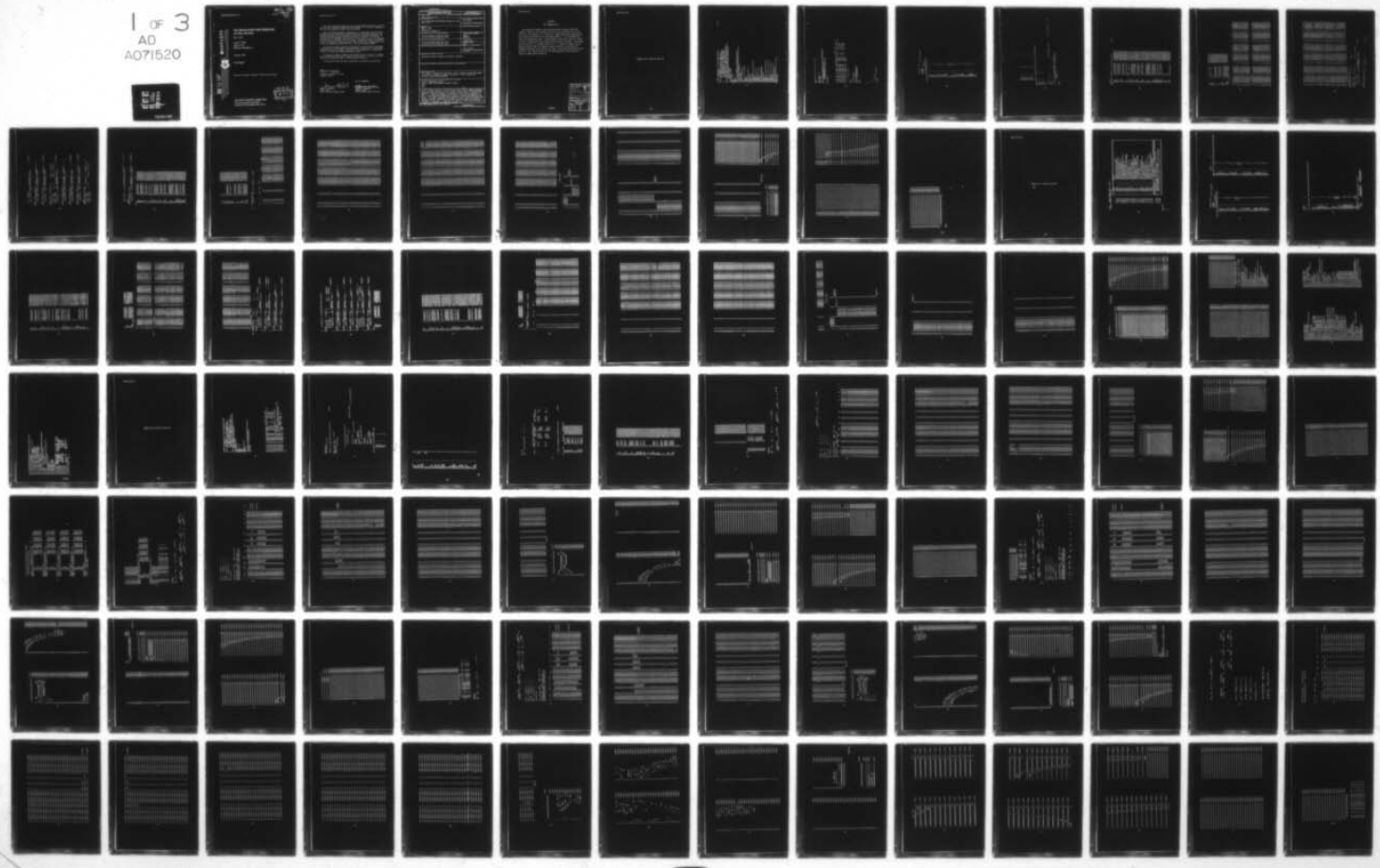
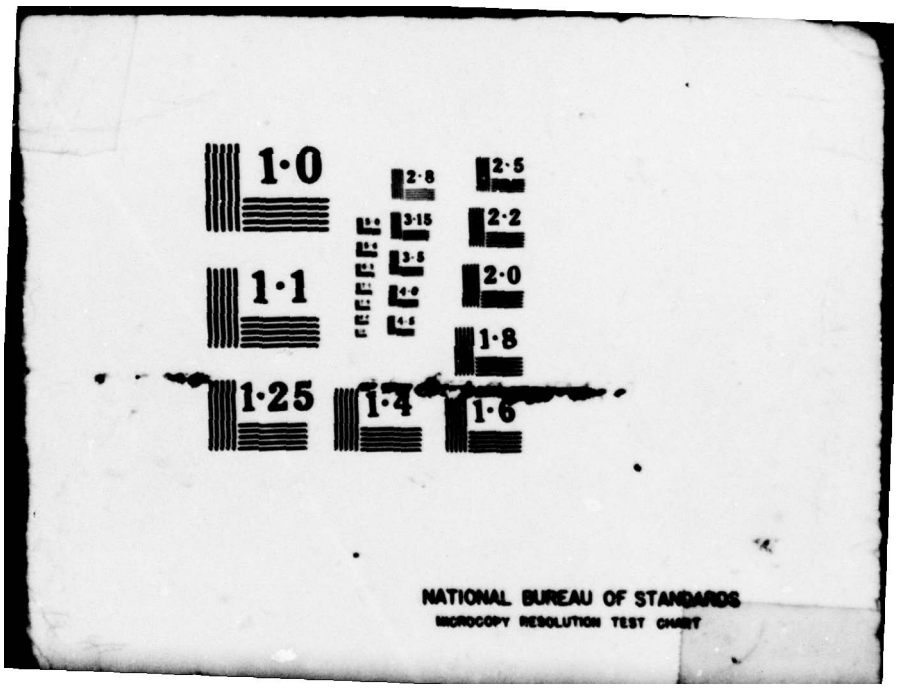
AD-A071 520 AIR FORCE WEAPONS LAB KIRTLAND AFB NM F/G 15/6
THE INSTALLATION AND OPERATION OF HULL ON 370S, PART II.(U)
JAN 79 L P GABY, M A FRY, C E RHOADES
UNCLASSIFIED AFWL-TR-78-134-PT-2 SBIE-AD-E200 325 NL

1 OF 3
AD
A071520




1·0
1·1
1·25
2·8
3·15
3·5
2·5
2·2
2·0
1·8
1·4
1·6
NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

THE INSTALLATION AND OPERATION OF HULL ON 370s

Part 2 of 2

Lewis P. Gaby
Mark A. Fry
Clifford E. Rhoades, Jr.

January 1979

Final Report

Approved for public release; distribution unlimited.

AIR FORCE WEAPONS LABORATORY
Air Force Systems Command
Kirtland Air Force Base, NM 87117

This final report was prepared by the Air Force Weapons Laboratory, Kirtland Air Force Base, New Mexico under Job Order 88091822. Dr. Clifford E. Rhoades, Jr. (DYP) was the Laboratory Project Officer-in-Charge.

When US Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This report has been authored by a employee of the United States Government. Accordingly, the United States Government retains a nonexclusive, royalty-free license to publish or reproduce the material contained herein, or allow others to do so, for the United States Government purposes.

This report has been reviewed by the Information Office (OI) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations.

This technical report has been reviewed and is approved for publication.

Clifford E. Rhoades, Jr.

CLIFFORD E. RHOADES, JR., PhD
Project Officer

FOR THE COMMANDER

Norman F. Roderick

NORMAN F. RODERICK
Major, USAF
Chief, Advanced Concepts Branch

Thomas W. Ciambrone

THOMAS W. CIAMBRONE
Colonel, USAF
Chief, Applied Physics Division

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFWL-TR-78-134, Pt. 2	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) THE INSTALLATION AND OPERATION OF HULL ON 370s Part 2 of 2		5. TYPE OF REPORT & PERIOD COVERED Final Report 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Mark P. Gaby Mark A. Fry Clifford E. Rhoades, Jr.		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Air Force Weapons Laboratory (DYP) Kirtland Air Force Base, NM 87117		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 62601F 88091822
11. CONTROLLING OFFICE NAME AND ADDRESS Air Force Weapons Laboratory (DYP) Kirtland Air Force Base, NM 87117		12. REPORT DATE January 1979 13. NUMBER OF PAGES 226
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

This report is divided into two parts. Part 1 consists of the front matter and Sections I through IV, pages 1 through 258. Part 2 consists of Section V, pages 259 through 484.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Machine independent software
Elastic plastic hydrodynamic computer program
HULL
SAIL

20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The HULL computer program is used to address problems in nuclear weapons effects and in armor penetration. Originally, HULL was written to run on the Air Force Weapons Laboratory CDC 6600s. To increase the number of installations which can successfully run HULL, the program has been modified to execute on System 370 compatible computers. This report describes the procedure for HULL installation under OS/VS operating systems. Operation of the HULL program on System 370 compatible equipment is discussed. In addition, the results of three sample problems are included for reference and comparison purposes.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

SECTION V

TEST PROBLEM 4.013

This particular problem is more closely related to typical large scale problems. There are four materials utilized in this calculation, air, octol, octol burn, and aluminum. It is basically a shaped charge type simulation that uses the burn routine within the code (Option BURN=1). There are 6080 zones within the computational mesh. The multimaterial equation of state six (EOS=6) is used in conjuction with the volume and energy fluxes (FLUXER=3). The problem was run 94 cycles for a problem time of 13 μs. An identical computer run was made upon the CDC Cyber 176 computer system at the AFWL, Kirtland AFB, NM. Noteable differences in the two runs are found in the third decimal place of the variable. Also, calculations run on the IBM system tend to gain energy as a result of numbers being rounded up.

PROBLEM 4.013 SYSTEM 370 KEEL RUN

4.013

```
//AF2001K JOB (AF2001,,5),'KEEL RUN',MSGCLASS=H,CLASS=B,
//         NOTIFY=AF2001
//KEEL EXEC KEEL,GENO='.V105',FPARM='NOSOURCE,TERM',
//       PS1='SYSOUT=H,HOLD=YES',PS2='SYSOUT=H,HOLD=YES',
//       FP1='SYSOUT=H,HOLD=YES',LP1='SYSOUT=H,HOLD=YES',
//       KP1='SYSOUT=H,HOLD=YES',KTIME=1,LIBPRE='AF2001.',
//       OLDPRE='AF2001.',PP1='SYSOUT=H,HOLD=YES',PTIME='(0,10)'
//KEEL.DATA DD  DSN=AF2001.HULL.PRB4P013,UNIT=3340,DISP=(NEW,CATLG),
//     VOL=SER=USER02,DCB=(RECFM=VBS,LRECL=7220,BLKSIZE=7224),
//     SPACE=(CYL,(20,20))
//KEEL.STATION  DD DUMMY
//KEEL.INPUT DD  *
KEEL
PROBLEM 4.013
HEADER
 PROBLEM 4.013 HEMISPHERICAL LINER @ENTRAL INITIATION
 EOS=6 REZONE=4 FLUXER=3 ATMOS=5 YGND=-10000 IMAX=40 JMAX=152
 NM=4 AIR=1 OCTOL=2 OCTBRN=3 AL=4
 STRESS=1 BURN=1
 DT=1.0E-10 PTSTOP=30.0E-6
 MESH
 XMAX=10.0 Y0=-18.0 YMAX=20.0
 GENERATE
 PACKAGE AIR
 CIRCLE YC=0.0 XC=0.0 R=7.0
RECTANGLE YB=0.0
 PACKAGE AIR
RECTANGLE YB=0.0
 RECTANGLE XL=7.0 XR=9.0 YB=0.0 YT=0.5
 PACKAGE AIR
 RECTANGLE XL=9.0 YT=0.0
 PACKAGE AIR
 RECTANGLE XR=9.0 YT=-17.0
 PACKAGE AL
 CIRCLE XC=0.0 YC=0.0 R=7.5
 CIRCLE XC=0.0 YC=0.0 R=7.0
 RECTANGLE YB=0.0
 PACKAGE AL
 RECTANGLE XR=9.0 XL=8.5 YT=0.0 YB=-16.5
 PACKAGE AL
 RECTANGLE XR=9.0 XL=7.0 YB=0.0 YT=0.5
 PACKAGE AL
 RECTANGLE XR=9.0 YB=-17.0 YT=-16.5
 PACKAGE OCTOL
 RECTANGLE XR=8.5 YB=-16.5 YT=0.0
CIRCLE XC=0.0 YC=0.0 R=7.5
RECTANGLE XR=0.25,XL=0.0 YB=-16.5 YT=-16.25
PACKAGE OCTBRN
```

```
RECTANGLE XR=0.25 XL=0.0 YB=-16.5 YT=-16.25
 END
/*
//SAIL.INPUT  DD  *
 SAIL LINENO
/*
//FORT.SYSTERM DD DSN=AF2001.KEELT.OUTLIST,DISP=(NEW,CATLG),
//     UNIT=SYSDA,SPACE=(CYL,(3,3)),
//     DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//
END OF DATA


                                                  J E S 2   J O B   L O G
13.43.22 JOB  218  IEF677I WARNING MESSAGE(S) FOR JOB AF2001K  ISSUED
13.43.22 JOB  218  $HASP373 AF2001K  STARTED - INIT  4 - CLASS B - SYS A168
13.43.40 JOB  218  AF2001K  KEEL      13:43:23     17      0.24  S000
13.43.56 JOB  218  AF2001K  PLANK     13:43:40     16      1.06  S000
14.02.10 JOB  218  AF2001K  SAIL      13:43:57   1094    107.04  S000
14.25.00 JOB  218  AF2001K  FORT      14:02:11   1369     20.55  S004
14.26.35 JOB  218  AF2001K  LKED      14:25:00     94      2.27  S000
14.32.46 JOB  218  AF2001K  GO        14:26:37    370     43.84  S000
14.32.50 JOB  218  $HASP395 AF2001K  ENDED

    1     //AF2001K JOB=
OUT
C NEXT

 STMT NO. MESSAGE
-
PGM=IEBGENER[illegible]TUDI=N
    8     IEF653I SUBSTITU=
OUT
C NEXT


G

  ATING KEEL
             DISK VERSION
KEEL RUN
```

EQUATION OF STATE -
SOLIDS - NO STRENGTH

INT BURN
ATMOSPHERE -
CONSTANT
VOLUME AND ENERGY FLUXING
THE FOLLOWING OPTIONS WERE DEFINED BY PLANK.

ATMOS	=	5
BURN	=	1
CODE	=	1
DIMEN	=	2
EOS	=	6
GEOM	=	2
HOT	=	0
IMAX	=	40
ISLAND	=	0
JMAX	=	152
KMAX	=	1
LBUFA	=	0
LBUFB	=	0
MAGFLD	=	0
METHOD	=	2
MM	=	20
MMIC	=	3200
MM	=	4
MOP	=	1000
MMIST	=	3
MPLPB	=	2
MPP	=	3
MROUPB	=	4
MSTN	=	0
MVARST	=	16
RAD	=	0
REZONE	=	4
STRESS	=	1
SURF	=	0
SW	=	6
SWX	=	0
VISC	=	0
LAMB	=	0
BBOUND	=	0
LBOUND	=	0
KEEL	=	0
PULL	=	0
VOIDS	=	0

```
        FLUXER   =          5
        DEPOS    =          0
        FAIL     =          0
        STRAIN   =          0
        WORK     =          0
        FIREIN   =          0
        MAT      =          4
        AIR      =          1
        OCTOL    =          2
        OCTBRN   =          3
        AL       =          4

THE FOLLOWING OPTIONS WERE SPECIFIED WHEN EXECUTIVE PROCESSING BEGAN
INST     =          6
PRG      =          0
PLANK    =          0
PULL     =          0
KEEL     =          1
LIBRARY  =          0
*!
OUT
C NEXT

 LEVEL 2.2.1 (DEC 77)                    OS/360  FORTRAN H EXTENDED          DATE 78.142/14.02.22       P*!
OUT
C NEXT

 F64-LEVEL LINKAGE EDITOR OPTIONS SPECIFIED MAP
          DEFAULT OPTION(S) USED -  SIZE=(196608,65536)
           SYSPRINT*!
OUT
C NEXT
```

KEEL OUTPUT
 PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION 00002220
ZBLK

PROB	4.01299953460693D+00	4140353F00000000
ATMOS	5.00000000000000D+00	4150000000000000
BREF	0.0	0000000000000000
BURN	1.00000000000000D+00	4110000000000000
CODE	1.00000000000000D+00	4110000000000000
COLD	0.00000514755759D-79	0000000100000000
CYCLE	0.0	0000000000000000
DIMEN	2.00000000000000D+00	4120000000000000
DT	1.00000091540764D-10	386DF38600000000
ELC	0.0	0000000000000000
EOS	6.00000000000000D+00	4160000000000000
ETH	0.0	0000000000000000
EXPAND	5.00000007450581D-02	3FCCCCCD00000000
FAIL	0.0	0000000000000000
FLUXER	3.00000000000000D+00	4130000000000000
GEOM	2.00000000000000D+00	4120000000000000
IMAX	4.00000000000000D+01	4228000000000000
IQ	3.90000000000000D+01	4227000000000000
ISLAND	0.0	0000000000000000
JMAX	1.52000000000000D+02	4298000000000000
JQ	1.51000000000000D+02	4297000000000000
MOB	0.0	0000000000000000
LREF	0.00000514755759D-79	0000000100000000
METHOD	2.00000000000000D+00	4120000000000000
MLC	0.0	0000000000000000
MTH	0.0	0000000000000000
NH	2.00000000000000D+01	4214000000000000
NHIC	3.20000000000000D+03	43C8000000000000
NHIST	3.00000000000000D+00	4130000000000000
NM	4.00000000000000D+00	4140000000000000
NOP	0.0	0000000000000000
NPP	3.00000000000000D+00	4130000000000000
NROWPB	4.00000000000000D+00	4140000000000000
PTSTOP	2.99999956041574D-05	3D1F751000000000
RADLOS	0.0	0000000000000000
REZONE	4.00000000000000D+00	4140000000000000
RREF	0.0	0000000000000000
STABF	5.00000000000000D-01	4080000000000000
STRESS	1.00000000000000D+00	4110000000000000
SUME	0.0	0000000000000000
T	0.0	0000000000000000
TERAD	0.0	0000000000000000
TLC	0.0	0000000000000000
TREF	0.0	0000000000000000
TTIME	0.0	0000000000000000
TTSTOP	1.00000000000000D+02	4264000000000000

VREZ	1.000000000000000D+01	41A0000000000000
VISC	0.0	0000000000000000
VREZ	1.000000000000000D+01	41A0000000000000
VOIDS	0.0	0000000000000000
WORK	0.0	0000000000000000
X1	8.000000000000000D+00	4180000000000000
X2	-1.000000000000000D+00	C110000000000000
XOB	0.0	0000000000000000
Y1	3.000000000000000D+01	421E000000000000
Y2	1.220000000000000D+02	427A000000000000
YGND	-1.000000000000000D+04	C427100000000000
YIELD	0.0	0000000000000000
AIR	1.000000000000000D+00	4110000000000000
FL	4.000000000000000D+00	4140000000000000
OCTOL	2.000000000000000D+00	4120000000000000
OCTBRN	3.000000000000000D+00	4130000000000000

MESH INCREMENTS AND COORDINATES

I	DX	X	I	DX	X	I	DX	X
X0= 0.0								
1	2.50000000E-01	2.50000000E-01	2	2.50000000E-01	5.00000000E-01	3	2.50000000E-01	7.50000000E-01
4	2.50000000E-01	1.00000000E+00	5	2.50000000E-01	1.25000000E+00	6	2.50000000E-01	1.50000000E+00
7	2.50000000E-01	1.75000000E+00	8	2.50000000E-01	2.00000000E+00	9	2.50000000E-01	2.25000000E+00
10	2.50000000E-01	2.50000000E+00	11	2.50000000E-01	2.75000000E+00	12	2.50000000E-01	3.00000000E+00
13	2.50000000E-01	3.25000000E+00	14	2.50000000E-01	3.50000000E+00	15	2.50000000E-01	3.75000000E+00
16	2.50000000E-01	4.00000000E+00	17	2.50000000E-01	4.25000000E+00	18	2.50000000E-01	4.50000000E+00
19	2.50000000E-01	4.75000000E+00	20	2.50000000E-01	5.00000000E+00	21	2.50000000E-01	5.25000000E+00
22	2.50000000E-01	5.50000000E+00	23	2.50000000E-01	5.75000000E+00	24	2.50000000E-01	6.00000000E+00
25	2.50000000E-01	6.25000000E+00	26	2.50000000E-01	6.50000000E+00	27	2.50000000E-01	6.75000000E+00
28	2.50000000E-01	7.00000000E+00	29	2.50000000E-01	7.25000000E+00	30	2.50000000E-01	7.50000000E+00
31	2.50000000E-01	7.75000000E+00	32	2.50000000E-01	8.00000000E+00	33	2.50000000E-01	8.25000000E+00
34	2.50000000E-01	8.50000000E+00	35	2.50000000E-01	8.75000000E+00	36	2.50000000E-01	9.00000000E+00
37	2.50000000E-01	9.25000000E+00	38	2.50000000E-01	9.50000000E+00	39	2.50000000E-01	9.75000000E+00
40	2.50000000E-01	1.00000000E+01						
J	DY	Y	J	DY	Y	J	DY	Y
Y0= -1.80000000E+01								
1	2.50000000E-01	-1.77500000E+01	2	2.50000000E-01	-1.75000000E+01	3	2.50000000E-01	-1.72500000E+01
4	2.50000000E-01	-1.70000000E+01	5	2.50000000E-01	-1.67500000E+01	6	2.50000000E-01	-1.65000000E+01
7	2.50000000E-01	-1.62500000E+01	8	2.50000000E-01	-1.60000000E+01	9	2.50000000E-01	-1.57500000E+01
10	2.50000000E-01	-1.55000000E+01	11	2.50000000E-01	-1.52500000E+01	12	2.50000000E-01	-1.50000000E+01
13	2.50000000E-01	-1.47500000E+01	14	2.50000000E-01	-1.45000000E+01	15	2.50000000E-01	-1.42500000E+01
16	2.50000000E-01	-1.40000000E+01	17	2.50000000E-01	-1.37500000E+01	18	2.50000000E-01	-1.35000000E+01
19	2.50000000E-01	-1.32500000E+01	20	2.50000000E-01	-1.30000000E+01	21	2.50000000E-01	-1.27500000E+01
22	2.50000000E-01	-1.25000000E+01	23	2.50000000E-01	-1.22500000E+01	24	2.50000000E-01	-1.20000000E+01
25	2.50000000E-01	-1.17500000E+01	26	2.50000000E-01	-1.15000000E+01	27	2.50000000E-01	-1.12500000E+01
28	2.50000000E-01	-1.10000000E+01	29	2.50000000E-01	-1.07500000E+01	30	2.50000000E-01	-1.05000000E+01
31	2.50000000E-01	-1.02500000E+01	32	2.50000000E-01	-1.00000000E+01	33	2.50000000E-01	-9.75000000E+00
34	2.50000000E-01	-9.50000000E+00	35	2.50000000E-01	-9.25000000E+00	36	2.50000000E-01	-9.00000000E+00
37	2.50000000E-01	-8.75000000E+00	38	2.50000000E-01	-8.50000000E+00	39	2.50000000E-01	-8.25000000E+00
40	2.50000000E-01	-8.00000000E+00	41	2.50000000E-01	-7.75000000E+00	42	2.50000000E-01	-7.50000000E+00
43	2.50000000E-01	-7.25000000E+00	44	2.50000000E-01	-7.00000000E+00	45	2.50000000E-01	-6.75000000E+00

```
 46  2.50000000E-01 -6.50000000E+00   47  2.50000000E-01 -6.25000000E+00   48  2.50000000E-01 -6.00000000E+00
 49  2.50000000E-01 -5.75000000E+00   50  2.50000000E-01 -5.50000000E+00   51  2.50000000E-01 -5.25000000E+00
 52  2.50000000E-01 -5.00000000E+00   53  2.50000000E-01 -4.75000000E+00   54  2.50000000E-01 -4.50000000E+00
 55  2.50000000E-01 -4.25000000E+00   56  2.50000000E-01 -4.00000000E+00   57  2.50000000E-0  -3.75000000E+00
 58  2.50000000E-01 -3.50000000E+00   59  2.50000000E-01 -3.25000000E+00   60  2.50000000E-01 -3.00000000E+00
 61  2.50000000E-01 -2.75000000E+00   62  2.50000000E-01 -2.50000000E+00   63  2.50000000E-01 -2.25000000E+00
 64  2.50000000E-01 -2.00000000E+00   65  2.50000000E-01 -1.75000000E+00   66  2.50000000E-01 -1.50000000E+00
 67  2.50000000E-01 -1.25000000E+00   68  2.50000000E-01 -1.00000000E+00   69  2.50000000E-01 -7.50000000E-01
 70  2.50000000E-01 -5.00000000E-01   71  .50000000E-01 -2.50000000E-01   72  2.50000000E-01  0.0
 73  2.50000000E-01  2.50000000E-01   74  2.50000000E-01  5.00000000E-01   75  2.50000000E-01  7.50000000E-01
 76  2.50000000E-01  1.00000000E+00   77  2.50000000E-01  1.25000000E+00   78  2.50000000E-01  1.50000000E+00
 79  2.50000000E-01  1.75000000E+00   80  2.50000000E-01  2.00000000E+00   81  2.50000000E-01  2.25000000E+00
 82  2.50000000E-01  2.50000000E+00   83  2.50000000E-01  2.75000000E+00   84  2.50000000E-01  3.00000000E+00
 85  2.50000000E-01  3.25000000E+00   86  2.50000000E-01  3.50000000E+00   87  2.50000000E-01  3.75000000E+00
 88  2.50000000E-01  4.00000000E+00   89  2.50000000E-01  4.25000000E+00   90  2.50000000E-01  4.50000000E+00
 91  2.50000000E-01  4.75000000E+00   92  2.50000000E-01  5.00000000E+00   93  2.50000000E-01  5.25000000E+00
 94  2.50000000E-01  5.50000000E+00   95  2.50000000E-01  5.75000000E+00   96  2.50000000E-01  6.00000000E+00
 97  2.50000000E-01  6.25000000E+00   98  2.50000000E-01  6.50000000E+00   99  2.50000000E-01  6.75000000E+00
100  2.50000000E-01  7.00000000E+00  101  2.50000000E-01  7.25000000E+00  102  2.50000000E-01  7.50000000E+00
103  2.50000000E-01  7.75000000E+00  104  2.50000000E-01  8.00000000E+00  105  2.50000000E-01  8.25000000E+00
106  2.50000000E-01  8.50000000E+00  107  2.50000000E-01  8.75000000E+00  108  2.50000000E-01  9.00000000E+00
109  2.50000000E-01  9.25000000E+00  110  2.50000000E-01  9.50000000E+00  111  2.50000000E-01  9.75000000E+00
112  2.50000000E-01  1.00000000E+01  113  2.50000000E-01  1.02500000E+01  114  2.50000000E-01  1.05000000E+01
115  2.50000000E-01  1.07500000E+01  116  2.50000000E-01  1.10000000E+01  117  2.50000000E-01  1.12500000E+01
118  2.50000000E-01  1.15000000E+01  119  2.50000000E-01  1.17500000E+01  120  2.50000000E-01  1.20000000E+01
121  2.50000000E-01  1.22500000E+01  122  2.50000000E-01  1.25000000E+01  123  2.50000000E-01  1.27500000E+01
124  2.50000000E-01  1.30000000E+01  125  2.50000000E-01  1.32500000E+01  126  2.50000000E-01  1.35000000E+01
127  2.50000000E-01  1.37500000E+01  128  2.50000000E-01  1.40000000E+01  129  2.50000000E-01  1.42500000E+01
130  2.50000000E-01  1.45000000E+01  131  2.50000000E-01  1.47500000E+01  132  2.50000000E-01  1.50000000E+01
133  2.50000000E-01  1.52500000E+01  134  2.50000000E-01  1.55000000E+01  135  2.50000000E-01  1.57500000E+01
136  2.50000000E-01  1.60000000E+01  137  2.50000000E-01  1.62500000E+01  138  2.50000000E-01  1.65000000E+01
139  2.50000000E-01  1.67500000E+01  140  2.50000000E-01  1.70000000E+01  141  2.50000000E-01  1.72500000E+01
142  2.50000000E-01  1.75000000E+01  143  2.50000000E-01  1.77500000E+01  144  2.50000000E-01  1.80000000E+01
145  2.50000000E-01  1.82500000E+01  146  2.50000000E-01  1.85000000E+01  147  2.50000000E-01  1.87500000E+01
148  2.50000000E-01  1.90000000E+01  149  2.50000000E-01  1.92500000E+01  150  2.50000000E-01  1.95000000E+01
151  2.50000000E-01  1.97500000E+01  152  2.50000000E-01  2.00000000E+01
      GENERATING PROBLEM    4.0130
 DEFAULT WILL BE
GENERATE A CIRCLE   OF MATERIAL  1
        XC =  0.0           YC =  0.0           RADIUS =  0.0
   AIR     =  1
GENERATE A CIRCLE   OF MATERIAL  1
        XC =  0.0           YC =  0.0           RADIUS =  7.0000010E+00
   DELETE A   RECTANGL
        X1 =  0.0           X2 =  1.0000000E+01 Y1 =  0.0           Y2 =  2.0000000E+01
    8.801211E-01 GMS   1.798691E+09 ERGS INSERTED AS MATERIAL  1


   AIR     =  1
GENERATE A RECTANGL OF MATERIAL  1
        X1 =  0.0           X2 =  1.0000000E+01 Y1 =  0.0           Y2 =  2.0000000E+01
```

```
    DELETE A   RECTANGL
         X1 =  7.0000010E+00 X2 =  9.0000010E+00 Y1 =  0.0          Y2 =  5.0000006E-01
     7.624125E+00 GMS   1.556548E+10 ERGS INSERTED AS MATERIAL  1


    AIR     =  1
GENERATE A RECTANGL OF MATERIAL  1
         X1 =  9.0000010E+00 X2 =  1.0000000E+01 Y1 = -1.8000000E+01 Y2 =  0.0
     1.315849E+00 GMS   2.689909E+09 ERGS INSERTED AS MATERIAL  1


    AIR     =  1
GENERATE A RECTANGL OF MATERIAL  1
         X1 =  0.0          X2 =  9.0000010E+00 Y1 = -1.8000000E+01 Y2 = -1.7000000E+01
     3.116941E-01 GMS   6.370662E+08 ERGS INSERTED AS MATERIAL  1


    AL      =  4
GENERATE A CIRCLE   OF MATERIAL  4
         XC =  0.0          YC =  0.0          RADIUS =  7.5000010E+00
    DELETE A   CIRCLE
         XC =  0.0          YC =  0.0          RADIUS =  7.0000010E+00
    DELETE A   RECTANGL
         X1 =  0.0          X2 =  1.0000000E+01 Y1 =  0.0          Y2 =  2.0000000E+01
     4.472556E+02 GMS   1.214704E+12 ERGS INSERTED AS MATERIAL  4


    AL      =  4
GENERATE A RECTANGL OF MATERIAL  4
         X1 =  8.5000010E+00 X2 =  9.0000010E+00 Y1 = -1.6500000E+01 Y2 =  0.0
     1.229065E+03 GMS   3.337675E+12 ERGS INSERTED AS MATERIAL  4


    AL      =  4
GENERATE A RECTANGL OF MATERIAL  4
         X1 =  7.0000010E+00 X2 =  9.0000010E+00 Y1 =  0.0          Y2 =  5.0000006E-01
     1.362184E+02 GMS   3.699374E+11 ERGS INSERTED AS MATERIAL  4


    AL      =  4
GENERATE A RECTANGL OF MATERIAL  4
         X1 =  0.0          X2 =  9.0000010E+00 Y1 = -1.7000000E+01 Y2 = -1.6500000E+01
     3.447837E+02 GMS   9.363954E+11 ERGS INSERTED AS MATERIAL  4


    OCTOL   =  2
GENERATE A RECTANGL OF MATERIAL  2
         X1 =  0.0          X2 =  8.5000010E+00 Y1 = -1.6500000E+01 Y2 =  0.0
    DELETE A   CIRCLE
         XC =  0.0          YC =  0.0          RADIUS =  7.5000010E+00
    DELETE A   RECTANGL
```

```
      X1 =  0.0          X2 =  2.5000006E-01 Y1 = -1.6500000E+01 Y2 = -1.6250000E+01
 5.202707E+03 GMS   1.361216E+13 ERGS INSERTED AS MATERIAL  2


   OCTBRN  =  3
GENERATE A RECTANGL OF MATERIAL  3
      X1 =  0.0          X2 =  2.5000006E-01 Y1 = -1.6500000E+01 Y2 = -1.6250000E+01
 8.933878E-02 GMS   4.709941E+09 ERGS INSERTED AS MATERIAL  3


ZBLK
    PROB        4.01299953460693D+00    4140353F00000000
    ATMOS       5.00000000000000D+00    4150000000000000
    BREF        0.0                     0000000000000000
    BURN        1.00000000000000D+00    4110000000000000
    CODE        1.00000000000000D+00    4110000000000000
    COLD        0.00000514755759D-79    0000000100000000
    CYCLE       0.0                     0000000000000000
    DIMEN       2.00000000000000D+00    4120000000000000
    DT          1.00000091540764D-10    386DF38600000000
    ELC         0.0                     0000000000000000
    EOS         6.00000000000000D+00    4160000000000000
    ETH         0.0                     0000000000000000
    EXPAND      5.00000007450581D-02    3FCCCCCD00000000
    FAIL        0.0                     0000000000000000
    FLUXER      3.00000000000000D+00    4130000000000000
    GEOM        2.00000000000000D+00    4120000000000000
    IMAX        4.00000000000000D+01    4228000000000000
    IØ          3.90000000000000D+01    4227000000000000
    ISLAND      0.0                     0000000000000000
    JMAX        1.52000000000000D+02    4298000000000000
    JØ          1.51000000300000D+02    4297000000000000
    MOD         0.0                     0000000000000000
    LREF        0.00000514755759D-79    0000000100000000
    METHOD      2.00000000000000D+00    4120000000000000
    MLC         0.0                     0000000000000000
    MTH         0.0                     0000000000000000
    MM          2.00000000000000D+01    4214000000000000
    MMIC        3.20000000000000D+03    43C8000000000000
    MMIST       3.00000000000000D+00    4130000000000000
    MN          4.00000000000000D+00    4140000000000000
    MOP         0.0                     0000000000000000
    MPP         3.00000000000000D+00    4130000000000000
    MROUPD      4.00000000000000D+00    4140000000000000
    PTSTOP      2.99999956041574D-05    3D1F751000000000
    RADLOS      0.0                     0000000000000000
    REZONE      4.00000000000000D+00    4140000000000000
    RREF        0.0                     0000000000000000
    STABF       5.00000000000000D-01    4080000000000000
    STRESS      1.00000000000000D+00    4110000000000000
    SUME        0.0                     0000000000000000
```

I	0.0	0000000000000000
IERAD	0.0	0000000000000000
ILC	0.0	0000000000000000
IREF	0.0	0000000000000000
ITIME	0.0	0000000000000000
ITSTOP	1.000000000000000D+02	4264000000000000
UREZ	1.000000000000000D+01	41A0000000000000
VISC	0.0	0000000000000000
VREZ	1.000000000000000D+01	41A0000000000000
VOIDS	0.0	0000000000000000
WORK	0.0	0000000000000000
X1	8.000000000000000D+00	4180000000000000
X2	-1.000000000000000D+00	C110000000000000
XOB	0.0	0000000000000000
Y1	3.000000000000000D+01	421E000000000000
Y2	1.220000000000000D+02	427A000000000000
YGND	-1.000000000000000D+04	C427100000000000
YIELD	0.0	0000000000000000
AIR	1.000000000000000D+00	4110000000000000
AL	4.000000000000000D+00	4140000000000000
OCTOL	2.000000000000000D+00	4120000000000000
OCTBRN	3.000000000000000D+00	4130000000000000

INDIVIDUAL MASS SUMS
1.014171E+01 5.207273E+03 8.933878E-02 2.157446E+03

I= 1 X(I)= 0.250 DX(I)= 0.250

J	U	V	AIX	RHO	AMX	DY	Y
1	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.77500000E+01
2	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.75000000E+01
3	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.72500000E+01
4	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.70000000E+01
5	0.0	0.0	2.71578086E+09	2.70999241E+00	1.33026481E-01	2.50000000E-01	-1.67500000E+01
6	0.0	0.0	2.71578086E+09	2.70999241E+00	1.33026481E-01	2.50000000E-01	-1.65000000E+01
7	0.0	0.0	5.27200051E+10	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.62500000E+01
8	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.60000000E+01
9	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.57500000E+01
10	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.55000000E+01
11	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.52500000E+01
12	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.50000000E+01
13	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.47500000E+01
14	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.45000000E+01
15	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.42500000E+01
16	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.40000000E+01
17	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.37500000E+01

18	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.35000000E+01
19	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.32500000E+01
20	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.30000000E+01
21	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.27500000E+01
22	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.25000000E+01
23	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.22500000E+01
24	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.20000000E+01
25	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.17500000E+01
26	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.15000000E+01
27	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.12500000E+01
28	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.10000000E+01
29	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.07500000E+01
30	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.05000000E+01
31	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.02500000E+01
32	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-1.00000000E+01
33	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-9.75000000E+00
34	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-9.50000000E+00
35	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-9.25000000E+00
36	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-9.00000000E+00
37	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-8.75000000E+00
38	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-8.50000000E+00
39	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-8.25000000E+00
40	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-8.00000000E+00
41	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-7.75000000E+00
42	0.0	0.0	2.61500237E+09	1.81999397E+00	8.93387794E-02	2.50000000E-01	-7.50000000E+00
43	0.0	0.0	2.71578086E+09	2.70999241E+00	1.33026481E-01	2.50000000E-01	-7.25000000E+00
44	0.0	0.0	2.71578086E+09	2.70999241E+00	1.33026481E-01	2.50000000E-01	-7.00000000E+00
45	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-6.75000000E+00
46	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-6.50000000E+00
47	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-6.25000000E+00
48	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-6.00000000E+00
49	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-5.75000000E+00
50	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-5.50000000E+00
51	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-5.25000000E+00
52	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-5.00000000E+00
53	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-4.75000000E+00
54	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-4.50000000E+00
55	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-4.25000000E+00
56	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-4.00000000E+00
57	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-3.75000000E+00
58	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-3.50000000E+00
59	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-3.25000000E+00
60	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-3.00000000E+00
61	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-2.75000000E+00
62	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-2.50000000E+00
63	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-2.25000000E+00
64	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-2.00000000E+00
65	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.75000000E+00
66	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.50000000E+00
67	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.25000000E+00
68	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-1.00000000E+00

69	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-7.50000000E-01
70	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-5.00000000E-01
71	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	-2.50000000E-01
72	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	0.0
73	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.50000000E-01
74	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	5.00000000E-01
75	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	7.50000000E-01
76	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.00000000E+00
77	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.25000000E+00
78	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.50000000E+00
79	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.75000000E+00
80	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.00000000E+00
81	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.25000000E+00
82	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.50000000E+00
83	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.75000000E+00
84	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	3.00000000E+00
85	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	3.25000000E+00
86	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	3.50000000E+00
87	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	3.75000000E+00
88	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	4.00000000E+00
89	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	4.25000000E+00
90	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	4.50000000E+00
91	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	4.75000000E+00
92	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	5.00000000E+00
93	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	5.25000000E+00
94	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	5.50000000E+00
95	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	5.75000000E+00
96	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	6.00000000E+00
97	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	6.25000000E+00
98	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	6.50000000E+00
99	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	6.75000000E+00
100	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	7.00000000E+00
101	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	7.25000000E+00
102	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	7.50000000E+00
103	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	7.75000000E+00
104	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	8.00000000E+00
105	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	8.25000000E+00
106	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	8.50000000E+00
107	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	8.75000000E+00
108	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	9.00000000E+00
109	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	9.25000000E+00
110	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	9.50000000E+00
111	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	9.75000000E+00
112	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.00000000E+01
113	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.02500000E+01
114	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.05000000E+01
115	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.07500000E+01
116	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.10000000E+01
117	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.12500000E+01
118	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.15000000E+01
119	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.17500000E+01

120	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.20000000E+01
121	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.22500000E+01
122	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.25000000E+01
123	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.27500000E+01
124	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.30000000E+01
125	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.32500000E+01
126	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.35000000E+01
127	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.37500000E+01
128	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.40000000E+01
129	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.42500000E+01
130	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.45000000E+01
131	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.47500000E+01
132	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.50000000E+01
133	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.52500000E+01
134	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.55000000E+01
135	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.57500000E+01
136	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.60000000E+01
137	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.62500000E+01
138	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.65000000E+01
139	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.67500000E+01
140	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.70000000E+01
141	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.72500000E+01
142	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.75000000E+01
143	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.77500000E+01
144	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.80000000E+01
145	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.82500000E+01
146	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.85000000E+01
147	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.87500000E+01
148	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.90000000E+01
149	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.92500000E+01
150	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.95000000E+01
151	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	1.97500000E+01
152	0.0	0.0	2.04399949E+09	1.22499652E-03	6.01318898E-05	2.50000000E-01	2.00000000E+01

MATERIAL MASSES

J	1	2	3	4
1	6.01318898E-05	0.0	0.0	0.0
2	6.01318898E-05	0.0	0.0	0.0
3	6.01318898E-05	0.0	0.0	0.0
4	6.01318898E-05	0.0	0.0	0.0
5	0.0	0.0	0.0	1.33026481E-01
6	0.0	0.0	0.0	1.33026481E-01
7	0.0	0.0	8.93387794E-02	0.0
8	0.0	8.93387794E-02	0.0	0.0
9	0.0	8.93387794E-02	0.0	0.0
10	0.0	8.93387794E-02	0.0	0.0
11	0.0	8.93387794E-02	0.0	0.0
12	0.0	8.93387794E-02	0.0	0.0
13	0.0	8.93387794E-02	0.0	0.0

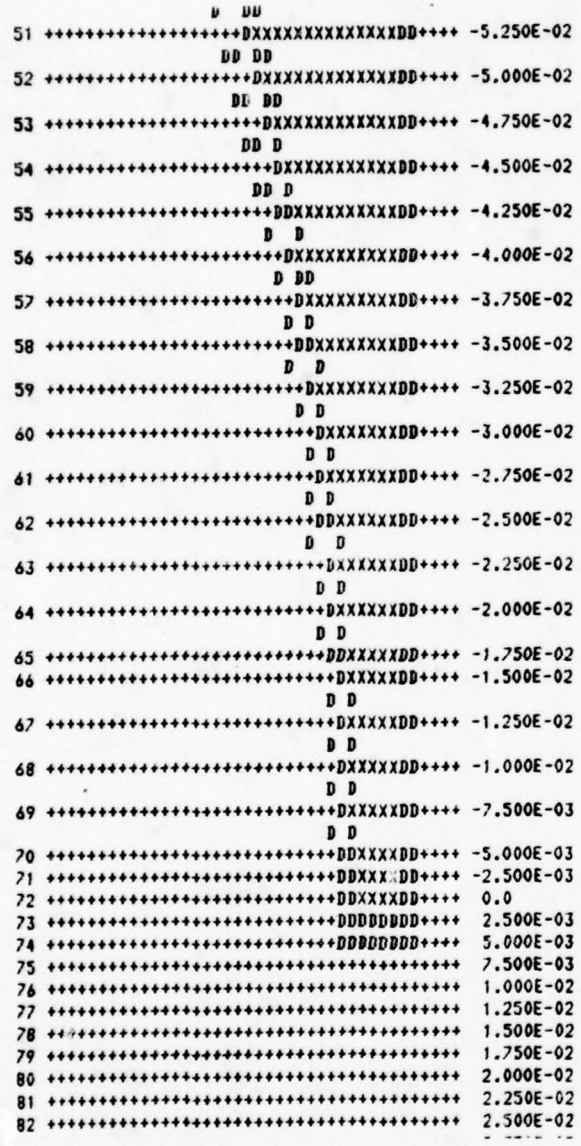
14	0.0	8.93387794E-02	0.0	0.0
15	0.0	8.93387794E-02	0.0	0.0
16	0.0	8.93387794E-02	0.0	0.0
17	0.0	8.93387794E-02	0.0	0.0
18	0.0	8.93387794E-02	0.0	0.0
19	0.0	8.93387794E-02	0.0	0.0
20	0.0	8.93387794E-02	0.0	0.0
21	0.0	8.93387794E-02	0.0	0.0
22	0.0	8.93387794E-02	0.0	0.0
23	0.0	8.93387794E-02	0.0	0.0
24	0.0	8.93387794E-02	0.0	0.0
25	0.0	8.93387794E-02	0.0	0.0
26	0.0	8.93387794E-02	0.0	0.0
27	0.0	8.93387794E-02	0.0	0.0
28	0.0	8.93387794E-02	0.0	0.0
29	0.0	8.93387794E-02	0.0	0.0
30	0.0	8.93387794E-02	0.0	0.0
31	0.0	8.93387794E-02	0.0	0.0
32	0.0	8.93387794E-02	0.0	0.0
33	0.0	8.93387794E-02	0.0	0.0
34	0.0	8.93387794E-02	0.0	0.0
35	0.0	8.93387794E-02	0.0	0.0
36	0.0	8.93387794E-02	0.0	0.0
37	0.0	8.93387794E-02	0.0	0.0
38	0.0	8.93387794E-02	0.0	0.0
39	0.0	8.93387794E-02	0.0	0.0
40	0.0	8.93387794E-02	0.0	0.0
41	0.0	8.93387794E-02	0.0	0.0
42	0.0	8.93387794E-02	0.0	0.0
43	0.0	0.0	0.0	1.33026481E-01
44	0.0	0.0	0.0	1.33026481E-01
45	6.01318898E-05	0.0	0.0	0.0
46	6.01318898E-05	0.0	0.0	0.0
47	6.01318898E-05	0.0	0.0	0.0
48	6.01318898E-05	0.0	0.0	0.0
49	6.01318898E-05	0.0	0.0	0.0
50	6.01318898E-05	0.0	0.0	0.0
51	6.01318898E-05	0.0	0.0	0.0
52	6.01318898E-05	0.0	0.0	0.0
53	6.01318898E-05	0.0	0.0	0.0
54	6.01318898E-05	0.0	0.0	0.0
55	6.01318898E-05	0.0	0.0	0.0
56	6.01318898E-05	0.0	0.0	0.0
57	6.01318898E-05	0.0	0.0	0.0
58	6.01318898E-05	0.0	0.0	0.0
59	6.01318898E-05	0.0	0.0	0.0
60	6.01318898E-05	0.0	0.0	0.0
61	6.01318898E-05	0.0	0.0	0.0
62	6.01318898E-05	0.0	0.0	0.0
63	6.01318898E-05	0.0	0.0	0.0
64	6.01318898E-05	0.0	0.0	0.0

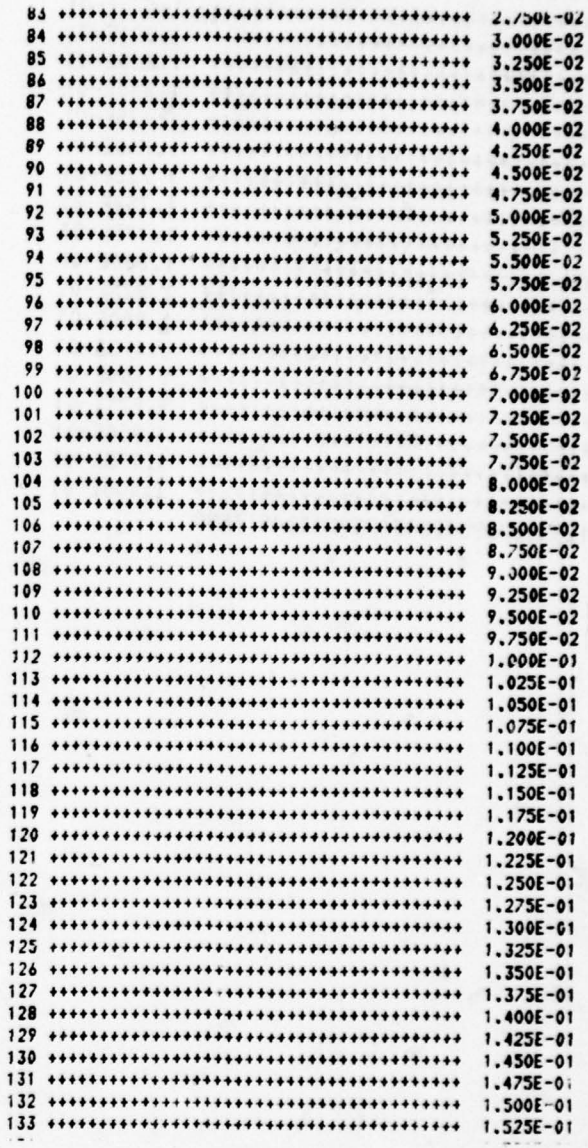
65	6.01318898E-05	0.0	0.0	0.0
66	6.01318898E-05	0.0	0.0	0.0
67	6.01318898E-05	0.0	0.0	0.0
68	6.01318898E-05	0.0	0.0	0.0
69	6.01318898E-05	0.0	0.0	0.0
70	6.01318898E-05	0.0	0.0	0.0
71	6.01318898E-05	0.0	0.0	0.0
72	6.01318898E-05	0.0	0.0	0.0
73	6.01318898E-05	0.0	0.0	0.0
74	6.01318898E-05	0.0	0.0	0.0
75	6.01318898E-05	0.0	0.0	0.0
76	6.01318898E-05	0.0	0.0	0.0
77	6.01318898E-05	0.0	0.0	0.0
78	6.01318898E-05	0.0	0.0	0.0
79	6.01318898E-05	0.0	0.0	0.0
80	6.01318898E-05	0.0	0.0	0.0
81	6.01318898E-05	0.0	0.0	0.0
82	6.01318898E-05	0.0	0.0	0.0
83	6.01318898E-05	0.0	0.0	0.0
84	6.01318898E-05	0.0	0.0	0.0
85	6.01318898E-05	0.0	0.0	0.0
86	6.01318898E-05	0.0	0.0	0.0
87	6.01318898E-05	0.0	0.0	0.0
88	6.01318898E-05	0.0	0.0	0.0
89	6.01318898E-05	0.0	0.0	0.0
90	6.01318898E-05	0.0	0.0	0.0
91	6.01318898E-05	0.0	0.0	0.0
92	6.01318898E-05	0.0	0.0	0.0
93	6.01318898E-05	0.0	0.0	0.0
94	6.01318898E-05	0.0	0.0	0.0
95	6.01318898E-05	0.0	0.0	0.0
96	6.01318898E-05	0.0	0.0	0.0
97	6.01318898E-05	0.0	0.0	0.0
98	6.01318898E-05	0.0	0.0	0.0
99	6.01318898E-05	0.0	0.0	0.0
100	6.01318898E-05	0.0	0.0	0.0
101	6.01318898E-05	0.0	0.0	0.0
102	6.01318898E-05	0.0	0.0	0.0
103	6.01318898E-05	0.0	0.0	0.0
104	6.01318898E-05	0.0	0.0	0.0
105	6.01318898E-05	0.0	0.0	0.0
106	6.01318898E-05	0.0	0.0	0.0
107	6.01318898E-05	0.0	0.0	0.0
108	6.01318898E-05	0.0	0.0	0.0
109	6.01318898E-05	0.0	0.0	0.0
110	6.01318898E-05	0.0	0.0	0.0
111	6.01318898E-05	0.0	0.0	0.0
112	6.01318898E-05	0.0	0.0	0.0
113	6.01318898E-05	0.0	0.0	0.0
114	6.01318898E-05	0.0	0.0	0.0
115	6.01318898E-05	0.0	0.0	0.0

116	6.01318898E-05	0.0	0.0	0.0
117	6.01318898E-05	0.0	0.0	0.0
118	6.01318898E-05	0.0	0.0	0.0
119	6.01318898E-05	0.0	0.0	0.0
120	6.01318898E-05	0.0	0.0	0.0
121	6.01318898E-05	0.0	0.0	0.0
122	6.01318898E-05	0.0	0.0	0.0
123	6.01318898E-05	0.0	0.0	0.0
124	6.01318898E-05	0.0	0.0	0.0
125	6.01318898E-05	0.0	0.0	0.0
126	6.01318898E-05	0.0	0.0	0.0
127	6.01318898E-05	0.0	0.0	0.0
128	6.01318898E-05	0.0	0.0	0.0
129	6.01318898E-05	0.0	0.0	0.0
130	6.01318898E-05	0.0	0.0	0.0
131	6.01318898E-05	0.0	0.0	0.0
132	6.01318898E-05	0.0	0.0	0.0
133	6.01318898E-05	0.0	0.0	0.0
134	6.01318898E-05	0.0	0.0	0.0
135	6.01318898E-05	0.0	0.0	0.0
136	6.01318898E-05	0.0	0.0	0.0
137	6.01318898E-05	0.0	0.0	0.0
138	6.01318898E-05	0.0	0.0	0.0
139	6.01318898E-05	0.0	0.0	0.0
140	6.01318898E-05	0.0	0.0	0.0
141	6.01318898E-05	0.0	0.0	0.0
142	6.01318898E-05	0.0	0.0	0.0
143	6.01318898E-05	0.0	0.0	0.0
144	6.01318898E-05	0.0	0.0	0.0
145	6.01318898E-05	0.0	0.0	0.0
146	6.01318898E-05	0.0	0.0	0.0
147	6.01318898E-05	0.0	0.0	0.0
148	6.01318898E-05	0.0	0.0	0.0
149	6.01318898E-05	0.0	0.0	0.0
150	6.01318898E-05	0.0	0.0	0.0
151	6.01318898E-05	0.0	0.0	0.0
152	6.01318898E-05	0.0	0.0	0.0

MATERIAL MAP
(1- 40)

```
          1         2         3         4
                                        ALTITUDE
 1234567890123456789012345678901234567890
                                        METERS
 1 ++++++++++++++++++++++++++++++++++++++++ -1.775E-01
 2 ++++++++++++++++++++++++++++++++++++++++ -1.750E-01
 3 ++++++++++++++++++++++++++++++++++++++++ -1.725E-01
 4 ++++++++++++++++++++++++++++++++++++++++ -1.700E-01
 5 DDDDDDDDDDDDDDDCDDDDDDDDDDDDDDDDDDDDD++++ -1.675E-01
 6 DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD++++ -1.650E-01
 7 DXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.625E-01
 8 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.600E-01
 9 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.575E-01
10 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.550E-01
11 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.525E-01
12 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.500E-01
13 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.475E-01
14 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.450E-01
15 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.425E-01
16 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.400E-01
17 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.375E-01
18 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.350E-01
19 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.325E-01
20 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.300E-01
21 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.275E-01
22 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.250E-01
23 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.225E-01
24 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.200E-01
25 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.175E-01
26 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.150E-01
27 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.125E-01
28 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.100E-01
29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.075E-01
30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.050E-01
31 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.025E-01
32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -1.000E-01
33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -9.750E-02
34 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -9.500E-02
35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -9.250E-02
36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -9.000E-02
37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -8.750E-02
38 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -8.500E-02
39 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -8.250E-02
40 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -8.000E-02
41 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -7.750E-02
42 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -7.500E-02
43 DDDXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDD++++ -7.250E-02
     DDDD
44 DDDDDDDDXX+XXXXXXXXXXXXXXXXXXXXXDD++++ -7.000E-02
         DDX
           D
45 +++++++DDDDXXXXXXXXXXXXXXXXXXXXXDD++++ -6.750E-02
      DDDD    DD
46 +++++++++DDDXXXXXXXXXXXXXXXXXXXDD++++ -6.500E-02
          DD   DD
47 ++++++++++++DDXXXXXXXXXXXXXXXXXDD++++ -6.250E-02
             DDD  DD
48 +++++++++++++DDXXXXXXXXXXXXXXXXDD++++ -6.000E-02
               D  DD
49 ++++++++++++++++DDXXXXXXXXXXXXXXDD++++ -5.750E-02
                  DD  D
50 ++++++++++++++++++DDXXXXXXXXXXXXXDD++++ -5.500E-02
```


51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.0
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02


83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01

```
134 ++++++++++++++++++++++++++++++++++++++++++++  1.550E-01
135 ++++++++++++++++++++++++++++++++++++++++++++  1.575E-01
136 ++++++++++++++++++++++++++++++++++++++++++++  1.600E-01
137 ++++++++++++++++++++++++++++++++++++++++++++  1.625E-01
138 ++++++++++++++++++++++++++++++++++++++++++++  1.650E-01
139 ++++++++++++++++++++++++++++++++++++++++++++  1.675E-01
140 ++++++++++++++++++++++++++++++++++++++++++++  1.700E-01
141 ++++++++++++++++++++++++++++++++++++++++++++  1.725E-01
142 ++++++++++++++++++++++++++++++++++++++++++++  1.750E-01
143 ++++++++++++++++++++++++++++++++++++++++++++  1.775E-01
144 ++++++++++++++++++++++++++++++++++++++++++++  1.800E-01
145 ++++++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++++++  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
```


READY

PROBLEM 4.013 CYBER 176 KEEL RUN

```
1BATCH       CREATED 08/09/78  TODAY IS 08/09/78
   AUTOMATIC BULLETIN TO BATCH JOBS
+
```

	SYSBULL	CONTENTS
8/ 8/78	STATUS - - - -	AVAILABILITY STATUS OF ALL SYSTEMS
7/31/78	NASTRAN - - - -	INFORMATION FOR USERS OF NASTRAN
7/19/78	CONTACT - - - -	WHO TO CONTACT ABOUT COMPUTER PROBLEMS
7/14/78	MODS - - - -	FEATURES ADDED TO CDC NOS/BE
7/14/78	CMECMGT - - - -	CM AND ECS FIELD LENGTH MANAGEMENT
6/27/78	MEMMGT - - - -	CM AND ECS FIELD MANAGEMENT
6/23/78	FLECS - - - -	STRUCTURED PROGRAMMING PRE-PROCESSOR FOR FTN
6/20/78	LETTER - - - -	AFWL COMPUTER CENTER NEWSLETTER
6/14/78	ASPLIB - - - -	AFWL COMMON MATH LIBRARIES
5/16/78	CLASS - - - -	CLASSES FOR USERS OF AFWL COMPUTER CENTER
5/ 8/78	ACCESS - - - -	HOW TO OBTAIN AN AFWL/KAFB COMPUTER ACCOUNT
5/ 4/78	CONFIG - - - -	SYSTEMS CONFIGURATION
5/ 4/78	EXPDITE - - - -	AFWR CUSTOMER SERVICE (EXPEDITOR)
5/ 1/78	PRIORTY - - - -	JOB CARD PRIORITY CODES
4/24/78	BILLING - - - -	AFWL COMPUTER BILLING INFORMATION
4/21/78	DIALUP - - - -	COMPUTER DIALUP PHONE NUMBERS
4/19/78	INTRO - - - -	BASIC INTRODUCTION TO KAFB COMPUTER CENTER
4/18/78	DUMPS - - - -	STANDARD PROCEDURES FOR ERROR DUMPS
4/14/78	TITLE - - - -	MICROFICHE VISUAL TITLE GENERATION
4/11/78	REQUEST - - - -	STANDARD PROCEDURES FOR REQUESTING TAPES
4/ 6/78	PLOT - - - -	DEVICE INDEPENDENT PLOT SYSTEM -METAPLOT-
3/31/78	ACCOUNT - - - -	ACCOUNT CARD FORMAT.
3/30/78	PFRULES - - - -	LOCAL RULES FOR CATALOGING FILES
3/30/78	BACKUP - - - -	PERMANENT FILE BACKUP PROCEDURES
3/30/78	PRMFILE - - - -	PERM FILE ACCOUNTING AND BACKUP SYSTEMS
3/ 9/78	LABEL - - - -	AFWL LABELLED TAPE PROCESSING
3/ 9/78	FR80 - - - -	200 SIMULATION VIA FR80
3/ 9/78	COMPILE - - - -	FTN COMPILER CHANGES AND RELEASES
3/ 8/78	AFSCNET - - - -	INFORMATION ABOUT AFSCNET
3/ 7/78	METAQUE - - - -	AUTOMATIC DISPOSITION OF META PLOT FILES
2/10/78	SWITCH - - - -	NEW INTERCOM PHONE SWITCH
1/17/78	DIFFER - - - -	DIFFERENCES IN NOS/BE FROM 6600 TO CYBER 176
1/ 4/78	DISSTIP - - - -	DISSPLA TECH. INFO. PROGRAMMING SUGGESTIONS
10/ 3/77	DISSPLA - - - -	A NEW USER ORIENTED PLOTING PACKAGE

SYSTEM WARNINGS

8/ 9/78	** ANONYMOUS PHILANTHROPIST HAS DONATED A FEW FABULOUS FUNDS TO KEEP
8/ 9/78	** MFX AVAILABLE 24 HOURS A DAY 7 BIG ONES A WEEK.
8/ 9/78	** BUDGETARY CONSIDERATION FOR FY 79: 176 CHARGES WILL GO UP BY ABOUT 15%.
8/ 9/78	* REVIEW, SIGN AND RETURN TAPE INVENTORY LISTINGS BEFORE 21 AUGUST 1978.
8/ 9/78	*

```
0KEEL RUN
+
+
+
+
+
```

280

EQUATION OF STATE -
+ SOLIDS - NO STRENGTH
TNT BURN
ATMOSPHERE -
+ CONSTANT
VOLUME AND ENERGY FLUXING
1THE FOLLOWING OPTIONS WERE DEFINED BY PLANK.
+

ATMOS	=	5
BURN	=	1
CODE	=	1
DIMEN	=	2
EOS	=	6
GEOM	=	2
HOT	=	0
IMAX	=	40
ISLAND	=	0
JMAX	=	152
KMAX	=	1
LBUFA	=	0
LBUFB	=	0
MAGFLD	=	0
METHOD	=	2
NH	=	20
NHIC	=	3200
NM	=	4
NOP	=	1000
NHIST	=	3
NPLPB	=	2
NPP	=	2
NROWPB	=	4
NSTN	=	0
NVARST	=	15
RAD	=	0
REZONE	=	4
STRESS	=	1
SURF	=	0
SW	=	0
SWX	=	1
VISC	=	0
LAMB	=	0
BBOUND	=	0
LBOUND	=	0
KEEL	=	0
PULL	=	0
VOIDS	=	0
FLUXER	=	3
DEPOS	=	0
FAIL	=	0
STRAIN	=	0
WORK	=	0
FIREIN	=	0
MAT	=	4
AIR	=	1

OCTOL	=	2
OCTBRN	=	3
AL	=	4

1THE FOLLOWING OPTIONS WERE SPECIFIED WHEN EXECUTIVE PROCESSING BEGAN

INST	=	1
PRG	=	0
PLANK	=	0
PULL	=	0
KEEL	=	1
LIBRARY	=	0
ATMOS	=	5
BURN	=	1
CODE	=	1
DIMEN	=	2
EOS	=	6
GEOM	=	2
HOT	=	0
IMAX	=	40
ISLAND	=	0
JMAX	=	152
KMAX	=	1
LBUFA	=	0
LBUFB	=	0
MAGFLD	=	0
METHOD	=	2
NH	=	20
NHIC	=	3200
NM	=	4
NOP	=	1000
NHIST	=	3
NPLPB	=	2
NPP	=	2
NROWPB	=	4
NSTN	=	0
NVARST	=	15
RAD	=	0
REZONE	=	4
STRESS	=	1
SURF	=	0
SW	=	0
SWX	=	1
VISC	=	0
LAMB	=	0
BBOUND	=	0
LBOUND	=	0
VOIDS	=	0
FLUXER	=	3
DEPOS	=	0
FAIL	=	0
STRAIN	=	0
WORK	=	0
FIREIN	=	0
MAT	=	4
AIR	=	1

```
 OCTOL    =          2
 OCTBRN   =          3
 AL       =          4
+
+
 THE FOLLOWING DEFINITIONS OR REDEFINITIONS WERE MADE DURING EXECUTIVE PROCESSING
+
+
 SYS      =        176
 VER      =          4
 NOSBE    =          1
 PF       =          1
 ECS      =          1
 OBJLIB   =          1
 TAPELIB  =          4
 ROUTE    =          1
 DENSHUL  =          5
 DENSLIB  =          5
 DENSSTA  =          3
 LABEL    =          1
 DATE     =          1
 CONTROL  =          1
 CDC      =          1
 IBM      =          0
 CW       =         10
 NW       =          1
 RDEND    =          2
 CARDL    =          0
 CARDO    =         80
 NWEC     =     121600
 NBLKS    =         38
 NPIC     =       2000
 NPICMAX  =       3020
 DEBUG    =          0
 FILMPR   =          1
 KLEV     =          1
 D$NAMEA  =         21
 D$NAMEA  =         22
 D$NAMEB  =         12
 D$NAMEB  =         13
 D$NAMEB  =         15
 D$NAMEC  =         14
 D$NAMEC  =         15
 D$NAMEC  =         17
 D$NAMED  =          5
 AIREOS   =          1
 IMIN     =        250
 JMIN     =        250
 NHIN     =       5000
1KEEL OUTPUT
0 PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION
0ZBLK
      PROB          4.01300000000001E+00     17224006517676355443
      ATMOS         5.00000000002000E+00     17225000000000000000
```

BREF	0.	0000000000000000000
BURN	1.000000000000000E+00	1720400200000000000
CODE	1.000000000000000E+00	1720400000000000000
COLD	0.	7777777777777777776
CYCLE	0.	0000000000000000000
DIMEN	2.000000000000000E+00	1721400000000000000
DT	9.999999999999951E-11	1656667633766353674 2
ELC	0.	0000000000000000000
EOS	6.000000000000000E+00	1722600000000000000
ETH	0.	0000000000000000000
EXPAND	5.000000000000000E-02	1713631463146314631 5
FAIL	0.	0000000000000000000
FLUXER	3.000000000000000E+00	1721600000000000000
GEOM	2.000000000000000E+00	1721400000000000000
IMAX	4.000000000000000E+01	1725500000000000000
IQ	3.900000000000000E+01	1725470000000000000
ISLAND	0.	0000000000000000000
JMAX	1.520000000000000E+02	1727460000000000000
JQ	1.510000000000000E+02	1727456000000000000
HOB	0.	0000000000000000000
LREF	0.	7777777777777777776
METHOD	2.000000000000000E+00	1721400000000000000
MLC	0.	0000000000000000000
MTH	0.	0000000000000000000
NH	2.000000000000000E+01	1724500000000000000
NHIC	3.200000000000000E+03	1733620000000000000
NHIST	3.000000000000000E+00	1721600000000000000
NM	4.000000000000000E+00	1722400000000000000
NOP	0.	0000000000000000000
NPP	2.000000000000000E+00	1721400000000000000
NROWPB	4.000000000000000E+00	1722400000000000000
PTSTOP	2.999999999999992E-05	1700767242023252434 4
RADLOS	0.	0000000000000000000
REZONE	4.000000000000000E+00	1722400000000000000
RREF	0.	0000000000000000000
STABF	5.000000000000000E-01	1717400000000000000
STRESS	1.000000000000000E+00	1720400000000000000
SUME	0.	0000000000000000000
T	0.	0000000000000000000
TERAD	0.	0000000000000000000
TLC	0.	0000000000000000000
TREF	0.	0000000000000000000
TTIME	0.	0000000000000000000
TTIME6	0.	0000000000000000000
TTIME7	0.	0000000000000000000
TTSTOP	1.000000000000000E+02	1726620000000000000
UREZ	1.000000000000000E+01	1723500000000000000
VISC	0.	0000000000000000000
VREZ	1.000000000000000E+01	1723500000000000000
VOIDS	0.	0000000000000000000
WORK	0.	0000000000000000000
X1	0.000000000000000E+00	1723400000000000000
X2	-1.000000000000000E+00	6057777777777777777
XOB	0.	0000000000000000000

Y1	3.000000000000000E+01	1724740000000000000
Y2	1.220000000000000E+02	1726750000000000000
YGND	-1.000000000000000E+04	6842387377777777777
YIELD	0.	0000000000000000000
AIR	1.000000000000000E+00	1720400000000000000
AL	4.000000000000000E+00	1722400000000000000
OCTOL	2.000000000000000E+00	1721400000000000000
OCTBRN	3.000000000000000E+00	1721600000000000000

1 MESH INCREMENTS AND COORDINATES

\+

I	DX	X	I	DX	X	I	DX	X
X0= 0.								
1	2.50000000E-01	2.50000000E-01	2	2.50000000E-01	5.00000000E-01	3	2.50000000E-01	7.50000000E-01
4	2.50000000E-01	1.00000000E+00	5	2.50000000E-01	1.25000000E+00	6	2.50000000E-01	1.50000000E+00
7	2.50000000E-01	1.75000000E+00	8	2.50000000E-01	2.00000000E+00	9	2.50000000E-01	2.25000000E+00
10	2.50000000E-01	2.50000000E+00	11	2.50000000E-01	2.75000000E+00	12	2.50000000E-01	3.00000000E+00
13	2.50000000E-01	3.25000000E+00	14	2.50000000E-01	3.50000000E+00	15	2.50000000E-01	3.75000000E+00
16	2.50000000E-01	4.00000000E+00	17	2.50000000E-01	4.25000000E+00	18	2.50000000E-01	4.50000000E+00
19	2.50000000E-01	4.75000000E+00	20	2.50000000E-01	5.00000000E+00	21	2.50000000E-01	5.25000000E+00
22	2.50000000E-01	5.50000000E+00	23	2.50000000E-01	5.75000000E+00	24	2.50000000E-01	6.00000000E+00
25	2.50000000E-01	6.25000000E+00	26	2.50000000E-01	6.50000000E+00	27	2.50000000E-01	6.75000000E+00
28	2.50000000E-01	7.00000000E+00	29	2.50000000E-01	7.25000000E+00	30	2.50000000E-01	7.50000000E+00
31	2.50000000E-01	7.75000000E+00	32	2.50000000E-01	8.00000000E+00	33	2.50000000E-01	8.25000000E+00
34	2.50000000E-01	8.50000000E+00	35	2.50000000E-01	8.75000000E+00	36	2.50000000E-01	9.00000000E+00
37	2.50000000E-01	9.25000000E+00	38	2.50000000E-01	9.50000000E+00	39	2.50000000E-01	9.75000000E+00
40	2.50000000E-01	1.00000000E+01						

J	DY	Y	J	DY	Y	J	DY	Y
Y0= -1.80000000E+01								
1	2.50000000E-01	-1.77500000E+01	2	2.50000000E-01	-1.75000000E+01	3	2.50000000E-01	-1.72500000E+01
4	2.50000000E-01	-1.70000000E+01	5	2.50000000E-01	-1.67500000E+01	6	2.50000000E-01	-1.65000000E+01
7	2.50000000E-01	-1.62500000E+01	8	2.50000000E-01	-1.60000000E+01	9	2.50000000E-01	-1.57500000E+01
10	2.50000000E-01	-1.55000000E+01	11	2.50000000E-01	-1.52500000E+01	12	2.50000000E-01	-1.50000000E+01
13	2.50000000E-01	-1.47500000E+01	14	2.50000000E-01	-1.45000000E+01	15	2.50000000E-01	-1.42500000E+01
16	2.50000000E-01	-1.40000000E+01	17	2.50000000E-01	-1.37500000E+01	18	2.50000000E-01	-1.35000000E+01
19	2.50000000E-01	-1.32500000E+01	20	2.50000000E-01	-1.30000000E+01	21	2.50000000E-01	-1.27500000E+01
22	2.50000000E-01	-1.25000000E+01	23	2.50000000E-01	-1.22500000E+01	24	2.50000000E-01	-1.20000000E+01
25	2.50000000E-01	-1.17500000E+01	26	2.50000000E-01	-1.15000000E+01	27	2.50000000E-01	-1.12500000E+01
28	2.50000000E-01	-1.10000000E+01	29	2.50000000E-01	-1.07500000E+01	30	2.50000000E-01	-1.05000000E+01
31	2.50000000E-01	-1.02500000E+01	32	2.50000000E-01	-1.00000000E+01	33	2.50000000E-01	-9.75000000E+00
34	2.50000000E-01	-9.50000000E+00	35	2.50000000E-01	-9.25000000E+00	36	2.50000000E-01	-9.00000000E+00
37	2.50000000E-01	-8.75000000E+00	38	2.50000000E-01	-8.50000000E+00	39	2.50000000E-01	-8.25000000E+00
40	2.50000000E-01	-8.00000000E+00	41	2.50000000E-01	-7.75000000E+00	42	2.50000000E-01	-7.50000000E+00
43	2.50000000E-01	-7.25000000E+00	44	2.50000000E-01	-7.00000000E+00	45	2.50000000E-01	-6.75000000E+00
46	2.50000000E-01	-6.50000000E+00	47	2.50000000E-01	-6.25000000E+00	48	2.50000000E-01	-6.00000000E+00
49	2.50000000E-01	-5.75000000E+00	50	2.50000000E-01	-5.50000000E+00	51	2.50000000E-01	-5.25000000E+00
52	2.50000000E-01	-5.00000000E+00	53	2.50000000E-01	-4.75000000E+00	54	2.50000000E-01	-4.50000000E+00
55	2.50000000E-01	-4.25000000E+00	56	2.50000000E-01	-4.00000000E+00	57	2.50000000E-01	-3.75000000E+00
58	2.50000000E-01	-3.50000000E+00	59	2.50000000E-01	-3.25000000E+00	60	2.50000000E-01	-3.00000000E+00
61	2.50000000E-01	-2.75000000E+00	62	2.50000000E-01	-2.50000000E+00	63	2.50000000E-01	-2.25000000E+00
64	2.50000000E-01	-2.00000000E+00	65	2.50000000E-01	-1.75000000E+00	66	2.50000000E-01	-1.50000000E+00
67	2.50000000E-01	-1.25000000E+00	68	2.50000000E-01	-1.00000000E+00	69	2.50000000E-01	-7.50000000E-01
70	2.50000000E-01	-5.00000000E-01	71	2.50000000E-01	-2.50000000E-01	72	2.50000000E-01	0.
73	2.50000000E-01	2.50000000E-01	74	2.50000000E-01	5.00000000E-01	75	2.50000000E-01	7.50000000E-01
76	2.50000000E-01	1.00000000E+00	77	2.50000000E-01	1.25000000E+00	78	2.50000000E-01	1.50000000E+00

0

```
    79  2.50000000E-01  1.75000000E+00    80  2.50000000E-01  2.00000000E+00    81  2.50000000E-01  2.25000000E+00
    82  2.50000000E-01  2.50000000E+00    83  2.50000000E-01  2.75000000E+00    84  2.50000000E-01  3.00000000E+00
    85  2.50000000E-01  3.25000000E+00    86  2.50000000E-01  3.50000000E+00    87  2.50000000E-01  3.75000000E+00
    88  2.50000000E-01  4.00000000E+00    89  2.50000000E-01  4.25000000E+00    90  2.50000000E-01  4.50000000E+00
    91  2.50000000E-01  4.75000000E+00    92  2.50000000E-01  5.00000000E+00    93  2.50000000E-01  5.25000000E+00
    94  2.50000000E-01  5.50000000E+00    95  2.50000000E-01  5.75000000E+00    96  2.50000000E-01  6.00000000E+00
    97  2.50000000E-01  6.25000000E+00    98  2.50000000E-01  6.50000000E+00    99  2.50000000E-01  6.75000000E+00
   100  2.50000000E-01  7.00000000E+00   101  2.50000000E-01  7.25000000E+00   102  2.50000000E-01  7.50000000E+00
   103  2.50000000E-01  7.75000000E+00   104  2.50000000E-01  8.00000000E+00   105  2.50000000E-01  8.25000000E+00
   106  2.50000000E-01  8.50000000E+00   107  2.50000000E-01  8.75000000E+00   108  2.50000000E-01  9.00000000E+00
   109  2.50000000E-01  9.25000000E+00   110  2.50000000E-01  9.50000000E+00   111  2.50000000E-01  9.75000000E+00
   112  2.50000000E-01  1.00000000E+01   113  2.50000000E-01  1.02500000E+01   114  2.50000000E-01  1.05000000E+01
   115  2.50000000E-01  1.07500000E+01   116  2.50000000E-01  1.10000000E+01   117  2.50000000E-01  1.12500000E+01
   118  2.50000000E-01  1.15000000E+01   119  2.50000000E-01  1.17500000E+01   120  2.50000000E-01  1.20000000E+01
   121  2.50000000E-01  1.22500000E+01   122  2.50000000E-01  1.25000000E+01   123  2.50000000E-01  1.27500000E+01
   124  2.50000000E-01  1.30000000E+01   125  2.50000000E-01  1.32500000E+01   126  2.50000000E-01  1.35000000E+01
   127  2.50000000E-01  1.37500000E+01   128  2.50000000E-01  1.40000000E+01   129  2.50000000E-01  1.42500000E+01
   130  2.50000000E-01  1.45000000E+01   131  2.50000000E-01  1.47500000E+01   132  2.50000000E-01  1.50000000E+01
   133  2.50000000E-01  1.52500000E+01   134  2.50000000E-01  1.55000000E+01   135  2.50000000E-01  1.57500000E+01
   136  2.50000000E-01  1.60000000E+01   137  2.50000000E-01  1.62500000E+01   138  2.50000000E-01  1.65000000E+01
   139  2.50000000E-01  1.67500000E+01   140  2.50000000E-01  1.70000000E+01   141  2.50000000E-01  1.72500000E+01
   142  2.50000000E-01  1.75000000E+01   143  2.50000000E-01  1.77500000E+01   144  2.50000000E-01  1.80000000E+01
   145  2.50000000E-01  1.82500000E+01   146  2.50000000E-01  1.85000000E+01   147  2.50000000E-01  1.87500000E+01
   148  2.50000000E-01  1.90000000E+01   149  2.50000000E-01  1.92500000E+01   150  2.50000000E-01  1.95000000E+01
   151  2.50000000E-01  1.97500000E+01   152  2.50000000E-01  2.00000000E+01
1        GENERATING PROBLEM    4.0130
0  DEFAULT WILL BE
0GENERATE A CIRCLE     OF MATERIAL  1
          XC =  0.            YC =  0.            RADIUS =  0.
0    AIR       =  1
0GENERATE A CIRCLE     OF MATERIAL  1
          XC =  0.            YC =  0.            RADIUS =  7.0000000E+00
     DELETE A RECTANGLE
          X1 =  0.            X2 =  1.0000000E+01 Y1 =  0.            Y2 =  2.0000000E+01
0     8.802641E-01 GMS   1.799268E+09 ERGS INSERTED AS MATERIAL  1
+
+
0    AIR       =  1
0GENERATE A RECTANGLE  OF MATERIAL  1
          X1 =  0.            X2 =  1.0000000E+01 Y1 =  0.            Y2 =  2.0000000E+01
     DELETE A RECTANGLE
          X1 =  7.0000000E+00 X2 =  9.0000000E+00 Y1 =  0.            Y2 =  5.0000000E-01
0     7.635327E+00 GMS   1.560661E+10 ERGS INSERTED AS MATERIAL  1
+
+
0    AIR       =  1
0GENERATE A RECTANGLE  OF MATERIAL  1
          X1 =  9.0000000E+00 X2 =  1.0000000E+01 Y1 = -1.8000000E+01 Y2 =  0.
0     1.316170E+00 GMS   2.690252E+09 ERGS INSERTED AS MATERIAL  1
+
+
0    AIR       =  1
0GENERATE A RECTANGLE  OF MATERIAL  1
          X1 =  0.            X2 =  9.0000000E+00 Y1 = -1.8000000E+01 Y2 = -1.7000000E+01
```

```
0     3.117245E-01 GMS   6.371649E+08 ERGS INSERTED AS MATERIAL  1
+
+
0    AL        = 4
0GENERATE A CIRCLE     OF MATERIAL  4
         XC = 0.              YC = 0.              RADIUS = 7.5000000E+00
     DELETE A CIRCLE
         XC = 0.              YC = 0.              RADIUS = 7.0000000E+00
     DELETE A RECTANGLE
         X1 = 0.              X2 = 1.0000000E+01 Y1 = 0.              Y2 = 2.0000000E+01
0     4.472903E+02 GMS   1.214743E+12 ERGS INSERTED AS MATERIAL  4
+
+
0    AL        = 4
0GENERATE A RECTANGLE  OF MATERIAL  4
         X1 = 8.5000000E+00 X2 = 9.0000000E+00 Y1 = -1.6500000E+01 Y2 = 0.
0     1.229168E+03 GMS   3.338151E+12 ERGS INSERTED AS MATERIAL  4
+
+
0    AL        = 4
0GENERATE A RECTANGLE  OF MATERIAL  4
         X1 = 7.0000000E+00 X2 = 9.0000000E+00 Y1 = 0.              Y2 = 5.0000000E-01
0     1.362195E+02 GMS   3.699422E+11 ERGS INSERTED AS MATERIAL  4
+
+
0    AL        = 4
0GENERATE A RECTANGLE  OF MATERIAL  4
         X1 = 0.              X2 = 9.0000000E+00 Y1 = -1.7000000E+01 Y2 = -1.6500000E+01
0     3.448855E+02 GMS   9.364163E+11 ERGS INSERTED AS MATERIAL  4
+
+
0    OCTOL     = 2
0GENERATE A RECTANGLE  OF MATERIAL  2
         X1 = 0.              X2 = 8.5000000E+00 Y1 = -1.6500000E+01 Y2 = 0.
     DELETE A CIRCLE
         XC = 0.              YC = 0.              RADIUS = 7.5000000E+00
     DELETE A RECTANGLE
         X1 = 0.              X2 = 2.5000000E-01 Y1 = -1.6500000E+01 Y2 = -1.6250000E+01
0     5.207907E+03 GMS   1.361068E+13 ERGS INSERTED AS MATERIAL  2
+
+
0    OCTBRN    = 3
0GENERATE A RECTANGLE  OF MATERIAL  3
         X1 = 0.              X2 = 2.5000000E-01 Y1 = -1.6500000E+01 Y2 = -1.6250000E+01
0     8.933904E-02 GMS   4.709954E+09 ERGS INSERTED AS MATERIAL  3
+
+
0ZBLK
     PROB          4.013000000000001E+00     1722400651767635544 3
     ATMOS         5.000000000000000E+00     1722500000000000000
     BREF          0.                        0000000000000000000
     BURN          1.000000000000000E+00     1720400000000000000
     CODE          1.000000000000000E+00     1720400000000000000
     COLD          0.                        7777777777777777776
```

CYCLE	0.	0000000000000000000
DIMEN	2.000000000000E+00	1721400000000003000
DT	9.999999999995 1E-11	16566676337663536742
ELC	0.	0000000000000000000
EOS	6.000000000000E+00	1722600000000000000
ETH	0.	0000000000000000000
EXPAND	5.000000000000E-02	17136314631463146315
FAIL	0.	0000000000000000000
FLUXER	3.000000000000E+00	1721600000000000000
GEOM	2.000000000000E+00	1721400000000000000
IMAX	4.000000000000E+01	1725500000000000000
IQ	3.900000000000E+01	1725470000000000000
ISLAND	0.	0000000000000000000
JMAX	1.520000000000E+02	1727460000000000000
JQ	1.510000000000E+02	1727456000000000000
KOB	0.	0000000000000000000
LREF	0.	7777777777777777776
METHOD	2.000000000000E+00	1721400000000000000
MLC	0.	0000000000000000000
MTH	0.	0000000000000000000
NH	2.000000000000E+01	1724500000000000000
NHIC	3.200000000000E+03	1733620000000000000
NHIST	3.000000000000E+00	1721600000000000000
NM	4.000000000000E+00	1722400000000000000
NOP	0.	0000000000000000000
NPP	2.000000000000E+00	1721400000000000000
NROWPB	4.000000000000E+00	1722400000000000000
PTSTOP	2.999999999999 92E-05	17007672420232524344
RADLOS	0.	0000000000000000000
REZONE	4.000000000000E+00	1722400000000000000
RREF	0.	0000000000000000000
STABF	5.000000000000E-01	1717400000000000000
STRESS	1.000000000000E+00	1720400000000000000
SUME	0.	0000000000000000000
T	0.	0000000000000000000
TERAD	0.	0000000000000000000
TLC	0.	0000000000000000000
TREF	0.	0000000000000000000
TTIME	0.	0000000000000000000
TTIME6	0.	0000000000000000000
TTIME7	0.	0000000000000000000
TTSTOP	1.000000000000E+02	17266200000000000000
UREZ	1.000000000000E+01	1723500000000000000
VISC	0.	0000000000000000000
VREZ	1.000000000000E+01	1723500000000000000
VOIDS	0.	0000000000000000000
WORK	0.	0000000000000000000
X1	0.000000000000E+00	1723400000000000000
X2	-1.000000000000E+00	6857377777777777777
XOB	0.	0000000000000000000
Y1	3.000000000000E+01	1724740000000000000
Y2	1.220000000000E+02	1726750000000000000
YGND	-1.000000000000E+04	6942387377777777777
YIELD	0.	0000000000000000000

```
AIR           1.00000000000000E+00     17204000000000000000
AL            4.00000000000000E+00     17224000000000000000
OCTOL         2.00000000000000E+00     17214000000000000000
OCTBRN        3.00000000000000E+00     17216000000000000000
+
+
+
INDIVIDUAL MASS SUMS
  1.014349E+01   5.207907E+03   8.933904E-02   2.157403E+03
1
+
+
+
I=   1   X(I)=   .250   DX(I)=   .250
+
```

J	U	V	AIX	RHO	AMX	DY	Y
1	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.77500000E+01
2	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.75000000E+01
3	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.72500000E+01
4	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.70000000E+01
5	0.	0.	2.71578113E+09	2.71000000E+00	1.33026814E-01	2.50000000E-01	-1.67500000E+01
6	0.	0.	2.71578113E+09	2.71000000E+00	1.33026814E-01	2.50000000E-01	-1.65000000E+01
7	0.	0.	5.27200000E+10	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.62500000E+01
8	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.60000000E+01
9	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.57500000E+01
10	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.55000000E+01
11	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.52500000E+01
12	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.50000000E+01
13	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.47500000E+01
14	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.45000000E+01
15	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.42500000E+01
16	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.40000000E+01
17	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.37500000E+01
18	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.35000000E+01
19	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.32500000E+01
20	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.30000000E+01
21	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.27500000E+01
22	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.25000000E+01
23	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.22500000E+01
24	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.20000000E+01
25	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.17500000E+01
26	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.15000000E+01
27	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.12500000E+01
28	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.10000000E+01
29	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.07500000E+01
30	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.05000000E+01
31	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.02500000E+01
32	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-1.00000000E+01
33	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-9.75000000E+00
34	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-9.50000000E+00
35	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-9.25000000E+00
36	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-9.00000000E+00
37	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-8.75000000E+00
38	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-8.50000000E+00

39	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-8.25000000E+00
40	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-8.00000000E+00
41	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-7.75000000E+00
42	0.	0.	2.61500000E+09	1.82000000E+00	8.93390411E-02	2.50000000E-01	-7.50000000E+00
43	0.	0.	2.71578113E+09	2.71000000E+00	1.33026814E-01	2.50000000E-01	-7.25000000E+00
44	0.	0.	2.71578113E+09	2.71000000E+00	1.33026814E-01	2.50000000E-01	-7.00000000E+00
45	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-6.75000000E+00
46	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-6.50000000E+00
47	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-6.25000000E+00
48	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-6.00000000E+00
49	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-5.75000000E+00
50	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-5.50000000E+00
51	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-5.25000000E+00
52	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-5.00000000E+00
53	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-4.75000000E+00
54	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-4.50000000E+00
55	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-4.25000000E+00
56	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-4.00000000E+00
57	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-3.75000000E+00
58	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-3.50000000E+00
59	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-3.25000000E+00
60	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-3.00000000E+00
61	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-2.75000000E+00
62	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-2.50000000E+00
63	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-2.25000000E+00
64	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-2.00000000E+00
65	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.75000000E+00
66	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.50000000E+00
67	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.25000000E+00
68	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-1.00000000E+00
69	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-7.50000000E-01
70	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-5.00000000E-01
71	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	-2.50000000E-01
72	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	0.
73	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.50000000E-01
74	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	5.00000000E-01
75	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	7.50000000E-01
76	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.00000000E+00
77	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.25000000E+00
78	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.50000000E+00
79	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.75000000E+00
80	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.00000000E+00
81	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.25000000E+00
82	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.50000000E+00
83	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.75000000E+00
84	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	3.00000000E+00
85	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	3.25000000E+00
86	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	3.50000000E+00
87	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	3.75000000E+00
88	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	4.00000000E+00
89	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	4.25000000E+00
90	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	4.50000000E+00
91	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	4.75000000E+00
92	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	5.00000000E+00

93	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	5.25000000E+00
94	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	5.50000000E+00
95	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	5.75000000E+00
96	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	6.00000000E+00
97	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	6.25000000E+00
98	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	6.50000000E+00
99	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	6.75000000E+00
100	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	7.00000000E+00
101	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	7.25000000E+00
102	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	7.50000000E+00
103	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	7.75000000E+00
104	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	8.00000000E+00
105	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	8.25000000E+00
106	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	8.50000000E+00
107	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	8.75000000E+00
108	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	9.00000000E+00
109	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	9.25000000E+00
110	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	9.50000000E+00
111	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	9.75000000E+00
112	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.00000000E+01
113	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.02500000E+01
114	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.05000000E+01
115	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.07500000E+01
116	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.10000000E+01
117	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.12500000E+01
118	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.15000000E+01
119	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.17500000E+01
120	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.20000000E+01
121	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.22500000E+01
122	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.25000000E+01
123	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.27500000E+01
124	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.30000000E+01
125	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.32500000E+01
126	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.35000000E+01
127	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.37500000E+01
128	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.40000000E+01
129	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.42500000E+01
130	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.45000000E+01
131	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.47500000E+01
132	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.50000000E+01
133	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.52500000E+01
134	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.55000000E+01
135	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.57500000E+01
136	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.60000000E+01
137	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.62500000E+01
138	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.65000000E+01
139	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.67500000E+01
140	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.70000000E+01
141	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.72500000E+01
142	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.75000000E+01
143	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.77500000E+01
144	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.80000000E+01
145	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.82500000E+01
146	0.	0.	2.84400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.85000000E+01

147	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.87500000E+01
148	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.90000000E+01
149	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.92500000E+01
150	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.95000000E+01
151	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	1.97500000E+01
152	0.	0.	2.04400000E+09	1.22500000E-03	6.01320469E-05	2.50000000E-01	2.00000000E+01

1
+

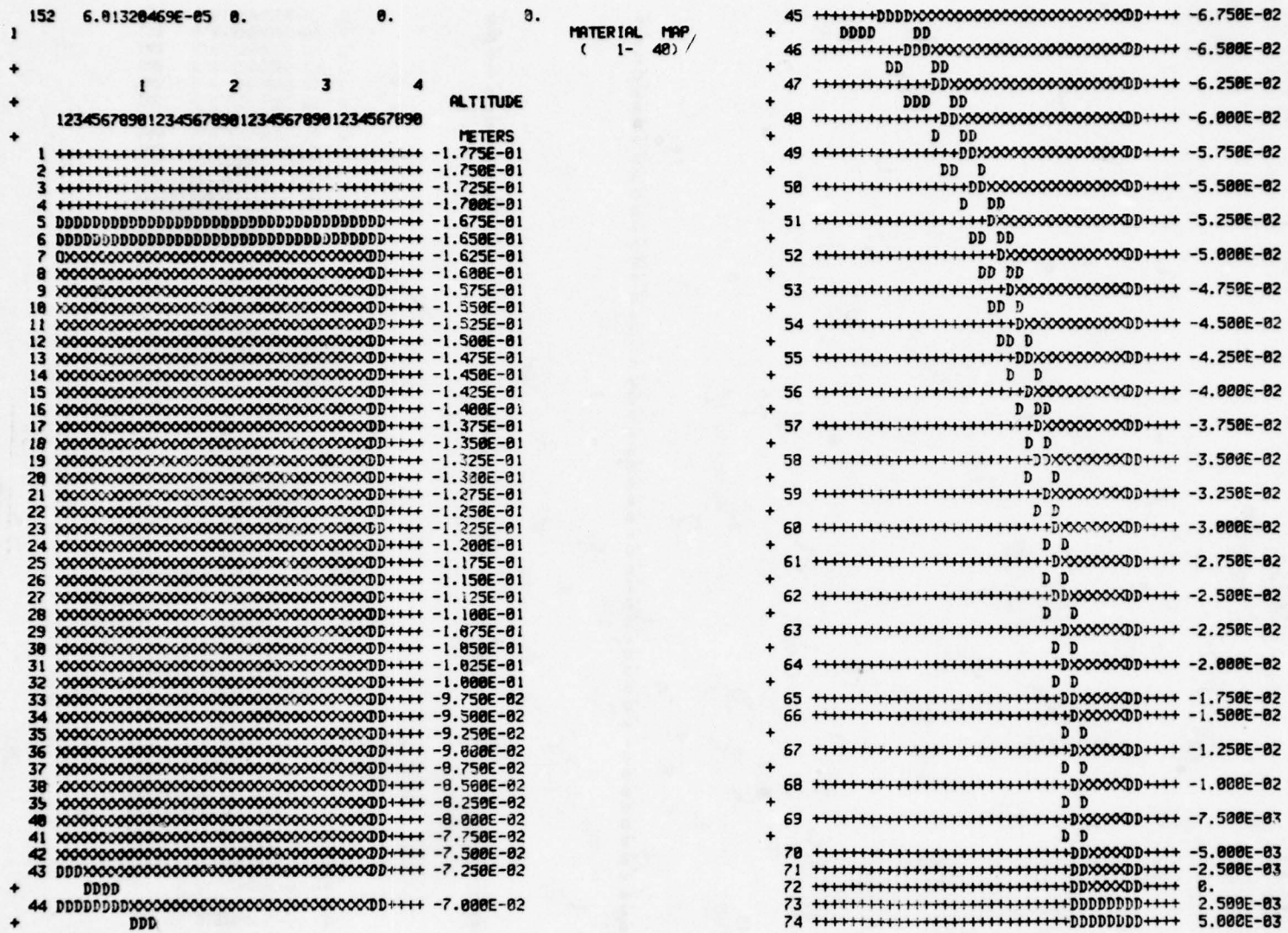
MATERIAL MASSES

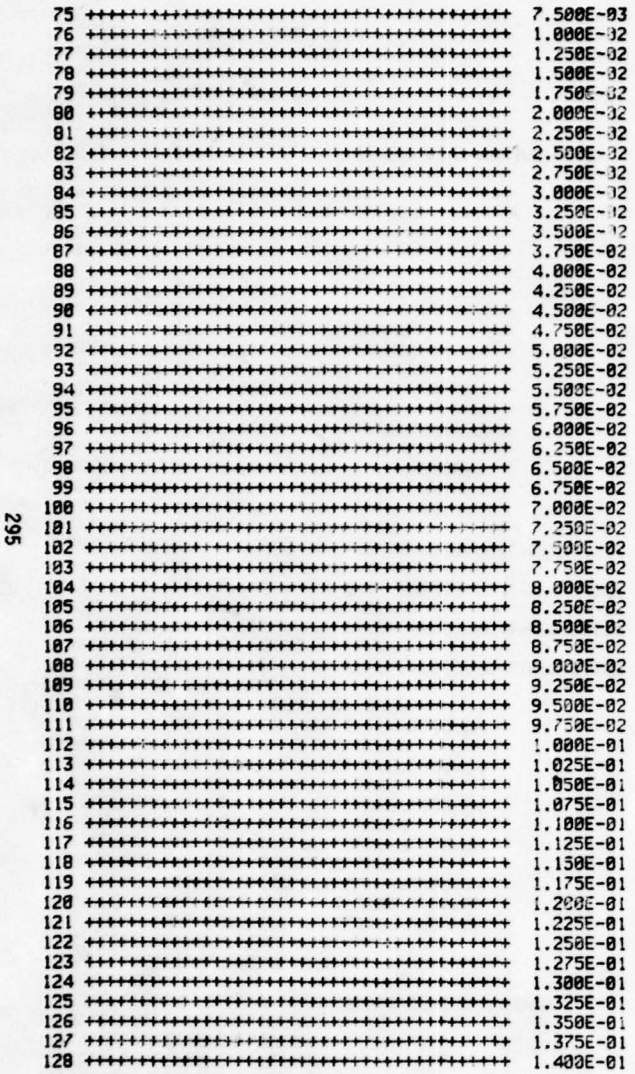
+

J	1	2	3	4
1	6.01320469E-05	0.	0.	0.
2	6.01320469E-05	0.	0.	0.
3	6.01320469E-05	0.	0.	0.
4	6.01320469E-05	0.	0.	0.
5	0.	0.	0.	1.33026814E-01
6	0.	0.	0.	1.33026814E-01
7	0.	0.	8.93390411E-02	0.
8	0.	8.93390411E-02	0.	0.
9	0.	8.93390411E-02	0.	0.
10	0.	8.93390411E-02	0.	0.
11	0.	8.93390411E-02	0.	0.
12	0.	8.93390411E-02	0.	0.
13	0.	8.93390411E-02	0.	0.
14	0.	8.93390411E-02	0.	0.
15	0.	8.93390411E-02	0.	0.
16	0.	8.93390411E-02	0.	0.
17	0.	8.93390411E-02	0.	0.
18	0.	8.93390411E-02	0.	0.
19	0.	8.93390411E-02	0.	0.
20	0.	8.93390411E-02	0.	0.
21	0.	8.93390411E-02	0.	0.
22	0.	8.93390411E-02	0.	0.
23	0.	8.93390411E-02	0.	0.
24	0.	8.93390411E-02	0.	0.
25	0.	8.93390411E-02	0.	0.
26	0.	8.93390411E-02	0.	0.
27	0.	8.93390411E-02	0.	0.
28	0.	8.93390411E-02	0.	0.
29	0.	8.93390411E-02	0.	0.
30	0.	8.93390411E-02	0.	0.
31	0.	8.93390411E-02	0.	0.
32	0.	8.93390411E-02	0.	0.
33	0.	8.93390411E-02	0.	0.
34	0.	8.93390411E-02	0.	0.
35	0.	8.93390411E-02	0.	0.
36	0.	8.93390411E-02	0.	0.
37	0.	8.93390411E-02	0.	0.
38	0.	8.93390411E-02	0.	0.
39	0.	8.93390411E-02	0.	0.
40	0.	8.93390411E-02	0.	0.
41	0.	8.93390411E-02	0.	0.
42	0.	8.93390411E-02	0.	0.
43	0.	0.	0.	1.33026814E-01

44	0.	0.	0.	1.33026814E-01
45	6.81320469E-05	0.	0.	0.
46	6.81320469E-05	0.	0.	0.
47	6.81320469E-05	0.	0.	0.
48	6.81320469E-05	0.	0.	0.
49	6.81320469E-05	0.	0.	0.
50	6.81320469E-05	0.	0.	0.
51	6.81320469E-05	0.	0.	0.
52	6.81320469E-05	0.	0.	0.
53	6.81320469E-05	0.	0.	0.
54	6.81320469E-05	0.	0.	0.
55	6.81320469E-05	0.	0.	0.
56	6.81320469E-05	0.	0.	0.
57	6.81320469E-05	0.	0.	0.
58	6.81320469E-05	0.	0.	0.
59	6.81320469E-05	0.	0.	0.
60	6.81320469E-05	0.	0.	0.
61	6.81320469E-05	0.	0.	0.
62	6.81320469E-05	0.	0.	0.
63	6.81320469E-05	0.	0.	0.
64	6.81320469E-05	0.	0.	0.
65	6.81320469E-05	0.	0.	0.
66	6.81320469E-05	0.	0.	0.
67	6.81320469E-05	0.	0.	0.
68	6.81320469E-05	0.	0.	0.
69	6.81320469E-05	0.	0.	0.
70	6.81320469E-05	0.	0.	0.
71	6.81320469E-05	0.	0.	0.
72	6.81320469E-05	0.	0.	0.
73	6.81320469E-05	0.	0.	0.
74	6.81320469E-05	0.	0.	0.
75	6.81320469E-05	0.	0.	0.
76	6.81320469E-05	0.	0.	0.
77	6.81320469E-05	0.	0.	0.
78	6.81320469E-05	0.	0.	0.
79	6.81320469E-05	0.	0.	0.
80	6.81320469E-05	0.	0.	0.
81	6.81320469E-05	0.	0.	0.
82	6.81320469E-05	0.	0.	0.
83	6.81320469E-05	0.	0.	0.
84	6.81320469E-05	0.	0.	0.
85	6.81320469E-05	0.	0.	0.
86	6.81320469E-05	0.	0.	0.
87	6.81320469E-05	0.	0.	0.
88	6.81320469E-05	0.	0.	0.
89	6.81320469E-05	0.	0.	0.
90	6.81320469E-05	0.	0.	0.
91	6.81320469E-05	0.	0.	0.
92	6.81320469E-05	0.	0.	0.
93	6.81320469E-05	0.	0.	0.
94	6.81320469E-05	0.	0.	0.
95	6.81320469E-05	0.	0.	0.
96	6.81320469E-05	0.	0.	0.
97	6.81320469E-05	0.	0.	0.

98	6.01320469E-05	0.	0.	0.
99	6.01320469E-05	0.	0.	0.
100	6.01320469E-05	0.	0.	0.
101	6.01320469E-05	0.	0.	0.
102	6.01320469E-05	0.	0.	0.
103	6.01320469E-05	0.	0.	0.
104	6.01320469E-05	0.	0.	0.
105	6.01320469E-05	0.	0.	0.
106	6.01320469E-05	0.	0.	0.
107	6.01320469E-05	0.	0.	0.
108	6.01320469E-05	0.	0.	0.
109	6.01320469E-05	0.	0.	0.
110	6.01320469E-05	0.	0.	0.
111	6.01320469E-05	0.	0.	0.
112	6.01320469E-05	0.	0.	0.
113	6.01320469E-05	0.	0.	0.
114	6.01320469E-05	0.	0.	0.
115	6.01320469E-05	0.	0.	0.
116	6.01320469E-05	0.	0.	0.
117	6.01320469E-05	0.	0.	0.
118	6.01320469E-05	0.	0.	0.
119	6.01320469E-05	0.	0.	0.
120	6.01320469E-05	0.	0.	0.
121	6.01320469E-05	0.	0.	0.
122	6.01320469E-05	0.	0.	0.
123	6.01320469E-05	0.	0.	0.
124	6.01320469E-05	0.	0.	0.
125	6.01320469E-05	0.	0.	0.
126	6.01320469E-05	0.	0.	0.
127	6.01320469E-05	0.	0.	0.
128	6.01320469E-05	0.	0.	0.
129	6.01320469E-05	0.	0.	0.
130	6.01320469E-05	0.	0.	0.
131	6.01320469E-05	0.	0.	0.
132	6.01320469E-05	0.	0.	0.
133	6.01320469E-05	0.	0.	0.
134	6.01320469E-05	0.	0.	0.
135	6.01320469E-05	0.	0.	0.
136	6.01320469E-05	0.	0.	0.
137	6.01320469E-05	0.	0.	0.
138	6.01320469E-05	0.	0.	0.
139	6.01320469E-05	0.	0.	0.
140	6.01320469E-05	0.	0.	0.
141	6.01320469E-05	0.	0.	0.
142	6.01320469E-05	0.	0.	0.
143	6.01320469E-05	0.	0.	0.
144	6.01320469E-05	0.	0.	0.
145	6.01320469E-05	0.	0.	0.
146	6.01320469E-05	0.	0.	0.
147	6.01320469E-05	0.	0.	0.
148	6.01320469E-05	0.	0.	0.
149	6.01320469E-05	0.	0.	0.
150	6.01320469E-05	0.	0.	0.
151	6.01320469E-05	0.	0.	0.


152 6.81320469E-05 0. 0. 0.
MATERIAL MAP
(1- 40) /
1 2 3 4
ALTITUDE
1234567890123456789012345678901234567890
METERS
1 -1.775E-01
2 -1.750E-01
3 -1.725E-01
4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03




```
1  MFY   NOS/BE 1.2    KAFB  011 MFY   P.D 10.37
   FLCM=314000 MXCM=250000 FLEC=1720K  MXEC=0600K
+
 11.58.32.FRY08F0  FROM MX0/IT
 11.58.32.IP  00000384 WORDS - FILE INPUT  , DC 04
 11.58.32.FRYO,NT1,MT1,T377.
 11.58.33.ACCOUNT(FRY,*********-****,DYP)
 11.58.33.SYSBULL(BATCH)
 11.58.34.ATTACH,HULLIB,ID=DYMXCER.
 11.58.34.PFN IS
 11.58.34.HULLIB
 11.58.34.PF CYCLE NO. = 037
 11.58.34.LIBRARY,HULLIB.
 11.58.34.HULLR.
 11.59.35.COPYCR(LOCAL,HHH)
 11.59.36.RETURN(LOCAL)
 11.58.37.IFE,FILE(CHANGES,IN),CPR.
 11.58.38.ENDIF,CPR.
 11.58.38.IFE,FILE(CHANGES,AS.AND..NOT.IN),CPY.
 11.58.39.ENDIF,CPY.
 11.58.39.GETC,HHH.
 11.58.41.ATTACH(XXX,CH105,ID=DYMXCER)
 11.58.41.PF CYCLE NO. = 015
 11.58.41.COPYCR(XXX,HHH)
 11.58.42.RETURN(XXX)
 11.58.43.REVERT.
 11.58.44.CONTR,BOW.
 11.58.46.      END  CNT
```

```
11.58.46.FILE(TAPE10,SBF=NO)
11.58.47.FILE(TAPE11,SBF=NO)
11.58.49.FILE(TAPE41,SBF=NO)
11.58.51.FILE(TAPE42,SBF=NO)
11.58.52.LDSET(FILES=TAPE10/TAPE11/TAPE41/TAPE42)
11.58.52.BOW.
11.58.55.REQUEST(TAPE10,*PF)
11.58.55.REQUEST(TAPE42,*PF)
11.58.57.STERN, PROBLEM     1.1100 UPDATED.
11.59.06.STERN, PROBLEM     8.3620 UPDATED.
11.59.24.CT ID=  DYMXCER PFN=DYMASTLIBRARY
11.59.24.CT CY= 002  00036992 WORDS.
11.59.24.EX ID=  DYMXCER PFN=DYMASTLIBRARY
11.59.24.EX CY= 001  00000000 WORDS.
11.59.25.EX ID=  DYMXCER PFN=DYMASTLIBRARY
11.59.25.EX CY= 001  00000000 WORDS.
12.00.06.EX ID=  DYMXCER PFN=DYMASTLIBRARY
12.00.06.EX CY= 001  00036992 WORDS.
12.00.06.PR ID=  DYMXCER PFN=DYMASTLIBRARY
12.00.06.PR CY= 002  00036992 WORDS.
12.00.07.REQUEST(TAPE42,*PF)
12.00.08.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INFO1P1100
12.00.08.PR CY= 003  00000576 WORDS.
12.00.09.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INFO1P1100
12.00.09.PR CY= 002  00000576 WORDS.
12.00.10.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INFO1P1100
12.00.10.PR CY= 001  00000576 WORDS.
12.00.14.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INFO8P3620
12.00.14.PR CY= 001  00000704 WORDS.
12.00.17.STERN    18 RESOURCE TAPES REMAINING
12.00.32.KEEL     18 RESOURCE TAPES REMAINING
12.01.06.CT ID=  DYMXCER PFN=DYMASTLIBRARY
12.01.06.CT CY= 002  00037056 WORDS.
12.01.07.EX ID=  DYMXCER PFN=DYMASTLIBRARY
12.01.07.EX CY= 001  00000000 WORDS.
12.01.23.EX ID=  DYMXCER PFN=DYMASTLIBRARY
12.01.23.EX CY= 001  00037056 WORDS.
12.01.23.PR ID=  DYMXCER PFN=DYMASTLIBRARY
12.01.23.PR CY= 002  00037056 WORDS.
12.01.24.NEED IJ133
12.01.27.      END  BOW
12.01.27.CONTR,PLANK.
12.01.29.      END  CNT
12.01.29.FILE(TAPE4,SBF=NO)
12.01.30.FILE(TAPE41,SBF=NO)
12.01.31.LDSET(FILES=TAPE4/TAPE41)
12.01.31.PLANK.
12.01.33.GENERATING KEEL      WA-ECS/LCM VERSION
12.01.34.      END  PLANK
12.01.34.CONTR,SAIL.
12.01.36.      END  CNT
12.01.36.DYMAST(I=HHH)
12.02.28.RECOVERED RMS ERROR
12.02.28. FILE NAME  OLD
12.02.28. FET ADDRESS  010531
12.04.41.RECOVERED RMS ERROR
12.04.41. FILE NAME  OLD
12.04.41. FET ADDRESS  010531
12.04.43.     6230  CARDS GENERATED
12.04.43.  END OF  NORMAL      RUN
12.04.43.  SYSTEM  HULL        VERSION  105
12.04.44.  EXIT
12.04.44.RETURN(HHH)
12.04.45.RETURN(SAVE)
12.04.46.REQUEST(SAVE,*Q)
12.04.46.CONTR,COMPILE.
12.04.48.      END  CNT
12.04.48.IFE,R2.EQ.2,COMPS.
12.04.48.ELSE,COMPS.
12.04.48.FTN(A,I=SAIL,PL=1000000,B=HULL,OPT=2,L=S
12.04.48.AVE)
12.05.49.      4.232 CP SECONDS COMPILATION TIME
12.05.49.ENDIF,COMPS.
12.05.50.RETURN(SAIL,LOCAL)
12.05.50.IFE,R2.NE.0,MET.
12.05.51.ENDIF,MET.
12.05.51.RETURN(MAP)
12.05.52.REQUEST(MAP,*Q)
12.05.53.CONTR,LOAD.
12.05.54.      END  CNT
12.05.54.ACCOUN.
12.06.01.      END  ACCOUN
12.06.01.IFE,R2.EQ.2,RUNS.
12.06.02.ELSE,RUNS.
12.06.02.IFE,R1.NE.0,H176.
12.06.03.HULE176,COMMENT.
12.06.05.FILE(TAPE4,SBF=NO)
12.06.06.FILE(TAPE41,SBF=NO)
12.06.07.FILE(TAPE9,SBF=NO)
12.06.08.FILE(TAPE21,SBF=NO)
12.06.08.FILE(TAPE22,SBF=NO)
12.06.10.FILE(TAPE23,SBF=NO)
12.06.10.FILE(TAPE40,SBF=NO)
12.06.11.FILE(TAPE10,SBF=NO)
12.06.14.FILE(TAPE11,SBF=NO)
12.06.16.FILE(TAPE12,SBF=NO)
12.06.18.FILE(TAPE13,SBF=NO)
12.06.21.FILE(TAPE15,SBF=NO)
12.06.22.FILE(TAPE14,SBF=NO)
12.06.22.FILE(TAPE44,SBF=NO)
12.06.23.FILE(TAPE45,SBF=NO)
12.06.24.LDSET(PRESETA=NGINDEF,MAP=SBEX/MAP)
12.06.24.LDSET(FILES=TAPE4/TAPE41/TAPE9/TAPE21/TA
12.06.24.PE22/TAPE23/TAPE40)
12.06.24.LDSET(FILES=TAPE14/TAPE44/TAPE45/TAPE11/
12.06.24.TAPE12)
12.06.24.LDSET(FILES=TAPE10/TAPE15)
12.06.24.HULL.
```

```
12.11.06.REQUEST(TAPE4,*NT,PE,RING,IU,U,E,VSN=0IJ133)
12.11.06.( NT 063 ASSIGNED)
12.11.06.NT63 VOLUME SERIAL NUMBER IS  0IJ133
12.11.12.NT63 BLOCK COUNT= 00000060
12.11.12.WRITE PARITY ERROR RECOVERED
12.11.14.NT63 BLOCK COUNT= 00000072
12.11.14.WRITE PARITY ERROR RECOVERED
12.11.21.NT63  BLOCKS WRITTEN -000272
12.11.35.REQUEST(TAPE41,*PF)
12.11.58.CT ID=  DYMXCER PFN=PROBLEMMASTAPE41INF04P0130
12.11.58.CT CY= 001  00000512 WORDS.
12.12.04.     END  KEEL
12.12.04.    11.183 CP SECONDS EXECUTION TIME
12.12.04.RETURN(TAPE4,HULL)
12.12.05.REVERT.
12.12.06.ELSE,H176.
12.12.08.ENDIF,H176.
12.12.08.ENDIF,RUNS.
12.12.09.REVERT.
12.12.12.OP  00006144 WORDS - FILE FILMPR , DC 20
12.12.12.OP  00007296 WORDS - FILE OUTPUT , DC 40
12.12.12.MS    7168  WORDS  (  396288 MAX USED)
12.12.12.CPA     32.928 SEC.       32.928 ADJ.
12.12.12.IO     149.699 SEC.       37.424 ADJ.
12.12.12.CM    3345.619 KWS.       14.038 ADJ.
12.12.12.SS                        84.392
12.12.12.PP     288.818 SEC.     DATE 08/09/78
12.12.12.COST ESTIMATE            $14.17
12.12.12.EJ  END OF JOB, IT
+
```

PROBLEM 4.013 SYSTEM 370 HULL RUN

```
//AF2001H JOB (AF2001,,65,55),'HULL RUN',MSGCLASS=H,CLASS=C,
//         NOTIFY=AF2001
//HULL EXEC HULL,GENO='.V105',FPARM='NOSOURCE,TERM',
//       PS1='SYSOUT=H,HOLD=YES',PS2='SYSOUT=H,HOLD=YES',
//       FP1='DUMMY',LP1='SYSOUT=H,HOLD=YES',
//       MP1='SYSOUT=H,HOLD=YES',MTIME=60,LIBPRE='AF2001.',
//       OLDPRE='AF2001.',PP1='SYSOUT=H,HOLD=YES',PTIME='(0,10)'
//HULL.DATA DD  DSN=AF2001.HULL.PRB4P013,UNIT=3340,DISP=(OLD,KEEP),
//     DCB=(RECFM=VBS,LRECL=7220,BLKSIZE=7224)
//HULL.STATION  DD DUMMY
//HULL.INPUT DD  *
HULL
PROBLEM 4.013
CYCLE=0
INPUT
COLD=T
TIMES=3 DMPINT=1.E-6
MRELER=10
/*
//SAIL.INPUT  DD  DSN=AF2001.CHANG.DATA,DISP=(OLD,KEEP)
//FORT.SYSTERN  DD  SYSOUT=H,HOLD=YES
END OF DATA
```

300

```
                                                J E S 2   J O B   L O G
09.01.49 JOB   43  IEF677I WARNING MESSAGE(S) FOR JOB AF2001H  ISSUED
09.01.49 JOB   43  $HASP373 AF2001H  STARTED - INIT  3 - CLASS C - SYS A168
09.01.54 JOB   43  AF2001H  HULL      09:01:49      5       0.25  S000
09.02.03 JOB   43  AF2001H  PLANK     09:01:54      9       0.75  S000
09.14.41 JOB   43  AF2001H  SAIL      09:02:04    758      99.03  S000
09.19.55 JOB   43  AF2001H  FORT      09:14:42    313      26.98  S004
09.20.31 JOB   43  AF2001H  LKED      09:19:56     35       2.44  S000
10.40.52 JOB   43  IEC030I B37-04,IFG0554T,AF2001H,GO,FT04F001,153,USER02,
10.40.52 JOB   43  IEC030I AF2001.HULL.PRB4P013
10.40.53 JOB   43  +IHO240I STAE - ABEND CODE IS: SYSTEM 0B37, USER 0000. SCB= 09F3E0.
10.40.53 JOB   43  +IHO240I STAE - IO - NOT RESTORED. PSW IS FF85003762FA9844.
10.40.55 JOB   43  IEF450I AF2001H GO HULL - ABEND SB37 U0000
10.40.59 JOB   43  AF2001H  GO        09:20:32   4827  1,668.64  SB37
10.41.00 JOB   43  $HASP395 AF2001H  ENDED

OUT
```

```
GENERATING HULL
TAPE4 SEARCH FOR START CYCLE


 PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION                    00002220


PROB    4.0130  CYCLE     0  TIME 0.0
BACKSPACING    2 RECORDS
TAPE POSITIONED
               DISK VERSION



          ***** OPTIONS SELECTED FOR THIS RUN *****

               DIFFERENCE METHOD -
                                  SHELL II
                                                        AND MATERIAL STRENGTH
                                                                    WITH 3 FLUXED HISTORIES/CELL

               EQUATION OF STATE -
                                  SOLIDS - NO STRENGTH
               TNT BURN
               ATMOSPHERE -
                                    CONSTANT
               VOLUME AND ENERGY FLUXING
               REZONE -
                             VERTICAL SHOCK FOLLOWER
               CODE -
                           HULL
               DIMENSIONS -
                                2-D
               GEOMETRY -
                              CYLINDRICAL
               NO RADIATION ROUTINES
               PARTICLES -
                                 NO CODE
     THE FOLLOWING OPTIONS WERE DEFINED BY PLANK.

               ATMOS     =          5
               BURN      =          1
               CODE      =          1
               DIMEN     =          2
               EOS       =          6
               GEOM      =          2
               HOT       =          0
               IMAX      =         40
```

```
ISLAND  =          0
JMAX    =        152
KMAX    =          1
LBUFA   =       3329
LBUFB   =        242
MAGFLD  =          0
METHOD  =          2
MH      =         20
MHIC    =       3200
MM      =          4
MOP     =          0
MHIST   =          3
MPLPB   =          2
MPP     =          3
MROWPB  =          4
MSTN    =          0
MVARST  =          5
RAD     =          0
REZONE  =          4
STRESS  =          1
SURF    =          0
SW      =          6
SWX     =          0
VISC    =          0
LAMB    =          0
BBOUND  =          0
LBOUND  =          0
KEEL    =          0
PULL    =          0
VOIDS   =          0
FLUXER  =          3
DEPOS   =          0
FAIL    =          0
STRAIN  =          0
WORK    =          0
MAT     =          4
AIR     =          1
AL      =          4
OCTOL   =          2
OCTBRN  =          3
```

OUT

HULL START

PROB 4.0130 STARTUP ON CYCLE 0 TIME 0.0

MATERIAL PROPERTIES DEFINED FOR THIS RUN

MATERIAL	AMBIENT YIELD (YO)	THERMAL SHOFTENING YLD/YO	EE/EMELT	WORK HARDENING YIELD	PLASTIC STRAIN
2	2.000E+03	1.00E+00	0.0	2.000E+03	0.0
		0.83E-79	1.83E+63	-2.725E+20	0.83E-79
		-4.66E+19	-5.25E+20		
		0.0	1.00E+00		
4	2.900E+09	1.00E+00	0.0	2.900E+09	0.0
		9.00E-01	5.00E-01	2.900E+09	3.00E-01
		9.00E-01	5.00E-01		
		0.0	1.00E+00		

PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION 00002220

BLK/ PROB	4.01300D+00	4140353F00000000
ATMOS	5.00000D+00	4150000000000000
BREF	0.0	0000000000000000
BURN	1.00000D+00	4110000000000000
CODE	1.00000D+00	4110000000000000
COLD	0.00001D-79	0000000100000000
CYCLE	0.0	0000000000000000
DIMEN	2.00000D+00	4120000000000000
DT	1.00000D-10	386DF38600000000
ELC	0.0	0000000000000000
EOS	6.00000D+00	4160000000000000
ETH	0.0	0000000000000000
EXPAND	5.00000D-02	3FCCCCCD00000000
FAIL	0.0	0000000000000000
FLUXER	3.00000D+00	4130000000000000
GEOM	2.00000D+00	4120000000000000

IMAX	4.00000D+01	4228000000000000
IQ	3.90000D+01	4227000000000000
ISLAND	0.0	0000000000000000
JMAX	1.52000D+02	4298000000000000
JQ	1.51000D+02	4297000000000000
MOD	0.0	0000000000000000
LREF	0.00001D-79	0000000100000000
METHOD	2.00000D+00	4120000000000000
MLC	0.0	0000000000000000
MTH	0.0	0000000000000000
MM	2.00000D+01	4214000000000000
MMIC	3.20000D+03	43C8000000000000
MMIST	3.00000D+00	4130000000000000
MM	4.00900D+00	4140000000000000
MOP	0.0	0000000000000000
MPP	3.00000D+00	4130000000000000
MROUPB	4.00000D+00	4140000000000000
PTSTOP	3.00000D-05	3D1F751000000000
RADLOS	0.0	0000000000000000
REZONE	4.00000D+00	4140000000000000
RREF	0.0	0000000000000000
STABF	5.00000D-01	4080000000000000
STRESS	1.00000D+00	4110000000000000
SUME	0.0	0000000000000000
T	0.0	0000000000000000
TERAD	0.0	0000000000000000
TLC	0.0	0000000000000000
TREF	0.0	0000000000000000
TTIME	0.0	0000000000000000
TTSTOP	1.00000D+02	4264000000000000
UREZ	1.00000D+01	41A0000000000000
VISC	0.0	0000000000000000
VREZ	1.00000D+01	41A0000000000000
VOIDS	0.0	0000000000000000
WORK	0.0	0000000000000000
X1	8.00000D+00	4180000000000000
X2	-1.00000D+00	C110000000000000
XOB	0.0	0000000000000000
Y1	3.00000D+01	421E000000000000
Y2	1.22000D+02	427A000000000000
YGND	-1.00000D+04	C427100000000000
YIELD	0.0	0000000000000000
AIR	1.00000D+00	4110000000000000
AL	4.00000D+00	4140000000000000
OCTOL	2.00000D+00	4120000000000000
OCTBRN	3.00000D+00	4130000000000000
	0.0	0000000000000000
	0.0	0000000000000000
	0.0	0000000000000000
	0.0	0000000000000000
	0.0	0000000000000000

```
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
                 0.0          0000000000000000
NOPT
    NRELER      1.000D+01     41A000010C6F7A0B
    CSTOP       1.000D+20     5156BC7600000000
    RTSTOP      1.000D+20     5156BC7600000000
    DCYCST      1.000D+20     5156BC7600000000
    PRINTW      0.000D-79     0000000100000000
    DEBUG       0.0           0000000000000000
    X1NEW       1.500D+01     41F0000000000000
    Y1NEW       5.500D+01     4237000000000000
    Y2NEW       8.500D+01     4255000000000000
    TIMES       3.000D+00     413000010C6F7A0B
    DMPINT      1.000D-06     3C10C6F7BCDBAFF5
    VMIN        1.000D-03     3E41893700000000
    ITRACE      0.0           0000000000000000
    JTRACE      0.0           0000000000000000

**********
**********

PROB    4.0130     CYCLE     0     TIME  0.0              DT  1.000001E-10


     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                 REL ERROR
  1.94835152       E+13    0.0                 1.94835152       E+13   1.94835152       E+13   0.0
```

TOTAL MASS		MTH		RELMERR
7.36719141	E+03	7.36719141	E+03	0.0

MAX VEL = 0.0 AT I 0 J 0

MAX CS = 0.0 AT I 0 J 0

MAX TEMP= 0.0 AT I 0 J 0

MAX P = 0.0 AT I 0 J 0

CELL SETTING DT, I 0 J 0

TOTAL TIME FOR THIS PROBLEM 0 HOURS, 0 MIN, 0 SEC

TIME FOR THIS RUN 0 HOURS, 0 MIN, 0 SEC

I= 1 X(I)= 0.250 DX(I)= 0.250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.78E+01	2.50E-01	1	6.01319E-05		
2	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+01	2.50E-01	1	6.01319E-05		
3	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.73E+01	2.50E-01	1	6.01319E-05		
4	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.70E+01	2.50E-01	1	6.01319E-05		
5	-1.214E+06	0.0	0.0	2.716E+09	2.710E+00	0.0	0.0	0.0	-1.68E+01	2.50E-01	4	1.33026E-01		
6	-1.214E+06	0.0	0.0	2.716E+09	2.710E+00	0.0	0.0	0.0	-1.65E+01	2.50E-01	4	1.33026E-01		
7	1.399E+11	0.0	0.0	5.272E+10	1.820E+00	0.0	0.0	0.0	-1.63E+01	2.50E-01	3	8.93388E-02		
8	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.60E+01	2.50E-01	2	8.93388E-02		
9	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.58E+01	2.50E-01	2	8.93388E-02		
10	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.55E+01	2.50E-01	2	8.93388E-02		
11	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.53E+01	2.50E-01	2	8.93388E-02		
12	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.50E+01	2.50E-01	2	8.93388E-02		
13	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.48E+01	2.50E-01	2	8.93388E-02		
14	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.45E+01	2.50E-01	2	8.93388E-02		
15	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.43E+01	2.50E-01	2	8.93388E-02		
16	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.40E+01	2.50E-01	2	8.93388E-02		
17	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.38E+01	2.50E-01	2	8.93388E-02		
18	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.35E+01	2.50E-01	2	8.93388E-02		
19	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.33E+01	2.50E-01	2	8.93388E-02		
20	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.30E+01	2.50E-01	2	8.93388E-02		
21	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.28E+01	2.50E-01	2	8.93388E-02		
22	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.25E+01	2.50E-01	2	8.93388E-02		
23	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.23E+01	2.50E-01	2	8.93388E-02		
24	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.20E+01	2.50E-01	2	8.93388E-02		
25	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.18E+01	2.50E-01	2	8.93388E-02		
26	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.15E+01	2.50E-01	2	8.93388E-02		
27	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.13E+01	2.50E-01	2	8.93388E-02		
28	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.10E+01	2.50E-01	2	8.93388E-02		
29	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.08E+01	2.50E-01	2	8.93388E-02		
30	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.05E+01	2.50E-01	2	8.93388E-02		

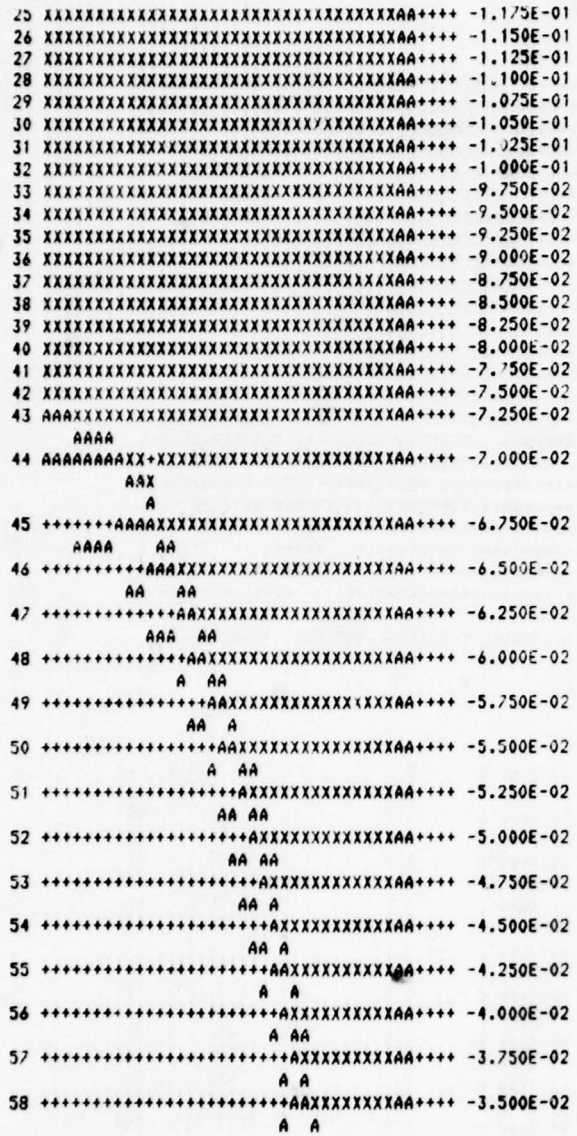
31	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.03E+01	2.50E-01	2	8.93388E-02
32	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.00E+01	2.50E-01	2	8.93388E-02
33	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.75E+00	2.50E-01	2	8.93388E-02
34	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.50E+00	2.50E-01	2	8.93388E-02
35	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.25E+00	2.50E-01	2	8.93388E-02
36	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.00E+00	2.50E-01	2	8.93388E-02
37	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.75E+00	2.50E-01	2	8.93388E-02
38	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.50E+00	2.50E-01	2	8.93388E-02
39	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.25E+00	2.50E-01	2	8.93388E-02
40	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.00E+00	2.50E-01	2	8.93388E-02
41	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-7.75E+00	2.50E-01	2	8.93388E-02
42	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-7.50E+00	2.50E-01	2	8.93388E-02
43	-1.214E+06	0.0	0.0	2.716E+09	2.710E+00	0.0	0.0	0.0	-7.25E+00	2.50E-01	4	1.33026E-01
44	-1.214E+06	0.0	0.0	2.716E+09	2.710E+00	0.0	0.0	0.0	-7.00E+00	2.50E-01	4	1.33026E-01
45	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.75E+00	2.50E-01	1	6.01319E-05
46	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.50E+00	2.50E-01	1	6.01319E-05
47	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.25E+00	2.50E-01	1	6.01319E-05
48	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.00E+00	2.50E-01	1	6.01319E-05
49	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.75E+00	2.50E-01	1	6.01319E-05
50	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.50E+00	2.50E-01	1	6.01319E-05
51	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.25E+00	2.50E-01	1	6.01319E-05
52	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E+00	2.50E-01	1	6.01319E-05
53	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.75E+00	2.50E-01	1	6.01319E-05
54	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.50E+00	2.50E-01	1	6.01319E-05
55	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.25E+00	2.50E-01	1	6.01319E-05
56	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.00E+00	2.50E-01	1	6.01319E-05
57	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.75E+00	2.50E-01	1	6.01319E-05
58	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.50E+00	2.50E-01	1	6.01319E-05
59	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.25E+00	2.50E-01	1	6.01319E-05
60	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.00E+00	2.50E-01	1	6.01319E-05
61	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.75E+00	2.50E-01	1	6.01319E-05
62	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E+00	2.50E-01	1	6.01319E-05
63	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.25E+00	2.50E-01	1	6.01319E-05
64	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.00E+00	2.50E-01	1	6.01319E-05
65	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+00	2.50E-01	1	6.01319E-05
66	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.50E+00	2.50E-01	1	6.01319E-05
67	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.25E+00	2.50E-01	1	6.01319E-05
68	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.00E+00	2.50E-01	1	6.01319E-05
69	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-7.50E-01	2.50E-01	1	6.01319E-05
70	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E-01	2.50E-01	1	6.01319E-05
71	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E-01	2.50E-01	1	6.01319E-05
72	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	0.0	2.50E-01	1	6.01319E-05
73	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E-01	2.50E-01	1	6.01319E-05
74	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E-01	2.50E-01	1	6.01319E-05
75	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E-01	2.50E-01	1	6.01319E-05
76	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+00	2.50E-01	1	6.01319E-05
77	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+00	2.50E-01	1	6.01319E-05
78	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+00	2.50E-01	1	6.01319E-05
79	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+00	2.50E-01	1	6.01319E-05
80	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+00	2.50E-01	1	6.01319E-05
81	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.25E+00	2.50E-01	1	6.01319E-05

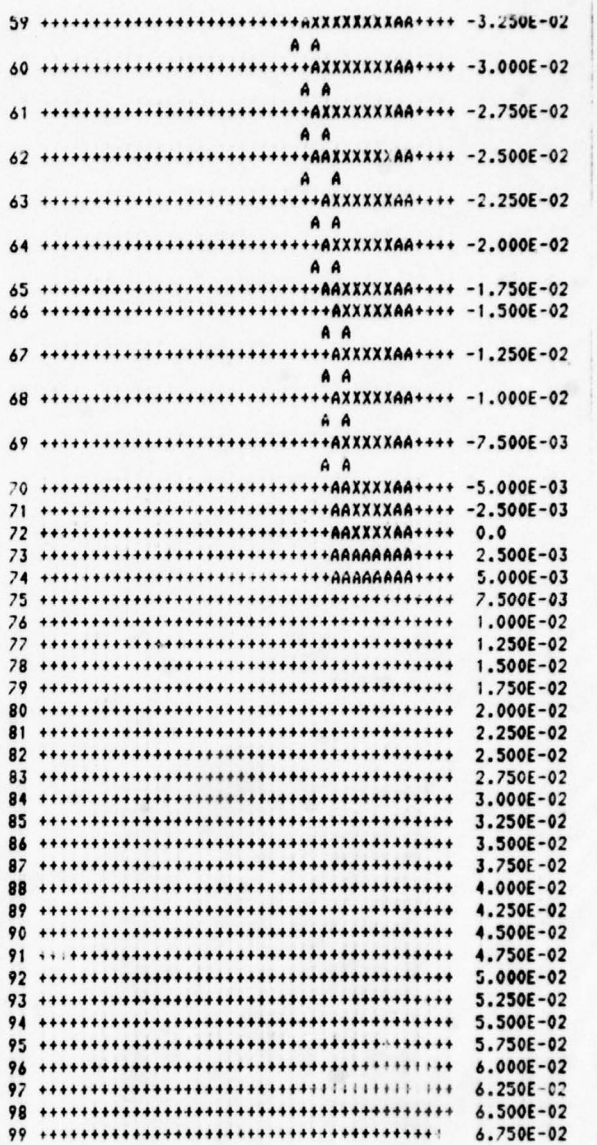
82	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E+00	2.50E-01	1 6.01319E-05
83	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.75E+00	2.50E-01	1 6.01319E-05
84	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.00E+00	2.50E-01	1 6.01319E-05
85	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.25E+00	2.50E-01	1 6.01319E-05
86	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.50E+00	2.50E-01	1 6.01319E-05
87	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.75E+00	2.50E-01	1 6.01319E-05
88	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.00E+00	2.50E-01	1 6.01319E-05
89	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.25E+00	2.50E-01	1 6.01319E-05
90	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.50E+00	2.50E-01	1 6.01319E-05
91	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.75E+00	2.50E-01	1 6.01319E-05
92	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E+00	2.50E-01	1 6.01319E-05
93	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.25E+00	2.50E-01	1 6.01319E-05
94	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.50E+00	2.50E-01	1 6.01319E-05
95	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.75E+00	2.50E-01	1 6.01319E-05
96	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.00E+00	2.50E-01	1 6.01319E-05
97	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.25E+00	2.50E-01	1 6.01319E-05
98	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.50E+00	2.50E-01	1 6.01319E-05
99	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.75E+00	2.50E-01	1 6.01319E-05
100	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.00E+00	2.50E-01	1 6.01319E-05
101	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.25E+00	2.50E-01	1 6.01319E-05
102	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E+00	2.50E-01	1 6.01319E-05
103	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.75E+00	2.50E-01	1 6.01319E-05
104	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.00E+00	2.50E-01	1 6.01319E-05
105	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.25E+00	2.50E-01	1 6.01319E-05
106	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.50E+00	2.50E-01	1 6.01319E-05
107	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.75E+00	2.50E-01	1 6.01319E-05
108	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.00E+00	2.50E-01	1 6.01319E-05
109	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.25E+00	2.50E-01	1 6.01319E-05
110	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.50E+00	2.50E-01	1 6.01319E-05
111	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.75E+00	2.50E-01	1 6.01319E-05
112	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+01	2.50E-01	1 6.01319E-05
113	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.03E+01	2.50E-01	1 6.01319E-05
114	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.05E+01	2.50E-01	1 6.01319E-05
115	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.08E+01	2.50E-01	1 6.01319E-05
116	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.10E+01	2.50E-01	1 6.01319E-05
117	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.13E+01	2.50E-01	1 6.01319E-05
118	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.15E+01	2.50E-01	1 6.01319E-05
119	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.18E+01	2.50E-01	1 6.01319E-05
120	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.20E+01	2.50E-01	1 6.01319E-05
121	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.23E+01	2.50E-01	1 6.01319E-05
122	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+01	2.50E-01	1 6.01319E-05
123	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.28E+01	2.50E-01	1 6.01319E-05
124	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.30E+01	2.50E-01	1 6.01319E-05
125	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.33E+01	2.50E-01	1 6.01319E-05
126	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.35E+01	2.50E-01	1 6.01319E-05
127	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.38E+01	2.50E-01	1 6.01319E-05
128	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.40E+01	2.50E-01	1 6.01319E-05
129	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.43E+01	2.50E-01	1 6.01319E-05
130	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.45E+01	2.50E-01	1 6.01319E-05
131	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.48E+01	2.50E-01	1 6.01319E-05
132	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+01	2.50E-01	1 6.01319E-05

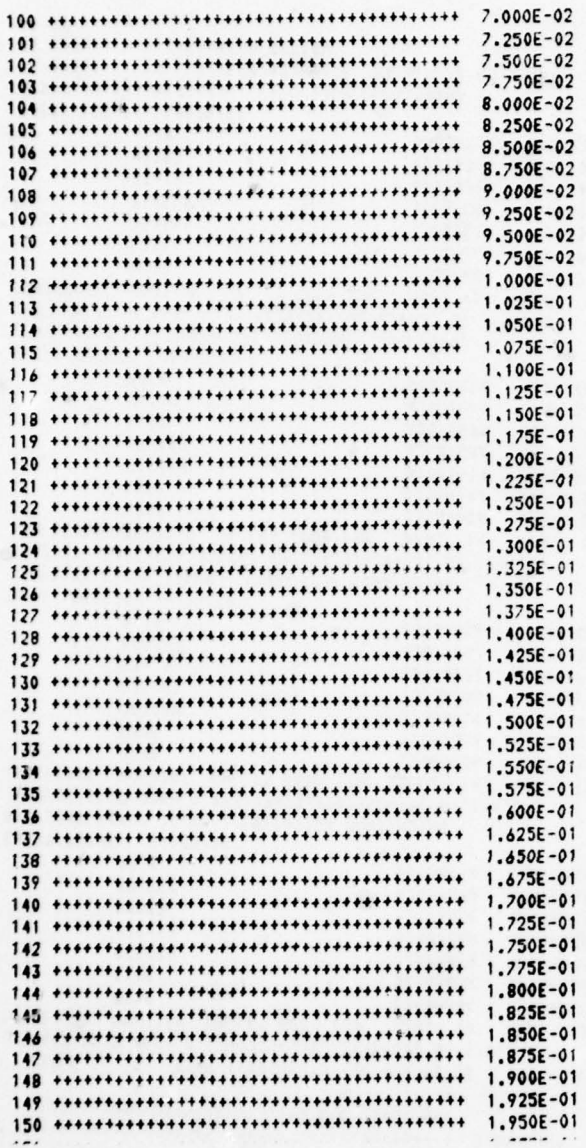
133	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.53E+01	2.50E-01	1	6.01319E-05
134	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.55E+01	2.50E-01	1	6.01319E-05
135	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.58E+01	2.50E-01	1	6.01319E-05
136	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.60E+01	2.50E-01	1	6.01319E-05
137	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.63E+01	2.50E-01	1	6.01319E-05
138	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.65E+01	2.50E-01	1	6.01319E-05
139	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.68E+01	2.50E-01	1	6.01319E-05
140	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.70E+01	2.50E-01	1	6.01319E-05
141	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.73E+01	2.50E-01	1	6.01319E-05
142	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+01	2.50E-01	1	6.01319E-05
143	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.78E+01	2.50E-01	1	6.01319E-05
144	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.80E+01	2.50E-01	1	6.01319E-05
145	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.83E+01	2.50E-01	1	6.01319E-05
146	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.85E+01	2.50E-01	1	6.01319E-05
147	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.88E+01	2.50E-01	1	6.01319E-05
148	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.90E+01	2.50E-01	1	6.01319E-05
149	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.93E+01	2.50E-01	1	6.01319E-05
150	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.95E+01	2.50E-01	1	6.01319E-05
151	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.98E+01	2.50E-01	1	6.01319E-05
152	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+01	2.50E-01	1	6.01319E-05

MATERIAL MAP


```
          1         2         3         4
                                                ALTITUDE
    12345678901234567890123456789012345678901
                                                METERS
 1 +++++++++++++++++++++++++++++++++++++++++++ -1.775E-01
 2 +++++++++++++++++++++++++++++++++++++++++++ -1.750E-01
 3 +++++++++++++++++++++++++++++++++++++++++++ -1.725E-01
 4 +++++++++++++++++++++++++++++++++++++++++++ -1.700E-01
 5 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.675E-01
 6 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.650E-01
 7 OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.625E-01
 8 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.600E-01
 9 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.575E-01
10 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.550E-01
11 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.525E-01
12 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.500E-01
13 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.475E-01
14 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.450E-01
15 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.425E-01
16 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.400E-01
17 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.375E-01
18 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.350E-01
19 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.325E-01
20 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.300E-01
21 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.275E-01
22 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.250E-01
23 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.225E-01
24 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.200E-01
```


25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02


59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.0
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02


100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01
150 1.950E-01

```
151 ****************************************  1.975E-01
152 ****************************************  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
   CYCLE     1   TIME 1.0000E-10  DT 4.648E-08   IDT    1  JDT    6
IHO2621 DEXP ARG= 0.1780220436537598D+03, GT 174.673
TRACEBACK  ROUTINE  CALLED FROM ISN   REG.  14   REG.  15   REG.   0   REG.   1
           DEXP                       5208AA8A   000947B0   00000000   0008A9F4
           EXPF                       5208A6CA   0008A980   00000000   0008A400
           OCTBRN                     52088814   0008A388   00086B50   0008875C
           PICKES                     52087CAA   000886C0   00086B50   00086914
           STATE                      62076D9E   000866F0   00000029   00076BCC
           EOSSET                     42075E9A   00076B58   00000006   00000000
           MAIN                       00008858   000757C8   00AEC3F0   00074FF0
ENTRY POINT=  000757C8
STANDARD FIXUP TAKEN , EXECUTION CONTINUING
IHO2621 DEXP ARG= 0.1931194256420239D+03, GT 174.673
TRACEBACK  ROUTINE  CALLED FROM ISN   REG.  14   REG.  15   REG.   0   REG.   1
           DEXP                       5208AA8A   000947B0   00000000   0008A9F4
           EXPF                       5208A6A6   0008A980   00000000   0008A3FC
           OCTBRN                     52088814   0008A388   00086B58   0008875C
           PICKES                     42087CAA   000886C0   00086B58   00086914
           STATE                      62076D9E   000866F0   00000002   00076BCC
           EOSSET                     42075E9A   00076B58   00000007   00000000
           MAIN                       00008858   000757C8   00AEC3F0   00074FF0
ENTRY POINT=  000757C8
STANDARD FIXUP TAKEN , EXECUTION CONTINUING
IHO2621 DEXP ARG= 0.1944162215429303D+03, GT 174.673
TRACEBACK  ROUTINE  CALLED FROM ISN   REG.  14   REG.  15   REG.   0   REG.   1
           DEXP                       5208AA8A   000947B0   00000000   0008A9F4
           EXPF                       5208A6A6   0008A980   00000000   0008A3FC
           OCTBRN                     52088814   0008A388   00086B58   0008875C
           PICKES                     42087CAA   000886C0   00086B58   00086914
           STATE                      62078698   000866F0   00000008   00077904
           HYDRO                      420760A0   00077810   00000007   00000000
           MAIN                       00008858   000757C8   00AEC3F0   00074FF0
ENTRY POINT=  000757C8
STANDARD FIXUP TAKEN , EXECUTION CONTINUING
IHO2621 DEXP ARG= 0.1949331608486570D+03, GT 174.673
TRACEBACK  ROUTINE  CALLED FROM ISN   REG.  14   REG.  15   REG.   0   REG.   1
           DEXP                       5208AA8A   000947B0   00000000   0008A9F4
           EXPF                       5208A6A6   0008A980   00000000   0008A3FC
           OCTBRN                     52088814   0008A388   00086B58   0008875C
           PICKES                     42087CAA   000886C0   00086B58   00086914
           STATE                      62078698   000866F0   00000008   00077904
           HYDRO                      420760A0   00077810   00000007   00000000
           MAIN                       00008858   000757C8   00AEC3F0   00074FF0
ENTRY POINT=  000757C8
STANDARD FIXUP TAKEN , EXECUTION CONTINUING
   CYCLE     2   TIME 4.6579E-08  DT 6.972E-08   IDT    2  JDT    6
IN EOS, J =   6 FORMING DPDTAU
```

```
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IN EOS, J =   6 FORMING DPDTAU
IHD262I DEXP ARG= 0.197745917804321000+03, GT 174.673
TRACEBACK  ROUTINE  CALLED FROM ISN   REG. 14   REG. 15   REG.  0   REG.  1
           DEXP                       5208AA8A  000947B0  00000000  0008A9F4
           EXPF                       5208A6A6  0008A980  00000000  0008A3FC
           OCTBRN                     52088814  0008A388  00086B58  0008875C
           PICKES                     52087CAA  000886C0  00086B58  00086914
           STATE                      62078698  000866F0  00000008  00077904
           HYDRO                      420760A0  00077810  00000006  00000000
           MAIN                       00008858  000757C8  00AEC3F0  00074FF0
ENTRY POINT=  000757C8
STANDARD FIXUP TAKEN , EXECUTION CONTINUING
IN EOS, J =  70 FORMING DPDTAU
IN EOS, J =  71 FORMING DPDTAU
IN EOS, J =  72 FORMING DPDTAU
IN EOS, J =  73 FORMING DPDTAU
IN EOS, J =  73 FORMING DPDTAU
IN EOS, J =  73 FORMING DPDTAU
   CYCLE     3   TIME 1.1629E-07  DT 9.284E-08   IDT    1  JDT    5
   CYCLE     4   TIME 2.0913E-07  DT 1.155E-07   IDT    1  JDT    5
   CYCLE     5   TIME 3.2466E-07  DT 1.372E-07   IDT    1  JDT    5
   CYCLE     6   TIME 4.6186E-07  DT 1.573E-07   IDT    1  JDT    5
   CYCLE     7   TIME 6.1914E-07  DT 1.754E-07   IDT    1  JDT    5
   CYCLE     8   TIME 7.9457E-07  DT 1.130E-07   IDT    1  JDT    5
   CYCLE     9   TIME 9.0756E-07  DT 9.244E-08   IDT    1  JDT    5
   CYCLE    10   TIME 1.0000E-06  DT 2.085E-07   IDT    1  JDT    5


**********
**********

PROB    4.0130     CYCLE    10     TIME  9.999994E-07     DT  2.084519E-07


     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH              REL ERROR
   1.95086978     E+13    3.30290842     E+09    1.95119861     E+13    1.95119525     E+13    1.71968746     E+00

                                                    TOTAL MASS              MTH              RELMERR
                                                  7.36718750     E+03    7.36719141     E+03   -5.30222774     E-01
```

MAX VEL = 7.77756E+04 AT I 2 J 8

MAX CS = 5.72753E+05 AT I 1 J 5

MAX TEMP= 2.24737E+03 AT I 3 J 6

MAX P = 8.81999E+10 AT I 1 J 9

CELL SETTING DT, I 1 J 5

TOTAL TIME FOR THIS PROBLEM 0 HOURS, 2 MIN, 36 SEC

TIME FOR THIS RUN 0 HOURS, 2 MIN, 36 SEC
WHIZ FACTOR TOTAL PROBLEM = 2.58E-03 SEC/CELL/CYCLE
WHIZ FACTOR SINCE LAST DUMP = 2.66E-03 SEC/CELL/CYCLE

I= 1 X(I)= 0.250 DX(I)= 0.250 J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.78E+01	2.50E-01	1	6.01319E-05		
2	1.013E+06	3.65E-02	-1.50E+01	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+01	2.50E-01	1	6.01439E-05		
3	1.069E+06	9.54E+01	-7.73E+02	2.074E+09	1.274E-03	0.0	0.0	0.0	-1.73E+01	2.50E-01	1	6.25497E-05		
4	1.016E+06	4.43E+03	-2.69E+04	2.925E+09	1.219E-01	5.74E+08	-1.87E+09	0.0	-1.70E+01	2.50E-01	1	5.71857E-05	4	5.92528E-03
5	3.247E+10	7.01E+03	-2.64E+04	2.968E+09	2.815E+00	5.92E+08	-1.80E+09	4.73E+08	-1.68E+01	2.50E-01	4	1.38165E-01		
6	2.141E+10	9.34E+03	-5.68E+04	4.426E+09	2.448E+00	0.0	0.0	0.0	-1.65E+01	2.50E-01	3	7.48110E-03	4	1.12707E-01
7	2.458E+10	2.06E+04	-2.83E+04	2.673E+10	1.002E+00	0.0	0.0	0.0	-1.63E+01	2.50E-01	3	4.91822E-02		
8	6.350E+10	4.64E+04	5.63E+04	4.554E+10	1.383E+00	0.0	0.0	0.0	-1.60E+01	2.50E-01	3	6.79113E-02		
9	1.179E+11	1.99E+04	6.07E+04	3.888E+10	1.901E+00	9.97E+02	-1.27E+03	0.0	-1.58E+01	2.50E-01	2	2.98953E-02	3	6.34148E-02
10	7.763E+09	2.02E+03	2.18E+04	3.172E+09	1.927E+00	8.34E+02	-1.21E+03	-4.28E+02	-1.55E+01	2.50E-01	2	9.45803E-02		
11	1.156E+09	1.27E+02	1.72E+03	2.625E+09	1.836E+00	7.13E+02	-1.32E+03	-1.76E+02	-1.53E+01	2.50E-01	2	9.01434E-02		
12	9.556E+07	1.09E+01	1.36E+02	2.615E+09	1.821E+00	7.47E+02	-1.32E+03	-1.27E+02	-1.50E+01	2.50E-01	2	8.94049E-02		
13	7.204E+06	4.48E-01	1.16E+01	2.615E+09	1.820E+00	8.20E+02	-1.30E+03	-1.68E+02	-1.48E+01	2.50E-01	2	8.93434E-02		
14	1.013E+06	1.00E-06	4.92E-01	2.615E+09	1.820E+00	7.68E+02	-1.33E+03	-5.54E+01	-1.45E+01	2.50E-01	2	8.93390E-02		
15	1.013E+06	0.0	4.47E-08	2.615E+09	1.820E+00	1.54E-03	-1.15E+03	-7.66E-04	-1.43E+01	2.50E-01	2	8.93388E-02		
16	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	-8.44E-05	0.0	-1.40E+01	2.50E-01	2	8.93388E-02		
17	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.38E+01	2.50E-01	2	8.93388E-02		
18	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.35E+01	2.50E-01	2	8.93388E-02		
19	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.33E+01	2.50E-01	2	8.93388E-02		
20	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.30E+01	2.50E-01	2	8.93388E-02		
21	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.28E+01	2.50E-01	2	8.93388E-02		
22	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.25E+01	2.50E-01	2	8.93388E-02		
23	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.23E+01	2.50E-01	2	8.93388E-02		
24	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.20E+01	2.50E-01	2	8.93388E-02		
25	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.18E+01	2.50E-01	2	8.93388E-02		
26	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.15E+01	2.50E-01	2	8.93388E-02		
27	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.13E+01	2.50E-01	2	8.93388E-02		
28	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.10E+01	2.50E-01	2	8.93388E-02		
29	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.08E+01	2.50E-01	2	8.93388E-02		

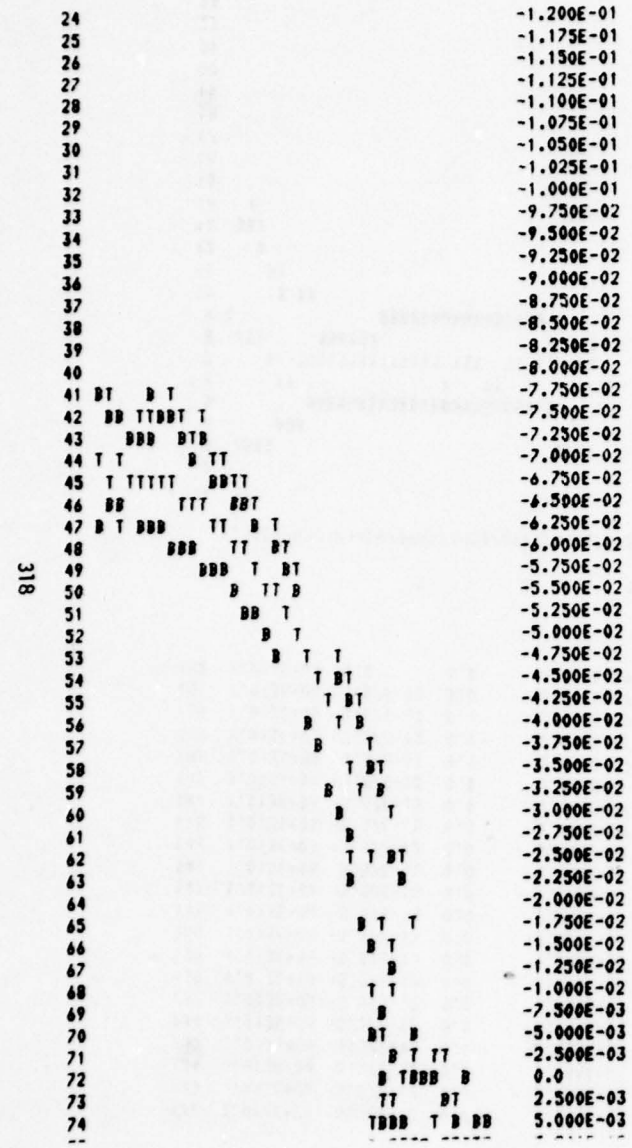
30	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.05E+01	2.50E-01	2	8.93388E-02	
31	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.03E+01	2.50E-01	2	8.93388E-02	
32	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.00E+01	2.50E-01	2	8.93388E-02	
33	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.75E+00	2.50E-01	2	8.93388E-02	
34	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.50E+00	2.50E-01	2	8.93388E-02	
35	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.25E+00	2.50E-01	2	8.93388E-02	
36	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.00E+00	2.50E-01	2	8.93388E-02	
37	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.75E+00	2.50E-01	2	8.93388E-02	
38	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.50E+00	2.50E-01	2	8.93388E-02	
39	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.25E+00	2.50E-01	2	8.93388E-02	
40	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	1.15E+03	0.0	-8.00E+00	2.50E-01	2	8.93388E-02	
41	1.013E+06	0.0	2.68E-02	2.615E+09	1.820E+00	-1.11E-09	1.15E+03	-3.01E+00	-7.75E+00	2.50E-01	2	8.93384E-02	
42	1.013E+06	0.0	6.52E-01	2.615E+09	1.820E+00	1.23E-07	1.13E+03	-2.26E+02	-7.50E+00	2.50E-01	2	8.93384E-02	
43	7.542E+05	-1.23E-01	6.22E-01	2.716E+09	2.710E+00	6.44E+02	-1.33E+03	0.0	-7.25E+00	2.50E-01	2	1.55897E-07	4 1.33026E-01
44	7.264E+05	-5.44E-02	-1.08E+00	2.716E+09	2.710E+00	5.21E-04	-4.52E-03	0.0	-7.00E+00	2.50E-01	1	1.77566E-10	4 1.33026E-01
45	1.013E+06	-4.84E-10	-1.02E+00	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.75E+00	2.50E-01	1	6.01317E-05	
46	1.013E+06	-2.51E-03	-2.49E-03	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.50E+00	2.50E-01	1	6.01318E-05	
47	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.25E+00	2.50E-01	1	6.01319E-05	
48	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.00E+00	2.50E-01	1	6.01319E-05	
49	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.75E+00	2.50E-01	1	6.01319E-05	
50	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.50E+00	2.50E-01	1	6.01319E-05	
51	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.25E+00	2.50E-01	1	6.01319E-05	
52	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E+00	2.50E-01	1	6.01319E-05	
53	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.75E+00	2.50E-01	1	6.01319E-05	
54	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.50E+00	2.50E-01	1	6.01319E-05	
55	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.25E+00	2.50E-01	1	6.01319E-05	
56	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.00E+00	2.50E-01	1	6.01319E-05	
57	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.75E+00	2.50E-01	1	6.01319E-05	
58	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.50E+00	2.50E-01	1	6.01319E-05	
59	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.25E+00	2.50E-01	1	6.01319E-05	
60	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.00E+00	2.50E-01	1	6.01319E-05	
61	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.75E+00	2.50E-01	1	6.01319E-05	
62	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E+00	2.50E-01	1	6.01319E-05	
63	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.25E+00	2.50E-01	1	6.01319E-05	
64	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.00E+00	2.50E-01	1	6.01319E-05	
65	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+00	2.50E-01	1	6.01319E-05	
66	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.50E+00	2.50E-01	1	6.01319E-05	
67	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.25E+00	2.50E-01	1	6.01319E-05	
68	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.00E+00	2.50E-01	1	6.01319E-05	
69	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-7.50E-01	2.50E-01	1	6.01319E-05	
70	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E-01	2.50E-01	1	6.01319E-05	
71	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E-01	2.50E-01	1	6.01319E-05	
72	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	0.0	2.50E-01	1	6.01319E-05	
73	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E-01	2.50E-01	1	6.01319E-05	
74	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E-01	2.50E-01	1	6.01319E-05	
75	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E-01	2.50E-01	1	6.01319E-05	
76	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+00	2.50E-01	1	6.01319E-05	
77	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+00	2.50E-01	1	6.01319E-05	
78	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+00	2.50E-01	1	6.01319E-05	
79	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+00	2.50E-01	1	6.01319E-05	
80	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+00	2.50E-01	1	6.01319E-05	

81	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.25E+00	2.50E-01	1	6.01319E-05
82	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E+00	2.50E-01	1	6.01319E-05
83	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.75E+00	2.50E-01	1	6.01319E-05
84	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.00E+00	2.50E-01	1	6.01319E-05
85	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.25E+00	2.50E-01	1	6.01319E-05
86	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.50E+00	2.50E-01	1	6.01319E-05
87	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.75E+00	2.50E-01	1	6.01319E-05
88	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.00E+00	2.50E-01	1	6.01319E-05
89	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.25E+00	2.50E-01	1	6.01319E-05
90	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.50E+00	2.50E-01	1	6.01319E-05
91	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.75E+00	2.50E-01	1	6.01319E-05
92	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E+00	2.50E-01	1	6.01319E-05
93	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.25E+00	2.50E-01	1	6.01319E-05
94	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.50E+00	2.50E-01	1	6.01319E-05
95	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.75E+00	2.50E-01	1	6.01319E-05
96	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.00E+00	2.50E-01	1	6.01319E-05
97	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.25E+00	2.50E-01	1	6.01319E-05
98	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.50E+00	2.50E-01	1	6.01319E-05
99	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.75E+00	2.50E-01	1	6.01319E-05
100	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.00E+00	2.50E-01	1	6.01319E-05
101	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.25E+00	2.50E-01	1	6.01319E-05
102	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E+00	2.50E-01	1	6.01319E-05
103	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.75E+00	2.50E-01	1	6.01319E-05
104	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.00E+00	2.50E-01	1	6.01319E-05
105	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.25E+00	2.50E-01	1	6.01319E-05
106	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.50E+00	2.50E-01	1	6.01319E-05
107	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.75E+00	2.50E-01	1	6.01319E-05
108	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.00E+00	2.50E-01	1	6.01319E-05
109	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.25E+00	2.50E-01	1	6.01319E-05
110	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.50E+00	2.50E-01	1	6.01319E-05
111	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.75E+00	2.50E-01	1	6.01319E-05
112	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+01	2.50E-01	1	6.01319E-05
113	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.03E+01	2.50E-01	1	6.01319E-05
114	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.05E+01	2.50E-01	1	6.01319E-05
115	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.08E+01	2.50E-01	1	6.01319E-05
116	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.10E+01	2.50E-01	1	6.01319E-05
117	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.13E+01	2.50E-01	1	6.01319E-05
118	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.15E+01	2.50E-01	1	6.01319E-05
119	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.18E+01	2.50E-01	1	6.01319E-05
120	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.20E+01	2.50E-01	1	6.01319E-05
121	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.23E+01	2.50E-01	1	6.01319E-05
122	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+01	2.50E-01	1	6.01319E-05
123	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.28E+01	2.50E-01	1	6.01319E-05
124	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.30E+01	2.50E-01	1	6.01319E-05
125	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.33E+01	2.50E-01	1	6.01319E-05
126	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.35E+01	2.50E-01	1	6.01319E-05
127	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.38E+01	2.50E-01	1	6.01319E-05
128	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.40E+01	2.50E-01	1	6.01319E-05
129	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.43E+01	2.50E-01	1	6.01319E-05
130	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.45E+01	2.50E-01	1	6.01319E-05
131	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.48E+01	2.50E-01	1	6.01319E-05

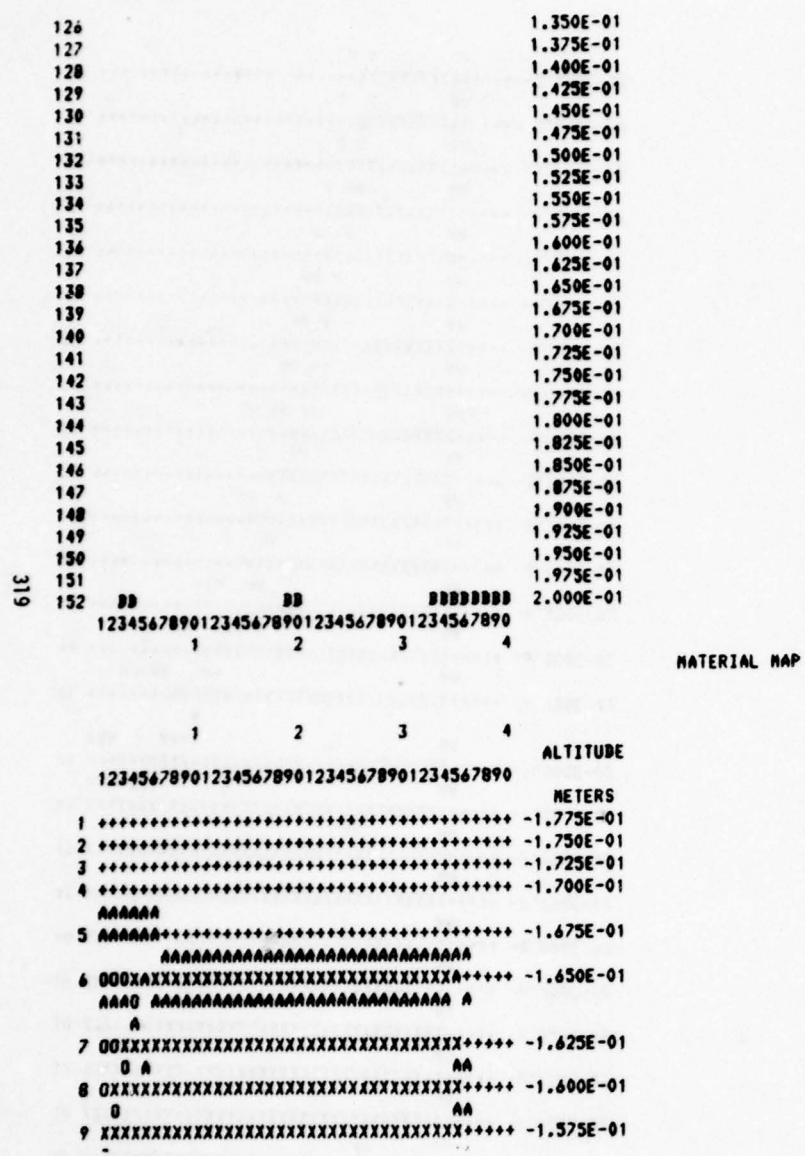
132	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+01	2.50E-01	1 6.01319E-05
133	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.53E+01	2.50E-01	1 6.01319E-05
134	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.55E+01	2.50E-01	1 6.01319E-05
135	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.58E+01	2.50E-01	1 6.01319E-05
136	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.60E+01	2.50E-01	1 6.01319E-05
137	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.63E+01	2.50E-01	1 6.01319E-05
138	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.65E+01	2.50E-01	1 6.01319E-05
139	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.68E+01	2.50E-01	1 6.01319E-05
140	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.70E+01	2.50E-01	1 6.01319E-05
141	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.73E+01	2.50E-01	1 6.01319E-05
142	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+01	2.50E-01	1 6.01319E-05
143	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.78E+01	2.50E-01	1 6.01319E-05
144	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.80E+01	2.50E-01	1 6.01319E-05
145	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.83E+01	2.50E-01	1 6.01319E-05
146	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.85E+01	2.50E-01	1 6.01319E-05
147	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.88E+01	2.50E-01	1 6.01319E-05
148	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.90E+01	2.50E-01	1 6.01319E-05
149	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.93E+01	2.50E-01	1 6.01319E-05
150	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.95E+01	2.50E-01	1 6.01319E-05
151	1.013E+06	-5.57E-12	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.98E+01	2.50E-01	1 6.01319E-05
152	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+01	2.50E-01	1 6.01319E-05

ENERGY MAP

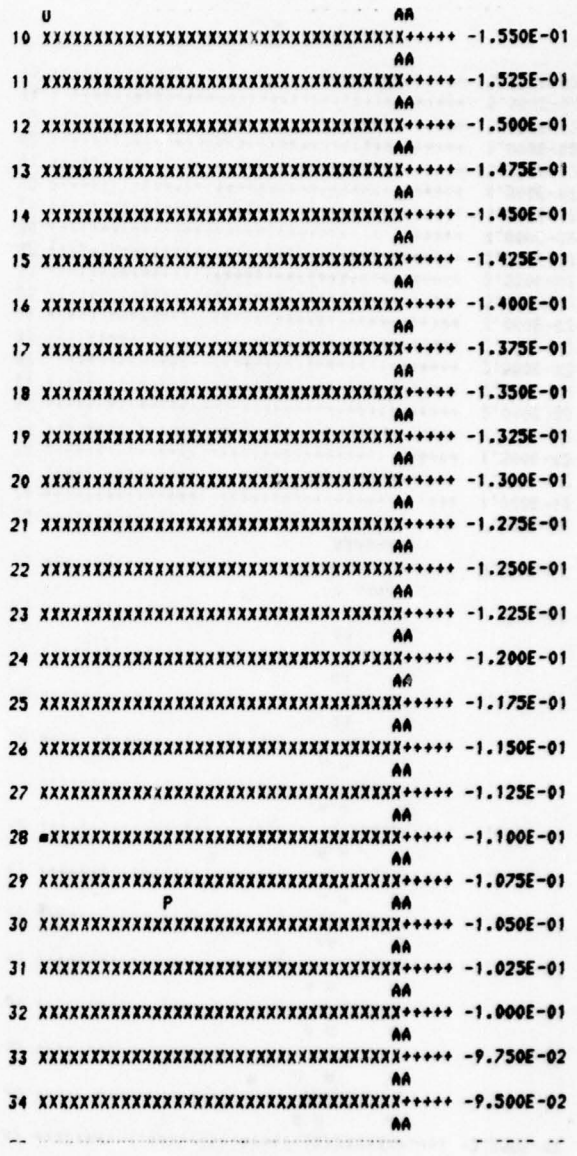
```
          1         2         3         4
                                                ALTITUDE
 1234567890123456789012345678901234567890

                                                METERS
 1                                             -1.775E-01
 2                                             -1.750E-01
 3  BBBB                              BBBB     -1.725E-01
 4      BBB                                    -1.700E-01
 5         BBBBBBBBBBBBBBBBBBBBBBBB    BB     -1.675E-01
 6      TT              T   TT  T  T TTTT     -1.650E-01
 7     T  TTTTTTTTTTTTTT TTT  TT TT TBB       -1.625E-01
 8  TTT     BBBBBB               B B T        -1.600E-01
 9 T              BBBBBBBBBBBBBBBB B          -1.575E-01
10      B BB                      T           -1.550E-01
11     BT                                     -1.525E-01
12    B                                       -1.500E-01
13  BBT                                       -1.475E-01
14   T                                        -1.450E-01
15                                            -1.425E-01
16                                            -1.400E-01
17                                            -1.375E-01
18                                            -1.350E-01
19                                            -1.325E-01
20                                            -1.300E-01
21                                            -1.275E-01
22                                            -1.250E-01
23                                            -1.225E-01
```

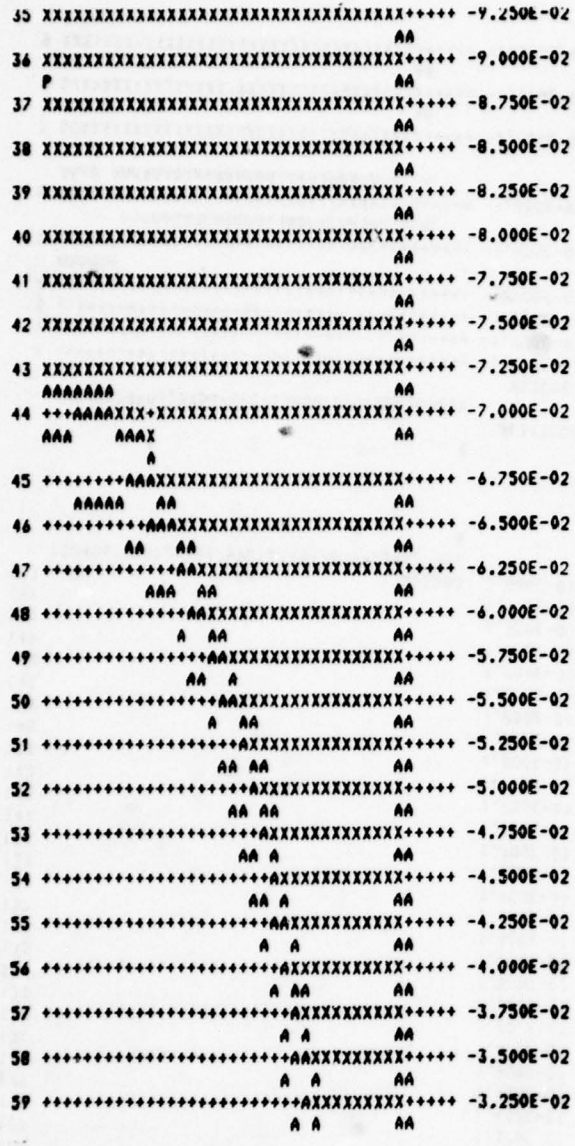


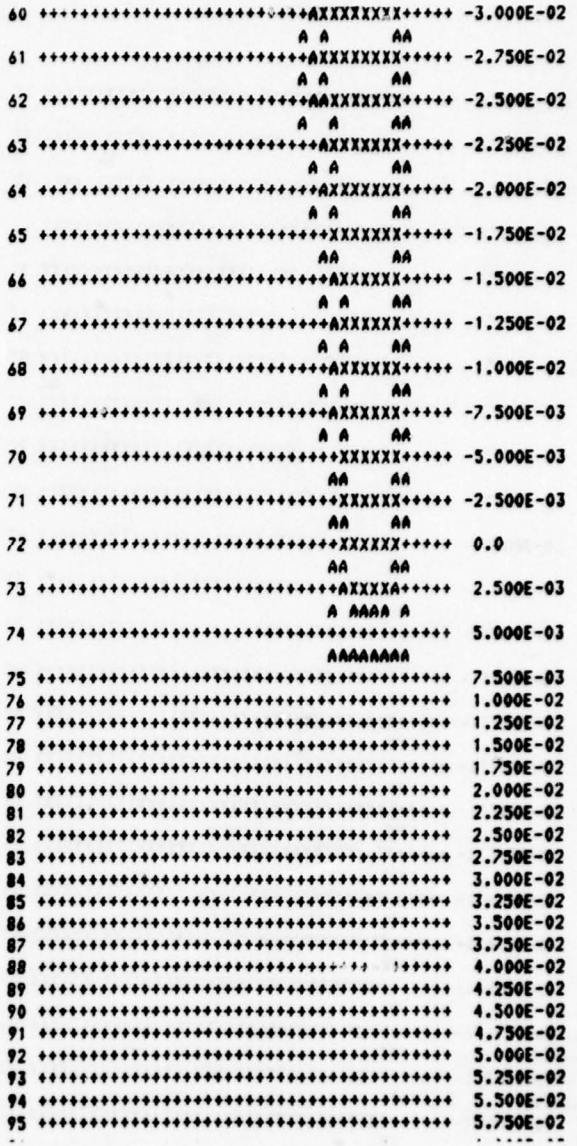
24	-1.200E-01
25	-1.175E-01
26	-1.150E-01
27	-1.125E-01
28	-1.100E-01
29	-1.075E-01
30	-1.050E-01
31	-1.025E-01
32	-1.000E-01
33	-9.750E-02
34	-9.500E-02
35	-9.250E-02
36	-9.000E-02
37	-8.750E-02
38	-8.500E-02
39	-8.250E-02
40	-8.000E-02
41	-7.750E-02
42	-7.500E-02
43	-7.250E-02
44	-7.000E-02
45	-6.750E-02
46	-6.500E-02
47	-6.250E-02
48	-6.000E-02
49	-5.750E-02
50	-5.500E-02
51	-5.250E-02
52	-5.000E-02
53	-4.750E-02
54	-4.500E-02
55	-4.250E-02
56	-4.000E-02
57	-3.750E-02
58	-3.500E-02
59	-3.250E-02
60	-3.000E-02
61	-2.750E-02
62	-2.500E-02
63	-2.250E-02
64	-2.000E-02
65	-1.750E-02
66	-1.500E-02
67	-1.250E-02
68	-1.000E-02
69	-7.500E-03
70	-5.000E-03
71	-2.500E-03
72	0.0
73	2.500E-03
74	5.000E-03
75	7.500E-03
76	1.000E-02
77	1.250E-02
78	1.500E-02
79	1.750E-02
80	2.000E-02
81	2.250E-02
82	2.500E-02
83	2.750E-02
84	3.000E-02
85	3.250E-02
86	3.500E-02
87	3.750E-02
88	4.000E-02
89	4.250E-02
90	4.500E-02
91	4.750E-02
92	5.000E-02
93	5.250E-02
94	5.500E-02
95	5.750E-02
96	6.000E-02
97	6.250E-02
98	6.500E-02
99	6.750E-02
100	7.000E-02
101	7.250E-02
102	7.500E-02
103	7.750E-02
104	8.000E-02
105	8.250E-02
106	8.500E-02
107	8.750E-02
108	9.000E-02
109	9.250E-02
110	9.500E-02
111	9.750E-02
112	1.000E-01
113	1.025E-01
114	1.050E-01
115	1.075E-01
116	1.100E-01
117	1.125E-01
118	1.150E-01
119	1.175E-01
120	1.200E-01
121	1.225E-01
122	1.250E-01
123	1.275E-01
124	1.300E-01
125	1.325E-01

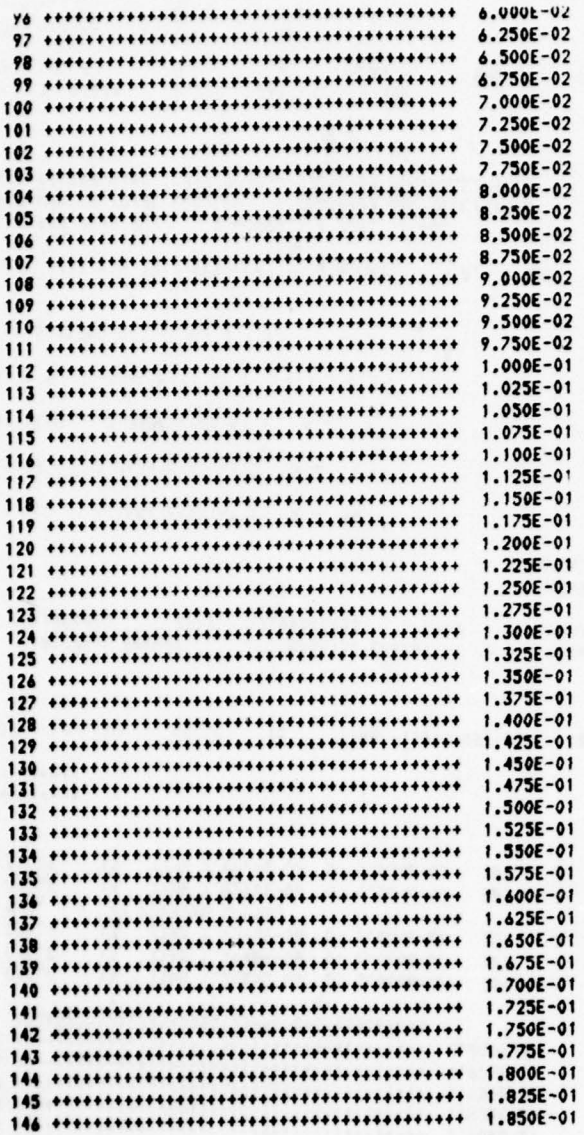


MATERIAL MAP




35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02


60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.0
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02


96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01

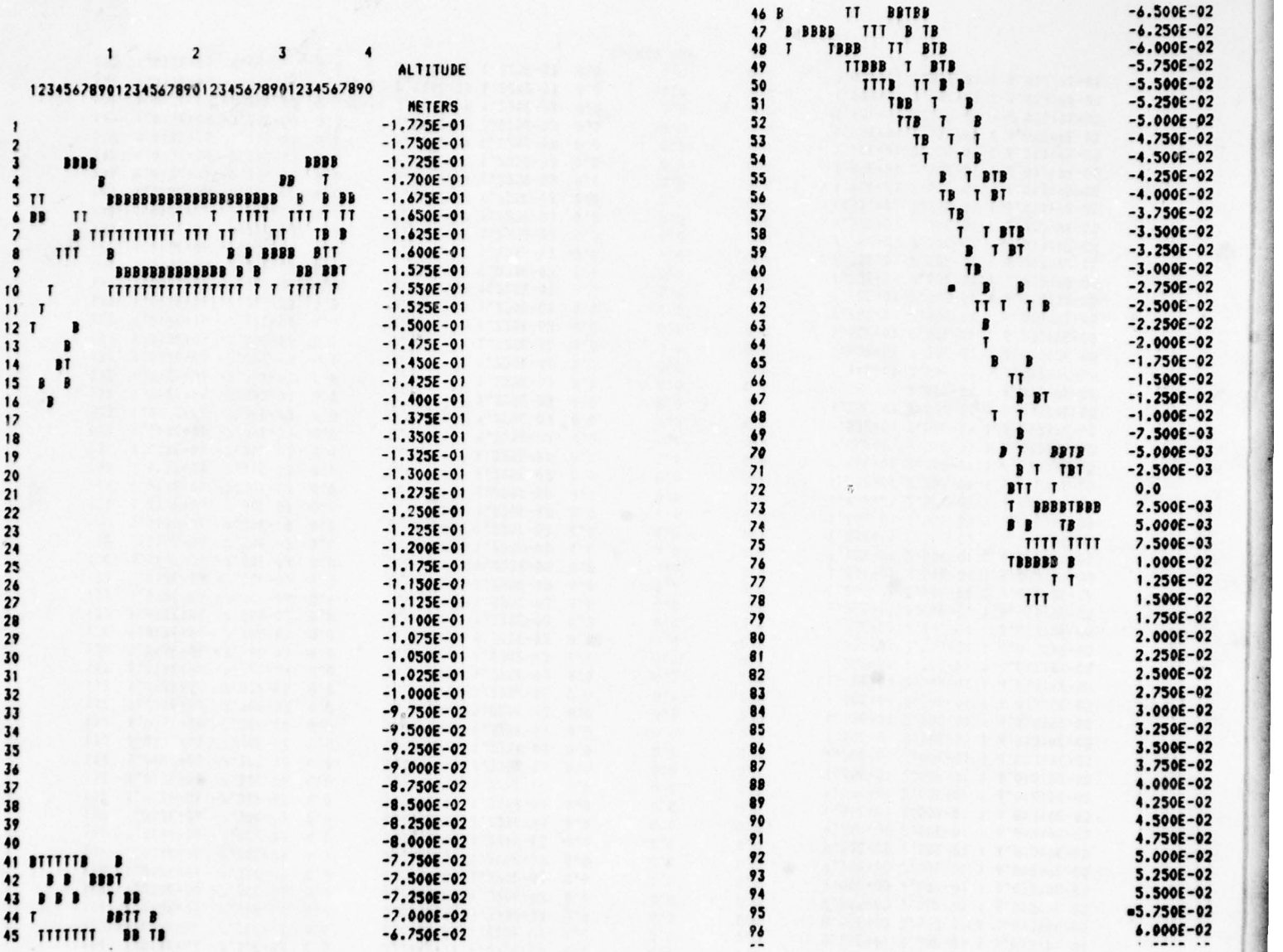
```
147 ++++++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++++++  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    11   TIME 1.2085E-06  DT 2.063E-07   IDT    1  JDT    5
   CYCLE    12   TIME 1.4148E-06  DT 2.066E-07   IDT    1  JDT    5
   CYCLE    13   TIME 1.6213E-06  DT 2.083E-07   IDT    2  JDT    5
IN EOS, J =  44 FORMING DPDTAU
   CYCLE    14   TIME 1.8296E-06  DT 1.704E-07   IDT    2  JDT    5
   CYCLE    15   TIME 2.0000E-06  DT 2.034E-07   IDT    2  JDT    5


**********
**********

PROB    4.0130     CYCLE    15     TIME  1.999999E-06     DT  2.034494E-07


     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY                ETH                  REL ERROR
   1.96498445      E+13    2.06516183      E+10    1.96704805      E+13    1.96706147      E+13    -8.52907085      E+00

                                                      TOTAL MASS                  MTH                  RELMERR
                                                   7.36718750      E+03    7.36719141      E+03    0.0

MAX VEL =  1.11062E+05 AT I   2 J  10

MAX CS =   5.76341E+05 AT I   3 J   5

MAX TEMP=   2.26742E+03 AT I   4 J   7

MAX P =   1.38419E+11 AT I   4 J   7

CELL SETTING DT, I   2 J   5


TOTAL TIME FOR THIS PROBLEM     0 HOURS,  4 MIN,  1 SEC

TIME FOR THIS RUN     0 HOURS,  4 MIN,  1 SEC
UNIZ FACTOR TOTAL PROBLEM   = 2.65E-03 SEC/CELL/CYCLE
UNIZ FACTOR SINCE LAST DUMP = 2.75E-03 SEC/CELL/CYCLE


I=   1  X(I)=     0.250   DX(I)=    0.250
 J       P          U          V          XI         RHO        SRR        SZZ        SRZ        Y          DY     M      XM     M      XM
```

1	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.78E+01	2.50E-01	1	6.01319E-05	
2	1.025E+06	8.65E+00	-3.14E+02	2.052E+09	1.235E-03	0.0	0.0	0.0	-1.75E+01	2.50E-01	1	6.06337E-05	
3	1.380E+06	7.30E+02	-7.66E+03	2.322E+09	1.474E-03	0.0	0.0	0.0	-1.73E+01	2.50E-01	1	7.23747E-05	
4	9.586E+05	1.36E+03	-5.18E+04	2.829E+09	5.900E-01	1.21E+09	-1.90E+09	0.0	-1.70E+01	2.50E-01	1	4.44696E-05	4 2.89147E-02
5	9.833E+09	-1.72E+03	-4.98E+04	2.733E+09	2.743E+00	1.24E+09	-1.15E+09	1.17E+09	-1.68E+01	2.50E-01	4	1.34666E-01	
6	1.479E+10	1.76E+03	-5.50E+04	6.349E+09	1.913E+00	0.0	0.0	0.0	-1.65E+01	2.50E-01	3	1.63471E-02	4 7.75453E-02
7	1.982E+10	-2.36E+04	-5.78E+04	2.250E+10	9.336E-01	0.0	0.0	0.0	-1.63E+01	2.50E-01	3	4.58279E-02	
8	2.211E+10	-2.01E+04	-4.25E+04	2.921E+10	9.323E-01	0.0	0.0	0.0	-1.60E+01	2.50E-01	3	4.57635E-02	
9	2.844E+10	-1.65E+02	-7.87E+03	2.924E+10	1.055E+00	0.0	0.0	0.0	-1.58E+01	2.50E-01	3	5.18022E-02	
10	6.374E+10	4.33E+04	6.90E+04	4.177E+10	1.402E+00	0.0	0.0	0.0	-1.55E+01	2.50E-01	3	6.88363E-02	
11	1.291E+11	2.44E+04	8.50E+04	4.465E+10	1.886E+00	1.03E+03	-1.25E+03	0.0	-1.53E+01	2.50E-01	2	2.00375E-02	3 7.25515E-02
12	1.351E+10	3.77E+03	3.00E+04	3.693E+09	1.996E+00	8.46E+02	-1.25E+03	-3.44E+02	-1.50E+01	2.50E-01	2	9.79974E-02	
13	2.186E+09	2.80E+02	3.29E+03	2.645E+09	1.851E+00	7.83E+02	-1.30E+03	-2.27E+02	-1.48E+01	2.50E-01	2	9.08576E-02	
14	2.259E+08	2.59E+01	3.00E+02	2.615E+09	1.823E+00	8.02E+02	-1.31E+03	-1.60E+02	-1.45E+01	2.50E-01	2	8.94958E-02	
15	2.132E+07	1.88E+00	2.95E+01	2.615E+09	1.820E+00	9.00E+02	-1.28E+03	-1.73E+02	-1.43E+01	2.50E-01	2	8.93532E-02	
16	2.414E+06	3.84E-02	2.12E+00	2.615E+09	1.820E+00	9.43E+02	-1.28E+03	-1.13E+02	-1.40E+01	2.50E-01	2	8.93400E-02	
17	1.013E+06	2.84E-08	4.83E-02	2.615E+09	1.820E+00	5.79E+02	-1.33E+03	-2.07E+00	-1.38E+01	2.50E-01	2	8.93388E-02	
18	1.013E+06	0.0	7.95E-10	2.615E+09	1.820E+00	7.85E-05	-3.40E+01	-2.89E-07	-1.35E+01	2.50E-01	2	8.93388E-02	
19	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	-1.77E-08	0.0	-1.33E+01	2.50E-01	2	8.93388E-02	
20	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.30E+01	2.50E-01	2	8.93388E-02	
21	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.28E+01	2.50E-01	2	8.93388E-02	
22	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.25E+01	2.50E-01	2	8.93388E-02	
23	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.23E+01	2.50E-01	2	8.93388E-02	
24	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.20E+01	2.50E-01	2	8.93388E-02	
25	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.18E+01	2.50E-01	2	8.93388E-02	
26	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.15E+01	2.50E-01	2	8.93388E-02	
27	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.13E+01	2.50E-01	2	8.93388E-02	
28	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.10E+01	2.50E-01	2	8.93388E-02	
29	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.08E+01	2.50E-01	2	8.93388E-02	
30	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.05E+01	2.50E-01	2	8.93388E-02	
31	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.03E+01	2.50E-01	2	8.93388E-02	
32	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.00E+01	2.50E-01	2	8.93388E-02	
33	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.75E+00	2.50E-01	2	8.93388E-02	
34	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.50E+00	2.50E-01	2	8.93388E-02	
35	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.25E+00	2.50E-01	2	8.93388E-02	
36	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.00E+00	2.50E-01	2	8.93388E-02	
37	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.75E+00	2.50E-01	2	8.93388E-02	
38	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.50E+00	2.50E-01	2	8.93388E-02	
39	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	2.67E-07	2.61E+02	1.46E+02	-8.25E+00	2.50E-01	2	8.93388E-02	
40	1.013E+06	4.16E-03	5.98E-03	2.615E+09	1.820E+00	4.70E+01	1.13E+03	1.70E+01	-8.00E+00	2.50E-01	2	8.93388E-02	
41	1.013E+06	3.82E-03	8.31E-02	2.615E+09	1.820E+00	1.11E+01	1.15E+03	-4.29E+01	-7.75E+00	2.50E-01	2	8.93381E-02	
42	1.013E+06	3.86E-03	2.80E-02	2.615E+09	1.820E+00	5.27E+00	1.01E+03	-5.53E+02	-7.50E+00	2.50E-01	2	8.93381E-02	
43	3.223E+06	-2.47E-01	5.93E-01	2.716E+09	2.710E+00	-2.71E+02	-9.95E+02	0.0	-7.25E+00	2.50E-01	2	3.66493E-07	4 1.33027E-01
44	1.065E+06	-8.48E-02	-6.77E-01	2.716E+09	2.710E+00	9.41E-04	-8.16E-03	0.0	-7.00E+00	2.50E-01	1	4.26592E-10	4 1.33026E-01
45	1.013E+06	-1.04E-02	-1.16E+00	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.75E+00	2.50E-01	1	6.01315E-05	
46	1.013E+06	-1.14E-02	-1.53E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.50E+00	2.50E-01	1	6.01316E-05	
47	1.013E+06	-7.30E-03	-8.26E-03	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.25E+00	2.50E-01	1	6.01319E-05	
48	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.00E+00	2.50E-01	1	6.01319E-05	
49	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.75E+00	2.50E-01	1	6.01319E-05	
50	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.50E+00	2.50E-01	1	6.01319E-05	
51	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.25E+00	2.50E-01	1	6.01319E-05	

52	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E+00	2.50E-01	1	6.01319E-05
53	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.75E+00	2.50E-01	1	6.01319E-05
54	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.50E+00	2.50E-01	1	6.01319E-05
55	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.25E+00	2.50E-01	1	6.01319E-05
56	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.00E+00	2.50E-01	1	6.01319E-05
57	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.75E+00	2.50E-01	1	6.01319E-05
58	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.50E+00	2.50E-01	1	6.01319E-05
59	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.25E+00	2.50E-01	1	6.01319E-05
60	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.00E+00	2.50E-01	1	6.01319E-05
61	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.75E+00	2.50E-01	1	6.01319E-05
62	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E+00	2.50E-01	1	6.01319E-05
63	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.25E+00	2.50E-01	1	6.01319E-05
64	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.00E+00	2.50E-01	1	6.01319E-05
65	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+00	2.50E-01	1	6.01319E-05
66	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.50E+00	2.50E-01	1	6.01319E-05
67	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.25E+00	2.50E-01	1	6.01319E-05
68	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.00E+00	2.50E-01	1	6.01319E-05
69	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-7.50E-01	2.50E-01	1	6.01319E-05
70	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E-01	2.50E-01	1	6.01319E-05
71	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E-01	2.50E-01	1	6.01319E-05
72	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	0.0	2.50E-01	1	6.01319E-05
73	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E-01	2.50E-01	1	6.01319E-05
74	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E-01	2.50E-01	1	6.01319E-05
75	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E-01	2.50E-01	1	6.01319E-05
76	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+00	2.50E-01	1	6.01319E-05
77	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+00	2.50E-01	1	6.01319E-05
78	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+00	2.50E-01	1	6.01319E-05
79	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+00	2.50E-01	1	6.01319E-05
80	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+00	2.50E-01	1	6.01319E-05
81	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.25E+00	2.50E-01	1	6.01319E-05
82	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E+00	2.50E-01	1	6.01319E-05
83	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.75E+00	2.50E-01	1	6.01319E-05
84	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.00E+00	2.50E-01	1	6.01319E-05
85	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.25E+00	2.50E-01	1	6.01319E-05
86	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.50E+00	2.50E-01	1	6.01319E-05
87	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.75E+00	2.50E-01	1	6.01319E-05
88	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.00E+00	2.50E-01	1	6.01319E-05
89	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.25E+00	2.50E-01	1	6.01319E-05
90	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.50E+00	2.50E-01	1	6.01319E-05
91	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.75E+00	2.50E-01	1	6.01319E-05
92	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E+00	2.50E-01	1	6.01319E-05
93	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.25E+00	2.50E-01	1	6.01319E-05
94	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.50E+00	2.50E-01	1	6.01319E-05
95	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.75E+00	2.50E-01	1	6.01319E-05
96	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.00E+00	2.50E-01	1	6.01319E-05
97	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.25E+00	2.50E-01	1	6.01319E-05
98	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.50E+00	2.50E-01	1	6.01319E-05
99	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.75E+00	2.50E-01	1	6.01319E-05
100	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.00E+00	2.50E-01	1	6.01319E-05
101	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.25E+00	2.50E-01	1	6.01319E-05
102	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E+00	2.50E-01	1	6.01319E-05

103	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.75E+00	2.50E-01	1 6.01319E-05
104	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.00E+00	2.50E-01	1 6.01319E-05
105	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.25E+00	2.50E-01	1 6.01319E-05
106	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.50E+00	2.50E-01	1 6.01319E-05
107	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.75E+00	2.50E-01	1 6.01319E-05
108	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.00E+00	2.50E-01	1 6.01319E-05
109	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.25E+00	2.50E-01	1 6.01319E-05
110	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.50E+00	2.50E-01	1 6.01319E-05
111	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.75E+00	2.50E-01	1 6.01319E-05
112	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+01	2.50E-01	1 6.01319E-05
113	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.03E+01	2.50E-01	1 6.01319E-05
114	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.05E+01	2.50E-01	1 6.01319E-05
115	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.08E+01	2.50E-01	1 6.01319E-05
116	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.10E+01	2.50E-01	1 6.01319E-05
117	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.13E+01	2.50E-01	1 6.01319E-05
118	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.15E+01	2.50E-01	1 6.01319E-05
119	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.18E+01	2.50E-01	1 6.01319E-05
120	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.20E+01	2.50E-01	1 6.01319E-05
121	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.23E+01	2.50E-01	1 6.01319E-05
122	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+01	2.50E-01	1 6.01319E-05
123	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.28E+01	2.50E-01	1 6.01319E-05
124	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.30E+01	2.50E-01	1 6.01319E-05
125	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.33E+01	2.50E-01	1 6.01319E-05
126	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.35E+01	2.50E-01	1 6.01319E-05
127	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.38E+01	2.50E-01	1 6.01319E-05
128	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.40E+01	2.50E-01	1 6.01319E-05
129	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.43E+01	2.50E-01	1 6.01319E-05
130	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.45E+01	2.50E-01	1 6.01319E-05
131	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.48E+01	2.50E-01	1 6.01319E-05
132	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+01	2.50E-01	1 6.01319E-05
133	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.53E+01	2.50E-01	1 6.01319E-05
134	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.55E+01	2.50E-01	1 6.01319E-05
135	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.58E+01	2.50E-01	1 6.01319E-05
136	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.60E+01	2.50E-01	1 6.01319E-05
137	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.63E+01	2.50E-01	1 6.01319E-05
138	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.65E+01	2.50E-01	1 6.01319E-05
139	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.68E+01	2.50E-01	1 6.01319E-05
140	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.70E+01	2.50E-01	1 6.01319E-05
141	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.73E+01	2.50E-01	1 6.01319E-05
142	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+01	2.50E-01	1 6.01319E-05
143	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.78E+01	2.50E-01	1 6.01319E-05
144	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.80E+01	2.50E-01	1 6.01319E-05
145	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.83E+01	2.50E-01	1 6.01319E-05
146	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.85E+01	2.50E-01	1 6.01319E-05
147	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.88E+01	2.50E-01	1 6.01319E-05
148	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.90E+01	2.50E-01	1 6.01319E-05
149	1.013E+06	-7.30E-03	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.93E+01	2.50E-01	1 6.01319E-05
150	1.013E+06	-7.30E-03	-3.17E-11	2.044E+09	1.225E-03	0.0	0.0	0.0	1.95E+01	2.50E-01	1 6.01319E-05
151	1.013E+06	-7.30E-03	-9.65E-03	2.044E+09	1.225E-03	0.0	0.0	0.0	1.98E+01	2.50E-01	1 6.01319E-05
152	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+01	2.50E-01	1 6.01319E-05

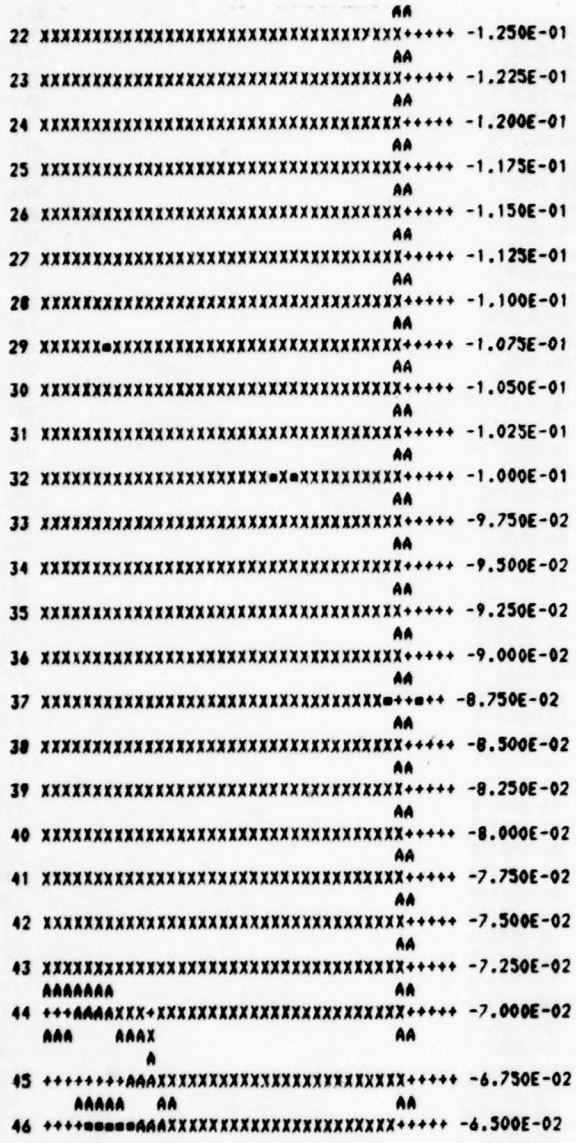
ENERGY MAP

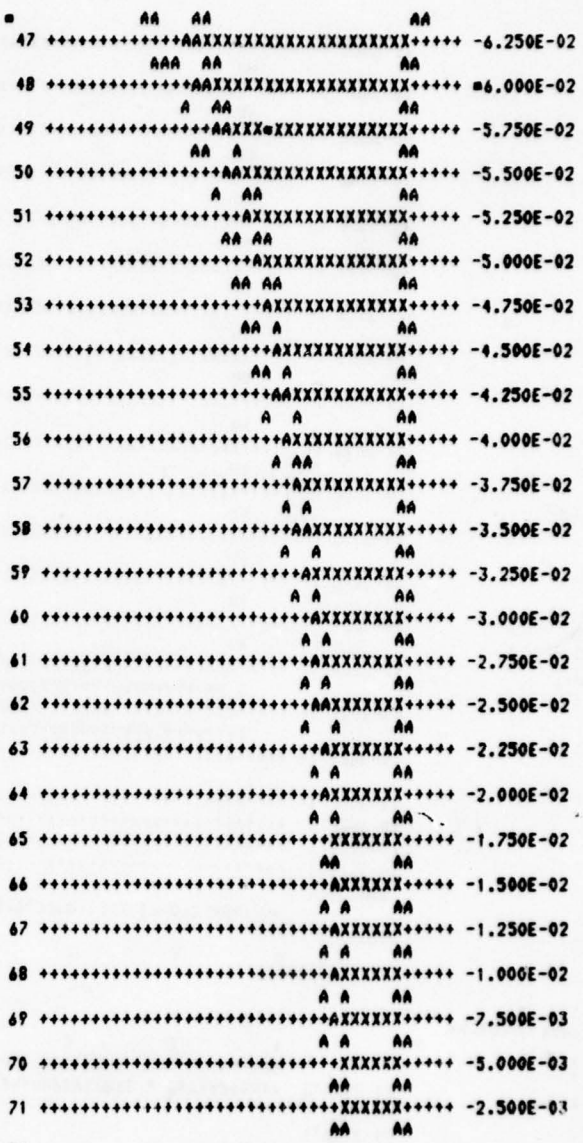

1 2 3 4
ALTITUDE
1234567890123456789012345678901234567890
METERS
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02
-7.000E-02
-6.750E-02
-6.500E-02
-6.250E-02
-6.000E-02
-5.750E-02
-5.500E-02
-5.250E-02
-5.000E-02
-4.750E-02
-4.500E-02
-4.250E-02
-4.000E-02
-3.750E-02
-3.500E-02
-3.250E-02
-3.000E-02
-2.750E-02
-2.500E-02
-2.250E-02
-2.000E-02
-1.750E-02
-1.500E-02
-1.250E-02
-1.000E-02
-7.500E-03
-5.000E-03
-2.500E-03
0.0
2.500E-03
5.000E-03
7.500E-03
1.000E-02
1.250E-02
1.500E-02
1.750E-02
2.000E-02
2.250E-02
2.500E-02
2.750E-02
3.000E-02
3.250E-02
3.500E-02
3.750E-02
4.000E-02
4.250E-02
4.500E-02
4.750E-02
5.000E-02
5.250E-02
5.500E-02
5.750E-02
6.000E-02

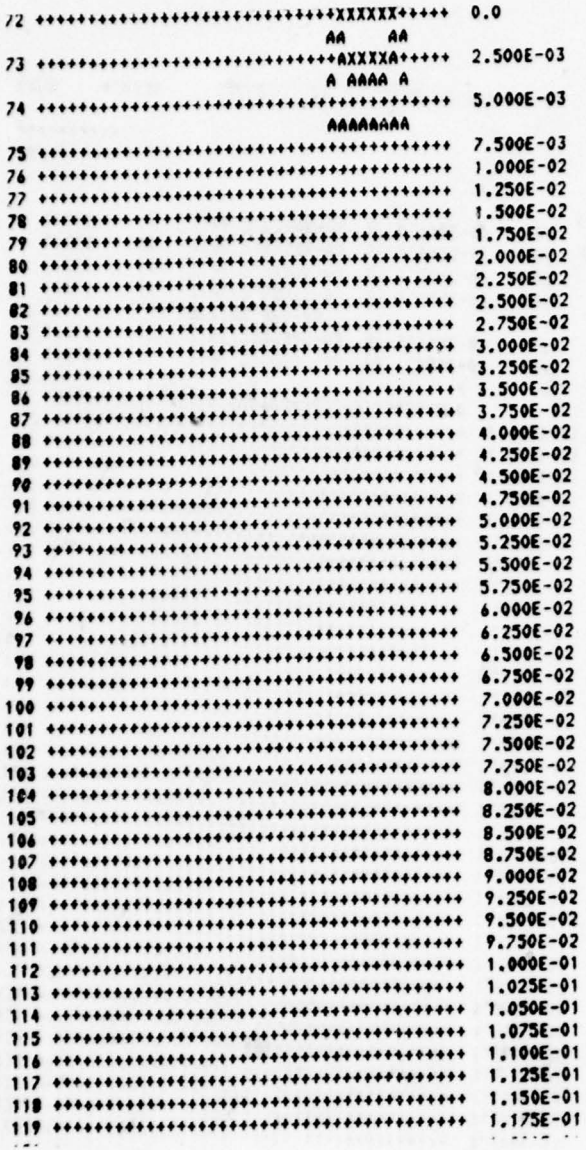
```
97
98
99
100
101
102
103
104
105
106
107
0089
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
```

```
6.250E-02
6.500E-02
6.750E-02
7.000E-02
7.250E-02
7.500E-02
7.750E-02
8.000E-02
8.250E-02
8.500E-02
8.750E-02
9.000E-02
9.500E-02
9.750E-02
1.000E-01
1.025E-01
1.050E-01
1.075E-01
1.100E-01
1.125E-01
1.150E-01
1.175E-01
1.200E-01
1.225E-01
1.250E-01
1.275E-01
1.300E-01
1.325E-01
1.350E-01
1.375E-01
1.400E-01
1.425E-01
1.450E-01
1.475E-01
1.500E-01
1.525E-01
1.550E-01
1.575E-01
1.600E-01
1.625E-01
1.650E-01
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
```

```
149                                                                  1.925E-01
150                                                                  1.950E-01
151                                                                  1.975E-01
152  BB   B BBBBBBBBBBBBBBBBB B BBBBBBBBBB  2.000E-01
    12345678901234567890123456789012345678901
             1         2         3         4

                                                          MATERIAL MAP

             1         2         3         4
                                                          ALTITUDE
    12345678901234567890123456789012345678901
                                                          METERS
  1 +++++++++++++++++++++++++++++++++++++++++ -1.775E-01
  2 +++++++++++++++++++++++++++++++++++++++++ -1.750E-01
  3 +++++++++++++++++++++++++++++++++++++++++ -1.725E-01
  4 +++++++++++++++++++++++++++++++++++++++++ -1.700E-01
    AAAAAAAAA
  5 AAAAAAAAA+++++++++++++++++++++++++++++++++ -1.675E-01
            AAAAAAAAAAAAAAAAAAAAAAAAAAAAA
  6 OOOOOXAAAXXXXXXXXXXXXXXXXXXXXXXXXA+++++ -1.650E-01
    AAAAAA   AAAAAAAAAAAAAAAAAAAAAAAAA A
  7 OOOOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.625E-01
      O AAA                              AA
  8 OOOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.600E-01
     O                                   AA
  9 OOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.575E-01
    O                                    AA
 10 OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.550E-01
    O                                    AA
 11 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.525E-01
    O                                    AA
 12 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.500E-01
                                         AA
 13 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.475E-01
                                         AA
 14 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.450E-01
                                         AA
 15 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.425E-01
                                         AA
 16 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.400E-01
                                         AA
 17 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.375E-01
                                         AA
 18 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.350E-01
                                         AA
 19 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.325E-01
                                         AA
 20 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.300E-01
                                         AA
 21 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX+++++ -1.275E-01
```


22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02


47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03


72 0.0
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01

```
120 ++++++++++++++++++++++++++++++++++++++++++++  1.200E-01
121 ++++++++++++++++++++++++++++++++++++++++++++  1.225E-01
122 ++++++++++++++++++++++++++++++++++++++++++++  1.250E-01
123 ++++++++++++++++++++++++++++++++++++++++++++  1.275E-01
124 ++++++++++++++++++++++++++++++++++++++++++++  1.300E-01
125 ++++++++++++++++++++++++++++++++++++++++++++  1.325E-01
126 ++++++++++++++++++++++++++++++++++++++++++++  1.350E-01
127 ++++++++++++++++++++++++++++++++++++++++++++  1.375E-01
128 ++++++++++++++++++++++++++++++++++++++++++++  1.400E-01
129 ++++++++++++++++++++++++++++++++++++++++++++  1.425E-01
130 ++++++++++++++++++++++++++++++++++++++++++++  1.450E-01
131 ++++++++++++++++++++++++++++++++++++++++++++  1.475E-01
132 ++++++++++++++++++++++++++++++++++++++++++++  1.500E-01
133 ++++++++++++++++++++++++++++++++++++++++++++  1.525E-01
134 ++++++++++++++++++++++++++++++++++++++++++++  1.550E-01
135 ++++++++++++++++++++++++++++++++++++++++++++  1.575E-01
136 ++++++++++++++++++++++++++++++++++++++++++++  1.600E-01
137 ++++++++++++++++++++++++++++++++++++++++++++  1.625E-01
138 ++++++++++++++++++++++++++++++++++++++++++++  1.650E-01
139 ++++++++++++++++++++++++++++++++++++++++++++  1.675E-01
140 ++++++++++++++++++++++++++++++++++++++++++++  1.700E-01
141 ++++++++++++++++++++++++++++++++++++++++++++  1.725E-01
142 ++++++++++++++++++++++++++++++++++++++++++++  1.750E-01
143 ++++++++++++++++++++++++++++++++++++++++++++  1.775E-01
144 ++++++++++++++++++++++++++++++++++++++++++++  1.800E-01
145 ++++++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++++++  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    16   TIME 2.2034E-06  DT 1.900E-07   IDT    3  JDT    9
   CYCLE    17   TIME 2.3934E-06  DT 1.915E-07   IDT    3  JDT   10
IN EOS, J =  43 FORMING DPDTAU
   CYCLE    18   TIME 2.5849E-06  DT 1.836E-07   IDT    4  JDT    9
   CYCLE    19   TIME 2.7685E-06  DT 1.274E-07   IDT    3  JDT   11
   CYCLE    20   TIME 2.8958E-06  DT 1.042E-07   IDT    5  JDT    9
   CYCLE    21   TIME 3.0000E-06  DT 1.776E-07   IDT    4  JDT   11


**********
**********

PROB    4.0130     CYCLE    21     TIME  2.999998E-06     DT  1.775941E-07
```

INTERNAL ENERGY		KINETIC ENERGY		TOTAL ENERGY		ETH		REL ERROR	
2.01246061	E+13	8.93717709	E+10	2.02139616	E+13	2.02147669	E+13	-3.31981964	E+01

TOTAL MASS		MTH		RELMERR
7.36718750	E+03	7.36719141	E+03	0.0

MAX VEL = 1.40578E+05 AT I 4 J 11

MAX CS = 5.85831E+05 AT I 5 J 5

MAX TEMP= 2.35551E+03 AT I 4 J 11

MAX P = 2.17163E+11 AT I 4 J 11

CELL SETTING DT, I 4 J 11

TOTAL TIME FOR THIS PROBLEM 0 HOURS, 5 MIN, 41 SEC

TIME FOR THIS RUN 0 HOURS, 5 MIN, 41 SEC
WHIZ FACTOR TOTAL PROBLEM = 2.68E-03 SEC/CELL/CYCLE
WHIZ FACTOR SINCE LAST DUMP = 2.77E-03 SEC/CELL/CYCLE

I= 1 X(I)= 0.250 DX(I)= 0.250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.78E+01	2.50E-01	1	6.01319E-05		
2	1.081E+06	6.87E+01	-1.48E+03	2.095E+09	1.277E-03	0.0	0.0	0.0	-1.75E+01	2.50E-01	1	6.26723E-05		
3	1.792E+06	1.07E+03	-1.69E+04	2.641E+09	1.690E-03	0.0	0.0	0.0	-1.73E+01	2.50E-01	1	8.29758E-05		
4	9.172E+05	2.40E+03	-6.79E+04	2.760E+09	1.226E+00	1.16E+09	-1.61E+09	0.0	-1.70E+01	2.50E-01	1	3.00442E-05	4	6.01647E-02
5	1.772E+10	1.15E+03	-6.52E+04	2.683E+09	2.770E+00	2.22E+08	-1.63E+09	-6.70E+08	-1.68E+01	2.50E-01	4	1.35993E-01		
6	2.120E+10	-7.16E+03	-6.89E+04	1.227E+10	1.551E+00	1.22E+01	1.41E+01	0.0	-1.65E+01	2.50E-01	3	3.01290E-02	4	4.60131E-02
7	3.398E+10	-2.29E+04	-6.66E+04	2.985E+10	1.140E+00	0.0	0.0	0.0	-1.63E+01	2.50E-01	3	5.59549E-02		
8	3.488E+10	-2.89E+04	-4.50E+04	3.352E+10	1.130E+00	0.0	0.0	0.0	-1.60E+01	2.50E-01	3	5.54763E-02		
9	3.972E+10	-3.79E+04	-2.90E+04	3.138E+10	1.209E+00	0.0	0.0	0.0	-1.58E+01	2.50E-01	3	5.93473E-02		
10	4.071E+10	-3.16E+04	-1.41E+04	3.282E+10	1.213E+00	0.0	0.0	0.0	-1.55E+01	2.50E-01	3	5.95544E-02		
11	4.834E+10	-1.88E+04	5.11E+03	3.572E+10	1.286E+00	0.0	0.0	0.0	-1.53E+01	2.50E-01	3	6.31056E-02		
12	6.449E+10	1.59E+04	4.79E+04	3.907E+10	1.421E+00	0.0	0.0	0.0	-1.50E+01	2.50E-01	3	6.97311E-02		
13	1.265E+11	3.98E+04	9.03E+04	5.089E+10	1.762E+00	0.0	0.0	0.0	-1.48E+01	2.50E-01	3	8.64814E-02		
14	9.377E+10	1.13E+04	6.46E+04	2.548E+10	1.998E+00	1.01E+03	-1.26E+03	0.0	-1.45E+01	2.50E-01	2	5.93322E-02	3	3.87657E-02
15	5.630E+09	9.21E+02	1.19E+04	2.935E+09	1.899E+00	8.48E+02	-1.30E+03	-1.86E+02	-1.43E+01	2.50E-01	2	9.31947E-02		
16	5.443E+08	5.66E+01	8.23E+02	2.617E+09	1.828E+00	7.86E+02	-1.31E+03	-1.82E+02	-1.40E+01	2.50E-01	2	8.97176E-02		
17	4.501E+07	4.89E+00	6.50E+01	2.615E+09	1.821E+00	7.55E+02	-1.32E+03	-1.61E+02	-1.38E+01	2.50E-01	2	8.93697E-02		
18	4.296E+06	2.65E-01	5.63E+00	2.615E+09	1.820E+00	7.98E+02	-1.31E+03	-1.55E+02	-1.35E+01	2.50E-01	2	8.93413E-02		
19	1.013E+06	3.28E-07	2.98E-01	2.615E+09	1.820E+00	7.92E+02	-1.32E+03	-6.17E+01	-1.33E+01	2.50E-01	2	8.93389E-02		
20	1.013E+06	0.0	1.85E-08	2.615E+09	1.820E+00	9.25E-04	-1.15E+03	-4.02E-04	-1.30E+01	2.50E-01	2	8.93388E-02		
21	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	-3.65E-05	0.0	-1.28E+01	2.50E-01	2	8.93388E-02		
22	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.25E+01	2.50E-01	2	8.93388E-02		
23	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.23E+01	2.50E-01	2	8.93388E-02		

24	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.20E+01	2.50E-01	2	8.93388E-02	
25	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.18E+01	2.50E-01	2	8.93388E-02	
26	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.15E+01	2.50E-01	2	8.93388E-02	
27	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.13E+01	2.50E-01	2	8.93388E-02	
28	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.10E+01	2.50E-01	2	8.93388E-02	
29	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.08E+01	2.50E-01	2	8.93388E-02	
30	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.05E+01	2.50E-01	2	8.93388E-02	
31	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.03E+01	2.50E-01	2	8.93388E-02	
32	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-1.00E+01	2.50E-01	2	8.93388E-02	
33	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.75E+00	2.50E-01	2	8.93388E-02	
34	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.50E+00	2.50E-01	2	8.93388E-02	
35	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.25E+00	2.50E-01	2	8.93388E-02	
36	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-9.00E+00	2.50E-01	2	8.93388E-02	
37	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.75E+00	2.50E-01	2	8.93388E-02	
38	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	0.0	0.0	0.0	-8.50E+00	2.50E-01	2	8.93388E-02	
39	1.013E+06	0.0	0.0	2.615E+09	1.820E+00	2.49E-06	1.09E+03	3.72E+02	-8.25E+00	2.50E-01	2	8.93388E-02	
40	1.013E+06	6.56E-03	9.48E-03	2.615E+09	1.820E+00	1.68E+02	1.06E+03	-2.72E+00	-8.00E+00	2.50E-01	2	8.93388E-02	
41	1.013E+06	3.53E-03	1.88E-02	2.615E+09	1.820E+00	5.72E+02	-1.33E+03	-2.97E+01	-7.75E+00	2.50E-01	2	8.93381E-02	
42	1.013E+06	6.62E-03	-9.35E-01	2.615E+09	1.820E+00	1.12E+01	1.06E+03	4.49E+02	-7.50E+00	2.50E-01	2	8.93377E-02	
43	7.257E+05	2.30E-01	3.71E-01	2.716E+09	2.710E+00	6.57E+02	6.76E+02	0.0	-7.25E+00	2.50E-01	2	3.45479E-07	4 1.33026E-01
44	8.383E+05	5.21E-02	2.30E-01	2.716E+09	2.710E+00	1.18E-02	2.25E-03	0.0	-7.00E+00	2.50E-01	1	4.14945E-10	4 1.33026E-01
45	1.013E+06	-2.79E-02	-1.18E+00	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.75E+00	2.50E-01	1	6.01316E-05	
46	1.013E+06	-2.19E-02	-3.22E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.50E+00	2.50E-01	1	6.01315E-05	
47	1.013E+06	-1.73E-02	-2.10E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.25E+00	2.50E-01	1	6.01319E-05	
48	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.00E+00	2.50E-01	1	6.01319E-05	
49	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.75E+00	2.50E-01	1	6.01319E-05	
50	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.50E+00	2.50E-01	1	6.01319E-05	
51	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.25E+00	2.50E-01	1	6.01319E-05	
52	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E+00	2.50E-01	1	6.01319E-05	
53	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.75E+00	2.50E-01	1	6.01319E-05	
54	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.50E+00	2.50E-01	1	6.01319E-05	
55	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.25E+00	2.50E-01	1	6.01319E-05	
56	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.00E+00	2.50E-01	1	6.01319E-05	
57	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.75E+00	2.50E-01	1	6.01319E-05	
58	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.50E+00	2.50E-01	1	6.01319E-05	
59	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.25E+00	2.50E-01	1	6.01319E-05	
60	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.00E+00	2.50E-01	1	6.01319E-05	
61	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.75E+00	2.50E-01	1	6.01319E-05	
62	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E+00	2.50E-01	1	6.01319E-05	
63	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.25E+00	2.50E-01	1	6.01319E-05	
64	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.00E+00	2.50E-01	1	6.01319E-05	
65	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+00	2.50E-01	1	6.01319E-05	
66	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.50E+00	2.50E-01	1	6.01319E-05	
67	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.25E+00	2.50E-01	1	6.01319E-05	
68	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.00E+00	2.50E-01	1	6.01319E-05	
69	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-7.50E-01	2.50E-01	1	6.01319E-05	
70	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E-01	2.50E-01	1	6.01319E-05	
71	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E-01	2.50E-01	1	6.01319E-05	
72	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	0.0	2.50E-01	1	6.01319E-05	
73	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E-01	2.50E-01	1	6.01319E-05	
74	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E-01	2.50E-01	1	6.01319E-05	

75	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E-01	2.50E-01	1	6.01319E-05
76	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+00	2.50E-01	1	6.01319E-05
77	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+00	2.50E-01	1	6.01319E-05
78	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+00	2.50E-01	1	6.01319E-05
79	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+00	2.50E-01	1	6.01319E-05
80	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+00	2.50E-01	1	6.01319E-05
81	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.25E+00	2.50E-01	1	6.01319E-05
82	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E+00	2.50E-01	1	6.01319E-05
83	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.75E+00	2.50E-01	1	6.01319E-05
84	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.00E+00	2.50E-01	1	6.01319E-05
85	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.25E+00	2.50E-01	1	6.01319E-05
86	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.50E+00	2.50E-01	1	6.01319E-05
87	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.75E+00	2.50E-01	1	6.01319E-05
88	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.00E+00	2.50E-01	1	6.01319E-05
89	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.25E+00	2.50E-01	1	6.01319E-05
90	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.50E+00	2.50E-01	1	6.01319E-05
91	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.75E+00	2.50E-01	1	6.01319E-05
92	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E+00	2.50E-01	1	6.01319E-05
93	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.25E+00	2.50E-01	1	6.01319E-05
94	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.50E+00	2.50E-01	1	6.01319E-05
95	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.75E+00	2.50E-01	1	6.01319E-05
96	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.00E+00	2.50E-01	1	6.01319E-05
97	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.25E+00	2.50E-01	1	6.01319E-05
98	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.50E+00	2.50E-01	1	6.01319E-05
99	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.75E+00	2.50E-01	1	6.01319E-05
100	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.00E+00	2.50E-01	1	6.01319E-05
101	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.25E+00	2.50E-01	1	6.01319E-05
102	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E+00	2.50E-01	1	6.01319E-05
103	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.75E+00	2.50E-01	1	6.01319E-05
104	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.00E+00	2.50E-01	1	6.01319E-05
105	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.25E+00	2.50E-01	1	6.01319E-05
106	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.50E+00	2.50E-01	1	6.01319E-05
107	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.75E+00	2.50E-01	1	6.01319E-05
108	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.00E+00	2.50E-01	1	6.01319E-05
109	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.25E+00	2.50E-01	1	6.01319E-05
110	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.50E+00	2.50E-01	1	6.01319E-05
111	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.75E+00	2.50E-01	1	6.01319E-05
112	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+01	2.50E-01	1	6.01319E-05
113	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.03E+01	2.50E-01	1	6.01319E-05
114	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.05E+01	2.50E-01	1	6.01319E-05
115	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.08E+01	2.50E-01	1	6.01319E-05
116	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.10E+01	2.50E-01	1	6.01319E-05
117	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.13E+01	2.50E-01	1	6.01319E-05
118	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.15E+01	2.50E-01	1	6.01319E-05
119	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.18E+01	2.50E-01	1	6.01319E-05
120	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.20E+01	2.50E-01	1	6.01319E-05
121	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.23E+01	2.50E-01	1	6.01319E-05
122	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+01	2.50E-01	1	6.01319E-05
123	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.28E+01	2.50E-01	1	6.01319E-05
124	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.30E+01	2.50E-01	1	6.01319E-05
125	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.33E+01	2.50E-01	1	6.01319E-05

126	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.35E+01	2.50E-01 1 6.01319E-05
127	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.38E+01	2.50E-01 1 6.01319E-05
128	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.40E+01	2.50E-01 1 6.01319E-05
129	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.43E+01	2.50E-01 1 6.01319E-05
130	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.45E+01	2.50E-01 1 6.01319E-05
131	1.013E+-1.81E-02	0.0		2.044E+09	1.225E-03	0.0	0.0	0.0	1.48E+01	2.50E-01 1 6.01319E-05
132	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+01	2.50E-01 1 6.01319E-05
133	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.53E+01	2.50E-01 1 6.01319E-05
134	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.55E+01	2.50E-01 1 6.01319E-05
135	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.58E+01	2.50E-01 1 6.01319E-05
136	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.60E+01	2.50E-01 1 6.01319E-05
137	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.63E+01	2.50E-01 1 6.01319E-05
138	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.65E+01	2.50E-01 1 6.01319E-05
139	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.68E+01	2.50E-01 1 6.01319E-05
140	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.70E+01	2.50E-01 1 6.01319E-05
141	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.73E+01	2.50E-01 1 6.01319E-05
142	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+01	2.50E-01 1 6.01319E-05
143	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.78E+01	2.50E-01 1 6.01319E-05
144	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.80E+01	2.50E-01 1 6.01319E-05
145	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.83E+01	2.50E-01 1 6.01319E-05
146	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.85E+01	2.50E-01 1 6.01319E-05
147	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.88E+01	2.50E-01 1 6.01319E-05
148	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.90E+01	2.50E-01 1 6.01319E-05
149	1.013E+06	-1.81E-02	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.93E+01	2.50E-01 1 6.01319E-05
150	1.013E+06	-1.81E-02	-1.14E-10	2.044E+09	1.225E-03	0.0	0.0	0.0	1.95E+01	2.50E-01 1 6.01319E-05
151	1.013E+06	-1.81E-02	-2.33E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	1.98E+01	2.50E-01 1 6.01319E-05
152	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+01	2.50E-01 1 6.01319E-05

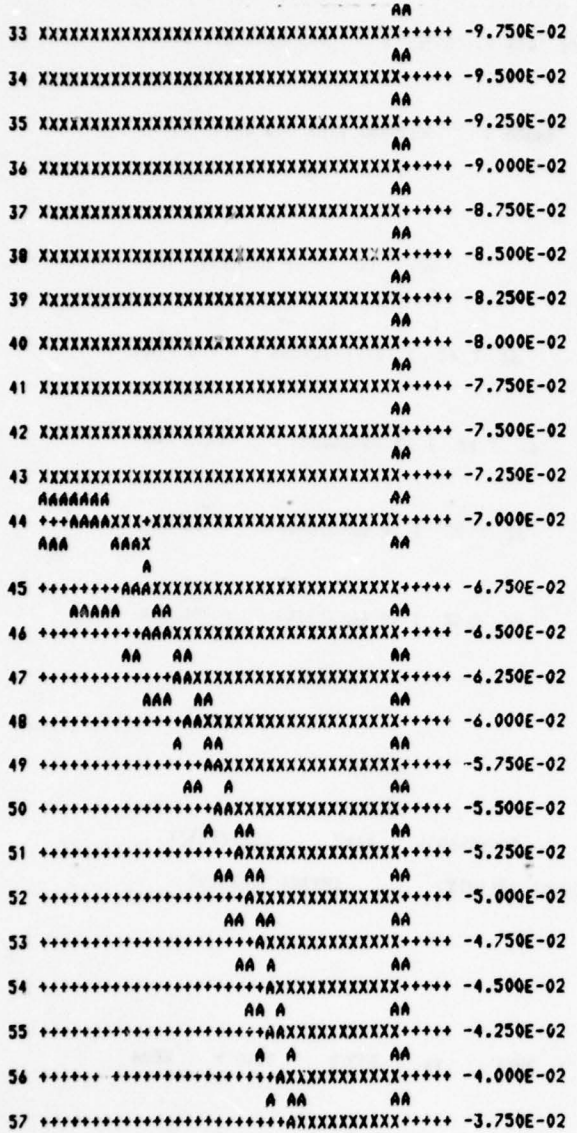
ENERGY MAP

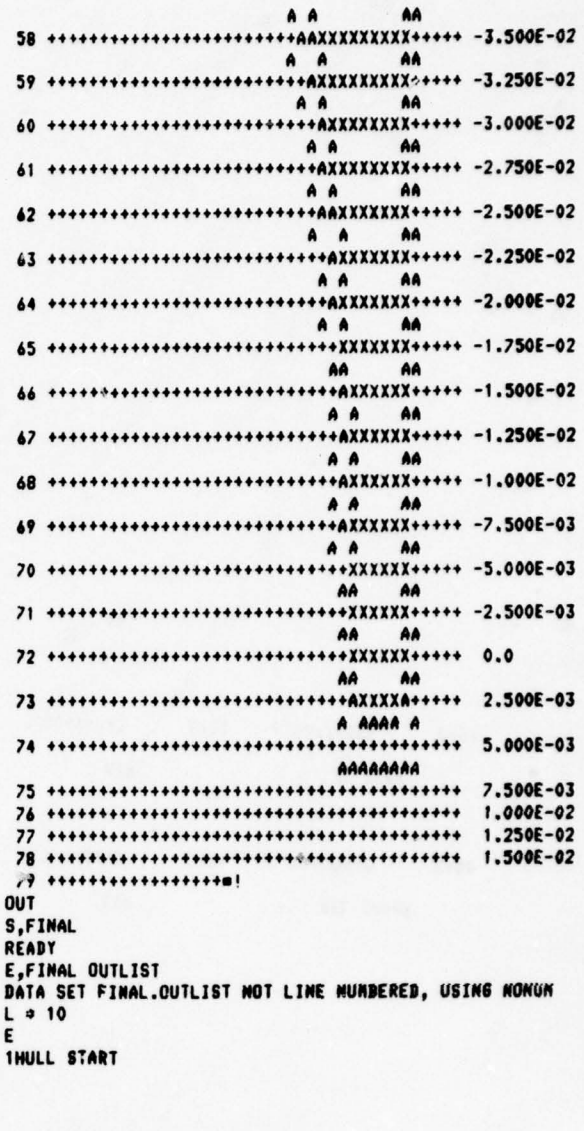
```
          1         2         3         4
                                                ALTITUDE
 12345678901234567890123456789012345678901
                                                 METERS
 1                                              -1.775E-01
 2                                              -1.750E-01
 3       BBBB                      BBBB         -1.725E-01
 4           BB B       BB B  BBBBB TT         -1.700E-01
 5 TTTT        B BBBBBBB  B BB      BB BB      -1.675E-01
 6 BBBB   TTT     T T   T TTTTT TTTTTTTT BB    -1.650E-01
 7         B  TTTTT T TTT T     T     BBB TT   -1.625E-01
 8        TT     BB B   BBBB BBBBBB  B T T     -1.600E-01
 9 T T  T   BBBB  B BBB    B      BB TBT       -1.575E-01
10 B B      TTTTTTTTTTTTTTTTTTTTTTTTTBTB       -1.550E-01
11     T    B                      B BTBT      -1.525E-01
12    T                                         -1.500E-01
13  TT                                          -1.475E-01
14 T                                           -1.450E-01
15      B                                      -1.425E-01
16    B                                        -1.400E-01
17     B                                       -1.375E-01
```

```
18 BB                                   -1.350E-01
19                                      -1.325E-01
20                                      -1.300E-01
21                                      -1.275E-01
22                                      -1.250E-01
23                                      -1.225E-01
24                                      -1.200E-01
25                                      -1.175E-01
26                                      -1.150E-01
27                                      -1.125E-01
28                                      -1.100E-01
29                                      -1.075E-01
30                                      -1.050E-01
31                                      -1.025E-01
32                                      -1.000E-01
33                                      -9.750E-02
34                                      -9.500E-02
35                                      -9.250E-02
36                                      -9.000E-02
37                                      -8.750E-02
38                                      -8.500E-02
39                                      -8.250E-02
40                                      -8.000E-02
41 BTTTTTBB                             -7.750E-02
42 BB     B B                           -7.500E-02
43    BBB   TTBB                        -7.250E-02
44 T         BBTT B                     -7.000E-02
45  TTTTT T    BBBTB                    -6.750E-02
46 B     T TT     BTBB                  -6.500E-02
47  B  BBB    TTT  B TB                 -6.250E-02
48 T BBTTTBBB   TT  BTB                 -6.000E-02
49       TTTBBB  T  BTB                 -5.750E-02
50              B  TT B B               -5.500E-02
51          TTTTBB  T   B               -5.250E-02
52                 B  T   B             -5.000E-02
53               TTTB  T  T             -4.750E-02
54                      T BBB           -4.500E-02
55                  TB    T  TB         -4.250E-02
56                   TBB     BT         -4.000E-02
57                     T B T   B        -3.750E-02
58                      TT     BTB      -3.500E-02
59                        B TT BT       -3.250E-02
60                         B     B      -3.000E-02
61                        T B    BT     -2.750E-02
62                        BTT T    B    -2.500E-02
63                        TBB   T BT    -2.250E-02
64                          T   B T     -2.000E-02
65                         TBB T B      -1.750E-02
66                          T    T BT   -1.500E-02
67                           T   B TB   -1.250E-02
68                          B    T BT   -1.000E-02
```

```
69                    B T        -7.500E-03
70             TBB B  TB         -5.000E-03
71                T    T BTB     -2.500E-03
72             T B TTB     TB    0.0
73              TTB B BBT BT     2.500E-03
74             B TB     TBB      5.000E-03
75              B TTTT TTT BB    7.500E-03
76             T B      BB  BB   1.000E-02
77               T BBBTT         1.250E-02
78                TTT BBBB       1.500E-02
79                   T           1.750E-02
80                               2.000E-02
81                               2.250E-02
82                               2.500E-02
83                               2.750E-02
84                               3.000E-02
85                               3.250E-02
86                               3.500E-02
87                               3.750E-02
88                               4.000E-02
89                               4.250E-02
90                               4.500E-02
91                               4.750E-02
92                               5.000E-02
93                               5.250E-02
94                               5.500E-02
95                               5.750E-02
96                               6.000E-02
97                               6.250E-02
98                               6.500E-02
99                               6.750E-02
100                              7.000E-02
101                              7.250E-02
102                              7.500E-02
103                              7.750E-02
104                              8.000E-02
105                              8.250E-02
106                              8.500E-02
107                              8.750E-02
108                              9.000E-02
109                              9.250E-02
110                              9.500E-02
111                              9.750E-02
112                              1.000E-01
113                              1.025E-01
114                              1.050E-01
115                              1.075E-01
116                              1.100E-01
117                              1.125E-01
118                              1.150E-01
119                              1.175E-01
```


MATERIAL MAP
ALTITUDE
METERS
1.200E-01
1.225E-01
1.250E-01
1.275E-01
1.300E-01
1.325E-01
1.350E-01
1.375E-01
1.400E-01
1.425E-01
1.450E-01
1.475E-01
1.500E-01
1.525E-01
1.550E-01
1.575E-01
1.600E-01
1.625E-01
1.650E-01
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
1.925E-01
1.950E-01
1.975E-01
2.000E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01






```
OUT
S,FINAL
READY
E,FINAL OUTLIST
DATA SET FINAL.OUTLIST NOT LINE NUMBERED, USING NONUM
L = 10
E
1HULL START
```

PROB 4.0130 CYCLE 94 TIME 1.299999E-05 DT 1.380434E-07

INTERNAL ENERGY		KINETIC ENERGY		TOTAL ENERGY		ETH		REL ERROR	
1.17377765	E+14	2.03594033	E+13	1.37737168	E+14	1.37772283	E+14	-7.18650818	E+00

TOTAL MASS		MTH		RELMERR	
7.30908594	E+03	7.30898047	E+03	6.94774055	E+00

MAX VEL = 2.65162E+05 AT I 25 J 27

MAX CS = 6.45851E+05 AT I 24 J 29

MAX TEMP= 2.68309E+03 AT I 24 J 29

MAX P = 3.99347E+11 AT I 24 J 29

CELL SETTING DT, I 23 J 30

TOTAL TIME FOR THIS PROBLEM 0 HOURS, 16 MIN, 40 SEC

TIME FOR THIS RUN 0 HOURS, 16 MIN, 40 SEC

OWHIZ FACTOR TOTAL PROBLEM = 1.75E-03 SEC/CELL/CYCLE

OWHIZ FACTOR SINCE LAST DUMP = 0.0 SEC/CELL/CYCLE

OI= 1 X(I)= 0.250 DX(I)= 0.250

O J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.78E+01	2.50E-01	1	6.01319E-05		
2	9.137E+09	-6.40E+02	-2.50E+05	2.116E+10	6.681E-01	1.42E+08	-1.14E+08	0.0	-1.75E+01	2.50E-01	3	3.04875E-02	4	2.30914E-03
3	1.100E+10	-2.08E+03	-1.97E+05	2.278E+10	6.925E-01	0.0	0.0	0.0	-1.73E+01	2.50E-01	3	3.39906E-02		
4	1.494E+10	-3.37E+03	-1.80E+05	2.439E+10	7.954E-01	0.0	0.0	0.0	-1.70E+01	2.50E-01	3	3.90447E-02		
5	1.717E+10	-4.31E+03	-1.61E+05	2.521E+10	8.479E-01	0.0	0.0	0.0	-1.68E+01	2.50E-01	3	4.16200E-02		
6	1.996E+10	-5.04E+03	-1.47E+05	2.617E+10	9.078E-01	0.0	0.0	0.0	-1.65E+01	2.50E-01	3	4.45633E-02		
7	2.307E+10	-5.22E+03	-1.35E+05	2.720E+10	9.680E-01	0.0	0.0	0.0	-1.63E+01	2.50E-01	3	4.75182E-02		
8	2.649E+10	-4.61E+03	-1.24E+05	2.827E+10	1.027E+00	0.0	0.0	0.0	-1.60E+01	2.50E-01	3	5.04148E-02		
9	2.976E+10	-3.52E+03	-1.13E+05	2.924E+10	1.078E+00	0.0	0.0	0.0	-1.58E+01	2.50E-01	3	5.29119E-02		
10	3.262E+10	-2.54E+03	-1.01E+05	2.998E+10	1.119E+00	0.0	0.0	0.0	-1.55E+01	2.50E-01	3	5.49122E-02		
11	3.517E+10	-2.17E+03	-8.94E+04	3.051E+10	1.153E+00	0.0	0.0	0.0	-1.53E+01	2.50E-01	3	5.66028E-02		
12	3.755E+10	-2.24E+03	-7.80E+04	3.102E+10	1.183E+00	0.0	0.0	0.0	-1.50E+01	2.50E-01	3	5.80632E-02		
13	3.987E+10	-2.45E+03	-6.60E+04	3.157E+10	1.210E+00	0.0	0.0	0.0	-1.48E+01	2.50E-01	3	5.93834E-02		
14	4.225E+10	-3.35E+03	-5.51E+04	3.228E+10	1.235E+00	0.0	0.0	0.0	-1.45E+01	2.50E-01	3	6.06263E-02		
15	4.592E+10	-4.25E+03	-4.80E+04	3.308E+10	1.273E+00	0.0	0.0	0.0	-1.43E+01	2.50E-01	3	6.24848E-02		
16	5.103E+10	-4.86E+03	-4.36E+04	3.430E+10	1.321E+00	0.0	0.0	0.0	-1.40E+01	2.50E-01	3	6.48263E-02		
17	5.085E+10	-3.55E+03	-3.76E+04	3.418E+10	1.319E+00	0.0	0.0	0.0	-1.38E+01	2.50E-01	3	6.47634E-02		
18	5.012E+10	-3.17E+03	-2.78E+04	3.383E+10	1.314E+00	0.0	0.0	0.0	-1.35E+01	2.50E-01	3	6.44865E-02		

19	5.377E+10	-4.57E+03	-2.31E+04	3.386E+10	1.350E+00	0.0	0.0	0.0	-1.33E+01	2.50E-01	3	6.62468E-02	
20	5.977E+10	-4.39E+03	-2.38E+04	3.450E+10	1.401E+00	0.0	0.0	0.0	-1.30E+01	2.50E-01	3	6.87739E-02	
21	6.202E+10	-2.26E+03	-2.07E+04	3.484E+10	1.419E+00	0.0	0.0	0.0	-1.28E+01	2.50E-01	3	6.96414E-02	
22	6.289E+10	-8.81E+02	-1.24E+04	3.511E+10	1.425E+00	0.0	0.0	0.0	-1.25E+01	2.50E-01	3	6.99381E-02	
23	6.462E+10	-6.83E+02	-7.40E+03	3.515E+10	1.439E+00	0.0	0.0	0.0	-1.23E+01	2.50E-01	3	7.06242E-02	
24	6.782E+10	1.51E+02	-4.98E+03	3.572E+10	1.462E+00	0.0	0.0	0.0	-1.20E+01	2.50E-01	3	7.17502E-02	
25	6.948E+10	6.84E+02	-1.74E+03	3.625E+10	1.472E+00	0.0	0.0	0.0	-1.18E+01	2.50E-01	3	7.22657E-02	
26	6.988E+10	2.19E+03	3.44E+03	3.566E+10	1.478E+00	0.0	0.0	0.0	-1.15E+01	2.50E-01	3	7.25375E-02	
27	7.131E+10	2.83E+03	1.07E+04	3.530E+10	1.490E+00	0.0	0.0	0.0	-1.13E+01	2.50E-01	3	7.31366E-02	
28	7.567E+10	2.79E+03	1.65E+04	3.539E+10	1.521E+00	0.0	0.0	0.0	-1.10E+01	2.50E-01	3	7.46699E-02	
29	8.163E+10	2.54E+03	2.44E+04	3.606E+10	1.559E+00	0.0	0.0	0.0	-1.08E+01	2.50E-01	3	7.65427E-02	
30	8.437E+10	2.62E+03	2.72E+04	3.659E+10	1.575E+00	0.0	0.0	0.0	-1.05E+01	2.50E-01	3	7.73879E-02	
31	8.639E+10	4.44E+03	2.56E+04	3.669E+10	1.588E+00	0.0	0.0	0.0	-1.03E+01	2.50E-01	3	7.79457E-02	
32	9.241E+10	5.61E+03	2.79E+04	3.845E+10	1.619E+00	0.0	0.0	0.0	-1.00E+01	2.50E-01	3	7.94588E-02	
33	1.026E+11	5.06E+03	3.78E+04	4.041E+10	1.671E+00	0.0	0.0	0.0	-9.75E+00	2.50E-01	3	8.20433E-02	
34	1.105E+11	4.94E+03	5.14E+04	4.195E+10	1.709E+00	0.0	0.0	0.0	-9.50E+00	2.50E-01	3	8.39136E-02	
35	1.187E+11	5.96E+03	6.62E+04	4.402E+10	1.745E+00	0.0	0.0	0.0	-9.25E+00	2.50E-01	3	8.56678E-02	
36	1.293E+11	4.74E+03	8.06E+04	4.579E+10	1.782E+00	0.0	0.0	0.0	-9.00E+00	2.50E-01	3	8.79637E-02	
37	1.417E+11	3.26E+03	9.15E+04	4.706E+10	1.846E+00	0.0	0.0	0.0	-8.75E+00	2.50E-01	3	9.06267E-02	
38	1.686E+11	3.94E+03	1.13E+05	5.193E+10	1.948E+00	0.0	0.0	0.0	-8.50E+00	2.50E-01	3	9.55991E-02	
39	2.179E+11	4.62E+03	1.52E+05	5.936E+10	2.114E+00	0.0	0.0	0.0	-8.25E+00	2.50E-01	3	1.03789E-01	
40	2.740E+11	6.15E+03	1.93E+05	6.573E+10	2.286E+00	0.0	0.0	0.0	-8.00E+00	2.50E-01	3	1.12225E-01	
41	2.426E+11	-4.93E+02	1.46E+05	5.621E+10	2.272E+00	1.00E+03	-1.26E+03	0.0	-7.75E+00	2.50E-01	2	2.12666E-02	3 9.02637E-02
42	1.826E+10	3.70E+02	4.13E+04	5.210E+09	2.047E+00	8.38E+02	-1.32E+03	-1.12E+01	-7.50E+00	2.50E-01	2	1.00461E-01	
43	8.708E+09	8.20E+01	2.04E+03	2.743E+09	2.730E+00	6.80E+02	-1.33E+03	0.0	-7.25E+00	2.50E-01	2	1.11556E-03	4 1.32902E-01

44	3.801E+08	1.80E+01	5.40E+02	2.716E+09	2.711E+00	7.24E+07	-5.74E+07	-4.71E+06	-7.00E+00	2.50E-01	4	1.33091E-01	
45	1.013E+06	4.92E+00	1.84E+02	2.328E+09	2.124E-03	2.07E+07	-1.55E+07	0.0	-6.75E+00	2.50E-01	1	6.01324E-05	4 4.41088E-05
46	1.013E+06	-2.72E-01	-5.94E-03	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.50E+00	2.50E-01	1	6.01318E-05	
47	1.013E+06	-2.36E-01	-4.34E-01	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.25E+00	2.50E-01	1	6.01315E-05	
48	1.013E+06	-1.82E-01	-4.18E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	-6.00E+00	2.50E-01	1	6.01313E-05	
49	1.013E+06	-2.64E-01	-8.16E-03	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.75E+00	2.50E-01	1	6.01319E-05	
50	1.013E+06	-2.70E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.50E+00	2.50E-01	1	6.01319E-05	
51	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.25E+00	2.50E-01	1	6.01319E-05	
52	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E+00	2.50E-01	1	6.01319E-05	
53	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.75E+00	2.50E-01	1	6.01319E-05	
54	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.50E+00	2.50E-01	1	6.01319E-05	
55	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.25E+00	2.50E-01	1	6.01319E-05	
56	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-4.00E+00	2.50E-01	1	6.01319E-05	
57	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.75E+00	2.50E-01	1	6.01319E-05	
58	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.50E+00	2.50E-01	1	6.01319E-05	
59	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.25E+00	2.50E-01	1	6.01319E-05	
60	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-3.00E+00	2.50E-01	1	6.01319E-05	
61	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.75E+00	2.50E-01	1	6.01319E-05	
62	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E+00	2.50E-01	1	6.01319E-05	
63	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.25E+00	2.50E-01	1	6.01319E-05	
64	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.00E+00	2.50E-01	1	6.01319E-05	
65	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.75E+00	2.50E-01	1	6.01319E-05	
66	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.50E+00	2.50E-01	1	6.01319E-05	
67	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.25E+00	2.50E-01	1	6.01319E-05	
68	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-1.00E+00	2.50E-01	1	6.01319E-05	
69	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-7.50E-01	2.50E-01	1	6.01319E-05	

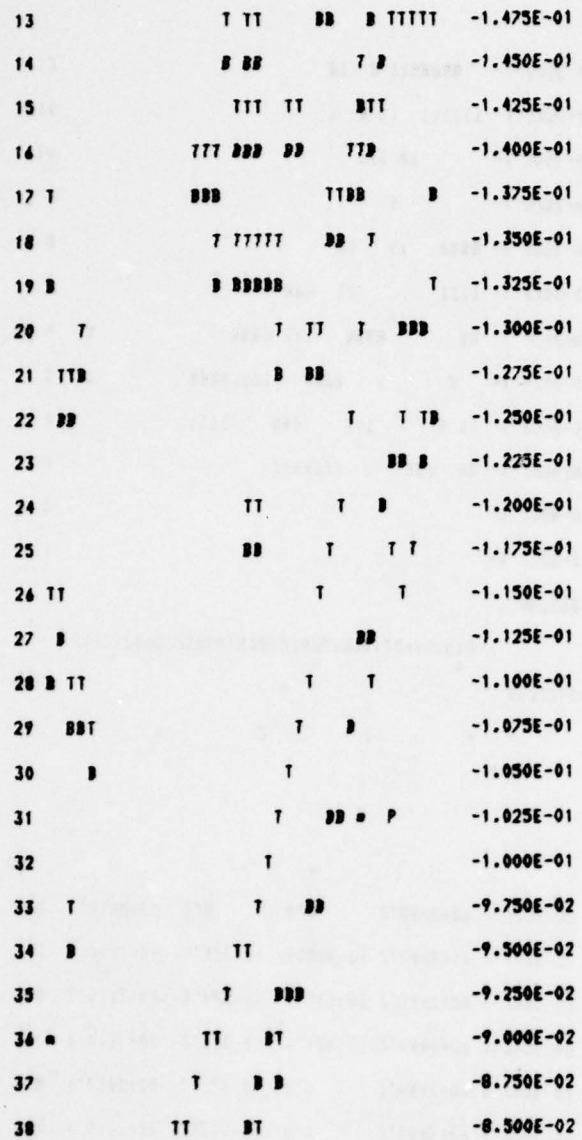
70	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-5.00E-01	2.50E-01	1	6.01319E-05
71	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	-2.50E-01	2.50E-01	1	6.01319E-05
72	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	0.0	2.50E-01	1	6.01319E-05
73	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E-01	2.50E-01	1	6.01319E-05
74	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E-01	2.50E-01	1	6.01319E-05
75	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.50E-01	2.50E-01	1	6.01319E-05
76	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+00	2.50E-01	1	6.01319E-05
77	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+00	2.50E-01	1	6.01319E-05
78	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+00	2.50E-01	1	6.01319E-05
79	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+00	2.50E-01	1	6.01319E-05
80	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+00	2.50E-01	1	6.01319E-05
81	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.25E+00	2.50E-01	1	6.01319E-05
82	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.50E+00	2.50E-01	1	6.01319E-05
83	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.75E+00	2.50E-01	1	6.01319E-05
84	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.00E+00	2.50E-01	1	6.01319E-05
85	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.25E+00	2.50E-01	1	6.01319E-05
86	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.50E+00	2.50E-01	1	6.01319E-05
87	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	3.75E+00	2.50E-01	1	6.01319E-05
88	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.00E+00	2.50E-01	1	6.01319E-05
89	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.25E+00	2.50E-01	1	6.01319E-05
90	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.50E+00	2.50E-01	1	6.01319E-05
91	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	4.75E+00	2.50E-01	1	6.01319E-05
92	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.00E+00	2.50E-01	1	6.01319E-05
93	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.25E+00	2.50E-01	1	6.01319E-05
94	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.50E+00	2.50E-01	1	6.01319E-05

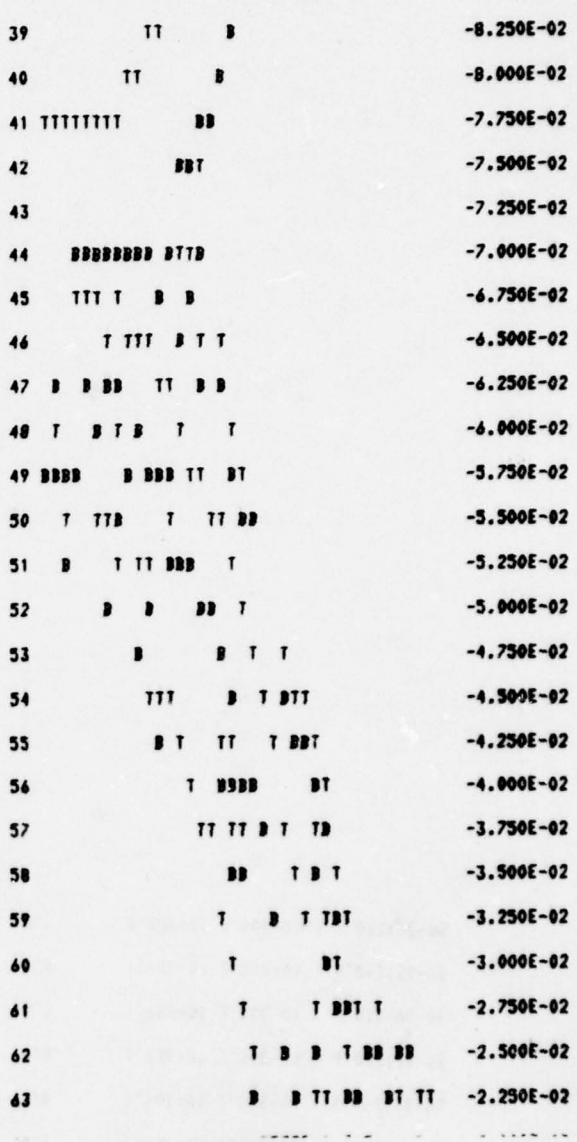
95	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	5.75E+00	2.50E-01	1	6.01319E-05
96	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.00E+00	2.50E-01	1	6.01319E-05
97	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.25E+00	2.50E-01	1	6.01319E-05
98	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.50E+00	2.50E-01	1	6.01319E-05
99	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	6.75E+00	2.50E-01	1	6.01319E-05
100	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.00E+00	2.50E-01	1	6.01319E-05
101	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.25E+00	2.50E-01	1	6.01319E-05
102	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E(03	0.0	0.0	0.0	7.50E+00	2.50E-01	1	6.01319E-05
103	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	7.75E+00	2.50E-01	1	6.01319E-05
104	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.00E+00	2.50E-01	1	6.01319E-05
105	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.25E+00	2.50E-01	1	6.01319E-05
106	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.50E+00	2.50E-01	1	6.01319E-05
107	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	8.75E+00	2.50E-01	1	6.01319E-05
108	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.00E+00	2.50E-01	1	6.01319E-05
109	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.25E+00	2.50E-01	1	6.01319E-05
110	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.50E+00	2.50E-01	1	6.01319E-05
111	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	9.75E+00	2.50E-01	1	6.01319E-05
112	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.00E+01	2.50E-01	1	6.01319E-05
113	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.03E+01	2.50E-01	1	6.01319E-05
114	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.05E+01	2.50E-01	1	6.01319E-05
115	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.08E+01	2.50E-01	1	6.01319E-05
116	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.10E+01	2.50E-01	1	6.01319E-05
117	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.13E+01	2.50E-01	1	6.01319E-05
118	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.15E+01	2.50E-01	1	6.01319E-05
119	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.18E+01	2.50E-01	1	6.01319E-05
120	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.20E+01	2.50E-01	1	6.01319E-05

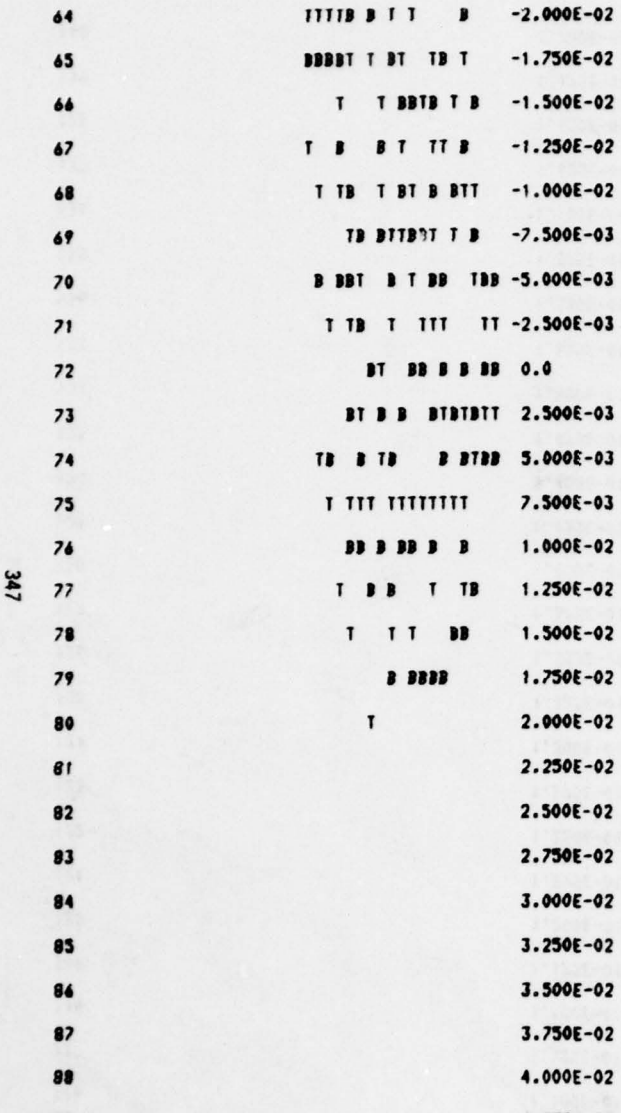
121	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.23E+01	2.50E-01	1	6.01319E-05
122	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.25E+01	2.50E-01	1	6.01319E-05
123	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.28E+01	2.50E-01	1	6.01319E-05
124	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.30E+01	2.50E-01	1	6.01319E-05
125	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.33E+01	2.50E-01	1	6.01319E-05
126	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.35E+01	2.50E-01	1	6.01319E-05
127	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.38E+01	2.50E-01	1	6.01319E-05
128	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.40E+01	2.50E-01	1	6.01319E-05
129	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.43E+01	2.50E-01	1	6.01319E-05
130	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.45E+01	2.50E-01	1	6.01319E-05
131	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.48E+01	2.50E-01	1	6.01319E-05
132	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.50E+01	2.50E-01	1	6.01319E-05
133	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.53E+01	2.50E-01	1	6.01319E-05
134	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.55E+01	2.50E-01	1	6.01319E-05
135	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.58E+01	2.50E-01	1	6.01319E-05
136	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.60E+01	2.50E-01	1	6.01319E-05
137	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.63E+01	2.50E-01	1	6.01319E-05
138	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.65E+01	2.50E-01	1	6.01319E-05
139	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.68E+01	2.50E-01	1	6.01319E-05
140	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.70E+01	2.50E-01	1	6.01319E-05
** 141	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.73E+01	2.50E-01	1	6.01319E-05
142	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.75E+01	2.50E-01	1	6.01319E-05
143	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.78E+01	2.50E-01	1	6.01319E-05
144	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.80E+01	2.50E-01	1	6.01319E-05
145	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.83E+01	2.50E-01	1	6.01319E-05
146	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.85E+01	2.50E-01	1	6.01319E-05

147	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.88E+01	2.50E-01	1	6.01319E-05
148	1.013E+06	-2.72E-01	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	1.90E+01	2.50E-01	1	6.01319E-05
149	1.013E+06	-2.72E-01	-1.12E-10	2.044E+09	1.225E-03	0.0	0.0	0.0	1.93E+01	2.50E-01	1	6.01319E-05
150	1.013E+06	-2.76E-01	-2.68E-02	2.044E+09	1.225E-03	0.0	0.0	0.0	1.95E+01	2.50E-01	1	6.01319E-05
151	1.013E+06	-2.32E-01	-4.68E-01	2.044E+09	1.225E-03	0.0	0.0	0.0	1.98E+01	2.50E-01	1	6.01315E-05
152	1.013E+06	0.0	0.0	2.044E+09	1.225E-03	0.0	0.0	0.0	2.00E+01	2.50E-01	1	6.01319E-05

```
0                                         ENERGY MAP

              1         2         3         4
+                         ■                   ALTITUDE
     1234567890123456789012345678901234567890
+                                              METERS
   1                                          -1.775E-01
   2                                          -1.750E-01
   3                     TTTTTTT      BBB  BB -1.725E-01
   4             TTTT    BBB    TTT      B TT -1.700E-01
   5   T         BBBBTTTT   BBBB   T      B   -1.675E-01
   6   B             BBBB TTT   BBBB       BB -1.650E-01
   7                      BBB  TT        TTTT -1.625E-01
   8                           BB   TT   BBBB -1.600E-01
   9                                B         -1.575E-01
  10                             TTT BT       -1.550E-01
  11                          T  B B   TTTTTT -1.525E-01
  12                          BTT B TTBBBBB   -1.500E-01
```


13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02

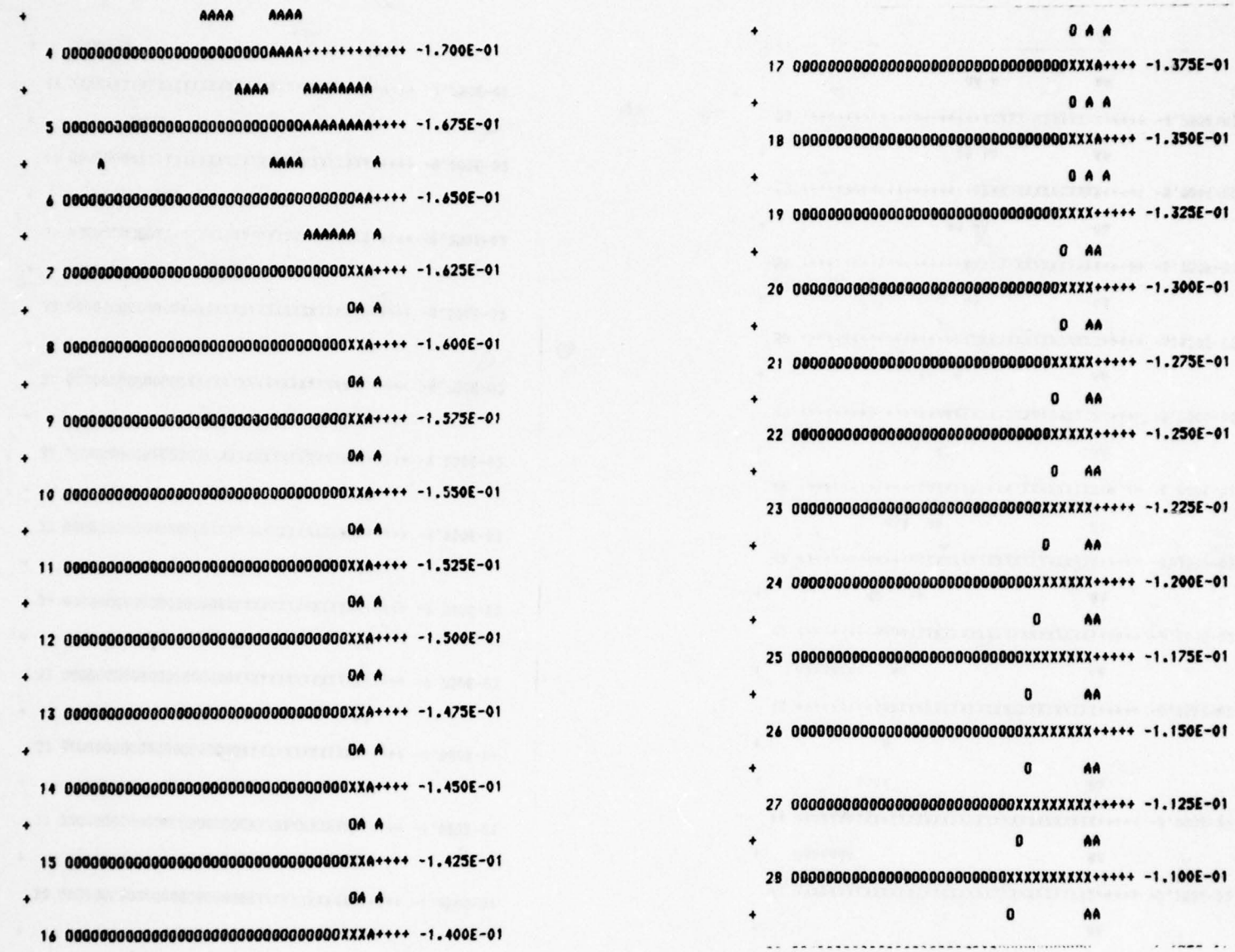

39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02



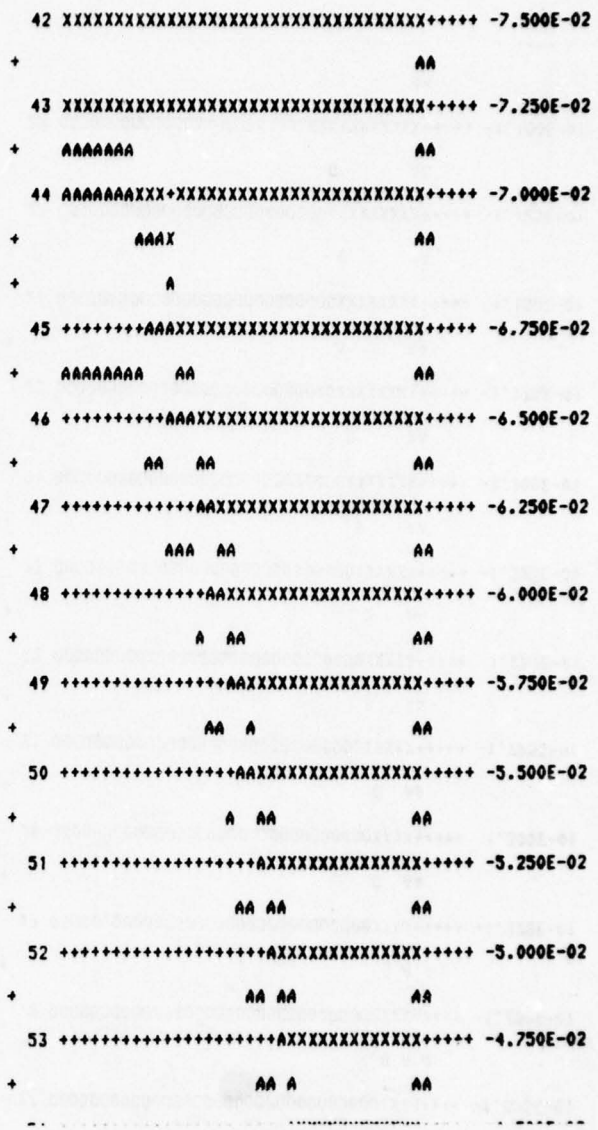
64	TTTTB B T T B	-2.000E-02
65	BBBBT T BT TB T	-1.750E-02
66	T T BBTB T B	-1.500E-02
67	T B B T TT B	-1.250E-02
68	T TB T BT B BTT	-1.000E-02
69	TB BTTBBT T B	-7.500E-03
70	B BBT B T BB TBB	-5.000E-03
71	T TB T TTT TT	-2.500E-03
72	BT BB B B BB	0.0
73	BT B B BTBTBTT	2.500E-03
74	TB B TB B BTBB	5.000E-03
75	T TTT TTTTTTTT	7.500E-03
76	BB B BB B B	1.000E-02
77	T B B T TB	1.250E-02
78	T T T BB	1.500E-02
79	B BBBB	1.750E-02
80	T	2.000E-02
81		2.250E-02
82		2.500E-02
83		2.750E-02
84		3.000E-02
85		3.250E-02
86		3.500E-02
87		3.750E-02
88		4.000E-02
89		4.250E-02
90		4.500E-02
91		4.750E-02
92		5.000E-02
93		5.250E-02
94		5.500E-02
95		5.750E-02
96		6.000E-02
97		6.250E-02
98		6.500E-02
99		6.750E-02
100		7.000E-02
101		7.250E-02
102		7.500E-02
103		7.750E-02
104		8.000E-02
105		8.250E-02
106		8.500E-02
107		8.750E-02
108		9.000E-02
109		9.250E-02
110		9.500E-02
111		9.750E-02
112		1.000E-01
113		1.025E-01
114		1.050E-01

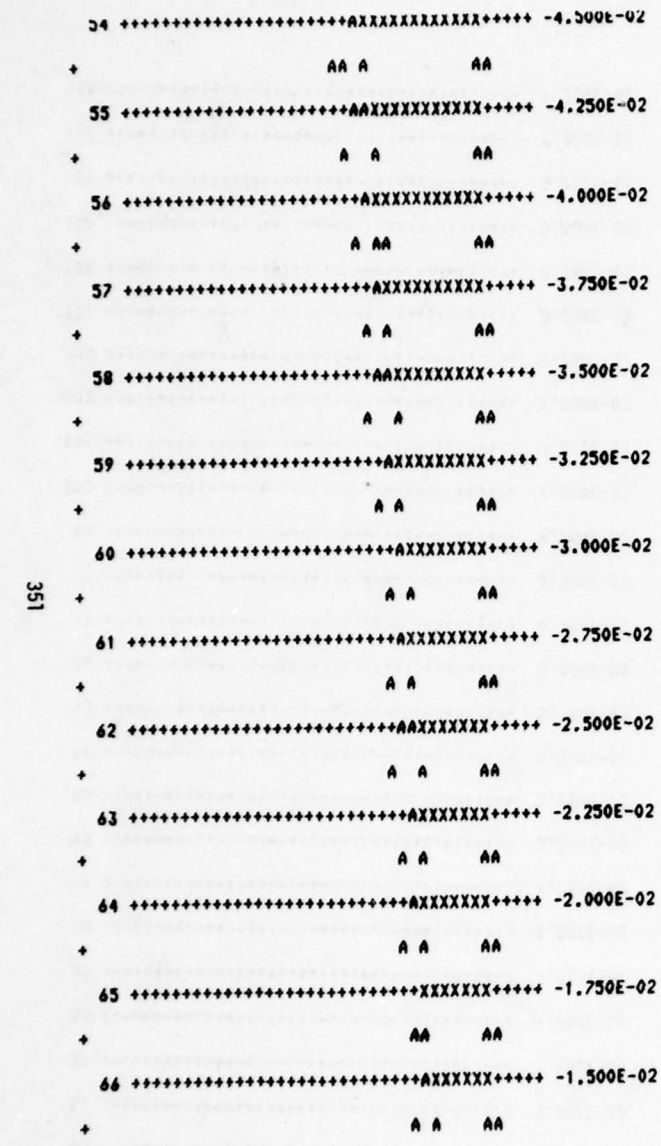
```
115  1.075E-01
116  1.100E-01
117  1.125E-01
118  1.150E-01
119  1.175E-01
120  1.200E-01
121  1.225E-01
122  1.250E-01
123  1.275E-01
124  1.300E-01
125  1.325E-01
126  1.350E-01
127  1.375E-01
128  1.400E-01
129  1.425E-01
130  1.450E-01
131  1.475E-01
132  1.500E-01
133  1.525E-01
134  1.550E-01
135  1.575E-01
136  1.600E-01
137  1.625E-01
138  1.650E-01
139  1.675E-01
140  1.700E-01
```

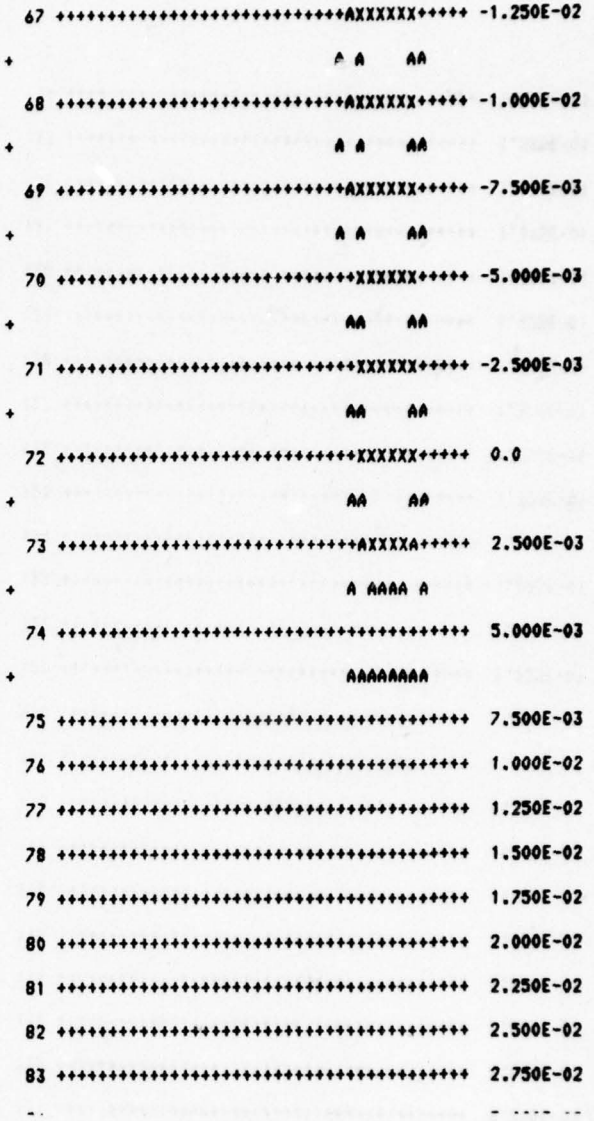
```
141                                        1.725E-01
142                                        1.750E-01
143                                        1.775E-01
144                                        1.800E-01
145                                        1.825E-01
146                                        1.850E-01
147                                        1.875E-01
148                                        1.900E-01
149       TB  B BBBBBBBB BBBBB             1.925E-01
150      BBTTTTTTTTTTTTTTTTTT               1.950E-01
151 TT  TTT                  T TTTTTTTTTTT  1.975E-01
152 BB TBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB  2.000E-01
    12345678901234567890123456789012345678901
             1         2         3         4
0                                                    MATERIAL MAP

             1         2         3         4
+                                                    ALTITUDE
    12345678901234567890123456789012345678901
+                                                    METERS
  1 +++++++++++++++++++++++++++++++++++++++++++ -1.775E-01
  2 0000000000000000AAA+++++++++++++++++++++++ -1.750E-01
+   AAAAAAAAAAAAAAAA   AAAAA
  3 00000000000000000000AAAA+++++++++++++++++ -1.725E-01
```

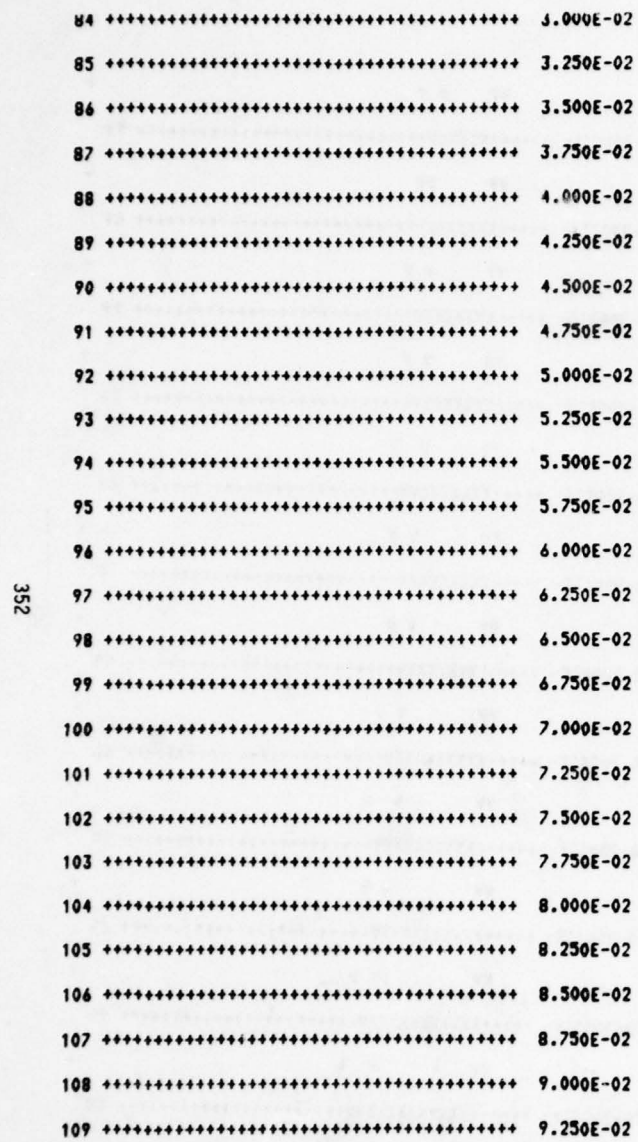

4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01

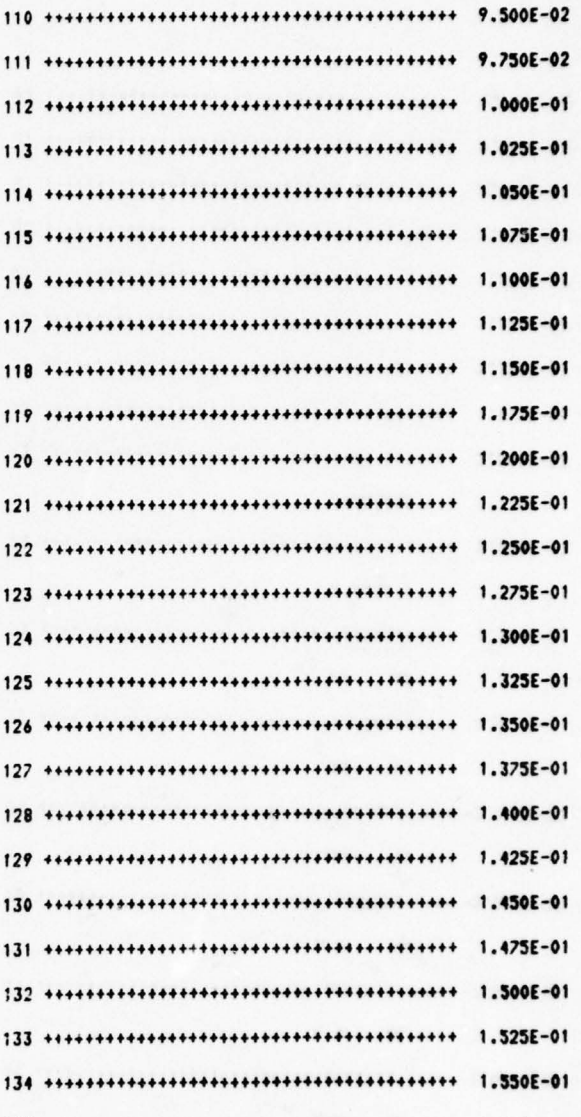

29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02


42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02


54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02


67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.0
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02

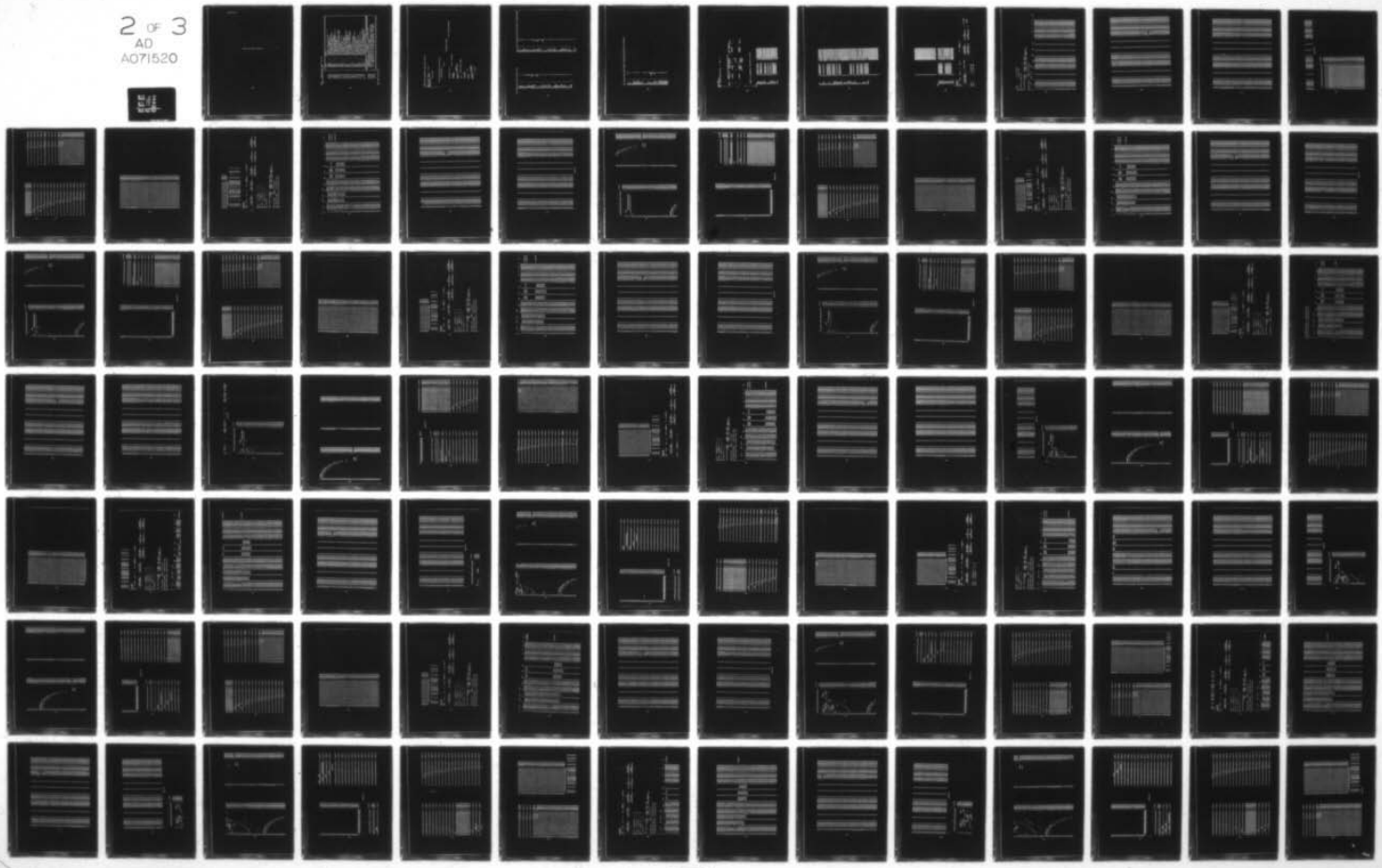

84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02

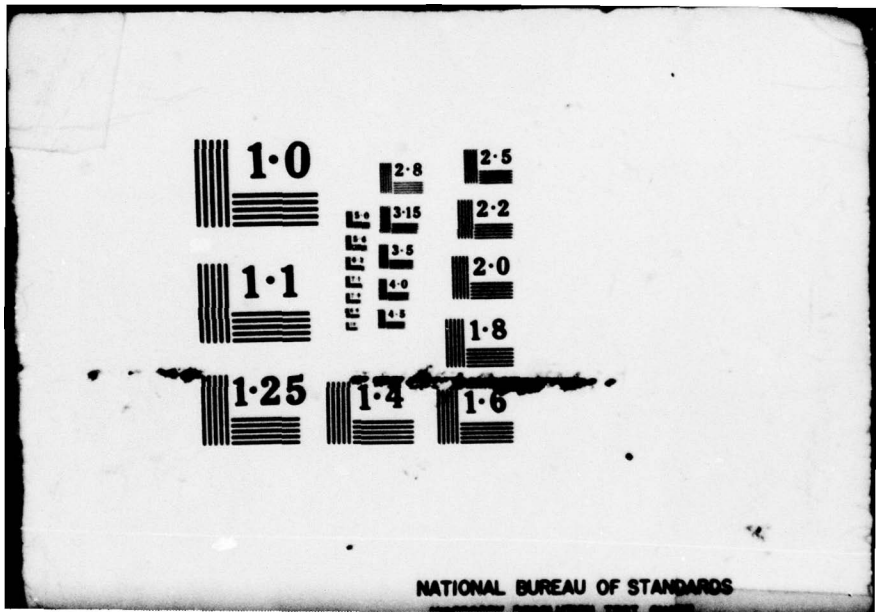

110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01

```
135 ++++++++++++++++++++++++++++++++++++++++++++  1.575E-01
136 ++++++++++++++++++++++++++++++++++++++++++++  1.600E-01
137 ++++++++++++++++++++++++++++++++++++++++++++  1.625E-01
138 ++++++++++++++++++++++++++++++++++++++++++++  1.650E-01
139 ++++++++++++++++++++++++++++++++++++++++++++  1.675E-01
140 ++++++++++++++++++++++++++++++++++++++++++++  1.700E-01
141 ++++++++++++++++++++++++++++++++++++++++++++  1.725E-01
142 ++++++++++++++++++++++++++++++++++++++++++++  1.750E-01
143 ++++++++++++++++++++++++++++++++++++++++++++  1.775E-01
144 ++++++++++++++++++++++++++++++++++++++++++++  1.800E-01
145 ++++++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++++++  2.000E-01
   12345678901234567890123456789012345678901234567890
            1         2         3         4
 CYCLE    95   TIME 1.3138E-05  DT 1.356E-07   IDT   24  JDT   29
 CYCLE    96   TIME 1.3274E-05  DT 1.363E-07   IDT   24  JDT   30
 CYCLE    97   TIME 1.3410E-05  DT 1.361E-07   IDT   25  JDT   29
 CYCLE    98   TIME 1.3546E-05  DT 1.348E-07   IDT   24  JDT   31
 CYCLE    99   TIME 1.3681E-05  DT 1.368E-07   IDT   27  JDT   28
 CYCLE   100   TIME 1.3818E-05  DT 1.003E-07   IDT   25  JDT   31
```

AD-A071 520 AIR FORCE WEAPONS LAB KIRTLAND AFB NM F/G 15/6
THE INSTALLATION AND OPERATION OF HULL ON 370S, PART II.(U)
JAN 79 L P GABY, M A FRY, C E RHOADES
UNCLASSIFIED AFWL-TR-78-134-PT-2 SBIE-AD-E200 325 NL

2 OF 3
AD
A071520




1·0
1·1
1·25
2·8
3·15
3·5
4·0
4·5
1·4
2·5
2·2
2·0
1·8
1·6
NATIONAL BUREAU OF STANDARDS

PROBLEM 4.013 CYBER 176 HULL RUN

```
BATCH       CREATED 08/16/78  TODAY IS 08/16/78
  AUTOMATIC BULLETIN TO BATCH JOBS
+
```

	SYSBULL	CONTENTS
8/16/78	STATUS	AVAILABILITY STATUS OF ALL SYSTEMS
8/ 9/78	MEMMGT	CM AND ECS FIELD MANAGEMENT
7/31/78	NASTRAN	INFORMATION FOR USERS OF NASTRAN
7/18/78	CONTACT	WHO TO CONTACT ABOUT COMPUTER PROBLEMS
7/14/78	MODS	FEATURES ADDED TO CDC NOS/BE
7/14/78	CMECMGT	CM AND ECS FIELD LENGTH MANAGEMENT
6/23/78	FLECS	STRUCTURED PROGRAMMING PRE-PROCESSOR FOR FTN
6/20/78	LETTER	AFWL COMPUTER CENTER NEWSLETTER
6/14/78	ASPLIB	AFWL COMMON MATH LIBRARIES
5/16/78	CLASS	CLASSES FOR USERS OF AFWL COMPUTER CENTER
5/ 8/78	ACCESS	HOW TO OBTAIN AN AFWL/KAFB COMPUTER ACCOUNT
5/ 4/78	CONFIG	SYSTEMS CONFIGURATION
5/ 4/78	EXPDITE	AFWR CUSTOMER SERVICE (EXPEDITOR)
5/ 1/78	PRIORTY	JOB CARD PRIORITY CODES
4/24/78	BILLING	AFWL COMPUTER BILLING INFORMATION
4/21/78	DIALUP	COMPUTER DIALUP PHONE NUMBERS
4/19/78	INTRO	BASIC INTRODUCTION TO KAFB COMPUTER CENTER
4/18/78	DUMPS	STANDARD PROCEDURES FOR ERROR DUMPS
4/14/78	TITLE	MICROFICHE VISUAL TITLE GENERATION
4/11/78	REQUEST	STANDARD PROCEDURES FOR REQUESTING TAPES
4/ 6/78	PLOT	DEVICE INDEPENDENT PLOT SYSTEM -METAPLOT-
3/31/78	ACCOUNT	ACCOUNT CARD FORMAT.
3/30/78	PFRULES	LOCAL RULES FOR CATALOGING FILES
3/30/78	BACKUP	PERMANENT FILE BACKUP PROCEDURES
3/30/78	PRMFILE	PERM FILE ACCOUNTING AND BACKUP SYSTEMS
3/ 9/78	LABEL	AFWL LABELLED TAPE PROCESSING
3/ 9/78	FR80	200 SIMULATION VIA FR80
3/ 9/78	COMPILE	FTN COMPILER CHANGES AND RELEASES
3/ 8/78	AFSCNET	INFORMATION ABOUT AFSCNET
3/ 7/78	METAQUE	AUTOMATIC DISPOSITION OF META PLOT FILES
2/10/78	SWITCH	NEW INTERCOM PHONE SWITCH
1/17/78	DIFFER	DIFFERENCES IN NOS/BE FROM 6600 TO CYBER 176
1/ 4/78	DISSTIP	DISSPLA TECH. INFO. PROGRAMMING SUGGESTIONS
10/ 3/77	DISSPLA	A NEW USER ORIENTED PLOTING PACKAGE

SYSTEM WARNINGS

```
8/14/78   ANONYMOUS PHILANTHROPIST HAS DONATED A FEW FABULOUS FUNDS TO KEEP
8/14/78   MFX AVAILABLE 24 HOURS A DAY 7 BIG ONES A WEEK.
8/14/78   BUDGETARY CONSIDERATION FOR FY 79: 176 CHARGES WILL GO UP BY ABOUT 15%.
8/14/78   REVIEW, SIGN AND RETURN TAPE INVENTORY LISTINGS BEFORE 21 AUGUST 1978.
8/14/78   ++++  FLASH MESSAGE ++++  CYBER RECORD MANAGER ANALYSIS CLASS HAS BEEN
8/14/78   ++++  CHANGED TO AUG 28-30. ALL CLASS MEMBERS TAKE NOTE  ++++ FLASH +++
8/14/78
+
TAPE4 SEARCH FOR START CYCLE
+
+
```

PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION

PROB 4.0130 CYCLE 0 TIME 0.
BACKSPACING 2 RECORDS
TAPE POSITIONED

DISK VERSION

****** OPTIONS SELECTED FOR THIS RUN ******

DIFFERENCE METHOD -

SHELL II

AND MATERIAL STRENGTH

WITH 3 FLUXED HISTORIES/CELL

EQUATION OF STATE -

SOLIDS - NO STRENGTH

TNT BURN
ATMOSPHERE -

CONSTANT
VOLUME AND ENERGY FLUXING
REZONE -

VERTICAL SHOCK FOLLOWER
CODE -

HULL
DIMENSIONS -

2-D
GEOMETRY -

CYLINDRICAL
NO RADIATION ROUTINES
PARTICLES -

NO CODE

THE FOLLOWING OPTIONS WERE DEFINED BY PLANK.

+

ATMOS	=	5
BURN	=	1
CODE	=	1
DIMEN	=	2
EOS	=	6
GEOM	=	2
HOT	=	0
IMAX	=	40
ISLAND	=	0
JMAX	=	152
KMAX	=	1
LBUFA	=	3329
LBUFB	=	242
MAGFLD	=	0
METHOD	=	2
NH	=	20
NHIC	=	3200
NM	=	4
NOP	=	0
NHIST	=	3
NPLPB	=	2
NPP	=	2
NROWPB	=	4
NSTN	=	0
NVARST	=	15
RAD	=	0
REZONE	=	4
STRESS	=	1
SURF	=	0
SW	=	6
SWX	=	0
VISC	=	0
LAMB	=	0
BBOUND	=	0
LBOUND	=	0
KEEL	=	0
PULL	=	0
VOIDS	=	0
FLUXER	=	3
DEPOS	=	0
FAIL	=	0
STRAIN	=	0
WORK	=	0
MAT	=	4
AIR	=	1
AL	=	4
OCTOL	=	2
OCTBRM	=	3

THE FOLLOWING OPTIONS WERE SPECIFIED WHEN EXECUTIVE PROCESSING BEGAN

INST	=	1
PRG	=	0
PLANK	=	0
PULL	=	0
KEEL	=	0
LIBRARY	=	0
ATMOS	=	5
BURN	=	1
CODE	=	1
DIMEN	=	2
EOS	=	6
GEOM	=	2
HOT	=	0
IMAX	=	40
ISLAND	=	0
JMAX	=	152
KMAX	=	1
LBUFA	=	3329
LBUFB	=	242
MAGFLD	=	0
METHOD	=	2
NH	=	20
NHIC	=	3200
NM	=	4
NOP	=	0
NHIST	=	3
NPLPB	=	2
NPP	=	2
NROWPB	=	4
NSTN	=	0
NVARST	=	15
RAD	=	0
REZONE	=	4
STRESS	=	1
SURF	=	0
SW	=	6
SWX	=	0
VISC	=	0
LAMB	=	0
BBOUND	=	0
LBOUND	=	0
VOIDS	=	0
FLUXER	=	3
DEPOS	=	0
FAIL	=	0
STRAIN	=	0
WORK	=	0
MAT	=	4
AIR	=	1
AL	=	4
OCTOL	=	2
OCTBRM	=	3

+

```
+
THE FOLLOWING DEFINITIONS OR REDEFINITIONS WERE MADE DURING EXECUTIVE PROCESSING
+
+
SYS       =         176
VER       =           4
NOSBE     =           1
PF        =           1
ECS       =           1
OBJLIB    =           1
TAPELIB   =           4
ROUTE     =           1
DENSHUL   =           5
DENSLIB   =           5
DENSSTA   =           3
LABEL     =           1
DATE      =           1
CONTROL   =           1
CDC       =           1
IBM       =           0
CW        =          10
NW        =           1
RDEND     =           2
CARDL     =           8
CARDO     =          80
NWEC      =      121600
NSLKS     =          38
NPIC      =           0
NPICMAX   =        3820
DEBUG     =           0
FILMPR    =           1
HLEV      =           1
D$NAMEA   =          21
D$NAMEA   =          22
D$NAMEB   =          12
D$NAMEB   =          13
D$NAMEC   =          14
D$NAMEC   =          15
D$NAMEC   =          17
D$NAMED   =           5
AIREOS    =           1
```

```
PLANK START
NOT A 555 RECORD
PROB    4.0130  STARTUP ON CYCLE     0  TIME    0.
+
+
+
+
+
+
```

MATERIAL	AMBIENT YIELD (YB)	THERMAL SHOFTENING YLD/YB	EE/EMELT	WORK HARDENING YIELD	PLASTIC STRAIN
2	2.000E+03	1.00E+00	0.	2.000E+03	0.
		-I	-I	-I	-I
		-I	-I		
		0.	1.00E+00		
4	2.900E+09	1.00E+00	0.	2.900E+09	0.
		9.00E-01	5.00E-01	2.900E+09	3.00E-01
		9.00E-01	5.00E-01		
		0.	1.00E+00		

```
+
+
+
+
+
+
```



```
    PROBLEM 4.013 HEMISPHERICAL LINER CENTRAL INITIATION
+
+
+
+
ZBLK
```

PROB	4.01299999999998E+00	17224006517676355442
ATMOS	5.00000000000000E+00	17225000000000000000
BREF	0.	00000000000000000000
BURN	1.00000000000000E+00	17204000000000000000
CODE	1.00000000000000E+00	17204000000000000000
COLD	0.	77777777777777777776
CYCLE	0.	00000000000000000000
DIMEN	2.00000000000000E+00	17214000000000000000
DT	9.99999999999951E-11	16566676337663536742
ELC	0.	00000000000000000000
EOS	6.00000000000000E+00	17226000000000000000
ETH	0.	00000000000000000000
EXPAND	5.00000000000000E-02	17136314631463146315
FAIL	0.	00000000000000000000
FLUXER	3.00000000000000E+00	17216000000000000000
GEOM	2.00000000000000E+00	17214000000000000000
IMAX	4.00000000000000E+01	17255000000000000000
IO	3.90000000000000E+01	17254700000000000000
ISLAND	0.	00000000000000000000

JMAX	1.52000000000000E+02	1727460000000000000
JQ	1.51000000000000E+02	1727456000000000000
HOB	0.	0000000000000000000
LREF	0.	7777777777777777776
METHOD	2.00000000000000E+00	1721400000000000000
MLC	0.	0000000000000000000
MTH	0.	0000000000000000000
NH	2.00000000000000E+01	1724500000000000000
NHIC	3.20000000000000E+03	1733620000000000000
NHIST	3.00000000000000E+00	1721600000000000000
NM	4.00000000000000E+00	1722400000000000000
NOP	0.	0000000000000000000
NPP	2.00000000000000E+00	1721400000000000000
NROWPB	4.00000000000000E+00	1722400000000000000
PTSTOP	2.99999999999992E-05	1700767242023252434
RADLOS	0.	0000000000000000000
REZONE	4.00000000000000E+00	1722400000000000000
RREF	0.	0000000000000000000
STABF	5.00000000000000E-01	1717400000000000000
STRESS	1.00000000000000E+00	1720400000000000000
SUME	0.	0000000000000000000
T	0.	0000000000000000000
TERAD	0.	0000000000000000000
TLC	0.	0000000000000000000
TREF	0.	0000000000000000000
TTIME	0.	0000000000000000000
TTIME6	0.	0000000000000000000
TTIME7	0.	0000000000000000000
TTSTOP	1.00000000000000E+02	1726620000000000000
UREZ	1.00000000000000E+01	1723500000000000000
VISC	0.	0000000000000000000
VREZ	1.00000000000000E+01	1723500000000000000
VOIDS	0.	0000000000000000000
WORK	0.	0000000000000000000
X1	8.00000000000000E+00	1723400000000000030
X2	-1.00000000000000E+00	6857377777777777777
XOB	0.	0000000000000000000
Y1	3.00000000000000E+01	1724740000000000000
Y2	1.22000000000000E+02	1726750000000000000
YGND	-1.00000000000000E+04	6842307377777777777
YIELD	0.	0000000000000000000
AIR	1.00000000000000E+00	1720400000000000000
AL	4.00000000000000E+00	1722400000000000000
OCTOL	2.00000000000000E+00	1721400000000000000
OCTBRN	3.00000000000000E+00	1721600000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000

```
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
                 0.                      00000000000000000000
+
INOPT
    MRELER       1.00000000000000E+00    17204000000000000000
    CSTOP        9.40000000000000E+01    17265700000000000000
    RTSTOP       1.00000000000000E+20    20235327435361326142
    DCYCST       1.00000000000000E+20    20235327435361326142
    PRINTW       0.                      77777777777777777776
    DEBUG        0.                      00000000000000000000
    X1NEW        1.50000000000000E+01    17237400000000000000
    Y1NEW        5.50000000000000E+01    17256700000000000000
    Y2NEW        8.50000000000000E+01    17265240000000000000
    TIMES        3.00000000000000E+00    17216000000000000000
    DMPINT       9.99999999999977E-07    16744143367501327551
    VMIN         1.00000000000000E-03    17064061115645706520
    ITRACE       0.                      00000000000000000000
    JTRACE       0.                      00000000000000000000
+
+
**********
**********
+
PROB    4.0130      CYCLE     0      TIME  0.          DT  1.000000E-10
+
+
+
    INTERNAL ENERGY         KINETIC ENERGY          TOTAL ENERGY              ETH                    REL ERROR
  1.95017007305092E+13    0.                  1.95017007305092E+13    1.95017007305092E+13    0.
+
                                                    TOTAL MASS                 MTH                    RELMERR
                                              7.37400926165900E+03    7.37400926165900E+03    0.
+
MAX VEL =           -I AT I**** J****
+
MAX CS =            -I AT I**** J****
+
```

MAX TEMP= -I AT I***** J*****
+
MAX P = -I AT I***** J*****
+
CELL SETTING DT, I***** J*****
+
+
TOTAL TIME FOR THIS PROBLEM 0 HOURS, 0 MIN, 0 SEC
OF THIS 0 HOURS, 0 MIN, 0 SEC IS 6600 TIME.
AND 0 HOURS, 0 MIN, 0 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN 0 HOURS, 0 MIN, 25 SEC
+
I= I X(I)= .250 DX(I)= .250
+

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	6.01320E-05		
3	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.73E+01	2.50E-01	1	6.01320E-05		
4	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.70E+01	2.50E-01	1	6.01320E-05		
5	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-1.68E+01	2.50E-01	4	1.33027E-01		
6	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-1.65E+01	2.50E-01	4	1.33027E-01		
7	1.399E+11	0.	0.	5.272E+10	1.820E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	8.93390E-02		
8	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.60E+01	2.50E-01	2	8.93390E-02		
9	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.58E+01	2.50E-01	2	8.93390E-02		
10	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.55E+01	2.50E-01	2	8.93390E-02		
11	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.53E+01	2.50E-01	2	8.93390E-02		
12	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.50E+01	2.50E-01	2	8.93390E-02		
13	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.48E+01	2.50E-01	2	8.93390E-02		
14	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.45E+01	2.50E-01	2	8.93390E-02		
15	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.43E+01	2.50E-01	2	8.93390E-02		
16	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.40E+01	2.50E-01	2	8.93390E-02		
17	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.38E+01	2.50E-01	2	8.93390E-02		
18	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.35E+01	2.50E-01	2	8.93390E-02		
19	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.33E+01	2.50E-01	2	8.93390E-02		
20	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.30E+01	2.50E-01	2	8.93390E-02		
21	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.28E+01	2.50E-01	2	8.93390E-02		
22	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.25E+01	2.50E-01	2	8.93390E-02		
23	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.23E+01	2.50E-01	2	8.93390E-02		
24	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.20E+01	2.50E-01	2	8.93390E-02		
25	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.18E+01	2.50E-01	2	8.93390E-02		
26	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.10E+01	2.50E-01	2	8.93390E-02		
29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.08E+01	2.50E-01	2	8.93390E-02		
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02		
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02		
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02		
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02		
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		

38	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02
39	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02
40	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02
41	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02
42	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02
43	1.813E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01
44	1.813E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01
45	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05
46	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05
47	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05
48	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05
49	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.913E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
99	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.813E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05

92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1 6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1 6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1 6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1 6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1 6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1 6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1 6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1 6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1 6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1 6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1 6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1 6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1 6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1 6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1 6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1 6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1 6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1 6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1 6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1 6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1 6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1 6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1 6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1 6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1 6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1 6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1 6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1 6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1 6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1 6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1 6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1 6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1 6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1 6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1 6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1 6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1 6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1 6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1 6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1 6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1 6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1 6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1 6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1 6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1 6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1 6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1 6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1 6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1 6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1 6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1 6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1 6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1 6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1 6.01320E-05

146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

MATERIAL MAP

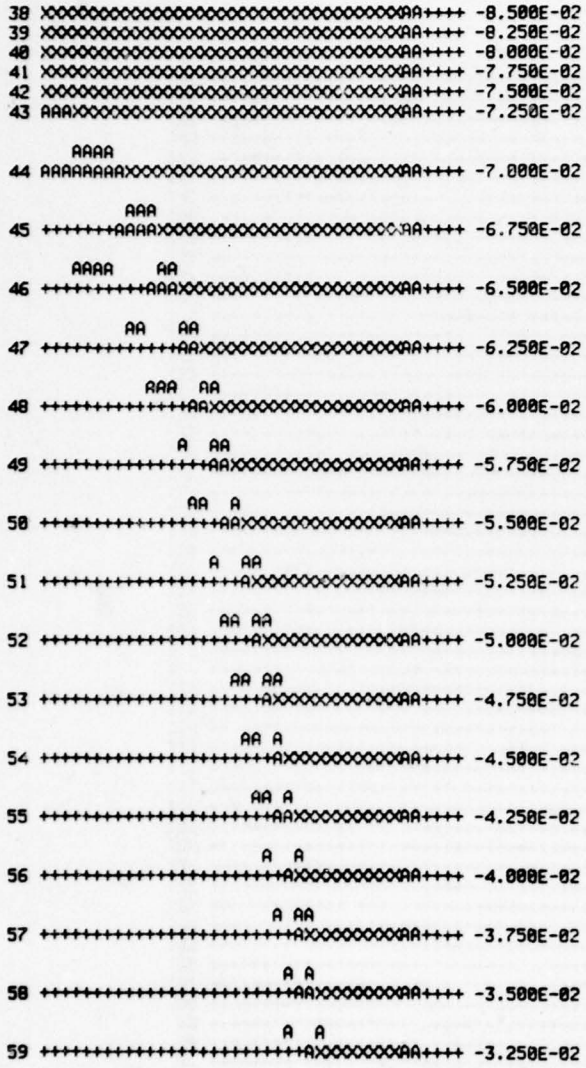
1 2 3 4

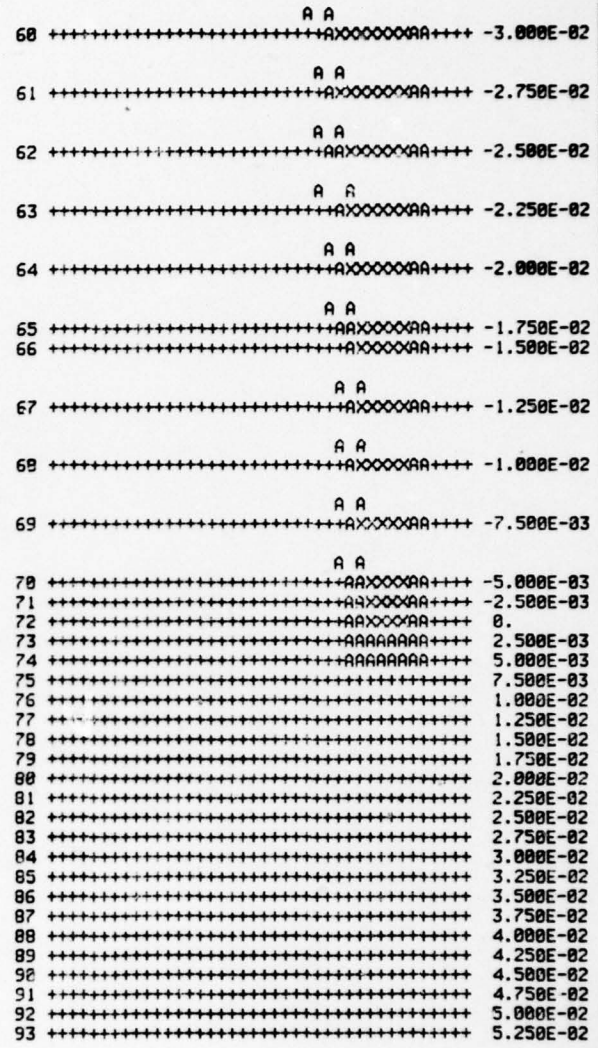
ALTITUDE

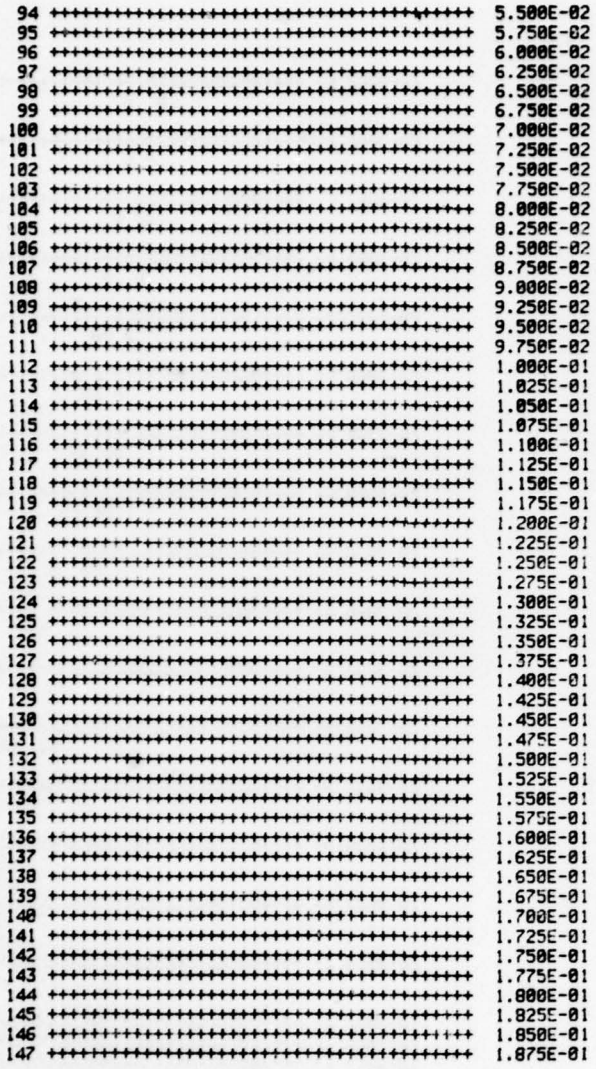
1234567890123456789012345678901234567890

METERS

```
 1 ++++++++++++++++++++++++++++++++++++++++ -1.775E-01
 2 ++++++++++++++++++++++++++++++++++++++++ -1.750E-01
 3 ++++++++++++++++++++++++++++++++++++++++ -1.725E-01
 4 ++++++++++++++++++++++++++++++++++++++++ -1.700E-01
 5 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.675E-01
 6 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.650E-01
 7 OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.625E-01
 8 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.600E-01
 9 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.575E-01
10 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.550E-01
11 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.525E-01
12 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.500E-01
13 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.475E-01
14 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.450E-01
15 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.425E-01
16 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.400E-01
17 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.375E-01
18 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.350E-01
19 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.325E-01
20 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.300E-01
21 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.275E-01
22 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.250E-01
23 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.225E-01
24 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.200E-01
25 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.175E-01
26 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.150E-01
27 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.125E-01
28 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.100E-01
29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.075E-01
30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.050E-01
31 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.025E-01
32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.000E-01
33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.750E-02
34 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.500E-02
35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.250E-02
36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.000E-02
37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -8.750E-02
```


38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02


60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02


94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01

```
148 ++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++  2.000E-01
    1234567890123456789012345678901234567890
             1         2         3         4
   CYCLE     1   TIME 1.0000E-10  DT 4.648E-08   IDT    1  JDT    6
   CYCLE     2   TIME 4.6579E-08  DT 6.972E-08   IDT    2  JDT    6
   CYCLE     3   TIME 1.1629E-07  DT 9.284E-08   IDT    1  JDT    5
   CYCLE     4   TIME 2.0913E-07  DT 1.155E-07   IDT    1  JDT    5
   CYCLE     5   TIME 3.2465E-07  DT 1.372E-07   IDT    1  JDT    5
   CYCLE     6   TIME 4.6185E-07  DT 1.573E-07   IDT    1  JDT    5
   CYCLE     7   TIME 6.1914E-07  DT 1.754E-07   IDT    1  JDT    5
   CYCLE     8   TIME 7.9457E-07  DT 1.130E-07   IDT    1  JDT    5
   CYCLE     9   TIME 9.0755E-07  DT 9.245E-08   IDT    1  JDT    5
   CYCLE    10   TIME 1.0000E-06  DT 2.085E-07   IDT    1  JDT    5
+
+
**********
**********
+
PROB    4.0130     CYCLE     10     TIME  1.000000E-06     DT  2.084532E-07
+
+
+
     INTERNAL ENERGY         KINETIC ENERGY          TOTAL ENERGY              ETH                   REL ERROR
   1.95268034482051E+13   3.30035259658305E+09   1.95301038008016E+13   1.95301069769787E+13   -1.62629786346999E-01
+
                                                    TOTAL MASS                MTH                    RELMERR
                                                 7.37480926165928E+03   7.37480926165919E+03   1.18391524814243E-08
+
MAX VEL =   7.77211E+04 AT I    2 J    8
+
MAX CS =    5.72757E+05 AT I    1 J    5
+
MAX TEMP=    2.24733E+03 AT I    3 J    6
+
MAX P =    8.76646E+10 AT I    2 J    7
+
CELL SETTING DT, I    1 J    5
+
+
TOTAL TIME FOR THIS PROBLEM        0 HOURS,  0 MIN, 25 SEC
                    OF THIS        0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                        AND        0 HOURS,  0 MIN, 25 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  0 MIN, 50 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.19E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.31E-04 SEC/CELL/CYCLE
+
+
```

I= 1 X(I)= .250 DX(I)= .250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.70E+01	2.50E-01	1	6.01320E-05		
2	1.013E+06	3.96E-02	-1.50E+01	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	6.01442E-05		
3	1.069E+06	9.54E+01	-7.73E+02	2.074E+09	1.274E-03	0.	0.	0.	-1.73E+01	2.50E-01	1	6.25499E-05		
4	1.016E+06	4.43E+03	-2.69E+04	2.925E+09	1.218E-01	5.73E+08	-1.87E+09	0.	-1.70E+01	2.50E-01	1	5.71861E-05	4	5.92369E-03
5	3.248E+10	7.01E+03	-2.64E+04	2.958E+09	2.815E+00	5.92E+00	-1.80E+09	4.73E+08	-1.68E+01	2.50E-01	4	1.38166E-01		
6	2.139E+10	9.33E+03	-5.68E+04	4.423E+09	2.448E+00	6.90E+02	6.98E+02	0.	-1.65E+01	2.50E-01	3	7.47431E-03	4	1.12713E-01
7	2.457E+10	2.06E+04	-2.82E+04	2.673E+10	1.002E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	4.91744E-02		
8	6.366E+10	4.64E+04	5.65E+04	4.557E+10	1.385E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	6.79737E-02		
9	1.171E+11	1.98E+04	6.06E+04	3.853E+10	1.902E+00	9.96E+02	-1.27E+03	0.	-1.58E+01	2.50E-01	2	3.05657E-02	3	6.27892E-02
10	7.736E+09	2.00E+03	2.17E+04	3.167E+09	1.926E+00	8.32E+02	-1.21E+03	-4.26E+02	-1.55E+01	2.50E-01	2	9.45632E-02		
11	1.149E+09	1.26E+02	1.71E+03	2.625E+09	1.836E+00	7.13E+02	-1.32E+03	-1.76E+02	-1.53E+01	2.50E-01	2	9.01386E-02		
12	9.563E+07	1.11E+01	1.36E+02	2.615E+09	1.821E+00	7.44E+02	-1.32E+03	-1.27E+02	-1.50E+01	2.50E-01	2	8.94050E-02		
13	7.758E+06	6.21E-01	1.19E+01	2.615E+09	1.820E+00	7.90E+02	-1.31E+03	-1.71E+02	-1.48E+01	2.50E-01	2	8.93437E-02		
14	1.558E+06	4.29E-02	6.96E-01	2.615E+09	1.820E+00	7.56E+02	-1.32E+03	-1.02E+02	-1.45E+01	2.50E-01	2	8.93394E-02		
15	1.042E+06	1.38E-03	4.54E-02	2.615E+09	1.820E+00	8.64E+02	-1.31E+03	-1.02E+02	-1.43E+01	2.50E-01	2	8.93391E-02		
16	1.015E+06	1.20E-11	1.52E-03	2.615E+09	1.820E+00	1.21E+02	-1.86E+02	-1.28E-05	-1.40E+01	2.50E-01	2	8.93390E-02		
17	1.013E+06	0.	4.27E-13	2.615E+09	1.820E+00	3.40E-08	-1.06E-06	-2.87E-15	-1.38E+01	2.50E-01	2	8.93390E-02		
18	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.35E+01	2.50E-01	2	8.93390E-02		
19	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.33E+01	2.50E-01	2	8.93390E-02		
20	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.30E+01	2.50E-01	2	8.93390E-02		
21	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.28E+01	2.50E-01	2	8.93390E-02		
22	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.25E+01	2.50E-01	2	8.93390E-02		
23	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.23E+01	2.50E-01	2	8.93390E-02		
24	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.20E+01	2.50E-01	2	8.93390E-02		
25	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.18E+01	2.50E-01	2	8.93390E-02		
26	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.10E+01	2.50E-01	2	8.93390E-02		
29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.08E+01	2.50E-01	2	8.93390E-02		
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02		
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02		
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02		
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02		
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02		
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02		
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02		
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02		
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02		
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01		
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01		
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05		
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05		
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05		
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05		

49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05

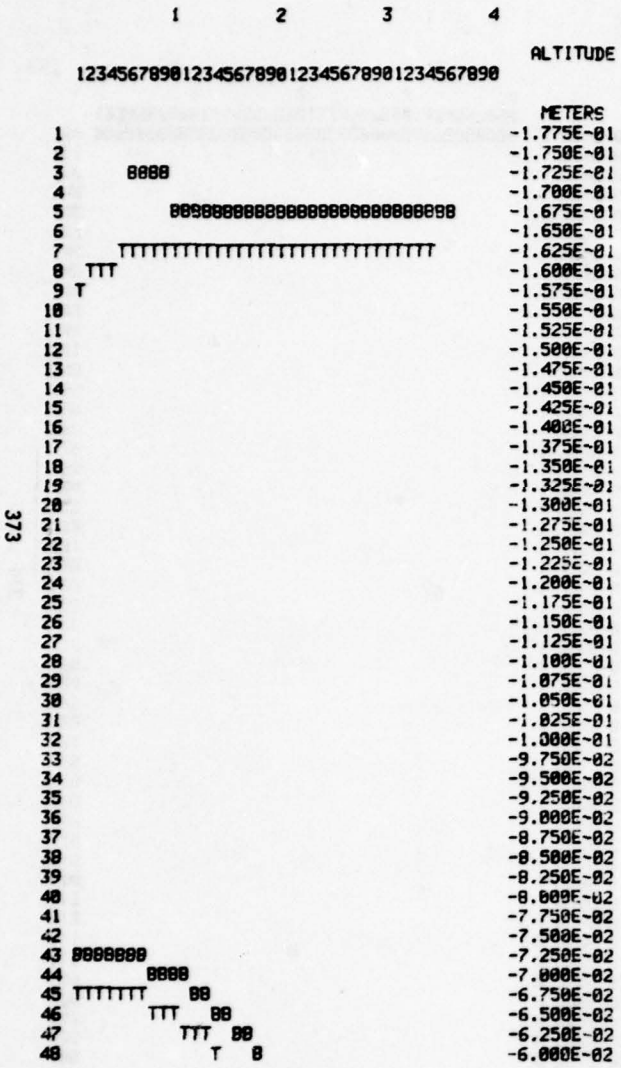
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

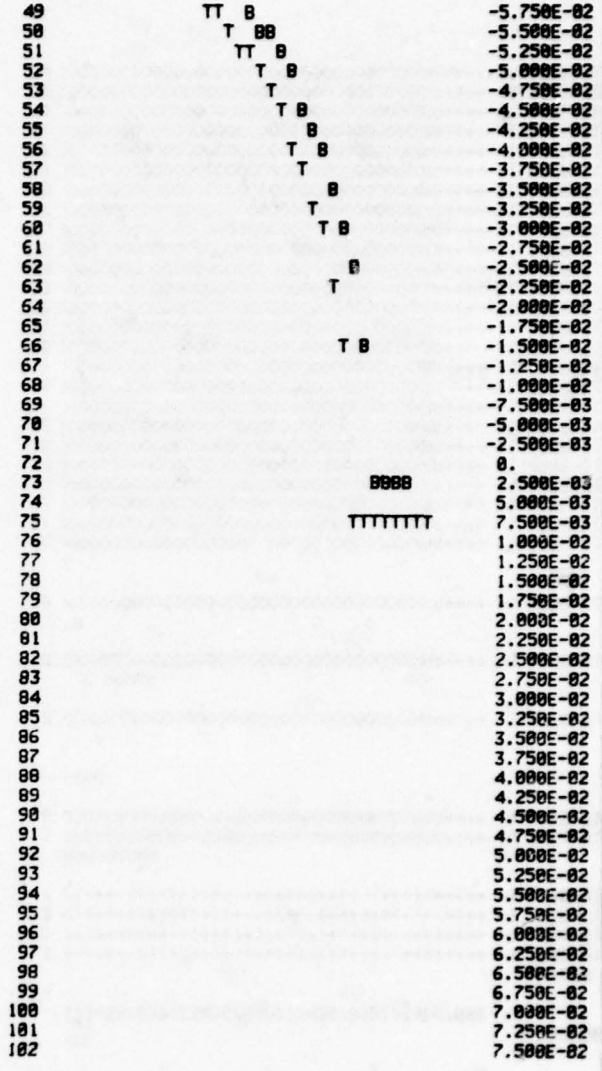
+

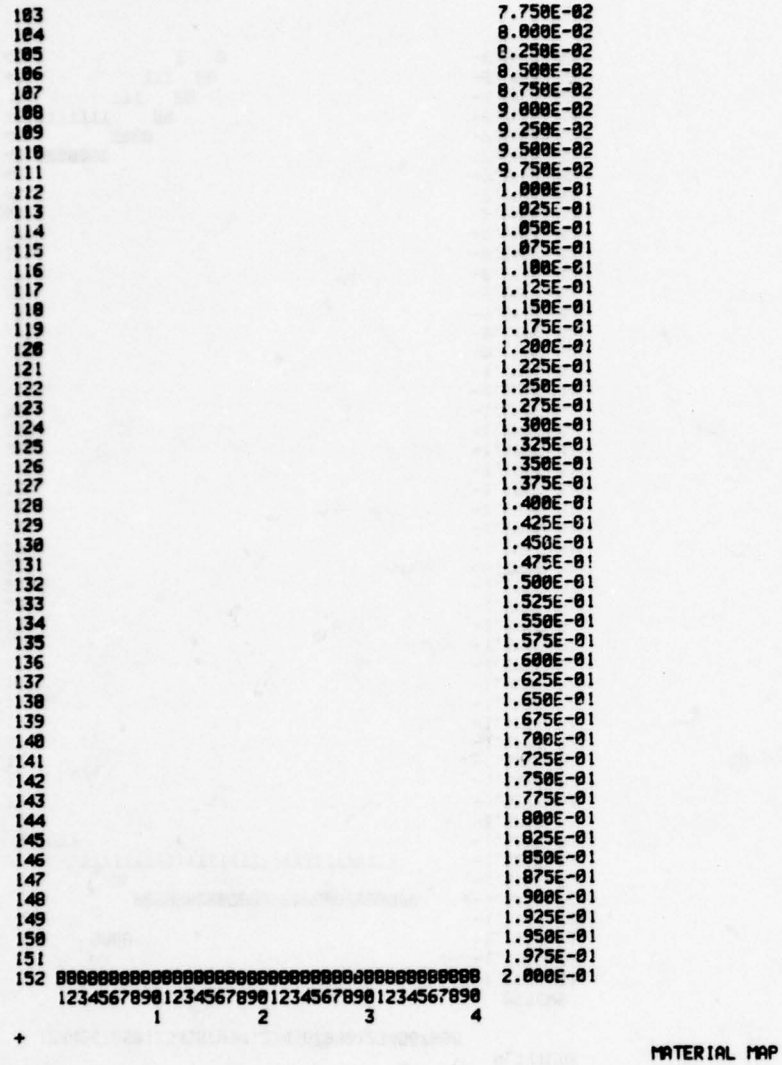
+

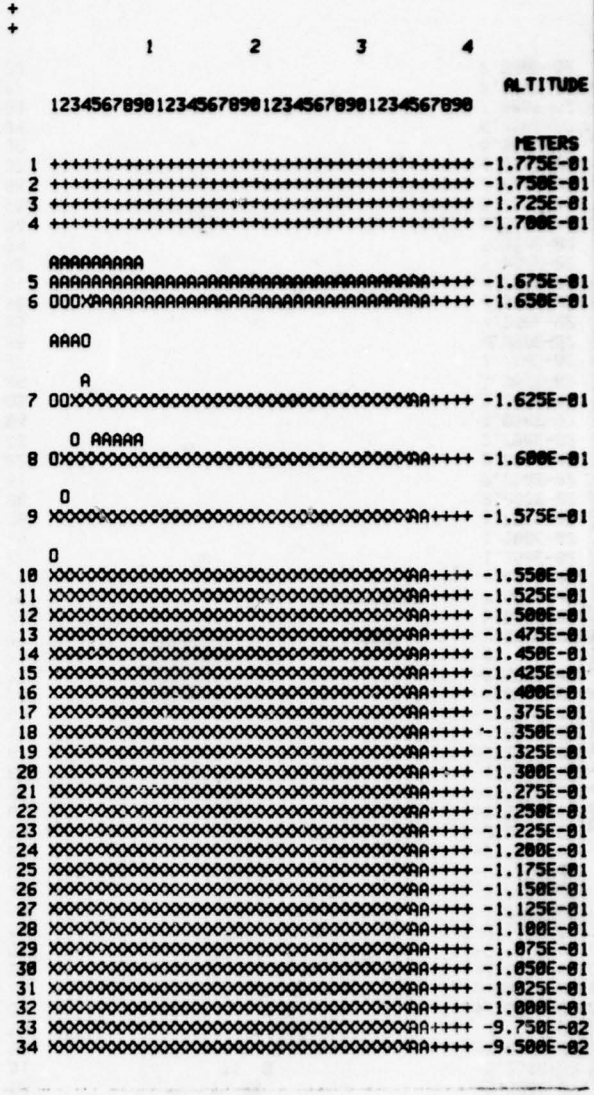
ENERGY MAP

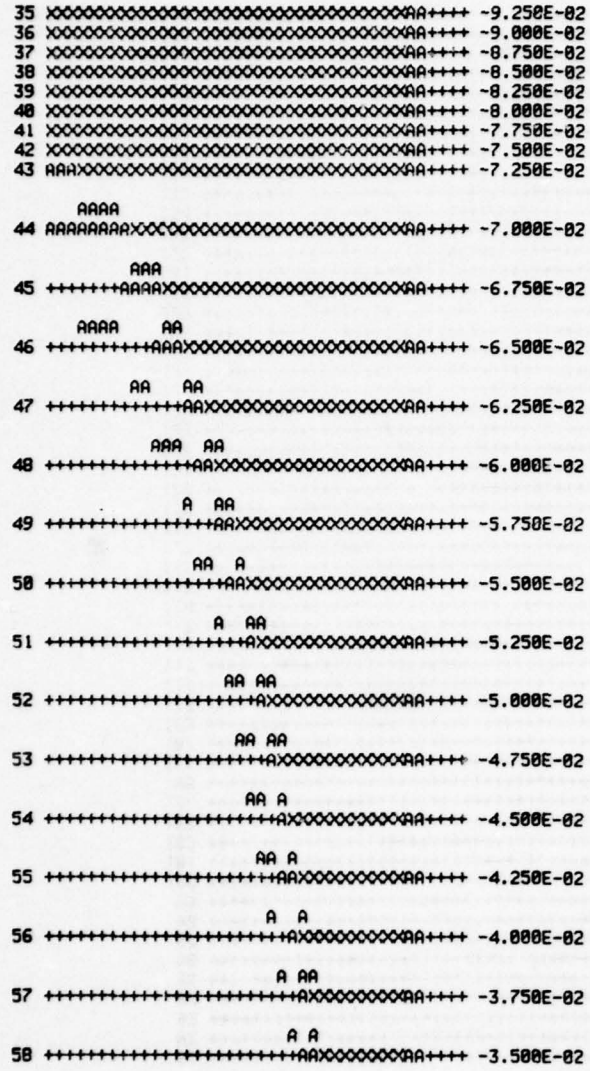
+

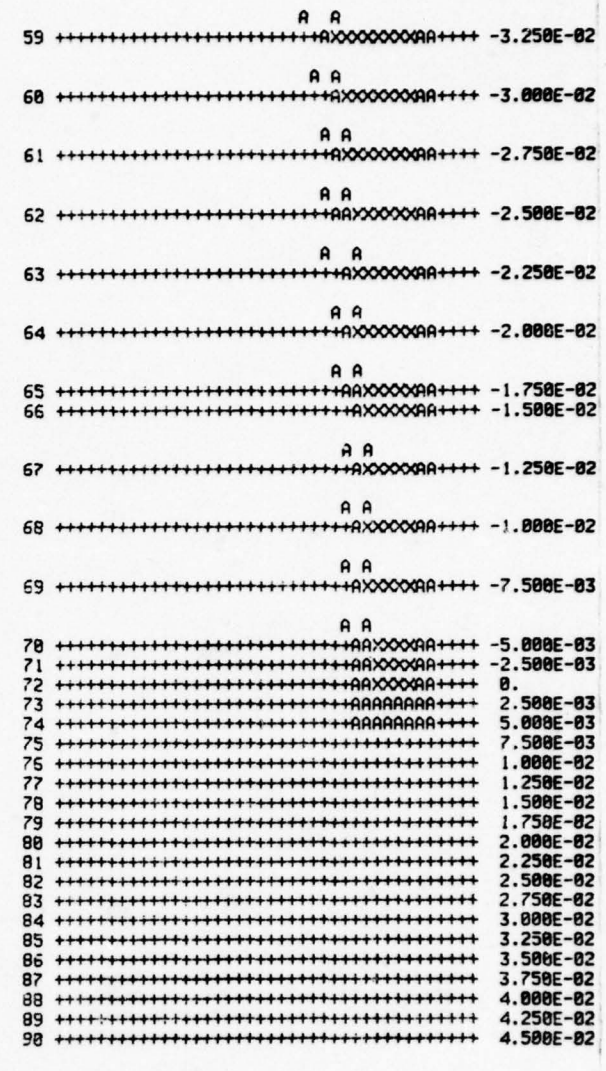

1 2 3 4
ALTITUDE
1234567890123456789012345678901234567890
METERS
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02
-7.000E-02
-6.750E-02
-6.500E-02
-6.250E-02
-6.000E-02

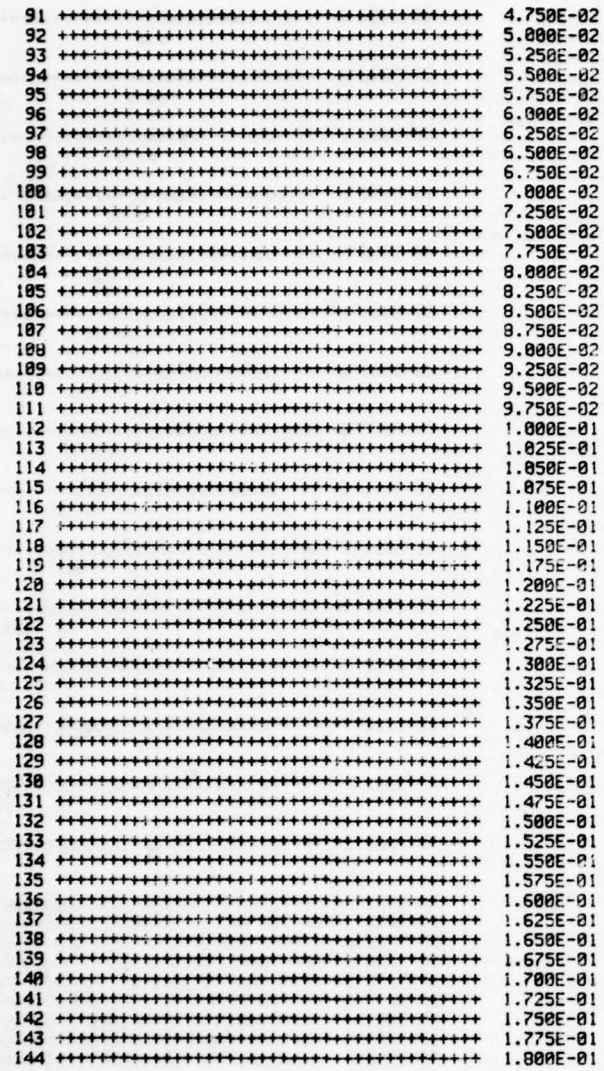

-5.750E-02
-5.500E-02
-5.250E-02
-5.000E-02
-4.750E-02
-4.500E-02
-4.250E-02
-4.000E-02
-3.750E-02
-3.500E-02
-3.250E-02
-3.000E-02
-2.750E-02
-2.500E-02
-2.250E-02
-2.000E-02
-1.750E-02
-1.500E-02
-1.250E-02
-1.000E-02
-7.500E-03
-5.000E-03
-2.500E-03
0.
2.500E-03
5.000E-03
7.500E-03
1.000E-02
1.250E-02
1.500E-02
1.750E-02
2.000E-02
2.250E-02
2.500E-02
2.750E-02
3.000E-02
3.250E-02
3.500E-02
3.750E-02
4.000E-02
4.250E-02
4.500E-02
4.750E-02
5.000E-02
5.250E-02
5.500E-02
5.750E-02
6.000E-02
6.250E-02
6.500E-02
6.750E-02
7.000E-02
7.250E-02
7.500E-02


183 7.750E-02
184 8.000E-02
185 8.250E-02
186 8.500E-02
187 8.750E-02
188 9.000E-02
189 9.250E-02
190 9.500E-02
191 9.750E-02
192 1.000E-01
193 1.025E-01
194 1.050E-01
195 1.075E-01
196 1.100E-01
197 1.125E-01
198 1.150E-01
199 1.175E-01
200 1.200E-01
201 1.225E-01
202 1.250E-01
203 1.275E-01
204 1.300E-01
205 1.325E-01
206 1.350E-01
207 1.375E-01
208 1.400E-01
209 1.425E-01
210 1.450E-01
211 1.475E-01
212 1.500E-01
213 1.525E-01
214 1.550E-01
215 1.575E-01
216 1.600E-01
217 1.625E-01
218 1.650E-01
219 1.675E-01
220 1.700E-01
221 1.725E-01
222 1.750E-01
223 1.775E-01
224 1.800E-01
225 1.825E-01
226 1.850E-01
227 1.875E-01
228 1.900E-01
229 1.925E-01
230 1.950E-01
231 1.975E-01
232 2.000E-01
1 2 3 4
MATERIAL MAP


1 2 3 4
ALTITUDE
METERS
1 -1.775E-01
2 -1.750E-01
3 -1.725E-01
4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02


35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02


59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02


91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01

```
145 ++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++  2.000E-01
    1234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    11   TIME 1.2085E-06  DT 2.063E-07   IDT    1  JDT    5
   CYCLE    12   TIME 1.4148E-06  DT 2.066E-07   IDT    1  JDT    5
   CYCLE    13   TIME 1.6213E-06  DT 2.083E-07   IDT    2  JDT    5
   CYCLE    14   TIME 1.8296E-06  DT 1.704E-07   IDT    2  JDT    5
   CYCLE    15   TIME 2.0000E-06  DT 2.035E-07   IDT    2  JDT    5
+
+
**********
**********
+
PROB    4.0130     CYCLE    15     TIME  2.000000E-06     DT  2.034607E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                 REL ERROR
   1.96670952835852E+13    2.05930023726417E+10    1.96876882859579E+13    1.96877264352038E+13   -1.77638969676823E+00
+
                                                      TOTAL MASS              MTH                 RELMERR
                                                   7.37480926162176E+03    7.37480926162159E+03    1.18391524814847E-08

+
MAX VEL =  1.10790E+05 AT I   2 J  10
+
MAX CS =   5.76328E+05 AT I   3 J   5
+
MAX TEMP=   2.26747E+03 AT I   4 J   7
+
MAX P =   1.38279E+11 AT I   4 J   7
+
CELL SETTING DT, I   2 J   5
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  0 MIN, 39 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                      AND       0 HOURS,  0 MIN, 39 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  1 MIN,  4 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.31E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.56E-04 SEC/CELL/CYCLE
+
+
+
+
```

I= 1 X(I)= .250 DX(I)= .250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	1.025E+06	8.66E+00	-3.14E+02	2.052E+09	1.235E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	6.06339E-05		
3	1.380E+06	7.30E+02	-7.66E+03	2.322E+09	1.474E-03	0.	0.	0.	-1.73E+01	2.50E-01	1	7.23733E-05		
4	9.585E+05	1.36E+03	-5.18E+04	2.828E+09	5.898E-01	1.21E+09	-1.90E+09	0.	-1.70E+01	2.50E-01	1	4.44719E-05	4	2.89057E-02
5	9.823E+09	-1.72E+03	-4.98E+04	2.733E+09	2.743E+00	1.24E+09	-1.15E+09	1.17E+09	-1.68E+01	2.50E-01	4	1.34664E-01		
6	1.477E+10	1.78E+03	-5.50E+04	6.344E+09	1.913E+00	6.38E+02	6.38E+02	0.	-1.65E+01	2.50E-01	3	1.63355E-02	4	7.75580E-02
7	1.978E+10	-2.36E+04	-5.76E+04	2.248E+10	9.330E-01	0.	0.	0.	-1.63E+01	2.50E-01	3	4.58003E-02		
8	2.201E+10	-1.99E+04	-4.25E+04	2.916E+10	9.306E-01	0.	0.	0.	-1.60E+01	2.50E-01	3	4.56806E-02		
9	2.858E+10	5.95E+01	-7.63E+03	2.928E+10	1.056E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.18387E-02		
10	6.436E+10	4.35E+04	6.91E+04	4.189E+10	1.407E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	6.90681E-02		
11	1.290E+11	2.43E+04	8.47E+04	4.458E+10	1.887E+00	1.03E+03	-1.25E+03	0.	-1.53E+01	2.50E-01	2	2.03686E-02	3	7.22914E-02
12	1.339E+10	3.73E+03	2.99E+04	3.680E+09	1.995E+00	8.48E+02	-1.25E+03	-3.45E+02	-1.50E+01	2.50E-01	2	9.79278E-02		
13	2.171E+09	2.77E+02	3.24E+03	2.645E+09	1.851E+00	7.82E+02	-1.30E+03	-2.25E+02	-1.48E+01	2.50E-01	2	9.08470E-02		
14	2.228E+08	2.59E+01	2.98E+02	2.615E+09	1.823E+00	8.04E+02	-1.31E+03	-1.62E+02	-1.45E+01	2.50E-01	2	8.94936E-02		
15	2.168E+07	2.15E+00	2.95E+01	2.615E+09	1.820E+00	8.75E+02	-1.29E+03	-1.77E+02	-1.43E+01	2.50E-01	2	8.93534E-02		
16	2.983E+06	1.87E-01	2.52E+00	2.615E+09	1.820E+00	8.66E+02	-1.30E+03	-1.60E+02	-1.40E+01	2.50E-01	2	8.93404E-02		
17	1.178E+06	1.42E-02	2.12E-01	2.615E+09	1.820E+00	8.96E+02	-1.29E+03	-1.58E+02	-1.38E+01	2.50E-01	2	8.93392E-02		
18	1.027E+06	1.11E-09	1.61E-02	2.615E+09	1.820E+00	9.83E+02	-1.27E+03	-9.60E+01	-1.35E+01	2.50E-01	2	8.93391E-02		
19	1.014E+06	0.	8.87E-11	2.615E+09	1.820E+00	5.12E+01	-5.81E+01	-2.12E-06	-1.33E+01	2.50E-01	2	8.93390E-02		
20	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-1.83E-07	0.	-1.30E+01	2.50E-01	2	8.93390E-02		
21	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.28E+01	2.50E-01	2	8.93390E-02		
22	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.25E+01	2.50E-01	2	8.93390E-02		
23	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.23E+01	2.50E-01	2	8.93390E-02		
24	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.20E+01	2.50E-01	2	8.93390E-02		
25	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.18E+01	2.50E-01	2	8.93390E-02		
26	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.10E+01	2.50E-01	2	8.93390E-02		
29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.08E+01	2.50E-01	2	8.93390E-02		
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02		
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02		
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02		
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02		
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02		
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02		
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02		
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02		
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02		
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01		
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01		
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05		
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05		
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05		
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05		
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05		
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05		

51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05

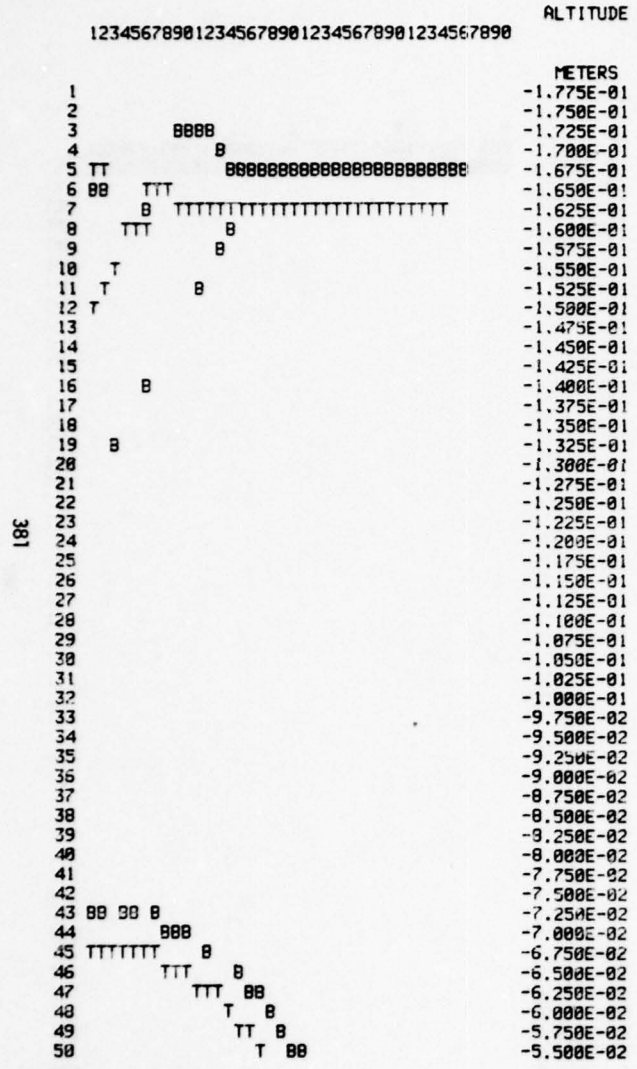
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

+

ENERGY MAP

+

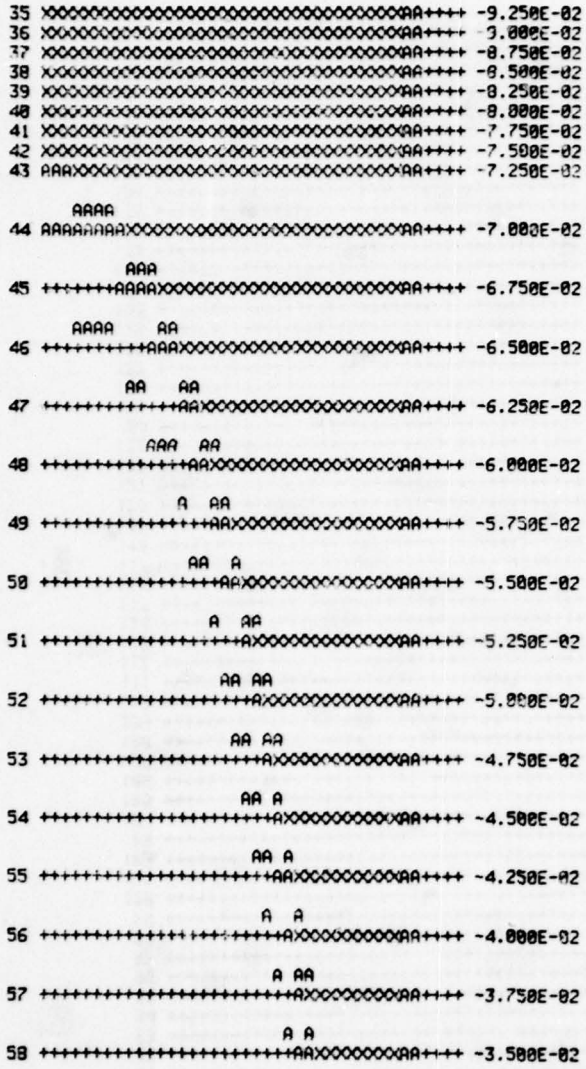
1 2 3 4

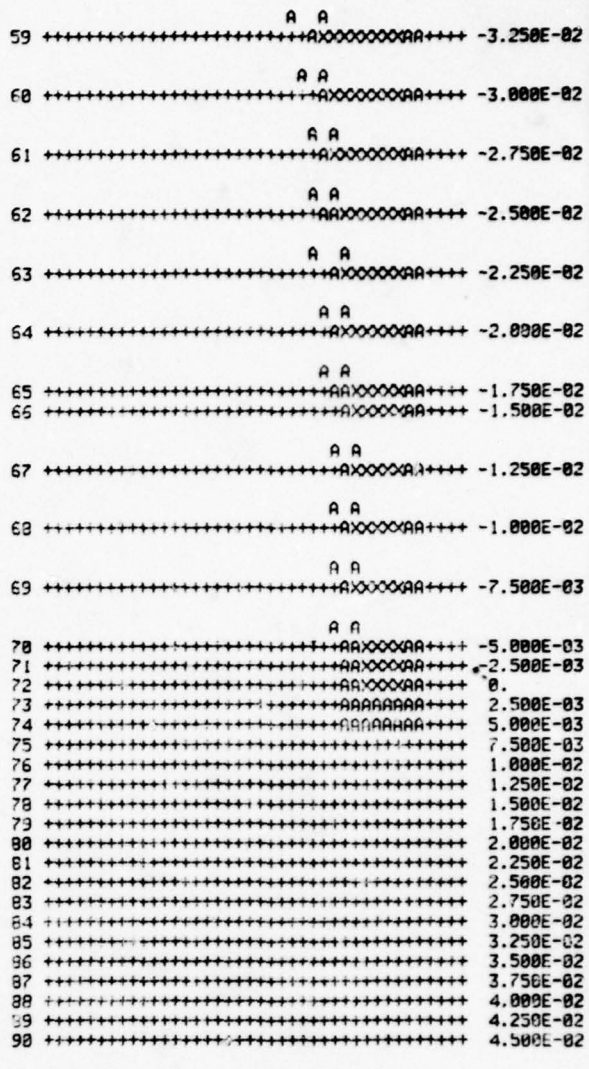

ALTITUDE
1234567890123456789012345678901234567890
METERS
1 -1.775E-01
2 -1.750E-01
3 -1.725E-01
4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02

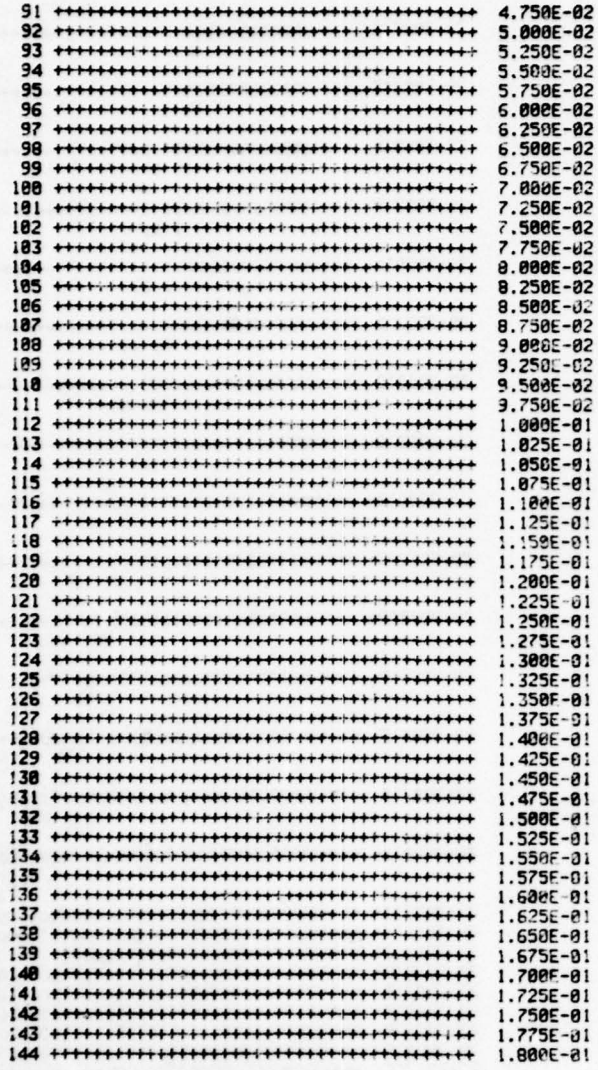
```
105                                                    8.250E-02
106                                                    8.500E-02
107                                                    8.750E-02
108                                                    9.000E-02
109                                                    9.250E-02
110                                                    9.500E-02
111                                                    9.750E-02
112                                                    1.000E-01
113                                                    1.025E-01
114                                                    1.050E-01
115                                                    1.075E-01
116                                                    1.100E-01
117                                                    1.125E-01
118                                                    1.150E-01
119                                                    1.175E-01
120                                                    1.200E-01
121                                                    1.225E-01
122                                                    1.250E-01
123                                                    1.275E-01
124                                                    1.300E-01
125                                                    1.325E-01
126                                                    1.350E-01
127                                                    1.375E-01
128                                                    1.400E-01
129                                                    1.425E-01
130                                                    1.450E-01
131                                                    1.475E-01
132                                                    1.500E-01
133                                                    1.525E-01
134                                                    1.550E-01
135                                                    1.575E-01
136                                                    1.600E-01
137                                                    1.625E-01
138                                                    1.650E-01
139                                                    1.675E-01
140                                                    1.700E-01
141                                                    1.725E-01
142                                                    1.750E-01
143                                                    1.775E-01
144                                                    1.800E-01
145                                                    1.825E-01
146                                                    1.850E-01
147                                                    1.875E-01
148                                                    1.900E-01
149                                                    1.925E-01
150                                                    1.950E-01
151                                                    1.975E-01
152 9999999968999999999999999999999999999999999999999 2.000E-01
    1234567890123456789012345678901234567890
              1         2         3         4
```

MATERIAL MAP

```
          1         2         3         4
                                                    ALTITUDE
  1234567890123456789012345678901234567890

                                                    METERS
 1 ++++++++++++++++++++++++++++++++++++++++ -1.775E-01
 2 ++++++++++++++++++++++++++++++++++++++++ -1.750E-01
 3 ++++++++++++++++++++++++++++++++++++++++ -1.725E-01
 4 ++++++++++++++++++++++++++++++++++++++++ -1.700E-01

   AAAAAAAAAAAA
 5 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.675E-01
 6 OOOOOXAAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.650E-01

   AAAAAA
 7 OOOOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.625E-01

       O AAAAAAA
 8 OOOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.600E-01

     O
 9 OOXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.575E-01

    O
10 OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.550E-01

    O
11 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.525E-01

   O
12 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.500E-01
13 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.475E-01
14 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.450E-01
15 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.425E-01
16 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.400E-01
17 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.375E-01
18 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.350E-01
19 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.325E-01
20 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.300E-01
21 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.275E-01
22 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.250E-01
23 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.225E-01
24 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.200E-01
25 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.175E-01
26 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.150E-01
27 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.125E-01
28 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.100E-01
29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.075E-01
30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.050E-01
31 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.025E-01
32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -1.000E-01
33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.750E-02
34 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXAA++++ -9.500E-02
```


35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02


59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02


91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01

```
145 ++++++++++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++++++++++  2.000E-01
    1234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    16   TIME 2.2035E-06  DT 1.904E-07   IDT    3  JDT    9
   CYCLE    17   TIME 2.3938E-06  DT 1.931E-07   IDT    3  JDT   10
   CYCLE    18   TIME 2.5869E-06  DT 1.833E-07   IDT    4  JDT    9
   CYCLE    19   TIME 2.7702E-06  DT 1.264E-07   IDT    3  JDT   11
   CYCLE    20   TIME 2.8966E-06  DT 1.034E-07   IDT    5  JDT    9
   CYCLE    21   TIME 3.0000E-06  DT 1.825E-07   IDT    4  JDT   11
+
+
**********
**********
+
PROB    4.0130     CYCLE    21     TIME  3.000000E-06     DT  1.825186E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                  REL ERROR
   2.01488167579196E+13    8.86577217188896E+10    2.02374744796385E+13    2.02376822514020E+13   -8.38153476604105E+00
+
                                                        TOTAL MASS              MTH                  RELMERR
                                                    7.37480926114845E+03    7.37480926114830E+03   -3.94638416074802E-09
+
MAX VEL =  1.38721E+05 AT I   4 J  11
+
MAX CS =   5.85866E+05 AT I   5 J   5
+
MAX TEMP=  2.30000E+03 AT I   5 J   9
+
MAX P =   2.03643E+11 AT I   4 J  11
+
CELL SETTING DT, I   4 J  11
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  0 MIN, 55 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                      AND       0 HOURS,  0 MIN, 55 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  1 MIN, 20 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.36E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.49E-04 SEC/CELL/CYCLE
+
+
+
```

I= 1 X(I)= .250 DX(I)= .250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.70E+01	2.50E-01	1	6.01320E-05		
2	1.081E+06	6.87E+01	-1.48E+03	2.095E+09	1.277E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	6.26715E-05		
3	1.791E+06	1.07E+03	-1.69E+04	2.641E+09	1.690E-03	0.	0.	0.	-1.73E+01	2.50E-01	1	8.29691E-05		
4	9.171E+05	2.40E+03	-6.78E+04	2.760E+09	1.226E+00	1.15E+09	-1.61E+09	0.	-1.70E+01	2.50E-01	1	3.00527E-05	4	6.01363E-02
5	1.769E+10	1.15E+03	-6.51E+04	2.683E+09	2.770E+00	2.23E+08	-1.64E+09	-6.56E+08	-1.68E+01	2.50E-01	4	1.35988E-01		
6	2.114E+10	-7.11E+03	-6.88E+04	1.224E+10	1.551E+00	5.41E+02	5.43E+02	0.	-1.65E+01	2.50E-01	3	3.00898E-02	4	4.60299E-02
7	3.392E+10	-2.29E+04	-6.65E+04	2.982E+10	1.139E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	5.59186E-02		
8	3.481E+10	-2.89E+04	-4.50E+04	3.349E+10	1.129E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	5.54345E-02		
9	3.961E+10	-3.78E+04	-2.93E+04	3.133E+10	1.208E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.92912E-02		
10	4.052E+10	-3.15E+04	-1.40E+04	3.273E+10	1.211E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	5.94589E-02		
11	4.768E+10	-1.88E+04	5.39E+03	3.553E+10	1.279E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	6.28054E-02		
12	6.432E+10	1.61E+04	4.81E+04	3.910E+10	1.419E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.96554E-02		
13	1.272E+11	3.97E+04	9.84E+04	5.099E+10	1.765E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	8.66300E-02		
14	9.147E+10	1.11E+04	6.41E+04	2.474E+10	1.999E+00	1.00E+03	-1.26E+03	0.	-1.45E+01	2.50E-01	2	6.07124E-02	3	3.74129E-02
15	5.552E+09	9.03E+02	1.16E+04	2.924E+09	1.897E+00	8.41E+02	-1.30E+03	-1.85E+02	-1.43E+01	2.50E-01	2	9.31428E-02		
16	5.320E+08	5.64E+01	8.12E+02	2.617E+09	1.828E+00	7.84E+02	-1.31E+03	-1.82E+02	-1.40E+01	2.50E-01	2	8.97096E-02		
17	4.493E+07	5.15E+00	6.48E+01	2.615E+09	1.821E+00	7.50E+02	-1.32E+03	-1.62E+02	-1.38E+01	2.50E-01	2	8.93696E-02		
18	4.915E+06	5.09E-01	6.05E+00	2.615E+09	1.820E+00	7.58E+02	-1.31E+03	-1.67E+02	-1.35E+01	2.50E-01	2	8.93418E-02		
19	1.376E+06	4.66E-02	5.86E-01	2.615E+09	1.820E+00	7.63E+02	-1.31E+03	-1.84E+02	-1.33E+01	2.50E-01	2	8.93393E-02		
20	1.048E+06	3.70E-03	5.38E-02	2.615E+09	1.820E+00	7.86E+02	-1.31E+03	-1.64E+02	-1.30E+01	2.50E-01	2	8.93391E-02		
21	1.016E+06	4.45E-11	4.29E-03	2.615E+09	1.820E+00	3.26E+02	-4.95E+02	-2.63E+01	-1.28E+01	2.50E-01	2	8.93390E-02		
22	1.013E+06	0.	3.80E-12	2.615E+09	1.820E+00	1.14E+01	-1.67E+01	-1.24E-07	-1.25E+01	2.50E-01	2	8.93390E-02		
23	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-1.20E-06	0.	-1.23E+01	2.50E-01	2	8.93390E-02		
24	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.20E+01	2.50E-01	2	8.93390E-02		
25	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.18E+01	2.50E-01	2	8.93390E-02		
26	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.10E+01	2.50E-01	2	8.93390E-02		
29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.08E+01	2.50E-01	2	8.93390E-02		
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02		
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02		
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02		
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02		
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02		
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02		
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02		
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02		
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02		
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01		
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01		
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05		
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05		
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05		
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05		
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05		

50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05

104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

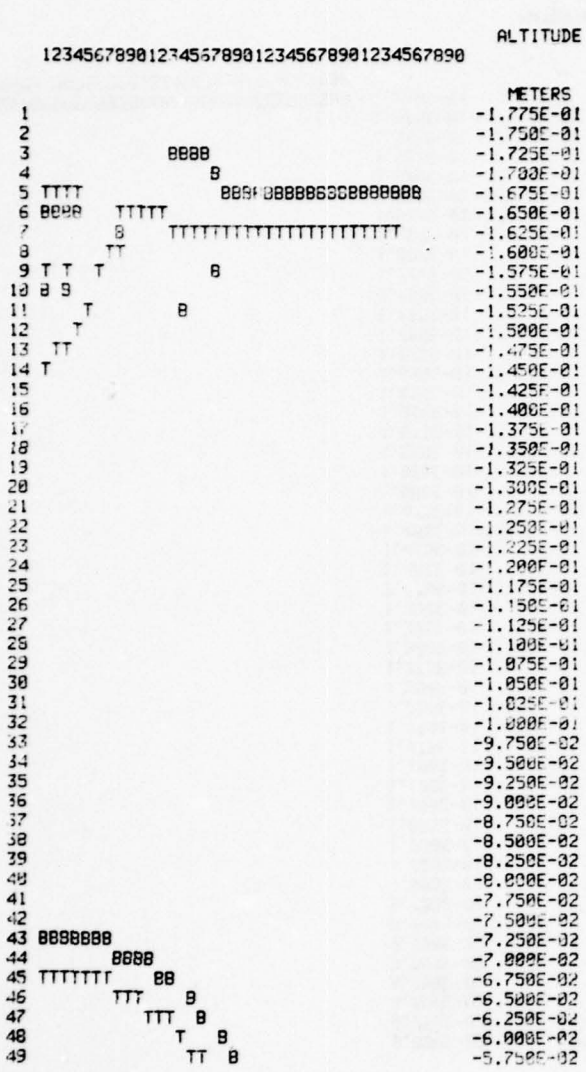
+

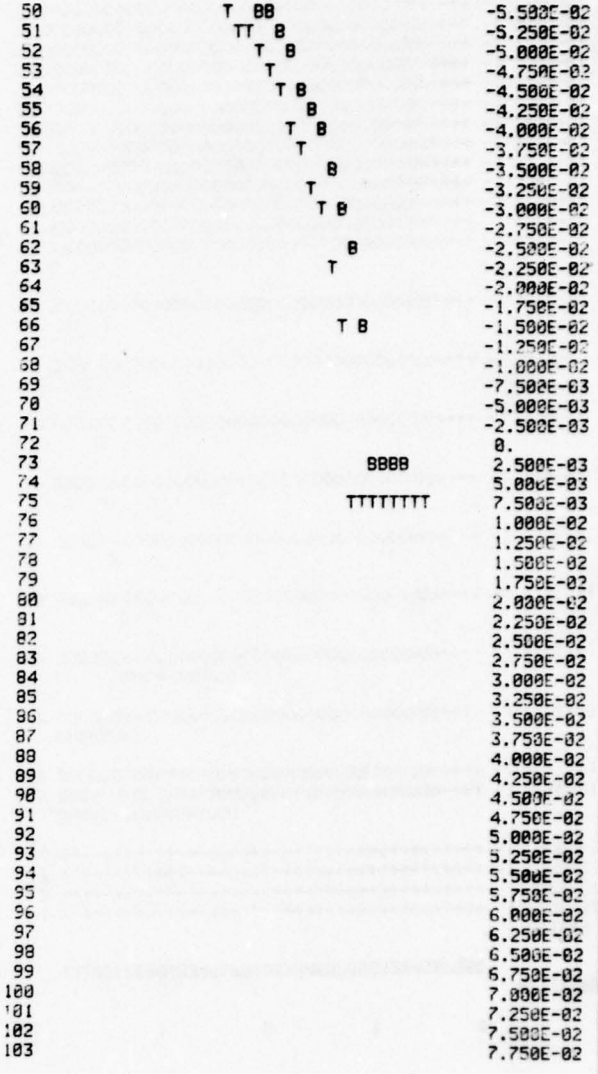
+

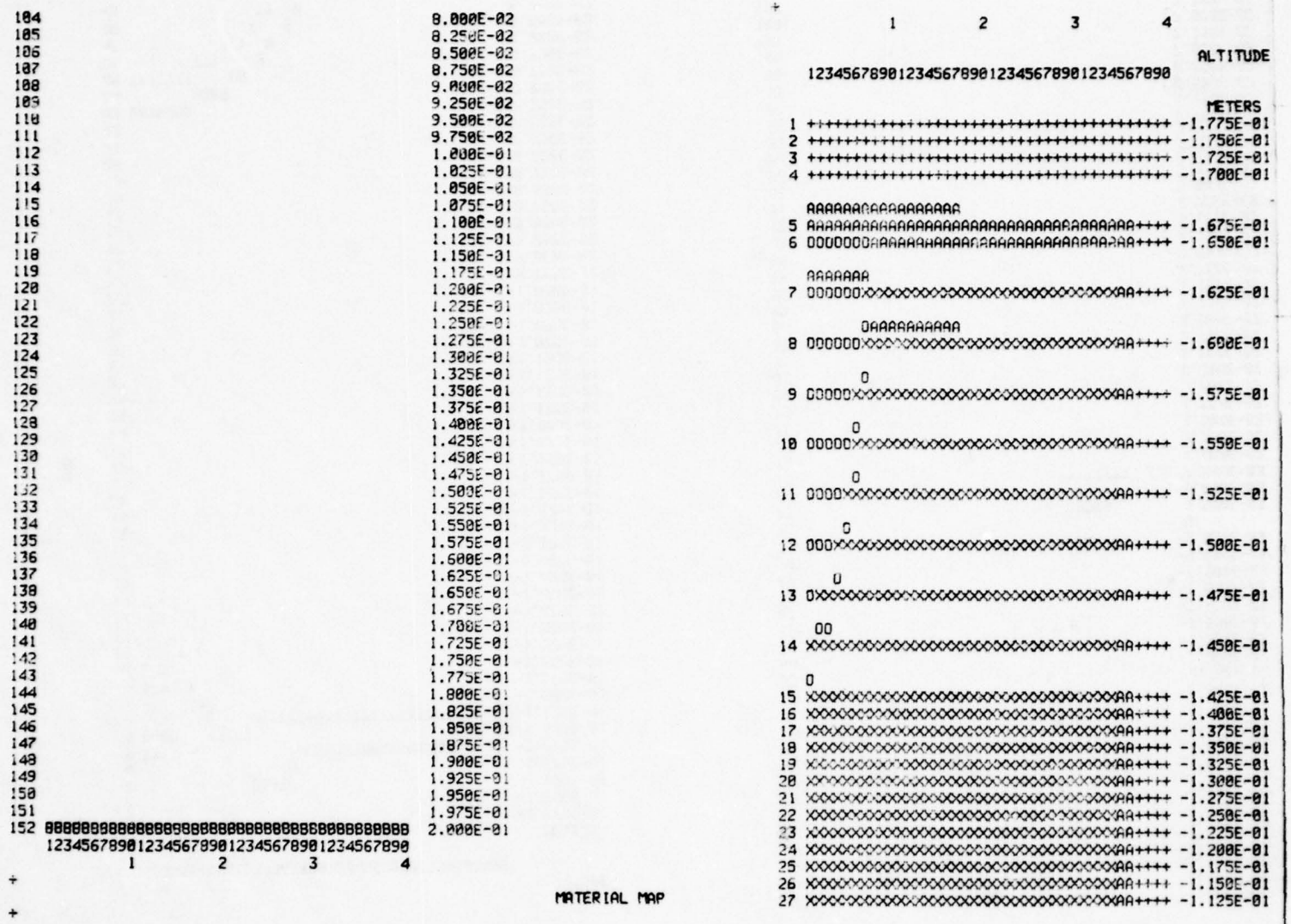
+

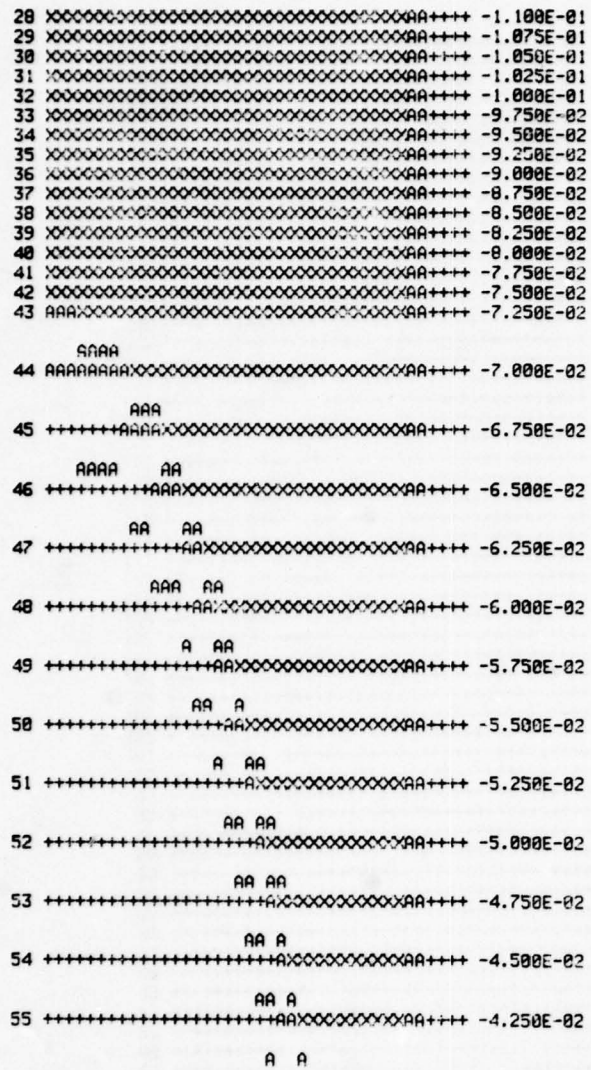
ENERGY MAP

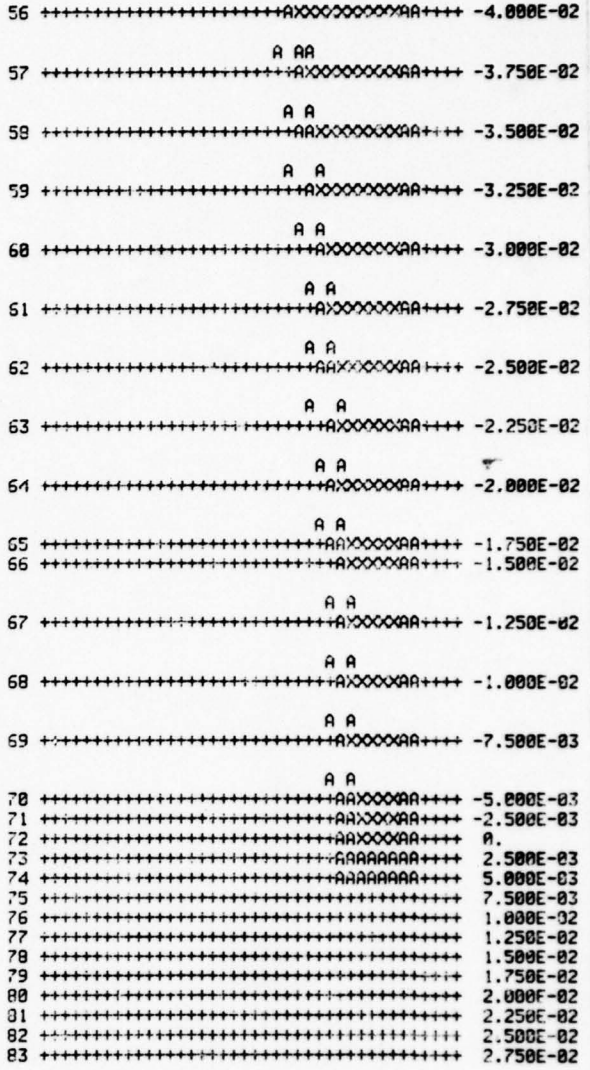
1 2 3 4

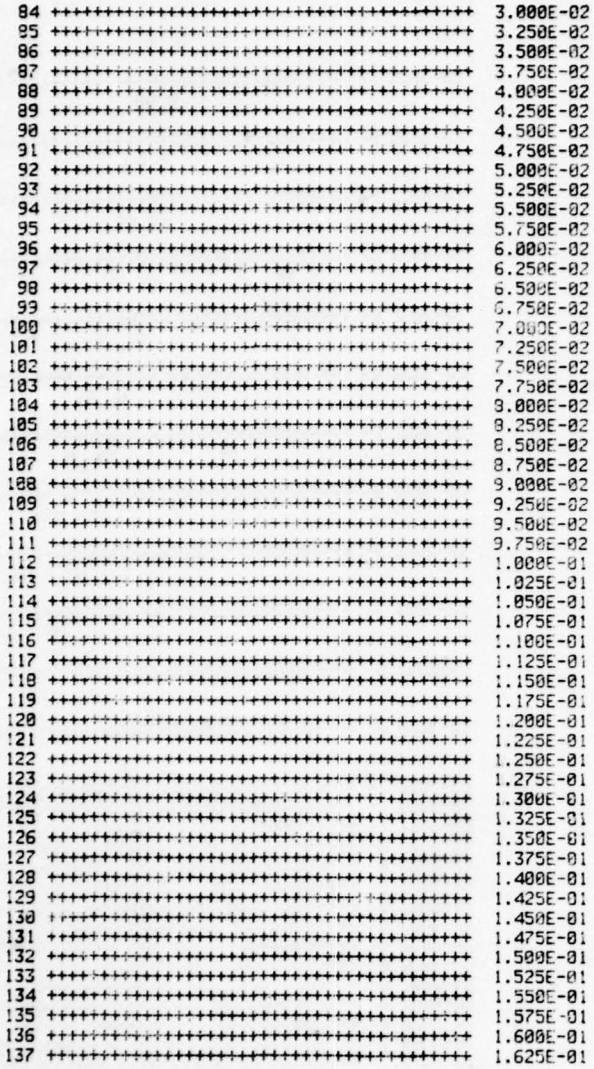

ALTITUDE
1234567890123456789012345678901234567890
METERS
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02
-7.000E-02
-6.750E-02
-6.500E-02
-6.250E-02
-6.000E-02
-5.750E-02

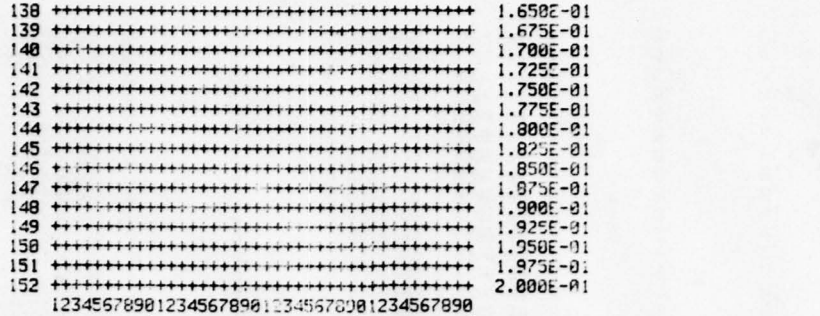

-5.500E-02
-5.250E-02
-5.000E-02
-4.750E-02
-4.500E-02
-4.250E-02
-4.000E-02
-3.750E-02
-3.500E-02
-3.250E-02
-3.000E-02
-2.750E-02
-2.500E-02
-2.250E-02
-2.000E-02
-1.750E-02
-1.500E-02
-1.250E-02
-1.000E-02
-7.500E-03
-5.000E-03
-2.500E-03
0.
2.500E-03
5.000E-03
7.500E-03
1.000E-02
1.250E-02
1.500E-02
1.750E-02
2.000E-02
2.250E-02
2.500E-02
2.750E-02
3.000E-02
3.250E-02
3.500E-02
3.750E-02
4.000E-02
4.250E-02
4.500E-02
4.750E-02
5.000E-02
5.250E-02
5.500E-02
5.750E-02
6.000E-02
6.250E-02
6.500E-02
6.750E-02
7.000E-02
7.250E-02
7.500E-02
7.750E-02


104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01
150 1.950E-01
151 1.975E-01
152 2.000E-01
1 2 3 4
MATERIAL MAP
1 2 3 4
ALTITUDE
METERS
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01


28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02


56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02


84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01



CYCLE 22 TIME 3.1825E-06 DT 1.742E-07 IDT 5 JDT 10
CYCLE 23 TIME 3.3567E-06 DT 1.791E-07 IDT 6 JDT 9
CYCLE 24 TIME 3.5358E-06 DT 1.717E-07 IDT 6 JDT 10
CYCLE 25 TIME 3.7075E-06 DT 1.609E-07 IDT 5 JDT 12
CYCLE 26 TIME 3.8684E-06 DT 1.316E-07 IDT 6 JDT 11
CYCLE 27 TIME 4.0000E-06 DT 1.655E-07 IDT 5 JDT 13

+
+
****
****
+
PROB 4.0130 CYCLE 27 TIME 4.000000E-06 DT 1.654752E-07
+
+
+

INTERNAL ENERGY	KINETIC ENERGY	TOTAL ENERGY	ETH	REL ERROR
2.11678928551435E+13	2.69027437599604E+11	2.14369202927430E+13	2.14375410777470E+13	-1.92660735645106E+01

+

TOTAL MASS	MTH	RELMERR
7.37480925778908E+03	7.37480925778887E+03	7.89276832509155E-09

+
MAX VEL = 1.73597E+05 AT I 6 J 12
+
MAX CS = 5.94134E+05 AT I 7 J 5
+
MAX TEMP= 2.40468E+03 AT I 5 J 13
+
MAX P = 2.52146E+11 AT I 5 J 13
+
CELL SETTING DT, I 5 J 13
+
+
TOTAL TIME FOR THIS PROBLEM 0 HOURS, 1 MIN, 12 SEC
OF THIS 0 HOURS, 0 MIN, 0 SEC IS 6600 TIME.
AND 0 HOURS, 1 MIN, 12 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN 0 HOURS, 1 MIN, 37 SEC

+

WHIZ FACTOR TOTAL PROBLEM = 4.40E-04 SEC/CELL/CYCLE

+

WHIZ FACTOR SINCE LAST DUMP = 4.52E-04 SEC/CELL/CYCLE

+

+

+

+

I= 1 X(I)= .250 DX(I)= .250

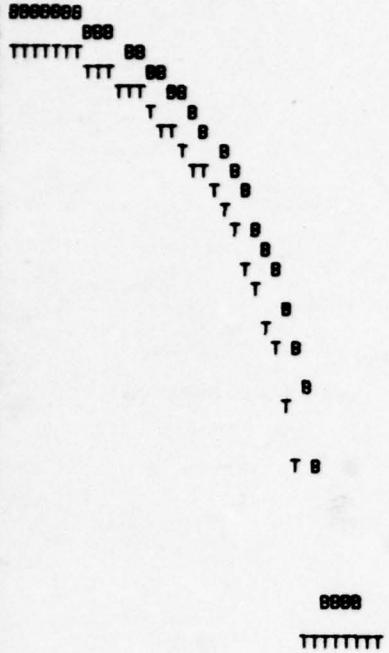
+

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
+														
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	1.228E+06	2.20E+02	-4.33E+03	2.219E+09	1.370E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	6.72634E-05		
3	2.311E+06	1.43E+03	-2.88E+04	3.035E+09	1.908E-03	0.	0.	0.	-1.73E+01	2.50E-01	1	9.36364E-05		
4	9.024E+05	1.64E+03	-8.62E+04	2.713E+09	2.075E+00	6.50E+08	-1.83E+09	0.	-1.70E+01	2.50E-01	1	1.26073E-05	4	1.01821E-01
5	1.847E+10	-4.71E+02	-9.19E+04	2.571E+09	2.773E+00	1.74E+08	-1.62E+09	-6.57E+08	-1.68E+01	2.50E-01	4	1.36117E-01		
6	3.012E+10	-4.53E+03	-9.46E+04	2.948E+10	1.108E+00	2.14E+02	4.78E+02	0.	-1.65E+01	2.50E-01	3	5.15395E-02	4	2.85904E-03
7	4.324E+10	-6.11E+03	-8.23E+04	3.381E+10	1.238E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	6.07876E-02		
8	4.792E+10	-9.29E+03	-6.23E+04	3.729E+10	1.273E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	6.24811E-02		
9	6.082E+10	-1.02E+04	-4.46E+04	3.767E+10	1.394E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	6.84271E-02		
10	6.453E+10	-1.25E+04	-2.14E+04	3.963E+10	1.418E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	6.96257E-02		
11	6.802E+10	-1.64E+04	-2.89E+03	4.006E+10	1.445E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	7.09170E-02		
12	7.053E+10	-2.10E+04	1.63E+04	3.947E+10	1.467E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	7.19964E-02		
13	6.660E+10	-2.00E+04	3.05E+04	3.803E+10	1.442E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	7.07941E-02		
14	6.461E+10	-9.27E+03	4.18E+04	3.846E+10	1.424E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.99098E-02		
15	9.664E+10	2.51E+04	7.25E+04	4.368E+10	1.563E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	7.67215E-02		
16	1.538E+11	3.62E+04	9.26E+04	5.445E+10	1.876E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	9.20990E-02		
17	5.629E+10	4.07E+03	4.69E+04	1.467E+10	1.985E+00	1.05E+03	-1.23E+03	0.	-1.38E+01	2.50E-01	2	7.83279E-02	3	1.91038E-0
18	2.981E+09	2.84E+02	3.58E+03	2.683E+09	1.862E+00	7.23E+02	-1.32E+03	-1.49E+02	-1.35E+01	2.50E-01	2	9.14054E-02		
19	1.820E+08	1.70E+01	2.92E+02	2.615E+09	1.823E+00	8.54E+02	-1.31E+03	-1.21E+02	-1.33E+01	2.50E-01	2	8.94651E-02		
20	1.662E+07	1.34E+00	2.05E+01	2.615E+09	1.820E+00	8.42E+02	-1.30E+03	-1.57E+02	-1.30E+01	2.50E-01	2	8.93499E-02		
21	2.199E+06	1.14E-01	1.63E+00	2.615E+09	1.820E+00	8.10E+02	-1.31E+03	-1.56E+02	-1.28E+01	2.50E-01	2	8.93399E-02		
22	1.112E+06	1.02E-02	1.36E-01	2.615E+09	1.820E+00	8.10E+02	-1.31E+03	-1.55E+02	-1.25E+01	2.50E-01	2	8.93391E-02		
23	1.022E+06	4.01E-10	1.23E-02	2.615E+09	1.820E+00	8.48E+02	-1.25E+03	-1.33E+02	-1.23E+01	2.50E-01	2	8.93390E-02		
24	1.014E+06	0.	3.95E-11	2.615E+09	1.820E+00	6.04E+01	-8.62E+01	-1.61E-06	-1.20E+01	2.50E-01	2	8.93390E-02		
25	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-1.97E-07	0.	-1.18E+01	2.50E-01	2	8.93390E-02		
26	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.10E+01	2.50E-01	2	8.93390E-02		
29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.08E+01	2.50E-01	2	8.93390E-02		
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02		
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02		
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02		
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02		
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02		
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02		
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02		
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02		
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02		

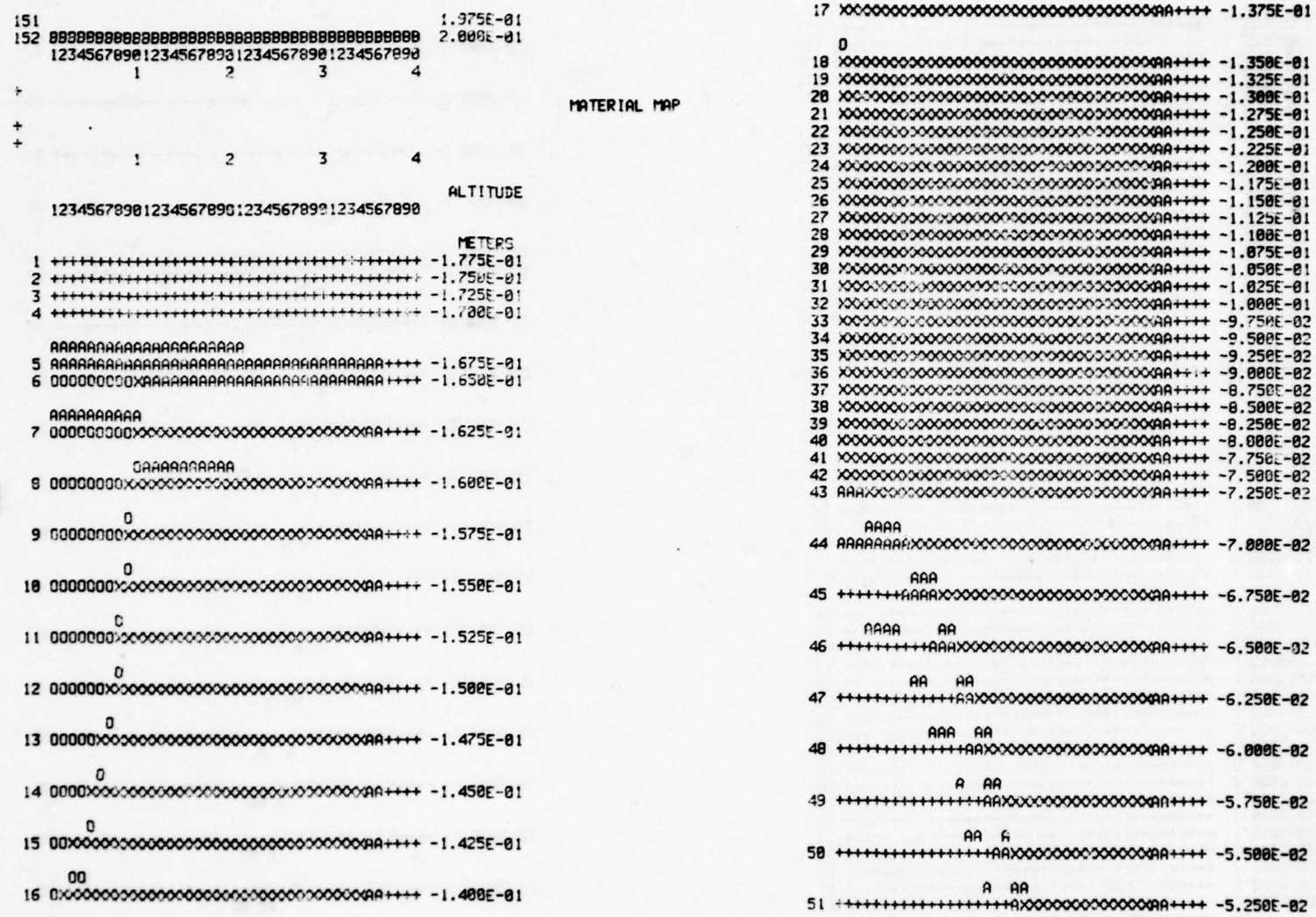
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05

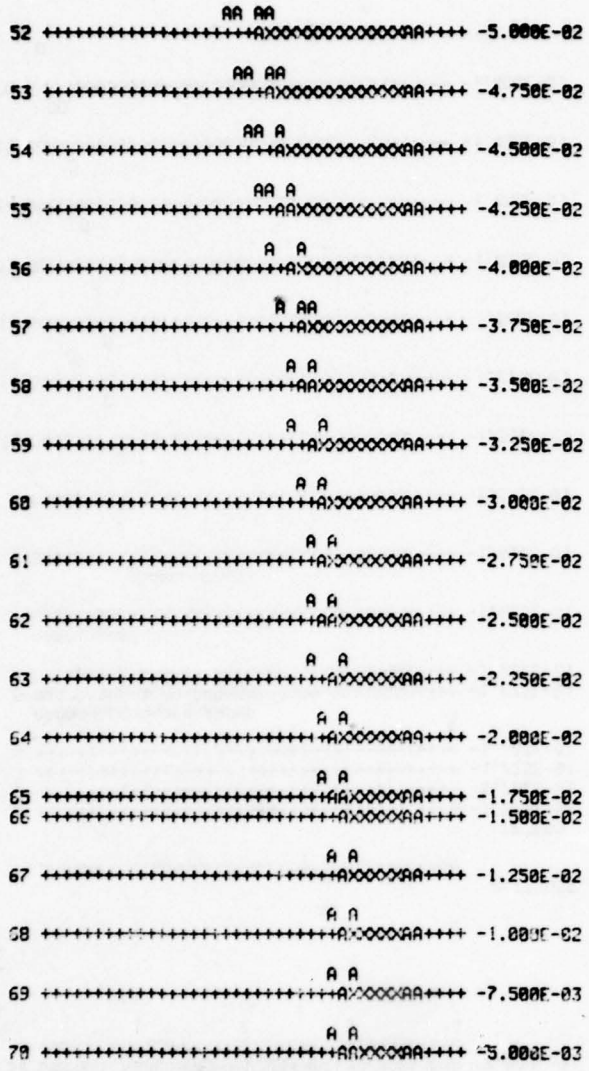
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05

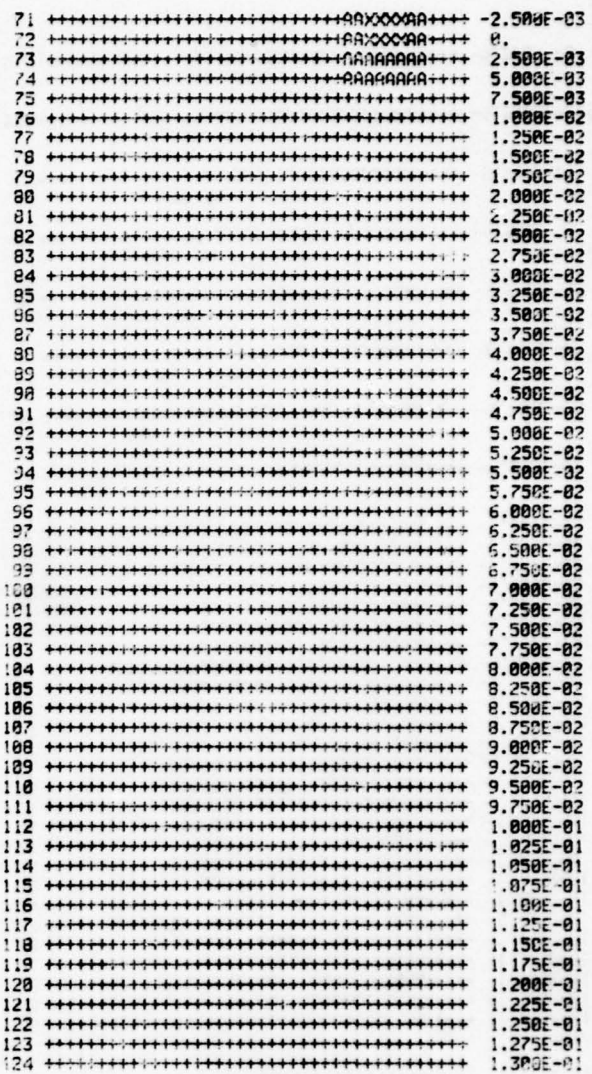
```
151  1.013E+06  0.         0.        2.044E+09 1.225E-03  0.        0.        0.        1.98E+01 2.50E-01 1 5.01320E-05
152  1.013E+06  0.         0.        2.044E+09 1.225E-03  0.        0.        0.        2.00E+01 2.50E-01 1 6.01320E-05
+
                                                                 ENERGY MAP
+
+
              1         2         3         4

                                                  ALTITUDE
     1234567890123456789012345678901234567890

                                                   METERS
  1                                              -1.775E-01
  2                                              -1.750E-01
  3                BBBB                          -1.725E-01
  4  TTTT              BB                        -1.700E-01
  5      TT             BBBBBBBBBBBBBBBB         -1.675E-01
  6  BBBBBB    TTTTTTT                           -1.650E-01
  7                  TTTTTTTTTTTTTTTTT           -1.625E-01
  8    T     TT                                  -1.600E-01
  9   T TT               B                       -1.575E-01
 10   BBBB  T                                    -1.550E-01
 11   T                                          -1.525E-01
 12  TB    T                                     -1.500E-01
 13       T                                      -1.475E-01
 14  B   T                                       -1.450E-01
 15    TT                                        -1.425E-01
 16   T                                          -1.400E-01
 17  T         B                                 -1.375E-01
 18                                              -1.350E-01
 19                                              -1.325E-01
 20                                              -1.300E-01
 21                                              -1.275E-01
 22                                              -1.250E-01
 23                                              -1.225E-01
 24                                              -1.200E-01
 25                                              -1.175E-01
 26                                              -1.150E-01
 27                                              -1.125E-01
 28                                              -1.100E-01
 29                                              -1.075E-01
 30                                              -1.050E-01
 31                                              -1.025E-01
 32                                              -1.000E-01
 33                                              -9.750E-02
 34                                              -9.500E-02
 35                                              -9.250E-02
 36                                              -9.000E-02
 37                                              -8.750E-02
 38                                              -8.500E-02
 39                                              -8.250E-02
 40                                              -8.000E-02
 41                                              -7.750E-02
 42                                              -7.500E-02
```



43	-7.250E-02	97	6.250E-02
44	-7.000E-02	98	6.500E-02
45	-6.750E-02	99	6.750E-02
46	-6.500E-02	100	7.000E-02
47	-6.250E-02	101	7.250E-02
48	-6.000E-02	102	7.500E-02
49	-5.750E-02	103	7.750E-02
50	-5.500E-02	104	8.000E-02
51	-5.250E-02	105	8.250E-02
52	-5.000E-02	106	8.500E-02
53	-4.750E-02	107	8.750E-02
54	-4.500E-02	108	9.000E-02
55	-4.250E-02	109	9.250E-02
56	-4.000E-02	110	9.500E-02
57	-3.750E-02	111	9.750E-02
58	-3.500E-02	112	1.000E-01
59	-3.250E-02	113	1.025E-01
60	-3.000E-02	114	1.050E-01
61	-2.750E-02	115	1.075E-01
62	-2.500E-02	116	1.100E-01
63	-2.250E-02	117	1.125E-01
64	-2.000E-02	118	1.150E-01
65	-1.750E-02	119	1.175E-01
66	-1.500E-02	120	1.200E-01
67	-1.250E-02	121	1.225E-01
68	-1.000E-02	122	1.250E-01
69	-7.500E-03	123	1.275E-01
70	-5.000E-03	124	1.300E-01
71	-2.500E-03	125	1.325E-01
72	0.	126	1.350E-01
73	2.500E-03	127	1.375E-01
74	5.000E-03	128	1.400E-01
75	7.500E-03	129	1.425E-01
76	1.000E-02	130	1.450E-01
77	1.250E-02	131	1.475E-01
78	1.500E-02	132	1.500E-01
79	1.750E-02	133	1.525E-01
80	2.000E-02	134	1.550E-01
81	2.250E-02	135	1.575E-01
82	2.500E-02	136	1.600E-01
83	2.750E-02	137	1.625E-01
84	3.000E-02	138	1.650E-01
85	3.250E-02	139	1.675E-01
86	3.500E-02	140	1.700E-01
87	3.750E-02	141	1.725E-01
88	4.000E-02	142	1.750E-01
89	4.250E-02	143	1.775E-01
90	4.500E-02	144	1.800E-01
91	4.750E-02	145	1.825E-01
92	5.000E-02	146	1.850E-01
93	5.250E-02	147	1.875E-01
94	5.500E-02	148	1.900E-01
95	5.750E-02	149	1.925E-01
96	6.000E-02	150	1.950E-01


MATERIAL MAP
ALTITUDE
METERS
1.975E-01
2.000E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02
-7.000E-02
-6.750E-02
-6.500E-02
-6.250E-02
-6.000E-02
-5.750E-02
-5.500E-02
-5.250E-02


52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03


71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01

```
125 ++++++++++++++++++++++++++++++++++++++++  1.325E-01
126 ++++++++++++++++++++++++++++++++++++++++  1.350E-01
127 ++++++++++++++++++++++++++++++++++++++++  1.375E-01
128 ++++++++++++++++++++++++++++++++++++++++  1.400E-01
129 ++++++++++++++++++++++++++++++++++++++++  1.425E-01
130 ++++++++++++++++++++++++++++++++++++++++  1.450E-01
131 ++++++++++++++++++++++++++++++++++++++++  1.475E-01
132 ++++++++++++++++++++++++++++++++++++++++  1.500E-01
133 ++++++++++++++++++++++++++++++++++++++++  1.525E-01
134 ++++++++++++++++++++++++++++++++++++++++  1.550E-01
135 ++++++++++++++++++++++++++++++++++++++++  1.575E-01
136 ++++++++++++++++++++++++++++++++++++++++  1.600E-01
137 ++++++++++++++++++++++++++++++++++++++++  1.625E-01
138 ++++++++++++++++++++++++++++++++++++++++  1.650E-01
139 ++++++++++++++++++++++++++++++++++++++++  1.675E-01
140 ++++++++++++++++++++++++++++++++++++++++  1.700E-01
141 ++++++++++++++++++++++++++++++++++++++++  1.725E-01
142 ++++++++++++++++++++++++++++++++++++++++  1.750E-01
143 ++++++++++++++++++++++++++++++++++++++++  1.775E-01
144 ++++++++++++++++++++++++++++++++++++++++  1.800E-01
145 ++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++  2.000E-01
    1234567890123456789012345678901234567890
             1         2         3         4
   CYCLE    28   TIME 4.1655E-06  DT 1.650E-07   IDT    7  JDT   11
   CYCLE    29   TIME 4.3305E-06  DT 1.620E-07   IDT    7  JDT   12
   CYCLE    30   TIME 4.4925E-06  DT 1.629E-07   IDT    8  JDT   11
   CYCLE    31   TIME 4.6554E-06  DT 1.574E-07   IDT    7  JDT   13
   CYCLE    32   TIME 4.8128E-06  DT 1.030E-07   IDT    9  JDT   11
   CYCLE    33   TIME 4.9158E-06  DT 8.424E-08   IDT    7  JDT   14
   CYCLE    34   TIME 5.0000E-06  DT 1.596E-07   IDT    8  JDT   13
+
+
**********
**********
+
PROB    4.0130     CYCLE     34    TIME  5.000000E-06     DT  1.595546E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                    REL ERROR
   2.30777211020364E+13    6.28195609154586E+11    2.37059167911909E+13    2.37072202164035E+13   -2.91328103765313E+01
+
                                                        TOTAL MASS               MTH                     RELMERR
                                                    7.37400923995157E+03    7.37400923995122E+03    1.97319200604549E-08
+
MAX VEL =  1.08703E+05 AT I   7 J  14
+
```

```
MAX CS =   5.98259E+05 AT I  10 J   5
+
MAX TEMP=   2.41886E+03 AT I   8 J  13
+
MAX P =   2.73767E+11 AT I   8 J  13
+
CELL SETTING DT, I   8 J  13
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  1 MIN, 31 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  1 MIN, 31 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  1 MIN, 56 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.42E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.49E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
```

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	2.310E+06	4.49E+02	-2.43E+04	3.322E+09	1.748E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	8.58175E-05		
3	2.820E+06	3.50E+02	-1.08E+05	2.762E+09	4.788E-01	1.07E+09	-1.93E+09	0.	-1.73E+01	2.50E-01	1	8.49093E-05	4	2.34158E-02
4	2.817E+09	1.14E+03	-1.12E+05	2.727E+09	2.719E+00	9.06E+08	-1.52E+09	1.03E+09	-1.70E+01	2.50E-01	4	1.33493E-01		
5	2.785E+10	3.53E+03	-1.18E+05	8.560E+09	2.045E+00	1.86E+08	-1.49E+09	0.	-1.68E+01	2.50E-01	3	2.18231E-02	4	7.8551i9E-02
6	3.146E+10	5.97E+03	-1.12E+05	3.137E+10	1.091E+00	0.	0.	0.	-1.65E+01	2.50E-01	3	5.35786E-02		
7	3.852E+10	6.49E+03	-9.93E+04	3.302E+10	1.184E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	5.81141E-02		
8	4.113E+10	8.19E+03	-7.77E+04	3.494E+10	1.206E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	5.92192E-02		
9	4.464E+10	1.06E+04	-5.93E+04	3.395E+10	1.254E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	6.15499E-02		
10	4.957E+10	1.07E+04	-3.52E+04	3.616E+10	1.296E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	6.36332E-02		
11	5.534E+10	8.39E+03	-1.81E+04	3.731E+10	1.348E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	6.61679E-02		
12	6.349E+10	6.00E+03	3.28E+03	3.843E+10	1.415E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.94632E-02		
13	7.499E+10	9.19E+02	1.96E+04	4.020E+10	1.497E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	7.34739E-02		
14	9.171E+10	-9.17E+03	3.57E+04	4.395E+10	1.594E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	7.82498E-02		
15	9.363E+10	-2.00E+04	4.91E+04	4.374E+10	1.607E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	7.88690E-02		
16	7.862E+10	-2.11E+04	5.03E+04	4.042E+10	1.522E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	7.46968E-02		
17	7.853E+10	-4.44E+03	6.68E+04	4.089E+10	1.519E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	7.45755E-02		
18	1.350E+11	1.89E+04	1.04E+05	5.088E+10	1.803E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	8.84923E-02		
19	9.375E+10	1.10E+04	7.57E+04	2.392E+10	2.034E+00	9.75E+02	-1.28E+03	0.	-1.33E+01	2.50E-01	2	6.42364E-02	3	3.56049E-02
20	7.391E+09	1.18E+03	1.50E+04	3.081E+09	1.922E+00	7.65E+02	-1.30E+03	-2.10E+02	-1.30E+01	2.50E-01	2	9.43427E-02		
21	7.843E+08	8.73E+01	1.30E+03	2.620E+09	1.831E+00	7.33E+02	-1.32E+03	-1.57E+02	-1.28E+01	2.50E-01	2	8.98847E-02		
22	6.984E+07	7.26E+00	1.10E+02	2.615E+09	1.821E+00	7.39E+02	-1.32E+03	-1.40E+02	-1.25E+01	2.50E-01	2	8.93870E-02		
23	6.869E+06	6.20E-01	9.11E+00	2.615E+09	1.820E+00	7.47E+02	-1.32E+03	-1.35E+02	-1.23E+01	2.50E-01	2	8.93431E-02		
24	1.472E+06	4.67E-02	7.54E-01	2.615E+09	1.820E+00	7.59E+02	-1.32E+03	-1.45E+02	-1.20E+01	2.50E-01	2	8.93394E-02		
25	1.051E+06	3.07E-03	5.66E-02	2.615E+09	1.820E+00	7.75E+02	-1.32E+03	-1.34E+02	-1.18E+01	2.50E-01	2	8.93391E-02		
26	1.016E+06	3.12E-11	3.74E-03	2.615E+09	1.820E+00	3.00E+02	-4.94E+02	-1.83E+01	-1.15E+01	2.50E-01	2	8.93390E-02		
27	1.013E+06	0.	2.36E-12	2.615E+09	1.820E+00	2.32E-07	-2.01E+01	-6.94E-08	-1.13E+01	2.50E-01	2	8.93390E-02		
28	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-6.17E-09	0.	-1.10E+01	2.50E-01	2	8.93390E-02		

29	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.05E+01	2.50E-01	2	8.93390E-02
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05

83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05

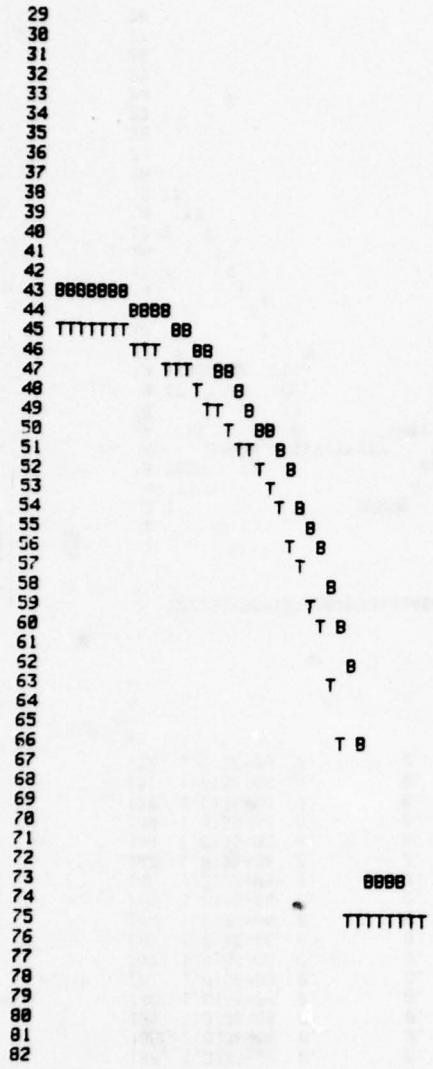
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

+

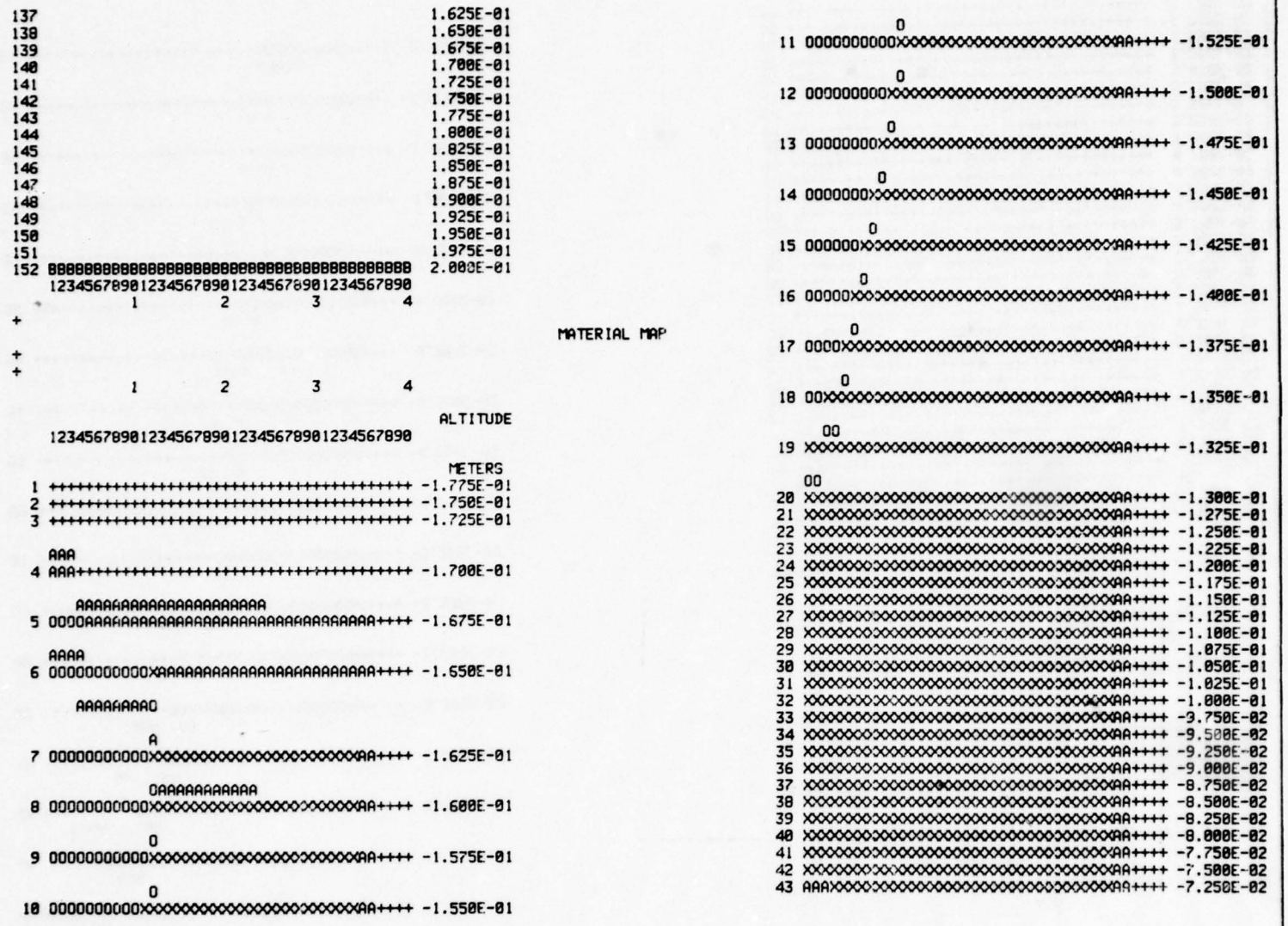
ENERGY MAP

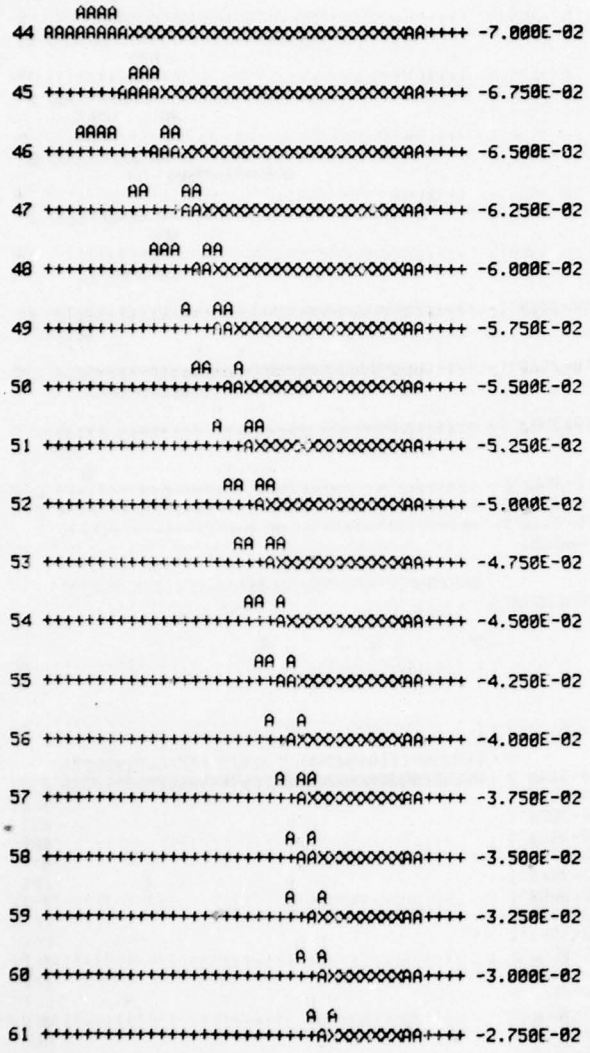
+
+

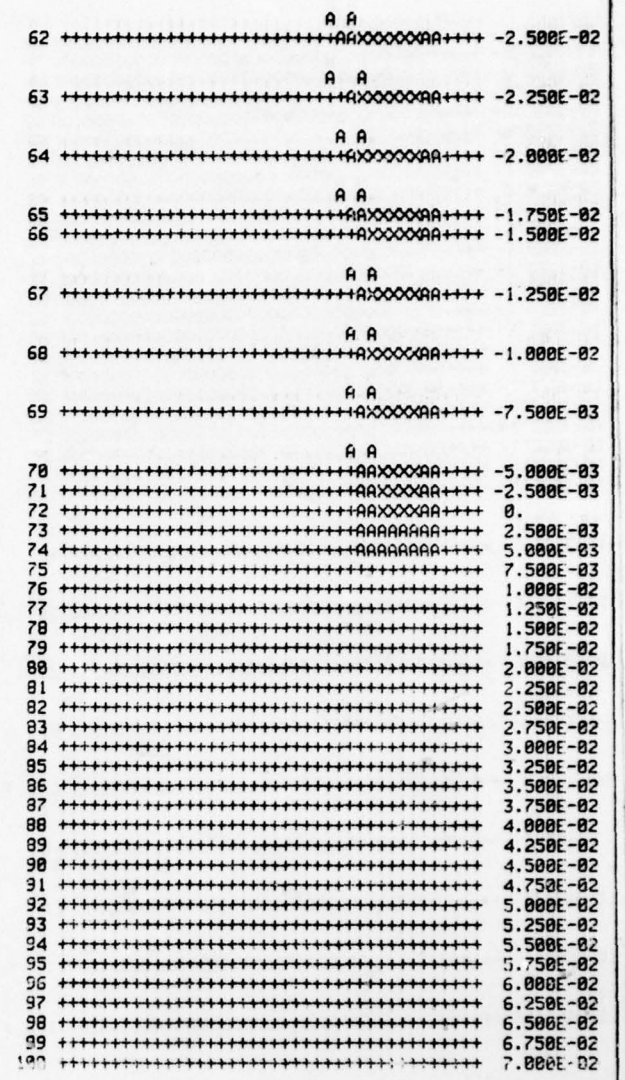
```
             1         2         3         4
                                                 ALTITUDE
    1234567890123456789012345678901234567890

                                                  METERS
 1                                              -1.775E-01
 2                                              -1.750E-01
 3  T                 BBBBB                     -1.725E-01
 4   TTTTTT                B                    -1.700E-01
 5  BBBB   TT               BBBBBBBBBBBB        -1.675E-01
 6      BBBBB   TTTTTTTTT    T                  -1.650E-01
 7    TT        B        TTTT TTTTTTTT          -1.625E-01
 8             TT                               -1.600E-01
 9  TT  TTTT   BB                               -1.575E-01
10  BBBBBBBB  TTT                               -1.550E-01
11   T                                          -1.525E-01
12   BT      T                                  -1.500E-01
13    B     T                                   -1.475E-01
14         T                                    -1.450E-01
15  T     T                                     -1.425E-01
16       T                                      -1.400E-01
17  B   T                                       -1.375E-01
18    TT                                        -1.350E-01
19  TT                                          -1.325E-01
20                                              -1.300E-01
21                                              -1.275E-01
22                                              -1.250E-01
23                                              -1.225E-01
24                                              -1.200E-01
25                                              -1.175E-01
26                                              -1.150E-01
27                                              -1.125E-01
28                                              -1.100E-01
```

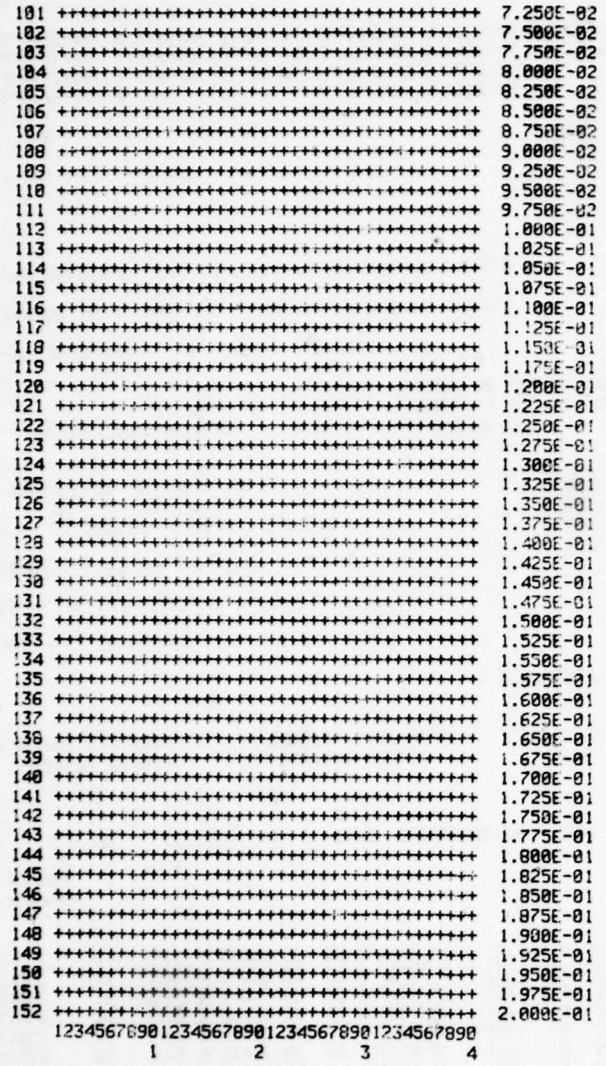


29	-1.875E-01
30	-1.850E-01
31	-1.825E-01
32	-1.800E-01
33	-1.775E-01
34	-1.750E-01
35	-1.725E-01
36	-1.700E-01
37	-1.675E-01
38	-1.650E-01
39	-1.625E-01
40	-1.600E-01
41	-1.575E-01
42	-1.550E-01
43	-1.525E-01
44	-1.500E-01
45	-1.475E-01
46	-1.450E-01
47	-1.425E-01
48	-1.400E-01
49	-1.375E-01
50	-1.350E-01
51	-1.325E-01
52	-1.300E-01
53	-1.275E-01
54	-1.250E-01
55	-1.225E-01
56	-1.200E-01
57	-1.175E-01
58	-1.150E-01
59	-1.125E-01
60	-1.100E-01
61	-1.075E-01
62	-1.050E-01
63	-1.025E-01
64	-1.000E-01
65	-9.750E-02
66	-9.500E-02
67	-9.250E-02
68	-9.000E-02
69	-8.750E-02
70	-8.500E-02
71	-8.250E-02
72	-8.000E-02
73	-7.750E-02
74	-7.500E-02
75	-7.250E-02
76	-7.000E-02
77	-6.750E-02
78	-6.500E-02
79	-6.250E-02
80	-6.000E-02
81	-5.750E-02
82	-5.500E-02
83	-5.250E-02
84	-5.000E-02
85	-4.750E-02
86	-4.500E-02
87	-4.250E-02
88	-4.000E-02
89	-3.750E-02
90	-3.500E-02
91	-3.250E-02
92	-3.000E-02
93	-2.750E-02
94	-2.500E-02
95	-2.250E-02
96	-2.000E-02
97	-1.750E-02
98	-1.500E-02
99	-1.250E-02
100	-1.000E-02
101	-7.500E-03
102	-5.000E-03
103	-2.500E-03
104	0.
105	2.500E-03
106	5.000E-03
107	7.500E-03
108	1.000E-02
109	1.250E-02
110	1.500E-02
111	1.750E-02
112	2.000E-02
113	2.250E-02
114	2.500E-02
115	2.750E-02
116	3.000E-02
117	3.250E-02
118	3.500E-02
119	3.750E-02
120	4.000E-02
121	4.250E-02
122	4.500E-02
123	4.750E-02
124	5.000E-02
125	5.250E-02
126	5.500E-02
127	5.750E-02
128	6.000E-02
129	6.250E-02
130	6.500E-02
131	6.750E-02
132	7.000E-02
133	7.250E-02
134	7.500E-02
135	7.750E-02
136	8.000E-02
	8.250E-02
	8.500E-02
	8.750E-02
	9.000E-02
	9.250E-02
	9.500E-02
	9.750E-02
	1.000E-01
	1.025E-01
	1.050E-01
	1.075E-01
	1.100E-01
	1.125E-01
	1.150E-01
	1.175E-01
	1.200E-01
	1.225E-01
	1.250E-01
	1.275E-01
	1.300E-01
	1.325E-01
	1.350E-01
	1.375E-01
	1.400E-01
	1.425E-01
	1.450E-01
	1.475E-01
	1.500E-01
	1.525E-01
	1.550E-01
	1.575E-01
	1.600E-01


MATERIAL MAP
ALTITUDE
METERS
1.625E-01
1.650E-01
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
1.925E-01
1.950E-01
1.975E-01
2.000E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02


44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02


62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02


101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01
150 1.950E-01
151 1.975E-01
152 2.000E-01
1234567890123456789012345678901234567890
1
2
3
4

```
     CYCLE    35   TIME 5.1596E-06  DT 1.603E-07   IDT    8  JDT   14
     CYCLE    36   TIME 5.3199E-06  DT 1.579E-07   IDT    9  JDT   13
     CYCLE    37   TIME 5.4778E-06  DT 1.538E-07   IDT    8  JDT   15
     CYCLE    38   TIME 5.6315E-06  DT 1.580E-07   IDT    9  JDT   14
     CYCLE    39   TIME 5.7896E-06  DT 1.157E-07   IDT    9  JDT   15
     CYCLE    40   TIME 5.9053E-06  DT 9.469E-08   IDT   10  JDT   14
     CYCLE    41   TIME 6.0000E-06  DT 1.516E-07   IDT    9  JDT   16
+
+
****** ******
*** *** ******
+
PRO.    4.0130     CYCLE    41      TIME  6.000000E-06     DT  1.516403E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY                ETH                    REL ERROR
   2.61398086109050E+13   1.25030467394240E+12   2.73981932848474E+13   2.74005884731808E+13   -3.95544392961945E+01
+
                                                      TOTAL MASS                  MTH                    RELMERR
                                                 7.37480909632830E+03   7.37480909632790E+03   7.89276849789230E-09
+
MAX VEL =  2.10060E+05 AT I   9 J  16
+
MAX CS =   6.14215E+05 AT I   9 J  16
+
MAX TEMP=   2.49627E+03 AT I   9 J  16
+
MAX P =   3.10957E+11 AT I   9 J  16
+
CELL SETTING DT, I   9 J  16
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  1 MIN, 50 SEC
                 OF THIS        0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  1 MIN, 50 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  2 MIN, 15 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.43E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.48E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
```

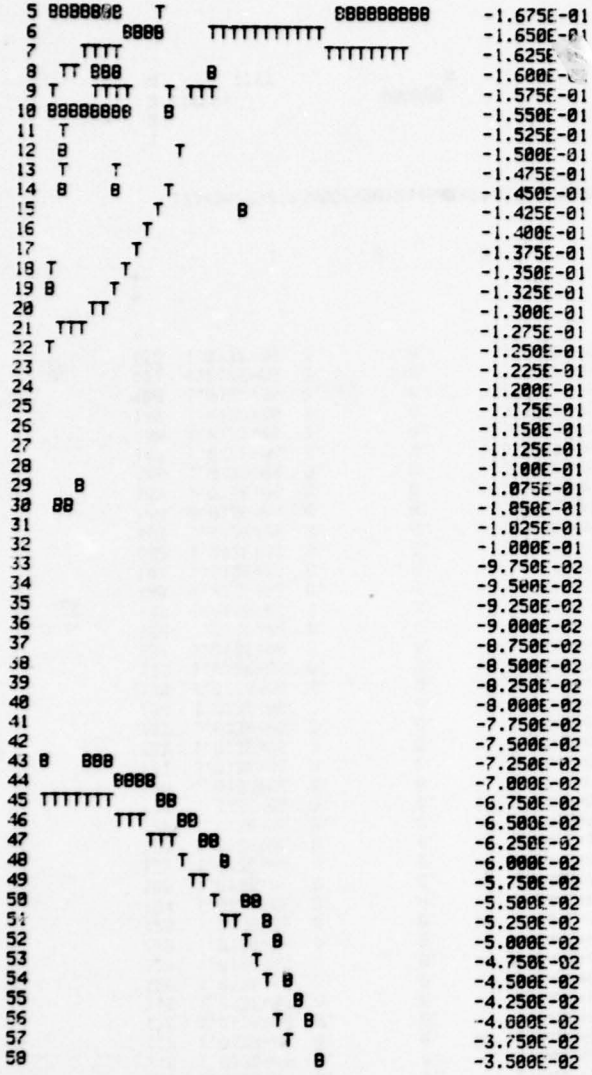
J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	4.561E+06	1.62E+03	-6.12E+04	4.733E+09	2.466E-03	0.	0.	0.	-1.75E+01	2.50E-01	1	1.21058E-04		
3	2.914E+06	3.15E+03	-1.25E+05	2.772E+09	1.798E+00	1.34E+09	-1.87E+09	0.	-1.73E+01	2.50E-01	1	3.49423E-05	4	8.82040E-02
4	5.842E+09	2.31E+03	-1.36E+05	2.623E+09	2.730E+00	1.02E+09	-1.54E+09	9.82E+08	-1.70E+01	2.50E-01	4	1.34013E-01		

5	2.431E+10	4.28E+03	-1.36E+05	2.612E+10	1.050E+00	1.28E+08	-1.03E+09	0.	-1.68E+01	2.50E-01	3	4.63644E-02	4 5.15891E-03
6	2.555E+10	6.43E+03	-1.18E+05	2.907E+10	1.004E+00	0.	0.	0.	-1.65E+01	2.50E-01	3	4.92603E-02	
7	2.945E+10	3.78E+03	-1.02E+05	3.021E+10	1.066E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	5.23296E-02	
8	2.989E+10	4.19E+03	-7.91E+04	3.066E+10	1.071E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	5.25496E-02	
9	3.125E+10	3.84E+03	-6.43E+04	2.976E+10	1.099E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.39333E-02	
10	3.381E+10	5.88E+03	-4.78E+04	3.123E+10	1.129E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	5.54042E-02	
11	3.810E+10	6.96E+03	-3.54E+04	3.219E+10	1.183E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	5.80810E-02	
12	4.416E+10	7.29E+03	-2.50E+04	3.326E+10	1.252E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.14618E-02	
13	5.406E+10	7.29E+03	-1.61E+04	3.530E+10	1.345E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	6.60424E-02	
14	6.088E+10	9.40E+03	8.38E+02	3.767E+10	1.396E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.85377E-02	
15	7.685E+10	8.21E+03	2.47E+04	4.115E+10	1.506E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	7.39401E-02	
16	1.002E+11	1.91E+03	4.66E+04	4.538E+10	1.640E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	8.04937E-02	
17	1.150E+11	-8.60E+03	5.52E+04	4.779E+10	1.713E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	8.40979E-02	
18	1.029E+11	-7.64E+03	5.34E+04	4.491E+10	1.657E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	8.13504E-02	
19	1.058E+11	-9.53E+02	6.56E+04	4.503E+10	1.673E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	8.21208E-02	
20	1.392E+11	9.40E+03	1.10E+05	4.918E+10	1.828E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	8.97341E-02	
21	1.948E+11	1.06E+04	1.13E+05	5.797E+10	2.030E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	9.96560E-02	
22	2.526E+10	2.15E+03	4.58E+04	5.896E+09	2.025E+00	8.93E+02	-1.30E+03	0.	-1.25E+01	2.50E-01	2	9.68497E-02	3 2.57100E-03
23	2.814E+09	2.03E+02	4.03E+03	2.684E+09	1.860E+00	7.18E+02	-1.33E+03	-9.51E+01	-1.23E+01	2.50E-01	2	9.12910E-02	
24	2.140E+08	1.63E+01	3.61E+02	2.615E+09	1.823E+00	7.75E+02	-1.32E+03	-9.70E+01	-1.20E+01	2.50E-01	2	8.94874E-02	
25	1.999E+07	1.49E+00	2.94E+01	2.615E+09	1.820E+00	7.70E+02	-1.32E+03	-1.09E+02	-1.18E+01	2.50E-01	2	8.93523E-02	
26	2.613E+06	1.42E-01	2.48E+00	2.615E+09	1.820E+00	7.64E+02	-1.32E+03	-1.16E+02	-1.15E+01	2.50E-01	2	8.93402E-02	
27	1.150E+06	1.25E-02	2.13E-01	2.615E+09	1.820E+00	7.67E+02	-1.32E+03	-1.30E+02	-1.13E+01	2.50E-01	2	8.93391E-02	
28	1.025E+06	5.47E-10	1.85E-02	2.615E+09	1.820E+00	8.38E+02	-1.31E+03	-1.20E+02	-1.10E+01	2.50E-01	2	8.93390E-02	
29	1.014E+06	0.	6.50E-11	2.615E+09	1.820E+00	8.71E+01	-1.70E+02	-2.86E-06	-1.08E+01	2.50E-01	2	8.93390E-02	
30	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-4.56E-07	0.	-1.05E+01	2.50E-01	2	8.93390E-02	
31	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.03E+01	2.50E-01	2	8.93390E-02	
32	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-1.00E+01	2.50E-01	2	8.93390E-02	
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.75E+00	2.50E-01	2	8.93390E-02	
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02	
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02	
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02	
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02	
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02	
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02	
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02	
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02	
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02	
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01	
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01	
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05	
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05	
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05	
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05	
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05	
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05	
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05	
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05	
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05	
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05	
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05	
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05	
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05	
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05	

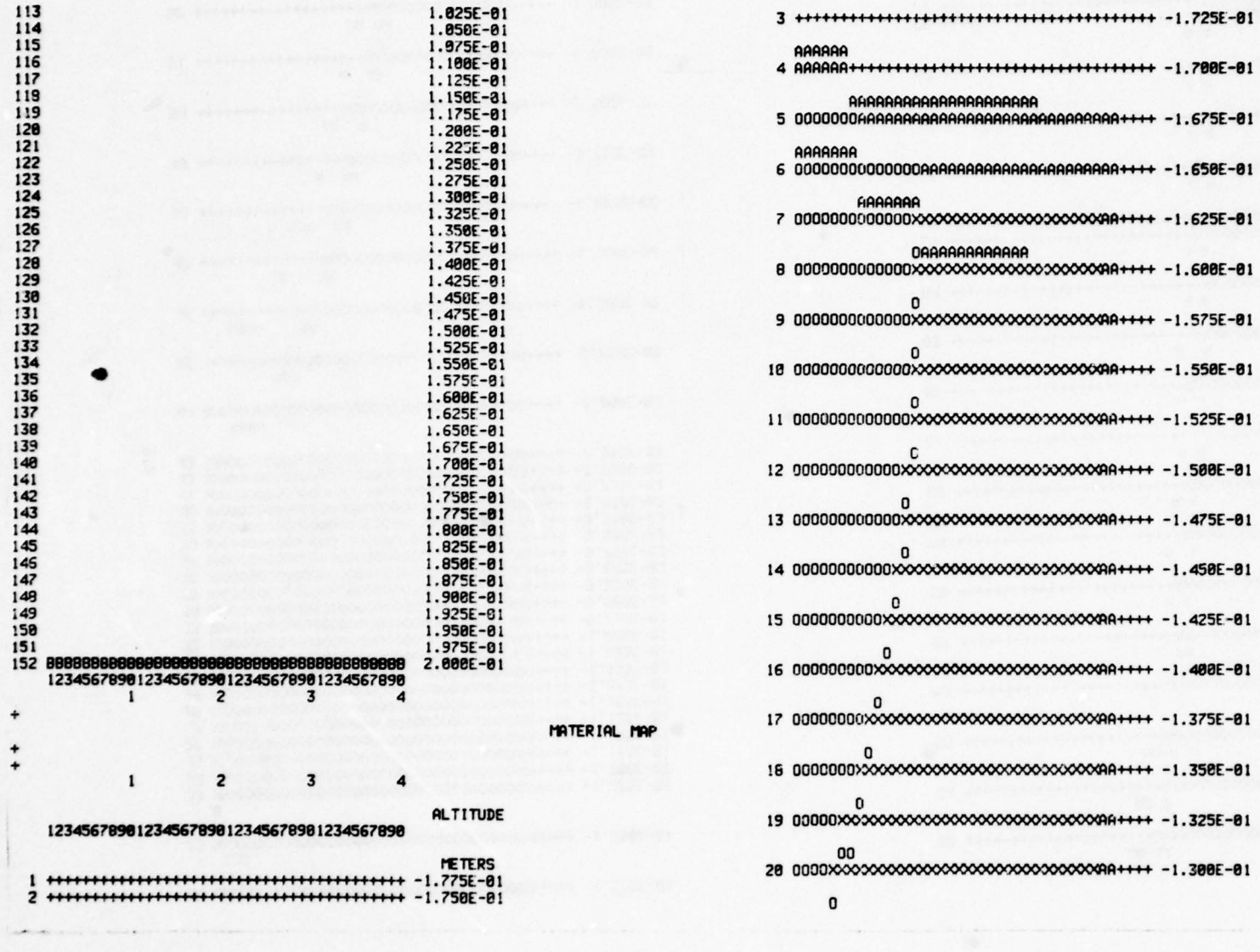
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05

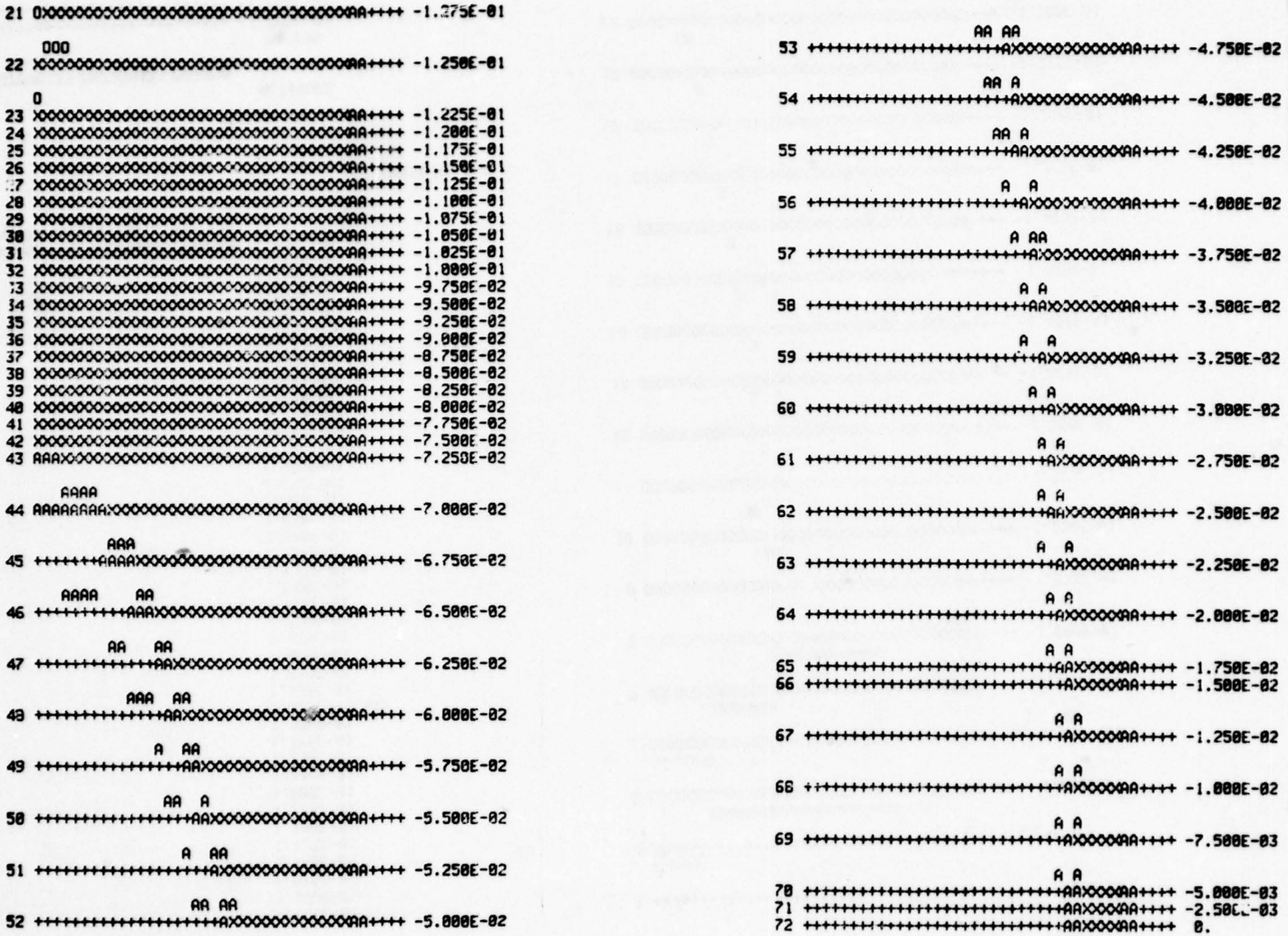
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

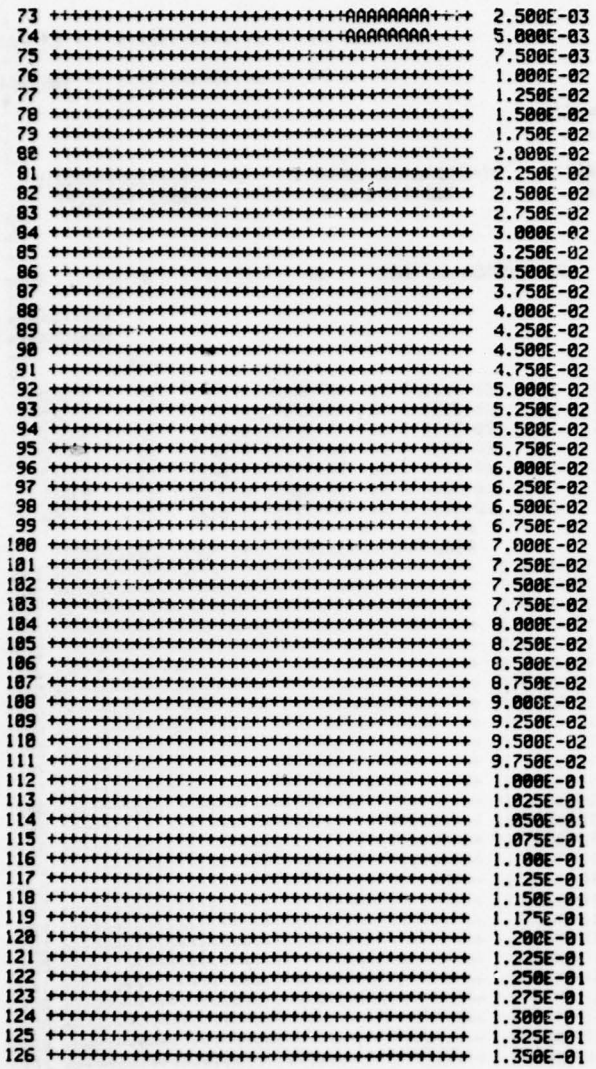
```
+
                                                  ENERGY MAP
+
+
          1         2         3         4
                                                ALTITUDE
 1234567890123456789012345678901234567890
                                                 METERS
1                                              -1.775E-01
2                                              -1.750E-01
3 TTTTTT              BBBBBB                   -1.725E-01
4       TTTT               B                   -1.700E-01
```



```
 5 BBBBBBB   T                BBBBBBBBB    -1.675E-01
 6        BBBB     TTTTTTTTTT              -1.650E-01
 7    TTTT                        TTTTTTTT -1.625E-01
 8  TT BBB         B                       -1.600E-01
 9 T   TTTT   T TTT                        -1.575E-01
10 BBBBBBBB   B                           -1.550E-01
11  T                                      -1.525E-01
12  B          T                           -1.500E-01
13  T    T                                 -1.475E-01
14  B    B    T                           -1.450E-01
15            T       B                   -1.425E-01
16           T                            -1.400E-01
17          T                             -1.375E-01
18 T       T                              -1.350E-01
19 B     T                                -1.325E-01
20     TT                                 -1.300E-01
21  TTT                                   -1.275E-01
22 T                                      -1.250E-01
23                                        -1.225E-01
24                                        -1.200E-01
25                                        -1.175E-01
26                                        -1.150E-01
27                                        -1.125E-01
28                                        -1.100E-01
29    B                                   -1.075E-01
30  BB                                    -1.050E-01
31                                        -1.025E-01
32                                        -1.000E-01
33                                        -9.750E-02
34                                        -9.500E-02
35                                        -9.250E-02
36                                        -9.000E-02
37                                        -8.750E-02
38                                        -8.500E-02
39                                        -8.250E-02
40                                        -8.000E-02
41                                        -7.750E-02
42                                        -7.500E-02
43 B   BBB                                -7.250E-02
44       BBBB                             -7.000E-02
45 TTTTTTT    BB                          -6.750E-02
46       TTT   BB                         -6.500E-02
47           TTT  BB                      -6.250E-02
48              T   B                     -6.000E-02
49             TT                         -5.750E-02
50                T  BB                   -5.500E-02
51               TT  B                    -5.250E-02
52                 T  B                   -5.000E-02
53                  T                     -4.750E-02
54                   T B                  -4.500E-02
55                      B                 -4.250E-02
56                    T  B                -4.000E-02
57                     T                  -3.750E-02
58                        B               -3.500E-02
59                                        -3.250E-02
60                T B                     -3.000E-02
61                                        -2.750E-02
62                   B                    -2.500E-02
63                 T                      -2.250E-02
64                                        -2.000E-02
65                                        -1.750E-02
66                  T B                   -1.500E-02
67                                        -1.250E-02
68                                        -1.000E-02
69                                        -7.500E-03
70                                        -5.000E-03
71                                        -2.500E-03
72                                         0.
73                    BBBB                2.500E-03
74                                        5.000E-03
75                    TTTTTTTT            7.500E-03
76                                        1.000E-02
77                                        1.250E-02
79                                        1.500E-02
79                                        1.750E-02
80                                        2.000E-02
81                                        2.250E-02
82                                        2.500E-02
83                                        2.750E-02
84                                        3.000E-02
85                                        3.250E-02
86                                        3.500E-02
87                                        3.750E-02
88                                        4.000E-02
89                                        4.250E-02
90                                        4.500E-02
91                                        4.750E-02
92                                        5.000E-02
93                                        5.250E-02
94                                        5.500E-02
95                                        5.750E-02
96                                        6.000E-02
97                                        6.250E-02
98                                        6.500E-02
99                                        6.750E-02
100                                       7.000E-02
101                                       7.250E-02
102                                       7.500E-02
103                                       7.750E-02
104                                       8.000E-02
105                                       8.250E-02
106                                       8.500E-02
107                                       8.750E-02
108                                       9.000E-02
109                                       9.250E-02
110                                       9.500E-02
111                                       9.750E-02
112                                       1.000E-01
```


MATERIAL MAP
ALTITUDE
METERS
1 +++++++++++++++++++++++++++++++++++++++ -1.775E-01
2 +++++++++++++++++++++++++++++++++++++++ -1.750E-01
3 +++++++++++++++++++++++++++++++++++++++ -1.725E-01
4 AAAAAA+++++++++++++++++++++++++++++++++ -1.700E-01
5 OOOOOOOAAAAAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.675E-01
6 OOOOOOOOOOOOOOAAAAAAAAAAAAAAAAAAAAAA++++ -1.650E-01
7 OOOOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.625E-01
8 OOOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.600E-01
9 OOOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.575E-01
10 OOOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.550E-01
11 OOOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.525E-01
12 OOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.500E-01
13 OOOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.475E-01
14 OOOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.450E-01
15 OOOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.425E-01
16 OOOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.400E-01
17 OOOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.375E-01
18 OOOOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.350E-01
19 OOOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.325E-01
20 OOOXXXXXXXXXXXXXXXXXXXXAA++++ -1.300E-01
1 2 3 4
1234567890123456789012345678901234567890
1 2 3 4
1234567890123456789012345678901234567890


21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.


73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01

```
127 ++++++++++++++++++++++++++++++++++++++++  1.375E-01
128 ++++++++++++++++++++++++++++++++++++++++  1.400E-01
129 ++++++++++++++++++++++++++++++++++++++++  1.425E-01
130 ++++++++++++++++++++++++++++++++++++++++  1.450E-01
131 ++++++++++++++++++++++++++++++++++++++++  1.475E-01
132 ++++++++++++++++++++++++++++++++++++++++  1.500E-01
133 ++++++++++++++++++++++++++++++++++++++++  1.525E-01
134 ++++++++++++++++++++++++++++++++++++++++  1.550E-01
135 ++++++++++++++++++++++++++++++++++++++++  1.575E-01
136 ++++++++++++++++++++++++++++++++++++++++  1.600E-01
137 ++++++++++++++++++++++++++++++++++++++++  1.625E-01
138 ++++++++++++++++++++++++++++++++++++++++  1.650E-01
139 ++++++++++++++++++++++++++++++++++++++++  1.675E-01
140 ++++++++++++++++++++++++++++++++++++++++  1.700E-01
141 ++++++++++++++++++++++++++++++++++++++++  1.725E-01
142 ++++++++++++++++++++++++++++++++++++++++  1.750E-01
143 ++++++++++++++++++++++++++++++++++++++++  1.775E-01
144 ++++++++++++++++++++++++++++++++++++++++  1.800E-01
145 ++++++++++++++++++++++++++++++++++++++++  1.825E-01
146 ++++++++++++++++++++++++++++++++++++++++  1.850E-01
147 ++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    42   TIME 6.1516E-06  DT 1.529E-07   IDT   10  JDT   15
   CYCLE    43   TIME 6.3045E-06  DT 1.490E-07   IDT   10  JDT   16
   CYCLE    44   TIME 6.4536E-06  DT 1.531E-07   IDT   11  JDT   15
   CYCLE    45   TIME 6.6067E-06  DT 1.476E-07   IDT   10  JDT   17
   CYCLE    46   TIME 6.7543E-06  DT 1.351E-07   IDT   12  JDT   15
   CYCLE    47   TIME 6.8894E-06  DT 1.106E-07   IDT   11  JDT   17
   CYCLE    48   TIME 7.0000E-06  DT 1.524E-07   IDT   12  JDT   16
+
+
**********
**********
+
PROB    4.0130     CYCLE    48     TIME  7.000000E-06     DT  1.523926E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH              REL ERROR
   3.08503612990994E+13    2.24964590167022E+12    3.31000072007695E+13    3.31041148217165E+13   -5.17324366484837E+01
+
                                                      TOTAL MASS                MTH              RELMERR
                                                   7.37480029013413E+03    7.37480029013366E+03    7.89276936070849E-09
+
MAX VEL =  2.00183E+05 AT I  12 J  16
+
MAX CS =   6.12604E+05 AT I  13 J  15
+
```

MAX TEMP= 2.47761E+03 AT I 12 J 16
+
MAX P = 3.07307E+11 AT I 13 J 15
+
CELL SETTING DT, I 12 J 16
+
+
TOTAL TIME FOR THIS PROBLEM 0 HOURS, 2 MIN, 9 SEC
OF THIS 0 HOURS, 0 MIN, 0 SEC IS 6600 TIME.
AND 0 HOURS, 2 MIN, 9 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN 0 HOURS, 2 MIN, 34 SEC
+
WHIZ FACTOR TOTAL PROBLEM = 4.45E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.60E-04 SEC/CELL/CYCLE
+
+
+
+
I= 1 X(I)= .250 DX(I)= .250
+

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	5.923E+06	3.92E+03	-1.44E+05	2.796E+09	5.768E-01	1.31E+09	-1.88E+09	0.	-1.75E+01	2.50E-01	1	1.12084E-04	4	2.82012E-02
3	-2.158E+09	3.84E+03	-1.47E+05	2.745E+09	2.702E+00	1.22E+09	-1.76E+09	6.02E+08	-1.73E+01	2.50E-01	4	1.32634E-01		
4	1.805E+10	4.54E+03	-1.52E+05	9.909E+09	1.655E+00	1.02E+09	-1.51E+09	0.	-1.70E+01	2.50E-01	3	2.45398E-02	4	5.67114E-02
5	2.046E+10	-2.53E+02	-1.36E+05	2.702E+10	9.125E-01	0.	0.	0.	-1.68E+01	2.50E-01	3	4.47898E-02		
6	2.257E+10	-2.41E+03	-1.20E+05	2.778E+10	9.531E-01	0.	0.	0.	-1.65E+01	2.50E-01	3	4.67845E-02		
7	2.645E+10	-5.99E+03	-1.02E+05	2.917E+10	1.020E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	5.00642E-02		
8	2.799E+10	-7.14E+03	-8.08E+04	2.961E+10	1.045E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	5.12902E-02		
9	3.120E+10	-9.33E+03	-6.87E+04	2.978E+10	1.098E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.38887E-02		
10	3.352E+10	-7.22E+03	-5.79E+04	3.091E+10	1.126E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	5.52896E-02		
11	3.828E+10	-6.32E+03	-5.09E+04	3.196E+10	1.187E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	5.82652E-02		
12	4.252E+10	-5.21E+03	-4.30E+04	3.267E+10	1.236E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.06758E-02		
13	4.565E+10	-1.96E+03	-2.98E+04	3.291E+10	1.271E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	6.23853E-02		
14	4.671E+10	-5.39E+02	-1.96E+04	3.372E+10	1.278E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.27461E-02		
15	5.252E+10	3.07E+03	-1.43E+04	3.509E+10	1.331E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.53598E-02		
16	5.873E+10	7.93E+03	-7.12E+02	3.676E+10	1.382E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.78197E-02		
17	7.016E+10	1.25E+04	2.62E+04	3.950E+10	1.464E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	7.18502E-02		
18	8.514E+10	8.82E+03	4.93E+04	4.203E+10	1.559E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	7.65503E-02		
19	9.486E+10	3.48E+03	5.38E+04	4.261E+10	1.618E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	7.94371E-02		
20	1.008E+11	-3.46E+03	5.40E+04	4.262E+10	1.653E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	8.11366E-02		
21	1.051E+11	-1.30E+03	6.35E+04	4.336E+10	1.675E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	8.22253E-02		
22	1.436E+11	8.34E+03	1.03E+05	4.918E+10	1.848E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	9.07166E-02		
23	2.270E+11	6.89E+02	1.43E+05	5.991E+10	2.145E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	1.05296E-01		
24	1.357E+11	-1.13E+03	9.29E+04	3.043E+10	2.154E+00	1.03E+03	-1.25E+03	0.	-1.20E+01	2.50E-01	2	6.05254E-02	3	4.52298E-02
25	8.537E+09	-2.08E+02	1.73E+04	3.305E+09	1.937E+00	8.70E+02	-1.31E+03	4.23E+01	-1.18E+01	2.50E-01	2	9.50679E-02		
26	8.178E+08	7.14E+00	1.22E+03	2.620E+09	1.832E+00	8.11E+02	-1.32E+03	2.01E+01	-1.15E+01	2.50E-01	2	8.99075E-02		
27	6.742E+07	1.41E+00	9.46E+01	2.615E+09	1.821E+00	7.94E+02	-1.32E+03	-3.47E+01	-1.13E+01	2.50E-01	2	8.93853E-02		
28	6.487E+06	2.47E-01	8.42E+00	2.615E+09	1.820E+00	8.06E+02	-1.32E+03	-5.83E+01	-1.10E+01	2.50E-01	2	8.93429E-02		
29	1.493E+06	2.73E-02	7.16E-01	2.615E+09	1.820E+00	7.99E+02	-1.32E+03	-8.13E+01	-1.08E+01	2.50E-01	2	8.93394E-02		
30	1.054E+06	1.58E-03	6.21E-02	2.615E+09	1.820E+00	8.17E+02	-1.32E+03	-9.80E+01	-1.05E+01	2.50E-01	2	8.93391E-02		

31	1.017E+06	2.33E-11	4.58E-03	2.615E+09	1.820E+00	3.60E+02	-6.00E+02	-1.49E+01	-1.03E+01	2.50E-01	2	8.93390E-02
32	1.013E+06	0.	4.65E-12	2.615E+09	1.820E+00	1.24E+01	-1.74E+01	-2.19E-08	-1.00E+01	2.50E-01	2	8.93390E-02
33	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-1.36E-08	0.	-9.75E+00	2.50E-01	2	8.93390E-02
34	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.50E+00	2.50E-01	2	8.93390E-02
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.25E+00	2.50E-01	2	8.93390E-02
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05

85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05

139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1 6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1 6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1 6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1 6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1 6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1 6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1 6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1 6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1 6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1 6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1 6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1 6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1 6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1 6.01320E-05

+

ENERGY MAP

+

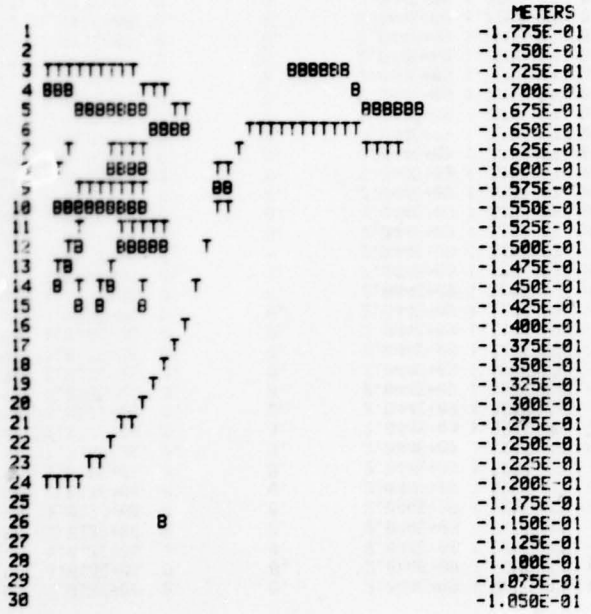
+

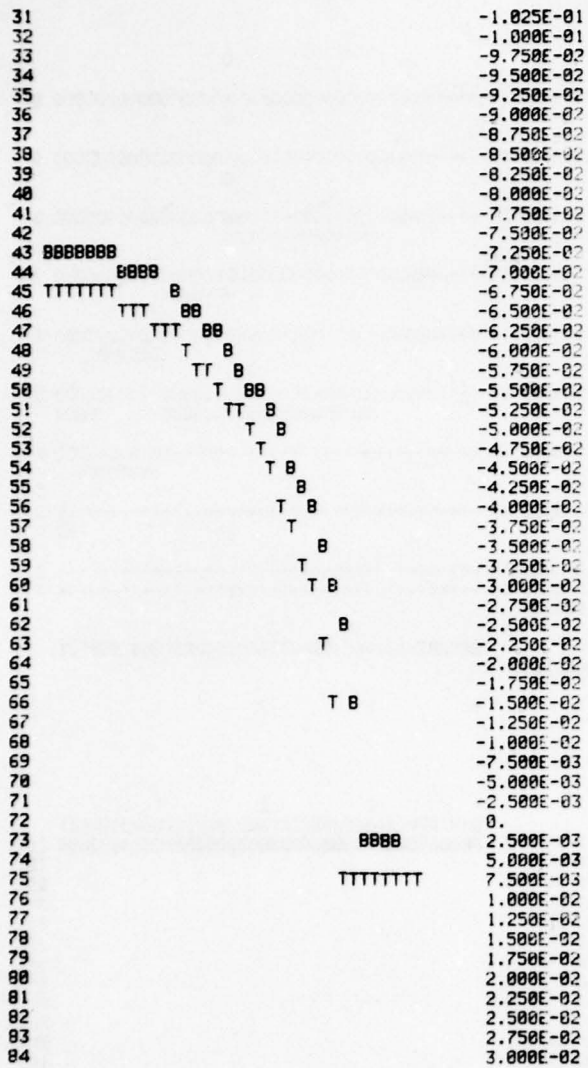
1 2 3 4

ALTITUDE

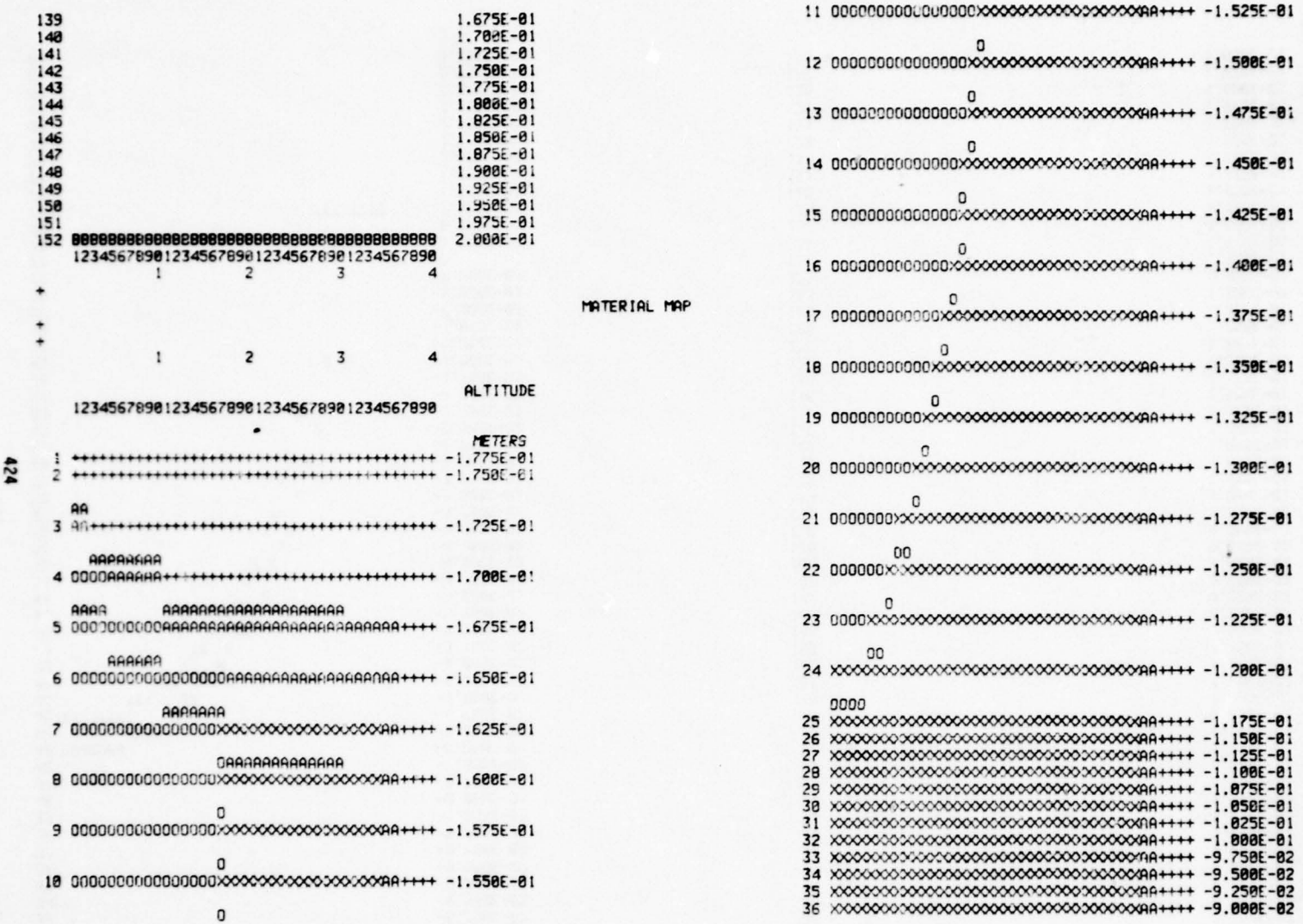
1234567890123456789012345678901234567890

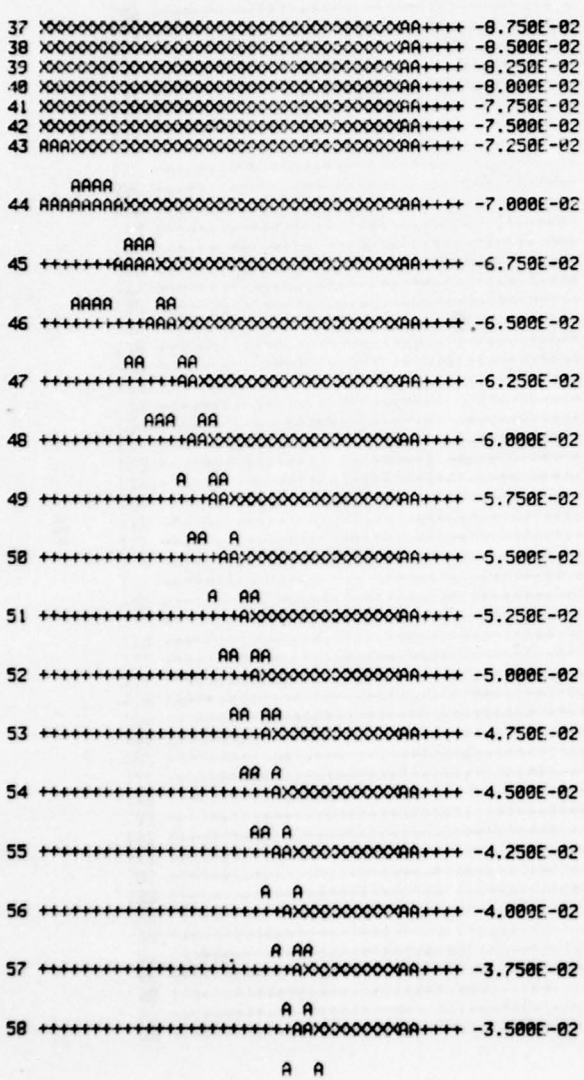
METERS

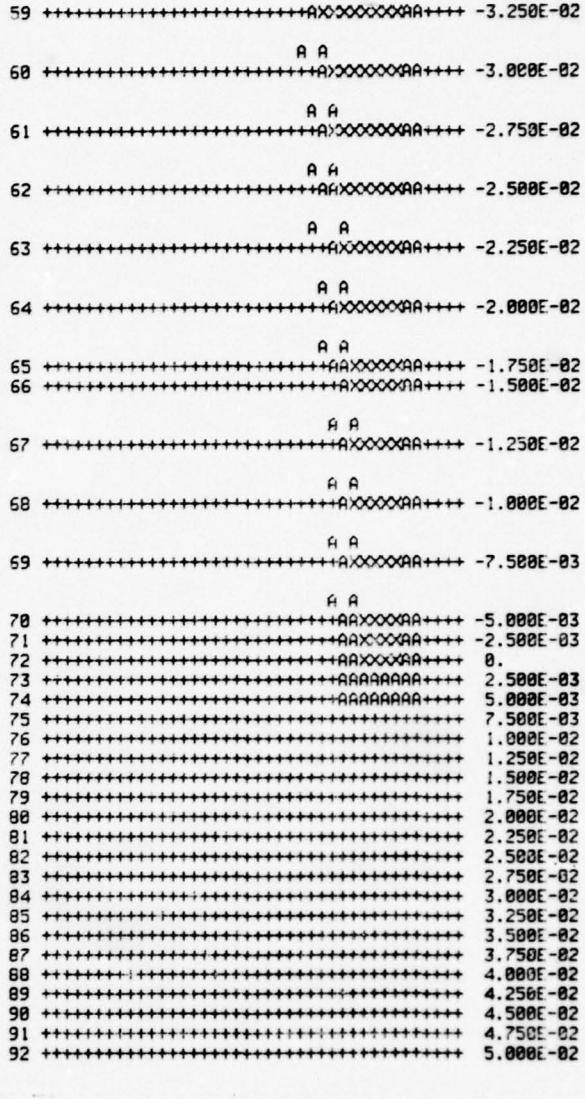


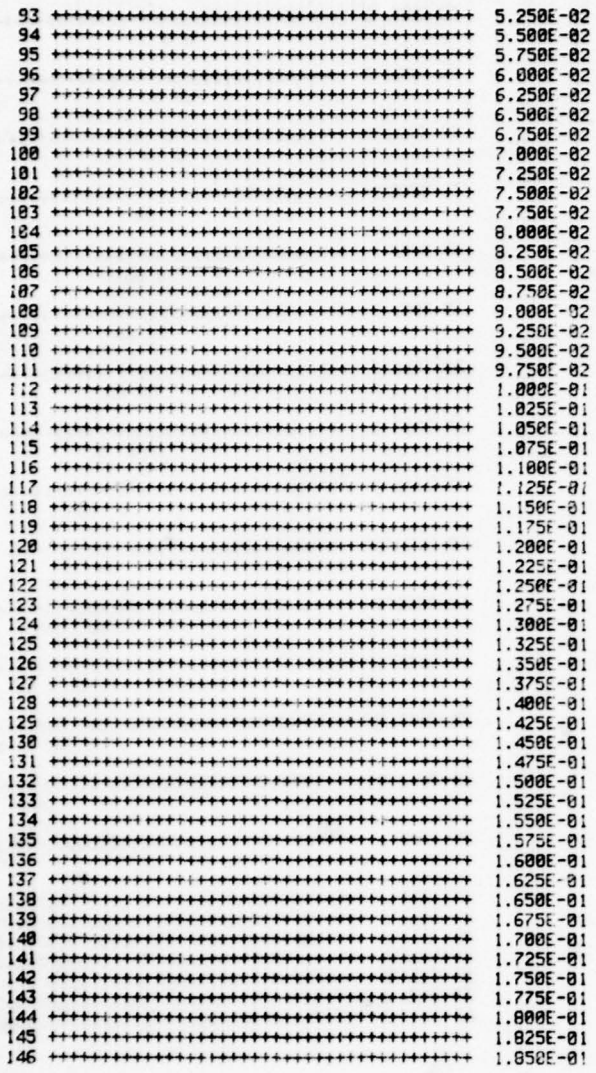


31	-1.025E-01	85	3.250E-02	139	1.675E-01
32	-1.000E-01	86	3.500E-02	140	1.700E-01
33	-9.750E-02	87	3.750E-02	141	1.725E-01
34	-9.500E-02	88	4.000E-02	142	1.750E-01
35	-9.250E-02	89	4.250E-02	143	1.775E-01
36	-9.000E-02	90	4.500E-02	144	1.800E-01
37	-8.750E-02	91	4.750E-02	145	1.825E-01
38	-8.500E-02	92	5.000E-02	146	1.850E-01
39	-8.250E-02	93	5.250E-02	147	1.875E-01
40	-8.000E-02	94	5.500E-02	148	1.900E-01
41	-7.750E-02	95	5.750E-02	149	1.925E-01
42	-7.500E-02	96	6.000E-02	150	1.950E-01
43	-7.250E-02	97	6.250E-02	151	1.975E-01
44	-7.000E-02	98	6.500E-02	152	2.000E-01
45	-6.750E-02	99	6.750E-02	153	2.025E-01
46	-6.500E-02	100	7.000E-02	154	2.050E-01
47	-6.250E-02	101	7.250E-02	155	2.075E-01
48	-6.000E-02	102	7.500E-02	156	2.100E-01
49	-5.750E-02	103	7.750E-02	157	2.125E-01
50	-5.500E-02	104	8.000E-02	158	2.150E-01
51	-5.250E-02	105	8.250E-02	159	2.175E-01
52	-5.000E-02	106	8.500E-02	160	2.200E-01
53	-4.750E-02	107	8.750E-02	161	2.225E-01
54	-4.500E-02	108	9.000E-02	162	2.250E-01
55	-4.250E-02	109	9.250E-02	163	2.275E-01
56	-4.000E-02	110	9.500E-02	164	2.300E-01
57	-3.750E-02	111	9.750E-02	165	2.325E-01
58	-3.500E-02	112	1.000E-01	166	2.350E-01
59	-3.250E-02	113	1.025E-01	167	2.375E-01
60	-3.000E-02	114	1.050E-01	168	2.400E-01
61	-2.750E-02	115	1.075E-01	169	2.425E-01
62	-2.500E-02	116	1.100E-01	170	2.450E-01
63	-2.250E-02	117	1.125E-01	171	2.475E-01
64	-2.000E-02	118	1.150E-01	172	2.500E-01
65	-1.750E-02	119	1.175E-01	173	2.525E-01
66	-1.500E-02	120	1.200E-01	174	2.550E-01
67	-1.250E-02	121	1.225E-01	175	2.575E-01
68	-1.000E-02	122	1.250E-01	176	2.600E-01
69	-7.500E-03	123	1.275E-01	177	2.625E-01
70	-5.000E-03	124	1.300E-01	178	2.650E-01
71	-2.500E-03	125	1.325E-01	179	2.675E-01
72	0.	126	1.350E-01	180	2.700E-01
73	2.500E-03	127	1.375E-01	181	2.725E-01
74	5.000E-03	128	1.400E-01	182	2.750E-01
75	7.500E-03	129	1.425E-01	183	2.775E-01
76	1.000E-02	130	1.450E-01	184	2.800E-01
77	1.250E-02	131	1.475E-01	185	2.825E-01
78	1.500E-02	132	1.500E-01	186	2.850E-01
79	1.750E-02	133	1.525E-01	187	2.875E-01
80	2.000E-02	134	1.550E-01	188	2.900E-01
81	2.250E-02	135	1.575E-01	189	2.925E-01
82	2.500E-02	136	1.600E-01	190	2.950E-01
83	2.750E-02	137	1.625E-01	191	2.975E-01
84	3.000E-02	138	1.650E-01	192	3.000E-01


MATERIAL MAP
ALTITUDE
METERS
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
1.925E-01
1.950E-01
1.975E-01
2.000E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02


37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02


59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02


93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01

```
147 ++++++++++++++++++++++++++++++++++++++++  1.875E-01
148 ++++++++++++++++++++++++++++++++++++++++  1.900E-01
149 ++++++++++++++++++++++++++++++++++++++++  1.925E-01
150 ++++++++++++++++++++++++++++++++++++++++  1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++  1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++  2.000E-01
    12345678901234567890123456789012345678901234567890
              1         2         3         4
   CYCLE    49   TIME 7.1524E-06  DT 1.451E-07   IDT   11  JDT   18
   CYCLE    50   TIME 7.2975E-06  DT 1.511E-07   IDT   13  JDT   16
   CYCLE    51   TIME 7.4486E-06  DT 1.449E-07   IDT   12  JDT   18
   CYCLE    52   TIME 7.5935E-06  DT 1.455E-07   IDT   12  JDT   19
   CYCLE    53   TIME 7.7390E-06  DT 1.436E-07   IDT   14  JDT   17
   CYCLE    54   TIME 7.8825E-06  DT 1.175E-07   IDT   13  JDT   19
   CYCLE    55   TIME 8.0000E-06  DT 1.472E-07   IDT   14  JDT   18
+
+
**********
**********
+
PROB    4.0130     CYCLE    55     TIME  8.000000E-06     DT  1.471971E-07
+
+
+
    INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                REL ERROR
  3.786145361839 25E+13   3.677217466866 45E+12   4.153867108525 87E+13   4.154608331891 22E+13   -7.954876124637 35E+01
+
                                                    TOTAL MASS                MTH                RELMERR
                                                  7.374804889616 18E+03   7.374804889615 63E+03   1.183915950008 93E-08
+
MAX VEL =  2.25598E+05 AT I  15 J  17
+
MAX CS =   6.24985E+05 AT I  14 J  18
+
MAX TEMP=   2.54421E+03 AT I  11 J  21
+
MAX P =   3.37741E+11 AT I  14 J  18
+
CELL SETTING DT, I  14 J  18
+
+
TOTAL TIME FOR THIS PROBLEM    0 HOURS,  2 MIN, 29 SEC
                  OF THIS      0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                      AND      0 HOURS,  2 MIN, 29 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  2 MIN, 54 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.47E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.56E-04 SEC/CELL/CYCLE
+
+
+
+
```

I= 1 X(I)= .250 DX(I)= .250

J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	5.090E+06	4.53E+03	-1.56E+05	2.771E+09	2.215E+00	1.57E+09	-1.75E+09	0.	-1.75E+01	2.50E-01	1	2.53473E-05	4	1.08720E-01
3	1.395E+10	4.09E+03	-1.63E+05	4.575E+09	2.261E+00	1.55E+09	-1.60E+09	0.	-1.73E+01	2.50E-01	3	9.22089E-03	4	1.01774E-01
4	1.702E+10	-1.95E+03	-1.60E+05	2.581E+10	8.392E-01	0.	0.	0.	-1.70E+01	2.50E-01	3	4.11918E-02		
5	1.987E+10	-5.95E+03	-1.40E+05	2.687E+10	9.001E-01	0.	0.	0.	-1.68E+01	2.50E-01	3	4.41830E-02		
6	2.428E+10	-8.09E+03	-1.26E+05	2.864E+10	9.819E-01	0.	0.	0.	-1.65E+01	2.50E-01	3	4.81974E-02		
7	2.907E+10	-1.01E+04	-1.07E+05	3.024E+10	1.059E+00	0.	0.	0.	-1.63E+01	2.50E-01	3	5.19969E-02		
8	3.350E+10	-1.11E+04	-9.07E+04	3.142E+10	1.123E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	5.51172E-02		
9	3.963E+10	-1.14E+04	-7.93E+04	3.259E+10	1.201E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.89467E-02		
10	4.349E+10	-1.10E+04	-6.90E+04	3.388E+10	1.241E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	6.09159E-02		
11	4.692E+10	-9.36E+03	-5.99E+04	3.432E+10	1.277E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	6.27038E-02		
12	4.765E+10	-8.11E+03	-4.73E+04	3.411E+10	1.286E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.31479E-02		
13	4.892E+10	-6.99E+03	-3.53E+04	3.381E+10	1.301E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	6.38871E-02		
14	5.237E+10	-7.60E+03	-2.67E+04	3.516E+10	1.330E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.52719E-02		
15	5.149E+10	-5.17E+03	-1.83E+04	3.470E+10	1.323E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.49524E-02		
16	4.947E+10	-5.46E+03	-8.88E+03	3.483E+10	1.306E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.41080E-02		
17	4.944E+10	-3.42E+03	-2.89E+03	3.397E+10	1.306E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	6.41110E-02		
18	6.202E+10	-2.83E+03	6.79E+03	3.692E+10	1.409E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	6.91862E-02		
19	7.562E+10	-6.98E+02	2.18E+04	3.914E+10	1.506E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	7.39070E-02		
20	8.432E+10	2.97E+03	3.72E+04	3.979E+10	1.563E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	7.67070E-02		
21	9.260E+10	2.89E+03	4.59E+04	4.060E+10	1.612E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	7.91277E-02		
22	9.417E+10	1.94E+03	4.32E+04	3.934E+10	1.626E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	7.98219E-02		
23	9.707E+10	8.13E+03	5.22E+04	3.892E+10	1.645E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	8.07489E-02		
24	1.246E+11	9.78E+03	8.17E+04	4.519E+10	1.771E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	8.69382E-02		
25	1.829E+11	8.52E+03	1.27E+05	5.469E+10	1.997E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	9.80090E-02		
26	2.287E+11	3.78E+03	1.52E+05	6.119E+10	2.147E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	1.05404E-01		
27	1.146E+11	-1.84E+03	8.60E+04	2.742E+10	2.110E+00	1.05E+03	-1.23E+03	0.	-1.13E+01	2.50E-01	2	6.50254E-02	3	3.85514E-02
28	6.849E+09	-5.23E+01	1.32E+04	3.110E+09	1.915E+00	8.67E+02	-1.31E+03	2.03E+00	-1.10E+01	2.50E-01	2	9.39932E-02		
29	5.399E+09	-9.55E-01	7.46E+02	2.617E+09	1.828E+00	8.57E+02	-1.31E+03	3.91E+00	-1.08E+01	2.50E-01	2	8.97145E-02		
30	3.689E+07	2.87E-02	4.30E+01	2.615E+07	1.821E+00	8.21E+02	-1.32E+03	3.82E+00	-1.05E+01	2.50E-01	2	8.93640E-02		
31	3.295E+06	6.86E-03	3.25E+00	2.615E+09	1.820E+00	8.58E+02	-1.31E+03	-6.55E+00	-1.03E+01	2.50E-01	2	8.93489E-02		
32	1.187E+06	2.11E-03	2.41E-01	2.615E+09	1.820E+00	8.42E+02	-1.32E+03	-1.45E+01	-1.00E+01	2.50E-01	2	8.93392E-02		
33	1.027E+06	1.29E-10	1.06E-02	2.615E+09	1.820E+00	8.55E+02	-1.31E+03	-1.81E+01	-9.75E+00	2.50E-01	2	8.93391E-02		
34	1.014E+06	0.	8.13E-11	2.615E+09	1.820E+00	8.21E+01	-1.19E+02	-5.17E-07	-9.50E+00	2.50E-01	2	8.93390E-02		
35	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-3.66E-07	0.	-9.25E+00	2.50E-01	2	8.93390E-02		
36	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-9.00E+00	2.50E-01	2	8.93390E-02		
37	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.75E+00	2.50E-01	2	8.93390E-02		
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.50E+00	2.50E-01	2	8.93390E-02		
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02		
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02		
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02		
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02		
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01		
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01		
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05		
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05		
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05		
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05		
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05		
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05		

51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05

105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

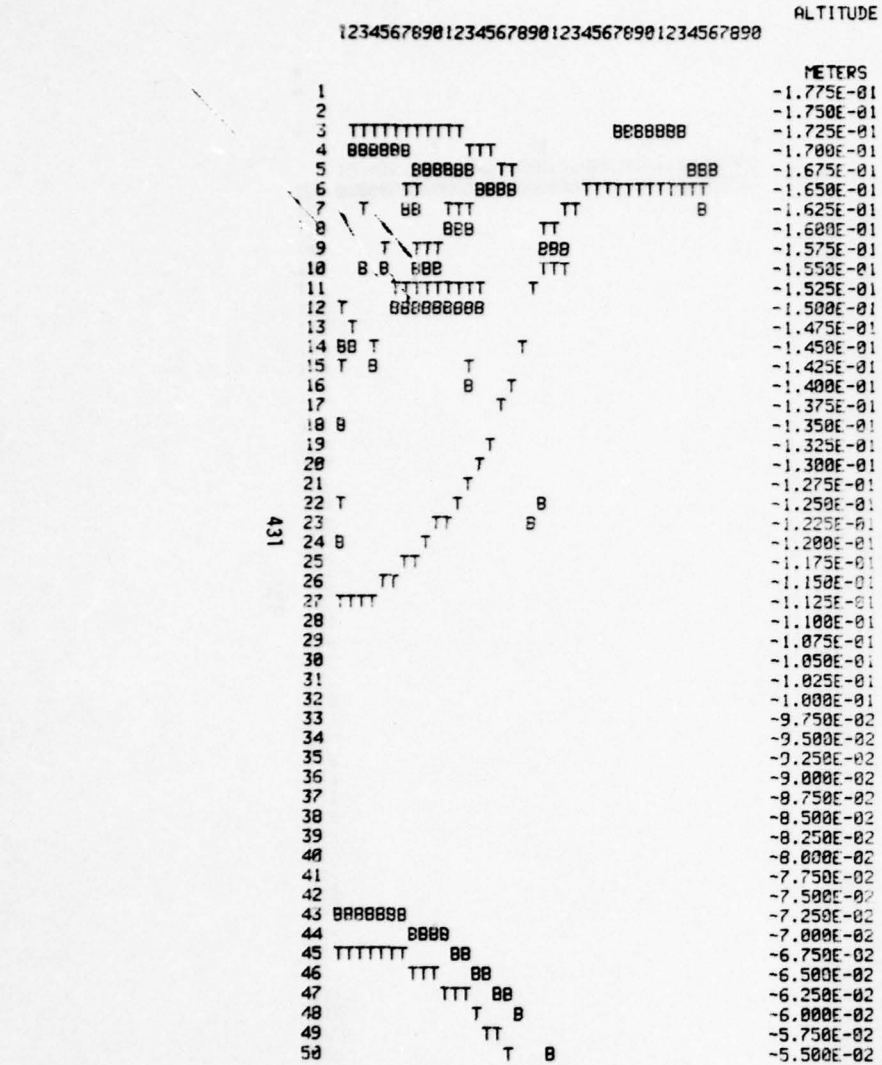
+

+

ENERGY MAP

+

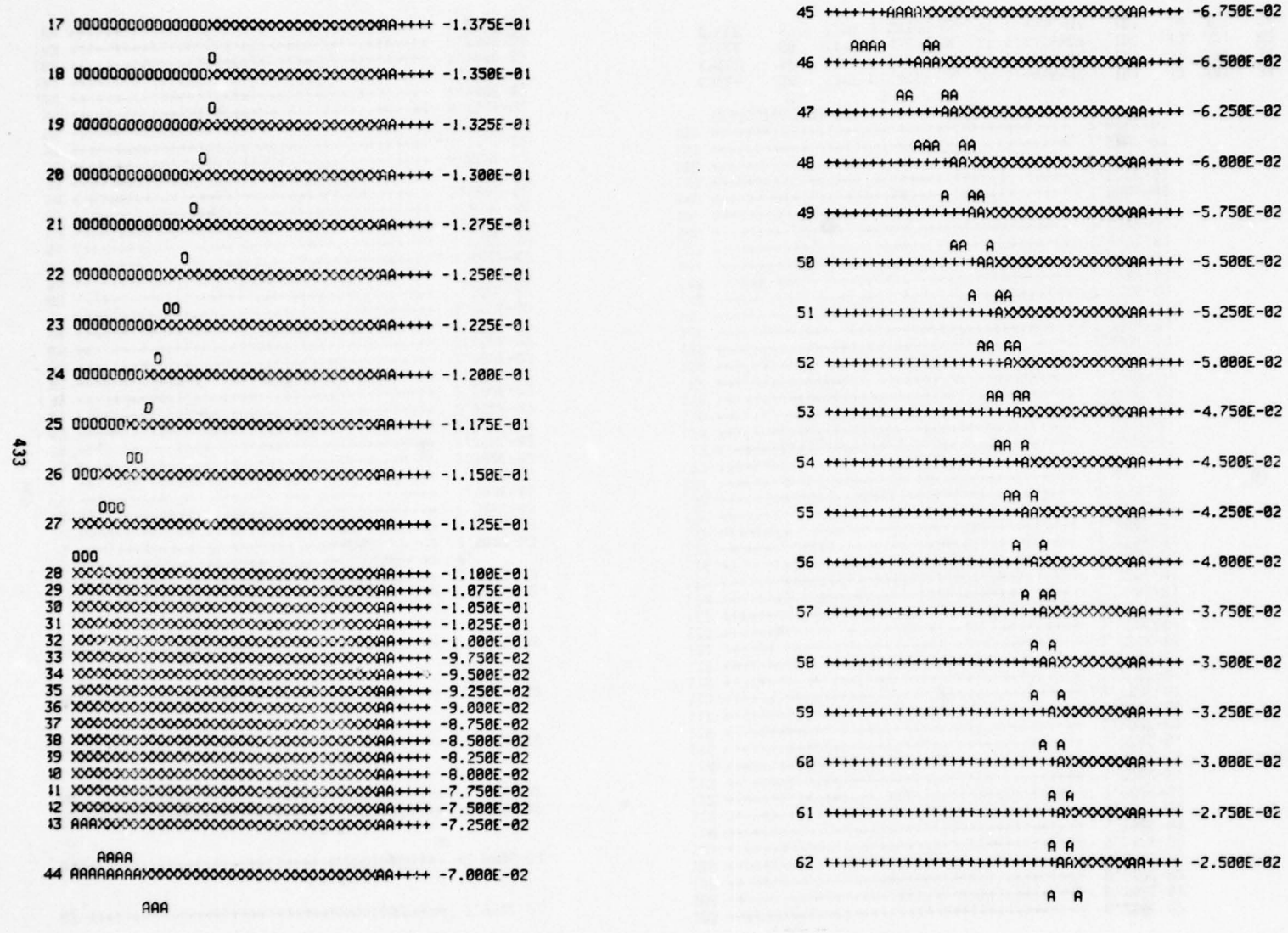
1 2 3 4

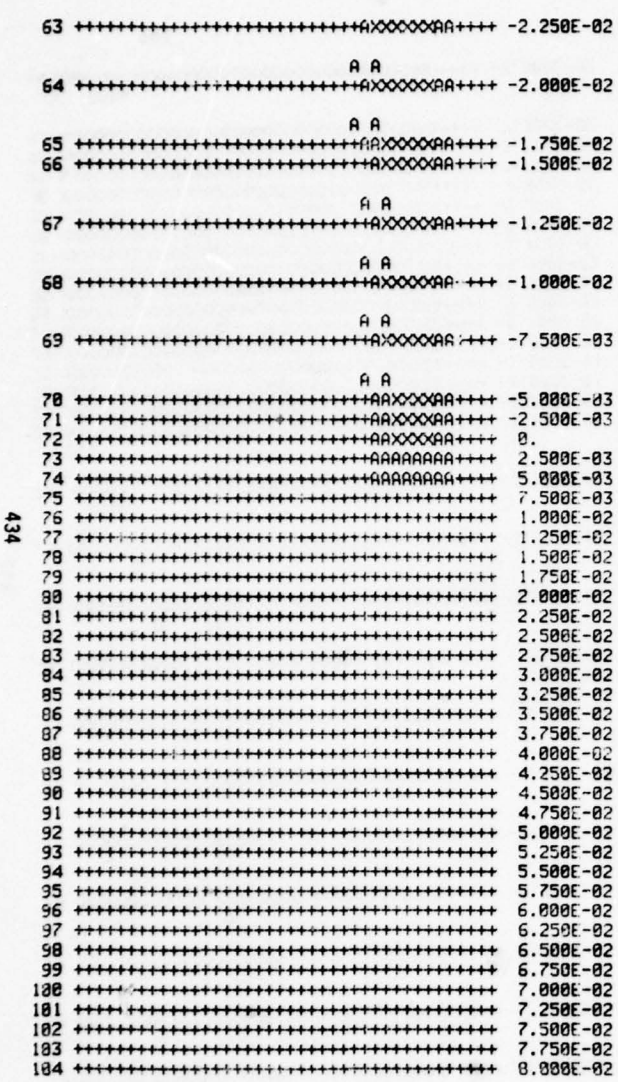

ALTITUDE
1234567890123456789012345678901234567890
METERS
1 -1.775E-01
2 -1.750E-01
3 -1.725E-01
4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02

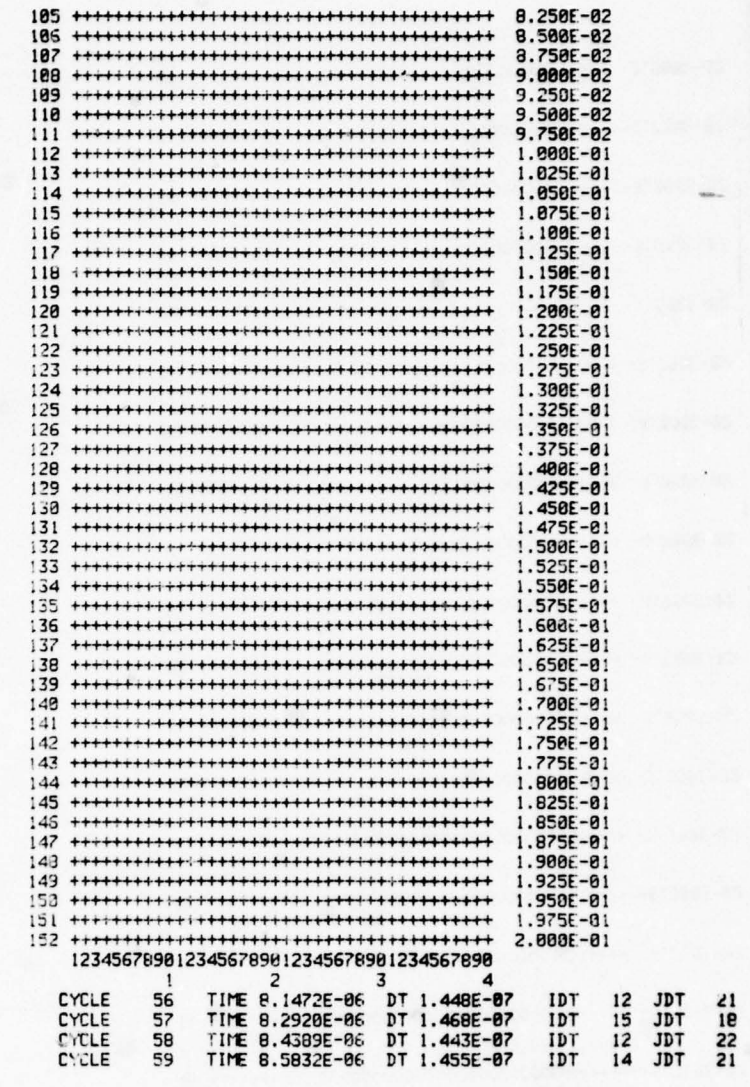
```
105                                                  8.250E-02
106                                                  8.500E-02
107                                                  8.750E-02
108                                                  9.000E-02
109                                                  9.250E-02
110                                                  9.500E-02
111                                                  9.750E-02
112                                                  1.000E-01
113                                                  1.025E-01
114                                                  1.050E-01
115                                                  1.075E-01
116                                                  1.100E-01
117                                                  1.125E-01
118                                                  1.150E-01
119                                                  1.175E-01
120                                                  1.200E-01
121                                                  1.225E-01
122                                                  1.250E-01
123                                                  1.275E-01
124                                                  1.300E-01
125                                                  1.325E-01
126                                                  1.350E-01
127                                                  1.375E-01
128                                                  1.400E-01
129                                                  1.425E-01
130                                                  1.450E-01
131                                                  1.475E-01
132                                                  1.500E-01
133                                                  1.525E-01
134                                                  1.550E-01
135                                                  1.575E-01
136                                                  1.600E-01
137                                                  1.625E-01
138                                                  1.650E-01
139                                                  1.675E-01
140                                                  1.700E-01
141                                                  1.725E-01
142                                                  1.750E-01
143                                                  1.775E-01
144                                                  1.800E-01
145                                                  1.825E-01
146                                                  1.850E-01
147                                                  1.875E-01
148                                                  1.900E-01
149                                                  1.925E-01
150                                                  1.950E-01
151                                                  1.975E-01
152 BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB   2.000E-01
    1234567890123456789012345678901234567890
              1         2         3         4
```

MATERIAL MAP

```
              1         2         3         4
                                                    ALTITUDE
    1234567890123456789012345678901234567890
                                                    METERS
 1 ++++++++++++++++++++++++++++++++++++++++ -1.775E-01
 2 ++++++++++++++++++++++++++++++++++++++++ -1.750E-01
   AAAAAAA
 3 OAAAAAA+++++++++++++++++++++++++++++++++ -1.725E-01
   A      AAAAAA
 4 OOOOOOOOAAAAA++++++++++++++++++++++++++++ -1.700E-01
    AAAAAAA     AAAAAAAAAAAAAAAAAAAAA
 5 OOOOOOOOOOOOOAAAAAAAAAAAAAAAAAAAAAAAA++++ -1.675E-01
         AAAAAA
 6 OOOOOOOOOOOOOOOOOOXAAAAAAAAAAAAAAAA++++ -1.650E-01
               AAAAAAO
                    A
 7 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXXAA++++ -1.625E-01
                    OAAAAAAAAAAAAA
 8 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.600E-01
                    O
 9 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.575E-01
                    O
10 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.550E-01
                    O
11 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.525E-01
                    O
12 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.500E-01
                    O
13 OOOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.475E-01
                    O
14 OOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.450E-01
                    O
15 OOOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.425E-01
                    O
16 OOOOOOOOOOOOOOOOXXXXXXXXXXXXXAA++++ -1.400E-01
                    O
```


17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02





CYCLE 56 TIME 8.1472E-06 DT 1.448E-07 IDT 12 JDT 21
CYCLE 57 TIME 8.2920E-06 DT 1.468E-07 IDT 15 JDT 18
CYCLE 58 TIME 8.4389E-06 DT 1.443E-07 IDT 12 JDT 22
CYCLE 59 TIME 8.5832E-06 DT 1.455E-07 IDT 14 JDT 21

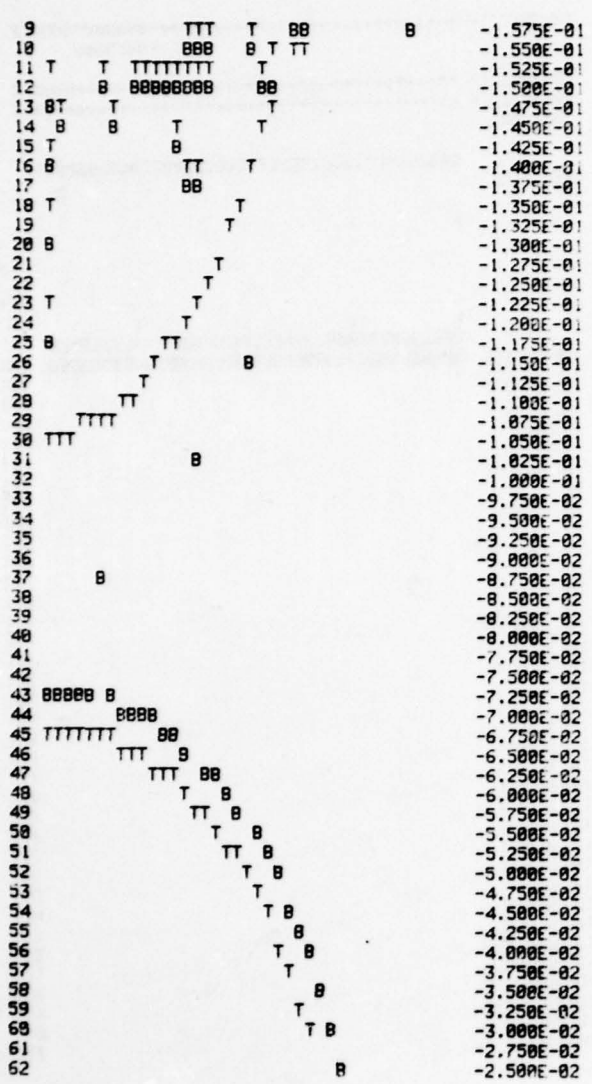
```
   CYCLE    60   TIME 8.7287E-06  DT 1.492E-07   IDT   12  JDT   23
   CYCLE    61   TIME 8.8779E-06  DT 1.221E-07   IDT   14  JDT   22
   CYCLE    62   TIME 9.0000E-06  DT 1.443E-07   IDT   12  JDT   24
+
+
**********
**********
+
PROB    4.0130     CYCLE    62     TIME  9.000000E-06     DT  1.443256E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                  REL ERROR
   4.70305955213102E+13    5.67173665878044E+12    5.27023321800905E+13    5.27136758927107E+13   -7.45922532506156E+04
+
                                                      TOTAL MASS              MTH                    RELMERR
                                                    7.37445256740428E+03    7.37445256740367E+03    7.89315008557414E-09
+
MAX VEL =  2.37859E+05 AT I  12 J  24
+
MAX CS =   6.28238E+05 AT I  12 J  24
+
MAX TEMP=  2.57301E+03 AT I  12 J  24
+
MAX P =   3.46185E+11 AT I  12 J  24
+
CELL SETTING DT, I  12 J  24
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  2 MIN, 48 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  2 MIN, 48 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  3 MIN, 14 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.48E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.61E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
 J       P        U         V        XI        RHO       SRR       SZZ       SRZ        Y        DY    M      XM     M      XM
+
  1  1.013E+06  0.        0.       2.044E+09 1.225E-03  0.        0.        0.       -1.78E+01 2.50E-01 1 6.01320E-05
  2 -6.280E+09  3.24E+03 -1.74E+05 2.732E+09 2.688E+00  1.54E+09 -1.44E+09  7.58E+08 -1.75E+01 2.50E-01 4 1.31954E-01
  3  1.426E+10  3.29E+03 -1.78E+05 2.234E+10 8.432E-01  9.99E+08 -1.03E+09  0.       -1.73E+01 2.50E-01 3 3.65399E-02 4 4.85008E-03
  4  1.776E+10 -4.44E+03 -1.62E+05 2.622E+10 8.546E-01  0.        0.        0.       -1.70E+01 2.50E-01 3 4.19408E-02
  5  2.189E+10 -4.66E+03 -1.49E+05 2.789E+10 9.376E-01  0.        0.        0.       -1.68E+01 2.50E-01 3 4.60255E-02
  6  2.699E+10 -5.01E+03 -1.36E+05 2.976E+10 1.026E+00  0.        0.        0.       -1.65E+01 2.50E-01 3 5.03523E-02
  7  3.229E+10 -4.63E+03 -1.20E+05 3.133E+10 1.105E+00  0.        0.        0.       -1.63E+01 2.50E-01 3 5.42352E-02
  8  3.780E+10 -3.60E+03 -1.05E+05 3.267E+10 1.176E+00  0.        0.        0.       -1.60E+01 2.50E-01 3 5.77449E-02
```

9	4.263E+10	-1.88E+03	-9.05E+04	3.359E+10	1.232E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	6.04914E-02	
10	4.531E+10	-1.08E+03	-7.51E+04	3.436E+10	1.259E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	6.18177E-02	
11	4.709E+10	-7.29E+02	-6.17E+04	3.431E+10	1.279E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	6.28032E-02	
12	4.859E+10	-1.39E+03	-5.00E+04	3.430E+10	1.295E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	6.35908E-02	
13	5.116E+10	-2.09E+03	-4.15E+04	3.450E+10	1.321E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	6.48415E-02	
14	5.333E+10	-1.89E+03	-2.88E+04	3.540E+10	1.338E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.56737E-02	
15	5.402E+10	-3.82E+03	-1.84E+04	3.536E+10	1.345E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.60072E-02	
16	6.081E+10	-7.44E+03	-1.35E+04	3.671E+10	1.400E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.87214E-02	
17	6.562E+10	-1.02E+04	-1.43E+04	3.787E+10	1.435E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	7.04404E-02	
18	6.426E+10	-5.79E+03	-1.15E+04	3.734E+10	1.426E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	7.00126E-02	
19	6.357E+10	-1.86E+03	3.27E+03	3.646E+10	1.424E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	6.99221E-02	
20	6.917E+10	-9.23E+02	1.45E+04	3.659E+10	1.460E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	7.20812E-02	
21	7.778E+10	2.25E+02	2.21E+04	3.773E+10	1.527E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	7.49350E-02	
22	8.891E+10	-9.92E+02	3.41E+04	3.863E+10	1.596E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	7.83678E-02	
23	9.314E+10	-4.24E+03	4.17E+04	3.828E+10	1.624E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	7.97079E-02	
24	9.238E+10	-3.53E+03	4.04E+04	3.823E+10	1.619E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	7.94994E-02	
25	9.611E+10	-1.88E+02	5.12E+04	3.896E+10	1.639E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	8.04538E-02	
26	1.125E+11	3.15E+03	7.23E+04	4.266E+10	1.717E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	8.42942E-02	
27	1.428E+11	7.00E+03	9.92E+04	4.921E+10	1.844E+00	0.	0.	0.	-1.13E+01	2.50E-01	3	9.05393E-02	
28	1.983E+11	8.86E+03	1.45E+05	5.678E+10	2.050E+00	0.	0.	0.	-1.10E+01	2.50E-01	3	1.00622E-01	
29	2.486E+11	-5.17E+03	1.53E+05	6.399E+10	2.207E+00	0.	0.	0.	-1.08E+01	2.50E-01	3	1.08358E-01	
30	9.662E+10	-4.26E+03	7.09E+04	2.170E+10	2.121E+00	1.08E+03	-1.22E+03	0.	-1.05E+01	2.50E-01	2	7.49281E-02	3 2.91727E-02
31	4.703E+09	-2.38E+02	6.41E+03	2.824E+09	1.886E+00	7.72E+02	-1.33E+03	5.25E+01	-1.03E+01	2.50E-01	2	9.25798E-02	
32	3.028E+08	-4.09E+00	4.82E+02	2.616E+09	1.824E+00	8.55E+02	-1.31E+03	4.11E+01	-1.00E+01	2.50E-01	2	8.95493E-02	
33	2.527E+07	-3.20E-01	3.12E+01	2.615E+09	1.820E+00	8.61E+02	-1.31E+03	1.43E+01	-9.75E+00	2.50E-01	2	8.93559E-02	
34	2.632E+06	-7.69E-03	2.13E+00	2.615E+09	1.820E+00	8.62E+02	-1.31E+03	8.50E+00	-9.50E+00	2.50E-01	2	8.93402E-02	
35	1.123E+06	-4.27E-09	1.47E-01	2.615E+09	1.820E+00	8.75E+02	-1.31E+03	3.34E+00	-9.25E+00	2.50E-01	2	8.93391E-02	
36	1.021E+06	0.	9.24E-03	2.615E+09	1.820E+00	6.64E+02	-9.81E+02	7.96E-01	-9.00E+00	2.50E-01	2	8.93390E-02	
37	1.013E+06	0.	2.08E-11	2.615E+09	1.820E+00	2.32E+01	-3.12E+01	3.14E-09	-8.75E+00	2.50E-01	2	8.93390E-02	
38	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	-4.51E-08	0.	-8.50E+00	2.50E-01	2	8.93390E-02	
39	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.25E+00	2.50E-01	2	8.93390E-02	
40	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-8.00E+00	2.50E-01	2	8.93390E-02	
41	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.75E+00	2.50E-01	2	8.93390E-02	
42	1.013E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02	
43	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01	
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01	
45	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05	
46	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05	
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05	
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05	
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05	
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05	
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05	
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05	
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05	
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05	
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05	
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05	
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05	
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05	
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05	
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05	
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05	
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05	

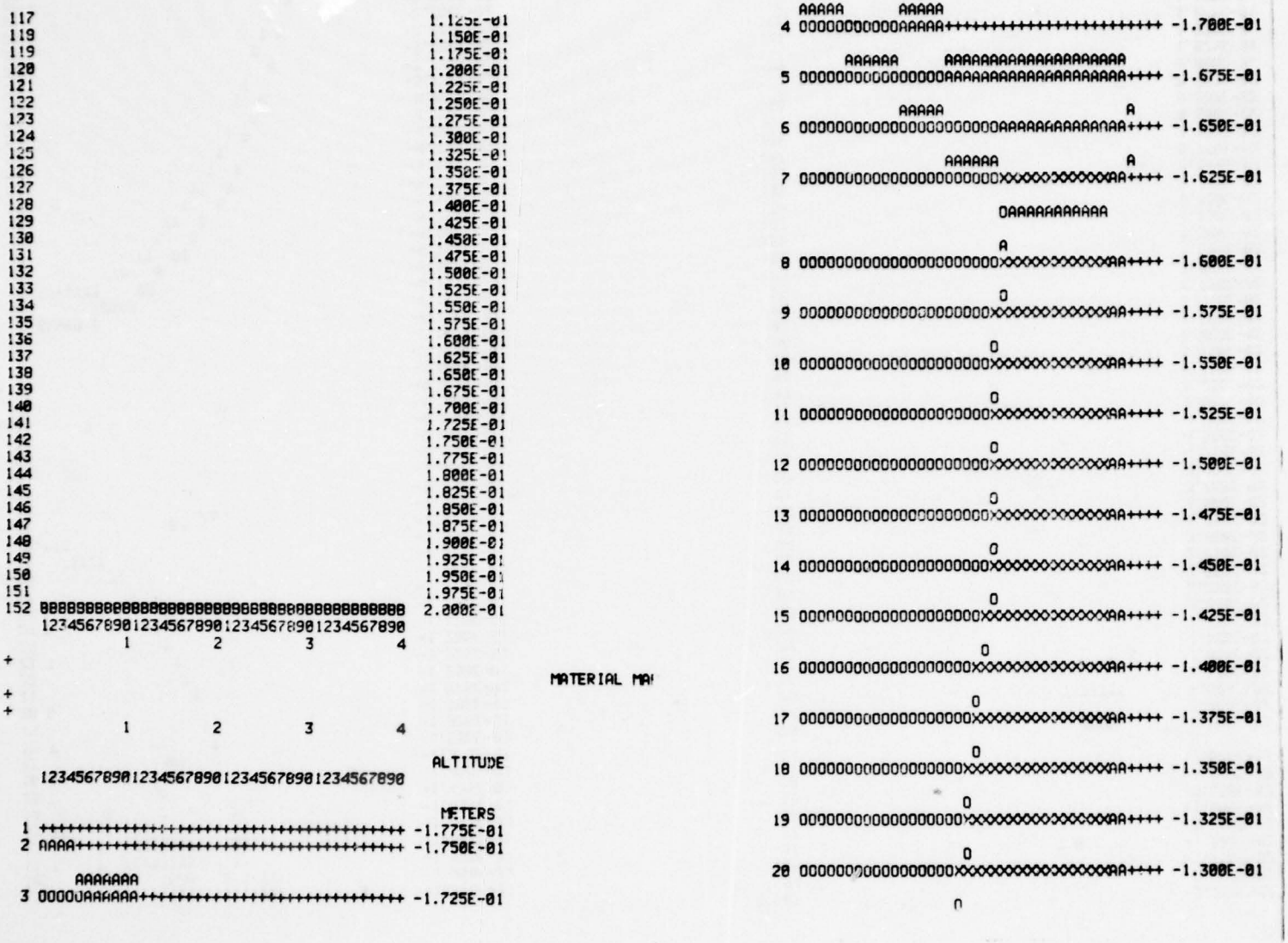
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05

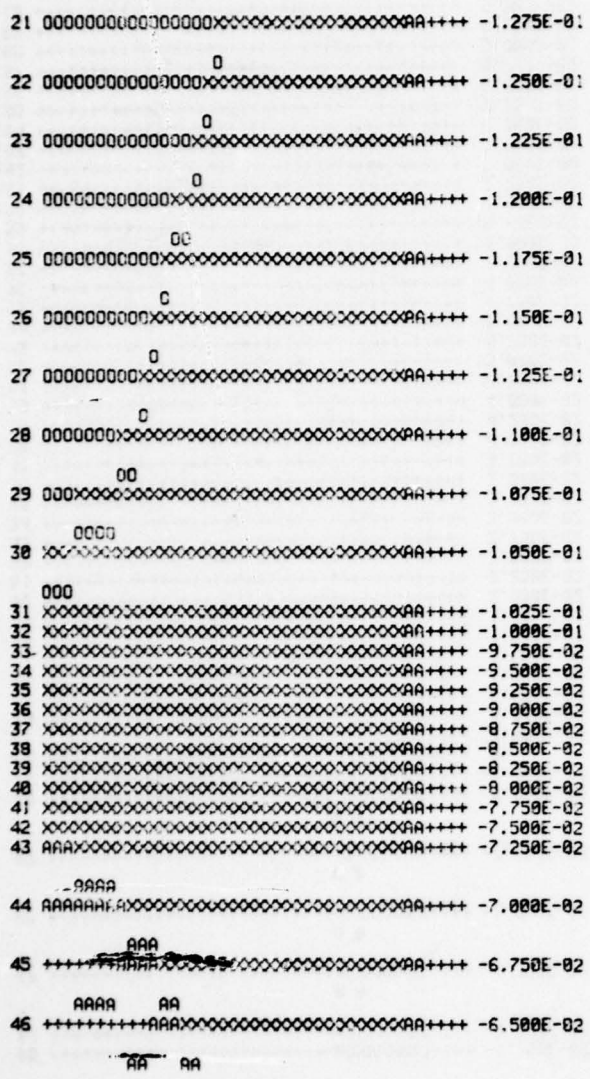
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

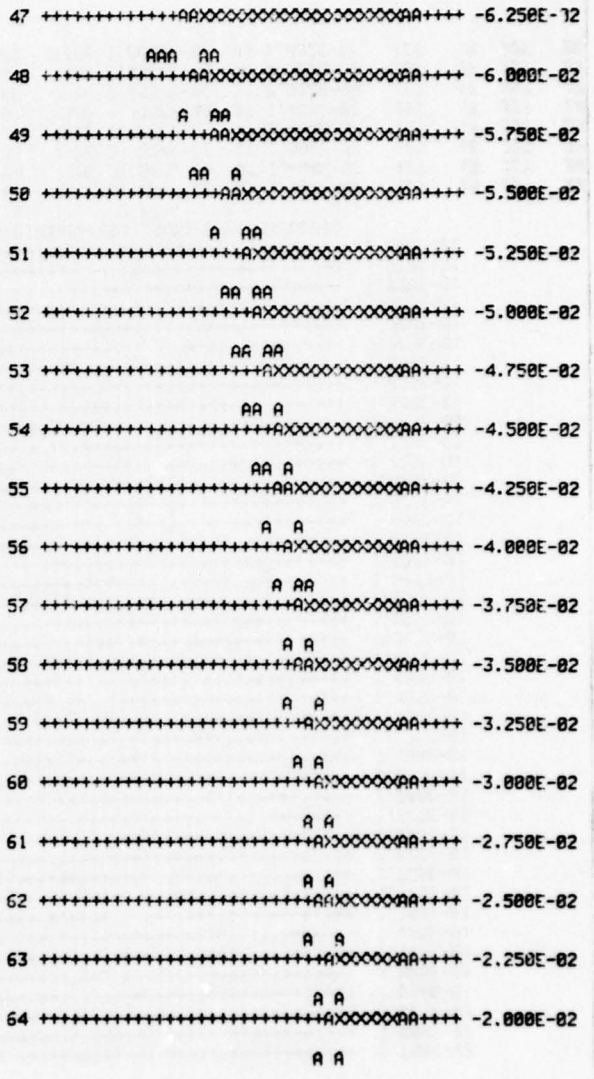
```
+
                                                      ENERGY MAP
+
+
              1         2         3         4
                                                 ALTITUDE
    1234567890123456789012345678901234567890
                                                  METERS
  1                                           -1.775E-01
  2                                           -1.750E-01
  3      TTTTTTTTTT               BBBBBB      -1.725E-01
  4      BBBBBB    TTT                 B      -1.700E-01
  5            BBBBB T                  B     -1.675E-01
  6         TTT      BBB        TTTTTTTTTT    -1.650E-01
  7   TT    BBB     TT       TTT              -1.625E-01
  8   3B            BB      TT                -1.600E-01
```

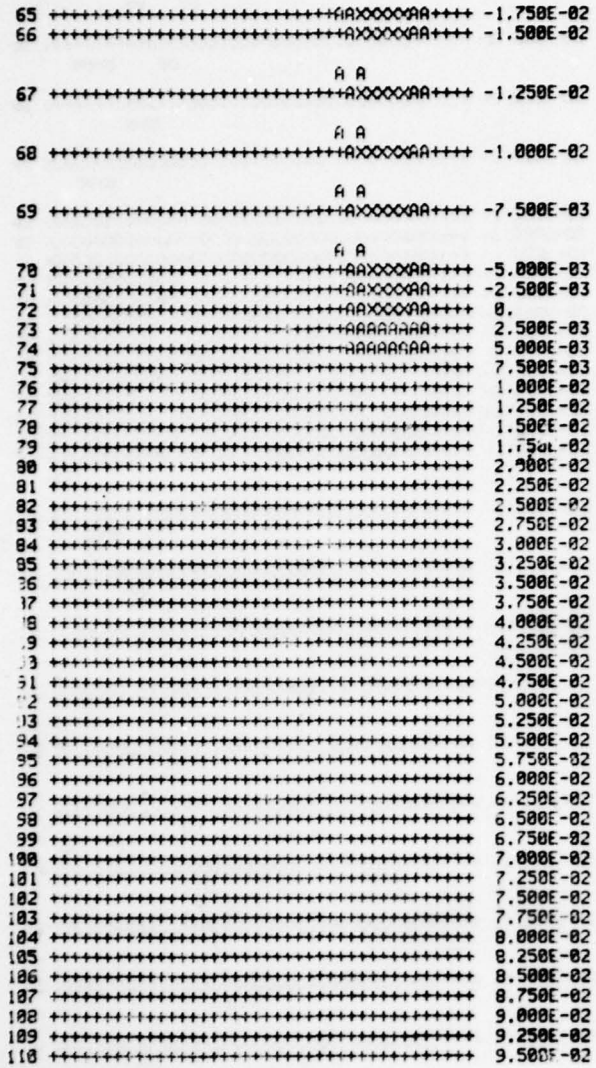


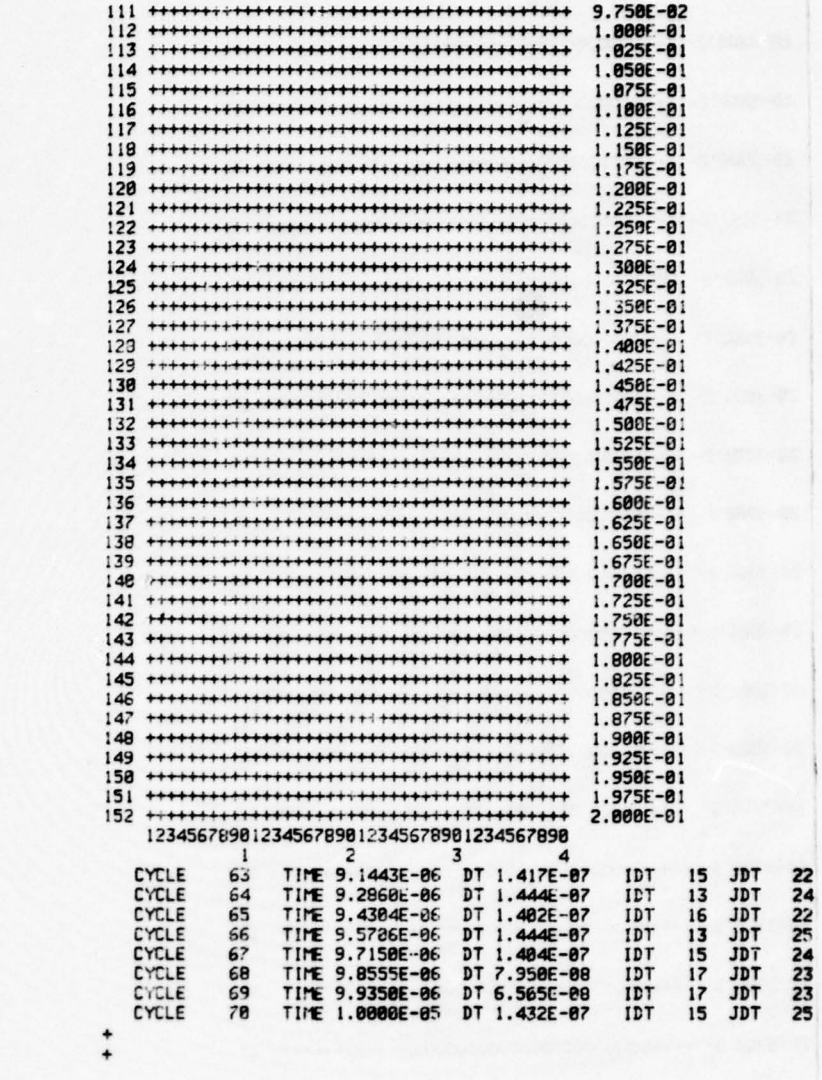
9		-1.575E-01
10		-1.550E-01
11		-1.525E-01
12		-1.500E-01
13		-1.475E-01
14		-1.450E-01
15		-1.425E-01
16		-1.400E-01
17		-1.375E-01
18		-1.350E-01
19		-1.325E-01
20		-1.300E-01
21		-1.275E-01
22		-1.250E-01
23		-1.225E-01
24		-1.200E-01
25		-1.175E-01
26		-1.150E-01
27		-1.125E-01
28		-1.100E-01
29		-1.075E-01
30		-1.050E-01
31		-1.025E-01
32		-1.000E-01
33		-9.750E-02
34		-9.500E-02
35		-9.250E-02
36		-9.000E-02
37		-8.750E-02
38		-8.500E-02
39		-8.250E-02
40		-8.000E-02
41		-7.750E-02
42		-7.500E-02
43		-7.250E-02
44		-7.000E-02
45		-6.750E-02
46		-6.500E-02
47		-6.250E-02
48		-6.000E-02
49		-5.750E-02
50		-5.500E-02
51		-5.250E-02
52		-5.000E-02
53		-4.750E-02
54		-4.500E-02
55		-4.250E-02
56		-4.000E-02
57		-3.750E-02
58		-3.500E-02
59		-3.250E-02
60		-3.000E-02
61		-2.750E-02
62		-2.500E-02
63		-2.250E-02
64		-2.000E-02
65		-1.750E-02
66		-1.500E-02
67		-1.250E-02
68		-1.000E-02
69		-7.500E-03
70		-5.000E-03
71		-2.500E-03
72		0.
73		2.500E-03
74		5.000E-03
75		7.500E-03
76		1.000E-02
77		1.250E-02
78		1.500E-02
79		1.750E-02
80		2.000E-02
81		2.250E-02
82		2.500E-02
83		2.750E-02
84		3.000E-02
85		3.250E-02
86		3.500E-02
87		3.750E-02
88		4.000E-02
89		4.250E-02
90		4.500E-02
91		4.750E-02
92		5.000E-02
93		5.250E-02
94		5.500E-02
95		5.750E-02
96		6.000E-02
97		6.250E-02
98		6.500E-02
99		6.750E-02
100		7.000E-02
101		7.250E-02
102		7.500E-02
103		7.750E-02
104		8.000E-02
105		8.250E-02
106		8.500E-02
107		8.750E-02
108		9.000E-02
109		9.250E-02
110		9.500E-02
111		9.750E-02
112		1.000E-01
113		1.025E-01
114		1.050E-01
115		1.075E-01
116		1.100E-01


117 1.125E-01
119 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01
150 1.950E-01
151 1.975E-01
152 2.000E-01
1234567890123456789012345678901234567890
1 2 3 4
MATERIAL MA
ALTITUDE
METERS
1 -1.775E-01
2 -1.750E-01
3 -1.725E-01
4 -1.700E-01
5 -1.675E-01
6 -1.650E-01
7 -1.625E-01
8 -1.600E-01
9 -1.575E-01
10 -1.550E-01
11 -1.525E-01
12 -1.500E-01
13 -1.475E-01
14 -1.450E-01
15 -1.425E-01
16 -1.400E-01
17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01


21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02


47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02






```
 CYCLE    63   TIME 9.1443E-06  DT 1.417E-07   IDT   15  JDT   22
 CYCLE    64   TIME 9.2860E-06  DT 1.444E-07   IDT   13  JDT   24
 CYCLE    65   TIME 9.4304E-06  DT 1.402E-07   IDT   16  JDT   22
 CYCLE    66   TIME 9.5706E-06  DT 1.444E-07   IDT   13  JDT   25
 CYCLE    67   TIME 9.7150E-06  DT 1.404E-07   IDT   15  JDT   24
 CYCLE    68   TIME 9.8555E-06  DT 7.950E-08   IDT   17  JDT   23
 CYCLE    69   TIME 9.9350E-06  DT 6.565E-08   IDT   17  JDT   23
 CYCLE    70   TIME 1.0000E-05  DT 1.432E-07   IDT   15  JDT   25
+
+
```

```
**********
**********
+
PROB    4.0130     CYCLE    70     TIME  1.000000E-05     DT  1.432325E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                REL ERROR
   5.921739092521S0E+13    8.225676349!2844E+12    6.744306727434S2E+13    6.745795276601!7E+13   -5.251233676472S2E+01

                                                    TOTAL MASS                MTH                RELMERR
                                                   7.370817784230!7E+03    7.370817784229!1E+03    1.974260611828S8E-08
+
MAX VEL =  2.38514E+05 AT I  16 J  24
+
MAX CS =   6.34213E+05 AT I  15 J  25
+
MAX TEMP=  2.60184E+03 AT I  19 J  21
+
MAX P =   3.63079E+11 AT I  15 J  25
+
CELL SETTING DT, I  15 J  25
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  3 MIN, 11 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  3 MIN, 11 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN      0 HOURS,  3 MIN, 36 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.49E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.61E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
 J       P         U         V         XI        RHO       SRR       SZZ       SRZ        Y        DY    M      XM     M      XM
+
  1  1.013E+06  0.        0.       2.044E+09 1.225E-03  0.       0.       0.       -1.78E+01 2.50E-01 1 6.01320E-05
  2  1.155E+10  9.45E+03 -1.97E+05 8.139E+09 1.568E+00  1.39E+09 -1.14E+09 0.       -1.75E+01 2.50E-01 3 1.97304E-02 4 5.72476E-02
  3  1.476E+10  8.66E+01 -1.83E+05 2.505E+10 7.852E-01  0.       0.       0.       -1.73E+01 2.50E-01 3 3.85424E-02
  4  1.851E+10  1.93E+02 -1.71E+05 2.656E+10 8.702E-01  0.       0.       0.       -1.70E+01 2.50E-01 3 4.27160E-02
  5  2.235E+10  1.05E+03 -1.59E+05 2.806E+10 9.462E-01  0.       0.       0.       -1.68E+01 2.50E-01 3 4.64450E-02
  6  2.630E+10  1.81E+03 -1.44E+05 2.940E+10 1.016E+00  0.       0.       0.       -1.65E+01 2.50E-01 3 4.98499E-02
  7  2.976E+10  2.95E+03 -1.28E+05 3.032E+10 1.071E+00  0.       0.       0.       -1.63E+01 2.50E-01 3 5.25483E-02
  8  3.260E+10  3.92E+03 -1.11E+05 3.089E+10 1.113E+00  0.       0.       0.       -1.60E+01 2.50E-01 3 5.46105E-02
  9  3.471E+10  4.43E+03 -9.43E+04 3.122E+10 1.142E+00  0.       0.       0.       -1.58E+01 2.50E-01 3 5.60595E-02
 10  3.706E+10  4.19E+03 -7.90E+04 3.182E+10 1.171E+00  0.       0.       0.       -1.55E+01 2.50E-01 3 5.75054E-02
 11  4.004E+10  3.51E+03 -6.64E+04 3.222E+10 1.208E+00  0.       0.       0.       -1.53E+01 2.50E-01 3 5.93073E-02
 12  4.276E+10  3.16E+03 -5.58E+04 3.264E+10 1.239E+00  0.       0.       0.       -1.50E+01 2.50E-01 3 6.08240E-02
 13  4.528E+10  2.48E+03 -4.65E+04 3.299E+10 1.266E+00  0.       0.       0.       -1.48E+01 2.50E-01 3 6.21626E-02
```

14	4.827E+10	2.00E+03	-3.78E+04	3.484E+10	1.293E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.34083E-02	
15	5.540E+10	4.47E+02	-3.54E+04	3.572E+10	1.356E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.65659E-02	
16	6.015E+10	2.81E+03	-3.86E+04	3.675E+10	1.394E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.84331E-02	
17	6.313E+10	3.92E+03	-1.54E+04	3.749E+10	1.416E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	6.95162E-02	
18	6.894E+10	2.80E+03	-3.48E+03	3.657E+10	1.402E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	6.88104E-02	
19	6.284E+10	6.46E+01	-4.19E+03	3.597E+10	1.414E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	6.94023E-02	
20	6.853E+10	-1.15E+03	-3.85E+03	3.640E+10	1.464E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	7.18784E-02	
21	7.153E+10	-1.67E+03	5.63E+03	3.656E+10	1.486E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	7.29620E-02	
22	7.267E+10	5.74E+02	1.44E+04	3.563E+10	1.499E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	7.35636E-02	
23	8.087E+10	1.87E+03	2.47E+04	3.634E+10	1.553E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	7.62410E-02	
24	9.043E+10	6.64E+02	3.49E+04	3.803E+10	1.608E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	7.89410E-02	
25	9.393E+10	-1.48E+03	3.81E+04	3.856E+10	1.628E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	7.98916E-02	
26	1.008E+11	-1.37E+03	4.09E+04	3.994E+10	1.658E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	8.13923E-02	
27	1.063E+11	-1.14E+03	5.23E+04	4.179E+10	1.687E+00	0.	0.	0.	-1.13E+01	2.50E-01	3	8.28034E-02	
28	1.109E+11	1.39E+03	6.57E+04	4.204E+10	1.711E+00	0.	0.	0.	-1.10E+01	2.50E-01	3	8.39837E-02	
29	1.238E+11	6.99E+03	8.41E+04	4.453E+10	1.769E+00	0.	0.	0.	-1.08E+01	2.50E-01	3	8.68321E-02	
30	1.551E+11	9.38E+03	1.16E+05	4.959E+10	1.897E+00	0.	0.	0.	-1.05E+01	2.50E-01	3	9.31423E-02	
31	2.162E+11	6.59E+03	1.52E+05	5.957E+10	2.107E+00	0.	0.	0.	-1.03E+01	2.50E-01	3	1.03445E-01	
32	2.587E+11	-1.13E+02	1.46E+05	6.364E+10	2.216E+00	0.	0.	0.	-1.00E+01	2.50E-01	3	1.08762E-01	
33	5.354E+10	-1.91E+03	6.53E+04	1.249E+10	2.075E+00	8.92E+02	-1.30E+03	0.	-9.75E+00	2.50E-01	2	9.00583E-02	3 1.10000E-02
34	3.668E+09	-6.11E+01	5.43E+03	2.772E+09	1.872E+00	7.22E+02	-1.33E+03	1.24E+01	-9.50E+00	2.50E-01	2	9.10754E-02	
35	2.198E+08	-3.13E+00	3.87E+02	2.616E+09	1.823E+00	7.64E+02	-1.33E+03	1.77E+01	-9.25E+00	2.50E-01	2	8.94915E-02	
36	1.674E+07	-2.57E-01	2.43E+01	2.615E+09	1.820E+00	7.58E+02	-1.33E+03	2.17E+01	-9.00E+00	2.50E-01	2	8.93508E-02	
37	2.075E+06	-2.00E-02	1.62E+00	2.615E+09	1.820E+00	7.53E+02	-1.33E+03	2.54E+01	-8.75E+00	2.50E-01	2	8.93398E-02	
38	1.883E+06	-4.67E-09	1.13E-01	2.615E+09	1.820E+00	7.71E+02	-1.33E+03	2.95E+01	-8.50E+00	2.50E-01	2	8.93391E-02	
39	1.818E+06	0.	7.27E-03	2.615E+09	1.820E+00	5.11E+02	-8.18E+02	6.55E+00	-8.25E+00	2.50E-01	2	8.93390E-02	
40	1.813E+06	0.	6.87E-12	2.615E+09	1.820E+00	1.50E+01	-4.60E+01	1.58E-08	-8.00E+00	2.50E-01	2	8.93390E-02	
41	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	-3.45E-08	0.	-7.75E+00	2.50E-01	2	8.93390E-02	
42	1.813E+06	0.	0.	2.615E+09	1.820E+00	0.	0.	0.	-7.50E+00	2.50E-01	2	8.93390E-02	
43	1.813E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.25E+00	2.50E-01	4	1.33027E-01	
44	1.813E+06	0.	0.	2.716E+09	2.710E+00	0.	0.	0.	-7.00E+00	2.50E-01	4	1.33027E-01	
45	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05	
46	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05	
47	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05	
48	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05	
49	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05	
50	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05	
51	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05	
52	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05	
53	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05	
54	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05	
55	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05	
56	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05	
57	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05	
58	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05	
59	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05	
60	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05	
61	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05	
62	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05	
63	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05	
64	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05	
65	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05	
66	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05	
67	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05	

68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05

122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

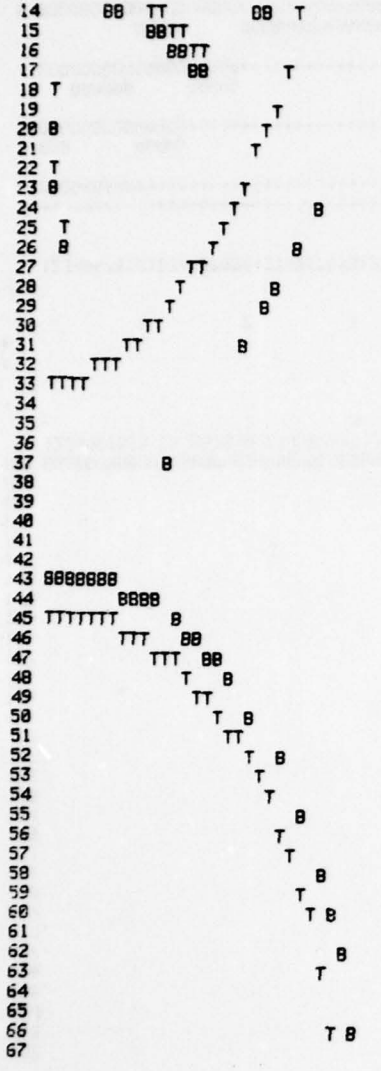
+

ENERGY MAP

+

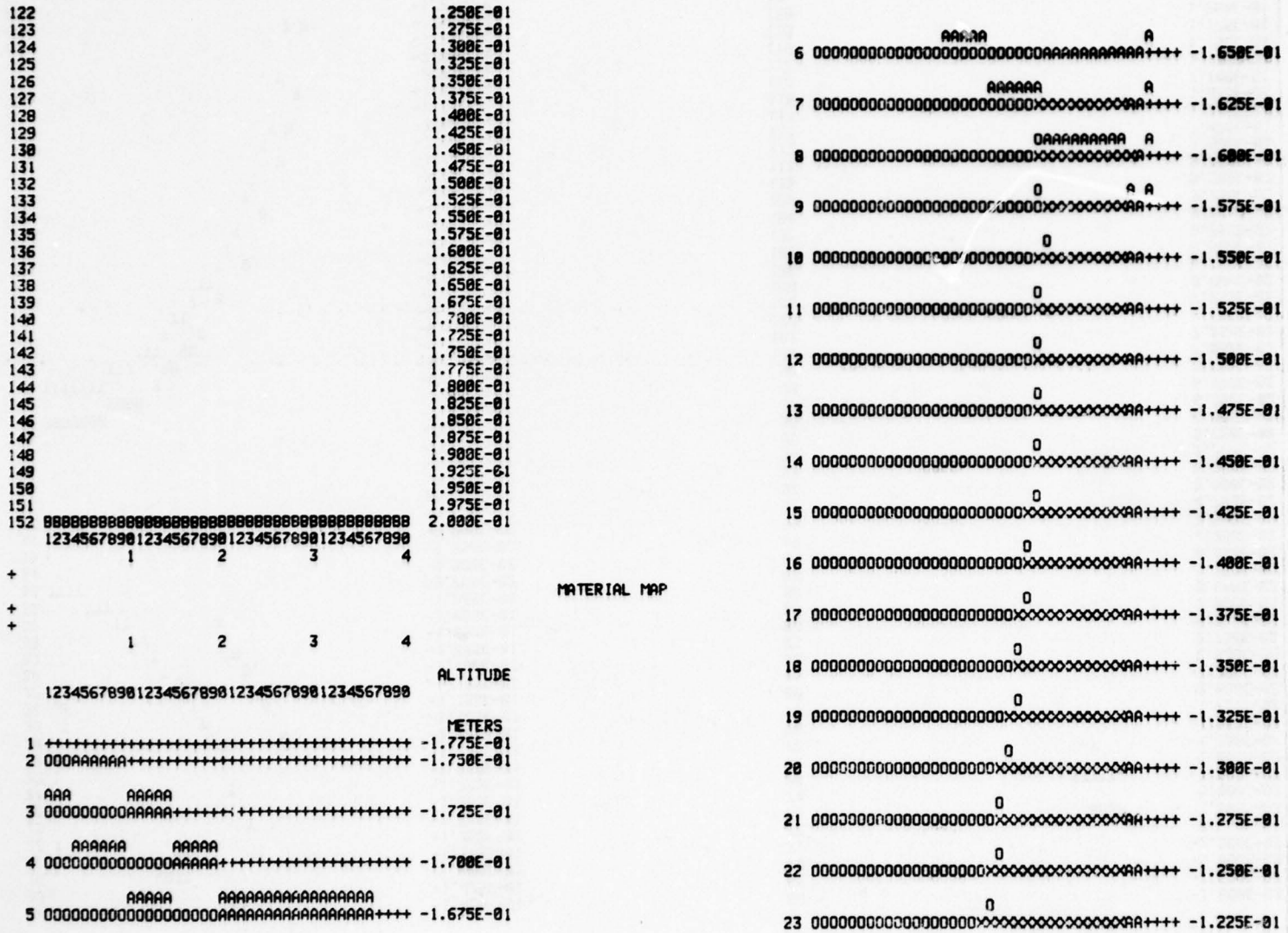
+

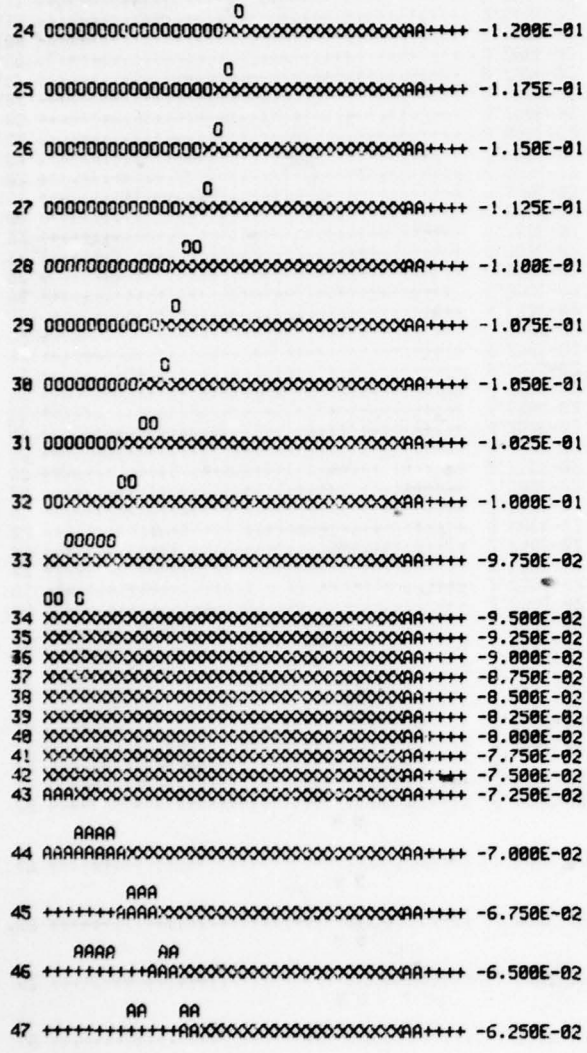
```
          1         2         3         4

                                                ALTITUDE
   12345678901234567890123456789012345678901234567890

                                                  METERS
 1                                             -1.775E-01
 2                                             -1.750E-01
 3        TTTTTTTTT                 BBBBB      -1.725E-01
 4        BBBBB    TTT                         -1.700E-01
 5       T     BBBB   T                 BB     -1.675E-01
 6       B  TTT    BBBB              TTTTTTT   -1.650E-01
 7          BBB  TTT        TTTTT              -1.625E-01
 8               BBB      T                    -1.600E-01
 9                T TT  T BBBB     B           -1.575E-01
10                B BB  BTTTTT     T           -1.550E-01
11       T  T   T         B                    -1.525E-01
12       B  B   B      TT  BBBB                -1.500E-01
13     TT             TT BBT TTTT              -1.475E-01
```

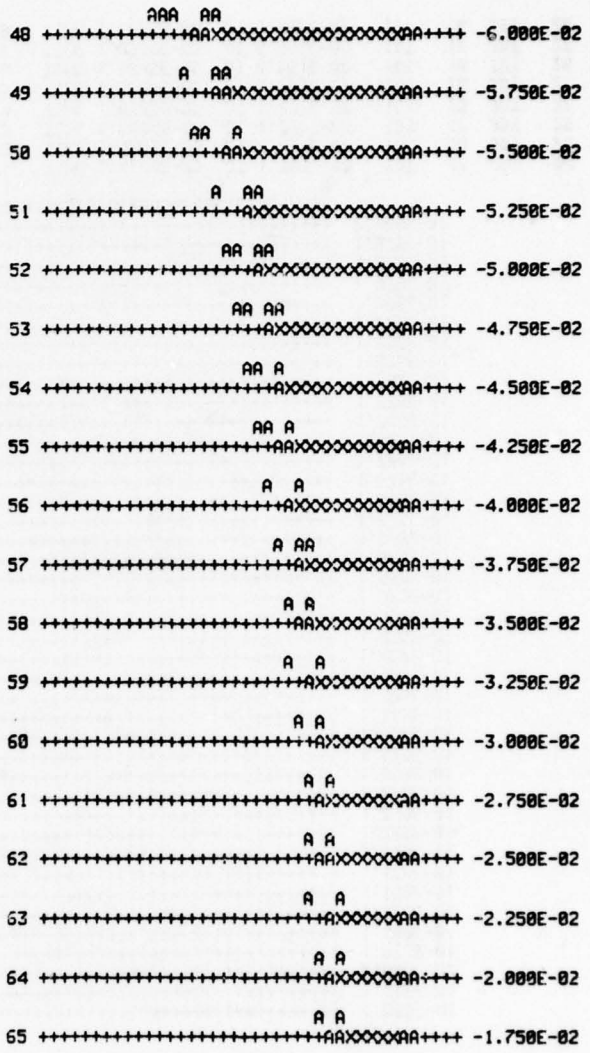


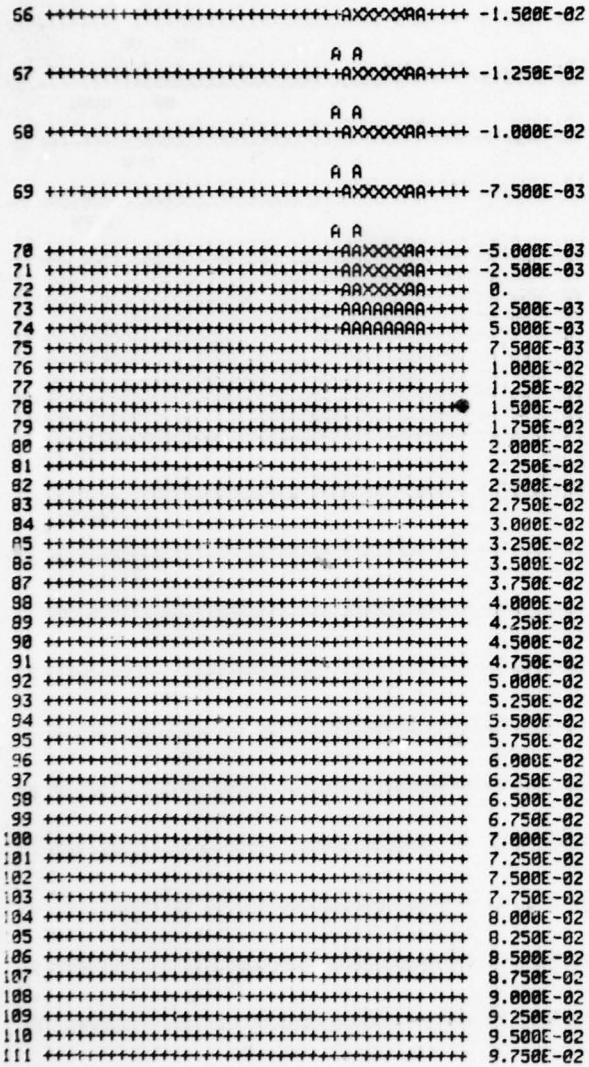
14	-1.450E-01
15	-1.425E-01
16	-1.400E-01
17	-1.375E-01
18	-1.350E-01
19	-1.325E-01
20	-1.300E-01
21	-1.275E-01
22	-1.250E-01
23	-1.225E-01
24	-1.200E-01
25	-1.175E-01
26	-1.150E-01
27	-1.125E-01
28	-1.100E-01
29	-1.075E-01
30	-1.050E-01
31	-1.025E-01
32	-1.000E-01
33	-9.750E-02
34	-9.500E-02
35	-9.250E-02
36	-9.000E-02
37	-8.750E-02
38	-8.500E-02
39	-8.250E-02
40	-8.000E-02
41	-7.750E-02
42	-7.500E-02
43	-7.250E-02
44	-7.000E-02
45	-6.750E-02
46	-6.500E-02
47	-6.250E-02
48	-6.000E-02
49	-5.750E-02
50	-5.500E-02
51	-5.250E-02
52	-5.000E-02
53	-4.750E-02
54	-4.500E-02
55	-4.250E-02
56	-4.000E-02
57	-3.750E-02
58	-3.500E-02
59	-3.250E-02
60	-3.000E-02
61	-2.750E-02
62	-2.500E-02
63	-2.250E-02
64	-2.000E-02
65	-1.750E-02
66	-1.500E-02
67	-1.250E-02

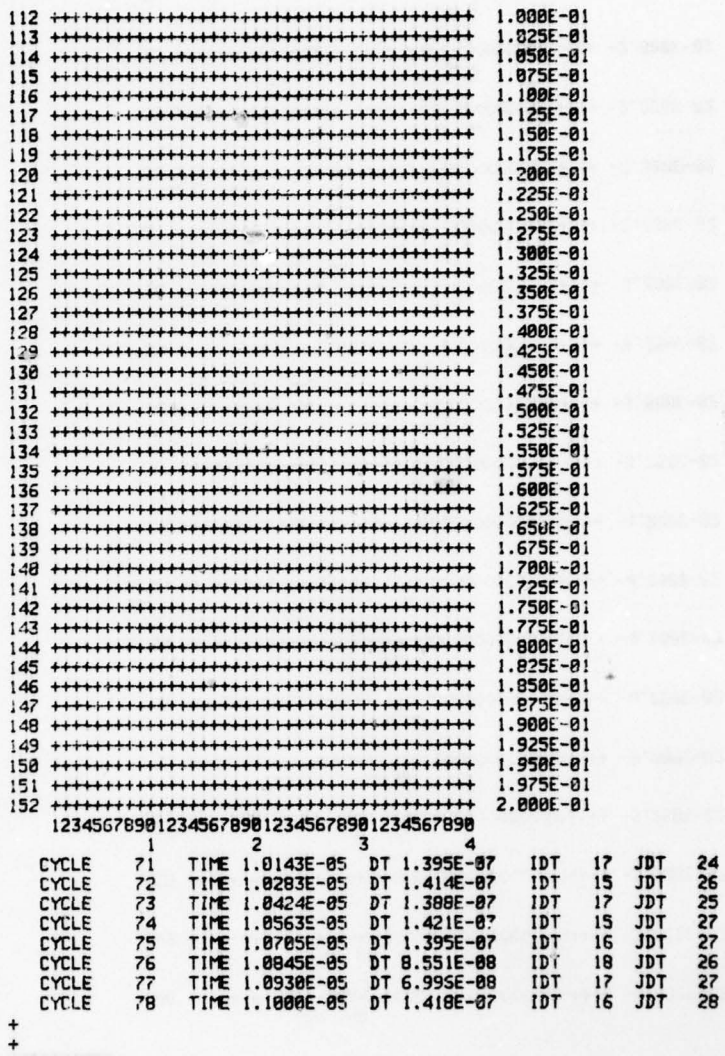
66	-1.000E-02
69	-7.500E-03
70	-5.000E-03
71	-2.500E-03
72	0.
73	2.500E-03
74	5.000E-03
75	7.500E-03
76	1.000E-02
77	1.250E-02
78	1.500E-02
79	1.750E-02
80	2.000E-02
81	2.250E-02
82	2.500E-02
83	2.750E-02
84	3.000E-02
85	3.250E-02
86	3.500E-02
87	3.750E-02
88	4.000E-02
89	4.250E-02
90	4.500E-02
91	4.750E-02
92	5.000E-02
93	5.250E-02
94	5.500E-02
95	5.750E-02
96	6.000E-02
97	6.250E-02
98	6.500E-02
99	6.750E-02
100	7.000E-02
101	7.250E-02
102	7.500E-02
103	7.750E-02
104	8.000E-02
105	8.250E-02
106	8.500E-02
107	8.750E-02
108	9.000E-02
109	9.250E-02
110	9.500E-02
111	9.750E-02
112	1.000E-01
113	1.025E-01
114	1.050E-01
115	1.075E-01
116	1.100E-01
117	1.125E-01
118	1.150E-01
119	1.175E-01
120	1.200E-01
121	1.225E-01


MATERIAL MAP
ALTITUDE
METERS
1.250E-01
1.275E-01
1.300E-01
1.325E-01
1.350E-01
1.375E-01
1.400E-01
1.425E-01
1.450E-01
1.475E-01
1.500E-01
1.525E-01
1.550E-01
1.575E-01
1.600E-01
1.625E-01
1.650E-01
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
1.925E-01
1.950E-01
1.975E-01
2.000E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01


24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02


48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02

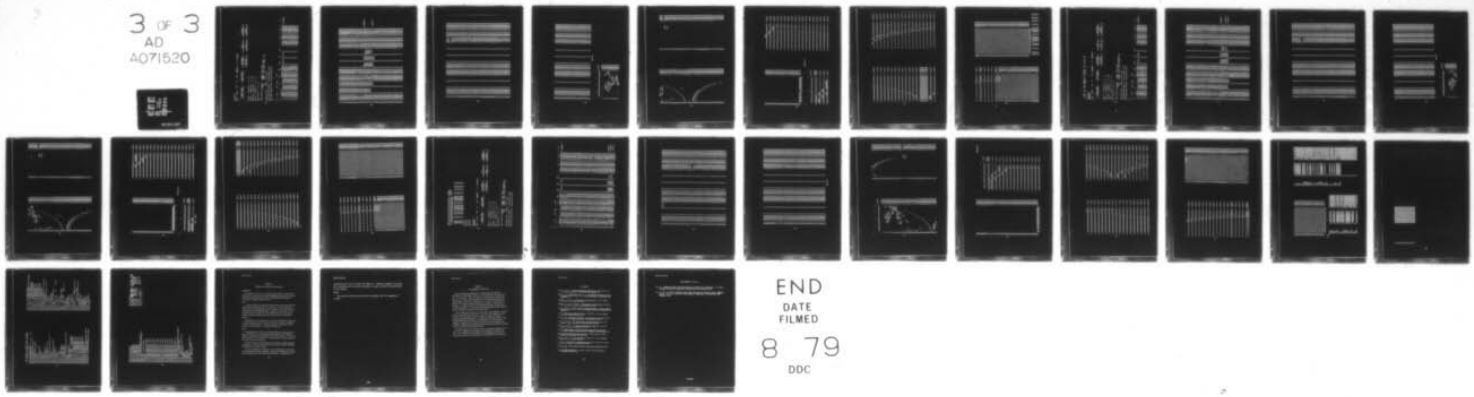




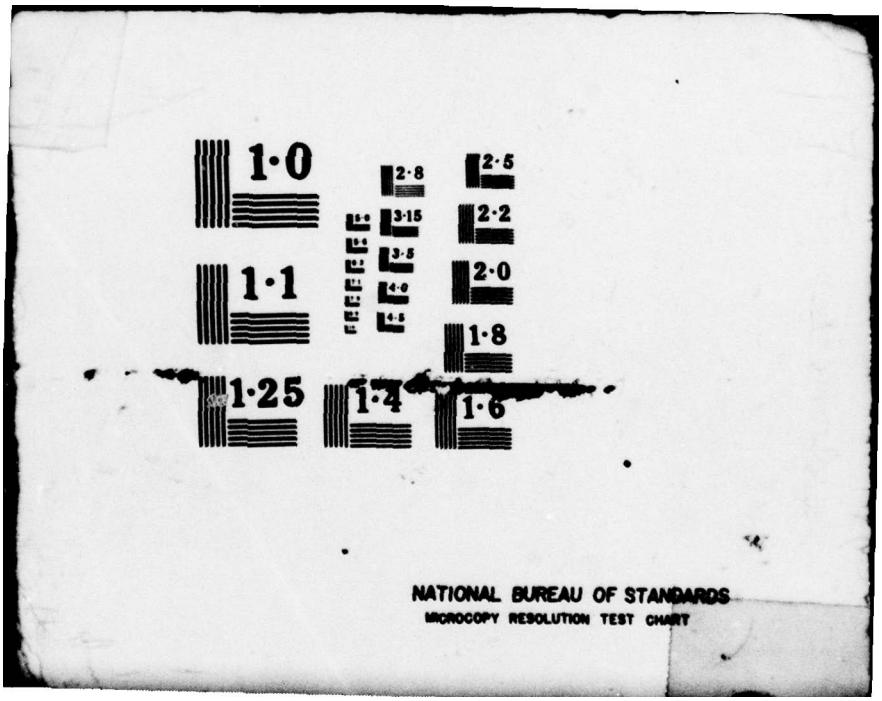

```
 CYCLE    71   TIME 1.0143E-05  DT 1.395E-07   IDT   17  JDT   24
 CYCLE    72   TIME 1.0283E-05  DT 1.414E-07   IDT   15  JDT   26
 CYCLE    73   TIME 1.0424E-05  DT 1.388E-07   IDT   17  JDT   25
 CYCLE    74   TIME 1.0563E-05  DT 1.421E-07   IDT   15  JDT   27
 CYCLE    75   TIME 1.0705E-05  DT 1.395E-07   IDT   16  JDT   27
 CYCLE    76   TIME 1.0845E-05  DT 8.551E-08   IDT   18  JDT   26
 CYCLE    77   TIME 1.0930E-05  DT 6.995E-08   IDT   17  JDT   27
 CYCLE    78   TIME 1.1000E-05  DT 1.418E-07   IDT   16  JDT   28
+
+
```

AD-A071 520 AIR FORCE WEAPONS LAB KIRTLAND AFB NM F/G 15/6
THE INSTALLATION AND OPERATION OF HULL ON 370S, PART II.(U)
JAN 79 L P GABY, M A FRY, C E RHOADES
UNCLASSIFIED AFWL-TR-78-134-PT-2 SBIE-AD-E200 325 NL

3 OF 3
AD
A071520



END
DATE
FILMED
8 79
DDC


1·0
1·1
1·25
1·4
1·6
1·8
2·0
2·2
2·5
2·8
3·15
3·5
4·0
NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

```
**********
+
PROB    4.0130     CYCLE    78     TIME  1.100000E-05     DT  1.418097E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                  REL ERROR
   7.46214877735830E+13    1.14685974114213E+13    8.61100851050040E+13    8.61264330316875E+13   -1.69821002731579E+01
+
                                                    TOTAL MASS                MTH                  RELMERR
                                                  7.36083587660914E+03    7.36083587660812E+03    3.55848817310246E-08
+
MAX VEL =  2.43131E+05 AT I  16 J  28
+
MAX CS =   6.38332E+05 AT I  16 J  28
+
MAX TEMP=   2.63346E+03 AT I  17 J  27
+
MAX P =   3.75263E+11 AT I  16 J  28
+
CELL SETTING DT, I  16 J  28
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  3 MIN, 34 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  3 MIN, 34 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  3 MIN, 59 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.51E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.67E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
 J       P         U         V         XI        RHO       SRR       SZZ       SRZ        Y        DY    M      XM1     M      XM1
+
  1  1.013E+06  0.        0.       2.044E+09 1.225E-03  0.       0.       0.       -1.70E+01 2.50E-01 1 6.01320E-05
  2  1.104E+10  6.32E+03 -2.24E+05 1.469E+10 1.001E+00  8.05E+08 -6.59E+08 0.       -1.75E+01 2.50E-01 3 2.86184E-02 4 2.85293E-02
  3  1.370E+10  2.70E+03 -1.89E+05 2.443E+10 7.604E-01  0.       0.       0.       -1.73E+01 2.50E-01 3 3.73269E-02
  4  1.727E+10  3.79E+03 -1.77E+05 2.584E+10 8.453E-01  0.       0.       0.       -1.70E+01 2.50E-01 3 4.14945E-02
  5  1.984E+10  3.61E+03 -1.62E+05 2.680E+10 9.001E-01  0.       0.       0.       -1.68E+01 2.50E-01 3 4.41817E-02
  6  2.215E+10  3.58E+03 -1.46E+05 2.750E+10 9.463E-01  0.       0.       0.       -1.65E+01 2.50E-01 3 4.64490E-02
  7  2.413E+10  3.19E+03 -1.29E+05 2.795E+10 9.840E-01  0.       0.       0.       -1.63E+01 2.50E-01 3 4.83005E-02
  8  2.616E+10  2.46E+03 -1.12E+05 2.837E+10 1.020E+00  0.       0.       0.       -1.60E+01 2.50E-01 3 5.00870E-02
  9  2.852E+10  1.64E+03 -9.78E+04 2.895E+10 1.059E+00  0.       0.       0.       -1.58E+01 2.50E-01 3 5.19732E-02
 10  3.139E+10  1.18E+03 -8.53E+04 2.975E+10 1.101E+00  0.       0.       0.       -1.55E+01 2.50E-01 3 5.40403E-02
 11  3.451E+10  9.88E+02 -7.37E+04 3.038E+10 1.144E+00  0.       0.       0.       -1.53E+01 2.50E-01 3 5.61763E-02
 12  3.753E+10  9.30E+02 -6.37E+04 3.099E+10 1.183E+00  0.       0.       0.       -1.50E+01 2.50E-01 3 5.80573E-02
 13  4.151E+10  4.40E+02 -5.66E+04 3.191E+10 1.228E+00  0.       0.       0.       -1.48E+01 2.50E-01 3 6.02871E-02
 14  4.520E+10  9.13E+02 -5.23E+04 3.326E+10 1.265E+00  0.       0.       0.       -1.45E+01 2.50E-01 3 6.20920E-02
```

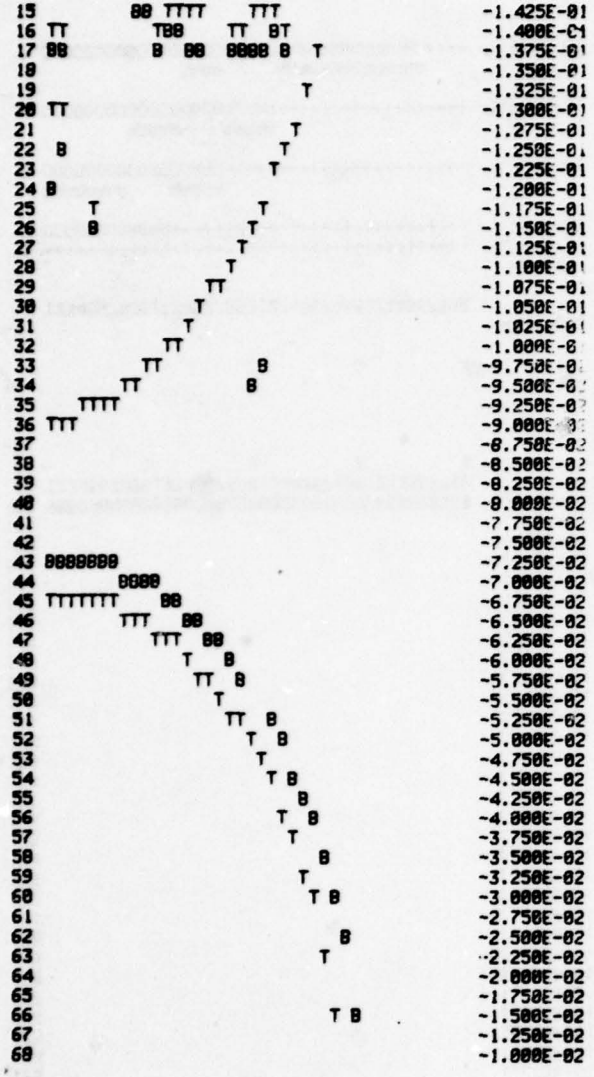
15	4.841E+10	2.65E+03	-4.36E+04	3.393E+10	1.295E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.35926E-02	
16	4.687E+10	4.82E+03	-3.11E+04	3.318E+10	1.274E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.25412E-02	
17	4.683E+10	4.53E+03	-2.12E+04	3.329E+10	1.282E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	6.29225E-02	
18	5.381E+10	2.97E+03	-1.58E+04	3.483E+10	1.345E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	6.60369E-02	
19	6.098E+10	1.81E+03	-1.42E+04	3.574E+10	1.406E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	6.90076E-02	
20	5.887E+10	3.38E+03	-7.79E+03	3.432E+10	1.394E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	6.84296E-02	
21	5.973E+10	3.33E+03	1.36E+03	3.395E+10	1.403E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	6.88008E-02	
22	6.329E+10	1.97E+03	5.35E+03	3.352E+10	1.435E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	7.04429E-02	
23	6.599E+10	2.30E+03	6.37E+03	3.314E+10	1.458E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	7.15909E-02	
24	7.159E+10	3.46E+03	1.32E+04	3.428E+10	1.496E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	7.34483E-02	
25	7.962E+10	3.53E+03	2.20E+04	3.598E+10	1.546E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	7.58949E-02	
26	8.421E+10	3.31E+03	2.95E+04	3.704E+10	1.572E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	7.71899E-02	
27	8.938E+10	2.49E+03	3.74E+04	3.849E+10	1.599E+00	0.	0.	0.	-1.13E+01	2.50E-01	3	7.85116E-02	
28	1.002E+11	-5.18E+02	4.44E+04	4.013E+10	1.659E+00	0.	0.	0.	-1.10E+01	2.50E-01	3	8.14156E-02	
29	1.123E+11	-3.30E+03	5.01E+04	4.232E+10	1.718E+00	0.	0.	0.	-1.08E+01	2.50E-01	3	8.43152E-02	
30	1.238E+11	-3.93E+03	5.90E+04	4.398E+10	1.771E+00	0.	0.	0.	-1.05E+01	2.50E-01	3	8.69287E-02	
31	1.330E+11	-1.35E+03	7.64E+04	4.588E+10	1.809E+00	0.	0.	0.	-1.03E+01	2.50E-01	3	8.88205E-02	
32	1.460E+11	2.64E+03	9.48E+04	4.786E+10	1.863E+00	0.	0.	0.	-1.00E+01	2.50E-01	3	9.14466E-02	
33	1.833E+11	9.33E+03	1.23E+05	5.451E+10	1.999E+00	0.	0.	0.	-9.75E+00	2.50E-01	3	9.81094E-02	
34	2.415E+11	8.39E+03	1.62E+05	6.151E+10	2.190E+00	0.	0.	0.	-9.50E+00	2.50E-01	3	1.07525E-01	
35	2.524E+11	8.57E+03	1.48E+05	6.420E+10	2.220E+00	0.	0.	0.	-9.25E+00	2.50E-01	3	1.08954E-01	
36	7.094E+10	8.65E+02	6.09E+04	1.699E+10	2.067E+00	8.66E+02	-1.31E+03	0.	-9.00E+00	2.50E-01	2	8.05185E-02	3 2.09488E-02
37	3.178E+09	3.28E+01	4.18E+03	2.731E+09	1.865E+00	7.87E+02	-1.33E+03	-2.82E+01	-8.75E+00	2.50E-01	2	9.15402E-02	
38	1.683E+08	-1.87E+00	3.10E+02	2.615E+09	1.822E+00	7.78E+02	-1.33E+03	-8.84E-01	-8.50E+00	2.50E-01	2	8.94556E-02	
39	1.322E+07	-1.87E-01	1.76E+01	2.615E+09	1.820E+00	7.56E+02	-1.33E+03	1.49E+01	-8.25E+00	2.50E-01	2	8.93476E-02	
40	1.760E+06	-1.06E-02	1.16E+00	2.615E+09	1.820E+00	7.66E+02	-1.33E+03	3.05E+01	-8.00E+00	2.50E-01	2	8.93396E-02	
41	1.063E+06	-1.83E-09	7.80E-02	2.615E+09	1.820E+00	7.80E+02	-1.33E+03	2.11E+01	-7.75E+00	2.50E-01	2	8.93391E-02	
42	1.016E+06	0.	4.11E-03	2.615E+09	1.820E+00	3.68E+02	-5.74E+02	1.72E+01	-7.50E+00	2.50E-01	2	8.93390E-02	
43	1.014E+06	0.	1.27E-12	2.716E+09	2.710E+00	1.40E-07	-1.51E+01	0.	-7.25E+00	2.50E-01	2	6.18383E-11	4 1.33827E-01
44	1.013E+06	0.	0.	2.716E+09	2.710E+00	0.	-1.95E-08	0.	-7.00E+00	2.50E-01	4	1.33827E-01	
45	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.75E+00	2.50E-01	1	6.01320E-05	
46	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05	
47	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05	
48	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05	
49	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05	
50	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05	
51	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05	
52	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05	
53	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05	
54	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05	
55	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05	
56	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05	
57	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05	
58	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05	
59	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05	
60	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05	
61	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05	
62	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05	
63	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05	
64	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05	
65	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05	
66	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05	
67	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05	
68	1.013E+06	0.	0.	2.844E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05	

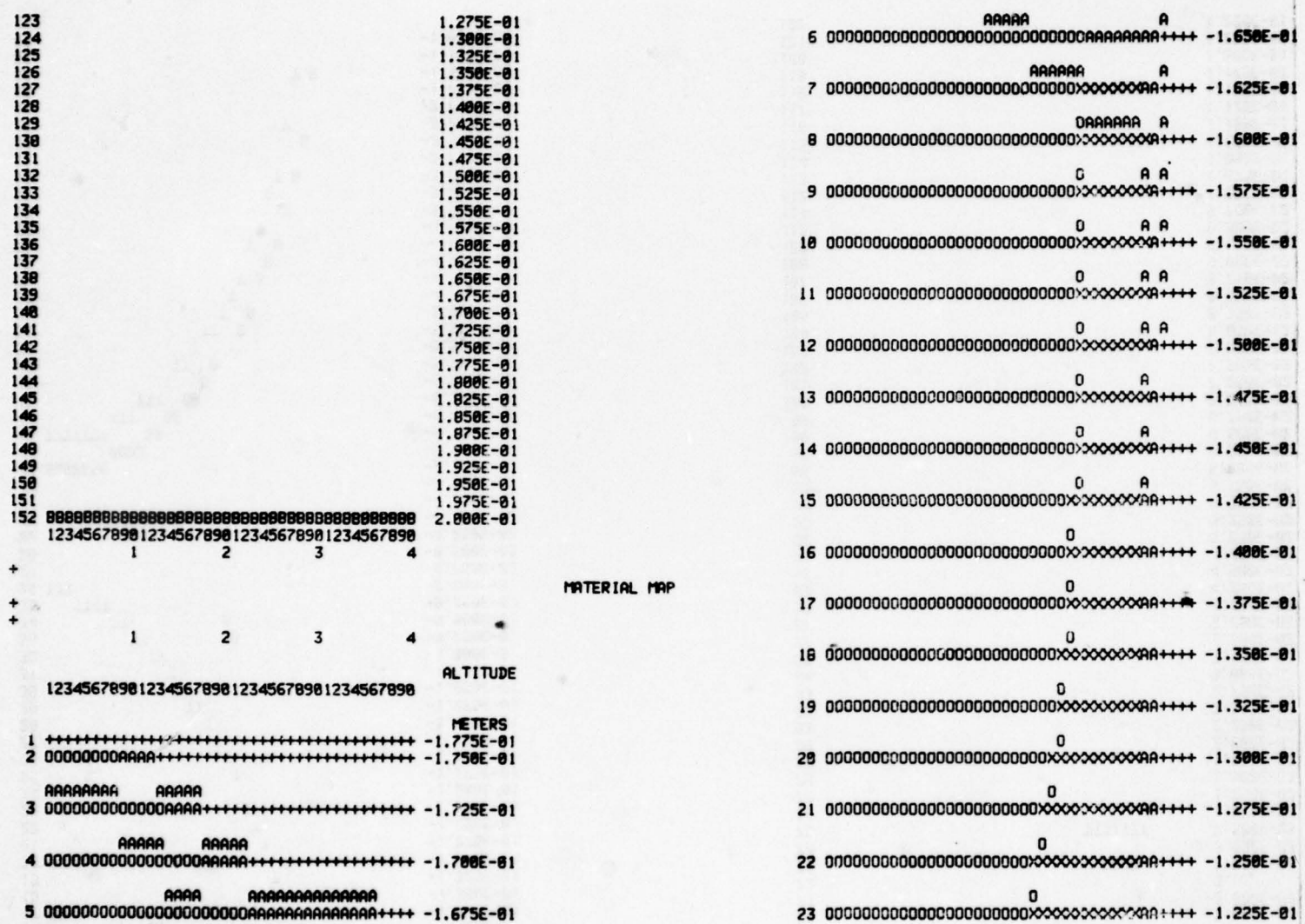
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05

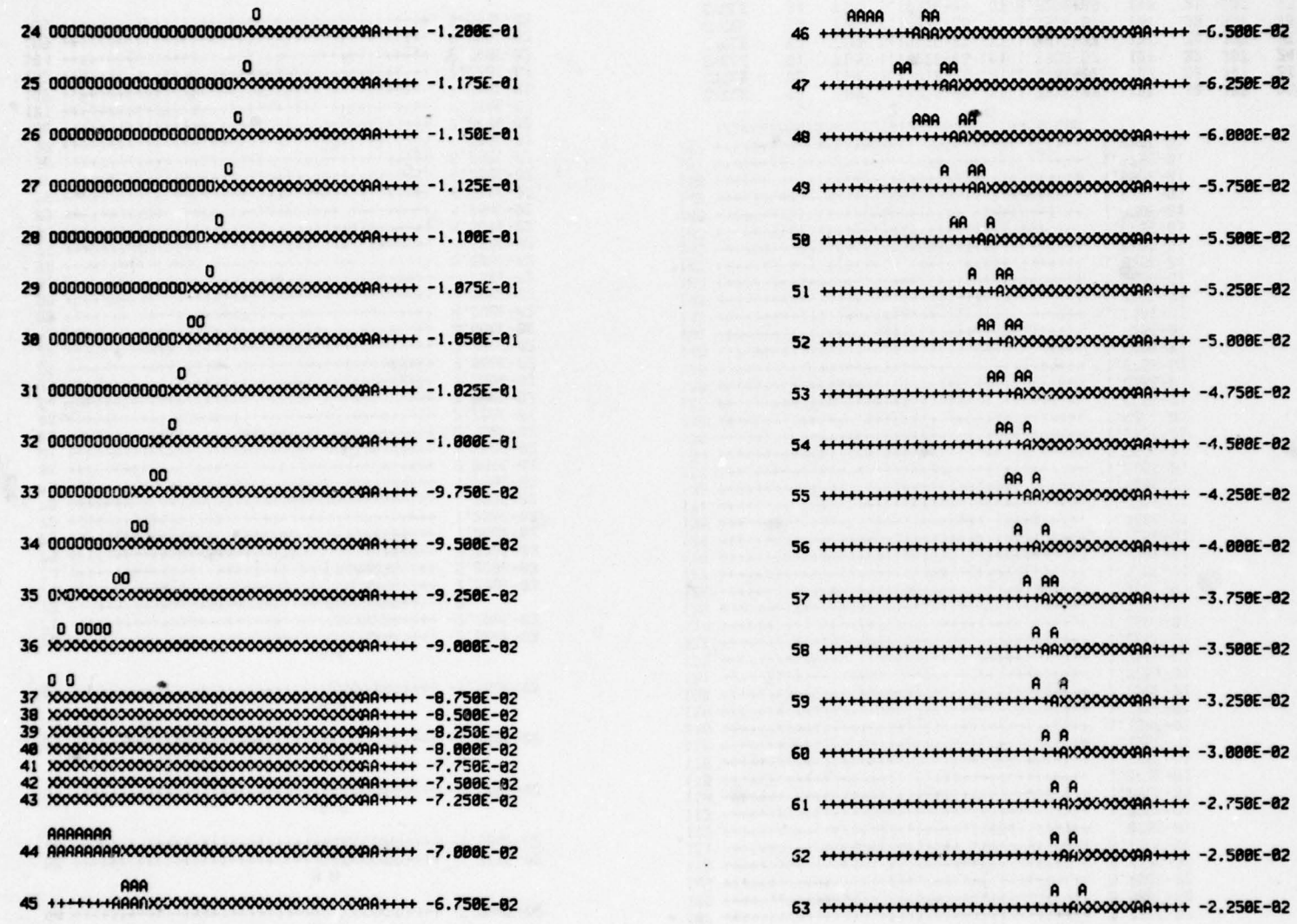
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

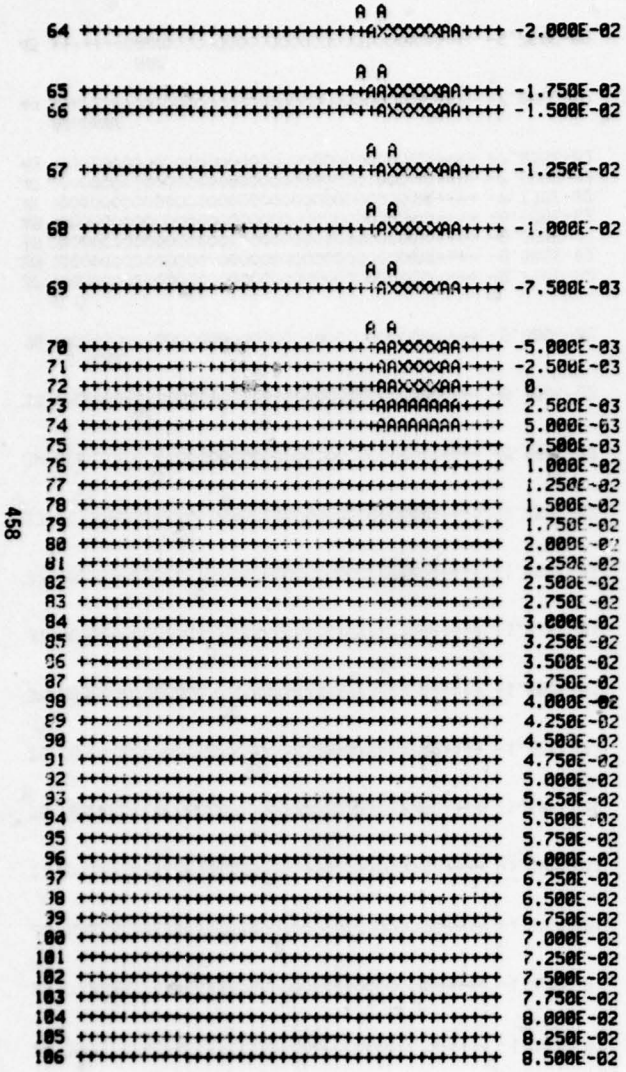
ENERGY MAP

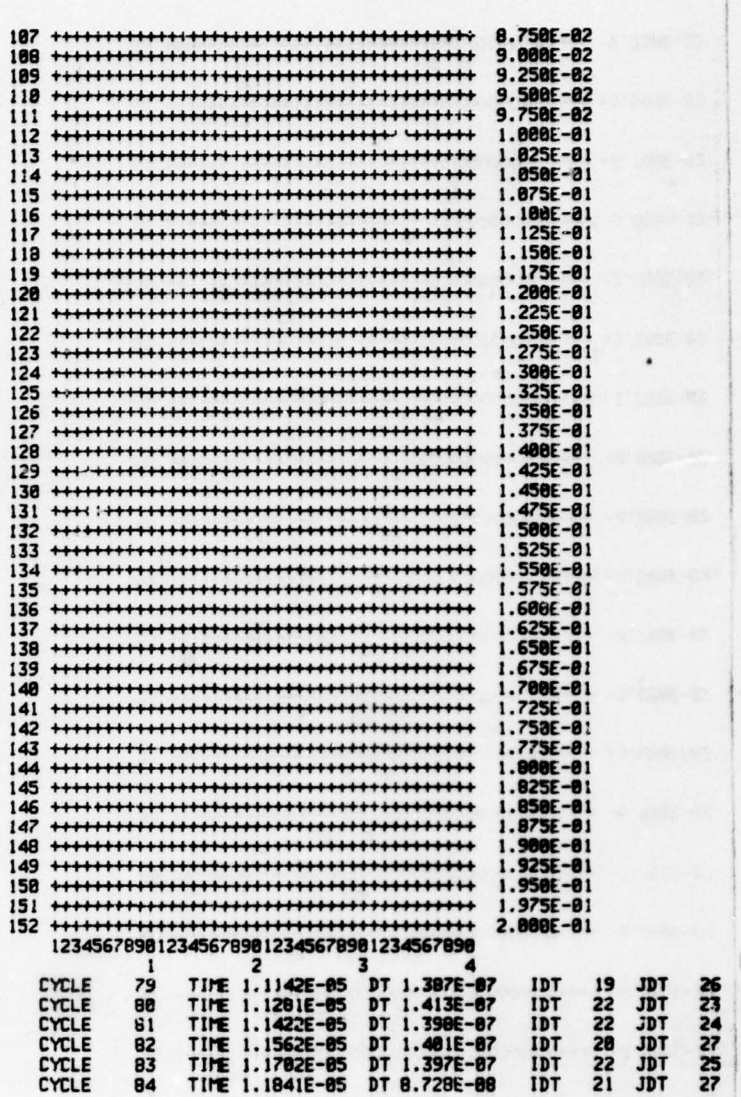
```
          1         2         3         4
                                                ALTITUDE
1234567890123456789012345678901234567890
                                                  METERS
 1                                            -1.775E-01
 2                                            -1.750E-01
 3          TTTTTTTT              BB          -1.725E-01
 4          BBBB    TTT             B         -1.700E-01
 5        TTT    BBBB   T              BBB    -1.675E-01
 6        BBB TTT    BBBB             TTTT    -1.650E-01
 7           BBB TTTT       TTTTTTT          -1.625E-01
 8               BBBB       B                -1.600E-01
 9                 TTT  TTT  BB  B            -1.575E-01
10                 BBBT BB TTTT              -1.550E-01
11                    D  T                   -1.525E-01
12                       T BBBBBB T          -1.500E-01
13                  TTTTT BBTTTTTT B         -1.475E-01
14       TT         BBBBB  T                 -1.450E-01
```




MATERIAL MAP
ALTITUDE
METERS
1.275E-01
1.300E-01
1.325E-01
1.350E-01
1.375E-01
1.400E-01
1.425E-01
1.450E-01
1.475E-01
1.500E-01
1.525E-01
1.550E-01
1.575E-01
1.600E-01
1.625E-01
1.650E-01
1.675E-01
1.700E-01
1.725E-01
1.750E-01
1.775E-01
1.800E-01
1.825E-01
1.850E-01
1.875E-01
1.900E-01
1.925E-01
1.950E-01
1.975E-01
2.000E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01


24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02


A A
64 -2.000E-02
A A
65 -1.750E-02
66 -1.500E-02
A A
67 -1.250E-02
A A
68 -1.000E-02
A A
69 -7.500E-03
A A
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02


107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01
150 1.950E-01
151 1.975E-01
152 2.000E-01
1234567890123456789012345678901234567890
1 2 3 4
CYCLE 79 TIME 1.1142E-05 DT 1.387E-07 IDT 19 JDT 26
CYCLE 80 TIME 1.1281E-05 DT 1.413E-07 IDT 22 JDT 23
CYCLE 81 TIME 1.1422E-05 DT 1.398E-07 IDT 22 JDT 24
CYCLE 82 TIME 1.1562E-05 DT 1.401E-07 IDT 20 JDT 27
CYCLE 83 TIME 1.1702E-05 DT 1.397E-07 IDT 22 JDT 25
CYCLE 84 TIME 1.1841E-05 DT 8.728E-08 IDT 21 JDT 27

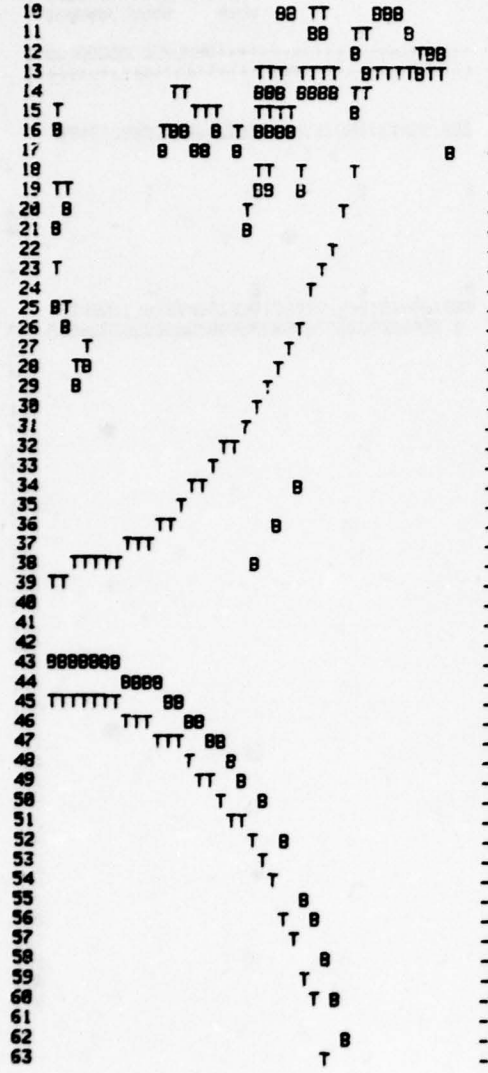
```
   CYCLE    85   TIME 1.1929E-05  DT 7.141E-08   IDT   22  JDT   26
   CYCLE    86   TIME 1.2000E-05  DT 1.409E-07   IDT   21  JDT   28
+
+
**********
**********
+
PROB    4.0130     CYCLE    86     TIME  1.200000E-05     DT  1.400998E-07
+
+
+
    INTERNAL ENERGY          KINETIC ENERGY          TOTAL ENERGY              ETH                  REL ERROR
  9.37541245416990E+13    1.54661728383048E+13    1.09220297380004E+14    1.09236572597075E+14    6.64982448680494E-01
+
                                                      TOTAL MASS                MTH                  RELMERR
                                                   7.34296575603005E+03    7.34296575602933E+03   -3.96349005020312E-08
+
MAX VEL =  2.47074E+05 AT I  17 J  31
+
MAX CS =   6.41228E+05 AT I  21 J  28
+
MAX TEMP=   2.65576E+03 AT I  21 J  28
+
MAX P =   3.84167E+11 AT I  21 J  28
+
CELL SETTING DT, I  21 J  28
+
+
TOTAL TIME FOR THIS PROBLEM     0 HOURS,  3 MIN, 56 SEC
                  OF THIS       0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                     AND        0 HOURS,  3 MIN, 56 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  4 MIN, 21 SEC
+
WHIZ FACTOR TOTAL PROBLEM   = 4.53E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.67E-04 SEC/CELL/CYCLE
+
+
+
+
I=   1  X(I)=      .250   DX(I)=      .250
+
 J       P         U         V         XI        RHO       SRR       SZZ       SRZ        Y        DY    M      XM1     M      XM1
+
  1  1.813E+06  0.        0.       2.044E+09 1.225E-03  0.        0.        0.       -1.70E+01 2.50E-01 1 6.01320E-05
  2  9.811E+09  3.48E+03 -2.42E+05 1.904E+10 7.597E-01  3.66E+08 -2.99E+08  0.       -1.75E+01 2.50E-01 3 3.04299E-02 4 6.86228E-03
  3  1.171E+10  2.27E+03 -1.94E+05 2.323E+10 7.110E-01  0.        0.        0.       -1.73E+01 2.50E-01 3 3.48992E-02
  4  1.530E+10  1.55E+03 -1.79E+05 2.467E+10 8.029E-01  0.        0.        0.       -1.70E+01 2.50E-01 3 3.94145E-02
  5  1.730E+10  4.43E+02 -1.61E+05 2.539E+10 8.495E-01  0.        0.        0.       -1.68E+01 2.50E-01 3 4.17021E-02
  6  1.930E+10 -5.93E+02 -1.45E+05 2.604E+10 8.953E-01  0.        0.        0.       -1.65E+01 2.50E-01 3 4.39490E-02
  7  2.165E+10 -1.77E+03 -1.30E+05 2.670E+10 9.416E-01  0.        0.        0.       -1.63E+01 2.50E-01 3 4.62190E-02
  8  2.432E+10 -2.66E+03 -1.16E+05 2.740E+10 9.912E-01  0.        0.        0.       -1.60E+01 2.50E-01 3 4.86549E-02
  9  2.727E+10 -3.88E+03 -1.04E+05 2.836E+10 1.041E+00  0.        0.        0.       -1.58E+01 2.50E-01 3 5.10829E-02
```

10	3.027E+10	-3.02E+03	-9.25E+04	2.920E+10	1.087E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	5.33361E-02	
11	3.357E+10	-2.92E+03	-8.25E+04	2.995E+10	1.133E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	5.56250E-02	
12	3.721E+10	-2.80E+03	-7.42E+04	3.083E+10	1.179E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	5.78903E-02	
13	4.053E+10	-2.84E+03	-6.54E+04	3.170E+10	1.217E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	5.97541E-02	
14	4.128E+10	-1.13E+03	-5.58E+04	3.213E+10	1.224E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	6.00940E-02	
15	4.114E+10	-8.86E+02	-4.21E+04	3.183E+10	1.224E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.00872E-02	
16	4.318E+10	-2.88E+03	-3.35E+04	3.224E+10	1.246E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.11775E-02	
17	4.705E+10	-3.60E+03	-3.39E+04	3.322E+10	1.285E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	6.30591E-02	
18	4.991E+10	-1.42E+03	-3.07E+04	3.388E+10	1.312E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	6.43918E-02	
19	5.074E+10	1.28E+03	-1.72E+04	3.320E+10	1.323E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	6.49484E-02	
20	5.075E+10	5.60E+02	-7.74E+03	3.226E+10	1.328E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	6.51864E-02	
21	5.448E+10	4.08E+02	-9.27E+03	3.252E+10	1.363E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	6.68907E-02	
22	6.034E+10	1.18E+02	-5.99E+03	3.272E+10	1.414E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	6.94125E-02	
23	6.315E+10	-7.52E+02	-4.10E+02	3.245E+10	1.439E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	7.06214E-02	
24	6.346E+10	-5.03E+02	2.51E+03	3.241E+10	1.441E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	7.07515E-02	
25	6.624E+10	4.29E+02	8.01E+03	3.300E+10	1.461E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	7.17168E-02	
26	7.095E+10	4.51E+02	1.41E+04	3.423E+10	1.492E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	7.32253E-02	
27	7.776E+10	6.12E+02	1.57E+04	3.619E+10	1.533E+00	0.	0.	0.	-1.13E+01	2.50E-01	3	7.52307E-02	
28	8.387E+10	2.62E+03	1.93E+04	3.724E+10	1.570E+00	0.	0.	0.	-1.10E+01	2.50E-01	3	7.70465E-02	
29	8.844E+10	4.79E+03	2.93E+04	3.822E+10	1.595E+00	0.	0.	0.	-1.08E+01	2.50E-01	3	7.82996E-02	
30	9.326E+10	4.90E+03	3.85E+04	3.891E+10	1.622E+00	0.	0.	0.	-1.05E+01	2.50E-01	3	7.96296E-02	
31	1.031E+11	4.10E+03	4.96E+04	4.084E+10	1.672E+00	0.	0.	0.	-1.03E+01	2.50E-01	3	8.20904E-02	
32	1.158E+11	3.34E+03	6.30E+04	4.264E+10	1.735E+00	0.	0.	0.	-1.00E+01	2.50E-01	3	8.51589E-02	
33	1.246E+11	1.20E+03	7.43E+04	4.381E+10	1.775E+00	0.	0.	0.	-9.75E+00	2.50E-01	3	8.71540E-02	
34	1.331E+11	-9.02E+02	8.58E+04	4.500E+10	1.813E+00	0.	0.	0.	-9.50E+00	2.50E-01	3	8.89870E-02	
35	1.522E+11	-2.85E+02	1.06E+05	4.974E+10	1.885E+00	0.	0.	0.	-9.25E+00	2.50E-01	3	9.25169E-02	
36	1.914E+11	1.88E+02	1.33E+05	5.738E+10	2.022E+00	0.	0.	0.	-9.00E+00	2.50E-01	3	9.92333E-02	
37	2.342E+11	4.01E+03	1.60E+05	6.203E+10	2.164E+00	0.	0.	0.	-8.75E+00	2.50E-01	3	1.06223E-01	
38	2.397E+11	5.42E+03	1.49E+05	6.340E+10	2.179E+00	0.	0.	0.	-8.50E+00	2.50E-01	3	1.06969E-01	
39	8.057E+10	2.36E+03	6.79E+04	2.023E+10	2.056E+00	9.27E+02	-1.29E+03	0.	-8.25E+00	2.50E-01	2	7.48239E-02	3 2.60885E-02
40	3.930E+09	9.02E+01	7.24E+03	2.836E+09	1.875E+00	7.90E+02	-1.32E+03	-2.15E+01	-8.00E+00	2.50E-01	2	9.20535E-02	
41	2.315E+08	2.57E+00	3.70E+02	2.616E+09	1.823E+00	7.85E+02	-1.33E+03	-2.53E+01	-7.75E+00	2.50E-01	2	8.94996E-02	
42	1.487E+07	2.15E-01	1.80E+01	2.615E+09	1.820E+00	7.52E+02	-1.33E+03	-1.60E+01	-7.50E+00	2.50E-01	2	8.93487E-02	
43	4.596E+06	2.88E-02	8.81E-01	2.716E+09	2.710E+00	7.05E+02	-1.33E+03	0.	-7.25E+00	2.50E-01	2	4.44088E-07	4 1.33827E-01
44	1.171E+06	1.06E-02	2.27E-01	2.716E+09	2.710E+00	2.90E+04	-2.04E+04	-9.06E+02	-7.00E+00	2.50E-01	4	1.33027E-01	
45	1.013E+06	1.52E-06	1.84E-02	2.044E+09	1.225E-03	6.08E+00	-3.83E+00	0.	-6.75E+00	2.50E-01	1	6.01320E-05	4 1.92721E-08
46	1.013E+06	0.	4.79E-11	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01320E-05	
47	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05	
48	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05	
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05	
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05	
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05	
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05	
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05	
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05	
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05	
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05	
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05	
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05	
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05	
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05	
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05	
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05	
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05	

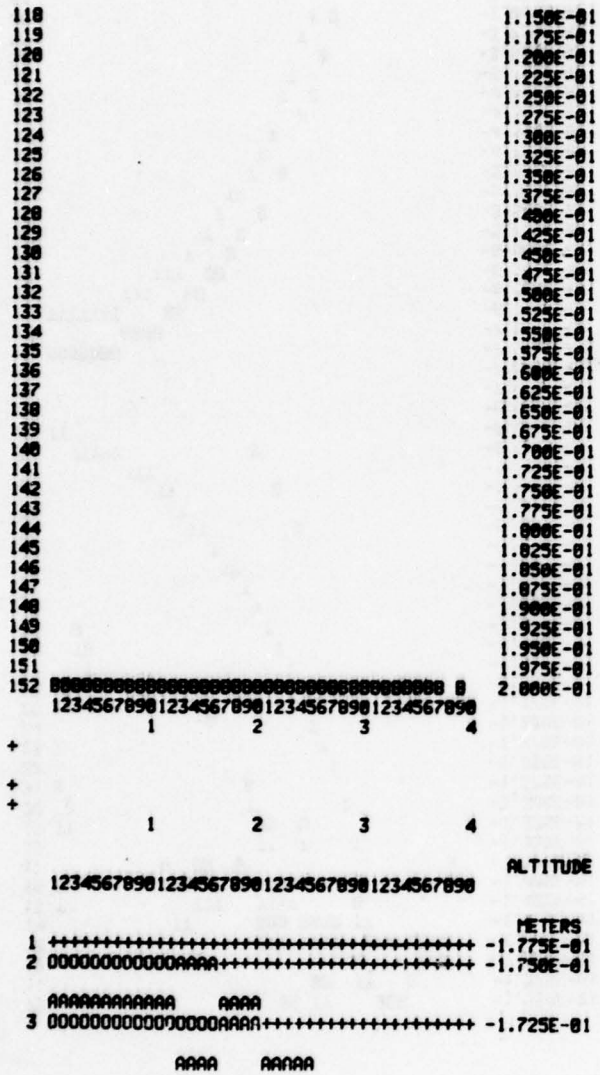
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05

118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

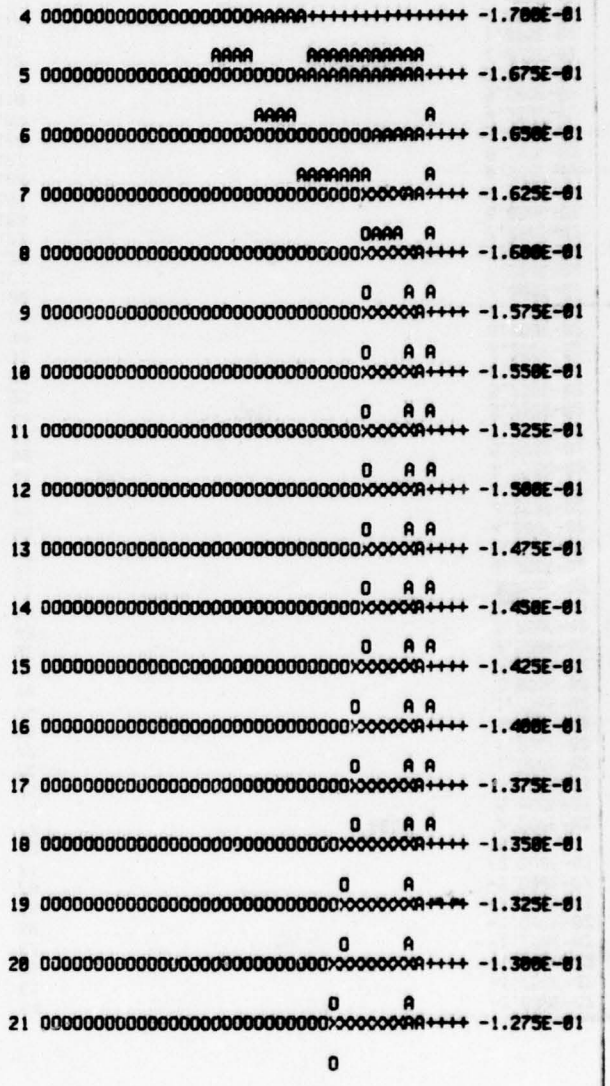
```
+
                                                  ENERGY MAP
+
+
           1         2         3         4

                                             ALTITUDE
  1234567890123456789012345678901234567890

                                              METERS
1                                          -1.775E-01
2                                          -1.750E-01
3                 TTTTTTTT            BB   -1.725E-01
4           TT    BBBB    TT               -1.700E-01
5           BB TTT    BBBB  TT          BB -1.675E-01
6              BBB TTTT   BBBB          TT -1.650E-01
7                  BBBB TTT       TTTTTT   -1.625E-01
8                       BBB    T  BB       -1.600E-01
9                      TT      BTTTTB    B -1.575E-01
```

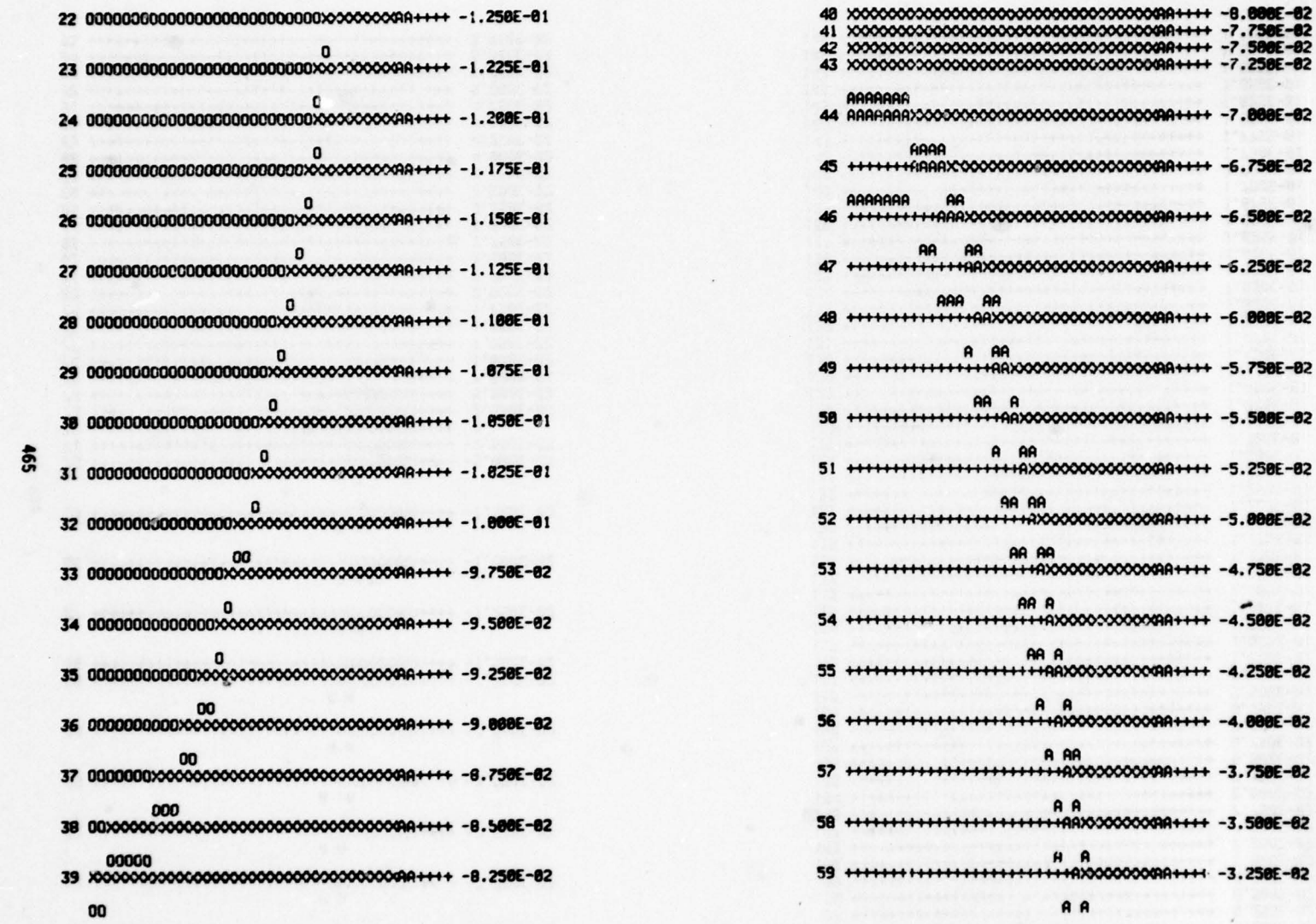


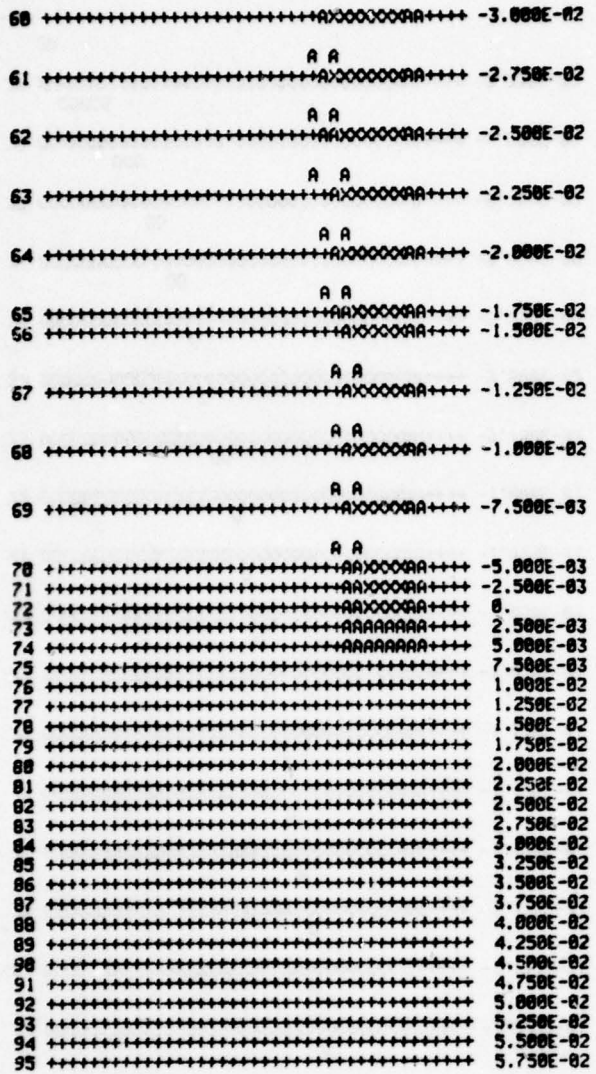
10		-1.550E-01
11		-1.525E-01
12		-1.500E-01
13		-1.475E-01
14		-1.450E-01
15	T	-1.425E-01
16	B	-1.400E-01
17		-1.375E-01
18		-1.350E-01
19	TT	-1.325E-01
20	B	-1.300E-01
21	B	-1.275E-01
22		-1.250E-01
23	T	-1.225E-01
24		-1.200E-01
25	BT	-1.175E-01
26	B	-1.150E-01
27	T	-1.125E-01
28	TB	-1.100E-01
29	B	-1.075E-01
30		-1.050E-01
31		-1.025E-01
32		-1.000E-01
33		-9.750E-02
34		-9.500E-02
35		-9.250E-02
36		-9.000E-02
37		-8.750E-02
38	TTTTT	-8.500E-02
39	TT	-8.250E-02
40		-8.000E-02
41		-7.750E-02
42		-7.500E-02
43	BBBBBBB	-7.250E-02
44	BBBB	-7.000E-02
45	TTTTTTT BB	-6.750E-02
46	TTT BB	-6.500E-02
47	TTT BB	-6.250E-02
48	T B	-6.000E-02
49	TT B	-5.750E-02
50	T B	-5.500E-02
51	TT	-5.250E-02
52	T B	-5.000E-02
53	T	-4.750E-02
54	T	-4.500E-02
55	B	-4.250E-02
56	T B	-4.000E-02
57	T	-3.750E-02
58	B	-3.500E-02
59	T	-3.250E-02
60	T B	-3.000E-02
61		-2.750E-02
62	B	-2.500E-02
63	T	-2.250E-02
64		-2.000E-02
65		-1.750E-02
66	T B	-1.500E-02
67		-1.250E-02
68		-1.000E-02
69		-7.500E-03
70		-5.000E-03
71		-2.500E-03
72		0.
73	BBBB	2.500E-03
74		5.000E-03
75	TTTTTTT	7.500E-03
76		1.000E-02
77		1.250E-02
78		1.500E-02
79		1.750E-02
80		2.000E-02
81		2.250E-02
82		2.500E-02
83		2.750E-02
84		3.000E-02
85		3.250E-02
86		3.500E-02
87		3.750E-02
88		4.000E-02
89		4.250E-02
90		4.500E-02
91		4.750E-02
92		5.000E-02
93		5.250E-02
94		5.500E-02
95		5.750E-02
96		6.000E-02
97		6.250E-02
98		6.500E-02
99		6.750E-02
100		7.000E-02
101		7.250E-02
102		7.500E-02
103		7.750E-02
104		8.000E-02
105		8.250E-02
106		8.500E-02
107		8.750E-02
108		9.000E-02
109		9.250E-02
110		9.500E-02
111		9.750E-02
112		1.000E-01
113		1.025E-01
114		1.050E-01
115		1.075E-01
116		1.100E-01
117		1.125E-01

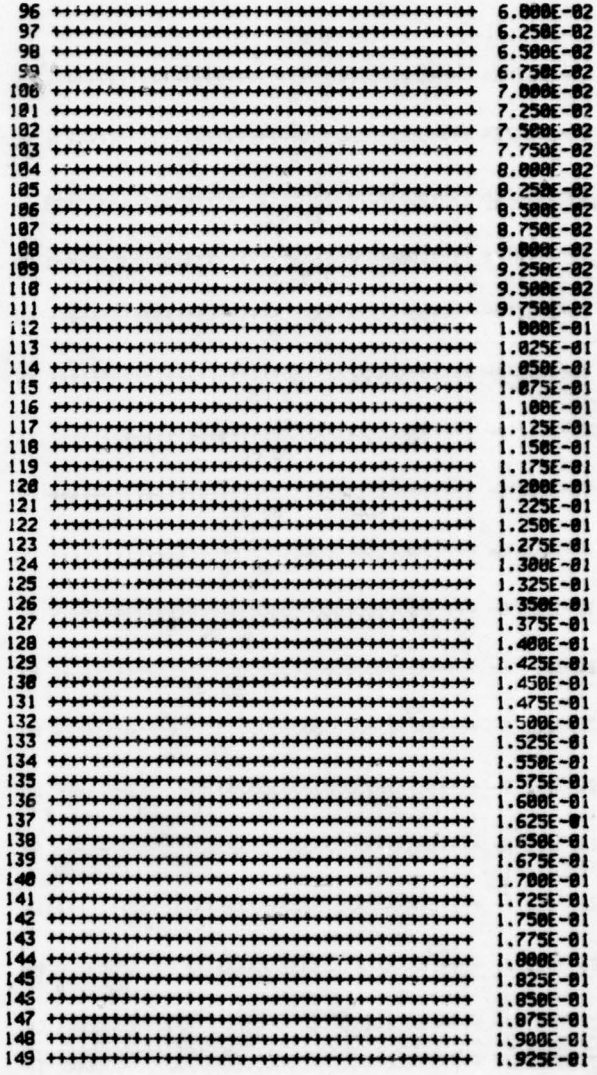


MATERIAL MAP




22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02
53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02


60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.
73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02


96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01
127 1.375E-01
128 1.400E-01
129 1.425E-01
130 1.450E-01
131 1.475E-01
132 1.500E-01
133 1.525E-01
134 1.550E-01
135 1.575E-01
136 1.600E-01
137 1.625E-01
138 1.650E-01
139 1.675E-01
140 1.700E-01
141 1.725E-01
142 1.750E-01
143 1.775E-01
144 1.800E-01
145 1.825E-01
146 1.850E-01
147 1.875E-01
148 1.900E-01
149 1.925E-01

```
150 ++++++++++++++++++++++++++++++++++++++++ 1.950E-01
151 ++++++++++++++++++++++++++++++++++++++++ 1.975E-01
152 ++++++++++++++++++++++++++++++++++++++++ 2.000E-01
    1234567890123456789012345678901234567890
             1         2         3         4
   CYCLE   87   TIME 1.2141E-05  DT 1.374E-07   IDT   21  JDT   28
   CYCLE   88   TIME 1.2278E-05  DT 1.386E-07   IDT   22  JDT   28
   CYCLE   89   TIME 1.2417E-05  DT 1.373E-07   IDT   22  JDT   28
   CYCLE   90   TIME 1.2554E-05  DT 1.369E-07   IDT   22  JDT   29
   CYCLE   91   TIME 1.2691E-05  DT 1.383E-07   IDT   23  JDT   28
   CYCLE   92   TIME 1.2829E-05  DT 9.387E-08   IDT   23  JDT   29
   CYCLE   93   TIME 1.2923E-05  DT 7.680E-08   IDT   24  JDT   28
   CYCLE   94   TIME 1.3000E-05  DT 1.375E-07   IDT   23  JDT   30
+
**********
*        *
* CSTOP  *
*        *
**********
+
+
***********
***********
+
PROB    4.0130      CYCLE     94      TIME  1.300000E-05      DT  1.375076E-07
+
+
+
     INTERNAL ENERGY          KINETIC ENERGY            TOTAL ENERGY               ETH                    REL ERROR
   1.17240226903355E+14    2.02436067894920E+13    1.37483833692047E+14    1.37490511424027E+14    1.16195003550599E+01
+
                                                        TOTAL MASS                 MTH                     RELMERR
                                                   7.31720180022692E+03    7.31720180022549E+03    9.54570421375047E-08
+
MAX VEL =  2.62203E+05 AT I  23 J  30
+
MAX CS =   6.46757E+05 AT I  23 J  30
+
MAX TEMP=   2.68715E+03 AT I  23 J  30
+
MAX P =   4.02470E+11 AT I  23 J  30
+
CELL SETTING DT, I  23 J  30.
+
+
TOTAL TIME FOR THIS PROBLEM      0 HOURS,  4 MIN, 19 SEC
                     OF THIS     0 HOURS,  0 MIN,  0 SEC IS 6600 TIME.
                         AND     0 HOURS,  4 MIN, 19 SEC IS 7600/176 TIME.
+
TIME FOR THIS RUN     0 HOURS,  4 MIN, 44 SEC
+
WHIZ FACTOR TOTAL PROBLEM    = 4.55E-04 SEC/CELL/CYCLE
+
WHIZ FACTOR SINCE LAST DUMP = 4.75E-04 SEC/CELL/CYCLE
```

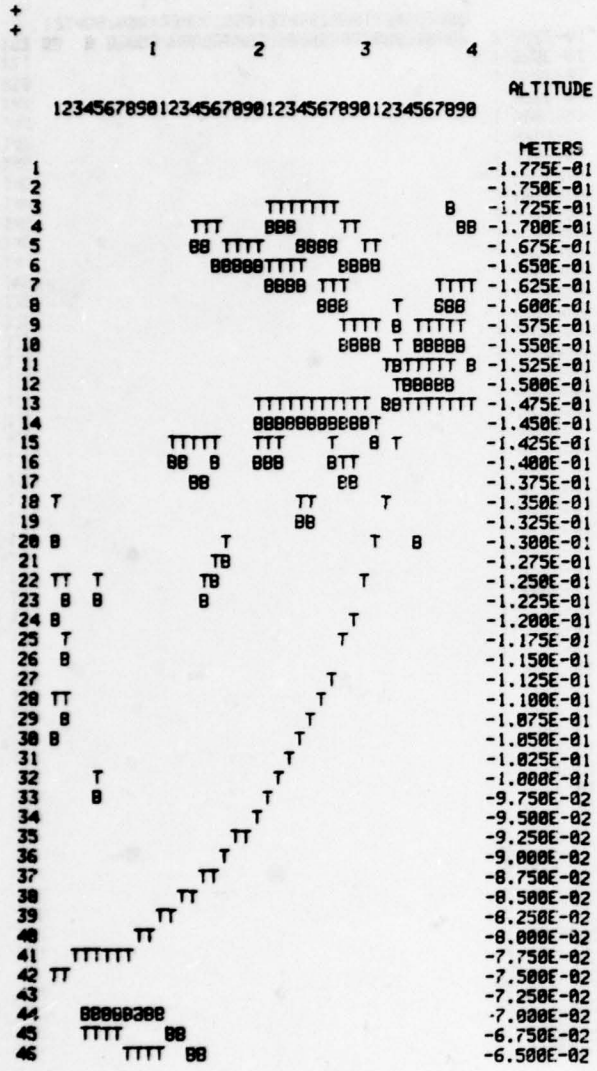
I= 1 X(I)= .250 DX(I)= .250

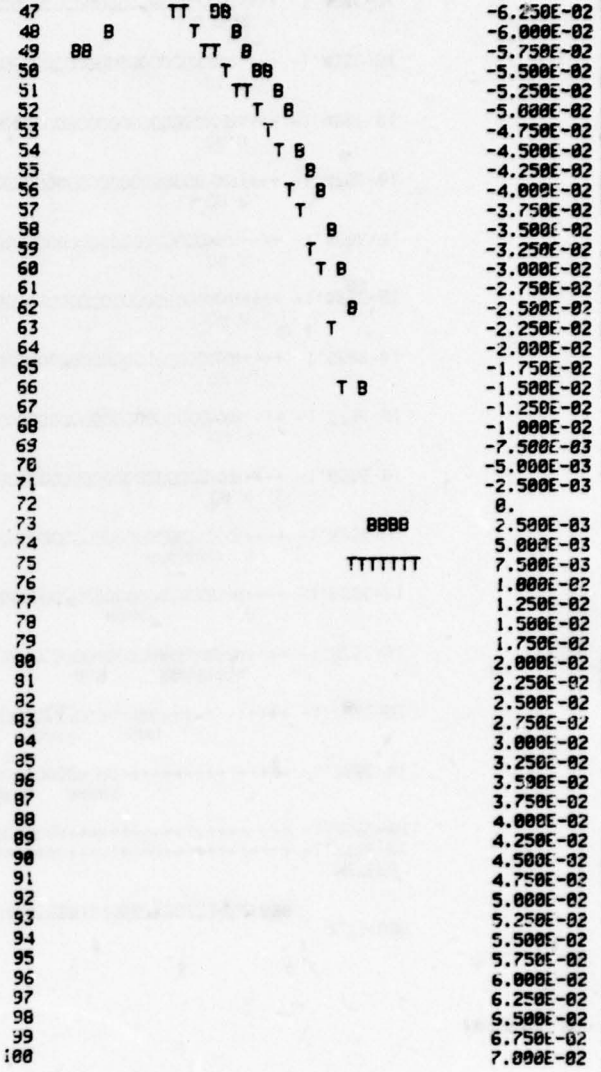
J	P	U	V	XI	RHO	SRR	SZZ	SRZ	Y	DY	M	XM	M	XM
1	1.813E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.78E+01	2.50E-01	1	6.01320E-05		
2	8.863E+09	-5.40E+02	-2.49E+05	2.096E+10	6.601E-01	1.42E+08	-1.17E+08	0.	-1.75E+01	2.50E-01	3	3.01117E-02	4	2.20925E-03
3	1.075E+10	-1.98E+03	-1.97E+05	2.261E+10	6.860E-01	0.	0.	0.	-1.73E+01	2.50E-01	3	3.36710E-02		
4	1.471E+10	-3.21E+03	-1.80E+05	2.424E+10	7.904E-01	0.	0.	0.	-1.70E+01	2.50E-01	3	3.87976E-02		
5	1.699E+10	-4.04E+03	-1.62E+05	2.508E+10	8.441E-01	0.	0.	0.	-1.68E+01	2.50E-01	3	4.14342E-02		
6	1.967E+10	-4.66E+03	-1.48E+05	2.600E+10	9.023E-01	0.	0.	0.	-1.65E+01	2.50E-01	3	4.42923E-02		
7	2.244E+10	-4.87E+03	-1.35E+05	2.688E+10	9.572E-01	0.	0.	0.	-1.63E+01	2.50E-01	3	4.69851E-02		
8	2.537E+10	-4.60E+03	-1.22E+05	2.777E+10	1.010E+00	0.	0.	0.	-1.60E+01	2.50E-01	3	4.95580E-02		
9	2.837E+10	-4.16E+03	-1.11E+05	2.865E+10	1.058E+00	0.	0.	0.	-1.58E+01	2.50E-01	3	5.19458E-02		
10	3.145E+10	-3.75E+03	-1.01E+05	2.947E+10	1.104E+00	0.	0.	0.	-1.55E+01	2.50E-01	3	5.41816E-02		
11	3.452E+10	-3.27E+03	-9.07E+04	3.018E+10	1.146E+00	0.	0.	0.	-1.53E+01	2.50E-01	3	5.62396E-02		
12	3.684E+10	-2.58E+03	-7.99E+04	3.072E+10	1.175E+00	0.	0.	0.	-1.50E+01	2.50E-01	3	5.76786E-02		
13	3.807E+10	-1.99E+03	-6.71E+04	3.101E+10	1.190E+00	0.	0.	0.	-1.48E+01	2.50E-01	3	5.84022E-02		
14	3.940E+10	-2.67E+03	-5.58E+04	3.147E+10	1.204E+00	0.	0.	0.	-1.45E+01	2.50E-01	3	5.91177E-02		
15	4.231E+10	-3.86E+03	-5.00E+04	3.209E+10	1.237E+00	0.	0.	0.	-1.43E+01	2.50E-01	3	6.07101E-02		
16	4.772E+10	-4.11E+03	-4.60E+04	3.348E+10	1.291E+00	0.	0.	0.	-1.40E+01	2.50E-01	3	6.33481E-02		
17	5.022E+10	-3.41E+03	-3.82E+04	3.405E+10	1.314E+00	0.	0.	0.	-1.38E+01	2.50E-01	3	6.44821E-02		
18	4.839E+10	-3.10E+03	-2.85E+04	3.328E+10	1.299E+00	0.	0.	0.	-1.35E+01	2.50E-01	3	6.37462E-02		
19	4.983E+10	-3.38E+03	-2.26E+04	3.252E+10	1.307E+00	0.	0.	0.	-1.33E+01	2.50E-01	3	6.41625E-02		
20	5.639E+10	-4.63E+03	-2.11E+04	3.355E+10	1.375E+00	0.	0.	0.	-1.30E+01	2.50E-01	3	6.75192E-02		
21	6.088E+10	-4.13E+03	-1.98E+04	3.395E+10	1.413E+00	0.	0.	0.	-1.28E+01	2.50E-01	3	6.93649E-02		
22	6.050E+10	-2.41E+03	-1.40E+04	3.279E+10	1.415E+00	0.	0.	0.	-1.25E+01	2.50E-01	3	6.94631E-02		
23	6.313E+10	-1.67E+03	-6.50E+03	3.248E+10	1.438E+00	0.	0.	0.	-1.23E+01	2.50E-01	3	7.06065E-02		
24	6.611E+10	-2.28E+03	-2.17E+03	3.302E+10	1.460E+00	0.	0.	0.	-1.20E+01	2.50E-01	3	7.16621E-02		
25	6.839E+10	-2.69E+03	1.88E+02	3.343E+10	1.476E+00	0.	0.	0.	-1.18E+01	2.50E-01	3	7.24431E-02		
26	6.966E+10	-1.66E+03	3.34E+03	3.398E+10	1.483E+00	0.	0.	0.	-1.15E+01	2.50E-01	3	7.28024E-02		
27	6.979E+10	3.02E+02	8.96E+03	3.451E+10	1.482E+00	0.	0.	0.	-1.13E+01	2.50E-01	3	7.27434E-02		
28	6.676E+10	1.81E+03	1.58E+04	3.365E+10	1.462E+00	0.	0.	0.	-1.10E+01	2.50E-01	3	7.17777E-02		
29	6.710E+10	2.66E+03	2.05E+04	3.363E+10	1.465E+00	0.	0.	0.	-1.08E+01	2.50E-01	3	7.19117E-02		
30	6.999E+10	3.30E+03	2.34E+04	3.402E+10	1.485E+00	0.	0.	0.	-1.05E+01	2.50E-01	3	7.29173E-02		
31	7.500E+10	3.24E+03	2.69E+04	3.515E+10	1.517E+00	0.	0.	0.	-1.03E+01	2.50E-01	3	7.44843E-02		
32	8.218E+10	2.85E+03	3.29E+04	3.641E+10	1.562E+00	0.	0.	0.	-1.00E+01	2.50E-01	3	7.66559E-02		
33	9.582E+10	4.08E+02	4.18E+04	3.902E+10	1.637E+00	0.	0.	0.	-9.75E+00	2.50E-01	3	8.03601E-02		
34	1.128E+11	-5.20E+02	5.62E+04	4.179E+10	1.722E+00	0.	0.	0.	-9.50E+00	2.50E-01	3	8.45281E-02		
35	1.236E+11	-7.78E+02	6.75E+04	4.441E+10	1.769E+00	0.	0.	0.	-9.25E+00	2.50E-01	3	8.68215E-02		
36	1.320E+11	5.01E+01	7.80E+04	4.693E+10	1.801E+00	0.	0.	0.	-9.00E+00	2.50E-01	3	8.84177E-02		
37	1.447E+11	7.09E+02	9.95E+04	4.866E+10	1.855E+00	0.	0.	0.	-8.75E+00	2.50E-01	3	9.10461E-02		
38	1.640E+11	-9.74E+02	1.22E+05	5.205E+10	1.928E+00	0.	0.	0.	-8.50E+00	2.50E-01	3	9.46337E-02		
39	1.931E+11	-1.64E+03	1.42E+05	5.699E+10	2.029E+00	0.	0.	0.	-8.25E+00	2.50E-01	3	9.96170E-02		
40	2.523E+11	1.03E+03	1.73E+05	6.365E+10	2.221E+00	0.	0.	0.	-8.00E+00	2.50E-01	3	1.09024E-01		
41	2.605E+11	-5.44E+03	1.45E+05	6.385E+10	2.258E+00	9.76E+02	-1.27E+03	0.	-7.75E+00	2.50E-01	2	3.85824E-03	3	1.06979E-01
42	2.111E+10	-5.65E+02	5.04E+04	5.600E+09	2.074E+00	8.60E+02	-1.31E+03	9.90E+01	-7.50E+00	2.50E-01	2	1.01796E-01		
43	1.189E+10	-7.04E+01	2.68E+03	2.764E+09	2.738E+00	6.85E+02	-1.33E+03	0.	-7.25E+00	2.50E-01	2	1.55926E-03	4	1.32028E-01
44	4.898E+08	4.14E+01	8.55E+02	2.716E+09	2.712E+00	1.15E+00	-7.87E+07	-6.42E+06	-7.00E+00	2.50E-01	4	1.33109E-01		
45	1.014E+06	1.75E+01	3.55E+02	2.426E+09	2.836E-03	4.25E+07	-2.68E+07	0.	-6.75E+00	2.50E-01	1	6.01280E-05	4	7.98774E-05
46	1.013E+06	3.49E-04	1.01E-01	2.044E+09	1.225E-03	0.	0.	0.	-6.50E+00	2.50E-01	1	6.01350E-05		

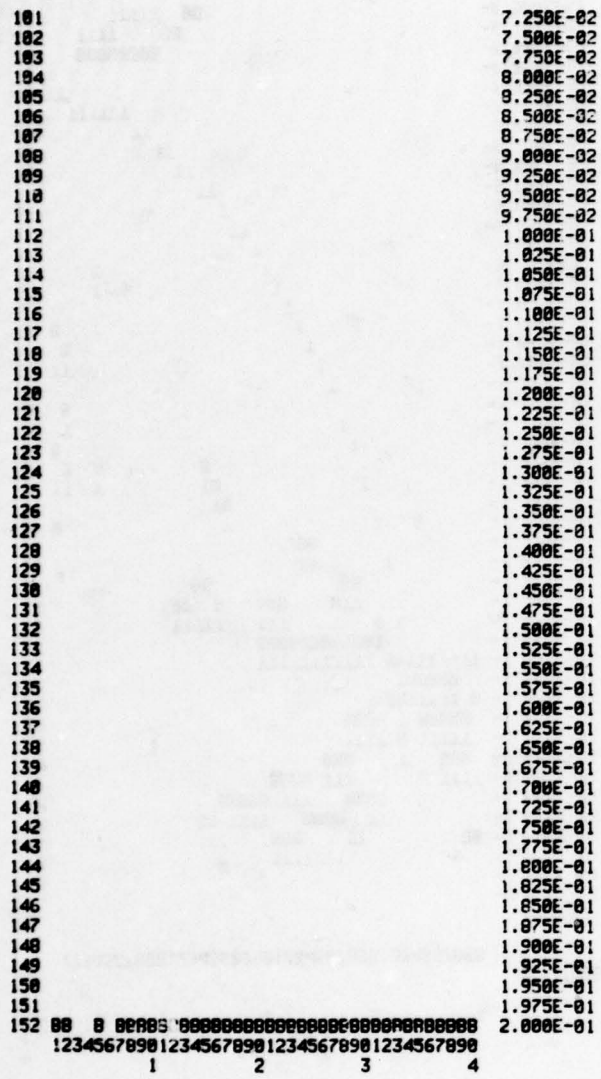
47	1.013E+06	0.	5.73E-03	2.044E+09	1.225E-03	0.	0.	0.	-6.25E+00	2.50E-01	1	6.01320E-05
48	1.013E+06	0.	5.05E-12	2.044E+09	1.225E-03	0.	0.	0.	-6.00E+00	2.50E-01	1	6.01320E-05
49	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.75E+00	2.50E-01	1	6.01320E-05
50	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.50E+00	2.50E-01	1	6.01320E-05
51	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.25E+00	2.50E-01	1	6.01320E-05
52	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E+00	2.50E-01	1	6.01320E-05
53	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.75E+00	2.50E-01	1	6.01320E-05
54	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.50E+00	2.50E-01	1	6.01320E-05
55	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.25E+00	2.50E-01	1	6.01320E-05
56	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-4.00E+00	2.50E-01	1	6.01320E-05
57	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.75E+00	2.50E-01	1	6.01320E-05
58	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.50E+00	2.50E-01	1	6.01320E-05
59	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.25E+00	2.50E-01	1	6.01320E-05
60	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-3.00E+00	2.50E-01	1	6.01320E-05
61	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.75E+00	2.50E-01	1	6.01320E-05
62	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E+00	2.50E-01	1	6.01320E-05
63	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.25E+00	2.50E-01	1	6.01320E-05
64	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.00E+00	2.50E-01	1	6.01320E-05
65	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.75E+00	2.50E-01	1	6.01320E-05
66	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.50E+00	2.50E-01	1	6.01320E-05
67	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.25E+00	2.50E-01	1	6.01320E-05
68	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-1.00E+00	2.50E-01	1	6.01320E-05
69	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-7.50E-01	2.50E-01	1	6.01320E-05
70	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-5.00E-01	2.50E-01	1	6.01320E-05
71	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	-2.50E-01	2.50E-01	1	6.01320E-05
72	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	0.	2.50E-01	1	6.01320E-05
73	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E-01	2.50E-01	1	6.01320E-05
74	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E-01	2.50E-01	1	6.01320E-05
75	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E-01	2.50E-01	1	6.01320E-05
76	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+00	2.50E-01	1	6.01320E-05
77	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+00	2.50E-01	1	6.01320E-05
78	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+00	2.50E-01	1	6.01320E-05
79	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+00	2.50E-01	1	6.01320E-05
80	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+00	2.50E-01	1	6.01320E-05
81	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.25E+00	2.50E-01	1	6.01320E-05
82	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.50E+00	2.50E-01	1	6.01320E-05
83	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.75E+00	2.50E-01	1	6.01320E-05
84	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.00E+00	2.50E-01	1	6.01320E-05
85	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.25E+00	2.50E-01	1	6.01320E-05
86	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.50E+00	2.50E-01	1	6.01320E-05
87	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	3.75E+00	2.50E-01	1	6.01320E-05
88	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.00E+00	2.50E-01	1	6.01320E-05
89	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.25E+00	2.50E-01	1	6.01320E-05
90	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.50E+00	2.50E-01	1	6.01320E-05
91	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	4.75E+00	2.50E-01	1	6.01320E-05
92	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.00E+00	2.50E-01	1	6.01320E-05
93	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.25E+00	2.50E-01	1	6.01320E-05
94	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.50E+00	2.50E-01	1	6.01320E-05
95	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	5.75E+00	2.50E-01	1	6.01320E-05
96	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.00E+00	2.50E-01	1	6.01320E-05
97	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.25E+00	2.50E-01	1	6.01320E-05
98	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.50E+00	2.50E-01	1	6.01320E-05
99	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	6.75E+00	2.50E-01	1	6.01320E-05
100	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.00E+00	2.50E-01	1	6.01320E-05

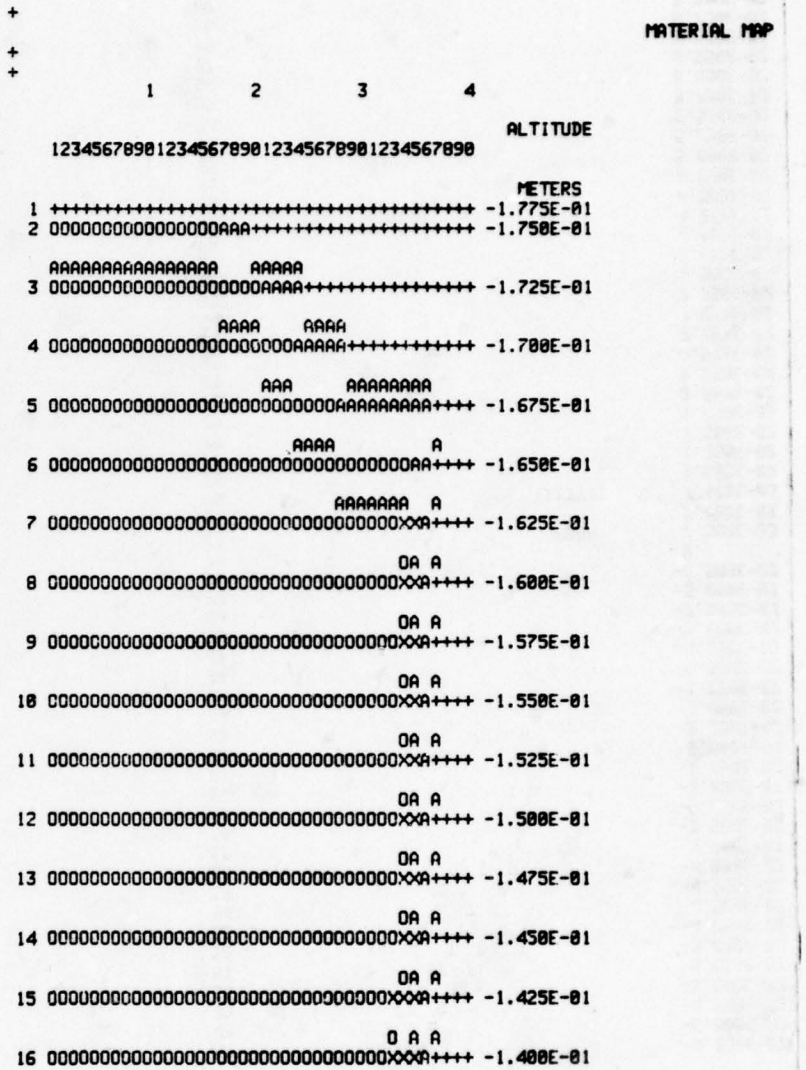
101	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.25E+00	2.50E-01	1	6.01320E-05
102	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.50E+00	2.50E-01	1	6.01320E-05
103	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	7.75E+00	2.50E-01	1	6.01320E-05
104	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.00E+00	2.50E-01	1	6.01320E-05
105	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.25E+00	2.50E-01	1	6.01320E-05
106	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.50E+00	2.50E-01	1	6.01320E-05
107	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	8.75E+00	2.50E-01	1	6.01320E-05
108	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.00E+00	2.50E-01	1	6.01320E-05
109	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.25E+00	2.50E-01	1	6.01320E-05
110	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.50E+00	2.50E-01	1	6.01320E-05
111	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	9.75E+00	2.50E-01	1	6.01320E-05
112	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.00E+01	2.50E-01	1	6.01320E-05
113	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.03E+01	2.50E-01	1	6.01320E-05
114	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.05E+01	2.50E-01	1	6.01320E-05
115	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.08E+01	2.50E-01	1	6.01320E-05
116	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.10E+01	2.50E-01	1	6.01320E-05
117	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.13E+01	2.50E-01	1	6.01320E-05
118	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.15E+01	2.50E-01	1	6.01320E-05
119	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.18E+01	2.50E-01	1	6.01320E-05
120	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.20E+01	2.50E-01	1	6.01320E-05
121	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.23E+01	2.50E-01	1	6.01320E-05
122	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.25E+01	2.50E-01	1	6.01320E-05
123	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.28E+01	2.50E-01	1	6.01320E-05
124	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.30E+01	2.50E-01	1	6.01320E-05
125	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.33E+01	2.50E-01	1	6.01320E-05
126	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.35E+01	2.50E-01	1	6.01320E-05
127	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.38E+01	2.50E-01	1	6.01320E-05
128	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.40E+01	2.50E-01	1	6.01320E-05
129	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.43E+01	2.50E-01	1	6.01320E-05
130	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.45E+01	2.50E-01	1	6.01320E-05
131	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.48E+01	2.50E-01	1	6.01320E-05
132	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.50E+01	2.50E-01	1	6.01320E-05
133	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.53E+01	2.50E-01	1	6.01320E-05
134	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.55E+01	2.50E-01	1	6.01320E-05
135	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.58E+01	2.50E-01	1	6.01320E-05
136	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.60E+01	2.50E-01	1	6.01320E-05
137	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.63E+01	2.50E-01	1	6.01320E-05
138	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.65E+01	2.50E-01	1	6.01320E-05
139	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.68E+01	2.50E-01	1	6.01320E-05
140	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.70E+01	2.50E-01	1	6.01320E-05
141	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.73E+01	2.50E-01	1	6.01320E-05
142	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.75E+01	2.50E-01	1	6.01320E-05
143	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.78E+01	2.50E-01	1	6.01320E-05
144	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.80E+01	2.50E-01	1	6.01320E-05
145	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.83E+01	2.50E-01	1	6.01320E-05
146	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.85E+01	2.50E-01	1	6.01320E-05
147	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.88E+01	2.50E-01	1	6.01320E-05
148	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.90E+01	2.50E-01	1	6.01320E-05
149	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.93E+01	2.50E-01	1	6.01320E-05
150	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.95E+01	2.50E-01	1	6.01320E-05
151	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	1.98E+01	2.50E-01	1	6.01320E-05
152	1.013E+06	0.	0.	2.044E+09	1.225E-03	0.	0.	0.	2.00E+01	2.50E-01	1	6.01320E-05

ENERGY MAP

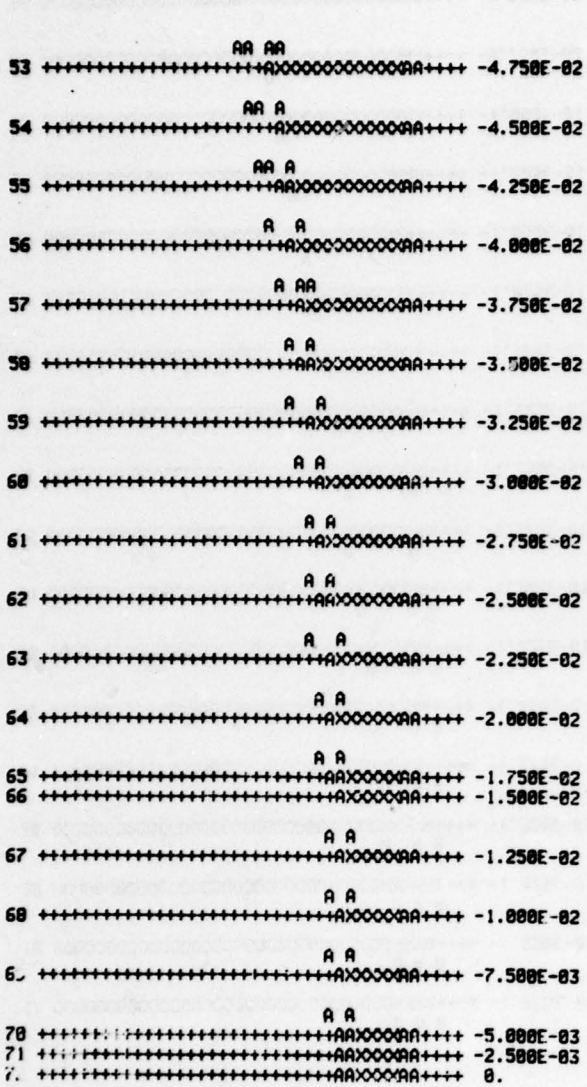

1 2 3 4
ALTITUDE
1234567890123456789012345678901234567890
METERS
-1.775E-01
-1.750E-01
-1.725E-01
-1.700E-01
-1.675E-01
-1.650E-01
-1.625E-01
-1.600E-01
-1.575E-01
-1.550E-01
-1.525E-01
-1.500E-01
-1.475E-01
-1.450E-01
-1.425E-01
-1.400E-01
-1.375E-01
-1.350E-01
-1.325E-01
-1.300E-01
-1.275E-01
-1.250E-01
-1.225E-01
-1.200E-01
-1.175E-01
-1.150E-01
-1.125E-01
-1.100E-01
-1.075E-01
-1.050E-01
-1.025E-01
-1.000E-01
-9.750E-02
-9.500E-02
-9.250E-02
-9.000E-02
-8.750E-02
-8.500E-02
-8.250E-02
-8.000E-02
-7.750E-02
-7.500E-02
-7.250E-02
-7.000E-02
-6.750E-02
-6.500E-02

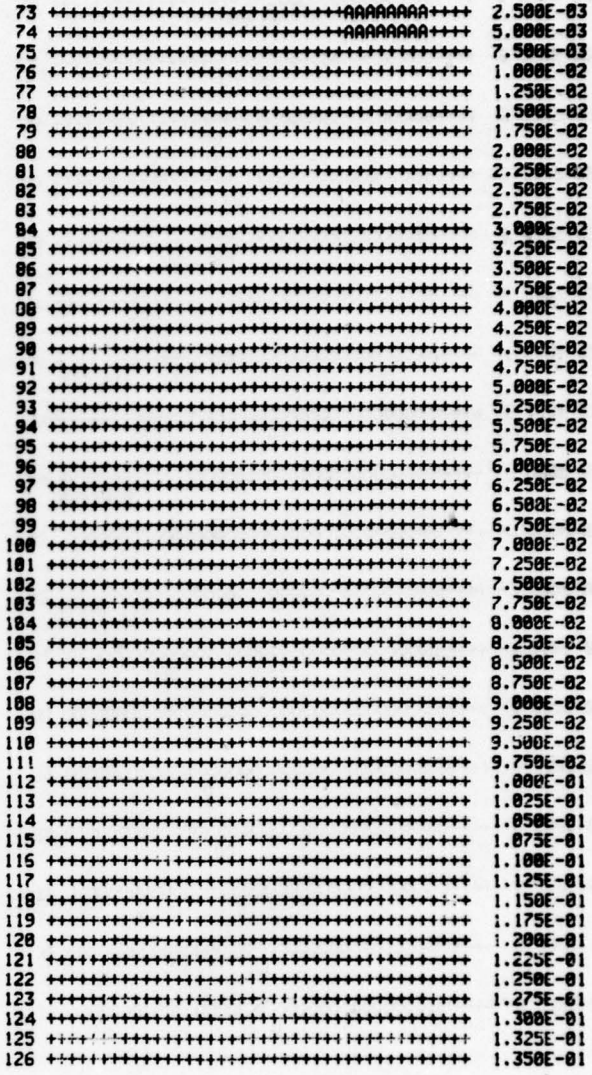

-6.250E-02
-6.000E-02
-5.750E-02
-5.500E-02
-5.250E-02
-5.000E-02
-4.750E-02
-4.500E-02
-4.250E-02
-4.000E-02
-3.750E-02
-3.500E-02
-3.250E-02
-3.000E-02
-2.750E-02
-2.500E-02
-2.250E-02
-2.000E-02
-1.750E-02
-1.500E-02
-1.250E-02
-1.000E-02
-7.500E-03
-5.000E-03
-2.500E-03
0.
2.500E-03
5.000E-03
7.500E-03
1.000E-02
1.250E-02
1.500E-02
1.750E-02
2.000E-02
2.250E-02
2.500E-02
2.750E-02
3.000E-02
3.250E-02
3.500E-02
3.750E-02
4.000E-02
4.250E-02
4.500E-02
4.750E-02
5.000E-02
5.250E-02
5.500E-02
5.750E-02
6.000E-02
6.250E-02
6.500E-02
6.750E-02
7.000E-02

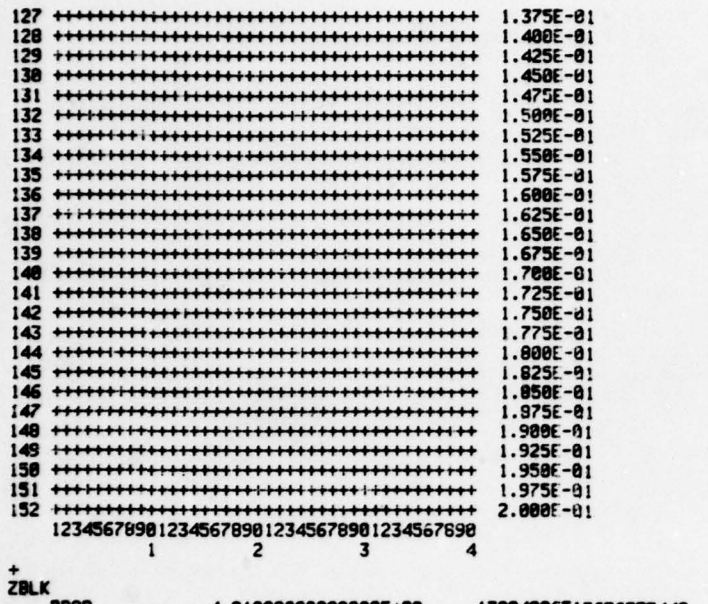



MATERIAL MAP
ALTITUDE
METERS
1 2 3 4
1234567890123456789012345678901234567890


17 -1.375E-01
18 -1.350E-01
19 -1.325E-01
20 -1.300E-01
21 -1.275E-01
22 -1.250E-01
23 -1.225E-01
24 -1.200E-01
25 -1.175E-01
26 -1.150E-01
27 -1.125E-01
28 -1.100E-01
29 -1.075E-01
30 -1.050E-01
31 -1.025E-01
32 -1.000E-01
33 -9.750E-02
34 -9.500E-02
35 -9.250E-02
36 -9.000E-02
37 -8.750E-02
38 -8.500E-02
39 -8.250E-02
40 -8.000E-02
41 -7.750E-02
42 -7.500E-02
43 -7.250E-02
44 -7.000E-02
45 -6.750E-02
46 -6.500E-02
47 -6.250E-02
48 -6.000E-02
49 -5.750E-02
50 -5.500E-02
51 -5.250E-02
52 -5.000E-02


53 -4.750E-02
54 -4.500E-02
55 -4.250E-02
56 -4.000E-02
57 -3.750E-02
58 -3.500E-02
59 -3.250E-02
60 -3.000E-02
61 -2.750E-02
62 -2.500E-02
63 -2.250E-02
64 -2.000E-02
65 -1.750E-02
66 -1.500E-02
67 -1.250E-02
68 -1.000E-02
69 -7.500E-03
70 -5.000E-03
71 -2.500E-03
72 0.


73 2.500E-03
74 5.000E-03
75 7.500E-03
76 1.000E-02
77 1.250E-02
78 1.500E-02
79 1.750E-02
80 2.000E-02
81 2.250E-02
82 2.500E-02
83 2.750E-02
84 3.000E-02
85 3.250E-02
86 3.500E-02
87 3.750E-02
88 4.000E-02
89 4.250E-02
90 4.500E-02
91 4.750E-02
92 5.000E-02
93 5.250E-02
94 5.500E-02
95 5.750E-02
96 6.000E-02
97 6.250E-02
98 6.500E-02
99 6.750E-02
100 7.000E-02
101 7.250E-02
102 7.500E-02
103 7.750E-02
104 8.000E-02
105 8.250E-02
106 8.500E-02
107 8.750E-02
108 9.000E-02
109 9.250E-02
110 9.500E-02
111 9.750E-02
112 1.000E-01
113 1.025E-01
114 1.050E-01
115 1.075E-01
116 1.100E-01
117 1.125E-01
118 1.150E-01
119 1.175E-01
120 1.200E-01
121 1.225E-01
122 1.250E-01
123 1.275E-01
124 1.300E-01
125 1.325E-01
126 1.350E-01

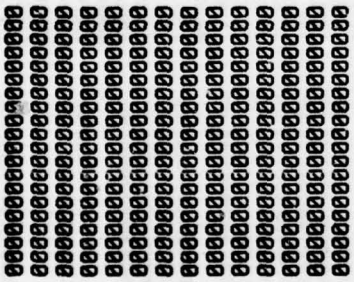


475

+
ZBLK

PROB	4.012999999999998E+00	1722480651767635544 2
ATMOS	5.000000000000000E+00	1722500000000000000
BREF	0.	0000000000000000000
BURN	1.000000000000000E+00	1720400000000000000
CODE	1.000000000000000E+00	1720400000000000000
COLD	0.	7777777777777777776
CYCLE	9.400000000000000E+01	1726570000000000000
DIMEN	2.000000000000000E+00	1721400000000000000
DT	1.37507628346916E-07	1671447227170762122 5
ELC	1.37483833692847E+14	1776764123461072253 6
EOS	6.000000000000000E+00	1722600000000000000
ETH	1.37498511424827E+14	1776764156736707206 6
EXPAND	5.000000000000000E-02	1713631463146314631 5
FAIL	0.	0000000000000000000
FLUXER	3.000000000000000E+00	1721600000000000000
GEOM	2.000000000000000E+00	1721400000000000000
IMAX	4.000000000000000E+01	1725500000000000000
IQ	3.900000000000000E+01	1725470000000000000
ISLAND	0.	0000000000000000000
JMAX	1.520000000000000E+02	1727460000000000000
JQ	1.510000000000000E+02	1727456000000000000
HOB	0.	0000000000000000000
LREF	0.	7777777777777777776
METHOD	2.000000000000000E+00	1721400000000000000

MLC	7.31728100822692E+03	1734711251011007506 5
MTH	7.31728100822549E+03	1734711251011007508 4
NH	2.000000000000000E+01	1724500000000000000
NHIC	3.200000000000000E+03	1733620000000000000
NHIST	3.000000000000000E+00	1721600000000000000
NM	4.000000000000000E+00	1722400000000000000
NOP	0.	0000000000000000000
NPP	2.000000000000000E+00	1721400000000000000
NROWPB	4.000000000000000E+00	1722400000000000000
PTSTOP	2.999999999999992E-05	1708767242823252434 4
RADLOS	0.	0000000000000000000
REZONE	4.000000000000000E+00	1722400000000000000
RREF	0.	0000000000000000000
STABF	5.000000000000000E-01	1717400000000000000
STRESS	1.000000000000000E+00	1720400000000000000
SUME	0.	0000000000000000000
T	1.299999999999970E-05	1677664152231223641 2
TERAD	0.	0000000000000000000
TLC	1.299999999999970E-05	1677664152231223641 2
TREF	0.	0000000000000000000
TTIME	2.598269999999970E+02	1730403647331055034 4
TTIME6	0.	0000000000000000000
TTIME7	2.598269999999970E+02	1730403647331055034 4
TTSTOP	1.000000000000000E+02	1726620000000000000
UREZ	1.000000000000000E+01	1723500000000000000
VISC	0.	0000000000000000000
VREZ	1.000000000000000E+01	1723500000000000000
VOIDS	0.	0000000000000000000
WORK	0.	0000000000000000000
X1	0.	0000000000000000000
X2	-1.000000000000000E+00	6057377777777777777 7
XOB	0.	0000000000000000000
Y1	1.720000000000000E+02	1727530000000000000
Y2	0.	0000000000000000000
YGND	-1.000000000000000E+04	6042307377777777777 7
YIELD	0.	0000000000000000000
AIR	1.000000000000000E+00	1720400000000000000
AL	4.000000000000000E+00	1722400000000000000
OCTOL	2.000000000000000E+00	1721400000000000000
OCTBRN	3.000000000000000E+00	1721600000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000
	0.	0000000000000000000



```
  MFY   NOS/BE 1.2    KAFB  011 MFY   07/10/78
  FLCM=314000 MXCM=250000 FLEC=1720K  MXEC=0600K
+
09.31.50.FRY0005  FROM MX0/IT
09.31.50.IP  00000449 WORDS - FILE INPUT  , DC 04
09.31.50.FRY,NT1,MT1,T577.
09.31.52.ACCOUNT(FRY,*********-***,DYP)
09.31.52.SYSBULL(BATCH)
09.31.56.ATTACH,HULLIB,ID=DYMXCER.
09.31.56.PFN IS
09.31.56.HULLIB
09.31.56.PF CYCLE NO. = 039
09.31.56.LIBRARY,HULLIB.
09.31.56.SWITCH,3.
09.31.56.SWITCH,6.
09.31.56.HULLR.
09.31.58.COPYCR(LOCAL,HHH)
09.32.04.RETURN(LOCAL)
09.32.09.IFE,FILE(CHANGES,IN),CPR.
09.32.10.ENDIF,CPR.
09.32.10.IFE,FILE(CHANGES,AS.AND..NOT.IN),CPY.
09.32.11.ENDIF,CPY.
09.32.11.GETC,HHH.
09.32.13.ATTACH(XXX,CH105,ID=DYMXCER)
09.32.15.PF CYCLE NO. = 011
09.32.17.COPYCR(XXX,HHH)
09.32.19.RETURN(XXX)
09.32.23.REVERT.
09.32.26.CONTR,BOW.
09.32.28.     END  CNT
09.32.28.FILE(TAPE10,SBF=NO)
09.32.30.FILE(TAPE11,SBF=NO)
09.32.37.FILE(TAPE41,SBF=NO)
09.32.47.FILE(TAPE42,SBF=NO)
09.32.56.LDSET(FILES=TAPE10/TAPE11/TAPE41/TAPE42)
09.32.56.BOW.
09.33.28.REQUEST(TAPE10,*PF)
09.33.28.REQUEST(TAPE42,*PF)
09.33.40.STERN, PROBLEM     8.3610 UPDATED.
09.33.41.STERN, PROBLEM     8.3620 UPDATED.
09.35.46.CT ID=  DYMXCER PFN=DYMASTLIBRARY
09.35.46.CT CY= 002  00038016 WORDS.
09.35.47.EX ID=  DYMXCER PFN=DYMASTLIBRARY
09.35.47.EX CY= 001  00000000 WORDS.
09.35.48.EX ID=  DYMXCER PFN=DYMASTLIBRARY
09.35.48.EX CY= 001  00000000 WORDS.
09.36.06.EX ID=  DYMXCER PFN=DYMASTLIBRARY
09.36.06.EX CY= 001  00038016 WORDS.
09.36.06.PR ID=  DYMXCER PFN=DYMASTLIBRARY
09.36.06.PR CY= 002  00038016 WORDS.
09.36.06.REQUEST(TAPE42,*PF)
09.36.07.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INF08P3610
09.36.07.PR CY= 001  00000704 WORDS.
09.36.10.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INF08P3620
09.36.10.PR CY= 002  00000704 WORDS.
09.36.11.PR ID=  DYMXCER PFN=PROBLEMMASTAPE41INF08P3620
09.36.11.PR CY= 001  00000704 WORDS.
09.36.14.STERN   15 RESOURCE TAPES REMAINING
09.36.33.HULL    13 RESOURCE TAPES REMAINING
09.37.05.CT ID=  DYMXCER PFN=DYMASTLIBRARY
09.37.05.CT CY= 002  00038080 WORDS.
09.37.05.EX ID=  DYMXCER PFN=DYMASTLIBRARY
09.37.05.EX CY= 001  00000000 WORDS.
09.37.09.EX ID=  DYMXCER PFN=DYMASTLIBRARY
09.37.09.EX CY= 001  00038080 WORDS.
09.37.09.PR ID=  DYMXCER PFN=DYMASTLIBRARY
09.37.09.PR CY= 002  00038080 WORDS.
09.37.09.NEED IJ133 IJ132 GK73
09.39.27.REQUEST(TAPE4,*NT,PE,RING,U,E,VSN=01J133)
09.39.27.( NT 065 ASSIGNED)
09.39.27.NT65 VOLUME SERIAL NUMBER IS  01J133
09.39.28.     END  BOW
09.39.28.CONTR,PLANK.
09.39.30.     END  CNT
09.39.30.FILE(TAPE4,SBF=NO)
09.39.31.FILE(TAPE41,SBF=NO)
09.39.32.LDSET(FILES=TAPE4/TAPE41)
09.39.32.PLANK.
09.39.51.GENERATING HULL     DISK        VERSION
09.39.55.     END  PLANK
09.39.55.CONTR,SAIL.
09.40.17.     END  CNT
09.40.17.DYMAST(I=HHH)
10.00.43.    9439  CARDS GENERATED
10.00.43.  END OF  NORMAL     RUN
10.00.43.  SYSTEM  HULL       VERSION  105
10.00.43.  EXIT
10.00.43.RETURN(HHH)
10.01.02.RETURN(SAVE)
10.01.03.REQUEST(SAVE,*Q)
10.01.15.CONTR,COMPILE.
10.01.48.     END  CNT
10.01.48.IFE,R2.EQ.2,COMPS.
10.01.49.ELSE,COMPS.
10.01.49.FTN(A,I=SAIL,PL=1000000,B=HULL,OPT=2,L=S
10.01.49.AVE)
10.04.14.     DEAD CODE IN - BURNHE
10.04.21.     8.246 CP SECONDS COMPILATION TIME
10.04.21.ENDIF,COMPS.
10.04.26.RETURN(SAIL,LOCAL)
10.04.28.IFE,R2.NE.0,MET.
10.04.30.ENDIF,MET.
10.04.30.RETURN(MAP)
10.04.32.REQUEST(MAP,*Q)
10.04.39.CONTR,LOAD.
10.04.46.     END  CNT
10.04.46.IFE,R2.EQ.2,RUNS.
10.04.50.ELSE,RUNS.
```

```
10.04.52.IFE,R1.NE.0,H176.
10.04.59.HULE176,COMMENT.
10.05.01.FILE(TAPE4,SBF=NO)
10.05.02.FILE(TAPE41,SBF=NO)
10.05.04.FILE(TAPE9,SBF=NO)
10.05.12.FILE(TAPE40,SBF=NO)
10.05.16.FILE(TAPE10,SBF=NO)
10.05.18.FILE(TAPE44,SBF=NO)
10.05.20.FILE(TAPE45,SBF=NO)
10.05.24.LDSET(PRESETA=NGINDEF,MAP=SBEX/MAP)
10.05.24.LDSET(FILES=TAPE4/TAPE41/TAPE9/TAPE40/TA
10.05.24.PE10)
10.05.24.LDSET(FILES=TAPE44/TAPE45)
10.05.24.HULL.
10.12.30.NT65  BLOCKS WRITTEN -000541
10.12.31.REQUEST(TAPE41,*PF)
10.13.26.NT65  BLOCKS WRITTEN -000810
10.13.27.REQUEST(TAPE41,*PF)
10.15.12.NT65  BLOCKS WRITTEN -001079
10.15.14.REQUEST(TAPE41,*PF)
10.17.27.NT65  BLOCKS WRITTEN -001348
10.22.07.REQUEST(TAPE41,*PF)
10.24.32.NT65  BLOCKS WRITTEN -001617
10.24.33.REQUEST(TAPE41,*PF)
10.26.53.NT65  BLOCKS WRITTEN -001886
10.26.54.REQUEST(TAPE41,*PF)
10.29.30.NT65  BLOCKS WRITTEN -002155
10.29.32.REQUEST(TAPE41,*PF)
10.30.59.NT65  BLOCKS WRITTEN -002424
10.30.59.REQUEST(TAPE41,*PF)
10.31.45.NT65  BLOCKS WRITTEN -002693
10.31.46.REQUEST(TAPE41,*PF)
10.33.39.NT65  BLOCKS WRITTEN -002962
10.33.41.REQUEST(TAPE41,*PF)
10.35.32.NT65  BLOCKS WRITTEN -003231
10.35.33.REQUEST(TAPE41,*PF)
10.36.56.NT65  BLOCKS WRITTEN -003500
10.36.57.REQUEST(TAPE41,*PF)
10.39.35.******* TOTAL CYCLE STOP.
10.41.09.NT65  BLOCKS WRITTEN -003769
10.41.10.REQUEST(TAPE41,*PF)
10.41.16.CT ID=  DYMXCER PFN=PROBLEMMASTAPE41INF04P0130
10.41.16.CT CY= 001  00000576 WORDS.
10.41.18.     END  HULL
10.41.18.   262.298 CP SECONDS EXECUTION TIME
10.41.18.RETURN(TAPE4,HULL)
10.41.21.REVERT.
10.41.22.ELSE,H176.
10.41.23.ENDIF,H176.
10.41.23.ENDIF,RUNS.
10.41.26.ACCOUN.
10.41.28.ACCOUNT FILE = ACCOUNTKJ28V10F5P8
10.41.28.  ACCOUNT ID = DYMXCER
10.41.31.     END  ACCNT
```

```
10.41.31.REVERT.
10.41.32.OP  00059872 WORDS - FILE FILMPR , DC 20
10.41.32.OP  00060416 WORDS - FILE OUTPUT , DC 40
10.41.33.MS  114688  WORDS  (  557568 MAX USED)
10.41.33.CPA     287.041 SEC.      287.041 ADJ.
10.41.33.IO      677.726 SEC.      169.431 ADJ.
10.41.33.CM    26385.879 KWS.      110.719 ADJ.
10.41.33.SS                        567.192
10.41.33.PP     1074.374 SEC.     DATE 08/16/78
10.41.33.COST ESTIMATE             $95.28
10.41.33.EJ  END OF JOB, IT
```

APPENDIX A

TRANSFER OF HULL FROM CDC 6600 TO IBM 370

INTRODUCTION

The purpose of this effort is to accomplish the transfer of the AFATL CDC 6600 version of the HULL code to the OS/VS2 RELEASE operating system on the IBM 370 model 168 as configured at the United Kingdom/Atomic Weapons Research Establishment (UK/AWRE) computing facility.

SCOPE

A standard CDC 6600 scope operating system version of the current AFATL HULL elastic-plastic hydrodynamic code will be furnished. The HULL code will be revised, modified, and augmented to the extent necessary for use of the code on the computational system described above. Completion of this effort will be evaluated by running no fewer than three standard test calculations on the UK computing systems and comparing the results with calculations run at AFWL.

OBJECTIVES

The objectives of this effort are to transfer the AFATL/AFWL HULL code to the UK computing system and to verify that this transfer is complete by performing a series of test calculations. A complete HULL shall be delivered at the UK facility in a form suitable for initiation and compilation.

TASKS

A determination shall be made of differences between the operating and functional characteristics of the UK computing system and the Air Force Weapons Laboratory (AFWL) system as they may affect HULL code performance. This will be done to maintain the full capabilities of the HULL code with regard to mesh size and complexity of the calculations.

The HULL code shall be modified and/or routines added as needed to maintain code stability. This may include double precision operations and/or reordering of computations to increase accuracy.

A series of complete test calculations will be accomplished to verify that the code conversion/transfer is complete. Three test calculations will be specified by consultation with the technical project monitor. A companion set of

calculations will be run at AFWL for comparison. Comparison between UK and AFWL test calculations will be within ±5 percent in order to satisfy the requirements of this project.

REPORT

The conversion effort and installation procedures shall be documented in a report.

APPENDIX B

HULL CONVERSION TO IBM 370/168

We have concluded the conversation of the HULL code to the IBM 370 in accordance with the statement "Transfer of HULL Hydrocode from COC 6600 to IBM 370." The new version of the code complete with all changes and control cards necessary to run upon an IBM system similar to the Harry Diamond Laboratories' 370/168 system is available as a magnetic tape. In addition, several ancillary reports and the output of sample calculations are included. Please use the following: (1) EBCDIC atpe of HULL with IBM changes included, (2) SAIL report, (3) HULL system report, (4) three sample problems output from IBM 370 and CDC 176, and (5) installation procedure for bring HULL code up.

Several problems were encountere as the conversion work progressed. We were forced to double precision certain parts of the code. Most noteably, we had to double precision the equation-or-state. However, only the air, Fe(iron), CU(copper) were double precisioned. To enable one to cope with IBM JCL, we have included PROCS which contain most of the relevant JCL to run KEEL and HULL. Although not required, PULL, the plotting program of the HULL system was also converted. Debugging was not possible because interface routines which are unique to each installation would have been required.

During the course of our conversion effort, we encountered a number of occasions in which supposedly minor changes to the IBM OS made it impossible for HULL to run. Based on these experiences and the high complexity of HULL, we expect that difficulty will be encountered in installation at each new facility.

BIBLIOGRAPHY

Fry, M. A., et al., The HULL Hydrodynamics Computer Code, AFWL-TR-76-183, Air Force Weapons Laboratory, Kirtland AFB, NM, September 1977.

Alme, M. L., C. Westmoreland, And M. A. Fry, Non-Equilibrium Radiation for the HULL Code, AFWL-TR-76-244, Air Force Weapons Laboratory, Kirtland AFB, NM, October 1976.

Chandler, L., and M. Fry, HULL Code Listing, Version 99, Air Force Weapons Laboratory, Kirtland AFB, NM, 1976.

Chambers, B., M. Fry, D. Matuska, 1-MT Precursor from 1500 ft HOB, DYT-TN-75-1, Air Force Weapons Laboratory, Kirtland AFB, NM, 1975.

Fry, M. A. and G. P. Ganong, Effects of Non-Ideal Surface on Airblast from One Megaton Yields, DYT-TN-77-3, Air Force Weapons Laboratory, Kirtland AFB, NM, June 1977.

Fry, M., Airblast Over Ramp-Type Structure, DYT-TN-76-4, Air Force Weapons Laboratory, Kirtland AFB, NM, 1976.

Fry, M., et al., AFWL HULL Calculations of Airblast Over a Dam Slope, AFWL-TR-76-15, Air Force Weapons Laboratory, Kirtland AFB, NM, 1976.

Fry, A. A. and M. L. Almer, Hybla Gold Zero Room Calculations, II/2-C-174, Computer Sciences Corporation, Albuquerque, NM, July 1977.

Alme, M. L. and M. A. Fry, Hybla Gold Zero Room Calculations, II/2-C-143, Computer Sciences Corporation, April 1977.

Fry, M., Progress Report on Non-Equilibrium Radiation for the HULL Code, II/2-C-283, Computer Sciences Corporation, Albuquerque, NM, February 1978.

HULL Elastic-Plastic Working Group Meeting, C⁴-C-4016, Computer Sciences Corporation, Albuquerque, NM, March 1978.

Matuska, D. and M. Fry, 1-KT Buried Burst, DYT-TN-75-2, Air Force Weapons Laboratory, Kirtland AFB, NM 1975.

Fry, M. and C. Westmoreland, Shallow Burst Munitions, DYT-TN-76-3, Air Force Weapons Laboratory, Kirtland AFB, NM, 1976.

Fry, M., et al., AFWL Airburst Studies for Shallow Buried Munitions, DYT-TN-76-4, 1976.

Fry, M., Concrete Penetrator, C⁴-C-4020, Computer Sciences Corporation, Albuquerque, NM, March 1978.

BIBLIOGRAPHY (cont'd)

Fry, M., Summary of HULL Calculations Run at Arden Hills, Minnesota, C⁴-C-4001, Computer Sciences Corporation, Albuquerque, NM, December 1977.

Fry, M.,and G. Ganong, Effects of Non-Ideal Surfaces on Airblast from 1 Megaton Yields, AFWL-TR-77-179, Air Force Weapons Laboratory, Kirtland AFB, NM, February 1978.