02
CAP(224) =	.310600E-02	CAP(225) =	.306900E-02	CAP(226) =	.306900E-02	CAP(227) =	.310600E-02
CAP(228) =	.310600E-02	CAP(233) =	.150000E-02	CAP(234) =	.296200E-02	CAP(235) =	.292700E-02
CAP(236) =	.292700E-02	CAP(237) =	.296200E-02	CAP(238) =	.296200E-02	CAP(243) =	.150000E-02
CAP(244) =	.303400E-02	CAP(245) =	.299800E-02	CAP(246) =	.299800E-02	CAP(247) =	.303400E-02
CAP(248) =	.303400E-02	CAP(253) =	.300000E-02	CAP(254) =	.599600E-02	CAP(255) =	.592500E-02
CAP(256) =	.592500E-02	CAP(257) =	.599600E-02	CAP(258) =	.599600E-02	CAP(263) =	.300000E-02
CAP(264) =	.606800E-02	CAP(265) =	.599600E-02	CAP(266) =	.599600E-02	CAP(267) =	.606800E-02
CAP(268) =	.606800E-02	CAP(273) =	.300000E-02	CAP(274) =	.599600E-02	CAP(275) =	.592500E-02
CAP(276) =	.592500E-02	CAP(277) =	.599600E-02	CAP(278) =	.599600E-02	CAP(20) =	.117300E-02
CAP(21) =	.117300E-02	CAP(22) =	.117300E-02	CAP(30) =	.195400E-02	CAP(31) =	.195400E-02
CAP(32) =	.195400E-02	CAP(40) =	.273600E-02	CAP(41) =	.273600E-02	CAP(42) =	.273600E-02
CAP(50) =	.781800E-02	CAP(51) =	.781800E-02	CAP(52) =	.781800E-02	CAP(60) =	.109400E-01
CAP(61) =	.109400E-01	CAP(62) =	.109400E-01	CAP(70) =	.140700E-01	CAP(71) =	.140700E-01
CAP(72) =	.140700E-01	CAP(120) =	.117300E-02	CAP(121) =	.117300E-02	CAP(122) =	.117300E-02
CAP(130) =	.195400E-02	CAP(131) =	.195400E-02	CAP(132) =	.195400E-02	CAP(140) =	.273600E-02
CAP(141) =	.273600E-02	CAP(142) =	.273600E-02	CAP(150) =	.781800E-02	CAP(151) =	.781800E-02
CAP(152) =	.781800E-02	CAP(160) =	.109400E-01	CAP(161) =	.109400E-01	CAP(162) =	.109400E-01
CAP(170) =	.140700E-01	CAP(171) =	.140700E-01	CAP(172) =	.140700E-01	CAP(220) =	.117300E-02
CAP(221) =	.117300E-02	CAP(222) =	.117300E-02	CAP(230) =	.195400E-02	CAP(231) =	.195400E-02
CAP(232) =	.195400E-02	CAP(240) =	.273600E-02	CAP(241) =	.273600E-02	CAP(242) =	.273600E-02
CAP(250) =	.781800E-02	CAP(251) =	.781800E-02	CAP(252) =	.781800E-02	CAP(260) =	.109400E-01
CAP(261) =	.109400E-01	CAP(262) =	.109400E-01	CAP(270) =	.140700E-01	CAP(271) =	.140700E-01
CAP(272) =	.140700E-01	CAP(1) =	.546600E-01	CAP(2) =	.273300E-02	CAP(3) =	.273300E-02
CAP(4) =	.273300E-02	CAP(					

INITIAL CONDUCTANCES

COND(1)(10- 24) =	.414900E+01	COND(2)(10- 11) =	.982000E+00	COND(3)(11- 25) =	.410000E+01
COND(4)(11- 12) =	.988000E+00	COND(5)(12- 26) =	.410000E+01	COND(6)(12- 13) =	.982000E+00
COND(7)(13- 27) =	.414900E+01	COND(8)(13- 14) =	.976200E+00	COND(9)(14- 28) =	.414900E+01
COND(10)(23- 33) =	.201500E+01	COND(11)(23- 24) =	.105600E+01	COND(12)(24- 34) =	.410000E+01
COND(13)(24- 25) =	[illegible]	COND(14)(25- 35) =	.405100E+01	COND(15)(25- 26) =	.106200E+01
COND(16)(26- 36) =	[illegible]	COND(17)(26- 27) =	.105600E+01	COND(18)(27- 37) =	.410000E+01
COND(19)(27- 28) =	[illegible]	COND(20)(28- 38) =	.410000E+01	COND(21)(33- 43) =	.205000E+01
COND(22)(33- 34) =	.100700E+01	COND(23)(34- 44) =	.414900E+01	COND(24)(34- 35) =	.100700E+01
COND(25)(35- 45) =	.410000E+01	COND(26)(35- 36) =	.101300E+01	COND(27)(36- 46) =	.410000E+01
COND(28)(36- 37) =	[illegible]	COND(29)(37- 47) =	.414900E+01	COND(30)(37- 38) =	.101100E+01
COND(31)(38- 48) =	[illegible]	COND(32)(43- 53) =	.136700E+01	COND(33)(43- 44) =	.103100E+01
COND(34)(44- 54) =	.275500E+01	COND(35)(44- 45) =	.103100E+01	COND(36)(45- 55) =	.272200E+01
COND(37)(45- 46) =	[illegible]	COND(38)(46- 56) =	.272200E+01	COND(39)(46- 47) =	.103100E+01
COND(40)(47- 57) =	.275500E+01	COND(41)(47- 48) =	.102500E+01	COND(42)(48- 58) =	.275500E+01
COND(43)(53- 63) =	.102500E+01	COND(44)(53- 54) =	.203800E+01	COND(45)(54- 64) =	.206200E+01

Figure 4-4. Output for Sample Problem No. 1 (Sheet 3 of 14)

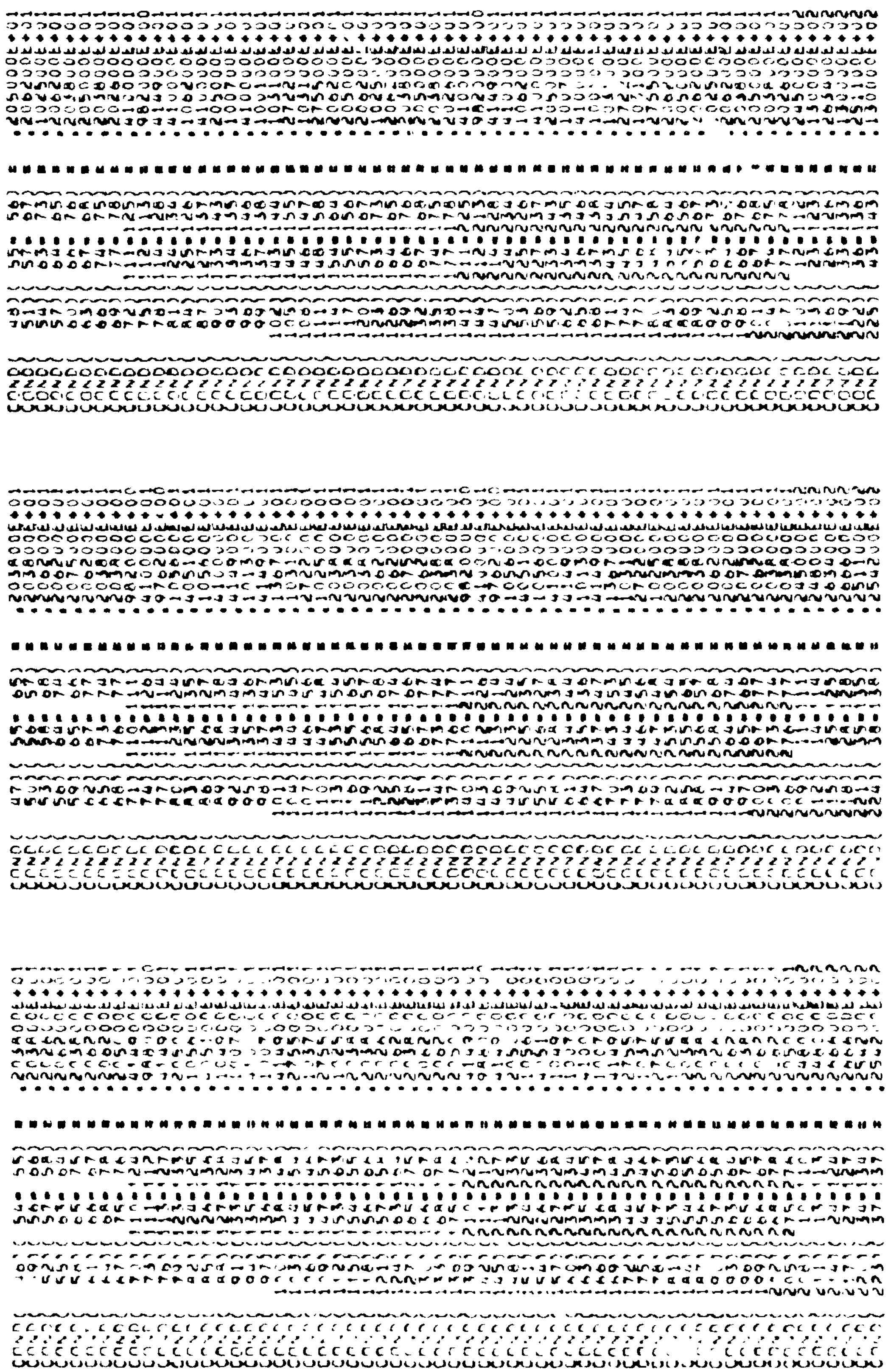


Figure 4-4. Output for Sample Problem No. 1 (Sheet 4 of 14)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

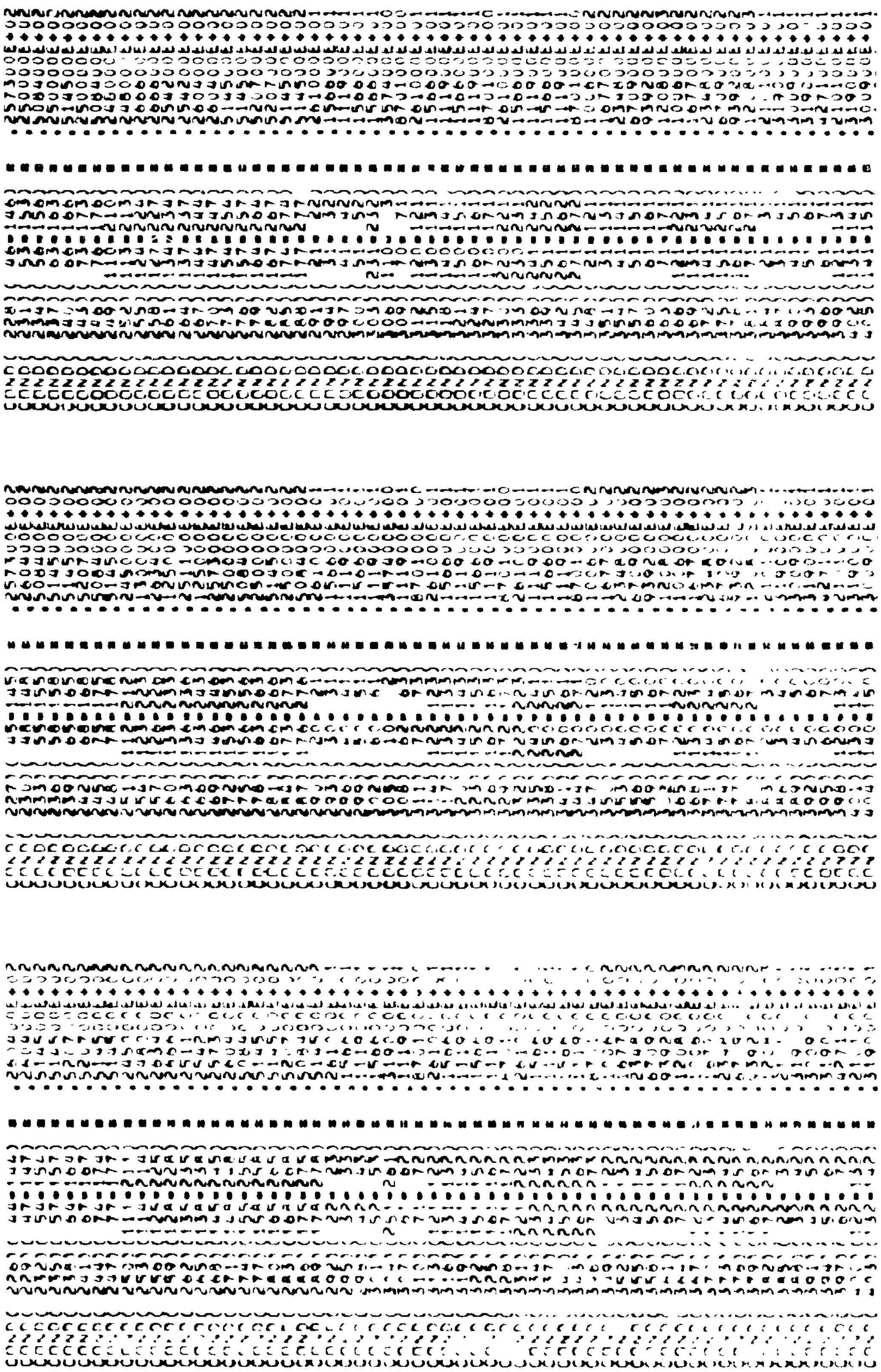


Figure 4-4. Output for Sample Problem No. 1 (Sheet 5 of 14)

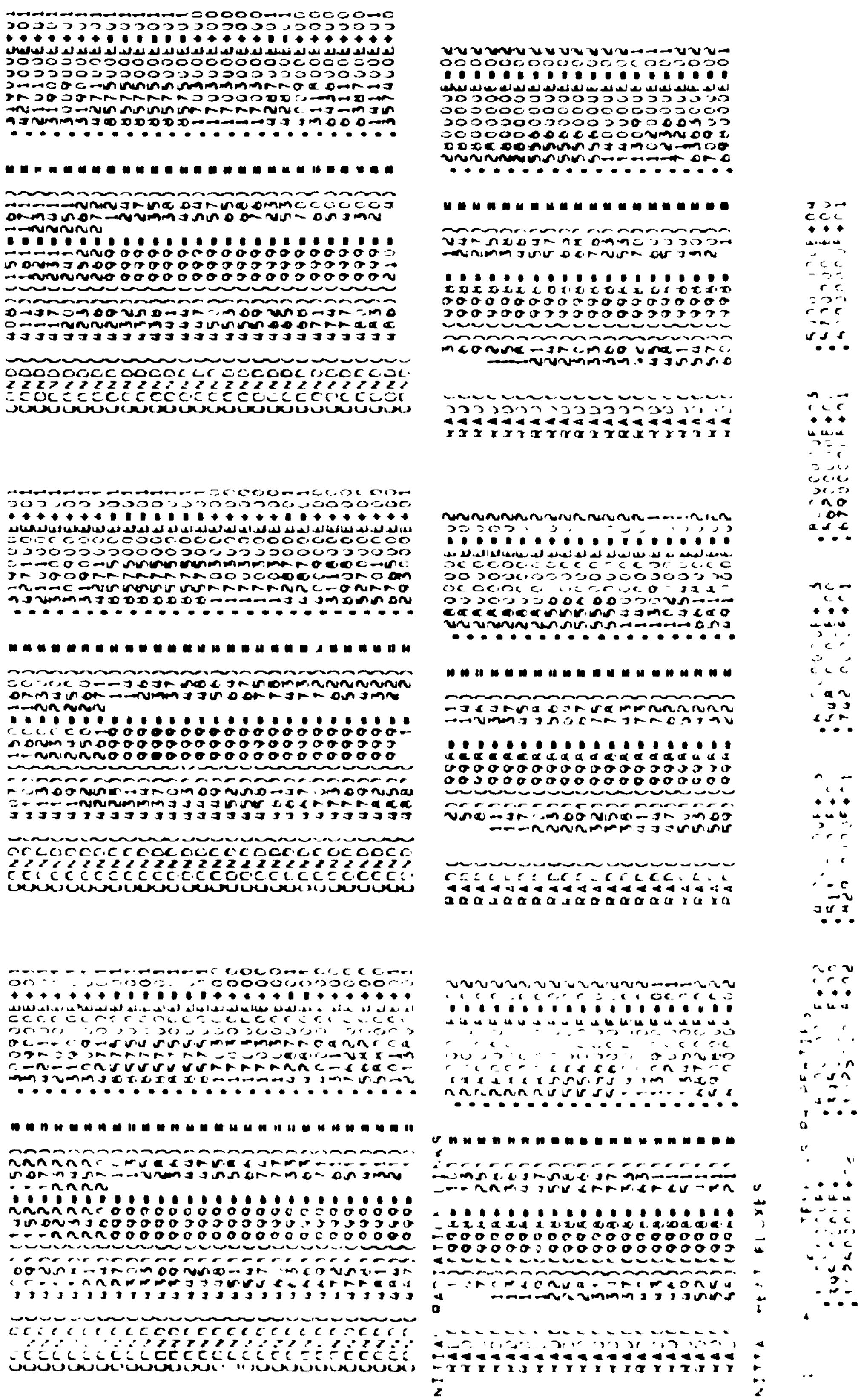


Figure 4-4. Output for Sample Problem No. 1 (Sheet 6 of 14)

RESERVED STORAGE IS 6500 REQUIRED IS 6246 WORDS
MAXIMUM ITERATION 12 OCCURRED

TIME = 0.9999990E-03

T(10) =	0.525841E 03	T(11) =	0.532816E 03	T(12) =	0.518220E 03	T(13) =	0.518623E 03	T(14) =	0.523053E 03
T(23) =	0.574863E 03	T(24) =	0.525482E 03	T(25) =	0.531306E 03	T(26) =	0.519192E 03	T(27) =	0.520724E 03
T(28) =	0.524513E 03	T(33) =	0.559978E 03	T(34) =	0.521711E 03	T(35) =	0.529831E 03	T(36) =	0.521839E 03
T(37) =	0.524776E 03	T(38) =	0.527070E 03	T(43) =	0.544285E 03	T(44) =	0.520383E 03	T(45) =	0.528527E 03
T(46) =	0.523581E 03	T(47) =	0.527548E 03	T(48) =	0.527680E 03	T(53) =	0.526990E 03	T(54) =	0.524989E 03
T(55) =	0.526830E 03	T(56) =	0.523754E 03	T(57) =	0.528173E 03	T(58) =	0.524475E 03	T(63) =	0.529661E 03
T(64) =	0.531759E 03	T(65) =	0.520096E 03	T(66) =	0.517404E 03	T(67) =	0.522025E 03	T(68) =	0.514213E 03
T(73) =	0.514371E 03	T(74) =	0.523850E 03	T(75) =	0.518762E 03	T(76) =	0.524648E 03	T(77) =	0.532861E 03
T(78) =	0.524113E 03	T(110) =	0.519895E 03	T(111) =	0.527078E 03	T(112) =	0.512438E 03	T(113) =	0.512842E 03
T(114) =	0.517286E 03	T(123) =	0.563482E 03	T(124) =	0.519493E 03	T(125) =	0.525561E 03	T(126) =	0.513416E 03
T(127) =	0.514951E 03	T(128) =	0.518734E 03	T(133) =	0.549907E 03	T(134) =	0.515744E 03	T(135) =	0.524083E 03
T(136) =	0.516074E 03	T(137) =	0.519019E 03	T(138) =	0.521320E 03	T(143) =	0.535292E 03	T(144) =	0.514468E 03
T(145) =	0.522779E 03	T(146) =	0.517825E 03	T(147) =	0.521801E 03	T(148) =	0.521933E 03	T(153) =	0.521979E 03
T(154) =	0.519283E 03	T(155) =	0.521117E 03	T(156) =	0.518032E 03	T(157) =	0.522463E 03	T(158) =	0.518755E 03
T(163) =	0.526197E 03	T(164) =	0.526148E 03	T(165) =	0.514366E 03	T(166) =	0.511666E 03	T(167) =	0.516299E 03
T(168) =	0.508466E 03	T(173) =	0.510937E 03	T(174) =	0.518219E 03	T(175) =	0.513127E 03	T(176) =	0.518929E 03
T(177) =	0.527169E 03	T(178) =	0.518393E 03	T(210) =	0.517001E 03	T(211) =	0.524217E 03	T(212) =	0.509551E 03
T(213) =	0.509957E 03	T(214) =	0.514406E 03	T(223) =	0.556253E 03	T(224) =	0.516416E 03	T(225) =	0.522693E 03
T(226) =	0.510534E 03	T(227) =	0.512073E 03	T(228) =	0.515879E 03	T(233) =	0.541026E 03	T(234) =	0.512681E 03
T(235) =	0.521208E 03	T(236) =	0.513192E 03	T(237) =	0.516146E 03	T(238) =	0.518450E 03	T(243) =	0.529915E 03
T(244) =	0.511458E 03	T(245) =	0.519907E 03	T(246) =	0.514956E 03	T(247) =	0.518933E 03	T(248) =	0.51906[illegible] 03
T(253) =	0.518905E 03	T(254) =	0.516424E 03	T(255) =	0.518259E 03	T(256) =	0.515171E 03	T(257) =	0.519611E 03
T(258) =	0.515809E 03	T(263) =	0.524292E 03	T(264) =	0.523361E 03	T(265) =	0.511502E 03	T(266) =	0.508795E 03
T(267) =	0.513439E 03	T(268) =	0.505593E 03	T(273) =	0.509079E 03	T(274) =	0.515451E 03	T(275) =	0.510165E 03
T(276) =	0.516073E 03	T(277) =	0.524325E 03	T(278) =	0.515532E 03	T([illegible]) =	0.112582E 04	T(21) =	0.100137E 04
T(22) =	0.823973E 03	T(30) =	0.823941E 03	T(31) =	0.779655E 03	T(32) =	0.706932E 03	T(40) =	0.678553E 03
T(41) =	0.664061E 03	T(42) =	0.633150E 03	T(50) =	0.553476E 03	T(51) =	0.567691E 03	T(52) =	0.576121E 03
T(60) =	0.543060E 03	T(61) =	0.541310E 03	T(62) =	0.559816E 03	T(70) =	0.520668E 03	T(71) =	0.518162E 03
T(72) =	0.517617E 03	T(120) =	0.970694E 03	T(121) =	0.877924E 03	T(122) =	0.735168E 03	T(130) =	0.761248E 03
T(131) =	0.722065E 03	T(132) =	0.654812E 03	T(140) =	0.636738E 03	T(141) =	0.624686E 03	T(142) =	0.597385E 03
T(150) =	0.536415E 03	T(151) =	0.548137E 03	T(152) =	0.554496E 03	T(160) =	0.537094E 03	T(161) =	0.53527[illegible] 03
T(162) =	0.5338[illegible] 03	T(170) =	0.514926E 03	T(171) =	0.512412E 03	T(172) =	0.511953E 03	T(220) =	0.89737[illegible] 03
T(221) =	0.818905E 03	T(222) =	0.693598E 03	T(230) =	0.728364E 03	T(231) =	0.692227E 03	T(232) =	0.629210E 03
T(240) =	0.615745E 03	T(241) =	0.604882E 03	T(242) =	0.590780E 03	T(250) =	0.527669E 03	T(251) =	0.538272E 03
T(252) =	0.543904E 03	T(260) =	0.534013E 03	T(261) =	0.53[illegible] 03	T(262) =	0.530716E 03	T(270) =	0.512050E 03
T(271) =	0.509530E 03	T(272) =	0.509103E 03	T(1) =	0.575650E 03	T(2) =	0.521925E 03	T(3) =	0.502658E 03
T(4) =	0.502031E 03	T(998) =	0.590000E 02	T(999) =	0.254000E 04	T(			

MAXIMUM ITERATION 12 OCCURRED

TIME = 0.2000000E-02

T(10) =	0.549148E 03	T(11) =	0.549304E 03	T(12) =	0.541476E 03	T(13) =	0.539303E 03	T(14) =	0.542619E 03
T(23) =	0.655532E 03	T(24) =	0.558277E 03	T(25) =	0.548814E 03	T(26) =	0.541317E 03	T(27) =	0.539962E 03
T(28) =	0.543094E 03	T(33) =	0.661126E 03	T(34) =	0.558454E 03	T(35) =	0.547881E 03	T(36) =	0.542041E 03
T(37) =	0.541991E 03	T(38) =	0.544426E 03	T(43) =	0.617120E 03	T(44) =	0.554854E 03	T(45) =	0.546270E 03
T(46) =	0.542257E 03	T(47) =	0.543606E 03	T(48) =	0.544615E 03	T(53) =	0.579006E 03	T(54) =	0.540653E 03
T(55) =	0.544033E 03	T(56) =	0.541946E 03	T(57) =	0.54[illegible] 03	T(58) =	0.542251E 03	T(63) =	0.547428E 03
T(64) =	0.547[illegible] 03	T(65) =	0.540488E 03	T(66) =	0.539[illegible] 03	T(67) =	0.542[illegible] 03	T(68) =	0.536794E 03
T(73) =	0.535[illegible] 03	T(74) =	0.541841E 03	T(75) =	0.538[illegible] 03	T(76) =	0.542[illegible] 03	T(77) =	0.547[illegible] 03
T(78) =	0.541[illegible] 03	T(110) =	0.542086E 03	T(111) =	0.543508E 03	T(112) =	0.535729E 03	T(113) =	0.533552E 03
T(114) =	0.535863E 03	T(123) =	0.544471E 03	T(124) =	0.552286E 03	T(125) =	0.543046E 03	T(126) =	0.535564E 03
T(127) =	0.534228E 03	T(128) =	0.537733E 03	T(133) =	0.563145E 03	T(134) =	0.552575E 03	T(135) =	0.542121E 03
T(136) =	0.536294E 03	T(137) =	0.536233E 03	T(138) =	0.538606E 03	T(143) =	0.560833E 03	T(144) =	0.549023E 03
T(145) =	0.540513E 03	T(146) =	0.536508E 03	T(147) =	0.537649E 03	T(148) =	0.538856E 03	T(153) =	0.549013E 03
T(154) =	0.543974E 03	T(155) =	0.538313E 03	T(156) =	0.536228E 03	T(157) =	0.538472E 03	T(158) =	0.537032E 03
T(163) =	0.543961E 03	T(164) =	0.541531E 03	T(165) =	0.534752E 03	T(166) =	0.533862E 03	T(167) =	0.536531E 03
T(168) =	0.531088E 03	T(173) =	0.531756E 03	T(174) =	0.536214E 03	T(175) =	0.532589E 03	T(176) =	0.536653E 03

Figure 1-4. Output for Sample Problem No. 1 (Sheet 7 of 14)

```
T(177) = 0.542262E 03  T(178) = 0.535584E 03  T(210) = 0.538688E 03  T(211) = 0.540618E 03  T(212) = 0.532868E 03
T(213) = 0.530690E 03  T(214) = 0.533999E 03  T(223) = 0.537670E 03  T(224) = 0.549157E 03  T(225) = 0.540174E 03
T(226) = 0.532712E 03  T(227) = 0.531345E 03  T(228) = 0.534469E 03  T(233) = 0.625476E 03  T(234) = 0.549568E 03
T(235) = 0.539254E 03  T(236) = 0.533435E 03  T(237) = 0.633367E 03  T(238) = 0.535803E 03  T(243) = 0.603293E 03
T(244) = 0.546069E 03  T(245) = 0.537647E 03  T(246) = 0.535646E 03  T(247) = 0.534783E 03  T(248) = 0.535993E 03
T(253) = 0.560024E 03  T(254) = 0.541139E 03  T(255) = 0.535468E 03  T(256) = 0.533379E 03  T(257) = 0.535619E 03
T(258) = 0.534187E 03  T(263) = 0.542064E 03  T(264) = 0.538745E 03  T(265) = 0.531909E 03  T(266) = 0.531018E 03
T(267) = 0.533685E 03  T(268) = 0.532249E 03  T(273) = 0.529917E 03  T(274) = 0.533434E 03  T(275) = 0.529748E 03
T(276) = 0.533805E 03  T(277) = 0.519414E 03  T(278) = 0.532734E 03  T( 20) = 0.128476E 04  T( 21) = 0.115144E 04
T( 22) = 0.945384E 03  T( 30) = 0.972116E 03  T( 31) = 0.916219E 03  T( 32) = 0.818739E 03  T( 40) = 0.802513E 03
T( 41) = 0.778349E 03  T( 42) = 0.728751E 03  T( 50) = 0.634661E 03  T( 51) = 0.641699E 03  T( 52) = 0.637497E 03
T( 60) = 0.561215E 03  T( 61) = 0.561018E 03  T( 62) = 0.558948E 03  T( 70) = 0.543981E 03  T( 71) = 0.541934E 03
T( 72) = 0.540912E 03  T(120) = 0.113005E 04  T(121) = 0.102552E 04  T(122) = 0.852581E 03  T(130) = 0.908366E 03
T(131) = 0.857444E 03  T(132) = 0.765898E 03  T(140) = 0.760911E 03  T(141) = 0.739056E 03  T(142) = 0.693017E 03
T(150) = 0.618056E 03  T(151) = 0.622344E 03  T(152) = 0.615950E 03  T(160) = 0.555227E 03  T(161) = 0.555043E 03
T(162) = 0.552934E 03  T(170) = 0.550273E 03  T(171) = 0.556231E 03  T(172) = 0.534767E 03  T(220) = 0.105702E 04
T(221) = 0.965526E 03  T(222) = 0.810563E 03  T(230) = 0.875562E 03  T(231) = 0.827621E 03  T(232) = 0.740454E 03
T(240) = 0.740387E 03  T(241) = 0.719603E 03  T(242) = 0.675730E 03  T(250) = 0.609641E 03  T(251) = 0.612504E 03
T(252) = 0.605513E 03  T(260) = 0.552158E 03  T(261) = 0.552093E 03  T(262) = 0.549849E 03  T(270) = 0.535424E 03
T(271) = 0.533383E 03  T(272) = 0.531964E 03  T(  1) = 0.644025E 03  T(  2) = 0.578937E 03  T(  3) = 0.509964E 03
T(  4) = 0.508707E 03  T(998) = 0.590000E 02  T(999) = 0.254000E 04  T(
                MAXIMUM ITERATION    12 OCCURRED

TIME =        0.300000E-02
T( 10) = 0.574789E 03  T( 11) = 0.568131E 03  T( 12) = 0.561582E 03  T( 13) = 0.559599E 03  T( 14) = 0.561053E 03
T( 23) = 0.724232E 03  T( 24) = 0.594303E 03  T( 25) = 0.568790E 03  T( 26) = 0.561260E 03  T( 27) = 0.559585E 03
T( 28) = 0.560969E 03  T( 33) = 0.708573E 03  T( 34) = 0.596591E 03  T( 35) = 0.568820E 03  T( 36) = 0.561610E 03
T( 37) = 0.560550E 03  T( 38) = 0.561643E 03  T( 43) = 0.677649E 03  T( 44) = 0.590737E 03  T( 45) = 0.587262E 03
T( 46) = 0.561414E 03  T( 47) = 0.561060E 03  T( 48) = 0.561621E 03  T( 53) = 0.616778E 03  T( 54) = 0.577[illegible]E 03
T( 55) = 0.564[illegible]36E 03  T( 56) = 0.560786E 03  T( 57) = 0.561284E 03  T( 58) = 0.560612E 03  T( 63) = 0.570964E 03
T( 64) = 0.565[illegible]2E 03  T( 65) = 0.560125E 03  T( 66) = 0.559188E 03  T( 67) = 0.560209E 03  T( 68) = 0.557455E 03
T( 73) = 0.555[illegible]3E 03  T( 74) = 0.559611E 03  T( 75) = 0.558334E 03  T( 76) = 0.560587E 03  T( 77) = 0.563188E 03
T( 78) = 0.559702E 03  T(110) = 0.570792E 03  T(111) = 0.563324E 03  T(112) = 0.558835E 03  T(113) = 0.558852E 03
T(11[illegible]) = 0.555303E 03  T(123) = 0.713327E 03  T(124) = 0.588208E 03  T(125) = 0.563031E 03  T(126) = 0.555518E 03
T(127) = 0.553637E 03  T(128) = 0.555220E 03  T(133) = 0.698951E 03  T(134) = 0.590723E 03  T(135) = 0.563076E 03
T(136) = 0.555867E 03  T(137) = 0.554802E 03  T(138) = 0.5[illegible]5890E 03  T(143) = 0.669015E 03  T(144) = 0.584927E 03
T(145) = 0.561523E 03  T(146) = 0.555671E 03  T(147) = 0.5[illegible]5315E 03  T(148) = 0.555870E 03  T(153) = 0.611806E 03
T(154) = 0.571982E 03  T(155) = 0.558434E 03  T(156) = 0.555076E 03  T(157) = 0.555573E 03  T(158) = 0.354931E 03
T(163) = 0.567[illegible]4E 03  T(164) = 0.563132E 03  T(165) = 0.554423E 03  T(166) = 0.553484E 03  T(167) = 0.554501E 03
T(168) = 0.551755E 03  T(173) = 0.552036E 03  T(174) = 0.553990E 03  T(175) = 0.552634E 03  T(176) = 0.554876E 03
T(177) = 0.557472E 03  T(178) = 0.553993E 03  T(210) = 0.566903E 03  T(211) = 0.559[illegible]21E 03  T(212) = 0.552973E 03
T(213) = 0.550994E 03  T(214) = 0.552440E 03  T(223) = 0.700467E 03  T(224) = 0.585048E 03  T(225) = 0.560162E 03
T(226) = 0.552658E 03  T(227) = 0.550980E 03  T(228) = 0.552359E 03  T(233) = 0.693023E 03  T(234) = 0.587721E 03
T(235) = 0.560217E 03  T(236) = 0.553009E 03  T(237) = 0.551942E 03  T(238) = 0.553029E 03  T(243) = 0.663898E 03
T(244) = 0.581981E 03  T(245) = 0.586067E 03  T(246) = 0.552815E 03  T(247) = 0.552498E 03  T(248) = 0.553012E 03
T(253) = 0.608915E 03  T(254) = 0.569156E 03  T(255) = 0.555594E 03  T(256) = 0.552232E 03  T(257) = 0.553272E 03
T(258) = 0.552060E 03  T(263) = 0.565628E 03  T(264) = 0.557356E 03  T(265) = 0.551[illegible]E 03  T(266) = 0.550641E 03
T(267) = 0.551657E 03  T(268) = 0.554891E 03  T(273) = 0.550200E 03  T(274) = 0.551214E 03  T(275) = 0.549795E 03
T(276) = 0.552036E 03  T(277) = 0.546625E 03  T(278) = 0.551149E 03  T( 20) = 0.137813E 04  T( 21) = 0.124630E 04
T( 22) = 0.103165E 04  T( 30) = 0.108004E 04  T( 31) = 0.101865E 04  T( 32) = 0.906099E 03  T( 40) = 0.899893E 03
T( 41) = 0.868431E 03  T( 42) = 0.805129E 03  T( 50) = 0.70[illegible]526E 03  T( 51) = 0.703965E 03  T( 52) = 0.690736E 03
T( 60) = 0.59[illegible]E 03  T( 61) = 0.590548E 03  T( 62) = 0.585719E 03  T( 70) = 0.566136E 03  T( 71) = 0.564788E 03
T( 72) = 0.562[illegible]E 03  T(120) = 0.123830E 04  T(121) = 0.113[illegible]E 04  T(122) = 0.944093E 03  T(130) = 0.102[illegible]E 04
T(131) = 0.963[illegible]E 03  T(132) = 0.854247E 03  T(140) = 0.859073E 03  T(141) = 0.829688E 03  T(142) = 0.769[illegible]E 03
T(150) = 0.684920E 03  T(151) = 0.684530E 03  T(152) = 0.669223E 03  T(160) = 0.585[illegible]9E 03  T(161) = 0.584655E 03
T(162) = 0.597[illegible]E 03  T(170) = 0.560436E 03  T(171) = 0.559093E 03  T(172) = 0.556865E 03  T(220) = 0.117832E 04
T(221) = 0.1076[illegible]E 04  T(222) = 0.900398E 03  T(230) = 0.999989E 03  T(231) = 0.934547E 03  T(232) = 0.829209E 03
T(240) = 0.838[illegible]E 03  T(241) = 0.810507E 03  T(242) = 0.752640E 03  T(250) = 0.676500E 03  T(251) = 0.674591E 03
T(252) = 0.658775E 03  T(260) = 0.582039E 03  T(261) = 0.581834E 03  T(262) = 0.576685E 03  T(270) = 0.557588E 03
T(271) = 0.556252E 03  T(272) = 0.554048E 03  T(  1) = 0.707841E 03  T(  2) = 0.634440E 03  T(  3) = 0.521503E 03
```

Figure 4-4. Output for Sample Problem No. 1 (Sheet [illegible] of 14)

T(4) = 0.519670E 03 T(998) = 0.590000E 02 T(999) = 0.254000E 04 T(

TIME = 0.3999997E-02

[illegible]

TIME = 0.4999995E-02

[illegible]

Figure 1-4. Output for Sample Problem No. 1 (Sheet 9 of 14)

T(226) = 0.592106E 03	T(227) = 0.588221E 03	T(228) = 0.587903E 03	T(233) = 0.802951E 03	T(234) = 0.660821E 03
T(235) = 0.606998E 03	T(236) = 0.592227E 03	T(237) = 0.588419E 03	T(238) = 0.587999E 03	T(243) = 0.765613E 03
T(244) = 0.651854E 03	T(245) = 0.604771E 03	T(246) = 0.591573E 03	T(247) = 0.588238E 03	T(248) = 0.587709E 03
T(253) = 0.688888E 03	T(254) = 0.628132E 03	T(255) = 0.590005E 03	T(256) = 0.590206E 03	T(257) = 0.587921E 03
T(258) = 0.587224E 03	T(263) = 0.618738E 03	T(264) = 0.601452E 03	T(265) = 0.591246E 03	T(266) = 0.587975E 03
T(267) = 0.587095E 03	T(268) = 0.586093E 03	T(273) = 0.593758E 03	T(274) = 0.590175E 03	T(275) = 0.587804E 03
T(276) = 0.587603E 03	T(277) = 0.587818E 03	T(278) = 0.586814E 03	T(20) = 0.149523E 04	T(21) = 0.136835E 04
T(22) = 0.115127E 04	T(30) = 0.122255E 04	T(31) = 0.115607E 04	T(32) = 0.103160E 04	T(40) = 0.103961E 04
T(41) = 0.100092E 04	T(42) = 0.923611E 03	T(50) = 0.815275E 03	T(51) = 0.810294E 03	T(52) = 0.784186E 03
T(60) = 0.656818E 03	T(61) = 0.654348E 03	T(62) = 0.644290E 03	T(70) = 0.614760E 03	T(71) = 0.613118E 03
T(72) = 0.608836E 03	T(120) = 0.137458E 04	T(121) = 0.126742E 04	T(122) = 0.107224E 04	T(130) = 0.117148E 04
T(131) = 0.110715E 04	T(132) = 0.984311E 03	T(140) = 0.100282E 04	T(141) = 0.965344E 03	T(142) = 0.889053E 03
T(150) = 0.799146E 03	T(151) = 0.791293E 03	T(152) = 0.763091E 03	T(160) = 0.650968E 03	T(161) = 0.648598E 03
T(162) = 0.638382E 03	T(170) = 0.609094E 03	T(171) = 0.6074[illegible]E 03	T(172) = 0.603229E 03	T(220) = 0.131769E 04
T(221) = 0.121934E 04	T(222) = 0.103554E 04	T(230) = 0.114482E 04	T(231) = 0.108193E 04	T(232) = 0.961238E 03
T(240) = 0.984464E 03	T(241) = 0.947533E 03	T(242) = 0.873500E 03	T(250) = 0.790964E 03	T(251) = 0.781362E 03
T(252) = 0.752847E 03	T(260) = 0.647974E 03	T(261) = 0.645933E 03	T(262) = 0.635359E 03	T(270) = 0.606265E 03
T(271) = 0.604638E 03	T(272) = 0.600447E 03	T(1) = 0.824027E 03	T(2) = 0.739638E 03	T(3) = 0.556498E 03
T(4) = 0.553690E 03	T(998) = 0.590000E 02	T(999) = 0.254000E 04	T(	

TIME = 0.5999994E-02

T(10) = 0.573725E 03	T(11) = 0.636902E 03	T(12) = 0.621019E 03	T(13) = 0.615617E 03	T(14) = 0.614612E 03
T(23) = 0.879039E 03	T(24) = 0.698717E 03	T(25) = 0.639038E 03	T(26) = 0.620606E 03	T(27) = 0.615015E 03
T(28) = 0.613979E 03	T(33) = 0.862864E 03	T(34) = 0.703938E 03	T(35) = 0.639851E 03	T(36) = 0.620619E 03
T(37) = 0.615048E 03	T(38) = 0.613952E 03	T(43) = 0.822076E 03	T(44) = 0.693748E 03	T(45) = 0.637159E 03
T(46) = 0.619732E 03	T(47) = 0.614681E 03	T(48) = 0.613573E 03	T(53) = 0.733386E 03	T(54) = 0.666119E 03
T(55) = 0.629972E 03	T(56) = 0.617824E 03	T(57) = 0.614090E 03	T(58) = 0.613032E 03	T(63) = 0.651645E 03
T(64) = 0.633389E 03	T(65) = 0.619906E 03	T(66) = 0.614827E 03	T(67) = 0.613075E 03	T(68) = 0.612190E 03
T(73) = 0.621939E 03	T(74) = 0.619153E 03	T(75) = 0.615215E 03	T(76) = 0.613779E 03	T(77) = 0.613286E 03
T(78) = 0.612623E 03	T(110) = 0.663543E 03	T(111) = 0.631093E 03	T(112) = 0.615302E 03	T(113) = 0.609892E 03
T(114) = 0.608885E 03	T(123) = 0.869008E 03	T(124) = 0.692532E 03	T(125) = 0.633327E 03	T(126) = 0.614888E 03
T(127) = 0.609293E 03	T(128) = 0.608254E 03	T(133) = 0.853838E 03	T(134) = 0.698176E 03	T(135) = 0.634169E 03
T(136) = 0.614910E 03	T(137) = 0.609327E 03	T(138) = 0.608229E 03	T(143) = 0.813868E 03	T(144) = 0.688358E 03
T(145) = 0.631475E 03	T(146) = 0.614026E 03	T(147) = 0.608963E 03	T(148) = 0.607853E 03	T(153) = 0.728661E 03
T(154) = 0.660548E 03	T(155) = 0.624312E 03	T(156) = 0.612146E 03	T(157) = 0.608408E 03	T(158) = 0.607348E 03
T(163) = 0.648245E 03	T(164) = 0.627823E 03	T(165) = 0.614238E 03	T(166) = 0.609150E 03	T(167) = 0.607392E 03
T(168) = 0.606507E 03	T(173) = 0.618559E 03	T(174) = 0.613569E 03	T(175) = 0.609539E 03	T(176) = 0.608396E 03
T(177) = 0.607601E 03	T(178) = 0.606938E 03	T(210) = 0.658693E 03	T(211) = 0.628168E 03	T(212) = 0.612457E 03
T(213) = 0.607044E 03	T(214) = 0.606033E 03	T(223) = 0.862699E 03	T(224) = 0.689275E 03	T(225) = 0.630473E 03
T(226) = 0.612049E 03	T(227) = 0.606447E 03	T(228) = 0.605405E 03	T(233) = 0.848268E 03	T(234) = 0.695221E 03
T(235) = 0.631334E 03	T(236) = 0.612069E 03	T(237) = 0.606485E 03	T(238) = 0.605381E 03	T(243) = 0.809004E 03
T(244) = 0.685172E 03	T(245) = 0.628643E 03	T(246) = 0.611186E 03	T(247) = 0.606118E 03	T(248) = 0.605008E 03
T(253) = 0.725774E 03	T(254) = 0.657765E 03	T(255) = 0.621492E 03	T(256) = 0.609317E 03	T(257) = 0.605575E 03
T(258) = 0.604520E 03	T(263) = 0.646385E 03	T(264) = 0.625067E 03	T(265) = 0.611415E 03	T(266) = 0.606322E 03
T(267) = 0.604561E 03	T(268) = 0.603682E 03	T(273) = 0.616736E 03	T(274) = 0.610814E 03	T(275) = 0.606712E 03
T(276) = 0.605265E 03	T(277) = 0.604769E 03	T(278) = 0.604111E 03	T(20) = 0.153475E 04	T(21) = 0.141062E 04
T(22) = 0.119533E 04	T(30) = 0.127244E 04	T(31) = 0.120537E 04	T(32) = 0.107892E 04	T(40) = 0.109204E 04
T(41) = 0.105146E 04	T(42) = 0.970764E 03	T(50) = 0.863481E 03	T(51) = 0.855875E 03	T(52) = 0.825481E 03
T(60) = 0.690122E 03	T(61) = 0.686530E 03	T(62) = 0.674208E 03	T(70) = 0.640685E 03	T(71) = 0.638538E 03
T(72) = 0.633146E 03	T(120) = 0.142076E 04	T(121) = 0.131482E 04	T(122) = 0.111959E 04	T(130) = 0.122420E 04
T(131) = 0.115890E 04	T(132) = 0.103356E 04	T(140) = 0.109701E 04	T(141) = 0.101743E 04	T(142) = 0.938303E 03
T(150) = 0.847642E 03	T(151) = 0.837137E 03	T(152) = 0.804627E 03	T(160) = 0.684326E 03	T(161) = 0.680853E 03
T(162) = 0.668362E 03	T(170) = 0.655045E 03	T(171) = 0.632903E 03	T(172) = 0.627556E 03	T(220) = 0.136704E 04
T(221) = 0.126920E 04	T(222) = 0.108444E 04	T(230) = 0.119902E 04	T(231) = 0.113493E 04	T(232) = 0.101145E 04
T(240) = 0.103953E 04	T(241) = 0.100037E 04	T(242) = 0.922429E 03	T(250) = 0.859590E 03	T(251) = 0.827277E 03
T(252) = 0.794508E 03	T(260) = 0.681362E 03	T(261) = 0.678256E 03	T(262) = 0.665370E 03	T(270) = 0.632225E 03
T(271) = 0.630093E 03	T(272) = 0.624780E 03	T(1) = 0.876948E 03	T(2) = 0.789173E 03	T(3) = 0.578156E 03
T(4) = 0.574944E 03	T(998) = 0.590000E 02	T(999) = 0.254000E 04	T(	

TIME = 0.6999992E-02

Figure 4-4. Output for Sample Problem No. 1 (Sheet 10 of 14)

T(10) = 0.704884E 03	T(11) = 0.661168E 03	T(12) = 0.641185E 03	T(13) = 0.633842E 03	T(14) = 0.632013E 03
T(23) = 0.919083E 03	T(24) = 0.731226E 03	T(25) = 0.663476E 03	T(26) = 0.640725E 03	T(27) = 0.633157E 03
T(28) = 0.631317E 03	T(33) = 0.903236E 03	T(34) = 0.736838E 03	T(35) = 0.664259E 03	T(36) = 0.640622E 03
T(37) = 0.633063E 03	T(38) = 0.631205E 03	T(43) = 0.861433E 03	T(44) = 0.725711E 03	T(45) = 0.661112E 03
T(46) = 0.639487E 03	T(47) = 0.632524E 03	T(48) = 0.630755E 03	T(53) = 0.768309E 03	T(54) = 0.695124E 03
T(55) = 0.652667E 03	T(56) = 0.637040E 03	T(57) = 0.631688E 03	T(58) = 0.630183E 03	T(63) = 0.679276E 03
T(64) = 0.557385E 03	T(65) = 0.640593E 03	T(66) = 0.633174E 03	T(67) = 0.630395E 03	T(68) = 0.629447E 03
T(73) = 0.645573E 03	T(74) = 0.640367E 03	T(75) = 0.634304E 03	T(76) = 0.631430E 03	T(77) = 0.630189E 03
T(78) = 0.629660 03	T(110) = 0.694208E 03	T(111) = 0.655385E 03	T(112) = 0.633492E 03	T(113) = 0.628139E 03
T(114) = 0.626307 03	T(123) = 0.909417E 03	T(124) = 0.725058E 03	T(125) = 0.657802E 03	T(126) = 0.635038E 03
T(127) = 0.627456E 03	T(128) = 0.625611E 03	T(133) = 0.894538E 03	T(134) = 0.731141E 03	T(135) = 0.658615E 03
T(136) = 0.634930E 03	T(137) = 0.627360E 03	T(138) = 0.625499E 03	T(143) = 0.853438E 03	T(144) = 0.720075E 03
T(145) = 0.655469E 03	T(146) = 0.633805E 03	T(147) = 0.626824E 03	T(148) = 0.625051E 03	T(153) = 0.763611E 03
T(154) = 0.686604E 03	T(155) = 0.647044E 03	T(156) = 0.631386E 03	T(157) = 0.626024E 03	T(158) = 0.624513E 03
T(163) = 0.675905E 03	T(164) = 0.651859E 03	T(165) = 0.634711E 03	T(166) = 0.627514E 03	T(167) = 0.624720E 03
T(168) = 0.623778E 03	T(173) = 0.642213E 03	T(174) = 0.634813E 03	T(175) = 0.628650E 03	T(176) = 0.625766E 03
T(177) = 0.624522E 03	T(178) = 0.623994E 03	T(210) = 0.689132E 03	T(211) = 0.632473E 03	T(212) = 0.632658E 03
T(213) = 0.625299E 03	T(214) = 0.623466E 03	T(223) = 0.903339E 03	T(224) = 0.721801E 03	T(225) = 0.654966E 03
T(226) = 0.632206E 03	T(227) = 0.624619E 03	T(228) = 0.622770E 03	T(233) = 0.889168E 03	T(234) = 0.728219E 03
T(235) = 0.655800E 03	T(236) = 0.632109E 03	T(237) = 0.624521E 03	T(238) = 0.622657E 03	T(243) = 0.848680E 03
T(244) = 0.717219E 03	T(245) = 0.652653E 03	T(246) = 0.630976E 03	T(247) = 0.623988E 03	T(248) = 0.622210E 03
T(253) = 0.760747E 03	T(254) = 0.686843E 03	T(255) = 0.644239E 03	T(256) = 0.628567E 03	T(257) = 0.623108E 03
T(258) = 0.621692E 03	T(263) = 0.674063E 03	T(264) = 0.649126E 03	T(265) = 0.631900E 03	T(266) = 0.624695E 03
T(267) = 0.621904E 03	T(268) = 0.620955E 03	T(273) = 0.640309E 03	T(274) = 0.632068E 03	T(275) = 0.625833E 03
T(276) = 0.622943E 03	T(277) = 0.631697E 03	T(278) = 0.621169E 03	T(20) = 0.156671E 04	T(21) = 0.144536E 04
T(22) = 0.123265E 04	T(30) = 0.113135E 04	T(31) = 0.124640E 04	T(32) = 0.111934E 04	T(40) = 0.113588E 04
T(41) = 0.109435E 04	T(42) = 0.101198E 04	T(50) = 0.906970E 03	T(51) = 0.897239E 03	T(52) = 0.863639E 03
T(60) = 0.723087E 03	T(61) = 0.718397E 03	T(62) = 0.703941E 03	T(70) = 0.667309E 03	T(71) = 0.664610E 03
T(72) = 0.658114E 03	T(120) = 0.145618E 04	T(121) = 0.135381E 04	T(122) = 0.115973E 04	T(130) = 0.12[illegible]750E 04
T(131) = 0.120201E 04	T(132) = 0.107569E 04	T(140) = 0.110239E 04	T(141) = 0.106171E 04	T(142) = 0.980679E 03
T(150) = 0.891683E 03	T(151) = 0.879045E 03	T(152) = 0.843153E 03	T(160) = 0.717358E 03	T(161) = 0.712792E 03
T(162) = 0.698137E 03	T(170) = 0.661716E 03	T(171) = 0.659018E 03	T(172) = 0.652565E 03	T(220) = 0.140705E 04
T(221) = 0.131024E 04	T(222) = 0.112592E 04	T(230) = 0.124355E 04	T(231) = 0.117912E 04	T(232) = 0.105441E 04
T(240) = 0.108570E 04	T(241) = 0.104538E 04	T(242) = 0.965376E 03	T(250) = 0.883893E 03	T(251) = 0.869384E 03
T(252) = 0.833167E 03	T(260) = 0.714427E 03	T(261) = 0.710253E 03	T(262) = 0.695168E [illegible]	T(270) = 0.658920E 03
T(271) = 0.656231E 03	T(272) = 0.649810E 03	T(1) = 0.926817E 03	T(2) = 0.837113E [illegible]	T(3) = 0.601561E 03
T(4) = 0.598003E 03	T(998) = 0.590000E 02	T(999) = 0.254000E 04	T(	

TIME = 0.799999OE-02

T(10) = 0.735387E 03	T(11) = 0.685520E 03	T(12) = 0.661469E 03	T(13) = 0.652019E 03	T(14) = 0.649312E 03
T(23) = 0.955226E 03	T(24) = 0.762459E 03	T(25) = 0.687894E 03	T(26) = 0.660959E 03	T(27) = 0.651296E 03
T(28) = 0.648571E 03	T(33) = 0.939670E 03	T(34) = 0.768256E 03	T(35) = 0.688570E 03	T(36) = 0.660720E 03
T(37) = 0.651066E 03	T(38) = 0.648384E 03	T(43) = 0.897480E 03	T(44) = 0.756424E 03	T(45) = 0.684978E 03
T(46) = 0.659330E 03	T(47) = 0.650382E 03	T(48) = 0.647865E 03	T(53) = 0.8[illegible]16[illegible]2E 03	T(54) = 0.723480E 03
T(55) = 0.675369E 03	T(56) = 0.656343E 03	T(57) = 0.649294E 03	T(58) = 0.647218E 03	T(63) = 0.706811E 03
T(64) = 0.681548E 03	T(65) = 0.660969E 03	T(66) = 0.651553E 03	T(67) = 0.647647E 03	T(68) = 0.646451E 03
T(73) = 0.669655E 03	T(74) = 0.662047E 03	T(75) = 0.651618E 03	T(76) = 0.649155E 03	T(77) = 0.647096E 03
T(78) = 0.6465[illegible]0E 03	T(110) = 0.72427[illegible]E 03	T(111) = 0.679765E 03	T(112) = 0.655808E 03	T(113) = 0.646344E 03
T(114) = 0.643634E 03	T(123) = 0.945889E 03	T(124) = 0.756305E 03	T(125) = 0.682261E 03	T(126) = 0.655304E 03
T(127) = 0.6456[illegible] 03	T(128) = 0.642891E 03	T(133) = 0.9312[illegible]E 03	T(134) = 0.[illegible]62625E 03	T(135) = 0.682968E 03
T(136) = [illegible]	T(137) = [illegible]	T(138) = [illegible]	T(143) = [illegible]	T(144) = [illegible]
T(145) = [illegible]	T(146) = 0.653681E 03	T(147) = [illegible]	T(148) = [illegible]	T(153) = [illegible]
T(154) = [illegible]	T(155) = [illegible]	T(156) = 0.650722E 03	T(157) = [illegible]	T(158) = 0.64[illegible]578E 03
T(163) = 0.703[illegible]68E 03	T(164) = 0.676063E 03	T(165) = 0.655362E 03	T(166) = 0.645924E 03	T(167) = 0.64[illegible]010E 03
T(168) = 0.6408[illegible] 03	T(173) = 0.666318E 03	T(174) = 0.656525E 03	T(175) = 0.647997E 03	T(176) = 0.643520E 03
T(177) = 0.641455E 03	T(178) = 0.640858E 03	T(210) = 0.718996E 03	T(211) = 0.676861E 03	T(212) = 0.652990E 03
T(213) = 0.643519E 03	T(214) = 0.640805E 03	T(223) = 0.940013E 03	T(224) = 0.753048E 03	T(225) = 0.679444E 03
T(226) = 0.652486E 03	T(227) = 0.642778E 03	T(228) = 0.640062E 03	T(233) = 0.926084E 03	T(234) = 0.759731E 03
T(235) = 0.680174E 03	T(236) = 0.652256E 03	T(237) = 0.642570E 03	T(238) = 0.619879E 03	T(243) = 0.885143E 03
T(244) = 0.748037E 03	T(245) = 0.676582E 03	T(246) = 0.650866E 03	T(247) = 0.641885E 03	T(248) = 0.639364E 03

Figure 4-4. Output for Sample Problem No. 1 (Sheet 11 of 11)

T(253) = 0.794166E 03	T(254) = 0.715280E 03	T(255) = 0.667000E 03	T(256) = 0.647919E 03	T(257) = 0.640845E 03
T(258) = 0.638768E 03	T(263) = 0.701642E 03	T(264) = 0.673349E 03	T(265) = 0.652967E 03	T(266) = 0.643117E 03
T(267) = 0.639198E 03	T(268) = 0.637999E 03	T(273) = 0.664517E 03	T(274) = 0.653800E 03	T(275) = 0.645107E 03
T(276) = 0.640711E 03	T(277) = 0.638641E 03	T(278) = 0.638049E 03	T(20) = 0.159322E 04	T(21) = 0.147455E 04
T(22) = 0.126497E 04	T(30) = 0.134784E 04	T(31) = 0.128130E 04	T(32) = 0.115451E 04	T(40) = 0.117378E 04
T(41) = 0.113164E 04	T(42) = 0.104826E 04	T(50) = 0.946438E 03	T(51) = 0.934982E 03	T(52) = 0.898931E 03
T(60) = 0.755376E 03	T(61) = 0.749689E 03	T(62) = 0.733421E 03	T(70) = 0.694390E 03	T(71) = 0.691083E 03
T(72) = 0.683499E 03	T(120) = 0.148927E 04	T(121) = 0.138663E 04	T(122) = 0.119452E 04	T(130) = 0.130402E 04
T(131) = 0.123871E 04	T(132) = 0.111236E 04	T(140) = 0.114163E 04	T(141) = 0.110021E 04	T(142) = 0.101798E 04
T(150) = 0.931672E 03	T(151) = 0.917334E 03	T(152) = 0.878099E 03	T(160) = 0.749720E 03	T(161) = 0.744166E 03
T(162) = 0.727679E 03	T(170) = 0.688849E 03	T(171) = 0.685539E 03	T(172) = 0.677994E 03	T(220) = 0.144031E 04
T(221) = 0.134479E 04	T(222) = 0.116187E 04	T(230) = 0.128114E 04	T(231) = 0.121675E 04	T(232) = 0.109183E 04
T(240) = 0.112561E 04	T(241) = 0.108448E 04	T(242) = 0.100319E 04	T(250) = 0.924144E 03	T(251) = 0.907926E 03
T(252) = 0.869267E 03	T(260) = 0.746828E 03	T(261) = 0.741690E 03	T(262) = 0.724743E 03	T(270) = 0.686075E 03
T(271) = 0.682777E 03	T(272) = 0.675262E 03	T(1) = 0.973738E 03	T(2) = 0.882784E 03	T(3) = 0.626099E 03
T(4) = ^.622231E 03	T(998) = 0.590000E 02	T(999) = 0.254000E 04	T(	

TIME = 0.899998E-02

T(10) = 0.765026E 03	T(11) = 0.709740E 03	T(12) = 0.681794E 03	T(13) = 0.670165E 03	T(14) = 0.666533E 03
T(23) = 0.988225E 03	T(24) = 0.792385E 03	T(25) = 0.712107E 03	T(26) = 0.681215E 03	T(27) = 0.669367E 03
T(28) = 0.665733E 03	T(33) = 0.972964E 03	T(34) = 0.798225E 03	T(35) = 0.712625E 03	T(36) = 0.680837E 03
T(37) = 0.669062E 03	T(38) = 0.665511E 03	T(43) = 0.930737E 03	T(44) = 0.785840E 03	T(45) = 0.708611E 03
T(46) = 0.679194E 03	T(47) = 0.668232E 03	T(48) = 0.664923E 03	T(53) = 0.833198E 03	T(54) = 0.751061E 03
T(55) = 0.697963E 03	T(56) = 0.675672E 03	T(57) = 0.666888E 03	T(58) = 0.664167E 03	T(63) = 0.734040E 03
T(64) = 0.705715E 03	T(65) = 0.681689E 03	T(66) = 0.669980E 03	T(67) = 0.664855E 03	T(68) = 0.663273E 03
T(73) = 0.694020E 03	T(74) = 0.684050E 03	T(75) = 0.673123E 03	T(76) = 0.666959E 03	T(77) = 0.663995E 03
T(78) = 0.663178E 03	T(110) = 0.753539E 03	T(111) = 0.704017E 03	T(112) = 0.676170E 03	T(113) = 0.664522E 03
T(114) = 0.660882E 03	T(123) = 0.979195E 03	T(124) = 0.786267E 03	T(125) = 0.706520E 03	T(126) = 0.675597E 03
T(127) = 0.663727E 03	T(128) = 0.660104E 03	T(133) = 0.964847E 03	T(134) = 0.792663E 03	T(135) = 0.707066E 03
T(136) = 0.675221E 03	T(137) = 0.663421E 03	T(138) = 0.659862E 03	T(143) = 0.923244E 03	T(144) = 0.780341E 03
T(145) = 0.703052E 03	T(146) = 0.673576E 03	T(147) = 0.662592E 03	T(148) = 0.659273E 03	T(153) = 0.828654E 03
T(154) = 0.745647E 03	T(155) = 0.692421E 03	T(156) = 0.670083E 03	T(157) = 0.661283E 03	T(158) = 0.658553E 03
T(163) = 0.730730E 03	T(164) = 0.700273E 03	T(165) = 0.676115E 03	T(166) = 0.664363E 03	T(167) = 0.659246E 03
T(168) = 0.657659E 03	T(173) = 0.690711E 03	T(174) = 0.678570E 03	T(175) = 0.667536E 03	T(176) = 0.661393E 03
T(177) = 0.658383E 03	T(178) = 0.657564E 03	T(210) = 0.748087E 03	T(211) = 0.701130E 03	T(212) = 0.673368E 03
T(213) = 0.661113E 03	T(214) = 0.658067E 03	T(223) = 0.973503E 03	T(224) = 0.783017E 03	T(225) = 0.703724E 03
T(226) = 0.672800E 03	T(227) = 0.660917E 03	T(228) = 0.657291E 03	T(233) = 0.959827E 03	T(234) = 0.789858E 03
T(235) = 0.704298E 03	T(236) = 0.672423E 03	T(237) = 0.660614E 03	T(238) = 0.657050E 03	T(243) = 0.918787E 03
T(244) = 0.777554E 03	T(245) = 0.700281E 03	T(246) = 0.670778E 03	T(247) = 0.659784E 03	T(248) = 0.656460E 03
T(253) = 0.825880E 03	T(254) = 0.742943E 03	T(255) = 0.689658E 03	T(256) = 0.667296E 03	T(257) = 0.658488E 03
T(258) = 0.655755E 03	T(263) = 0.728926E 03	T(264) = 0.697580E 03	T(265) = 0.673342E 03	T(266) = 0.661592E 03
T(267) = 0.656449E 03	T(268) = 0.654865E 03	T(273) = 0.688924E 03	T(274) = 0.675861E 03	T(275) = 0.664751E 03
T(276) = 0.658558E 03	T(277) = 0.655585E 03	T(278) = 0.654766E 03	T(20) = 0.161566E 04	T(21) = 0.149949E 04
T(22) = 0.129349E 04	T(30) = 0.137746E 04	T(31) = 0.131162E 04	T(32) = 0.118575E 04	T(40) = 0.120739E 04
T(41) = 0.116470E 04	T(42) = 0.108098E 04	T(50) = 0.982496E 03	T(51) = 0.969703E 03	T(52) = 0.931851E 03
T(60) = 0.766811E 03	T(61) = 0.780243E 03	T(62) = 0.762416E 03	T(70) = 0.721656E 03	T(71) = 0.717741E 03
T(72) = 0.709128E 03	T(120) = 0.151562E 04	T(121) = 0.141480E 04	T(122) = 0.122523E 04	T(130) = 0.133543E 04
T(131) = 0.127062E 04	T(132) = 0.114495E 04	T(140) = 0.117612E 04	T(141) = 0.113456E 04	T(142) = 0.105164E 04
T(150) = 0.968216E 03	T(151) = 0.952570E 03	T(152) = 0.912446E 03	T(160) = 0.781229E 03	T(161) = 0.774800E 03
T(162) = 0.756743E 03	T(170) = 0.716164E 03	T(171) = 0.712248E 03	T(172) = 0.703670E 03	T(220) = 0.146851E 04
T(221) = 0.137447E 04	T(222) = 0.119362E 04	T(230) = 0.131346E 04	T(231) = 0.124947E 04	T(232) = 0.112507E 04
T(240) = 0.116070E 04	T(241) = 0.111917E 04	T(242) = 0.103730E 04	T(250) = 0.960934E 03	T(251) = 0.943408E 03
T(252) = 0.902971E 03	T(260) = 0.778379E 03	T(261) = 0.772583E 03	T(262) = 0.753844E 03	T(270) = 0.713420E 03
T(271) = 0.709512E 03	T(272) = 0.700951E 03	T(1) = 0.101780E 04	T(2) = 0.926079E 03	T(3) = 0.651454E 03
T(4) = 0.647304E 03	T(998) = 0.590000E 02	T(999) = 0.254000E 04	T(	

TIME = 0.999987E-02

T(10) = 0.793725E 03	T(11) = 0.733675E 03	T(12) = 0.702094E 03	T(13) = 0.688272E 03	T(14) = 0.683682E 03
T(23) = 0.101862E 04	T(24) = 0.821067E 03	T(25) = 0.735984E 03	T(26) = 0.701436E 03	T(27) = 0.687425E 03
T(28) = 0.682870E 03	T(33) = 0.100361E 04	T(34) = 0.826834E 03	T(35) = 0.736308E 03	T(36) = 0.700901E 03

Figure 4-4. Output for Sample Problem No. 1 (Sheet 12 of 14)

```
 T(  37) = 0.687027E 03   T(  38) = 0.682577E 03   T(  43) = 0.961473E 03   T(  44) = 0.814011E 03   T(  45) = 0.731895E 03
 T(  46) = 0.698995E 03   T(  47) = 0.686061E 03   T(  48) = 0.681913E 03   T(  53) = 0.863357E 03   T(  54) = 0.777945E 03
 T(  55) = 0.720350E 03   T(  56) = 0.694961E 03   T(  57) = 0.684453E 03   T(  58) = 0.681035E 03   T(  63) = 0.760918E 03
 T(  64) = 0.729758E 03   T(  65) = 0.702417E 03   T(  66) = 0.688421E 03   T(  67) = 0.682023E 03   T(  68) = 0.679958E 03
 T(  73) = 0.718506E 03   T(  74) = 0.706226E 03   T(  75) = 0.692766E 03   T(  76) = 0.684841E 03   T(  77) = 0.680881E 03
 T(  78) = 0.679703E 03   T( 110) = 0.781925E 03   T( 111) = 0.727990E 03   T( 112) = 0.696506E 03   T( 113) = 0.682662E 03
 T( 114) = 0.678061E 03   T( 123) = 0.100988E 04   T( 124) = 0.814980E 03   T( 125) = 0.730441E 03   T( 126) = 0.695853E 03
 T( 127) = 0.681816E 03   T( 128) = 0.677250E 03   T( 133) = 0.995756E 03   T( 134) = 0.821340E 03   T( 135) = 0.730795E 03
 T( 136) = 0.695323E 03   T( 137) = 0.681416E 03   T( 138) = 0.676959E 03   T( 143) = 0.954219E 03   T( 144) = 0.808582E 03
 T( 145) = 0.726378E 03   T( 146) = 0.693414E 03   T( 147) = 0.680452E 03   T( 148) = 0.676296E 03   T( 153) = 0.858922E 03
 T( 154) = 0.772580E 03   T( 155) = 0.714849E 03   T( 156) = 0.689408E 03   T( 157) = 0.678878E 03   T( 158) = 0.675451E 03
 T( 163) = 0.757641E 03   T( 164) = 0.724361E 03   T( 165) = 0.696884E 03   T( 166) = 0.682854E 03   T( 167) = 0.676442E 03
 T( 168) = 0.674374E 03   T( 173) = 0.715223E 03   T( 174) = 0.700788E 03   T( 175) = 0.687213E 03   T( 176) = 0.679266E 03
 T( 177) = 0.675297E 03   T( 178) = 0.674119E 03   T( 210) = 0.776330E 03   T( 211) = 0.725116E 03   T( 212) = 0.693721E 03
 T( 213) = 0.679870E 03   T( 214) = 0.675261E 03   T( 223) = 0.100435E 04   T( 224) = 0.811740E 03   T( 225) = 0.727667E 03
 T( 226) = 0.693075E 03   T( 227) = 0.679022E 03   T( 228) = 0.674453E 03   T( 233) = 0.940893E 03   T( 234) = 0.818517E 03
 T( 235) = 0.728045E 03   T( 236) = 0.692544E 03   T( 237) = 0.678624E 03   T( 238) = 0.674160E 03   T( 243) = 0.949900E 03
 T( 244) = 0.805831E 03   T( 245) = 0.723631E 03   T( 246) = 0.690633E 03   T( 247) = 0.677696E 03   T( 248) = 0.673497E 03
 T( 253) = 0.856210E 03   T( 254) = 0.769911E 03   T( 255) = 0.712106E 03   T( 256) = 0.686639E 03   T( 257) = 0.676098E 03
 T( 258) = 0.672669E 03   T( 263) = 0.755850E 03   T( 264) = 0.721691E 03   T( 265) = 0.694123E 03   T( 266) = 0.680078E 03
 T( 267) = 0.673660E 03   T( 268) = 0.671595E 03   T( 273) = 0.713454E 03   T( 274) = 0.698069E 03   T( 275) = 0.684445E 03
 T( 276) = 0.676487E 03   T( 277) = 0.672511E 03   T( 278) = 0.671336E 03   T(  20) = 0.163509E 04   T(  21) = 0.152150E 04
 T(  22) = 0.131903E 04   T(  30) = 0.140343E 04   T(  31) = 0.133644E 04   T(  32) = 0.121385E 04   T(  40) = 0.123681E 04
 T(  41) = 0.119441E 04   T(  42) = 0.111075E 04   T(  50) = 0.101567E 04   T(  51) = 0.100185E 04   T(  52) = 0.962595E 03
 T(  60) = 0.817281E 03   T(  61) = 0.809950E 03   T(  62) = 0.790785E 03   T(  70) = 0.748890E 03   T(  71) = 0.744411E 03
 T(  72) = 0.734832E 03   T( 120) = 0.153845E 04   T( 121) = 0.143949E 04   T( 122) = 0.125276E 04   T( 130) = 0.136296E 04
 T( 131) = 0.129885E 04   T( 132) = 0.117428E 04   T( 140) = 0.120692E 04   T( 141) = 0.116506E 04   T( 142) = 0.108227E 04
 T( 150) = 0.100185E 04   T( 151) = 0.985210E 03   T( 152) = 0.943698E 03   T( 160) = 0.811777E 03   T( 161) = 0.804591E 03
 T( 162) = 0.785180E 03   T( 170) = 0.743452E 03   T( 171) = 0.738971E 03   T( 172) = 0.724423E 03   T( 220) = 0.149296E 04
 T( 221) = 0.140049E 04   T( 222) = 0.122208E 04   T( 230) = 0.134181E 04   T( 231) = 0.127843E 04   T( 232) = 0.115500E 04
 T( 240) = 0.119203E 04   T( 241) = 0.115037E 04   T( 242) = 0.106836E 04   T( 250) = 0.994798E 03   T( 251) = 0.976286E 03
 T( 252) = 0.934472E 03   T( 260) = 0.808968E 03   T( 261) = 0.802226E 03   T( 262) = 0.782319E 03   T( 270) = 0.740734E 03
 T( 271) = 0.736260E 03   T( 272) = 0.726740E 03   T(   1) = 0.105910E 04   T(   2) = 0.967006E 03   T(   3) = 0.677232E 03
 T(   4) = 0.672836E 03   T( 998) = 0.590000E 02   T( 999) = 0.254000E 04   T(
TIME =        0.1099999E-01
 T(  10) = 0.821578E 03   T(  11) = 0.757221E 03   T(  12) = 0.722261E 03   T(  13) = 0.706343E 03   T(  14) = 0.700769E 03
 T(  23) = 0.104643E 04   T(  24) = 0.848669E 03   T(  25) = 0.759488E 03   T(  26) = 0.721531E 03   T(  27) = 0.705441E 03
 T(  28) = 0.699926E 03   T(  33) = 0.103170E 04   T(  34) = 0.854284E 03   T(  35) = 0.759634E 03   T(  36) = 0.720844E 03
 T(  37) = 0.704948E 03   T(  38) = 0.699575E 03   T(  43) = 0.990019E 03   T(  44) = 0.841133E 03   T(  45) = 0.754836E 03
 T(  46) = 0.718697E 03   T(  47) = 0.703840E 03   T(  48) = 0.698837E 03   T(  53) = 0.892071E 03   T(  54) = 0.804051E 03
 T(  55) = 0.742468E 03   T(  56) = 0.714183E 03   T(  57) = 0.701977E 03   T(  58) = 0.697825E 03   T(  63) = 0.787287E 03
 T(  64) = 0.755564E 03   T(  65) = 0.723097E 03   T(  66) = 0.706854E 03   T(  67) = 0.699138E 03   T(  68) = 0.696533E 03
 T(  73) = 0.742971E 03   T(  74) = 0.728484E 03   T(  75) = 0.712496E 03   T(  76) = 0.702758E 03   T(  77) = 0.697725E 03
 T(  78) = 0.696124E 03   T( 110) = 0.809522E 03   T( 111) = 0.751576E 03   T( 112) = 0.716715E 03   T( 113) = 0.700766E 03
 T( 114) = 0.695181E 03   T( 123) = 0.103798E 04   T( 124) = 0.842659E 03   T( 125) = 0.753989E 03   T( 126) = 0.715990E 03
 T( 127) = 0.699864E 03   T( 128) = 0.694336E 03   T( 133) = 0.102412E 04   T( 134) = 0.848905E 03   T( 135) = 0.754167E 03
 T( 136) = 0.715306E 03   T( 137) = 0.699374E 03   T( 138) = 0.693986E 03   T( 143) = 0.983001E 03   T( 144) = 0.835793E 03
 T( 145) = 0.749366E 03   T( 146) = 0.713154E 03   T( 147) = 0.698262E 03   T( 148) = 0.693250E 03   T( 153) = 0.887751E 03
 T( 154) = 0.798755E 03   T( 155) = 0.737010E 03   T( 156) = 0.708665E 03   T( 157) = 0.696434E 03   T( 158) = 0.692269E 03
 T( 163) = 0.784047E 03   T( 164) = 0.748217E 03   T( 165) = 0.717601E 03   T( 166) = 0.701322E 03   T( 167) = 0.693590E 03
 T( 168) = 0.690978E 03   T( 173) = 0.739717E 03   T( 174) = 0.723087E 03   T( 175) = 0.706979E 03   T( 176) = 0.697217E 03
 T( 177) = 0.692173E 03   T( 178) = 0.690568E 03   T( 210) = 0.803810E 03   T( 211) = 0.748721E 03   T( 212) = 0.713947E 03
 T( 213) = 0.697989E 03   T( 214) = 0.692394E 03   T( 223) = 0.103263E 04   T( 224) = 0.839438E 03   T( 225) = 0.751257E 03
 T( 226) = 0.713231E 03   T( 227) = 0.697090E 03   T( 228) = 0.691552E 03   T( 233) = 0.101942E 04   T( 234) = 0.846153E 03
 T( 235) = 0.751438E 03   T( 236) = 0.712550E 03   T( 237) = 0.696596E 03   T( 238) = 0.691203E 03   T( 243) = 0.978622E 03
 T( 244) = 0.833081E 03   T( 245) = 0.746640E 03   T( 246) = 0.710396E 03   T( 247) = 0.695487E 03   T( 248) = 0.690469E 03
 T( 253) = 0.885106E 03   T( 254) = 0.796111E 03   T( 255) = 0.734290E 03   T( 256) = 0.705914E 03   T( 257) = 0.693668E 03
 T( 258) = 0.689503E 03   T( 263) = 0.782278E 03   T( 264) = 0.745569E 03   T( 265) = 0.714863E 03   T( 266) = 0.698564E 03
 T( 267) = 0.690823E 03   T( 268) = 0.685210E 03   T( 273) = 0.737963E 03   T( 274) = 0.720418E 03   T( 275) = 0.704230E 03
```

Figure 4-4. Output for Sample Problem No. 1 (Sheet 13 of 14)

```
T(276) = 0.694453E 03   T(277) = 0.689406E 03   T(278) = 0.687800E 03   T( 20) = 0.165226E 04   T( 21) = 0.154103E 04
T( 22) = 0.134210E 04   T( 30) = 0.142659E 04   T( 31) = 0.136250E 04   T( 32) = 0.123956E 04   T( 40) = 0.126366E 04
T( 41) = 0.122143E 04   T( 42) = 0.113811E 04   T( 50) = 0.104627E 04   T( 51) = 0.103173E 04   T( 52) = 0.991512E 03
T( 60) = 0.846613E 03   T( 61) = 0.838806E 03   T( 62) = 0.818488E 03   T( 70) = 0.775963E 03   T( 71) = 0.770914E 03
T( 72) = 0.760445E 03   T(120) = 0.155865E 04   T(121) = 0.146150E 04   T(122) = 0.127765E 04   T(130) = 0.138754E 04
T(131) = 0.132421E 04   T(132) = 0.120092E 04   T(140) = 0.123475E 04   T(141) = 0.119299E 04   T(142) = 0.111042E 04
T(150) = 0.103288E 04   T(151) = 0.101556E 04   T(152) = 0.973098E 03   T(160) = 0.841419E 03   T(161) = 0.833538E 03
T(162) = 0.612955E 03   T(170) = 0.770581E 03   T(171) = 0.765548E 03   T(172) = 0.755048E 03   T(220) = 0.151460E 04
T(221) = 0.142365E 04   T(222) = 0.124781E 04   T(230) = 0.136711E 04   T(231) = 0.130444E 04   T(232) = 0.118220E 04
T(240) = 0.122036E 04   T(241) = 0.117876E 04   T(242) = 0.109691E 04   T(250) = 0.102606E 04   T(251) = 0.100687E 04
T(252) = 0.964107E 03   T(260) = 0.838657E 03   T(261) = 0.831224E 03   T(262) = 0.810128E 03   T(270) = 0.767890E 03
T(271) = 0.762865E 03   T(272) = 0.752430E 03   T(  1) = 0.109773E 04   T(  2) = 0.100562E 04   T(  3) = 0.703126E 03
T(  4) = 0.698516E 03   T(998) = 0.590000E 02   T(999) = 0.254000E 04   T(
```

Figure 4-4. Output for Sample Problem No. 1 (Sheet 14 of 14)

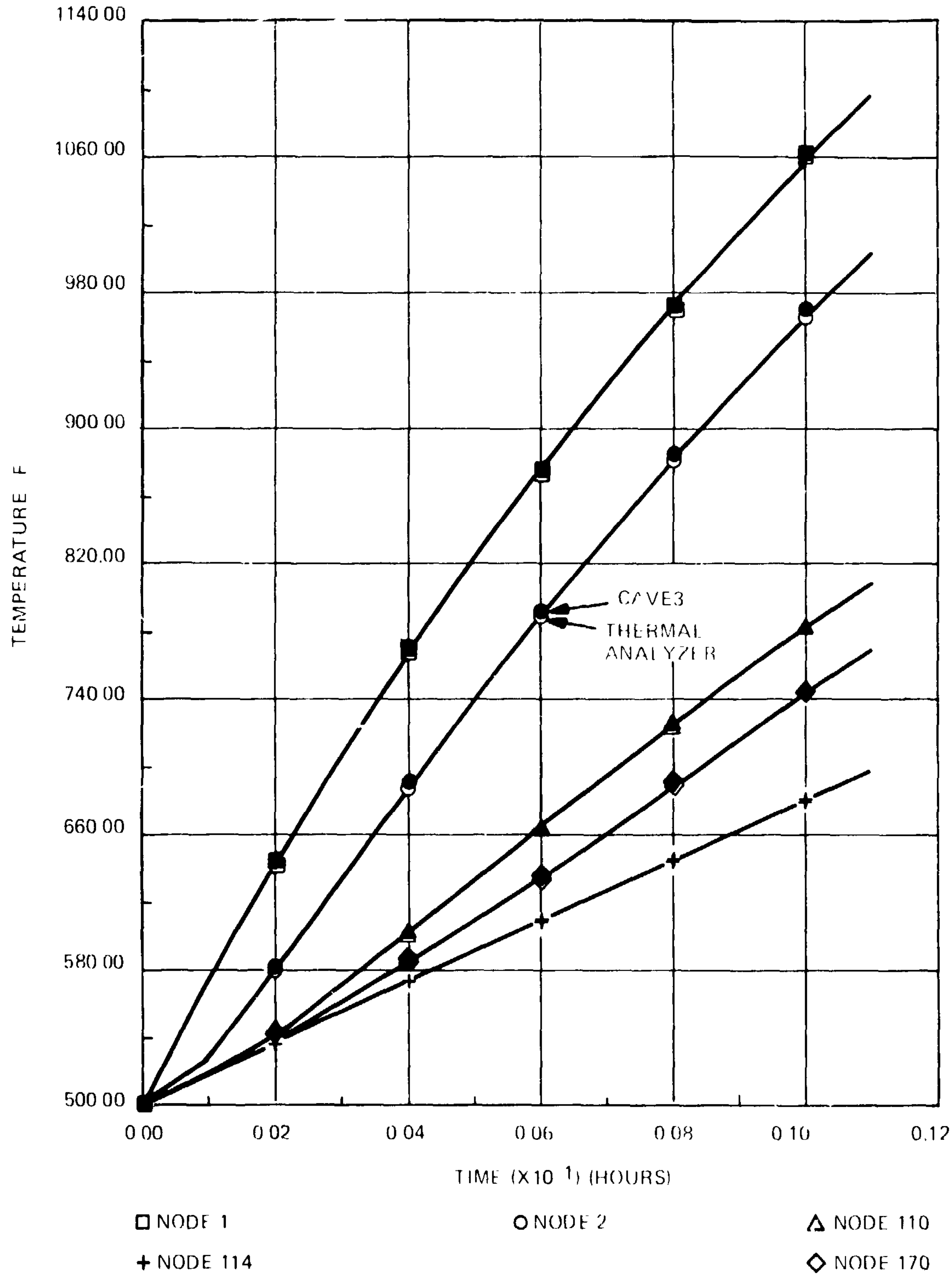


Figure 4-5. CAVE3 Model 1 Verification Plot

Section 5

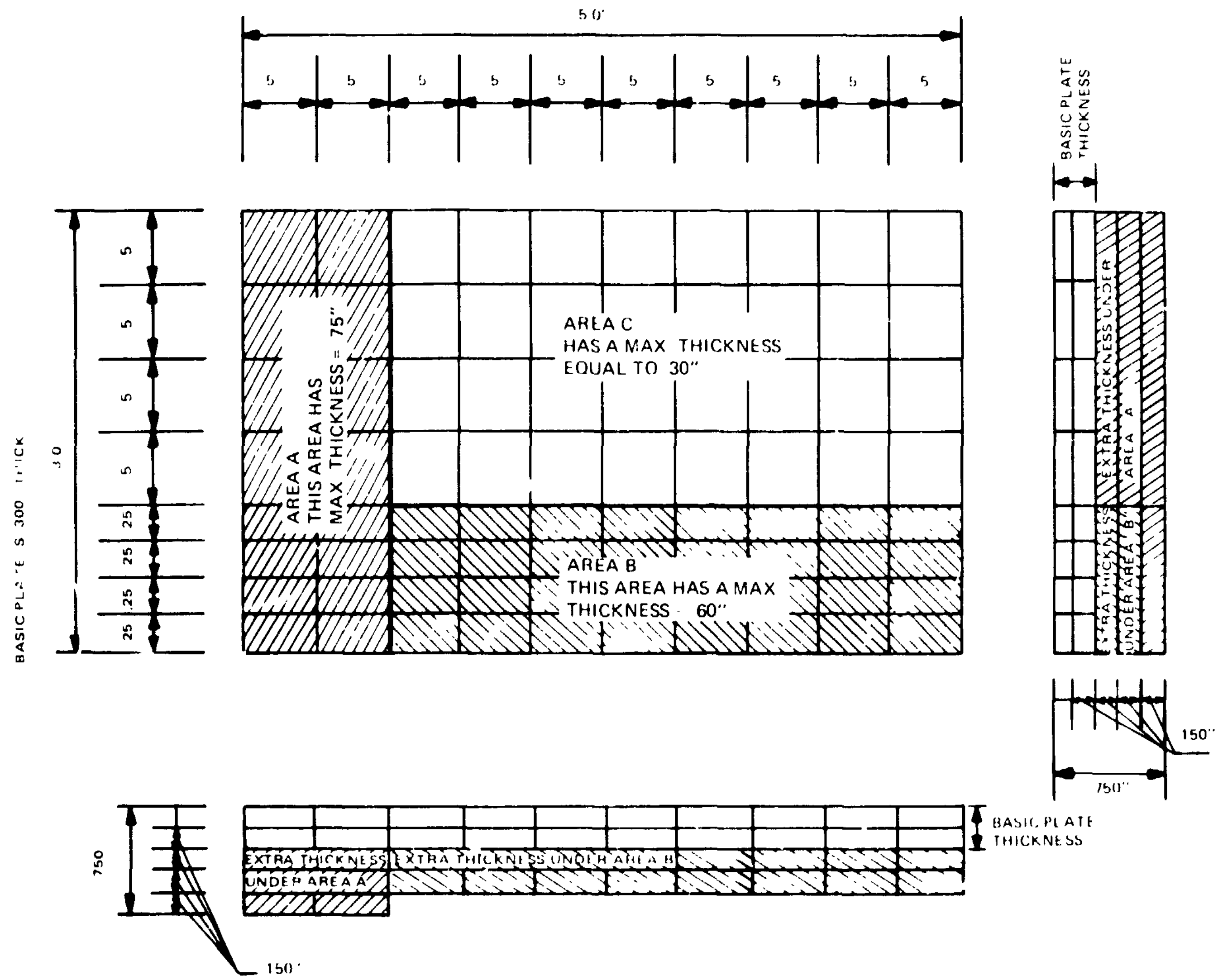
SAMPLE PROBLEM NO. 2

Sample problem No. 2 is displayed in Figures 5-1 to 5-4; it is actually three problems. The first problem, or Model 2A, is a 160 node model (flat plate) exposed to the given top surface boundary conditions shown in Figure 5-1 and 5-3 with all other surfaces being adiabatic. The entire model is made of Lockalloy and its physical properties are displayed in Figure 5-4. The geometry and node breakdown are presented in Figure 5-1. The geometry consists of three distinct regions, A, B, and C. These regions represent areas of buildup for problems Model 2A & B and 2C. Model 2B is constructed by adding an additional Lockalloy layer under regions A and B. This creates a 256 node model, with Model 2A being the basic core. Model 2C is made up of Model 2B and an additional layer of Lockalloy under region A resulting in a 272 node model. Figure 5-2 depicts the nodal arrangement for each of the three models. Note that only the additions are represented, i.e., Model 2B uses the Model 2A numbering plus the layers shown for Model 2B. An input data set has been created for each of the models presented and is displayed in Figures 5, 6 and 7. The data format is essentially identical in each case, so a discussion of the Model 2A data input will be addressed while noting any differences in the remaining model input.

The first control card informs the program that the model consists of two boundary nodes, 160 iterated nodes, 444 conductors, 80 radiators, the highest node number is 1000 (actually 999 in the model), and 0 heat sources. Models 2B and 2C have increased the number of iterated nodes and conductors on this card. An estimate of reserved storage was made at 12500 words. This number is based on the data size and a user "feel" for its estimated size which comes with program use. It should be noted that the output displays the actual reserve storage needed and in this case it was 7269 words. Therefore the input value could have been less. The user also chose to use 14 eigenvalues and employed both the diagnostic option and the flux option. Models 2B and 2C used the default output option which displays only the initial conditions and the temperature time history. The user then input the desired title. Note four lines must be used. The example shows three lines of text and a blank line. On the second control card the user indicates the inputs are to be in degrees Fahrenheit. The third control card indicated an initial time of zero, a time step of 0.01 and a final time of 0.1. The unit of time in this case is hours which is specified implicitly in the choice of units for thermal conductivity and radiation couplings. The Stephan-Boltzmann constant has also been included as an input which indicates that the values for the radiation couplings do not have this value folded into them. The 22200 is used as a comment card and in this case it is used as a separator. The next block encountered is the initial temperature block and indicates that all 160 nodes are initially at 500°F. The block is terminated by the 11100 card. Note in Figure 5-6 and 5-7 that the initial temperature block has been increased to 256 nodes and 272 nodes for Model 2B and Model 2C respectively. The boundary nodes 998 and 999 are displayed next at 2390°F and 59°F. This data is followed by the capacitance block (mass times specific heat) for each iterated node. Again note the additional capacitances listed for Models 2B and 2C. The conductance links are established next and represent an overall UA computation. Both conduction links (iterated node to iterated node) and convective links (iterated node to boundary node) are represented. The number of conductance links increased dramatically from model to model (444 to 695 to 727) due to the increase in the nodal definition. Note the use of the multiple parameter option in the conductance blocks of Model 2B and Model 2C to minimize the input. The user set-up conductance values for 48 conductors with just 5 lines of input (Figure 5-6). The radiation block follows with the first surface only represented (80 nodes) since it is the only surface exposed to the radiation boundary condition. This block is followed by the conductance constant block and represents the value of A/Δ X for each iterated conductance link, i.e., all links not exposed to boundary notes. The final 2 blocks deal with table descriptions. The first represents the change in specific heat and conductivity with temperature. Note the units in this case are ° F and inches. The node/table correspondence uses this table to describe the property changes and relates table to node number. The final card entered is the termination card.

Figures 5-8 to 5-10 represent the resulting output for each of these three executions. Figure 5-8 is the output from the Model 2A run. It includes the output from the diagnostic and flux options. Figures 5-9 and 5-10 represent the default output which is the initial conditions plus the temperature time history of Model 2B and 2C. Referring to Figure 5-8 after the inital conditions are printed the program displays the steady-state temperature solution followed by the eigenvectors for the number of dominant eigenvalues requested. The nodal temperatures and the cumulative heat flux from node to node at the end of the first time step are printed next. This process is repeated at each time step.

Finally, Figures 5-11 to 5-13 represent a comparison of the CAVE3 execution to a Grumman Thermal Analyzer execution for these three models. The solid symbols represent CAVE3 and the open ones the Thermal Analyzer. Note the execellent agreement in all cases thus establishing the validity and accuracy of CAVE3.



Total Temperature of Boundary 3000 °R

T_{aw}/T_E .95

Background Temperature for Radiation 519 °R

Emissivity 1.0

Figure 5-1. Sample Problem No. 2 Geometry Configuration

MODEL 2A

71,151	72,152	73,153	74,154	75,155	76,156	77,157	78,158	79,159	80,160
61,141	62,142	63,143	64,144	65,145	66,146	67,147	68,148	69,149	70,150
51,131	52,132	53,133	54,134	55,135	56,136	57,137	58,138	59,139	60,140
41,121	42,122	43,123	44,124	45,125	46,126	47,127	48,128	49,129	50,130
31,111	32,112	33,113	34,114	35,115	36,116	37,117	38,118	39,119	40,120
21,101	22,102	23,103	24,104	25,105	26,106	27,107	28,108	29,109	30,110
11,91	12,92	13,93	14,94	15,95	16,96	17,97	18,98	19,99	20,100
1,81	2,82	3,83	4,84	5,85	6,86	7,87	8,88	9,89	10,90

MODEL 2B

207,255	208,256								
205,253	206,254								
203,251	204,252								
201,249	202,250								
191,239	192,240	193,241	194,242	195,243	196,244	197,245	198,246	199,247	200,248
181,229	182,230	183,231	184,232	185,233	186,234	187,235	188,236	189,237	190,238
171,219	172,220	173,221	174,222	175,223	176,224	177,225	178,226	179,227	180,228
161,209	162,210	163,211	164,212	165,213	166,214	167,215	168,216	169,217	170,218

MODEL 2C

271	272
269	270
267	268
265	266
263	264
261	262
259	260
257	258

Figure 5-2. Sample Problem No. 2 Node Configuration

5.0"

	5	.5	.5	5	.5	5	5	5	.5	5
SURFACE BLOCKS	h/ho 17	13	5	2	1	1	1	1	1	1
	17	12	5	3	4	3	3	1	1	1
	17	12	5	4	9	9	8	7	1	1
	17	11	6	6	9	10	10	9	3	3
	17	11	5	5	9	11	11	11	9	7
	17	10	5	4	6	7	8	11	11	9
	17	10	4	4	4	4	5	7	9	9
	17	10	5	5	5	5	6	7	9	9

h_o 13.2 $\frac{BTU}{ft^2\ hr\ {}^\circ R}$

Figure 5-3. Sample Problem No. 2 Convective Heat Transfer Rates

	540 °R	860 °R	1060 °R	1260 °R
ρ (lbm/in^3)	0756	0756	0756	0756
Cp (BTU/lbm °R	395	511	548	.562
K $\frac{BTU}{(hr\ ft^2\ {}^\circ R/ft)}$	123 0	99 5	89.0	81 5

Figure 5-4. Physical Properties of Lockalloy

```
    2  160   44      80 1000       012500     14      1      1   <- 1ST CONTROL CARD
LANGLEY
      MODEL    TWO
        RUN  1   A  SECTION                                         } TITLE
    0     0       0       0      0        0        0              <- 2ND CONTROL CARD
    0  0.0                    .010                  .1  1.714E-09 <- 3RD CONTROL CARD
22200     0  0.0                 0        0
    0     1  5.000E  02          0        0
    0     2  5.000E  02          0        0
    0     3  5.000E  02          0        0
    0     4  5.000E  02          0        0
    0     5  5.000E  02          0        0
    0     6  5.000E  02          0        0
    0     7  5.000E  02          0        0
    0     8  5.000E  02          0        0
    0     9  5.000E  02          0        0                        INITIAL
    .     .     .      .         .        .                        TEMPERATURE
    .     .     .      .         .        .                        BLOCK
    .     .     .      .         .        .
    0   158  5.000E  02          0        0
    0   159  5.000E  02          0        0
    0   160  5.000E  02          0        0
11100     0  0.0                 0        0
22200     0  0.0                 0        0
    0   999  2.390E  03          0        0                        BOUNDARY
    0   998  5.900E  01          0        0                        TEMPERATURES
11100     0  0.0                 0        0
22200     0  0.0                 0        0
    0     1  7.311E-04           0        0
    0     2  7.490E-04           0        0
    0     3  7.668E-04           0        0
    0     4  7.133E-04           0        0
    0     5  7.668E-04           0        0
    0     6  7.311E-04           0        0
    0     7  7.490E-04           0        0
    0     8  7.311E-04           0        0
    0     9  7.668E-04           0        0                        CAPACITANCE
    0    10  7.311E-04           0        0                        BLOCK
    0    11  7.311E-04           0        0
    .     .     .      .         .        .
    .     .     .      .         .        .
    .     .     .      .         .        .
    0   157  1.498E-03           0        0
    0   158  1.462E-03           0        0
    0   159  1.534E-03           0        0
    0   160  1.462E-03           0        0
11100     0  0.0                 0        0
22200     0       0       0  0.0               0        0
    0     1       1      11  2.367E  00        0        0
    0     2       1       2  6.136E-01         0        0          CONDUCTANCE
    0     3       2      12  2.425E  00        0        0          BLOCK
    0     4       2       3  5.991E-01         0        0
    0     5       3      13  2.483E  00        0        0
```

Figure 5-5. Model 2A Input (Sheet 1 of 2)

```
    0   435   71   999  3.864E-01      0      0
    0   436   72   999  3.026E-01      0      0
    0   437   73   999  1.176E-01      0      0
    0   438   74   999  4.600E-02      0      0
    0   439   75   999  2.350E-02      0      0
    0   440   76   999  2.350E-02      0      0
    0   441   77   999  2.350E-02      0      0
    0   442   78   999  2.350E-02      0      0
    0   443   79   999  2.350E-02      0      0
    0   444   80   999  2.350E-02      0      0
11100     0    0     0  0.0            0      0
22200     0    0     0  0.0            0      0
    0    01    1   998  8.610E-04      0      0   }
    0    02    2   998  8.820E-04      0      0   }
    0    03    3   998  9.030E-04      0      0   }
    0    04    4   998  8.400E-04      0      0   }
    0    05    5   998  9.030E-04      0      0   }
    0    06    6   998  8.610E-04      0      0   }
    .     .    .     .     .           .      .   }
    .     .    .     .     .           .      .   }  RADIATION
    .     .    .     .     .           .      .   }  BLOCK
    0    73   73   998  1.806E-03      0      0   }
    0    74   74   998  1.680E-03      0      0   }
    0    75   75   998  1.806E-03      0      0   }
    0    76   76   998  1.722E-03      0      0   }
    0    77   77   998  1.764E-03      0      0   }
    0    78   78   998  1.722E-03      0      0   }
    0    79   79   998  1.806E-03      0      0   }
    0    80   80   998  1.722E-03      0      0   }
11100
11100     0    0     0  0.0            0      0
22200
          1          0.04881      0.04881   }
          2          0.01280      0.01250   }
          3          0.05000      0.05000   }
          4          0.01250      0.01221   }
          5          0.05119      0.05119   }
          6          0.01221      0.01312   }
          7          0.04762      0.04762   }  CONDUCTANCE
          .             .            .      }  CONSTANT
          .             .            .      }  BLOCK
          .             .            .      }
        359          0.28896      0.28896   }
        360          0.27552      0.27552   }
        361          0.28224      0.28224   }
        362          0.27552      0.27552   }
        363          0.28896      0.28896   }
        364          0.27552      0.27552   }
11100
    0     6    299999   TEMP VS PROPERTIES
          1        80.       400.       600.      800.     5000.   }  TABLE
       .395       .395       .511       .548      .562      .57    }  BLOCK
      10.25      10.25      8.290      7.420     6.790     6.00    }
11100     0    0
    0     0    1  <-- NODE/TABLE CORRESPONDENCE
11100
11100
11100  <-- TERMINATION
```

Figure 5-5. Model 2A Input (Sheet 2 of 2)

```
     2   260    700    60 1000      015000    14
LANGLEY
        MODEL  TWO
          RUN 2  B SECTION
     0     0      0      0      0       0      0
     0  0.0                   .010      0     .1  1.714E-09
22200      0  0.0              0       0
     0     1  5.000E  02       0       0
     0     2  5.000E  02       0       0
     0     3  5.000E  02       0       0
     0     4  5.000E  02       0       0
     0     5  5.000E  02       0       0
     0     6  5.000E  02       0       0
     .     .     .      .      .       .
     .     .     .      .      .       .        INITIAL
     .     .     .      .      .       .        TEMPERATURES
     0   249  5.000E  02       0       0
     0   250  5.000E  02       0       0
     0   251  5.000E  02       0       0
     0   252  5.000E  02       0       0
     0   253  5.000E  02       0       0
     0   254  5.000E  02       0       0
     0   255  5.000E  02       0       0
     0   256  5.000E  02       0       0
11100      0  0.0              0       0
22200      0  0.0              0       0
     0   999  2.390E  03       0       0     BOUNDARY
     0   998  5.900E  01       0       0     TEMPERATURES
11100      0  0.0              0       0
22200      0  0.0              0       0
     0     1  7.311E-04        0       0
     0     2  7.490E-04        0       0
     0     3  7.668E-04        0       0
     0     4  7.133E-04        0       0
     0     5  7.668E-04        0       0
     .     .     .      .      .       .
     .     .     .      .      .       .
     .     .     .      .      .       .     CAPACITANCE
     0   250  1.498E-03        0       0     BLOCK
     0   251  1.393E-03        0       0
     0   252  1.462E-03        0       0
     0   253  1.461E-03        0       0
     0   254  1.534E-03        0       0
     0   255  1.393E-03        0       0
     0   256  1.462E-03        0       0
11100      0  0.0              0       0
22200      0      0      0  0.0             0      0
     0     1      1     11  2.367E  00      0      0
     0     2      1      2  6.136E-01       0      0
     0     3      2     12  2.425E  00      0      0     CONDUCTANCE
     0     4      2      3  5.991E-01       0      0     BLOCK
     0     5      3     13  2.463E  00      0      0
     0     6      3      4  6.136E-01       0      0
     0     7      4     14  2.310E  00      0      0
     0     8      4      5  6.136E-01       0      0
```

Figure 5-6. Model 2B Input (Sheet 1 of 2)

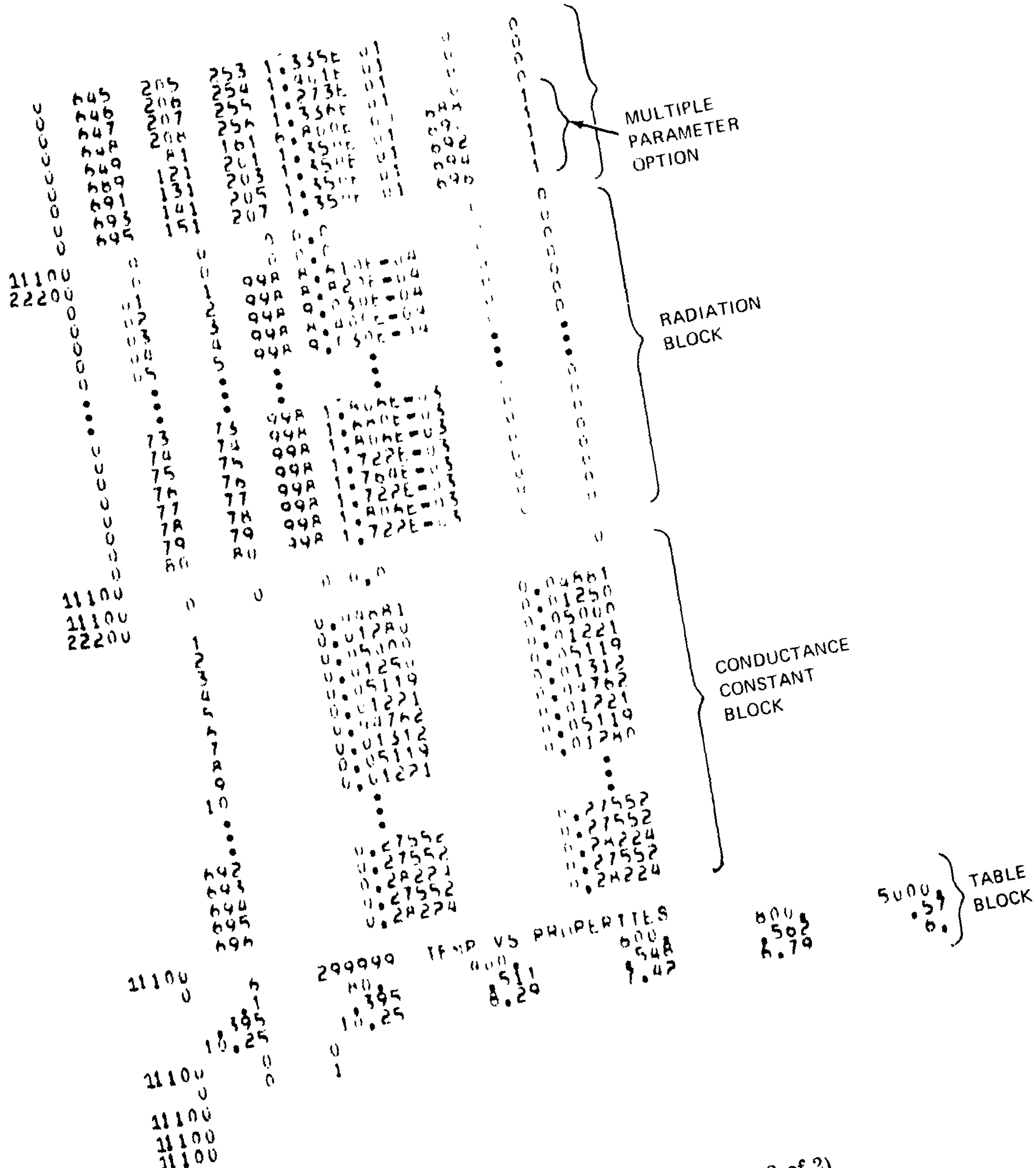


Figure 5-6. Model 2B Input (Sheet 2 of 2)

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

```
        2 272   727    80 1000     017000    14
LANGLEY
        MODEL   TWO
          RUN 3  C SECTION
    0      0       0      0       0       0      0
    0  0.0                     .010              .1  1.714E-09
22200      0  0.0                 0       0
    0      1  5.000E  02          0       0
    0      2  5.000E  02          0       0
    0      3  5.000E  02          0       0
    0      4  5.000E  02          0       0
    0      5  5.000E  02          0       0               INITIAL
    0      6  5.000E  02          0       0               TEMPERATURE
    0      7  5.000E  02          0       0
    .      .      .      .        .       .
    .      .      .      .        .       .
    0    268  5.000E  02          0       0
    0    269  5.000E  02          0       0
    0    270  5.000E  02          0       0
    0    271  5.000E  02          0       0
    0    272  5.000E  02          0       0
11100      0  0.0                 0       0
22200      0  0.0                 0       0
    0    999  2.390E  03          0       0
    0    998  5.900E  01          0       0
11100      0  0.0                 0       0               BOUNDARY
22200      0  0.0                 0       0               TEMPERATURE
    0      1  7.311E-04           0       0
    0      2  7.490E-04           0       0
    0      3  7.668E-04           0       0
    0      4  7.133E-04           0       0
    0      5  7.668E-04           0       0
    0      6  7.311E-04           0       0
    0      7  7.490E-04           0       0
    0      8  7.311E-04           0       0
    0      9  7.668E-04           0       0
    .      .      .               .       .               CAPACITANCE
    .      .      .               .       .               BLOCK
    0    265  1.427E-03           0       0
    0    266  1.462E-03           0       0
    0    267  1.427E-03           0       0
    0    268  1.462E-03           0       0
    0    269  1.462E-03           0       0
    0    270  1.498E-03           0       0
    0    271  1.497E-03           0       0
    0    272  1.534E-03           0       0
11100      0  0.0                 0       0
22200      0      0      0  0.0               0      0
    0      1      1     11  2.367E  00        0      0
    0      2      1      2  6.136E-01         0      0
    0      3      2     12  2.425E  00        0      0
    0      4      2      3  5.991E-01         0      0    CONDUCTANCE
    0      5      3     13  2.483E  00        0      0    BLOCK
    0      6      3      4  6.136E-01         0      0
    0      7      4     14  2.310E  00        0      0
    0      8      4      5  6.136E-01         0      0
    0      9      5     15  2.483E  00        0      0
    0     10      5      6  6.062E-01         0      0
```

Figure 5-7. Model 2C Input (Sheet 1 of 2)

```
    0   667   269   271  1.170E  00      0      0
    0   668   269   270  1.227E  00      0      0
    0   669   270   272  1.198E  00      0      0
    0   670   271   272  1.256E  00      0      0
    0   671    81   161  6.800E  00    710      1
    0   711   121   201  1.350E  01    712      1
    0   713   131   203  1.350E  01    714      1
    0   715   141   205  1.350E  01    716      1
    0   717   151   207  1.350E  01    718      1
    0   719   209   257  6.800E  00    720      1
    0   721   219   259  6.800E  00    722      1
    0   723   229   261  6.800E  00    724      1
    0   725   239   263  6.800E  00    726      1
    0   727   249   265  1.350E  01    734      1
11100     0     0     0  0.0             0      0
22200     0     0     0  0.0             0      0
    0    01     1   998  8.610E-04       0      0
    0    02     2   998  8.820E-04       0      0
    0    03     3   998  9.030E-04       0      0
    0    04     4   998  8.400E-04       0      0
    0    05     5   998  9.030E-04       0      0
    0    06     6   998  8.610E-04       0      0
    .     .     .     .      .           .      .
    .     .     .     .      .           .      .
    0    79    79   998  1.806E-03       0      0
    0    80    80   998  1.722E-03       0      0
11100
11100     0     0     0  0.0             0      0
22200
          1           0.04881      0.04881
          2           0.01280      0.01250
          3           0.05000      0.05000
          4           0.01250      0.01221
          5           0.05119      0.05119
          6           0.01221      0.01312
          .              .            .
          .              .            .
        724           0.13440      0.13440
        725           0.13440      0.13440
        726           0.14112      0.14112
        727           0.26880      0.26880
        728           0.28224      0.28224
        729           0.26240      0.26240
        730           0.27552      0.27552
        731           0.27520      0.27520
        732           0.28896      0.28896
        733           0.26240      0.26240
        734           0.27552      0.27552
11100
    0     6   299999   TEMP VS PROPERTIES
          1      80       400      600      800.     5000.
       .395    .395      .511     .548     .562       .57
      10.25   10.25      8.29     7.42     6.79        6.
11100     0     0
    0     0     1
11100
11100
11100
```

CONDUCTANCE BLOCK

MULTIPLE PARAMETER OPTION

RADIATION BLOCK

CONDUCTANCE CONSTANT BLOCK

TABLE BLOCK

Figure 5-7. Model 2C Input (Sheet 2 of 2)

```
$STURE
NUMBND  = 2,
NUMITR  = 160,
NUMCON  = 444,
NUMTCN  = 1048,
NUMNOD  = 1000,
NUMFLX  = 0,
NSTR    = 12500,
NEVALU  = 14,
NUMTOT  = 162,
NUMSCR  = 1487,
NUMRAD  = 80,
$END
THIS RUN REQUIRES A DATA AREA OF      24015 WORDS
         1       320       162       162       444       888       162       160      1000         0
         0       162       162        80      2096       160        14      2240      1487     12500
       162       160       162       444       444       444
         1       321       483       645      1089      1977      2139      2299      3299      3299
      3299      3461      3623      3703      5799      5959      5973      8213      9700     22200
     22362     22522     22684     23128     23572
HIGHEST MEMORY IN HEXADECIMAL IS  00017740
  162   160    14   444    80  1000     0  1487 12500
```

Figure 5-8. Model 2A Output (Sheet 1 of 49)

```
LANGLEY
     MODEL  TWO
       RUN 1  A SECTION

NUMBER OF ITERATED NODES    =    160
NUMBER OF BOUNDARY NODES    =      2
NUMBER OF CONDUCTION LINKS  =    444
NUMBER OF RADIATION LINKS   =     80
NUMBER OF HEAT SOURCES      =      0
TIME = 0.                    DTIME =  .10000000E-01      FTIME =  .10000000E+00

INITIAL TEMPERATURES OF ITERATED NODES
  T(  1) =  .500000E+03  T(  2) =  .500000E+03  T(  3) =  .500000E+03  T(  4) =  .500000E+03  T(  5) =  .500000E+03
  T(  6) =  .500000E+03  T(  7) =  .500000E+03  T(  8) =  .500000E+03  T(  9) =  .500000E+03  T( 10) =  .500000E+03
  T( 11) =  .500000E+03  T( 12) =  .500000E+03  T( 13) =  .500000E+03  T( 14) =  .500000E+03  T( 15) =  .500000E+03
  T( 16) =  .500000E+03  T( 17) =  .500000E+03  T( 18) =  .500000E+03  T( 19) =  .500000E+03  T( 20) =  .500000E+03
  T( 21) =  .500000E+03  T( 22) =  .500000E+03  T( 23) =  .500000E+03  T( 24) =  .500000E+03  T( 25) =  .500000E+03
  T( 26) =  .500000E+03  T( 27) =  .500000E+03  T( 28) =  .500000E+03  T( 29) =  .500000E+03  T( 30) =  .500000E+03
  T( 31) =  .500000E+03  T( 32) =  .500000E+03  T( 33) =  .500000E+03  T( 34) =  .500000E+03  T( 35) =  .500000E+03
  T( 36) =  .500000E+03  T( 37) =  .500000E+03  T( 38) =  .500000E+03  T( 39) =  .500000E+03  T( 40) =  .500000E+03
  T( 41) =  .500000E+03  T( 42) =  .500000E+03  T( 43) =  .500000E+03  T( 44) =  .500000E+03  T( 45) =  .500000E+03
  T( 46) =  .500000E+03  T( 47) =  .500000E+03  T( 48) =  .500000E+03  T( 49) =  .500000E+03  T( 50) =  .500000E+03
  T( 51) =  .500000E+03  T( 52) =  .500000E+03  T( 53) =  .500000E+03  T( 54) =  .500000E+03  T( 55) =  .500000E+03
  T( 56) =  .500000E+03  T( 57) =  .500000E+03  T( 58) =  .500000E+03  T( 59) =  .500000E+03  T( 60) =  .500000E+03
  T( 61) =  .500000E+03  T( 62) =  .500000E+03  T( 63) =  .500000E+03  T( 64) =  .500000E+03  T( 65) =  .500000E+03
  T( 66) =  .500000E+03  T( 67) =  .500000E+03  T( 68) =  .500000E+03  T( 69) =  .500000E+03  T( 70) =  .500000E+03
  T( 71) =  .500000E+03  T( 72) =  .500000E+03  T( 73) =  .500000E+03  T( 74) =  .500000E+03  T( 75) =  .500000E+03
  T( 76) =  .500000E+03  T( 77) =  .500000E+03  T( 78) =  .500000E+03  T( 79) =  .500000E+03  T( 80) =  .500000E+03
  T( 81) =  .500000E+03  T( 82) =  .500000E+03  T( 83) =  .500000E+03  T( 84) =  .500000E+03  T( 85) =  .500000E+03
  T( 86) =  .500000E+03  T( 87) =  .500000E+03  T( 88) =  .500000E+03  T( 89) =  .500000E+03  T( 90) =  .500000E+03
  T( 91) =  .500000E+03  T( 92) =  .500000E+03  T( 93) =  .500000E+03  T( 94) =  .500000E+03  T( 95) =  .500000E+03
  T( 96) =  .500000E+03  T( 97) =  .500000E+03  T( 98) =  .500000E+03  T( 99) =  .500000E+03  T(100) =  .500000E+03
  T(101) =  .500000E+03  T(102) =  .500000E+03  T(103) =  .500000E+03  T(104) =  .500000E+03  T(105) =  .500000E+03
  T(106) =  .500000E+03  T(107) =  .500000E+03  T(108) =  .500000E+03  T(109) =  .500000E+03  T(110) =  .500000E+03
  T(111) =  .500000E+03  T(112) =  .500000E+03  T(113) =  .500000E+03  T(114) =  .500000E+03  T(115) =  .500000E+03
  T(116) =  .500000E+03  T(117) =  .500000E+03  T(118) =  .500000E+03  T(119) =  .500000E+03  T(120) =  .500000E+03
  T(121) =  .500000E+03  T(122) =  .500000E+03  T(123) =  .500000E+03  T(124) =  .500000E+03  T(125) =  .500000E+03
  T(126) =  .500000E+03  T(127) =  .500000E+03  T(128) =  .500000E+03  T(129) =  .500000E+03  T(130) =  .500000E+03
  T(131) =  .500000E+03  T(132) =  .500000E+03  T(133) =  .500000E+03  T(134) =  .500000E+03  T(135) =  .500000E+03
  T(136) =  .500000E+03  T(137) =  .500000E+03  T(138) =  .500000E+03  T(139) =  .500000E+03  T(140) =  .500000E+03
  T(141) =  .500000E+03  T(142) =  .500000E+03  T(143) =  .500000E+03  T(144) =  .500000E+03  T(145) =  .500000E+03
  T(146) =  .500000E+03  T(147) =  .500000E+03  T(148) =  .500000E+03  T(149) =  .500000E+03  T(150) =  .500000E+03
  T(151) =  .500000E+03  T(152) =  .500000E+03  T(153) =  .500000E+03  T(154) =  .500000E+03  T(155) =  .500000E+03
  T(156) =  .500000E+03  T(157) =  .500000E+03  T(158) =  .500000E+03  T(159) =  .500000E+03  T(160) =  .500000E+03

INITIAL TEMPERATURES OF BOUNDARY NODES
  T(999) =  .234000E+04  T(998) =  .590000E+02  T(

INITIAL THERMAL CAPACITANCES OF ITERATED NODES
CAP(  1) =  .731100E-03     CAP(  2) =  .749000E-03     CAP(  3) =  .766800E-03     CAP(  4) =  .713300E-03
CAP(  5) =  .766800E-03     CAP(  6) =  .731100E-03     CAP(  7) =  .749000E-03     CAP(  8) =  .731100E-03
CAP(  9) =  .766800E-03     CAP( 10) =  .731100E-03     CAP( 11) =  .731100E-03     CAP( 12) =  .749000E-03
CAP( 13) =  .766800E-03     CAP( 14) =  .713300E-03     CAP( 15) =  .766800E-03     CAP( 16) =  .731100E-03
CAP( 17) =  .749000E-03     CAP( 18) =  .731100E-03     CAP( 19) =  .766800E-03     CAP( 20) =  .731100E-03
CAP( 21) =  .731100E-03     CAP( 22) =  .749000E-03     CAP( 23) =  .766800E-03     CAP( 24) =  .713300E-03
CAP( 25) =  .766800E-03     CAP( 26) =  .731100E-03     CAP( 27) =  .749000E-03     CAP( 28) =  .731100E-03
CAP( 29) =  .766800E-03     CAP( 30) =  .731100E-03     CAP( 31) =  .731100E-03     CAP( 32) =  .749000E-03
CAP( 33) =  .766800E-03     CAP( 34) =  .713300E-03     CAP( 35) =  .766800E-03     CAP( 36) =  .731100E-03
CAP( 37) =  .749000E-03     CAP( 38) =  .731100E-03     CAP( 39) =  .766800E-03     CAP( 40) =  .731100E-03
CAP( 41) =  .146200E-02     CAP( 42) =  .149800E-02     CAP( 43) =  .153400E-02     CAP( 44) =  .142700E-02
CAP( 45) =  .153400E-02     CAP( 46) =  .146200E-02     CAP( 47) =  .149800E-02     CAP( 48) =  .146200E-02
CAP( 49) =  .153400E-02     CAP( 50) =  .146200E-02     CAP( 51) =  .142700E-02     CAP( 52) =  .146200E-02
CAP( 53) =  .149700E-02     CAP( 54) =  .139300E-02     CAP( 55) =  .149700E-02     CAP( 56) =  .142700E-02
```

Figure 5-8. Model 2A Output (Sheet 2 of 49)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

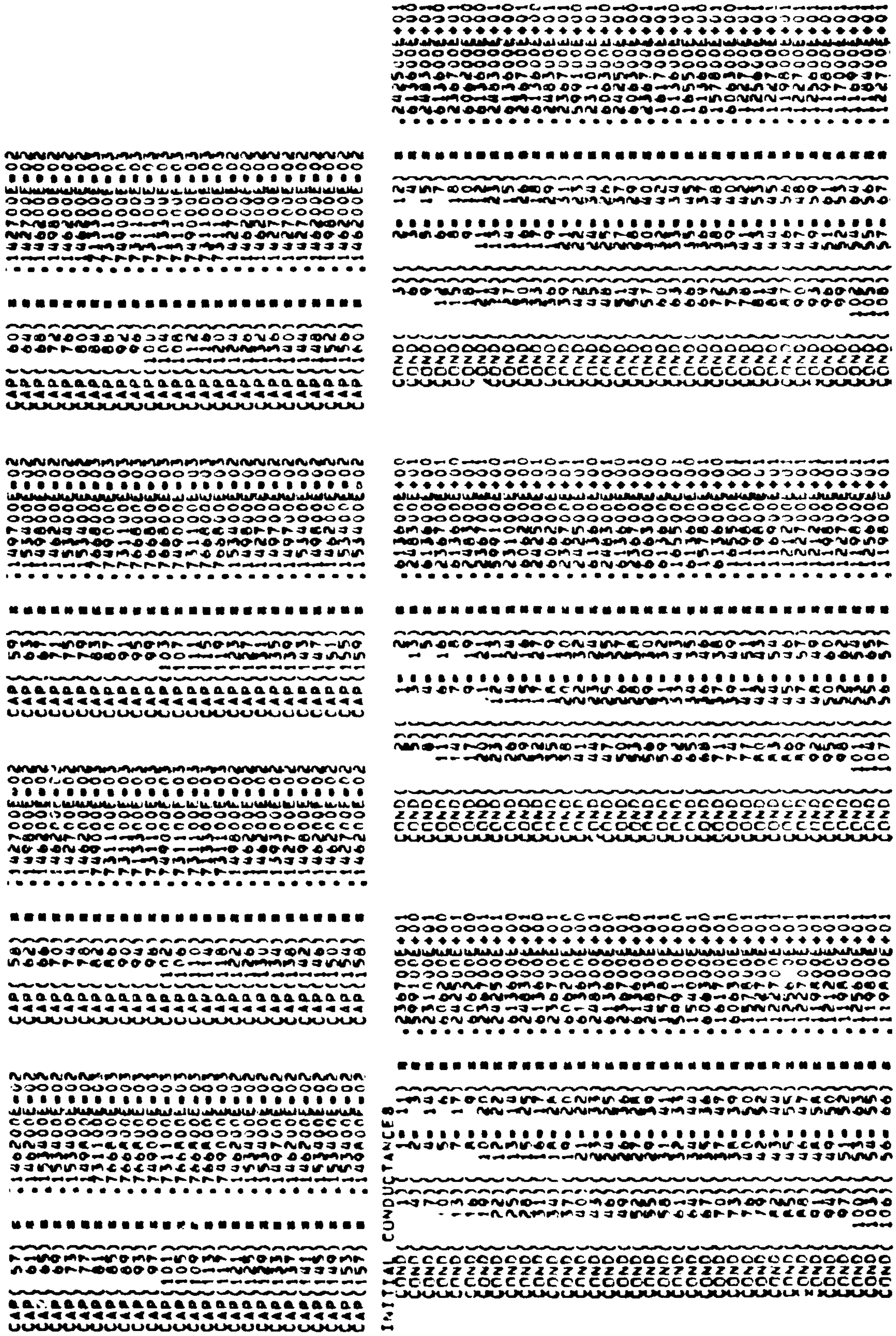


Figure 5-8. Model 2A Output (Sheet 3 of 49)

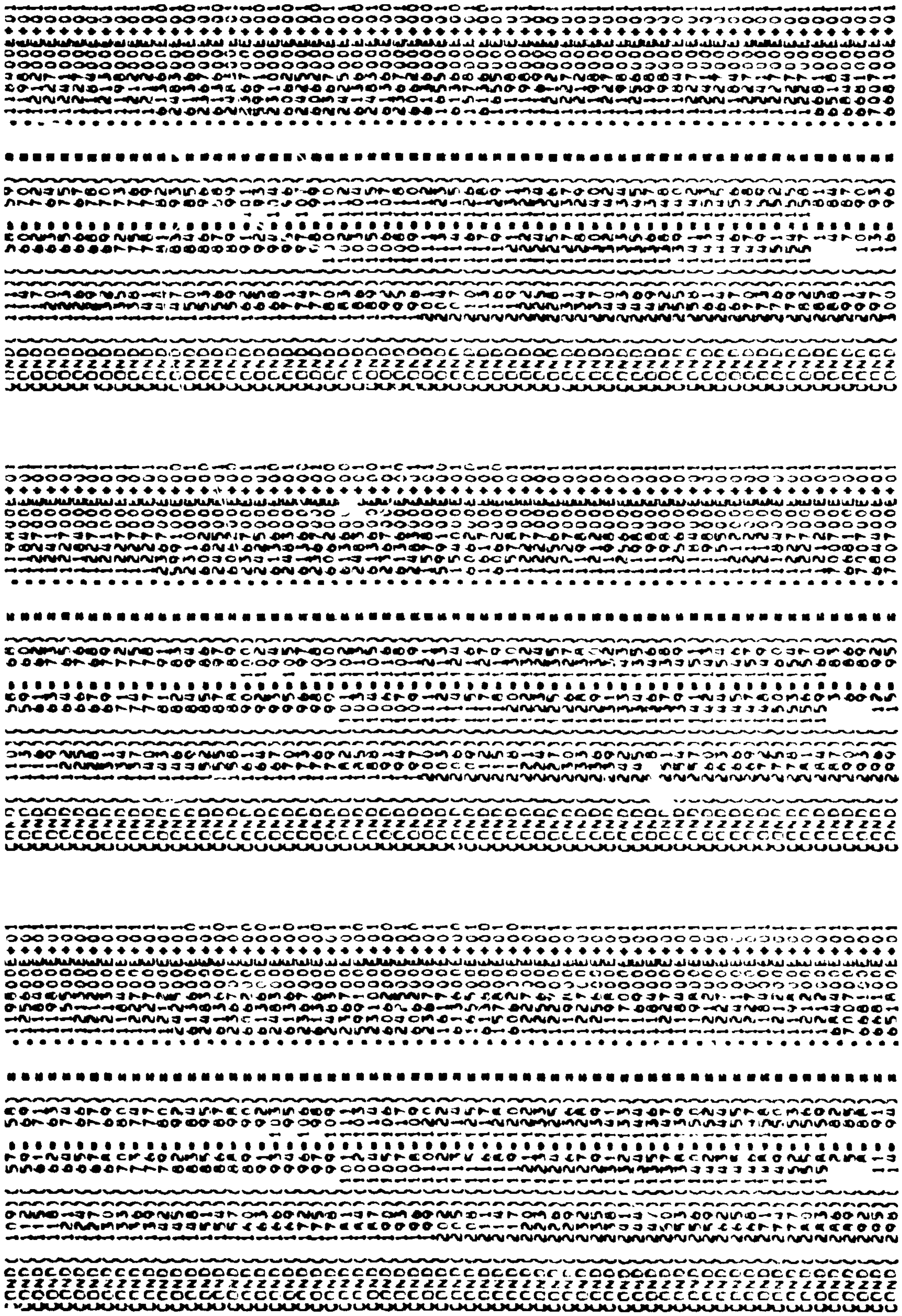


Figure 5-8. Model 2A Output (Sheet 4 of 49)

```
COND( 301)( 17- 97) = .684400E+01     COND( 302)( 18- 98) = .668100E+01     COND( 303)( 19- 99) = .700700E+01
COND( 304)( 20-100) = .668100E+01     COND( 305)( 21-101) = .668100E+01     COND( 306)( 22-102) = .684400E+01
COND( 307)( 23-103) = .700700E+01     COND( 308)( 24-104) = .651800E+01     COND( 309)( 25-105) = .700700E+01
COND( 310)( 26-106) = .668100E+01     COND( 311)( 27-107) = .684400E+01     COND( 312)( 28-108) = .668100E+01
COND( 313)( 29-109) = .700700E+01     COND( 314)( 30-110) = .668100E+01     COND( 315)( 31-111) = .668100E+01
COND( 316)( 32-112) = .684400E+01     COND( 317)( 33-113) = .700700E+01     COND( 318)( 34-114) = .651800E+01
COND( 319)( 35-115) = .700700E+01     COND( 320)( 36-116) = .668100E+01     COND( 321)( 37-117) = .684400E+01
COND( 322)( 38-118) = .668100E+01     COND( 323)( 39-119) = .700700E+01     COND( 324)( 40-120) = .668100E+01
COND( 325)( 41-121) = .133600E+02     COND( 326)( 42-122) = .136900E+02     COND( 327)( 43-123) = .140100E+02
COND( 328)( 44-124) = .130400E+02     COND( 329)( 45-125) = .140100E+02     COND( 330)( 46-126) = .133600E+02
COND( 331)( 47-127) = .136900E+02     COND( 332)( 48-128) = .133600E+02     COND( 333)( 49-129) = .140100E+02
COND( 334)( 50-130) = .133600E+02     COND( 335)( 51-131) = .130400E+02     COND( 336)( 52-132) = .133600E+02
COND( 337)( 53-133) = .136800E+02     COND( 338)( 54-134) = .127300E+02     COND( 339)( 55-135) = .136800E+02
COND( 340)( 56-136) = .130400E+02     COND( 341)( 57-137) = .133600E+02     COND( 342)( 58-138) = .130400E+02
COND( 343)( 59-139) = .136800E+02     COND( 344)( 60-140) = .130400E+02     COND( 345)( 61-141) = .133600E+02
COND( 346)( 62-142) = .136900E+02     COND( 347)( 63-143) = .140100E+02     COND( 348)( 64-144) = .130400E+02
COND( 349)( 65-145) = .140100E+02     COND( 350)( 66-146) = .133600E+02     COND( 351)( 67-147) = .136900E+02
COND( 352)( 68-148) = .133600E+02     COND( 353)( 69-149) = .140100E+02     COND( 354)( 70-150) = .133600E+02
COND( 355)( 71-151) = .133600E+02     COND( 356)( 72-152) = .136900E+02     COND( 357)( 73-153) = .140100E+02
COND( 358)( 74-154) = .130400E+02     COND( 359)( 75-155) = .140100E+02     COND( 360)( 76-156) = .133600E+02
COND( 361)( 77-157) = .136900E+02     COND( 362)( 78-158) = .133600E+02     COND( 363)( 79-159) = .140100E+02
COND( 364)( 80-160) = .133600E+02     COND( 365)(  1-999) = .193200E+00     COND( 366)(  2-999) = .116400E+00
COND( 367)(  3-999) = .596000E-01     COND( 368)(  4-999) = .554000E-01     COND( 369)(  5-999) = .596000E-01
COND( 370)(  6-999) = .560000E-01     COND( 371)(  7-999) = .700000E-01     COND( 372)(  8-999) = .800000E-01
COND( 373)(  9-999) = .119000E-01     COND( 374)( 10-999) = .119000E-01     COND( 375)( 11-999) = .193200E+00
COND( 376)( 12-999) = .116400E+00     COND( 377)( 13-999) = .119000E-01     COND( 378)( 14-999) = .119000E-01
COND( 379)( 15-999) = .119000E-01     COND( 380)( 16-999) = .119000E-01     COND( 381)( 17-999) = .570000E-01
COND( 382)( 18-999) = .800000E-01     COND( 383)( 19-999) = .119000E-01     COND( 384)( 20-999) = .119000E-01
COND( 385)( 21-999) = .193200E+00     COND( 386)( 22-999) = .116400E+00     COND( 387)( 23-999) = .596000E-01
COND( 388)( 24-999) = .119000E-01     COND( 389)( 25-999) = .700000E-01     COND( 390)( 26-999) = .800000E-01
COND( 391)( 27-999) = .840000E-01     COND( 392)( 28-999) = .114000E-01     COND( 393)( 29-999) = .114000E-01
COND( 394)( 30-999) = .119000E-01     COND( 395)( 31-999) = .193200E+00     COND( 396)( 32-999) = .128100E+00
COND( 397)( 33-999) = .596000E-01     COND( 398)( 34-999) = .554000E-01     COND( 399)( 35-999) = .119000E-01
COND( 400)( 36-999) = .114000E-01     COND( 401)( 37-999) = .114000E-01     COND( 402)( 38-999) = .114000E-01
COND( 403)( 39-999) = .119000E-01     COND( 404)( 40-999) = .800000E-01     COND( 405)( 41-999) = .386400E+00
COND( 406)( 42-999) = .256100E+00     COND( 407)( 43-999) = .141000E+00     COND( 408)( 44-999) = .140000E+00
COND( 409)( 45-999) = .212000E+00     COND( 410)( 46-999) = .230000E+00     COND( 411)( 47-999) = .230000E+00
COND( 412)( 48-999) = .212000E+00     COND( 413)( 49-999) = .690000E-01     COND( 414)( 50-999) = .690000E-01
COND( 415)( 51-999) = .3772[illegible]E+00 COND( 416)( 52-999) = .373000E+00  COND( 417)( 53-999) = .117600E+00
COND( 418)( 54-999) = .216000E-01     COND( 419)( 55-999) = .212000E+00     COND( 420)( 56-999) = .212000E+00
COND( 421)( 57-999) = .183000E+00     COND( 422)( 58-999) = .155000E+00     COND( 423)( 59-999) = .235000E-01
COND( 424)( 60-999) = .235000E-01     COND( 425)( 61-999) = .386400E+00     COND( 426)( 62-999) = .379000E+00
COND( 427)( 63-999) = .117600E+00     COND( 428)( 64-999) = .690000E-01     COND( 429)( 65-999) = .218000E-01
COND( 430)( 66-999) = .690000E-01     COND( 431)( 67-999) = .690000E-01     COND( 432)( 68-999) = .235000E-01
COND( 433)( 69-999) = .335000E-01     COND( 434)( 70-999) = .235000E-01     COND( 435)( 71-999) = .386400E+00
COND( 436)( 72-999) = .302600E+00     COND( 437)( 73-999) = .117600E+00     COND( 438)( 74-999) = .460000E-01
COND( 439)( 75-999) = .235000E-01     COND( 440)( 76-999) = .235000E-01     COND( 441)( 77-999) = .235000E-01
COND( 442)( 78-999) = .235000E-01     COND( 443)( 79-999) = .235000E-01     COND( 444)( 80-999) = .235000E-01

INITIAL RADIATION LINKS
RAD(   1)(  1-998) = .861000E-03      RAD(   2)(  2-998) = .882000E-03      RAD(   3)(  3-998) = .903000E-03
RAD(   4)(  4-998) = .840000E-03      RAD(   5)(  5-998) = .903000E-03      RAD(   6)(  6-998) = .861000E-03
RAD(   7)(  7-998) = .882000E-03      RAD(   8)(  8-998) = .861000E-03      RAD(   9)(  9-998) = .903000E-03
RAD(  10)( 10-998) = .861000E-03      RAD(  11)( 11-998) = .861000E-03      RAD(  12)( 12-998) = .882000E-03
RAD(  13)( 13-998) = .903000E-03      RAD(  14)( 14-998) = .840000E-03      RAD(  15)( 15-998) = .903000E-03
RAD(  16)( 16-998) = .861000E-03      RAD(  17)( 17-998) = .882000E-03      RAD(  18)( 18-998) = .861000E-03
RAD(  19)( 19-998) = .903000E-03      RAD(  20)( 20-998) = .861000E-03      RAD(  21)( 21-998) = .861000E-03
RAD(  22)( 22-998) = .882000E-03      RAD(  23)( 23-998) = .903000E-03      RAD(  24)( 24-998) = .840000E-03
RAD(  25)( 25-998) = .903000E-03      RAD(  26)( 26-998) = .861000E-03      RAD(  27)( 27-998) = .882000E-03
RAD(  28)( 28-998) = .861000E-03      RAD(  29)( 29-998) = .903000E-03      RAD(  30)( 30-998) = .861000E-03
RAD(  31)( 31-998) = .861000E-03      RAD(  32)( 32-998) = .882000E-03      RAD(  33)( 33-998) = .903000E-03
RAD(  34)( 34-998) = .840000E-03      RAD(  35)( 35-998) = .903000E-03      RAD(  36)( 36-998) = .861000E-03
RAD(  37)( 37-998) = .882000E-03      RAD(  38)( 38-998) = .861000E-03      RAD(  39)( 39-998) = .903000E-03
RAD(  40)( 40-998) = .861000E-03      RAD(  41)( 41-998) = .172200E-02      RAD(  42)( 42-998) = .176400E-02
```

Figure 5-8. Model 2A Output (Sheet 5 of 49)

RAD(	43)(43-998) =	.180600E-02	RAD(	44)(44-998) =	.168000E-02	RAD(	45)(45-998) =	.180600E-02
RAD(	46)(46-998) =	.172200E-02	RAD(	47)(47-998) =	.176400E-02	RAD(	48)(48-998) =	.172200E-02
RAD(	49)(49-998) =	.180600E-02	RAD(	50)(50-998) =	.172200E-02	RAD(	51)(51-998) =	.168100E-02
RAD(	52)(52-998) =	.172200E-02	RAD(	53)(53-998) =	.176300E-02	RAD(	54)(54-998) =	.164000E-02
RAD(	55)(55-998) =	.176300E-02	RAD(	56)(56-998) =	.168100E-02	RAD(	57)(57-998) =	.172200E-02
RAD(	58)(58-998) =	.168100E-02	RAD(	59)(59-998) =	.176300E-02	RAD(	60)(60-998) =	.168100E-02
RAD(	61)(61-998) =	.172200E-02	RAD(	62)(62-998) =	.176400E-02	RAD(	63)(63-998) =	.180600E-02
RAD(	64)(64-998) =	.168000E-02	RAD(	65)(65-998) =	.180600E-02	RAD(	66)(66-998) =	.172200E-02
RAD(	67)(67-998) =	.176400E-02	RAD(	68)(68-998) =	.172200E-02	RAD(	69)(69-998) =	.180600E-02
RAD(	70)(70-998) =	.172200E-02	RAD(	71)(71-998) =	.172200E-02	RAD(	72)(72-998) =	.176400E-02
RAD(	73)(73-998) =	.180600E-02	RAD(	74)(74-998) =	.168000E-02	RAD(	75)(75-998) =	.180600E-02
RAD(	76)(76-998) =	.172200E-02	RAD(	77)(77-998) =	.176400E-02	RAD(	78)(78-998) =	.172200E-02
RAD(	79)(79-998) =	.180600E-02	RAD(	80)(80-998) =	.172200E-02	RAD(		

INITIAL HEAT FLUXES

1	6	2 TEMP VR PROPERTIES				
	.10000000E+00	.80000000E+02	.40000000E+03	.60000000E+03	.80000000E+03	.50000000E+04
	.39500000E+00	.39500000E+00	.51100000E+00	.54800000E+00	.56200000E+00	.57000000E+00
	.10250000E+02	.10250000E+02	.82900000E+01	.74200000E+01	.67900000E+01	.60000000E+01

TIME= .010

RESERVED STORAGE IS12500 REQUIRED IS 7269 WORDS

TBS

ROW / COL										
	1	2	3	4	5	6	7	8	9	10
1	2.350E+03	2.331E+03	2.298E+03	2.282E+03	2.277E+03	2.276E+03	2.277E+03	2.262E+03	2.209E+03	2.192E+03
	11	12	13	14	15	16	17	18	19	20
1	2.351E+03	2.331E+03	2.294E+03	2.276E+03	2.272E+03	2.272E+03	2.276E+03	2.258E+03	2.209E+03	2.195E+03
	21	22	23	24	25	26	27	28	29	30
1	2.351E+03	2.332E+03	2.300E+03	2.278E+03	2.280E+03	2.281E+03	2.278E+03	2.246E+03	2.211E+03	2.204E+03
	31	32	33	34	35	36	37	38	39	40
1	2.351E+03	2.334E+03	2.304E+03	2.288E+03	2.280E+03	2.279E+03	2.272E+03	2.247E+03	2.214E+03	2.221E+03
	41	42	43	44	45	46	47	48	49	50
1	2.352E+03	2.335E+03	2.309E+03	2.296E+03	2.301E+03	2.302E+03	2.294E+03	2.271E+03	2.222E+03	2.210E+03
	51	52	53	54	55	56	57	58	59	60
1	2.352E+03	2.336E+03	2.303E+03	2.276E+03	2.291E+03	2.291E+03	2.277E+03	2.250E+03	2.193E+03	2.175E+03
	61	62	63	64	65	66	67	68	69	70
1	2.352E+03	2.335E+03	2.298E+03	2.265E+03	2.243E+03	2.240E+03	2.225E+03	2.192E+03	2.164E+03	2.150E+03
	71	72	73	74	75	76	77	78	79	80
1	2.352E+03	2.336E+03	2.294E+03	2.252E+03	2.221E+03	2.205E+03	2.188E+03	2.167E+03	2.147E+03	2.137E+03
	81	82	83	84	85	86	87	88	89	90
1	2.349E+03	2.330E+03	2.258E+03	2.282E+03	2.276E+03	2.275E+03	2.275E+03	2.258E+03	2.212E+03	2.195E+03
	91	92	93	94	95	96	97	98	99	100
1	2.349E+03	2.330E+03	2.297E+03	2.279E+03	2.275E+03	2.274E+03	2.275E+03	2.255E+03	2.212E+03	2.198E+03
	101	102	103	104	105	106	107	108	109	110
1	2.349E+03	2.331E+03	2.301E+03	2.281E+03	2.280E+03	2.280E+03	2.276E+03	2.248E+03	2.214E+03	2.205E+03
	111	112	113	114	115	116	117	118	119	120
1	2.350E+03	2.333E+03	2.305E+03	2.288E+03	2.283E+03	2.282E+03	2.275E+03	2.250E+03	2.217E+03	2.216E+03
	121	122	123	124	125	126	127	128	129	130
1	2.350E+03	2.334E+03	2.309E+03	2.296E+03	2.298E+03	2.298E+03	2.289E+03	2.266E+03	2.221E+03	2.209E+03
	131	132	133	134	135	136	137	138	139	140
1	2.350E+03	2.335E+03	2.303E+03	2.280E+03	2.288E+03	2.287E+03	2.273E+03	2.245E+03	2.195E+03	2.177E+03
	141	142	143	144	145	146	147	148	149	150
1	2.350E+03	2.334E+03	2.298E+03	2.266E+03	2.246E+03	2.241E+03	2.225E+03	2.195E+03	2.166E+03	2.153E+03
	151	152	153	154	155	156	157	158	159	160
1	2.350E+03	2.334E+03	2.294E+03	2.254E+03	2.224E+03	2.208E+03	2.191E+03	2.169E+03	2.149E+03	2.139E+03

Figure 5-8. Model 2A Output (Sheet 6 of 49)

```
ITERATION NUMBER 13  MAXIMUM ABSOLUTE ERROR =     6.30

EST ABS ERR
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1        0.         -7.465E-06  5.881E-06  3.951E+00  1.174E+00  6.303E+00 -7.213E-06  1.977E-02  6.797E-02  4.883E-03
ROW / COL     11         12         13         14
  1        1.638E-05  3.417E+00  6.025E-04  7.783E-04

RAYLEIGH QUOTIENTS
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1       -2.184E+01 -4.306E+01 -3.803E+01 -1.7.5E+02 -1.403E+02 -1.583E+02 -5.720E+01 -1.231E+02 -1.193E+02 -1.069E+02
ROW / COL     11         12         13         14
  1       -7.379E+01 -1.507E+02 -8.849E+01 -9.367E+01

DOMINANT EIGENVALUES
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1       -2.184E+01 -3.803E+01 -4.306E+01 -5.720E+01 -7.379E+01 -8.849E+01 -9.367E+01 -1.069E+02 -1.193E+02 -1.231E+02
ROW / COL     11         12         13         14
  1       -1.403E+02 -1.507E+02 -1.583E+02 -1.715E+02
              MAXIMUM ITERATION   12 IN EIJEN REACHED

TIME =   .100E-01   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1        1.812E+03  1.508E+03  1.109E+03  1.020E+03  1.001E+03  1.008E+03  1.134E+03  1.127E+03  7.434E+02  6.775E+02
ROW / COL     11         12         13         14         15         16         17         18         19         20
  1        1.810E+03  1.508E+03  1.045E+03  9.321E+02  9.341E+02  9.557E+02  1.113E+03  1.083E+03  7.484E+02  7.166E+02
ROW / COL     21         22         23         24         25         26         27         28         29         30
  1        1.808E+03  1.515E+03  1.123E+03  9.583E+02  1.035E+03  1.074E+03  1.146E+03  9.518E+02  7.642E+02  8.049E+02
ROW / COL     31         32         33         34         35         36         37         38         39         40
  1        1.805E+03  1.538E+03  1.171E+03  1.080E+03  1.044E+03  1.067E+03  1.087E+03  9.738E+02  8.135E+02  9.804E+02
ROW / COL     41         42         43         44         45         46         47         48         49         50
  1        1.801E+03  1.550E+03  1.227E+03  1.192E+03  1.326E+03  1.387E+03  1.370E+03  1.258E+03  9.190E+02  9.276E+02
ROW / COL     51         52         53         54         55         56         57         58         59         60
  1        1.801E+03  1.570E+03  1.172E+03  9.715E+02  1.275E+03  1.353E+03  1.292E+03  1.134E+03  7.497E+02  7.154E+02
ROW / COL     61         62         63         64         65         66         67         68         69         70
  1        1.807E+03  1.589E+03  1.175E+03  9.387E+02  8.236E+02  9.237E+02  9.155E+02  7.570E+02  6.419E+02  6.497E+02
ROW / COL     71         72         73         74         75         76         77         78         79         80
  1        1.820E+03  1.630E+03  1.199E+03  8.938E+02  7.074E+02  7.071E+02  7.322E+02  6.979E+02  6.594E+02  6.802E+02
ROW / COL     81         82         83         84         85         86         87         88         89         90
  1        1.707E+03  1.416E+03  1.047E+03  9.559E+02  9.352E+02  9.428E+02  1.057E+03  1.039E+03  7.244E+02  6.595E+02
ROW / COL     91         92         93         94         95         96         97         98         99         100
  1        1.705E+03  1.414E+03  1.017E+03  9.091E+02  9.063E+02  9.247E+02  1.044E+03  9.994E+02  7.206E+02  6.982E+02
ROW / COL    101        102        103        104        105        106        107        108        109        110
  1        1.702E+03  1.422E+03  1.062E+03  9.335E+02  9.671E+02  9.960E+02  1.057E+03  9.259E+02  7.474E+02  7.798E+02
ROW / COL    111        112        113        114        115        116        117        118        119        120
  1        1.699E+03  1.438E+03  1.106E+03  1.018E+03  1.015E+03  1.037E+03  1.057E+03  9.503E+02  7.932E+02  8.954E+02
ROW / COL    121        122        123        124        125        126        127        128        129        130
  1        1.694E+03  1.452E+03  1.154E+03  1.116E+03  1.231E+03  1.285E+03  1.269E+03  1.156E+03  8.752E+02  8.814E+02
ROW / COL    131        132        133        134        135        136        137        138        139        140
  1        1.693E+03  1.467E+03  1.107E+03  9.489E+02  1.176E+03  1.252E+03  1.201E+03  1.047E+03  7.296E+02  6.967E+02
ROW / COL    141        142        143        144        145        146        147        148        149        150
  1        1.700E+03  1.487E+03  1.111E+03  8.940E+02  8.040E+02  8.778E+02  6.708E+02  7.365E+02  6.245E+02  6.319E+02
ROW / COL    151        152        153        154        155        156        157        158        159        160
  1        1.715E+03  1.526E+03  1.137E+03  8.613E+02  6.903E+02  6.888E+02  7.147E+02  6.806E+02  6.426E+02  6.628E+02
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Figure 5-8. Model 2A Output (Sheet 7 of 49)

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

```
TIME =    .100000E-01
T(   1) =  .181193E+04  T(   2) =  .150845E+04  T(   3) =  .110941E+04  T(   4) =  .101972E+04  T(   5) =  .100088E+04
T(   6) =  .100831E+04  T(   7) =  .113407E+04  T(   8) =  .112676E+04  T(   9) =  .743438E+03  T(  10) =  .677462E+03
T(  11) =  .180990E+04  T(  12) =  .152560E+04  T(  13) =  .104463E+04  T(  14) =  .932135E+03  T(  15) =  .934100E+03
T(  16) =  .955748E+03  T(  17) =  .111301E+04  T(  18) =  .108253E+04  T(  19) =  .748415E+03  T(  20) =  .716614E+03
T(  21) =  .180757E+04  T(  22) =  .151518E+04  T(  23) =  .112304E+04  T(  24) =  .958274E+03  T(  25) =  .103487E+04
T(  26) =  .107558E+04  T(  27) =  .114591E+04  T(  28) =  .951841E+03  T(  29) =  .764194E+03  T(  30) =  .804929E+03
T(  31) =  .180544E+04  T(  32) =  .153589E+04  T(  33) =  .117106E+04  T(  34) =  .108006E+04  T(  35) =  .104420E+04
T(  36) =  .106729E+04  T(  37) =  .108693E+04  T(  38) =  .973760E+03  T(  39) =  .513504E+03  T(  40) =  .880441E+03
T(  41) =  .180134E+04  T(  42) =  .155047E+04  T(  43) =  .122723E+04  T(  44) =  .119227E+04  T(  45) =  .132576E+04
T(  46) =  .138748E+04  T(  47) =  .136994E+04  T(  48) =  .125806E+04  T(  49) =  .919036E+03  T(  50) =  .927579E+03
T(  51) =  .180071E+04  T(  52) =  .157035E+04  T(  53) =  .117162E+04  T(  54) =  .971487E+03  T(  55) =  .127496E+04
T(  56) =  .135253E+04  T(  57) =  .129237E+04  T(  58) =  .113384E+04  T(  59) =  .749715E+03  T(  60) =  .715408E+03
T(  61) =  .180725E+04  T(  62) =  .158849E+04  T(  63) =  .117468E+04  T(  64) =  .938665E+03  T(  65) =  .823594E+03
T(  66) =  .973680E+03  T(  67) =  .915443E+03  T(  68) =  .756973E+03  T(  69) =  .641872E+03  T(  70) =  .689750E+03
T(  71) =  .181981E+04  T(  72) =  .162982E+04  T(  73) =  .119892E+04  T(  74) =  .893606E+03  T(  75) =  .707440E+03
T(  76) =  .707122E+03  T(  77) =  .732215E+03  T(  78) =  .697878E+03  T(  79) =  .659422E+03  T(  80) =  .680162E+03
T(  81) =  .170698E+04  T(  82) =  .141570E+04  T(  83) =  .104731E+04  T(  84) =  .955869E+03  T(  85) =  .943155E+03
T(  86) =  .942784E+03  T(  87) =  .105679E+04  T(  88) =  .103861E+04  T(  89) =  .724427E+03  T(  90) =  .658537E+03
T(  91) =  .170457E+04  T(  92) =  .141352E+04  T(  93) =  .101710E+04  T(  94) =  .909078E+03  T(  95) =  .900347E+03
T(  96) =  .924731E+03  T(  97) =  .104406E+04  T(  98) =  .999357E+03  T(  99) =  .729801E+03  T( 100) =  .698217E+03
T( 101) =  .170166E+04  T( 102) =  .142211E+04  T( 103) =  .106216E+04  T( 104) =  .933472E+03  T( 105) =  .997146E+03
T( 106) =  .995093E+03  T( 107) =  .105745E+04  T( 108) =  .925880E+03  T( 109) =  .747362E+03  T( 110) =  .779755E+03
T( 111) =  .169879E+04  T( 112) =  .143756E+04  T( 113) =  .110584E+04  T( 114) =  .101825E+04  T( 115) =  .101529E+04
T( 116) =  .103734E+04  T( 117) =  .105654E+04  T( 118) =  .950294E+03  T( 119) =  .793150E+03  T( 120) =  .895431E+03
T( 121) =  .169372E+04  T( 122) =  .145213E+04  T( 123) =  .115446E+04  T( 124) =  .111588E+04  T( 125) =  .123065E+04
T( 126) =  .128507E+04  T( 127) =  .126870E+04  T( 128) =  .115560E+04  T( 129) =  .875237E+03  T( 130) =  .881371E+03
T( 131) =  .169261E+04  T( 132) =  .146669E+04  T( 133) =  .110688E+04  T( 134) =  .948656E+03  T( 135) =  .117568E+04
T( 136) =  .125161E+04  T( 137) =  .120138E+04  T( 138) =  .104731E+04  T( 139) =  .729616E+03  T( 140) =  .696652E+03
T( 141) =  .170034E+04  T( 142) =  .148740E+04  T( 143) =  .111125E+04  T( 144) =  .893984E+03  T( 145) =  .804020E+03
T( 146) =  .877842E+03  T( 147) =  .870788E+03  T( 148) =  .736545E+03  T( 149) =  .624480E+03  T( 150) =  .631912E+03
T( 151) =  .171497E+04  T( 152) =  .152670E+04  T( 153) =  .113725E+04  T( 154) =  .861250E+03  T( 155) =  .690212E+03
T( 156) =  .688808E+03  T( 157) =  .714653E+03  T( 158) =  .680570E+03  T( 159) =  .642562E+03  T( 160) =  .662833E+03
T( 999) =  .239000E+04  T( 998) =  .500000E+02  T(
HEAT FLUXES
  FLUX(   1)(  1-  11) =  .389344E+02    FLUX(   2)(  1-   2) =  .150759E+02    FLUX(   3)(  2-  12) =  .336763E+00
  FLUX(   4)(  2-   3) =  .193602E+02    FLUX(   5)(  3-  13) =  .130249E+02    FLUX(   6)(  3-   4) =  .445536E+01
  FLUX(   7)(  4-  14) =  .163817E+02    FLUX(   8)(  4-   5) =  .445971E+00    FLUX(   9)(  5-  15) =  .133863E+02
  FLUX(  10)(  5-   6) = -.374266E+00    FLUX(  11)(  6-  16) =  .100756E+02    FLUX(  12)(  6-   7) = -.624752E+01
  FLUX(  13)(  7-  17) =  .413695E+01    FLUX(  14)(  7-   8) =  .363157E+00    FLUX(  15)(  8-  18) =  .847920E+01
  FLUX(  16)(  8-   9) =  .188159E+02    FLUX(  17)(  9-  19) = -.100058E+01    FLUX(  18)(  9-  10) =  .323852E+01
  FLUX(  19)( 10-  20) = -.750562E+01    FLUX(  20)( 11-  21) =  .446366E+00    FLUX(  21)( [illegible]) =  .151164E+02
  FLUX(  22)( 12-  22) = -.188042E+01    FLUX(  23)( 12-  13) =  .223654E+02    FLUX(  24)( 13-  23) = -.157649E+02
  FLUX(  25)( 13-  14) =  .556826E+01    FLUX(  26)( 14-  24) = -.488862E+01    FLUX(  27)( 14-  15) = -.976276E-01
  FLUX(  28)( 15-  25) = -.202600E+02    FLUX(  29)( 15-  16) = -.106262E+01    FLUX(  30)( 16-  26) = -.229722E+02
  FLUX(  31)( 16-  17) = -.781192E+01    FLUX(  32)( 17-  27) = -.646137E+01    FLUX(  33)( 17-  18) =  .151389E+01
  FLUX(  34)( 18-  28) =  .250535E+02    FLUX(  35)( 18-  19) =  .164004E+02    FLUX(  36)( 19-  29) = -.317237E+01
  FLUX(  37)( 19-  20) =  .156096E+01    FLUX(  38)( 20-  30) = -.169300E+02    FLUX(  39)( 21-  31) =  .407873E+00
  FLUX(  40)( 21-  22) =  .145250E+02    FLUX(  41)( 22-  32) = -.406695E+01    FLUX(  42)( 22-  23) =  .190255E+02
  FLUX(  43)( 23-  33) = -.965496E+01    FLUX(  44)( 23-  24) =  .818814E+01    FLUX(  45)( 24-  34) = -.227773E+02
  FLUX(  46)( 24-  25) = -.380861E+01    FLUX(  47)( 25-  35) = -.187464E+01    FLUX(  48)( 25-  26) = -.199828E+01
  FLUX(  49)( 26-  36) =  .159039E+01    FLUX(  50)( 26-  27) = -.349360E+01    FLUX(  51)( 27-  37) =  .115828E+02
  FLUX(  52)( 27-  28) =  .964054E+01    FLUX(  53)( 28-  38) = -.420200E+01    FLUX(  54)( 28-  29) =  .921084E+01
  FLUX(  55)( 29-  39) = -.991371E+01    FLUX(  56)( 29-  30) = -.199952E+01    FLUX(  57)( 30-  40) = -.336458E+02
  FLUX(  58)( 31-  41) =  .524169E+00    FLUX(  59)( 31-  32) =  .133905E+02    FLUX(  60)( 32-  42) = -.190943E+01
  FLUX(  61)( 32-  33) =  .177004E+02    FLUX(  62)( 33-  43) = -.752986E+01    FLUX(  63)( 33-  34) =  .455243E+01
  FLUX(  64)( 34-  44) = -.139907E+02    FLUX(  65)( 34-  35) =  .178221E+01    FLUX(  66)( 35-  45) = -.377431E+02
  FLUX(  67)( 35-  36) = -.113332E+01    FLUX(  68)( 36-  46) = -.408641E+02    FLUX(  69)( 36-  37) = -.975688E+00
  FLUX(  70)( 37-  47) = -.370510E+02    FLUX(  71)( 37-  48) =  .562163E+01    FLUX(  72)( 38-  48) = -.363290E+02
  FLUX(  73)( 38-  39) =  .786635E+01    FLUX(  74)( 39-  49) = -.141466E+02    FLUX(  75)( 39-  40) = -.819427E+01
  FLUX(  76)( 40-  50) =  .675488E+01    FLUX(  77)( 41-  51) =  .608226E+01    FLUX(  78)( 41-  42) =  .249292E+02
  FLUX(  79)( 42-  52) = -.197592E+01    FLUX(  80)( 42-  43) =  .313654E+02    FLUX(  81)( 43-  53) =  .565849E+01
  FLUX(  82)( 43-  44) =  .347471E+01    FLUX(  83)( 44-  54) =  .208945E+02    FLUX(  84)( 44-  45) = -.132693E+02
  FLUX(  85)( 45-  55) =  .516827E+01    FLUX(  86)( 45-  46) = -.602110E+01    FLUX(  87)( 46-  56) =  .335093E+01
```

Figure 5-5. Model 2A Output (Sheet 8 of 49)

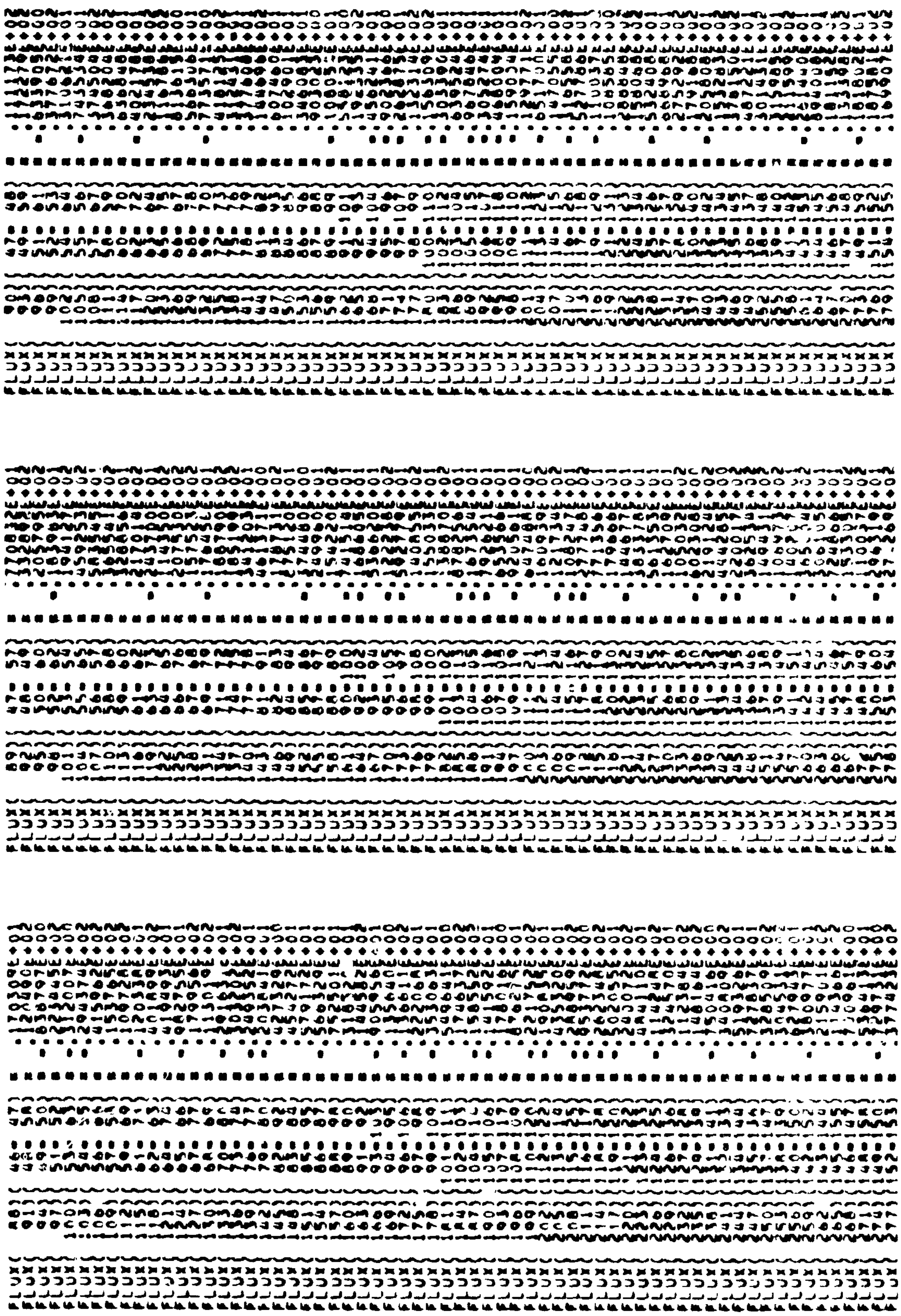

Figure 5-5. Model 2A Output (Sheet 9 of 49)

Figure 5-8. Model 2A Output (Sheet 10 of 49)

```
TSS
ROW / COL        1          2          3          4          5          6          7          8          9         10
  1       2,133E+03  2,105E+03  2,066E+03  2,060E+03  2,065E+03  2,072E+03  2,083E+03  2,076E+03  2,005E+03  1,992E+03
ROW / COL       11         12         13         14         15         16         17         18         19         20
  1       2,134E+03  2,105E+03  2,050E+03  2,039E+03  2,048E+03  2,057E+03  2,077E+03  2,068E+03  2,005E+03  1,996E+03
ROW / COL       21         22         23         24         25         26         27         28         29         30
  1       2,135E+03  2,107E+03  2,038E+03  2,042E+03  2,065E+03  2,076E+03  2,081E+03  2,036E+03  2,005E+03  2,007E+03
ROW / COL       31         32         33         34         35         36         37         38         39         40
  1       2,136E+03  2,112E+03  2,076E+03  2,064E+03  2,053E+03  2,058E+03  2,056E+03  2,036E+03  2,010E+03  2,041E+03
ROW / COL       41         42         43         44         45         46         47         48         49         50
  1       2,137E+03  2,115E+03  2,085E+03  2,080E+03  2,097E+03  2,106E+03  2,102E+03  2,088E+03  2,026E+03  2,019E+03
ROW / COL       51         52         53         54         55         56         57         58         59         60
  1       2,138E+03  2,119E+03  2,076E+03  2,040E+03  2,093E+03  2,099E+03  2,087E+03  2,067E+03  1,996E+03  1,960E+03
ROW / COL       61         62         63         64         65         66         67         68         69         70
  1       2,137E+03  2,117E+03  2,070E+03  2,040E+03  2,019E+03  2,034E+03  2,025E+03  1,993E+03  1,970E+03  1,959E+03
ROW / COL       71         72         73         74         75         76         77         78         79         80
  1       2,135E+03  2,118E+03  2,063E+03  2,022E+03  1,998E+03  1,992E+03  1,980E+03  1,966E+03  1,953E+03  1,946E+03
ROW / COL       81         82         83         84         85         86         87         88         89         90
  1       2,131E+03  2,104E+03  2,066E+03  2,057E+03  2,062E+03  2,070E+03  2,079E+03  2,069E+03  2,009E+03  1,995E+03
ROW / COL       91         92         93         94         95         96         97         98         99        100
  1       2,132E+03  2,104E+03  2,059E+03  2,046E+03  2,054E+03  2,063E+03  2,076E+03  2,061E+03  2,009E+03  1,999E+03
ROW / COL      101        102        103        104        105        106        107        108        109        110
  1       2,132E+03  2,107E+03  2,069E+03  2,049E+03  2,061E+03  2,071E+03  2,075E+03  2,043E+03  2,009E+03  2,010E+03
ROW / COL      111        112        113        114        115        116        117        118        119        120
  1       2,134E+03  2,111E+03  2,077E+03  2,063E+03  2,061E+03  2,067E+03  2,065E+03  2,043E+03  2,015E+03  2,030E+03
ROW / COL      121        122        123        124        125        126        127        128        129        130
  1       2,135E+03  2,114E+03  2,085E+03  2,078E+03  2,092E+03  2,100E+03  2,096E+03  2,079E+03  2,026E+03  2,018E+03
ROW / COL      131        132        133        134        135        136        137        138        139        140
  1       2,136E+03  2,117E+03  2,077E+03  2,048E+03  2,085E+03  2,093E+03  2,082E+03  2,059E+03  2,000E+03  1,982E+03
ROW / COL      141        142        143        144        145        146        147        148        149        150
  1       2,135E+03  2,115E+03  2,071E+03  2,040E+03  2,025E+03  2,034E+03  2,025E+03  1,996E+03  1,972E+03  1,961E+03
ROW / COL      151        152        153        154        155        156        157        158        159        160
  1       2,134E+03  2,115E+03  2,065E+03  2,025E+03  2,001E+03  1,995E+03  1,983E+03  1,969E+03  1,955E+03  1,948E+03
ITERATION NUMBER 13  MAXIMUM ABSOLUTE ERROR =     4,25

EST ABS ERR
ROW / COL        1          2          3          4          5          6          7          8          9         10
  1       2,197E-06 -6,918E-06  0,         0,         1,916E-05  8,518E-06 -1,742E-05 -1,322E-05  5,541E-04  8,318E-04
ROW / COL       11         12         13         14
  1       5,598E-02  2,920E-01  1,328E+00  4,254E+00

RAYLEIGH QUOTIENTS
ROW / COL        1          2          3          4          5          6          7          8          9         10
  1      -2,123E+01 -3,508E+01 -4,054E+01 -5,285E+01 -6,730E+01 -7,977E+01 -8,343E+01 -9,615E+01 -1,065E+02 -1,099E+02
ROW / COL       11         12         13         14
  1      -1,254E+02 -1,323E+02 -1,394E+02 -1,448E+02

DOMINANT EIGENVALUES
ROW / COL        1          2          3          4          5          6          7          8          9         10
  1      -2,123E+01 -3,508E+01 -4,054E+01 -5,285E+01 -6,730E+01 -7,977E+01 -8,343E+01 -9,615E+01 -1,065E+02 -1,099E+02
ROW / COL       11         12         13         14
  1      -1,254E+02 -1,323E+02 -1,394E+02 -1,448E+02
                    MAXIMUM ITERATION   12 IN BIJEN REACHED

TIME =   .200E-01  NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL        1          2          3          4          5          6          7          8          9         10
  1       1,980E+03  1,789E+03  1,457E+03  1,332E+03  1,324E+03  1,353E+03  1,435E+03  1,386E+03  1,002E+03  9,061E+02
ROW / COL       11         12         13         14         15         16         17         18         19         20
  1        ,981E+03  1,790E+03  1,410E+03  1,262E+03  1,269E+03  1,310E+03  1,419E+03  1,351E+03  1,007E+03  9,387E+02
ROW / COL       21         22         23         24         25         26         27         28         29         30
  1       1,985E+03  1,803E+03  1,483E+03  1,292E+03  1,359E+03  1,410E+03  1,449E+03  1,239E+03  1,032E+03  1,013E+03
ROW / COL       31         32         33         34         35         36         37         38         39         40
  1       1,989E+03  1,825E+03  1,530E+03  1,403E+03  1,365E+03  1,396E+03  1,394E+03  1,258E+03  1,066E+03  1,175E+03
```

Figure 5-8. Model 2A Output (Sheet 11 of 49)

```
ROW / COL    41         42         43         44         45         46         47         48         49         50
  1       1.996E+03  1.844E+03  1.586E+03  1.502E+03  1.590E+03  1.640E+03  1.615E+03  1.499E+03  1.162E+03  1.115E+03
ROW / COL    51         52         53         54         55         56         57         58         59         60
  1       2.000E+03  1.857E+03  1.540E+03  1.317E+03  1.540E+03  1.595E+03  1.534E+03  1.365E+03  1.011E+03  9.186E+02
ROW / COL    61         62         63         64         65         66         67         68         69         70
  1       2.002E+03  1.857E+03  1.513E+03  1.255E+03  1.131E+03  1.202E+03  1.164E+03  1.003E+03  8.714E+02  8.221E+02
ROW / COL    71         72         73         74         75         76         77         78         79         80
  1       2.004E+03  1.868E+03  1.496E+03  1.165E+03  9.775E+02  9.425E+02  9.113E+02  8.611E+02  8.083E+02  7.828E+02
ROW / COL    81         82         83         84         85         86         87         88         89         90
  1       1.938E+03  1.742E+03  1.416E+03  1.283E+03  1.273E+03  1.304E+03  1.377E+03  1.314E+03  9.876E+02  8.933E+02
ROW / COL    91         92         93         94         95         96         97         98         99        100
  1       1.940E+03  1.744E+03  1.397E+03  1.248E+03  1.252E+03  1.290E+03  1.369E+03  1.283E+03  9.927E+02  9.234E+02
ROW / COL   101        102        103        104        105        106        107        108        109        110
  1       1.944E+03  1.758E+03  1.444E+03  1.278E+03  1.308E+03  1.350E+03  1.381E+03  1.222E+03  1.009E+03  9.916E+02
ROW / COL   111        112        113        114        115        116        117        118        119        120
  1       1.950E+03  1.778E+03  1.490E+03  1.359E+03  1.349E+03  1.380E+03  1.378E+03  1.244E+03  1.051E+03  1.096E+03
ROW / COL   121        122        123        124        125        126        127        128        129        130
  1       1.957E+03  1.800E+03  1.542E+03  1.449E+03  1.533E+03  1.569E+03  1.543E+03  1.419E+03  1.125E+03  1.074E+03
ROW / COL   131        132        133        134        135        136        137        138        139        140
  1       1.963E+03  1.810E+03  1.501E+03  1.305E+03  1.466E+03  1.522E+03  1.467E+03  1.315E+03  9.949E+02  9.028E+02
ROW / COL   141        142        143        144        145        146        147        148        149        150
  1       1.965E+03  1.810E+03  1.473E+03  1.221E+03  1.118E+03  1.165E+03  1.127E+03  9.869E+02  8.569E+02  8.[illegible]E+02
ROW / COL   151        152        153        154        155        156        157        158        159        160
  1       1.969E+03  1.819E+03  1.456E+03  1.139E+03  9.642E+02  9.275E+02  8.962E+02  8.457E+02  7.931E+02  7.803E+02
TIME =       .200000E-01
T(  1) = .197966E+04  T(  2) = .178857E+04  T(  3) = .145729E+04  T(  4) = .133196E+04  T(  5) = .132393E+04
T(  6) = .135305E+04  T(  7) = .143511E+04  T(  8) = .138593E+04  T(  9) = .100235E+04  T( 10) = .908112E+03
T( 11) = .198113E+04  T( 12) = .179010E+04  T( 13) = .141711E+04  T( 14) = .126189E+04  T( 15) = .126949E+04
T( 16) = .130971E+04  T( 17) = .141932E+04  T( 18) = .135110E+04  T( 19) = .100709E+04  T( 20) = .935671E+03
T( 21) = .198457E+04  T( 22) = .180323E+04  T( 23) = .146256E+04  T( 24) = .129235E+04  T( 25) = .135932E+04
T( 26) = .141008E+04  T( 27) = .144854E+04  T( 28) = .123881E+04  T( 29) = .102160E+04  T( 30) = .101325E+04
T( 31) = .198923E+04  T( 32) = .182489E+04  T( 33) = .153003E+04  T( 34) = .140296E+04  T( 35) = .136488E+04
T( 36) = .139587E+04  T( 37) = .139406E+04  T( 38) = .125837E+04  T( 39) = .106626E+04  T( 40) = .117538E+04
T( 41) = .199563E+04  T( 42) = .184430E+04  T( 43) = .158553E+04  T( 44) = .150214E+04  T( 45) = .159000E+04
T( 46) = .163953E+04  T( 47) = .161496E+04  T( 48) = .149953E+04  T( 49) = .116275E+04  T( 50) = .111545E+04
T( 51) = .200048E+04  T( 52) = .185731E+04  T( 53) = .154009E+04  T( 54) = .151681E+04  T( 55) = .153953E+04
T( 56) = .159451E+04  T( 57) = .153418E+04  T( 58) = .138515E+04  T( 59) = .101061E+04  T( 60) = .916752E+03
T( 61) = .200221E+04  T( 62) = .185719E+04  T( 63) = .151326E+04  T( 64) = .125464E+04  T( 65) = .113131E+04
T( 66) = .120156E+04  T( 67) = .116412E+04  T( 68) = .100310E+04  T( 69) = .871426E+03  T( 70) = .822149E+03
T( 71) = .200414E+04  T( 72) = .186841E+04  T( 73) = .149614E+04  T( 74) = .116453E+04  T( 75) = .977451E+03
T( 76) = .942455E+03  T( 77) = .911290E+03  T( 78) = .861054E+03  T( 79) = .808330E+03  T( 80) = .782761E+03
T( 81) = .193816E+04  T( 82) = .174169E+04  T( 83) = .141589E+04  T( 84) = .128255E+04  T( 85) = .127303E+04
T( 86) = .130392E+04  T( 87) = .137731E+04  T( 88) = .131420E+04  T( 89) = .987585E+03  T( 90) = .893254E+03
T( 91) = .193992E+04  T( 92) = .174428E+04  T( 93) = .139731E+04  T( 94) = .124600E+04  T( 95) = .125160E+04
T( 96) = .129018E+04  T( 97) = .136864E+04  T( 98) = .128306E+04  T( 99) = .992695E+03  T(100) = .923420E+03
T(101) = .194401E+04  T(102) = .175605E+04  T(103) = .144367E+04  T(104) = .127787E+04  T(105) = .130784E+04
T(106) = .135049E+04  T(107) = .138148E+04  T(108) = .122171E+04  T(109) = .100887E+04  T(110) = .991647E+03
T(111) = .194951E+04  T(112) = .177770E+04  T(113) = .148992E+04  T(114) = .135665E+04  T(115) = .134887E+04
T(116) = .136011E+04  T(117) = .137775E+04  T(118) = .124418E+04  T(119) = .105052E+04  T(120) = .109563E+04
T(121) = .195722E+04  T(122) = .179960E+04  T(123) = .154211E+04  T(124) = .144694E+04  T(125) = .152329E+04
T(126) = .156926E+04  T(127) = .154311E+04  T(128) = .141890E+04  T(129) = .112548E+04  T(130) = .107372E+04
T(131) = .196308E+04  T(132) = .180960E+04  T(133) = .150134E+04  T(134) = .130506E+04  T(135) = .146588E+04
T(136) = .152157E+04  T(137) = .146646E+04  T(138) = .131496E+04  T(139) = .994926E+03  T(140) = .902793E+03
T(141) = .196567E+04  T(142) = .181016E+04  T(143) = .147345E+04  T(144) = .122072E+04  T(145) = .111803E+04
T(146) = .116409E+04  T(147) = .112682E+04  T(148) = .986921E+03  T(149) = .856923E+03  T(150) = .800304E+03
T(151) = .196865E+04  T(152) = .181901E+04  T(153) = .145606E+04  T(154) = .113920E+04  T(155) = .964164E+03
T(156) = .927534E+03  T(157) = .896240E+03  T(158) = .645745E+03  T(159) = .793085E+03  T(160) = .756350E+03
T(999) = .239000E+04  T(998) = .590000E+02  T(
HEAT FLUXES
   FLUX(  1)( 1= 11) =  .152013E+00     FLUX(  2)( 1=  2) =  .230860E+02     FLUX(  3)( 2= 12) =  .303676E+00
   FLUX(  4)( 2=  3) =  .330587E+02     FLUX(  5)( 3= 13) =  .211613E+02     FLUX(  6)( 3=  4) =  .979749E+01
   FLUX(  7)( 4= 14) =  .276540E+02     FLUX(  8)( 4=  5) =  .128887E+01     FLUX(  9)( 5= 15) =  .228023E+02
   FLUX( 10)( 5=  6) = -.160287E+01     FLUX( 11)( 6= 16) =  .172215E+02     FLUX( 12)( 6=  7) = -.974466E+01
   FLUX( 13)( 7= 17) =  .679236E+01     FLUX( 14)( 7=  8) =  .245542E+01     FLUX( 15)( 8= 18) =  .142025E+02
```

Figure 5-8. Model 2A Output (Sheet 12 of 49)

```
FLUX(  16)(  8=  9) =  .352335E+02
FLUX(  19)( 10= 20) = -.126110E+02
FLUX(  22)( 12= 22) = -.406554E+01
FLUX(  25)( 13= 14) =  .119193E+02
FLUX(  28)( 15= 25) = -.357904E+02
FLUX(  31)( 16= 17) = -.124882E+02
FLUX(  34)( 18= 28) =  .435444E+02
FLUX(  37)( 19= 20) =  .455447E+01
FLUX(  40)( 21= 22) =  .221260E+02
FLUX(  43)( 23= 33) = -.178267E+02
FLUX(  46)( 24= 25) = -.666834E+01
FLUX(  49)( 26= 36) =  .392589E+01
FLUX(  52)( 27= 28) =  .185841E+02
FLUX(  55)( 29= 30) = -.177381E+02
FLUX(  58)( 31= 41) = -.162418E+00
FLUX(  61)( 32= 33) =  .298771E+02
FLUX(  64)( 34= 44) = -.245750E+02
FLUX(  67)( 35= 36) = -.243907E+01
FLUX(  70)( 37= 47) = -.617199E+02
FLUX(  73)( 38= 39) =  .159970E+02
FLUX(  76)( 40= 50) =  .133474E+02
FLUX(  79)( 42= 52) = -.306431E+01
FLUX(  82)( 43= 44) =  .105566E+02
FLUX(  85)( 45= 55) =  .954505E+01
FLUX(  88)( 46= 47) =  .378015E+01
FLUX(  91)( 48= 58) =  .815171E+02
FLUX(  94)( 49= 50) =  .311990E+01
FLUX(  97)( 51= 52) =  .340537E+02
FLUX( 100)( 53= 63) =  .202390E+01
FLUX( 103)( 54= 55) = -.479424E+02
FLUX( 106)( 56= 66) =  .742353E+02
FLUX( 109)( 57= 58) =  .277287E+02
FLUX( 112)( 59= 69) =  .238023E+02
FLUX( 115)( 61= 71) = -.135916E+01
FLUX( 118)( 62= 63) =  .685746E+02
FLUX( 121)( 64= 74) =  .114559E+02
FLUX( 124)( 65= 66) = -.157787E+02
FLUX( 127)( 67= 77) =  .397516E+02
FLUX( 130)( 68= 69) =  .229989E+0[illegible]
FLUX( 133)( 70= 80) =  .549002E+00
FLUX( 136)( 73= 74) =  .585068E+02
FLUX( 139)( 76= 77) =  .282976E+00
FLUX( 142)( 79= 80) =  .261288E+00
FLUX( 145)( 82= 92) = -.380233E-02
FLUX( 148)( 83= 84) =  .102373E+02
FLUX( 151)( 85= 95) =  .950250E+01
FLUX( 154)( 86= 87) = -.879117E+01
FLUX( 157)( 88= 98) =  .126551E+02
FLUX( 160)( 89= 90) =  .738602E+01
FLUX( 163)( 91= 92) =  .226829E+02
FLUX( 166)( 93=103) = -.170981E+02
FLUX( 169)( 94= 95) = -.186305E-01
FLUX( 172)( 96=106) = -.236107E+02
FLUX( 175)( 97= 98) =  .587312E+01
FLUX( 178)( 99=109) = -.642257E+01
FLUX( 181)(101=111) = -.339450E+00
FLUX( 184)(102=103) =  .304790E+02
FLUX( 187)(104=114) = -.285513E+02
FLUX( 190)(105=106) = -.321661E+01
FLUX( 193)(107=117) =  .806423E+00
FLUX( 196)(108=109) =  .178894E+02
FLUX( 199)(110=120) = -.344642E+02
FLUX( 202)(112=122) = -.434233E+01
FLUX( 205)(113=114) =  .995121E+01
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FLUX(  17)(  9= 19) = -.184592E+01
FLUX(  20)( 11= 21) = -.107004E+00
FLUX(  23)( 12= 13) =  .380930E+02
FLUX(  26)( 14= 24) = -.978991E+01
FLUX(  29)( 15= 16) = -.276199E+01
FLUX(  32)( 17= 27) = -.113753E+02
FLUX(  35)( 18= 19) =  .311163E+02
FLUX(  38)( 20= 30) = -.295183E+02
FLUX(  41)( 22= 32) = -.766869E+01
FLUX(  44)( 23= 24) =  .161046E+02
FLUX(  47)( 25= 35) = -.283555E+01
FLUX(  50)( 26= 27) = -.513095E+01
FLUX(  53)( 28= 38) = -.742984E+01
FLUX(  56)( 29= 30) = -.164119E+01
FLUX(  59)( 31= 32) =  .202776E+02
FLUX(  62)( 33= 43) = -.158881E+02
FLUX(  65)( 34= 35) =  .340634E+01
FLUX(  68)( 36= 46) = -.674194E+02
FLUX(  71)( 37= 38) =  .114107E+02
FLUX(  74)( 39= 49) = -.252433E+02
FLUX(  77)( 41= 51) = -.334578E+00
FLUX(  80)( 42= 43) =  .527218E+02
FLUX(  83)( 44= 54) =  .359370E+02
FLUX(  86)( 45= 46) = -.101608E+02
FLUX(  89)( 47= 57) =  .145446E+02
FLUX(  92)( 48= 49) =  .616733E+02
FLUX(  95)( 50= 60) =  .373544E+02
FLUX(  98)( 52= 62) = -.182923E+01
FLUX( 101)( 53= 54) =  .379919E+02
FLUX( 104)( 55= 65) =  .815829E+02
FLUX( 107)( 56= 57) =  .108205E+02
FLUX( 110)( 58= 68) =  .687572E+02
FLUX( 113)( 59= 60) =  .111359E+02
FLUX( 116)( 61= 62) =  .338490E+02
FLUX( 119)( 63= 73) = -.965773E+00
FLUX( 122)( 64= 65) =  .220063E+02
FLUX( 125)( 66= 76) =  .426314E+02
FLUX( 128)( 67= 68) =  .296961E+02
FLUX( 131)( 69= 79) =  .409911E+01
FLUX( 134)( 71= 72) =  .302396E+02
FLUX( 137)( 74= 75) =  .349190E+02
FLUX( 140)( 77= 78) =  .789653E+01
FLUX( 143)( 81= 91) =  .177217E+00
FLUX( 146)( 82= 83) =  .313743E+02
FLUX( 149)( 84= 94) =  .143129E+02
FLUX( 152)( 85= 86) = -.168020E+01
FLUX( 155)( 87= 97) =  .396036E+01
FLUX( 158)( 88= 89) =  .294788E+02
FLUX( 161)( 90=100) = -.126945E+02
FLUX( 164)( 92=102) = -.398325E+01
FLUX( 167)( 93= 94) =  .117487E+02
FLUX( 170)( 95=105) = -.219605E+02
FLUX( 173)( 96= 97) = -.927956E+01
FLUX( 176)( 98=108) =  .242052E+02
FLUX( 179)( 99=100) =  .460630E+01
FLUX( 182)(101=102) =  .217043E+02
FLUX( 185)(103=113) = -.167223E+02
FLUX( 188)(104=105) = -.295567E+01
FLUX( 191)(106=116) = -.128047E+02
FLUX( 194)(107=108) =  .133597E+02
FLUX( 197)(109=119) = -.165419E+02
FLUX( 200)(111=121) = -.182965E+00
FLUX( 203)(112=113) =  .280059E+02
FLUX( 206)(114=124) = -.218283E+02
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FLUX(  18)(  9= 10) =  .740086E+01
FLUX(  21)( 11= 12) =  .231246E+02
FLUX(  24)( 13= 23) =  .282571E+02
FLUX(  27)( 14= 15) = -.422825E+00
FLUX(  30)( 16= 26) = -.395050E+02
FLUX(  33)( 17= 18) =  .441922E+01
FLUX(  36)( 19= 29) = -.574478E+01
FLUX(  39)( 21= 31) = -.343582E+00
FLUX(  42)( 22= 23) =  .322816E+02
FLUX(  45)( 24= 34) = -.405546E+02
FLUX(  48)( 25= 26) = -.413682E+01
FLUX(  51)( 27= 37) =  .207496E+02
FLUX(  54)( 28=[illegible]) =  .184855E+02
FLUX(  57)( 30= 40) = -.604466E+02
FLUX(  60)( 32= 42) = -.406750E+01
FLUX(  63)( 33= 34) =  .993160E+01
FLUX(  66)( 35= 45) = -.635160E+02
FLUX(  69)( 36= 37) = -.898272E+00
FLUX(  72)( 38= 48) = -.626762E+02
FLUX(  75)( 39= 40) = -.128118E+02
FLUX(  78)( 41= 42) =  .376077E+02
FLUX(  81)( 43= 53) =  .961151E+01
FLUX(  84)( 44= 45) = -.207155E+02
FLUX(  87)( 46= 56) =  .706607E+01
FLUX(  90)( 47= 48) =  .209081E+02
FLUX(  93)( 49= 59) =  .306943E+02
FLUX(  96)( 51= 61) = -.775177E+00
FLUX(  99)( 52= 53) =  .633302E+02
FLUX( 102)( 54= 64) =  .817009E+01
FLUX( 105)( 55= 56) = -.119260E+02
FLUX( 108)( 57= 67) =  .689712E+02
FLUX( 111)( 58= 59) =  .680767E+02
FLUX( 114)( 60= 70) =  .149040E+02
FLUX( 117)( 62= 72) = -.495324E+01
FLUX( 120)( 63= 64) =  .455077E+02
FLUX( 123)( 65= 75) =  .253271E+02
FLUX( 126)( 66= 67) =  .401900E+01
FLUX( 129)( 68= 78) =  .176238E+02
FLUX( 132)( 69= 70) =  .370829E+01
FLUX( 135)( 72= 73) =  .725077E+02
FLUX( 138)( 75= 76) =  .312945E+01
FLUX( 141)( 78= 79) =  .850377E+01
FLUX( 144)( 81= 82) =  .227285E+02
FLUX( 147)( 83= 93) =  .928255E+01
FLUX( 150)( 84= 85) =  .145539E+01
FLUX( 153)( 86= 96) =  .572831E+01
FLUX( 156)( 87= 88) =  .359409E+01
FLUX( 159)( 89= 99) = -.199862E+01
FLUX( 162)( 91=101) = -.102643E+00
FLUX( 165)( 92= 93) =  .336181E+02
FLUX( 168)( 94=104) =  .937534E+01
FLUX( 171)( 95= 96) = -.255416E+01
FLUX( 174)( 97=107) = -.479328E+01
FLUX( 177)( 98= 99) =  .257194E+02
FLUX( 180)(100=110) = -.272529E+02
FLUX( 183)(102=112) = -.631212E+01
FLUX( 186)(103=104) =  .134869E+02
FLUX( 189)(105=115) = -.167706E+02
FLUX( 192)(106=107) = -.437504E+01
FLUX( 195)(108=118) = -.838881E+01
FLUX( 198)(109=110) = -.846636E+00
FLUX( 201)(111=112) =  .201982E+02
FLUX( 204)(113=123) = -.125071E+02
FLUX( 207)(114=115) =  .564767E+00
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Figure 5-8. Model 2A Output (Sheet 13 of 49)

Figure 5-8. Model 2A Output (Sheet 14 of 49)

```
FLUX( 400)( 36-999) = -.264120E+02     FLUX( 401)( 37-999) = -.262088E+02     FLUX( 402)( 38-999) = -.290457E+02
FLUX( 403)( 39-999) = -.345128E+02     FLUX( 404)( 40-999) = -.209935E+03     FLUX( 405)( 41-999) = -.379844E+03
FLUX( 406)( 42-999) = -.354742E+03     FLUX( 407)( 43-999) = -.277380E+03     FLUX( 408)( 44-999) = -.291982E+03
FLUX( 409)( 45-999) = -.395220E+03     FLUX( 410)( 46-999) = -.403280E+03     FLUX( 411)( 47-999) = -.412874E+03
FLUX( 412)( 48-999) = -.428793E+03     FLUX( 413)( 49-999) = -.186211E+03     FLUX( 414)( 50-999) = -.188851E+03
FLUX( 415)( 51-999) = -.369207E+03     FLUX( 416)( 52-999) = -.369189E+03     FLUX( 417)( 53-999) = -.243231E+03
FLUX( 418)( 54-999) = -.538208E+02     FLUX( 419)( 55-999) = -.416687E+03     FLUX( 420)( 56-999) = -.388587E+03
FLUX( 421)( 57-999) = -.357481E+03     FLUX( 422)( 58-999) = -.350457E+03     FLUX( 423)( 59-999) = -.709624E+02
FLUX( 424)( 60-999) = -.739272E+02     FLUX( 425)( 61-999) = -.375018E+03     FLUX( 426)( 62-999) = -.372173E+03
FLUX( 427)( 63-999) = -.246027E+03     FLUX( 428)( 64-999) = -.176482E+03     FLUX( 429)( 65-999) = -.[illegible]71E+02
FLUX( 430)( 66-999) = -.183178E+03     FLUX( 431)( 67-999) = -.186326E+03     FLUX( 432)( 68-999) = -.709683E+02
FLUX( 433)( 69-999) = -.767675E+02     FLUX( 434)( 70-999) = -.777404E+02     FLUX( 435)( 71-999) = -.369418E+03
FLUX( 436)( 72-999) = -.387862E+03     FLUX( 437)( 73-999) = -.245188E+03     FLUX( 438)( 74-999) = -.125197E+03
FLUX( 439)( 75-999) = -.727351E+02     FLUX( 440)( 76-999) = -.735650E+02     FLUX( 441)( 77-999) = -.737076E+02
FLUX( 442)( 78-999) = -.756951E+02     FLUX( 443)( 79-999) = -.778378E+02     FLUX( 444)( 80-999) = -.779504E+02
TIME=        .030

TSS
ROW / COL      1          2          3          4          5          6          7          8          9          10
   1       2.071E+03  1.998E+03  1.910E+03  1.895E+03  1.901E+03  1.912E+03  1.940E+03  1.941E+03  1.839E+03  1.825E+03
ROW / COL     11         12         13         14         15         16         17         18         19          20
   1       2.070E+03  1.998E+03  1.886E+03  1.862E+03  1.874E+03  1.890E+03  1.932E+03  1.928E+03  1.840E+03  1.833E+03
ROW / COL     21         22         23         24         25         26         27         28         29          30
   1       2.071E+03  2.001E+03  1.913E+03  1.868E+03  1.904E+03  1.924E+03  1.942E+03  1.883E+03  1.842E+03  1.853E+03
ROW / COL     31         32         33         34         35         36         37         38         39          40
   1       2.071E+03  2.008E+03  1.926E+03  1.906E+03  1.892E+03  1.904E+03  1.910E+03  1.885E+03  1.853E+03  1.905E+03
ROW / COL     41         42         43         44         45         46         47         48         49          50
   1       2.071E+03  2.012E+03  1.941E+03  1.935E+03  1.971E+03  1.991E+03  1.990E+03  1.971E+03  1.882E+03  1.880E+03
ROW / COL     51         52         53         54         55         56         57         58         59          60
   1       2.072E+03  2.020E+03  1.928E+03  1.873E+03  1.966E+03  1.985E+03  1.972E+03  1.942E+03  1.841E+03  1.824E+03
ROW / COL     61         62         63         64         65         66         67         68         69          70
   1       2.072E+03  2.021E+03  1.926E+03  1.876E+03  1.850E+03  1.883E+03  1.879E+03  1.838E+03  1.809E+03  1.802E+03
ROW / COL     71         72         73         74         75         76         77         78         79          80
   1       2.073E+03  2.030E+03  1.926E+03  1.857E+03  1.821E+03  1.822E+03  1.819E+03  1.807E+03  1.796E+03  1.793E+03
ROW / COL     81         82         83         84         85         86         87         88         89          90
   1       2.064E+03  1.997E+03  1.912E+03  1.891E+03  1.897E+03  1.910E+03  1.935E+03  1.929E+03  1.846E+03  1.830E+03
ROW / COL     91         92         93         94         95         96         97         98         99         100
   1       2.064E+03  1.997E+03  1.901E+03  1.874E+03  1.885E+03  1.900E+03  1.931E+03  1.918E+03  1.846E+03  1.838E+03
ROW / COL    101        102        103        104        105        106        107        108        109         110
   1       2.065E+03  2.000E+03  1.916E+03  1.880E+03  1.900E+03  1.918E+03  1.933E+03  1.893E+03  1.849E+03  1.857E+03
ROW / COL    111        112        113        114        115        116        117        118        119         120
   1       2.065E+03  2.006E+03  1.929E+03  1.905E+03  1.905E+03  1.918E+03  1.923E+03  1.897E+03  1.860E+03  1.889E+03
ROW / COL    121        122        123        124        125        126        127        128        129         130
   1       2.066E+03  2.011E+03  1.943E+03  1.932E+03  1.963E+03  1.981E+03  1.980E+03  1.957E+03  1.882E+03  1.877E+03
ROW / COL    131        132        133        134        135        136        137        138        139         140
   1       2.067E+03  2.016E+03  1.933E+03  1.867E+03  1.954E+03  1.975E+03  1.963E+03  1.931E+03  1.847E+03  1.828E+03
ROW / COL    141        142        143        144        145        146        147        148        149         150
   1       2.067E+03  2.018E+03  1.930E+03  1.878E+03  1.859E+03  1.883E+03  1.879E+03  1.843E+03  1.813E+03  1.804E+03
ROW / COL    151        152        153        154        155        156        157        158        159         160
   1       2.069E+03  2.025E+03  1.928E+03  1.862E+03  1.826E+03  1.826E+03  1.823E+03  1.810E+03  1.798E+03  1.794E+03
ITERATION NUMBER 13   MAXIMUM ABSOLUTE ERROR =      .840

EST ABS ERR
ROW / COL      1          2          3          4          5          6          7          8          9          10
   1      -3.879E-06 -8.099E-06  4.157E-06  5.007E-06  7.849E-06  1.207E-05 -8.694E-06  2.294E-05  1.746E-04  1.326E-04
ROW / COL     11         12         13         14
   1       2.606E-02  6.176E-02  8.403E-01  5.719E-0[illegible]

RAYLEIGH QUOTIENTS
ROW / COL      1          2          3          4          5          6          7          8          9          10
   1      -2.206E+01 -3.606E+01 -4.174E+01 -5.512E+01 -6.773E+01 -8.014E+01 -8.311E+01 -9.645E+01 -1.082E+02 -1.104E+02
ROW / COL     11         12         13         14
   1      -1.250E+02 -1.321E+02 -1.380E+02 -1.399E+02
```

Figure 5-8. Model 2A Output (Sheet 15 of 49)

```
DOMINANT EIGENVALUES
ROW / COL        1           2           3           4           5           6           7           8           9          10
    1      -2.206E+01  -3.606E+01  -4.174E+01  -5.512E+01  -6.773E+01  -8.014E+01  -8.311E+01  -9.645E+01  -1.082E+02  -1.104E+02
ROW / COL       11          12          13          14
    1      -1.250E+02  -1.321E+02  -1.380E+02  -1.399E+02
                MAXIMUM ITERATION   12 IN BIJEN REACHED

TIME =   .300E-01   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL        1           2           3           4           5           6           7           8           9          10
    1       2.019E+03   1.874E+03   1.633E+03   1.528E+03   1.513E+03   1.537E+03   1.589E+03   1.528E+03   1.184E+03   1.092E+03
ROW / COL       11          12          13          14          15          16          17          18          19          20
    1       2.019E+03   1.875E+03   1.596E+03   1.473E+03   1.470E+03   1.502E+03   1.578E+03   1.502E+03   1.191E+03   1.121E+03
ROW / COL       21          22          23          24          25          26          27          28          29          30
    1       2.021E+03   1.864E+03   1.651E+03   1.496E+03   1.541E+03   1.582E+03   1.603E+03   1.411E+03   1.207E+03   1.168E+03
ROW / COL       31          32          33          34          35          36          37          38          39          40
    1       2.023E+03   1.899E+03   1.656E+03   1.582E+03   1.541E+03   1.565E+03   1.555E+03   1.427E+03   1.247E+03   1.328E+03
ROW / COL       41          42          43          44          45          46          47          48          49          50
    1       2.026E+03   1.912E+03   1.726E+03   1.657E+03   1.714E+03   1.751E+03   1.726E+03   1.620E+03   1.323E+03   1.272E+03
ROW / COL       51          52          53          54          55          56          57          58          59          60
    1       2.028E+03   1.921E+03   1.691E+03   1.511E+03   1.667E+03   1.703E+03   1.648E+03   1.511E+03   1.174E+03   1.080E+03
ROW / COL       61          62          63          64          65          66          67          68          69          70
    1       2.028E+03   1.919E+03   1.665E+03   1.451E+03   1.325E+03   1.370E+03   1.327E+03   1.165E+03   1.024E+03   9.686E+02
ROW / COL       71          72          73          74          75          76          77          78          79          80
    1       2.030E+03   1.928E+03   1.646E+03   1.366E+03   1.178E+03   1.132E+03   1.089E+03   1.016E+03   9.464E+02   9.171E+02
ROW / COL       81          82          83          84          85          86          87          88          89          90
    1       1.999E+03   1.854E+03   1.614E+03   1.498E+03   1.482E+03   1.508E+03   1.553E+03   1.476E+03   1.176E+03   1.082E+03
ROW / COL       91          92          93          94          95          96          97          98          99         100
    1       2.000E+03   1.855E+03   1.599E+03   1.472E+03   1.465E+03   1.497E+03   1.547E+03   1.453E+03   1.183E+03   1.111E+03
ROW / COL      101         102         103         104         105         106         107         108         109         110
    1       2.002E+03   1.865E+03   1.635E+03   1.496E+03   1.510E+03   1.545E+03   1.559E+03   1.405E+03   1.201E+03   1.173E+03
ROW / COL      111         112         113         114         115         116         117         118         119         120
    1       2.005E+03   1.879E+03   1.669E+03   1.559E+03   1.540E+03   1.565E+03   1.554E+03   1.424E+03   1.239E+03   1.263E+03
ROW / COL      121         122         123         124         125         126         127         128         129         130
    1       2.009E+03   1.894E+03   1.708E+03   1.627E+03   1.672E+03   1.706E+03   1.679E+03   1.562E+03   1.298E+03   1.240E+03
ROW / COL      131         132         133         134         135         136         137         138         139         140
    1       2.012E+03   1.900E+03   1.676E+03   1.513E+03   1.618E+03   1.654E+03   1.631E+03   1.459E+03   1.164E+03   1.069E+03
ROW / COL      141         142         143         144         145         146         147         148         149         150
    1       2.012E+03   1.898E+03   1.647E+03   1.433E+03   1.322E+03   1.346E+03   1.301E+03   1.155E+03   1.013E+03   9.555E+02
ROW / COL      151         152         153         154         155         156         157         158         159         160
    1       2.014E+03   1.903E+03   1.626E+03   1.352E+03   1.171E+03   1.122E+03   1.078E+03   1.005E+03   9.336E+02   9.030E+02

TIME =   .3000000E-01
T(  1) = .201871E+04   T(  2) = .187414E+04   T(  3) = .163313E+04   T(  4) = .152759E+04   T(  5) = .151303E+04
T(  6) = .153689E+04   T(  7) = .158949E+04   T(  8) = .152817E+04   T(  9) = .118435E+04   T( 10) = .109208E+04
T( 11) = .201934E+04   T( 12) = .187483E+04   T( 13) = .159574E+04   T( 14) = .147269E+04   T( 15) = .146960E+04
T( 16) = .150209E+04   T( 17) = .157784E+04   T( 18) = .150206E+04   T( 19) = .119131E+04   T( 20) = .112105E+04
T( 21) = .202104E+04   T( 22) = .188382E+04   T( 23) = .165144E+04   T( 24) = .149649E+04   T( 25) = .154110E+04
T( 26) = .158161E+04   T( 27) = .160257E+04   T( 28) = .141107E+04   T( 29) = .120744E+04   T( 30) = .118790E+04
T( 31) = .202341E+04   T( 32) = .189945E+04   T( 33) = .168609E+04   T( 34) = .158229E+04   T( 35) = .154127E+04
T( 36) = .156515E+04   T( 37) = .155548E+04   T( 38) = .142705E+04   T( 39) = .124674E+04   T( 40) = .132778E+04
T( 41) = .202631E+04   T( 42) = .191211E+04   T( 43) = .172632E+04   T( 44) = .165695E+04   T( 45) = .171417E+04
T( 46) = .175082E+04   T( 47) = .172649E+04   T( 48) = .162011E+04   T( 49) = .132332E+04   T( 50) = .127168E+04
T( 51) = .202814E+04   T( 52) = .192121E+04   T( 53) = .169104E+04   T( 54) = .151089E+04   T( 55) = .166745E+04
T( 56) = .170340E+04   T( 57) = .164777E+04   T( 58) = .151069E+04   T( 59) = .117381E+04   T( 60) = .108046E+04
T( 61) = .202838E+04   T( 62) = .191939E+04   T( 63) = .166522E+04   T( 64) = .145143E+04   T( 65) = .132539E+04
T( 66) = .137047E+04   T( 67) = .132655E+04   T( 68) = .116460E+04   T( 69) = .102427E+04   T( 70) = .968555E+03
T( 71) = .202957E+04   T( 72) = .192751E+04   T( 73) = .164571E+04   T( 74) = .136554E+04   T( 75) = .117848E+04
T( 76) = .113189E+04   T( 77) = .108855E+04   T( 78) = .101643E+04   T( 79) = .946361E+03   T( 80) = .917128E+03
T( 81) = .199895E+04   T( 82) = .185351E+04   T( 83) = .161385E+04   T( 84) = .149624E+04   T( 85) = .148183E+04
T( 86) = .150801E+04   T( 87) = .155311E+04   T( 88) = .147637E+04   T( 89) = .117606E+04   T( 90) = .108194E+04
T( 91) = .199989E+04   T( 92) = .185515E+04   T( 93) = .159935E+04   T( 94) = .147181E+04   T( 95) = .146527E+04
T( 96) = .149734E+04   T( 97) = .154742E+04   T( 98) = .145327E+04   T( 99) = .118347E+04   T(100) = .111103E+04
T(101) = .200222E+04   T(102) = .186491E+04   T(103) = .163503E+04   T(104) = .149573E+04   T(105) = .151000E+04
T(106) = .154478E+04   T(107) = .155876E+04   T(108) = .140513E+04   T(109) = .120136E+04   T(110) = .117314E+04
T(111) = .200537E+04   T(112) = .187899E+04   T(113) = .166941E+04   T(114) = .155854E+04   T(115) = .153981E+04
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Figure 5-8. Model 2A Output (Sheet 16 of 49)

```
T(116) = .156451E+04   T(117) = .155367E+04   T(118) = .142376E+04   T(119) = .123866E+04   T(120) = .126340E+04
T(121) = .200946E+04   T(122) = .189387E+04   T(123) = .170787E+04   T(124) = .162720E+04   T(125) = .167221E+04
T(126) = .170592E+04   T(127) = .167899E+04   T(128) = .156176E+04   T(129) = .129772E+04   T(130) = .124005E+04
T(131) = .201193E+04   T(132) = .190005E+04   T(133) = .167562E+04   T(134) = .151271E+04   T(135) = .161785E+04
T(136) = .165373E+04   T(137) = .160118E+04   T(138) = .145851E+04   T(139) = .116441E+04   T(140) = .106906E+04
T(141) = .201238E+04   T(142) = .189779E+04   T(143) = .164739E+04   T(144) = .143293E+04   T(145) = .132151E+04
T(146) = .134630E+04   T(147) = .130070E+04   T(148) = .115457E+04   T(149) = .101332E+04   T(150) = .955479E+03
T(151) = .201383E+04   T(152) = .190261E+04   T(153) = .162603E+04   T(154) = .135194E+04   T(155) = .117149E+04
T(156) = .112246E+04   T(157) = .107819E+04   T(158) = .100459E+04   T(159) = .933591E+03   T(160) = .902991E+03
T(999) = .239000E+04   T(998) = .590000E+02   T(
HEAT FLUXES
 FLUX(  1)(  1- 11) =  .497196E-01    FLUX(  2)(  1-  2) =  .291076E+02    FLUX(  3)(  2- 12) =  .190201E+00
 FLUX(  4)(  2-  3) =  .429364E+02    FLUX(  5)(  3- 13) =  .275443E+02    FLUX(  6)(  3-  4) =  .142545E+02
 FLUX(  7)(  4- 14) =  .364073E+02    FLUX(  8)(  4-  5) =  .190528E+01    FLUX(  9)(  5- 15) =  .302448E+02
 FLUX( 10)(  5-  6) = -.260034E+01    FLUX( 11)(  6- 16) =  .229038E+02    FLUX( 12)(  6-  7) = -.119662E+02
 FLUX( 13)(  7- 17) =  .873565E+01    FLUX( 14)(  7-  8) =  .504400E+01    FLUX( 15)(  8- 18) =  .184614E+02
 FLUX( 16)(  8-  9) =  .496639E+02    FLUX( 17)(  9- 19) = -.304756E+01    FLUX( 18)(  9- 10) =  .112993E+02
 FLUX( 19)( 10- 20) = -.175961E+02    FLUX( 20)( 11- 21) = -.379460E+00    FLUX( 21)( 11- 12) =  .291438E+02
 FLUX( 22)( 12- 22) = -.555080E+01    FLUX( 23)( 12- 13) =  .495385E+02    FLUX( 24)( 13- 23) = -.377636E+02
 FLUX( 25)( 13- 14) =  .171245E+02    FLUX( 26)( 14- 24) = -.135867E+02    FLUX( 27)( 14- 15) = -.291814E+00
 FLUX( 28)( 15- 25) =  .480395E+02    FLUX( 29)( 15- 16) = -.412161E+01    FLUX( 30)( 16- 26) = -.524790E+02
 FLUX( 31)( 16- 17) = -.156902E+02    FLUX( 32)( 17- 27) = -.154997E+02    FLUX( 33)( 17- 18) =  .762054E+01
 FLUX( 34)( 18- 28) =  .584198E+02    FLUX( 35)( 18- 19) =  .441645E+02    FLUX( 36)( 19- 29) = -.655168E+01
 FLUX( 37)( 19- 20) =  .752109E+01    FLUX( 38)( 20- 30) = -.405415E+02    FLUX( 39)( 21- 31) = -.722353E+00
 FLUX( 40)( 21- 22) =  .278399E+02    FLUX( 41)( 22- 32) = -.102462E+02    FLUX( 42)( 22- 23) =  .418003E+02
 FLUX( 43)( 23- 33) = -.237301E+02    FLUX( 44)( 23- 24) =  .228521E+02    FLUX( 45)( 24- 34) = -.542162E+02
 FLUX( 46)( 24- 25) = -.655690E+01    FLUX( 47)( 25- 35) = -.286329E+01    FLUX( 48)( 25- 26) = -.582765E+01
 FLUX( 49)( 26- 36) =  .660860E+01    FLUX( 50)( 26- 27) = -.601518E+01    FLUX( 51)( 27- 37) =  .286055E+02
 FLUX( 52)( 27- 28) =  .266829E+02    FLUX( 53)( 28- 38) = -.100450E+02    FLUX( 54)( 28- 29) =  .270473E+02
 FLUX( 55)( 29- 39) = -.245217E+02    FLUX( 56)( 29- 30) = -.817034E+00    FLUX( 57)( 30- 40) = -.834373E+02
 FLUX( 58)( 31- 41) = -.472821E+02    FLUX( 59)( 31- 32) =  .254374E+02    FLUX( 60)( 32- 42) = -.545887E+01
 FLUX( 61)( 32- 33) =  .386080E+02    FLUX( 62)( 33- 43) = -.184509E+02    FLUX( 63)( 33- 34) =  .143078E+02
 FLUX( 64)( 34- 44) = -.324723E+02    FLUX( 65)( 34- 35) =  .514036E+01    FLUX( 66)( 35- 45) = -.831547E+02
 FLUX( 67)( 35- 36) = -.343616E+01    FLUX( 68)( 36- 46) = -.874977E+02    FLUX( 69)( 36- 37) = -.489951E+00
 FLUX( 70)( 37- 47) = -.806744E+02    FLUX( 71)( 37- 38) =  .168449E+02    FLUX( 72)( 38- 48) = -.636353E+02
 FLUX( 73)( 38- 39) =  .235715E+02    FLUX( 74)( 39- 49) = -.340365E+02    FLUX( 75)( 39- 40) = -.162200E+02
 FLUX( 76)( 40- 50) =  .194869E+02    FLUX( 77)( 41- 51) = -.482215E+00    FLUX( 78)( 41- 42) =  .471139E+02
 FLUX( 79)( 42- 52) = -.382367E+01    FLUX( 80)( 42- 43) =  .679107E+02    FLUX( 81)( 43- 53) =  .126490E+02
 FLUX( 82)( 43- 44) =  .163924E+02    FLUX( 83)( 44- 54) =  .476834E+02    FLUX( 84)( 44- 45) = -.255292E+02
 FLUX( 85)( 45- 55) =  .135671E+02    FLUX( 86)( 45- 46) = -.132015E+02    FLUX( 87)( 46- 56) =  .109525E+02
 FLUX( 88)( 46- 47) =  .582285E+01    FLUX( 89)( 47- 57) =  .211612E+02    FLUX( 90)( 47- 48) =  .298535E+02
 FLUX( 91)( 48- 58) =  .305282E+02    FLUX( 92)( 48- 49) =  .864960E+02    FLUX( 93)( 49- 59) =  .437399E+02
 FLUX( 94)( 49- 50) =  .746244E+01    FLUX( 95)( 50- 60) =  .532893E+02    FLUX( 96)( 51- 61) = -.795390E+00
 FLUX( 97)( 51- 52) =  .427385E+02    FLUX( 98)( 52- 62) = -.167760E+01    FLUX( 99)( 52- 53) =  .817071E+02
 FLUX(100)( 53- 63) =  .424898E+01    FLUX(101)( 53- 54) =  .528322E+02    FLUX(102)( 54- 64) =  .124696E+02
 FLUX(103)( 54- 55) = -.608398E+02    FLUX(104)( 55- 65) =  .111223E+03    FLUX(105)( 55- 56) = -.148411E+02
 FLUX(106)( 56- 66) =  .101888E+03    FLUX(107)( 56- 57) =  .153861E+02    FLUX(108)( 57- 67) =  .961442E+02
 FLUX(109)( 57- 58) =  .390116E+02    FLUX(110)( 58- 68) =  .974592E+02    FLUX(111)( 58- 59) =  .956855E+02
 FLUX(112)( 59- 69) =  .369033E+02    FLUX(113)( 59- 60) =  .188346E+02    FLUX(114)( 60- 70) =  .242738E+02
 FLUX(115)( 61- 71) = -.145430E+01    FLUX(116)( 61- 62) =  .429184E+02    FLUX(117)( 62- 72) = -.562207E+01
 FLUX(118)( 62- 63) =  .893720E+02    FLUX(119)( 63- 73) =  .696945E+00    FLUX(120)( 63- 64) =  .635730E+02
 FLUX(121)( 64- 74) =  .183195E+02    FLUX(122)( 64- 65) =  .327158E+02    FLUX(123)( 65- 75) =  .380049E+02
 FLUX(124)( 65- 66) = -.195662E+02    FLUX(125)( 66- 76) =  .622458E+02    FLUX(126)( 66- 67) =  .775121E+01
 FLUX(127)( 67- 77) =  .598186E+02    FLUX(128)( 67- 68) =  .434981E+02    FLUX(129)( 68- 78) =  .300527E+02
 FLUX(130)( 68- 69) =  .348649E+02    FLUX(131)( 69- 79) =  .108627E+02    FLUX(132)( 69- 70) =  .843094E+01
 FLUX(133)( 70- 80) =  .482470E+01    FLUX(134)( 71- 72) =  .387307E+02    FLUX(135)( 72- 73) =  .955680E+02
 FLUX(136)( 73- 74) =  .823149E+02    FLUX(137)( 74- 75) =  .508684E+02    FLUX(138)( 75- 76) =  .706687E+01
 FLUX(139)( 76- 77) =  .399224E+01    FLUX(140)( 77- 78) =  .140769E+02    FLUX(141)( 78- 79) =  .144454E+02
 FLUX(142)( 79- 80) =  .275183E+01    FLUX(143)( 81- 91) =  .268773E-01    FLUX(144)( 81- 82) =  .287940E+02
 FLUX(145)( 82- 92) = -.273559E+00    FLUX(146)( 82- 83) =  .412092E+02    FLUX(147)( 83- 93) =  .117598E+02
 FLUX(148)( 83- 84) =  .151260E+02    FLUX(149)( 84- 94) =  .185298E+02    FLUX(150)( 84- 85) =  .213052E+01
 FLUX(151)( 85- 95) =  .123446E+02    FLUX(152)( 85- 86) = -.277571E+01    FLUX(153)( 86- 96) =  .747162E+01
 FLUX(154)( 86- 87) = -.107048E+02    FLUX(155)( 87- 97) =  .491077E+01    FLUX(156)( 87- 88) =  .683923E+01
 FLUX(157)( 88- 98) =  .164305E+02    FLUX(158)( 88- 89) =  .420988E+02    FLUX(159)( 89- 99) = -.327963E+01
 FLUX(160)( 89- 90) =  .113637E+02    FLUX(161)( 90-100) = -.175005E+02    FLUX(162)( 91-101) = -.477166E+00
 FLUX(163)( 91- 92) =  .287191E+02    FLUX(164)( 92-102) = -.559665E+01    FLUX(165)( 92- 93) =  .441173E+02
```

Figure 5-8. Model 2A Output (Sheet 17 of 49)

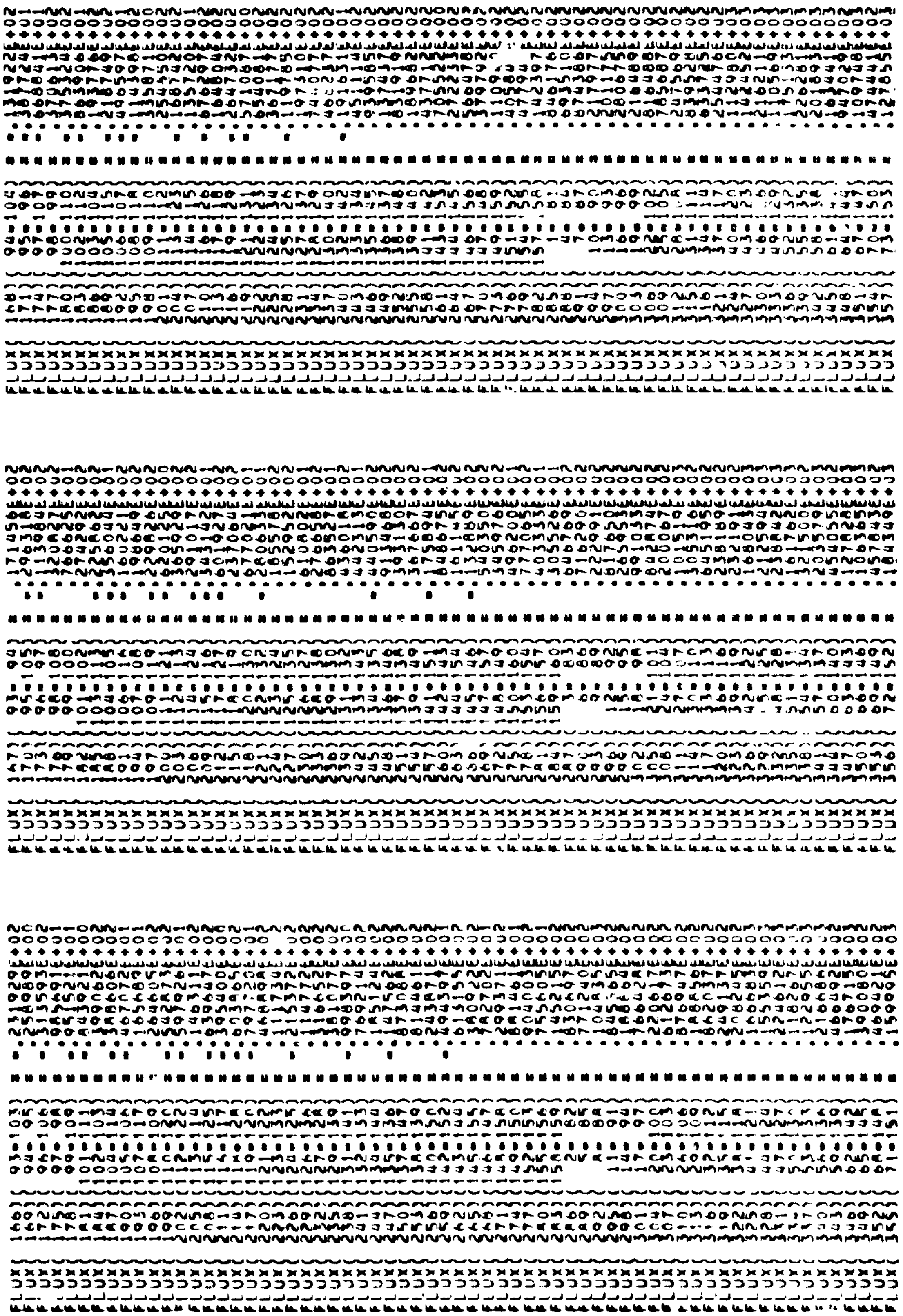

Figure 5-8. Model 2A Output (Sheet 18 of 49)

```
FLUX( 358)( 74-154) = .697274E+02    FLUX( 359)( 75-155) = .399622E+02    FLUX( 360)( 76-156) = .432148E+02
FLUX( 361)( 77-157) = .442992E+02    FLUX( 362)( 78-158) = .448469E+02    FLUX( 363)( 79-159) = .476696E+02
FLUX( 364)( 80-160) = .484382E+02    FLUX( 365)(  1-999) = -.262695E+03   FLUX( 366)(  2-999) = -.232666E+03
FLUX( 367)(  3-999) = -.177022E+03   FLUX( 368)(  4-999) = -.182306E+03   FLUX( 369)(  5-999) = -.198609E+03
FLUX( 370)(  6-999) = -.183218E+03   FLUX( 371)(  7-999) = -.210793E+03   FLUX( 372)(  8-999) = -.250331E+03
FLUX( 373)(  9-999) = -.504543E+02   FLUX( 374)( 10-999) = -.534590E+02   FLUX( 375)( 11-999) = -.262680E+03
FLUX( 376)( 12-999) = -.232738E+03   FLUX( 377)( 13-999) = -.371223E+02   FLUX( 378)( 14-999) = -.416890E+02
FLUX( 379)( 15-999) = -.416119E+02   FLUX( 380)( 16-999) = -.404893E+02   FLUX( 381)( 17-999) = -.174410E+03
FLUX( 382)( 18-999) = -.258745E+03   FLUX( 383)( 19-999) = -.502559E+02   FLUX( 384)( 20-999) = -.522846E+02
FLUX( 385)( 21-999) = -.262137E+03   FLUX( 386)( 22-999) = -.229048E+03   FLUX( 387)( 23-999) = -.173612E+03
FLUX( 388)( 24-999) = -.407326E+02   FLUX( 389)( 25-999) = -.226430E+03   FLUX( 390)( 26-999) = -.248218E+03
FLUX( 391)( 27-999) = -.279460E+03   FLUX( 392)( 28-999) = -.406784E+02   FLUX( 393)( 29-999) = -.476151E+02
FLUX( 394)( 30-999) = -.495510E+02   FLUX( 395)( 31-999) = -.261190E+03   FLUX( 396)( 32-999) = -.244643E+03
FLUX( 397)( 33-999) = -.165856E+03   FLUX( 398)( 34-999) = -.171999E+03   FLUX( 399)( 35-999) = -.383119E+02
FLUX( 400)( 36-999) = -.358153E+02   FLUX( 401)( 37-999) = -.357223E+02   FLUX( 402)( 38-999) = -.400233E+02
FLUX( 403)( 39-999) = -.481176E+02   FLUX( 404)( 40-999) = -.294912E+03   FLUX( 405)( 41-999) = -.520373E+03
FLUX( 406)( 42-999) = -.477131E+03   FLUX( 407)( 43-999) = -.370958E+03   FLUX( 408)( 44-999) = -.394609E+03
FLUX( 409)( 45-999) = -.538495E+03   FLUX( 410)( 46-999) = -.550290E+03   FLUX( 411)( 47-999) = -.565482E+03
FLUX( 412)( 48-999) = -.592009E+03   FLUX( 413)( 49-999) = -.259812E+03   FLUX( 414)( 50-999) = -.266015E+03
FLUX( 415)( 51-999) = -.505703E+03   FLUX( 416)( 52-999) = -.497168E+03   FLUX( 417)( 53-999) = -.325429E+03
FLUX( 418)( 54-999) = -.720095E+02   FLUX( 419)( 55-999) = -.569867E+03   FLUX( 420)( 56-999) = -.534147E+03
FLUX( 421)( 57-999) = -.493310E+03   FLUX( 422)( 58-999) = -.486750E+03   FLUX( 423)( 59-999) = -.995429E+02
FLUX( 424)( 60-999) = -.104701E+03   FLUX( 425)( 61-999) = -.514746E+03   FLUX( 426)( 62-999) = -.503472E+03
FLUX( 427)( 63-999) = -.331261E+03   FLUX( 428)( 64-999) = -.243243E+03   FLUX( 429)( 65-999) = -.847957E+02
FLUX( 430)( 66-999) = -.253526E+03   FLUX( 431)( 67-999) = -.259704E+03   FLUX( 432)( 68-999) = -.997653E+02
FLUX( 433)( 69-999) = -.108867E+03   FLUX( 434)( 70-999) = -.111144E+03   FLUX( 435)( 71-999) = -.508687E+03
FLUX( 436)( 72-999) = -.527811E+03   FLUX( 437)( 73-999) = -.332717E+03   FLUX( 438)( 74-999) = -.172322E+03
FLUX( 439)( 75-999) = -.101206E+03   FLUX( 440)( 76-999) = -.103131E+03   FLUX( 441)( 77-999) = -.104292E+03
FLUX( 442)( 78-999) = -.107974E+03   FLUX( 443)( 79-999) = -.111763E+03   FLUX( 444)( 80-999) = -.112563E+03
TIME=      .040

T88
ROW / COL       1           2           3           4           5           6           7           8           9          10
 1        2.051E+03   1.956E+03   1.827E+03   1.795E+03   1.799E+03   1.814E+03   1.853E+03   1.851E+03   1.718E+03   1.697E+03
ROW / COL      11          12          13          14          15          16          17          18          19          20
 1        2.052E+03   1.954E+03   1.798E+03   1.756E+03   1.768E+03   1.788E+03   1.844E+03   1.836E+03   1.719E+03   1.707E+03
ROW / COL      21          22          23          24          25          26          27          28          29          30
 1        2.052E+03   1.961E+03   1.833E+03   1.765E+03   1.807E+03   1.834E+03   1.857E+03   1.781E+03   1.722E+03   1.734E+03
ROW / COL      31          32          33          34          35          36          37          38          39          40
 1        2.054E+03   1.971E+03   1.851E+03   1.815E+03   1.797E+03   1.814E+03   1.821E+03   1.786E+03   1.738E+03   1.801E+03
ROW / COL      41          42          43          44          45          46          47          48          49          50
 1        2.055E+03   1.978E+03   1.873E+03   1.856E+03   1.901E+03   1.927E+03   1.925E+03   1.896E+03   1.778E+03   1.772E+03
ROW / COL      51          52          53          54          55          56          57          58          59          60
 1        2.057E+03   1.987E+03   1.856E+03   1.776E+03   1.892E+03   1.919E+03   1.901E+03   1.859E+03   1.727E+03   1.704E+03
ROW / COL      61          62          63          64          65          66          67          68          69          70
 1        2.058E+03   1.989E+03   1.853E+03   1.774E+03   1.738E+03   1.779E+03   1.776E+03   1.724E+03   1.687E+03   1.677E+03
ROW / COL      71          72          73          74          75          76          77          78          79          80
 1        2.059E+03   1.998E+03   1.851E+03   1.748E+03   1.696E+03   1.697E+03   1.695E+03   1.683E+03   1.670E+03   1.667E+03
ROW / COL      81          82          83          84          85          86          87          88          89          90
 1        2.043E+03   1.953E+03   1.830E+03   1.791E+03   1.795E+03   1.812E+03   1.847E+03   1.837E+03   1.726E+03   1.703E+03
ROW / COL      91          92          93          94          95          96          97          98          99         100
 1        2.043E+03   1.954E+03   1.817E+03   1.772E+03   1.781E+03   1.802E+03   1.842E+03   1.823E+03   1.727E+03   1.714E+03
ROW / COL     101         102         103         104         105         106         107         108         109         110
 1        2.045E+03   1.959E+03   1.838E+03   1.781E+03   1.803E+03   1.826E+03   1.846E+03   1.793E+03   1.732E+03   1.739E+03
ROW / COL     111         112         113         114         115         116         117         118         119         120
 1        2.046E+03   1.967E+03   1.856E+03   1.815E+03   1.813E+03   1.831E+03   1.838E+03   1.800E+03   1.747E+03   1.781E+03
ROW / COL     121         122         123         124         125         126         127         128         129         130
 1        2.048E+03   1.975E+03   1.876E+03   1.852E+03   1.890E+03   1.914E+03   1.911E+03   1.878E+03   1.778E+03   1.769E+03
ROW / COL     131         132         133         134         135         136         137         138         139         140
 1        2.050E+03   1.962E+03   1.862E+03   1.794E+03   1.876E+03   1.904E+03   1.890E+03   1.845E+03   1.735E+03   1.709E+03
ROW / COL     141         142         143         144         145         146         147         148         149         150
 1        2.051E+03   1.984E+03   1.857E+03   1.778E+03   1.750E+03   1.780E+03   1.776E+03   1.731E+03   1.692E+03   1.680E+03
ROW / COL     151         152         153         154         155         156         157         158         159         160
 1        2.053E+03   1.991E+03   1.834E+03   1.755E+03   1.704E+03   1.703E+03   1.701E+03   1.687E+03   1.673E+03   1.668E+03
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Figure 5-8. Model 2A Output (Sheet 19 of 49)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

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ITERATION NUMBER  3  MAXIMUM ABSOLUTE ERROR =     .667

EST ABS ERR
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1        1.148E-05  8.802E-05  8.270E-04  1.493E-03  4.594E-03  8.424E-03  1.130E-02  4.822E-02  4.851E-02  7.458E-02
ROW / COL     11         12         13         14
  1        7.387E-02  1.185E-01  6.671E-01  3.505E-01

RAYLEIGH QUOTIENTS
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1       -2.320E+01 -3.745E+01 -4.324E+01 -5.698E+01 -6.906E+01 -8.120E+01 -8.445E+01 -9.763E+01 -1.095E+02 -1.116E+02
ROW / COL     11         12         13         14
  1       -1.259E+02 -1.331E+02 -1.386E+02 -1.407E+02

DOMINANT EIGENVALUES
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1       -2.320E+01 -3.745E+01 -4.324E+01 -5.698E+01 -6.906E+01 -8.120E+01 -8.445E+01 -9.763E+01 -1.095E+02 -1.116E+02
ROW / COL     11         12         13         14
  1       -1.259E+02 -1.331E+02 -1.386E+02 -1.407E+02

TIME =    .400E-01   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL      1          2          3          4          5          6          7          8          9          10
  1        2.031E+03  1.905E+03  1.706E+03  1.626E+03  1.614E+03  1.628E+03  1.667E+03  1.612E+03  1.312E+03  1.229E+03
ROW / COL     11         12         13         14         15         16         17         18         19         20
  1        2.032E+03  1.905E+03  1.672E+03  1.577E+03  1.574E+03  1.596E+03  1.656E+03  1.589E+03  1.318E+03  1.253E+03
ROW / COL     21         22         23         24         25         26         27         28         29         30
  1        2.033E+03  1.913E+03  1.719E+03  1.595E+03  1.634E+03  1.663E+03  1.676E+03  1.507E+03  1.330E+03  1.310E+03
ROW / COL     31         32         33         34         35         36         37         38         39         40
  1        2.036E+03  1.926E+03  1.747E+03  1.666E+03  1.629E+03  1.644E+03  1.631E+03  1.519E+03  1.362E+03  1.432E+03
ROW / COL     41         42         43         44         45         46         47         48         49         50
  1        2.038E+03  1.937E+03  1.780E+03  1.727E+03  1.775E+03  1.803E+03  1.779E+03  1.686E+03  1.424E+03  1.377E+03
ROW / COL     51         52         53         54         55         56         57         58         59         60
  1        2.040E+03  1.945E+03  1.749E+03  1.600E+03  1.735E+03  1.760E+03  1.707E+03  1.585E+03  1.285E+03  1.200E+03
ROW / COL     61         62         63         64         65         66         67         68         69         70
  1        2.040E+03  1.944E+03  1.727E+03  1.552E+03  1.442E+03  1.472E+03  1.426E+03  1.276E+03  1.145E+03  1.090E+03
ROW / COL     71         72         73         74         75         76         77         78         79         80
  1        2.041E+03  1.951E+03  1.710E+03  1.479E+03  1.319E+03  1.268E+03  1.218E+03  1.142E+03  1.068E+03  1.034E+03
ROW / COL     81         82         83         84         85         86         87         88         89         90
  1        2.018E+03  1.894E+03  1.699E+03  1.610E+03  1.596E+03  1.612E+03  1.644E+03  1.574E+03  1.310E+03  1.225E+03
ROW / COL     91         92         93         94         95         96         97         98         99        100
  1        2.019E+03  1.895E+03  1.685E+03  1.586E+03  1.580E+03  1.601E+03  1.638E+03  1.553E+03  1.316E+03  1.249E+03
ROW / COL    101        102        103        104        105        106        107        108        109        110
  1        2.021E+03  1.903E+03  1.715E+03  1.604E+03  1.616E+03  1.640E+03  1.646E+03  1.509E+03  1.331E+03  1.302E+03
ROW / COL    111        112        113        114        115        116        117        118        119        120
  1        2.023E+03  1.915E+03  1.743E+03  1.655E+03  1.637E+03  1.653E+03  1.636E+03  1.523E+03  1.361E+03  1.379E+03
ROW / COL    121        122        123        124        125        126        127        128        129        130
  1        2.027E+03  1.927E+03  1.773E+03  1.710E+03  1.767E+03  1.771E+03  1.744E+03  1.640E+03  1.407E+03  1.353E+03
ROW / COL    131        132        133        134        135        136        137        138        139        140
  1        2.029E+03  1.933E+03  1.745E+03  1.611E+03  1.699E+03  1.723E+03  1.672E+03  1.544E+03  1.282E+03  1.194E+03
ROW / COL    141        142        143        144        145        146        147        148        149        150
  1        2.026E+03  1.931E+03  1.720E+03  1.544E+03  1.446E+03  1.457E+03  1.408E+03  1.271E+03  1.138E+03  1.081E+03
ROW / COL    151        152        153        154        155        156        157        158        159        160
  1        2.030E+03  1.936E+03  1.702E+03  1.475E+03  1.318E+03  1.264E+03  1.213E+03  1.135E+03  1.059E+03  1.023E+03

 TIME =        .4000000E-01
 T(  1) =  .203143E+04   T(  2) =  .190500E+04   T(  3) =  .170594E+04   T(  4) =  .162598E+04   T(  5) =  .161356E+04
 T(  6) =  .162780E+04   T(  7) =  .166707E+04   T(  8) =  .161231E+04   T(  9) =  .131243E+04   T( 10) =  .122901E+04
 T( 11) =  .203198E+04   T( 12) =  .190538E+04   T( 13) =  .167177E+04   T( 14) =  .157710E+04   T( 15) =  .157430E+04
 T( 16) =  .159572E+04   T( 17) =  .165600E+04   T( 18) =  .158913E+04   T( 19) =  .131784E+04   T( 20) =  .125331E+04
 T( 21) =  .203347E+04   T( 22) =  .191290E+04   T( 23) =  .171941E+04   T( 24) =  .159512E+04   T( 25) =  .163383E+04
 T( 26) =  .166313E+04   T( 27) =  .167646E+04   T( 28) =  .150711E+04   T( 29) =  .133029E+04   T( 30) =  .130997E+04
 T( 31) =  .203556E+04   T( 32) =  .192646E+04   T( 33) =  .174742E+04   T( 34) =  .166639E+04   T( 35) =  .162303E+04
```

Figure 5-8. Model 2A Output (Sheet 20 of 49)

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T(  36) =  .164381E+04   T(  37) =  .163090E+04   T(  38) =  .151867E+04   T(  39) =  .136199E+04   T(  40) =  .144152E+04
T(  41) =  .203813E+04   T(  42) =  .193694E+04   T(  43) =  .177981E+04   T(  44) =  .172658E+04   T(  45) =  .177516E+04
T(  46) =  .180284E+04   T(  47) =  .177867E+04   T(  48) =  .168552E+04   T(  49) =  .142430E+04   T(  50) =  .137665E+04
T(  51) =  .203984E+04   T(  52) =  .194534E+04   T(  53) =  .174872E+04   T(  54) =  .159977E+04   T(  55) =  .173468E+04
T(  56) =  .176005E+04   T(  57) =  .170683E+04   T(  58) =  .158469E+04   T(  59) =  .128840E+04   T(  60) =  .120028E+04
T(  61) =  .203997E+04   T(  62) =  .194363E+04   T(  63) =  .172676E+04   T(  64) =  .155202E+04   T(  65) =  .144208E+04
T(  66) =  .147226E+04   T(  67) =  .142553E+04   T(  68) =  .127573E+04   T(  69) =  .110499E+04   T(  70) =  .108991E+04
T(  71) =  .204086E+04   T(  72) =  .195110E+04   T(  73) =  .171000E+04   T(  74) =  .147938E+04   T(  75) =  .131871E+04
T(  76) =  .126768E+04   T(  77) =  .121772E+04   T(  78) =  .114212E+04   T(  79) =  .106804E+04   T(  80) =  .103399E+04
T(  81) =  .201808E+04   T(  82) =  .189426E+04   T(  83) =  .169914E+04   T(  84) =  .1[illegible]1020E+04   T(  85) =  .159581E+04
T(  86) =  .161179E+04   T(  87) =  .164362E+04   T(  88) =  .157373E+04   T(  89) =  .131047E+04   T(  90) =  .122452E+04
T(  91) =  .201885E+04   T(  92) =  .189541E+04   T(  93) =  .168543E+04   T(  94) =  .158622E+04   T(  95) =  .158006E+04
T(  96) =  .160107E+04   T(  97) =  .163786E+04   T(  98) =  .155314E+04   T(  99) =  .131636E+04   T( 100) =  .124912E+04
T( 101) =  .202080E+04   T( 102) =  .190344E+04   T( 103) =  .171500E+04   T( 104) =  .160440E+04   T( 105) =  .161599E+04
T( 106) =  .163985E+04   T( 107) =  .164612E+04   T( 108) =  .150937E+04   T( 109) =  .133054E+04   T( 110) =  .130211E+04
T( 111) =  .202346E+04   T( 112) =  .191524E+04   T( 113) =  .174265E+04   T( 114) =  .165537E+04   T( 115) =  .163742E+04
T( 116) =  .165274E+04   T( 117) =  .163822E+04   T( 118) =  .152329E+04   T( 119) =  .1360[illegible]4E+04   T( 120) =  .137926E+04
T( 121) =  .202688E+04   T( 122) =  .192734E+04   T( 123) =  .177308E+04   T( 124) =  .17[illegible]E+04   T( 125) =  .174690E+04
T( 126) =  .177107E+04   T( 127) =  .174391E+04   T( 128) =  .164024E+04   T( 129) =  .14[illegible]E+04   T( 130) =  .135349E+04
T( 131) =  .202901E+04   T( 132) =  .193279E+04   T( 133) =  .174866E+04   T( 134) =  .1[illegible]E+04   T( 135) =  .169910E+04
T( 136) =  .172326E+04   T( 137) =  .167204E+04   T( 138) =  .154385E+04   T( 139) =  .1281[illegible]E+04   T( 140) =  .119387E+04
T( 141) =  .202018E+04   T( 142) =  .193053E+04   T( 143) =  .172027E+04   T( 144) =  .154437E+04   T( 145) =  .144592E+04
T( 146) =  .145743E+04   T( 147) =  .140821E+04   T( 148) =  .127124E+04   T( 149) =  .113841E+04   T( 150) =  .108086E+04
T( 151) =  .203020E+04   T( 152) =  .193471E+04   T( 153) =  .170153E+04   T( 154) =  .147520E+04   T( 155) =  .131841E+04
T( 156) =  .126434E+04   T( 157) =  .121273E+04   T( 158) =  .113478E+04   T( 159) =  .105900E+04   T([illegible]) =  .102321E+04
T( 999) =  .239000E+04   T( 998) =  .590000E+02   T(

HEAT FLUXES
   FLUX(   1)(  1- 11) = -.395460E-01     FLUX(   2)(  1-  2) =  .343642E+02     FLUX(   3)(  2- 12) =  .127879E+00
   FLUX(   4)(  2-  3) =  .510647E+02     FLUX(   5)(  3- 13) =  .333476E+02     FLUX(   6)(  3-  4) =  .176135E+02
   FLUX(   7)(  4- 14) =  .441564E+02     FLUX(   8)(  4-  5) =  .242793E+01     FLUX(   9)(  5- 15) =  .369385E+02
   FLUX(  10)(  5-  6) = -.319227E+01     FLUX(  11)(  6- 16) =  .281131E+02     FLUX(  12)(  6-  7) = -.136108E+02
   FLUX(  13)(  7- 17) =  .105734E+02     FLUX(  14)(  7-  8) =  .734560E+01     FLUX(  15)(  8- 18) =  .222274E+02
   FLUX(  16)(  8-  9) =  .621933E+02     FLUX(  17)(  9- 19) = -.397793E+01     FLUX(  18)(  9- 10) =  .148055E+02
   FLUX(  19)( 10- 20) = -.215883E+02     FLUX(  20)( 11- 21) = -.617622E+00     FLUX(  21)( 11- 12) =  .344077E+02
   FLUX(  22)( 12- 22) = -.678918E+01     FLUX(  23)( 12- 13) =  .590822E+02     FLUX(  24)( 13- 23) = -.458542E+02
   FLUX(  25)( 13- 14) =  .211069E+02     FLUX(  26)( 14- 24) = -.164437E+02     FLUX(  27)( 14- 15) = -.173529E+00
   FLUX(  28)( 15- 25) = -.581842E+02     FLUX(  29)( 15- 16) = -.501357E+01     FLUX(  30)( 16- 26) = -.634189E+02
   FLUX(  31)( 16- 17) = -.182255E+02     FLUX(  32)( 17- 27) = -.148959E+02     FLUX(  33)( 17- 18) =  .104333E+02
   FLUX(  34)( 18- 28) =  .717645E+02     FLUX(  35)( 18- 19) =  .555820E+02     FLUX(  36)( 19- 29) = -.100717E+02
   FLUX(  37)( 19- 20) =  .102322E+02     FLUX(  38)( 20- 30) = -.490387E+02     FLUX(  39)( 21- 31) = -.105671E+01
   FLUX(  40)( 21- 22) =  .378522E+02     FLUX(  41)( 22- 32) = -.124791E+02     FLUX(  42)( 22- 23) =  .496976E+02
   FLUX(  43)( 23- 33) = -.284808E+02     FLUX(  44)( 23- 24) =  .280766E+02     FLUX(  45)( 24- 34) = -.655019E+02
   FLUX(  46)( 24- 25) = -.101868E+02     FLUX(  47)( 25- 35) = -.204525E+01     FLUX(  48)( 25- 26) = -.704467E+01
   FLUX(  49)( 26- 36) =  .974128E+01     FLUX(  50)( 26- 27) = -.657500E+01     FLUX(  51)( 27- 37) =  .361723E+02
   FLUX(  52)( 27- 28) =  .338123E+02     FLUX(  53)( 28- 38) = -.119284E+02     FLUX(  54)( 28- 29) =  .344443E+02
   FLUX(  55)( 29- 30) = -.294656E+02     FLUX(  56)( 29- 30) =  .356815E-01     FLUX(  57)( 30- 40) = -.103325E+03
   FLUX(  58)( 31- 41) = -.747400E+00     FLUX(  59)( 31- 32) =  .209715E+02     FLUX(  60)( 32- 42) = -.660760E+01
   FLUX(  61)( 32- 33) =  .459105E+02     FLUX(  62)( 33- 43) = -.221083E+02     FLUX(  63)( 33- 34) =  .177084E+02
   FLUX(  64)( 34- 44) = -.388104E+02     FLUX(  65)( 34- 35) =  .671140E+01     FLUX(  66)( 35- 45) = -.996857E+02
   FLUX(  67)( 35- 36) = -.405031E+01     FLUX(  68)( 36- 46) = -.106631E+03     FLUX(  69)( 36- 37) =  .527814E-01
   FLUX(  70)( 37- 47) = -.960044E+02     FLUX(  71)( 37- 38) =  .2[illegible]5717E+02     FLUX(  72)( 38- 48) = -.101679E+03
   FLUX(  73)( 38- 39) =  .301210E+02     FLUX(  74)( 39- 49) = -.411575E+02     FLUX(  75)( 39- 40) = -.191308E+02
   FLUX(  76)( 40- 50) =  .254668E+02     FLUX(  77)( 41- 51) = -.620824E+00     FLUX(  78)( 41- 42) =  .555251E+02
   FLUX(  79)( 42- 52) = -.452309E+01     FLUX(  80)( 42- 43) =  .60[illegible]187E+02     FLUX(  81)( 43- 53) =  .153145E+02
   FLUX(  82)( 43- 44) =  .208515E+02     FLUX(  83)( 44- 54) =  .578314E+02     FLUX(  84)( 44- 45) = -.295945E+02
   FLUX(  85)( 45- 55) =  .170387E+02     FLUX(  86)( 45- 46) = -.154903E+02     FLUX(  87)( 45- 56) =  .144478E+02
   FLUX(  88)( 46- 47) =  .784489E+01     FLUX(  89)( 47- 57) =  .271804E+02     FLUX(  90)( 47- 48) =  .376615E+02
   FLUX(  91)( 48- 58) =  .380022E+02     FLUX(  92)( 48- 49) =  .108256E+03     FLUX(  93)( 49- 59) =  .558050E+02
   FLUX(  94)( 49- 50) =  .114517E+02     FLUX(  95)( 50- 60) =  .679222E+02     FLUX(  96)( 51- 61) = -.805358E+00
   FLUX(  97)( 51- 52) =  .540406E+02     FLUX(  98)( 52- 62) = -.153548E+01     FLUX(  99)( 52- 53) =  .973575E+02
   FLUX( 100)( 53- 63) =  .613347E+01     FLUX( 101)( 53- 54) =  .650427E+02     FLUX( 102)( 54- 64) =  .166022E+02
   FLUX( 103)( 54- 55) = -.719037E+02     FLUX( 104)( 55- 65) =  .136462E+03     FLUX( 105)( 55- 56) = -.166913E+02
   FLUX( 106)( 56- 66) =  .125326E+03     FLUX( 107)( 56- 57) =  .197401E+02     FLUX( 108)( 57- 67) =  .119848E+03
   FLUX( 109)( 57- 58) =  .490308E+02     FLUX( 110)( 58- 68) =  .122979E+03     FLUX( 111)( 58- 59) =  .120115E+03
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Figure 5-8. Model 2A Output (Sheet 21 of 49)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

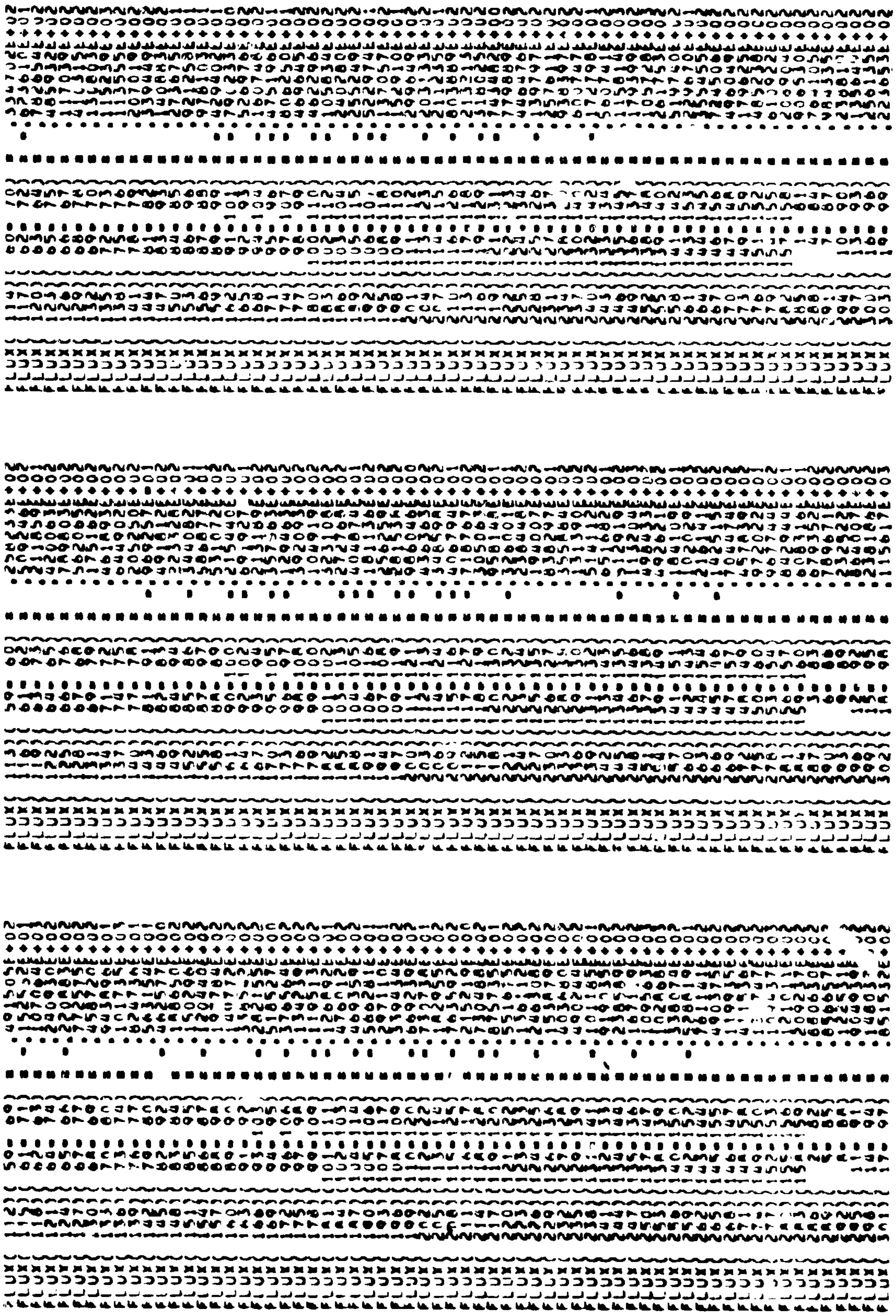

Figure 5-8. Model 2A Output (Sheet 22 of 49)

FLUX(304)(20-100)	=	.220029E+02	FLUX(305)(21-101)	=	.900135E+02	FLUX(306)(22-102)	=	.860476E+02
FLUX(307)(23-103)	=	.633800E+02	FLUX(308)(24-104)	=	.158558E+02	FLUX(309)(25-105)	=	.871457E+02
FLUX(310)(26-106)	=	.983514E+02	FLUX(311)(27-107)	=	.115738E+03	FLUX(312)(28-108)	=	.237137E+02
FLUX(313)(29-109)	=	.187671E+02	FLUX(314)(30-110)	=	.341699E+02	FLUX(315)(31-111)	=	.894232E+02
FLUX(316)(32-112)	=	.914181E+02	FLUX(317)(33-113)	=	.668058E+02	FLUX(318)(34-114)	=	.682908E+02
FLUX(319)(35-115)	=	.208808E+02	FLUX(320)(36-116)	=	.197299E+02	FLUX(321)(37-117)	=	.220151E+02
FLUX(322)(38-118)	=	.187035E+02	FLUX(323)(39-119)	=	.238730E+02	FLUX(324)(40-120)	=	.137090E+03
FLUX(325)(41-121)	=	.176850E+03	FLUX(326)(42-122)	=	.179955E+03	FLUX(327)(43-123)	=	.148882E+03
FLUX(328)(44-124)	=	.170124E+03	FLUX(329)(45-125)	=	.239633E+03	FLUX(330)(46-126)	=	.245164E+03
FLUX(331)(47-127)	=	.257083E+03	FLUX(332)(48-128)	=	.580206E+03	FLUX(333)(49-129)	=	.127062E+03
FLUX(334)(50-130)	=	.130655E+03	FLUX(335)(51-131)	=	.171319E+03	FLUX(336)(52-132)	=	.186510E+03
FLUX(337)(53-133)	=	.120745E+03	FLUX(338)(54-134)	=	.223775E+02	FLUX(339)(55-135)	=	.259564E+03
FLUX(340)(56-136)	=	.249462E+03	FLUX(341)(57-137)	=	.235379E+03	FLUX(342)(58-138)	=	.238480E+03
FLUX(343)(59-139)	=	.502233E+02	FLUX(344)(60-140)	=	.512092E+02	FLUX(345)(61-141)	=	.173193E+03
FLUX(346)(62-142)	=	.188884E+02	FLUX(347)(63-143)	=	.134036E+03	FLUX(348)(64-144)	=	.101563E+03
FLUX(349)(65-145)	=	.353007E+02	FLUX(350)(66-146)	=	.120019E+03	FLUX(351)(67-147)	=	.126107E+03
FLUX(352)(68-148)	=	.510966E+02	FLUX(353)(69-149)	=	.521909E+02	FLUX(354)(70-150)	=	.558750E+02
FLUX(355)(71-151)	=	.146624E+03	FLUX(356)(72-152)	=	.199565E+03	FLUX(357)(73-153)	=	.133971E+02
FLUX(358)(74-154)	=	.124794E+02	FLUX(359)(75-155)	=	.452595E+02	FLUX(360)(76-156)	=	.4[illegible]3156E+02
FLUX(361)(77-157)	=	.490400E+02	FLUX(362)(78-158)	=	.516711E+02	FLUX(363)(79-159)	=	.565014E+02
FLUX(364)(80-160)	=	.184880E+02	FLUX(365)(1-999)	=	-.331971E+03	FLUX(366)(2-999)	=	-.289120E+03
FLUX(367)(3-999)	=	-.217793E+03	FLUX(368)(4-999)	=	-.224634E+03	FLUX(369)(5-999)	=	-.344885E+03
FLUX(370)(6-999)	=	-.225902E+03	FLUX(371)(7-999)	=	-.261398E+03	FLUX(372)(8-999)	=	-.312546E+03
FLUX(373)(9-999)	=	-.632774E+02	FLUX(374)(10-999)	=	-.672747E+02	FLUX(375)(11-999)	=	-.331848E+03
FLUX(376)(12-999)	=	-.289148E+03	FLUX(377)(13-999)	=	-.456692E+03	FLUX(378)(14-999)	=	-.511625E+02
FLUX(379)(15-999)	=	-.513138E+02	FLUX(380)(16-999)	=	-.499411E+03	FLUX(381)(17-999)	=	-.216248E+03
FLUX(382)(18-999)	=	-.322815E+03	FLUX(383)(19-999)	=	-.630146E+02	FLUX(384)(20-999)	=	-.658112E+02
FLUX(385)(21-999)	=	-.331016E+03	FLUX(386)(22-999)	=	-.784583E+03	FLUX(387)(23-999)	=	-.213579E+03
FLUX(388)(24-999)	=	-.501961E+02	FLUX(389)(25-999)	=	-.274361E+03	FLUX(390)(26-999)	=	-.306368E+03
FLUX(391)(27-999)	=	-.346533E+03	FLUX(392)(28-999)	=	-.507434E+02	FLUX(393)(29-999)	=	-.596958E+02
FLUX(394)(30-999)	=	-.624033E+02	FLUX(395)(31-999)	=	-.329668E+03	FLUX(396)(32-999)	=	-.304022E+03
FLUX(397)(33-999)	=	-.204153E+03	FLUX(398)(34-999)	=	-.212088E+03	FLUX(399)(35-999)	=	-.473695E+02
FLUX(400)(36-999)	=	-.443218E+02	FLUX(401)(37-999)	=	-.443701E+03	FLUX(402)(38-999)	=	-.499564E+02
FLUX(403)(39-999)	=	-.603509E+02	FLUX(404)(40-999)	=	-.371590E+03	FLUX(405)(41-999)	=	-.656334E+03
FLUX(406)(42-999)	=	-.593161E+03	FLUX(407)(43-999)	=	-.456998E+03	FLUX(408)(44-999)	=	-.487488E+03
FLUX(409)(45-999)	=	-.668842E+03	FLUX(410)(46-999)	=	-.865337E+03	FLUX(411)(47-999)	=	-.700088E+03
FLUX(412)(48-999)	=	-.741360E+03	FLUX(413)(49-999)	=	-.396445E+03	FLUX(414)(50-999)	=	-.335937E+03
FLUX(415)(51-999)	=	-.837782E+03	FLUX(416)(52-999)	=	-.618581E+03	FLUX(417)(53-999)	=	-.400844E+03
FLUX(418)(54-999)	=	-.898783E+02	FLUX(419)(55-999)	=	-.708793E+03	FLUX(420)(56-999)	=	-.667696E+03
FLUX(421)(57-999)	=	-.618330E+03	FLUX(422)(58-999)	=	-.611573E+03	FLUX(423)(59-999)	=	-.125501E+03
FLUX(424)(60-999)	=	-.132600E+03	FLUX(425)(61-999)	=	-.649098E+03	FLUX(426)(62-999)	=	-.626009E+03
FLUX(427)(63-999)	=	-.409258E+03	FLUX(428)(64-999)	=	-.301[illegible]94E+03	FLUX(429)(65-999)	=	-.105460E+03
FLUX(430)(66-999)	=	-.316850E+03	FLUX(431)(67-999)	=	-.326253E+03	FLUX(432)(68-999)	=	-.125951E+03
FLUX(433)(69-999)	=	-.138120E+03	FLUX(434)(70-999)	=	-.141696E+03	FLUX(435)(71-999)	=	-.643598E+03
FLUX(436)(72-999)	=	-.660623E+03	FLUX(437)(73-999)	=	-.412685E+03	FLUX(438)(74-999)	=	-.214210E+03
FLUX(439)(75-999)	=	-.126381E+03	FLUX(440)(76-999)	=	-.129505E+03	FLUX(441)(77-999)	=	-.131840E+03
FLUX(442)(78-999)	=	-.137209E+03	FLUX(443)(79-999)	=	-.142829E+03	FLUX(444)(80-999)	=	-.144429E+03

TIME= .050

TSS

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.044E+03	1.934E+03	1.789E+03	1.744E+03	1.745E+03	1.762E+03	1.804E+03	1.796E+03	1.636E+03	1.607E+03
ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.044E+03	1.938E+03	1.758E+03	1.702E+03	1.712E+03	1.735E+03	1.795E+03	1.780E+03	1.637E+03	1.619E+03
ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.045E+03	1.944E+03	1.797E+03	1.714E+03	1.757E+03	1.786E+03	1.811E+03	1.718E+03	1.642E+03	1.651E+03
ROW / COL	31	32	33	34	35	36	37	38	39	40
1	2.047E+03	1.955E+03	1.818E+03	1.770E+03	1.748E+03	1.767E+03	1.773E+03	1.725E+03	1.682E+03	1.729E+03
ROW / COL	41	42	43	44	45	46	47	48	49	50
1	2.049E+03	1.963E+03	1.844E+03	1.817E+03	1.865E+03	1.893E+03	1.888E+03	1.849E+03	1.707E+03	1.697E+03
ROW / COL	51	52	53	54	55	56	57	58	59	60
1	2.050E+03	1.973E+03	1.824E+03	1.727E+03	1.850E+03	1.880E+03	1.858E+03	1.804E+03	1.667E+03	1.616E+03
ROW / COL	61	62	63	64	65	66	67	68	69	70
1	2.051E+03	1.974E+03	1.817E+03	1.718E+03	1.670E+03	1.714E+03	1.707E+03	1.644E+03	1.597E+03	1.583E+03
ROW / COL	71	72	73	74	75	76	77	78	79	80
1	2.052E+03	1.984E+03	1.813E+03	1.660E+03	1.615E+03	1.612E+03	1.608E+03	1.591E+03	1.574E+03	1.569E+03

Figure 5-5. Model 2A Output (Sheet 23 of 49)

ROW / COL	81	82	83	84	85	86	87	88	89	90
1	2.035E+03	1.935E+03	1.792E+03	1.741E+03	1.742E+03	1.760E+03	1.798E+03	1.780E+03	1.645E+03	1.614E+03

ROW / COL	91	92	93	94	95	96	97	98	99	100
1	2.035E+03	1.936E+03	1.779E+03	1.720E+03	1.727E+03	1.750E+03	1.793E+03	1.765E+03	1.647E+03	1.627E+03

ROW / COL	101	102	103	104	105	106	107	108	109	110
1	2.037E+03	1.942E+03	1.802E+03	1.737E+03	1.753E+03	1.778E+03	1.798E+03	1.732E+03	1.654E+03	1.657E+03

ROW / COL	111	112	113	114	115	116	117	118	119	120
1	2.034E+03	1.951E+03	1.823E+03	1.771E+03	1.766E+03	1.745E+03	1.790E+03	1.741E+03	1.672E+03	1.706E+03

ROW / COL	121	122	123	124	125	126	127	128	129	130
1	2.041E+03	1.960E+03	1.846E+03	1.813E+03	1.852E+03	1.878E+03	1.873E+03	1.828E+03	1.708E+03	1.693E+03

ROW / COL	131	132	133	134	135	136	137	138	139	140
1	2.043E+03	1.967E+03	1.829E+03	1.747E+03	1.833E+03	1.863E+03	1.844E+03	1.788E+03	1.656E+03	1.623E+03

ROW / COL	141	142	143	144	145	146	147	148	149	150
1	2.044E+03	1.969E+03	1.821E+03	1.723E+03	1.684E+03	1.715E+03	1.707E+03	1.652E+03	1.602E+03	1.586E+03

ROW / COL	151	152	153	154	155	156	157	158	159	160
1	2.046E+03	1.976E+03	1.816E+03	1.692E+03	1.626E+03	1.621E+03	1.615E+03	1.596E+03	1.578E+03	1.571E+03

ITERATION NUMBER 3 MAXIMUM ABSOLUTE ERROR = .458

EST ABS ERR

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	5.745E-06	7.265E-05	1.906E-04	7.434E-04	2.393E-03	3.866E-03	5.789E-03	3.263E-02	3.268E-02	4.812E-02

ROW / COL	11	12	13	14
1	6.349E-02	9.862E-02	4.581E-01	2.489E-01

RAYLEIGH QUOTIENTS

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.420E+01	-3.856E+01	-4.437E+01	-5.805E+01	-6.997E+01	-8.204E+01	-8.530E+01	-9.840E+01	-1.103E+02	-1.[illegible]4E+02

ROW / COL	11	12	13	14
1	-1.265E+02	-1.337E+02	-1.392E+02	-1.412E+02

DOMINANT EIGENVALUES

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.420E+01	-3.856E+01	-[illegible].432E+01	-5.805E+01	-6.997E+01	-8.204E+01	-8.530E+01	-9.840E+01	-1.103E+02	-1.124E+02

ROW / COL	11	12	13	14
1	-1.265E+02	-1.337E+02	-1.392E+02	-1.412E+02

TIME = .500E-01 NUMBER OF DOMINANT EIGENVALUES = 14

TEMP

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.036E+03	1.917E+03	1.736E+03	1.669E+03	1.660E+03	1.671E+03	1.706E+03	1.659E+03	1.393E+03	1.321E+03

ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.036E+03	1.917E+03	1.704E+03	1.623E+03	1.622E+03	1.640E+03	1.695E+03	1.638E+03	1.396E+03	1.341E+03

ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.038E+03	1.924E+03	1.748E+03	1.638E+03	1.676E+03	1.702E+03	1.713E+03	1.560E+03	1.406E+03	1.390E+03

ROW / COL	31	32	33	34	35	36	37	38	39	40
1	2.039E+03	1.937E+03	1.773E+03	1.703E+03	1.669E+03	1.681E+03	1.669E+03	1.569E+03	1.433E+03	1.499E+03

ROW / COL	41	42	43	44	45	46	47	48	49	50
1	2.042E+03	1.946E+03	1.802E+03	1.757E+03	1.803E+03	1.828E+03	1.806E+03	1.723E+03	1.487E+03	1.446E+03

ROW / COL	51	52	53	54	55	56	57	58	59	60
1	2.043E+03	1.954E+03	1.773E+03	1.640E+03	1.768E+03	1.790E+03	1.741E+03	1.631E+03	1.360E+03	1.284E+03

ROW / COL	61	62	63	64	65	66	67	68	69	70
1	2.043E+03	1.953E+03	1.75[illegible]E+03	1.602E+03	1.506E+03	1.533E+03	1.488E+03	1.351E+03	1.233E+03	1.183E+03

ROW / COL	71	72	73	74	75	76	77	78	79	80
1	2.044E+03	1.961E+03	1.741E+03	1.540E+03	1.401E+03	1.355E+03	1.306E+03	1.234E+03	1.163E+03	1.130E+03

ROW / COL	81	82	83	84	85	86	87	88	89	90
1	2.025E+03	1.910E+03	1.735E+03	1.601E+03	1.649E+03	1.662E+03	1.690E+03	1.629E+03	1.396E+03	1.321E+03

ROW / COL	91	92	93	94	95	96	97	98	99	100
1	2.023E+03	1.911E+03	1.722E+03	1.637E+03	1.634E+03	1.651E+03	1.684E+03	1.609E+03	1.400E+03	1.342E+03

ROW / COL	101	102	103	104	105	106	107	108	109	110
1	2.027E+03	1.918E+03	1.749E+03	1.653E+03	1.665E+03	1.685E+03	1.690E+03	1.568E+03	1.411E+03	1.388E+03

ROW / COL	111	112	113	114	115	116	117	118	119	120
1	2.029E+03	1.929E+03	1.773E+03	1.698E+03	1.683E+03	1.695E+03	1.681E+03	1.579E+03	1.436E+03	1.456E+03

Figure 5-8. Model 2A Output (Sheet 24 of 49)

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ROW / COL    121          122          123          124          125          126          127          128          129          130
  1       2.032E+03    1.940E+03    1.800E+03    1.747E+03    1.782E+03    1.803E+03    1.778E+03    1.685E+03    1.476E+03    1.429E+03
ROW / COL    131          132          133          134          135          136          137          138          139          140
  1       2.034E+03    1.945E+03    1.774E+03    1.656E+03    1.740E+03    1.761E+03    1.713E+03    1.597E+03    1.360E+03    1.282E+03
ROW / COL    141          142          143          144          145          146          147          148          149          150
  1       2.034E+03    1.943E+03    1.754E+03    1.600E+03    1.519E+03    1.524E+03    1.477E+03    1.351E+03    1.230E+03    1.177E+03
ROW / COL    151          152          153          154          155          156          157          158          159          160
  1       2.035E+03    1.948E+03    1.738E+03    1.542E+03    1.406E+03    1.356E+03    1.305E+03    1.230E+03    1.158E+03    1.123E+03

 TIME =        .5000000E-01
 T(   1) =  .203591E+04   T(   2) =  .191717E+04   T(   3) =  .173645E+04   T(   4) =  .166913E+04   T(   5) =  .165956E+04
 T(   6) =  .167080E+04   T(   7) =  .170593E+04   T(   8) =  .165936E+04   T(   9) =  .139253E+04   T(  10) =  .132055E+04
 T(  11) =  .203636E+04   T(  12) =  .191735E+04   T(  13) =  .170353E+04   T(  14) =  .162274E+04   T(  15) =  .162204E+04
 T(  16) =  .163991E+04   T(  17) =  .169509E+04   T(  18) =  .163755E+04   T(  19) =  .139643E+04   T(  20) =  .134118E+04
 T(  21) =  .203763E+04   T(  22) =  .192412E+04   T(  23) =  .174768E+04   T(  24) =  .163802E+04   T(  25) =  .167592E+04
 T(  26) =  .173153E+04   T(  27) =  .171340E+04   T(  28) =  .156018E+04   T(  29) =  .140584E+04   T(  30) =  .139031E+04
 T(  31) =  .203944E+04   T(  32) =  .193668E+04   T(  33) =  .177278E+04   T(  34) =  .170282E+04   T(  35) =  .166878E+04
 T(  36) =  .168094E+04   T(  37) =  .168873E+04   T(  38) =  .156928E+04   T(  39) =  .143251E+04   T(  40) =  .149931E+04
 T(  41) =  .204162E+04   T(  42) =  .194604E+04   T(  43) =  .180182E+04   T(  44) =  .175678E+04   T(  45) =  .180306E+04
 T(  46) =  .182800E+04   T(  47) =  .180567E+04   T(  48) =  .172260E+04   T(  49) =  .148690E+04   T(  50) =  .144569E+04
 T(  51) =  .204315E+04   T(  52) =  .195429E+04   T(  53) =  .177322E+04   T(  54) =  .164004E+04   T(  55) =  .176789E+04
 T(  56) =  .179038E+04   T(  57) =  .174073E+04   T(  58) =  .163057E+04   T(  59) =  .135968E+04   T(  60) =  .128420E+04
 T(  61) =  .204333E+04   T(  62) =  .195315E+04   T(  63) =  .175471E+04   T(  64) =  .160183E+04   T(  65) =  .150602E+04
 T(  66) =  .153281E+04   T(  67) =  .148635E+04   T(  68) =  .135124E+04   T(  69) =  .123295E+04   T(  70) =  .118272E+04
 T(  71) =  .204428E+04   T(  72) =  .196091E+04   T(  73) =  .174096E+04   T(  74) =  .153973E+04   T(  75) =  .140137E+04
 T(  76) =  .135463E+04   T(  77) =  .130547E+04   T(  78) =  .123359E+04   T(  79) =  .116324E+04   T(  80) =  .112995E+04
 T(  81) =  .202477E+04   T(  82) =  .191033E+04   T(  83) =  .173544E+04   T(  84) =  .166057E+04   T(  85) =  .164926E+04
 T(  86) =  .166180E+04   T(  87) =  .168960E+04   T(  88) =  .162894E+04   T(  89) =  .139565E+04   T(  90) =  .132095E+04
 T(  91) =  .202541E+04   T(  92) =  .191118E+04   T(  93) =  .172193E+04   T(  94) =  .163747E+04   T(  95) =  .163369E+04
 T(  96) =  .165090E+04   T(  97) =  .168367E+04   T(  98) =  .160945E+04   T(  99) =  .139999E+04   T( 100) =  .134193E+04
 T( 101) =  .202707E+04   T( 102) =  .191833E+04   T( 103) =  .174870E+04   T( 104) =  .165277E+04   T( 105) =  .166522E+04
 T( 106) =  .168536E+04   T( 107) =  .169029E+04   T( 108) =  .156771E+04   T( 109) =  .141099E+04   T( 110) =  .138783E+04
 T( 111) =  .202935E+04   T( 112) =  .192900E+04   T( 113) =  .177326E+04   T( 114) =  .169824E+04   T( 115) =  .168259E+04
 T( 116) =  .169497E+04   T( 117) =  .168101E+04   T( 118) =  .157889E+04   T( 119) =  .143619E+04   T( 120) =  .145585E+04
 T( 121) =  .203227E+04   T( 122) =  .193972E+04   T( 123) =  .180011E+04   T( 124) =  .174658E+04   T( 125) =  .178171E+04
 T( 126) =  .180288E+04   T( 127) =  .177763E+04   T( 128) =  .168509E+04   T( 129) =  .147588E+04   T( 130) =  .142887E+04
 T( 131) =  .203416E+04   T( 132) =  .194506E+04   T( 133) =  .177414E+04   T( 134) =  .165622E+04   T( 135) =  .173990E+04
 T( 136) =  .170079E+04   T( 137) =  .171285E+04   T( 138) =  .159711E+04   T( 139) =  .136037E+04   T( 140) =  .128209E+04
 T( 141) =  .203438E+04   T( 142) =  .194347E+04   T( 143) =  .175554E+04   T( 144) =  .160045E+04   T( 145) =  .151520E+04
 T( 146) =  .152433E+04   T( 147) =  .147704E+04   T( 148) =  .135120E+04   T( 149) =  .123031E+04   T( 150) =  .117746E+04
 T( 151) =  .203547E+04   T( 152) =  .194809E+04   T( 153) =  .173805E+04   T( 154) =  .154162E+04   T( 155) =  .140641E+04
 T( 156) =  .135634E+04   T( 157) =  .130527E+04   T( 158) =  .123037E+04   T( 159) =  .115788E+04   T( 160) =  .112269E+04
 T( 999) =  .230000E+04   T( 998) =  .590000E+02   T(
HEAT FLUXES
   FLUX(  1)(  1- 11) = -.111325E+00     FLUX(  2)(  1-  2) =  .392980E+02     FLUX(  3)(  2- 12) =  .994848E-01
   FLUX(  4)(  2-  3) =  .584333E+02     FLUX(  5)(  3- 13) =  .389271E+02     FLUX(  6)(  3-  4) =  .204347E+02
   FLUX(  7)(  4- 14) =  .514895E+02     FLUX(  8)(  4-  5) =  .282982E+01     FLUX(  9)(  5- 15) =  .433149E+02
   FLUX( 10)(  5-  6) = -.365853E+01     FLUX( 11)(  6- 16) =  .331162E+02     FLUX( 12)(  6-  7) = -.150898E+02
   FLUX( 13)(  7- 17) =  .123700E+02     FLUX( 14)(  7-  8) =  .920877E+01     FLUX( 15)(  8- 18) =  .257030E+02
   FLUX( 16)(  8-  9) =  .733083E+02     FLUX( 17)(  9- 19) =  .464540E+01     FLUX( 18)(  9- 10) =  .176198E+02
   FLUX( 19)( 10- 20) = -.249644E+02     FLUX( 20)( 11- 21) = -.820495E+00     FLUX( 21)( 11- 12) =  .196529E+02
   FLUX( 22)( 12- 22) =  .790345E+01     FLUX( 23)( 12- 13) =  .678041E+02     FLUX( 24)( 13- 23) = -.533356E+00
   FLUX( 25)( 13- 14) =  .244967E+02     FLUX( 26)( 14- 24) = -.188596E+02     FLUX( 27)( 14- 15) = -.143920E+00
   FLUX( 28)( 15- 25) = -.673399E+02     FLUX( 29)( 15- 16) = -.575547E+01     FLUX( 30)( 16- 26) = -.733948E+02
   FLUX( 31)( 16- 17) = -.205404E+02     FLUX( 32)( 17- 27) = -.219305E+02     FLUX( 33)( 17- 18) = -.128479E+02
   FLUX( 34)( 18- 28) =  .843193E+02     FLUX( 35)( 18- 19) =  .655482E+02     FLUX( 36)( 19- 29) = -.122630E+02
   FLUX( 37)( 19- 20) =  .125449E+02     FLUX( 38)( 20- 30) = -.578715E+02     FLUX( 39)( 21- 31) = -.134623E+01
   FLUX( 40)( 21- 22) =  .375681E+02     FLUX( 41)( 22- 32) = -.145434E+02     FLUX( 42)( 22- 23) = -.568694E+01
   FLUX( 43)( 23- 33) = -.327315E+02     FLUX( 44)( 23- 24) = -.326750E+02     FLUX( 45)( 24- 34) = -.757368E+02
   FLUX( 46)( 24- 25) = -.117782E+02     FLUX( 47)( 25- 35) = -.831973E+00     FLUX( 48)( 25- 26) = -.810570E+01
   FLUX( 49)( 26- 36) =  .130729E+02     FLUX( 50)( 26- 27) = -.707253E+01     FLUX( 51)( 27- 37) =  .435760E+02
   FLUX( 52)( 27- 28) = -.402474E+02     FLUX( 53)( 28- 38) = -.134074E+02     FLUX( 54)( 28- 29) =  .408812E+02
   FLUX( 55)( 29- 39) = -.345302E+02     FLUX( 56)( 29- 30) =  .685127E+00     FLUX( 57)( 30- 40) = -.121103E+03
   FLUX( 58)( 31- 41) = -.980417E+00     FLUX( 59)( 31- 32) =  .342396E+02     FLUX( 60)( 32- 42) = -.763376E+01
```

Figure 5-8. Model 2A Output (Sheet 25 of 49)

```
FLUX( 61)( 32- 33) =  .525869E+02     FLUX( 62)( 33- 43) = -.253823E+02     FLUX( 63)( 33- 34) =  .206383E+02
FLUX( 64)( 34- 44) = -.444803E+02     FLUX( 65)( 34- 35) =  .813950E+01     FLUX( 66)( 35- 45) = -.114846E+03
FLUX( 67)( 35- 36) = -.455419E+01     FLUX( 68)( 36- 46) = -.120447E+03     FLUX( 69)( 36- 37) =  .564806E+02
FLUX( 70)( 37- 47) = -.112092E+03     FLUX( 71)( 37- 38) =  .257503E+02     FLUX( 72)( 38- 48) = -.118225E+03
FLUX( 73)( 38- 39) =  .358219E+02     FLUX( 74)( 39- 49) = -.473554E+02     FLUX( 75)( 39- 40) = -.219187E+02
FLUX( 76)( 40- 50) =  .312924E+02     FLUX( 77)( 41- 51) = -.744708E+00     FLUX( 78)( 41- 42) =  .634653E+02
FLUX( 79)( 42- 52) = -.520939E+01     FLUX( 80)( 42- 43) =  .924617E+02     FLUX( 81)( 43- 53) =  .177624E+02
FLUX( 82)( 43- 44) =  .246179E+02     FLUX( 83)( 44- 54) =  .671532E+02     FLUX( 84)( 44- 45) = -.334698E+02
FLUX( 85)( 45- 55) =  .200499E+02     FLUX( 86)( 45- 46) = -.175490E+02     FLUX( 87)( 46- 56) =  .175160E+02
FLUX( 88)( 46- 47) =  .971003E+01     FLUX( 89)( 47- 57) =  .326132E+02     FLUX( 90)( 47- 48) =  .446122E+02
FLUX( 91)( 48- 58) =  .463399E+02     FLUX( 92)( 48- 49) =  .127845E+03     FLUX( 93)( 49- 59) =  .668227E+02
FLUX( 94)( 49- 50) =  .148916E+02     FLUX( 95)( 50- 60) =  .812785E+02     FLUX( 96)( 51- 61) = -.815616E+00
FLUX( 97)( 51- 52) =  .576089E+02     FLUX( 98)( 52- 62) = -.144060E+01     FLUX( 99)( 52- 53) =  .111753E+03
FLUX(100)( 53- 63) =  .771922E+01     FLUX(101)( 53- 54) =  .759386E+02     FLUX(102)( 54- 64) =  .198613E+02
FLUX(103)( 54- 55) = -.823658E+02     FLUX(104)( 55- 65) =  .158991E+03     FLUX(105)( 55- 56) = -.187057E+02
FLUX(106)( 56- 66) =  .146434E+03     FLUX(107)( 56- 57) =  .237956E+02     FLUX(108)( 57- 67) =  .141067E+03
FLUX(109)( 57- 58) =  .580498E+02     FLUX(110)( 58- 68) =  .145991E+03     FLUX(111)( 58- 59) =  .142168E+03
FLUX(112)( 59- 69) =  .601685E+02     FLUX(113)( 59- 60) =  .320002E+02     FLUX(114)( 60- 70) =  .418976E+02
FLUX(115)( 61- 71) = -.160183E+01     FLUX(116)( 61- 62) =  .584149E+02     FLUX(117)( 62- 72) = -.687336E+01
FLUX(118)( 62- 63) =  .123232E+03     FLUX(119)( 63- 73) =  .328305E+01     FLUX(120)( 63- 64) =  .910917E+02
FLUX(121)( 64- 74) =  .290128E+02     FLUX(122)( 64- 65) =  .500771E+02     FLUX(123)( 65- 75) =  .575426E+02
FLUX(124)( 65- 66) = -.243207E+02     FLUX(125)( 66- 76) =  .935071E+02     FLUX(126)( 66- 67) =  .154542E+02
FLUX(127)( 67- 77) =  .925389E+02     FLUX(128)( 67- 68) =  .678043E+02     FLUX(129)( 68- 78) =  .506670E+02
FLUX(130)( 68- 69) =  .557987E+02     FLUX(131)( 69- 79) =  .235231E+02     FLUX(132)( 69- 70) =  .173061E+02
FLUX(133)( 70- 80) =  .137780E+02     FLUX(134)( 71- 72) =  .531139E+02     FLUX(135)( 72- 73) =  .133161E+03
FLUX(136)( 73- 74) =  .118638E+03     FLUX(137)( 74- 75) =  .761790E+02     FLUX(138)( 75- 76) =  .152681E+02
FLUX(139)( 76- 77) =  .124019E+02     FLUX(140)( 77- 78) =  .266511E+02     FLUX(141)( 78- 79) =  .266227E+02
FLUX(142)( 79- 80) =  .843701E+01     FLUX(143)( 81- 91) = -.197918E+00     FLUX(144)( 81- 82) =  .387021E+02
FLUX(145)( 82- 92) = -.603066E+00     FLUX(146)( 82- 83) =  .563135E+02     FLUX(147)( 83- 93) =  .163782E+02
FLUX(148)( 83- 84) =  .220040E+02     FLUX(149)( 84- 94) =  .259843E+02     FLUX(150)( 84- 85) =  .321126E+01
FLUX(151)( 85- 95) =  .176780E+02     FLUX(152)( 85- 86) = -.396075E+01     FLUX(153)( 86- 96) =  .109784E+02
FLUX(154)( 86- 87) = -.132105E+02     FLUX(155)( 87- 97) =  .685131E+01     FLUX(156)( 87- 88) =  .123273E+02
FLUX(157)( 88- 98) =  .229410E+02     FLUX(158)( 88- 89) =  .628305E+02     FLUX(159)( 89- 99) = -.503717E+01
FLUX(160)( 89- 90) =  .181055E+02     FLUX(161)( 90-100) = -.249786E+02     FLUX(162)( 91-101) = -.105661E+01
FLUX(163)( 91- 92) =  .386020E+02     FLUX(164)( 92-102) = -.809525E+01     FLUX(165)( 92- 93) =  .604171E+02
FLUX(166)( 93-103) = -.327514E+02     FLUX(167)( 93- 94) =  .246617E+02     FLUX(168)( 94-104) = -.184946E+02
FLUX(169)( 94- 95) =  .677460E+00     FLUX(170)( 95-105) = -.411163E+02     FLUX(171)( 95- 96) = -.546629E+01
FLUX(172)( 96-106) = -.432376E+02     FLUX(173)( 96- 97) = -.143217E+02     FLUX(174)( 97-107) = -.915930E+01
FLUX(175)( 97- 98) =  .165410E+02     FLUX(176)( 98-108) =  .459859E+02     FLUX(177)( 98- 99) =  .556962E+02
FLUX(178)( 99-109) = -.138350E+02     FLUX(179)( 99-100) =  .129222E+02     FLUX(180)(100-110) = -.537349E+02
FLUX(181)(101-111) = -.163487E+01     FLUX(182)(101-102) =  .366301E+02     FLUX(183)(102-112) = -.123401E+02
FLUX(184)(102-103) =  .545166E+02     FLUX(185)(103-113) = -.314356E+02     FLUX(186)(103-104) =  .280503E+02
FLUX(187)(104-114) = -.541176E+02     FLUX(188)(104-105) = -.457161E+01     FLUX(189)(105-115) = -.284731E+02
FLUX(190)(105-106) = -.649764E+01     FLUX(191)(106-116) = -.196678E+02     FLUX(192)(106-107) = -.543640E+01
FLUX(193)(107-117) =  .450963E+01     FLUX(194)(107-108) =  .307762E+02     FLUX(195)(108-118) = -.155223E+02
FLUX(196)(108-109) =  .404793E+02     FLUX(197)(109-119) = -.324678E+02     FLUX(198)(109-110) =  .249765E+01
FLUX(199)(110-120) = -.780263E+02     FLUX(200)(111-121) = -.129689E+01     FLUX(201)(111-112) =  .341346E+02
FLUX(202)(112-122) = -.848291E+01     FLUX(203)(112-113) =  .499820E+02     FLUX(204)(113-123) = -.233412E+02
FLUX(205)(113-114) =  .214378E+02     FLUX(206)(114-124) = -.399412E+02     FLUX(207)(114-115) =  .276904E+01
FLUX(208)(115-125) = -.875556E+02     FLUX(209)(115-116) = -.458091E+01     FLUX(210)(116-126) = -.920008E+02
FLUX(211)(116-117) =  .800485E+00     FLUX(212)(117-127) = -.825355E+02     FLUX(213)(117-118) =  .256114E+02
FLUX(214)(118-128) = -.845192E+02     FLUX(215)(118-119) =  .364538E+02     FLUX(216)(119-129) = -.363757E+02
FLUX(217)(119-120) = -.957818E+01     FLUX(218)(120-130) =  .125148E+02     FLUX(219)(121-131) = -.896803E+00
FLUX(220)(121-122) =  .626578E+02     FLUX(221)(122-132) = -.370411E+01     FLUX(222)(122-123) =  .893594E+02
FLUX(223)(123-133) =  .158340E+02     FLUX(224)(123-124) =  .283226E+02     FLUX(225)(124-134) =  .518635E+02
FLUX(226)(124-125) = -.275709E+02     FLUX(227)(125-135) =  .229842E+02     FLUX(228)(125-126) = -.157284E+02
FLUX(229)(126-136) =  .188240E+02     FLUX(230)(126-127) =  .104942E+02     FLUX(231)(127-137) =  .311855E+02
FLUX(232)(127-128) =  .481202E+02     FLUX(233)(128-138) =  .428029E+02     FLUX(234)(128-129) =  .111243E+03
FLUX(235)(129-130) =  .590304E+02     FLUX(236)(129-130) =  .170646E+02     FLUX(237)(130-140) =  .722199E+02
FLUX(238)(131-141) = -.102986E+01     FLUX(239)(131-132) =  .586374E+02     FLUX(240)(132-142) = -.159564E+01
FLUX(241)(132-133) =  .105495E+03     FLUX(242)(133-143) =  .828227E+01     FLUX(243)(133-134) =  .657210E+02
FLUX(244)(134-144) =  .283233E+02     FLUX(245)(134-135) = -.581418E+02     FLUX(246)(135-145) =  .135154E+03
FLUX(247)(135-136) = -.183993E+02     FLUX(248)(136-146) =  .132596E+03     FLUX(249)(136-137) =  .216595E+02
FLUX(250)(137-147) =  .129404E+03     FLUX(251)(137-138) =  .593297E+02     FLUX(252)(138-148) =  .126001E+03
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Figure 5-8. Model 2A Output (Sheet 26 of 49)

```
FLUX( 253)(138-139) =  .122153E+03
FLUX( 256)(140-150) =  .424981E+02
FLUX( 259)(142-152) = -.566773E+01
FLUX( 262)(143-144) =  .889604E+02
FLUX( 265)(145-155) =  .583398E+02
FLUX( 268)(146-147) =  .159843E+02
FLUX( 271)(148-158) =  .510508E+02
FLUX( 274)(149-150) =  .181225E+02
FLUX( 277)(152-153) =  .126558E+03
FLUX( 280)(155-156) =  .162929E+02
FLUX( 283)(158-159) =  .270258E+02
FLUX( 286)(  2- 82) =  .912431E+02
FLUX( 289)(  5- 85) =  .906007E+02
FLUX( 292)(  8- 88) =  .136446E+03
FLUX( 295)( 11- 91) =  .954438E+02
FLUX( 298)( 14- 94) =  .823006E+01
FLUX( 301)( 17- 97) =  .904928E+02
FLUX( 304)( 20-100) =  .236548E+02
FLUX( 307)( 23-103) =  .628918E+02
FLUX( 310)( 26-106) =  .105735E+03
FLUX( 313)( 29-109) =  .162789E+02
FLUX( 316)( 32-112) =  .949823E+02
FLUX( 319)( 35-115) =  .142632E+02
FLUX( 322)( 38-118) =  .143000E+02
FLUX( 325)( 41-121) =  .185301E+03
FLUX( 328)( 44-124) =  .179196E+03
FLUX( 331)( 47-127) =  .283236E+03
FLUX( 334)( 50-130) =  .155141E+03
FLUX( 337)( 53-133) =  .125882E+03
FLUX( 340)( 56-136) =  .275776E+03
FLUX( 343)( 59-139) =  .495702E+02
FLUX( 346)( 62-142) =  .197869E+03
FLUX( 349)( 65-145) =  .264637E+02
FLUX( 352)( 68-148) =  .511361E+02
FLUX( 355)( 71-151) =  .177581E+03
FLUX( 358)( 74-154) =  .717838E+02
FLUX( 361)( 77-157) =  .494141E+02
FLUX( 364)( 80-160) =  .652393E+02
FLUX( 367)(  3-999) = -.250744E+03
FLUX( 370)(  6-999) = -.266177E+03
FLUX( 373)(  9-999) = -.751473E+02
FLUX( 376)( 12-999) = -.344165E+03
FLUX( 379)( 15-999) = -.604576E+02
FLUX( 382)( 18-999) = -.383011E+03
FLUX( 385)( 21-999) = -.399097E+03
FLUX( 388)( 24-999) = -.591402E+02
FLUX( 391)( 27-999) = -.410133E+03
FLUX( 394)( 30-999) = -.742996E+02
FLUX( 397)( 33-999) = -.240039E+03
FLUX( 400)( 36-999) = -.524051E+02
FLUX( 403)( 39-999) = -.717450E+02
FLUX( 406)( 42-999) = -.706858E+03
FLUX( 409)( 45-999) = -.793274E+03
FLUX( 412)( 48-999) = -.882848E+03
FLUX( 415)( 51-999) = -.768613E+03
FLUX( 418)( 54-999) = -.106077E+03
FLUX( 421)( 57-999) = -.737147E+03
FLUX( 424)( 60-999) = -.158646E+03
FLUX( 427)( 63-999) = -.483968E+03
FLUX( 430)( 66-999) = -.375996E+03
FLUX( 433)( 69-999) = -.165311E+03
FLUX( 436)( 72-999) = -.790467E+03
FLUX( 439)( 75-999) = -.149614E+03
FLUX( 442)( 78-999) = -.164475E+03

FLUX( 254)(139-149) =  .605709E+02
FLUX( 257)(141-151) = -.192833E+01
FLUX( 260)(142-143) =  .117506E+03
FLUX( 263)(144-154) =  .262754E+02
FLUX( 266)(145-146) = -.150127E+02
FLUX( 269)(147-157) =  .848199E+02
FLUX( 272)(148-149) =  .559297E+02
FLUX( 275)(150-160) =  .142252E+02
FLUX( 278)(153-154) =  .113277E+03
FLUX( 281)(156-157) =  .127629E+02
FLUX( 284)(159-160) =  .905024E+01
FLUX( 287)(  3- 83) =  .684171E+02
FLUX( 290)(  6- 86) =  .830817E+02
FLUX( 293)(  9- 89) =  .217452E+02
FLUX( 296)( 12- 92) =  .892644E+02
FLUX( 299)( 15- 95) =  .182291E+02
FLUX( 302)( 18- 98) =  .128478E+03
FLUX( 305)( 21-101) =  .947842E+02
FLUX( 308)( 24-104) =  .927329E+01
FLUX( 311)( 27-107) =  .126548E+03
FLUX( 314)( 30-110) =  .353135E+02
FLUX( 317)( 33-113) =  .665787E+02
FLUX( 320)( 36-116) =  .133235E+02
FLUX( 323)( 39-119) =  .220939E+02
FLUX( 326)( 42-122) =  .182819E+03
FLUX( 329)( 45-125) =  .260015E+03
FLUX( 332)( 48-128) =  .314517E+03
FLUX( 335)( 51-131) =  .179248E+03
FLUX( 338)( 54-134) =  .828513E+01
FLUX( 341)( 57-137) =  .260812E+03
FLUX( 344)( 60-140) =  .531190E+02
FLUX( 347)( 63-143) =  .135155E+03
FLUX( 350)( 66-146) =  .127808E+03
FLUX( 353)( 69-149) =  .547567E+02
FLUX( 356)( 72-152) =  .211400E+03
FLUX( 359)( 75-155) =  .353866E+02
FLUX( 362)( 78-158) =  .546528E+02
FLUX( 365)(  1-999) = -.400381E+03
FLUX( 368)(  4-999) = -.264569E+03
FLUX( 371)(  7-999) = -.309283E+03
FLUX( 374)( 10-999) = -.800012E+02
FLUX( 377)( 13-999) = -.538382E+02
FLUX( 380)( 16-999) = -.588672E+02
FLUX( 383)( 19-999) = -.748381E+02
FLUX( 386)( 22-999) = -.338811E+03
FLUX( 389)( 25-999) = -.329347E+03
FLUX( 392)( 28-999) = -.602033E+02
FLUX( 395)( 31-999) = -.397397E+03
FLUX( 398)( 34-999) = -.250157E+03
FLUX( 401)( 37-999) = -.525985E+02
FLUX( 404)( 40-999) = -.442845E+03
FLUX( 407)( 43-999) = -.539929E+03
FLUX( 410)( 46-999) = -.814598E+03
FLUX( 413)( 49-999) = -.386758E+03
FLUX( 416)( 52-999) = -.737509E+03
FLUX( 419)( 55-999) = -.640681E+03
FLUX( 422)( 58-999) = -.729284E+03
FLUX( 425)( 61-999) = -.783952E+03
FLUX( 428)( 64-999) = -.355448E+03
FLUX( 431)( 67-999) = -.388406E+03
FLUX( 434)( 70-999) = -.170068E+03
FLUX( 437)( 73-999) = -.489012E+03
FLUX( 440)( 76-999) = -.153836E+03
FLUX( 443)( 79-999) = -.171658E+03

FLUX( 255)(139-140) =  .325827E+02
FLUX( 258)(141-142) =  .595281E+02
FLUX( 261)(143-153) =  .360855E+01
FLUX( 264)(144-145) =  .427279E+02
FLUX( 267)(146-156) =  .861500E+02
FLUX( 270)(147-148) =  .602526E+02
FLUX( 273)(149-159) =  .242054E+02
FLUX( 276)(151-152) =  .557843E+02
FLUX( 279)(154-155) =  .725160E+02
FLUX( 282)(157-158) =  .272575E+02
FLUX( 285)(  1- 81) =  .956848E+02
FLUX( 288)(  4- 84) =  .802303E+02
FLUX( 291)(  7- 87) =  .106071E+03
FLUX( 294)( 10- 90) =  .236979E+02
FLUX( 297)( 13- 93) =  .476038E+01
FLUX( 300)( 16- 96) =  .205898E+02
FLUX( 303)( 19- 99) =  .206451E+02
FLUX( 306)( 22-102) =  .887374E+02
FLUX( 309)( 25-105) =  .922730E+02
FLUX( 312)( 28-108) =  .202622E+02
FLUX( 315)( 31-111) =  .939782E+02
FLUX( 318)( 34-114) =  .703305E+02
FLUX( 321)( 37-117) =  .162686E+02
FLUX( 324)( 40-120) =  .15[illegible]79E+03
FLUX( 327)( 43-123) =  .150516E+03
FLUX( 330)( 46-126) =  .26[illegible]E+03
FLUX( 333)( 49-129) =  .137696E+03
FLUX( 336)( 52-132) =  .194872E+03
FLUX( 339)( 55-135) =  .285692E+03
FLUX( 342)( 58-138) =  .268386E+03
FLUX( 345)( 61-141) =  .181273E+03
FLUX( 348)( 64-144) =  .102795E+03
FLUX( 351)( 67-147) =  .136762E+03
FLUX( 354)( 70-150) =  .607581E+02
FLUX( 357)( 73-153) =  .138753E+03
FLUX( 360)( 76-156) =  .447385E+02
FLUX( 363)( 79-159) =  .617173E+02
FLUX( 366)(  2-999) = -.344157E+03
FLUX( 369)(  5-999) = -.288419E+03
FLUX( 372)(  8-999) = -.370997E+03
FLUX( 375)( 11-999) = -.400171E+03
FLUX( 378)( 14-999) = -.604928E+02
FLUX( 381)( 17-999) = -.255858E+03
FLUX( 384)( 20-999) = -.782922E+02
FLUX( 387)( 23-999) = -.251862E+03
FLUX( 390)( 26-999) = -.361446E+03
FLUX( 393)( 29-999) = -.709152E+02
FLUX( 396)( 32-999) = -.362092E+03
FLUX( 399)( 35-999) = -.559520E+02
FLUX( 402)( 38-999) = -.593126E+02
FLUX( 405)( 41-999) = -.790947E+03
FLUX( 408)( 44-999) = -.576139E+03
FLUX( 411)( 47-999) = -.840484E+03
FLUX( 414)( 50-999) = -.401094E+03
FLUX( 417)( 53-999) = -.473377E+03
FLUX( 420)( 56-999) = -.794816E+03
FLUX( 423)( 59-999) = -.149714E+03
FLUX( 426)( 62-999) = -.749[illegible]E+03
FLUX( 429)( 65-999) = -.124731E+03
FLUX( 432)( 68-999) = -.150362E+03
FLUX( 435)( 71-999) = -.777181E+03
FLUX( 438)( 74-999) = -.253323E+03
FLUX( 441)( 77-999) = -.157322E+03
FLUX( 444)( 80-999) = -.174040E+03
```


Figure 5-8. Model 2A Output (Sheet 27 of 49)

TIME= .060

TSS

ROW / COL										
ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.041E+03	1.931E+03	1.772E+03	1.721E+03	1.720E+03	1.736E+03	1.778E+03	1.764E+03	1.584E+03	1.548E+03
ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.041E+03	1.931E+03	1.740E+03	1.678E+03	1.685E+03	1.708E+03	1.769E+03	1.746E+03	1.586E+03	1.562E+03
ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.043E+03	1.937E+03	1.781E+03	1.691E+03	1.733E+03	1.762E+03	1.785E+03	1.682E+03	1.592E+03	1.598E+03
ROW / COL	31	32	33	34	35	36	37	38	39	40
1	2.044E+03	1.949E+03	1.804E+03	1.749E+03	1.725E+03	1.743E+03	1.746E+03	1.689E+03	1.613E+03	1.682E+03
ROW / COL	41	42	43	44	45	46	47	48	49	50
1	2.046E+03	1.958E+03	1.830E+03	1.799E+03	1.847E+03	1.875E+03	1.868E+03	1.821E+03	1.662E+03	1.647E+03
ROW / COL	51	52	53	54	55	56	57	58	59	60
1	2.046E+03	1.967E+03	1.809E+03	1.703E+03	1.829E+03	1.858E+03	1.832E+03	1.769E+03	1.593E+03	1.556E+03
ROW / COL	61	62	63	64	65	66	67	68	69	70
1	2.049E+03	1.968E+03	1.799E+03	1.688E+03	1.631E+03	1.674E+03	1.662E+03	1.589E+03	1.533E+03	1.515E+03
ROW / COL	71	72	73	74	75	76	77	78	79	80
1	2.050E+03	1.977E+03	1.793E+03	1.649E+03	1.567E+03	1.559E+03	1.550E+03	1.528E+03	1.505E+03	1.497E+03
ROW / COL	81	82	83	84	85	86	87	88	89	90
1	2.032E+03	1.927E+03	1.775E+03	1.719E+03	1.716E+03	1.734E+03	1.771E+03	1.747E+03	1.594E+03	1.557E+03
ROW / COL	91	92	93	94	95	96	97	98	99	100
1	2.032E+03	1.928E+03	1.762E+03	1.697E+03	1.702E+03	1.724E+03	1.766E+03	1.731E+03	1.597E+03	1.571E+03
ROW / COL	101	102	103	104	105	106	107	108	109	110
1	2.034E+03	1.934E+03	1.786E+03	1.710E+03	1.729E+03	1.754E+03	1.772E+03	1.696E+03	1.604E+03	1.604E+03
ROW / COL	111	112	113	114	115	116	117	118	119	120
1	2.036E+03	1.944E+03	1.808E+03	1.750E+03	1.743E+03	1.761E+03	1.764E+03	1.706E+03	1.625E+03	1.657E+03
ROW / COL	121	122	123	124	125	126	127	128	129	130
1	2.038E+03	1.954E+03	1.833E+03	1.794E+03	1.833E+03	1.859E+03	1.851E+03	1.798E+03	1.662E+03	1.643E+03
ROW / COL	131	132	133	134	135	136	137	138	139	140
1	2.040E+03	1.961E+03	1.814E+03	1.723E+03	1.811E+03	1.840E+03	1.817E+03	1.751E+03	1.602E+03	1.563E+03
ROW / COL	141	142	143	144	145	146	147	148	149	150
1	2.041E+03	1.962E+03	1.804E+03	1.693E+03	1.646E+03	1.675E+03	1.662E+03	1.598E+03	1.539E+03	1.519E+03
ROW / COL	151	152	153	154	155	156	157	158	159	160
1	2.043E+03	1.968E+03	1.796E+03	1.658E+03	1.579E+03	1.568E+03	1.558E+03	1.533E+03	1.509E+03	1.500E+03

ITERATION NUMBER 2 MAXIMUM ABSOLUTE ERROR = .369

EST ABS ERR

ROW / COL										
ROW / COL	1	2	3	4	5	6	7	8	9	10
1	4.606E-04	1.372E-03	2.752E-03	4.921E-03	7.075E-03	1.147E-02	1.414E-02	4.815E-02	4.340E-02	5.336E-02
ROW / COL	11	12	13	14						
1	1.226E-01	1.170E-01	3.686E-01	2.416E-01						

RAYLEIGH QUOTIENTS

ROW / COL										
ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.499E+01	-3.935E+01	-4.503E+01	-5.860E+01	-7.057E+01	-8.264E+01	-8.580E+01	-9.888E+01	-1.107E+02	-1.128E+02
ROW / COL	11	12	13	14						
1	-1.269E+02	-1.341E+02	-1.396E+02	-1.416E+02						

DOMINANT EIGENVALUES

ROW / COL										
ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.499E+01	-3.935E+01	-4.503E+01	-5.860E+01	-7.057E+01	-8.264E+01	-8.580E+01	-9.888E+01	-1.107E+02	-1.128E+02
ROW / COL	11	12	13	14						
1	-1.269E+02	-1.341E+02	-1.396E+02	-1.416E+02						

TIME = .600E-01 NUMBER OF DOMINANT EIGENVALUES = 14

TEMP

ROW / COL										
ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.038E+03	1.922E+03	1.749E+03	1.688E+03	1.680E+03	1.691E+03	1.725E+03	1.686E+03	1.440E+03	1.377E+03
ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.038E+03	1.922E+03	1.717E+03	1.642E+03	1.643E+03	1.660E+03	1.715E+03	1.665E+03	1.443E+03	1.396E+03
ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.039E+03	1.929E+03	1.759E+03	1.656E+03	1.695E+03	1.719E+03	1.732E+03	1.590E+03	1.451E+03	1.440E+03

Figure 5-8. Model 2A Output (Sheet 28 of 49)

```
ROW / COL      31          32          33          34          35          36          37          38          39          40
   1       2.041E+03   1.941E+03   1.783E+03   1.718E+03   1.687E+03   1.69[illegible]E+03   1.688E+03   1.598E+03   1.475E+03   1.542E+03
ROW / COL      41          42          43          44          45          46          47          48          49          50
   1       2.043E+03   1.950E+03   1.811E+03   1.770E+03   1.816E+03   1.840E+03   1.820E+03   1.744E+03   1.526E+03   1.490E+03
ROW / COL      51          52          53          54          55          56          57          58          59          60
   1       2.045E+03   1.958E+03   1.784E+03   1.659E+03   1.785E+03   1.807E+03   1.761E+03   1.659E+03   1.408E+03   1.341E+03
ROW / COL      61          62          63          64          65          66          67          68          69          70
   1       2.045E+03   1.957E+03   1.768E+03   1.627E+03   1.540E+03   1.568E+03   1.528E+03   1.491E+03   1.294E+03   1.250E+03
ROW / COL      71          72          73          74          75          76          77          78          79          80
   1       2.046E+03   1.965E+03   1.756E+03   1.571E+03   1.447E+03   1.407E+03   1.362E+03   1.297E+03   1.233E+03   1.202E+03
ROW / COL      81          82          83          84          85          86          87          88          89          90
   1       2.027E+03   1.917E+03   1.751E+03   1.682E+03   1.673E+03   1.685E+03   1.713E+03   1.660E+03   1.447E+03   1.381E+03
ROW / COL      91          92          93          94          95          96          97          98          99         100
   1       2.028E+03   1.918E+03   1.737E+03   1.660E+03   1.658E+03   1.674E+03   1.707E+03   1.641E+03   1.450E+03   1.400E+03
ROW / COL     101         102         103         104         105         106         107         108         109         110
   1       2.030E+03   1.924E+03   1.763E+03   1.674E+03   1.687E+03   1.707E+03   1.713E+03   1.601E+03   1.459E+03   1.442E+03
ROW / COL     111         112         113         114         115         116         117         118         119         120
   1       2.032E+03   1.935E+03   1.786E+03   1.717E+03   1.703E+03   1.715E+03   1.703E+03   1.610E+03   1.482E+03   1.504E+03
ROW / COL     121         122         123         124         125         126         127         128         129         130
   1       2.034E+03   1.945E+03   1.811E+03   1.763E+03   1.798E+03   1.819E+03   1.796E+03   1.711E+03   1.519E+03   1.477E+03
ROW / COL     131         132         133         134         135         136         137         138         139         140
   1       2.036E+03   1.950E+03   1.787E+03   1.677E+03   1.761E+03   1.781E+03   1.737E+03   1.631E+03   1.412E+03   1.342E+03
ROW / COL     141         142         143         144         145         146         147         148         149         150
   1       2.037E+03   1.949E+03   1.769E+03   1.629E+03   1.553E+03   1.563E+03   1.320E+03   1.405E+03   1.295E+03   1.248E+03
ROW / COL     151         152         153         154         155         156         157         158         159         160
   1       2.038E+03   1.954E+03   1.756E+03   1.576E+03   1.456E+03   1.412E+03   1.365E+03   1.297E+03   1.230E+03   1.198E+03

TIME =          .600000E-01
 T(  1) =  .203769E+04   T(  2) =  .192208E+04   T(  3) =  .174906E+04   T(  4) =  .168755E+04   T(  5) =  .167988E+04
 T(  6) =  .169071E+04   T(  7) =  .172548E+04   T(  8) =  .168559E+04   T(  9) =  .144033E+04   T( 10) =  .137728E+04
 T( 11) =  .203810E+04   T( 12) =  .192217E+04   T( 13) =  .171665E+04   T( 14) =  .164222E+04   T( 15) =  .164315E+04
 T( 16) =  .166041E+04   T( 17) =  .171480E+04   T( 18) =  .166453E+04   T( 19) =  .144330E+04   T( 20) =  .139561E+04
 T( 21) =  .203930E+04   T( 22) =  .192865E+04   T( 23) =  .175935E+04   T( 24) =  .165536E+04   T( 25) =  .169460E+04
 T( 26) =  .171946E+04   T( 27) =  .173218E+04   T( 28) =  .158982E+04   T( 29) =  .145094E+04   T( 30) =  .144011E+04
 T( 31) =  .204102E+04   T( 32) =  .194082E+04   T( 33) =  .178328E+04   T( 34) =  .171849E+04   T( 35) =  .168659E+04
 T( 36) =  .169849E+04   T( 37) =  .168820E+04   T( 38) =  .159780E+04   T( 39) =  .147489E+04   T( 40) =  .154159E+04
 T( 41) =  .204309E+04   T( 42) =  .194978E+04   T( 43) =  .181103E+04   T( 44) =  .177006E+04   T( 45) =  .181599E+04
 T( 46) =  .184043E+04   T( 47) =  .182018E+04   T( 48) =  .174429E+04   T( 49) =  .152556E+04   T( 50) =  .148975E+04
 T( 51) =  .204462E+04   T( 52) =  .195812E+04   T( 53) =  .178348E+04   T( 54) =  .165880E+04   T( 55) =  .178461E+04
 T( 56) =  .180691E+04   T( 57) =  .176070E+04   T( 58) =  .165949E+04   T( 59) =  .140850E+04   T( 60) =  .134090E+04
 T( 61) =  .204488E+04   T( 62) =  .195743E+04   T( 63) =  .176773E+04   T( 64) =  .162665E+04   T( 65) =  .154034E+04
 T( 66) =  .156787E+04   T( 67) =  .152754E+04   T( 68) =  .140150E+04   T( 69) =  .129444E+04   T( 70) =  .124961E+04
 T( 71) =  .204590E+04   T( 72) =  .196546E+04   T( 73) =  .175596E+04   T( 74) =  .157101E+04   T( 75) =  .144729E+04
 T( 76) =  .140661E+04   T( 77) =  .136218E+04   T( 78) =  .129650E+04   T( 79) =  .123263E+04   T( 80) =  .120241E+04
 T( 81) =  .202739E+04   T( 82) =  .191681E+04   T( 83) =  .175057E+04   T( 84) =  .168231E+04   T( 85) =  .167317E+04
 T( 86) =  .168519E+04   T( 87) =  .171290E+04   T( 88) =  .165994E+04   T( 89) =  .144698E+04   T( 90) =  .138133E+04
 T( 91) =  .202797E+04   T( 92) =  .191754E+04   T( 93) =  .173713E+04   T( 94) =  .165959E+04   T( 95) =  .165767E+04
 T( 96) =  .167424E+04   T( 97) =  .170694E+04   T( 98) =  .164105E+04   T( 99) =  .145033E+04   T(100) =  .140001E+04
 T(101) =  .202952E+04   T(102) =  .192433E+04   T(103) =  .176272E+04   T(104) =  .167367E+04   T(105) =  .168731E+04
 T(106) =  .170680E+04   T(107) =  .171287E+04   T(108) =  .160051E+04   T(109) =  .145945E+04   T(110) =  .144150E+04
 T(111) =  .203168E+04   T(112) =  .193455E+04   T(113) =  .178601E+04   T(114) =  .171684E+04   T(115) =  .170301E+04
 T(116) =  .171508E+04   T(117) =  .170314E+04   T(118) =  .161042E+04   T(119) =  .148199E+04   T(120) =  .150408E+04
 T(121) =  .203442E+04   T(122) =  .194475E+04   T(123) =  .181147E+04   T(124) =  .176276E+04   T(125) =  .179795E+04
 T(126) =  .181866E+04   T(127) =  .179580E+04   T(128) =  .171143E+04   T(129) =  .151857E+04   T(130) =  .147738E+04
 T(131) =  .203630E+04   T(132) =  .195024E+04   T(133) =  .178712E+04   T(134) =  .167743E+04   T(135) =  .176055E+04
 T(136) =  .178134E+04   T(137) =  .173699E+04   T(138) =  .163065E+04   T(139) =  .141249E+04   T(140) =  .134214E+04
 T(141) =  .203663E+04   T(142) =  .194921E+04   T(143) =  .176909E+04   T(144) =  .162862E+04   T(145) =  .155272E+04
 T(146) =  .150341E+04   T(147) =  .152030E+04   T(148) =  .140479E+04   T(149) =  .129502E+04   T(150) =  .124758E+04
 T(151) =  .203781E+04   T(152) =  .195424E+04   T(153) =  .175584E+04   T(154) =  .157638E+04   T(155) =  .145586E+04
 T(156) =  .141193E+04   T(157) =  .136527E+04   T(158) =  .129664E+04   T(159) =  .123047E+04   T(160) =  .119831E+04
 T(999) =  .239000E+04   T(998) =  .590000E+02   T(
HEAT FLUXES
  FLUX(  1)(  1- 11) = -.177767E+00     FLUX(  2)(  1-  2) =  .441005E+02     FLUX(  3)(  2- 12) =  .344543E-01
  FLUX(  4)(  2-  3) = -.654836E+02     FLUX(  5)(  3- 13) =  .444159E+02     FLUX(  6)(  3-  4) =  .230097E+02
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Figure 5-8. Model 2A Output (Sheet 29 of 49)

Figure 5-8. Model 2A Output (Sheet 30 of 49)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

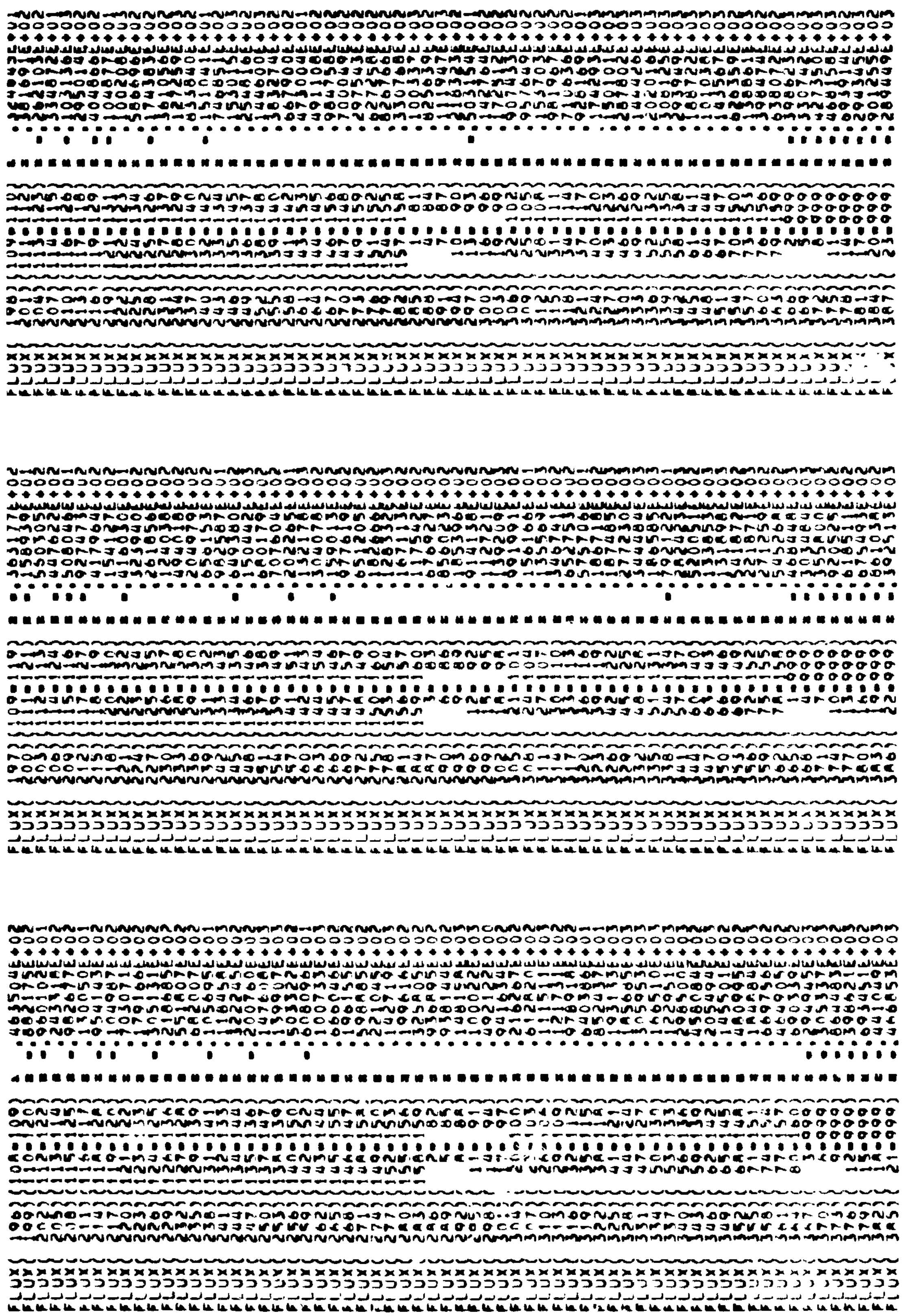

Figure 5-8. Model 2A Output (Sheet 31 of 49)

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FLUX( 388)( 24-999) = -.678705E+02     FLUX( 389)( 25-999) = -.378024E+03     FLUX( 390)( 26-999) = -.415089E+03
FLUX( 391)( 27-999) = -.471969E+03     FLUX( 392)( 28-999) = -.693254E+02     FLUX( 393)( 29-999) = -.816206E+02
FLUX( 394)( 30-999) = -.856033E+02     FLUX( 395)( 31-999) = -.464820E+03     FLUX( 396)( 32-999) = -.419632E+03
FLUX( 397)( 33-999) = -.277100E+03     FLUX( 398)( 34-999) = -.287359E+03     FLUX( 399)( 35-999) = -.643226E+02
FLUX( 400)( 36-999) = -.602883E+02     FLUX( 401)( 37-999) = -.605991E+02     FLUX( 402)( 38-999) = -.683437E+02
FLUX( 403)( 39-999) = -.826349E+02     FLUX( 404)( 40-999) = -.510717E+03     FLUX( 405)( 41-999) = -.924994E+03
FLUX( 406)( 42-999) = -.819598E+03     FLUX( 407)( 43-999) = -.621564E+03     FLUX( 408)( 44-999) = -.662930E+03
FLUX( 409)( 45-999) = -.914963E+03     FLUX( 410)( 46-999) = -.941000E+03     FLUX( 411)( 47-999) = -.971542E+03
FLUX( 412)( 48-999) = -.101974E+04     FLUX( 413)( 49-999) = -.448404E+03     FLUX( 414)( 50-999) = -.463211E+03
FLUX( 415)( 51-999) = -.898891E+03     FLUX( 416)( 52-999) = -.855411E+03     FLUX( 417)( 53-999) = -.544645E+03
FLUX( 418)( 54-999) = -.121871E+03     FLUX( 419)( 55-999) = -.969022E+03     FLUX( 420)( 56-999) = -.918430E+03
FLUX( 421)( 57-999) = -.852309E+03     FLUX( 422)( 58-999) = -.842514E+03     FLUX( 423)( 59-999) = -.727779E+03
FLUX( 424)( 60-999) = -.183300E+03     FLUX( 425)( 61-999) = -.917308E+03     FLUX( 426)( 62-999) = -.870577E+03
FLUX( 427)( 63-999) = -.557147E+03     FLUX( 428)( 64-999) = -.408119E+03     FLUX( 429)( 65-999) = -.143254E+03
FLUX( 430)( 66-999) = -.432723E+03     FLUX( 431)( 67-999) = -.447976E+03     FLUX( 432)( 68-999) = -.173591E+03
FLUX( 433)( 69-999) = -.191056E+03     FLUX( 434)( 70-999) = -.196897E+03     FLUX( 435)( 71-999) = -.910143E+03
FLUX( 436)( 72-999) = -.918931E+03     FLUX( 437)( 73-999) = -.563575E+03     FLUX( 438)( 74-999) = -.290396E+03
FLUX( 439)( 75-999) = -.171767E+03     FLUX( 440)( 76-999) = -.176946E+03     FLUX( 441)( 77-999) = -.181476E+03
FLUX( 442)( 78-999) = -.190172E+03     FLUX( 443)( 79-999) = -.198857E+03     FLUX( 444)( 80-999) = -.201949E+03
TIME=      .070

TSS
ROW / COL       1           2           3           4           5           6           7           8           9          10
  1         2.040E+03   1.928E+03   1.765E+03   1.711E+03   1.708E+03   1.723E+03   1.765E+03   1.745E+03   1.552E+03   1.512E+03
ROW / COL      11          12          13          14          15          16          17          18          19          20
  1         2.040E+03   1.928E+03   1.733E+03   1.667E+03   1.673E+03   1.644E+03   1.755E+03   1.727E+03   1.555E+03   1.527E+03
ROW / COL      21          22          23          24          25          26          27          28          29          30
  1         2.041E+03   1.934E+03   1.774E+03   1.680E+03   1.722E+03   1.750E+03   1.772E+03   1.660E+03   1.561E+03   1.564E+03
ROW / COL      31          32          33          34          35          36          37          38          39          40
  1         2.043E+03   1.946E+03    .797E+03   1.740E+03   1.714E+03   1.730E+03   1.731E+03   1.668E+03   1.583E+03   1.652E+03
ROW / COL      41          42          43          44          45          46          47          48          49          50
  1         2.045E+03   1.955E+03   1.824E+03   1.790E+03   1.838E+03   1.866E+03   1.856E+03   1.803E+03   1.633E+03   1.615E+03
ROW / COL      51          52          53          54          55          56          57          58          59          60
  1         2.047E+03   1.964E+03   1.801E+03   1.691E+03   1.817E+03   1.846E+03   1.816E+03   1.746E+03   1.557E+03   1.515E+03
ROW / COL      61          62          63          64          65          66          67          68          69          70
  1         2.047E+03   1.965E+03   1.791E+03   1.672E+03   1.609E+03   1.650E+03   1.634E+03   1.553E+03   1.489E+03   1.468E+03
ROW / COL      71          72          73          74          75          76          77          78          79          80
  1         2.049E+03   1.974E+03   1.783E+03   1.630E+03   1.540E+03   1.527 +03   1.513E+03   1.485E+03   1.457E+03   1.447E+03
ROW / COL      81          82          83          84          85          86          87          88          89          90
  1         2.030E+03   1.924E+03   1.768E+03   1.708E+03   1.705E+03   1.721E+03   1.757E+03   1.727E+03   1.564E+03   1.521E+03
ROW / COL      91          92          93          94          95          96          97          98          99         100
  1         2.031E+03   1.925E+03   1.755E+03   1.686E+03   1.690E+03   1.711E+03   1.752E+03   1.711E+03   1.566E+03   1.537E+03
ROW / COL     101         102         103         104         105         106         107         108         109         110
  1         2.032E+03   1.931E+03   1.779E+03   1.700E+03   1.718E+03   1.742E+03   1.758E+03   1.675E+03   1.574E+03   1.571E+03
ROW / COL     111         112         113         114         115         116         117         118         119         120
  1         2.034E+03   1.941E+03   1.802E+03   1.741E+03   1.732E+03   1.749E+03   1.749E+03   1.685E+03   1.595E+03   1.626E+03
ROW / COL     121         122         123         124         125         126         127         128         129         130
  1         2.037E+03   1.951E+03   1.827E+03   1.786E+03   1.824E+03   1.849E+03   1.838E+03   1.780E+03   1.633E+03   1.611E+03
ROW / COL     131         132         133         134         135         136         137         138         139         140
  1         2.039E+03   1.958E+03   1.807E+03   1.712E+03   1.798E+03   1.827E+03   1.800E+03   1.727E+03   1.567E+03   1.523E+03
ROW / COL     141         142         143         144         145         146         147         148         149         150
  1         2.040E+03   1.958E+03   1.795E+03   1.678E+03   1.625E+03   1.652E+03   1.634E+03   1.562E+03   1.496E+03   1.472E+03
ROW / COL     151         152         153         154         155         156         157         158         159         160
  1         2.041E+03   1.964E+03   1.786E+03   1.639E+03   1.553E+03   1.537E+03   1.521E+03   1.491E+03   1.462E+03   1.450E+03

ITERATION NUMBER  2  MAXIMUM ABSOLU  ERROR =     .296

EST ABS ERR
ROW / COL       1           2           3           4           5           6           7           8           9          10
  1         3.634E-04   9.289E-04   2.106E-03   3.548E-03   5.024E-03   9.470E-03   1.134E-02   3.638E-02   3.747E-02   3.748E-02
ROW / COL      11          12          13          14
  1         1.470E-01   1.213E-01   2.964E-01   2.352E-01
```

Figure 5-8. Model 2A Output (Sheet 32 of 49)

```
RAYLEIGH QUOTIENTS
ROW / COL      1          2          3          4          5          6          7          8          9          10
   1      -2.557E+01 -3.987E+01 -4.546E+01 -5.888E+01 -7.094E+01 -8.305E+01 -8.610E+01 -9.918E+01 -1.110E+02 -1.131E+02
ROW / COL     11         12         13         14
   1      -1.272E+02 -1.344E+02 -1.399E+02 -1.419E+02

DOMINANT EIGENVALUES
ROW / COL      1          2          3          4          5          6          7          8          9          10
   1      -2.557E+01 -3.987E+01 -4.546E+01 -5.888E+01 -7.094E+01 -8.305E+01 -8.610E+01 -9.918E+01 -1.110E+02 -1.131E+02
ROW / COL     11         12         13         14
   1      -1.272E+02 -1.344E+02 -1.399E+02 -1.419E+02

TIME =    .700E-01   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL     1          2          3          4          5          6          7          8          9          10
   1      2.038E+03  1.924E+03  1.754E+03  1.695E+03  1.689E+03  1.700E+03  1.736E+03  1.700E+03  1.468E+03  1.411E+03
ROW / COL    11         12         13         14         15         16         17         18         19         20
   1      2.039E+03  1.924E+03  1.722E+03  1.651E+03  1.653E+03  1.570E+03  1.725E+03  1.680E+03  1.471E+03  1.428E+03
ROW / COL    21         22         23         24         25         26         27         28         29         30
   1      2.040E+03  1.931E+03  1.764E+03  1.694E+03  1.703E+03  1.728E+03  1.742E+03  1.607E+03  1.477E+03  1.470E+03
ROW / COL    31         32         33         34         35         36         37         38         39         40
   1      2.042E+03  1.943E+03  1.786E+03  1.725E+03  1.695E+03  1.707E+03  1.699E+03  1.614E+03  1.500E+03  1.567E+03
ROW / COL    41         42         43         44         45         46         47         48         49         50
   1      2.044E+03  1.951E+03  1.815E+03  1.776E+03  1.822E+03  1.847E+03  1.828E+03  1.757E+03  1.549E+03  1.517E+03
ROW / COL    51         52         53         54         55         56         57         58         59         60
   1      2.045E+03  1.960E+03  1.789E+03  1.668E+03  1.793E+03  1.816E+03  1.773E+03  1.678E+03  1.440E+03  1.378E+03
ROW / COL    61         62         63         64         65         66         67         68         69         70
   1      2.046E+03  1.959E+03  1.774E+03  1.639E+03  1.559E+03  1.588E+03  1.552E+03  1.434E+03  1.336E+03  1.296E+03
ROW / COL    71         72         73         74         75         76         77         78         79         80
   1      2.047E+03  1.968E+03  1.763E+03  1.587E+03  1.472E+03  1.437E+03  1.397E+03  1.338E+03  1.281E+03  1.254E+03
ROW / COL    81         82         83         84         85         86         87         88         89         90
   1      2.028E+03  1.919E+03  1.757E+03  1.692E+03  1.684E+03  1.696E+03  1.725E+03  1.677E+03  1.477E+03  1.417E+03
ROW / COL    91         92         93         94         95         96         97         98         99        100
   1      2.029E+03  1.920E+03  1.744E+03  1.669E+03  1.668E+03  1.655E+03  1.719E+03  1.659E+03  1.480E+03  1.435E+03
ROW / COL   101        102        103        104        105        106        107        108        109        110
   1      2.031E+03  1.927E+03  1.769E+03  1.683E+03  1.697E+03  1.717E+03  1.725E+03  1.619E+03  1.488E+03  1.474E+03
ROW / COL   111        112        113        114        115        116        117        118        119        120
   1      2.033E+03  1.937E+03  1.791E+03  1.725E+03  1.712E+03  1.725E+03  1.715E+03  1.628E+03  1.509E+03  1.534E+03
ROW / COL   121        122        123        124        125        126        127        128        129        130
   1      2.035E+03  1.947E+03  1.816E+03  1.770E+03  1.806E+03  1.827E+03  1.806E+03  1.727E+03  1.545E+03  1.508E+03
ROW / COL   131        132        133        134        135        136        137        138        139        140
   1      2.037E+03  1.953E+03  1.793E+03  1.688E+03  1.771E+03  1.793E+03  1.751E+03  1.652E+03  1.446E+03  1.382E+03
ROW / COL   141        142        143        144        145        146        147        148        149        150
   1      2.038E+03  1.952E+03  1.777E+03  1.643E+03  1.573E+03  1.586E+03  1.547E+03  1.440E+03  1.339E+03  1.296E+03
ROW / COL   151        152        153        154        155        156        157        158        159        160
   1      2.039E+03  1.957E+03  1.765E+03  1.595E+03  1.483E+03  1.444E+03  1.403E+03  1.341E+03  1.281E+03  1.252E+03

 TIME =          .7000000E-01
  T(  1) =  .203841E+04   T(  2) =  .192411E+04   T(  3) =  .175434E+04   T(  4) =  .169542E+04   T(  5) =  .166887E+04
  T(  6) =  .170008E+04   T(  7) =  .173552E+04   T(  8) =  .170021E+04   T(  9) =  .146816E+04   T( 10) =  .141101E+04
  T( 11) =  .203881E+04   T( 12) =  .192417E+04   T( 13) =  .172216E+04   T( 14) =  .165056E+04   T( 15) =  .165252E+04
  T( 16) =  .167009E+04   T( 17) =  .172497E+04   T( 18) =  .167962E+04   T( 19) =  .147066E+04   T( 20) =  .142806E+04
  T( 21) =  .203997E+04   T( 22) =  .193053E+04   T( 23) =  .176428E+04   T( 24) =  .166426E+04   T( 25) =  .170296E+04
  T( 26) =  .172802E+04   T( 27) =  .174199E+04   T( 28) =  .160652E+04   T( 29) =  .147743E+04   T( 30) =  .147000E+04
  T( 31) =  .204165E+04   T( 32) =  .194255E+04   T( 33) =  .178776E+04   T( 34) =  .172533E+04   T( 35) =  .169467E+04
  T( 36) =  .170702E+04   T( 37) =  .169854E+04   T( 38) =  .161408E+04   T( 39) =  .150011E+04   T( 40) =  .156730E+04
  T( 41) =  .204368E+04   T( 42) =  .195137E+04   T( 43) =  .181508E+04   T( 44) =  .177606E+04   T( 45) =  .182211E+04
  T( 46) =  .184677E+04   T( 47) =  .182826E+04   T( 48) =  .175716E+04   T( 49) =  .154933E+04   T( 50) =  .151736E+04
  T( 51) =  .204522E+04   T( 52) =  .195983E+04   T( 53) =  .178897E+04   T( 54) =  .166782E+04   T( 55) =  .179316E+04
  T( 56) =  .181605E+04   T( 57) =  .177262E+04   T( 58) =  .167772E+04   T( 59) =  .144015E+04   T( 60) =  .137827E+04
  T( 61) =  .204554E+04   T( 62) =  .195943E+04   T( 63) =  .177407E+04   T( 64) =  .163923E+04   T( 65) =  .155867E+04
  T( 66) =  .158795E+04   T( 67) =  .155165E+04   T( 68) =  .143422E+04   T( 69) =  .133597E+04   T( 70) =  .129574E+04
```

Figure 5-8. Model 2A Output (Sheet 33 of 49)

```
T( 71) =  .204661E+04   T( 72) =  .194766E+04   T( 73) =  .176346E+04   T( 74) =  .158723E+04   T( 75) =  .147230E+04
T( 76) =  .143682E+04   T( 77) =  .139735E+04   T( 78) =  .133808E+04   T( 79) =  .128063E+04   T( 80) =  .125384E+04
T( 81) =  .202845E+04   T( 82) =  .191949E+04   T( 83) =  .175693E+04   T( 84) =  .169164E+04   T( 85) =  .168378E+04
T( 86) =  .169622E+04   T( 87) =  .172490E+04   T( 88) =  .167730E+04   T( 89) =  .147706E+04   T( 90) =  .141750E+04
T( 91) =  .202900E+04   T( 92) =  .192018E+04   T( 93) =  .174352E+04   T( 94) =  .166909E+04   T( 95) =  .166835E+04
T( 96) =  .168528E+04   T( 97) =  .171898E+04   T( 98) =  .165879E+04   T( 99) =  .147991E+04   T(100) =  .143489E+04
T(101) =  .203051E+04   T(102) =  .192682E+04   T(103) =  .176865E+04   T(104) =  .168270E+04   T(105) =  .169722E+04
T(106) =  .171705E+04   T(107) =  .172468E+04   T(108) =  .161905E+04   T(109) =  .148810E+04   T(110) =  .147594E+04
T(111) =  .203261E+04   T(112) =  .193687E+04   T(113) =  .179145E+04   T(114) =  .172499E+04   T(115) =  .171230E+04
T(116) =  .172487E+04   T(117) =  .171492E+04   T(118) =  .162843E+04   T(119) =  .150940E+04   T(120) =  .153360E+04
T(121) =  .203529E+04   T(122) =  .194689E+04   T(123) =  .181645E+04   T(124) =  .177008E+04   T(125) =  .180564E+04
T(126) =  .182677E+04   T(127) =  .180592E+04   T(128) =  .172711E+04   T(129) =  .154495E+04   T(130) =  .150795E+04
T(131) =  .203718E+04   T(132) =  .195253E+04   T(133) =  .179313E+04   T(134) =  .168765E+04   T(135) =  .177113E+04
T(136) =  .179272E+04   T(137) =  .175143E+04   T(138) =  .165219E+04   T(139) =  .144646E+04   T(140) =  .138195E+04
T(141) =  .203760E+04   T(142) =  .195189E+04   T(143) =  .177666E+04   T(144) =  .164294E+04   T(145) =  .157288E+04
T(146) =  .158592E+04   T(147) =  .154706E+04   T(148) =  .143969E+04   T(149) =  .133900E+04   T(150) =  .129624E+04
T(151) =  .203885E+04   T(152) =  .195719E+04   T(153) =  .176474E+04   T(154) =  .159450E+04   T(155) =  .148296E+04
T(156) =  .144445E+04   T(157) =  .140286E+04   T(158) =  .134072E+04   T(159) =  .128101E+04   T(160) =  .125234E+04
T(999) =  .239000E+04   T(998) =  .590000E+02   T(

HEAT FLUXES
   FLUX(   1)(  1-  11) = -.241695E+00      FLUX(   2)(  1-   2) =  .488480E+02      FLUX(   3)(  2-  12) =  .746145E+01
   FLUX(   4)(  2- [illegible]) =  .723996E+02      FLUX(   5)(  3-  13) =  .498647E+02      FLUX(   6)(  3-   4) =  .254755E+02
   FLUX(   7)(  4- [illegible]) =  .657237E+02      FLUX(   8)(  4-   5) =  .342607E+01      FLUX(   9)(  5-  15) =  .557154E+02
   FLUX(  10)(  5-   6) = -.457141E+01      FLUX(  11)(  6-  16) =  .428672E+02      FLUX(  12)(  6-   7) = -.180297E+02
   FLUX(  13)(  7-  17) =  .158833E+02      FLUX(  14)(  7-   8) =  .124484E+02      FLUX(  15)(  8-  18) =  .324999E+02
   FLUX(  16)(  8-   9) =  .931444E+02      FLUX(  17)(  9-  19) = -.557867E+01      FLUX(  18)(  9-  10) =  .228377E+02
   FLUX(  19)( 10-  20) = -.307349E+02      FLUX(  20)( 11-  21) = -.119793E+01      FLUX(  21)( 11-  12) =  .484305E+02
   FLUX(  22)( 12-  22) = -.100141E+02      FLUX(  23)( 12-  13) =  .844160E+02      FLUX(  24)( 13-  23) = -.676964E+02
   FLUX(  25)( 13-  14) =  .306154E+02      FLUX(  26)( 14-  24) = -.232545E+02      FLUX(  27)( 14-  15) = -.264610E+00
   FLUX(  28)( 15-  25) = -.846267E+02      FLUX(  29)( 15-  16) = -.719917E+01      FLUX(  30)( 16-  26) = -.923057E+02
   FLUX(  31)( 16-  17) = -.251183E+02      FLUX(  32)( 17-  27) = -.276225E+02      FLUX(  33)( 17-  18) =  .168543E+02
   FLUX(  34)( 18-  28) =  .108260E+03      FLUX(  35)( 18-  19) =  .834308E+02      FLUX(  36)( 19-  29) = -.147443E+02
   FLUX(  37)( 19-  20) =  .163133E+02      FLUX(  38)( 20-  30) = -.719628E+02      FLUX(  39)( 21-  31) = -.189054E+01
   FLUX(  40)( 21-  22) =  .467095E+02      FLUX(  41)( 22-  32) = -.185238E+02      FLUX(  42)( 22-  23) =  .705571E+02
   FLUX(  43)( 23-  33) = -.407509E+02      FLUX(  44)( 23-  24) =  .411778E+02      FLUX(  45)( 24-  34) = -.951704E+02
   FLUX(  46)( 24-  25) = -.150040E+02      FLUX(  47)( 25-  35) =  .193213E+01      FLUX(  48)( 25-  26) = -.101710E+02
   FLUX(  49)( 26-  36) =  .196529E+02      FLUX(  50)( 26-  27) = -.818977E+01      FLUX(  51)( 27-  37) =  .580464E+02
   FLUX(  52)( 27-  28) =  .518668E+02      FLUX(  53)( 28-  38) = -.159256E+02      FLUX(  54)( 28-  29) =  .520311E+02
   FLUX(  55)( 29-  30) = -.424905E+02      FLUX(  56)( 29-  30) =  .144641E+01      FLUX(  57)( 30-  40) = -.153433E+03
   FLUX(  58)( 31-  41) = -.141742E+01      FLUX(  59)( 31-  32) =  .425156E+02      FLUX(  60)( 32-  42) = -.958195E+01
   FLUX(  61)( 32-  33) =  .653023E+02      FLUX(  62)( 33-  43) = -.315881E+02      FLUX(  63)( 33-  34) =  .259600E+02
   FLUX(  64)( 34-  44) = -.552173E+02      FLUX(  65)( 34-  35) =  .107608E+02      FLUX(  66)( 35-  45) =  .143812E+03
   FLUX(  67)( 35-  36) = -.555843E+01      FLUX(  68)( 36-  46) = -.150711E+03      FLUX(  69)( 36-  37) =  .135155E+01
   FLUX(  70)( 37-  47) = -.140914E+03      FLUX(  71)( 37-  38) =  .330860E+02      FLUX(  72)( 38-  48) = -.149420E+03
   FLUX(  73)( 38-  39) =  .456730E+02      FLUX(  74)( 39-  49) = -.987098E+02      FLUX(  75)( 39-  40) = -.274917E+02
   FLUX(  76)( 40-  50) =  .423216E+02      FLUX(  77)( 41-  51) = -.993003E+00      FLUX(  78)( 41-  42) =  .788814E+02
   FLUX(  79)( 42-  52) = -.660676E+01      FLUX(  80)( 42-  43) =  .114844E+03      FLUX(  81)( 43-  53) =  .223098E+02
   FLUX(  82)( 43-  44) =  .313015E+02      FLUX(  83)( 44-  54) =  .846589E+02      FLUX(  84)( 44-  45) = -.411547E+02
   FLUX(  85)( 45-  55) =  .252104E+02      FLUX(  86)( 45-  46) = -.215977E+02      FLUX(  87)( 46-  56) =  .227492E+02
   FLUX(  88)( 46-  47) =  .129446E+02      FLUX(  89)( 47-  57) =  .422323E+02      FLUX(  90)( 47-  48) =  .566974E+02
   FLUX(  91)( 48-  58) =  .597722E+02      FLUX(  92)( 48-  49) =  .163231E+03      FLUX(  93)( 49-  59) =  .863661E+02
   FLUX(  94)( 49-  50) =  .205357E+02      FLUX(  95)( 50-  60) =  .105025E+03      FLUX(  96)( 51-  61) = -.866973E+00
   FLUX(  97)( 51-  52) =  .715409E+02      FLUX(  98)( 52-  62) = -.134963E+01      FLUX(  99)( 52-  53) =  .139167E+03
   FLUX( 100)( 53-  63) =  .103853E+02      FLUX( 101)( 53-  54) =  .960687E+02      FLUX( 102)( 54-  64) =  .847163E+02
   FLUX( 103)( 54-  55) = -.102890E+03      FLUX( 104)( 55-  65) =  .200110E+03      FLUX( 105)( 55-  56) = -.223484E+02
   FLUX( 106)( 56-  66) =  .184654E+03      FLUX( 107)( 56-  57) =  .311091E+02      FLUX( 108)( 57-  67) =  .179182E+03
   FLUX( 109)( 57-  58) =  .740844E+02      FLUX( 110)( 58-  68) =  .187212E+03      FLUX( 111)( 58-  59) =  .181651E+03
   FLUX( 112)( 59-  69) =  .790855E+02      FLUX( 113)( 59-  60) =  .425652E+02      FLUX( 114)( 60-  70) =  .562857E+02
   FLUX( 115)( 61-  71) = -.176897E+01      FLUX( 116)( 61-  62) =  .728277E+02      FLUX( 117)( 62-  72) = -.920913E+01
   FLUX( 118)( 62-  63) =  .153770E+01      FLUX( 119)( 63-  73) =  .517754E+01      FLUX( 120)( 63-  64) =  .114209E+03
   FLUX( 121)( 64-  74) =  .375253E+02      FLUX( 122)( 64-  65) =  .641070E+02      FLUX( 123)( 65-  75) =  .728451E+02
   FLUX( 124)( 65-  66) = -.290447E+02      FLUX( 125)( 66-  76) =  .118908E+03      FLUX( 126)( 66-  67) =  .219045E+02
```

Figure 5-8. Model 2A Output (Sheet 34 of 49)

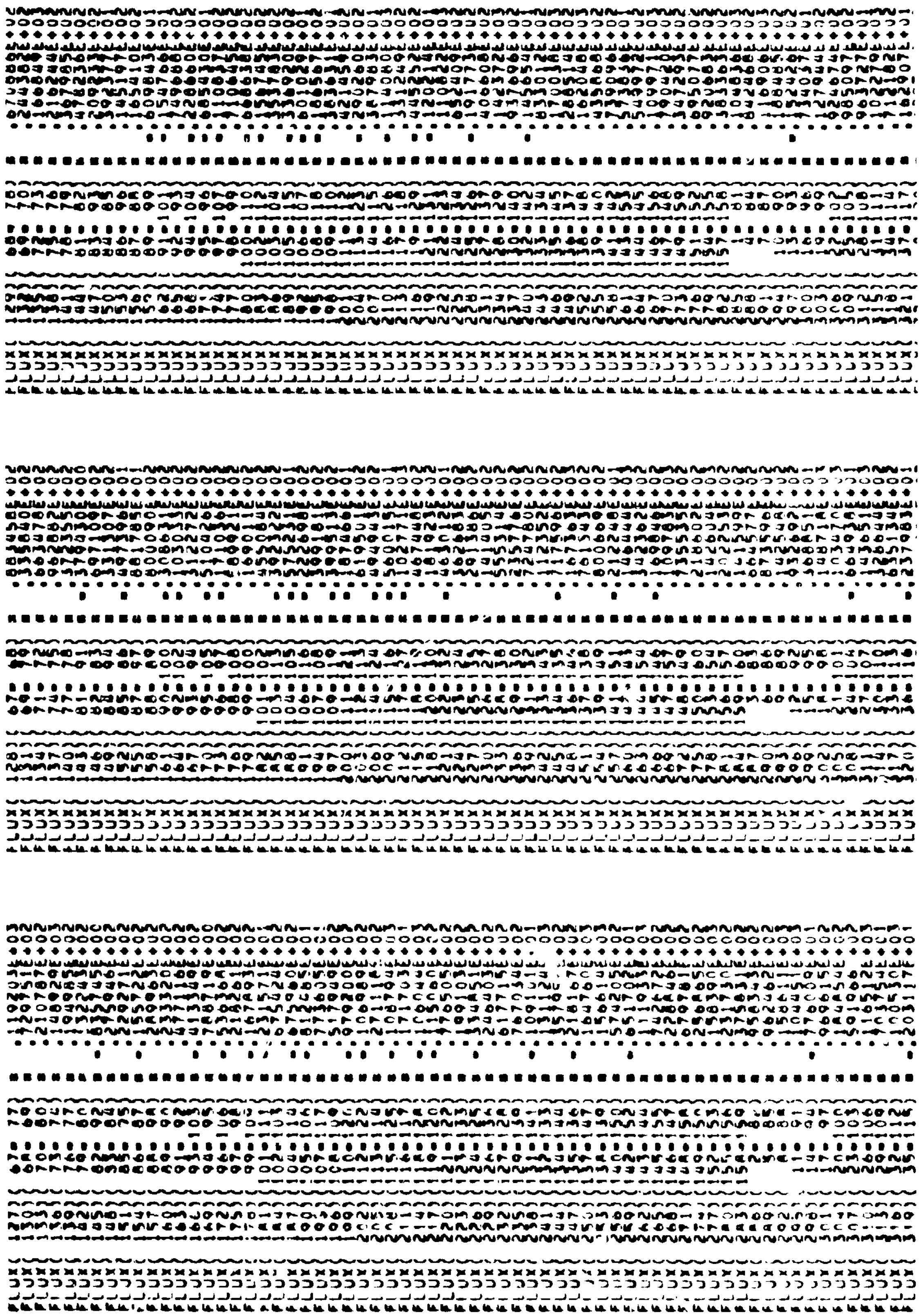

Figure 5-8. Model 2A Output (Sheet 35 of 49)

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FLUX( 322)( 38-118) = .193681E+03    FLUX( 323)( 39-119) = .142006E+0[illegible]    FLUX( 324)( 40-120) = .169738E+03
FLUX( 325)( 41-121) = .200711E+03    FLUX( 326)( 42-122) = .191647E+03    FLUX( 327)( 43-123) = .148795E+03
FLUX( 328)( 44-124) = .191004E+03    FLUX( 329)( 45-125) = .292937E+03    FLUX( 330)( 46-126) = .306020E+03
FLUX( 331)( 47-127) = .320758E+03    FLUX( 332)( 48-128) = .371875E+03    FLUX( 333)( 49-129) = .148618E+03
FLUX( 334)( 50-130) = .175146E+03    FLUX( 335)( 51-131) = .192870E+03    FLUX( 336)( 52-132) = .208654E+03
FLUX( 337)( 53-133) = .119075E+03    FLUX( 338)( 54-134) = -.251553E+02   FLUX( 339)( 55-135) = .326650E+03
FLUX( 340)( 56-136) = .310223E+03    FLUX( 341)( 57-137) = .301727E+03    FLUX( 342)( 58-138) = .3167[illegible]6E+03
FLUX( 343)( 59-139) = .308687E+02    FLUX( 344)( 60-140) = .486974E+02    FLUX( 345)( 61-141) = .105893E+03
FLUX( 346)( 62-142) = .212493E+03    FLUX( 347)( 63-143) = .131380E+03    FLUX( 348)( 64-144) = .977276E+02
FLUX( 349)( 65-145) = .[illegible]07584E+00    FLUX( 350)( 66-146) = .133763E+03    FLUX( 351)( 67-147) = .147876E+03
FLUX( 352)( 68-148) = .428863E+02    FLUX( 353)( 69-149) = .512577E+02    FLUX( 354)( 70-150) = .621746E+02
FLUX( 355)( 71-151) = .101891E+03    FLUX( 356)( 72-152) = .231576E+03    FLUX( 357)( 73-153) = .137632E+03
FLUX( 358)( 74-154) = .604802E+02    FLUX( 359)( 75-155) = .168542E+02    FLUX( 360)( 76-156) = .328334E+02
FLUX( 361)( 77-157) = .412904E+02    FLUX( 362)( 78-158) = .520960E+03    FLUX( 363)( 79-159) = .634450E+03
FLUX( 364)( 80-160) = .704256E+02    FLUX( 365)(  1-999) = -.536376E+03   FLUX( 366)(  2-999) = -.452858E+03
FLUX( 367)(  3-999) = -.332830E+0[illegible]   FLUX( 368)(  4-999) = -.341964E+03   FLUX( 369)(  5-999) = -.372530E+03
FLUX( 370)(  6-999) = -.343972E+03   FLUX( 371)(  7-999) = -.401613E+03   FLUX( 372)(  8-999) = -.482533E+03
FLUX( 373)(  9-999) = -.974182E+02   FLUX( 374)( 10-999) = -.103702E+03   FLUX( 375)( 11-999) = -.536009E+03
FLUX( 376)( 12-999) = -.452843E+03   FLUX( 377)( 13-999) = -.697984E+02   FLUX( 378)( 14-999) = -.781906E+02
FLUX( 379)( 15-999) = -.781211E+02   FLUX( 380)( 16-999) = -.761162E+02   FLUX( 381)( 17-999) = -.332251E+03
FLUX( 382)( 18-999) = -.497880E+03   FLUX( 383)( 19-999) = -.970440E+02   FLUX( 384)( 20-999) = -.101573E+03
FLUX( 385)( 21-999) = -.534478E+03   FLUX( 386)( 22-999) = -.445995E+03   FLUX( 387)( 23-999) = -.320742E+03
FLUX( 388)( 24-999) = -.765068E+02   FLUX( 389)( 25-999) = -.426117E+03   FLUX( 390)( 26-999) = -.468048E+03
FLUX( 391)( 27-999) = -.532881E+03   FLUX( 392)( 28-999) = -.782571E+02   FLUX( 393)( 29-999) = -.920238E+02
FLUX( 394)( 30-999) = -.965513E+02   FLUX( 395)( 31-999) = -.532121E+03   FLUX( 396)( 32-999) = -.476950E+03
FLUX( 397)( 33-999) = -.312993E+03   FLUX( 398)( 34-999) = -.324181E+03   FLUX( 399)( 35-999) = -.725971E+02
FLUX( 400)( 36-999) = -.690743E+02   FLUX( 401)( 37-999) = -.684818E+02   FLUX( 402)( 38-999) = -.771892E+02
FLUX( 403)( 39-999) = -.932245E+02   FLUX( 404)( 40-999) = -.576533E+03   FLUX( 405)( 41-999) = -.105861E+04
FLUX( 406)( 42-999) = -.931931E+03   FLUX( 407)( 43-999) = -.702627E+03   FLUX( 408)( 44-999) = -.748861E+03
FLUX( 409)( 45-999) = -.103536E+04   FLUX( 410)( 46-999) = -.106594E+04   FLUX( 411)( 47-999) = -.110074E+04
FLUX( 412)( 48-999) = -.115390E+04   FLUX( 413)( 49-999) = -.506411E+03   FLUX( 414)( 50-999) = -.523423E+03
FLUX( 415)( 51-999) = -.102894E+04   FLUX( 416)( 52-999) = -.972847E+03   FLUX( 417)( 53-999) = -.615326E+03
FLUX( 418)( 54-999) = -.137470E+03   FLUX( 419)( 55-999) = -.[illegible]09555E+04   FLUX( 420)( 56-999) = -.104011E+04
FLUX( 421)( 57-999) = -.965289E+03   FLUX( 422)( 58-999) = -.952918E+03   FLUX( 423)( 59-999) = -.195101E+03
FLUX( 424)( 60-999) = -.2[illegible]75E+03   FLUX( 425)( 61-999) = -.105041E+04   FLUX( 426)( 62-999) = -.990705E+03
FLUX( 427)( 63-999) = -.629580E+03   FLUX( 428)( 64-999) = -.459922E+03   FLUX( 429)( 65-999) = -.161377E+03
FLUX( 430)( 66-999) = -.488054E+03   FLUX( 431)( 67-999) = -.505822E+03   FLUX( 432)( 68-999) = -.196052E+03
FLUX( 433)( 69-999) = -.215826E+03   FLUX( 434)( 70-999) = -.222582E+03   FLUX( 435)( 71-999) = -.104263E+04
FLUX( 436)( 72-999) = -.104673E+04   FLUX( 437)( 73-999) = -.637257E+03   FLUX( 438)( 74-999) = -.37[illegible]624E+03
FLUX( 439)( 75-999) = -.193333E+03   FLUX( 440)( 76-999) = -.199345E+03   FLUX( 441)( 77-999) = -.204803E+03
FLUX( 442)( 78-999) = -.214892E+03   FLUX( 443)( 79-999) = -.224927E+03   FLUX( 444)( 80-999) = -.228648E+03
TIME= .080
```

TSS

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.039F+03	1.927E+03	1.761F+03	1.706E+03	1.703E+03	1.717E+03	1.757E+03	1.735E+03	1.534E+03	1.490E+03
ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.040F+03	1.927E+03	1.730F+03	1.662E+03	1.667E+03	1.688E+03	1.747E+03	1.716E+03	1.536E+03	1.506E+03
ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.041F+03	1.933E+03	1.771E+03	1.676E+03	1.716E+03	1.744E+03	1.764E+03	1.647E+03	1.543E+03	1.544E+03
ROW / COL	31	32	33	34	35	36	37	38	39	40
1	2.043F+03	1.945E+03	1.794F+03	1.736E+03	1.708E+03	1.724E+03	1.723E+03	1.655E+03	1.565E+03	1.634E+03
ROW / COL	41	42	43	44	45	46	47	48	49	50
1	2.045F+03	1.954E+03	1.822F+03	1.786E+03	1.834E+03	1.861E+03	1.849E+03	1.793E+03	1.615E+03	1.595E+03
ROW / COL	51	52	53	54	55	56	57	58	59	60
1	2.046F+03	1.963E+03	1.798F+03	1.685E+03	1.811E+03	1.838E+03	1.806E+03	1.732E+03	1.534E+03	1.489E+03
ROW / COL	61	62	63	64	65	66	67	68	69	70
1	2.047F+03	1.963E+03	1.786F+03	1.664E+03	1.557E+03	1.636E+03	1.617E+03	1.529E+03	1.461E+03	1.436E+03
ROW / COL	71	72	73	74	75	76	77	78	79	80
1	2.048F+03	1.972E+03	1.778F+03	1.619E+03	1.525E+03	1.507E+03	1.490E+03	1.457E+03	1.425E+03	1.413E+03
ROW / COL	81	82	83	84	85	86	87	88	89	90
1	2.030F+03	1.923E+03	1.765F+03	1.704E+03	1.699E+03	1.715E+03	1.749E+03	1.716E+03	1.545E+03	1.500E+03
ROW / COL	91	92	93	94	95	96	97	98	99	100
1	2.030F+03	1.923E+03	1.751E+03	1.682E+03	1.684E+03	1.704E+03	1.744E+03	1.699E+03	1.548E+03	1.516E+03

Figure 5-8. Model 2A Output (Sheet 36 of 49)

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ROW / COL     101        102        103        104        105        106        107        108        109        110
  1       2.032E+03  1.930E+03  1.770E+03  1.695E+03  1.712E+03  1.735E+03  1.750E+03  1.662E+03  1.556E+03  1.551E+03
ROW / COL     111        112        113        114        115        116        117        118        119        120
  1       2.034E+03  1.940E+03  1.790E+03  1.734E+03  1.727E+03  1.743E+03  1.741E+03  1.672E+03  1.577E+03  1.607E+03
ROW / COL     121        122        123        124        125        126        127        128        129        130
  1       2.037E+03  1.950E+03  1.824E+03  1.782E+03  1.819E+03  1.843E+03  1.831E+03  1.768E+03  1.615E+03  1.590E+03
ROW / COL     131        132        133        134        135        136        137        138        139        140
  1       2.038E+03  1.956E+03  1.803E+03  1.706E+03  1.782E+03  1.819E+03  1.780E+03  1.712E+03  1.544E+03  1.497E+03
ROW / COL     141        142        143        144        145        146        147        148        149        150
  1       2.039E+03  1.957E+03  1.790E+03  1.659E+03  1.614E+03  1.638E+03  1.617E+03  1.539E+03  1.468E+03  1.44?E+03
ROW / COL     151        152        153        154        155        156        157        158        159        160
  1       2.041E+03  1.962E+03  1.781E+03  1.629E+03  1.538E+03  1.518E+03  1.499E+03  1.464E+03  1.430E+03  1.416E+03

ITERATION NUMBER  2  MAXIMUM ABSOLUTE ERROR =     .242

EST ABS ERR
ROW / COL      1          2          3          4          5          6          7          8          9         10
  1       2.659E-04  5.795E-04  1.310E-03  2.118E-03  3.210E-03  6.393E-03  8.068E-03  2.250E-02  2.891E-02  2.541E-02
ROW / COL     11         12         13         14
  1       1.481E-01  1.150E-01  2.421E-01  2.214E-01

RAYLEIGH QUOTIENTS
ROW / COL      1          2          3          4          5          6          7          8          9         10
  1      -2.597E+01 -4.019E+01 -4.572E+01 -5.902E+01 -7.118E+01 -8.332E+01 -8.628E+01 -9.935E+01 -1.111E+02 -1.132E+02
ROW / COL     11         12         13         14
  1      -1.273E+02 -1.345E+02 -1.401E+02 -1.420E+02

DOMINANT EIGENVALUES
ROW / COL      1          2          3          4          5          6          7          8          9         10
  1      -2.597E+01 -4.019E+01 -4.572E+01 -5.902E+01 -7.118E+01 -8.332E+01 -8.628E+01 -9.935E+01 -1.111E+02 -1.132E+02
ROW / COL     11         12         13         14
  1      -1.273E+02 -1.345E+02 -1.401E+02 -1.420E+02

TIME =    .800E-01   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL      1          2          3          4          5          6          7          8          9         10
  1       2.038E+03  1.925E+03  1.757E+03  1.699E+03  1.693E+03  1.705E+03  1.741E+03  1.708E+03  1.484E+03  1.431E+03
ROW / COL     11         12         13         14         15         16         17         18         19         20
  1       2.038E+03  1.925E+03  1.725E+03  1.654E+03  1.657E+03  1.675E+03  1.730E+03  1.688E+03  1.487E+03  1.447E+03
ROW / COL     21         22         23         24         25         26         27         28         29         30
  1       2.040E+03  1.931E+03  1.760E+03  1.688E+03  1.707E+03  1.732E+03  1.747E+03  1.618E+03  1.493E+03  1.488E+03
ROW / COL     31         32         33         34         35         36         37         38         39         40
  1       2.042E+03  1.943E+03  1.790E+03  1.728E+03  1.698E+03  1.711E+03  1.704E+03  1.623E+03  1.515E+03  1.583E+03
ROW / COL     41         42         43         44         45         46         47         48         49         50
  1       2.044E+03  1.957E+03  1.817E+03  1.779E+03  1.825E+03  1.850E+03  1.833E+03  1.765E+03  1.564E+03  1.534E+03
ROW / COL     51         52         53         54         55         56         57         58         59         60
  1       2.045E+03  1.961E+03  1.791E+03  1.672E+03  1.798E+03  1.821E+03  1.780E+03  1.689E+03  1.460E+03  1.402E+03
ROW / COL     61         62         63         64         65         66         67         68         69         70
  1       2.046E+03  1.962E+03  1.777E+03  1.646E+03  1.569E+03  1.599E+03  1.566E+03  1.455E+03  1.363E+03  1.327E+03
ROW / COL     71         72         73         74         75         76         77         78         79         80
  1       2.047E+03  1.969E+03  1.767E+03  1.596E+03  1.486E+03  1.454E+03  1.419E+03  1.365E+03  1.313E+03  1.289E+03
ROW / COL     81         82         83         84         85         86         87         88         89         90
  1       2.029E+03  1.921E+03  1.760E+03  1.696E+03  1.689E+03  1.702E+03  1.731E+03  1.687E+03  1.494E+03  1.439E+03
ROW / COL     91         92         93         94         95         96         97         98         99        100
  1       2.029E+03  1.921E+03  1.746E+03  1.673E+03  1.673E+03  1.691E+03  1.725E+03  1.669E+03  1.497E+03  1.455E+03
ROW / COL    101        102        103        104        105        106        107        108        109        110
  1       2.031E+03  1.928E+03  1.771E+03  1.687E+03  1.702E+03  1.722E+03  1.731E+03  1.630E+03  1.505E+03  1.493E+03
ROW / COL    111        112        113        114        115        116        117        118        119        120
  1       2.033E+03  1.938E+03  1.794E+03  1.729E+03  1.717E+03  1.730E+03  1.721E+03  1.639E+03  1.526E+03  1.551E+03
ROW / COL    121        122        123        124        125        126        127        128        129        130
  1       2.036E+03  1.942E+03  1.819E+03  1.773E+03  1.809E+03  1.83?E+03  1.812E+03  1.737E+03  1.561E+03  1.527E+03
ROW / COL    131        132        133        134        135        136        137        138        139        140
  1       2.038E+03  1.954E+03  1.796E+03  1.693E+03  1.777E+03  1.790E+03  1.762E+03  1.666E+03  1.468E+03  1.408E+03
ROW / COL    141        142        143        144        145        146        147        148        149        150
  1       2.038E+03  1.953E+03  1.780E+03  1.650E+03  1.584E+03  1.599E+03  1.563E+03  1.482E+03  1.368E+03  1.329E+03
ROW / COL    151        152        153        154        155        156        157        158        159        160
  1       2.039E+03  1.959E+03  1.769E+03  1.604E+03  1.498E+03  1.463E+03  1.426E+03  1.369E+03  1.315E+03  1.289E+03
```

Figure 5-8. Model 2A Output (Sheet 37 of 49)

C-2

TIME = .8000000E-01

T(1) =	.203871E+04	T(2) =	.192497E+04	T(3) =	.175659E+04	T(4) =	.169685E+04	T(5) =	.169294E+04
T(6) =	.170460E+04	T(7) =	.174080E+04	T(8) =	.170841E+04	T(9) =	.168823E+04	T(10) =	.143070E+04
T(11) =	.203910E+04	T(12) =	.192502E+04	T(13) =	.172451E+04	T(14) =	.165422E+04	T(15) =	.165678E+04
T(16) =	.167479E+04	T(17) =	.173035E+04	T(18) =	.168813E+04	T(19) =	.148652E+04	T(20) =	.144707E+04
T(21) =	.204026E+04	T(22) =	.193133E+04	T(23) =	.176641E+04	T(24) =	.166775E+04	T(25) =	.170680E+04
T(26) =	.173225E+04	T(27) =	.174725E+04	T(28) =	.161601E+04	T(29) =	.149292E+04	T(30) =	.148766E+04
T(31) =	.204193E+04	T(32) =	.194330E+04	T(33) =	.178972E+04	T(34) =	.172841E+04	T(35) =	.169845E+04
T(36) =	.171130E+04	T(37) =	.170418E+04	T(38) =	.162347E+04	T(39) =	.151507E+04	T(40) =	.148273E+04
T(41) =	.204394E+04	T(42) =	.195208E+04	T(43) =	.181691E+04	T(44) =	.178807E+04	T(45) =	.162510E+04
T(46) =	.185010E+04	T(47) =	.183285E+04	T(48) =	.176487E+04	T(49) =	.156390E+04	T(50) =	.153448E+04
T(51) =	.204550E+04	T(52) =	.196064E+04	T(53) =	.179136E+04	T(54) =	.167230E+04	T(55) =	.179763E+04
T(56) =	.182118E+04	T(57) =	.177978E+04	T(58) =	.168915E+04	T(59) =	.146042E+04	T(60) =	.140245E+04
T(61) =	.204586E+04	T(62) =	.196041E+04	T(63) =	.177724E+04	T(64) =	.164572E+04	T(65) =	.156857E+04
T(66) =	.159947E+04	T(67) =	.156636E+04	T(68) =	.145515E+04	T(69) =	.146330E+04	T(70) =	.132652E+04
T(71) =	.204696E+04	T(72) =	.196875E+04	T(73) =	.176727E+04	T(74) =	.159574E+04	T(75) =	.148596E+04
T(76) =	.145426E+04	T(77) =	.141889E+04	T(78) =	.136487E+04	T(79) =	.131265E+04	T(80) =	.128877E+04
T(81) =	.202889E+04	T(82) =	.192062E+04	T(83) =	.175964E+04	T(84) =	.169571E+04	T(85) =	.168860E+04
T(86) =	.170156E+04	T(87) =	.173121E+04	T(88) =	.168706E+04	T(89) =	.149440E+04	T(90) =	.141370E+04
T(91) =	.202944E+04	T(92) =	.192129E+04	T(93) =	.174626E+04	T(94) =	.167325E+04	T(95) =	.167321E+04
T(96) =	.169065E+04	T(97) =	.172535E+04	T(98) =	.166882E+04	T(99) =	.149712E+04	T(100) =	.145541E+04
T(101) =	.203093E+04	T(102) =	.192788E+04	T(103) =	.177120E+04	T(104) =	.168669E+04	T(105) =	.170178E+04
T(106) =	.172209E+04	T(107) =	.173101E+04	T(108) =	.162963E+04	T(109) =	.150490E+04	T(110) =	.149319E+04
T(111) =	.203301E+04	T(112) =	.195786E+04	T(113) =	.179383E+04	T(114) =	.172864E+04	T(115) =	.171665E+04
T(116) =	.172978E+04	T(117) =	.172134E+04	T(118) =	.163893E+04	T(119) =	.152572E+04	T(120) =	.155140E+04
T(121) =	.203567E+04	T(122) =	.194783E+04	T(123) =	.181870E+04	T(124) =	.177348E+04	T(125) =	.180940E+04
T(126) =	.183095E+04	T(127) =	.181167E+04	T(128) =	.173651E+04	T(129) =	.156117E+04	T(130) =	.156898E+04
T(131) =	.203759E+04	T(132) =	.195361E+04	T(133) =	.179601E+04	T(134) =	.169271E+04	T(135) =	.177666E+04
T(136) =	.179910E+04	T(137) =	.176011E+04	T(138) =	.166563E+04	T(139) =	.146830E+04	T(140) =	.140781E+04
T(141) =	.203807E+04	T(142) =	.195319E+04	T(143) =	.178044E+04	T(144) =	.165034E+04	T(145) =	.158379E+04
T(146) =	.159886E+04	T(147) =	.156345E+04	T(148) =	.146243E+04	T(149) =	.136807E+04	T(150) =	.132866E+04
T(151) =	.203936E+04	T(152) =	.195866E+04	T(153) =	.176927E+04	T(154) =	.160403E+04	T(155) =	.149781E+04
T(156) =	.146330E+04	T(157) =	.142598E+04	T(158) =	.136925E+04	T(159) =	.131490E+04	T(160) =	.128922E+04
T(999) =	.239000E+04	T(998) =	.590000E+02	T(					

HEAT FLUXES --

FLUX(1)(1- 11) =	-.304813E+00	FLUX(2)(1- 2) =	.535723E+02	FLUX(3)(2- 12) =	.664031E-01
FLUX(4)(2- 3) =	.792581E+02	FLUX(5)(3- 13) =	.552951E+02	FLUX(6)(3- 4) =	.278915E+02
FLUX(7)(4- 14) =	.727653E+02	FLUX(8)(4- 5) =	.367373E+01	FLUX(9)(5- 15) =	.618483E+02
FLUX(10)(5- 6) =	-.505394E+01	FLUX(11)(6- 16) =	.476860E+02	FLUX(12)(6- 7) =	-.195444E+02
FLUX(13)(7- 17) =	.176109E+02	FLUX(14)(7- 8) =	.138036E+02	FLUX(15)(8- 18) =	.357786E+02
FLUX(16)(8- 9) =	.102451E+03	FLUX(17)(9- 19) =	-.590951E+01	FLUX(18)(9- 10) =	.250688E+02
FLUX(19)(10- 20) =	-.334010E+02	FLUX(20)(11- 21) =	-.136238E+01	FLUX(21)(11- 12) =	.530691E+02
FLUX(22)(12- 22) =	-.110525E+02	FLUX(23)(12- 13) =	.925870E+02	FLUX(24)(13- 23) =	-.347866E+02
FLUX(25)(13- 14) =	.335598E+02	FLUX(26)(14- 24) =	-.253900E+02	FLUX(27)(14- 15) =	-.371970E+00
FLUX(28)(15- 25) =	-.931082E+02	FLUX(29)(15- 16) =	-.794517E+01	FLUX(30)(16- 26) =	-.101586E+03
FLUX(31)(16- 17) =	-.274448E+02	FLUX(32)(17- 27) =	-.304166E+02	FLUX(33)(17- 18) =	.186221E+02
FLUX(34)(18- 28) =	.119929E+03	FLUX(35)(18- 19) =	-.918022E+02	FLUX(36)(19- 29) =	.158368E+02
FLUX(37)(19- 20) =	.179570E+02	FLUX(38)(20- 30) =	-.785688E+02	FLUX(39)(21- 31) =	-.215767E+01
FLUX(40)(21- 22) =	.512337E+02	FLUX(41)(22- 32) =	-.204914E+02	FLUX(42)(22- 23) =	.772730E+02
FLUX(43)(23- 33) =	-.446934E+02	FLUX(44)(23- 24) =	.453082E+02	FLUX(45)(24- 34) =	-.104733E+03
FLUX(46)(24- 25) =	-.166402E+02	FLUX(47)(25- 35) =	.334636E+01	FLUX(48)(25- 26) =	-.112225E+02
FLUX(49)(26- 36) =	.232324E+02	FLUX(50)(26- 27) =	-.881813E+01	FLUX(51)(27- 37) =	.651734E+02
FLUX(52)(27- 28) =	.573950E+02	FLUX(53)(28- 38) =	-.171318E+02	FLUX(54)(28- 29) =	.571473E+02
FLUX(55)(29- 39) =	-.462667E+02	FLUX(56)(29- 30) =	.166548E+01	FLUX(57)(30- 40) =	-.168872E+03
FLUX(58)(31- 41) =	-.163219E+01	FLUX(59)(31- 32) =	.466108E+02	FLUX(60)(32- 42) =	-.105439E+02
FLUX(61)(32- 33) =	.715534E+02	FLUX(62)(33- 43) =	-.346511E+02	FLUX(63)(33- 34) =	.285241E+03
FLUX(64)(34- 44) =	-.605118E+02	FLUX(65)(34- 35) =	.120152E+03	FLUX(66)(35- 45) =	-.158090E+03
FLUX(67)(35- 36) =	-.608993E+01	FLUX(68)(36- 46) =	-.165618E+03	FLUX(69)(36- 37) =	.164977E+01
FLUX(70)(37- 47) =	-.155078E+03	FLUX(71)(37- 38) =	.364693E+02	FLUX(72)(38- 48) =	-.164654E+01
FLUX(73)(38- 39) =	.501761E+02	FLUX(74)(39- 49) =	-.642526E+02	FLUX(75)(39- 40) =	-.303040E+02
FLUX(76)(40- 50) =	.475427E+02	FLUX(77)(41- 51) =	-.111930E+01	FLUX(78)(41- 42) =	.865102E+02
FLUX(79)(42- 52) =	-.731796E+01	FLUX(80)(42- 43) =	.125841E+03	FLUX(81)(43- 53) =	.244945E+02
FLUX(82)(43- 44) =	.344792E+02	FLUX(83)(44- 54) =	.331544E+02	FLUX(84)(44- 45) =	-.450161E+02
FLUX(85)(45- 55) =	.275598E+02	FLUX(86)(45- 46) =	-.236586E+02	FLUX(87)(46- 56) =	.251046E+02
FLUX(88)(46- 47) =	.143841E+02	FLUX(89)(47- 57) =	.466646E+02	FLUX(90)(47- 48) =	.625758E+02
FLUX(91)(48- 58) =	.659595E+02	FLUX(92)(48- 49) =	.179887E+03	FLUX(93)(49- 59) =	.952920E+02

Figure 5-8. Model 2A Output (Sheet 38 of 49)

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FLUX(  94)( 49= 50) =  .229821E+02
FLUX(  97)( 51= 52) =  .784193E+02
FLUX( 100)( 53= 63) =  .115941E+02
FLUX( 103)( 54= 55) = -.113127E+03
FLUX( 106)( 56= 66) =  .202779E+03
FLUX( 109)( 57= 58) =  .814878E+02
FLUX( 112)( 59= 69) =  .974880E+02
FLUX( 115)( 61= 71) = -.[illegible]5629E+01
FLUX( 118)( 62= 63) =  .168681E+03
FLUX( 121)( 64= 74) =  .410744E+02
FLUX( 124)( 65= 66) = -.316113E+0[illegible]
FLUX( 127)( 67= 77) =  .131487E+03
FLUX( 130)( 68= 69) =  .806447E+02
FLUX( 133)( 70= 80) =  .241642E+02
FLUX( 136)( 73= 74) =  .163304E+03
FLUX( 139)( 76= 77) =  .224850E+02
FLUX( 142)( 79= 80) =  .152249E+02
FLUX( 145)( 82= 92) = -.945415E+00
FLUX( 148)( 83= 84) =  .302694E+02
FLUX( 151)( 85= 95) =  .255360E+02
FLUX( 154)( 86= 87) = -.168132E+02
FLUX( 157)( 88= 98) =  .319471E+02
FLUX( 160)( 89= 90) =  .256566E+02
FLUX( 163)( 91= 92) =  .522046E+02
FLUX( 166)( 93=103) = -.455553E+02
FLUX( 169)( 94= 95) =  .790529E+00
FLUX( 172)( 96=106) = -.587161E+02
FLUX( 175)( 97= 98) =  .241936E+02
FLUX( 178)( 99=109) = -.181167E+02
FLUX( 181)(101=111) = -.264888E+01
FLUX( 184)(102=103) =  .739226E+02
FLUX( 187)(104=114) = -.742086E+02
FLUX( 190)(105=106) = -.896511E+01
FLUX( 193)(107=117) =  .935596E+01
FLUX( 196)(108=109) =  .569769E+02
FLUX( 199)(110=120) = -.107378E+03
FLUX( 202)(112=122) = -.117912E+02
FLUX( 205)(113=114) =  .298379E+02
FLUX( 208)(115=125) = -.119251E+03
FLUX( 211)(116=117) =  .207009E-01
FLUX( 214)(118=128) = -.116556E+03
FLUX( 217)(119=120) = -.125739E+02
FLUX( 220)(121=122) =  .849467E+02
FLUX( 223)(123=133) =  .218505E+02
FLUX( 226)(124=125) = -.364852E+02
FLUX( 229)(126=136) =  .272358E+02
FLUX( 232)(127=128) =  .680546E+02
FLUX( 235)(129=139) =  .847145E+02
FLUX( 238)(131=141) = -.112967E+01
FLUX( 241)(132=133) =  .143644E+03
FLUX( 244)(134=144) =  .391790E+02
FLUX( 247)(135=136) = -.236256E+02
FLUX( 250)(137=147) =  .181255E+03
FLUX( 253)(138= 39) =  .172626E+03
FLUX( 256)(140=150) =  .639412E+02
FLUX( 259)(142=152) = -.696664E+01
FLUX( 262)(143=144) =  .122826E+03
FLUX( 265)(145=155) =  .815887E+02
FLUX( 268)(146=147) =  .258620E+02
FLUX( 271)(148=158) =  .755707E+02
FLUX( 274)(149=150) =  .289666E+02
FLUX( 277)(152=153) =  .173810E+03
FLUX( 280)(155=156) =  .260490E+02
FLUX( 283)(158=159) =  .421309E+02
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FLUX(  95)( 50= 60) =  .115897E+03
FLUX(  98)( 52= 62) = -.133087E+01
FLUX( 101)( 53= 54) =  .105795E+03
FLUX( 104)( 55= 65) =  .219768E+03
FLUX( 107)( 56= 57) =  .344850E+02
FLUX( 110)( 58= 68) =  .206422E+03
FLUX( 113)( 59= 60) =  .472877E+02
FLUX( 116)( 61= 62) =  .799237E+02
FLUX( 119)( 63= 73) =  .602058E+01
FLUX( 122)( 64= 65) =  .705877E+02
FLUX( 125)( 66= 76) =  .130700E+03
FLUX( 128)( 67= 68) =  .977152E+02
FLUX( 131)( 69= 79) =  .379241E+02
FLUX( 134)( 71= 72) =  .726412E+02
FLUX( 137)( 74= 75) =  .105528E+03
FLUX( 140)( 77= 78) =  .418025E+02
FLUX( 143)( 81= 91) = -.467124E+00
FLUX( 146)( 82= 83) =  .762685E+02
FLUX( 149)( 84= 94) =  .366730E+02
FLUX( 152)( 85= 86) = -.551022E+01
FLUX( 155)( 87= 97) =  .978708E+01
FLUX( 158)( 88= 89) =  .880049E+02
FLUX( 161)( 90=100) = -.335843E+02
FLUX( 164)( 92=102) = -.113867E+02
FLUX( 167)( 93= 94) =  .148835E+02
FLUX( 170)( 95=105) = -.558852E+02
FLUX( 173)( 96= 97) = -.185562E+02
FLUX( 176)( 98=108) =  .653353E+02
FLUX( 179)( 99=100) =  .186385E+02
FLUX( 182)(101=102) =  .497893E+02
FLUX( 185)(103=113) = -.430584E+02
FLUX( 188)(104=105) = -.638440E+01
FLUX( 191)(106=116) = -.235110E+02
FLUX( 194)(107=108) =  .441662E+02
FLUX( 197)(109=119) = -.434988E+02
FLUX( 200)(111=121) = -.215801E+01
FLUX( 203)(112=113) =  .678127E+02
FLUX( 206)(114=124) = -.542004E+02
FLUX( 209)(115=116) = -.614284E+01
FLUX( 212)(117=127) = -.112717E+03
FLUX( 215)(118=119) =  .514463E+02
FLUX( 218)(120=130) =  .208367E+02
FLUX( 221)(122=132) = -.511050E+01
FLUX( 224)(123=124) =  .400446E+02
FLUX( 227)(125=135) =  .316392E+02
FLUX( 230)(126=127) =  .157498E+02
FLUX( 233)(128=138) =  .613283E+02
FLUX( 236)(129=130) =  .264215E+02
FLUX( 239)(131=132) =  .792864E+02
FLUX( 242)(133=143) =  .125673E+02
FLUX( 245)(134=135) = -.786172E+02
FLUX( 248)(136=146) =  .183739E+03
FLUX( 251)(137=138) =  .838579E+02
FLUX( 254)(139=149) =  .687374E+02
FLUX( 257)(141=151) = -.222571E+01
FLUX( 260)(142=143) =  .160508E+03
FLUX( 263)(144=154) =  .378950E+02
FLUX( 266)(145=146) = -.182364E+02
FLUX( 269)(147=157) =  .121232E+03
FLUX( 272)(148=149) =  .814317E+02
FLUX( 275)(150=160) =  .251012E+03
FLUX( 278)(153=154) =  .156451E+03
FLUX( 281)(156=157) =  .233752E+02
FLUX( 284)(159=160) =  .1631[illegible]E+03
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FLUX(  96)( 51= 61) = -.849471E+00
FLUX(  99)( 52= 53) =  .152614E+03
FLUX( 102)( 54= 64) =  .268394E+02
FLUX( 105)( 55= 56) = -.242460E+02
FLUX( 108)( 57= 67) =  .197076E+03
FLUX( 111)( 58= 59) =  .200407E+03
FLUX( 114)( 60= 70) =  .625572E+02
FLUX( 117)( 62= 72) = -.889440E+01
FLUX( 120)( 63= 64) =  .125222E+01
FLUX( 123)( 65= 75) =  .798828E+02
FLUX( 126)( 66= 67) =  .248878E+02
FLUX( 129)( 68= 78) =  .744459E+02
FLUX( 132)( 69= 70) =  .275159E+02
FLUX( 135)( 72= 73) =  .183251E+03
FLUX( 138)( 75= 76) =  .242661E+02
FLUX( 141)( 78= 79) =  .411679E+02
FLUX( 144)( 81= 82) =  .523215E+02
FLUX( 147)( 83= 93) =  .231870E+02
FLUX( 150)( 84= 85) =  .422166E+01
FLUX( 153)( 86= 96) =  .168820E+02
FLUX( 156)( 87= 88) =  .183891E+02
FLUX( 159)( 89= 99) = -.654718E+01
FLUX( 162)( 91=101) = -.178702E+01
FLUX( 165)( 92= 93) =  .820998E+02
FLUX( 168)( 94=104) = -.249853E+02
FLUX( 171)( 95= 96) = -.757630E+01
FLUX( 174)( 97=107) = -.120205E+02
FLUX( 177)( 98= 99) =  .781950E+02
FLUX( 180)(100=110) = -.734111E+02
FLUX( 183)(102=112) = -.173169E+02
FLUX( 186)(103=104) =  .389158E+02
FLUX( 189)(105=115) = -.362144E+02
FLUX( 192)(106=107) = -.638358E+01
FLUX( 195)(108=118) = -.201625E+02
FLUX( 198)(109=110) =  .432378E+01
FLUX( 201)(111=112) =  .460976E+02
FLUX( 204)(113=123) = -.318267E+02
FLUX( 207)(114=115) =  .438180E+01
FLUX( 210)(116=126) = -.124948E+03
FLUX( 213)(117=118) =  .365780E+02
FLUX( 216)(119=129) = -.485488E+02
FLUX( 219)(121=131) = -.135769E+01
FLUX( 222)(122=123) =  .121330E+01
FLUX( 225)(124=134) =  .716792E+02
FLUX( 228)(125=126) = -.209550E+02
FLUX( 231)(127=137) =  .449702E+02
FLUX( 234)(128=129) =  .156911E+03
FLUX( 237)(130=140) =  .103558E+03
FLUX( 240)(132=142) = -.142160E+01
FLUX( 243)(133=134) =  .917564E+02
FLUX( 246)(13[illegible]=145) =  .186542E+03
FLUX( 249)(136=137) =  .320331E+02
FLUX( 252)(138=148) =  .178733E+03
FLUX( 255)(139=140) =  .485131E+02
FLUX( 258)(141=142) =  .809593E+02
FLUX( 261)(143=153) =  .668280E+01
FLUX( 264)(144=145) =  .605861E+02
FLUX( 267)(146=156) =  .120979E+03
FLUX( 270)(147=148) =  .875526E+02
FLUX( 273)(149=159) =  .392853E+02
FLUX( 276)(151=152) =  .762095E+03
FLUX( 279)(154=155) =  .101006E+03
FLUX( 282)(157=158) =  .431325E+02
FLUX( 285)([illegible]) = [illegible]
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Figure 5-8. Model 2A Output (Sheet 39 of 49)

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FLUX( 286)(  2- 82) =  .978527E+02    FLUX( 287)(  3- 83) =  .650055E+02    FLUX( 288)(  4- 84) =  .856459E+02
FLUX( 289)(  5- 85) =  .983239E+02    FLUX( 290)(  6- 86) =  .887465E+02    FLUX( 291)(  7- 87) =  .121383E+03
FLUX( 292)(  8- 88) =  .168350E+03    FLUX( 293)(  9- 89) =  .931628E+01    FLUX( 294)( 10- 90) =  .121608E+02
FLUX( 295)( 11- 91) =  .108817E+03    FLUX( 296)( 12- 92) =  .950012E+02    FLUX( 297)( 13- 93) = -.256324E+00
FLUX( 298)( 14- 94) = -.162374E+02    FLUX( 299)( 15- 95) = -.418000E+01    FLUX( 300)( 16- 96) =  .102301E+00
FLUX( 301)( 17- 97) =  .992479E+02    FLUX( 302)( 18- 98) =  .157531E+03    FLUX( 303)( 19- 99) =  .769192E+01
FLUX( 304)( 20-100) =  .146508E+02    FLUX( 305)( 21-101) =  .107662E+03    FLUX( 306)( 22-102) =  .940723E+02
FLUX( 307)( 23-103) =  .569068E+02    FLUX( 308)( 24-104) = -.150806E+03    FLUX( 309)( 25-105) =  .100975E+03
FLUX( 310)( 26-106) =  .121131E+03    FLUX( 311)( 27-107) =  .151229E+03    FLUX( 312)( 28-108) =  .341758E+01
FLUX( 313)( 29-109) =  .127229E+01    FLUX( 314)( 30-110) =  .303254E+02    FLUX( 315)( 31-111) =  .106304E+03
FLUX( 316)( 32-112) = -.103053E+03    FLUX( 317)( 33-113) =  .615521E+02    FLUX( 318)( 34-114) =  .711142E+02
FLUX( 319)( 35-115) =  .107343E+02    FLUX( 320)( 36-116) = -.108016E+02    FLUX( 321)( 37-117) = -.438678E+01
FLUX( 322)( 38-118) = -.512850E+01    FLUX( 323)( 39-119) =  .908114E+01    FLUX( 324)( 40-120) =  .204062E+03
FLUX( 325)( 41-121) =  .208181E+03    FLUX( 326)( 42-122) =  .195569E+03    FLUX( 327)( 43-123) =  .147096E+03
FLUX( 328)( 44-124) =  .195782E+03    FLUX( 329)( 45-125) =  .107910E+03    FLUX( 330)( 46-126) =  .323418E+03
FLUX( 331)( 47-127) =  .346475E+03    FLUX( 332)( 48-128) =  .197709E+03    FLUX( 333)( 49-129) =  .151259E+03
FLUX( 334)( 50-130) =  .182024E+03    FLUX( 335)( 51-131) =  .200644E+03    FLUX( 336)( 52-132) =  .214986E+03
FLUX( 337)( 53-133) =  .114751E+03    FLUX( 338)( 54-134) = -.428969E+02    FLUX( 339)( 55-135) =  .340180E+03
FLUX( 340)( 56-136) =  .338821E+03    FLUX( 341)( 57-137) =  .319637E+03    FLUX( 342)( 58-138) =  .337674E+02
FLUX( 343)( 59-139) =  .324589E+02    FLUX( 344)( 60-140) =  .438748E+02    FLUX( 345)( 61-141) =  .202934E+03
FLUX( 346)( 62-142) =  .219190E+03    FLUX( 347)( 63-143) =  .128325E+03    FLUX( 348)( 64-144) =  .936113E+02
FLUX( 349)( 65-145) = -.137151E+02    FLUX( 350)( 66-146) =  .134320E+03    FLUX( 351)( 67-147) =  .150611E+03
FLUX( 352)( 68-148) =  .361993E+03    FLUX( 353)( 69-149) =  .466595E+02    FLUX( 354)( 70-150) =  .600107E+02
FLUX( 355)( 71-151) =  .198757E+03    FLUX( 356)( 72-152) =  .240934E+01    FLUX( 357)( 73-153) =  .135721E+03
FLUX( 358)( 74-154) =  .530849E+02    FLUX( 359)( 75-155) =  .544086E+01    FLUX( 360)( 76-156) =  .245294E+03
FLUX( 361)( 77-157) =  .346050E+02    FLUX( 362)( 78-158) =  .480612E+02    FLUX( 363)( 79-159) =  .612617E+02
FLUX( 364)( 80-160) =  .700145E+02    FLUX( 365)(  1-999) = -.604245E+03    FLUX( 366)(  2-999) = -.506981E+03
FLUX( 367)(  3-999) = -.370581E+03    FLUX( 368)(  4-999) = -.380254E+03    FLUX( 369)(  5-999) = -.441075E+03
FLUX( 370)(  6-999) = -.382355E+03    FLUX( 371)(  7-999) = -.447057E+03    FLUX( 372)(  8-999) = -.537060E+03
FLUX( 373)(  9-999) = -.108197E+03    FLUX( 374)( 10-999) = -.115118E+03    FLUX( 375)( 11-999) = -.603802E+03
FLUX( 376)( 12-999) = -.506966E+03    FLUX( 377)( 13-999) = -.777177E+02    FLUX( 378)( 14-999) = -.869464E+02
FLUX( 379)( 15-999) = -.668465E+02    FLUX( 380)( 16-999) = -.846272E+03    FLUX( 381)( 17-999) = -.369852E+03
FLUX( 382)( 18-999) = -.554030E+03    FLUX( 383)( 19-999) = -.107795E+03    FLUX( 384)( 20-999) = -.112794E+03
FLUX( 385)( 21-999) = -.602049E+03    FLUX( 386)( 22-999) = -.499384E+03    FLUX( 387)( 23-999) = -.163908E+03
FLUX( 388)( 24-999) = -.851016E+02    FLUX( 389)( 25-999) = -.473942E+03    FLUX( 390)( 26-999) = -.520370E+03
FLUX( 391)( 27-999) = -.593300E+03    FLUX( 392)( 28-999) = -.870804E+02    FLUX( 393)( 29-999) = -.102250E+03
FLUX( 394)( 30-999) = -.107589E+03    FLUX( 395)( 31-999) = -.599369E+03    FLUX( 396)( 32-999) = -.534172E+03
FLUX( 397)( 33-999) = -.348770E+03    FLUX( 398)( 34-999) = -.360834E+03    FLUX( 399)( 35-999) = -.808265E+02
FLUX( 400)( 36-999) = -.758115E+02    FLUX( 401)( 37-999) = -.763002E+02    FLUX( 402)( 38-999) = -.859277E+02
FLUX( 403)( 39-999) = -.103636E+04    FLUX( 404)( 40-999) = -.641115E+03    FLUX( 405)( 41-999) = -.119253E+04
FLUX( 406)( 42-999) = -.104408E+04    FLUX( 407)( 43-999) = -.783432E+03    FLUX( 408)( 44-999) = -.834439E+03
FLUX( 409)( 45-999) = -.115511E+04    FLUX( 410)( 46-999) = -.119012E+04    FLUX( 411)( 47-999) = -.122880E+04
FLUX( 412)( 48-999) = -.128643E+04    FLUX( 413)( 49-999) = -.563412E+03    FLUX( 414)( 50-999) = -.582454E+03
FLUX( 415)( 51-999) = -.115889E+04    FLUX( 416)( 52-999) = -.109006E+04    FLUX( 417)( 53-999) = -.685776E+03
FLUX( 418)( 54-999) = -.152973E+03    FLUX( 419)( 55-999) = -.122114E+04    FLUX( 420)( 56-999) = -.116070E+04
FLUX( 421)( 57-999) = -.107695E+04    FLUX( 422)( 58-999) = -.106155E+04    FLUX( 423)( 59-999) = -.216946E+03
FLUX( 424)( 60-999) = -.230283E+03    FLUX( 425)( 61-999) = -.118338E+04    FLUX( 426)( 62-999) = -.111056E+04
FLUX( 427)( 63-999) = -.701641E+03    FLUX( 428)( 64-999) = -.511777E+03    FLUX( 429)( 65-999) = -.142864E+03
FLUX( 430)( 66-999) = -.542611E+03    FLUX( 431)( 67-999) = -.562653E+03    FLUX( 432)( 68-999) = -.218021E+03
FLUX( 433)( 69-999) = -.239954E+03    FLUX( 434)( 70-999) = -.247574E+03    FLUX( 435)( 71-999) = -.117538E+04
FLUX( 436)( 72-999) = -.117420E+04    FLUX( 437)( 73-999) = -.710490E+03    FLUX( 438)( 74-999) = -.364460E+03
FLUX( 439)( 75-999) = -.214578E+03    FLUX( 440)( 76-999) = -.221335E+03    FLUX( 441)( 77-999) = -.227624E+03
FLUX( 442)( 78-999) = -.238983E+03    FLUX( 443)( 79-999) = -.250244E+03    FLUX( 444)( 80-999) = -.254527E+03
TIME=       .090

TSS
ROW / COL      1            2            3            4            5            6            7            8            9            10
  1        2.030E+03    1.926E+03    1.760E+03    1.704E+03    1.700E+03    1.714E+03    1.753E+03    1.728E+03    1.523E+03    1.477E+03
ROW / COL      11           12           13           14           15           16           17           18           19           20
  1        2.040E+03    1.926E+03    1.728E+03    1.660E+03    1.664E+03    1.684E+03    1.743E+03    1.709E+03    1.525E+03    1.493E+03
ROW / COL      21           22           23           24           25           26           27           28           29           30
  1        2.081E+03    1.935E+03    1.770E+03    1.673E+03    1.714E+03    1.741E+03    1.760E+03    1.640E+03    1.532E+03    1.532E+03
ROW / COL      31           32           33           34           35           36           37           38           39           40
  1        2.042E+03    1.944E+03    1.793E+03    1.774E+03    1.706E+03    1.721E+03    1.710E+03    1.648E+03    1.554E+03    1.623E+03
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Figure 5-8. Model 2A Output (Sheet 40 of 49)

ROW / COL	41	42	43	44	45	46	47	48	49	50
1	2.044F+03	1.953E+03	1.820F+03	1.784E+03	1.831E+03	1.858E+03	1.845E+03	1.787E+03	1.604E+03	1.582E+03
ROW / COL	51	52	53	54	55	56	57	58	59	60
1	2.046F+03	1.962E+03	1.796F+03	1.681E+03	1.808F+03	1.834E+03	1.800E+03	1.723E+03	1.519E+03	1.472E+03
ROW / COL	61	62	63	64	65	66	67	68	69	70
1	2.047F+03	1.962E+03	1.784F+03	1.659E+03	1.591E+03	1.628E+03	1.606E+03	1.515E+03	1.442E+03	1.416E+03
ROW / COL	71	72	73	74	75	76	77	78	79	80
1	2.048E+03	1.971E+03	1.775F+03	1.614E+03	1.516E+03	1.496E+03	1.475E+03	1.439E+03	1.405E+03	1.391E+03
ROW / COL	81	82	83	84	85	86	87	88	89	90
1	2.029F+03	1.922E+03	1.763E+03	1.701E+03	1.696E+03	1.711E+03	1.745E+03	1.710E+03	1.535E+03	1.487E+03
ROW / COL	91	92	93	94	95	96	97	98	99	100
1	2.030F+03	1.923E+03	1.750E+03	1.679E+03	1.681E+03	1.701E+03	1.739E+03	1.692E+03	1.537E+03	1.503E+03
ROW / COL	101	102	103	104	105	106	107	108	109	110
1	2.032F+03	1.929E+03	1.775E+03	1.693E+03	1.709E+03	1.732E+03	1.745E+03	1.655E+03	1.545E+03	1.539E+03
ROW / COL	111	112	113	114	115	116	117	118	119	120
1	2.034F+03	1.939E+03	1.797E+03	1.734E+03	1.724E+03	1.740E+03	1.737E+03	1.665E+03	1.566E+03	1.596E+03
ROW / COL	121	122	123	124	125	126	127	128	129	130
1	2.036F+03	1.949E+03	1.822E+03	1.779E+03	1.817E+03	1.840E+03	1.826F+03	1.762E+03	1.604E+03	1.578E+03
ROW / COL	131	132	133	134	135	136	137	138	139	140
1	2.038F+03	1.956E+03	1.801E+03	1.702E+03	1.788E+03	1.814E+03	1.783E+03	1.703E+03	1.529E+03	1.480E+03
ROW / COL	141	142	143	144	145	146	147	148	149	150
1	2.039F+03	1.956E+03	1.788E+03	1.665E+03	1.607E+03	1.629E+03	1.606E+03	1.524E+03	1.450E+03	1.421E+03
ROW / COL	151	152	153	154	155	156	157	158	159	160
1	2.040F+03	1.961E+03	1.778E+03	1.623E+03	1.529F+03	1.507E+03	1.485E+03	1.446E+03	1.410E+03	1.394E+03

ITERATION NUMBER 2 MAXIMUM ABSOLUTE ERROR = .001

EST ABS ERR

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	1.820E-04	3.520E-04	7.562E-04	1.181E-03	2.039E-03	4.007E-03	5.684E-03	1.287E-02	2.114E-02	1.879E-02
ROW / COL	11	12	13	14						
1	1.348F-01	1.015E-01	1.999F-01	2.011E-01						

RAYLEIGH QUOTIENTS

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.624E+01	-4.039E+01	-4.588E+01	-5.910E+01	-7.133E+01	-8.348E+01	-8.640E+01	-9.946E+01	-1.111E+02	-1.133E+02
ROW / COL	11	12	13	14						
1	-1.274E+02	-1.346E+02	-1.402E+02	-1.421E+02						

DOMINANT EIGENVALUES

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	-2.624F+01	-4.039E+01	-4.588E+01	-5.910E+01	-7.133F+01	-8.348E+01	-8.640E+01	-9.946E+01	-1.111E+02	-1.133E+02
ROW / COL	11	12	13	14						
1	-1.274E+02	-1.346E+02	-1.402E+02	-1.421E+02						

TIME = .900E-01 NUMBER OF DOMINANT EIGENVALUES = 14

TEMP

ROW / COL	1	2	3	4	5	6	7	8	9	10
1	2.039F+03	1.925E+03	1.758F+03	1.700E+03	1.695E+03	1.707E+03	1.744E+03	1.713E+03	1.493E+03	1.442E+03
ROW / COL	11	12	13	14	15	16	17	18	19	20
1	2.034E+03	1.925E+03	1.726E+03	1.656E+03	1.659E+03	1.677E+03	1.733E+03	1.693E+03	1.496E+03	1.458E+03
ROW / COL	21	22	23	24	25	26	27	28	29	30
1	2.040F+03	1.932E+03	1.767E+03	1.669E+03	1.709E+03	1.734E+03	1.750E+03	1.621E+03	1.502F+03	1.498E+03
ROW / COL	31	32	33	34	35	36	37	38	39	40
1	2.042F+03	1.944E+03	1.791E+03	1.730E+03	1.700E+03	1.714E+03	1.707E+03	1.629E+03	1.524F+03	1.592E+03

Figure 5-8. Model 2A Output (Sheet 41 of 49)

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ROW / COL     41          42          43          44          45          46          47          48          49          50
  1       2.044E+03   1.952E+03   1.818E+03   1.780E+03   1.827E+03   1.852E+03   1.836E+03   1.770E+03   1.573E+03   1.545E+03
ROW / COL     51          52          53          54          55          56          57          58          59          60
  1       2.046E+03   1.961E+03   1.793E+03   1.675E+03   1.800E+03   1.824E+03   1.784E+03   1.[illegible]76E+03   1.473E+03   1.418E+03
ROW / COL     61          62          63          64          65          66          67          68          69          70
  1       2.046E+03   1.961E+03   1.779E+03   1.649E+03   1.574E+03   1.606E+03   1.575E+03   1.468E+03   1.381E+03   1.347E+03
ROW / COL     71          72          73          74          75          76          77          78          79          80
  1       2.047E+03   1.969E+03   1.769E+03   1.600E+03   1.494E+03   1.464E+03   1.432E+03   1.382E+03   1.333E+03   1.312E+03
ROW / COL     81          82          83          84          85          86          87          88          89          90
  1       2.029E+03   1.921E+03   1.761E+03   1.698E+03   1.691E+03   1.704E+03   1.[illegible]35E+03   1.693E+03   1.505E+03   1.451E+03
ROW / COL     91          92          93          94          95          96          97          98          99         100
  1       2.030E+03   1.922E+03   1.747E+03   1.67[illegible]E+03   1.675E+03   1.693E+03   1.729E+03   1.675E+03   1.507E+03   1.467E+03
ROW / COL    101         102         103         104         105         106         107         108         109         110
  1       2.031E+03   1.928E+03   1.772E+03   1.689E+03   1.704E+03   1.725E+03   1.734E+03   1.636E+03   1.515E+03   1.505E+03
ROW / COL    111         112         113         114         115         116         117         118         119         120
  1       2.033E+03   1.938E+03   1.795E+03   1.730E+03   1.718E+03   1.732E+03   1.725E+03   1.645E+03   1.535E+03   1.562E+03
ROW / COL    121         122         123         124         125         126         127         128         129         130
  1       2.036E+03   1.948E+03   1.820E+03   1.775E+03   1.811E+03   1.833E+03   1.815E+03   1.742E+03   1.571E+03   1.539E+03
ROW / COL    131         132         133         134         135         136         137         138         139         140
  1       2.038E+03   1.954E+03   1.797E+03   1.695E+03   1.780E+03   1.803E+03   1.765E+03   1.674E+03   1.482E+03   1.424E+03
ROW / COL    141         142         143         144         145         146         147         148         149         150
  1       2.038E+03   1.954E+03   1.782E+03   1.654E+03   1.590E+03   1.606E+03   1.573E+03   1.477E+03   1.387E+03   1.350E+03
ROW / COL    151         152         153         154         155         156         157         158         159         160
  1       2.040E+03   1.959E+03   1.772E+03   1.609E+03   1.506E+03   1.474E+03   1.440E+03   1.387E+03   1.337E+03   1.314E+03

 TIME =        .9000000E-01
 T(  1) =  .203884E+04   T(  2) =  .192534E+04   T(  3) =  .175758E+04   T(  4) =  .170040E+04   T(  5) =  .169485E+04
 T(  6) =  .170686E+04   T(  7) =  .174364E+04   T(  8) =  .171306E+04   T(  9) =  .149349E+04   T( 10) =  .144211E+04
 T( 11) =  .203923E+04   T( 12) =  .192539E+04   T( 13) =  .172555E+04   T( 14) =  .165587E+04   T( 15) =  .165879E+04
 T( 16) =  .167716E+04   T( 17) =  .173327E+04   T( 18) =  .169297E+04   T( 19) =  .149570E+04   T( 20) =  .145814E+04
 T( 21) =  .204038E+04   T( 22) =  .193169E+04   T( 23) =  .176735E+04   T( 24) =  .166935E+04   T( 25) =  .17086[illegible]E+04
 T( 26) =  .175437E+04   T( 27) =  .175014E+04   T( 28) =  .162149E+04   T( 29) =  .150198E+04   T( 30) =  .149805E+04
 T( 31) =  .204205E+04   T( 32) =  .194364E+04   T( 33) =  .179061E+04   T( 34) =  .172984E+04   T( 35) =  .170029E+04
 T( 36) =  .171357E+04   T( 37) =  .170733E+04   T( 38) =  .162895E+04   T( 39) =  .152395E+04   T( 40) =  .159195E+04
 T( 41) =  .204406E+04   T( 42) =  .195241E+04   T( 43) =  .181778E+04   T( 44) =  .178023E+04   T( 45) =  .182662E+04
 T( 46) =  .185191E+04   T( 47) =  .183550E+04   T( 48) =  .176951E+04   T( 49) =  .157281E+04   T( 50) =  .154503E+04
 T( 51) =  .204563E+04   T( 52) =  .196103E+04   T( 53) =  .179255E+04   T( 54) =  .167459E+04   T( 55) =  .180002E+04
 T( 56) =  .182410E+04   T( 57) =  .178408E+04   T( 58) =  .169629E+04   T( 59) =  .147326E+04   T( 60) =  .141787E+04
 T( 61) =  .204602E+04   T( 62) =  .196090E+04   T( 63) =  .177886E+04   T( 64) =  .164915E+04   T( 65) =  .157400E+04
 T( 66) =  .160612E+04   T( 67) =  .157531E+04   T( 68) =  .146837E+04   T( 69) =  .138094E+04   T( 70) =  .134658E+04
 T( 71) =  .204714E+04   T( 72) =  .196931E+04   T( 73) =  .176926E+04   T( 74) =  .160028E+04   T( 75) =  .149350E+04
 T( 76) =  .146436E+04   T( 77) =  .143200E+04   T( 78) =  .138184E+04   T( 79) =  .133448E+04   T( 80) =  .131178E+04
 T( 81) =  .202908E+04   T( 82) =  .192111E+04   T( 83) =  .176082E+04   T( 84) =  .169754E+04   T( 85) =  .169085E+04
 T( 86) =  .170422E+04   T( 87) =  .173460E+04   T( 88) =  .169260E+04   T( 89) =  .150456E+04   T( 90) =  .145103E+04
 T( 91) =  .202962E+04   T( 92) =  .192177E+04   T( 93) =  .174746E+04   T( 94) =  .167513E+04   T( 95) =  .167550E+04
 T( 96) =  .169335E+04   T( 97) =  .172880E+04   T( 98) =  .167453E+04   T( 99) =  .150710E+04   T(100) =  .146740E+04
 T(101) =  .203111E+04   T(102) =  .192834E+04   T(103) =  .177234E+04   T(104) =  .168851E+04   T(105) =  .170394E+04
 T(106) =  .172465E+04   T(107) =  .173448E+04   T(108) =  .163571E+04   T(109) =  .151475E+04   T(110) =  .150455E+04
 T(111) =  .203319E+04   T(112) =  .193831E+04   T(113) =  .179491E+04   T(114) =  .173034E+04   T(115) =  .171876E+04
 T(116) =  .173232E+04   T(117) =  .172492E+04   T(118) =  .164502E+04   T(119) =  .153542E+04   T(120) =  .156207E+04
 T(121) =  .203584E+04   T(122) =  .194827E+04   T(123) =  .181976E+04   T(124) =  .177514E+04   T(125) =  .181130E+04
 T(126) =  .183324E+04   T(127) =  .181500E+04   T(128) =  .174218E+04   T(129) =  .157111E+04   T(130) =  .153873E+04
 T(131) =  .203778E+04   T(132) =  .195413E+04   T(133) =  .179743E+04   T(134) =  .169530E+04   T(135) =  .177962E+04
 T(136) =  .180274E+04   T(137) =  .176533E+04   T(138) =  .167402E+04   T(139) =  .148217E+04   T(140) =  .142436E+04
 T(141) =  .203830E+04   T(142) =  .195384E+04   T(143) =  .178237E+04   T(144) =  .165424E+04   T(145) =  .158977E+04
 T(146) =  .160635E+04   T(147) =  .157344E+04   T(148) =  .147671E+04   T(149) =  .138690E+04   T(150) =  .135020E+04
 T(151) =  .203961E+04   T(152) =  .195941E+04   T(153) =  .177162E+04   T(154) =  .160911E+04   T(155) =  .150603E+04
 T(156) =  .147424E+04   T(157) =  .144009E+04   T(158) =  .136738E+04   T(159) =  .133702E+04   T(160) =  .131361E+04
 T(999) =  .239000E+04   T(998) =  .590000E+02   T(
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Figure 5-8. Model 2A Output (Sheet 42 of 49)

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ITERATION NUMBER  2  MAXIMUM ABSOLUTE ERROR =     .178

EST ABS ERR
ROW / COL       1          2          3          4          5          6          7          8          9         10
  1        1.187E-04  2.102E-04  4.259E-04  6.403E-04  1.307E-03  2.472E-03  3.989E-03  7.492E-03  1.490E-02  1.446E-02
ROW / COL      11         12         13         14
  1        1.149E-01  8.495E-02  1.652E-01  1.776E-01

RAYLEIGH QUOTIENTS
ROW / COL       1          2          3          4          5          6          7          8          9         10
  1        -2.642E+01 -4.051E+01 -4.597E+01 -5.914E+01 -7.142E+01 -8.359E+01 -8.647E+01 -9.953E+01 -1.112E+02 -1.133E+02
ROW / COL      11         12         13         14
  1        -1.275E+02 -1.347E+02 -1.402E+02 -1.422E+02

DOMINANT EIGENVALUES
ROW / COL       1          2          3          4          5          6          7          8          9         10
  1        -2.642E+01 -4.051E+01 -4.597E+01 -5.914E+01 -7.142E+01 -8.359E+01 -8.647E+01 -9.953E+01 -1.112E+02 -1.133E+02
ROW / COL      11         12         13         14
  1        -1.275E+02 -1.347E+02 -1.402E+02 -1.422E+02

TIME =    .100E+00   NUMBER OF DOMINANT EIGENVALUES =  14

TEMP
ROW / COL       1          2          3          4          5          6          7          8          9         10
  1        2.039E+03  1.926E+03  1.758E+03  1.701E+03  1.696E+03  1.708E+03  1.745E+03  1.716E+03  1.499E+03  1.449E+03
ROW / COL      11         12         13         14         15         16         17         18         19         20
  1        2.039E+03  1.926E+03  1.726E+03  1.657E+03  1.660E+03  1.678E+03  1.735E+03  1.696E+03  1.501E+03  1.465E+03
ROW / COL      21         22         23         24         25         26         27         28         29         30
  1        2.040E+03  1.932E+03  1.768E+03  1.670E+03  1.710E+03  1.736E+03  1.752E+03  1.625E+03  1.507E+03  1.504E+03
ROW / COL      31         32         33         34         35         36         37         38         39         40
  1        2.042E+03  1.944E+03  1.791E+03  1.731E+03  1.701E+03  1.715E+03  1.709E+03  1.632E+03  1.529E+03  1.597E+03
ROW / COL      41         42         43         44         45         46         47         48         49         50
  1        2.044E+03  1.953E+03  1.818E+03  1.781E+03  1.827E+03  1.853E+03  1.837E+03  1.772E+03  1.578E+03  1.552E+03
ROW / COL      51         52         53         54         55         56         57         58         59         60
  1        2.046E+03  1.961E+03  1.793E+03  1.676E+03  1.801E+03  1.826E+03  1.787E+03  1.701E+03  1.481E+03  1.428E+03
ROW / COL      61         62         63         64         65         66         67         68         69         70
  1        2.046E+03  1.961E+03  1.780E+03  1.651E+03  1.577E+03  1.610E+03  1.581E+03  1.477E+03  1.392E+03  1.359E+03
ROW / COL      71         72         73         74         75         76         77         78         79         80
  1        2.047E+03  1.970E+03  1.770E+03  1.603E+03  1.498E+03  1.470E+03  1.440E+03  1.392E+03  1.347E+03  1.327E+03
ROW / COL      81         82         83         84         85         86         87         88         89         90
  1        2.029E+03  1.921E+03  1.761E+03  1.698E+03  1.692E+03  1.706E+03  1.736E+03  1.696E+03  1.510E+03  1.458E+03
ROW / COL      91         92         93         94         95         96         97         98         99        100
  1        2.030E+03  1.922E+03  1.748E+03  1.676E+03  1.677E+03  1.695E+03  1.731E+03  1.678E+03  1.513E+03  1.474E+03
ROW / COL     101        102        103        104        105        106        107        108        109        110
  1        2.031E+03  1.929E+03  1.773E+03  1.689E+03  1.705E+03  1.726E+03  1.736E+03  1.639E+03  1.521E+03  1.511E+03
ROW / COL     111        112        113        114        115        116        117        118        119        120
  1        2.033E+03  1.939E+03  1.795E+03  1.731E+03  1.720E+03  1.734E+03  1.727E+03  1.649E+03  1.541E+03  1.568E+03
ROW / COL     121        122        123        124        125        126        127        128        129        130
  1        2.036E+03  1.948E+03  1.820E+03  1.776E+03  1.812E+03  1.835E+03  1.817E+03  1.746E+03  1.577E+03  1.546E+03
ROW / COL     131        132        133        134        135        136        137        138        139        140
  1        2.038E+03  1.954E+03  1.798E+03  1.697E+03  1.781E+03  1.805E+03  1.768E+03  1.679E+03  1.491E+03  1.435E+03
ROW / COL     141        142        143        144        145        146        147        148        149        150
  1        2.038E+03  1.954E+03  1.783E+03  1.656E+03  1.593E+03  1.611E+03  1.580E+03  1.486E+03  1.399E+03  1.364E+03
ROW / COL     151        152        153        154        155        156        157        158        159        160
  1        2.040E+03  1.960E+03  1.773E+03  1.612E+03  1.511E+03  1.481E+03  1.449E+03  1.399E+03  1.351E+03  1.329E+03

 TIME =      .1000000E+00
 T(  1) =  .203890E+04   T(  2) =  .192551E+04   T(  3) =  .175803E+04   T(  4) =  .170112E+04   T(  5) =  .169578E+04
 T(  6) =  .170804E+04   T(  7) =  .174521E+04   T(  8) =  .171572E+04   T(  9) =  .149685E+04   T( 10) =  .144875E+04
 T( 11) =  .203929E+04   T( 12) =  .192555E+04   T( 13) =  .172603E+04   T( 14) =  .165664E+04   T( 15) =  .165977E+04
 T( 16) =  .167839E+04   T( 17) =  .173489E+04   T( 18) =  .169576E+04   T( 19) =  .150104E+04   T( 20) =  .146461E+04
 T( 21) =  .204044E+04   T( 22) =  .193185E+04   T( 23) =  .176779E+04   T( 24) =  .167010E+04   T( 25) =  .170953E+04
 T( 26) =  .173550E+04   T( 27) =  .175176E+04   T( 28) =  .162466E+04   T( 29) =  .150730E+04   T( 30) =  .150417E+04
 T( 31) =  .204210E+04   T( 32) =  .194379E+04   T( 33) =  .179103E+04   T( 34) =  .173053E+04   T( 35) =  .170121E+04
```

Figure 5-8. Model 2A Output (Sheet 43 of 49)

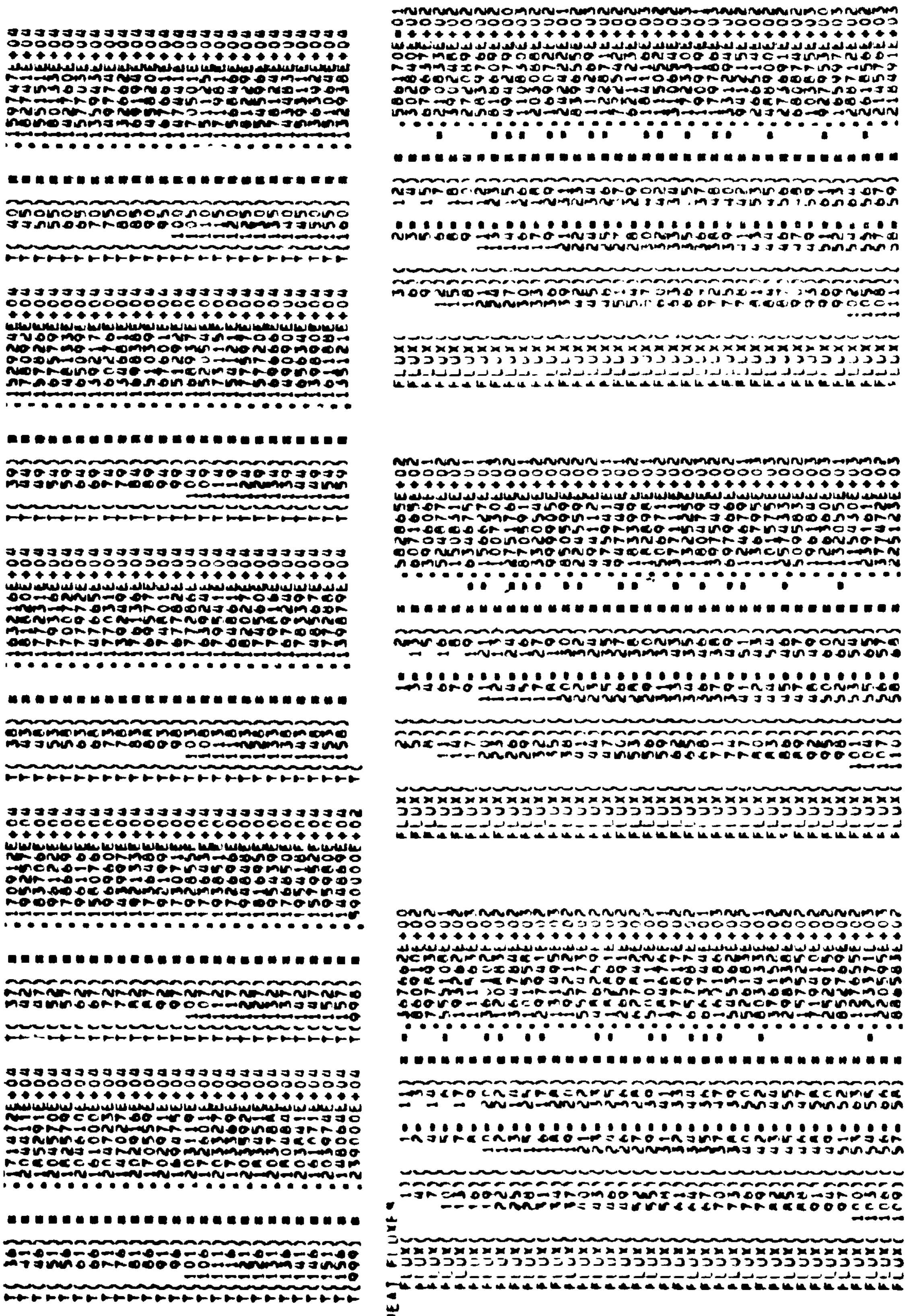

Figure 5-8. Model 2A Output (Sheet 44 of 49)

FLUX(112)(59- 69) = .954701E+02	FLUX(113)(59- 60) = .517973E+02	FLUX(114)(60- 70) = .684409E+02
FLUX(115)(61- 71) = -.194541E+01	FLUX(116)(61- 62) = .869918E+02	FLUX(117)(62- 72) = -.958515E+01
FLUX(118)(62- 63) = .183498E+03	FLUX(119)(63- 73) = .683299E+01	FLUX(120)(63- 64) = .136082E+03
FLUX(121)(64- 74) = .453343E+02	FLUX(122)(64- 65) = .768988E+02	FLUX(123)(65- 75) = .867378E+02
FLUX(124)(65- 66) = -.342786E+02	FLUX(125)(66- 76) = .142206E+03	FLUX(126)(66- 67) = .272768E+02
FLUX(127)(67- 77) = .143417E+03	FLUX(128)(67- 68) = .106720E+03	FLUX(129)(68- 78) = .814927E+02
FLUX(130)(68- 69) = .879404E+02	FLUX(131)(69- 79) = .419873E+02	FLUX(132)(69- 70) = .303865E+02
FLUX(133)(70- 80) = .270063E+02	FLUX(134)(71- 72) = .793026E+02	FLUX(135)(72- 73) = .199535E+03
FLUX(136)(73- 74) = .177463E+03	FLUX(137)(74- 75) = .114513E+03	FLUX(138)(75- 76) = .269936E+02
FLUX(139)(76- 77) = .252161E+02	FLUX(140)(77- 78) = .460402E+02	FLUX(141)(78- 79) = .452111E+02
FLUX(142)(79- 80) = .170416E+02	FLUX(143)(81- 91) = -.554409E+00	FLUX(144)(81- 82) = .366070E+02
FLUX(145)(82- 92) = -.105429E+01	FLUX(146)(82- 83) = .827974E+02	FLUX(147)(83- 93) = .254477E+02
FLUX(148)(83- 84) = .329171E+02	FLUX(149)(84- 94) = .402069E+02	FLUX(150)(84- 85) = .450174E+01
FLUX(151)(85- 95) = .281387E+02	FLUX(152)(85- 86) = -.606345E+01	FLUX(153)(86- 96) = .180385E+02
FLUX(154)(86- 87) = -.180849E+02	FLUX(155)(87- 97) = .107473E+02	FLUX(156)(87- 88) = .201473E+02
FLUX(157)(88- 98) = .346683E+02	FLUX(158)(88- 89) = .958094E+02	FLUX(159)(89- 99) = -.698135E+01
FLUX(160)(89- 90) = .278857E+02	FLUX(161)(90-100) = -.362484E+02	FLUX(162)(91-101) = -.202554E+01
FLUX(163)(91- 92) = .566851E+02	FLUX(164)(92-102) = -.124670E+02	FLUX(165)(92- 93) = .892011E+02
FLUX(166)(93-103) = -.497640E+02	FLUX(167)(93- 94) = .373112E+02	FLUX(168)(94-104) = -.270961E+02
FLUX(169)(94- 95) = .774835E+00	FLUX(170)(95-105) = -.607068E+02	FLUX(171)(95- 96) = -.831522E+01
FLUX(172)(96-106) = -.637737E+02	FLUX(173)(96- 97) = -.200401E+02	FLUX(174)(97-107) = -.129609E+02
FLUX(175)(97- 98) = .264659E+02	FLUX(176)(98-108) = .716169E+02	FLUX(177)(98- 99) = .851454E+02
FLUX(178)(99-109) = -.194198E+02	FLUX(179)(99-100) = .202915E+02	FLUX(180)(100-110) = -.790519E+02
FLUX(181)(101-111) = -.298120E+01	FLUX(182)(101-102) = .540584E+02	FLUX(183)(102-112) = -.189560E+02
FLUX(184)(102-103) = .802751E+02	FLUX(185)(103-113) = -.468743E+02	FLUX(186)(103-104) = .424240E+02
FLUX(187)(104-114) = -.808013E+02	FLUX(188)(104-105) = -.703097E+01	FLUX(189)(105-115) = -.387224E+02
FLUX(190)(105-106) = -.982183E+01	FLUX(191)(106-116) = -.247489E+02	FLUX(192)(106-107) = -.679480E+01
FLUX(193)(107-117) = .109173E+02	FLUX(194)(107-108) = .483040E+02	FLUX(195)(108-118) = -.216701E+02
FLUX(196)(108-109) = .620005E+02	FLUX(197)(109-119) = -.470206E+02	FLUX(198)(109-110) = .474819E+01
FLUX(199)(110-120) = -.116718E+03	FLUX(200)(111-121) = -.244102E+01	FLUX(201)(111-112) = .300381E+02
FLUX(202)(112-122) = -.128826E+02	FLUX(203)(112-113) = .736493E+02	FLUX(204)(113-123) = -.346251E+02
FLUX(205)(113-114) = .325378E+02	FLUX(206)(114-124) = -.589014E+02	FLUX(207)(114-115) = .486659E+01
FLUX(208)(115-125) = -.129684E+03	FLUX(209)(115-116) = -.670371E+01	FLUX(210)(116-126) = -.135787E+03
FLUX(211)(116-117) = .237965E+01	FLUX(212)(117-127) = -.122634E+03	FLUX(213)(117-118) = .394252E+02
FLUX(214)(118-128) = -.127018E+03	FLUX(215)(118-119) = .559961E+02	FLUX(216)(119-129) = -.525995E+02
FLUX(217)(119-120) = -.136814E+02	FLUX(218)(120-130) = .533622E+02	FLUX(219)(121-131) = -.151491E+01
FLUX(220)(121-122) = .922209E+02	FLUX(221)(122-132) = -.559790E+01	FLUX(222)(122-123) = .131786E+03
FLUX(223)(123-133) = .237590E+02	FLUX(224)(123-124) = .437709E+02	FLUX(225)(124-134) = .780428E+02
FLUX(226)(124-125) = -.305057E+02	FLUX(227)(125-135) = .346486E+02	FLUX(228)(125-126) = -.227647E+02
FLUX(229)(126-136) = .297213E+02	FLUX(230)(126-127) = .172723E+02	FLUX(231)(127-137) = .491199E+02
FLUX(232)(127-128) = .741412E+02	FLUX(233)(128-138) = .669001E+02	FLUX(234)(128-129) = .171090E+03
FLUX(235)(129-139) = .923820E+02	FLUX(236)(129-130) = .291135E+02	FLUX(237)(130-140) = .112994E+03
FLUX(238)(131-141) = -.117113E+01	FLUX(239)(131-132) = .860681E+02	FLUX(240)(132-142) = -.139768E+01
FLUX(241)(132-133) = .156092E+03	FLUX(242)(133-143) = .138556E+02	FLUX(243)(133-134) = .100078E+03
FLUX(244)(134-144) = .424567E+02	FLUX(245)(134-135) = -.855043E+02	FLUX(246)(135-145) = .602883E+03
FLUX(247)(135-136) = -.254887E+02	FLUX(248)(136-146) = .199795E+03	FLUX(249)(136-137) = .350841E+02
FLUX(250)(137-147) = .197346E+03	FLUX(251)(137-138) = .913203E+02	FLUX(252)(138-148) = .194927E+03
FLUX(253)(138-139) = .188186E+03	FLUX(254)(139-149) = .969736E+02	FLUX(255)(139-140) = .532182E+02
FLUX(256)(140-150) = .700611E+02	FLUX(257)(141-151) = -.233094E+01	FLUX(258)(141-142) = .879736E+02
FLUX(259)(142-152) = -.742405E+01	FLUX(260)(142-143) = .174468E+03	FLUX(261)(143-153) = .759101E+01
FLUX(262)(143-144) = .133552E+03	FLUX(263)(144-154) = .414595E+02	FLUX(264)(144-145) = .654988E+02
FLUX(265)(145-155) = .887175E+02	FLUX(266)(145-146) = -.196123E+02	FLUX(267)(146-156) = .131791E+03
FLUX(268)(146-147) = .286278E+02	FLUX(269)(147-157) = .132333E+03	FLUX(270)(147-148) = .956973E+02
FLUX(271)(148-158) = .828437E+02	FLUX(272)(148-149) = .680219E+02	FLUX(273)(149-159) = .435549E+02
FLUX(274)(149-150) = .320335E+02	FLUX(275)(150-160) = .280502E+02	FLUX(276)(151-152) = .828699E+02
FLUX(277)(152-153) = .189097E+03	FLUX(278)(153-154) = .170067E+03	FLUX(279)(154-155) = .109877E+03
FLUX(280)(155-156) = .286964E+02	FLUX(281)(156-157) = .262560E+02	FLUX(282)(157-158) = .475850E+02
FLUX(283)(158-159) = .463414E+02	FLUX(284)(159-160) = .182713E+02	FLUX(285)(1- 81) = .113681E+03
FLUX(286)(2- 82) = .998171E+02	FLUX(287)(3- 83) = .634591E+02	FLUX(288)(4- 84) = .869168E+02
FLUX(289)(5- 85) = .100238E+03	FLUX(290)(6- 86) = .899552E+02	FLUX(291)(7- 87) = .125601E+03
FLUX(292)(8- 88) = .177682E+03	FLUX(293)(9- 89) = .399116E+01	FLUX(294)(10- 90) = .110713E+02
FLUX(295)(11- 91) = .113158E+03	FLUX(296)(12- 92) = .966803E+02	FLUX(297)(13- 93) = -.360998E+02
FLUX(298)(14- 94) = -.248149E+02	FLUX(299)(15- 95) = -.121808E+02	FLUX(300)(16- 96) = -.728588E+01
FLUX(301)(17- 97) = .101385E+03	FLUX(302)(18- 98) = .165946E+03	FLUX(303)(19- 99) = .220615E+01

Figure 5-8. Model 2A Output (Sheet 45 of 49)

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FLUX( 304)( 20=100) = .103986E+02    FLUX( 305)( 21=101) = .111868E+03    FLUX( 306)( 22=102) = .956239E+02
FLUX( 307)( 23=103) = .545274E+02    FLUX( 308)( 24=104) = -.216109E+02   FLUX( 309)( 25=105) = .103153E+03
FLUX( 310)( 26=106) = .125559E+03    FLUX( 311)( 27=107) = .158533E+03    FLUX( 312)( 28=108) = -.308365E+01
FLUX( 313)( 29=109) = -.487023E+01   FLUX( 314)( 30=110) = .273443E+02    FLUX( 315)( 31=111) = .110305E+03
FLUX( 316)( 32=112) = .105525E+03    FLUX( 317)( 33=113) = .595019E+02    FLUX( 318)( 34=114) = .708916E+02
FLUX( 319)( 35=115) = -.195657E+02   FLUX( 320)( 36=116) = -.193696E+02   FLUX( 321)( 37=117) = -.146643E+02
FLUX( 322)( 38=118) = -.124750E+02   FLUX( 323)( 39=119) = .356778E+01    FLUX( 324)( 40=120) = .217762E+03
FLUX( 325)( 41=121) = .215602E+03    FLUX( 326)( 42=122) = .199431E+03    FLUX( 327)( 43=123) = .145214E+03
FLUX( 328)( 44=124) = .200300E+03    FLUX( 329)( 45=125) = .322516E+03    FLUX( 330)( 46=126) = .340375E+03
FLUX( 331)( 47=127) = .365564E+03    FLUX( 332)( 48=128) = .426603E+03    FLUX( 333)( 49=129) = .152889E+03
FLUX( 334)( 50=130) = .187795E+03    FLUX( 335)( 51=131) = .207584E+03    FLUX( 336)( 52=132) = .221229E+03
FLUX( 337)( 53=133) = .110208E+03    FLUX( 338)( 54=134) = -.608951E+02   FLUX( 339)( 55=135) = .367179E+03
FLUX( 340)( 56=136) = .357781E+03    FLUX( 341)( 57=137) = .336703E+03    FLUX( 342)( 58=138) = .357513E+03
FLUX( 343)( 59=139) = .240843E+02    FLUX( 344)( 60=140) = .380428E+02    FLUX( 345)( 61=141) = .209913E+03
FLUX( 346)( 62=142) = .225738E+03    FLUX( 347)( 63=143) = .124975E+03    FLUX( 348)( 64=144) = .890710E+02
FLUX( 349)( 65=145) = -.288574E+02   FLUX( 350)( 66=146) = .134113E+03    FLUX( 351)( 67=147) = .152370E+03
FLUX( 352)( 68=148) = .285458E+02    FLUX( 353)( 69=149) = .409019E+02    FLUX( 354)( 70=150) = .566690E+02
FLUX( 355)( 71=151) = .205554E+03    FLUX( 356)( 72=152) = .250117E+03    FLUX( 357)( 73=153) = .133457E+03
FLUX( 358)( 74=154) = .452082E+02    FLUX( 359)( 75=155) = -.661277E+01   FLUX( 360)( 76=156) = .154586E+02
FLUX( 361)( 77=157) = .269816E+02    FLUX( 362)( 78=158) = .429575E+02    FLUX( 363)( 79=159) = .578403E+02
FLUX( 364)( 80=160) = .683307E+02    FLUX( 365)(  1=999) = -.672090E+03   FLUX( 366)(  2=999) = -.561067E+03
FLUX( 367)(  3=999) = -.408273E+03   FLUX( 368)(  4=999) = -.418458E+03   FLUX( 369)(  5=999) = -.455506E+03
FLUX( 370)(  6=999) = -.420610E+03   FLUX( 371)(  7=999) = -.492302E+03   FLUX( 372)(  8=999) = -.591215E+03
FLUX( 373)(  9=999) = -.118865E+03   FLUX( 374)( 10=999) = -.126398E+03   FLUX( 375)( 11=999) = -.671570E+03
FLUX( 376)( 12=999) = -.561047E+03   FLUX( 377)( 13=999) = -.856246E+02   FLUX( 378)( 14=999) = -.956826E+02
FLUX( 379)( 15=999) = -.955479E+02   FLUX( 380)( 16=999) = -.931101E+02   FLUX( 381)( 17=999) = -.407265E+03
FLUX( 382)( 18=999) = -.609792E+03   FLUX( 383)( 19=999) = -.118438E+03   FLUX( 384)( 20=999) = -.123883E+03
FLUX( 385)( 21=999) = -.669595E+03   FLUX( 386)( 22=999) = -.552731E+03   FLUX( 387)( 23=999) = -.401018E+03
FLUX( 388)( 24=999) = -.936773E+02   FLUX( 389)( 25=999) = -.521638E+03   FLUX( 390)( 26=999) = -.573120E+03
FLUX( 391)( 27=999) = -.653447E+03   FLUX( 392)( 28=999) = -.958414E+02   FLUX( 393)( 29=999) = -.112374E+03
FLUX( 394)( 30=999) = -.117903E+03   FLUX( 395)( 31=999) = -.699594E+03   FLUX( 396)( 32=999) = -.591351E+03
FLUX( 397)( 33=999) = -.384493E+03   FLUX( 398)( 34=999) = -.397807E+03   FLUX( 399)( 35=999) = -.890341E+02
FLUX( 400)( 36=999) = -.835233E+02   FLUX( 401)( 37=999) = -.840827E+02   FLUX( 402)( 38=999) = -.946037E+02
FLUX( 403)( 39=999) = -.113942E+03   FLUX( 404)( 40=999) = -.704959E+03   FLUX( 405)( 41=999) = -.132620E+04
FLUX( 406)( 42=999) = -.115615E+04   FLUX( 407)( 43=999) = -.864115E+03   FLUX( 408)( 44=999) = -.919807E+03
FLUX( 409)( 45=999) = -.127455E+04   FLUX( 410)( 46=999) = -.131308E+04   FLUX( 411)( 47=999) = -.135642E+04
FLUX( 412)( 48=999) = -.141797E+04   FLUX( 413)( 49=999) = -.614798E+03   FLUX( 414)( 50=999) = -.640758E+03
FLUX( 415)( 51=999) = -.128878E+04   FLUX( 416)( 52=999) = -.120717E+04   FLUX( 417)( 53=999) = -.755985E+03
FLUX( 418)( 54=999) = -.168426E+03   FLUX( 419)( 55=999) = -.134621E+04   FLUX( 420)( 56=999) = -.128067E+04
FLUX( 421)( 57=999) = -.118788E+04   FLUX( 422)( 58=999) = -.116907E+04   FLUX( 423)( 59=999) = -.238489E+03
FLUX( 424)( 60=999) = -.253128E+03   FLUX( 425)( 61=999) = -.131629E+04   FLUX( 426)( 62=999) = -.123028E+04
FLUX( 427)( 63=999) = -.773511E+03   FLUX( 428)( 64=999) = -.562396E+03   FLUX( 429)( 65=999) = -.197073E+03
FLUX( 430)( 66=999) = -.590698E+03   FLUX( 431)( 67=999) = -.618867E+03   FLUX( 432)( 68=999) = -.239679E+03
FLUX( 433)( 69=999) = -.203666E+03   FLUX( 434)( 70=999) = -.772094E+03   FLUX( 435)( 71=999) = -.133786E+04
FLUX( 436)( 72=999) = -.130150E+04   FLUX( 437)( 73=999) = -.783489E+03   FLUX( 438)( 74=999) = -.400787E+03
FLUX( 439)( 75=999) = -.235646E+03   FLUX( 440)( 76=999) = -.243088E+03   FLUX( 441)( 77=999) = -.250137E+03
FLUX( 442)( 78=999) = -.262674E+03   FLUX( 443)( 79=999) = -.275073E+03   FLUX( 444)( 80=999) = -.279865E+03
TIME=      .100

TSS
ROW / COL      1          2          3          4          5          6          7          8          9         10
 1         2.030E+03  1.926E+03  1.750E+03  1.703E+03  1.698E+03  1.712E+03  1.751E+03  1.725E+03  1.516E+03  1.470E+03
ROW / COL     11         12         13         14         15         16         17         18         19         20
 1         2.039E+03  1.924E+03  1.727E+03  1.659E+03  1.663E+03  1.682E+03  1.740E+03  1.705E+03  1.518E+03  1.405E+03
ROW / COL     21         22         23         24         25         26         27         28         29         30
 1         2.041E+03  1.932E+03  1.760E+03  1.672E+03  1.712E+03  1.730E+03  1.757E+03  1.636E+03  1.525E+03  1.524E+03
ROW / COL     31         32         33         34         35         36         37         38         39         40
 1         2.042E+03  1.944E+03  1.792E+03  1.733E+03  1.704E+03  1.719E+03  1.716E+03  1.644E+03  1.547E+03  1.616E+03
ROW / COL     41         42         43         44         45         46         47         48         49         50
 1         2.044E+03  1.855E+03  1.810E+03  1.783E+03  1.830E+03  1.857E+03  1.843E+03  1.783E+03  1.598E+03  1.574E+03
ROW / COL     51         52         53         54         55         56         57         58         59         60
 1         2.046E+03  1.962E+03  1.795E+03  1.680E+03  1.806E+03  1.832E+03  1.796E+03  1.717E+03  1.510E+03  1.481E+03
ROW / COL     61         62         63         64         65         66         67         68         69         70
 1         2.046E+03  1.962E+03  1.782E+03  1.657E+03  1.587E+03  1.623E+03  1.600E+03  1.505E+03  1.431E+03  1.405E+03
```

Figure 5-8. Model 2A Output (Sheet 46 of 49)

```
ROW / COL      71          72          73          74          75          76          77          78          79          80
  1         2.048E+03   1.971E+03   1.774E+03   1.610E+03   1.511E+03   1.489E+03   1.466E+03   1.428E+03   1.391E+03   1.376E+03
ROW / COL      81          82          83          84          85          86          87          88          89          90
  1         2.029E+03   1.922E+03   1.763E+03   1.700E+03   1.695E+03   1.710E+03   1.742E+03   1.706E+03   1.528E+03   1.400E+03
ROW / COL      91          92          93          94          95          96          97          98          99         100
  1         2.030E+03   1.922E+03   1.749E+03   1.678E+03   1.680E+03   1.699E+03   1.737E+03   1.688E+03   1.531E+03   1.496E+03
ROW / COL     101         102         103         104         105         106         107         108         109         110
  1         2.031E+03   1.929E+03   1.774E+03   1.692E+03   1.708E+03   1.730E+03   1.743E+03   1.651E+03   1.539E+03   1.532E+03
ROW / COL     111         112         113         114         115         116         117         118         119         120
  1         2.033E+03   1.939E+03   1.797E+03   1.733E+03   1.723E+03   1.738E+03   1.734E+03   1.661E+03   1.560E+03   1.589E+03
ROW / COL     121         122         123         124         125         126         127         128         129         130
  1         2.036E+03   1.949E+03   1.822E+03   1.778E+03   1.815E+03   1.839E+03   1.834E+03   1.757E+03   1.598E+03   1.570E+03
ROW / COL     131         132         133         134         135         136         137         138         139         140
  1         2.038E+03   1.954E+03   1.800E+03   1.701E+03   1.786E+03   1.812E+03   1.779E+03   1.697E+03   1.520E+03   1.470E+03
ROW / COL     141         142         143         144         145         146         147         148         149         150
  1         2.039E+03   1.955E+03   1.786E+03   1.662E+03   1.603E+03   1.625E+03   1.599E+03   1.515E+03   1.438E+03   1.409E+03
ROW / COL     151         152         153         154         155         156         157         158         159         160
  1         2.040E+03   1.961E+03   1.776E+03   1.620E+03   1.524E+03   1.500E+03   1.476E+03   1.436E+03   1.397E+03   1.380E+03

HEAT FLUXES
  FLUX(   1)(  1= 11) = -.430448E+00     FLUX(   2)(  1=  2) =  .629961E+02     FLUX(   3)(  2= 12) =  .508644E-01
  FLUX(   4)(  2=  3) = -.929124E+02     FLUX(   5)(  3= 13) =  .661335E+02     FLUX(   6)(  3=  4) =  .326651E+02
  FLUX(   7)(  4= 14) =  .868046E+02     FLUX(   8)(  4=  5) =  .412961E+01     FLUX(   9)(  5= 15) =  .740699E+02
  FLUX(  10)(  5=  6) = -.605828E+01     FLUX(  11)(  6= 16) =  .572796E+02     FLUX(  12)(  6=  7) = -.226386E+02
  FLUX(  13)(  7= 17) =  .210331E+02     FLUX(  14)(  7=  8) =  .163168E+02     FLUX(  15)(  8= 18) =  .452503E+03
  FLUX(  16)(  8=  9) =  .120561E+03     FLUX(  17)(  9= 19) = -.672041E+01     FLUX(  18)(  9= 10) =  .292955E+03
  FLUX(  19)( 10= 20) = -.385911E+02     FLUX(  20)( 11= 21) = -.175001E+01     FLUX(  21)( 11= 12) =  .631219E+02
  FLUX(  22)( 12= 22) = -.131232E+02     FLUX(  23)( 12= 13) =  .108861E+03     FLUX(  24)( 13= 23) = -.889208E+02
  FLUX(  25)( 13= 14) =  .393843E+02     FLUX(  26)( 14= 24) = -.296416E+02     FLUX(  27)( 14= 15) = -.625336E+00
  FLUX(  28)( 15= 25) = -.109995E+03     FLUX(  29)( 15= 16) = -.947697E+01     FLUX(  30)( 16= 26) = -.120057E+03
  FLUX(  31)( 16= 17) = -.371594E+02     FLUX(  32)( 17= 27) = -.359943E+02     FLUX(  33)( 17= 18) =  .219465E+02
  FLUX(  34)( 18= 28) =  .142098E+03     FLUX(  35)( 18= 19) =  .108071E+03     FLUX(  36)( 19= 29) = -.179731E+02
  FLUX(  37)( 19= 20) =  .210382E+02     FLUX(  38)( 20= 30) = -.914931E+02     FLUX(  39)( 21= 31) = -.269065E+01
  FLUX(  40)( 21= 22) =  .602571E+02     FLUX(  41)( 22= 32) = -.244194E+02     FLUX(  42)( 22= 23) =  .906460E+02
  FLUX(  43)( 23= 33) = -.525551E+02     FLUX(  44)( 23= 24) =  .535008E+02     FLUX(  45)( 24= 34) = -.123795E+03
  FLUX(  46)( 24= 25) = -.199382E+02     FLUX(  47)( 25= 35) =  .616907E+01     FLUX(  48)( 25= 26) = -.133610E+02
  FLUX(  49)( 26= 36) =  .299556E+02     FLUX(  50)( 26= 27) = -.101572E+02     FLUX(  51)( 27= 37) =  .793058E+02
  FLUX(  52)( 27= 28) =  .681080E+02     FLUX(  53)( 28= 38) = -.195555E+02     FLUX(  54)( 28= 29) =  .669870E+02
  FLUX(  55)( 29= 39) = -.537497E+02     FLUX(  56)( 29= 30) =  .195900E+01     FLUX(  57)( 30= 40) = -.199257E+03
  FLUX(  58)( 31= 41) = -.206145E+01     FLUX(  59)( 31= 32) =  .547792E+02     FLUX(  60)( 32= 42) = -.124667E+02
  FLUX(  61)( 32= 33) =  .839992E+02     FLUX(  62)( 33= 43) = -.407714E+02     FLUX(  63)( 33= 34) =  .335953E+03
  FLUX(  64)( 34= 44) = -.710847E+02     FLUX(  65)( 34= 35) =  .144798E+03     FLUX(  66)( 35= 45) = -.186554E+03
  FLUX(  67)( 35= 36) = -.719604E+01     FLUX(  68)( 36= 46) = -.195318E+03     FLUX(  69)( 36= 37) =  .214349E+01
  FLUX(  70)( 37= 47) = -.183266E+03     FLUX(  71)( 37= 38) =  .429794E+02     FLUX(  72)( 38= 48) = -.104871E+03
  FLUX(  73)( 38= 39) =  .380094E+02     FLUX(  74)( 39= 49) = -.755572E+02     FLUX(  75)( 39= 40) = -.359936E+03
  FLUX(  76)( 40= 50) =  .575886E+02     FLUX(  77)( 41= 51) = -.137510E+01     FLUX(  78)( 41= 42) =  .101724E+03
  FLUX(  79)( 42= 52) = -.875392E+01     FLUX(  80)( 42= 43) =  .147727E+03     FLUX(  81)( 43= 53) =  .257921E+02
  FLUX(  82)( 43= 44) =  .407292E+02     FLUX(  83)( 44= 54) =  .109954E+03     FLUX(  84)( 44= 45) = -.527731E+02
  FLUX(  85)( 45= 55) =  .320634E+02     FLUX(  86)( 45= 46) = -.278453E+02     FLUX(  87)( 46= 56) =  .295781E+02
  FLUX(  88)( 46= 47) =  .170746E+02     FLUX(  89)( 47= 57) =  .551644E+02     FLUX(  90)( 47= 48) =  .734949E+02
  FLUX(  91)( 48= 58) =  .777882E+02     FLUX(  92)( 48= 49) =  .212258E+03     FLUX(  93)( 49= 59) =  .112229E+03
  FLUX(  94)( 49= 50) =  .275143E+02     FLUX(  95)( 50= 60) =  .136553E+03     FLUX(  96)( 51= 61) = -.960596E+00
  FLUX(  97)( 51= 52) =  .921238E+02     FLUX(  98)( 52= 62) = -.131507E+01     FLUX(  99)( 52= 53) =  .179347E+03
  FLUX( 100)( 53= 63) =  .139159E+02     FLUX( 101)( 53= 54) =  .125017E+03     FLUX( 102)( 54= 64) =  .308513E+02
  FLUX( 103)( 54= 55) = -.133624E+03     FLUX( 104)( 55= 65) =  .258404E+03     FLUX( 105)( 55= 56) = -.281553E+02
  FLUX( 106)( 56= 66) =  .238229E+03     FLUX( 107)( 56= 57) =  .409344E+02     FLUX( 108)( 57= 67) =  .231834E+03
  FLUX( 109)( 57= 58) =  .956782E+02     FLUX( 110)( 58= 68) =  .243503E+03     FLUX( 111)( 58= 59) =  .236276E+03
  FLUX( 112)( 59= 69) =  .103176E+03     FLUX( 113)( 59= 60) =  .561694E+02     FLUX( 114)( 60= 70) =  .740642E+02
  FLUX( 115)( 61= 71) = -.203533E+01     FLUX( 116)( 61= 62) =  .940454E+02     FLUX( 117)( 62= 72) = -.102790E+03
  FLUX( 118)( 62= 63) =  .198267E+03     FLUX( 119)( 63= 73) =  .762832E+01     FLUX( 120)( 63= 64) =  .140859E+03
```

Figure 5-8. Model 2A Output (Sheet 47 of 49)

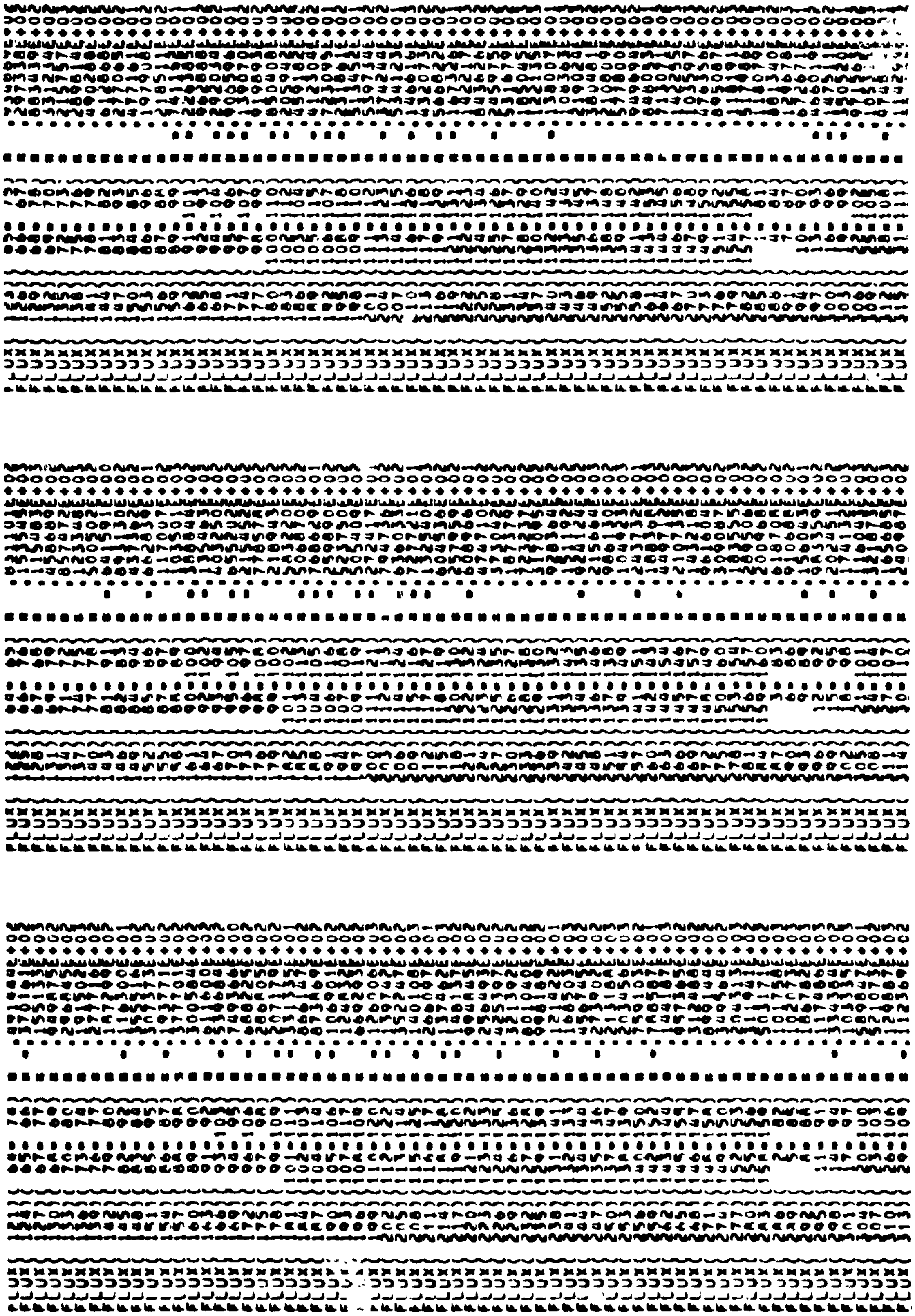

Figure 5-8. Model 2A Output (Sheet 48 of 49)

```
FLUX( 316)( 32=112) =  .107073E+03   FLUX( 317)( 33=113) =  .574106E+02   FLUX( 318)( 34=114) =  .708127E+02
FLUX( 319)( 35=115) = -.284605E+02   FLUX( 320)( 36=116) = -.280149E+02   FLUX( 321)( 37=117) = -.229362E+03
FLUX( 322)( 38=118) = -.199875E+02   FLUX( 323)( 39=119) = -.218298E+01   FLUX( 324)( 40=120) =  .231039E+03
FLUX( 325)( 41=121) =  .323001E+03   FLUX( 326)( 42=122) =  .203226E+03   FLUX( 327)( 43=123) =  .143241E+03
FLUX( 328)( 44=124) =  .204691E+03   FLUX( 329)( 45=125) =  .336931E+03   FLUX( 330)( 46=126) =  .357086E+03
FLUX( 331)( 47=127) =  .304286E+03   FLUX( 332)( 48=128) =  .446927E+03   FLUX( 333)( 49=129) =  .153900E+03
FLUX( 334)( 50=130) =  .192877E+03   FLUX( 335)( 51=131) =  .214400E+03   FLUX( 336)( 52=132) =  .227415E+03
FLUX( 337)( 53=133) =  .105555E+03   FLUX( 338)( 54=134) = -.790263E+02   FLUX( 339)( 55=135) =  .385869E+03
FLUX( 340)( 56=136) =  .376373E+03   FLUX( 341)( 57=137) =  .353258E+03   FLUX( 342)( 58=138) =  .370644E+03
FLUX( 343)( 59=139) =  .150801E+02   FLUX( 344)( 60=140) =  .315548E+02   FLUX( 345)( 61=141) =  .216859E+03
FLUX( 346)( 62=142) =  .232209E+03   FLUX( 347)( 63=143) =  .121471E+03   FLUX( 348)( 64=144) =  .943038E+02
FLUX( 349)( 65=145) = -.442045E+02   FLUX( 350)( 66=146) =  .133459E+03   FLUX( 351)( 67=147) =  .155529E+03
FLUX( 352)( 68=148) =  .202722E+02   FLUX( 353)( 69=149) =  .344009E+02   FLUX( 354)( 70=150) =  .525415E+02
FLUX( 355)( 71=151) =  .515315E+03   FLUX( 356)( 72=152) =  .259208E+03   FLUX( 357)( 73=153) =  .131012E+03
FLUX( 358)( 74=154) =  .370709E+02   FLUX( 359)( 75=155) = -.190265E+02   FLUX( 360)( 76=156) =  .591498E+01
FLUX( 361)( 77=157) =  .187755E+02   FLUX( 362)( 78=158) =  .371615E+02   FLUX( 363)( 79=159) =  .535871E+02
FLUX( 364)( 80=160) =  .657867E+02   FLUX( 365)(  1=999) = -.739923E+03   FLUX( 366)(  2=999) = -.815134E+03
FLUX( 367)(  3=999) = -.445938E+03   FLUX( 368)(  4=999) = -.456622E+03   FLUX( 369)(  5=999) = -.496881E+03
FLUX( 370)(  6=999) = -.456800E+03   FLUX( 371)(  7=999) = -.537438E+03   FLUX( 372)(  8=999) = -.645157E+03
FLUX( 373)(  9=999) = -.122470E+03   FLUX( 374)( 10=999) = -.137599E+03   FLUX( 375)( 11=999) = -.739328E+03
FLUX( 376)( 12=999) = -.615109E+03   FLUX( 377)( 13=999) = -.615259E+03   FLUX( 378)( 14=999) = -.104410E+03
FLUX( 379)( 15=999) = -.104238E+03   FLUX( 380)( 16=999) = -.101578E+03   FLUX( 381)( 17=999) = -.444627E+03
FLUX( 382)( 18=999) = -.665331E+03   FLUX( 383)( 19=999) = -.129016E+03   FLUX( 384)( 20=999) = -.134805E+03
FLUX( 385)( 21=999) = -.737131E+03   FLUX( 386)( 22=999) = -.600090E+03   FLUX( 387)( 23=999) = -.438101E+03
FLUX( 388)( 24=999) = -.102244E+03   FLUX( 389)( 25=999) = -.569271E+03   FLUX( 390)( 26=999) = -.825480E+03
FLUX( 391)( 27=999) = -.713442E+03   FLUX( 392)( 28=999) = -.104506E+03   FLUX( 393)( 29=999) = -.122437E+03
FLUX( 394)( 30=999) = -.178445E+03   FLUX( 395)( 31=999) = -.735808E+03   FLUX( 396)( 32=999) = -.648510E+03
FLUX( 397)( 33=999) = -.420192E+03   FLUX( 398)( 34=999) = -.433442E+03   FLUX( 399)( 35=999) = -.972307E+02
FLUX( 400)( 36=999) = -.912216E+02   FLUX( 401)( 37=999) = -.916447E+02   FLUX( 402)( 38=999) = -.103243E+03
FLUX( 403)( 39=999) = -.124165E+03   FLUX( 404)( 40=999) = -.768361E+03   FLUX( 405)( 41=999) = -.145485E+04
FLUX( 406)( 42=999) = -.12681[illegible]E+04   FLUX( 407)( 43=999) = -.944739E+03   FLUX( 408)( 44=999) = -.100508E+04
FLUX( 409)( 45=999) = -.13938[illegible]E+04   FLUX( 410)( 46=999) = -.143741E+04   FLUX( 411)( 47=999) = -.148360E+04
FLUX( 412)( 48=999) = -.154892E+04   FLUX( 413)( 49=999) = -.675808E+03   FLUX( 414)( 50=999) = -.698014E+03
FLUX( 415)( 51=999) = -.141865E+04   FLUX( 416)( 52=999) = -.132423E+04   FLUX( 417)( 53=999) = -.826173E+03
FLUX( 418)( 54=999) = -.183855E+03   FLUX( 419)( 55=999) = -.147101E+04   FLUX( 420)( 56=999) = -.140028E+04
FLUX( 421)( 57=999) = -.129825E+04   FLUX( 422)( 58=999) = -.127591E+04   FLUX( 423)( 59=999) = -.259843E+03
FLUX( 424)( 60=999) = -.275744E+03   FLUX( 425)( 61=999) = -.144018E+04   FLUX( 426)( 62=999) = -.134995E+04
FLUX( 427)( 63=999) = -.845280E+03   FLUX( 428)( 64=999) = -.613378E+03   FLUX( 429)( 65=999) = -.214795E+03
FLUX( 430)( 66=999) = -.650519E+03   FLUX( 431)( 67=999) = -.6[illegible]705E+03   FLUX( 432)( 68=999) = -.261143E+03
FLUX( 433)( 69=999) = -.287115E+03   FLUX( 434)( 70=999) = -.296315E+03   FLUX( 435)( 71=999) = -.144031E+04
FLUX( 436)( 72=999) = -.142871E+04   FLUX( 437)( 73=999) = -.850365E+03   FLUX( 438)( 74=999) = -.437000E+03
FLUX( 439)( 75=999) = -.256014E+03   FLUX( 440)( 76=999) = -.264702E+03   FLUX( 441)( 77=999) = -.272463E+03
FLUX( 442)( 78=999) = -.286116E+03   FLUX( 443)( 79=999) = -.294588E+03   FLUX( 444)( 80=999) = -.304855E+03
TIME=          .110
```

Figure 5-8. Model 2A Output (Sheet 49 of 49)

```
$STORE
NUMBND  = 2,
NUMITR  = 260,
NUMCON  = 700,
NUMTCN  = 1560
NUMNOD  = 1000,
NUMFLX  = 0,
NSTH    = 15000,
NEVALU  = 14,
NUMTOT  = 262,
NUMSCR  = 2199,
NUMRAD  = 80,
$END
THIS RUN REQUIRES A DATA AREA OF     32287 WORDS
        1      520      262      262      700     1400      262      160     1000        0
        0      262      262       80     3120      260       14     3640     2199    15000
      262      260      262      700      700      700
        1      521      783     1045     1745     3145     4407     3567     4567     4567
     4567     4826     5091     5171     8291     8551     8565    12205    14404    29404
 [illegible]  29926    30188    30888    31588
HIGHEST MEMORY IN HEXADECIMAL IS 0001F8B0
  26[illegible]  260   14   700   80  1000    0  2199 15000
```

Figure 5-9. Model 2B Output (Sheet 1 of 16)

LANGLEY
MODEL TWO
RUN 2 B SECTION

NUMBER OF ITERATED NODES = 256
NUMBER OF BOUNDARY NODES = 2
NUMBER OF CONDUCTION LINKS = 696
NUMBER OF RADIATION LINKS = 80
NUMBER OF HEAT SOURCES = 0

TIME = 0. DTIME = .10000000E-01 FTIME = .10000000E+00

INITIAL TEMPERATURES OF ITERATED NODES

T(1) =	.500000E+03	T(2) =	.500000E+03	T(3) =	.500000E+03	T(4) =	.500000E+03	T(5) =	.500000E+03
T(6) =	.500000E+03	T(7) =	.500000E+03	T(8) =	.500000E+03	T(9) =	.500000E+03	T(10) =	.500000E+03
T(11) =	.500000E+03	T(12) =	.500000E+03	T(13) =	.500000E+03	T(14) =	.500000E+03	T(15) =	.500000E+03
T(16) =	.500000E+03	T(17) =	.500000E+03	T(18) =	.500000E+03	T(19) =	.500000E+03	T(20) =	.500000E+03
T(21) =	.500000E+03	T(22) =	.500000E+03	T(23) =	.500000E+03	T(24) =	.500000E+03	T(25) =	.500000E+03
T(26) =	.500000E+03	T(27) =	.500000E+03	T(28) =	.500000E+03	T(29) =	.500000E+03	T(30) =	.500000E+03
T(31) =	.500000E+03	T(32) =	.500000E+03	T(33) =	.500000E+03	T(34) =	.500000E+03	T(35) =	.500000E+03
T(36) =	.500000E+03	T(37) =	.500000E+03	T(38) =	.500000E+03	T(39) =	.500000E+03	T(40) =	.500000E+03
T(41) =	.500000E+03	T(42) =	.500000E+03	T(43) =	.500000E+03	T(44) =	.500000E+03	T(45) =	.500000E+03
T(46) =	.500000E+03	T(47) =	.500000E+03	T(48) =	.500000E+03	T(49) =	.500000E+03	T(50) =	.500000E+03
T(51) =	.500000E+03	T(52) =	.500000E+03	T(53) =	.500000E+03	T(54) =	.500000E+03	T(55) =	.500000E+03
T(56) =	.500000E+03	T(57) =	.500000E+03	T(58) =	.500000E+03	T(59) =	.500000E+03	T(60) =	.500000E+03
T(61) =	.500000E+03	T(62) =	.500000E+03	T(63) =	.500000E+03	T(64) =	.500000E+03	T(65) =	.500000E+03
T(66) =	.500000E+03	T(67) =	.500000E+03	T(68) =	.500000E+03	T(69) =	.500000E+03	T(70) =	.500000E+03
T(71) =	.500000E+03	T(72) =	.500000E+03	T(73) =	.500000E+03	T(74) =	.500000E+03	T(75) =	.500000E+03
T(76) =	.500000E+03	T(77) =	.500000E+03	T(78) =	.500000E+03	T(79) =	.500000E+03	T(80) =	.500000E+03
T(81) =	.500000E+03	T(82) =	.500000E+03	T(83) =	.500000E+03	T(84) =	.500000E+03	T(85) =	.500000E+03
T(86) =	.500000E+03	T(87) =	.500000E+03	T(88) =	.500000E+03	T(89) =	.500000E+03	T(90) =	.500000E+03
T(91) =	.500000E+03	T(92) =	.500000E+03	T(93) =	.500000E+03	T(94) =	.500000E+03	T(95) =	.500000E+03
T(96) =	.500000E+03	T(97) =	.500000E+03	T(98) =	.500000E+03	T(99) =	.500000E+03	T(100) =	.500000E+03
T(101) =	.500000E+03	T(102) =	.500000E+03	T(103) =	.500000E+03	T(104) =	.500000E+03	T(105) =	.500000E+03
T(106) =	.500000E+03	T(107) =	.500000E+03	T(108) =	.500000E+03	T(109) =	.500000E+03	T(110) =	.500000E+03
T(111) =	.500000E+03	T(112) =	.500000E+03	T(113) =	.500000E+03	T(114) =	.500000E+03	T(115) =	.500000E+03
T(116) =	.500000E+03	T(117) =	.500000E+03	T(118) =	.500000E+03	T(119) =	.500000E+03	T(120) =	.500000E+03
T(121) =	.500000E+03	T(122) =	.500000E+03	T(123) =	.500000E+03	T(124) =	.500000E+03	T(125) =	.500000E+03
T(126) =	.500000E+03	T(127) =	.500000E+03	T(128) =	.500000E+03	T(129) =	.500000E+03	T(130) =	.500000E+03
T(131) =	.500000E+03	T(132) =	.500000E+03	T(133) =	.500000E+03	T(134) =	.500000E+03	T(135) =	.500000E+03
T(136) =	.500000E+03	T(137) =	.500000E+03	T(138) =	.500000E+03	T(139) =	.500000E+03	T(140) =	.500000E+03
T(141) =	.500000E+03	T(142) =	.500000E+03	T(143) =	.500000E+03	T(144) =	.500000E+03	T(145) =	.500000E+03
T(146) =	.500000E+03	T(147) =	.500000E+03	T(148) =	.500000E+03	T(149) =	.500000E+03	T(150) =	.500000E+03
T(151) =	.500000E+03	T(152) =	.500000E+03	T(153) =	.500000E+03	T(154) =	.500000E+03	T(155) =	.500000E+03
T(156) =	.500000E+03	T(157) =	.500000E+03	T(158) =	.500000E+03	T(159) =	.500000E+03	T(160) =	.500000E+03
T(161) =	.500000E+03	T(162) =	.500000E+03	T(163) =	.500000E+03	T(164) =	.500000E+03	T(165) =	.500000E+03
T(166) =	.500000E+03	T(167) =	.500000E+03	T(168) =	.500000E+03	T(169) =	.500000E+03	T(170) =	.500000E+03
T(171) =	.500000E+03	T(172) =	.500000E+03	T(173) =	.500000E+03	T(174) =	.500000E+03	T(175) =	.500000E+03
T(176) =	.500000E+03	T(177) =	.500000E+03	T(178) =	.500000E+03	T(179) =	.500000E+03	T(180) =	.500000E+03
T(181) =	.500000E+03	T(182) =	.500000E+03	T(183) =	.500000E+03	T(184) =	.500000E+03	T(185) =	.500000E+03
T(186) =	.500000E+03	T(187) =	.500000E+03	T(188) =	.500000E+03	T(189) =	.500000E+03	T(190) =	.500000E+03
T(191) =	.500000E+03	T(192) =	.500000E+03	T(193) =	.500000E+03	T(194) =	.500000E+03	T(195) =	.500000E+03
T(196) =	.500000E+03	T(197) =	.500000E+03	T(198) =	.500000E+03	T(199) =	.500000E+03	T(200) =	.500000E+03
T(201) =	.500000E+03	T(202) =	.500000E+03	T(203) =	.500000E+03	T(204) =	.500000E+03	T(205) =	.500000E+03
T(206) =	.500000E+03	T(207) =	.500000E+03	T(208) =	.500000E+03	T(209) =	.500000E+03	T(210) =	.500000E+03
T(211) =	.500000E+03	T(212) =	.500000E+03	T(213) =	.500000E+03	T(214) =	.500000E+03	T(215) =	.500000E+03
T(216) =	.500000E+03	T(217) =	.500000E+03	T(218) =	.500000E+03	T(219) =	.500000E+03	T(220) =	.500000E+03
T(221) =	.500000E+03	T(222) =	.500000E+03	T(223) =	.500000E+03	T(224) =	.500000E+03	T(225) =	.500000E+03

Figure 5-9. Model 2B Output (Sheet 2 of 16)

```
 T(226) =  .500000E+03   T(227) =  .500000E+03   T(228) =  .500000E+03   T(229) =  .500000E+03   T(230) =  .500000E+03
 T(231) =  .500000E+03   T(232) =  .500000E+03   T(233) =  .500000E+03   T(234) =  .500000E+03   T(235) =  .500000E+03
 T(236) =  .500000E+03   T(237) =  .500000E+03   T(238) =  .500000E+03   T(239) =  .500000E+03   T(240) =  .500000E+03
 T(241) =  .500000E+03   T(242) =  .500000E+03   T(243) =  .500000E+03   T(244) =  .500000E+03   T(245) =  .500000E+03
 T(246) =  .500000E+03   T(247) =  .500000E+03   T(248) =  .500000E+03   T(249) =  .500000E+03   T(250) =  .500000E+03
 T(251) =  .500000E+03   T(252) =  .500000E+03   T(253) =  .500000E+03   T(254) =  .500000E+03   T(255) =  .500000E+03
 T(256) =  .500000E+03   T(

INITIAL TEMPERATURES OF BOUNDARY NODES
 T(999) =  .239000E+04   T(998) =  .590000E+02   T(

INITIAL THERMAL CAPACITANCES OF ITERATED NODES
CAP(  1) =  .731100E-03   CAP(  2) =  .749000E-03   CAP(  3) =  .766800E-03   CAP(  4) =  .713300E-03
CAP(  5) =  .766800E-03   CAP(  6) =  .731100E-03   CAP(  7) =  .749000E-03   CAP(  8) =  .731100E-03
CAP(  9) =  .766800E-03   CAP( 10) =  .731100E-03   CAP( 11) =  .731100E-03   CAP( 12) =  .749000E-03
CAP( 13) =  .766800E-03   CAP( 14) =  .713300E-03   CAP( 15) =  .766800E-03   CAP( 16) =  .731100E-03
CAP( 17) =  .749000E-03   CAP( 18) =  .731100E-03   CAP( 19) =  .766800E-03   CAP( 20) =  .731100E-03
CAP( 21) =  .731100E-03   CAP( 22) =  .749000E-03   CAP( 23) =  .766800E-03   CAP( 24) =  .713300E-03
CAP( 25) =  .766800E-03   CAP( 26) =  .731100E-03   CAP( 27) =  .749000E-03   CAP( 28) =  .731100E-03
CAP( 29) =  .766800E-03   CAP( 30) =  .731100E-03   CAP( 31) =  .731100E-03   CAP( 32) =  .749000E-03
CAP( 33) =  .766800E-03   CAP( 34) =  .713300E-03   CAP( 35) =  .766800E-03   CAP( 36) =  .731100E-03
CAP( 37) =  .749000E-03   CAP( 38) =  .731100E-03   CAP( 39) =  .766800E-03   CAP( 40) =  .731100E-03
CAP( 41) =  .146200E-02   CAP( 42) =  .149800E-02   CAP( 43) =  .153400E-02   CAP( 44) =  .142700E-02
CAP( 45) =  .153400E-02   CAP( 46) =  .146200E-02   CAP( 47) =  .149800E-02   CAP( 48) =  .146200E-02
CAP( 49) =  .153400E-02   CAP( 50) =  .146200E-02   CAP( 51) =  .142700E-02   CAP( 52) =  .146200E-02
CAP( 53) =  .149700E-02   CAP( 54) =  .139300E-02   CAP( 55) =  .149700E-02   CAP( 56) =  .142700E-02
CAP( 57) =  .146200E-02   CAP( 58) =  .142700E-02   CAP( 59) =  .149700E-02   CAP( 60) =  .142700E-02
CAP( 61) =  .146200E-02   CAP( 62) =  .149800E-02   CAP( 63) =  .153400E-02   CAP( 64) =  .142700E-02
CAP( 65) =  .153400E-02   CAP( 66) =  .146200E-02   CAP( 67) =  .149800E-02   CAP( 68) =  .146200E-02
CAP( 69) =  .153400E-02   CAP( 70) =  .146200E-02   CAP( 71) =  .146200E-02   CAP( 72) =  .149800E-02
CAP( 73) =  .153400E-02   CAP( 74) =  .142700E-02   CAP( 75) =  .153400E-02   CAP( 76) =  .146200E-02
CAP( 77) =  .149800E-02   CAP( 78) =  .146200E-02   CAP( 79) =  .153400E-02   CAP( 80) =  .146200E-02
CAP( 81) =  .731100E-03   CAP( 82) =  .749000E-03   CAP( 83) =  .766800E-03   CAP( 84) =  .713300E-03
CAP( 85) =  .766800E-03   CAP( 86) =  .731100E-03   CAP( 87) =  .749000E-03   CAP( 88) =  .731100E-03
CAP( 89) =  .766800E-03   CAP( 90) =  .731100E-03   CAP( 91) =  .731100E-03   CAP( 92) =  .749000E-03
CAP( 93) =  .766800E-03   CAP( 94) =  .713300E-03   CAP( 95) =  .766800E-03   CAP( 96) =  .731100E-03
CAP( 97) =  .749000E-03   CAP( 98) =  .731100E-03   CAP( 99) =  .766800E-03   CAP(100) =  .731100E-03
CAP(101) =  .731100E-03   CAP(102) =  .749000E-03   CAP(103) =  .766800E-03   CAP(104) =  .713300E-03
CAP(105) =  .766800E-03   CAP(106) =  .731100E-03   CAP(107) =  .749000E-03   CAP(108) =  .731100E-03
CAP(109) =  .766800E-03   CAP(110) =  .731100E-03   CAP(111) =  .731100E-03   CAP(112) =  .749000E-03
CAP(113) =  .766800E-03   CAP(114) =  .713300E-03   CAP(115) =  .766800E-03   CAP(116) =  .731100E-03
CAP(117) =  .749000E-03   CAP(118) =  .731100E-03   CAP(119) =  .766800E-03   CAP(120) =  .731100E-03
CAP(121) =  .146200E-02   CAP(122) =  .149800E-02   CAP(123) =  .153400E-02   CAP(124) =  .142700E-02
CAP(125) =  .153400E-02   CAP(126) =  .146200E-02   CAP(127) =  .149800E-02   CAP(128) =  .146200E-02
CAP(129) =  .153400E-02   CAP(130) =  .146200E-02   CAP(131) =  .142700E-02   CAP(132) =  .146200E-02
CAP(133) =  .149700E-02   CAP(134) =  .139300E-02   CAP(135) =  .149700E-02   CAP(136) =  .142700E-02
CAP(137) =  .146200E-02   CAP(138) =  .142700E-02   CAP(139) =  .149700E-02   CAP(140) =  .142700E-02
CAP(141) =  .146200E-02   CAP(142) =  .149800E-02   CAP(143) =  .153400E-02   CAP(144) =  .142700E-02
CAP(145) =  .153400E-02   CAP(146) =  .146200E-02   CAP(147) =  .149800E-02   CAP(148) =  .146200E-02
CAP(149) =  .153400E-02   CAP(150) =  .146200E-02   CAP(151) =  .146200E-02   CAP(152) =  .149800E-02
CAP(153) =  .153400E-02   CAP(154) =  .142700E-02   CAP(155) =  .153400E-02   CAP(156) =  .146200E-02
CAP(157) =  .149800E-02   CAP(158) =  .146200E-02   CAP(159) =  .153400E-02   CAP(160) =  .146200E-02
CAP(161) =  .679300E-03   CAP(162) =  .713300E-03   CAP(163) =  .696300E-03   CAP(164) =  .713300E-03
CAP(165) =  .713300E-03   CAP(166) =  .713300E-03   CAP(167) =  .696300E-03   CAP(168) =  .713300E-03
CAP(169) =  .713300E-03   CAP(170) =  .696300E-03   CAP(171) =  .747300E-03   CAP(172) =  .784600E-03
CAP(173) =  .765900E-03   CAP(174) =  .784600E-03   CAP(175) =  .784600E-03   CAP(176) =  .784600E-03
CAP(177) =  .765900E-03   CAP(178) =  .784600E-03   CAP(179) =  .784600E-03   CAP(180) =  .765900E-03
CAP(181) =  .679300E-03   CAP(182) =  .713300E-03   CAP(183) =  .696300E-03   CAP(184) =  .713300E-03
CAP(185) =  .713300E-03   CAP(186) =  .713300E-03   CAP(187) =  .696300E-03   CAP(188) =  .713300E-03
CAP(189) =  .713300E-03   CAP(190) =  .696300E-03   CAP(191) =  .713300E-03   CAP(192) =  .749000E-03
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Figure 5-9. Model 2B Output (Sheet 3 of 16)

CAP(193)	=	.731100E-03	CAP(194)	=	.749000E-03	CAP(195)	=	.749000E-03	CAP(196)	=	.749000E-03
CAP(197)	=	.731100E-03	CAP(198)	=	.749000E-03	CAP(199)	=	.749000E-03	CAP(200)	=	.731100E-03
CAP(201)	=	.182700E-02	CAP(202)	=	.149800E-02	CAP(203)	=	.139300E-02	CAP(204)	=	.146200E-02
CAP(205)	=	.146100E-02	CAP(206)	=	.153400E-02	CAP(207)	=	.139300E-02	CAP(208)	=	.146200E-02
CAP(209)	=	.679300E-03	CAP(210)	=	.713300E-03	CAP(211)	=	.696300E-03	CAP(212)	=	.713300E-03
CAP(213)	=	.713300E-03	CAP(214)	=	.713300E-03	CAP(215)	=	.696300E-03	CAP(216)	=	.713300E-03
CAP(217)	=	.713300E-03	CAP(218)	=	.696300E-03	CAP(219)	=	.747300E-03	CAP(220)	=	.784600E-03
CAP(221)	=	.765900E-03	CAP(222)	=	.784600E-03	CAP(223)	=	.784600E-03	CAP(224)	=	.784600E-03
CAP(225)	=	.765900E-03	CAP(226)	=	.784600E-03	CAP(227)	=	.784600E-03	CAP(228)	=	.765900E-03
CAP(229)	=	.679300E-03	CAP(230)	=	.713300E-03	CAP(231)	=	.696300E-03	CAP(232)	=	.713300E-03
CAP(233)	=	.713300E-03	CAP(234)	=	.713300E-03	CAP(235)	=	.696300E-03	CAP(236)	=	.713300E-03
CAP(237)	=	.713300E-03	CAP(238)	=	.696300E-03	CAP(239)	=	.713300E-03	CAP(240)	=	.749000E-03
CAP(241)	=	.731100E-03	CAP(242)	=	.749000E-03	CAP(243)	=	.749000E-03	CAP(244)	=	.749000E-03
CAP(245)	=	.731100E-03	CAP(246)	=	.749000E-03	CAP(247)	=	.749000E-03	CAP(248)	=	.731100E-03
CAP(249)	=	.182700E-02	CAP(250)	=	.149800E-02	CAP(251)	=	.139300E-02	CAP(252)	=	.146200E-02
CAP(253)	=	.146100E-02	CAP(254)	=	.153400E-02	CAP(255)	=	.139300E-02	CAP(256)	=	.146200E-02

INITIAL CONDUCTANCES

COND(1)	(1- 11)	=	.236700E+01	COND(2)	(1- 2)	=	.613600E+00	COND(3)	(2- 12)	=	.242500E+01
COND(4)	(2- 3)	=	.599100E+00	COND(5)	(3- 13)	=	.248300E+01	COND(6)	(3- 4)	=	.613600E+00
COND(7)	(4- 14)	=	.231000E+01	COND(8)	(4- 5)	=	.613600E+00	COND(9)	(5- 15)	=	.248300E+01
COND(10)	(5- 6)	=	.606200E+00	COND(11)	(6- 16)	=	.236700E+01	COND(12)	(6- 7)	=	.613600E+00
COND(13)	(7- 17)	=	.242500E+01	COND(14)	(7- 8)	=	.613600E+00	COND(15)	(8- 18)	=	.236700E+01
COND(16)	(8- 9)	=	.606200E+00	COND(17)	(9- 19)	=	.248300E+01	COND(18)	(9- 10)	=	.606200E+00
COND(19)	(10- 20)	=	.236700E+01	COND(20)	(11- 21)	=	.236700E+01	COND(21)	(11- 12)	=	.613600E+00
COND(22)	(12- 22)	=	.242500E+01	COND(23)	(12- 13)	=	.599100E+00	COND(24)	(13- 23)	=	.248300E+01
COND(25)	(13- 14)	=	.613600E+00	COND(26)	(14- 24)	=	.231000E+01	COND(27)	(14- 15)	=	.613600E+00
COND(28)	(15- 25)	=	.248300E+01	COND(29)	(15- 16)	=	.606200E+00	COND(30)	(16- 26)	=	.236700E+01
COND(31)	(16- 17)	=	.613600E+00	COND(32)	(17- 27)	=	.242500E+01	COND(33)	(17- 18)	=	.613600E+00
COND(34)	(18- 28)	=	.236700E+01	COND(35)	(18- 19)	=	.606200E+00	COND(36)	(19- 29)	=	.248300E+01
COND(37)	(19- 20)	=	.606200E+00	COND(38)	(20- 30)	=	.236700E+01	COND(39)	(21- 31)	=	.236700E+01
COND(40)	(21- 22)	=	.613600E+00	COND(41)	(22- 32)	=	.242500E+01	COND(42)	(22- 23)	=	.599100E+00
COND(43)	(23- 33)	=	.248300E+01	COND(44)	(23- 24)	=	.613600E+00	COND(45)	(24- 34)	=	.231000E+01
COND(46)	(24- 25)	=	.613600E+00	COND(47)	(25- 35)	=	.248300E+01	COND(48)	(25- 26)	=	.606300E+00
COND(49)	(26- 36)	=	.236700E+01	COND(50)	(26- 27)	=	.613600E+00	COND(51)	(27- 37)	=	.242500E+01
COND(52)	(27- 28)	=	.613600E+00	COND(53)	(28- 38)	=	.236700E+01	COND(54)	(28- 29)	=	.606300E+00
COND(55)	(29- 39)	=	.249300E+01	COND(56)	(29- 30)	=	.606300E+00	COND(57)	(30- 40)	=	.236700E+01
COND(58)	(31- 41)	=	.157800E+01	COND(59)	(31- 32)	=	.613600E+00	COND(60)	(32- 42)	=	.161700E+01
COND(61)	(32- 33)	=	.599100E+00	COND(62)	(33- 43)	=	.165500E+01	COND(63)	(33- 34)	=	.613600E+00
COND(64)	(34- 44)	=	.154000E+01	COND(65)	(34- 35)	=	.613600E+00	COND(66)	(35- 45)	=	.165500E+01
COND(67)	(35- 36)	=	.606300E+00	COND(68)	(36- 46)	=	.157800E+01	COND(69)	(36- 37)	=	.613600E+00
COND(70)	(37- 47)	=	.161700E+01	COND(71)	(37- 38)	=	.613600E+00	COND(72)	(38- 48)	=	.157800E+01
COND(73)	(38- 39)	=	.606300E+00	COND(74)	(39- 49)	=	.165500E+01	COND(75)	(39- 40)	=	.606300E+00
COND(76)	(40- 50)	=	.157800E+01	COND(77)	(41- 51)	=	.119800E+01	COND(78)	(41- 42)	=	.122700E+01
COND(79)	(42- 52)	=	.122700E+01	COND(80)	(42- 43)	=	.119800E+01	COND(81)	(43- 53)	=	.125600E+01
COND(82)	(43- 44)	=	.122700E+01	COND(83)	(44- 54)	=	.116900E+01	COND(84)	(44- 45)	=	.122700E+01
COND(85)	(45- 55)	=	.125600E+01	COND(86)	(45- 46)	=	.121200E+01	COND(87)	(46- 56)	=	.119800E+01
COND(88)	(46- 47)	=	.122700E+01	COND(89)	(47- 57)	=	.122700E+01	COND(90)	(47- 48)	=	.122700E+01
COND(91)	(48- 58)	=	.119800E+01	COND(92)	(48- 49)	=	.121200E+01	COND(93)	(49- 59)	=	.125600E+01
COND(94)	(49- 50)	=	.121200E+01	COND(95)	(50- 60)	=	.119800E+01	COND(96)	(51- 61)	=	.119800E+01
COND(97)	(51- 52)	=	.119800E+01	COND(98)	(52- 62)	=	.122700E+01	COND(99)	(52- 53)	=	.117000E+01
COND(100)	(53- 63)	=	.125600E+01	COND(101)	(53- 54)	=	.119800E+01	COND(102)	(54- 64)	=	.116900E+01
COND(103)	(54- 55)	=	.119800E+01	COND(104)	(55- 65)	=	.125600E+01	COND(105)	(55- 56)	=	.118400E+01
COND(106)	(56- 66)	=	.119800E+01	COND(107)	(56- 57)	=	.119800E+01	COND(108)	(57- 67)	=	.122700E+01
COND(109)	(57- 58)	=	.119800E+01	COND(110)	(58- 68)	=	.119800E+01	COND(111)	(58- 59)	=	.118400E+01
COND(112)	(59- 69)	=	.125600E+01	COND(113)	(59- 60)	=	.118400E+01	COND(114)	(60- 70)	=	.119800E+01
COND(115)	(61- 71)	=	.118400E+01	COND(116)	(61- 62)	=	.122700E+01	COND(117)	(62- 72)	=	.121200E+01
COND(118)	(62- 63)	=	.119800E+01	COND(119)	(63- 73)	=	.124100E+01	COND(120)	(63- 64)	=	.122700E+01
COND(121)	(64- 74)	=	.115500E+01	COND(122)	(64- 65)	=	.122700E+01	COND(123)	(65- 75)	=	.124100E+01
COND(124)	(65- 66)	=	.121300E+01	COND(125)	(66- 76)	=	.118400E+01	COND(126)	(66- 67)	=	.122700E+01

Figure 5-9. Model 2B Output (Sheet 4 of 16)

```
COND( 127)(  67=  77) =  .121200E+01     COND( 128)(  67=  68) =  .122700E+01     COND( 129)(  68=  78) =  .118400E+01
COND( 130)(  68=  69) =  .121300E+01     COND( 131)(  69=  79) =  .124100E+01     COND( 132)(  69=  70) =  .121300E+01
COND( 133)(  70=  80) =  .118400E+01     COND( 134)(  71=  72) =  .122700E+01     COND( 135)(  72=  73) =  .119800E+01
COND( 136)(  73=  74) =  .122700E+01     COND( 137)(  74=  75) =  .122700E+01     COND( 138)(  75=  76) =  .121200E+01
COND( 139)(  76=  77) =  .122700E+01     COND( 140)(  77=  78) =  .122700E+01     COND( 141)(  78=  79) =  .121200E+01
COND( 142)(  79=  80) =  .121200E+01     COND( 143)(  81=  91) =  .236700E+01     COND( 144)(  81=  82) =  .613600E+00
COND( 145)(  82=  92) =  .242500E+01     COND( 146)(  82=  83) =  .599100E+00     COND( 147)(  83=  93) =  .248300E+01
COND( 148)(  83=  84) =  .613600E+00     COND( 149)(  84=  94) =  .231000E+01     COND( 150)(  84=  85) =  .613600E+00
COND( 151)(  85=  95) =  .248300E+01     COND( 152)(  85=  86) =  .606200E+00     COND( 153)(  86=  96) =  .236700E+01
COND( 154)(  86=  87) =  .613600E+00     COND( 155)(  87=  97) =  .242500E+01     COND( 156)(  87=  88) =  .613600E+00
COND( 157)(  88=  98) =  .236700E+01     COND( 158)(  88=  89) =  .606200E+00     COND( 159)(  89=  99) =  .248300E+01
COND( 160)(  89=  90) =  .606200E+00     COND( 161)(  90= 100) =  .236700E+01     COND( 162)(  91= 101) =  .236700E+01
COND( 163)(  91=  92) =  .613600E+00     COND( 164)(  92= 102) =  .242500E+01     COND( 165)(  92=  93) =  .599100E+00
COND( 166)(  93= 103) =  .248300E+01     COND( 167)(  93=  94) =  .613600E+00     COND( 168)(  94= 104) =  .231000E+01
COND( 169)(  94=  95) =  .613600E+00     COND( 170)(  95= 105) =  .248300E+01     COND( 171)(  95=  96) =  .606200E+00
COND( 172)(  96= 106) =  .236700E+01     COND( 173)(  96=  97) =  .613600E+00     COND( 174)(  97= 107) =  .242500E+01
COND( 175)(  97=  98) =  .613600E+00     COND( 176)(  98= 108) =  .236700E+01     COND( 177)(  98=  99) =  .606200E+00
COND( 178)(  99= 109) =  .248300E+01     COND( 179)(  99= 100) =  .606200E+00     COND( 180)( 100= 110) =  .236700E+01
COND( 181)( 101= 111) =  .236700E+01     COND( 182)( 101= 102) =  .613600E+00     COND( 183)( 102= 112) =  .242500E+01
COND( 184)( 102= 103) =  .599100E+00     COND( 185)( 103= 113) =  .248300E+01     COND( 186)( 103= 104) =  .613600E+00
COND( 187)( 104= 114) =  .231000E+01     COND( 188)( 104= 105) =  .613600E+00     COND( 189)( 105= 115) =  .248300E+01
COND( 190)( 105= 106) =  .606200E+00     COND( 191)( 106= 116) =  .236700E+01     COND( 192)( 106= 107) =  .613600E+00
COND( 193)( 107= 117) =  .242500E+01     COND( 194)( 107= 108) =  .613600E+00     COND( 195)( 108= 118) =  .236700E+01
COND( 196)( 108= 109) =  .606200E+00     COND( 197)( 109= 119) =  .248300E+01     COND( 198)( 109= 110) =  .606200E+00
COND( 199)( 110= 120) =  .236700E+01     COND( 200)( 111= 121) =  .157800E+01     COND( 201)( 111= 112) =  .613600E+00
COND( 202)( 112= 122) =  .161700E+01     COND( 203)( 112= 113) =  .599100E+00     COND( 204)( 113= 123) =  .165500E+01
COND( 205)( 113= 114) =  .613600E+00     COND( 206)( 114= 124) =  .154000E+01     COND( 207)( 114= 115) =  .613600E+00
COND( 208)( 115= 125) =  .165500E+01     COND( 209)( 115= 116) =  .606200E+00     COND( 210)( 116= 126) =  .157800E+01
COND( 211)( 116= 117) =  .613600E+00     COND( 212)( 117= 127) =  .161700E+01     COND( 213)( 117= 118) =  .613600E+00
COND( 214)( 118= 128) =  .157800E+01     COND( 215)( 118= 119) =  .606200E+00     COND( 216)( 119= 129) =  .165500E+01
COND( 217)( 119= 120) =  .606200E+00     COND( 218)( 120= 130) =  .157800E+01     COND( 219)( 121= 131) =  .119800E+01
COND( 220)( 121= 122) =  .122700E+01     COND( 221)( 122= 132) =  .122700E+01     COND( 222)( 122= 123) =  .119800E+01
COND( 223)( 123= 133) =  .125600E+01     COND( 224)( 123= 124) =  .122700E+01     COND( 225)( 124= 134) =  .116900E+01
COND( 226)( 124= 125) =  .122700E+01     COND( 227)( 125= 135) =  .125600E+01     COND( 228)( 125= 126) =  .121200E+01
COND( 229)( 126= 136) =  .119800E+01     COND( 230)( 126= 127) =  .122700E+01     COND( 231)( 127= 137) =  .122700E+01
COND( 232)( 127= 128) =  .122700E+01     COND( 233)( 128= 138) =  .119800E+01     COND( 234)( 128= 129) =  .121200E+01
COND( 235)( 129= 139) =  .125600E+01     COND( 236)( 129= 130) =  .121200E+01     COND( 237)( 130= 140) =  .119800E+01
COND( 238)( 131= 141) =  .119800E+01     COND( 239)( 131= 132) =  .119800E+01     COND( 240)( 132= 142) =  .122700E+01
COND( 241)( 132= 133) =  .117000E+01     COND( 242)( 133= 143) =  .125600E+01     COND( 243)( 133= 134) =  .119800E+01
COND( 244)( 134= 144) =  .116900E+01     COND( 245)( 134= 135) =  .119800E+01     COND( 246)( 135= 145) =  .125600E+01
COND( 247)( 135= 136) =  .118400E+01     COND( 248)( 136= 146) =  .119800E+01     COND( 249)( 136= 137) =  .119800E+01
COND( 250)( 137= 147) =  .122700E+01     COND( 251)( 137= 138) =  .119800E+01     COND( 252)( 138= 148) =  .119800E+01
COND( 253)( 138= 139) =  .118400E+01     COND( 254)( 139= 149) =  .125600E+01     COND( 255)( 139= 140) =  .118400E+01
COND( 256)( 140= 150) =  .119800E+01     COND( 257)( 141= 151) =  .118400E+01     COND( 258)( 141= 142) =  .122700E+01
COND( 259)( 142= 152) =  .121200E+01     COND( 260)( 142= 143) =  .119800E+01     COND( 261)( 143= 153) =  .124100E+01
COND( 262)( 143= 144) =  .122700E+01     COND( 263)( 144= 154) =  .115500E+01     COND( 264)( 144= 145) =  .122700E+01
COND( 265)( 145= 155) =  .124100E+01     COND( 266)( 145= 146) =  .121200E+01     COND( 267)( 146= 156) =  .118400E+01
COND( 268)( 146= 147) =  .122700E+01     COND( 269)( 147= 157) =  .121200E+01     COND( 270)( 147= 148) =  .122700E+01
COND( 271)( 148= 158) =  .118400E+01     COND( 272)( 148= 149) =  .121200E+01     COND( 273)( 149= 159) =  .124100E+01
COND( 274)( 149= 150) =  .121200E+01     COND( 275)( 150= 160) =  .118400E+01     COND( 276)( 151= 152) =  .122700E+01
COND( 277)( 152= 153) =  .119800E+01     COND( 278)( 153= 154) =  .122700E+01     COND( 279)( 154= 155) =  .122700E+01
COND( 280)( 155= 156) =  .121200E+01     COND( 281)( 156= 157) =  .122700E+01     COND( 282)( 157= 158) =  .122700E+01
COND( 283)( 158= 159) =  .121200E+01     COND( 284)( 159= 160) =  .121200E+01     COND( 285)(   1=  81) =  .668100E+01
COND( 286)(   2=  82) =  .684400E+01     COND( 287)(   3=  83) =  .700700E+01     COND( 288)(   4=  84) =  .651800E+01
COND( 289)(   5=  85) =  .700700E+01     COND( 290)(   6=  86) =  .668100E+01     COND( 291)(   7=  87) =  .684400E+01
COND( 292)(   8=  88) =  .668100E+01     COND( 293)(   9=  89) =  .700700E+01     COND( 294)(  10=  90) =  .668100E+01
COND( 295)(  11=  91) =  .668100E+01     COND( 296)(  12=  92) =  .684400E+01     COND( 297)(  13=  93) =  .700700E+01
COND( 298)(  14=  94) =  .651800E+01     COND( 299)(  15=  95) =  .700700E+01     COND( 300)(  16=  96) =  .668100E+01
COND( 301)(  17=  97) =  .684400E+01     COND( 302)(  18=  98) =  .668100E+01     COND( 303)(  19=  99) =  .700700E+01
COND( 304)(  20= 100) =  .668100E+01     COND( 305)(  21= 101) =  .668100E+01     COND( 306)(  22= 102) =  .684400E+01
```

Figure 5-9. Model 2B Output (Sheet 5 of 16)

COND(307)(23=103) =	.700700E+01	COND(308)(24=104) =	.651800E+01	COND(309)(25=105) =	.700700E+01
COND(310)(26=106) =	.668100E+01	COND(311)(27=107) =	.684400E+01	COND(312)(28=108) =	.668100E+01
COND(313)(29=109) =	.700700E+01	COND(314)(30=110) =	.668100E+01	COND(315)(31=111) =	.668100E+01
COND(316)(32=112) =	.684400E+01	COND(317)(33=113) =	.700700E+01	COND(318)(34=114) =	.651800E+01
COND(319)(35=115) =	.700700E+01	COND(320)(36=116) =	.668100E+01	COND(321)(37=117) =	.684400E+01
COND(322)(38=118) =	.668100E+01	COND(323)(39=119) =	.700700E+01	COND(324)(40=120) =	.668100E+01
COND(325)(41=121) =	.133600E+02	COND(326)(42=122) =	.136900E+02	COND(327)(43=123) =	.140100E+02
COND(328)(44=124) =	.130400E+02	COND(329)(45=125) =	.140100E+02	COND(330)(46=126) =	.133600E+02
COND(331)(47=127) =	.136900E+02	COND(332)(48=128) =	.133600E+02	COND(333)(49=129) =	.140100E+02
COND(334)(50=130) =	.133600E+02	COND(335)(51=131) =	.130400E+02	COND(336)(52=132) =	.133600E+02
COND(337)(53=133) =	.136800E+02	COND(338)(54=134) =	.127300E+02	COND(339)(55=135) =	.136800E+02
COND(340)(56=136) =	.130400E+02	COND(341)(57=137) =	.133600E+02	COND(342)(58=138) =	.130400E+02
COND(343)(59=139) =	.136800E+02	COND(344)(60=140) =	.130400E+02	COND(345)(61=141) =	.133600E+02
COND(346)(62=142) =	.136900E+02	COND(347)(63=143) =	.140100E+02	COND(348)(64=144) =	.130400E+02
COND(349)(65=145) =	.140100E+02	COND(350)(66=146) =	.133600E+02	COND(351)(67=147) =	.136900E+02
COND(352)(68=148) =	.133600E+02	COND(353)(69=149) =	.140100E+02	COND(354)(70=150) =	.133600E+02
COND(355)(71=151) =	.133600E+02	COND(356)(72=152) =	.136900E+02	COND(357)(73=153) =	.140100E+02
COND(358)(74=154) =	.130400E+02	COND(359)(75=155) =	.140100E+02	COND(360)(76=156) =	.133600E+02
COND(361)(77=157) =	.136900E+02	COND(362)(78=158) =	.133600E+02	COND(363)(79=159) =	.140100E+02
COND(364)(80=160) =	.133600E+02	COND(365)(1=999) =	.193200E+00	COND(366)(2=999) =	.116400E+00
COND(367)(3=999) =	.596000E-01	COND(368)(4=999) =	.554000E-01	COND(369)(5=999) =	.596000E-01
COND(370)(6=999) =	.560000E-01	COND(371)(7=999) =	.700000E-01	COND(372)(8=999) =	.600000E-01
COND(373)(9=999) =	.119000E-01	COND(374)(10=999) =	.119000E-01	COND(375)(11=999) =	.193200E+00
COND(376)(12=999) =	.116400E+00	COND(377)(13=999) =	.119000E-01	COND(378)(14=999) =	.119000E-01
COND(379)(15=999) =	.119000E-01	COND(380)(16=999) =	.119000E-01	COND(381)(17=999) =	.570000E-01
COND(382)(18=999) =	.800000E-01	COND(383)(19=999) =	.119000E-01	COND(384)(20=999) =	.119000E-01
COND(385)(21=999) =	.193200E+00	COND(386)(22=999) =	.116400E+00	COND(387)(23=999) =	.596000E-01
COND(388)(24=999) =	.119000E-01	COND(389)(25=999) =	.700000E-01	COND(390)(26=999) =	.800000E-01
COND(391)(27=999) =	.940000E-01	COND(392)(28=999) =	.114000E-01	COND(393)(29=999) =	.114000E-01
COND(394)(30=999) =	.119000E-01	COND(395)(31=999) =	.193200E+00	COND(396)(32=999) =	.128100E+00
COND(397)(33=999) =	.596000E-01	COND(398)(34=999) =	.554000E-01	COND(399)(35=999) =	.119000E-01
COND(400)(36=999) =	.114000E-01	COND(401)(37=999) =	.114000E-01	COND(402)(38=999) =	.114000E-01
COND(403)(39=999) =	.119000E-01	COND(404)(40=999) =	.800000E-01	COND(405)(41=999) =	.386400E+00
COND(406)(42=999) =	.259100E+00	COND(407)(43=999) =	.141000E+00	COND(408)(44=999) =	.140000E+00
COND(409)(45=999) =	.512000E+00	COND(410)(46=999) =	.230000E+00	COND(411)(47=999) =	.230000E+00
COND(412)(48=999) =	.212000E+00	COND(413)(49=999) =	.690000E-01	COND(414)(50=999) =	.690000E-01
COND(415)(51=999) =	.377200E+00	COND(416)(52=999) =	.273000E+00	COND(417)(53=999) =	.117600E+00
COND(418)(54=999) =	.216000E-01	COND(419)(55=999) =	.212000E+00	COND(420)(56=999) =	.212000E+00
COND(421)(57=999) =	.183000E+00	COND(422)(58=999) =	.155000E+00	COND(423)(59=999) =	.235000E-01
COND(424)(60=999) =	.235000E-01	COND(425)(61=999) =	.386400E+00	COND(426)(62=999) =	.279000E+00
COND(427)(63=999) =	.117600E+00	COND(428)(64=999) =	.690000E-01	COND(429)(65=999) =	.216000E-01
COND(430)(66=999) =	.690000E-01	COND(431)(67=999) =	.690000E-01	COND(432)(68=999) =	.235000E-01
COND(433)(69=999) =	.235000E-01	COND(434)(70=999) =	.235000E-01	COND(435)(71=999) =	.386400E+00
COND(436)(72=999) =	.302600E+00	COND(437)(73=999) =	.117600E+00	COND(438)(74=999) =	.460000E-01
COND(439)(75=999) =	.235000E-01	COND(440)(76=999) =	.235000E-01	COND(441)(77=999) =	.235000E-01
COND(442)(78=999) =	.235000E-01	COND(443)(79=999) =	.235000E-01	COND(444)(80=999) =	.235000E-01
COND(445)(161=171) =	.231000E+01	COND(446)(161=162) =	.591500E+00	COND(447)(162=172) =	.242500E+01
COND(448)(162=163) =	.584300E+00	COND(449)(163=173) =	.236700E+01	COND(450)(163=164) =	.584300E+00
COND(451)(164=174) =	.242500E+01	COND(452)(164=165) =	.577400E+00	COND(453)(165=175) =	.242500E+01
COND(454)(165=166) =	.577400E+00	COND(455)(166=176) =	.242500E+01	COND(456)(166=167) =	.584300E+00
COND(457)(167=177) =	.236700E+01	COND(458)(167=168) =	.584300E+00	COND(459)(168=178) =	.242500E+01
COND(460)(168=169) =	.577400E+00	COND(461)(169=179) =	.242500E+01	COND(462)(169=170) =	.584300E+00
COND(463)(170=180) =	.236700E+01	COND(464)(171=181) =	.231000E+01	COND(465)(171=172) =	.650600E+00
COND(466)(172=182) =	.242500E+01	COND(467)(172=173) =	.642800E+00	COND(468)(173=183) =	.236700E+01
COND(469)(173=174) =	.642800E+00	COND(470)(174=184) =	.242500E+01	COND(471)(174=175) =	.635100E+00
COND(472)(175=185) =	.242500E+01	COND(473)(175=176) =	.635100E+00	COND(474)(176=186) =	.242500E+01
COND(475)(176=177) =	.642800E+00	COND(476)(177=187) =	.236700E+01	COND(477)(177=178) =	.642800E+00
COND(478)(178=188) =	.242500E+01	COND(479)(178=179) =	.635100E+00	COND(480)(179=189) =	.242500E+01
COND(481)(179=180) =	.642800E+00	COND(482)(180=190) =	.236700E+01	COND(483)(181=191) =	.236600E+01
COND(484)(181=182) =	.591500E+00	COND(485)(182=192) =	.248400E+01	COND(486)(182=183) =	.584300E+00

Figure 5-9. Model 2B Output (Sheet 6 of 16)

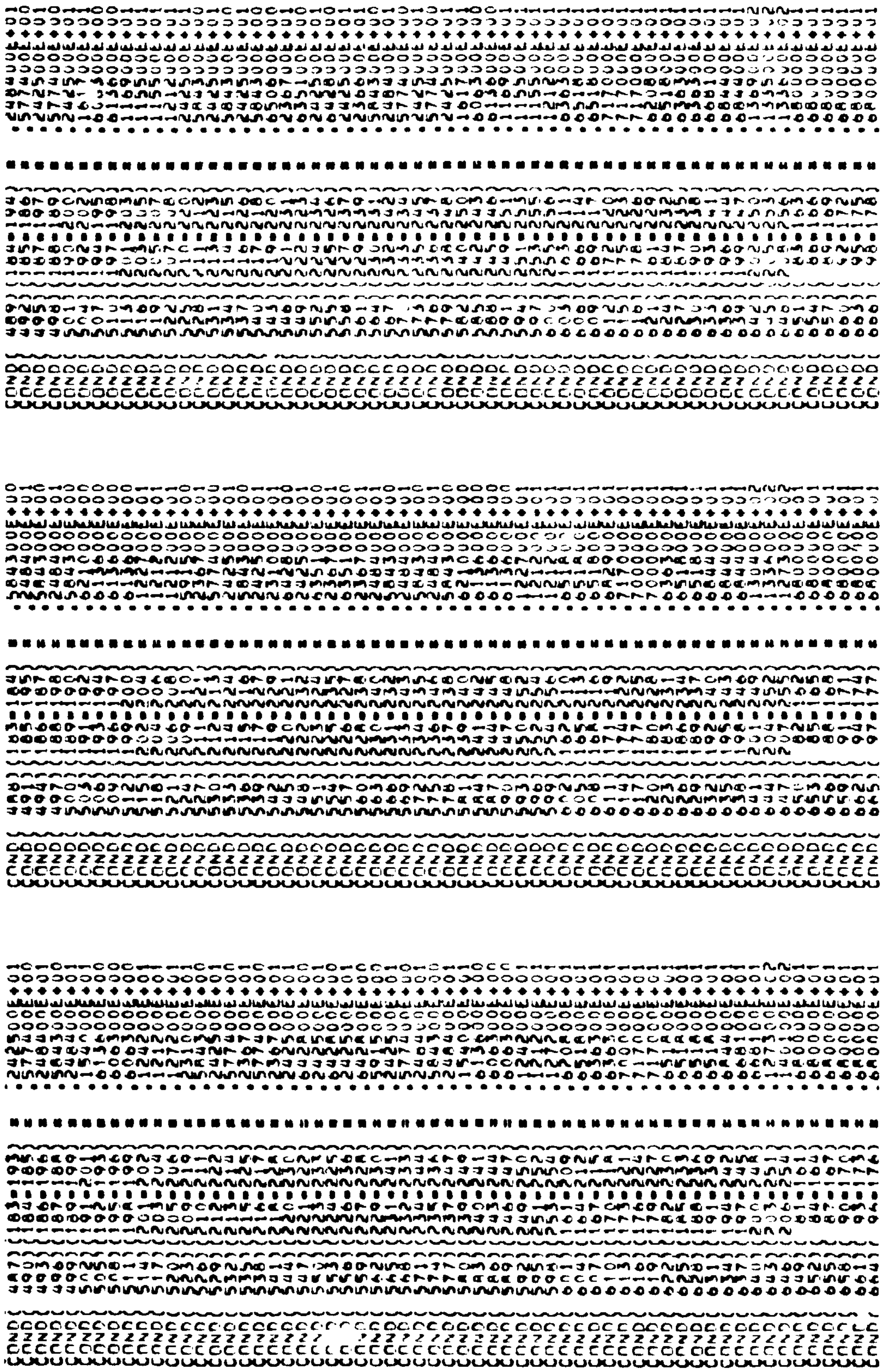

Figure 5-9. Model 2B Output (Sheet 7 of 16)

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COND( 667)( 99-179) =  .680000E+01     COND( 668)(100-180) =  .680000E+01     COND( 669)(101-181) =  .680000E+01
COND( 670)(102-182) =  .680000E+01     COND( 671)(103-183) =  .680000E+01     COND( 672)(104-184) =  .680000E+01
COND( 673)(105-185) =  .680000E+01     COND( 674)(106-186) =  .680000E+01     COND( 675)(107-187) =  .680000E+01
COND( 676)(108-188) =  .680000E+01     COND( 677)(109-189) =  .680000E+01     COND( 678)(110-190) =  .680000E+01
COND( 679)(111-191) =  .680000E+01     COND( 680)(112-192) =  .680000E+01     COND( 681)(113-193) =  .680000E+01
COND( 682)(114-194) =  .680000E+01     COND( 683)(115-195) =  .680000E+01     COND( 684)(116-196) =  .680000E+01
COND( 685)(117-197) =  .680000E+01     COND( 686)(118-198) =  .680000E+01     COND( 687)(119-199) =  .680000E+01
COND( 688)(120-200) =  .680000E+01     COND( 689)(121-201) =  .135000E+02     COND( 690)(122-202) =  .135000E+02
COND( 691)(131-203) =  .135000E+02     COND( 692)(132-204) =  .135000E+02     COND( 693)(141-205) =  .135000E+02
COND( 694)(142-206) =  .135000E+02     COND( 695)(151-207) =  .135000E+02     COND( 696)(152-208) =  .135000E+02
INITIAL RADIATION LINKS
 RAD(   1)(  1-998) =  .861000E-03     RAD(   2)(  2-998) =  .882000E-03     RAD(   3)(  3-998) =  .903000E-03
 RAD(   4)(  4-998) =  .840000E-03     RAD(   5)(  5-998) =  .903000E-03     RAD(   6)(  6-998) =  .861000E-03
 RAD(   7)(  7-998) =  .882000E-03     RAD(   8)(  8-998) =  .861000E-03     RAD(   9)(  9-998) =  .903000E-03
 RAD(  10)( 10-998) =  .861000E-03     RAD(  11)( 11-998) =  .861000E-03     RAD(  12)( 12-998) =  .882000E-03
 RAD(  13)( 13-998) =  .903000E-03     RAD(  14)( 14-998) =  .840000E-03     RAD(  15)( 15-998) =  .903000E-03
 RAD(  16)( 16-998) =  .861000E-03     RAD(  17)( 17-998) =  .882000E-03     RAD(  18)( 18-998) =  .861000E-03
 RAD(  19)( 19-998) =  .903000E-03     RAD(  20)( 20-998) =  .861000E-03     RAD(  21)( 21-998) =  .861000E-03
 RAD(  22)( 22-998) =  .882000E-03     RAD(  23)( 23-998) =  .903000E-03     RAD(  24)( 24-998) =  .840000E-03
 RAD(  25)( 25-998) =  .903000E-03     RAD(  26)( 26-998) =  .861000E-03     RAD(  27)( 27-998) =  .882000E-03
 RAD(  28)( 28-998) =  .861000E-03     RAD(  29)( 29-998) =  .903000E-03     RAD(  30)( 30-998) =  .861000E-03
 RAD(  31)( 31-998) =  .861000E-03     RAD(  32)( 32-998) =  .882000E-03     RAD(  33)( 33-998) =  .903000E-03
 RAD(  34)( 34-998) =  .840000E-03     RAD(  35)( 35-998) =  .903000E-03     RAD(  36)( 36-998) =  .861000E-03
 RAD(  37)( 37-998) =  .882000E-03     RAD(  38)( 38-998) =  .861000E-03     RAD(  39)( 39-998) =  .903000E-03
 RAD(  40)( 40-998) =  .861000E-03     RAD(  41)( 41-998) =  .172200E-02     RAD(  42)( 42-998) =  .176400E-02
 RAD(  43)( 43-998) =  .180600E-02     RAD(  44)( 44-998) =  .168000E-02     RAD(  45)( 45-998) =  .180600E-02
 RAD(  46)( 46-998) =  .172200E-02     RAD(  47)( 47-998) =  .176400E-02     RAD(  48)( 48-998) =  .172200E-02
 RAD(  49)( 49-998) =  .180600E-02     RAD(  50)( 50-998) =  .172200E-02     RAD(  51)( 51-998) =  .168100E-02
 RAD(  52)( 52-998) =  .172200E-02     RAD(  53)( 53-998) =  .176300E-02     RAD(  54)( 54-998) =  .164000E-02
 RAD(  55)( 55-998) =  .176300E-02     RAD(  56)( 56-998) =  .168100E-02     RAD(  57)( 57-998) =  .172200E-02
 RAD(  58)( 58-998) =  .168100E-02     RAD(  59)( 59-998) =  .176300E-02     RAD(  60)( 60-998) =  .168100E-02
 RAD(  61)( 61-998) =  .172200E-02     RAD(  62)( 62-998) =  .176400E-02     RAD(  63)( 63-998) =  .180600E-02
 RAD(  64)( 64-998) =  .168000E-02     RAD(  65)( 65-998) =  .180600E-02     RAD(  66)( 66-998) =  .172200E-02
 RAD(  67)( 67-998) =  .176400E-02     RAD(  68)( 68-998) =  .172200E-02     RAD(  69)( 69-998) =  .180600E-02
 RAD(  70)( 70-998) =  .172200E-02     RAD(  71)( 71-998) =  .172200E-02     RAD(  72)( 72-998) =  .176400E-02
 RAD(  73)( 73-998) =  .180600E-02     RAD(  74)( 74-998) =  .168000E-02     RAD(  75)( 75-998) =  .180600E-02
 RAD(  76)( 76-998) =  .172200E-02     RAD(  77)( 77-998) =  .176400E-02     RAD(  78)( 78-998) =  .172200E-02
 RAD(  79)( 79-998) =  .180600E-02     RAD(  80)( 80-998) =  .172200E-02     RAD(
INITIAL HEAT FLUXES

 1     6     2  TEMP VS PROPERTIES
       .10000000E+00   .80000000E+02   .40000000E+03   .60000000E+03   .80000000E+03   .50000000E+04
       .39500000E+00   .39510000E+00   .51100000E+00   .54800000E+00   .56200000E+00   .57000000E+00
       .10250000E+02   .11250000E+02   .82900000E+01   .74200000E+01   .67900000E+01   .[illegible]E+01

RESERVED STORAGE IS15000  REQUIRED IS  13415 WORDS
                  MAXIMUM ITERATION   12 REACHED

TI-F =          .10000000E-01
T(  1) = .149438E+04  T(  2) = .124104E+04  T(  3) = .946295E+03  T(  4) = .892108E+03  T(  5) = .885348E+03
T(  6) = .877800E+03  T(  7) = .964023E+03  T(  8) = .973459E+03  T(  9) = .880369E+03  T( 10) = .834413E+03
T( 11) = .149414E+04  T( 12) = .123795E+04  T( 13) = .875565E+03  T( 14) = .798090E+03  T( 15) = .809120E+03
T( 16) = .816536E+03  T( 17) = .943158E+03  T( 18) = .936070E+03  T( 19) = .678292E+03  T( 20) = .852689E+03
T( 21) = .149878E+04  T( 22) = .125016E+04  T( 23) = .954779E+03  T( 24) = .813623E+03  T( 25) = .899034E+03
T( 26) = .932277E+03  T( 27) = .986549E+03  T( 28) = .814963E+03  T( 29) = .885196E+03  T( 30) = .710038E+03
T( 31) = .150523E+04  T( 32) = .127867E+04  T( 33) = .101402E+04  T( 34) = .935096E+03  T( 35) = .905830E+03
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Figure 5-9. Model 2B Output (Sheet 8 of 16)

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T( 36) = .930485E+03  T( 37) = .948070E+03  T( 38) = .861665E+03  T( 39) = .735781E+03  T( 40) = .871798E+03
T( 41) = .151624E+04  T( 42) = .131279E+04  T( 43) = .115518E+04  T( 44) = .112829E+04  T( 45) = .128192E+04
T( 46) = .136917E+04  T( 47) = .136200E+04  T( 48) = .125307E+04  T( 49) = .849909E+03  T( 50) = .861872E+03
T( 51) = .152805E+04  T( 52) = .134373E+04  T( 53) = .112119E+04  T( 54) = .918690E+03  T( 55) = .125762E+04
T( 56) = .136860E+04  T( 57) = .131923E+04  T( 58) = .116168E+04  T( 59) = .765626E+03  T( 60) = .684018E+03
T( 61) = .152165E+04  T( 62) = .134622E+04  T( 63) = .112522E+04  T( 64) = .906395E+03  T( 65) = .826635E+03
T( 66) = .916377E+03  T( 67) = .922134E+03  T( 68) = .764450E+03  T( 69) = .662106E+03  T( 70) = .656731E+03
T( 71) = .151559E+04  T( 72) = .136771E+04  T( 73) = .114444E+04  T( 74) = .877492E+03  T( 75) = .724320E+03
T( 76) = .719052E+03  T( 77) = .689016E+03  T( 78) = .651576E+03  T( 79) = .655245E+03  T( 80) = .692866E+03
T( 81) = .125185E+04  T( 82) = .105724E+04  T( 83) = .840596E+03  T( 84) = .791354E+03  T( 85) = .782935E+03
T( 86) = .771307E+03  T( 87) = .834224E+03  T( 88) = .832449E+03  T( 89) = .645669E+03  T( 90) = .604758E+03
T( 91) = .125017E+04  T( 92) = .105388E+04  T( 93) = .812208E+03  T( 94) = .747998E+03  T( 95) = .751135E+03
T( 96) = .749751E+03  T( 97) = .822716E+03  T( 98) = .804186E+03  T( 99) = .643446E+03  T(100) = .619879E+03
T(101) = .125690E+04  T(102) = .106478E+04  T(103) = .847211E+03  T(104) = .757903E+03  T(105) = .788649E+03
T(106) = .801350E+03  T(107) = .840651E+03  T(108) = .755118E+03  T(109) = .650732E+03  T(110) = .603103E+03
T(111) = .126376E+04  T(112) = .108448E+04  T(113) = .895130E+03  T(114) = .829645E+03  T(115) = .831444E+03
T(116) = .848326E+03  T(117) = .865770E+03  T(118) = .798212E+03  T(119) = .691045E+03  T(120) = .747055E+03
T(121) = .127787E+04  T(122) = .112144E+04  T(123) = .107260E+04  T(124) = .104537E+04  T(125) = .118101E+04
T(126) = .126321E+04  T(127) = .125601E+04  T(128) = .114861E+04  T(129) = .854272E+03  T(130) = .811535E+03
T(131) = .129126E+04  T(132) = .114581E+04  T(133) = .105041E+04  T(134) = .895069E+03  T(135) = .115603E+04
T(136) = .126948E+04  T(137) = .123057E+04  T(138) = .107724E+04  T(139) = .745945E+03  T(140) = .669771E+03
T(141) = .128210E+04  T(142) = .114644E+04  T(143) = .105576E+04  T(144) = .860419E+03  T(145) = .867229E+03
T(146) = .901364E+03  T(147) = .877753E+03  T(148) = .744205E+03  T(149) = .644980E+03  T(150) = .630960E+03
T(151) = .127434E+04  T(152) = .115836E+04  T(153) = .107621E+04  T(154) = .844297E+03  T(155) = .712414E+03
T(156) = .700920E+03  T(157) = .670699E+03  T(158) = .633654E+03  T(159) = .638530E+03  T(160) = .675706E+03
T(161) = .106864E+04  T(162) = .932470E+03  T(163) = .771308E+03  T(164) = .727749E+03  T(165) = .718784E+03
T(166) = .701473E+03  T(167) = .749418E+03  T(168) = .744466E+03  T(169) = .618634E+03  T(170) = .583611E+03
T(171) = .106239E+04  T(172) = .926073E+03  T(173) = .755642E+03  T(174) = .703335E+03  T(175) = .700561E+03
T(176) = .690170E+03  T(177) = .738337E+03  T(178) = .721880E+03  T(179) = .615566E+03  T(180) = .594449E+03
T(181) = .109373E+04  T(182) = .937617E+03  T(183) = .772831E+03  T(184) = .706786E+03  T(185) = .716155E+03
T(186) = .714292E+03  T(187) = .746103E+03  T(188) = .698892E+03  T(189) = .620621E+03  T(190) = .625355E+03
T(191) = .109891E+04  T(192) = .950935E+03  T(193) = .794317E+03  T(194) = .733554E+03  T(195) = .733932E+03
T(196) = .734746E+03  T(197) = .754843E+03  T(198) = .709447E+03  T(199) = .638640E+03  T(200) = .667501E+03
T(201) = .111422E+04  T(202) = .988077E+03  T(203) = .112927E+04  T(204) = .101097E+04  T(205) = .111642E+04
T(206) = .100809E+04  T(207) = .110918E+04  T(208) = .101524E+04  T(209) = .100011E+04  T(210) = .866211E+03
T(211) = .732756E+03  T(212) = .696714E+03  T(213) = .685153E+03  T(214) = .665753E+03  T(215) = .704270E+03
T(216) = .701161E+03  T(217) = .603318E+03  T(218) = .571961E+03  T(219) = .997704E+03  T(220) = .862773E+03
T(221) = .723167E+03  T(222) = .680079E+03  T(223) = .672854E+03  T(224) = .658780E+03  T(225) = .695674E+03
T(226) = .684050E+03  T(227) = .600423E+03  T(228) = .581138E+03  T(229) = .100547E+04  T(230) = .870323E+03
T(231) = .730709E+03  T(232) = .678250E+03  T(233) = .677433E+03  T(234) = .669664E+03  T(235) = .690117E+03
T(236) = .666815E+03  T(237) = .602912E+03  T(238) = .604217E+03  T(239) = .101259E+04  T(240) = .882477E+03
T(241) = .742451E+03  T(242) = .689851E+03  T(243) = .685769E+03  T(244) = .680904E+03  T(245) = .699365E+03
T(246) = .667833E+03  T(247) = .612412E+03  T(248) = .631075E+03  T(249) = .102869E+04  T(250) = .916729E+03
T(251) = .104431E+04  T(252) = .940917E+03  T(253) = .103154E+04  T(254) = .937486E+03  T(255) = .102047E+04
T(256) = .939004E+03  T(999) = .239000E+04  T(998) = .590000E+02  T(
           MAXIMUM ITERATION    12 REACHED

TIME =        .200000E-01
T(  1) = .172194E+04  T(  2) = .150038E+04  T(  3) = .118753E+04  T(  4) = .108305E+04  T(  5) = .107419E+04
T(  6) = .109514E+04  T(  7) = .117325E+04  T(  8) = .114539E+04  T(  9) = .826885E+03  T( 10) = .764322E+03
T( 11) = .172315E+04  T( 12) = .150219E+04  T( 13) = .113101E+04  T( 14) = .100536E+04  T( 15) = .101251E+04
T( 16) = .104580E+04  T( 17) = .116120E+04  T( 18) = .111770E+04  T( 19) = .828157E+03  T( 20) = .789794E+03
T( 21) = .172864E+04  T( 22) = .152025E+04  T( 23) = .122173E+04  T( 24) = .104440E+04  T( 25) = .112162E+04
T( 26) = .117113E+04  T( 27) = .121368E+04  T( 28) = .101085E+04  T( 29) = .850241E+03  T( 30) = .858801E+03
T( 31) = .173554E+04  T( 32) = .155321E+04  T( 33) = .129419E+04  T( 34) = .119041E+04  T( 35) = .114671E+04
T( 36) = .117764E+04  T( 37) = .118232E+04  T( 38) = .106571E+04  T( 39) = .916111E+03  T( 40) = .103738E+04
T( 41) = .174634E+04  T( 42) = .159520E+04  T( 43) = .144962E+04  T( 44) = .141038E+04  T( 45) = .151745E+04
T( 46) = .157861E+04  T( 47) = .155961E+04  T( 48) = .144534E+04  T( 49) = .110542E+04  T( 50) = .105850E+04
T( 51) = .175275E+04  T( 52) = .162306E+04  T( 53) = .143912E+04  T( 54) = .126262E+04  T( 55) = .151366E+04
T( 56) = .158351E+04  T( 57) = .152830E+04  T( 58) = .137324E+04  T( 59) = .949982E+03  T( 60) = .697565E+03
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Figure 5-9. Model 2B Output (Sheet 9 of 16)

T(61) =	.175400E+04	T(62) =	.162709E+04	T(63) =	.142487E+04	T(64) =	.121793E+04	T(65) =	.111108E+04
T(66) =	.119960E+04	T(67) =	.116532E+04	T(68) =	.993516E+03	T(69) =	.858416E+03	T(70) =	.819251E+03
T(71) =	.176004E+04	T(72) =	.164843E+04	T(73) =	.141751E+04	T(74) =	.113928E+04	T(75) =	.965529E+03
T(76) =	.942966E+03	T(77) =	.911597E+03	T(78) =	.850452E+03	T(79) =	.803177E+03	T(80) =	.796932E+03
T(81) =	.154561E+04	T(82) =	.135603E+04	T(83) =	.109525E+04	T(84) =	.987814E+03	T(85) =	.977063E+03
T(86) =	.996831E+03	T(87) =	.105301E+04	T(88) =	.100973E+04	T(89) =	.788968E+03	T(90) =	.730902E+03
T(91) =	.154627E+04	T(92) =	.135867E+04	T(93) =	.107947E+04	T(94) =	.901132E+03	T(95) =	.960602E+03
T(96) =	.987233E+03	T(97) =	.105091E+04	T(98) =	.991295E+03	T(99) =	.796524E+03	T(100) =	.759394E+03
T(101) =	.155440E+04	T(102) =	.137756E+04	T(103) =	.112997E+04	T(104) =	.995262E+03	T(105) =	.101927E+04
T(106) =	.105208E+04	T(107) =	.108056E+04	T(108) =	.956916E+03	T(109) =	.818635E+03	T(110) =	.814316E+03
T(111) =	.156293E+04	T(112) =	.140601E+04	T(113) =	.119342E+04	T(114) =	.108989E+04	T(115) =	.100800E+04
T(116) =	.110774E+04	T(117) =	.111246E+04	T(118) =	.100909E+04	T(119) =	.873380E+03	T(120) =	.912366E+03
T(121) =	.157762E+04	T(122) =	.145654E+04	T(123) =	.138845E+04	T(124) =	.134554E+04	T(125) =	.143917E+04
T(126) =	.149770E+04	T(127) =	.147837E+04	T(128) =	.135683E+04	T(129) =	.106469E+04	T(130) =	.101156E+04
T(131) =	.158610E+04	T(132) =	.148101E+04	T(133) =	.136876E+04	T(134) =	.124822E+04	T(135) =	.143641E+04
T(136) =	.150940E+04	T(137) =	.146063E+04	T(138) =	.130232E+04	T(139) =	.972836E+03	T(140) =	.881077E+03
T(141) =	.158703E+04	T(142) =	.148550E+04	T(143) =	.137401E+04	T(144) =	.118172E+04	T(145) =	.109814E+04
T(146) =	.116289E+04	T(147) =	.112817E+04	T(148) =	.977184E+03	T(149) =	.844227E+03	T(150) =	.803343E+03
T(151) =	.159505E+04	T(152) =	.150238E+04	T(153) =	.136744E+04	T(154) =	.111263E+04	T(155) =	.952057E+03
T(156) =	.928068E+03	T(157) =	.896315E+03	T(158) =	.834990E+03	T(159) =	.787859E+03	T(160) =	.780698E+03
T(161) =	.142673E+04	T(162) =	.125640E+04	T(163) =	.103603E+04	T(164) =	.929101E+03	T(165) =	.917855E+03
T(166) =	.934225E+03	T(167) =	.975427E+03	T(168) =	.926547E+03	T(169) =	.764827E+03	T(170) =	.717800E+03
T(171) =	.122441E+04	T(172) =	.125936E+04	T(173) =	.103264E+04	T(174) =	.921428E+03	T(175) =	.915413E+03
T(176) =	.935334E+03	T(177) =	.974478E+03	T(178) =	.914173E+03	T(179) =	.771120E+03	T(180) =	.735916E+03
T(181) =	.143660E+04	T(182) =	.127999E+04	T(183) =	.100643E+04	T(184) =	.948856E+03	T(185) =	.952780E+03
T(186) =	.974510E+03	T(187) =	.995322E+03	T(188) =	.906049E+03	T(189) =	.790063E+03	T(190) =	.778109E+03
T(191) =	.144475E+04	T(192) =	.130475E+04	T(193) =	.110224E+04	T(194) =	.994067E+03	T(195) =	.988051E+03
T(196) =	.100613E+04	T(197) =	.101328E+04	T(198) =	.926299E+03	T(199) =	.820196E+03	T(200) =	.830349E+03
T(201) =	.146179E+04	T(202) =	.136125E+04	T(203) =	.147174E+04	T(204) =	.138535E+04	T(205) =	.147138E+04
T(206) =	.138995E+04	T(207) =	.148205E+04	T(208) =	.140685E+04	T(209) =	.136223E+04	T(210) =	.120677E+04
T(211) =	.100379E+04	T(212) =	.901170E+03	T(213) =	.875110E+03	T(214) =	.902992E+03	T(215) =	.955035E+03
T(216) =	.868605E+03	T(217) =	.750981E+03	T(218) =	.707337E+03	T(219) =	.136289E+04	T(220) =	.121031E+04
T(221) =	.100632E+04	T(222) =	.900920E+03	T(223) =	.890877E+03	T(224) =	.908379E+03	T(225) =	.936713E+03
T(226) =	.879698E+03	T(227) =	.757344E+03	T(228) =	.723698E+03	T(229) =	.137285E+04	T(230) =	.122817E+04
T(231) =	.103091E+04	T(232) =	.923043E+03	T(233) =	.917895E+03	T(234) =	.935952E+03	T(235) =	.951256E+03
T(236) =	.877355E+03	T(237) =	.773891E+03	T(238) =	.757862E+03	T(239) =	.138281E+04	T(240) =	.125264E+04
T(241) =	.105625E+04	T(242) =	.952764E+03	T(243) =	.943216E+03	T(244) =	.958936E+03	T(245) =	.964493E+03
T(246) =	.888463E+03	T(247) =	.794114E+03	T(248) =	.793684E+03	T(249) =	.140117E+04	T(250) =	.131151E+04
T(251) =	.141167E+04	T(252) =	.133555E+04	T(253) =	.141209E+04	T(254) =	.134107E+04	T(255) =	.142138E+04
T(256) =	.135583E+04	T(999) =	.239000E+04	T(998) =	.590000E+02	T(			

MAXIMUM ITERATION 12 REACHED

TIME = .3000000E-01

T(1) =	.183662E+04	T(2) =	.164833E+04	T(3) =	.130859E+04	T(4) =	.125759E+04	T(5) =	.124048E+04
T(6) =	.125767E+04	T(7) =	.131729E+04	T(8) =	.127633E+04	T(9) =	.960546E+03	T(10) =	.892780E+03
T(11) =	.183814E+04	T(12) =	.165117E+04	T(13) =	.132346E+04	T(14) =	.119440E+04	T(15) =	.119025E+04
T(16) =	.121717E+04	T(17) =	.130890E+04	T(18) =	.125459E+04	T(19) =	.970876E+03	T(20) =	.920128E+03
T(21) =	.184336E+04	T(22) =	.166822E+04	T(23) =	.140300E+04	T(24) =	.123321E+04	T(25) =	.128925E+04
T(26) =	.132861E+04	T(27) =	.135708E+04	T(28) =	.116348E+04	T(29) =	.997057E+03	T(30) =	.990889E+03
T(31) =	.185033E+04	T(32) =	.169838E+04	T(33) =	.140619E+04	T(34) =	.136237E+04	T(35) =	.151347E+04
T(36) =	.133441E+04	T(37) =	.132969E+04	T(38) =	.121388E+04	T(39) =	.106380E+04	T(40) =	.116179E+04
T(41) =	.186108E+04	T(42) =	.173874E+04	T(43) =	.159689E+04	T(44) =	.155401E+04	T(45) =	.162956E+04
T(46) =	.167204E+04	T(47) =	.164943E+04	T(48) =	.154498E+04	T(49) =	.124149E+04	T(50) =	.119137E+04
T(51) =	.187097E+04	T(52) =	.176790E+04	T(53) =	.159886E+04	T(54) =	.145093E+04	T(55) =	.163706E+04
T(56) =	.168010E+04	T(57) =	.162507E+04	T(58) =	.148715E+04	T(59) =	.114408E+04	T(60) =	.104978E+04
T(61) =	.187446E+04	T(62) =	.177337E+04	T(63) =	.158544E+04	T(64) =	.141048E+04	T(65) =	.150619E+04
T(66) =	.13[illegible]E+04	T(67) =	.131795E+04	T(68) =	.115548E+04	T(69) =	.114260E+04	T(70) =	.959119E+03
T(71) =	.187907E+04	T(72) =	.178821E+04	T(73) =	.157000E+04	T(74) =	.132856E+04	T(75) =	.116342E+04
T(76) =	.112490E+04	T(77) =	.108354E+04	T(78) =	.101185E+04	T(79) =	.943113E+03	T(80) =	.915975E+03
T(81) =	.171659E+04	T(82) =	.154740E+04	T(83) =	.130083E+04	T(84) =	.118186E+04	T(85) =	.116176E+04
T(86) =	.117839E+04	T(87) =	.121923E+04	T(88) =	.116128E+04	T(89) =	.933450E+03	T(90) =	.868611E+03

Figure 5-9. Model 2B Output (Sheet 10 of 16)

T(91) =	.171812E+04	T(92) =	.155165E+04	T(93) =	.129051E+04	T(94) =	.116250E+04	T(95) =	.115100E+04
T(96) =	.117287E+04	T(97) =	.121996E+04	T(98) =	.114782E+04	T(99) =	.943710E+03	T(100) =	.893169E+03
T(101) =	.172592E+04	T(102) =	.157047E+04	T(103) =	.133736E+04	T(104) =	.119821E+04	T(105) =	.120768E+04
T(106) =	.123361E+04	T(107) =	.124914E+04	T(108) =	.112104E+04	T(109) =	.970267E+03	T(110) =	.951232E+03
T(111) =	.173511E+04	T(112) =	.159882E+04	T(113) =	.139437E+04	T(114) =	.128544E+04	T(115) =	.126529E+04
T(116) =	.128356E+04	T(117) =	.127806E+04	T(118) =	.117032E+04	T(119) =	.102755E+04	T(120) =	.105016E+04
T(121) =	.175142E+04	T(122) =	.165070E+04	T(123) =	.155794E+04	T(124) =	.150952E+04	T(125) =	.157266E+04
T(126) =	.161182E+04	T(127) =	.158744E+04	T(128) =	.147413E+04	T(129) =	.120982E+04	T(130) =	.115305E+04
T(131) =	.176382E+04	T(132) =	.167918E+04	T(133) =	.157023E+04	T(134) =	.144888E+04	T(135) =	.158248E+04
T(136) =	.142650E+04	T(137) =	.157528E+04	T(138) =	.143209E+04	T(139) =	.113354E+04	T(140) =	.103733E+04
T(141) =	.176851E+04	T(142) =	.168630E+04	T(143) =	.155625E+04	T(144) =	.138883E+04	T(145) =	.130132E+04
T(146) =	.133519E+04	T(147) =	.129162E+04	T(148) =	.114503E+04	T(149) =	.100298E+04	T(150) =	.945825E+03
T(151) =	.177531E+04	T(152) =	.169789E+04	T(153) =	.153971E+04	T(154) =	.131278E+04	T(155) =	.115590E+04
T(156) =	.111852E+04	T(157) =	.107307E+04	T(158) =	.999806E+03	T(159) =	.930260E+03	T(160) =	.901842E+03
T(161) =	.163577E+04	T(162) =	.147945E+04	T(163) =	.125738E+04	T(164) =	.113449E+04	T(165) =	.111288E+04
T(166) =	.112671E+04	T(167) =	.115509E+04	T(168) =	.108995E+04	T(169) =	.912419E+03	T(170) =	.851540E+03
T(171) =	.163552E+04	T(172) =	.148293E+04	T(173) =	.125798E+04	T(174) =	.113155E+04	T(175) =	.111450E+04
T(176) =	.113085E+04	T(177) =	.115707E+04	T(178) =	.108108E+04	T(179) =	.921467E+03	T(180) =	.872000E+03
T(181) =	.164662E+04	T(182) =	.150369E+04	T(183) =	.129123E+04	T(184) =	.116187E+04	T(185) =	.115361E+04
T(186) =	.117036E+04	T(187) =	.117921E+04	T(188) =	.107820E+04	T(189) =	.945193E+03	T(190) =	.917652E+03
T(191) =	.165628E+04	T(192) =	.153050E+04	T(193) =	.132584E+04	T(194) =	.120748E+04	T(195) =	.116931E+04
T(196) =	.120132E+04	T(197) =	.119752E+04	T(198) =	.109988E+04	T(199) =	.977942E+03	T(200) =	.972706E+03
T(201) =	.167577E+04	T(202) =	.159138E+04	T(203) =	.169049E+04	T(204) =	.162188E+04	T(205) =	.169539E+04
T(206) =	.163058E+04	T(207) =	.170451E+04	T(208) =	.164274E+04	T(209) =	.159197E+04	T(210) =	.144348E+04
T(211) =	.173333E+04	T(212) =	.111147E+04	T(213) =	.108726E+04	T(214) =	.110026E+04	T(215) =	.112091E+04
T(216) =	.105494E+04	T(217) =	.900227E+03	T(218) =	.842126E+03	T(219) =	.159387E+04	T(220) =	.144904E+04
T(221) =	.173870E+04	T(222) =	.111501E+04	T(223) =	.109403E+04	T(224) =	.110627E+04	T(225) =	.112515E+04
T(226) =	.105137E+04	T(227) =	.909302E+03	T(228) =	.860842E+03	T(229) =	.160374E+04	T(230) =	.146823E+04
T(231) =	.176481E+04	T(232) =	.114084E+04	T(233) =	.112426E+04	T(234) =	.113792E+04	T(235) =	.114215E+04
T(236) =	.105323E+04	T(237) =	.929873E+03	T(238) =	.898612E+03	T(239) =	.161501E+04	T(240) =	.149554E+04
T(241) =	.129080E+04	T(242) =	.117229E+04	T(243) =	.115147E+04	T(244) =	.116191E+04	T(245) =	.115600E+04
T(246) =	.106066E+04	T(247) =	.953218E+03	T(248) =	.937354E+03	T(249) =	.163624E+04	T(250) =	.156041E+04
T(251) =	.165204E+04	T(252) =	.159182E+04	T(253) =	.165798E+04	T(254) =	.160183E+04	T(255) =	.166656E+04
T(256) =	.161305E+04	T(999) =	.239000E+04	T(998) =	.590000E+02	T(			

MAXIMUM ITERATION 12 REACHED

TIME = .400000E-01

T(1) =	.108561E+04	T(2) =	.174394E+04	T(3) =	.150030E+04	T(4) =	.139620E+04	T(5) =	.137291E+04
T(6) =	.138177E+04	T(7) =	.142611E+04	T(8) =	.137963E+04	T(9) =	.108356E+04	T(10) =	.101268E+04
T(11) =	.190732E+04	T(12) =	.174681E+04	T(13) =	.146134E+04	T(14) =	.134128E+04	T(15) =	.132862E+04
T(16) =	.134560E+04	T(17) =	.141849E+04	T(18) =	.136056E+04	T(19) =	.109376E+04	T(20) =	.103882E+04
T(21) =	.191230E+04	T(22) =	.176185E+04	T(23) =	.152906E+04	T(24) =	.137392E+04	T(25) =	.141438E+04
T(26) =	.144269E+04	T(27) =	.146037E+04	T(28) =	.127821E+04	T(29) =	.111832E+04	T(30) =	.110463E+04
T(31) =	.191907E+04	T(32) =	.178830E+04	T(33) =	.156051E+04	T(34) =	.148284E+04	T(35) =	.143135E+04
T(36) =	.144326E+04	T(37) =	.143202E+04	T(38) =	.132125E+04	T(39) =	.117834E+04	T(40) =	.126140E+04
T(41) =	.193037E+04	T(42) =	.182372E+04	T(43) =	.166280E+04	T(44) =	.163502E+04	T(45) =	.169769E+04
T(46) =	.173032E+04	T(47) =	.170650E+04	T(48) =	.161066E+04	T(49) =	.153524E+04	T(50) =	.128739E+04
T(51) =	.193984E+04	T(52) =	.185043E+04	T(53) =	.166314E+04	T(54) =	.154756E+04	T(55) =	.170416E+04
T(56) =	.173564E+04	T(57) =	.168244E+04	T(58) =	.155765E+04	T(59) =	.124875E+04	T(60) =	.116176E+04
T(61) =	.194394E+04	T(62) =	.185634E+04	T(63) =	.167280E+04	T(64) =	.151693E+04	T(65) =	.142056E+04
T(66) =	.145860E+04	T(67) =	.141400E+04	T(68) =	.126307E+04	T(69) =	.113109E+04	T(70) =	.107512E+04
T(71) =	.194778E+04	T(72) =	.186875E+04	T(73) =	.165965E+04	T(74) =	.144759E+04	T(75) =	.130062E+04
T(76) =	.125707E+04	T(77) =	.121026E+04	T(78) =	.113605E+04	T(79) =	.106196E+04	T(80) =	.102735E+04
T(81) =	.182073E+04	T(82) =	.167330E+04	T(83) =	.145335E+04	T(84) =	.133925E+04	T(85) =	.131191E+04
T(86) =	.131985E+04	T(87) =	.134665E+04	T(88) =	.128262E+04	T(89) =	.106305E+04	T(90) =	.993330E+03
T(91) =	.182278E+04	T(92) =	.167769E+04	T(93) =	.144479E+04	T(94) =	.137276E+04	T(95) =	.130265E+04
T(96) =	.131495E+04	T(97) =	.134740E+04	T(98) =	.127107E+04	T(99) =	.107343E+04	T(100) =	.101742E+04
T(101) =	.183024E+04	T(102) =	.169473E+04	T(103) =	.148478E+04	T(104) =	.135333E+04	T(105) =	.135107E+04
T(106) =	.136760E+04	T(107) =	.137259E+04	T(108) =	.124697E+04	T(109) =	.109869E+04	T(110) =	.107240E+04
T(111) =	.183952E+04	T(112) =	.172051E+04	T(113) =	.153169E+04	T(114) =	.142603E+04	T(115) =	.139919E+04
T(116) =	.140833E+04	T(117) =	.139535E+04	T(118) =	.128957E+04	T(119) =	.115067E+04	T(120) =	.116379E+04

Figure 5-9. Model 2B Output (Sheet 11 of 16)

T(121)	=	.185597E+04	T(122)	=	.176726E+04	T(123)	=	.165850E+04	T(124)	=	.160694E+04	T(125)	=	.165430E+04
T(126)	=	.168290E+04	T(127)	=	.165660E+04	T(128)	=	.155175E+04	T(129)	=	.131081E+04	T(130)	=	.125627E+04
T(131)	=	.186944E+04	T(132)	=	.179529E+04	T(133)	=	.166814E+04	T(134)	=	.155437E+04	T(135)	=	.166302E+04
T(136)	=	.189403E+04	T(137)	=	.164342E+04	T(138)	=	.151302E+04	T(139)	=	.124330E+04	T(140)	=	.115300E+04
T(141)	=	.187534E+04	T(142)	=	.180333E+04	T(143)	=	.165725E+04	T(144)	=	.150590E+04	T(145)	=	.142312E+04
T(146)	=	.144266E+04	T(147)	=	.139578E+04	T(148)	=	.125860E+04	T(149)	=	.112405E+04	T(150)	=	.106502E+04
T(151)	=	.186098E+04	T(152)	=	.181275E+04	T(153)	=	.164272E+04	T(154)	=	.144089E+04	T(155)	=	.124953E+04
T(156)	=	.125332E+04	T(157)	=	.120501E+04	T(158)	=	.112851E+04	T(159)	=	.105276E+04	T(160)	=	.101642E+04
T(161)	=	.176380E+04	T(162)	=	.162578E+04	T(163)	=	.142360E+04	T(164)	=	.130419E+04	T(165)	=	.127443E+04
T(166)	=	.127968E+04	T(167)	=	.129474E+04	T(168)	=	.122286E+04	T(169)	=	.104652E+04	T(170)	=	.979370E+03
T(171)	=	.176487E+04	T(172)	=	.163005E+04	T(173)	=	.142491E+04	T(174)	=	.130237E+04	T(175)	=	.127642E+04
T(176)	=	.128370E+04	T(177)	=	.129691E+04	T(178)	=	.121619E+04	T(179)	=	.105603E+04	T(180)	=	.999947E+03
T(181)	=	.177507E+04	T(182)	=	.164692E+04	T(183)	=	.145352E+04	T(184)	=	.132870E+04	T(185)	=	.131046E+04
T(186)	=	.131802E+04	T(187)	=	.131616E+04	T(188)	=	.121332E+04	T(189)	=	.107905E+04	T(190)	=	.104415E+04
T(191)	=	.178533E+04	T(192)	=	.167431E+04	T(193)	=	.148297E+04	T(194)	=	.134776E+04	T(195)	=	.134082E+04
T(196)	=	.134415E+04	T(197)	=	.133140E+04	T(198)	=	.123252E+04	T(199)	=	.109600E+04	T(200)	=	.109601E+04
T(201)	=	.180537E+04	T(202)	=	.173194E+04	T(203)	=	.182166E+04	T(204)	=	.176267E+04	T(205)	=	.182842E+04
T(206)	=	.177278E+04	T(207)	=	.183597E+04	T(208)	=	.178238E+04	T(209)	=	.173303E+04	T(210)	=	.160068E+04
T(211)	=	.140718E+04	T(212)	=	.128728E+04	T(213)	=	.125487E+04	T(214)	=	.125913E+04	T(215)	=	.126709E+04
T(216)	=	.119363E+04	T(217)	=	.103673E+04	T(218)	=	.971548E+03	T(219)	=	.173568E+04	T(220)	=	.160658E+04
T(221)	=	.141251E+04	T(222)	=	.129107E+04	T(223)	=	.126138E+04	T(224)	=	.126658E+04	T(225)	=	.127127E+04
T(226)	=	.119114E+04	T(227)	=	.104628E+04	T(228)	=	.990562E+03	T(229)	=	.174533E+04	T(230)	=	.162461E+04
T(231)	=	.143548E+04	T(232)	=	.131390E+04	T(233)	=	.128810E+04	T(234)	=	.129265E+04	T(235)	=	.128635E+04
T(236)	=	.119340E+04	T(237)	=	.106673E+04	T(238)	=	.102782E+04	T(239)	=	.175705E+04	T(240)	=	.165076E+04
T(241)	=	.145809E+04	T(242)	=	.134131E+04	T(243)	=	.131171E+04	T(244)	=	.131333E+04	T(245)	=	.129898E+04
T(246)	=	.120561E+04	T(247)	=	.108907E+04	T(248)	=	.106501E+04	T(249)	=	.177903E+04	T(250)	=	.171316E+04
T(251)	=	.179671E+04	T(252)	=	.174534E+04	T(253)	=	.180453E+04	T(254)	=	.175676E+04	T(255)	=	.181108E+04
T(256)	=	.176582E+04	T(999)	=	.239000E+04	T(998)	=	.590000E+02	T(					

MAXIMUM ITERATIONS 12 REACHED

TIME = .500000E-01

T(1)	=	.194820E+04	T(2)	=	.180573E+04	T(3)	=	.159159E+04	T(4)	=	.149810E+04	T(5)	=	.147242E+04
T(6)	=	.147445E+04	T(7)	=	.150785E+04	T(8)	=	.146061E+04	T(9)	=	.118629E+04	T(10)	=	.111770E+04
T(11)	=	.194983E+04	T(12)	=	.160818E+04	T(13)	=	.155611E+04	T(14)	=	.144817E+04	T(15)	=	.143158E+04
T(16)	=	.144067E+04	T(17)	=	.150012E+04	T(18)	=	.144282E+04	T(19)	=	.119518E+04	T(20)	=	.114125E+04
T(21)	=	.195428E+04	T(22)	=	.182106E+04	T(23)	=	.161424E+04	T(24)	=	.147437E+04	T(25)	=	.150567E+04
T(26)	=	.152569E+04	T(27)	=	.153611E+04	T(28)	=	.136581E+04	T(29)	=	.121628E+04	T(30)	=	.120043E+04
T(31)	=	.196041E+04	T(32)	=	.164395E+04	T(33)	=	.165563E+04	T(34)	=	.156616E+04	T(35)	=	.151495E+04
T(36)	=	.152067E+04	T(37)	=	.150547E+04	T(38)	=	.140145E+04	T(39)	=	.126817E+04	T(40)	=	.134247E+04
T(41)	=	.197065E+04	T(42)	=	.167398E+04	T(43)	=	.173419E+04	T(44)	=	.168965E+04	T(45)	=	.174110E+04
T(46)	=	.176824E+04	T(47)	=	.174449E+04	T(48)	=	.165635E+04	T(49)	=	.140321E+04	T(50)	=	.135919E+04
T(51)	=	.197057E+04	T(52)	=	.189755E+04	T(53)	=	.172952E+04	T(54)	=	.160065E+04	T(55)	=	.174253E+04
T(56)	=	.176889E+04	T(57)	=	.171839E+04	T(58)	=	.160434E+04	T(59)	=	.132168E+04	T(60)	=	.124294E+04
T(61)	=	.198306E+04	T(62)	=	.190320E+04	T(63)	=	.172045E+04	T(64)	=	.157588E+04	T(65)	=	.148711E+04
T(66)	=	.151931E+04	T(67)	=	.147621E+04	T(68)	=	.133758E+04	T(69)	=	.121614E+04	T(70)	=	.110426E+04
T(71)	=	.198691E+04	T(72)	=	.191424E+04	T(73)	=	.170956E+04	T(74)	=	.151641E+04	T(75)	=	.138405E+04
T(76)	=	.134313E+04	T(77)	=	.129676E+04	T(78)	=	.122553E+04	T(79)	=	.115435E+04	T(80)	=	.111948E+04
T(81)	=	.188592E+04	T(82)	=	.175604E+04	T(83)	=	.156111E+04	T(84)	=	.145711E+04	T(85)	=	.142602E+04
T(86)	=	.142710E+04	T(87)	=	.144370E+04	T(88)	=	.137884E+04	T(89)	=	.117241E+04	T(90)	=	.110405E+04
T(91)	=	.188803E+04	T(92)	=	.176000E+04	T(93)	=	.155289E+04	T(94)	=	.144157E+04	T(95)	=	.141734E+04
T(96)	=	.142171E+04	T(97)	=	.144365E+04	T(98)	=	.136790E+04	T(99)	=	.118162E+04	T(100)	=	.112592E+04
T(101)	=	.189475E+04	T(102)	=	.177472E+04	T(103)	=	.158640E+04	T(104)	=	.146620E+04	T(105)	=	.145877E+04
T(106)	=	.146667E+04	T(107)	=	.146442E+04	T(108)	=	.134432E+04	T(109)	=	.120362E+04	T(110)	=	.117555E+04
T(111)	=	.190334E+04	T(112)	=	.179724E+04	T(113)	=	.162406E+04	T(114)	=	.152659E+04	T(115)	=	.149609E+04
T(116)	=	.149862E+04	T(117)	=	.148091E+04	T(118)	=	.137994E+04	T(119)	=	.124867E+04	T(120)	=	.125771E+04
T(121)	=	.191857E+04	T(122)	=	.183783E+04	T(123)	=	.171945E+04	T(124)	=	.166749E+04	T(125)	=	.170677E+04
T(126)	=	.172948E+04	T(127)	=	.170295E+04	T(128)	=	.166609E+04	T(129)	=	.138456E+04	T(130)	=	.133404E+04
T(131)	=	.193154E+04	T(132)	=	.166300E+04	T(133)	=	.172269E+04	T(134)	=	.161297E+04	T(135)	=	.170949E+04
T(136)	=	.173474E+04	T(137)	=	.168637E+04	T(138)	=	.156693E+04	T(139)	=	.132032E+04	T(140)	=	.123886E+04
T(141)	=	.193758E+04	T(142)	=	.187088E+04	T(143)	=	.171317E+04	T(144)	=	.157164E+04	T(145)	=	.149490E+04
T(146)	=	.150054E+04	T(147)	=	.146383E+04	T(148)	=	.133870E+04	T(149)	=	.121285E+04	T(150)	=	.115832E+04

Figure 5-9. Model 2B Output (Sheet 12 of 16)

[illegible]

Figure 5-9. Model 2B Output (Sheet 13 of 16)

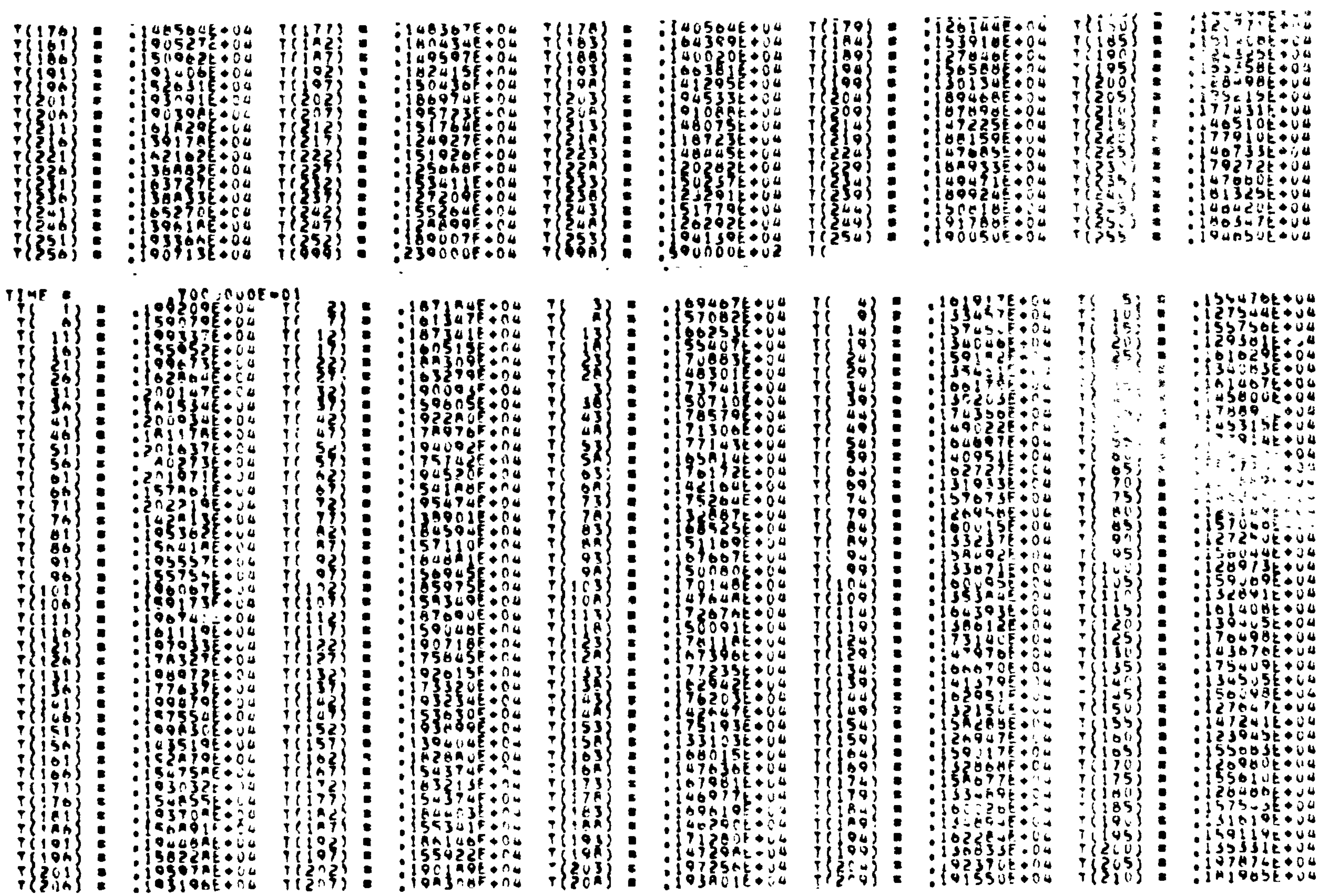

Figure 5-9. Model 2B Output (Sheet 14 of 16)

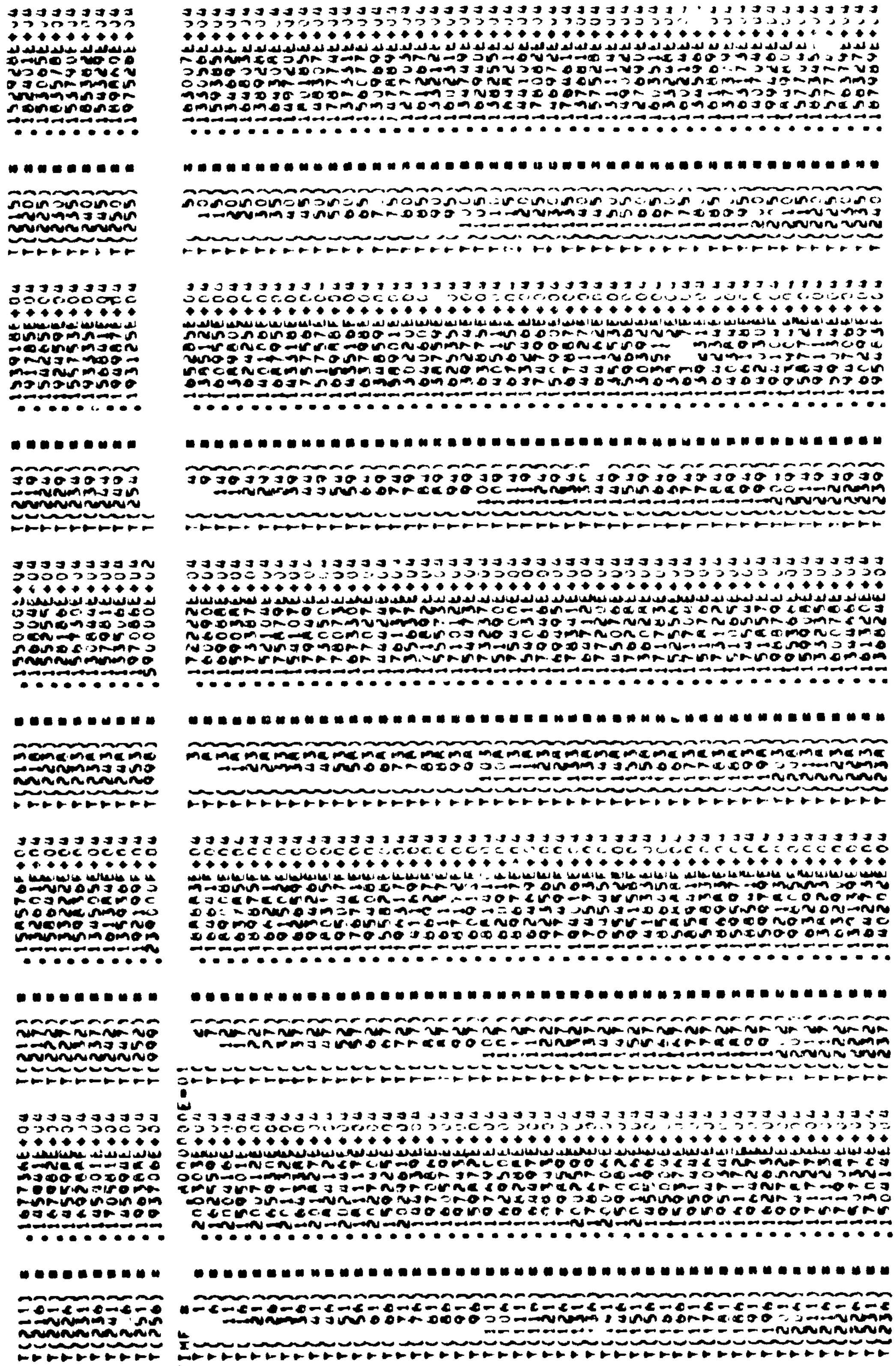

Figure 5-9. Model 2B Output (Sheet 15 of 16)

```
T(241) = .174139E+04   T(242) = .165602E+04   T(243) = .162358E+04   T(244) = .161193E+04   T(245) = .158708E+04
T(246) = .150850E+04   T(247) = .141414E+04   T(248) = .139198E+04   T(249) = .196953E+04   T(250) = .192039E+04
T(251) = .198191E+04   T(252) = .194106E+04   T(253) = .198808E+04   T(254) = .194920E+04   T(255) = .199193E+04
T(256) = .195435E+04   T(999) = .239000E+04   T(998) = .590000E+02   T(
```

Figure 5-9. Model 2B Output (Sheet 16 of 16)

```
$STORE
NUMBND  = 2,
NUMITR  = 272,
NUMCON  = 734,
NUMTCN  = 1628,
NUMNOD  = 1000,
NUMFLX  = 0,
NSTR    = 17000,
NEVALU  = 14,
NUMTOT  = 274,
NUMSCR  = 2291,
NUMRAD  = 80,
$END
THIS RUN REQUIRES A DATA AREA OF      35019 WORDS
      1     544     274     274     734    1468     274     160    1000       0
      0     274     274      80    3256     272      14    3808    2291   17000
    274     272     274     734     734     734
      1     545     819    1093    1827    3295    3569    3729    4729    4729
   4729    5003    5277    5357    8613    6865    8899   12707   14998   31998
  32272   32544   32818   33552   34286
HIGHEST MEMORY IN HEXADECIMAL IS 00022330
    274     272      14     734      80    1000       0    2291   17000
```

Figure 5-10. Model 2C Output (Sheet 1 of 16)

```
LANGLEY
    MODEL TWO
      RUN 3 C SECTION

NUMBER OF ITERATED NODES    =    272
NUMBER OF BOUNDARY NODES    =      2
NUMBER OF CONDUCTION LINKS  =    734
NUMBER OF RADIATION LINKS   =     80
NUMBER OF HEAT SOURCES      =      0

TIME = 0.               DTIME = .10000000E-01       FTIME = .10000000E+00

INITIAL TEMPERATURES OF ITERATED NODES
  T(  1) =  .500000E+03  T(  2) =  .500000E+03  T(  3) =  .500000E+03  T(  4) =  .500000E+03  T(  5) =  .500000E+03
  T(  6) =  .500000E+03  T(  7) =  .500000E+03  T(  8) =  .500000E+03  T(  9) =  .500000E+03  T( 10) =  .500000E+03
  T( 11) =  .500000E+03  T( 12) =  .500000E+03  T( 13) =  .500000E+03  T( 14) =  .500000E+03  T( 15) =  .500000E+03
  T( 16) =  .500000E+03  T( 17) =  .500000E+03  T( 18) =  .500000E+03  T( 19) =  .500000E+03  T( 20) =  .500000E+03
  T( 21) =  .500000E+03  T( 22) =  .500000E+03  T( 23) =  .500000E+03  T( 24) =  .500000E+03  T( 25) =  .500000E+03
  T( 26) =  .500000E+03  T( 27) =  .500000E+03  T( 28) =  .500000E+03  T( 29) =  .500000E+03  T( 30) =  .500000E+03
  T( 31) =  .500000E+03  T( 32) =  .500000E+03  T( 33) =  .500000E+03  T( 34) =  .500000E+03  T( 35) =  .500000E+03
  T( 36) =  .500000E+03  T( 37) =  .500000E+03  T( 38) =  .500000E+03  T( 39) =  .500000E+03  T( 40) =  .500000E+03
  T( 41) =  .500000E+03  T( 42) =  .500000E+03  T( 43) =  .500000E+03  T( 44) =  .500000E+03  T( 45) =  .500000E+03
  T( 46) =  .500000E+03  T( 47) =  .500000E+03  T( 48) =  .500000E+03  T( 49) =  .500000E+03  T( 50) =  .500000E+03
  T( 51) =  .500000E+03  T( 52) =  .500000E+03  T( 53) =  .500000E+03  T( 54) =  .500000E+03  T( 55) =  .500000E+03
  T( 56) =  .500000E+03  T( 57) =  .500000E+03  T( 58) =  .500000E+03  T( 59) =  .500000E+03  T( 60) =  .500000E+03
  T( 61) =  .500000E+03  T( 62) =  .500000E+03  T( 63) =  .500000E+03  T( 64) =  .500000E+03  T( 65) =  .500000E+03
  T( 66) =  .500000E+03  T( 67) =  .500000E+03  T( 68) =  .500000E+03  T( 69) =  .500000E+03  T( 70) =  .500000E+03
  T( 71) =  .500000E+03  T( 72) =  .500000E+03  T( 73) =  .500000E+03  T( 74) =  .500000E+03  T( 75) =  .500000E+03
  T( 76) =  .500000E+03  T( 77) =  .500000E+03  T( 78) =  .500000E+03  T( 79) =  .500000E+03  T( 80) =  .500000E+03
  T( 81) =  .500000E+03  T( 82) =  .500000E+03  T( 83) =  .500000E+03  T( 84) =  .500000E+03  T( 85) =  .500000E+03
  T( 86) =  .500000E+03  T( 87) =  .500000E+03  T( 88) =  .500000E+03  T( 89) =  .500000E+03  T( 90) =  .500000E+03
  T( 91) =  .500000E+03  T( 92) =  .500000E+03  T( 93) =  .500000E+03  T( 94) =  .500000E+03  T( 95) =  .500000E+03
  T( 96) =  .500000E+03  T( 97) =  .500000E+03  T( 98) =  .500000E+03  T( 99) =  .500000E+03  T(100) =  .500000E+03
  T(101) =  .500000E+03  T(102) =  .500000E+03  T(103) =  .500000E+03  T(104) =  .500000E+03  T(105) =  .500000E+03
  T(106) =  .500000E+03  T(107) =  .500000E+03  T(108) =  .500000E+03  T(109) =  .500000E+03  T(110) =  .500000E+03
  T(111) =  .500000E+03  T(112) =  .500000E+03  T(113) =  .500000E+03  T(114) =  .500000E+03  T(115) =  .500000E+03
  T(116) =  .500000E+03  T(117) =  .500000E+03  T(118) =  .500000E+03  T(119) =  .500000E+03  T(120) =  .500000E+03
  T(121) =  .500000E+03  T(122) =  .500000E+03  T(123) =  .500000E+03  T(124) =  .500000E+03  T(125) =  .500000E+03
  T(126) =  .500000E+03  T(127) =  .500000E+03  T(128) =  .500000E+03  T(129) =  .500000E+03  T(130) =  .500000E+03
  T(131) =  .500000E+03  T(132) =  .500000E+03  T(133) =  .500000E+03  T(134) =  .500000E+03  T(135) =  .500000E+03
  T(136) =  .500000E+03  T(137) =  .500000E+03  T(138) =  .500000E+03  T(139) =  .500000E+03  T(140) =  .500000E+03
  T(141) =  .500000E+03  T(142) =  .500000E+03  T(143) =  .500000E+03  T(144) =  .500000E+03  T(145) =  .500000E+03
  T(146) =  .500000E+03  T(147) =  .500000E+03  T(148) =  .500000E+03  T(149) =  .500000E+03  T(150) =  .500000E+03
  T(151) =  .500000E+03  T(152) =  .500000E+03  T(153) =  .500000E+03  T(154) =  .500000E+03  T(155) =  .500000E+03
  T(156) =  .500000E+03  T(157) =  .500000E+03  T(158) =  .500000E+03  T(159) =  .500000E+03  T(160) =  .500000E+03
  T(161) =  .500000E+03  T(162) =  .500000E+03  T(163) =  .500000E+03  T(164) =  .500000E+03  T(165) =  .500000E+03
  T(166) =  .500000E+03  T(167) =  .500000E+03  T(168) =  .500000E+03  T(169) =  .500000E+03  T(170) =  .500000E+03
  T(171) =  .500000E+03  T(172) =  .500000E+03  T(173) =  .500000E+03  T(174) =  .500000E+03  T(175) =  .500000E+03
  T(176) =  .500000E+03  T(177) =  .500000E+03  T(178) =  .500000E+03  T(179) =  .500000E+03  T(180) =  .500000E+03
  T(181) =  .500000E+03  T(182) =  .500000E+03  T(183) =  .500000E+03  T(184) =  .500000E+03  T(185) =  .500000E+03
  T(186) =  .500000E+03  T(187) =  .500000E+03  T(188) =  .500000E+03  T(189) =  .500000E+03  T(190) =  .500000E+03
  T(191) =  .500000E+03  T(192) =  .500000E+03  T(193) =  .500000E+03  T(194) =  .500000E+03  T(195) =  .500000E+03
  T(196) =  .500000E+03  T(197) =  .500000E+03  T(198) =  .500000E+03  T(199) =  .500000E+03  T(200) =  .500000E+03
  T(201) =  .500000E+03  T(202) =  .500000E+03  T(203) =  .500000E+03  T(204) =  .500000E+03  T(205) =  .500000E+03
  T(206) =  .500000E+03  T(207) =  .500000E+03  T(208) =  .500000E+03  T(209) =  .500000E+03  T(210) =  .500000E+03
  T(211) =  .500000E+03  T(212) =  .500000E+03  T(213) =  .500000E+03  T(214) =  .500000E+03  T(215) =  .500000E+03
  T(216) =  .500000E+03  T(217) =  .500000E+03  T(218) =  .500000E+03  T(219) =  .500000E+03  T(220) =  .500000E+03
  T(221) =  .500000E+03  T(222) =  .500000E+03  T(223) =  .500000E+03  T(224) =  .500000E+03  T(225) =  .500000E+03
```

Figure 5-10. Model 2C Output (Sheet 2 of 16)

```
 T(226) =   .500000E+03    T(227) =   .500000E+03    T(228) =   .500000E+03    T(229) =   .500000E+03    T(230) =   .500000E+03
 T(231) =   .500000E+03    T(232) =   .500000E+03    T(233) =   .500000E+03    T(234) =   .500000E+03    T(235) =   .500000E+03
 T(236) =   .500000E+03    T(237) =   .500000E+03    T(238) =   .500000E+03    T(239) =   .500000E+03    T(240) =   .500000E+03
 T(241) =   .500000E+03    T(242) =   .500000E+03    T(243) =   .500000E+03    T(244) =   .500000E+03    T(245) =   .500000E+03
 T(246) =   .500000E+03    T(247) =   .500000E+03    T(248) =   .500000E+03    T(249) =   .500000E+03    T(250) =   .500000E+03
 T(251) =   .500000E+03    T(252) =   .500000E+03    T(253) =   .500000E+03    T(254) =   .500000E+03    T(255) =   .500000E+03
 T(256) =   .500000E+03    T(257) =   .500000E+03    T(258) =   .500000E+03    T(259) =   .500000E+03    T(260) =   .500000E+03
 T(261) =   .500000E+03    T(262) =   .500000E+03    T(263) =   .500000E+03    T(264) =   .500000E+03    T(265) =   .500000E+03
 T(266) =   .500000E+03    T(267) =   .500000E+03    T(268) =   .500000E+03    T(269) =   .500000E+03    T(270) =   .500000E+03
 T(271) =   .500000E+03    T(272) =   .500000E+03    T(

INITIAL TEMPERATURES OF BOUNDARY NODES
 T(999) =   .239000E+04    T(998) =   .590000E+02    T(

INITIAL THERMAL CAPACITANCES OF ITERATED NODES
CAP(  1) =   .731100E-03     CAP(  2) =   .749000E-03     CAP(  3) =   .766800E-03     CAP(  4) =   .713300E-03
CAP(  5) =   .766800E-03     CAP(  6) =   .731100E-03     CAP(  7) =   .749000E-03     CAP(  8) =   .731100E-03
CAP(  9) =   .766800E-03     CAP( 10) =   .731100E-03     CAP( 11) =   .731100E-03     CAP( 12) =   .749000E-03
CAP( 13) =   .766800E-03     CAP( 14) =   .713300E-03     CAP( 15) =   .766800E-03     CAP( 16) =   .731100E-03
CAP( 17) =   .749000E-03     CAP( 18) =   .731100E-03     CAP( 19) =   .766800E-03     CAP( 20) =   .731100E-03
CAP( 21) =   .731100E-03     CAP( 22) =   .749000E-03     CAP( 23) =   .766800E-03     CAP( 24) =   .713300E-03
CAP( 25) =   .766800E-03     CAP( 26) =   .731100E-03     CAP( 27) =   .749000E-03     CAP( 28) =   .731100E-03
CAP( 29) =   .766800E-03     CAP( 30) =   .731100E-03     CAP( 31) =   .731100E-03     CAP( 32) =   .749000E-03
CAP( 33) =   .766800E-03     CAP( 34) =   .713300E-03     CAP( 35) =   .766800E-03     CAP( 36) =   .731100E-03
CAP( 37) =   .749000E-03     CAP( 38) =   .731100E-03     CAP( 39) =   .766800E-03     CAP( 40) =   .731100E-03
CAP( 41) =   .146200E-02     CAP( 42) =   .149800E-02     CAP( 43) =   .153400E-02     CAP( 44) =   .142700E-02
CAP( 45) =   .153400E-02     CAP( 46) =   .146200E-02     CAP( 47) =   .149800E-02     CAP( 48) =   .146200E-02
CAP( 49) =   .153400E-02     CAP( 50) =   .146200E-02     CAP( 51) =   .142700E-02     CAP( 52) =   .146200E-02
CAP( 53) =   .149700E-02     CAP( 54) =   .139300E-02     CAP( 55) =   .149700E-02     CAP( 56) =   .142700E-02
CAP( 57) =   .146200E-02     CAP( 58) =   .142700E-02     CAP( 59) =   .149700E-02     CAP( 60) =   .142700E-02
CAP( 61) =   .146200E-02     CAP( 62) =   .149600E-02     CAP( 63) =   .153400E-02     CAP( 64) =   .142700E-02
CAP( 65) =   .153400E-02     CAP( 66) =   .146200E-02     CAP( 67) =   .149800E-02     CAP( 68) =   .146200E-02
CAP( 69) =   .153400E-02     CAP( 70) =   .146200E-02     CAP( 71) =   .146200E-02     CAP( 72) =   .149800E-02
CAP( 73) =   .153400E-02     CAP( 74) =   .142700E-02     CAP( 75) =   .153400E-02     CAP( 76) =   .146200E-02
CAP( 77) =   .149800E-02     CAP( 78) =   .146200E-02     CAP( 79) =   .153400E-02     CAP( 80) =   .146200E-02
CAP( 81) =   .731100E-03     CAP( 82) =   .749000E-03     CAP( 83) =   .766800E-03     CAP( 84) =   .713300E-03
CAP( 85) =   .766800E-03     CAP( 86) =   .731100E-03     CAP( 87) =   .749000E-03     CAP( 88) =   .731100E-03
CAP( 89) =   .766800E-03     CAP( 90) =   .731100E-03     CAP( 91) =   .731100E-03     CAP( 92) =   .749000E-03
CAP( 93) =   .766800E-03     CAP( 94) =   .713300E-03     CAP( 95) =   .766800E-03     CAP( 96) =   .731100E-03
CAP( 97) =   .749000E-03     CAP( 98) =   .731100E-03     CAP( 99) =   .766800E-03     CAP(100) =   .731100E-03
CAP(101) =   .731100E-03     CAP(102) =   .749000E-03     CAP(103) =   .766800E-03     CAP(104) =   .713300E-03
CAP(105) =   .766800E-03     CAP(106) =   .731100E-03     CAP(107) =   .749000E-03     CAP(108) =   .731100E-03
CAP(109) =   .766800E-03     CAP(110) =   .731100E-03     CAP(111) =   .731100E-03     CAP(112) =   .749000E-03
CAP(113) =   .766800E-03     CAP(114) =   .713300E-03     CAP(115) =   .766800E-03     CAP(116) =   .731100E-03
CAP(117) =   .749000E-03     CAP(118) =   .731100E-03     CAP(119) =   .766800E-03     CAP(120) =   .731100E-03
CAP(121) =   .146200E-02     CAP(122) =   .149600E-02     CAP(123) =   .153400E-02     CAP(124) =   .142700E-02
CAP(125) =   .153400E-02     CAP(126) =   .146200E-02     CAP(127) =   .149600E-02     CAP(128) =   .146200E-02
CAP(129) =   .153400E-02     CAP(130) =   .146200E-02     CAP(131) =   .142700E-02     CAP(132) =   .146200E-02
CAP(133) =   .149700E-02     CAP(134) =   .139500E-02     CAP(135) =   .149700E-02     CAP(136) =   .142700E-02
CAP(137) =   .146200E-02     CAP(138) =   .142700E-02     CAP(139) =   .149700E-02     CAP(140) =   .142700E-02
CAP(141) =   .146200E-02     CAP(142) =   .149800E-02     CAP(143) =   .153400E-02     CAP(144) =   .142700E-02
CAP(145) =   .153400E-02     CAP(146) =   .146200E-02     CAP(147) =   .149800E-02     CAP(148) =   .146200E-02
CAP(149) =   .153400E-02     CAP(150) =   .146200E-02     CAP(151) =   .146200E-02     CAP(152) =   .149800E-02
CAP(153) =   .153400E-02     CAP(154) =   .142700E-02     CAP(155) =   .153400E-02     CAP(156) =   .146200E-02
CAP(157) =   .149800E-02     CAP(158) =   .146200E-02     CAP(159) =   .153400E-02     CAP(160) =   .146200E-02
CAP(161) =   .679300E-03     CAP(162) =   .713300E-03     CAP(163) =   .696300E-03     CAP(164) =   .713300E-03
CAP(165) =   .713300E-03     CAP(166) =   .713300E-03     CAP(167) =   .696300E-03     CAP(168) =   .713300E-03
CAP(169) =   .713300E-03     CAP(170) =   .696300E-03     CAP(171) =   .747300E-03     CAP(172) =   .784600E-03
CAP(173) =   .765900E-03     CAP(174) =   .784600E-03     CAP(175) =   .784600E-03     CAP(176) =   .784600E-03
CAP(177) =   .765900E-03     CAP(178) =   .784600E-03     CAP(179) =   .784600E-03     CAP(180) =   .765900E-03
```

Figure 5-10. Model 2C Output (Sheet 3 of 16)

CAP(181)	=	.679300E-03	CAP(182)	=	.713300E-03	CAP(183)	=	.696300E-03	CAP(184)	=	.713300E-03
CAP(185)	=	.713300E-03	CAP(186)	=	.713300E-03	CAP(187)	=	.696300E-03	CAP(188)	=	.713300E-03
CAP(189)	=	.713300E-03	CAP(190)	=	.696300E-03	CAP(191)	=	.713300E-03	CAP(192)	=	.749000E-03
CAP(193)	=	.731100E-03	CAP(194)	=	.749000E-03	CAP(195)	=	.749000E-03	CAP(196)	=	.749000E-03
CAP(197)	=	.731100E-03	CAP(198)	=	.749000E-03	CAP(199)	=	.749000E-03	CAP(200)	=	.731100E-03
CAP(201)	=	.142700E-02	CAP(202)	=	.149600E-02	CAP(203)	=	.139300E-02	CAP(204)	=	.146200E-02
CAP(205)	=	.146100E-02	CAP(206)	=	.153400E-02	CAP(207)	=	.139300E-02	CAP(208)	=	.146200E-02
CAP(209)	=	.679300E-03	CAP(210)	=	.713300E-03	CAP(211)	=	.696300E-03	CAP(212)	=	.713300E-03
CAP(213)	=	.713300E-03	CAP(214)	=	.713300E-03	CAP(215)	=	.696300E-03	CAP(216)	=	.713300E-03
CAP(217)	=	.713300E-03	CAP(218)	=	.696300E-03	CAP(219)	=	.747300E-03	CAP(220)	=	.784600E-03
CAP(221)	=	.765900E-03	CAP(222)	=	.784600E-03	CAP(223)	=	.784600E-03	CAP(224)	=	.784600E-03
CAP(225)	=	.765900E-03	CAP(226)	=	.784600E-03	CAP(227)	=	.784600E-03	CAP(228)	=	.765900E-03
CAP(229)	=	.679300E-03	CAP(230)	=	.713300E-03	CAP(231)	=	.696300E-03	CAP(232)	=	.713300E-03
CAP(233)	=	.713300E-03	CAP(234)	=	.713300E-03	CAP(235)	=	.696300E-03	CAP(236)	=	.713300E-03
CAP(237)	=	.713300E-03	CAP(238)	=	.696300E-03	CAP(239)	=	.713300E-03	CAP(240)	=	.749000E-03
CAP(241)	=	.731100E-03	CAP(242)	=	.749000E-03	CAP(243)	=	.749000E-03	CAP(244)	=	.749000E-03
CAP(245)	=	.731100E-03	CAP(246)	=	.749000E-03	CAP(247)	=	.749000E-03	CAP(248)	=	.731100E-03
CAP(249)	=	.142700E-02	CAP(250)	=	.149600E-02	CAP(251)	=	.139300E-02	CAP(252)	=	.146200E-02
CAP(253)	=	.146100E-02	CAP(254)	=	.153400E-02	CAP(255)	=	.139300E-02	CAP(256)	=	.146200E-02
CAP(257)	=	.696300E-03	CAP(258)	=	.713300E-03	CAP(259)	=	.731100E-03	CAP(260)	=	.749000E-03
CAP(261)	=	.696300E-03	CAP(262)	=	.713300E-03	CAP(263)	=	.765900E-03	CAP(264)	=	.784600E-03
CAP(265)	=	.142700E-02	CAP(266)	=	.146200E-02	CAP(267)	=	.142700E-02	CAP(268)	=	.146200E-02
CAP(269)	=	.146200E-02	CAP(270)	=	.149800E-02	CAP(271)	=	.149700E-02	CAP(272)	=	.153400E-02

INITIAL CONDUCTANCES

COND(1)(	1- 11)	=	.236700E+01	COND(2)(	1- 2)	=	.613600E+00	COND(3)(	2- 12)	=	.242500E+01
COND(4)(	2- 3)	=	.599100E+00	COND(5)(	3- 13)	=	.248300E+01	COND(6)(	3- 4)	=	.613600E+00
COND(7)(	4- 14)	=	.231000E+01	COND(8)(	4- 5)	=	.613600E+00	COND(9)(	5- 15)	=	.248300E+01
COND(10)(	5- 6)	=	.606200E+00	COND(11)(	6- 16)	=	.236700E+01	COND(12)(	6- 7)	=	.613600E+00
COND(13)(	7- 17)	=	.242500E+01	COND(14)(	7- 8)	=	.613600E+00	COND(15)(	8- 18)	=	.236700E+01
COND(16)(	8- 9)	=	.606200E+00	COND(17)(	9- 19)	=	.248300E+01	COND(18)(	9- 10)	=	.606200E+00
COND(19)(	10- 20)	=	.236700E+01	COND(20)(	11- 21)	=	.236700E+01	COND(21)(	11- 12)	=	.613600E+00
COND(22)(	12- 22)	=	.242500E+01	COND(23)(	12- 13)	=	.599100E+00	COND(24)(	13- 23)	=	.248300E+01
COND(25)(	13- 14)	=	.613600E+00	COND(26)(	14- 24)	=	.231000E+01	COND(27)(	14- 15)	=	.613600E+00
COND(28)(	15- 25)	=	.248300E+01	COND(29)(	15- 16)	=	.606200E+00	COND(30)(	16- 26)	=	.236700E+01
COND(31)(	16- 17)	=	.613600E+00	COND(32)(	17- 27)	=	.242500E+01	COND(33)(	17- 18)	=	.613600E+00
COND(34)(	18- 28)	=	.236700E+01	COND(35)(	18- 19)	=	.606200E+00	COND(36)(	19- 29)	=	.248300E+01
COND(37)(	19- 20)	=	.606200E+00	COND(38)(	20- 30)	=	.236700E+01	COND(39)(	21- 31)	=	.236700E+01
COND(40)(	21- 22)	=	.613600E+00	COND(41)(	22- 32)	=	.242500E+01	COND(42)(	22- 23)	=	.599100E+00
COND(43)(	23- 33)	=	.248300E+01	COND(44)(	23- 24)	=	.613600E+00	COND(45)(	24- 34)	=	.231000E+01
COND(46)(	24- 25)	=	.613600E+00	COND(47)(	25- 35)	=	.248300E+01	COND(48)(	25- 26)	=	.606300E+00
COND(49)(	26- 36)	=	.236700E+01	COND(50)(	26- 27)	=	.613600E+00	COND(51)(	27- 37)	=	.242500E+01
COND(52)(	27- 28)	=	.613600E+00	COND(53)(	28- 38)	=	.236700E+01	COND(54)(	28- 29)	=	.606300E+00
COND(55)(	29- 39)	=	.248300E+01	COND(56)(	29- 30)	=	.606300E+00	COND(57)(	30- 40)	=	.236700E+01
COND(58)(	31- 41)	=	.157800E+01	COND(59)(	31- 32)	=	.613600E+00	COND(60)(	32- 42)	=	.161700E+01
COND(61)(	32- 33)	=	.599100E+00	COND(62)(	33- 43)	=	.165500E+01	COND(63)(	33- 34)	=	.613600E+00
COND(64)(	34- 44)	=	.154000E+01	COND(65)(	34- 35)	=	.613600E+00	COND(66)(	35- 45)	=	.165500E+01
COND(67)(	35- 36)	=	.606300E+00	COND(68)(	36- 46)	=	.157800E+01	COND(69)(	36- 37)	=	.613600E+00
COND(70)(	37- 47)	=	.161700E+01	COND(71)(	37- 38)	=	.613600E+00	COND(72)(	38- 48)	=	.157800E+01
COND(73)(	38- 39)	=	.606300E+00	COND(74)(	39- 49)	=	.165500E+01	COND(75)(	39- 40)	=	.606300E+00
COND(76)(	40- 50)	=	.157800E+01	COND(77)(	41- 51)	=	.119800E+01	COND(78)(	41- 42)	=	.122700E+01
COND(79)(	42- 52)	=	.122700E+01	COND(80)(	42- 43)	=	.119800E+01	COND(81)(	43- 53)	=	.125600E+01
COND(82)(	43- 44)	=	.122700E+01	COND(83)(	44- 54)	=	.116900E+01	COND(84)(	44- 45)	=	.122700E+01
COND(85)(	45- 55)	=	.125600E+01	COND(86)(	45- 46)	=	.121200E+01	COND(87)(	46- 56)	=	.119800E+01
COND(88)(	46- 47)	=	.122700E+01	COND(89)(	47- 57)	=	.122700E+01	COND(90)(	47- 48)	=	.122700E+01
COND(91)(	48- 58)	=	.119800E+01	COND(92)(	48- 49)	=	.121200E+01	COND(93)(	49- 59)	=	.125600E+01
COND(94)(	49- 50)	=	.121200E+01	COND(95)(	50- 60)	=	.119800E+01	COND(96)(	51- 61)	=	.119800E+01
COND(97)(	51- 52)	=	.119800E+01	COND(98)(	52- 62)	=	.122700E+01	COND(99)(	52- 53)	=	.117000E+01
COND(100)(	53- 63)	=	.125600E+01	COND(101)(	53- 54)	=	.119800E+01	COND(102)(	54- 64)	=	.116900E+01
COND(103)(	54- 55)	=	.119800E+01	COND(104)(	55- 65)	=	.125600E+01	COND(105)(	55- 56)	=	.118400E+01

Figure 5-10. Model 2C Output (Sheet 4 of 16)

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

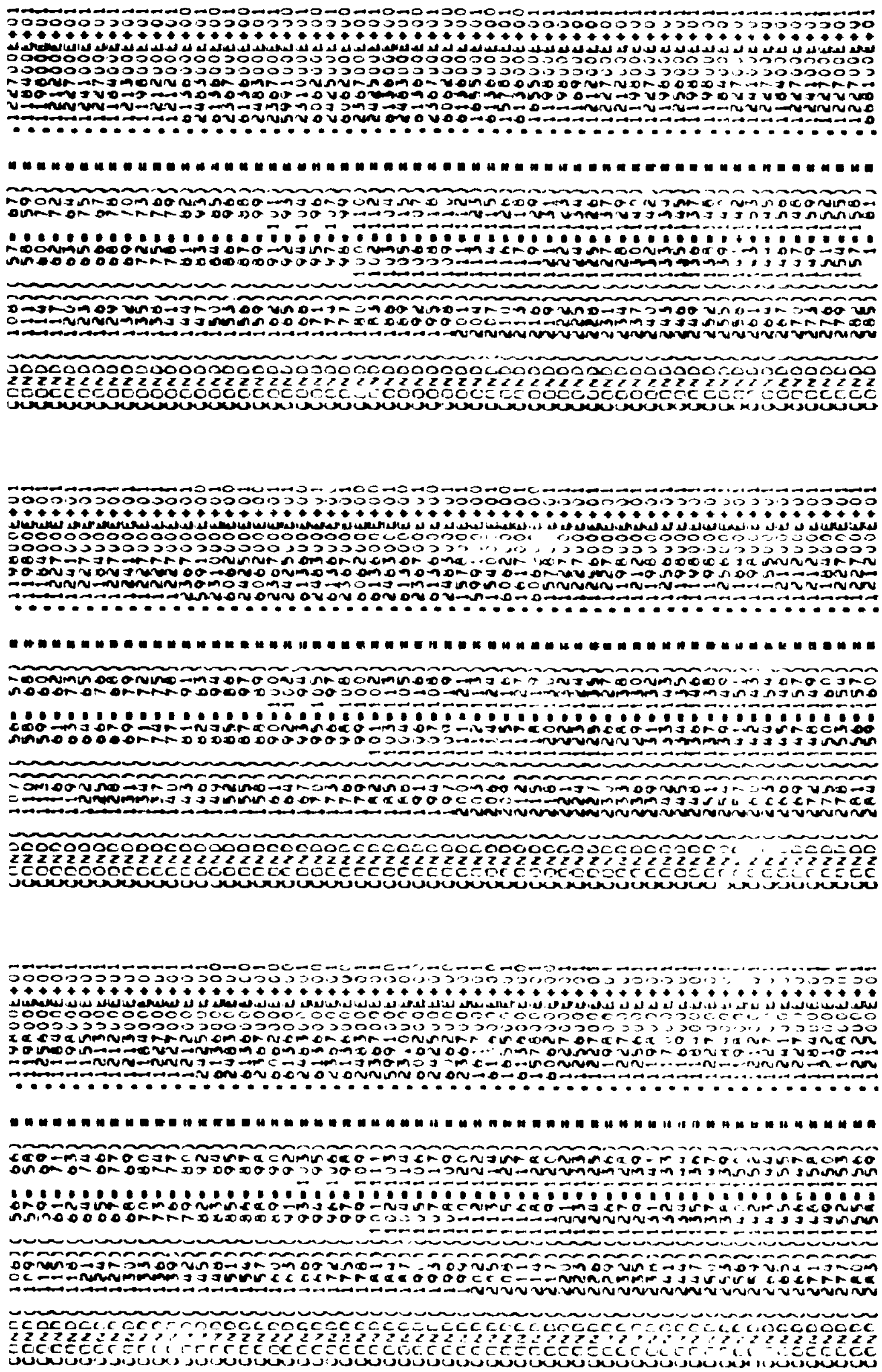

Figure 5-10. Model 2C Output (Sheet 5 of 16)

```
COND( 286)(  2=  82) =  .684400E+01     COND( 287)(  3=  83) =  .700700E+01     COND( 288)(  4=  84) =  .651800E+01
COND( 289)(  5=  85) =  .700700E+01     COND( 290)(  6=  86) =  .668100E+01     COND( 291)(  7=  87) =  .684400E+01
COND( 292)(  8=  88) =  .668100E+01     COND( 293)(  9=  89) =  .700700E+01     COND( 294)( 10=  90) =  .668100E+01
COND( 295)( 11=  91) =  .668100E+01     COND( 296)( 12=  92) =  .684400E+01     COND( 297)( 13=  93) =  .700700E+01
COND( 298)( 14=  94) =  .651800E+01     COND( 299)( 15=  95) =  .700700E+01     COND( 300)( 16=  96) =  .668100E+01
COND( 301)( 17=  97) =  .684400E+01     COND( 302)( 18=  98) =  .668100E+01     COND( 303)( 19=  99) =  .700700E+01
COND( 304)( 20= 100) =  .668100E+01     COND( 305)( 21= 101) =  .668100E+01     COND( 306)( 22= 102) =  .684400E+01
COND( 307)( 23= 103) =  .700700E+01     COND( 308)( 24= 104) =  .651800E+01     COND( 309)( 25= 105) =  .700700E+01
COND( 310)( 26= 106) =  .668100E+01     COND( 311)( 27= 107) =  .684400E+01     COND( 312)( 28= 108) =  .668100E+01
COND( 313)( 29= 109) =  .700700E+01     COND( 314)( 30= 110) =  .668100E+01     COND( 315)( 31= 111) =  .668100E+01
COND( 316)( 32= 112) =  .684400E+01     COND( 317)( 33= 113) =  .700700E+01     COND( 318)( 34= 114) =  .651800E+01
COND( 319)( 35= 115) =  .700700E+01     COND( 320)( 36= 116) =  .668100E+01     COND( 321)( 37= 117) =  .684400E+01
COND( 322)( 38= 118) =  .668100E+01     COND( 323)( 39= 119) =  .700700E+01     COND( 324)( 40= 120) =  .668100E+01
COND( 325)( 41= 121) =  .133600E+02     COND( 326)( 42= 122) =  .136900E+02     COND( 327)( 43= 123) =  .140100E+02
COND( 328)( 44= 124) =  .130400E+02     COND( 329)( 45= 125) =  .140100E+02     COND( 330)( 46= 126) =  .133600E+02
COND( 331)( 47= 127) =  .136900E+02     COND( 332)( 48= 128) =  .133600E+02     COND( 333)( 49= 129) =  .140100E+02
COND( 334)( 50= 130) =  .133600E+02     COND( 335)( 51= 131) =  .130400E+02     COND( 336)( 52= 132) =  .133600E+02
COND( 337)( 53= 133) =  .136800E+02     COND( 338)( 54= 134) =  .127300E+02     COND( 339)( 55= 135) =  .136800E+02
COND( 340)( 56= 136) =  .130400E+02     COND( 341)( 57= 137) =  .133600E+02     COND( 342)( 58= 138) =  .130400E+02
COND( 343)( 59= 139) =  .136800E+02     COND( 344)( 60= 140) =  .130400E+02     COND( 345)( 61= 141) =  .133600E+02
COND( 346)( 62= 142) =  .136900E+02     COND( 347)( 63= 143) =  .140100E+02     COND( 348)( 64= 144) =  .130400E+02
COND( 349)( 65= 145) =  .140100E+02     COND( 350)( 66= 146) =  .133600E+02     COND( 351)( 67= 147) =  .136900E+02
COND( 352)( 68= 148) =  .133600E+02     COND( 353)( 69= 149) =  .140100E+02     COND( 354)( 70= 150) =  .133600E+02
COND( 355)( 71= 151) =  .133600E+02     COND( 356)( 72= 152) =  .136900E+02     COND( 357)( 73= 153) =  .140100E+02
COND( 358)( 74= 154) =  .130400E+02     COND( 359)( 75= 155) =  .140100E+02     COND( 360)( 76= 156) =  .133600E+02
COND( 361)( 77= 157) =  .136900E+02     COND( 362)( 78= 158) =  .133600E+02     COND( 363)( 79= 159) =  .140100E+02
COND( 364)( 80= 160) =  .133600E+02     COND( 365)(  1= 999) =  .193200E+00     COND( 366)(  2= 999) =  .116400E+00
COND( 367)(  3= 999) =  .596000E-01     COND( 368)(  4= 999) =  .554000E-01     COND( 369)(  5= 999) =  .596000E-01
COND( 370)(  6= 999) =  .560000E-01     COND( 371)(  7= 999) =  .700000E-01     COND( 372)(  8= 999) =  .800000E-01
COND( 373)(  9= 999) =  .119000E-01     COND( 374)( 10= 999) =  .119000E-01     COND( 375)( 11= 999) =  .193200E+00
COND( 376)( 12= 999) =  .116400E+00     COND( 377)( 13= 999) =  .119000E-01     COND( 378)( 14= 999) =  .119000E-01
COND( 379)( 15= 999) =  .119000E-01     COND( 380)( 16= 999) =  .119000E-01     COND( 381)( 17= 999) =  .570000E-01
COND( 382)( 18= 999) =  .800000E-01     COND( 383)( 19= 999) =  .119000E-01     COND( 384)( 20= 999) =  .119000E-01
COND( 385)( 21= 999) =  .193200E+00     COND( 386)( 22= 999) =  .116400E+00     COND( 387)( 23= 999) =  .596000E-01
COND( 388)( 24= 999) =  .119000E-01     COND( 389)( 25= 999) =  .700000E-01     COND( 390)( 26= 999) =  .600000E-01
COND( 391)( 27= 999) =  .940000E-01     COND( 392)( 28= 999) =  .114000E-01     COND( 393)( 29= 999) =  .114000E-01
COND( 394)( 30= 999) =  .119000E-01     COND( 395)( 31= 999) =  .193200E+00     COND( 396)( 32= 999) =  .126100E+00
COND( 397)( 33= 999) =  .596000E-01     COND( 398)( 34= 999) =  .554000E-01     COND( 399)( 35= 999) =  .119000E-01
COND( 400)( 36= 999) =  .114000E-01     COND( 401)( 37= 999) =  .114000E-01     COND( 402)( 38= 999) =  .114000E-01
COND( 403)( 39= 999) =  .119000E-01     COND( 404)( 40= 999) =  .800000E-01     COND( 405)( 41= 999) =  .386400E+00
COND( 406)( 42= 999) =  .256100E+00     COND( 407)( 43= 999) =  .141000E+00     COND( 408)( 44= 999) =  .140000E+00
COND( 409)( 45= 999) =  .212000E+00     COND( 410)( 46= 999) =  .230000E+00     COND( 411)( 47= 999) =  .230000E+00
COND( 412)( 48= 999) =  .212000E+00     COND( 413)( 49= 999) =  .690000E-01     COND( 414)( 50= 999) =  .690000E-01
COND( 415)( 51= 999) =  .377200E+00     COND( 416)( 52= 999) =  .273000E+00     COND( 417)( 53= 999) =  .117600E+00
COND( 418)( 54= 999) =  .216000E-01     COND( 419)( 55= 999) =  .212000E+00     COND( 420)( 56= 999) =  .212000E+00
COND( 421)( 57= 999) =  .183000E+00     COND( 422)( 58= 999) =  .155000E+00     COND( 423)( 59= 999) =  .235000E-01
COND( 424)( 60= 999) =  .235000E-01     COND( 425)( 61= 999) =  .386400E+00     COND( 426)( 62= 999) =  .279000E+00
COND( 427)( 63= 999) =  .117600E+00     COND( 428)( 64= 999) =  .690000E-01     COND( 429)( 65= 999) =  .218000E-01
COND( 430)( 66= 999) =  .690000E-01     COND( 431)( 67= 999) =  .690000E-01     COND( 432)( 68= 999) =  .235000E-01
COND( 433)( 69= 999) =  .235000E-01     COND( 434)( 70= 999) =  .235000E-01     COND( 435)( 71= 999) =  .386400E+00
COND( 436)( 72= 999) =  .302600E+00     COND( 437)( 73= 999) =  .117600E+00     COND( 438)( 74= 999) =  .460000E-01
COND( 439)( 75= 999) =  .235000E-01     COND( 440)( 76= 999) =  .235000E-01     COND( 441)( 77= 999) =  .235000E-01
COND( 442)( 78= 999) =  .235000E-01     COND( 443)( 79= 999) =  .235000E-01     COND( 444)( 80= 999) =  .235000E-01
COND( 445)(161= 171) =  .231000E+01     COND( 446)(161= 162) =  .591500E+00     COND( 447)(162= 172) =  .242500E+01
COND( 448)(162= 163) =  .584300E+00     COND( 449)(163= 173) =  .236700E+01     COND( 450)(163= 164) =  .584300E+00
COND( 451)(164= 174) =  .242500E+01     COND( 452)(164= 165) =  .577400E+00     COND( 453)(165= 175) =  .242500E+01
COND( 454)(165= 166) =  .577400E+00     COND( 455)(166= 176) =  .242500E+01     COND( 456)(166= 167) =  .584300E+00
COND( 457)(167= 177) =  .236700E+01     COND( 458)(167= 168) =  .584300E+00     COND( 459)(168= 178) =  .242500E+01
COND( 460)(168= 169) =  .577400E+00     COND( 461)(169= 179) =  .242500E+01     COND( 462)(169= 170) =  .584300E+00
COND( 463)(170= 180) =  .236700E+01     COND( 464)(171= 181) =  .231000E+01     COND( 465)(171= 172) =  .650600E+00
```

Figure 5-10. Model 2C Output (Sheet 6 of 16)

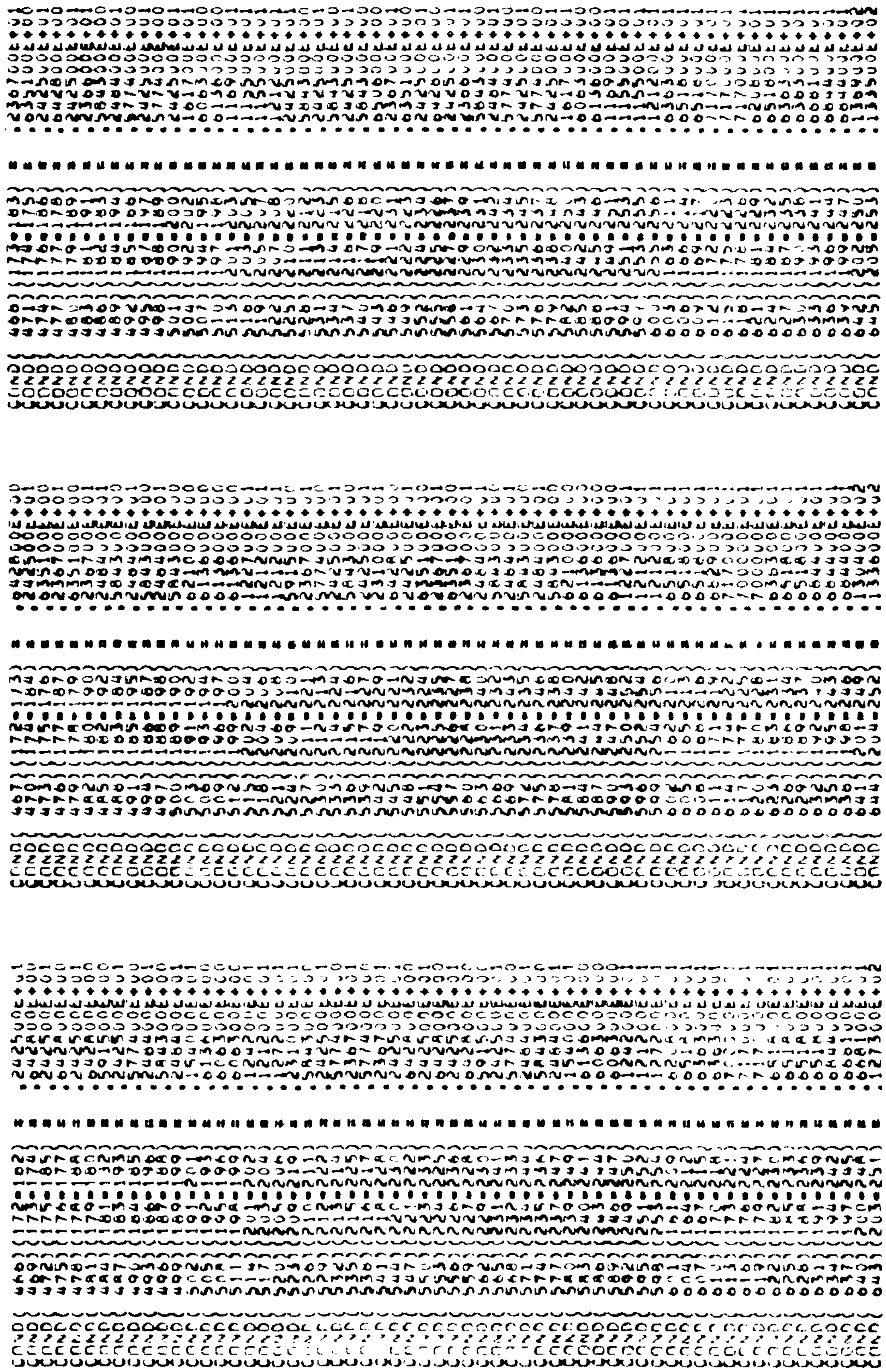

Figure 5-10. Model 2C Output (Sheet 7 of 16)

```
COND( 646)(206-254) = .140100E+02   COND( 647)(207-255) = .127300E+02   COND( 648)(208-256) = .133600E+02
COND( 649)(257-259) = .242500E+01   COND( 650)(257-258) = .584300E+00   COND( 651)(258-260) = .248400E+01
COND( 652)(259-261) = .242500E+01   COND( 653)(259-260) = .613600E+00   COND( 654)(260-262) = .248400E+01
COND( 655)(261-263) = .236700E+01   COND( 656)(261-262) = .584300E+00   COND( 657)(262-264) = .242500E+01
COND( 658)(263-265) = .157800E+01   COND( 659)(263-264) = .642800E+00   COND( 660)(264-266) = .161700E+01
COND( 661)(265-267) = .121200E+01   COND( 662)(265-266) = .119800E+01   COND( 663)(266-268) = .124200E+01
COND( 664)(267-269) = .119800E+01   COND( 665)(267-268) = .119800E+01   COND( 666)(268-270) = .122700E+01
COND( 667)(269-271) = .117000E+01   COND( 668)(269-270) = .122700E+01   COND( 669)(270-272) = .119800E+01
COND( 670)(271-272) = .125600E+01   COND( 671)( 81-161) = .680000E+01   COND( 672)( 82-162) = .680000E+01
COND( 673)( 83-163) = .680000E+01   COND( 674)( 84-164) = .680000E+01   COND( 675)( 85-165) = .680000E+01
COND( 676)( 86-166) = .680000E+01   COND( 677)( 87-167) = .680000E+01   COND( 678)( 88-168) = .680000E+01
COND( 679)( 89-169) = .680000E+01   COND( 680)( 90-170) = .680000E+01   COND( 681)( 91-171) = .680000E+01
COND( 682)( 92-172) = .680000E+01   COND( 683)( 93-173) = .680000E+01   COND( 684)( 94-174) = .680000E+01
COND( 685)( 95-175) = .680000E+01   COND( 686)( 96-176) = .680000E+01   COND( 687)( 97-177) = .680000E+01
COND( 688)( 98-178) = .680000E+01   COND( 689)( 99-179) = .680000E+01   COND( 690)(100-180) = .680000E+01
COND( 691)(101-181) = .680000E+01   COND( 692)(102-182) = .680000E+01   COND( 693)(103-183) = .680000E+01
COND( 694)(104-184) = .680000E+01   COND( 695)(105-185) = .680000E+01   COND( 696)(106-186) = .680000E+01
COND( 697)(107-187) = .680000E+01   COND( 698)(108-188) = .680000E+01   COND( 699)(109-189) = .680000E+01
COND( 700)(110-190) = .680000E+01   COND( 701)(111-191) = .680000E+01   COND( 702)(112-192) = .680000E+01
COND( 703)(113-193) = .680000E+01   COND( 704)(114-194) = .680000E+01   COND( 705)(115-195) = .680000E+01
COND( 706)(116-196) = .680000E+01   COND( 707)(117-197) = .680000E+01   COND( 708)(118-198) = .680000E+01
COND( 709)(119-199) = .680000E+01   COND( 710)(120-200) = .680000E+01   COND( 711)(121-201) = .135000E+02
COND( 712)(122-202) = .135000E+02   COND( 713)(131-203) = .135000E+02   COND( 714)(132-204) = .135000E+02
COND( 715)(141-205) = .135000E+02   COND( 716)(142-206) = .135000E+02   COND( 717)(151-207) = .135000E+02
COND( 718)(152-208) = .135000E+02   COND( 719)(209-257) = .680000E+01   COND( 720)(210-258) = .680000E+01
COND( 721)(219-259) = .680000E+01   COND( 722)(220-260) = .680000E+01   COND( 723)(229-261) = .680000E+01
COND( 724)(230-262) = .680000E+01   COND( 725)(239-263) = .680000E+01   COND( 726)(240-264) = .680000E+01
COND( 727)(249-265) = .135000E+02   COND( 728)(250-266) = .135000E+02   COND( 729)(251-267) = .135000E+02
COND( 730)(252-268) = .135000E+02   COND( 731)(253-269) = .135000E+02   COND( 732)(254-270) = .135000E+02
COND( 733)(255-271) = .135000E+02   COND( 734)(256-272) = .135000E+02   COND(
INITIAL RADIATION LINKS
RAD(   1)(  1-998) = .861000E-03    RAD(   2)(  2-998) = .882000E-03    RAD(   3)(  3-998) = .903000E-03
RAD(   4)(  4-998) = .840000E-03    RAD(   5)(  5-998) = .903000E-03    RAD(   6)(  6-998) = .861000E-03
RAD(   7)(  7-998) = .862000E-03    RAD(   8)(  8-998) = .861000E-03    RAD(   9)(  9-998) = .903000E-03
RAD(  10)( 10-998) = .861000E-03    RAD(  11)( 11-998) = .861000E-03    RAD(  12)( 12-998) = .882000E-03
RAD(  13)( 13-998) = .903000E-03    RAD(  14)( 14-998) = .840000E-03    RAD(  15)( 15-998) = .903000E-03
RAD(  16)( 16-998) = .861000E-03    RAD(  17)( 17-998) = .882000E-03    RAD(  18)( 18-998) = .861000E-03
RAD(  19)( 19-998) = .903000E-03    RAD(  20)( 20-998) = .861000E-03    RAD(  21)( 21-998) = .861000E-03
RAD(  22)( 22-998) = .882000E-03    RAD(  23)( 23-998) = .903000E-03    RAD(  24)( 24-998) = .840000E-03
RAD(  25)( 25-998) = .903000E-03    RAD(  26)( 26-998) = .861000E-03    RAD(  27)( 27-998) = .882000E-03
RAD(  28)( 28-998) = .861000E-03    RAD(  29)( 29-998) = .903000E-03    RAD(  30)( 30-998) = .861000E-03
RAD(  31)( 31-998) = .861000E-03    RAD(  32)( 32-998) = .882000E-03    RAD(  33)( 33-998) = .903000E-03
RAD(  34)( 34-998) = .840000E-03    RAD(  35)( 35-998) = .903000E-03    RAD(  36)( 36-998) = .861000E-03
RAD(  37)( 37-998) = .862000E-03    RAD(  38)( 38-998) = .861000E-03    RAD(  39)( 39-998) = .903000E-03
RAD(  40)( 40-998) = .861000E-03    RAD(  41)( 41-998) = .172200E-02    RAD(  42)( 42-998) = .176400E-02
RAD(  43)( 43-998) = .180600E-02    RAD(  44)( 44-998) = .168000E-02    RAD(  45)( 45-998) = .180600E-02
RAD(  46)( 46-998) = .172200E-02    RAD(  47)( 47-998) = .176400E-02    RAD(  48)( 48-998) = .172200E-02
RAD(  49)( 49-998) = .180600E-02    RAD(  50)( 50-998) = .172200E-02    RAD(  51)( 51-998) = .168100E-02
RAD(  52)( 52-998) = .172200E-02    RAD(  53)( 53-998) = .176300E-02    RAD(  54)( 54-998) = .164000E-02
RAD(  55)( 55-998) = .176300E-02    RAD(  56)( 56-998) = .168100E-02    RAD(  57)( 57-998) = .172200E-02
RAD(  58)( 58-998) = .168100E-02    RAD(  59)( 59-998) = .176300E-02    RAD(  60)( 60-998) = .168100E-02
RAD(  61)( 61-998) = .172200E-02    RAD(  62)( 62-998) = .176400E-02    RAD(  63)( 63-998) = .180600E-02
RAD(  64)( 64-998) = .168000E-02    RAD(  65)( 65-998) = .180600E-02    RAD(  66)( 66-998) = .172200E-02
RAD(  67)( 67-998) = .176400E-02    RAD(  68)( 68-998) = .172200E-02    RAD(  69)( 69-998) = .180600E-02
RAD(  70)( 70-998) = .172200E-02    RAD(  71)( 71-998) = .172200E-02    RAD(  72)( 72-998) = .176400E-02
RAD(  73)( 73-998) = .180600E-02    RAD(  74)( 74-998) = .168000E-02    RAD(  75)( 75-998) = .180600E-02
RAD(  76)( 76-998) = .172200E-02    RAD(  77)( 77-998) = .176400E-02    RAD(  78)( 78-998) = .172200E-02
RAD(  79)( 79-998) = .180600E-02    RAD(  80)( 80-998) = .172200E-02    RAD(
```

Figure 5-10. Model 2C Output (Sheet 8 of 16)

INITIAL HEAT FLUXES

```
 1     6     2  TEMP VS PROPERTIES
      .10000000E+00   .80000000E+02   .40000000E+03   .60000000E+03   .80000000E+03   .50000000E+04
      .39500000E+00   .39500000E+00   .51100000E+00   .54800000E+00   .56200000E+00   .57000000E+00
      .10250000E+02   .10250000E+02   .82900000E+01   .74200000E+01   .67900000E+01   .60000000E+01

RESERVED STORAGE 1317000  REQUIRED IS  13845 WORDS
                  MAXIMUM ITERATION   12 REACHED

TIME =        .10000000E-01
```

T(1) =	.146106E+04	T(2) =	.121918E+04	T(3) =	.944155E+03	T(4) =	.870863E+03	T(5) =	.860253E+03
T(6) =	.872184E+03	T(7) =	.966619E+03	T(8) =	.967517E+03	T(9) =	.668697E+03	T(10) =	.652366E+03
T(11) =	.146529E+04	T(12) =	.122216E+04	T(13) =	.881373E+03	T(14) =	.784012E+03	T(15) =	.790084E+03
T(16) =	.815912E+03	T(17) =	.949196E+03	T(18) =	.932847E+03	T(19) =	.669764E+03	T(20) =	.653742E+03
T(21) =	.147660E+04	T(22) =	.124314E+04	T(23) =	.971524E+03	T(24) =	.812131E+03	T(25) =	.891750E+03
T(26) =	.939134E+03	T(27) =	.997157E+03	T(28) =	.615601E+03	T(29) =	.681263E+03	T(30) =	.715592E+03
T(31) =	.148762E+04	T(32) =	.127753E+04	T(33) =	.103955E+04	T(34) =	.948129E+03	T(35) =	.908293E+03
T(36) =	.943869E+03	T(37) =	.902538E+03	T(38) =	.864863E+03	T(39) =	.735405E+03	T(40) =	.880652E+03
T(41) =	.149494E+04	T(42) =	.131067E+04	T(43) =	.116434E+04	T(44) =	.114453E+04	T(45) =	.124158E+04
T(46) =	.138215E+04	T(47) =	.137215E+04	T(48) =	.125424E+04	T(49) =	.900737E+03	T(50) =	.874500E+03
T(51) =	.148753E+04	T(52) =	.131487E+04	T(53) =	.112050E+04	T(54) =	.910051E+03	T(55) =	.125329E+04
T(56) =	.137145E+04	T(57) =	.131756E+04	T(58) =	.114937E+04	T(59) =	.753652E+03	T(60) =	.693659E+03
T(61) =	.148324E+04	T(62) =	.131869E+04	T(63) =	.110944E+04	T(64) =	.861011E+03	T(65) =	.813232E+03
T(66) =	.944670E+03	T(67) =	.917963E+03	T(68) =	.743659E+03	T(69) =	.645393E+03	T(70) =	.661164E+03
T(71) =	.150734E+04	T(72) =	.138312E+04	T(73) =	.114456E+04	T(74) =	.864596E+03	T(75) =	.734055E+03
T(76) =	.743464E+03	T(77) =	.703337E+03	T(78) =	.644495E+03	T(79) =	.651744E+03	T(80) =	.711823E+03
T(81) =	.114595E+04	T(82) =	.102031E+04	T(83) =	.836047E+03	T(84) =	.768159E+03	T(85) =	.755944E+03
T(86) =	.765299E+03	T(87) =	.837095E+03	T(88) =	.825906E+03	T(89) =	.633762E+03	T(90) =	.602662E+03
T(91) =	.119893E+04	T(92) =	.102390E+04	T(93) =	.815992E+03	T(94) =	.732438E+03	T(95) =	.731235E+03
T(96) =	.749151E+03	T(97) =	.829320E+03	T(98) =	.600629E+03	T(99) =	.634734E+03	T(100) =	.629949E+03
T(101) =	.121439E+04	T(102) =	.104504E+04	T(103) =	.863062E+03	T(104) =	.755856E+03	T(105) =	.780549E+03
T(106) =	.808814E+03	T(107) =	.852453E+03	T(108) =	.755813E+03	T(109) =	.646701E+03	T(110) =	.668745E+03
T(111) =	.122698E+04	T(112) =	.107111E+04	T(113) =	.920374E+03	T(114) =	.838421E+03	T(115) =	.833278E+03
T(116) =	.862069E+03	T(117) =	.881120E+03	T(118) =	.801670E+03	T(119) =	.690593E+03	T(120) =	.750434E+03
T(121) =	.124079E+04	T(122) =	.110523E+04	T(123) =	.110313E+04	T(124) =	.106272E+04	T(125) =	.119158E+04
T(126) =	.127762E+04	T(127) =	.126919E+04	T(128) =	.114991E+04	T(129) =	.855138E+03	T(130) =	.824611E+03
T(131) =	.122485E+04	T(132) =	.109710E+04	T(133) =	.104905E+04	T(134) =	.866092E+03	T(135) =	.115193E+04
T(136) =	.127242E+04	T(137) =	.122880E+04	T(138) =	.106405E+04	T(139) =	.733585E+03	T(140) =	.674407E+03
T(141) =	.121851E+04	T(142) =	.110063E+04	T(143) =	.103853E+04	T(144) =	.834741E+03	T(145) =	.794325E+03
T(146) =	.903735E+03	T(147) =	.873441E+03	T(148) =	.723104E+03	T(149) =	.628048E+03	T(150) =	.643474E+03
T(151) =	.125004E+04	T(152) =	.117435E+04	T(153) =	.107636E+04	T(154) =	.831075E+03	T(155) =	.717202E+03
T(156) =	.725660E+03	T(157) =	.665404E+03	T(158) =	.626477E+03	T(159) =	.634785E+03	T(160) =	.694690E+03
T(161) =	.993955E+03	T(162) =	.868785E+03	T(163) =	.762934E+03	T(164) =	.703029E+03	T(165) =	.690644E+03
T(166) =	.695284E+03	T(167) =	.752493E+03	T(168) =	.737576E+03	T(169) =	.636807E+03	T(170) =	.581533E+03
T(171) =	.993578E+03	T(172) =	.809583E+03	T(173) =	.755742E+03	T(174) =	.687110E+03	T(175) =	.679894E+03
T(176) =	.689569E+03	T(177) =	.745327E+03	T(178) =	.718117E+03	T(179) =	.606733E+03	T(180) =	.595506E+03
T(181) =	.101554E+04	T(182) =	.892675E+03	T(183) =	.785677E+03	T(184) =	.703817E+03	T(185) =	.707268E+03
T(186) =	.722094E+03	T(187) =	.758690E+03	T(188) =	.699668E+03	T(189) =	.616710E+03	T(190) =	.631006E+03
T(191) =	.102686E+04	T(192) =	.921530E+03	T(193) =	.810314E+03	T(194) =	.74[illegible]E+03	T(195) =	.73[illegible]E+03
T(196) =	.74673[illegible]E+03	T(197) =	.771310E+03	T(198) =	.71332[illegible]E+03	T(199) =	.637977E+03	T(200) =	.670069E+03
T(201) =	.1[illegible]2[illegible]E+0[illegible]	T(202) =	.940962E+03	T(203) =	.102202E+04	T(204) =	.926641E+03	T(205) =	.113[illegible]2E+04
T(206) =	.928338E+03	T(207) =	.105[illegible]94E+04	T(208) =	.102824E+04	T(209) =	.648749E+03	T(210) =	.761944E+03
T(211) =	.720720E+03	T(212) =	.671093E+03	T(213) =	.656360E+03	T(214) =	.659469E+03	T(215) =	.707459E+03
T(216) =	.694102E+03	T(217) =	.591218E+03	T(218) =	.569879E+03	T(219) =	.854869E+03	T(220) =	.767632E+03
T(221) =	.719867E+03	T(222) =	.603150E+03	T(223) =	.651714E+03	T(224) =	.658207E+03	T(225) =	.702870E+03
T(226) =	.680149E+03	T(227) =	.591521E+03	T(228) =	.582190E+03	T(229) =	.872184E+03	T(230) =	.765142E+03
T(231) =	.740336E+03	T(232) =	.674620E+03	T(233) =	.668079E+03	T(234) =	.677816E+03	T(235) =	.709127E+03

Figure 5-10. Model 2C Output (Sheet 9 of 16)

T(236) =	.667645E+03	T(237) =	.598746E+03	T(238) =	.609920E+03	T(239) =	.886126E+03	T(240) =	.802267E+03
T(241) =	.761203E+03	T(242) =	.695970E+03	T(243) =	.685130E+03	T(244) =	.695015E+03	T(245) =	.716449E+03
T(246) =	.671910E+03	T(247) =	.611639E+03	T(248) =	.640147E+03	T(249) =	.903282E+03	T(250) =	.826640E+03
T(251) =	.881005E+03	T(252) =	.807308E+03	T(253) =	.871752E+03	T(254) =	.807408E+03	T(255) =	.903479E+03
T(256) =	.946794E+03	T(257) =	.775273E+03	T(258) =	.708260E+03	T(259) =	.784770E+03	T(260) =	.716633E+03
T(261) =	.799362E+03	T(262) =	.731130E+03	T(263) =	.813116E+03	T(264) =	.746196E+03	T(265) =	.832684E+03
T(266) =	.760452E+03	T(267) =	.808490E+03	T(268) =	.745844E+03	T(269) =	.799225E+03	T(270) =	.735439E+03
T(271) =	.814581E+03	T(272) =	.584059E+03	T(999) =	.239000E+04	T(998) =	.590000E+02	T(	

TIME = .200000E-01

T(1) =	.166396E+04	T(2) =	.145197E+04	T(3) =	.116960E+04	T(4) =	.107560E+04	T(5) =	.106960E+04
T(6) =	.109428E+04	T(7) =	.117431E+04	T(8) =	.114576E+04	T(9) =	.820170E+03	T(10) =	.763459E+03
T(11) =	.166443E+04	T(12) =	.145202E+04	T(13) =	.111219E+04	T(14) =	.998064E+03	T(15) =	.100830E+04
T(16) =	.104513E+04	T(17) =	.116240E+04	T(18) =	.111827E+04	T(19) =	.827794E+03	T(20) =	.789171E+03
T(21) =	.166897E+04	T(22) =	.146956E+04	T(23) =	.120363E+04	T(24) =	.103760E+04	T(25) =	.111609E+04
T(26) =	.117077E+04	T(27) =	.121479E+04	T(28) =	.101146E+04	T(29) =	.850073E+03	T(30) =	.858723E+03
T(31) =	.167454E+04	T(32) =	.150036E+04	T(33) =	.127679E+04	T(34) =	.118490E+04	T(35) =	.114393E+04
T(36) =	.117748E+04	T(37) =	.118333E+04	T(38) =	.106617E+04	T(39) =	.916031E+03	T(40) =	.103767E+04
T(41) =	.166278E+04	T(42) =	.153664E+04	T(43) =	.143480E+04	T(44) =	.140694E+04	T(45) =	.151650E+04
T(46) =	.157854E+04	T(47) =	.155957E+04	T(48) =	.144491E+04	T(49) =	.110510E+04	T(50) =	.105941E+04
T(51) =	.168788E+04	T(52) =	.156296E+04	T(53) =	.142377E+04	T(54) =	.125919E+04	T(55) =	.151411E+04
T(56) =	.158455E+04	T(57) =	.152810E+04	T(58) =	.137130E+04	T(59) =	.987672E+03	T(60) =	.898305E+03
T(61) =	.168955E+04	T(62) =	.156997E+04	T(63) =	.140872E+04	T(64) =	.121257E+04	T(65) =	.111260E+04
T(66) =	.120235E+04	T(67) =	.116529E+04	T(68) =	.990825E+03	T(69) =	.857553E+03	T(70) =	.820741E+03
T(71) =	.109861E+04	T(72) =	.161272E+04	T(73) =	.140370E+04	T(74) =	.113161E+04	T(75) =	.965125E+03
T(76) =	.946072E+03	T(77) =	.911770E+03	T(78) =	.648119E+03	T(79) =	.802511E+03	T(80) =	.600276E+03
T(81) =	.145485E+04	T(82) =	.128831E+04	T(83) =	.107363E+04	T(84) =	.979634E+03	T(85) =	.972279E+03
T(86) =	.995951E+03	T(87) =	.105424E+04	T(88) =	.101010E+04	T(89) =	.788489E+03	T(90) =	.730942E+03
T(91) =	.145448E+04	T(92) =	.128984E+04	T(93) =	.105757E+04	T(94) =	.953297E+03	T(95) =	.956260E+03
T(96) =	.986557E+03	T(97) =	.105225E+04	T(98) =	.991817E+03	T(99) =	.795989E+03	T(100) =	.758750E+03
T(101) =	.146165E+04	T(102) =	.130685E+04	T(103) =	.110854E+04	T(104) =	.967921E+03	T(105) =	.101543E+04
T(106) =	.105178E+04	T(107) =	.108202E+04	T(108) =	.957580E+03	T(109) =	.818483E+03	T(110) =	.814106E+03
T(111) =	.146796E+04	T(112) =	.133130E+04	T(113) =	.117247E+04	T(114) =	.108361E+04	T(115) =	.107776E+04
T(116) =	.110780E+04	T(117) =	.111380E+04	T(118) =	.100967E+04	T(119) =	.873318E+03	T(120) =	.912773E+03
T(121) =	.147912E+04	T(122) =	.137183E+04	T(123) =	.137163E+04	T(124) =	.134200E+04	T(125) =	.143834E+04
T(126) =	.149798E+04	T(127) =	.147860E+04	T(128) =	.135638E+04	T(129) =	.106437E+04	T(130) =	.101263E+04
T(131) =	.146435E+04	T(132) =	.139155E+04	T(133) =	.137134E+04	T(134) =	.124453E+04	T(135) =	.143679E+04
T(136) =	.151066E+04	T(137) =	.146037E+04	T(138) =	.130002E+04	T(139) =	.971469E+03	T(140) =	.881894E+03
T(141) =	.146544E+04	T(142) =	.139922E+04	T(143) =	.135610E+04	T(144) =	.117577E+04	T(145) =	.109677E+04
T(146) =	.116578E+04	T(147) =	.112610E+04	T(148) =	.974397E+03	T(149) =	.842642E+03	T(150) =	.804903E+03
T(151) =	.149837E+04	T(152) =	.145238E+04	T(153) =	.135218E+04	T(154) =	.110452E+04	T(155) =	.991650E+03
T(156) =	.931261E+03	T(157) =	.896704E+03	T(158) =	.832625E+03	T(159) =	.787180E+03	T(160) =	.784062E+03
T(161) =	.129704E+04	T(162) =	.116565E+04	T(163) =	.101032E+04	T(164) =	.920530E+03	T(165) =	.913220E+03
T(166) =	.933406E+03	T(167) =	.976705E+03	T(168) =	.927033E+03	T(169) =	.764412E+03	T(170) =	.716938E+03
T(171) =	.129289E+04	T(172) =	.116482E+04	T(173) =	.100679E+04	T(174) =	.913023E+03	T(175) =	.911063E+03
T(176) =	.934639E+03	T(177) =	.975636E+03	T(178) =	.914785E+03	T(179) =	.770735E+03	T(180) =	.735255E+03
T(181) =	.130450E+04	T(182) =	.118303E+04	T(183) =	.104051E+04	T(184) =	.940788E+03	T(185) =	.948790E+03
T(186) =	.974094E+03	T(187) =	.996785E+03	T(188) =	.906765E+03	T(189) =	.790540E+03	T(190) =	.777833E+03
T(191) =	.130937E+04	T(192) =	.120125E+04	T(193) =	.107624E+04	T(194) =	.907153E+03	T(195) =	.984522E+03
T(196) =	.100600E+04	T(197) =	.101478E+04	T(198) =	.927012E+03	T(199) =	.820182E+03	T(200) =	.830475E+03
T(201) =	.132186E+04	T(202) =	.123942E+04	T(203) =	.132700E+04	T(204) =	.125523E+04	T(205) =	.132552E+04
T(206) =	.126123E+04	T(207) =	.133476E+04	T(208) =	.134042E+04	T(209) =	.118357E+04	T(210) =	.108247E+04
T(211) =	.974843E+03	T(212) =	.892296E+03	T(213) =	.882966E+03	T(214) =	.902199E+03	T(215) =	.936310E+03
T(216) =	.887197E+03	T(217) =	.750636E+03	T(218) =	.706483E+03	T(219) =	.118415E+04	T(220) =	.108513E+04
T(221) =	.977077E+03	T(222) =	.892190E+03	T(223) =	.886518E+03	T(224) =	.907666E+03	T(225) =	.938025E+03
T(226) =	.880375E+03	T(227) =	.757115E+03	T(228) =	.723031E+03	T(229) =	.119150E+04	T(230) =	.109756E+04
T(231) =	.100128E+04	T(232) =	.914486E+03	T(233) =	.913815E+03	T(234) =	.935418E+03	T(235) =	.952612E+03
T(236) =	.878102E+03	T(237) =	.773795E+03	T(238) =	.757549E+03	T(239) =	.119791E+04	T(240) =	.111365E+04
T(241) =	.102616E+04	T(242) =	.944519E+03	T(243) =	.939449E+03	T(244) =	.958585E+03	T(245) =	.965800E+03

Figure 5-10. Model 2C Output (Sheet 10 of 16)

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T(246) = .889217E+03   T(247) = .794123E+03   T(248) = .793696E+03   T(249) = .121184E+04   T(250) = .114725E+04
T(251) = .121610E+04   T(252) = .115960E+04   T(253) = .121430E+04   T(254) = .116075E+04   T(255) = .121747E+04
T(256) = .127726E+04   T(257) = .112681E+04   T(258) = .104512E+04   T(259) = .112967E+04   T(260) = .104930E+04
T(261) = .113441E+04   T(262) = .105861E+04   T(263) = .114021E+04   T(264) = .107169E+04   T(265) = .115605E+04
T(266) = .110085E+04   T(267) = .115925E+04   T(268) = .111060E+04   T(269) = .115640E+04   T(270) = .109646E+04
T(271) = .113719E+04   T(272) = .859155E+03   T(999) = .239000E+04   T(998) = .990000E+02   T(

TIME =      .300000E-01
T(  1) = .177244E+04   T(  2) = .159081E+04   T(  3) = .133804E+04   T(  4) = .124572E+04   T(  5) = .123620E+04
T(  6) = .125627E+04   T(  7) = .131717E+04   T(  8) = .127649E+04   T(  9) = .960416E+03   T( 10) = .892332E+03
T( 11) = .177327E+04   T( 12) = .159269E+04   T( 13) = .129122E+04   T( 14) = .118185E+04   T( 15) = .118583E+04
T( 16) = .121580E+04   T( 17) = .130884E+04   T( 18) = .125481E+04   T( 19) = .970631E+03   T( 20) = .919785E+03
T( 21) = .177761E+04   T( 22) = .160633E+04   T( 23) = .137252E+04   T( 24) = .122117E+04   T( 25) = .128539E+04
T( 26) = .132753E+04   T( 27) = .135712E+04   T( 28) = .116380E+04   T( 29) = .997124E+03   T( 30) = .990714E+03
T( 31) = .178303E+04   T( 32) = .163643E+04   T( 33) = .143703E+04   T( 34) = .135191E+04   T( 35) = .131001E+04
T( 36) = .133352E+04   T( 37) = .132981E+04   T( 38) = .121421E+04   T( 39) = .106394E+04   T( 40) = .116177E+04
T( 41) = .179161E+04   T( 42) = .167080E+04   T( 43) = .157239E+04   T( 44) = .154044E+04   T( 45) = .162764E+04
T( 46) = .167174E+04   T( 47) = .164954E+04   T( 48) = .154510E+04   T( 49) = .124155E+04   T( 50) = .119153E+04
T( 51) = .179844E+04   T( 52) = .169745E+04   T( 53) = .157433E+04   T( 54) = .144275E+04   T( 55) = .163534E+04
T( 56) = .167988E+04   T( 57) = .162502E+04   T( 58) = .146686E+04   T( 59) = .114372E+04   T( 60) = .104992E+04
T( 61) = .180099E+04   T( 62) = .170417E+04   T( 63) = .156198E+04   T( 64) = .140277E+04   T( 65) = .130417E+04
T( 66) = .135992E+04   T( 67) = .131782E+04   T( 68) = .115471E+04   T( 69) = .101376E+04   T( 70) = .959004E+03
T( 71) = .180791E+04   T( 72) = .173786E+04   T( 73) = .155148E+04   T( 74) = .132160E+04   T( 75) = .110106E+04
T( 76) = .112527E+04   T( 77) = .108369E+04   T( 78) = .101121E+04   T( 79) = .945026E+03   T( 80) = .917191E+03
T( 81) = .161706E+04   T( 82) = .146683E+04   T( 83) = .126500E+04   T( 84) = .116040E+04   T( 85) = .115695E+04
T( 86) = .117683E+04   T( 87) = .121912E+04   T( 88) = .116147E+04   T( 89) = .933319E+03   T( 90) = .868153E+03
T( 91) = .161735E+04   T( 92) = .147150E+04   T( 93) = .125390E+04   T( 94) = .114880E+04   T( 95) = .114625E+04
T( 96) = .117140E+04   T( 97) = .121992E+04   T( 98) = .114808E+04   T( 99) = .945066E+03   T(100) = .892836E+03
T(101) = .162390E+04   T(102) = .148807E+04   T(103) = .130130E+04   T(104) = .118502E+04   T(105) = .120351E+04
T(106) = .123237E+04   T(107) = .124921E+04   T(108) = .112140E+04   T(109) = .970344E+03   T(110) = .951046E+03
T(111) = .165047E+04   T(112) = .151194E+04   T(113) = .135922E+04   T(114) = .127334E+04   T(115) = .126140E+04
T(116) = .126256E+04   T(117) = .127622E+04   T(118) = .117069E+04   T(119) = .102770E+04   T(120) = .105014E+04
T(121) = .164240E+04   T(122) = .155242E+04   T(123) = .152972E+04   T(124) = .150106E+04   T(125) = .157051E+04
T(126) = .161147E+04   T(127) = .158756E+04   T(128) = .147424E+04   T(129) = .120986E+04   T(130) = .115363E+04
T(131) = .165066E+04   T(132) = .157569E+04   T(133) = .154221E+04   T(134) = .144027E+04   T(135) = .158056E+04
T(136) = .162629E+04   T(137) = .157521E+04   T(138) = .143172E+04   T(139) = .113316E+04   T(140) = .103747E+04
T(141) = .165358E+04   T(142) = .158337E+04   T(143) = .152939E+04   T(144) = .138053E+04   T(145) = .129925E+04
T(146) = .133515E+04   T(147) = .129149E+04   T(148) = .114421E+04   T(149) = .100240E+04   T(150) = .946337E+03
T(151) = .166261E+04   T(152) = .162546E+04   T(153) = .151803E+04   T(154) = .130544E+04   T(155) = .115409E+04
T(156) = .111574E+04   T(157) = .107322E+04   T(158) = .949130E+03   T(159) = .930160E+03   T(160) = .903008E+03
T(161) = .150003E+04   T(162) = [illegible]   T(163) = .121668E+04   T(164) = .111993E+04   T(165) = .110770E+04
T(166) = .112505E+04   T(167) = .115499E+04   T(168) = .109018E+04   T(169) = .912292E+03   T(170) = .851078E+03
T(171) = .149757E+04   T(172) = .137930E+04   T(173) = .121662E+04   T(174) = .111692E+04   T(175) = .110941E+04
T(176) = .112929E+04   T(177) = .115704E+04   T(178) = .106198E+04   T(179) = .921427E+03   T(180) = .871064E+03
T(181) = .150758E+04   T(182) = .139712E+04   T(183) = .124989E+04   T(184) = .114756E+04   T(185) = .114885E+04
T(186) = [illegible]   T(187) = .117929E+04   T(188) = .107859E+04   T(189) = .945278E+03   T(190) = .917459E+03
T(191) = .151334E+04   T(192) = .141050E+04   T(193) = .128429E+04   T(194) = .119366E+04   T(195) = .118467E+04
T(196) = .120315E+04   T(197) = .119760E+04   T(198) = .110031E+04   T(199) = .978104E+03   T(200) = .972711E+03
T(201) = .152709E+04   T(202) = .145778E+04   T(203) = .153659E+04   T(204) = .147886E+04   T(205) = .153757E+04
T(206) = .140516E+04   T(207) = .154035E+04   T(208) = [illegible]   T(209) = .141010E+04   T(210) = .131724E+04
T(211) = .110913E+04   T(212) = [illegible]   T(213) = .101804E+04   T(214) = .109054E+04   T(215) = .112001E+04
T(216) = .105517E+04   T(217) = [illegible]   T(218) = .841662E+03   T(219) = .141710E+04   T(220) = .132122E+04
T(221) = [illegible]   T(222) = [illegible]   T(223) = .108877E+04   T(224) = .110067E+04   T(225) = .112513E+04
T(226) = .105108E+04   T(227) = [illegible]   T(228) = .860483E+03   T(229) = .142412E+04   T(230) = .133509E+04
T(231) = .121905E+04   T(232) = [illegible]   T(233) = .111029E+04   T(234) = .113051E+04   T(235) = .114224E+04
T(236) = .105364E+04   T(237) = .920063E+03   T(238) = .896410E+03   T(239) = .143122E+04   T(240) = .135308E+04
T(241) = .124501E+04   T(242) = .115754E+04   T(243) = .114674E+04   T(244) = .116060E+04   T(245) = .115097E+04
T(246) = .100712E+04   T(247) = .953394E+03   T(248) = .937265E+03   T(249) = .144042E+04   T(250) = .139148E+04
T(251) = .145589E+04   T(252) = .141021E+04   T(253) = .145616E+04   T(254) = .141147E+04   T(255) = .145478E+04
T(256) = .150403E+04   T(257) = .137404E+04   T(258) = .129129E+04   T(259) = .137691E+04   T(260) = .129640E+04
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Figure 5-10. Model 2C Output (Sheet 11 of 16)

T(261) = .138204E+04	T(262) = .130784E+04	T(263) = .138881E+04	T(264) = .132393E+04	T(265) = .140552E+04
T(266) = .135776E+04	T(267) = .1[illegible]4445E+04	T(268) = .137422E+04	T(269) = .141373E+04	T(270) = .136102E+04
T(271) = .134204E+04	T(272) = .112436E+04	T(999) = .234000E+04	T(998) = .590000E+02	T(

TIME = .400000E+01

T(1) = .184827E+04	T(2) = .169066E+04	T(3) = .146649E+04	T(4) = .158085E+04	T(5) = .136721E+04
T(6) = .137958E+04	T(7) = .142536E+04	T(8) = .137906E+04	T(9) = .108368E+04	T(10) = .101225E+04
T(11) = .184929E+04	T(12) = .169261E+04	T(13) = .142565E+04	T(14) = .132498E+04	T(15) = .132267E+04
T(16) = .164338E+04	T(17) = .141778E+04	T(18) = .136063E+04	T(19) = .109393E+04	T(20) = .103846E+04
T(21) = .185336E+04	T(22) = .170044E+04	T(23) = .149550E+04	T(24) = .135620E+04	T(25) = .140900E+04
T(26) = .144076E+04	T(27) = .145970E+04	T(28) = .127835E+04	T(29) = .111850E+04	T(30) = .110434E+04
T(31) = .185867E+04	T(32) = .173104E+04	T(33) = .154808E+04	T(34) = .146910E+04	T(35) = .142634E+04
T(36) = .164149E+04	T(37) = .143150E+04	T(38) = .132142E+04	T(39) = .117860E+04	T(40) = .126127E+04
T(41) = .186724E+04	T(42) = .176139E+04	T(43) = .165661E+04	T(44) = .162020E+04	T(45) = .169475E+04
T(46) = .172945E+04	T(47) = .170628E+04	T(48) = .161076E+04	T(49) = .133542E+04	T(50) = .128734E+04
T(51) = .187420E+04	T(52) = .178569E+04	T(53) = .165749E+04	T(54) = .153[illegible]30E+04	T(55) = .170156E+04
T(56) = .173498E+04	T(57) = .168220E+04	T(58) = .155700E+04	T(59) = .124670E+04	T(60) = .118165E+04
T(61) = .187665E+04	T(62) = .179152E+04	T(63) = .164811E+04	T(64) = .150757E+04	T(65) = .141744E+04
T(66) = .145774E+04	T(67) = .141372E+04	T(68) = .126345E+04	T(69) = .113100E+04	T(70) = .107520E+04
T(71) = .188133E+04	T(72) = .161783E+04	T(73) = .163877E+04	T(74) = .143699E+04	T(75) = .124753E+04
T(76) = .125[illegible]1E+04	T(77) = .120998E+04	T(78) = .135660E+04	T(79) = .106207E+04	T(80) = .102783E+04
T(81) = .173092E+04	T(82) = .160013E+04	T(83) = .141340E+04	T(84) = .132176E+04	T(85) = .130547E+04
T(86) = .131737E+04	T(87) = .134581E+04	T(88) = .126200E+04	T(89) = .106317E+04	T(90) = .942000E+03
T(91) = .173[illegible]E+04	T(92) = .10[illegible]313E+04	T(93) = .144349E+04	T(94) = .130491E+04	T(95) = .124615E+04
T(96) = .131151E+04	T(97) = .134001E+04	T(98) = .127116E+04	T(99) = .107360E+04	T(100) = .101704E+04
T(101) = .173791E+04	T(102) = .101804E+04	T(103) = .144475E+04	T(104) = .133594E+04	T(105) = .134573E+04
T(106) = .130537E+04	T(107) = .137190E+04	T(108) = .124713E+04	T(109) = .109893E+04	T(110) = .107215E+04
T(111) = .1744[illegible]E+04	T(112) = .103981E+04	T(113) = .144294E+04	T(114) = .141065E+04	T(115) = .139354E+04
T(116) = .140634E+04	T(117) = .139477E+04	T(118) = .120976E+04	T(119) = .115095E+04	T(120) = .110364E+04
T(121) = .175074E+04	T(122) = .107087E+04	T(123) = .106792E+04	T(124) = .159576E+04	T(125) = .165000E+04
T(126) = [illegible]	T(127) = .105035E+04	T(128) = [illegible]	T(129) = .131100E+04	T(130) = .125623E+04
T(131) = .170[illegible]E+04	T(132) = .169939E+04	T(133) = .163641E+04	T(134) = .154340E+04	T(135) = .160003E+04
T(136) = .169327E+04	T(137) = .104321E+04	T(138) = .151245E+04	T(139) = .124325E+04	T(140) = .115369E+04
T(141) = .170898E+04	T(142) = .170022E+04	T(143) = .162863E+04	T(144) = .149572E+04	T(145) = .141980E+04
T(146) = .1[illegible]178E+04	T(147) = .139549E+04	T(148) = .125837E+04	T(149) = .112395E+04	T(150) = .106571E+04
T(151) = .177291E+04	T(152) = .173633E+04	T(153) = .101677E+04	T(154) = .143160E+04	T(155) = .124632E+04
T(156) = .125244E+04	T(157) = .120472E+04	T(158) = .112831E+04	T(159) = .105287E+04	T(160) = .101642E+04
T(161) = .164269E+04	T(162) = .153343E+04	T(163) = .137801E+04	T(164) = .128510E+04	T(165) = .120746E+04
T(166) = .1277[illegible]2E+04	T(167) = .129365E+04	T(168) = .122241E+04	T(169) = .104664E+04	T(170) = .976908E+03
T(171) = .164100E+04	T(172) = .153559E+04	T(173) = .137921E+04	T(174) = .128316E+04	T(175) = .126948E+04
T(176) = .126100E+04	T(177) = .129605E+04	T(178) = .121628E+04	T(179) = .105621E+04	T(180) = .999562E+03
T(181) = .165[illegible]8E+04	T(182) = .155161E+04	T(183) = .140798E+04	T(184) = .130982E+04	T(185) = .130376E+04
T(186) = .131558E+04	T(187) = .13154[illegible]E+04	T(188) = .121348E+04	T(189) = .107931E+04	T(190) = .104388E+04
T(191) = .165742E+04	T(192) = .157052E+04	T(193) = .143745E+04	T(194) = .134448E+04	T(195) = .133442E+04
T(196) = .134107E+04	T(197) = .133072E+04	T(198) = .123272E+04	T(199) = .110990E+04	T(200) = .109584E+04
T(201) = .167178E+04	T(202) = .161071E+04	T(203) = .166277E+04	T(204) = .105240E+04	T(205) = .106630E+04
T(206) = .163817E+04	T(207) = .168955E+04	T(208) = .166561E+04	T(209) = .138002E+04	T(210) = .140954E+04
T(211) = .135816E+04	T(212) = .126742E+04	T(213) = .124705E+04	T(214) = .125038E+04	T(215) = .120614E+04
T(216) = .119368E+04	T(217) = .103685E+04	T(218) = .971001E+03	T(219) = .158160E+04	T(220) = .144367E+04
T(221) = .130304E+04	T(222) = .127113E+04	T(223) = .125420E+04	T(224) = .126389E+04	T(225) = .127037E+04
T(226) = .119124E+04	T(227) = .104640E+04	T(228) = .990171E+03	T(229) = .158867E+04	T(230) = .150727E+04
T(231) = .136626E+04	T(232) = .129423E+04	T(233) = .128111E+04	T(234) = .129011E+04	T(235) = .128556E+04
T(236) = .119357E+04	T(237) = .106699E+04	T(238) = .102754E+04	T(239) = .159651E+04	T(240) = .152522E+04
T(241) = .140842E+04	T(242) = .132189E+04	T(243) = .130492E+04	T(244) = .131091E+04	T(245) = .129826E+04
T(246) = .120563E+04	T(247) = .108930E+04	T(248) = .100482E+04	T(249) = .161249E+04	T(250) = .150[illegible]E+04
T(251) = .162393E+04	T(252) = .158435E+04	T(253) = .162505E+04	T(254) = .153587E+04	T(255) = .162173E+04
T(256) = .162513E+04	T(257) = .154660E+04	T(258) = .147247E+04	T(259) = .155172E+04	T(260) = .147771E+04
T(261) = .155745E+04	T(262) = .148931E+04	T(263) = .156517E+04	T(264) = .150595E+04	T(265) = .158246E+04
T(266) = .154025E+04	T(267) = .159373E+04	T(268) = .155898E+04	T(269) = .159382E+04	T(270) = .154883E+04
T(271) = .157444E+04	T(272) = .136222E+04	T(999) = .234000E+04	T(998) = .590000E+02	T(

Figure 5-10. Model 2C Output (Sheet 12 of 16)

TIME = .500000E-01

T(1) =	.190087E+04	T(2) =	.176113E+04	T(3) =	[illegible]	T(4) =	[illegible]	T(5) =	[illegible]
T(6) =	.147153E+04	T(7) =	.150674E+04	T(8) =	[illegible]	T(9) =	[illegible]	T(10) =	[illegible]
T(11) =	.190195E+04	T(12) =	.176285E+04	T(13) =	[illegible]	T(14) =	[illegible]	T(15) =	[illegible]
T(16) =	.143768E+04	T(17) =	.149905E+04	T(18) =	[illegible]	T(19) =	[illegible]	T(20) =	[illegible]
T(21) =	.190566E+04	T(22) =	.177477E+04	T(23) =	[illegible]	T(24) =	[illegible]	T(25) =	[illegible]
T(26) =	.152311E+04	T(27) =	.153516E+04	T(28) =	[illegible]	T(29) =	[illegible]	T(30) =	[illegible]
T(31) =	.191055E+04	T(32) =	[illegible]	T(33) =	[illegible]	T(34) =	[illegible]	T(35) =	[illegible]
T(36) =	.151824E+04	T(37) =	.150463E+04	T(38) =	[illegible]	T(39) =	[illegible]	T(40) =	[illegible]
T(41) =	.191855E+04	T(42) =	.182230E+04	T(43) =	[illegible]	T(44) =	[illegible]	T(45) =	[illegible]
[illegible]									

TIME = .600000E-01

T(1) =	.103764E+04	T(2) =	.161057E+04	T(3) =	.162665E+04	T(4) =	.155456E+04	T(5) =	.153690E+04
T(6) =	.153875E+04	T(7) =	.156725E+04	T(8) =	.152278E+04	T(9) =	.126922E+04	T(10) =	.120491E+04

Figure 5-10. Model 2C Output (Sheet 13 of 16)

T(11) =	.193868E+04	T(12) =	.181200E+04	T(13) =	.159163E+04	T(14) =	.150694E+04	T(15) =	.149796E+04
T(16) =	.150539E+04	T(17) =	.155920E+04	T(18) =	.150568E+04	T(19) =	.167557E+04	T(20) =	.122574E+04
T(21) =	.194200E+04	T(22) =	.182237E+04	T(23) =	.164487E+04	T(24) =	.152868E+04	T(25) =	.156390E+04
T(26) =	.15827[?]E+04	T(27) =	.159068E+04	T(28) =	.143221E+04	T(29) =	.129398E+04	T(30) =	.127840E+04
T(31) =	.194644E+04	T(32) =	.164138E+04	T(33) =	.168043E+04	T(34) =	.160994E+04	T(35) =	.156747E+04
T(36) =	.157320E+04	T(37) =	.155790E+04	T(38) =	.146154E+04	T(39) =	.133816E+04	T(40) =	.140727E+04
T(41) =	.195370E+04	T(42) =	.186370E+04	T(43) =	.174633E+04	T(44) =	.171344E+04	T(45) =	.170634E+04
T(46) =	.179274E+04	T(47) =	.177055E+04	T(48) =	.166914E+04	T(49) =	.145326E+04	T(50) =	.141270E+04
T(51) =	.195986E+04	T(52) =	.188253E+04	T(53) =	.171700E+04	T(54) =	.162600E+04	T(55) =	.170240E+04
T(56) =	.178868E+04	T(57) =	.174159E+04	T(58) =	.163619E+04	T(59) =	.137315E+04	T(60) =	.130129E+04
T(61) =	.196202E+04	T(62) =	.188664E+04	T(63) =	.172832E+04	T(64) =	.160036E+04	T(65) =	.152169E+04
T(66) =	.155486E+04	T(67) =	.151576E+04	T(68) =	.138772E+04	T(69) =	.127688E+04	T(70) =	.122987E+04
T(71) =	.196474E+04	T(72) =	.190356E+04	T(73) =	.172055E+04	T(74) =	.154696E+04	T(75) =	.145026E+04
T(76) =	.139438E+04	T(77) =	.135235E+04	T(78) =	.128710E+04	T(79) =	.122205E+04	T(80) =	.119062E+04
T(81) =	.186786E+04	T(82) =	.176143E+04	T(83) =	.160269E+04	T(84) =	.152355E+04	T(85) =	.150215E+04
T(86) =	.150258E+04	T(87) =	.151509E+04	T(88) =	.145349E+04	T(89) =	.126153E+04	T(90) =	.119065E+04
T(91) =	.186905E+04	T(92) =	.176397E+04	T(93) =	.159396E+04	T(94) =	.150796E+04	T(95) =	.149245E+0
T(96) =	.149657E+04	T(97) =	.151423E+04	T(98) =	.144270E+04	T(99) =	.126928E+04	T(100) =	.121029E+04
T(101) =	.187411E+04	T(102) =	.177533E+04	T(103) =	.162331E+04	T(104) =	.152630E+04	T(105) =	.152310E+04
T(106) =	.153568E+04	T(107) =	.153138E+04	T(108) =	.14[?]891E+04	T(109) =	.128772E+04	T(110) =	.126043E+04
T(111) =	.188012E+04	T(112) =	.179241E+04	T(113) =	.165516E+04	T(114) =	.138023E+04	T(115) =	.155804E+04
T(116) =	.156089E+04	T(117) =	.154273E+04	T(118) =	.144846E+04	T(119) =	.132598E+04	T(120) =	.133356E+04
T(121) =	.189077E+04	T(122) =	.187120E+04	T(123) =	.173403E+04	T(124) =	.169580E+04	T(125) =	.[?]73752E+04
T(126) =	.175974E+04	T(127) =	.173487E+04	T(128) =	.164526E+04	T(129) =	.143920E+04	T(130) =	.139249E+04
T(131) =	.189952E+04	T(132) =	.183920E+04	T(133) =	.173163E+04	T(134) =	.163085E+04	T(135) =	.173306E+04
T(136) =	.175909E+04	T(137) =	.171416E+04	T(138) =	.160366E+04	T(139) =	.137499E+04	T(140) =	.130038E+04
T(141) =	.190235E+04	T(142) =	.184442E+04	T(143) =	.172253E+04	T(144) =	.159930E+04	T(145) =	.153250E+04
T(146) =	.154907E+04	T(147) =	.150739E+04	T(148) =	.134016E+04	T(149) =	.127000E+04	T(150) =	.126049E+04
T(151) =	.190569E+04	T(152) =	.186270E+04	T(153) =	.171409E+04	T(154) =	.154998E+04	T(155) =	.1437[?]2E+04
T(156) =	.139898E+04	T(157) =	.135493E+04	T(158) =	.128681E+04	T(159) =	.121948E+04	T(160) =	.118608E+04
T(161) =	.181630E+04	T(162) =	.172615E+04	T(163) =	.158790E+04	T(164) =	.150554E+04	T(165) =	.148106E+04
T(166) =	.147957E+04	T(167) =	.148122E+04	T(168) =	.141158E+04	T(169) =	.125402E+04	T(170) =	.119301E+04
T(171) =	.181658E+04	T(172) =	.172863E+04	T(173) =	.158769E+04	T(174) =	.150262E+04	T(175) =	.148179E+04
T(176) =	.148150E+04	T(177) =	.148198E+04	T(178) =	.140523E+04	T(179) =	.126144E+04	T(180) =	.120753E+04
T(181) =	.182372E+04	T(182) =	.174080E+04	T(183) =	.160758E+04	T(184) =	.151994E+04	T(185) =	.150531E+04
T(186) =	.150572E+04	T(187) =	.149440E+04	T(188) =	.139906E+04	T(189) =	.127644E+04	T(190) =	.124303E+04
T(191) =	.183016E+04	T(192) =	.175656E+04	T(193) =	.162773E+04	T(194) =	.154739E+04	T(195) =	.152522E+04
T(196) =	.152263E+04	T(197) =	.150290E+04	T(198) =	.141266E+04	T(199) =	.130134E+04	T(200) =	.120479E+04
T(201) =	.184321E+04	T(202) =	.179094E+04	T(203) =	.165376E+04	T(204) =	.160966E+04	T(205) =	.185031E+04
T(206) =	.181492E+04	T(207) =	.185913E+04	T(208) =	.164016E+04	T(209) =	.177990E+04	T(210) =	.170430E+04
T(211) =	.157939E+04	T(212) =	.149709E+04	T(213) =	.147116E+04	T(214) =	.146787E+04	T(215) =	.140325E+04
T(216) =	.139132E+04	T(217) =	.124925E+04	T(218) =	.118696E+04	T(219) =	.178197E+04	T(220) =	.170614E+04
T(221) =	.158244E+04	T(222) =	.149670E+04	T(223) =	.147492E+04	T(224) =	.147255E+04	T(225) =	.140555E+04
T(226) =	.138839E+04	T(227) =	.125666E+04	T(228) =	.120257E+04	T(229) =	.178819E+04	T(230) =	.171906E+04
T(231) =	.159811E+04	T(232) =	.151391E+04	T(233) =	.149314E+04	T(234) =	.149060E+04	T(235) =	.147513E+04
T(236) =	.138796E+04	T(237) =	.127212E+04	T(238) =	.123269E+04	T(239) =	.179574E+04	T(240) =	.173449E+04
T(241) =	.161349E+04	T(242) =	.153290E+04	T(243) =	.150886E+04	T(244) =	.150425E+04	T(245) =	.148263E+04
T(246) =	.139586E+04	T(247) =	.128904E+04	T(248) =	.120273E+04	T(249) =	.181042E+04	T(250) =	.176912E+04
T(251) =	.182108E+04	T(252) =	.178782E+04	T(253) =	.182440E+04	T(254) =	.179[?]04E+04	T(255) =	.182254E+04
T(256) =	.182608E+04	T(257) =	.176211E+04	T(258) =	.169828E+04	T(259) =	.176499E+04	T(260) =	.170209E+04
T(261) =	.177059E+04	T(262) =	.171274E+04	T(263) =	.177828E+04	T(264) =	.172757E+04	T(265) =	.179345E+04
T(266) =	.175798E+04	T(267) =	.180562E+04	T(268) =	.177607E+04	T(269) =	.180772E+04	T(270) =	.177323E+04
T(271) =	.179729E+04	T(272) =	.167548E+04	T(999) =	.239000E+04	T(998) =	.590000E+02	T(	

TIME = .700000E-01

T(1) =	.196334E+04	T(2) =	.184512E+04	T(3) =	.167327E+04	T(4) =	.160594E+04	T(5) =	.158709E+04
T(6) =	.158740E+04	T(7) =	.161201E+04	T(8) =	.157036E+04	T(9) =	.133444E+04	T(10) =	.127522E+04
T(11) =	.196431E+04	T(12) =	.164628E+04	T(13) =	.164002E+04	T(14) =	.156050E+04	T(15) =	.155042E+04
T(16) =	.155605E+04	T(17) =	.160372E+04	T(18) =	.155362E+04	T(19) =	.134035E+04	T(20) =	.124306E+04
T(21) =	.196728E+04	T(22) =	.165545E+04	T(23) =	.166709E+04	T(24) =	.157054E+04	T(25) =	.160441E+04

Figure 5-10. Model 2C Output (Sheet 14 of 16)

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T( 26) = .162564E+04   T( 27) = .163153E+04   T( 28) = .148257E+04   T( 29) = .135441E+04   T( 30) = .134065E+04
T( 31) = .197130E+04   T( 32) = .187253E+04   T( 33) = .171787E+04   T( 34) = .165050E+04   T( 35) = .160883E+04
T( 36) = .161259E+04   T( 37) = .159689E+04   T( 38) = .150675E+04   T( 39) = .139197E+04   T( 40) = .145785E+04
T( 41) = .197785E+04   T( 42) = .189202E+04   T( 43) = .177040E+04   T( 44) = .173617E+04   T( 45) = .178562E+04
T( 46) = .181052E+04   T( 47) = .178927E+04   T( 48) = .171294E+04   T( 49) = .149019E+04   T( 50) = .145300E+04
T( 51) = .196350E+04   T( 52) = .190879E+04   T( 53) = .175659E+04   T( 54) = .164155E+04   T( 55) = .177667E+04
T( 56) = .180183E+04   T( 57) = .175710E+04   T( 58) = .165808E+04   T( 59) = .140948E+04   T( 60) = .134327E+04
T( 61) = .198559E+04   T( 62) = .191231E+04   T( 63) = .174714E+04   T( 64) = .162037E+04   T( 65) = .154453E+04
T( 66) = .157729E+04   T( 67) = .154135E+04   T( 68) = .142150E+04   T( 69) = .131931E+04   T( 70) = .127677E+04
T( 71) = .198789E+04   T( 72) = .192635E+04   T( 73) = .171928E+04   T( 74) = .156991E+04   T( 75) = .145900E+04
T( 76) = .142641E+04   T( 77) = .138820E+04   T( 78) = .132861E+04   T( 79) = .126957E+04   T( 80) = .124148E+04
T( 81) = .190782E+04   T( 82) = .180874E+04   T( 83) = .165918E+04   T( 84) = .158455E+04   T( 85) = .156242E+04
T( 86) = .156021E+04   T( 87) = .156930E+04   T( 88) = .151113E+04   T( 89) = .133223E+04   T( 90) = .127227E+04
T( 91) = .190900E+04   T( 92) = .161096E+04   T( 93) = .165016E+04   T( 94) = .156904E+04   T( 95) = .155236E+04
T( 96) = .155363E+04   T( 97) = .156776E+04   T( 98) = .150027E+04   T( 99) = .133050E+04   T(100) = .126951E+04
T(101) = .191351E+04   T(102) = .162098E+04   T(103) = .167575E+04   T(104) = .158570E+04   T(105) = .158333E+04
T(106) = .158812E+04   T(107) = .158194E+04   T(108) = .147599E+04   T(109) = .135374E+04   T(110) = .132871E+04
T(111) = .191903E+04   T(112) = .183627E+04   T(113) = .170223E+04   T(114) = .163016E+04   T(115) = .160722E+04
T(116) = .160795E+04   T(117) = .158910E+04   T(118) = .150050E+04   T(119) = .138605E+04   T(120) = .139367E+04
T(121) = .192876E+04   T(122) = .186184E+04   T(123) = .176277E+04   T(124) = .172263E+04   T(125) = .176127E+04
T(126) = .178173E+04   T(127) = .175786E+04   T(128) = .167382E+04   T(129) = .147974E+04   T(130) = .143659E+04
T(131) = .193687E+04   T(132) = .187781E+04   T(133) = .175477E+04   T(134) = .165855E+04   T(135) = .175115E+04
T(136) = .177529E+04   T(137) = .173282E+04   T(138) = .162935E+04   T(139) = .141376E+04   T(140) = .134480E+04
T(141) = .193975E+04   T(142) = .188240E+04   T(143) = .174477E+04   T(144) = .162181E+04   T(145) = .155753E+04
T(146) = .157410E+04   T(147) = .153572E+04   T(148) = .142632E+04   T(149) = .132147E+04   T(150) = .127635E+04
T(151) = .194260E+04   T(152) = .189030E+04   T(153) = .173617E+04   T(154) = .157540E+04   T(155) = .146873E+04
T(156) = .143337E+04   T(157) = .139318E+04   T(158) = .133076E+04   T(159) = .126946E+04   T(160) = .123943E+04
T(161) = .186722E+04   T(162) = .178315E+04   T(163) = .165071E+04   T(164) = .157291E+04   T(165) = .154799E+04
T(166) = .154323E+04   T(167) = .154181E+04   T(168) = .147573E+04   T(169) = .132653E+04   T(170) = .120956E+04
T(171) = .186774E+04   T(172) = .178554E+04   T(173) = .165005E+04   T(174) = .156444E+04   T(175) = .154724E+04
T(176) = .154426E+04   T(177) = .154186E+04   T(178) = .146917E+04   T(179) = .133475E+04   T(180) = .120406E+04
T(181) = .187405E+04   T(182) = .179617E+04   T(183) = .166684E+04   T(184) = .158341E+04   T(185) = .156702E+04
T(186) = .156487E+04   T(187) = .155166E+04   T(188) = .146236E+04   T(189) = .134883E+04   T(190) = .131598E+04
T(191) = .188009E+04   T(192) = .181050E+04   T(193) = .168379E+04   T(194) = .160671E+04   T(195) = .158319E+04
T(196) = .157847E+04   T(197) = .155754E+04   T(198) = .147249E+04   T(199) = .136824E+04   T(200) = .135312E+04
T(201) = .189214E+04   T(202) = .184220E+04   T(203) = .190203E+04   T(204) = .185928E+04   T(205) = .190495E+04
T(206) = .186437E+04   T(207) = .190751E+04   T(208) = .188264E+04   T(209) = .163691E+04   T(210) = .176607E+04
T(211) = .164592E+04   T(212) = .156764E+04   T(213) = .154072E+04   T(214) = .153463E+04   T(215) = .152725E+04
T(216) = .145876E+04   T(217) = .132585E+04   T(218) = .126778E+04   T(219) = .104084E+04   T(220) = .177135E+04
T(221) = .164819E+04   T(222) = .156833E+04   T(223) = .154336E+04   T(224) = .153016E+04   T(225) = .152866E+04
T(226) = .145535E+04   T(227) = .133207E+04   T(228) = .126162E+04   T(229) = .184650E+04   T(230) = .178131E+04
T(231) = .146135E+04   T(232) = .158064E+04   T(233) = .155842E+04   T(234) = .155327E+04   T(235) = .153604E+04
T(236) = .145344E+04   T(237) = .134493E+04   T(238) = .130822E+04   T(239) = .185355E+04   T(240) = .179543E+04
T(241) = .167431E+04   T(242) = .159658E+04   T(243) = .157124E+04   T(244) = .156453E+04   T(245) = .154152E+04
T(246) = .145941E+04   T(247) = .135926E+04   T(248) = .133486E+04   T(249) = .186713E+04   T(250) = .182775E+04
T(251) = .187800E+04   T(252) = .184516E+04   T(253) = .168111E+04   T(254) = .184911E+04   T(255) = .188039E+04
T(256) = .187415E+04   T(257) = .182512E+04   T(258) = .170539E+04   T(259) = .182776E+04   T(260) = .176933E+04
T(261) = .183298E+04   T(262) = .177040E+04   T(263) = .184022E+04   T(264) = .179217E+04   T(265) = .185464E+04
T(266) = .182037E+04   T(267) = .186566E+04   T(268) = .183749E+04   T(269) = .166675E+04   T(270) = .183737E+04
T(271) = .186239E+04   T(272) = .177127E+04   T(999) = .239000E+04   T(998) = .590000E+02   T(

IMF =          .800000E-01
T(  1) = .198128E+04   T(  2) = .186919E+04   T(  3) = .170574E+04   T(  4) = .164205E+04   T(  5) = .162401E+04
T(  6) = .162240E+04   T(  7) = .164496E+04   T(  8) = .160636E+04   T(  9) = .138490E+04   T( 10) = .133034E+04
T( 11) = .198218E+04   T( 12) = .187014E+04   T( 13) = .167356E+04   T( 14) = .159615E+04   T( 15) = .156756E+04
T( 16) = .159176E+04   T( 17) = .163643E+04   T( 18) = .158964E+04   T( 19) = .138959E+04   T( 20) = .134670E+04
T( 21) = .198485E+04   T( 22) = .187842E+04   T( 23) = .171778E+04   T( 24) = .161340E+04   T( 25) = .164243E+04
T( 26) = .165649E+04   T( 27) = .166154E+04   T( 28) = .152051E+04   T( 29) = .140088E+04   T( 30) = .138909E+04
T( 31) = .198853E+04   T( 32) = .189410E+04   T( 33) = .174381E+04   T( 34) = .167076E+04   T( 35) = .163796E+04
T( 36) = .164080E+04   T( 37) = .162541E+04   T( 38) = .154062E+04   T( 39) = .143303E+04   T( 40) = .149704E+04
```

Figure 5-10. Model 2C Output (Sheet 15 of 16)

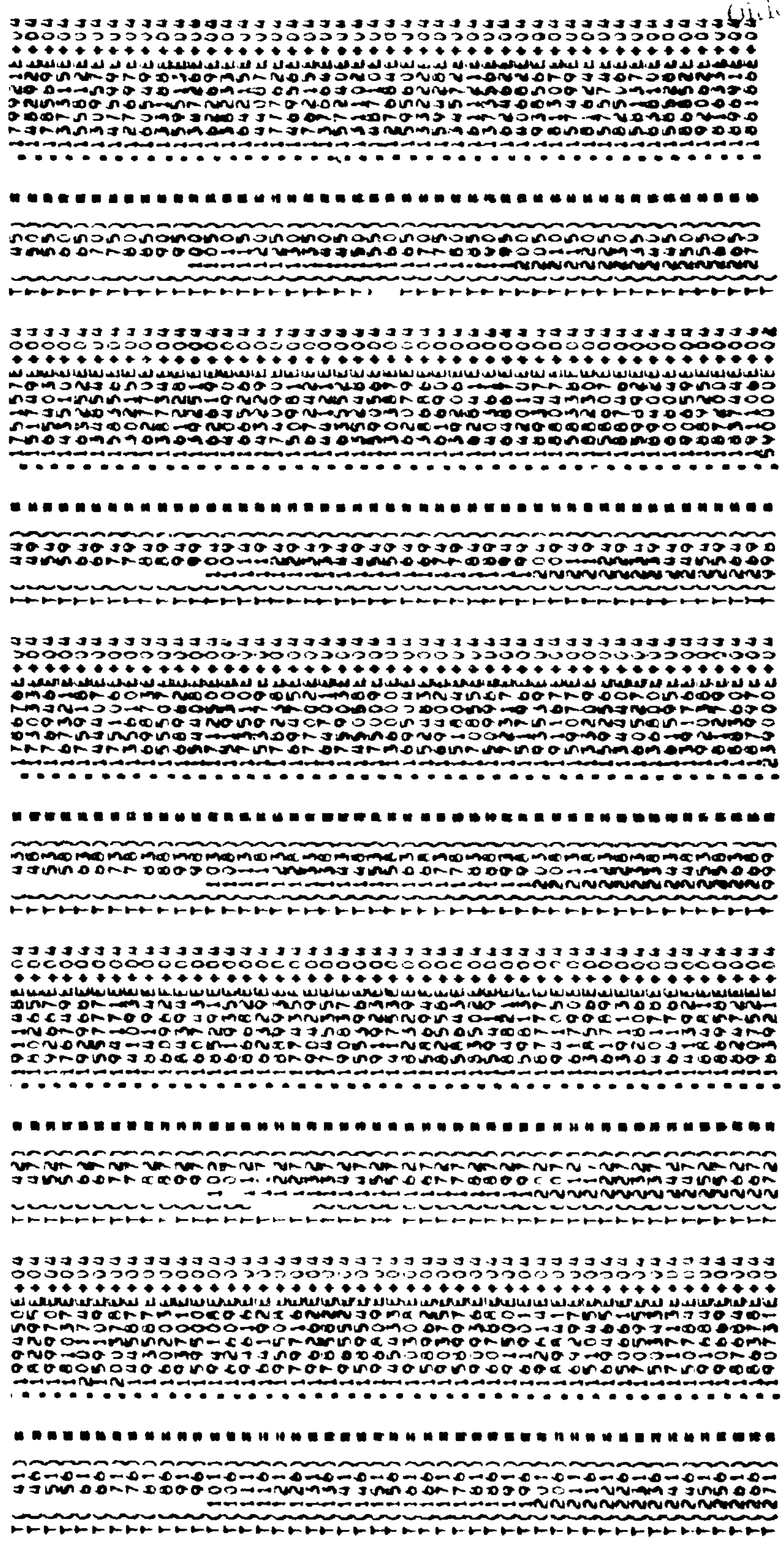

Figure 5-10. Model 2C Output (Sheet 16 of 16)

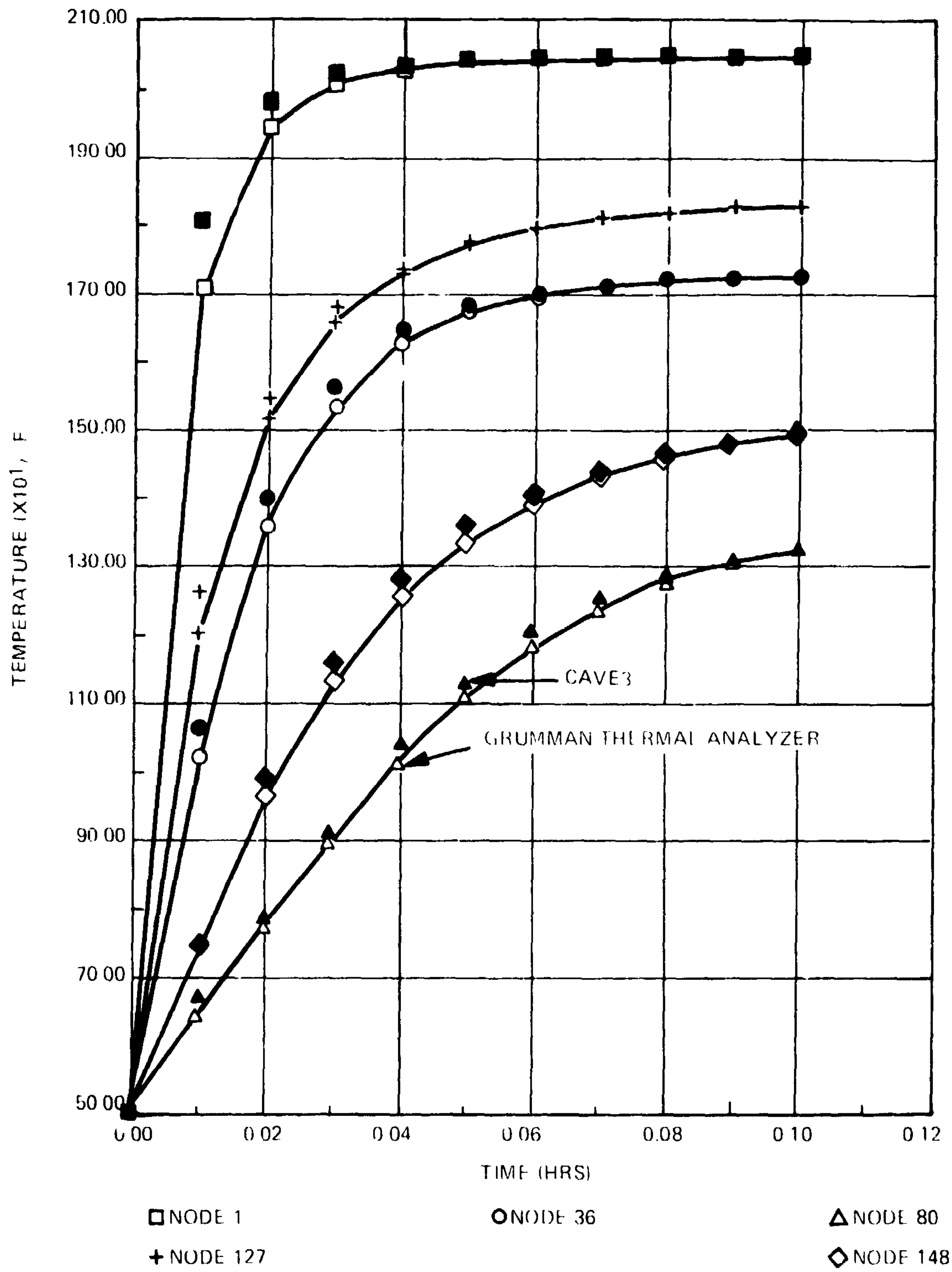

Figure 5-11. Sample Problem No. 2, Model 2A, Verification Plot

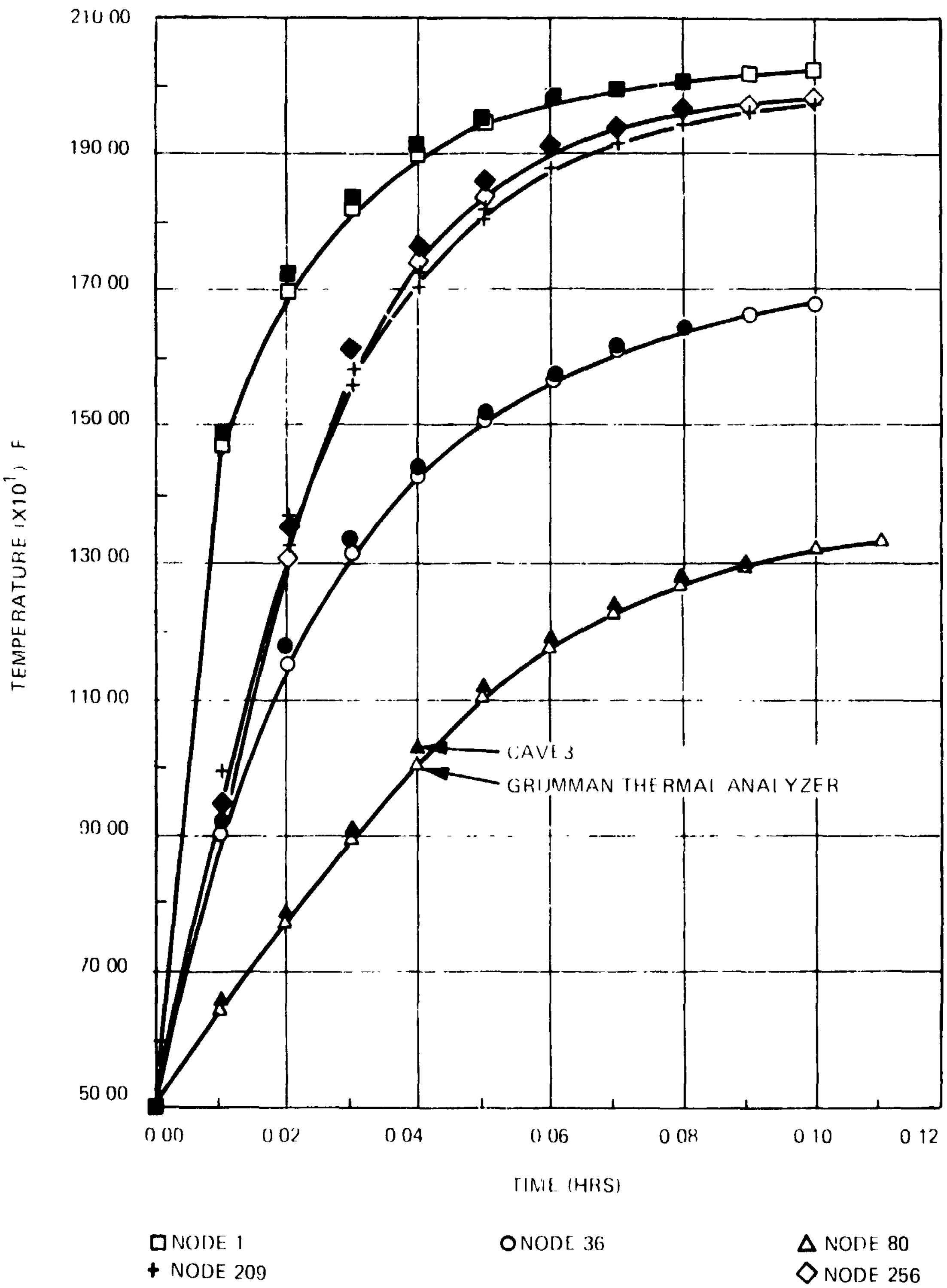

Figure 5-12. Sample Problem No. 2, Model 2B, Verification Plot

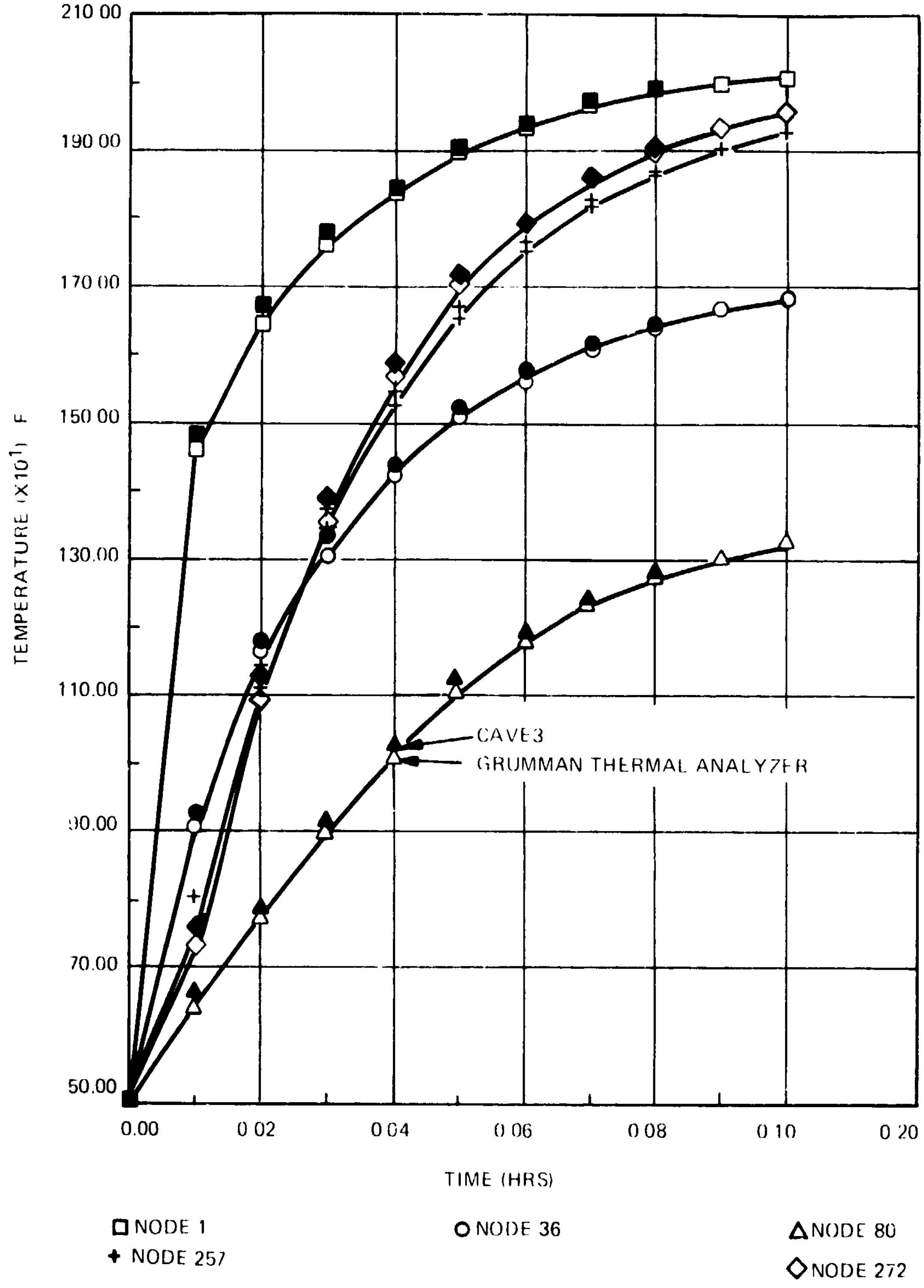

Figure 5-13. Sample Problem No. 2, Model 2C, Verification Plot

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Section 6

PROGRAMMER ORIENTED DOCUMENTATION

This section presents the details of the CAVE3 organization and structure. A simplified flow diagram of CAVE3 is presented in Figure 6-1.

CAVE3 is organized in a main program with 18 subroutines. The list of subroutines is given in Table 6-1 together with the function of each subroutine. Many subroutines are identical to subroutines used in the CAVE (Ref (1)) and CAPE codes (NASA CR-2435). Figure 6-2 presents the organization of CAVE3 in terms of the more important subroutine calls. Table 6-2 gives the variable list for CAVE3.

Flow charts or descriptions for each subroutine are given in Figures 6-3 through 6-19. They are arranged in alphabetical order. For convenience and completeness, they are given for subroutines that are identical to the CAVE and CAPE routines as well as the new subroutines.

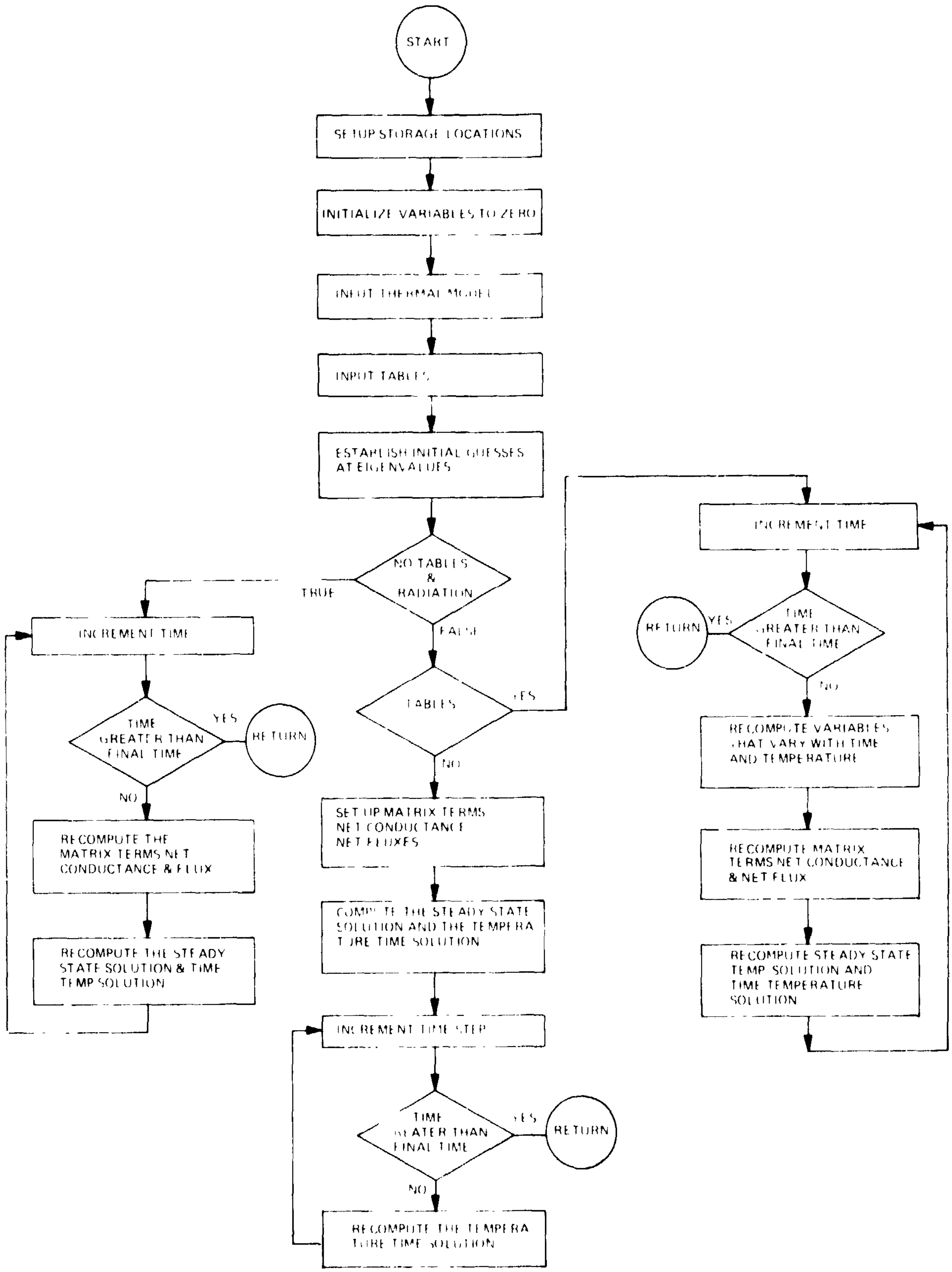


Figure 6-1. Simplified Flow of Logic in CAVE3

Table 6-1. Subroutine Descriptions

Routine	Description
CAVE	Main routine - Sets up storage array and dynamically allocate core storage to match the input requirements.
AORDER	Orders a set of real numbers.
BIJEN	Obtains dominant eigenvectors and eigenvalues of a given matrix (using Jennings Method of simultaneous vector iteration).
SWITCH	Utility routine to convert columns of a matrix to rows or vice versa.
SCAPR2	Computes scalar product of two vectors.
CAVE3	Establishes the main flow of the program.
CINIT	Initializes variables to zero.
DSCT	Computes the steady state and time dependent solutions.
DISPLA	Prints scalars, vectors, rectangular matrices, packed symmetric matrices and Hessenburg matrices.
EVECGS	Prepares approximate guesses for the eigenvectors.
LLTRAN	Cholesky decomposition of a positive definite symmetric matrix.
ORNML	Carries out the standard Gram-Schmidt orthonormalization of a group of vectors.
RVORDR	Reorders estimated eigenvalues according to magnitude.
SETUP	Establishes the CONNET and BFLUX arrays which are the matrix diagonal terms; the net conductance and net flux terms respectively.
XTABS	Table read-in routine.
XINTP	Finds values of several dependent variables from a table by linear interpolation on a single independent variable.
TABLE	Determines which variables are changing and calls the appropriate tables to compute the result. Changes the COND, CAP, Q and T arrays as required.
TRISLV	Solution of a system of N linear equations using the Cholesky factor.
XREDE	Input routine.

Table 6-2. Variable List

The following is an alphabetical listing of the principle program variables and their definitions. Most are stored in COMMON. Other variables are used as indices, counters, or intermediate storage locations; but their functions may easily be determined from an inspection of the program listing. Input variables are indicated by the letter "I". Array names show their dimensions.

BFLUX (NUMTOT)		Net Flux of each node including heat sources and boundary conductance times boundary temperature.
BUFF (20)	I	Buffer region for listing of title cards.
CAP (NUMTOT)	I	Thermal capacitance. Subscript is node numbers. Inputted as mass x specific heat, stored as $1/\sqrt{\text{mass x specific heat}}$
COND (NUMCON)	I	Thermal conductance. Subscript is conductance number (UA)
CONNET (NUMTOT)		Net conductance of each node.
CP1 (NUMITR)		Storage location for previously computed value of CAP (N) used for readjusting CAP (N) when properties change.
DTIME	I	Time step
DUM		Input buffer and intermediate storage in several areas
EVAL (NEVALV)		eigenvalues
EVEC (NUMITR, NEVALV)		eigenvector
FCT (50)		Table look-up return
FTIME	I	End computing time
IDIAG	I	Diagnostic Flag
IFLUX	I	Flux output flag
II	I	"Limit" for multiple parameter input (see input data discussion Section)

Table 6-2. Variable List (Cont'd)

IJ2 (NUMTOT)	I	Table of subscripted node representing variable physical property
JJ	I	"Spacing" for multiple parameter input (see input data discussion Section)
KNBN		Number of boundary nodes
KNIN		Number of iterated nodes and boundary nodes
KNQ		Number of heat sources
KODE	I	Program control parameter
LFLAG (50)	I	Table flag indicating type of table
L1 (50)	I	Number of values of independent variable in a table. Subscript is table number
L2 (50)	I	Number of dependent variables in a table. Subscript is table number.
MAXB		Total number of nodes iterated and boundary
MAXT		Total number of iterated nodes
N3		N4 + N5
N4		Number of conductances
N5		Number oı radiation couplings
NCOND (2, NUMCON)	I	List of nodes connected by conductors. First subscript reserves room for two nodes. Second subscript is conductor number
NEVALU	I	Number of eigenvalues to be used.
NIN (NUMITR)		List of node numbers of iterated nodes
NLAST (50)		Position of independent variable in STG array from previous table look-up. Subscript is table number
NMAXB		High node number of boundary nodes

Table 6-2. Variable List (Cont'd)

NMTRIC	I	Flag indicating units of input
NODE (NUMNOD)		Array containing node position in NIN array as function of node label
NPOS (50)		Position of variable list for table in STG array. Subscript is table number
NQ (NUMFLX)	I	List of nodes to which heat sources are applied. Subscript is source number
NRAD (2, NUMRAD)	I	List of nodes connected by radiation couplings. First subscript reserves space for two nodes. Second subscript is radiation coupling number
NSTR	I	Reserve Storage words
NTABS (50)		Number of tables
Q (NUMFLX)	I	Heat source. Subscript is source number
NUMBND	I	Number of boundary nodes
NUMCON	I	Number of conductances
NUMNOD	I	Number of highest nodes
NUMFLX	I	Number of fluxes
NUMITR	I	Number of iterated nodes
NUMRAD	I	Number of radiations
NUMSCR	I	Storage variables
NUMTOT		Number of iterated and boundary nodes
Q1 (NUMCON)		Heat flux from node to each adjacent nodes, accumulated over each time
SIG	I	Stephen-Boltzmann constant
STG (5000)	I	Independent and dependent table variables
T (NUMTOT)	I	Temperature of interated and boundary nodes. Subscript is node number

Table 6-2. Variable List (Cont'd)

TIME	I	Time
TSS (NUMITR)		Steady State Temperature array
XK1 (NUMITR)		Initial value of conductivity
XNOD (NUMCON)		Conductance Constant A/ΔX in x direction
YNOD (NUMCON)		Conductance Constant A/ΔX in y direction

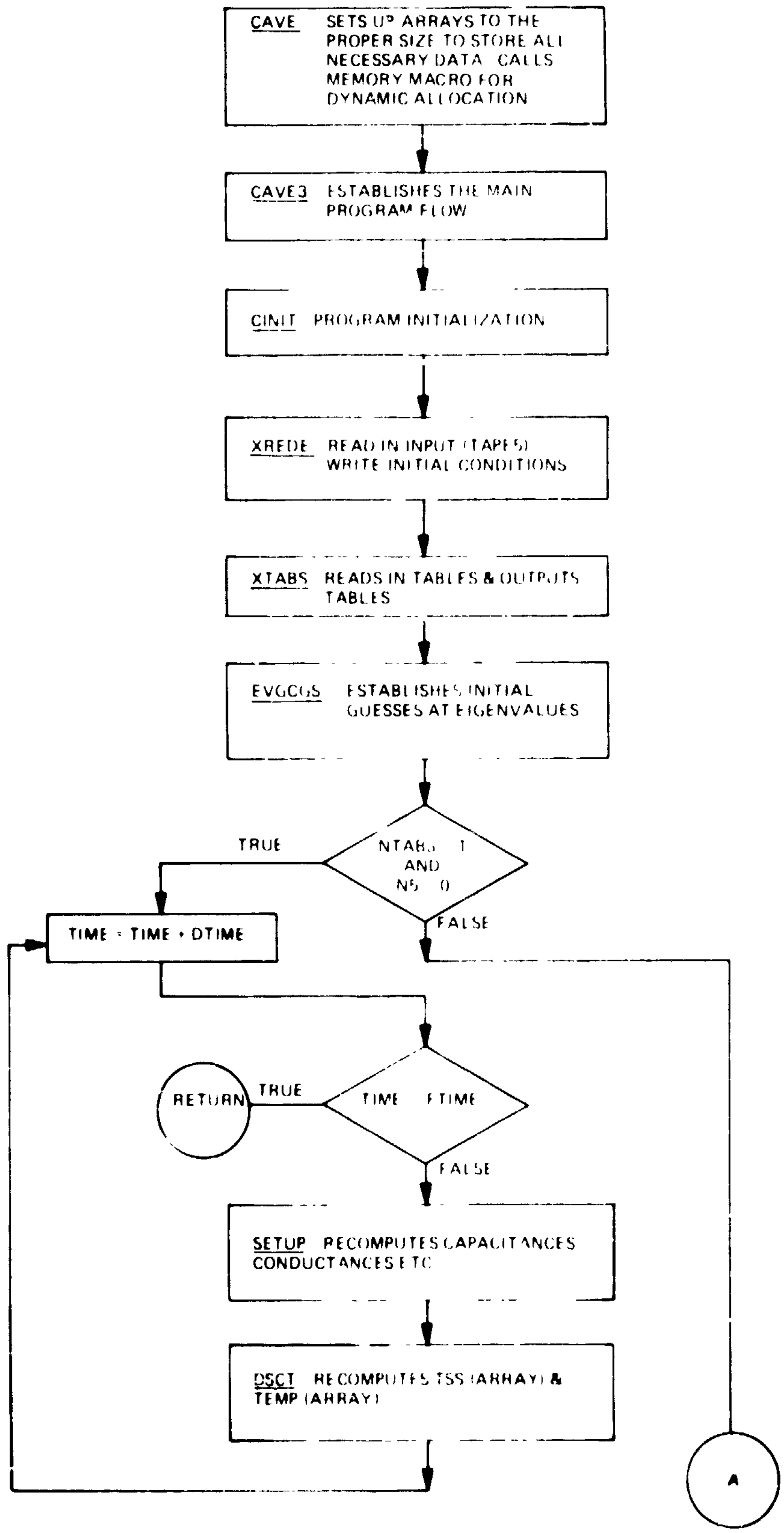


Figure 6-2. Organization of CAVE3 in Terms of the More Important Subroutine Calls (Sheet 1 of 2)

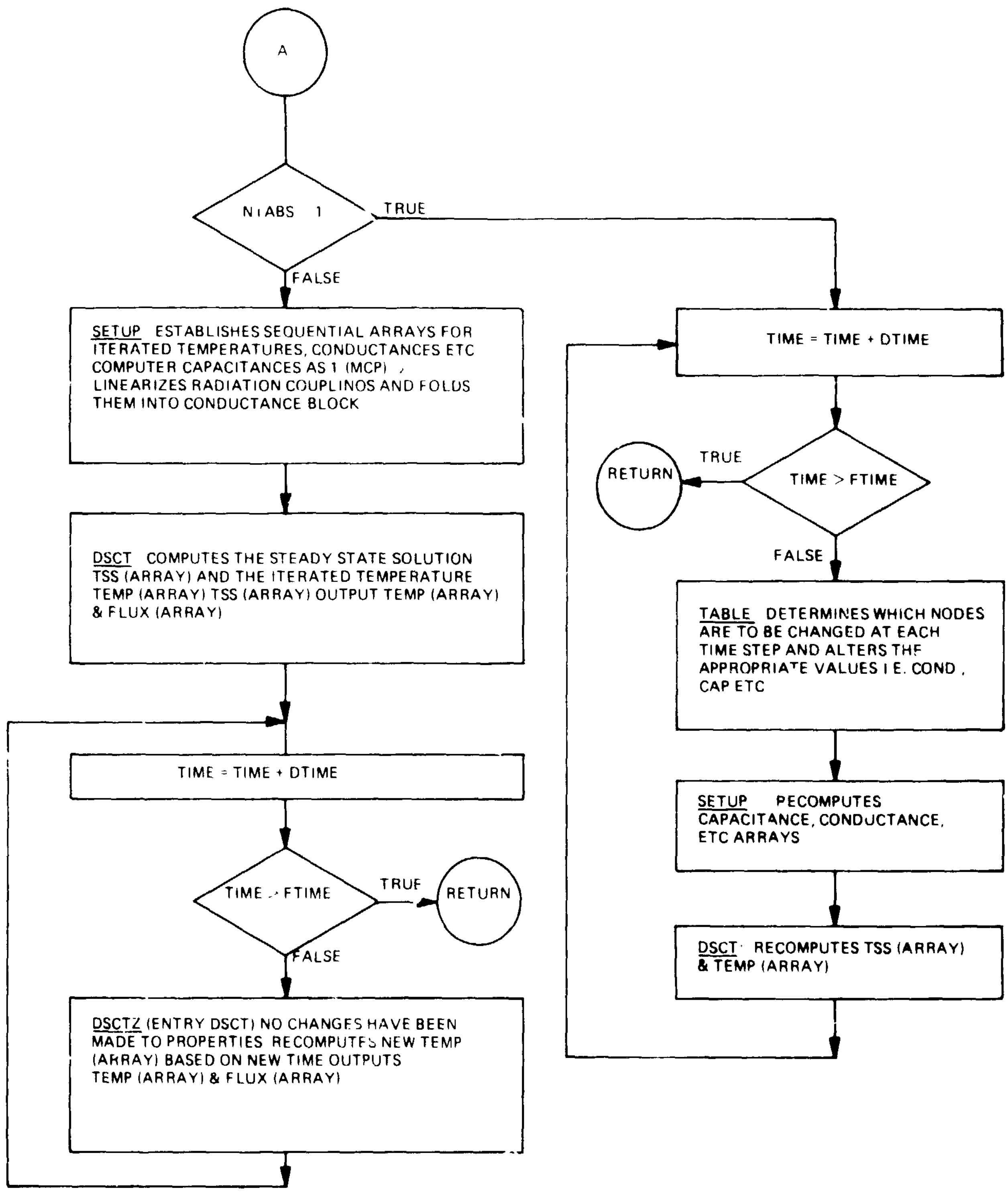


Figure 6-2. Organization of CAVE3 in Terms of the More Important Subroutine Calls (Sheet 2 of 2)

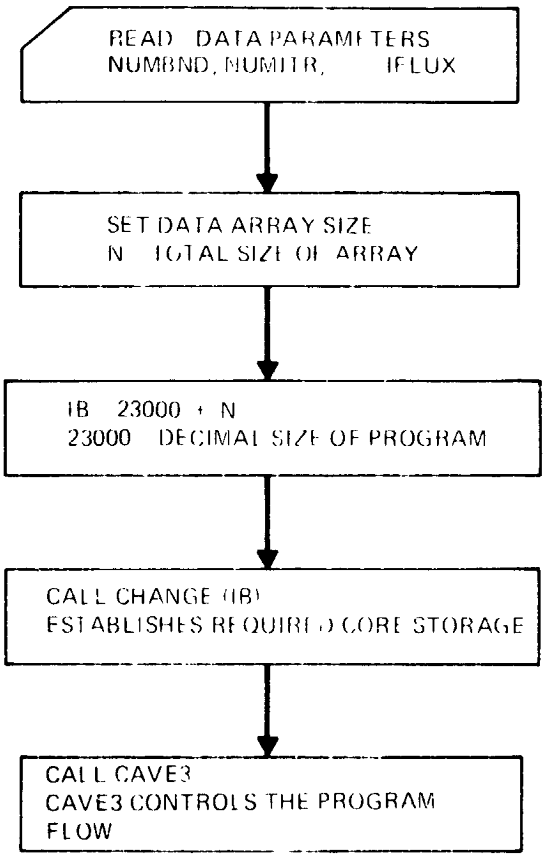


Figure 6-3. Main Routine Flow Chart

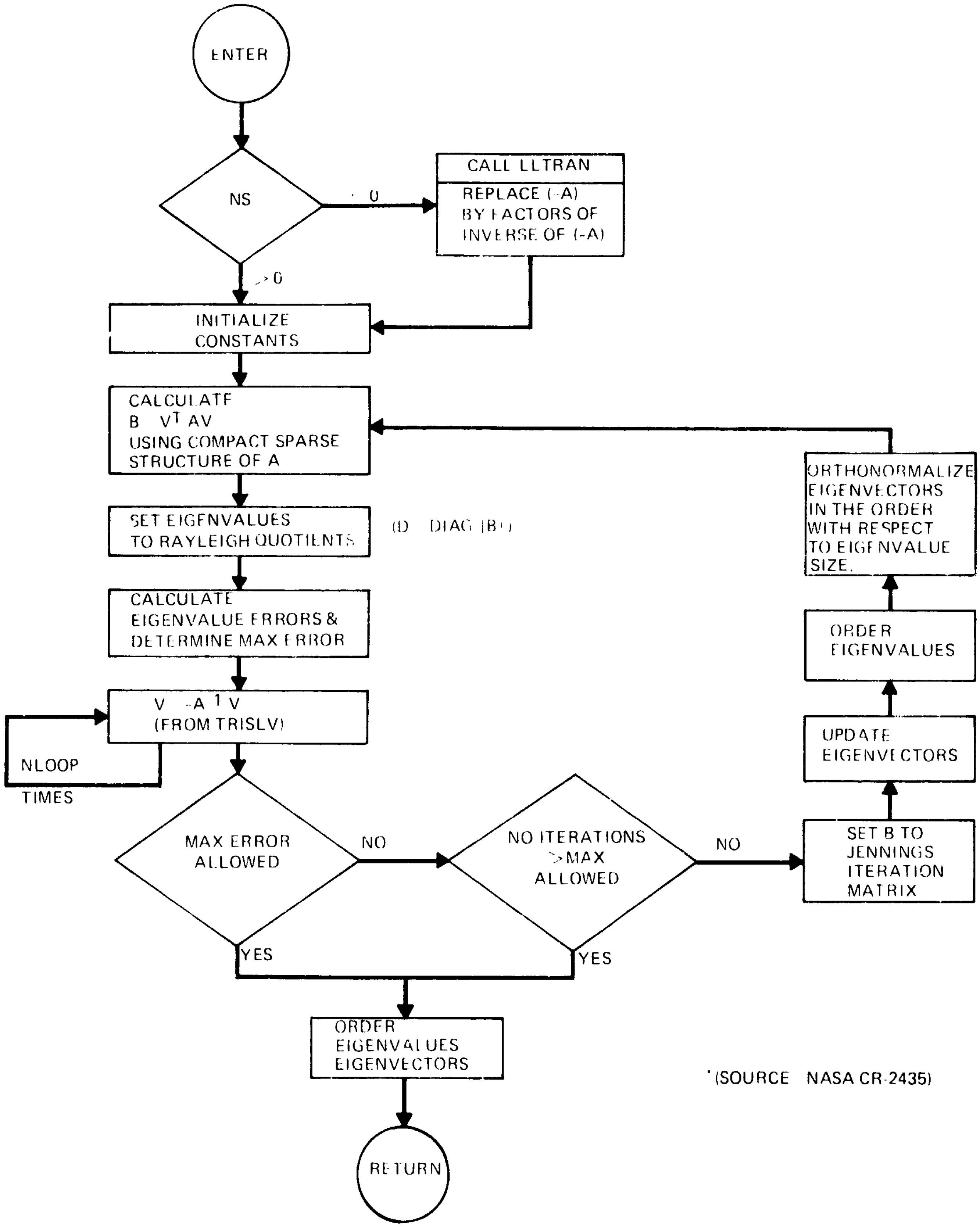
PURPOSE: ORDER A SET OF REAL NUMBERS

CALLING SEQUENCE: CALL AORDER (A, N, IPERM)

	NAME	DIMENSION	DESCRIPTION
INPUT	A	A(N)	ELEMENTS TO BE ORDERED
	N		NUMBER OF ELEMENTS = I N I N > 0 INCREASING ORDER N < 0 DECREASING ORDER
OUTPUT	IPERM	IPERM(N)	ORDER VECTOR - SPECIFIES THE SEQUENCE OF ELEMENT INDEX NUMBERS WHICH WILL PRESENT A AS AN ORDERED SET, i.e. DO 100 I = 1, N 100 WRITE (6, 1) A (IPERM(I)) 1 FORMAT (F 10.5) WILL LIST A AS AN ORDERED ARRAY

ORDER CALLS NO OTHER SUBROUTINES

Figure 6-4. Subroutine AORDER Description
(From NASA CR-2435)



*(SOURCE NASA CR-2435)

Figure 6-5. Subroutine BIJEN Flow Chart*

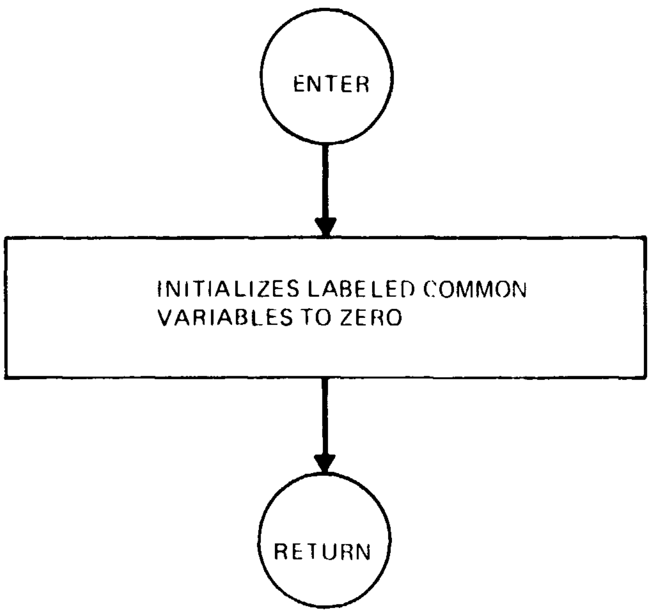


Figure 6-6. Subroutine CINIT Flow Chart

TITLE: DISPLA – Prints scalars, vectors, rectangular matrices, packed symmetric matrices, and Hessenberg matrices.

AUTHOR: M.J. Rossi

DATE. September 1973

APPLICABLE COMPUTERS· IBM 360/370, CDC 6000 SERIES

SOURCE LANGUAGE· FORTRAN IV

PURPOSE· To simplify printing of mathematical types of data structures in an easily read format which allows titles and index labels

METHOD· FORTRAN looping and write statements which indexes and addresses arrays according to their type.

USAGE: Call DISPLA (X, NFILE, TITLE, KAR, KIND, NROWS, NCOLS, MID).

X – Input – Array of one or more values to be printed
NFILE – Input – FORTRAN unit for printing
TITLE – Input – Vector of KAR characters used as title.
KAR – Input – Number of characters in above string
KIND – Input – Type of mathematical data structure.
= 0 scalar (or vector printed on one line with no index)
1 vector of |NROWS| elements, indexed
= 2 Rectangular |NROWS| by NCOLS matrix – Dimension (MID, *)
= 3 Packed Symmetric matrix of order |NROWS|

$$-\begin{bmatrix} 1 & 2 & 4 \\ 2 & 3 & 5 \\ 4 & 5 & 6 \end{bmatrix}$$ – lower triangular partial rows if NROWS positive

$$-\begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 5 \\ 3 & 5 & 6 \end{bmatrix}$$ – lower triangular partial columns if NROWS negative

= 4 · Transposed Hessenberg matrix of order NROWS – Dimension (MID, MID)

NROWS	– Input	– Number of elements if KIND = 0 or 1
		– Number of rows if KIND = 2
		– Matrix order if KIND = 3 or 4
NCOLS	– Input	– Number of columns if KIND = 2
		– Ignored otherwise
MID	– Input	– Matrix Dimension if KIND = 2 or 4
		– Ignored otherwise

SUBROUTINE REQUIRED. SWITCH

Figure 6-7. Subroutine DISPLA Description
(From NASA CR-2435)

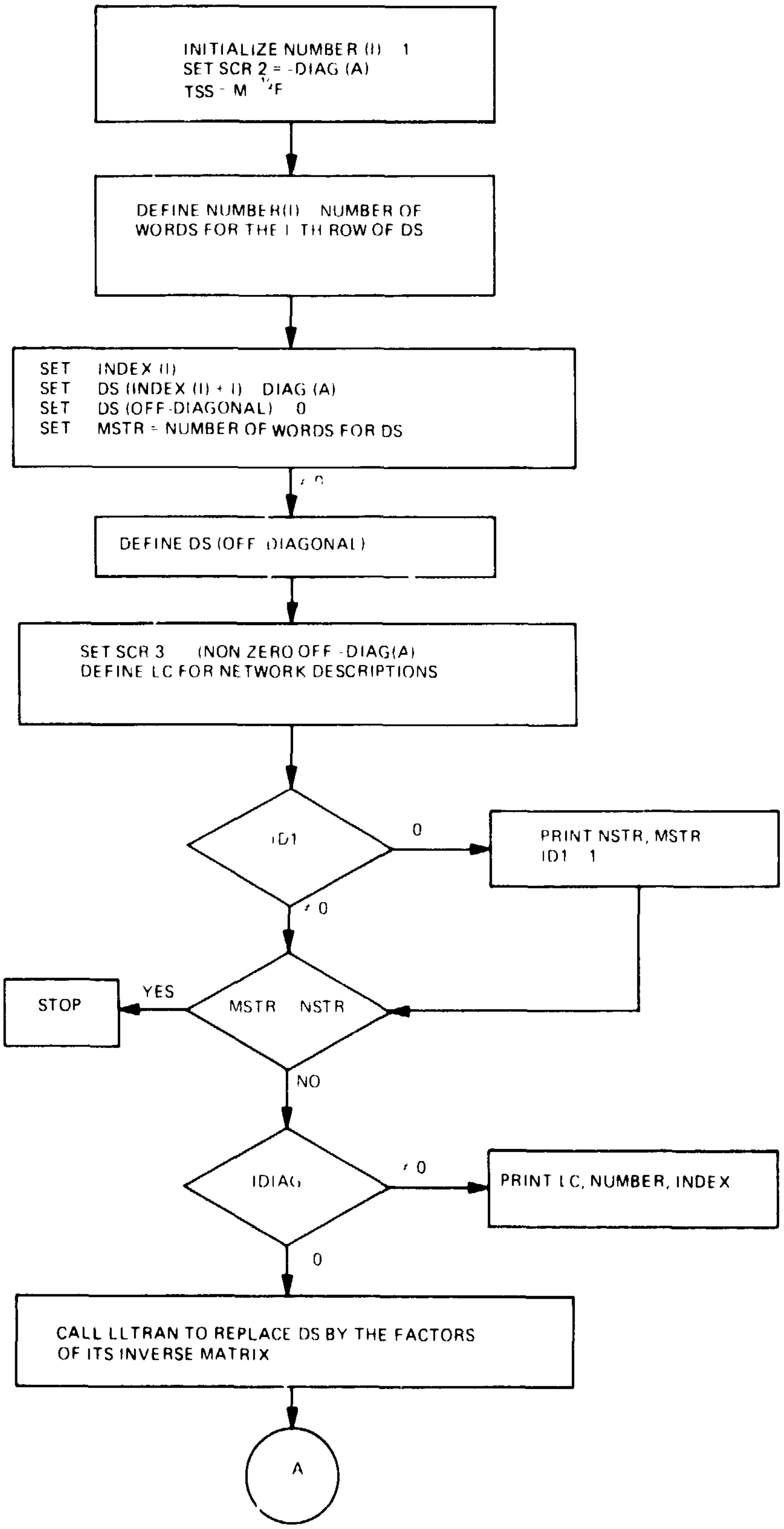


Figure 6-8. Subroutine DSCT Flow Chart (Sheet 1 of 2)

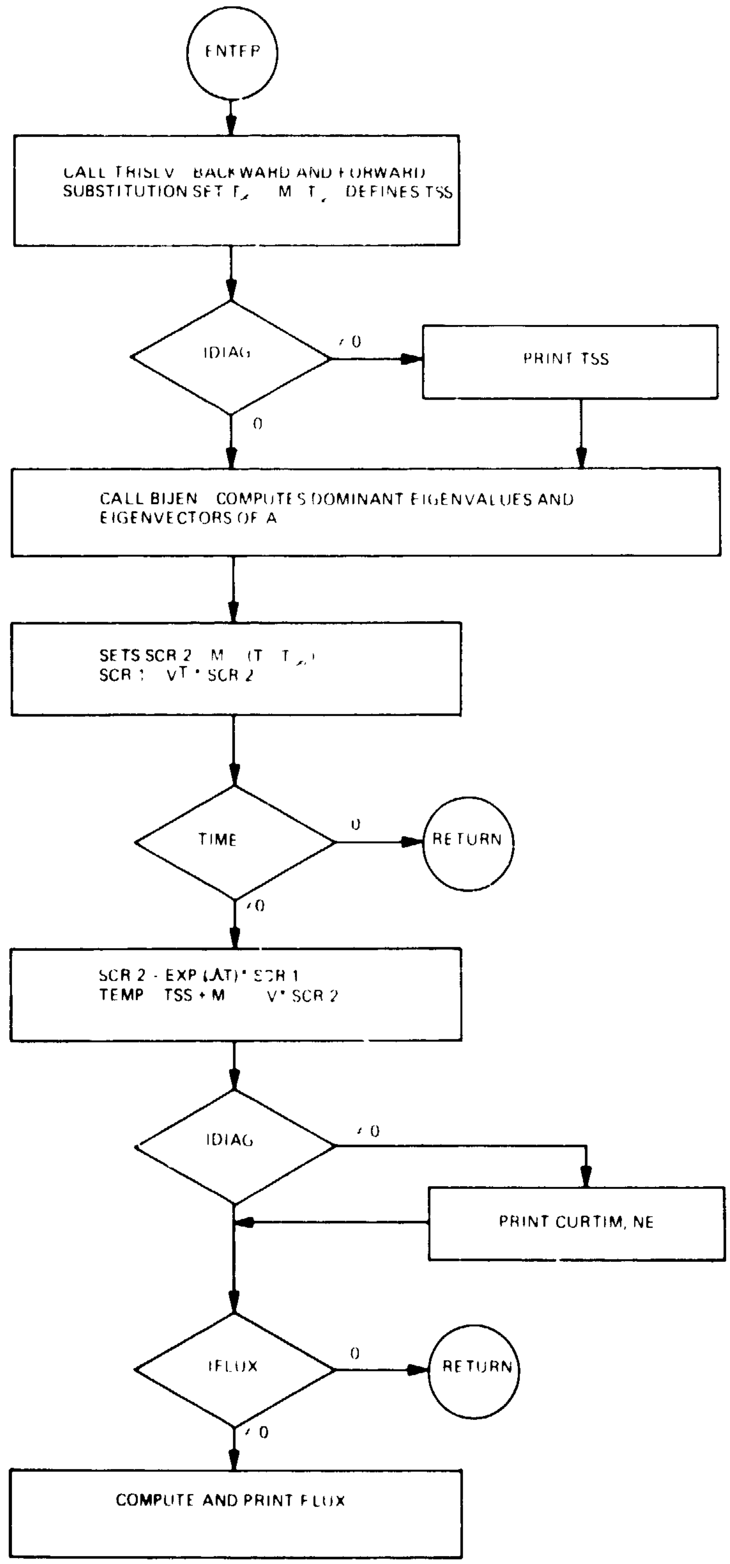


Figure 6-8. Subroutine DSCT Flow Chart (Sheet 2 of 2)

EVECGS computes guesses of the eigenvaules, eigenvectors and associated permutation index that are necessary to start the iteration in the Jennings method to calculate eigenvalues and eigenvectors. The formulae used for these guesses are:

ith eigenvalue $R \sim {}^{-i}$

ith eigenvector $A \approx e^{+y/(h/2)} \sin \left\{ \frac{\pi}{2} + \pi \frac{x}{b} (i - 1) \right\}$

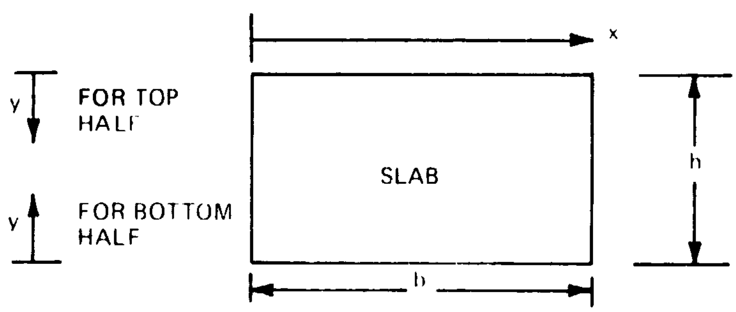


Figure 6-9. Subroutine EVECGS Description (From NASA CR-2435)

CHOLESKY DECOMPOSITION OF A POSITIVE DEFINITE SYMMETRIC MATRIX, OFTEN PRELIMINARY FOR LINEAR SYSTEM SOLUTION VIA SUBROUTINE TRISLV.

THE MATRIX IS STORED IN A ONE DIMENSIONAL ARRAY, A, IN A COMPACT WAY WHICH IS MOTIVATED BY THE PATTERN OF NONZERO ELEMENTS IN THE FACTOR.

THE MATRIX IS GIVEN ROW-WISE STARTING WITH THE FIRST NONZERO ELEMENT AND CONCLUDING WITH THE DIAGONAL ELEMENT INCLUDING INTERIOR ZEROS.

THE ARRAY NUMBER GIVES THE NUMBER OF ELEMENTS STORED FOR EACH ROW.

THE ARRAY KDIAG IS DEFINED BY THE ROUTINE TO BE THE INDEX OF DIAGONAL ELEMENTS OF THE MATRIX.

NSTR IS THE NUMBER OF WORDS NECESSARY FOR STORING THE MATRIX.

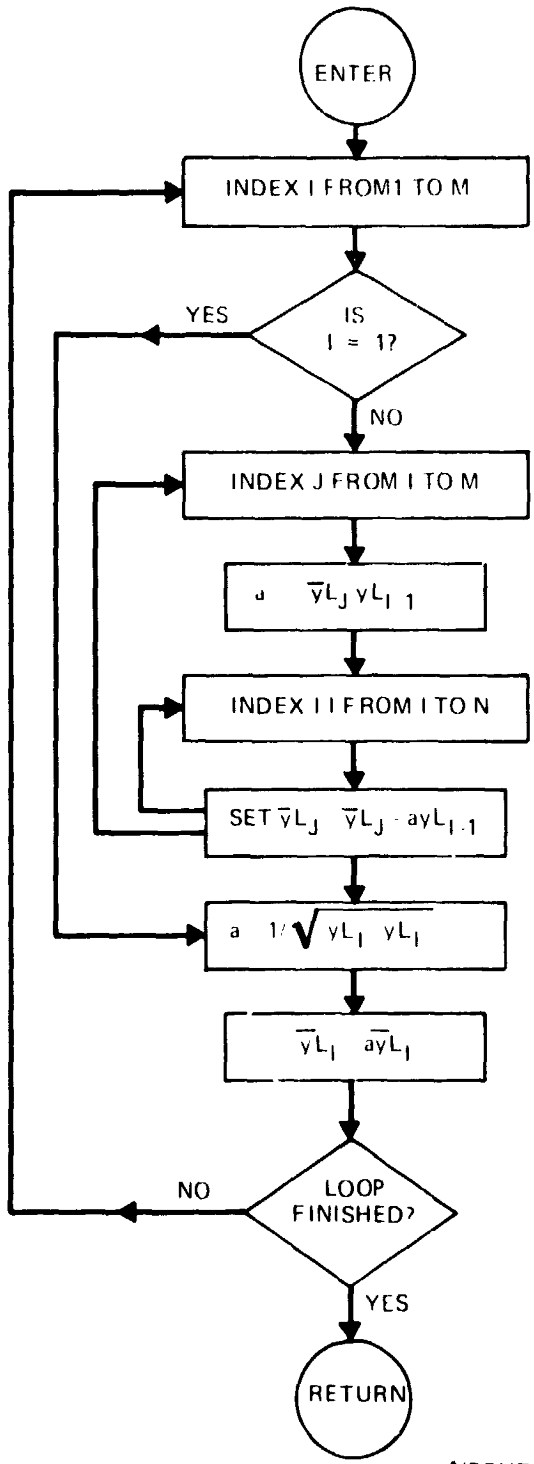
N IS THE ORDER OF THE MATRIX.

NIX IS SET BY THE ROUTINE AS ZERO NORMALLY, AND AS -I IF THE I-TH LEADING PRINCIPLE MINOR FAILS TO BE NUMERICALLY POSITIVE DEFINITE.

THE ARRAY A IS REDEFINED TO REPRESENT THE LOWER DIAGONAL CHOLESKY FACTOR. GENERALLY ALL KDIAG(N) ELEMENTS OF A WILL BE NON-ZERO ON OUTPUT, EVEN IF THERE ARE MANY INTERIOR ZEROS ON INPUT. THE PATTERN OF STORAGE IS ILLUSTRATED BY THE 6X6 CASE BELOW.

MATRIX							A(I,J)						NUMBER(I)
X	X	0	0	0	0		1						1
X	X	X	X	0	X		2	3					2
0	X	X	0	0	0	STORED IN THE ORDER	*	4	5				2
0	X	0	X	X	X		*	6	7	8			3
0	0	0	X	X	0		*	*	*	9	A		2
0	X	0	X	0	X		*	B	C	D	E	F	5

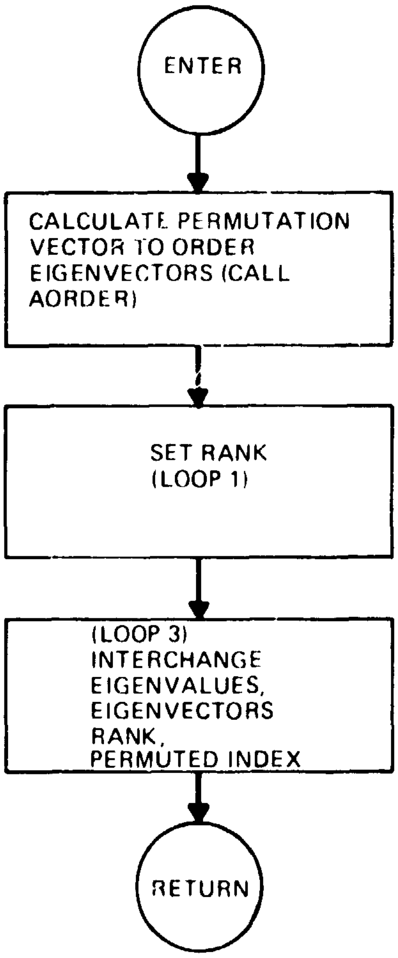
Figure 6-10. Subroutine LLTRAN Description



*(SOURCE NASA CR-2435)

Figure 6-11. Subroutine ORNML Flow Chart*

QUANTITY	SYMBOL	INPUT/OUTPUT	DIMENSION
EIGENVALUES	R	IN + OUT	R(MM)
EIGENVECTORS	V	IN + OUT	V(MID, MM)
RANK VECTOR	K	OUT	K(MM)
PERMUTATION VECTOR	L	OUT	L(MM)
EIGENVECTOR DIMENSION	N	IN	–
NUMBER OF EIGENVECTORS	MM	IN	–
DIMENSION OF ARRAY USED TO STORE EIGENVECTORS	MID	IN	–



*(SOURCE: NASA CR-2435)

Figure 6-12. Subroutine RVORDR Flow Chart*

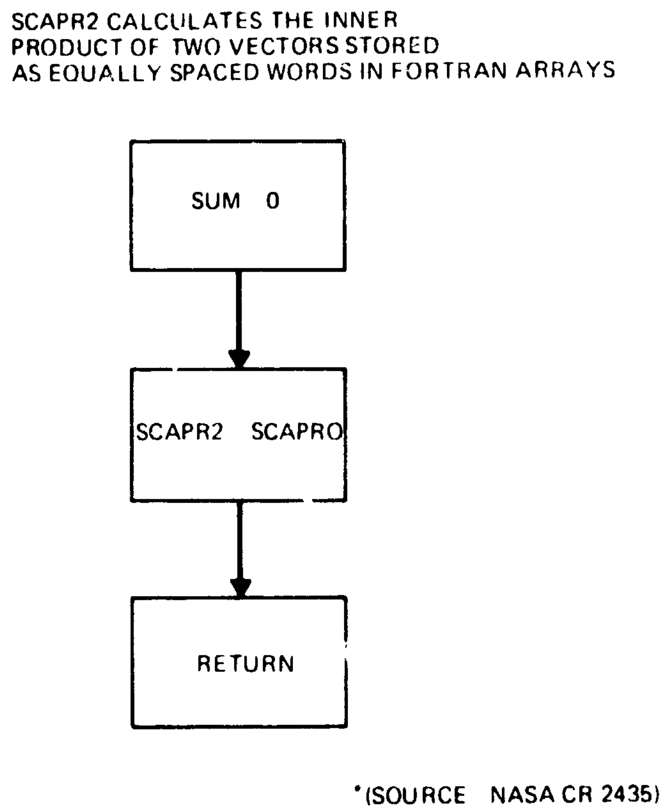


Figure 6-13. Subroutine SCAPR2 Flow Chart*

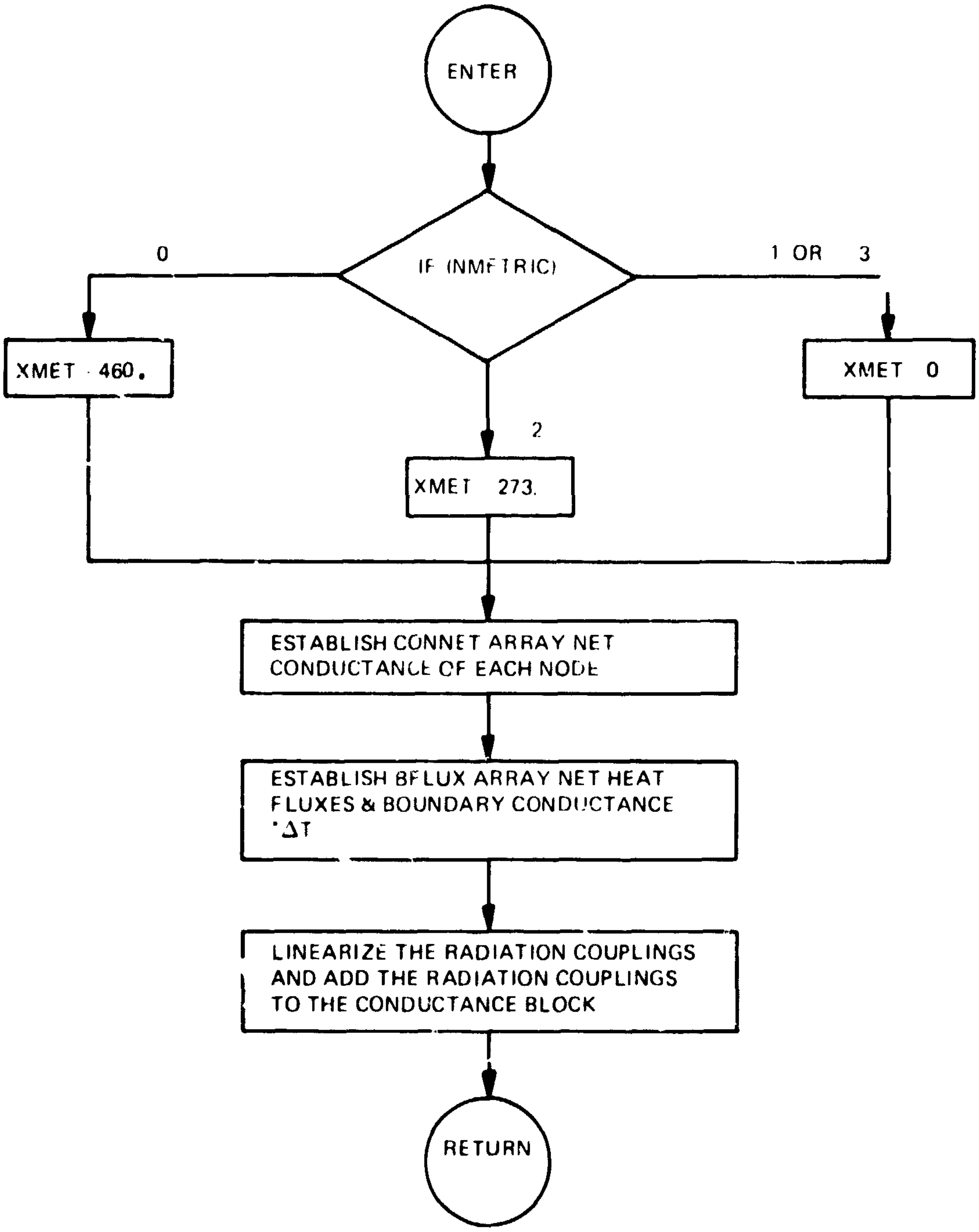


Figure 6-14. Subroutine SETUP Flow Chart

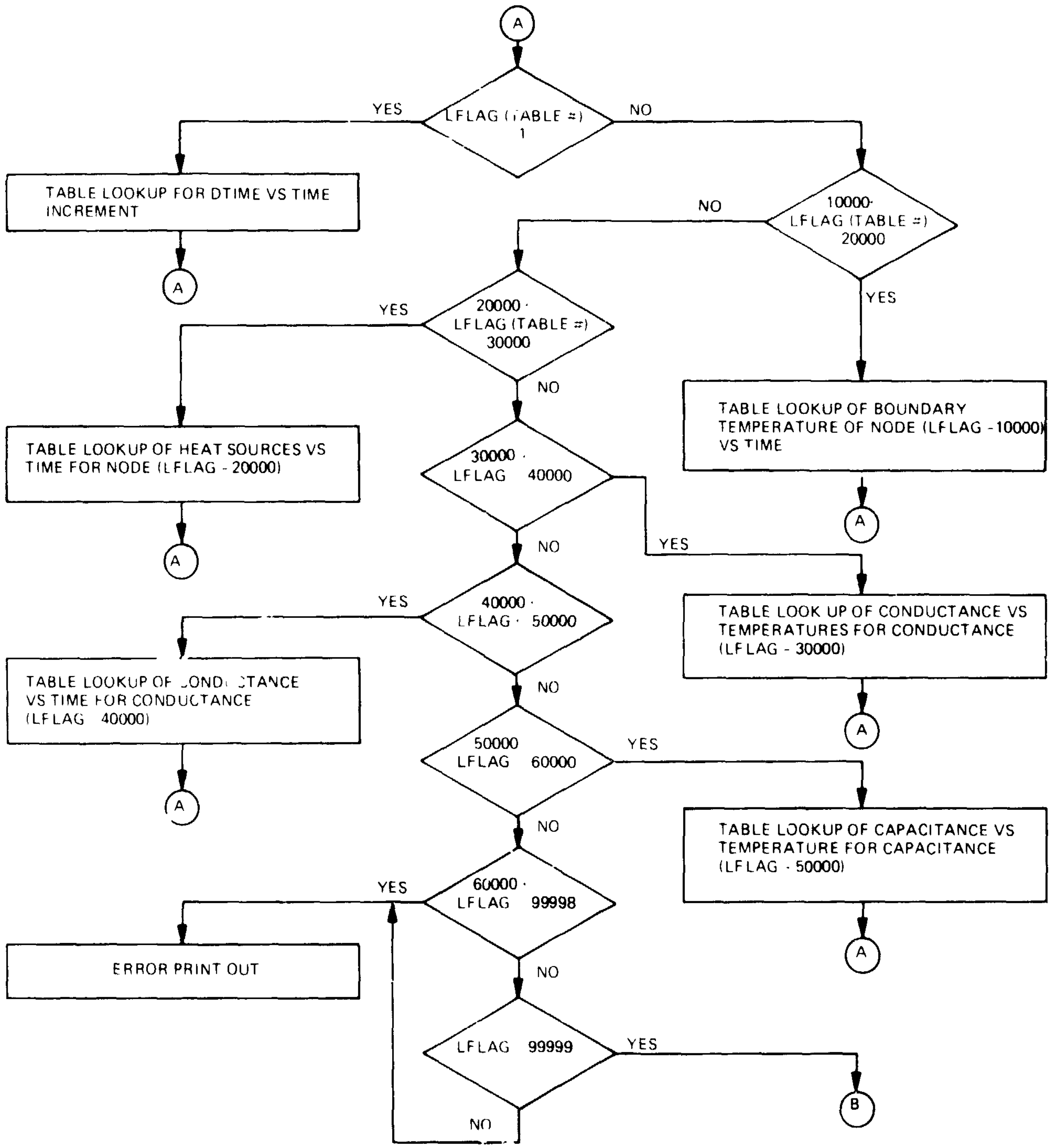


Figure 6-15. Subroutine TABLE Flow Chart (Sheet 1 of 2)

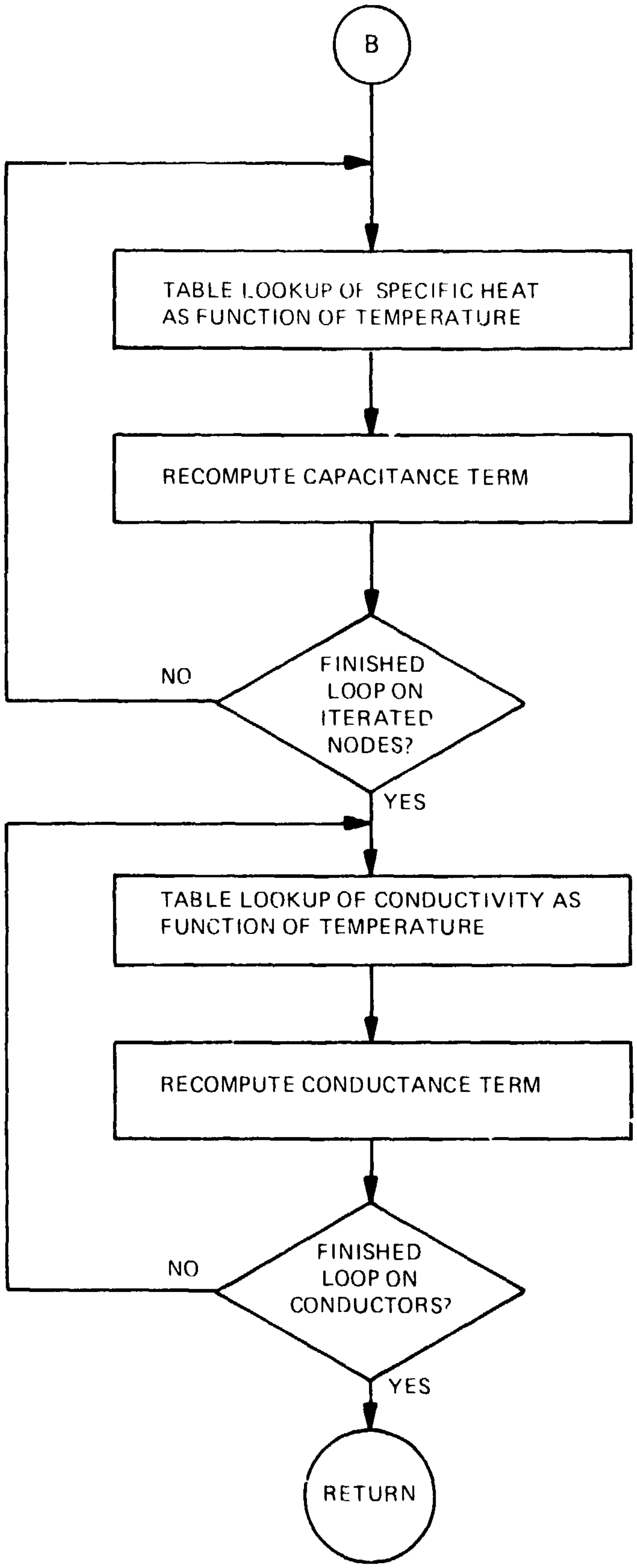


Figure 6-15. Subroutine TABLE Flow Chart (Sheet 2 of 2)

SOLUTION OF A SYSTEM OF N LINEAR EQUATIONS USING THE CHOLESKY FACTOR OFTEN COMPUTED BY SUBROUTINE LLTRAN. IN OTHER WORDS, THE COEFFICIENT MATRIX IS REPRESENTED AS THE PRODUCT OF A LOWER TRIANGULAR MATRIX TIMES ITS TRANSPOSE. THIS LOWER TRIANGULAR MATRIX IS SPECIFIED BY THE FORTRAN ARRAYS, A AND NUMBER. THE MATRIX IS STORED WITHOUT LEADING OR TRAILING ZEROS -- IN EACH ROW, DIAGONALS MUST BE NONZERO. THE PATTERN OF STORAGE IS ILLUSTRATED BY THE 6X6 CASE BELOW.

MATRIX							A(IJ)						NUMBER(I)
X	0	0	0	0	0		1						1
X	X	0	0	0	0		2	3					2
0	X	X	0	0	0	STORED IN THE ORDER	*	4	5				2
0	X	0	X	0	0		*	6	7	8			3
0	0	0	X	X	0		*	*	*	9	A		2
0	X	0	X	0	X		*	B	C	D	E	F	5

WHERE A THROUGH F DENOTE 10 THROUGH 15.

THE ROUTINE NEEDS TO BE TOLD THE NUMBER OF ELEMENTS STORED IN EACH ROW GIVEN BY THE ARRAY NUMBER. NSTR IS .GE. SUM NUMBER (I), I = 1, N) THE ROUTINE SOLVES THE M RIGHT HAND - SIDES AT ONCE, IT REPLACES THE RIGHT HAND SIDES BY THE CORRESPONDING SOLUTIONS. THE RIGHT HAND SIDES ARE STORED AS COLUMNS OF THE 2 DIMENSIONAL ARRAY, Y, DIMENSION TO MID BY M, WHERE MID, GE, N, THE ROUTINE ALSO CAN RECURSE NLOOP TIMES WHICH IS USEFUL IN SOME EIGENVECTOR CALCULATIONS.

Figure 6-16. Subroutine TRISLV Description

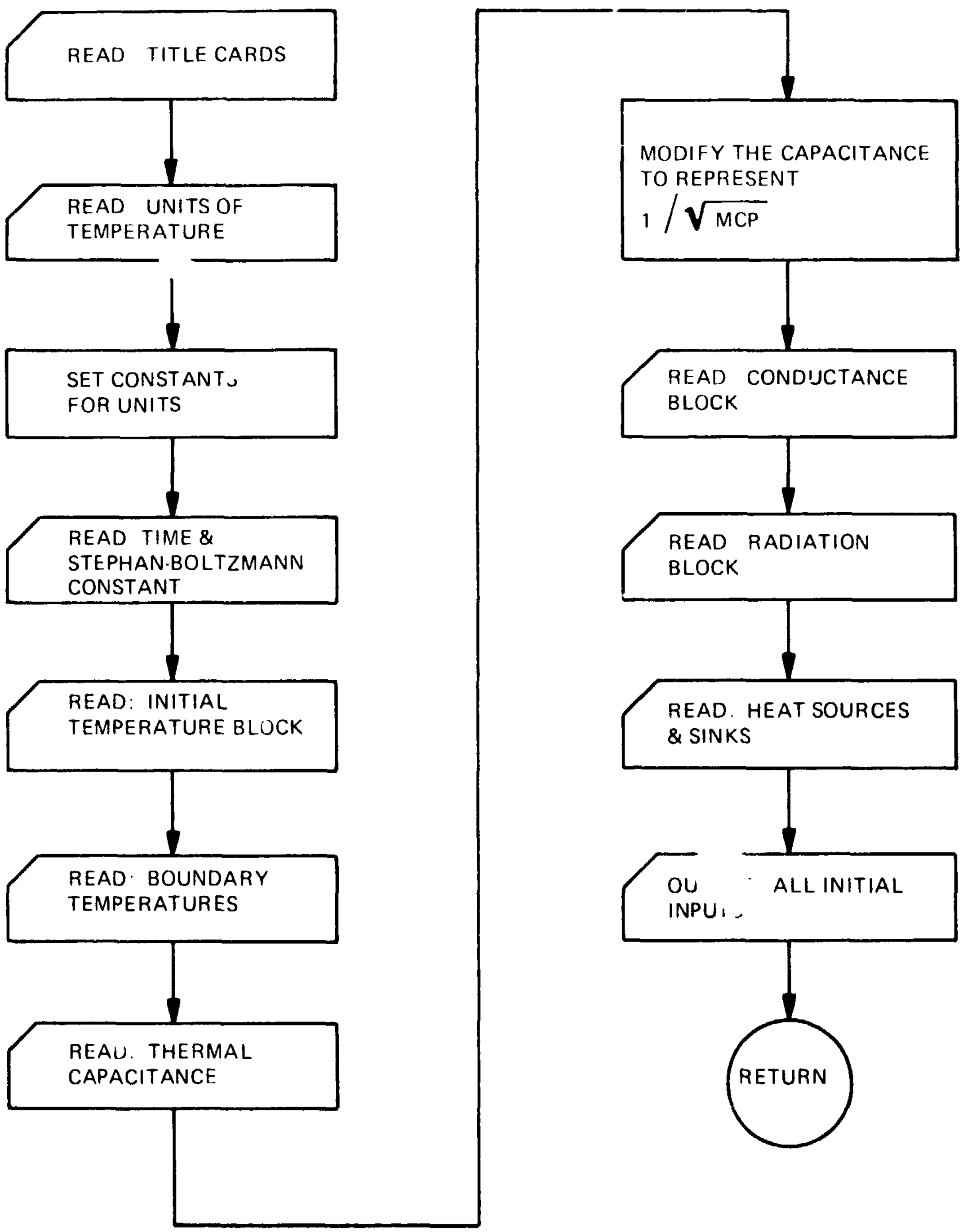


Figure 6-17. Subroutine XREDE Flow Chart

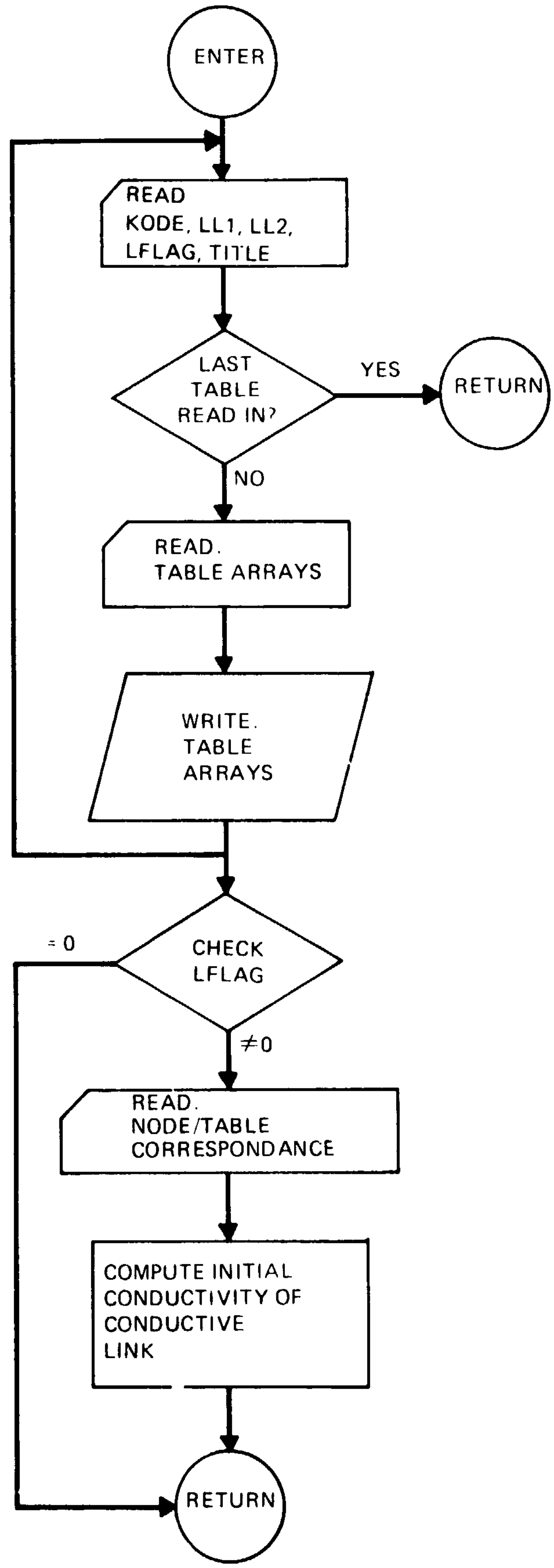


Figure 6-18. Subroutine XTABS Flow Chart

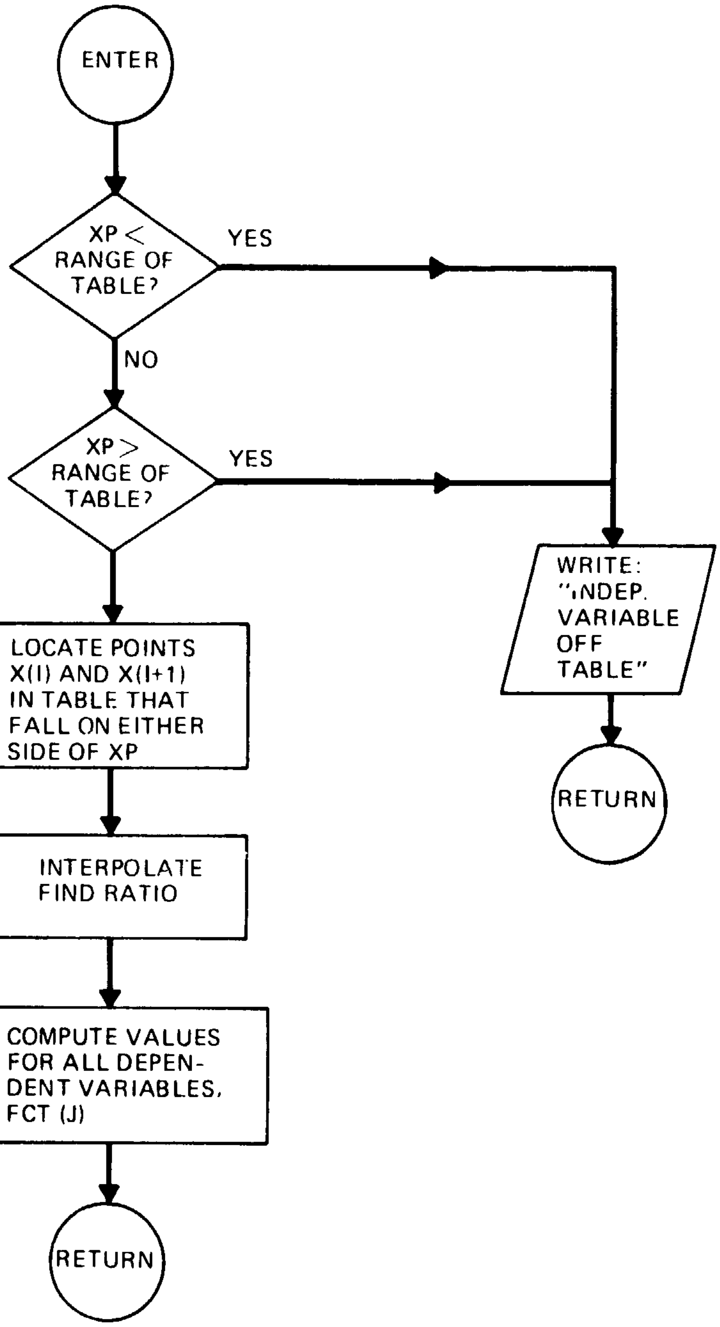


Figure 6-19. Subroutine XINTP Flow Chart

Section 7

REFERENCES

1. Rathjen, K. "CAVE, A Computer Code for Two-Dimensional Transient Heating Analysis of Conceptual Thermal Protection Systems for Hypersonic Vehicles" NASA CR-2897, 1977

2. Jennings, A., "A Direct Iteration Method of Obtaining Latent Roots and Vectors of a Symmetric Matrix", Proc. Cambridge Phil. Soc., 63, 1967, pp. 755-765