Appendix E: Example of NUTS's Extensive ASCII Output File

```
IFLAGTIME    =     0
TIME STEP # =      0
TIME (Sec.)     =    0.0000E+00
DATE OF THE RUN     = 17-SEP-95
TIME OF THE RUN     = 03:00:50
PROGRAM NAME = NUTS
VERSION NUMBER      = 1.02ZO
REVISION DATE = 15-06-95
COMPUTER SYSTEM     = ALPHA
IS IT A TEST FILE? Y
OUTPUT FILE TYPE    = ASC
RUN TITLE = CONVECTION-DISPERSION-DECAY IN ONE DIMENSION PROBLEM TEST _CONSTANT
FIELD FOR INPUT FILE NAME = U1:[AASHINT.CMS_NUTS.TEST.TEST4]NUCONVECTION-DISPERSION
BRAGFLO/TEST-RUN TITLE = CONSTANT FIELD FOR CONVECTION-DISPERSION-DECAY IN 1D TEST
NUTS-RUN TITLE = CONVECTION-DISPERSION-DECAY IN ONE DIMENSION PROBLEM TEST
NUTS T_CON_DISP_DEC.IN;1
BRAGFLO/TEST-RUN INPUT FILE NAME =
U1:[AASHINT.CMS_NUTS.TEST.TEST4]TEST_CON_DISP_DEC.IN;1
NUTS OUTPUT PREFIX    = NUT
ASCII FILE OUTPUT FILE NAME =U1:[AASHINT.CMS_NUTS.TEST.TEST4]NUT_CON_DISP_DEC.OUT
DEBUG FILE OUTPUT FILE NAME = U1:[AASHINT.CMS_NUTS.TEST.TEST4]NUT_CON_DISP_DEC.DBG
*******************************************************************************
   Type of the porous media        = M
   Fracture is a continuum?        = F
   Matrix is a continuum?          = T
   Single-porosity calculation?    = T
   Dual-porosity calculation?      = F
   Dual-permeability calculation?= F

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

               D I M E N S I O N A L    I N F O R M A T I O N
               -----------------------------------------------

  No. of Dimensions                 =   1
  No. of Blocks in x-direction      =  60
  No. of Blocks in y-direction      =   1
  No. of Blocks in z-direction      =   1
  Calculation Will be Conducted in X Direction
*******************************************************************************
  No. of Continum =    1
  No. of Phases   =    1

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

               ---- Grid Block Length (x-direction)----


     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02

               ---- Grid Block Width (y-direction)----


     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
     0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02   0.2000E+02
```

0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02

---- Grid Block Thickness (z-direction)----

0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02
0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02	0.2000E+02

****

*** GRID BLOCK X COORDINATES ****

0.1000E+02	0.3000E+02	0.5000E+02	0.7000E+02	0.9000E+02
0.1100E+03	0.1300E+03	0.1500E+03	0.1700E+03	0.1900E+03
0.2100E+03	0.2300E+03	0.2500E+03	0.2700E+03	0.2900E+03
0.3100E+03	0.3300E+03	0.3500E+03	0.3700E+03	0.3900E+03
0.4100E+03	0.4300E+03	0.4500E+03	0.4700E+03	0.4900E+03
0.5100E+03	0.5300E+03	0.5500E+03	0.5700E+03	0.5900E+03
0.6100E+03	0.6300E+03	0.6500E+03	0.6700E+03	0.6900E+03
0.7100E+03	0.7300E+03	0.7500E+03	0.7700E+03	0.7900E+03
0.8100E+03	0.8300E+03	0.8500E+03	0.8700E+03	0.8900E+03
0.9100E+03	0.9300E+03	0.9500E+03	0.9700E+03	0.9900E+03
0.1010E+04	0.1030E+04	0.1050E+04	0.1070E+04	0.1090E+04
0.1110E+04	0.1130E+04	0.1150E+04	0.1170E+04	0.1190E+04

*** GRID BLOCK Y COORDINATES ****

0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02

*** GRID BLOCK Z COORDINATES ****

0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02

```
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
********************************************************************************

               ---- Grid Block Volume ----

     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
     0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04   0.8000E+04
********************************************************************************

               ---- Interface Area in x-direction ----

     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03

               ---- Interface Area in y-direction ----

     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03

               ---- Interface Area in z-direction ----

     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
     0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03   0.4000E+03
********************************************************************************
  !!!! No PH Evaluation Is Considered!!!!
  !!!! in the Matrix or the Fracture !!!!
```

```
********************************************************************************
               W A S T E   I F O R M A T I O N
               ---------------------------------

  No. OF Radioactive Nuclides     =   1
  No. OF Radioactive Sites        =   1

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

  SITE NAME                    No. of Component
  -----------                  ----------------

  TEST4_SITE                          1


  Component           Daughter           Parent           Group
------------        -------------       --------        --------

               For The Site TEST4_SITE

  COMP1                DAUGHT1           NONE               ELM1

  COMPONENT        NO OF SIM. COMP.     LOCATION
  ---------        ----------------   -----------

  COMP1                 1                1

  COMPONENT             STATUS          DECAY CONSTANT
  ---------            --------       -----------------

  COMP1              RADIOACTIVE         0.9000E-13

               -Initial Inventory of radionuclide (Kg/m3)-

  COMP1                     0.0000E+00
********************************************************************************
********************************************************************************

               - Waste Matrix (1 = Waste, 0 = No Waste) -

   1 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
   0 0 0 0 0
********************************************************************************

               -Solubility Limit of Radionuclide (Kg/m3)-

  Number of Elements =      1

  Elmnt Name, Temp. Dep.,Sol. Limit or Parameters

  ELM1                        F             0.2380E+10

  COMPONENT         NO OF SIM. ELEM.      LOCATION
  ---------        -----------------   ----------------
```

COMP1 1 1

****

Total Waste Volume (m3) of TEST4_SITE = 0.80000E+04

****

COMPONENT	MoL. Wt.
COMP1	0.2380E+00

****

A D S O R P T I O N   I N F O R M A T I O N

N
!!!! No Sorption Calculation Is Considered!!!!
!!!!!!!!!!!!!!!! in the Matrix !!!!!!!!!!!!!!!

****

R O C K   D E N S I T Y   I N F O R M A T I O N

0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04
0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04	0.3000E+04

****

L O N G.   D I S P.   I N F O R M A T I O N

!!!!!!! R O C K   M A T R I X !!!!!!!

0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02
0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02	0.1000E+02

T R A N S.   D I S P.   I N F O R M A T I O N

!!!!!!! R O C K   M A T R I X !!!!!!!

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
     0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
     0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

             R O C K   T O R .   I N F O R M A T I O N
             -----------------------------------------
  !!!!!!! R O C K   M A T R I X !!!!!!!

     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
     0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02   0.1000E+02
********************************************************************************

                    ----  Matrix Injection History----

  NO MATRIX INJECTION HISTORY AVAILABLE????????

********************************************************************************
  MATRIX DIRICHLET B.CS. ARE AVAILABLE    =        T
  FRACTURE DIRICHLET B.CS. ARE AVAILABLE =         F

             Matrix Drichlet B.CS. Concentration of COMP1

    0.10000E+01  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
********************************************************************************
             **** TITLE OF PRINTED MATRIX VARIABLES ****

   MVCPG OF THE D-N IN THE BRINE

  **** MATRIX PRINT FLAG IN THE ASCII FILE ****

   0 0 0 0 0 0 1 0 0 0 0 0 0 0
********************************************************************************

              MATRIX INITIALIZATION

       ---- Matrix Porosity Initialization----

     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
     0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00   0.2000E+00
```

```
    0.2000E+00    0.2000E+00    0.2000E+00    0.2000E+00    0.2000E+00

     ---- Matrix Saturation Initialization----


    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01
    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01    0.1000E+01

     ---- Matrix Initial Brine Volume----


    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04

COMP1
   MVCPG OF THE D-N IN THE BRINE
   0.10000E+01   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  IFLAGTIME    =      1
  TIME STEP # =      1
  TIME (Sec.) =     0.8640E+06
****************************************************************************
  MATRIX  FLUXES CROSSING J-1 AND I-1 BOUNDARIES
  OF COMPONENT COMP1

   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
****************************************************************************
   0.00000E+00   0.55395E-03   0.12755E-03   0.29369E-04   0.67624E-05
   0.15571E-05   0.35853E-06   0.82553E-07   0.19008E-07   0.43767E-08
```

0.10078E-08	0.23204E-09	0.53430E-10	0.12302E-10	0.28327E-11
0.65225E-12	0.15018E-12	0.34581E-13	0.79624E-14	0.18334E-14
0.42215E-15	0.97202E-16	0.22381E-16	0.51534E-17	0.11866E-17
0.27322E-18	0.62911E-19	0.14486E-19	0.33354E-20	0.76799E-21
0.17683E-21	0.40717E-22	0.93753E-23	0.21587E-23	0.49706E-24
0.11445E-24	0.26353E-25	0.60679E-26	0.13972E-26	0.32170E-27
0.74074E-28	0.17056E-28	0.39272E-29	0.90427E-30	0.20821E-30
0.47942E-31	0.11039E-31	0.25418E-32	0.58526E-33	0.13476E-33
0.31029E-34	0.71446E-35	0.16451E-35	0.37879E-36	0.87219E-37
0.20083E-37	0.46241E-38	0.00000E+00	0.00000E+00	0.00000E+00

****

MATRIX FLOW RATE AT INTERFACE I

0.0000E+00	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03

****

MATRIX FLOW RATE AT INTERFACE J

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

****

MATRIX TIME DEPENDENT VARIABLES

MATRIX PRODUCTION RATE FROM EACH GRID BLOCK

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

****

MATRIX INJECTION RATE INTO EACH GRID BLOCK

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
     0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
     0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
     0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
     0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
     0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
****************************************************************************
  BRINE VOLUME IN EACH BLOCK

     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
     0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
****************************************************************************
  COMP1
   MVCPG OF THE D-N IN THE BRINE
    0.10000E+01   0.23026E+00   0.53018E-01   0.12208E-01   0.28109E-02
    0.64722E-03   0.14903E-03   0.34314E-04   0.79010E-05   0.18192E-05
    0.41889E-06   0.96452E-07   0.22209E-07   0.51137E-08   0.11775E-08
    0.27111E-09   0.62426E-10   0.14374E-10   0.33097E-11   0.76207E-12
    0.17547E-12   0.40403E-13   0.93030E-14   0.21421E-14   0.49322E-15
    0.11357E-15   0.26150E-16   0.60211E-17   0.13864E-17   0.31922E-18
    0.73503E-19   0.16925E-19   0.38970E-20   0.89730E-21   0.20661E-21
    0.47573E-22   0.10954E-22   0.25222E-23   0.58075E-24   0.13372E-24
    0.30790E-25   0.70895E-26   0.16324E-26   0.37587E-27   0.86546E-28
    0.19928E-28   0.45885E-29   0.10565E-29   0.24327E-30   0.56014E-31
    0.12898E-31   0.29697E-32   0.68380E-33   0.15745E-33   0.36254E-34
    0.83476E-35   0.19221E-35   0.44261E-36   0.10240E-36   0.29944E-37
****************************************************************************
               MATRIX MATERIAL BALANCE FOR NUCLIDE COMP1
  MATRIX MAXBLOCMBE%     =      0.2118E-21
  MATRIX MBE%            =      0.1010E-04
  MATRIX CMBE%           =      0.1010E-04
  MATRIX CRES            =     -0.2517E-21
  MATRIX CSRC            =      0.4786E+03

****************************************************************************
  IFLAGTIME    =       1
  TIME STEP # =        2
  TIME (Sec.) =      0.1728E+07
****************************************************************************
  MATRIX  FLUXES CROSSING J-1 AND I-1 BOUNDARIES
  OF COMPONENT COMP1

    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
    0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
****************************************************************************
    0.00000E+00   0.52063E-03   0.21215E-03   0.70097E-04   0.21032E-04
    0.59693E-05   0.16338E-05   0.43592E-06   0.11413E-06   0.29444E-07
    0.75088E-08   0.18968E-08   0.47541E-09   0.11837E-09   0.29304E-10
    0.72192E-11   0.17709E-11   0.43278E-12   0.10541E-12   0.25598E-13
    0.61994E-14   0.14978E-14   0.36106E-15   0.86865E-16   0.20859E-16
    0.50007E-17   0.11969E-17   0.28608E-18   0.68285E-19   0.16279E-19
```

0.38762E-20	0.92197E-21	0.21907E-21	0.52004E-22	0.12334E-22
0.29227E-23	0.69204E-24	0.16374E-24	0.38712E-25	0.91464E-26
0.21596E-26	0.50960E-27	0.12018E-27	0.28326E-28	0.66729E-29
0.15711E-29	0.36975E-30	0.86976E-31	0.20450E-31	0.48063E-32
0.11291E-32	0.26515E-33	0.62243E-34	0.14606E-34	0.34262E-35
0.80343E-36	0.18834E-36	0.44136E-37	0.10337E-37	0.00000E+00

****

MATRIX FLOW RATE AT INTERFACE I

0.0000E+00	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03
0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03	0.4000E-03

****

MATRIX FLOW RATE AT INTERFACE J

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

****

MATRIX TIME DEPENDENT VARIABLES

MATRIX PRODUCTION RATE FROM EACH GRID BLOCK

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

****

MATRIX INJECTION RATE INTO EACH GRID BLOCK

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

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     0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
******************************************************************************
  BRINE VOLUME IN EACH BLOCK

     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
     0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04   0.1600E+04
******************************************************************************
  COMP1
   MVCPG OF THE D-N IN THE BRINE
    0.10000E+01  0.39683E+00  0.12973E+00  0.38702E-01  0.10945E-01
    0.29884E-02  0.79590E-03  0.20809E-03  0.53629E-04  0.13664E-04
    0.34494E-05  0.86401E-06  0.21501E-06  0.53207E-07  0.13103E-07
    0.32132E-08  0.78502E-09  0.19115E-09  0.46408E-10  0.11237E-10
    0.27144E-11  0.65422E-12  0.15737E-12  0.37785E-13  0.90570E-14
    0.21676E-14  0.51802E-15  0.12363E-15  0.29470E-16  0.70166E-17
    0.16688E-17  0.39649E-18  0.94113E-19  0.22319E-19  0.52886E-20
    0.12521E-20  0.29624E-21  0.70035E-22  0.16546E-22  0.39066E-23
    0.92179E-24  0.21738E-24  0.51233E-25  0.12069E-25  0.28415E-26
    0.66868E-27  0.15729E-27  0.36981E-28  0.86910E-29  0.20417E-29
    0.47944E-30  0.11254E-30  0.26408E-31  0.61945E-32  0.14525E-32
    0.34050E-33  0.79792E-34  0.18694E-34  0.44003E-35  0.13138E-35
******************************************************************************
               MATRIX MATERIAL BALANCE FOR NUCLIDE COMP1
  MATRIX MAXBLOCMBE%     =     0.1626E-18
  MATRIX MBE%            =     0.9459E-05
  MATRIX CMBE%           =     0.1956E-04
  MATRIX CRES            =     0.7458E-19
  MATRIX CSRC            =     0.9284E+03
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******************************************************************************
  IFLAGTIME    =      1
  TIME STEP # =      40
  TIME (Sec.) =      0.3456E+08
******************************************************************************
  MATRIX  FLUXES CROSSING J-1 AND I-1 BOUNDARIES
  OF COMPONENT COMP1

    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
    0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
```

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   0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
   0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
   0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
********************************************************************************
   0.00000E+00  0.40115E-03  0.40019E-03  0.39721E-03  0.39085E-03
   0.37959E-03  0.36221E-03  0.33812E-03  0.30764E-03  0.27204E-03
   0.23335E-03  0.19393E-03  0.15607E-03  0.12163E-03  0.91824E-04
   0.67202E-04  0.47718E-04  0.32906E-04  0.22061E-04  0.14394E-04
   0.91505E-05  0.56733E-05  0.34342E-05  0.20316E-05  0.11757E-05
   0.66620E-06  0.36994E-06  0.20149E-06  0.10772E-06  0.56575E-07
   0.29208E-07  0.14834E-07  0.74152E-08  0.36509E-08  0.17714E-08
   0.84749E-09  0.39999E-09  0.18633E-09  0.85714E-10  0.38951E-10
   0.17494E-10  0.77683E-11  0.34119E-11  0.14827E-11  0.63773E-12
   0.27159E-12  0.11455E-12  0.47865E-13  0.19821E-13  0.81357E-14
   0.33111E-14  0.13365E-14  0.53512E-15  0.21259E-15  0.83821E-16
   0.32806E-16  0.12747E-16  0.49183E-17  0.18809E-17  0.68370E-18
********************************************************************************

  MATRIX FLOW RATE AT INTERFACE I

    0.0000E+00   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
    0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03   0.4000E-03
********************************************************************************

  MATRIX FLOW RATE AT INTERFACE J

    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
********************************************************************************

                   MATRIX TIME DEPENDENT VARIABLES

  MATRIX PRODUCTION RATE FROM EACH GRID BLOCK

    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
********************************************************************************
  MATRIX INJECTION RATE INTO EACH GRID BLOCK

    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
```

```
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
      0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00
***************************************************************************
   BRINE VOLUME IN EACH BLOCK

      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
      0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04    0.1600E+04
***************************************************************************
   COMP1
    MVCPG OF THE D-N IN THE BRINE
    0.10000E+01   0.99423E+00   0.98175E+00   0.95918E+00   0.92329E+00
    0.87191E+00   0.80466E+00   0.72337E+00   0.63193E+00   0.53556E+00
    0.43992E+00   0.35011E+00   0.26998E+00   0.20182E+00   0.14634E+00
    0.10302E+00   0.70477E-01   0.46898E-01   0.30389E-01   0.19194E-01
    0.11829E-01   0.71204E-02   0.41904E-02   0.24132E-02   0.13612E-02
    0.75268E-03   0.40831E-03   0.21748E-03   0.11381E-03   0.58563E-04
    0.29648E-04   0.14777E-04   0.72551E-05   0.35109E-05   0.16754E-05
    0.78887E-06   0.36665E-06   0.16830E-06   0.76323E-07   0.34211E-07
    0.15163E-07   0.66478E-08   0.28839E-08   0.12384E-08   0.52656E-09
    0.22176E-09   0.92530E-10   0.38263E-10   0.15685E-10   0.63752E-11
    0.25701E-11   0.10278E-11   0.40787E-12   0.16064E-12   0.62802E-13
    0.24378E-13   0.93980E-14   0.36023E-14   0.14022E-14   0.78821E-15
***************************************************************************
              MATRIX MATERIAL BALANCE FOR NUCLIDE COMP1
   MATRIX MAXBLOCMBE%    =     0.4337E-18
   MATRIX MBE%           =     0.7946E-05
   MATRIX CMBE%          =     0.3300E-03
   MATRIX CRES           =    -0.2574E-16
   MATRIX CSRC           =     0.1461E+05

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