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(1) Program Number (to be filled in by SPLA)........ 360D-17.4.005

(2) System Type (machine)...................... S/360, S/370

(3) Search Key........................

(4) Programming Systems/Languages...... FORTRAN

(5) Author's Name and Address.......... H.M. Selim and J.M. Davidson
Soil Science Department
G-169 McCarty Hall; University of Florida

(6) Direct Technical Inquiries to Name & Address Gainesville, Florida 32611
(if different than Author)

(7) Title of Program........... Numerical solution of nitrogen transformations and transport equations during transient unsaturated water flow in soils

(8) Submitter's Installation Membership Code..... UF

(9) Submitter's Own Program Identification and Suffix(Optional)..

(10) Primary Subject Code......................... 17 4

(11) Minimum System Requirements 128K

(12) New or Revision Code (if revision, show prior Program Number in Item 1) N

(13) Year Completed.. 1976

(14) Date of Submittal.. 10/06/76

(15) Documentation (number of original pages submitted)........... 53

(16) Abstract (should contain sufficient information for a reader to determine the value of the program). Listed on the reverse side of this form are subjects which may serve as a guide for a descriptive abstract.

Revised 4/74

SHARE PROGRAM LIBRARY SUBMITTAL FORM

Subject Guide:

a. Purpose
b. Programming Language used
c. Version and modification level or release number
d. Field of application
e. Type of routine (main program, subroutine, etc.)
f. Specific description of machine requirements

ABSTRACT

A numerical solution is presented for the partial differential equations governing nitrogen transformations and transport under conditions of transient unsaturated water flow in soils. Nitrogen species considered were: NH_4 and NO_3 in soil solution, exchangeable NH_4, organic-N, and gaseous N. The solution is based on finite-difference approximations (explicit-implicit) of the transient soil water flow equation and the convective-dispersive equations for transport of NH_4 and NO_3 along with the nitrogen transformation equations. The transformation equations incorporated in the model describe nitrification, denitrification, mineralization, immobilization, and ion-exchange process. The ion-exchange process was considered to be instantaneous whereas all transformation processes were of first-order kinetic type. The boundary conditions at the soil surface include a continuous NH_4 and/or NO_3 flux and water infiltration under constant head. The initial conditions include uniform as well as nonuniform initial nitrogen and water content distributions throughout the soil profile.

The computer program is written in FORTRAN language and consists of a source program, seventeen subprograms and an input data section. The program also utilizes the GOULD plotter to generate plots of water content, NH_4, NO3 and organic-N versus soil depths for specified times desired. An important feature of the program is that incremental distances and time steps are automatically adjusted to satisfy the stability criteria for the water and nitrogen finite difference equations. The program is flexible and can be adjusted to incorporate nonhomogeneous soils and variable nitrogen transformation rate coefficients with water and soil depths as desired.

(Please attach additional pages if necessary)..........Total pages attached ___

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Magnetic Tape Key

This volume contains 2 files and 3 tape marks arranged as follows:

File 1 Program Source Deck
EBCDIC
Sequence 00000010 through 00008830 in cols. 73-80; 883 cards
883 card images blocked 20 per block
44 blocks of 1600 characters each and 1 block of 240 characters

T/M

File 2 Sample Data Input
EBCDIC
No sequencing; 22 cards
1 block of 1600 characters and 1 block of 160 characters

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NUMERICAL SOLUTION OF NITROGEN TRANSFORMATIONS AND TRANSPORT EQUATIONS DURING TRANSIENT UNSATURATED WATER FLOW IN SOILS

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Soil Science Department, University of Florida
Gainesville, Florida 32611

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Contribution from the Soil Science Department, University of Florida. This research was supported in part by the U.S. Environmental Protection Agency Grant No. R-803607.

NUMERICAL SOLUTION OF NITROGEN TRANSFORMATIONS AND TRANSPORT EQUATIONS DURING TRANSIENT UNSATURATED WATER FLOW IN SOILS

by

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NUMERICAL SOLUTION OF NITROGEN TRANSFORMATIONS AND TRANSPORT EQUATIONS DURING TRANSIENT UNSATURATED WATER FLOW IN SOILS

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A numerical solution which is based on finite difference methods is presented for the problem of nitrogen transformations and transport during transient water flow in soils. The nonlinear partial differential equation governing one-dimensional flow of water in unsaturated soils may be written as (see Kirkham and Powers, 1972, Selim et al. 1976),

$$Cap(h)\frac{\partial h}{\partial t} = \frac{\partial}{\partial z} K(h) \frac{\partial h}{\partial z} - \frac{\partial K(h)}{\partial z} \qquad (1)$$

where

θ = soil water content (cm^3/cm^3),

h = soil water head or suction (cm),

K(h) = soil hydraulic conductivity (cm/hr),

z = distance in soil, positive downward (cm),

t = time.

Cap(h) = soil water capacity (cm^{-1}).

In equation (1) the soil water capacity Cap(h) is a measure of the change of soil water content with water head ($Cap(h) = \partial\theta/\partial h$) which is determined using soil water characteristic relationships (θ versus h).

Nitrogen transformations and transport were considered for the following nitrogen species, NH_4 and NO_3 in soil solution, exchangeable NH_4, organic-N, and gaseous-N. Only NH_4 and NO_3 in soil solution was considered mobile and were thus decribed by the convective-dispersive solute transport equations (Selim et al. 1976). Nitrogen transformation process incorporated in the model were nitrification, denitrification, mineralization, immobilization, and ion-exchange.

The ion-exchange process was considered to be instantaneous whereas all transformation processes were of first-order kinetic type.

The equations governing the transport and transformations of NH_4 and NO_3 in soil solution may be expressed as (Misra et al. 1974)

$$R\frac{\partial A}{\partial t} = D\frac{\partial^2 A}{\partial z^2} - \frac{V}{\theta}\frac{\partial A}{\partial z} - k_1 A - k_4 A + \frac{\rho}{\theta} k_3 O \qquad (2)$$

and

$$\frac{\partial B}{\partial t} = D\frac{\partial^2 B}{\partial z^2} - \frac{V}{\theta}\frac{\partial B}{\partial z} + k_1 A - k_2 B - k_5 B \qquad (3)$$

where A = concentration of NH_4 in soil solution (mg/cm^3),

B = concentration of NO_3 in soil solution (mg/cm^3),

E = amount of NH_4 in exchangeable phase per gram soil (mg/g),

O = amount of N in organic phase (mg/g),

G = amount of N_2O and/or N_2 gas produced per gram soil (mg/g),

k_1, k_2, k_3, k_4, k_5 = kinetic rate coefficients, respectively, for NH_4 nitrification, NO_3 immobilization, NH_4 mineralization, immobilization of organic N, and NO_3 denitrification (hr^{-1}).

D = dispersion coefficient (cm^2/hr),

ρ = soil bulk density (g/cm^3),

$V = q(z) - \theta\frac{\partial D}{\partial z} - D\frac{\partial \theta}{\partial z}$, where $q(z)$ is the Darcy water flux (cm/hr),

k_D = distribution coefficient of NH_4 in the exchangeable phase (cm^3/g),

$R = 1 + \rho k_D/\theta$, retardation factor for NH_4 exchangeable.

The first two terms of the right side of (2) and (3) account for solute transport. These two terms are usually referred to as the dispersion and mass flow terms, respectively. The third, fourth, and fifth terms of equation (2) represent NH_4 nitrification, immobilization, and mineralization processes, respectively. Similarly, the last three terms of equation (3) represent nitrification, immobilization of NO_3, and denitrification, respectively.

The ion-exchange process governing NH_4 adsorption-desorption may be expressed as,

$$E = k_D A \tag{4}$$

The transformations of organic N and denitrification processes, respectively, are

$$\rho\frac{\partial O}{\partial t} = k_2 \ \theta \ B + k_4 \ \theta \ A - k_3 \ \rho \ O \tag{5}$$

and

$$\rho\frac{\partial G}{\partial t} = k_5 \ \theta \ B \tag{6}$$

In equation (2) to (6), the reaction between NH_4 in soil solution (A) and that exchangeable (E) is assumed instantaneous whereas all other transformations are considered to be first-order kinetic reactions.

The initial conditions used are nonuniform water content and nitrogen concentration distributions in a semi-infinite soil column,

$$h = h\ (z,\ 0), \qquad 0 < z < \infty \tag{7}$$

$$A = A\ (z,\ 0), \qquad 0 < z < \infty \tag{8}$$

$$B = B\ (z,\ 0), \qquad 0 < z < \infty \tag{9}$$

$$O = O\ (z,\ 0), \qquad 0 < z < \infty \tag{10}$$

For the water flow equation (1), the boundary condition at the soil surface (z=0) is a constant (or variable) water head H,

$$h = H, \qquad z = 0 \qquad t \leq t_1 \tag{11}$$

which describes continuous water infiltration for length of time t_1. Following water infiltration, i.e. for times greater than t_1, the boundary condition is,

$$q_{z=0} = -\ K(h)\ \frac{\partial h}{\partial z} + K(h), \qquad z = 0 \qquad t > t_1 \tag{12}$$

Equation (12) describes water redistribution under a constant (or variable) evapoative water flux $q_{z=0}$ at the soil surface.

For the nitrogen transport and transformation equations (2) and (3), the boundary condition at z=0 is a continuous solute (NH_4 or NO_3) flux where

$$qA - \theta\ D\ \frac{\partial A}{\partial z} = q\ CI, \qquad z = 0 \qquad t \leq t_2 \tag{13}$$

$$qB - \theta\ D\ \frac{\partial B}{\partial z} = q\ CII, \qquad z = 0 \qquad t \leq t_2 \tag{14}$$

where CI and CII are concentrations of applied solutions of NH_4 and NO_3, respectively. When application of these solute solutions is terminated (i.e. $t > t_2$), equations (13) and (14) are also used with CI and CII equal zero provided that $t_2 \leq t_1$

Since the values of K(h) and V in equations (1), (2) and (3) are not constant, these equations are nonlinear and cannot be solved analytically. In order to obtain a numerical solution for equations (1) to (6) subject to conditions (7) to (14), we express these equations in finite difference approximation forms. In this study, the explicit-implicite finite difference scheme (Carnahan et al., 1969; Salvadori and Baron, 1961) is used. We refer to a discrete set of points in the (z,t) plane given by a grid with spacings Δz and Δt, respectively. Grid or mesh points are denoted by (i,n) where

$$z = i\,\Delta z, \qquad i = 1, 2, 3, \ldots$$

$$t = n\,\Delta t, \qquad n = 1, 2, 3, \ldots$$

The finite difference approximation for the water flow equation (1) is

$$\begin{aligned} \mathrm{Cap}(h_i^{n+\frac{1}{2}})\,[h_i^{n+1} - h_i^n] = {} & \gamma\, K(h_{i+\frac{1}{2}}^{n+\frac{1}{2}})\,[h_{i+1}^{n+1} - h_i^{n+1}] \\ & - \gamma\, K(h_{i-\frac{1}{2}}^{n+\frac{1}{2}})\,[h_i^{n+1} - h_{i-1}^{n+1}] \\ & + \gamma\, K(h_{i+\frac{1}{2}}^{n+\frac{1}{2}})\,[h_{i+1}^{n} - h_i^{n}] \\ & - \gamma\, K(h_{i-\frac{1}{2}}^{n+\frac{1}{2}})\,[h_i^{n} - h_{i-1}^{n}] \\ & - \beta\,[K(h_{i+\frac{1}{2}}^{n}) + K(h_{i-\frac{1}{2}}^{n})] \end{aligned} \tag{15}$$

where $\gamma = \Delta t/2(\Delta z)^2$ and $\beta = \Delta t/\Delta z$. Similarly, finite difference approximations for the equation governing NH_4 transport and transformation (equation 2) may be expressed as

$$\begin{aligned} R_i^{n+1}\,[A_i^{n+1} - A_i^n] = {} & \gamma\, D_i^{n+\frac{1}{2}}\,[A_{i+1}^{n+1} - 2\,A_i^{n+1} + A_{i-1}^{n+1}] \\ & + \gamma\, D_i^{n+\frac{1}{2}}\,[A_{i+1}^{n} - 2\,A_i^{n} + A_{i-1}^{n}] \\ & - (V/\theta)_i^{n+1}\,\beta\,[A_{i+1}^{n+1} - A_i^{n+1}] \\ & - (k_1 + k_4)\,\Delta t\,A_i^n + k_3(\rho/\theta)\Delta t\,O_i^n \end{aligned} \tag{16}$$

and the finite difference for equation (3) is

$$B_i^{n+1} - B_i^n = \gamma D_i^{n+\frac{1}{2}} [B_{i+1}^{n+1} - 2 B_i^{n+1} + B_{i+1}^{n+1}]$$

$$- \gamma D_i^{n+\frac{1}{2}} [B_{i+1}^n - 2 B_i^n + B_{i-1}^n]$$

$$- (V/0)_i^{n+1} \beta [B_{i+1}^{n+1} - B_i^n] + k_1 \Delta t A_i^{n+1}$$

$$- (k_2 + k_5) \Delta t B_i^n. \tag{17}$$

Equations (15), (16) and (17) are nonlinear since the values of $Cap(h_i^{n+\frac{1}{2}})$, $K(h_i^{n+\frac{1}{2}})$, $D_i^{n+\frac{1}{2}}$ are dependent on h_i^{n+1} for which solutions are being sought. The iteration method described by Remson et. al. (1971) is usually used to predict $h^{n+\frac{1}{2}}$ using h^n. Selim and Kirkham (1973) showed that the solution of the water flow equation can be approximated satisfactorily using h^n when smaller Δt than required for stable solution is used. This simplifies the computation considerably since the system of equations becomes linear. Accordingly, the following approximations were made

$$Cap(h_i^{n+\frac{1}{2}}) = Cap(h_i^n)$$

$$K(h_i^{n+\frac{1}{2}}) = K(h_i^n)$$

$$D_i^{n+\frac{1}{2}} = D_i^{n+\frac{1}{2}}$$

Incorporation of the initial and boundary conditions in their finite difference forms and rearrangement of equations (15), (16), and (17) yield three linear systems of equations. In matrix-vector form; each system of equations yield a tridiagonal real matrix associated with a real column vector. In absolute value, the coefficients of the main diagonal of each matrix is greater than the raw sum of the off-diagonal coefficients. Hence, the matrix for each system of equations is diagonally dominant (Varga, 1962, p. 23). Therefore, each matrix is nonsingular, and there exists a solution and the solution is unique.

To satisfy the convergence criteria in solving equations (15), (16), and (17), the increments Δz and Δt were chosen such that

$$\Delta z \leq D_{max}/V_{max}$$

$$\Delta t \leq \Delta z/2V_{max}$$

$$\frac{\Delta t}{(\Delta z)^2} \left(\frac{K}{Cap}\right)_{max} \leq 1/2$$

where D_{max}, V_{max}, K_{max}, Cap_{max} are the maximum values of D, V, K, and Cap at any time step.

So far we have presented numerical solutions for the water flow equation (1), and the NH_4 and NO_3 transport and transformation equations (2), and (3). In order to complete the nitrogen transformation processes, it is necessary to solve for the exchangeable NH_4 (E), organic-N (O), and gaseous-N (G) at every time step and incremental distance in the soil profile. This was achieved by solving equation (4), (5) and (6) as follows;

$$E_i^{n+1} = k_D\, C_i^{n+1}, \tag{18}$$

$$O_i^{n+1} = O_i^n + (\Delta t/\rho)\, [k_2\, \theta\, B_i^{n+1} + k_4\, \theta\, A_i^{n+1} - k_3\, \rho\, O_i^n] \tag{19}$$

$$G_i^{n+1} = G_i^n + (\Delta t/\rho)\, k_5\, \theta\, B_i^{n+1} \tag{20}$$

In the computer program, for any time step n+1, where all variables are assumed known at time step n, equations (15) to (20) are solved sequentially until a desired time t is reached.

DESCRIPTION OF THE COMPUTER PROGRAM

The computer program consists of a source program and seventeen subprograms, and an input data section. The names of the subprograms are AXISPL, GRAPH, CHECKT, WATER, MOISD, INITWT, SBCW, INITST, DADJ, DADJD, CHECKN, AMONIA, NITRAT, GASORG, OUTPUT, TINT, and TRIDM. The user of this program must provide parameters in the form of punched data cards in the data section, and as FORTRAN statements in the SBCW and WATER subprograms. The remaining source program and subprograms need not be altered and remain valid for all situations.

The main function of the main program is prescribing the DIMENSION and COMMON statements, and reading of input parameters, as well as setting up the entire sequence of the program. Subprograms INITWT, INITST, and MOISD provide the initial distributions of all the variables and calculates Δz and Δt according to the stability criteria. Subprogram SBCW provides h at z=0 according to the boundary conditions of the water flow equation, which may be altered by the user as desired. Subprograms WATER, AMONIA, and NITRAT provide the solution for water head (h), NH_4 concentration (A) and NO_3 concentration (B), respectively. Subprogram GASORG calculate the amount of organic-N and gaseous-N. Subprogram TRIDM provides the solution for a linear system of equations with a tridiagonal coefficient matrix.

The dispersion coefficient D and the hydraulic conductivity K are calculated at each time step in the WATER subprogram. Here, D and K are provided as a function of (q/θ) and θ, respectively, but may be changed as desired. In addition, Cap(h) and conversion of h to θ at all incremental points in the soil profile were calculated in the WATER subprogram. This conversion is based on θ versus h relationship (in a tabular form) as given by the soil water characteristic of individual soils.

An important feature of the program is that increments of Δz and Δt are adjusted automatically to satisfy stability and convergence criteria for the for the water and salt finite difference equations. These adjustments are carried out automatically every 20 time steps using subprograms DADJ and DADJD. Another program feature is that the number of nodal points (increments) are automatically calculated from the length of the flow region (soil column). Only that portion of the soil column where solute and water flow are currently taking place is considered. The adjustments of the number of nodal points are made using subprogram CHECKN. This number is checked every 20 time steps, and no further changes of the number of increments will occur when the total column length is reached. This feature minimizes the unnecessary use of a large number of nodal points and saves considerable amount of CPU time. A third feature of the program is that data are provided at specified times. This adjustment is carried out using subprogram CHECKT, where Δt's are continuously adjusted until the prescribed times are reached. For each prescribed time; h, θ, K, q, NH_4-N, NO_3-N, organic-N, gaseous-N throughout the soil column are printed using subprogram OUTPUT. Subprograms AXISPL and GRAPH provide plots (using GOULD plotter) for θ, NH_4, NH_3, and Org-N versus depth for a series of times as desired. The scale and length of each plot is prescribed in these subprograms and may be changed by the user.

PROGRAM PARAMETERS

The following parameters are inputs to be provided in the DATA section:

NX = number of data points of the soil water characteristic relationship (θ versus h)

THC = water content θ from soil water characteristic relationship (dimension = NX)

HC = corresponding water head h from soil water characteristic relationship (dimension = NX)

DZ = initial approximation for Δz

DT = initial approximation for Δt

DISP = initial approximations for dispersion coefficient D

THMIN = minimum soil water content (estimated)

THMAX = maximum soil water content

NT = number of prescribed times at which data and plots (using GOULD plotter) are desired.

TIT = times at which output and plots are desired (dimension = NT)

RKD = k_D (see equation 4)

RK1 = K_1 (see equations 2 to 6)

RK2 = k_2 (see equations 2 to 6)

RK3 = k_3 (see equations 2 to 6)

RK4 = k_4 (see equations 2 to 6)

RK5 k_5 (see equations 2 to 6)

NTT = number of points for initial distributions of water and nitrogen species in the soil profile

XXX = depths at which initial distributions are given (dimension = NTT)

C1 = initial distribution of water head (h) in the soil profile (dimension = NTT)

C2 = initial distribution of water content (θ) in the soil profile (dimension = NTT)

C3 = initial distribution of NH_4 (dimension = NTT)

C4 = initial distribution of NO_3 (dimension = NTT)

C5 = initial distribution of organic-N (dimension = NTT)

C6 = initial distribution of gaseous-N (dimension = NTT)

ROU = ρ, soil bulk density

COLUMN = lenght of soil profile

TSALT = length of time of solute application

TWD = length of time of water infiltration

CONST = hydraulic conductivity at saturation

AC = a coefficient for K versus θ relationship

BC = a coefficient for K versus θ relationship

$CSNH_4$ = concentration of NH_4 in applied solution

$CSNO_3$ = concentration of NO_3 in applied solution

DFLUX = evaporative flux during water redistribution (time > TWD)

Input parameters to be provided in subprogram WATER are

CON = water hydraulic conductivity K

DISPC = dispersion coefficient D

Input parameter to be provided in subprogram SBCW is

H(1) = water head h at z=0 during infiltration and maximum h during redistribution

Other notations used in the program are

TH = soil water content, θ

H = water suction or head, h

CNH_4 = concentration of NH_4 in soil solution, A

CNO_3 = concentration of NO_3 in soil solution, B

CORGN = amount of organic-N per gram soil, O

CNO_2 = amount of gaseous-N per gram soil, G

CAP = soil water capacity, Cap(h)

WFLUX = soil water flux, q

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SAMPLE PROGRAM

The attached program listing, output, and GOULD plots are for water and nitrogen transport and transformation in a Norge loam soil profile. The example considered is for continuous water infiltration into a uniform profile for 10 hours. NH_4 and NO_3 were introduced with the infiltrating water for the first hour. The concentration of NH_4 as well as NO_3 was 100 mg/cm³. Initial water content θ, NH_4, NO_3, and organic N were considered uniform throughout the soil profile where,

θ = 0.22 cm³/cm³

h = -300.0 cm

NH_4 = 0

NO_3 = 0

Organic-N = 20 mg/g.

The hydraulic conductivity K(h) used was in a functional form (see subprograms WATER),

$$K(h) = 1.8 \times 10^{-11} \times \exp(65.6\theta) \qquad \text{cm/hr}$$

In addition, the θ versus h relation (or the water characteristic relation) was used to calculate Cap(h). This θ versus h relation was given in a tabular form which is listed in the input section of the program.

In order to avoid the excessive costs which are commonly generated when the water boundary condition h=0 at z=0 is imposed at the early stages of wetting, the following boundary condition was used. At the beginning of water infiltration h was set equal to -100 cm rather than zero. At each incremental time step h was then increased by a constant increment of 0.4 (see subprogram SBCW). No further change of h was allowed when h became zero. For the example attached, the total time required for h to reach zero was 0.0484 hr.

Other parameters include:

soil bulk density, ρ 1.6 g/cm^3,

length of the soil profile, CL = 100 cm,

$k_D = 0.1$ cm^3/g,

$k_1 = 0.1$ hr^{-1},

$k_2 = 0.0001$ hr^{-1},

$k_3 = 0.001$ hr^{-1},

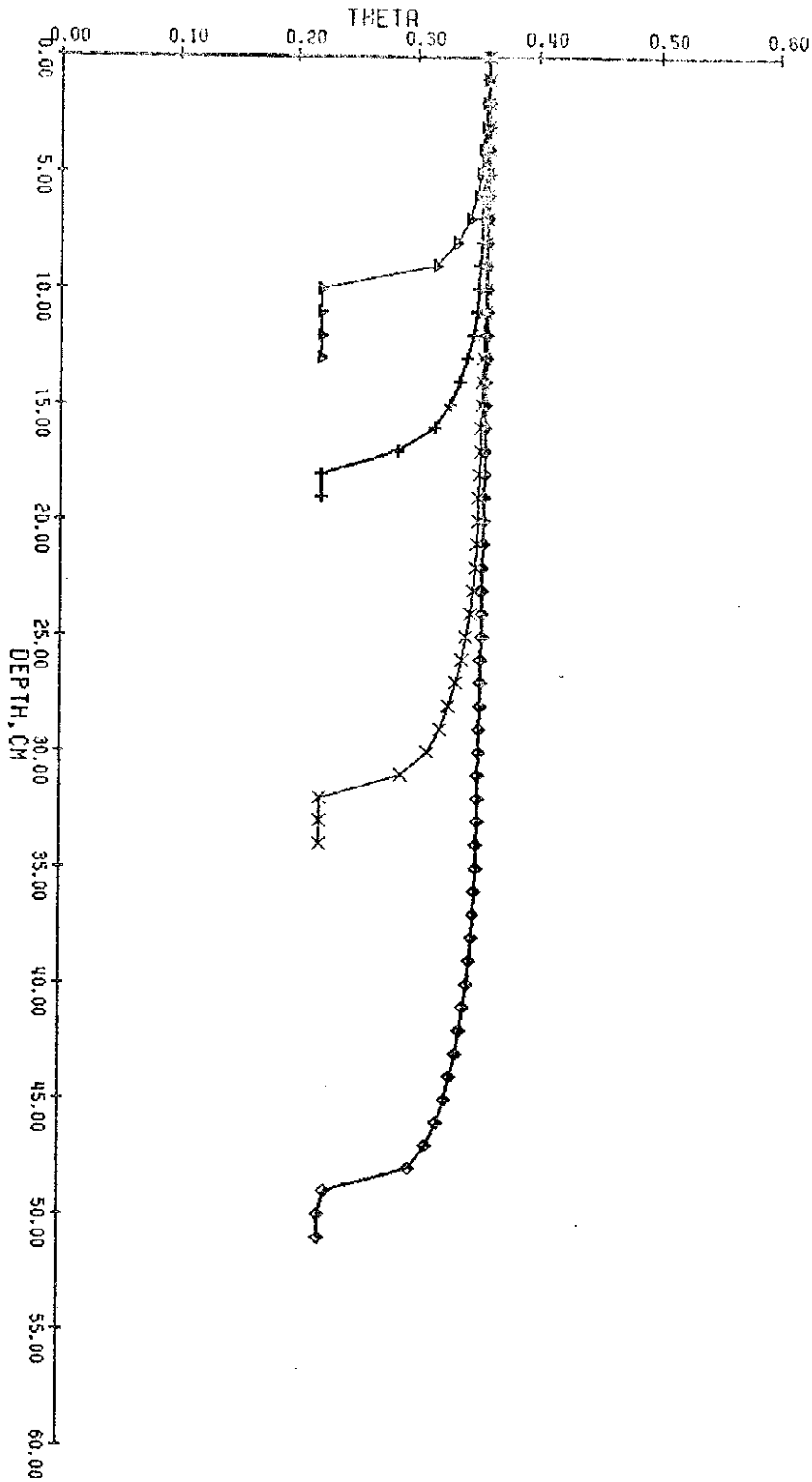
$k_4 = 0.001$ hr^{-1},

$k_5 = 0.0$ hr^{-1}.

Finally, the dispersion coefficient D was considered as a function of the pore water velocity (q/θ) as obtained by Kirda et al (1973),

$$D = 0.0258 + 0.1274\ (q/\theta)^{1.355} \qquad \text{cm}^2/\text{hr}$$

Computer output results and GOULD plots are obtained for selected times of 1, 2, 5, and 10 hours. The total CPU time used in this program was 161.75 seconds.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DEPTH,CM
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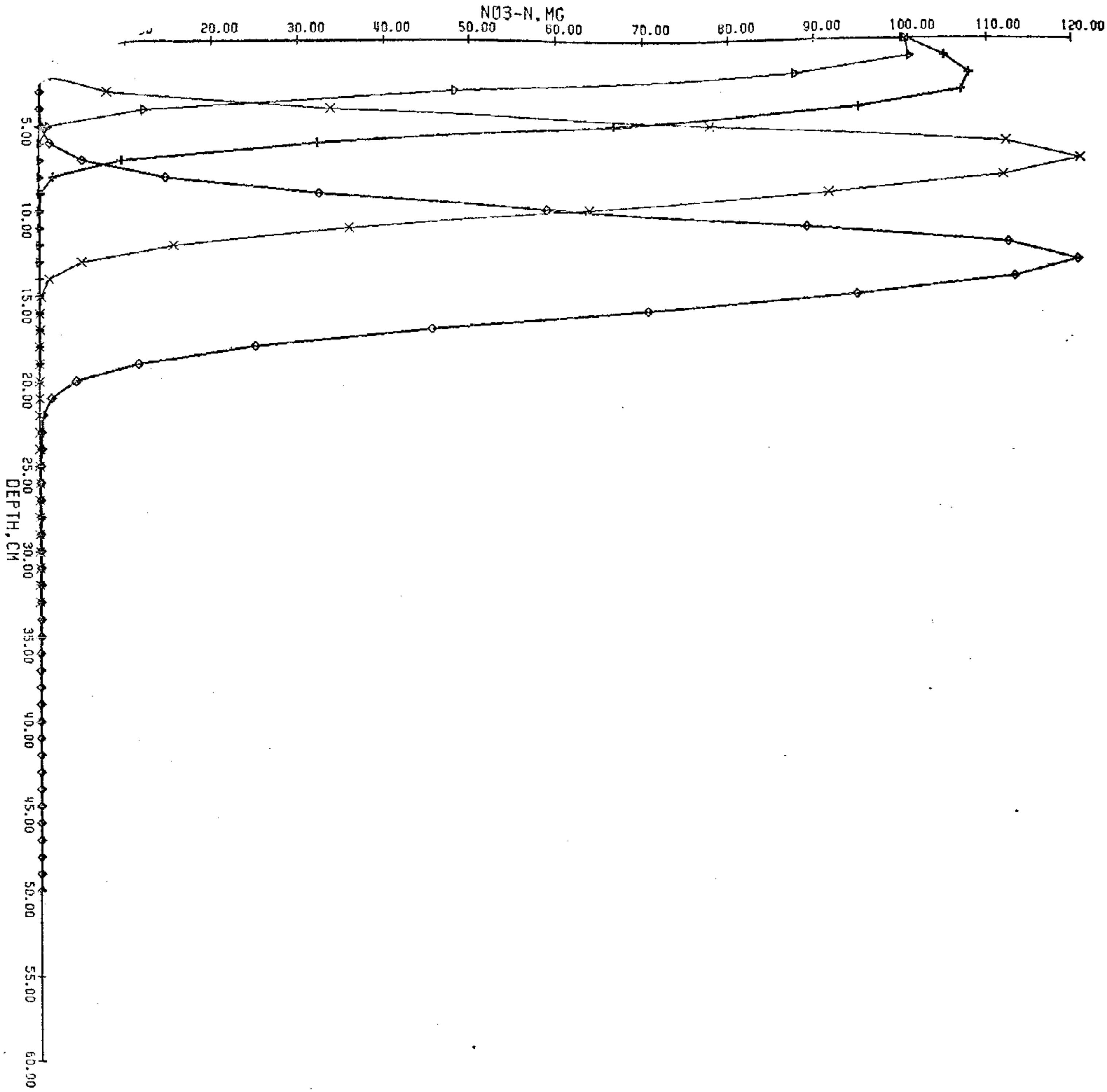
50.00
55.00
60.00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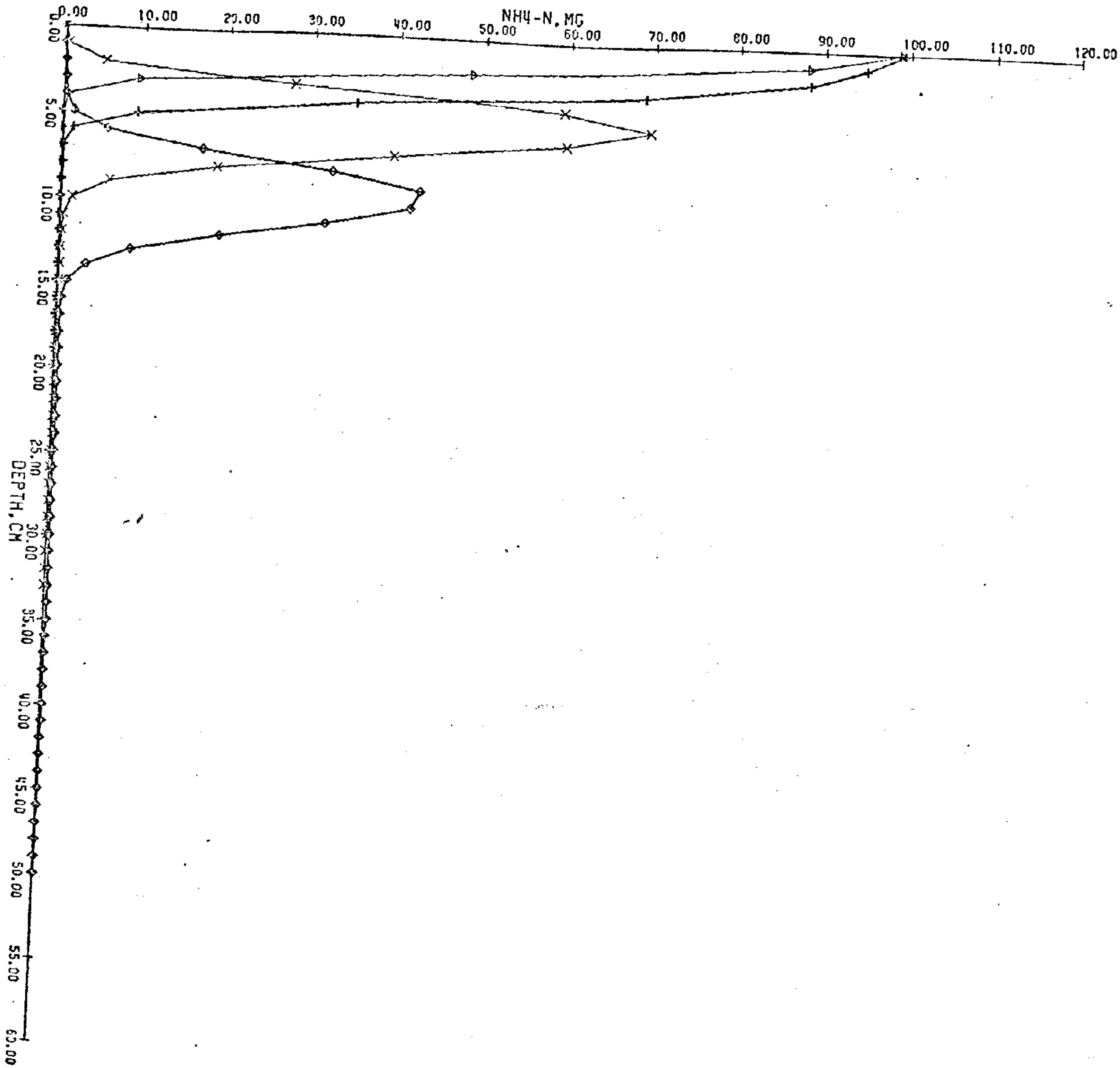
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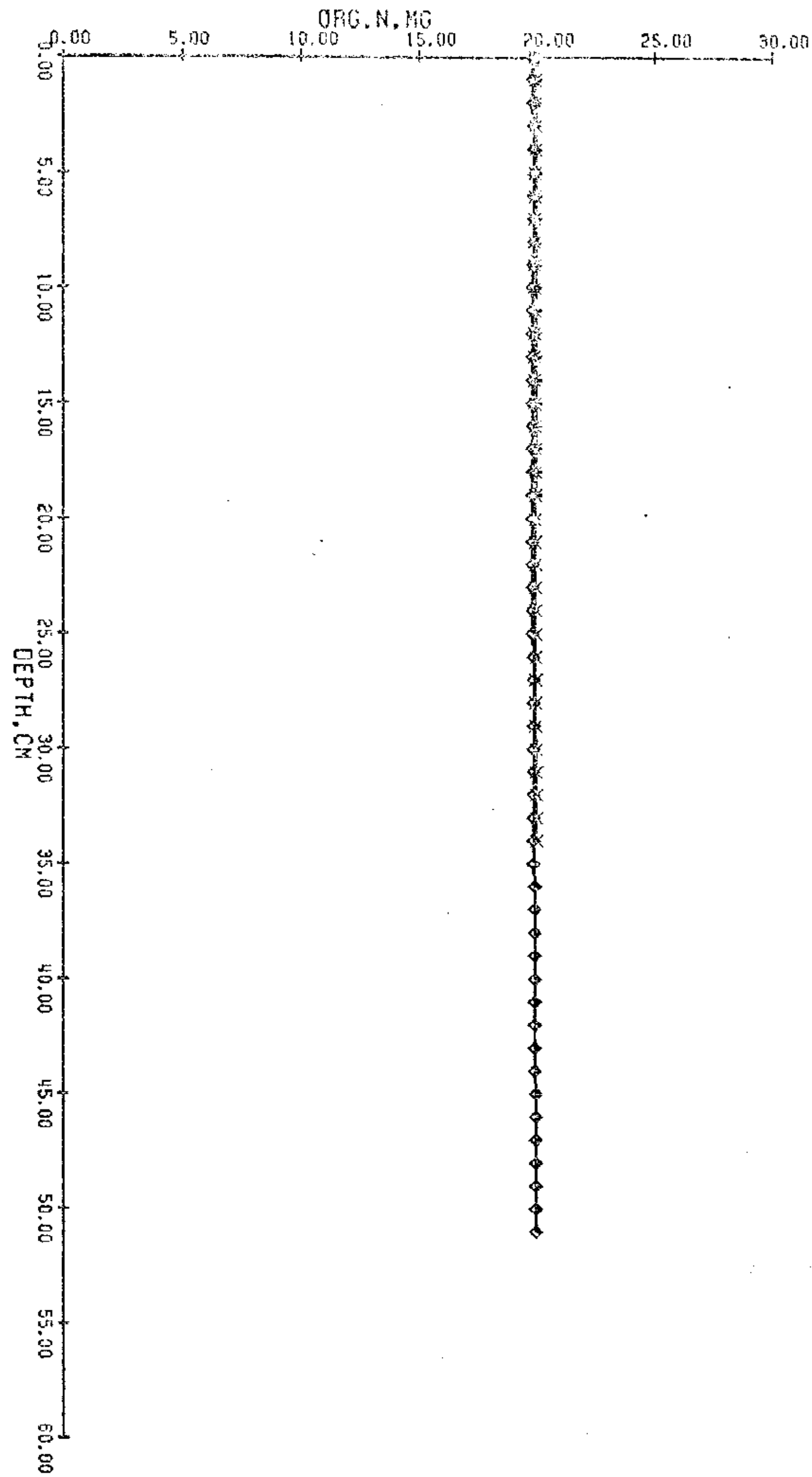
90.00
100.00
110.00
120.00
DEPTH, CM
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00
50.00
55.00
60.00



ORG.N,MG
0.00
5.00
10.00
15.00
20.00
25.00
30.00
DEPTH,CM
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00
50.00
55.00
60.00

```
94-SELIMA   -FORT     -SYSPRINT

 FORTRAN IV G LEVEL  21                    MAIN                DATE = 76265          09/10/29

                C
                C      **************************************************************************
                C
  0001                 COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                      *VP(810),DISPC(810)
  0002                 COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
  0003                 COMMON/L3/ N,NM1,NM2,NP1,NP2
  0004                 COMMON/L4/ ALPHA,BETA,DT,DZ
  0005                 COMMON/L5/ RKO,RK1,RK2,RK3,RK4,RK5
  0006                 COMMON/L6/ SFLUX,CSNH4,CSNO3
  0007                 COMMON/L7/ROU,COLUMN,DFLUX
  0008                 COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
  0009                 COMMON/L9/TIME,TPRINT,TWRITE
  0010                 COMMON/L10/ H(810),CON(810),CAP(810)
  0011                 COMMON/L11/ THC(30),HC(30),CAPC(30)
  0012                 COMMON/L12/ AC,BC,NX,NX1,CONST
  0013                 COMMON/L13/ WFLUX(810)
  0014                 COMMON/L14/ VO,TWD,TSALT
  0015                 COMMON/L15/ TIT(30),TC,DTDT,IT,IL,NT
  0016                 COMMON/L16/IC,IWT
  0017                 COMMON/L17/ XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
  0018             100 FORMAT(8F10.4)
  0019             200 FORMAT(3E10.4)
  0020             300 FORMAT(2I4)
  0021                 READ(5,300) NX
  0022                 NX1=NX-1
  0023                 READ(5,100)  (THC(I),I=1,NX)
  0024                 WRITE(6,100) (THC(I),I=1,NX)
  0025                 READ(5,100)  (HC(I),I=1,NX)
  0026                 WRITE(6,100) (HC(I),I=1,NX)
  0027                 READ(5,100)  DZ,DT
  0028                 WRITE(6,100) DZ,DT
  0029                 READ(5,100)   DISP,THMAX,THMIN,HMIN,CORGNI
  0030                 WRITE(6,100)  DISP,THMAX,THMIN,HMIN,CORGNI
  0031                 READ(5,100) COLUMN,ROU,CSNH4,CSNO3,DFLUX
  0032                 WRITE(6,100) COLUMN,ROU,CSNH4,CSNO3,DFLUX
  0033                 READ(5,200) AC,BC,CONST
  0034                 WRITE(6,200) AC,BC,CONST
  0035                 READ(5,300)  NT
  0036                 READ(5,100) (TIT(I),I=1,NT)
  0037                 WRITE(6,100) (TIT(I),I=1,NT)
  0038                 READ(5,100) RKO,RK1,RK2,RK3,RK4,RK5
  0039                 WRITE(6,100) RKO,RK1,RK2,RK3,RK4,RK5
  0040                 READ(5,300) NTT
  0041                 READ(5,100) (XXA(I),I=1,NTT)
  0042                 WRITE(6,100) (XXX(I),I=1,NTT)
  0043                 READ(5,100) (C1(I),I=1,NTT)
  0044                 WRITE(6,100) (C1(I),I=1,NTT)
  0045                 READ(5,100) (C2(I),I=1,NTT)
  0046                 WRITE(6,100) (C2(I),I=1,NTT)
  0047                 READ(5,100) (C3(I),I=1,NTT)
  0048                 WRITE(6,100) (C3(I),I=1,NTT)
  0049                 READ(5,100) (C4(I),I=1,NTT)
  0050                 WRITE(6,100) (C4(I),I=1,NTT)
  0051                 READ(5,100) (C5(I),I=1,NTT)
  0052                 WRITE(6,100) (C5(I),I=1,NTT)
  0053                 READ(5,100) (C6(I),I=1,NTT)
  0054                 WRITE(6,100) (C6(I),I=1,NTT)
  0055                 IT=1
  0056                 TC=TIT(IT)
  0057                 N=25
  0058                 NM1=N-1
  0059                 NM2=N-2
  0060                 NP1=N+1
  0061                 NP2=N+2
  0062                 TSALT=2.0
  0063                 TWD=10.0
  0064                 SFLUX=CONST
                C
  0065                 CALL INITWT
  0066                 CALL INITST
  0067                 IC=2
  0068                 IWT=-1
  0069                 CALL AXISPL
                C
  0070                 H(1)=-100.0
  0071                 TIME=0.0
  0072                 CALL SBCW
```

```
FORTRAN IV G LEVEL  21                MAIN              DATE = 76265           09/10/29

      99  CONTINUE
          IL=20
          DO  5  II=1,IL
          CALL WATER
          CALL AMONIA
          CALL NITRAT
          CALL GASORG
       5  CONTINUE
          TIME=TIME+IL*DT
          CALL DADJ
          TWRITE=ABS(TIME-TC)
          IF(TWRITE.LE.1.0E-3)  CALL GRAPH
          IF(TIME.GE.TIT(NT))  CALL PLOT(0.0,0.0,999)
          IF(TWRITE.LE.1.0E-3)  CALL OUTPUT
          IF(TIME.GE.TIT(NT)) STOP
          CALL CHECKT
          CALL CHECKN
          GO TO 99
          END
```

```
FORTRAN IV G LEVEL  21                  MAIN                DATE = 75265            09/10/29

              C
                    SUBROUTINE MOISD(I1,I2)
                    COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                   *VP(810),DISPC(810)
                    COMMON/L3/ N,NM1,NM2,NP1,NP2
                    COMMON/L4/ ALPHA,BETA,DT,DZ
                    COMMON/L10/ H(810),CON(810),CAP(810)
                    COMMON/L17/ XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
                    I=1
                    DO  20  K=I1,I2
                    A=DZ*(K-1)
                  5 IF(A.LE.XXX(I+1)) GO TO 10
                    I=I+1
                    GO TO 5
                 10 H(K)=C1(I)+(A-XXX(I))*((C1(I+1)-C1(I))/(XXX(I+1)-XXX(I)))
                    TH(K)=C2(I)+(A-XXX(I))*((C2(I+1)-C2(I))/(XXX(I+1)-XXX(I)))
                    CNH4(K)=C3(I)+(A-XXX(I))*((C3(I+1)-C3(I))/(XXX(I+1)-XXX(I)))
                    CNO3(K)=C4(I)+(A-XXX(I))*((C4(I+1)-C4(I))/(XXX(I+1)-XXX(I)))
                    CORGN(K)=C5(I)+(A-XXX(I))*((C5(I+1)-C5(I))/(XXX(I+1)-XXX(I)))
                    CNO2(K)=C6(I)+(A-XXX(I))*((C5(I+1)-C6(I))/(XXX(I+1)-XXX(I)))
                 20 CONTINUE
                    RETURN
                    END
```

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```
C
      SUBROUTINE AXISPL
      COMMON/L16/IC,IWT
      XL=15.0
      YL=7.0
      XSIZE=12.01
      YSIZE1=6.010
      YSIZE2=12.010
      CALL PLOTS(-40.0,-20.0)
      CALL PLOT(1.0,1.0,-3)
      CALL LINEWT(IWT)
      CALL AXIS(0.0,0.0,'DEPTH,CM',-8,XSIZE,0.0,0.0,5.00)
      CALL AXIS(0.0,0.0,'   THETA ',8,YSIZE1,90.0,0.0,0.10)
      CALL PLOT(0.0,YL,-3)
      CALL AXIS(0.0,0.0,'DEPTH,CM',-8,XSIZE,0.0,0.0,5.00)
      CALL AXIS(0.0,0.0,'NH4-N,MG',8,YSIZE2,90.0,0.0,10.0)
      CALL PLOT(XL,-YL,-3)
      CALL AXIS(0.0,0.0,'DEPTH,CM',-8,XSIZE,0.0,0.0,5.00)
      CALL AXIS(0.0,0.0,'ORG.N,MG',8,YSIZE1,90.0,0.0,5.00)
      CALL PLOT(0.0,YL,-3)
      CALL AXIS(0.0,0.0,'DEPTH,CM',-8,XSIZE,0.0,0.0,5.00)
      CALL AXIS(0.0,0.0,'NO3-N,MG',8,YSIZE2,90.0,0.0,10.0)
      CALL PLOT(-XL,-YL,-3)
      RETURN
      END
```

```
FORTRAN IV G LEVEL  21                    MAIN                DATE = 75265          09/10/29

             C
             C
                      SUBROUTINE GRAPH
                      COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                     *VP(810),DISPC(810)
                      COMMON/L3/ N,NM1,NM2,NP1,NP2
                      COMMON/L4/ ALPHA,BETA,DF,DZ
                      COMMON/L16/IC,IWT
                      CALL LINEWT(IWT)
                      XL=15.0
                      YL=7.0
                      KK=1.0/DZ+0.010
                      KKK=N
                      IF((DZ*N).GT.120.0)  KKK=120*KK-1
                      SYMSZ=0.100
             C
                      X1=0.0
                      DO  10  I=1,KKK,KK
                      YS=TH(I)*10.0
                      XS=X1/5.0
                      CALL SYMBOL(XS,YS,SYMSZ,IC,0.0,-2)
                      X1=X1+1.0
                   10 CONTINUE
                      CALL PLOT(0.0,YL,-3)
                      X1=0.0
                      DO  20  I=1,KKK,KK
                      YS=CNH4(I)/10.0
                      XS=X1/5.0
                      CALL SYMBOL(XS,YS,SYMSZ,IC,0.0,-2)
                      X1=X1+1.0
                   20 CONTINUE
                      CALL PLOT(XL,-YL,-3)
                      X1=0.0
                      DO  30  I=1,KKK,KK
                      YS=CORGN(I)/5.0
                      XS=X1/5.0
                      CALL SYMBOL(XS,YS,SYMSZ,IC,0.0,-2)
                      X1=X1+1.0
                   30 CONTINUE
                      CALL PLOT(0.0,YL,-3)
                      X1=0.0
                      DO  40  I=1,KKK,KK
                      YS=CNO3(I)/10.0
                      XS=X1/5.0
                      CALL SYMBOL(XS,YS,SYMSZ,IC,0.0,-2)
                      X1=X1+1.0
                   40 CONTINUE
                      CALL PLOT(-XL,-YL,-3)
                      IC=IC+1
                      IF(IC.GT.7) IC=0
                      IWT=IWT+1
                      IF(IWT)  1,2,2
                    2 IWT=-2
                      RETURN
                    1 IWT=-1
                      RETURN
                      END
```

```
FORTRAN IV G LEVEL  21                  MAIN               DATE = 75265          09/10/29

      C
            SUBROUTINE CHECKT
            COMMON/L4/ ALPHA,BETA,DT,DZ
            COMMON/L9/TIME,TPRINT,TWRITE
            COMMON/L15/ TIT(30),TC,DTDT,IT,IL,NT
            DTDT=DT
            TWRITE=ABS(TIME-TC)
            IF(TWRITE.LT.1.0E-3)  RETURN
            TIME10=TIME+IL*DT
            IF((TIME.LT.TC).AND.(TIME10.GE.TC)) GO TO 30
            RETURN
         30 DT=(TC-TIME)/IL
            ALPHA=DT/(2.0*DZ*DZ)
            BETA=DT/DZ
            RETURN
            END
```

```
C     ************************************************************************
C
      SUBROUTINE WATER
      COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
     *VP(810),DISPC(810)
      COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
      COMMON/L3/ N,NM1,NM2,NP1,NP2
      COMMON/L4/ ALPHA,BETA,DT,DZ
      COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
      COMMON/L6/ SFLUX,CSNH4,CSNO3
      COMMON/L7/ ROU
      COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
      COMMON/L9/TIME,TPRINT,TWRITE
      COMMON/L10/ H(810),CON(810),CAP(810)
      COMMON/L11/ THC(30),HC(30),CAPC(30)
      COMMON/L12/ AC,BC,NX,NX1,CONST
      COMMON/L13/ WFLUX(810)
      COMMON/L14/ VC,TWD,TSALT
      DO  90  I=1,NP1
   90 CON(I)=AC*EXP(BC*(TH(I)+TH(I+1))*0.50)
C
      DO  1  I=1,NM2
      AA(I)=CAP(I+1)+ALPHA*(CON(I+1)+CON(I))
      BB(I)=-ALPHA*CON(I+1)
      CC(I)=-ALPHA*CON(I+1)
    1 CONTINUE
      AA(NM1)=CAP(N)+ALPHA*CON(N)
      DO 2 I=1,NM1
      X1=CAP(I+1)*H(I+1)
      X2=ALPHA*CON(I)*H(I)-ALPHA*H(I+1)*(CON(I+1)+CON(I))
      X3=ALPHA*CON(I+1)*H(I+2)
      X4=-BETA*(CON(I+1)-CON(I))
      R(I)=X1+X2+X3+X4
    2 CONTINUE
      R(1)=R(1)+ALPHA*CON(1)*H(1)
      CALL THIOM(AA,BB,CC,R,X,NM1)
      DO 3 K=2,N
    3 H(K)=X(K-1)
      H(NP1)=H(N)
      H(NP2)=H(N)
      CALL SBCW
      DO  15  J=1,NP2
      IF(H(J).LT.HC(1)) GO TO 25
      TH(J)=TH(1)
   15 CAP(J)=CAP(1)
   25 CONTINUE
      DO  60  I=J,NP2
      DO  80  K=1,NX1
      IF(H(I).GT.HC(K+1))  GO TO 70
   80 CONTINUE
   70 TH(I)=THC(K)+CAPC(K)*(H(I)-HC(K))
      CAP(I)=CAPC(K)
   60 CONTINUE
      DO  95  I=1,NP1
      WFLUX(I)=-CON(I)*(H(I+1)-H(I))/DZ+CON(I)
      DISPC(I)=0.02580+0.12740*ABS(WFLUX(I)/TH(I))**1.3550
   95 CONTINUE
      RETURN
      END
```

```
      C
      C     ***********************************************************************
      C
            SUBROUTINE INITWT
            COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
           *VP(810),DISPC(810)
            COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
            COMMON/L3/ N,NM1,NM2,NP1,NP2
            COMMON/L4/ ALPHA,BETA,DT,DZ
            COMMON/L5/ FKD,RK1,RK2,RK3,RK4,RK5
            COMMON/L6/ SFLUX,CSNH4,CSNO3
            COMMON/L7/ ROU
            COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
            COMMON/L9/TIME,TPRINT,TWRITE
            COMMON/L10/ H(810),CON(810),CAP(810)
            COMMON/L11/ THC(30),HC(30),CAPC(30)
            COMMON/L12/ AC,BC,NX,NX1,CONST
            COMMON/L13/ WFLUX(810)
            COMMON/L14/ VO,TWD,TSALT
            COMMON/L17/ XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
            DO  5  I-1,NX1
            CAPC(I)=(THC(I+1)-THC(I))/(HC(I+1)-HC(I))
          5 CONTINUE
            CAPC(NX)=CAPC(NX1)
      C
      C
          6 CONTINUE
            ALPHA=DT/(2.0*DZ*DZ)
            BETA=DT/DZ
            TTT=CONST/CAPC(1)
            TTT=TTT*ALPHA
            IF(TTT.LE.2.00)  GO TO 8
            IF(DZ.GE.0.999)  GO TO 7
            DZ=DZ*2.0
            GO TO 6
          7 DT=DT/2.0
            GO TO 6
          8 CONTINUE
            CALL MOISD(1,NP2)
            CALL SBCW
            DO  25  I=1,NP2
            DO  15  K=1,NX1
            IF(H(I).GT.HC(K+1)) GO TO 20
         15 CONTINUE
         20 CAP(I)=CAPC(K)
         25 CONTINUE
            RETURN
            END
```

```
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      C
      C
      C      ***********************************************************************
      C
             SUBROUTINE SBCW
             COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
            *VP(810),DISPC(810)
             COMMON/L2/ AA(810),BB(810),CC(810),R(810),X(810)
             COMMON/L3/ N,NM1,NM2,NP1,NP2
             COMMON/L4/ ALPHA,BETA,DT,DZ
             COMMON/L5/ RKO,RK1,RK2,RK3,RK4,RK5
             COMMON/L6/ SFLUX,CSNH4,CSNO3
             COMMON/L7/ ROU
             COMMON/L8/ DISP,THMAX,THMIN
             COMMON/L9/TIME,TPRINT,TWRITE
             COMMON/L10/ H(810),CON(810),CAP(810)
             COMMON/L11/ THC(30),HC(30),CAPC(30)
             COMMON/L12/ AC,BC,NX,NX1,CONST
             COMMON/L13/ WFLUX(810)
             COMMON/L14/ VO,TWD,TSALT
             IF(SFLUX.GT.0.0) GO TO 5
             CONS=AC*EXP(BC*TH(1))
             ADJ=DZ*(1.0-SFLUX/CONS)
             H(1)=H(2)-ADJ
             IF(H(1).LT.(-1900.0)) H(1)=-1900.0
             RETURN
      C
           5 CONTINUE
             H(1)=H(1)+0.400
             IF(H(1).GT.0.0) H(1)=0.0
             RETURN
             END
```

```
FORTRAN IV G LEVEL  21                MAIN              DATE = 76265          09/10/29

      C
      C     ***************************************************************************
      C
            SUBROUTINE INITST
            COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
           *VP(810),DISPC(810)
            COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
            COMMON/L3/ N,NM1,NM2,NP1,NP2
            COMMON/L4/ ALPHA,BETA,DT,DZ
            COMMON/L5/ RK0,RK1,RK2,RK3,RK4,RK5
            COMMON/L6/ SFLUX,CSNH4,CSNO3
            COMMON/L7/ ROU
            COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
            COMMON/L9/TIME,TPRINT,TWRITE
            COMMON/L10/ H(810),CON(810),CAP(810)
            COMMON/L11/ THC(30),HC(30),CAPC(30)
            COMMON/L12/ AC,BC,NX,NX1,CONST
            COMMON/L13/ WFLUX(810)
            COMMON/L14/ V0,TAD,TSALT
            COMMON/L17/ XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
      C
            THAVR=(THMAX+THMIN)/2
          1 CONTINUE
            APAR=SFLUX-DISP*(THMIN-THAVR)/DZ
            APAR=SFLUX-DISP*(THMIN-THMAX)/DZ
            V0=APAR/THAVR
            V0=SFLUX/THMAX
            V0=APAR/THMIN
            ALPHA=DT/(2.0*DZ*DZ)
            BETA=DT/DZ
            DV0=DISP/V0
            DZV0=0.50*DZ/V0
            IF(DZ.GT.DV0)  GO TO 2
            IF(DT.GT.DZV0)  GO TO 3
            GO TO 4
          2 DZ=DZ/2
            GO TO 1
          3 DT=DT/2
            GO TO 1
          4 CONTINUE
          6 CONTINUE
            ALPHA=DT/(2.0*DZ*DZ)
            BETA=DT/DZ
            TTT=CONST/CAPC(1)
            TTT=TTT*ALPHA
            IF(TTT.LE.2.00)  GO TO 8
            DT=DT/2.0
            GO TO 6
          8 CONTINUE
            CALL MOISD(1,NP2)
            RETURN
            END
```

```
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C
C         ************************************************************************
C
          SUBROUTINE DADJ
          COMMON/L1/ TH(810).CNH4(810).CNO3(810).CORGN(810).CNO2(810).
         *VP(810).DISPC(810)
          COMMON/L2/ AA(610),B3(610),CC(610),R(610),X(610)
          COMMON/L3/ N,NM1,NM2,NP1,NP2
          COMMON/L4/ ALPHA,BETA,DT,DZ
          COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
          COMMON/L6/ SFLUX,CSNH4,CSNO3
          COMMON/L7/ROU,COLUMN,DFLUX
          COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
          COMMON/L9/TIME,TPRINT,TWRITE
          COMMON/L10/ H(810).CON(810).CAP(810)
          COMMON/L11/ THC(30),HC(30),CAPC(30)
          COMMON/L12/ AC,BC,NX,NX1,CONST
          COMMON/L13/ WFLUX(810)
          COMMON/L14/ V0,TWD,TSALT
          COMMON/L17/ XXX(30).C1(30).C2(30).C3(30).C4(30).C5(30).C6(30)
          IF(ABS(TIME-TSALT).GT.1.0E-3) GO TO 5
          CSNH4=0.0
          CSNO3=0.0
        5 CONTINUE
          IF(ABS(TIME-TWD).GT.1.0E-3) GO TO 10
          SFLUX=DFLUX
       10 CONTINUE
          IF(TIME.GT.TWD) CALL DADJD
          KK=2
          IF((KK*ALPHA).GT.0.20) RETURN
          L=10
          V1=VP(L)/TH(L)
          IF(V1.LT.0.050) V1=0.050
          DZV0=0.50*DZ/V1
          IF((DT*KK).LT.DZV0) DT=DT*KK
          ALPHA=DT/(2.0*DZ*DZ)
          BETA=DT/DZ
          IF(ABS(TH(L)-THMIN).LT.0.0550) RETURN
          DV0=0.50*DISPC(L)/V1
          IF((DZ*KK).GT.DV0) RETURN
          DZ=DZ*KK
          M=1
          DO  15 I=1.NP1.KK
          H(M)=H(I)
          TH(M)=TH(I)
          CAP(M)=CAP(I)
          CNO3(M)=CNO3(I)
          CNH4(M)=CNH4(I)
          CORGN(M)=CORGN(I)
          DISPC(M)=DISPC(I)
          M=M+1
       15 CONTINUE
          CALL MOISD(M,NP2)
          DO  35  I=M,NP2
          DO  25  K=1,NX1
          IF(H(I).GT.HC(K+1)) GO TO 30
       25 CONTINUE
       30 CAP(I)=CAPC(K)
       35 CONTINUE
          ALPHA=DT/(2.0*DZ*DZ)
          BETA=DT/DZ
          RETURN
          END
```

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```
      C
      C
            SUBROUTINE DADJD
            COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
           *VP(810),DISPC(810)
            COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
            COMMON/L3/ N,NM1,NM2,NP1,NP2
            COMMON/L4/ ALPHA,BETA,DT,DZ
            COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
            COMMON/L6/ SFLUX,CSNH4,CSNO3
            COMMON/L7/ ROU
            COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
            COMMON/L9/TIME,TPRINT,TWRITE
            COMMON/L10/ H(810),CCN(810),CAP(810)
            COMMON/L11/ THC(30),HC(30),CAPC(30)
            COMMON/L12/ AC,BC,NX,NX1,CONST
            COMMON/L13/ WFLUX(810)
            COMMON/L14/ V0,TWD,TSALT
            COMMON/L17/ XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
            DTT=DT
            DZZ=DZ
            KK=2
            L=10
            V1=VP(L)/TH(L)
            IF(V1.LT.0.0250) V1=0.0250
            DZV0=0.50*DZ/V1
            IF((DT*KK).LT.DZV0) DTT=DT*KK
            DV0=0.50*DISPC(L)/V1
            IF((DZ*KK).GT.DV0) KK=1
            DZZ=DZ*KK
            ALPHAN=DTT/(2.0*DZZ*DZZ)
            IF(ALPHAN.GT.0.20) RETURN
            DT=DTT
            DZ=DZZ
            ALPHA=DT/(2.0*DZ*DZ)
            BETA=DT/DZ
            IF(KK.GT.1) GO TO 5
            RETURN
          5 CONTINUE
            M=1
            DO  15 I=1,NP1,KK
            H(M)=H(I)
            TH(M)=TH(I)
            CAP(M)=CAP(I)
            CNO3(M)=CNO3(I)
            CNH4(M)=CNH4(I)
            CORGN(M)=CORGN(I)
            DISPC(M)=DISPC(I)
            M=M+1
         15 CONTINUE
            CALL MOISD(M,NP2)
            DO  35  I=M,NP2
            DO  25  K=1,NX1
            IF(H(I).GT.HC(K+1)) GO TO 30
         25 CONTINUE
         30 CAP(I)=CAPC(K)
         35 CONTINUE
            RETURN
            END
```

```
FORTRAN IV G LEVEL  21                MAIN              DATE = 76265         09/10/29

               C
               C
 0001                   SUBROUTINE CHECKN
 0002                   COMMON/L1/  TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                       *VP(810),DISPC(810)
 0003                   COMMON/L3/  N,NM1,NM2,NP1,NP2
 0004                   COMMON/L4/  ALPHA,BETA,DT,DZ
 0005                   COMMON/L5/  RKD,RK1,RK2,RK3,RK4,RK5
 0006                   COMMON/L6/  SFLUX,CSNH4,CSNO3
 0007                   COMMON/L7/ROU,COLUMN,DFLUX
 0008                   COMMON/L8/  DISP,THMAX,THMIN,HMIN,CORGNI
 0009                   COMMON/L9/TIME,TPRINT,TWRITE
 0010                   COMMON/L10/  H(810),CON(810),CAP(810)
 0011                   COMMON/L11/  THC(30),HC(30),CAPC(30)
 0012                   COMMON/L12/  AC,BC,NX,NX1,CONST
 0013                   COMMON/L13/  WFLUX(810)
 0014                   COMMON/L14/  VO,TWD,TSALT
 0015                   COMMON/L15/  TIT(30),TC,DTDT,IT,IL,NT
 0016                   COMMON/L17/  XXX(30),C1(30),C2(30),C3(30),C4(30),C5(30),C6(30)
 0017                   MM=10
 0018                   NM1F=COLUMN/DZ
 0019                   IF(N-NM1F) 10,5,20
 0020                 5 RETURN
 0021                10 IF(N.GT.500) RETURN
 0022                   IF(ABS(TH(N-20)-THMIN).LT.0.0020)  RETURN
 0023                   NM1F=N+MM
 0024                   NNNN=NM1F+2
 0025                   CALL MOISD(NP1,NNNN)
 0026                   DO  15  I=NP1,NNNN
 0027                   DO  17  K=1,NX
 0028                   IF(H(I).GT.HC(K+1)) GO TO 18
 0029                17 CONTINUE
 0030                18 CAP(I)=CAPC(K)
 0031                16 CONTINUE
 0032                20 N=NM1F
 0033                   NM1=N-1
 0034                   NM2=N-2
 0035                   NP1=N+1
 0036                   NP2=N+2
 0037                   RETURN
 0038                   END
```

```
FORTRAN IV G LEVEL  21                    MAIN                DATE = 76265          09/10/29
                C
                C       ****************************************************************************
                C
0001                    SUBROUTINE AMONIA
                C       NH-4   PRGRAM
0002                    COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                       *VP(810),DISPC(810)
0003                    COMMON/L2/ AA(510),BB(610),CC(610),R(610),X(610)
0004                    COMMON/L3/ N,NM1,NM2,NP1,NP2
0005                    COMMON/L4/ ALPHA,BETA,DT,DZ
0006                    COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
0007                    COMMON/L6/ SFLUX,CSNH4,CSNO3
0008                    COMMON/L7/ ROU
0009                    COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
0010                    COMMON/L9/TIME,TPRINT,TWRITE
0011                    COMMON/L10/ H(810),CON(810),CAP(810)
0012                    COMMON/L11/ THC(30),HC(30),CAPC(30)
0013                    COMMON/L12/ AC,BC,NX,NX1,CONST
0014                    COMMON/L13/ WFLUX(810)
0015                    COMMON/L14/ V0,TWO,TSALT
0016                    FF=2.0*DZ
0017                    SSINF=WFLUX(1)
0018                    CNH4(1)=(SSINF*FF*CSNH4+DISP*TH(1)*CNH4(3))/(SSINF*FF+DISP*TH(1))
0019                    DO  1    I=1,NP1
0020                    DISP=DISPC(I)
0021                    VP(I)=WFLUX(I)-DISP*(TH(I+1)-TH(I))/DZ
0022              1     CONTINUE
0023                    IF(SFLUX.LE.0.0)  GO TO 13
0024                    DO  5   I=1,NM2
0025                    DISP=DISPC(I+1)
0026                    RKK=1.0+RKD*ROU/TH(I+1)
0027                    AA(I)=RKK+2.0*ALPHA*DISP-BETA*VP(I+1)/TH(I+1)
0028                    BB(I)=BETA*VP(I+1)/TH(I+1)-ALPHA*DISP
0029                    DISP=DISPC(I+2)
0030                    CC(I)=-ALPHA*DISP
0031               5    CONTINUE
0032                    DISP=DISPC(N)
0033                    RKK=1.0+RKD*ROU/TH(N)
0034                    AA(NM1)=RKK+ALPHA*DISP
0035                    DO  10   M=1,NM1
0036                    I=M+1
0037                    DISP=DISPC(I)
0038                    RKK=1.0+RKD*ROU/TH(I)
0039                    R(M)=RKK*CNH4(I)+ALPHA*DISP*(CNH4(I+1)-2.0*CNH4(I)+CNH4(I-1))
0040                    R(M)=R(M)-DT*(RK1+RK4)*CNH4(I)+(ROU*DT/TH(I))*RK3*CORGN(I)
0041             10     CONTINUE
0042                    DISP=DISPC(2)
0043                    R(1)=R(1)+ALPHA*DISP*CNH4(1)
0044                    GO TO 14
                C
0045             13     CONTINUE
0046                    CNH4(1)=CNH4(2)
0047                    DO  11  I=1,NM2
0048                    DISP=DISPC(I+1)
0049                    RKK=1.0+RKD*ROU/TH(I+1)
0050                    AA(I)=RKK+2.0*ALPHA*DISP-BETA*VP(I+1)/TH(I+1)
0051                    BB(I)=BETA*VP(I+1)/TH(I+1)-ALPHA*DISP
0052                    DISP=DISPC(I+2)
0053                    CC(I)=-ALPHA*DISP
0054             11     CONTINUE
0055                    DISP=DISPC(N)
0056                    RKK=1.0+RKD*ROU/TH(N)
0057                    AA(NM1)=RKK+ALPHA*DISP
0058                    DISP=DISPC(2)
0059                    RKK=1.0+RKD*ROU/TH(2)
0060                    AA(1)=RKK+1.0*ALPHA*DISP-BETA*VP(2)/TH(2)
0061                    DO  12   M=1,NM1
0062                    I=M+1
0063                    DISP=DISPC(I)
0064                    RKK=1.0+RKD*ROU/TH(I)
0065                    R(M)=RKK*CNH4(I)+ALPHA*DISP*(CNH4(I+1)-2.0*CNH4(I)+CNH4(I-1))
0066                    R(M)=R(M)-DT*(RK1+RK4)*CNH4(I)+(ROU*DT/TH(I))*RK3*CORGN(I)
0067             12     CONTINUE
0068             14     CONTINUE
0069                    CALL TRIDM(AA,BB,CC,R,X,NM1)
0070                    DO  15   I=2,N
0071             15     CNH4(I)=X(I-1)
0072                    CNH4(NP1)=CNH4(N)
```

```
0073          RETURN
0074          END
```

```
FORTRAN IV G LEVEL  21                    MAIN                DATE = 76265          09/10/29
      C
      C     **********************************************************************
      C
            SUBROUTINE NITRAT
      C     NO-3  PRGRAM
            COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
           *VP(810),DISPC(810)
            COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
            COMMON/L3/ N,NM1,NM2,NP1,NP2
            COMMON/L4/ ALPHA,BETA,DT,DZ
            COMMON/L5/ RK0,RK1,RK2,RK3,RK4,RK5
            COMMON/L6/ SFLUX,CSNH4,CSNO3
            COMMON/L7/ ROU
            COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
            COMMON/L9/TIME,TPRINT,TWRITE
            COMMON/L10/ H(810),CON(810),CAP(810)
            COMMON/L11/ THC(30),HC(30),CAPC(30)
            COMMON/L12/ AC,BC,NX,NX1,CONST
            COMMON/L13/ WFLUX(810)
            COMMON/L14/ V0,TWD,TSALT
            FF=2.0*DZ
            SSINF=WFLUX(1)
            CNO3(1)=(SSINF*FF*CSNO3+DISP*TH(1)*CNO3(3))/(SSINF*FF+DISP*TH(1))
            IF(SFLUX.LE.0.0)  GO TO 13
            DO  5  I=1,NM2
            DISP=DISPC(I+1)
            AA(I)=1.0+2.0*ALPHA*DISP-BETA*VP(I+1)/TH(I+1)
            BB(I)=BETA*VP(I+1)/TH(I+1)-ALPHA*DISP
            DISP=DISPC(I+2)
            CC(I)=-ALPHA*DISP
          5 CONTINUE
            DISP=DISPC(N)
            AA(NM1)=1.0+ALPHA*DISP
            DO  10   M=1,NM1
            I=M+1
            DISP=DISPC(I)
            R(M)=CNO3(I)+ALPHA*DISP*(CNO3(I+1)-2.0*CNO3(I)+CNO3(I-1))
            R(M)=R(M)+RK1*DT*CNH4(I)-DT*(RK2+RK5)*CNO3(I)
         10 CONTINUE
            DISP=DISPC(2)
            R(1)=R(1)+ALPHA*DISP*CNO3(1)
            GO TO 14
      C
         13 CONTINUE
            CNO3(1)=CNO3(2)
            DO  11  I=1,NM2
            DISP=DISPC(I+1)
            AA(I)=1.0+2.0*ALPHA*DISP-BETA*VP(I+1)/TH(I+1)
            BB(I)=BETA*VP(I+1)/TH(I+1)-ALPHA*DISP
            DISP=DISPC(I+2)
            CC(I)=-ALPHA*DISP
         11 CONTINUE
            DISP=DISPC(N)
            AA(NM1)=1.0+ALPHA*DISP
            DISP=DISPC(2)
            AA(1)=1.0+1.0*ALPHA*DISP-BETA*VP(2)/TH(2)
            DO  12   M=1,NM1
            I=M+1
            DISP=DISPC(I)
            R(M)=CNO3(I)+ALPHA*DISP*(CNO3(I+1)-2.0*CNO3(I)+CNO3(I-1))
            R(M)=R(M)+RK1*DT*CNH4(I)-DT*(RK2+RK5)*CNO3(I)
         12 CONTINUE
         14 CONTINUE
            CALL TRIDM(AA,BB,CC,R,X,NM1)
            DO  15   I=2,N
         15 CNO3(I)=X(I-1)
            CNO3(NP1)=CNO3(N)
            RETURN
            END
```

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FORTRAN IV G LEVEL  21                    MAIN                 DATE = 75265           09/10/29

          C      ************************************************************************
          C
                 SUBROUTINE GASORG
                 COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                *VP(810),DISPC(810)
                 COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
                 COMMON/L3/ N,NM1,NM2,NP1,NP2
                 COMMON/L4/ ALPHA,BETA,DT,DZ
                 COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
                 COMMON/L6/ SFLUX,CSNH4,CSNO3
                 COMMON/L7/ ROU
                 COMMON/L8/ DISP,THMAX,THMIN
                 COMMON/L9/TIME,TPRINT,TWRITE
                 COMMON/L10/ H(810),CON(810),CAP(810)
                 COMMON/L13/ WFLUX(810)
                 COMMON/L14/ V0,TWD,TSALT
                 DO  5  I=1,NP1
                 CORGN(I)=CORGN(I)+(DT/ROU)*(TH(I)*RK2*CNO3(I)+TH(I)*RK4*CNH4(I)-
                $ROU*RK3*CORGN(I))
               5 CONTINUE
                 DO  10 I=1,NP1
                 CNO2(I)=CNO2(I)+(DT/ROU)*RK5*TH(I)*CNO3(I)
              10 CONTINUE
                 RETURN
                 END
```

```
FORTRAN IV G LEVEL  21                 MAIN                 DATE = 75265          09/10/29

               C
               C      ***********************************************************************
               C
 0001                 SUBROUTINE OUTPUT
 0002                 COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
                     *VP(810),DISPC(810)
 0003                 COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
 0004                 COMMON/L3/ N,NM1,NM2,NP1,NP2
 0005                 COMMON/L4/ ALPHA,BETA,DT,DZ
 0006                 COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
 0007                 COMMON/L6/ SFLUX,CSNH4,CSNO3
 0008                 COMMON/L7/ ROU
 0009                 COMMON/L8/ DISP,THMAX,THMIN,HMIN,CORGNI
 0010                 COMMON/L9/TIME,TPRINT,TWRITE
 0011                 COMMON/L10/ H(810),CON(810),CAP(810)
 0012                 COMMON/L11/ THC(30),HC(30),CAPC(30)
 0013                 COMMON/L12/ AC,BC,NX,NX1,CONST
 0014                 COMMON/L13/ WFLUX(810)
 0015                 COMMON/L14/ V0,TWD,TSALT
 0016                 COMMON/L15/ TIT(30),TC,DTDT,IT,IL,NT
 0017           100   FORMAT('1')
 0018            200  FORMAT(///,50X,'TIME = ',E12.5//,4X,'DEPTH,CM',4X,'SUCTION,CM',
                     *4X,'THETA',7X,'HYDR.COND.',T56,'WATER FLUX',
                     $T72,'NH4',T85,'NO3',T97,'CORGN',5X,'   NO2')
 0019            400  FORMAT(10E13.4)
 0020                 WRITE(6,100)
 0021                 TIME=TC
 0022                 WRITE(6,200) TIME
 0023                 DO 20 I=1,NP1
 0024                 ZZ=(I-1)*DZ
 0025                 WRITE(6,400) ZZ,H(I),TH(I),CON(I),WFLUX(I),CNH4(I),CNO3(I),
                     *CORGN(I),CNO2(I)
 0026            20   CONTINUE
 0027                 CALL TINT
 0028                 IT=IT+1
 0029                 IF(IT.GT.NT) STOP
 0030                 TC=TIT(IT)
 0031                 DT=DTDT
 0032                 ALPHA=DT/(2.0*DZ*DZ)
 0033                 BETA=DT/DZ
 0034             25  CONTINUE
 0035                 KK=2
 0036                 TTT=CONST/CAPC(1)
 0037                 TTT=TTT*ALPHA
 0038                 IF(TTT.LE.2.00)  GO TO 30
 0039                 RETURN
 0040             30  CONTINUE
 0041                 DZV0=0.50*DZ/(VP(10)/TH(10))
 0042                 IF((DT*KK).LT.DZV0) DT=DT*KK
 0043                 ALPHA=DT/(2.0*DZ*DZ)
 0044                 BETA=DT/DZ
 0045                 RETURN
 0046                 END
```

```
FORTRAN IV G LEVEL  21                MAIN                DATE = 76265          09/10/29

      C
      C      ****************************************************************************
      C
             SUBROUTINE TINT
             COMMON/L1/ TH(810),CNH4(810),CNO3(810),CORGN(810),CNO2(810),
            *VP(810),DISPC(810)
             COMMON/L2/ AA(610),BB(610),CC(610),R(610),X(610)
             COMMON/L3/ N,NM1,NM2,NP1,NP2
             COMMON/L4/ ALPHA,BETA,DT,DZ
             COMMON/L5/ RKD,RK1,RK2,RK3,RK4,RK5
             COMMON/L6/ SFLUX,CSNH4,CSNO3
             COMMON/L7/ ROU
             COMMON/L8/ DISP,THMAX,THMIN
             COMMON/L9/TIME,TPRINT,TWRITE
             COMMON/L10/ H(810),CCN(810),CAP(810)
             COMMON/L11/ THC(30),HC(30),CAPC(30)
             COMMON/L12/ AC,BC,NX,NX1,CONST
             COMMON/L13/ WFLUX(810)
             COMMON/L14/ V0,TWD,TSALT
         100 FORMAT(5X,'TIME ,HOURS =',F10.5/,
            *5X,'LENGTH OF SOIL PROFILE, CM=',F10.5/,
            *5X,'VOLUME OF WATER IN THE SOIL PROFILE , CM =',F10.5/)
         200 FORMAT(5X,'TOTAL NH-4 IN EXCH. PHASE, MG =',F10.5/,
            *5X,'TOTAL NH-4 IN SOIL SOLUTION PHASE, MG =',F10.5/,
            *5X,'TOTAL NH-4 IN SOIL, MG =',F10.5/)
         300 FORMAT(5X,'TOTAL NH-3 IN SOIL SOLUTION, MG=',F10.5/,
            *5X,'TOTAL ORGANIC N IN THE SOIL, MG =',F10.5/,
            *5X,'TOTAL NO-2 RELEASED FROM THE SOIL, MG =',F10.5//)
      C
             DO  5  I=1,NP1
             X(I)=TH(I)*CNH4(I)
           5 CONTINUE
             CALL QSF(DZ,X,AA,NP1)
             TNH4C=AA(NP1)
             CALL QSF(DZ,CNH4,AA,NP1)
             TNH4SS=AA(NP1)*ROU*RKD
             TNH4T=TNH4C+TNH4SS
      C
             DO  10 I=1,NP1
             X(I)=TH(I)*CNO3(I)
          10 CONTINUE
             CALL QSF(DZ,X,AA,NP1)
             TNO3=AA(NP1)
      C
             DO  15 I=1,NP1
             X(I)=ROU*CORGN(I)
          15 CONTINUE
             CALL QSF(DZ,X,AA,NP1)
             TORGN=AA(NP1)
      C
             CALL QSF(DZ,TH,AA,NP1)
             TW=AA(NP1)
             DO  20  I=1,NP2
             X(I)=ROU*CNO2(I)
          20 CONTINUE
             CALL QSF(DZ,X,AA,NP1)
             TGASN=AA(NP1)
             CL=N*DZ
             WRITE(6,100)  TIME,CL,TW
             WRITE(6,200)  TNH4SS,TNH4C,TNH4T
             WRITE(6,300)  TNO3,TORGN,TGASN
      C
      C
             CALL SBCW
             RETURN
             END
```

```
FORTRAN IV G LEVEL  21                    MAIN              DATE = 76265          09/10/29
      C       ************************************************************************
      C
              SUBROUTINE TRIDM(A,B,C,D,X,N)
              DIMENSION A(1),B(1),C(1),D(1),X(1)
              DO  1  I=2,N
              C(I-1)=C(I-1)/A(I-1)
              A(I)=A(I)-(C(I-1)*B(I-1))
            1 CONTINUE
              X(1)=D(1)
              DO  2  I=2,N
              X(I)=D(I)-(C(I-1)*X(I-1))
            2 CONTINUE
              X(N)=X(N)/A(N)
              DO  3  I=2,N
              X(N+1-I)=(X(N+1-I)-(B(N+1-I)*X(N+2-I)))/A(N+1-I)
            3 CONTINUE
              RETURN
              END
```

```
94-SELIMX  -GO       -FT06F001

   0.3600     0.3500     0.3400     0.3300     0.3200     0.3100     0.3000     0.2900
   0.2800     0.2700     0.2600     0.2500     0.2400     0.2300     0.2200     0.2100
   0.2000     0.1900     0.1800     0.1700     0.1600     0.1500     0.1400     0.1300
   0.0      -22.0000   -31.0000   -43.0000   -58.0000   -75.0000   -95.0000  -115.0000
-138.0000  -159.0000  -179.0000  -200.0000  -229.0000  -262.0000  -300.0000  -350.0000
-415.0000  -495.0000  -595.0000  -720.0000  -900.0000-1180.0000-1530.0000-2000.0000
   1.0000     0.0050
   1.0000     0.3600     0.2200  -300.0000    20.0000
 100.0000     1.6000   100.0000   100.0000     0.0

.1800E-100.6560E 020.3500E 00
   1.0000     2.0000     5.0000    10.0000
   0.1000     0.1000     0.0001     0.0010     0.0010     0.0
   0.0       10.0000   100.0000
-300.0000  -300.0000  -300.0000
   0.2200     0.2200     0.2200
   0.0        0.0        0.0
   0.0        0.0        0.0
  20.0000    20.0000    20.0000
   0.0        0.0        0.0
```

TIME = 0.10000E 01

DEPTH,CM	SUCTION,CM	THETA	HYDR.COND.	WATER FLUX	NH4	NO3	CORGN	NO2
0.0	0.0	0.3598E 00	0.3213E 00	0.1141E 01	0.9895E 02	0.1005E 03	0.2000E 02	0.0
0.1250E 00	-0.3189E 00	0.3599E 00	0.3202E 00	0.1141E 01	0.9835E 02	0.1008E 03	0.2000E 02	0.0
0.2500E 00	-0.6395E 00	0.3597E 00	0.3171E 00	0.1141E 01	0.9763E 02	0.1010E 03	0.2000E 02	0.0
0.3750E 00	-0.9643E 00	0.3596E 00	0.3140E 00	0.1141E 01	0.9677E 02	0.1013E 03	0.1999E 02	0.0
0.5000E 00	-0.1294E 01	0.3594E 00	0.3109E 00	0.1141E 01	0.9571E 02	0.1014E 03	0.1999E 02	0.0
0.6250E 00	-0.1627E 01	0.3593E 00	0.3078E 00	0.1141E 01	0.9440E 02	0.1015E 03	0.1999E 02	0.0
0.7500E 00	-0.1966E 01	0.3591E 00	0.3047E 00	0.1141E 01	0.9274E 02	0.1015E 03	0.1999E 02	0.0
0.8750E 00	-0.2309E 01	0.3590E 00	0.3016E 00	0.1141E 01	0.9068E 02	0.1013E 03	0.1999E 02	0.0
0.1000E 01	-0.2656E 01	0.3588E 00	0.2985E 00	0.1140E 01	0.8812E 02	0.1010E 03	0.1999E 02	0.0
0.1125E 01	-0.3009E 01	0.3586E 00	0.2953E 00	0.1140E 01	0.8501E 02	0.1006E 03	0.1999E 02	0.0
0.1250E 01	-0.3367E 01	0.3585E 00	0.2922E 00	0.1140E 01	0.8131E 02	0.9983E 02	0.1998E 02	0.0
0.1375E 01	-0.3729E 01	0.3583E 00	0.2890E 00	0.1140E 01	0.7701E 02	0.9882E 02	0.1998E 02	0.0
0.1500E 01	-0.4097E 01	0.3581E 00	0.2858E 00	0.1140E 01	0.7213E 02	0.9747E 02	0.1998E 02	0.0
0.1625E 01	-0.4471E 01	0.3580E 00	0.2826E 00	0.1139E 01	0.6672E 02	0.9574E 02	0.1998E 02	0.0
0.1750E 01	-0.4850E 01	0.3578E 00	0.2794E 00	0.1139E 01	0.6088E 02	0.9358E 02	0.1998E 02	0.0
0.1875E 01	-0.5234E 01	0.3576E 00	0.2762E 00	0.1139E 01	0.5474E 02	0.9095E 02	0.1998E 02	0.0
0.2000E 01	-0.5624E 01	0.3574E 00	0.2730E 00	0.1138E 01	0.4846E 02	0.8784E 02	0.1998E 02	0.0
0.2125E 01	-0.6021E 01	0.3573E 00	0.2698E 00	0.1138E 01	0.4218E 02	0.8424E 02	0.1998E 02	0.0
0.2250E 01	-0.6423E 01	0.3571E 00	0.2665E 00	0.1137E 01	0.3608E 02	0.8014E 02	0.1998E 02	0.0
0.2375E 01	-0.6831E 01	0.3569E 00	0.2633E 00	0.1137E 01	0.3030E 02	0.7559E 02	0.1998E 02	0.0
0.2500E 01	-0.7246E 01	0.3567E 00	0.2600E 00	0.1136E 01	0.2497E 02	0.7063E 02	0.1998E 02	0.0
0.2625E 01	-0.7667E 01	0.3565E 00	0.2567E 00	0.1136E 01	0.2018E 02	0.6533E 02	0.1998E 02	0.0
0.2750E 01	-0.8095E 01	0.3563E 00	0.2535E 00	0.1135E 01	0.1599E 02	0.5979E 02	0.1998E 02	0.0
0.2875E 01	-0.8530E 01	0.3561E 00	0.2502E 00	0.1135E 01	0.1241E 02	0.5410E 02	0.1998E 02	0.0
0.3000E 01	-0.8972E 01	0.3559E 00	0.2469E 00	0.1134E 01	0.9440E 01	0.4837E 02	0.1998E 02	0.0
0.3125E 01	-0.9422E 01	0.3557E 00	0.2435E 00	0.1134E 01	0.7032E 01	0.4270E 02	0.1998E 02	0.0
0.3250E 01	-0.9879E 01	0.3555E 00	0.2402E 00	0.1133E 01	0.5131E 01	0.3721E 02	0.1998E 02	0.0
0.3375E 01	-0.1034E 02	0.3553E 00	0.2369E 00	0.1132E 01	0.3670E 01	0.3199E 02	0.1998E 02	0.0
0.3500E 01	-0.1082E 02	0.3551E 00	0.2335E 00	0.1131E 01	0.2574E 01	0.2712E 02	0.1998E 02	0.0
0.3625E 01	-0.1130E 02	0.3549E 00	0.2302E 00	0.1131E 01	0.1773E 01	0.2266E 02	0.1998E 02	0.0
0.3750E 01	-0.1178E 02	0.3546E 00	0.2268E 00	0.1130E 01	0.1202E 01	0.1865E 02	0.1998E 02	0.0
0.3875E 01	-0.1228E 02	0.3544E 00	0.2235E 00	0.1129E 01	0.8051E 00	0.1512E 02	0.1998E 02	0.0
0.4000E 01	-0.1279E 02	0.3542E 00	0.2201E 00	0.1128E 01	0.5364E 00	0.1207E 02	0.1998E 02	0.0
0.4125E 01	-0.1330E 02	0.3540E 00	0.2167E 00	0.1127E 01	0.3589E 00	0.9482E 01	0.1998E 02	0.0
0.4250E 01	-0.1383E 02	0.3537E 00	0.2133E 00	0.1126E 01	0.2446E 00	0.7330E 01	0.1998E 02	0.0
0.4375E 01	-0.1436E 02	0.3535E 00	0.2099E 00	0.1125E 01	0.1726E 00	0.5573E 01	0.1998E 02	0.0
0.4500E 01	-0.1491E 02	0.3532E 00	0.2065E 00	0.1124E 01	0.1284E 00	0.4167E 01	0.1998E 02	0.0
0.4625E 01	-0.1546E 02	0.3530E 00	0.2031E 00	0.1123E 01	0.1018E 00	0.3061E 01	0.1998E 02	0.0
0.4750E 01	-0.1603E 02	0.3527E 00	0.1996E 00	0.1122E 01	0.8597E-01	0.2211E 01	0.1998E 02	0.0
0.4875E 01	-0.1661E 02	0.3525E 00	0.1962E 00	0.1120E 01	0.7661E-01	0.1569E 01	0.1998E 02	0.0
0.5000E 01	-0.1720E 02	0.3522E 00	0.1927E 00	0.1119E 01	0.7096E-01	0.1093E 01	0.1998E 02	0.0
0.5125E 01	-0.1780E 02	0.3519E 00	0.1893E 00	0.1118E 01	0.6738E-01	0.7487E 00	0.1998E 02	0.0
0.5250E 01	-0.1841E 02	0.3516E 00	0.1858E 00	0.1116E 01	0.6492E-01	0.5028E 00	0.1998E 02	0.0
0.5375E 01	-0.1904E 02	0.3513E 00	0.1823E 00	0.1115E 01	0.6303E-01	0.3318E 00	0.1998E 02	0.0
0.5500E 01	-0.1968E 02	0.3511E 00	0.1789E 00	0.1114E 01	0.6142E-01	0.2150E 00	0.1998E 02	0.0
0.5625E 01	-0.2033E 02	0.3508E 00	0.1754E 00	0.1112E 01	0.5989E-01	0.1367E 00	0.1999E 02	0.0
0.5750E 01	-0.2100E 02	0.3505E 00	0.1719E 00	0.1111E 01	0.5833E-01	0.8548E-01	0.1999E 02	0.0
0.5875E 01	-0.2168E 02	0.3501E 00	0.1669E 00	0.1109E 01	0.5667E-01	0.5258E-01	0.1999E 02	0.0
0.6000E 01	-0.2239E 02	0.3496E 00	0.1595E 00	0.1105E 01	0.5491E-01	0.3201E-01	0.1999E 02	0.0
0.6125E 01	-0.2313E 02	0.3487E 00	0.1508E 00	0.1100E 01	0.5307E-01	0.1939E-01	0.1999E 02	0.0
0.6250E 01	-0.2391E 02	0.3479E 00	0.1422E 00	0.1095E 01	0.5124E-01	0.1185E-01	0.1999E 02	0.0
0.6375E 01	-0.2475E 02	0.3469E 00	0.1334E 00	0.1089E 01	0.4951E-01	0.7401E-02	0.1999E 02	0.0
0.6500E 01	-0.2565E 02	0.3459E 00	0.1247E 00	0.1083E 01	0.4794E-01	0.4932E-02	0.1999E 02	0.0
0.6625E 01	-0.2661E 02	0.3449E 00	0.1160E 00	0.1076E 01	0.4647E-01	0.3346E-02	0.1999E 02	0.0
0.6750E 01	-0.2764E 02	0.3437E 00	0.1072E 00	0.1068E 01	0.4500E-01	0.2495E-02	0.1999E 02	0.0
0.6875E 01	-0.2876E 02	0.3425E 00	0.9843E-01	0.1060E 01	0.4331E-01	0.1986E-02	0.1999E 02	0.0
0.7000E 01	-0.2998E 02	0.3411E 00	0.8994E-01	0.1050E 01	0.4130E-01	0.1663E-02	0.1999E 02	0.0
0.7125E 01	-0.3132E 02	0.3397E 00	0.8257E-01	0.1042E 01	0.3899E-01	0.1430E-02	0.1999E 02	0.0
0.7250E 01	-0.3277E 02	0.3385E 00	0.7601E-01	0.1034E 01	0.3663E-01	0.1248E-02	0.1999E 02	0.0
0.7375E 01	-0.3435E 02	0.3372E 00	0.6947E-01	0.1024E 01	0.3451E-01	0.1094E-02	0.1999E 02	0.0
0.7500E 01	-0.3606E 02	0.3358E 00	0.6294E-01	0.1014E 01	0.3287E-01	0.9659E-03	0.1999E 02	0.0
0.7625E 01	-0.3795E 02	0.3342E 00	0.5645E-01	0.1002E 01	0.3178E-01	0.8623E-03	0.1999E 02	0.0
0.7750E 01	-0.4005E 02	0.3325E 00	0.4999E-01	0.9899E 00	0.3115E-01	0.7830E-03	0.1999E 02	0.0
0.7875E 01	-0.4240E 02	0.3305E 00	0.4410E-01	0.9759E 00	0.3069E-01	0.7218E-03	0.1999E 02	0.0
0.8000E 01	-0.4504E 02	0.3286E 00	0.3898E-01	0.9636E 00	0.2994E-01	0.6576E-03	0.1999E 02	0.0
0.8125E 01	-0.4801E 02	0.3267E 00	0.3383E-01	0.9502E 00	0.2854E-01	0.6090E-03	0.1999E 02	0.0
0.8250E 01	-0.5140E 02	0.3244E 00	0.2882E-01	0.9355E 00	0.2673E-01	0.5434E-03	0.1999E 02	0.0
0.8375E 01	-0.5533E 02	0.3218E 00	0.2401E-01	0.9189E 00	0.2524E-01	0.4802E-03	0.1999E 02	0.0
0.8500E 01	-0.5999E 02	0.3188E 00	0.1955E-01	0.9021E 00	0.2444E-01	0.4318E-03	0.1999E 02	0.0
0.8625E 01	-0.6563E 02	0.3155E 00	0.1529E-01	0.8820E 00	0.2424E-01	0.4032E-03	0.1999E 02	0.0
0.8750E 01	-0.7272E 02	0.3113E 00	0.1137E-01	0.8555E 00	0.2435E-01	0.3904E-03	0.1999E 02	0.0
0.8875E 01	-0.8200E 02	0.3065E 00	0.7836E-02	0.8200E 00	0.2457E-01	0.3866E-03	0.1999E 02	0.0
0.9000E 01	-0.9496E 02	0.3000E 00	0.4522E-02	0.7434E 00	0.2479E-01	0.3860E-03	0.1999E 02	0.0
0.9125E 01	-0.1154E 03	0.2858E 00	0.5220E-03	0.6510E 00	0.2491E-01	0.3823E-03	0.1999E 02	0.0
0.9250E 01	-0.2472E 03	0.2345E 00	0.5388E-04	0.2201E-01	0.2394E-01	0.3470E-03	0.1999E 02	0.0
0.9375E 01	-0.2981E 03	0.2205E 00	0.3389E-04	0.5194E-03	0.1810E-01	0.2150E-03	0.2000E 02	0.0
0.9500E 01	-0.2999E 03	0.2200E 00	0.3337E-04	0.4758E-04	0.1699E-01	0.1800E-03	0.2000E 02	0.0

0.9625E 01	-0.3000E 03	0.2200E 00	0.3336E-04	0.3381E-04	0.1688E-01	0.1751E-03	0.2000E 02	0.0
0.9750E 01	-0.3000E 03	0.2200E 00	0.3336E-04	0.3342E-04	0.1688E-01	0.1746E-03	0.2000E 02	0.0
0.9875E 01	-0.3000E 03	0.2200E 00	0.3336E-04	0.3355E-04	0.1687E-01	0.1746E-03	0.2000E 02	0.0
0.1000E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.1687E-01	0.1746E-03	0.2000E 02	0.0
0.1013E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3349E-04	0.1687E-01	0.1746E-03	0.2000E 02	0.0
0.1025E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3349E-04	0.1687E-01	0.1745E-03	0.2000E 02	0.0
0.1038E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3401E-04	0.1684E-01	0.1735E-03	0.2000E 02	0.0
0.1050E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3394E-04	0.1617E-01	0.1593E-03	0.2000E 02	0.0
0.1063E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3407E-04	0.9232E-02	0.6071E-04	0.2000E 02	0.0
0.1075E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.8562E-02	0.4655E-04	0.2000E 02	0.0
0.1088E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3342E-04	0.8529E-02	0.4551E-04	0.2000E 02	0.0
0.1100E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3342E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1113E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3348E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1125E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3322E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1138E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3329E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1150E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1163E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3407E-04	0.8528E-02	0.4545E-04	0.2000E 02	0.0
0.1175E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3478E-04	0.8516E-02	0.4533E-04	0.2000E 02	0.0
0.1188E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1441E-03	0.1270E-06	0.2000E 02	0.0
0.1200E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1095E-07	0.2000E 02	0.0
0.1213E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1225E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1238E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1250E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1263E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1275E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1288E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3393E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1300E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0
0.1313E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1316E-03	0.1080E-07	0.2000E 02	0.0

TIME ,HOURS = 1.00000
LENGTH OF SOIL PROFILE, CM= 13.12500
VOLUME OF WATER IN THE SOIL PROFILE , CM = 4.05447

TOTAL NH-4 IN EXCH. PHASE, MG = 31.34497
TOTAL NH-4 IN SOIL SOLUTION PHASE, MG = 70.23523
TOTAL NH-4 IN SOIL, MG = 101.58020

TOTAL NH-3 IN SOIL SOLUTION, MG= 107.69272
TOTAL ORGANIC N IN THE SOIL, MG = 419.77100
TOTAL NO-2 RELEASED FROM THE SOIL, MG = 0.0

TIME = 0.20000E 01

DEPTH,CM	SUCTION,CM	THETA	HYDR.COND.	WATER FLUX	NH4	NO3	CORGN	NO2
0.0	0.0	0.3598E 00	0.3221E 00	0.7387E 00	0.9920E 02	0.1008E 03	0.2000E 02	0.0
0.1250E 00	-0.1617E 00	0.3599E 00	0.3224E 00	0.7387E 00	0.9863E 02	0.1014E 03	0.2000E 02	0.0
0.2500E 00	-0.3231E 00	0.3599E 00	0.3209E 00	0.7386E 00	0.9807E 02	0.1019E 03	0.2000E 02	0.0
0.3750E 00	-0.4858E 00	0.3598E 00	0.3193E 00	0.7387E 00	0.9753E 02	0.1025E 03	0.2000E 02	0.0
0.5000E 00	-0.6500E 00	0.3597E 00	0.3177E 00	0.7386E 00	0.9699E 02	0.1030E 03	0.2000E 02	0.0
0.6250E 00	-0.8156E 00	0.3596E 00	0.3161E 00	0.7386E 00	0.9647E 02	0.1035E 03	0.1999E 02	0.0
0.7500E 00	-0.9826E 00	0.3596E 00	0.3146E 00	0.7385E 00	0.9594E 02	0.1040E 03	0.1999E 02	0.0
0.8750E 00	-0.1151E 01	0.3595E 00	0.3130E 00	0.7385E 00	0.9541E 02	0.1045E 03	0.1999E 02	0.0
0.1000E 01	-0.1321E 01	0.3594E 00	0.3114E 00	0.7385E 00	0.9487E 02	0.1050E 03	0.1999E 02	0.0
0.1125E 01	-0.1493E 01	0.3593E 00	0.3098E 00	0.7384E 00	0.9431E 02	0.1055E 03	0.1999E 02	0.0
0.1250E 01	-0.1665E 01	0.3592E 00	0.3082E 00	0.7384E 00	0.9371E 02	0.1059E 03	0.1999E 02	0.0
0.1375E 01	-0.1840E 01	0.3592E 00	0.3066E 00	0.7383E 00	0.9306E 02	0.1063E 03	0.1998E 02	0.0
0.1500E 01	-0.2016E 01	0.3591E 00	0.3050E 00	0.7383E 00	0.9234E 02	0.1067E 03	0.1998E 02	0.0
0.1625E 01	-0.2194E 01	0.3590E 00	0.3033E 00	0.7382E 00	0.9153E 02	0.1071E 03	0.1998E 02	0.0
0.1750E 01	-0.2373E 01	0.3589E 00	0.3017E 00	0.7380E 00	0.9060E 02	0.1074E 03	0.1998E 02	0.0
0.1875E 01	-0.2554E 01	0.3588E 00	0.3001E 00	0.7381E 00	0.8953E 02	0.1077E 03	0.1998E 02	0.0
0.2000E 01	-0.2736E 01	0.3588E 00	0.2984E 00	0.7380E 00	0.8829E 02	0.1080E 03	0.1998E 02	0.0
0.2125E 01	-0.2920E 01	0.3587E 00	0.2968E 00	0.7379E 00	0.8684E 02	0.1082E 03	0.1998E 02	0.0
0.2250E 01	-0.3106E 01	0.3586E 00	0.2951E 00	0.7378E 00	0.8516E 02	0.1083E 03	0.1998E 02	0.0
0.2375E 01	-0.3293E 01	0.3585E 00	0.2935E 00	0.7378E 00	0.8321E 02	0.1084E 03	0.1997E 02	0.0
0.2500E 01	-0.3483E 01	0.3584E 00	0.2918E 00	0.7375E 00	0.8098E 02	0.1083E 03	0.1997E 02	0.0
0.2625E 01	-0.3673E 01	0.3583E 00	0.2902E 00	0.7375E 00	0.7845E 02	0.1082E 03	0.1997E 02	0.0
0.2750E 01	-0.3866E 01	0.3582E 00	0.2885E 00	0.7374E 00	0.7559E 02	0.1080E 03	0.1997E 02	0.0
0.2875E 01	-0.4061E 01	0.3582E 00	0.2868E 00	0.7373E 00	0.7243E 02	0.1076E 03	0.1997E 02	0.0
0.3000E 01	-0.4257E 01	0.3581E 00	0.2851E 00	0.7371E 00	0.6896E 02	0.1071E 03	0.1997E 02	0.0
0.3125E 01	-0.4455E 01	0.3580E 00	0.2834E 00	0.7370E 00	0.6521E 02	0.1064E 03	0.1997E 02	0.0
0.3250E 01	-0.4655E 01	0.3579E 00	0.2817E 00	0.7370E 00	0.6120E 02	0.1055E 03	0.1997E 02	0.0
0.3375E 01	-0.4857E 01	0.3578E 00	0.2800E 00	0.7367E 00	0.5700E 02	0.1044E 03	0.1997E 02	0.0
0.3500E 01	-0.5061E 01	0.3577E 00	0.2783E 00	0.7366E 00	0.5264E 02	0.1031E 03	0.1996E 02	0.0
0.3625E 01	-0.5267E 01	0.3576E 00	0.2766E 00	0.7364E 00	0.4818E 02	0.1015E 03	0.1996E 02	0.0
0.3750E 01	-0.5475E 01	0.3575E 00	0.2749E 00	0.7363E 00	0.4370E 02	0.9966E 02	0.1996E 02	0.0
0.3875E 01	-0.5685E 01	0.3574E 00	0.2731E 00	0.7362E 00	0.3926E 02	0.9756E 02	0.1996E 02	0.0
0.4000E 01	-0.5897E 01	0.3573E 00	0.2714E 00	0.7358E 00	0.3493E 02	0.9518E 02	0.1996E 02	0.0
0.4125E 01	-0.6110E 01	0.3572E 00	0.2697E 00	0.7359E 00	0.3075E 02	0.9251E 02	0.1996E 02	0.0
0.4250E 01	-0.6327E 01	0.3571E 00	0.2679E 00	0.7356E 00	0.2679E 02	0.8957E 02	0.1996E 02	0.0
0.4375E 01	-0.6545E 01	0.3570E 00	0.2662E 00	0.7354E 00	0.2310E 02	0.8635E 02	0.1996E 02	0.0
0.4500E 01	-0.6765E 01	0.3569E 00	0.2644E 00	0.7352E 00	0.1969E 02	0.8287E 02	0.1996E 02	0.0
0.4625E 01	-0.6988E 01	0.3568E 00	0.2627E 00	0.7350E 00	0.1661E 02	0.7914E 02	0.1996E 02	0.0
0.4750E 01	-0.7212E 01	0.3567E 00	0.2609E 00	0.7347E 00	0.1385E 02	0.7520E 02	0.1996E 02	0.0
0.4875E 01	-0.7439E 01	0.3566E 00	0.2591E 00	0.7345E 00	0.1142E 02	0.7107E 02	0.1996E 02	0.0
0.5000E 01	-0.7669E 01	0.3565E 00	0.2573E 00	0.7343E 00	0.9310E 01	0.6679E 02	0.1996E 02	0.0
0.5125E 01	-0.7900E 01	0.3564E 00	0.2555E 00	0.7341E 00	0.7506E 01	0.6240E 02	0.1996E 02	0.0
0.5250E 01	-0.8134E 01	0.3563E 00	0.2538E 00	0.7335E 00	0.5985E 01	0.5794E 02	0.1996E 02	0.0
0.5375E 01	-0.8371E 01	0.3562E 00	0.2520E 00	0.7336E 00	0.4721E 01	0.5346E 02	0.1996E 02	0.0
0.5500E 01	-0.8610E 01	0.3561E 00	0.2502E 00	0.7332E 00	0.3685E 01	0.4899E 02	0.1996E 02	0.0
0.5625E 01	-0.8851E 01	0.3560E 00	0.2483E 00	0.7330E 00	0.2849E 01	0.4459E 02	0.1997E 02	0.0
0.5750E 01	-0.9095E 01	0.3559E 00	0.2465E 00	0.7326E 00	0.2183E 01	0.4031E 02	0.1997E 02	0.0
0.5875E 01	-0.9341E 01	0.3558E 00	0.2447E 00	0.7323E 00	0.1661E 01	0.3617E 02	0.1997E 02	0.0
0.6000E 01	-0.9591E 01	0.3556E 00	0.2429E 00	0.7323E 00	0.1256E 01	0.3221E 02	0.1997E 02	0.0
0.6125E 01	-0.9842E 01	0.3555E 00	0.2411E 00	0.7317E 00	0.9477E 00	0.2847E 02	0.1997E 02	0.0
0.6250E 01	-0.1010E 02	0.3554E 00	0.2392E 00	0.7315E 00	0.7153E 00	0.2497E 02	0.1997E 02	0.0
0.6375E 01	-0.1035E 02	0.3553E 00	0.2374E 00	0.7312E 00	0.5426E 00	0.2173E 02	0.1997E 02	0.0
0.6500E 01	-0.1061E 02	0.3552E 00	0.2355E 00	0.7309E 00	0.4161E 00	0.1876E 02	0.1997E 02	0.0
0.6625E 01	-0.1088E 02	0.3551E 00	0.2337E 00	0.7303E 00	0.3245E 00	0.1606E 02	0.1997E 02	0.0
0.6750E 01	-0.1114E 02	0.3549E 00	0.2318E 00	0.7305E 00	0.2591E 00	0.1363E 02	0.1997E 02	0.0
0.6875E 01	-0.1141E 02	0.3548E 00	0.2299E 00	0.7297E 00	0.2126E 00	0.1148E 02	0.1997E 02	0.0
0.7000E 01	-0.1168E 02	0.3547E 00	0.2281E 00	0.7296E 00	0.1804E 00	0.9582E 01	0.1997E 02	0.0
0.7125E 01	-0.1196E 02	0.3546E 00	0.2262E 00	0.7291E 00	0.1578E 00	0.7930E 01	0.1997E 02	0.0
0.7250E 01	-0.1224E 02	0.3544E 00	0.2243E 00	0.7285E 00	0.1422E 00	0.6506E 01	0.1997E 02	0.0
0.7375E 01	-0.1252E 02	0.3543E 00	0.2224E 00	0.7285E 00	0.1314E 00	0.5290E 01	0.1997E 02	0.0
0.7500E 01	-0.1280E 02	0.3542E 00	0.2205E 00	0.7277E 00	0.1238E 00	0.4264E 01	0.1997E 02	0.0
0.7625E 01	-0.1309E 02	0.3541E 00	0.2186E 00	0.7272E 00	0.1183E 00	0.3407E 01	0.1997E 02	0.0
0.7750E 01	-0.1338E 02	0.3539E 00	0.2167E 00	0.7272E 00	0.1143E 00	0.2697E 01	0.1997E 02	0.0
0.7875E 01	-0.1367E 02	0.3538E 00	0.2148E 00	0.7262E 00	0.1112E 00	0.2117E 01	0.1997E 02	0.0
0.8000E 01	-0.1397E 02	0.3536E 00	0.2129E 00	0.7264E 00	0.1087E 00	0.1646E 01	0.1997E 02	0.0
0.8125E 01	-0.1427E 02	0.3535E 00	0.2110E 00	0.7251E 00	0.1066E 00	0.1269E 01	0.1997E 02	0.0
0.8250E 01	-0.1458E 02	0.3534E 00	0.2091E 00	0.7254E 00	0.1047E 00	0.9698E 00	0.1997E 02	0.0
0.8375E 01	-0.1489E 02	0.3532E 00	0.2071E 00	0.7243E 00	0.1029E 00	0.7347E 00	0.1997E 02	0.0
0.8500E 01	-0.1520E 02	0.3531E 00	0.2052E 00	0.7245E 00	0.1012E 00	0.5519E 00	0.1997E 02	0.0
0.8625E 01	-0.1551E 02	0.3529E 00	0.2032E 00	0.7231E 00	0.9960E-01	0.4112E 00	0.1997E 02	0.0
0.8750E 01	-0.1583E 02	0.3528E 00	0.2013E 00	0.7235E 00	0.9805E-01	0.3040E 00	0.1997E 02	0.0
0.8875E 01	-0.1616E 02	0.3527E 00	0.1993E 00	0.7215E 00	0.9657E-01	0.2232E 00	0.1997E 02	0.0
0.9000E 01	-0.1649E 02	0.3525E 00	0.1974E 00	0.7218E 00	0.9516E-01	0.1630E 00	0.1997E 02	0.0
0.9125E 01	-0.1682E 02	0.3524E 00	0.1954E 00	0.7223E 00	0.9381E-01	0.1184E 00	0.1997E 02	0.0
0.9250E 01	-0.1716E 02	0.3522E 00	0.1934E 00	0.7200E 00	0.9254E-01	0.8585E-01	0.1997E 02	0.0
0.9375E 01	-0.1750E 02	0.3520E 00	0.1915E 00	0.7198E 00	0.9135E-01	0.6226E-01	0.1997E 02	0.0
0.9500E 01	-0.1784E 02	0.3519E 00	0.1895E 00	0.7204E 00	0.9024E-01	0.4534E-01	0.1997E 02	0.0

0.9625E 01	-0.1819E 02	0.3517E 00	0.1875E 00	0.7194E 00	0.8921E-01	0.3331E-01	0.1997E 02	0.0
0.9750E 01	-0.1855E 02	0.3516E 00	0.1855E 00	0.7173E 00	0.8825E-01	0.2483E-01	0.1997E 02	0.0
0.9875E 01	-0.1890E 02	0.3514E 00	0.1835E 00	0.7171E 00	0.8737E-01	0.1891E-01	0.1997E 02	0.0
0.1000E 02	-0.1927E 02	0.3512E 00	0.1815E 00	0.7174E 00	0.8654E-01	0.1480E-01	0.1997E 02	0.0
0.1013E 02	-0.1964E 02	0.3511E 00	0.1795E 00	0.7169E 00	0.8576E-01	0.1196E-01	0.1997E 02	0.0
0.1025E 02	[illegible]	[illegible]	0.1775E 00	0.7157E 00	0.8501E-01	0.1000E-01	0.1997E 02	0.0
0.1038E 02	-0.2039E 02	0.3507E 00	0.1755E 00	0.7157E 00	0.8430E-01	0.8662E-02	0.1997E 02	0.0
0.1050E 02	-0.2077E 02	0.3506E 00	0.1735E 00	0.7138E 00	0.8362E-01	0.7734E-02	0.1997E 02	0.0
0.1063E 02	-0.2116E 02	0.3504E 00	0.1714E 00	0.7130E 00	0.8296E-01	0.7087E-02	0.1998E 02	0.0
0.1075E 02	-0.2156E 02	0.3502E 00	0.1693E 00	0.7114E 00	0.8232E-01	0.6627E-02	0.1998E 02	0.0
0.1088E 02	-0.2196E 02	0.3500E 00	0.1657E 00	0.7097E 00	0.8170E-01	0.6293E-02	0.1998E 02	0.0
0.1100E 02	-0.2237E 02	0.3496E 00	0.1607E 00	0.7076E 00	0.8109E-01	0.6040E-02	0.1998E 02	0.0
0.1113E 02	-0.2279E 02	0.3491E 00	0.1556E 00	0.7055E 00	0.8049E-01	0.5842E-02	0.1998E 02	0.0
0.1125E 02	-0.2324E 02	0.3486E 00	0.1506E 00	0.7032E 00	0.7988E-01	0.5678E-02	0.1998E 02	0.0
0.1138E 02	-0.2370E 02	0.3481E 00	0.1455E 00	0.7009E 00	0.7927E-01	0.5537E-02	0.1998E 02	0.0
0.1150E 02	-0.2417E 02	0.3476E 00	0.1404E 00	0.6982E 00	0.7866E-01	0.5411E-02	0.1998E 02	0.0
0.1163E 02	-0.2467E 02	0.3470E 00	0.1352E 00	0.6958E 00	0.7805E-01	0.5294E-02	0.1998E 02	0.0
0.1175E 02	-0.2519E 02	0.3465E 00	0.1300E 00	0.6928E 00	0.7746E-01	0.5184E-02	0.1998E 02	0.0
0.1188E 02	-0.2573E 02	0.3459E 00	0.1248E 00	0.6899E 00	0.7689E-01	0.5078E-02	0.1998E 02	0.0
0.1200E 02	-0.2629E 02	0.3452E 00	0.1196E 00	0.6871E 00	0.7633E-01	0.4976E-02	0.1998E 02	0.0
0.1213E 02	-0.2689E 02	0.3446E 00	0.1144E 00	0.6833E 00	0.7578E-01	0.4877E-02	0.1998E 02	0.0
0.1225E 02	-0.2751E 02	0.3439E 00	0.1091E 00	0.6804E 00	0.7521E-01	0.4780E-02	0.1998E 02	0.0
0.1238E 02	-0.2816E 02	0.3432E 00	0.1039E 00	0.6759E 00	0.7462E-01	0.4683E-02	0.1998E 02	0.0
0.1250E 02	-0.2885E 02	0.3424E 00	0.9858E-01	0.6729E 00	0.7399E-01	0.4586E-02	0.1998E 02	0.0
0.1263E 02	-0.2958E 02	0.3416E 00	0.9328E-01	0.6675E 00	0.7336E-01	0.4490E-02	0.1998E 02	0.0
0.1275E 02	-0.3035E 02	0.3407E 00	0.8824E-01	0.6643E 00	0.7273E-01	0.4393E-02	0.1998E 02	0.0
0.1288E 02	-0.3117E 02	0.3399E 00	0.8386E-01	0.6614E 00	0.7212E-01	0.4296E-02	0.1998E 02	0.0
0.1300E 02	-0.3203E 02	0.3391E 00	0.7987E-01	0.6579E 00	0.7149E-01	0.4199E-02	0.1998E 02	0.0
0.1313E 02	-0.3293E 02	0.3384E 00	0.7588E-01	0.6534E 00	0.7075E-01	0.4097E-02	0.1998E 02	0.0
0.1325E 02	-0.3388E 02	0.3376E 00	0.7189E-01	0.6492E 00	0.6979E-01	0.3988E-02	0.1998E 02	0.0
0.1338E 02	-0.3489E 02	0.3368E 00	0.6789E-01	0.6447E 00	0.6851E-01	0.3865E-02	0.1998E 02	0.0
0.1350E 02	-0.3595E 02	0.3359E 00	0.6390E-01	0.6399E 00	0.6690E-01	0.3725E-02	0.1998E 02	0.0
0.1363E 02	-0.3707E 02	0.3349E 00	0.5991E-01	0.6350E 00	0.6508E-01	0.3566E-02	0.1998E 02	0.0
0.1375E 02	-0.3827E 02	0.3339E 00	0.5593E-01	0.6292E 00	0.6328E-01	0.3395E-02	0.1998E 02	0.0
0.1388E 02	-0.3956E 02	0.3329E 00	0.5195E-01	0.6236E 00	0.6169E-01	0.3220E-02	0.1998E 02	0.0
0.1400E 02	-0.4093E 02	0.3317E 00	0.4799E-01	0.6177E 00	0.6047E-01	0.3053E-02	0.1998E 02	0.0
0.1413E 02	-0.4241E 02	0.3305E 00	0.4439E-01	0.6097E 00	0.5960E-01	0.2901E-02	0.1998E 02	0.0
0.1425E 02	-0.4401E 02	0.3293E 00	0.4118E-01	0.6046E 00	0.5894E-01	0.2758E-02	0.1998E 02	0.0
0.1438E 02	-0.4572E 02	0.3282E 00	0.3805E-01	0.5980E 00	0.5825E-01	0.2650E-02	0.1999E 02	0.0
0.1450E 02	-0.4756E 02	0.3270E 00	0.3454E-01	0.5911E 00	0.5736E-01	0.2538E-02	0.1999E 02	0.0
0.1463E 02	-0.4955E 02	0.3256E 00	0.3185E-01	0.5831E 00	0.5628E-01	0.2428E-02	0.1999E 02	0.0
0.1475E 02	-0.5171E 02	0.3242E 00	0.2878E-01	0.5743E 00	0.5524E-01	0.2320E-02	0.1999E 02	0.0
0.1488E 02	-0.5408E 02	0.3226E 00	0.2573E-01	0.5647E 00	0.5447E-01	0.2222E-02	0.1999E 02	0.0
0.1500E 02	-0.5670E 02	0.3209E 00	0.2287E-01	0.5546E 00	0.5408E-01	0.2141E-02	0.1999E 02	0.0
0.1513E 02	-0.5960E 02	0.3191E 00	0.2022E-01	0.5443E 00	0.5404E-01	0.2083E-02	0.1999E 02	0.0
0.1525E 02	-0.6285E 02	0.3171E 00	0.1763E-01	0.5323E 00	0.5416E-01	0.2041E-02	0.1999E 02	0.0
0.1538E 02	-0.6649E 02	0.3150E 00	0.1509E-01	0.5179E 00	0.5405E-01	0.1998E-02	0.1999E 02	0.0
0.1550E 02	-0.7066E 02	0.3126E 00	0.1267E-01	0.5036E 00	0.5273E-01	0.1910E-02	0.1999E 02	0.0
0.1563E 02	-0.7550E 02	0.3097E 00	0.1050E-01	0.4883E 00	0.4892E-01	0.1724E-02	0.1999E 02	0.0
0.1575E 02	-0.8119E 02	0.3069E 00	0.8484E-02	0.4697E 00	0.4441E-01	0.1468E-02	0.1999E 02	0.0
0.1588E 02	-0.8795E 02	0.3035E 00	0.6533E-02	0.4475E 00	0.4160E-01	0.1244E-02	0.1999E 02	0.0
0.1600E 02	-0.9642E 02	0.2993E 00	0.4651E-02	0.4187E 00	0.4070E-01	0.1114E-02	0.1999E 02	0.0
0.1613E 02	-0.1076E 03	0.2937E 00	0.2970E-02	0.3838E 00	0.4072E-01	0.1064E-02	0.1999E 02	0.0
0.1625E 02	-0.1236E 03	0.2863E 00	0.1128E-02	0.2930E 00	0.4100E-01	0.1053E-02	0.1999E 02	0.0
0.1638E 02	-0.1559E 03	0.2715E 00	0.1713E-03	0.1348E 00	0.4129E-01	0.1052E-02	0.1999E 02	0.0
0.1650E 02	-0.2541E 03	0.2324E 00	0.4275E-04	0.1455E-01	0.4142E-01	0.1049E-02	0.1999E 02	0.0
0.1663E 02	-0.2966E 03	0.2209E 00	0.3390E-04	0.9060E-03	0.4106E-01	0.1022E-02	0.1999E 02	0.0
0.1675E 02	-0.2998E 03	0.2201E 00	0.3339E-04	0.8250E-04	0.3829E-01	0.8905E-03	0.1999E 02	0.0
0.1688E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3636E-04	0.2824E-01	0.5454E-03	0.1999E 02	0.0
0.1700E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3389E-04	0.2547E-01	0.4143E-03	0.1999E 02	0.0
0.1713E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3375E-04	0.2508E-01	0.3873E-03	0.1999E 02	0.0
0.1725E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3355E-04	0.2505E-01	0.3835E-03	0.1999E 02	0.0
0.1738E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3355E-04	0.2504E-01	0.3831E-03	0.1999E 02	0.0
0.1750E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3362E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.1763E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3375E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.1775E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3407E-04	0.2504E-01	0.3829E-03	0.1999E 02	0.0
0.1788E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3433E-04	0.2498E-01	0.3800E-03	0.1999E 02	0.0
0.1800E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3492E-04	0.2356E-01	0.3423E-03	0.1999E 02	0.0
0.1813E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3407E-04	0.9783E-02	0.8489E-04	0.2000E 02	0.0
0.1825E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3374E-04	0.8462E-02	0.4713E-04	0.2000E 02	0.0
0.1838E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3348E-04	0.8399E-02	0.4428E-04	0.2000E 02	0.0
0.1850E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3348E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1863E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3346E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1875E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3322E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1888E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1900E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3328E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1913E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3400E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1925E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0
0.1938E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.8397E-02	0.4413E-04	0.2000E 02	0.0

TIME ,HOURS = 2.00000
LENGTH OF SOIL PROFILE, CM= 19.37500
VOLUME OF WATER IN THE SOIL PROFILE , CM = 6.34942

TOTAL NH-4 IN EXCH. PHASE, MG = 55.63681

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TOTAL NH-4  IN SCIL SOLUTICN PHASE, MG = 124.72713
TOTAL NH-4  IN SCIL, MG = 180.36394

TOTAL  NH-3 IN SCIL SCLUTICN, MG= 206.42267
TOTAL  ORGANIC N IN THE SOIL, MG= [illegible]
TOTAL  NO-3 RELEASED FROM THE SOIL, MG = [illegible]
```

TIME = 0.50000E 01

DEPTH,CM	SUCTION,CM	THETA	HYDR.COND.	WATER FLUX	NH4	NO3	CORGN	NO2
0.0	0.0	0.3598E 00	0.3225E 00	0.5050E 00	0.1666E-01	0.1443E-02	0.1994E 02	0.0
0.1250E 00	-0.7073E-01	0.3600E 00	0.3237E 00	0.5050E 00	0.3144E-01	0.2299E-02	0.1994E 02	0.0
0.2500E 00	-0.1407E 00	0.3599E 00	0.3231E 00	0.5050E 00	0.4718E-01	0.3630E-02	0.1994E 02	0.0
0.3750E 00	-0.2111E 00	0.3599E 00	0.3224E 00	0.5050E 00	0.6749E-01	0.5651E-02	0.1994E 02	0.0
0.5000E 00	-0.2819E 00	0.3599E 00	0.3217E 00	0.5050E 00	0.9486E-01	0.8704E-02	0.1994E 02	0.0
0.6250E 00	-0.3531E 00	0.3598E 00	0.3210E 00	0.5050E 00	0.1329E 00	0.1340E-01	0.1994E 02	0.0
0.7500E 00	-0.4248E 00	0.3598E 00	0.3203E 00	0.5049E 00	0.1870E 00	0.2022E-01	0.1994E 02	0.0
0.8750E 00	-0.4968E 00	0.3598E 00	0.3196E 00	0.5050E 00	0.2645E 00	0.3056E-01	0.1994E 02	0.0
0.1000E 01	-0.5693E 00	0.3597E 00	0.3189E 00	0.5049E 00	0.3757E 00	0.4594E-01	0.1995E 02	0.0
0.1125E 01	-0.6422E 00	0.3597E 00	0.3182E 00	0.5050E 00	0.5342E 00	0.6863E-01	0.1995E 02	0.0
0.1250E 01	-0.7155E 00	0.3597E 00	0.3175E 00	0.5049E 00	0.7579E 00	0.1018E 00	0.1995E 02	0.0
0.1375E 01	-0.7893E 00	0.3596E 00	0.3168E 00	0.5049E 00	0.1069E 01	0.1497E 00	0.1995E 02	0.0
0.1500E 01	-0.8635E 00	0.3596E 00	0.3161E 00	0.5049E 00	0.1496E 01	0.2181E 00	0.1995E 02	0.0
0.1625E 01	-0.9381E 00	0.3596E 00	0.3154E 00	0.5049E 00	0.2072E 01	0.3145E 00	0.1995E 02	0.0
0.1750E 01	-0.1013E 01	0.3595E 00	0.3147E 00	0.5049E 00	0.2832E 01	0.4484E 00	0.1995E 02	0.0
0.1875E 01	-0.1089E 01	0.3595E 00	0.3140E 00	0.5048E 00	0.3818E 01	0.6319E 00	0.1995E 02	0.0
0.2000E 01	-0.1165E 01	0.3595E 00	0.3133E 00	0.5048E 00	0.5071E 01	0.8799E 00	0.1995E 02	0.0
0.2125E 01	-0.1241E 01	0.3594E 00	0.3126E 00	0.5049E 00	0.6630E 01	0.1210E 01	0.1995E 02	0.0
0.2250E 01	-0.1318E 01	0.3594E 00	0.3119E 00	0.5049E 00	0.8531E 01	0.1643E 01	0.1995E 02	0.0
0.2375E 01	-0.1395E 01	0.3594E 00	0.3112E 00	0.5048E 00	0.1090E 02	0.2203E 01	0.1995E 02	0.0
0.2500E 01	-0.1473E 01	0.3593E 00	0.3104E 00	0.5048E 00	0.1345E 02	0.2916E 01	0.1995E 02	0.0
0.2625E 01	-0.1551E 01	0.3593E 00	0.3097E 00	0.5048E 00	0.1649E 02	0.3813E 01	0.1995E 02	0.0
0.2750E 01	-0.1630E 01	0.3593E 00	0.3090E 00	0.5047E 00	0.1989E 02	0.4924E 01	0.1996E 02	0.0
0.2875E 01	-0.1709E 01	0.3592E 00	0.3082E 00	0.5047E 00	0.2361E 02	0.6292E 01	0.1996E 02	0.0
0.3000E 01	-0.1789E 01	0.3592E 00	0.3075E 00	0.5048E 00	0.2751E 02	0.7919E 01	0.1996E 02	0.0
0.3125E 01	-0.1869E 01	0.3592E 00	0.3068E 00	0.5047E 00	0.3181E 02	0.9865E 01	0.1996E 02	0.0
0.3250E 01	-0.1950E 01	0.3591E 00	0.3060E 00	0.5047E 00	0.3612E 02	0.1215E 02	0.1996E 02	0.0
0.3375E 01	-0.2031E 01	0.3591E 00	0.3053E 00	0.5046E 00	0.4046E 02	0.1480E 02	0.1995E 02	0.0
0.3500E 01	-0.2113E 01	0.3590E 00	0.3045E 00	0.5046E 00	0.4472E 02	0.1792E 02	0.1995E 02	0.0
0.3625E 01	-0.2195E 01	0.3590E 00	0.3038E 00	0.5046E 00	0.4883E 02	0.2124E 02	0.1995E 02	0.0
0.3750E 01	-0.2277E 01	0.3590E 00	0.3030E 00	0.5046E 00	0.5269E 02	0.2505E 02	0.1995E 02	0.0
0.3875E 01	-0.2360E 01	0.3589E 00	0.3023E 00	0.5045E 00	0.5623E 02	0.2925E 02	0.1995E 02	0.0
0.4000E 01	-0.2444E 01	0.3589E 00	0.3015E 00	0.5045E 00	0.5940E 02	0.3381E 02	0.1995E 02	0.0
0.4125E 01	-0.2528E 01	0.3589E 00	0.3008E 00	0.5044E 00	0.6215E 02	0.3871E 02	0.1995E 02	0.0
0.4250E 01	-0.2613E 01	0.3588E 00	0.3000E 00	0.5044E 00	0.6447E 02	0.4390E 02	0.1995E 02	0.0
0.4375E 01	-0.2698E 01	0.3588E 00	0.2993E 00	0.5044E 00	0.6635E 02	0.4933E 02	0.1995E 02	0.0
0.4500E 01	-0.2784E 01	0.3587E 00	0.2985E 00	0.5044E 00	0.6780E 02	0.5495E 02	0.1995E 02	0.0
0.4625E 01	-0.2870E 01	0.3587E 00	0.2977E 00	0.5043E 00	0.6882E 02	0.6069E 02	0.1994E 02	0.0
0.4750E 01	-0.2957E 01	0.3587E 00	0.2969E 00	0.5043E 00	0.6945E 02	0.6647E 02	0.1994E 02	0.0
0.4875E 01	-0.3044E 01	0.3586E 00	0.2962E 00	0.5042E 00	0.6971E 02	0.7222E 02	0.1994E 02	0.0
0.5000E 01	-0.3132E 01	0.3586E 00	0.2954E 00	0.5042E 00	0.6963E 02	0.7786E 02	0.1994E 02	0.0
0.5125E 01	-0.3220E 01	0.3585E 00	0.2946E 00	0.5042E 00	0.6925E 02	0.8333E 02	0.1994E 02	0.0
0.5250E 01	-0.3309E 01	0.3585E 00	0.2938E 00	0.5041E 00	0.6857E 02	0.8855E 02	0.1994E 02	0.0
0.5375E 01	-0.3399E 01	0.3585E 00	0.2930E 00	0.5041E 00	0.6764E 02	0.9348E 02	0.1993E 02	0.0
0.5500E 01	-0.3489E 01	0.3584E 00	0.2922E 00	0.5040E 00	0.6648E 02	0.9806E 02	0.1993E 02	0.0
0.5625E 01	-0.3579E 01	0.3584E 00	0.2915E 00	0.5040E 00	0.6509E 02	0.1022E 03	0.1993E 02	0.0
0.5750E 01	-0.3670E 01	0.3583E 00	0.2907E 00	0.5040E 00	0.6350E 02	0.1060E 03	0.1993E 02	0.0
0.5875E 01	-0.3762E 01	0.3583E 00	0.2899E 00	0.5039E 00	0.6171E 02	0.1094E 03	0.1993E 02	0.0
0.6000E 01	-0.3854E 01	0.3582E 00	0.2891E 00	0.5039E 00	0.5976E 02	0.1123E 03	0.1993E 02	0.0
0.6125E 01	-0.3947E 01	0.3582E 00	0.2883E 00	0.5038E 00	0.5763E 02	0.1147E 03	0.1993E 02	0.0
0.6250E 01	-0.4041E 01	0.3582E 00	0.2875E 00	0.5038E 00	0.5536E 02	0.1168E 03	0.1992E 02	0.0
0.6375E 01	-0.4135E 01	0.3581E 00	0.2866E 00	0.5037E 00	0.5296E 02	0.1184E 03	0.1992E 02	0.0
0.6500E 01	-0.4229E 01	0.3581E 00	0.2858E 00	0.5037E 00	0.5043E 02	0.1196E 03	0.1992E 02	0.0
0.6625E 01	-0.4325E 01	0.3580E 00	0.2850E 00	0.5037E 00	0.4781E 02	0.1205E 03	0.1992E 02	0.0
0.6750E 01	-0.4421E 01	0.3580E 00	0.2842E 00	0.5035E 00	0.4511E 02	0.1210E 03	0.1992E 02	0.0
0.6875E 01	-0.4517E 01	0.3579E 00	0.2834E 00	0.5035E 00	0.4235E 02	0.1212E 03	0.1992E 02	0.0
0.7000E 01	-0.4614E 01	0.3579E 00	0.2826E 00	0.5034E 00	0.3956E 02	0.1211E 03	0.1992E 02	0.0
0.7125E 01	-0.4712E 01	0.3579E 00	0.2817E 00	0.5034E 00	0.3675E 02	0.1207E 03	0.1992E 02	0.0
0.7250E 01	-0.4810E 01	0.3578E 00	0.2809E 00	0.5033E 00	0.3396E 02	0.1201E 03	0.1992E 02	0.0
0.7375E 01	-0.4909E 01	0.3378E 00	0.2801E 00	0.5033E 00	0.3121E 02	0.1193E 03	0.1992E 02	0.0
0.7500E 01	-0.5009E 01	0.3577E 00	0.2792E 00	0.5032E 00	0.2852E 02	0.1182E 03	0.1992E 02	0.0
0.7625E 01	-0.5109E 01	0.3577E 00	0.2784E 00	0.5031E 00	0.2591E 02	0.1169E 03	0.1991E 02	0.0
0.7750E 01	-0.5210E 01	0.3576E 00	0.2776E 00	0.5031E 00	0.2340E 02	0.1154E 03	0.1991E 02	0.0
0.7875E 01	-0.5312E 01	0.3576E 00	0.2767E 00	0.5030E 00	0.2100E 02	0.1138E 03	0.1991E 02	0.0
0.8000E 01	-0.5414E 01	0.3575E 00	0.2759E 00	0.5030E 00	0.1874E 02	0.1120E 03	0.1991E 02	0.0
0.8125E 01	-0.5517E 01	0.3575E 00	0.2750E 00	0.5029E 00	0.1661E 02	0.1100E 03	0.1991E 02	0.0
0.8250E 01	-0.5620E 01	0.3574E 00	0.2742E 00	0.5028E 00	0.1464E 02	0.1078E 03	0.1991E 02	0.0
0.8375E 01	-0.5724E 01	0.3574E 00	0.2733E 00	0.5027E 00	0.1282E 02	0.1055E 03	0.1991E 02	0.0
0.8500E 01	-0.5829E 01	0.3574E 00	0.2725E 00	0.5027E 00	0.1116E 02	0.1030E 03	0.1991E 02	0.0
0.8625E 01	-0.5935E 01	0.3573E 00	0.2716E 00	0.5025E 00	0.9658E 01	0.1004E 03	0.1991E 02	0.0
0.8750E 01	-0.6041E 01	0.3573E 00	0.2707E 00	0.5026E 00	0.8305E 01	0.9763E 02	0.1991E 02	0.0
0.8875E 01	-0.6148E 01	0.3572E 00	0.2699E 00	0.5024E 00	0.7100E 01	0.9472E 02	0.1991E 02	0.0
0.9000E 01	-0.6256E 01	0.3572E 00	0.2690E 00	0.5024E 00	0.6035E 01	0.9168E 02	0.1991E 02	0.0
0.9125E 01	-0.6364E 01	0.3571E 00	0.2681E 00	0.5023E 00	0.5102E 01	0.8852E 02	0.1991E 02	0.0
0.9250E 01	-0.6474E 01	0.3571E 00	0.2673E 00	0.5023E 00	0.4291E 01	0.8524E 02	0.1991E 02	0.0
0.9375E 01	-0.6584E 01	0.3570E 00	0.2664E 00	0.5020E 00	0.3593E 01	0.8186E 02	0.1991E 02	0.0
0.9500E 01	-0.6694E 01	0.3570E 00	0.2655E 00	0.5020E 00	0.2995E 01	0.7840E 02	0.1991E 02	0.0

0.9625E 01	-0.6806E 01	0.3569E 00	0.2646E 00	0.5020E 00	0.2489E 01	0.7486E 02	0.1991E 02	0.0
0.9750E 01	-0.6918E 01	0.3569E 00	0.2637E 00	0.5018E 00	0.2064E 01	0.7126E 02	0.1991E 02	0.0
0.9875E 01	-0.7030E 01	0.3568E 00	0.2628E 00	0.5018E 00	0.1709E 01	0.6762E 02	0.1991E 02	0.0
0.1000E 02	-0.7144E 01	0.3568E 00	0.2619E 00	0.5016E 00	0.1415E 01	0.6396E 02	0.1991E 02	0.0
[illegible]	[illegible]	[illegible]	0.2610E 00	0.5015E 00	0.1175E 01	[illegible]	[illegible]	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
[illegible]	[illegible]	[illegible]	[illegible]	0.5014E 00	[illegible]	[illegible]	0.1991E 02	0.0
0.1050E 02	-0.7606E 01	0.3565E 00	0.2583E 00	0.5012E 00	0.6936E 00	0.4941E 02	0.1991E 02	0.0
0.1063E 02	-0.7724E 01	0.3565E 00	0.2574E 00	0.5012E 00	0.5628E 00	0.4589E 02	0.1991E 02	0.0
0.1075E 02	-0.7842E 01	0.3564E 00	0.2565E 00	0.5010E 00	0.5131E 00	0.4246E 02	0.1991E 02	0.0
0.1088E 02	-0.7961E 01	0.3564E 00	0.2556E 00	0.5010E 00	0.4507E 00	0.3913E 02	0.1991E 02	0.0
0.1100E 02	-0.8081E 01	0.3563E 00	0.2547E 00	0.5009E 00	0.4021E 00	0.3591E 02	0.1991E 02	0.0
0.1113E 02	-0.8202E 01	0.3563E 00	0.2538E 00	0.5007E 00	0.3644E 00	0.3282E 02	0.1991E 02	0.0
0.1125E 02	-0.8324E 01	0.3562E 00	0.2529E 00	0.5005E 00	0.3354E 00	0.2987E 02	0.1991E 02	0.0
0.1138E 02	-0.8446E 01	0.3562E 00	0.2519E 00	0.5005E 00	0.3133E 00	0.2706E 02	0.1991E 02	0.0
0.1150E 02	-0.8569E 01	0.3561E 00	0.2510E 00	0.5003E 00	0.2963E 00	0.2442E 02	0.1991E 02	0.0
0.1163E 02	-0.8594E 01	0.3560E 00	0.2501E 00	0.5002E 00	0.2835E 00	0.2193E 02	0.1991E 02	0.0
0.1175E 02	-0.8819E 01	0.3560E 00	0.2491E 00	0.5002E 00	0.2737E 00	0.1961E 02	0.1991E 02	0.0
0.1188E 02	-0.8945E 01	0.3559E 00	0.2482E 00	0.5000E 00	0.2662E 00	0.1745E 02	0.1991E 02	0.0
0.1200E 02	-0.9071E 01	0.3559E 00	0.2472E 00	0.4999E 00	0.2605E 00	0.1546E 02	0.1991E 02	0.0
0.1213E 02	-0.9199E 01	0.3558E 00	0.2463E 00	0.4997E 00	0.2561E 00	0.1364E 02	0.1991E 02	0.0
0.1225E 02	-0.9328E 01	0.3558E 00	0.2454E 00	0.4996E 00	0.2527E 00	0.1197E 02	0.1991E 02	0.0
0.1238E 02	-0.9457E 01	0.3557E 00	0.2444E 00	0.4995E 00	0.2500E 00	0.1046E 02	0.1991E 02	0.0
0.1250E 02	-0.9598E 01	0.3556E 00	0.2435E 00	0.4993E 00	0.2478E 00	0.9094E 01	0.1991E 02	0.0
0.1263E 02	-0.9719E 01	0.3556E 00	0.2425E 00	0.4992E 00	0.2460E 00	0.7870E 01	0.1991E 02	0.0
0.1275E 02	-0.9851E 01	0.3555E 00	0.2415E 00	0.4991E 00	0.2445E 00	0.6778E 01	0.1991E 02	0.0
0.1288E 02	-0.9985E 01	0.3555E 00	0.2406E 00	0.4989E 00	0.2433E 00	0.5810E 01	0.1991E 02	0.0
0.1300E 02	-0.1012E 02	0.3554E 00	0.2396E 00	0.4988E 00	0.2422E 00	0.4956E 01	0.1991E 02	0.0
0.1313E 02	-0.1025E 02	0.3553E 00	0.2386E 00	0.4987E 00	0.2412E 00	0.4209E 01	0.1992E 02	0.0
0.1325E 02	-0.1039E 02	0.3553E 00	0.2377E 00	0.4984E 00	0.2403E 00	0.3557E 01	0.1992E 02	0.0
0.1338E 02	-0.1053E 02	0.3552E 00	0.2367E 00	0.4984E 00	0.2395E 00	0.2992E 01	0.1992E 02	0.0
0.1350E 02	-0.1067E 02	0.3552E 00	0.2357E 00	0.4983E 00	0.2387E 00	0.2506E 01	0.1992E 02	0.0
0.1363E 02	-0.1081E 02	0.3551E 00	0.2347E 00	0.4981E 00	0.2380E 00	0.2090E 01	0.1992E 02	0.0
0.1375E 02	-0.1095E 02	0.3550E 00	0.2338E 00	0.4979E 00	0.2374E 00	0.1736E 01	0.1992E 02	0.0
0.1388E 02	-0.1109E 02	0.3550E 00	0.2328E 00	0.4978E 00	0.2368E 00	0.1436E 01	0.1992E 02	0.0
0.1400E 02	-0.1123E 02	0.3549E 00	0.2319E 00	0.4976E 00	0.2362E 00	0.1184E 01	0.1992E 02	0.0
0.1413E 02	-0.1137E 02	0.3548E 00	0.2309E 00	0.4975E 00	0.2356E 00	0.9730E 00	0.1992E 02	0.0
0.1425E 02	-0.1152E 02	0.3548E 00	0.2298E 00	0.4973E 00	0.2351E 00	0.7975E 00	0.1992E 02	0.0
0.1438E 02	-0.1166E 02	0.3547E 00	0.2288E 00	0.4972E 00	0.2345E 00	0.6524E 00	0.1992E 02	0.0
0.1450E 02	-0.1181E 02	0.3546E 00	0.2278E 00	0.4970E 00	0.2340E 00	0.5330E 00	0.1992E 02	0.0
0.1463E 02	-0.1196E 02	0.3546E 00	0.2269E 00	0.4968E 00	0.2335E 00	0.4355E 00	0.1992E 02	0.0
0.1475E 02	-0.1211E 02	0.3545E 00	0.2258E 00	0.4966E 00	0.2330E 00	0.3561E 00	0.1992E 02	0.0
0.1488E 02	-0.1226E 02	0.3544E 00	0.2247E 00	0.4965E 00	0.2326E 00	0.2920E 00	0.1992E 02	0.0
0.1500E 02	-0.1241E 02	0.3544E 00	0.2237E 00	0.4961E 00	0.2321E 00	0.2404E 00	0.1992E 02	0.0
0.1513E 02	-0.1256E 02	0.3543E 00	0.2227E 00	0.4962E 00	0.2316E 00	0.1992E 00	0.1992E 02	0.0
0.1525E 02	-0.1271E 02	0.3542E 00	0.2217E 00	0.4959E 00	0.2311E 00	0.1664E 00	0.1992E 02	0.0
0.1538E 02	-0.1287E 02	0.3542E 00	0.2207E 00	0.4958E 00	0.2306E 00	0.1405E 00	0.1992E 02	0.0
0.1550E 02	-0.1302E 02	0.3541E 00	0.2196E 00	0.4954E 00	0.2301E 00	0.1201E 00	0.1992E 02	0.0
0.1563E 02	-0.1318E 02	0.3540E 00	0.2186E 00	0.4955E 00	0.2295E 00	0.1041E 00	0.1993E 02	0.0
0.1575E 02	-0.1334E 02	0.3539E 00	0.2176E 00	0.4952E 00	0.2290E 00	0.9162E-01	0.1993E 02	0.0
0.1588E 02	-0.1350E 02	0.3539E 00	0.2165E 00	0.4950E 00	0.2284E 00	0.8194E-01	0.1993E 02	0.0
0.1600E 02	-0.1366E 02	0.3538E 00	0.2155E 00	0.4948E 00	0.2278E 00	0.7445E-01	0.1993E 02	0.0
0.1613E 02	-0.1382E 02	0.3537E 00	0.2145E 00	0.4944E 00	0.2272E 00	0.6866E-01	0.1993E 02	0.0
0.1625E 02	-0.1398E 02	0.3536E 00	0.2134E 00	0.4946E 00	0.2265E 00	0.6420E-01	0.1993E 02	0.0
0.1638E 02	-0.1415E 02	0.3536E 00	0.2124E 00	0.4943E 00	0.2258E 00	0.6076E-01	0.1993E 02	0.0
0.1650E 02	-0.1431E 02	0.3535E 00	0.2113E 00	0.4939E 00	0.2251E 00	0.5810E-01	0.1993E 02	0.0
0.1663E 02	-0.1448E 02	0.3534E 00	0.2102E 00	0.4940E 00	0.2244E 00	0.5603E-01	0.1993E 02	0.0
0.1675E 02	-0.1465E 02	0.3533E 00	0.2092E 00	0.4935E 00	0.2237E 00	0.5441E-01	0.1993E 02	0.0
0.1688E 02	-0.1482E 02	0.3533E 00	0.2081E 00	0.4934E 00	0.2229E 00	0.5312E-01	0.1993E 02	0.0
0.1700E 02	-0.1499E 02	0.3532E 00	0.2071E 00	0.4932E 00	0.2221E 00	0.5208E-01	0.1993E 02	0.0
0.1713E 02	-0.1516E 02	0.3531E 00	0.2060E 00	0.4929E 00	0.2214E 00	0.5123E-01	0.1993E 02	0.0
0.1725E 02	-0.1534E 02	0.3530E 00	0.2049E 00	0.4926E 00	0.2206E 00	0.5051E-01	0.1993E 02	0.0
0.1738E 02	-0.1551E 02	0.3529E 00	0.2038E 00	0.4923E 00	0.2198E 00	0.4988E-01	0.1993E 02	0.0
0.1750E 02	-0.1569E 02	0.3529E 00	0.2028E 00	0.4925E 00	0.2191E 00	0.4933E-01	0.1993E 02	0.0
0.1763E 02	-0.1587E 02	0.3528E 00	0.2017E 00	0.4919E 00	0.2183E 00	0.4882E-01	0.1993E 02	0.0
0.1775E 02	-0.1605E 02	0.3527E 00	0.2006E 00	0.4917E 00	0.2175E 00	0.4835E-01	0.1993E 02	0.0
0.1788E 02	-0.1623E 02	0.3526E 00	0.1995E 00	0.4914E 00	0.2167E 00	0.4791E-01	0.1993E 02	0.0
0.1800E 02	-0.1641E 02	0.3525E 00	0.1984E 00	0.4914E 00	0.2159E 00	0.4747E-01	0.1993E 02	0.0
0.1813E 02	-0.1660E 02	0.3525E 00	0.1973E 00	0.4910E 00	0.2151E 00	0.4705E-01	0.1993E 02	0.0
0.1825E 02	-0.1678E 02	0.3524E 00	0.1962E 00	0.4908E 00	0.2143E 00	0.4663E-01	0.1993E 02	0.0
0.1838E 02	-0.1697E 02	0.3523E 00	0.1951E 00	0.4905E 00	0.2134E 00	0.4622E-01	0.1993E 02	0.0
0.1850E 02	-0.1716E 02	0.3522E 00	0.1940E 00	0.4901E 00	0.2125E 00	0.4580E-01	0.1993E 02	0.0
0.1863E 02	-0.1735E 02	0.3521E 00	0.1929E 00	0.4901E 00	0.2116E 00	0.4538E-01	0.1993E 02	0.0
0.1875E 02	-0.1754E 02	0.3520E 00	0.1918E 00	0.4895E 00	0.2107E 00	0.4496E-01	0.1993E 02	0.0
0.1888E 02	-0.1774E 02	0.3519E 00	0.1907E 00	0.4893E 00	0.2097E 00	0.4453E-01	0.1993E 02	0.0
0.1900E 02	-0.1793E 02	0.3518E 00	0.1896E 00	0.4893E 00	0.2087E 00	0.4410E-01	0.1993E 02	0.0
0.1913E 02	-0.1813E 02	0.3518E 00	0.1884E 00	0.4889E 00	0.2076E 00	0.4366E-01	0.1993E 02	0.0
0.1925E 02	-0.1833E 02	0.3517E 00	0.1873E 00	0.4887E 00	0.2065E 00	0.4321E-01	0.1993E 02	0.0
0.1938E 02	-0.1853E 02	0.3516E 00	0.1862E 00	0.4883E 00	0.2054E 00	0.4275E-01	0.1994E 02	0.0
0.1950E 02	-0.1873E 02	0.3515E 00	0.1851E 00	0.4882E 00	0.2043E 00	0.4228E-01	0.1994E 02	0.0
0.1963E 02	-0.1894E 02	0.3514E 00	0.1839E 00	0.4877E 00	0.2032E 00	0.4181E-01	0.1994E 02	0.0
0.1975E 02	-0.1915E 02	0.3513E 00	0.1828E 00	0.4876E 00	0.2020E 00	0.4133E-01	0.1994E 02	0.0
0.1988E 02	-0.1935E 02	0.3512E 00	0.1817E 00	0.4872E 00	0.2009E 00	0.4084E-01	0.1994E 02	0.0
0.2000E 02	-0.1956E 02	0.3511E 00	0.1805E 00	0.4869E 00	0.1997E 00	0.4034E-01	0.1994E 02	0.0

0.2013E 02	-0.1978E 02	0.3510E 00	0.1794E 00	0.4868E 00	0.1985E 00	0.3984E-01	0.1994E 02	0.0
0.2025E 02	-0.1999E 02	0.3509E 00	0.1782E 00	0.4863E 00	0.1974E 00	0.3933E-01	0.1994E 02	0.0
0.2038E 02	-0.2021E 02	0.3508E 00	0.1771E 00	0.4860E 00	0.1962E 00	0.3881E-01	0.1994E 02	0.0
0.2050E 02	-0.2042E 02	0.3507E 00	0.1759E 00	0.4857E 00	0.1950E 00	0.3829E-01	0.1994E 02	0.0
[illegible] 02	-0.2064E 02	[illegible]	0.1748E 00	[illegible]	0.1938E 00	0.3777E-01	0.1994E 02	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.1994E 02	0.0
0.2088E 02	-0.2109E 02	0.3504 [illegible]	0.1724E 00	0.4847E 00	0.1915E 00	0.3672E-01	0.1994E 02	0.0
0.2100E 02	-0.2132E 02	0.3503E 00	0.1713E 00	0.4844E 00	0.1903E 00	0.3619E-01	0.1994E 02	0.0
0.2113E 02	-0.2155E 02	0.3502E 00	0.1701E 00	0.4841E 00	0.1891E 00	0.3567E-01	0.1994E 02	0.0
0.2125E 02	-0.2178E 02	0.3501E 00	0.1688E 00	0.4839E 00	0.1879E 00	0.3514E-01	0.1994E 02	0.0
0.2138E 02	-0.2201E 02	0.3500E 00	0.1666E 00	0.4827E 00	0.1868E 00	0.3461E-01	0.1994E 02	0.0
0.2150E 02	-0.2225E 02	0.3497E 00	0.1637E 00	0.4816E 00	0.1856E 00	0.3409E-01	0.1994E 02	0.0
0.2163E 02	-0.2249E 02	0.3495E 00	0.1609E 00	0.4810E 00	0.1844E 00	0.3357E-01	0.1994E 02	0.0
0.2175E 02	-0.2274E 02	0.3492E 00	0.1578E 00	0.4801E 00	0.1832E 00	0.3305E-01	0.1994E 02	0.0
0.2188E 02	-0.2299E 02	0.3489E 00	0.1549E 00	0.4792E 00	0.1821E 00	0.3253E-01	0.1995E 02	0.0
0.2200E 02	-0.2326E 02	0.3486E 00	0.1519E 00	0.4782E 00	0.1809E 00	0.3202E-01	0.1995E 02	0.0
0.2213E 02	-0.2353E 02	0.3483E 00	0.1489E 00	0.4773E 00	0.1797E 00	0.3151E-01	0.1995E 02	0.0
0.2225E 02	-0.2380E 02	0.3480E 00	0.1459E 00	0.4762E 00	0.1785E 00	0.3100E-01	0.1995E 02	0.0
0.2238E 02	-0.2408E 02	0.3477E 00	0.1429E 00	0.4752E 00	0.1774E 00	0.3050E-01	0.1995E 02	0.0
0.2250E 02	-0.2437E 02	0.3474E 00	0.1398E 00	0.4741E 00	0.1762E 00	0.3000E-01	0.1995E 02	0.0
0.2263E 02	-0.2467E 02	0.3470E 00	0.1367E 00	0.4730E 00	0.1750E 00	0.2951E-01	0.1995E 02	0.0
0.2275E 02	-0.2498E 02	0.3467E 00	0.1337E 00	0.4719E 00	0.1739E 00	0.2902E-01	0.1995E 02	0.0
0.2288E 02	-0.2530E 02	0.3463E 00	0.1306E 00	0.4707E 00	0.1727E 00	0.2853E-01	0.1995E 02	0.0
0.2300E 02	-0.2562E 02	0.3460E 00	0.1274E 00	0.4695E 00	0.1715E 00	0.2805E-01	0.1995E 02	0.0
0.2313E 02	-0.2596E 02	0.3456E 00	0.1243E 00	0.4681E 00	0.1703E 00	0.2757E-01	0.1995E 02	0.0
0.2325E 02	-0.2630E 02	0.3452E 00	0.1211E 00	0.4668E 00	0.1691E 00	0.2710E-01	0.1995E 02	0.0
0.2338E 02	-0.2666E 02	0.3448E 00	0.1180E 00	0.4655E 00	0.1679E 00	0.2663E-01	0.1995E 02	0.0
0.2350E 02	-0.2703E 02	0.3444E 00	0.1148E 00	0.4640E 00	0.1667E 00	0.2615E-01	0.1995E 02	0.0
0.2363E 02	-0.2741E 02	0.3440E 00	0.1116E 00	0.4627E 00	0.1654E 00	0.2568E-01	0.1995E 02	0.0
0.2375E 02	-0.2780E 02	0.3436E 00	0.1083E 00	0.4611E 00	0.1640E 00	0.2521E-01	0.1995E 02	0.0
0.2388E 02	-0.2821E 02	0.3431E 00	0.1051E 00	0.4595E 00	0.1625E 00	0.2473E-01	0.1995E 02	0.0
0.2400E 02	-0.2863E 02	0.3426E 00	0.1019E 00	0.4580E 00	0.1610E 00	0.2424E-01	0.1995E 02	0.0
0.2413E 02	-0.2907E 02	0.3421E 00	0.9868E-01	0.4560E 00	0.1593E 00	0.2374E-01	0.1995E 02	0.0
0.2425E 02	-0.2952E 02	0.3416E 00	0.9530E-01	0.4543E 00	0.1575E 00	0.2322E-01	0.1995E 02	0.0
0.2438E 02	-0.2999E 02	0.3411E 00	0.9200E-01	0.4528E 00	0.1556E 00	0.2270E-01	0.1996E 02	0.0
0.2450E 02	-0.3048E 02	0.3406E 00	0.8874E-01	0.4505E 00	0.1538E 00	0.2216E-01	0.1996E 02	0.0
0.2463E 02	-0.3099E 02	0.3400E 00	0.8589E-01	0.4493E 00	0.1519E 00	0.2161E-01	0.1996E 02	0.0
0.2475E 02	-0.3152E 02	0.3396E 00	0.8339E-01	0.4476E 00	0.1501E 00	0.2105E-01	0.1996E 02	0.0
0.2488E 02	-0.3207E 02	0.3391E 00	0.8089E-01	0.4462E 00	0.1484E 00	0.2049E-01	0.1996E 02	0.0
0.2500E 02	-0.3263E 02	0.3386E 00	0.7838E-01	0.4445E 00	0.1468E 00	0.1994E-01	0.1996E 02	0.0
0.2513E 02	-0.3322E 02	0.3382E 00	0.7586E-01	0.4427E 00	0.1452E 00	0.1939E-01	0.1996E 02	0.0
0.2525E 02	-0.3382E 02	0.3377E 00	0.7333E-01	0.4409E 00	0.1437E 00	0.1886E-01	0.1996E 02	0.0
0.2538E 02	-0.3445E 02	0.3371E 00	0.7081E-01	0.4390E 00	0.1422E 00	0.1834E-01	0.1996E 02	0.0
0.2550E 02	-0.3510E 02	0.3366E 00	0.6827E-01	0.4371E 00	0.1408E 00	0.1783E-01	0.1996E 02	0.0
0.2563E 02	-0.3577E 02	0.3360E 00	0.6574E-01	0.4350E 00	0.1394E 00	0.1735E-01	0.1996E 02	0.0
0.2575E 02	-0.3647E 02	0.3354E 00	0.6319E-01	0.4329E 00	0.1381E 00	0.1688E-01	0.1996E 02	0.0
0.2588E 02	-0.3720E 02	0.3349E 00	0.6065E-01	0.4307E 00	0.1367E 00	0.1643E-01	0.1996E 02	0.0
0.2600E 02	-0.3797E 02	0.3342E 00	0.5810E-01	0.4283E 00	0.1351E 00	0.1598E-01	0.1996E 02	0.0
0.2613E 02	-0.3876E 02	0.3335E 00	0.5556E-01	0.4259E 00	0.1332E 00	0.1552E-01	0.1996E 02	0.0
0.2625E 02	-0.3960E 02	0.3328E 00	0.5301E-01	0.4231E 00	0.1311E 00	0.1505E-01	0.1996E 02	0.0
0.2638E 02	-0.4047E 02	0.3321E 00	0.5046E-01	0.4206E 00	0.1288E 00	0.1456E-01	0.1996E 02	0.0
0.2650E 02	-0.4139E 02	0.3313E 00	0.4791E-01	0.4173E 00	0.1265E 00	0.1406E-01	0.1996E 02	0.0
0.2663E 02	-0.4235E 02	0.3305E 00	0.4550E-01	0.4149E 00	0.1244E 00	0.1355E-01	0.1996E 02	0.0
0.2675E 02	-0.4337E 02	0.3298E 00	0.4334E-01	0.4123E 00	0.1226E 00	0.1304E-01	0.1996E 02	0.0
0.2688E 02	-0.4443E 02	0.3290E 00	0.4131E-01	0.4095E 00	0.1209E 00	0.1255E-01	0.1997E 02	0.0
0.2700E 02	-0.4554E 02	0.3283E 00	0.3928E-01	0.4068E 00	0.1190E 00	0.1207E-01	0.1997E 02	0.0
0.2713E 02	-0.4671E 02	0.3275E 00	0.3726E-01	0.4038E 00	0.1168E 00	0.1158E-01	0.1997E 02	0.0
0.2725E 02	-0.4794E 02	0.3267E 00	0.3524E-01	0.4007E 00	0.1142E 00	0.1108E-01	0.1997E 02	0.0
0.2738E 02	-0.4924E 02	0.3258E 00	0.3323E-01	0.3973E 00	0.1113E 00	0.1056E-01	0.1997E 02	0.0
0.2750E 02	-0.5061E 02	0.3249E 00	0.3123E-01	0.3937E 00	0.1086E 00	0.1003E-01	0.1997E 02	0.0
0.2763E 02	-0.5206E 02	0.3240E 00	0.2923E-01	0.3899E 00	0.1062E 00	0.9517E-02	0.1997E 02	0.0
0.2775E 02	-0.5360E 02	0.3229E 00	0.2724E-01	0.3859E 00	0.1045E 00	0.9040E-02	0.1997E 02	0.0
0.2788E 02	-0.5525E 02	0.3218E 00	0.2526E-01	0.3818E 00	0.1034E 00	0.8623E-02	0.1997E 02	0.0
0.2800E 02	-0.5701E 02	0.3207E 00	0.2337E-01	0.3769E 00	0.1025E 00	0.8266E-02	0.1997E 02	0.0
0.2813E 02	-0.5890E 02	0.3195E 00	0.2161E-01	0.3728E 00	0.1013E 00	0.7948E-02	0.1997E 02	0.0
0.2825E 02	-0.6093E 02	0.3183E 00	0.1991E-01	0.3681E 00	0.9956E-01	0.7632E-02	0.1997E 02	0.0
0.2838E 02	-0.6312E 02	0.3170E 00	0.1821E-01	0.3630E 00	0.9729E-01	0.7296E-02	0.1997E 02	0.0
0.2850E 02	-0.6549E 02	0.3156E 00	0.1654E-01	0.3575E 00	0.9503E-01	0.6941E-02	0.1997E 02	0.0
0.2863E 02	-0.6806E 02	0.3141E 00	0.1488E-01	0.3514E 00	0.9332E-01	0.6603E-02	0.1997E 02	0.0
0.2875E 02	-0.7089E 02	0.3124E 00	0.1324E-01	0.3449E 00	0.9239E-01	0.6318E-02	0.1997E 02	0.0
0.2888E 02	-0.7402E 02	0.3106E 00	0.1174E-01	0.3369E 00	0.9212E-01	0.6107E-02	0.1997E 02	0.0
0.2900E 02	-0.7748E 02	0.3088E 00	0.1037E-01	0.3304E 00	0.9217E-01	0.5961E-02	0.1997E 02	0.0
0.2913E 02	-0.8134E 02	0.3068E 00	0.9047E-02	0.3225E 00	0.9185E-01	0.5823E-02	0.1997E 02	0.0
0.2925E 02	-0.8567E 02	0.3047E 00	0.7748E-02	0.3135E 00	0.8984E-01	0.5597E-02	0.1997E 02	0.0
0.2938E 02	-0.9061E 02	0.3022E 00	0.6481E-02	0.3031E 00	0.8484E-01	0.5140E-02	0.1998E 02	0.0
0.2950E 02	-0.9633E 02	0.2993E 00	0.5249E-02	0.2909E 00	0.7874E-01	0.4529E-02	0.1998E 02	0.0
0.2963E 02	-0.1031E 03	0.2959E 00	0.4060E-02	0.2758E 00	0.7450E-01	0.3958E-02	0.1998E 02	0.0
0.2975E 02	-0.1115E 03	0.2918E 00	0.2995E-02	0.2581E 00	0.7282E-01	0.3590E-02	0.1998E 02	0.0
0.2988E 02	-0.1221E 03	0.2869E 00	0.2052E-02	0.2363E 00	0.7264E-01	0.3425E-02	0.1998E 02	0.0
0.3000E 02	-0.1364E 03	0.2807E 00	0.1117E-02	0.2001E 00	0.7296E-01	0.3376E-02	0.1998E 02	0.0
0.3013E 02	-0.1587E 03	0.2701E 00	0.3241E-03	0.1373E 00	0.7333E-01	0.3362E-02	0.1998E 02	0.0
0.3025E 02	-0.2115E 03	0.2460E 00	0.7702E-04	0.4251E-01	0.7337E-01	0.3323E-02	0.1998E 02	0.0
0.3038E 02	-0.2904E 03	0.2252E 00	0.3817E-04	0.5387E-02	0.7208E-01	0.3171E-02	0.1998E 02	0.0
0.3050E 02	-0.2979E 03	0.2206E 00	0.3382E-04	0.5429E-03	0.6693E-01	0.2766E-02	0.1998E 02	0.0

0.3063E 02	-0.2998E 03	0.2201E 00	0.3341E-04	0.8071E-04	0.5652E-01	0.2114E-02	0.1999E 02	0.0
0.3075E 02	-0.2999E 03	0.2200E 00	0.3337E-04	0.3826E-04	0.5135E-01	0.1710E-02	0.1999E 02	0.0
0.3088E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3414E-04	0.4994E-01	0.1560E-02	0.1999E 02	0.0
0.3100E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3398E-04	0.4968E-01	0.1520E-02	0.1999E 02	0.0
0.3113E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4964E-01	0.1512E-02	0.1999E 02	0.0
0.3125E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4964E-01	0.1511E-02	0.1999E 02	0.0
0.3138E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4964E-01	0.1510E-02	0.1999E 02	0.0
0.3150E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4958E-01	0.1503E-02	0.1999E 02	0.0
0.3163E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4829E-01	0.1456E-02	0.1999E 02	0.0
0.3175E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.4486E-01	0.1234E-02	0.1999E 02	0.0
0.3188E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3336E-04	0.2983E-01	0.6594E-03	0.1999E 02	0.0
0.3200E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3382E-04	0.2569E-01	0.4371E-03	0.1999E 02	0.0
0.3213E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3369E-04	0.2510E-01	0.3906E-03	0.1999E 02	0.0
0.3225E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3355E-04	0.2505E-01	0.3838E-03	0.1999E 02	0.0
0.3238E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3355E-04	0.2504E-01	0.3831E-03	0.1999E 02	0.0
0.3250E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3375E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.3263E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3381E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.3275E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3407E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.3288E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3479E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0
0.3300E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.2504E-01	0.3630E-03	0.1999E 02	0.0
0.3313E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.2504E-01	0.3830E-03	0.1999E 02	0.0

TIME ,HOURS = 5.00000 .
LENGTH OF SOIL PROFILE, CM= 33.12500
VOLUME OF WATER IN THE SOIL PROFILE , CM = 11.16707

TOTAL NH-4 IN EXCH. PHASE, MG = 46.63992
TOTAL NH-4 IN SOIL SOLUTION PHASE, MG = 104.43523
TOTAL NH-4 IN SOIL, MG = 151.07515

TOTAL NH-3 IN SOIL SOLUTION, MG= 243.09962
TOTAL ORGANIC N IN THE SOIL, MG =1056.96265
TOTAL NO-2 RELEASED FROM THE SOIL, MG = 0.0

TIME 0.10000E 02

DEPTH,CM	SUCTION,CM	THETA	HYDR.COND.	WATER FLUX	NH4	NO3	CORGN	NO2
0.0	0.0	0.3598E 00	0.3227E 00	0.4115E 00	0.1153E-01	0.3721E-03	0.1983E 02	0.0
0.1250E 00	-0.3441E-01	0.3600E 00	0.3243E 00	0.4115E 00	0.2083E-01	0.6212E-03	0.1983E 02	0.0
0.2500E 00	-0.6804E-01	0.3600E 00	0.3239E 00	0.4115E 00	0.3000E-01	0.9681E-03	0.1983E 02	0.0
0.3750E 00	-0.1018E 00	0.3600E 00	0.3236E 00	0.4115E 00	0.3903E-01	0.1411E-02	0.1984E 02	0.0
0.5000E 00	-0.1358E 00	0.3599E 00	0.3233E 00	0.4115E 00	0.4793E-01	0.1948E-02	0.1984E 02	0.0
0.6250E 00	-0.1699E 00	0.3599E 00	0.3230E 00	0.4115E 00	0.5669E-01	0.2576E-02	0.1984E 02	0.0
0.7500E 00	-0.2041E 00	0.3599E 00	0.3226E 00	0.4115E 00	0.6533E-01	0.3294E-02	0.1984E 02	0.0
0.8750E 00	-0.2386E 00	0.3599E 00	0.3223E 00	0.4115E 00	0.7384E-01	0.4100E-02	0.1984E 02	0.0
0.1000E 01	-0.2732E 00	0.3599E 00	0.3220E 00	0.4115E 00	0.8222E-01	0.4992E-02	0.1984E 02	0.0
0.1125E 01	-0.3079E 00	0.3599E 00	0.3216E 00	0.4115E 00	0.9048E-01	0.5968E-02	0.1984E 02	0.0
0.1250E 01	-0.3429E 00	0.3598E 00	0.3213E 00	0.4115E 00	0.9861E-01	0.7026E-02	0.1984E 02	0.0
0.1375E 01	-0.3780E 00	0.3598E 00	0.3210E 00	0.4115E 00	0.1066E 00	0.8165E-02	0.1984E 02	0.0
0.1500E 01	-0.4132E 00	0.3598E 00	0.3206E 00	0.4115E 00	0.1145E 00	0.9382E-02	0.1984E 02	0.0
0.1625E 01	-0.4487E 00	0.3598E 00	0.3203E 00	0.4114E 00	0.1223E 00	0.1068E-01	0.1984E 02	0.0
0.1750E 01	-0.4842E 00	0.3598E 00	0.3199E 00	0.4115E 00	0.1300E 00	0.1205E-01	0.1984E 02	0.0
0.1875E 01	-0.5200E 00	0.3598E 00	0.3196E 00	0.4115E 00	0.1376E 00	0.1349E-01	0.1984E 02	0.0
0.2000E 01	-0.5559E 00	0.3597E 00	0.3192E 00	0.4114E 00	0.1451E 00	0.1501E-01	0.1985E 02	0.0
0.2125E 01	-0.5920E 00	0.3597E 00	0.3189E 00	0.4115E 00	0.1525E 00	0.1660E-01	0.1985E 02	0.0
0.2250E 01	-0.6283E 00	0.3597E 00	0.3186E 00	0.4115E 00	0.1599E 00	0.1827E-01	0.1985E 02	0.0
0.2375E 01	-0.6648E 00	0.3597E 00	0.3182E 00	0.4114E 00	0.1672E 00	0.2002E-01	0.1985E 02	0.0
0.2500E 01	-0.7014E 00	0.3597E 00	0.3179E 00	0.4114E 00	0.1746E 00	0.2184E-01	0.1985E 02	0.0
0.2625E 01	-0.7382E 00	0.3597E 00	0.3175E 00	0.4114E 00	0.1820E 00	0.2376E-01	0.1985E 02	0.0
0.2750E 01	-0.7752E 00	0.3596E 00	0.3172E 00	0.4114E 00	0.1897E 00	0.2577E-01	0.1985E 02	0.0
0.2875E 01	-0.8123E 00	0.3596E 00	0.3168E 00	0.4114E 00	0.1976E 00	0.2789E-01	0.1985E 02	0.0
0.3000E 01	-0.8497E 00	0.3596E 00	0.3165E 00	0.4114E 00	0.2060E 00	0.3015E-01	0.1985E 02	0.0
0.3125E 01	-0.8872E 00	0.3596E 00	0.3161E 00	0.4114E 00	0.2152E 00	0.3258E-01	0.1985E 02	0.0
0.3250E 01	-0.9249E 00	0.3596E 00	0.3157E 00	0.4114E 00	0.2255E 00	0.3523E-01	0.1985E 02	0.0
0.3375E 01	-0.9627E 00	0.3596E 00	0.3154E 00	0.4114E 00	0.2372E 00	0.3817E-01	0.1986E 02	0.0
0.3500E 01	-0.1001E 01	0.3595E 00	0.3150E 00	0.4114E 00	0.2512E 00	0.4148E-01	0.1986E 02	0.0
0.3625E 01	-0.1039E 01	0.3595E 00	0.3147E 00	0.4114E 00	0.2681E 00	0.4529E-01	0.1986E 02	0.0
0.3750E 01	-0.1077E 01	0.3595E 00	0.3143E 00	0.4113E 00	0.2890E 00	0.4977E-01	0.1986E 02	0.0
0.3875E 01	-0.1116E 01	0.3595E 00	0.3139E 00	0.4114E 00	0.3153E 00	0.5515E-01	0.1986E 02	0.0
0.4000E 01	-0.1155E 01	0.3595E 00	0.3136E 00	0.4113E 00	0.3488E 00	0.6172E-01	0.1986E 02	0.0
0.4125E 01	-0.1194E 01	0.3595E 00	0.3132E 00	0.4113E 00	0.3915E 00	0.6987E-01	0.1986E 02	0.0
0.4250E 01	-0.1233E 01	0.3594E 00	0.3128E 00	0.4114E 00	0.4462E 00	0.8008E-01	0.1986E 02	0.0
0.4375E 01	-0.1272E 01	0.3594E 00	0.3125E 00	0.4113E 00	0.5161E 00	0.9300E-01	0.1986E 02	0.0
0.4500E 01	-0.1312E 01	0.3594E 00	0.3121E 00	0.4113E 00	0.6052E 00	0.1094E 00	0.1986E 02	0.0
0.4625E 01	-0.1352E 01	0.3594E 00	0.3117E 00	0.4112E 00	0.7182E 00	0.1303E 00	0.1986E 02	0.0
0.4750E 01	-0.1391E 01	0.3594E 00	0.3114E 00	0.4113E 00	0.8605E 00	0.1568E 00	0.1986E 02	0.0
0.4875E 01	-0.1432E 01	0.3593E 00	0.3110E 00	0.4112E 00	0.1038E 01	0.1905E 00	0.1986E 02	0.0
0.5000E 01	-0.1472E 01	0.3593E 00	0.3106E 00	0.4113E 00	0.1259E 01	0.2331E 00	0.1986E 02	0.0
0.5125E 01	-0.1512E 01	0.3593E 00	0.3102E 00	0.4113E 00	0.1530E 01	0.2867E 00	0.1986E 02	0.0
0.5250E 01	-0.1553E 01	0.3593E 00	0.3099E 00	0.4112E 00	0.1860E 01	0.3537E 00	0.1986E 02	0.0
0.5375E 01	-0.1594E 01	0.3593E 00	0.3095E 00	0.4112E 00	0.2258E 01	0.4369E 00	0.1986E 02	0.0
0.5500E 01	-0.1635E 01	0.3593E 00	0.3091E 00	0.4112E 00	0.2733E 01	0.5396E 00	0.1986E 02	0.0
0.5625E 01	-0.1676E 01	0.3592E 00	0.3087E 00	0.4112E 00	0.3294E 01	0.6654E 00	0.1987E 02	0.0
0.5750E 01	-0.1719E 01	0.3592E 00	0.3083E 00	0.4112E 00	0.3951E 01	0.8194E 00	0.1987E 02	0.0
0.5875E 01	-0.1760E 01	0.3592E 00	0.3080E 00	0.4111E 00	0.4713E 01	0.1003E 01	0.1987E 02	0.0
0.6000E 01	-0.1801E 01	0.3592E 00	0.3076E 00	0.4112E 00	0.5586E 01	0.1224E 01	0.1987E 02	0.0
0.6125E 01	-0.1844E 01	0.3592E 00	0.3072E 00	0.4112E 00	0.6577E 01	0.1488E 01	0.1987E 02	0.0
0.6250E 01	-0.1886E 01	0.3591E 00	0.3068E 00	0.4111E 00	0.7691E 01	0.1798E 01	0.1987E 02	0.0
0.6375E 01	-0.1928E 01	0.3591E 00	0.3064E 00	0.4111E 00	0.8929E 01	0.2163E 01	0.1987E 02	0.0
0.6500E 01	-0.1971E 01	0.3591E 00	0.3060E 00	0.4112E 00	0.1029E 02	0.2586E 01	0.1987E 02	0.0
0.6625E 01	-0.2014E 01	0.3591E 00	0.3056E 00	0.4111E 00	0.1176E 02	0.3076E 01	0.1987E 02	0.0
0.6750E 01	-0.2057E 01	0.3591E 00	0.3052E 00	0.4111E 00	0.1338E 02	0.3639E 01	0.1987E 02	0.0
0.6875E 01	-0.2101E 01	0.3590E 00	0.3048E 00	0.4110E 00	0.1509E 02	0.4280E 01	0.1987E 02	0.0
0.7000E 01	-0.2144E 01	0.3590E 00	0.3044E 00	0.4111E 00	0.1690E 02	0.5007E 01	0.1987E 02	0.0
0.7125E 01	-0.2188E 01	0.3590E 00	0.3040E 00	0.4110E 00	0.1879E 02	0.5825E 01	0.1987E 02	0.0
0.7250E 01	-0.2232E 01	0.3590E 00	0.3036E 00	0.4110E 00	0.2074E 02	0.6741E 01	0.1987E 02	0.0
0.7375E 01	-0.2276E 01	0.3590E 00	0.3032E 00	0.4110E 00	0.2273E 02	0.7761E 01	0.1987E 02	0.0
0.7500E 01	-0.2320E 01	0.3589E 00	0.3028E 00	0.4110E 00	0.2475E 02	0.8890E 01	0.1987E 02	0.0
0.7625E 01	-0.2365E 01	0.3589E 00	0.3024E 00	0.4109E 00	0.2677E 02	0.1013E 02	0.1987E 02	0.0
0.7750E 01	-0.2410E 01	0.3589E 00	0.3020E 00	0.4109E 00	0.2876E 02	0.1150E 02	0.1986E 02	0.0
0.7875E 01	-0.2455E 01	0.3589E 00	0.3016E 00	0.4110E 00	0.3071E 02	0.1298E 02	0.1986E 02	0.0
0.8000E 01	-0.2500E 01	0.3589E 00	0.3012E 00	0.4109E 00	0.3258E 02	0.1460E 02	0.1986E 02	0.0
0.8125E 01	-0.2546E 01	0.3588E 00	0.3008E 00	0.4109E 00	0.3436E 02	0.1635E 02	0.1986E 02	0.0
0.8250E 01	-0.2592E 01	0.3588E 00	0.3004E 00	0.4109E 00	0.3603E 02	0.1823E 02	0.1986E 02	0.0
0.8375E 01	-0.2638E 01	0.3588E 00	0.3000E 00	0.4108E 00	0.3757E 02	0.2025E 02	0.1986E 02	0.0
0.8500E 01	-0.2684E 01	0.3588E 00	0.2996E 00	0.4108E 00	0.3895E 02	0.2241E 02	0.1986E 02	0.0
0.8625E 01	-0.2730E 01	0.3588E 00	0.2991E 00	0.4108E 00	0.4018E 02	0.2472E 02	0.1986E 02	0.0
0.8750E 01	-0.2777E 01	0.3587E 00	0.2987E 00	0.4107E 00	0.4123E 02	0.2717E 02	0.1986E 02	0.0
0.8875E 01	-0.2824E 01	0.3587E 00	0.2983E 00	0.4108E 00	0.4210E 02	0.2976E 02	0.1985E 02	0.0
0.9000E 01	-0.2871E 01	0.3587E 00	0.2979E 00	0.4108E 00	0.4279E 02	0.3250E 02	0.1985E 02	0.0
0.9125E 01	-0.2918E 01	0.3587E 00	0.2975E 00	0.4108E 00	0.4328E 02	0.3537E 02	0.1985E 02	0.0
0.9250E 01	-0.2966E 01	0.3587E 00	0.2970E 00	0.4107E 00	0.4359E 02	0.3839E 02	0.1985E 02	0.0
0.9375E 01	-0.3014E 01	0.3586E 00	0.2966E 00	0.4107E 00	0.4371E 02	0.4153E 02	0.1985E 02	0.0
0.9500E 01	-0.3062E 01	0.3586E 00	0.2962E 00	0.4107E 00	0.4365E 02	0.4481E 02	0.1985E 02	0.0

0.9625E 01	-0.3110E 01	0.3586E 00	0.2958E 00	0.4107E 00	0.4341E 02	0.4820E 02	0.1985E 02	0.0
0.9750E 01	-0.3159E 01	0.3586E 00	0.2953E 00	0.4106E 00	0.4300E 02	0.5170E 02	0.1984E 02	0.0
0.9875E 01	-0.3207E 01	0.3585E 00	0.2949E 00	0.4106E 00	0.4243E 02	0.5529E 02	0.1984E 02	0.0
0.1000E 02	-0.3256E 01	0.35[illegible] 00	0.2945E 00	0.4105E 00	0.4171E 02	0.5897E 02	0.1984E 02	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
0.1038E 02	-0.3405E 01	0.358[illegible] 00	0.2932E 00	0.4105E 00	0.3875E 02	0.7034E 02	0.1983E 02	0.0
0.1050E 02	-0.3455E 01	0.3584E 00	0.2927E 00	0.4105E 00	0.3754E 02	0.7417E 02	0.1983E 02	0.0
0.10[illegible] 02	-0.3505E 01	0.3584E 00	0.2923E 00	0.4104E 00	0.3[illegible] 02	0.7799E 02	0.19[illegible] 02	0.0
0.1075E 02	-0.3556E 01	0.3584E 00	0.2919E 00	0.4104E 00	0.3494E 02	0.8177E 02	0.1983E 02	0.0
0.1088E 02	-0.3606E 01	0.3584E 00	0.2914E 00	0.4104E 00	0.3339E 02	0.8549E 02	0.1983E 02	0.0
0.1100E 02	-0.3657E 01	0.3583E 00	0.2910E 00	0.4104E 00	0.3187E 02	0.8913E 02	0.1983E 02	0.0
0.111[illegible] 02	-0.3709E 01	0.35[illegible] 00	[illegible]	0.4103E 00	0.30[illegible] 02	0.9266E 02	0.19[illegible] 02	0.0
0.1125E 02	-0.3760E 01	0.3583E 00	0.2901E 00	0.4103E 00	0.2873E 02	0.9606E 02	0.1983E 02	0.0
0.1138E 02	-0.3812E 01	0.3583E 00	0.2896E 00	0.4102E 00	0.2713E 02	0.9930E 02	0.1983E 02	0.0
0.1150E 02	-0.3864E 01	0.3582E 00	0.2892E 00	0.4102E 00	0.2552E 02	0.1024E 03	0.1983E 02	0.0
0.1163E 02	-0.3917E 01	0.3582E 00	0.2887E 00	0.4102E 00	0.2391E 02	0.1052E 03	0.1982E 02	0.0
0.1175E 02	-0.3969E 01	0.3582E 00	0.2883E 00	0.4102E 00	0.2232E 02	0.1079E 03	0.1982E 02	0.0
0.1188E 02	-0.4022E 01	0.3582E 00	0.2878E 00	0.4101E 00	0.2076E 02	0.1103E 03	0.1982E 02	0.0
0.1200E 02	-0.4075E 01	0.3581E 00	0.2874E 00	0.4101E 00	0.1923E 02	0.1125E 03	0.1982E 02	0.0
0.1213E 02	-0.4128E 01	0.3581E 00	0.2869E 00	0.4101E 00	0.1774E 02	0.1145E 03	0.1982E 02	0.0
0.1225E 02	-0.4182E 01	0.3581E 00	0.2864E 00	0.4101E 00	0.1630E 02	0.1162E 03	0.1982E 02	0.0
0.1238E 02	-0.4236E 01	0.3581E 00	0.2860E 00	0.4100E 00	0.1492E 02	0.1176E 03	0.1982E 02	0.0
0.1250E 02	-0.4290E 01	0.3580E 00	0.2855E 00	0.4099E 00	0.1361E 02	0.1187E 03	0.1982E 02	0.0
0.1263E 02	-0.4345E 01	0.3580E 00	0.2850E 00	0.4100E 00	0.1236E 02	0.1196E 03	0.1982E 02	0.0
0.1275E 02	-0.4400E 01	0.3580E 00	0.2846E 00	0.4099E 00	0.1118E 02	0.1203E 03	0.1982E 02	0.0
0.1288E 02	-0.4455E 01	0.3580E 00	0.2841E 00	0.4099E 00	0.1008E 02	0.1206E 03	0.1982E 02	0.0
0.1300E 02	-0.4510E 01	0.3579E 00	0.2836E 00	0.4098E 00	0.9051E 01	0.1207E 03	0.1982E 02	0.0
0.1313E 02	-0.4566E 01	0.3579E 00	0.2832E 00	0.4098E 00	0.8097E 01	0.1206E 03	0.1982E 02	0.0
0.1325E 02	-0.4621E 01	0.3579E 00	0.2827E 00	0.4098E 00	0.7218E 01	0.1202E 03	0.1982E 02	0.0
0.1338E 02	-0.4678E 01	0.3579E 00	0.2822E 00	0.4098E 00	0.6412E 01	0.1196E 03	0.1982E 02	0.0
0.1350E 02	-0.4734E 01	0.3578E 00	0.2817E 00	0.4096E 00	0.5677E 01	0.1187E 03	0.1982E 02	0.0
0.1363E 02	-0.4791E 01	0.3578E 00	0.2813E 00	0.4097E 00	0.5011E 01	0.1177E 03	0.1982E 02	0.0
0.1375E 02	-0.4848E 01	0.3578E 00	0.2808E 00	0.4096E 00	0.4411E 01	0.1164E 03	0.1982E 02	0.0
0.1388E 02	-0.4905E 01	0.3578E 00	0.2803E 00	0.4096E 00	0.3873E 01	0.1150E 03	0.1982E 02	0.0
0.1400E 02	-0.4963E 01	0.3577E 00	0.2798E 00	0.4096E 00	0.3394E 01	0.1133E 03	0.1982E 02	0.0
0.1413E 02	-0.5021E 01	0.3577E 00	0.2793E 00	0.4095E 00	0.2970E 01	0.1115E 03	0.1982E 02	0.0
0.1425E 02	-0.5079E 01	0.3577E 00	0.2788E 00	0.4094E 00	0.2596E 01	0.1095E 03	0.1982E 02	0.0
0.1438E 02	-0.5138E 01	0.3577E 00	0.2784E 00	0.4095E 00	0.2269E 01	0.1074E 03	0.1982E 02	0.0
0.1450E 02	-0.5197E 01	0.3576E 00	0.2779E 00	0.4093E 00	0.1983E 01	0.1052E 03	0.1982E 02	0.0
0.1463E 02	-0.5256E 01	0.3576E 00	0.2774E 00	0.4094E 00	0.1736E 01	0.1028E 03	0.1982E 02	0.0
0.1475E 02	-0.5315E 01	0.3576E 00	0.2769E 00	0.4093E 00	0.1523E 01	0.1003E 03	0.1982E 02	0.0
0.1488E 02	-0.5375E 01	0.3576E 00	0.2764E 00	0.4093E 00	0.1341E 01	0.9765E 02	0.1982E 02	0.0
0.1500E 02	-0.5435E 01	0.3575E 00	0.2759E 00	0.4092E 00	0.1185E 01	0.9493E 02	0.1982E 02	0.0
0.1513E 02	-0.5496E 01	0.3575E 00	0.2754E 00	0.4092E 00	0.1053E 01	0.9212E 02	0.1982E 02	0.0
0.1525E 02	-0.5556E 01	0.3575E 00	0.2749E 00	0.4092E 00	0.9422E 00	0.8922E 02	0.1982E 02	0.0
0.1538E 02	-0.5617E 01	0.3574E 00	0.2744E 00	0.4091E 00	0.8490E 00	0.8625E 02	0.1982E 02	0.0
0.1550E 02	-0.5679E 01	0.3574E 00	0.2739E 00	0.4091E 00	0.7713E 00	0.8322E 02	0.1982E 02	0.0
0.1563E 02	-0.5740E 01	0.3574E 00	0.2734E 00	0.4091E 00	0.7069E 00	0.8014E 02	0.1982E 02	0.0
0.1575E 02	-0.5802E 01	0.3574E 00	0.2729E 00	0.4089E 00	0.6536E 00	0.7701E 02	0.1982E 02	0.0
0.1588E 02	-0.5865E 01	0.3573E 00	0.2724E 00	0.4090E 00	0.6099E 00	0.7385E 02	0.1982E 02	0.0
0.1600E 02	-0.5927E 01	0.3573E 00	0.2719E 00	0.4089E 00	0.5741E 00	0.7067E 02	0.1982E 02	0.0
0.1613E 02	-0.5990E 01	0.3573E 00	0.2714E 00	0.4088E 00	0.5450E 00	0.6748E 02	0.1982E 02	0.0
0.1625E 02	-0.6054E 01	0.3572E 00	0.2709E 00	0.4087E 00	0.5213E 00	0.6428E 02	0.1982E 02	0.0
0.1638E 02	-0.6117E 01	0.3572E 00	0.2703E 00	0.4088E 00	0.5023E 00	0.6110E 02	0.1982E 02	0.0
0.1650E 02	-0.6181E 01	0.3572E 00	0.2698E 00	0.4087E 00	0.4869E 00	0.5794E 02	0.1982E 02	0.0
0.1663E 02	-0.6246E 01	0.3572E 00	0.2693E 00	0.4087E 00	0.4746E 00	0.5481E 02	0.1982E 02	0.0
0.1675E 02	-0.6310E 01	0.3571E 00	0.2688E 00	0.4085E 00	0.4648E 00	0.5172E 02	0.1982E 02	0.0
0.1688E 02	-0.6375E 01	0.3571E 00	0.2682E 00	0.4085E 00	0.4570E 00	0.4868E 02	0.1982E 02	0.0
0.1700E 02	-0.6441E 01	0.3571E 00	0.2677E 00	0.4086E 00	0.4508E 00	0.4570E 02	0.1982E 02	0.0
0.1713E 02	-0.6507E 01	0.3570E 00	0.2672E 00	0.4085E 00	0.4458E 00	0.4279E 02	0.1982E 02	0.0
0.1725E 02	-0.6573E 01	0.3570E 00	0.2667E 00	0.4084E 00	0.4419E 00	0.3997E 02	0.1982E 02	0.0
0.1738E 02	-0.6639E 01	0.3570E 00	0.2661E 00	0.4083E 00	0.4387E 00	0.3722E 02	0.1982E 02	0.0
0.1750E 02	-0.6706E 01	0.3570E 00	0.2656E 00	0.4083E 00	0.4362E 00	0.3457E 02	0.1982E 02	0.0
0.1763E 02	-0.6773E 01	0.3569E 00	0.2651E 00	0.4082E 00	0.4342E 00	0.3203E 02	0.1982E 02	0.0
0.1775E 02	-0.6841E 01	0.3569E 00	0.2645E 00	0.4080E 00	0.4326E 00	0.2958E 02	0.1982E 02	0.0
0.1788E 02	-0.6908E 01	0.3569E 00	0.2640E 00	0.4081E 00	0.4312E 00	0.2725E 02	0.1982E 02	0.0
0.1800E 02	-0.6977E 01	0.3568E 00	0.2635E 00	0.4080E 00	0.4301E 00	0.2502E 02	0.1982E 02	0.0
0.1813E 02	-0.7045E 01	0.3568E 00	0.2629E 00	0.4079E 00	0.4292E 00	0.2291E 02	0.1983E 02	0.0
0.1825E 02	-0.7114E 01	0.3568E 00	0.2624E 00	0.4078E 00	0.4284E 00	0.2092E 02	0.1983E 02	0.0
0.1838E 02	-0.7183E 01	0.3567E 00	0.2618E 00	0.4078E 00	0.4278E 00	0.1905E 02	0.1983E 02	0.0
0.1850E 02	-0.7253E 01	0.3567E 00	0.2613E 00	0.4078E 00	0.4272E 00	0.1729E 02	0.1983E 02	0.0
0.1863E 02	-0.7323E 01	0.3567E 00	0.2607E 00	0.4076E 00	0.4266E 00	0.1565E 02	0.1983E 02	0.0
0.1875E 02	-0.7393E 01	0.3566E 00	0.2602E 00	0.4076E 00	0.4262E 00	0.1412E 02	0.1983E 02	0.0
0.1888E 02	-0.7464E 01	0.3566E 00	0.2596E 00	0.4075E 00	0.4257E 00	0.1271E 02	0.1983E 02	0.0
0.1900E 02	-0.7535E 01	0.3566E 00	0.2591E 00	0.4074E 00	0.4253E 00	0.1140E 02	0.1983E 02	0.0
0.1913E 02	-0.7607E 01	0.3565E 00	0.2585E 00	0.4074E 00	0.4249E 00	0.1020E 02	0.1983E 02	0.0
0.1925E 02	-0.7679E 01	0.3565E 00	0.2580E 00	0.4074E 00	0.4245E 00	0.9094E 01	0.1983E 02	0.0
0.1938E 02	-0.7751E 01	0.3565E 00	0.2574E 00	0.4072E 00	0.4241E 00	0.8087E 01	0.1983E 02	0.0
0.1950E 02	-0.7824E 01	0.3564E 00	0.2569E 00	0.4071E 00	0.4237E 00	0.7171E 01	0.1983E 02	0.0
0.1963E 02	-0.7897E 01	0.3564E 00	0.2563E 00	0.4072E 00	0.4233E 00	0.6341E 01	0.1983E 02	0.0
0.1975E 02	-0.7971E 01	0.3564E 00	0.2557E 00	0.4070E 00	0.4229E 00	0.5592E 01	0.1983E 02	0.0
0.1988E 02	-0.8045E 01	0.3563E 00	0.2552E 00	0.4070E 00	0.4226E 00	0.4919E 01	0.1983E 02	0.0
0.2000E 02	-0.8119E 01	0.3563E 00	0.2546E 00	0.4069E 00	0.4222E 00	0.4316E 01	0.1983E 02	0.0

0.2013E 02	-0.8194E 01	0.3563E 00	0.2540E 00	0.4068E 00	0.4218E 00	0.3779E 01	0.1983E 02	0.0
0.2025E 02	-0.8269E 01	0.3562E 00	0.2535E 00	0.4068E 00	0.4214E 00	0.3301E 01	0.1983E 02	0.0
0.2038E 02	-0.8345E 01	0.3562E 00	0.2529E 00	0.4067E 00	0.4209E 00	0.2878E 01	0.1983E 02	0.0
0.2050E 02	-0.8421E 01	0.3562E 00	0.2523E 00	0.4067E 00	0.4205E 00	0.2505E 01	0.1983E 02	0.0
0.2063E 02	-0.8497E 01	0.3561E 00	0.2517E 00	0.4066E 00	0.4201E 00	0.2178E 01	0.1984E 02	0.0
0.2075E 02	-0.8574E 01	0.3561E 00	0.2512E 00	0.4065E 00	0.4196E 00	0.1891E 01	0.1984E 02	0.0
0.2088E 02	-0.8651E 01	0.3561E 00	0.2506E 00	0.4064E 00	0.4192E 00	0.1642E 01	0.1984E 02	0.0
0.2100E 02	-0.8729E 01	0.3560E 00	0.2500E 00	0.4063E 00	0.4187E 00	0.1425E 01	0.1984E 02	0.0
0.2113E 02	-0.8807E 01	0.3560E 00	0.2494E 00	0.4063E 00	0.4183E 00	0.1238E 01	0.1984E 02	0.0
0.2125E 02	-0.8886E 01	0.3560E 00	0.2488E 00	0.4061E 00	0.4178E 00	0.1077E 01	0.1984E 02	0.0
0.2138E 02	-0.8965E 01	0.3559E 00	0.2482E 00	0.4061E 00	0.4173E 00	0.9382E 00	0.1984E 02	0.0
0.2150E 02	-0.9044E 01	0.3559E 00	0.2477E 00	0.4060E 00	0.4168E 00	0.8198E 00	0.1984E 02	0.0
0.2163E 02	-0.9124E 01	0.3559E 00	0.2471E 00	0.4059E 00	0.4163E 00	0.7189E 00	0.1984E 02	0.0
0.2175E 02	-0.9205E 01	0.3558E 00	0.2465E 00	0.4058E 00	0.4157E 00	0.6333E 00	0.1984E 02	0.0
0.2188E 02	-0.9286E 01	0.3558E 00	0.2459E 00	0.4058E 00	0.4152E 00	0.5609E 00	0.1984E 02	0.0
0.2200E 02	-0.9367E 01	0.3557E 00	0.2453E 00	0.4058E 00	0.4147E 00	0.4999E 00	0.1984E 02	0.0
0.2213E 02	-0.9449E 01	0.3557E 00	0.2447E 00	0.4057E 00	0.4141E 00	0.4487E 00	0.1984E 02	0.0
0.2225E 02	-0.9531E 01	0.3557E 00	0.2441E 00	0.4056E 00	0.4136E 00	0.4058E 00	0.1984E 02	0.0
0.2238E 02	-0.9614E 01	0.3556E 00	0.2435E 00	0.4054E 00	0.4130E 00	0.3700E 00	0.1984E 02	0.0
0.2250E 02	-0.9697E 01	0.3556E 00	0.2429E 00	0.4053E 00	0.4124E 00	0.3403E 00	0.1984E 02	0.0
0.2263E 02	-0.9780E 01	0.3556E 00	0.2423E 00	0.4053E 00	0.4118E 00	0.3156E 00	0.1984E 02	0.0
0.2275E 02	-0.9865E 01	0.3555E 00	0.2416E 00	0.4052E 00	0.4112E 00	0.2952E 00	0.1984E 02	0.0
0.2288E 02	-0.9949E 01	0.3555E 00	0.2410E 00	0.4052E 00	0.4105E 00	0.2784E 00	0.1984E 02	0.0
0.2300E 02	-0.1003E 02	0.3554E 00	0.2404E 00	0.4050E 00	0.4099E 00	0.2645E 00	0.1984E 02	0.0
0.2313E 02	-0.1012E 02	0.3554E 00	0.2398E 00	0.4048E 00	0.4092E 00	0.2531E 00	0.1985E 02	0.0
0.2325E 02	-0.1021E 02	0.3554E 00	0.2392E 00	0.4048E 00	0.4086E 00	0.2438E 00	0.1985E 02	0.0
0.2338E 02	-0.1029E 02	0.3553E 00	0.2386E 00	0.4046E 00	0.4079E 00	0.2361E 00	0.1985E 02	0.0
0.2350E 02	-0.1038E 02	0.3553E 00	0.2380E 00	0.4046E 00	0.4072E 00	0.2297E 00	0.1985E 02	0.0
0.2363E 02	-0.1047E 02	0.3552E 00	0.2373E 00	0.4047E 00	0.4065E 00	0.2245E 00	0.1985E 02	0.0
0.2375E 02	-0.1056E 02	0.3552E 00	0.2367E 00	0.4045E 00	0.4058E 00	0.2202E 00	0.1985E 02	0.0
0.2388E 02	-0.1064E 02	0.3552E 00	0.2361E 00	0.4043E 00	0.4050E 00	0.2166E 00	0.1985E 02	0.0
0.2400E 02	-0.1073E 02	0.3551E 00	0.2354E 00	0.4043E 00	0.4043E 00	0.2136E 00	0.1985E 02	0.0
0.2413E 02	-0.1082E 02	0.3551E 00	0.2348E 00	0.4042E 00	0.4036E 00	0.2110E 00	0.1985E 02	0.0
0.2425E 02	-0.1091E 02	0.3550E 00	0.2342E 00	0.4041E 00	0.4028E 00	0.2088E 00	0.1985E 02	0.0
0.2438E 02	-0.1100E 02	0.3550E 00	0.2336E 00	0.4040E 00	0.4020E 00	0.2069E 00	0.1985E 02	0.0
0.2450E 02	-0.1109E 02	0.3550E 00	0.2329E 00	0.4039E 00	0.4013E 00	0.2052E 00	0.1985E 02	0.0
0.2463E 02	-0.1119E 02	0.3549E 00	0.2323E 00	0.4037E 00	0.4005E 00	0.2037E 00	0.1985E 02	0.0
0.2475E 02	-0.1128E 02	0.3549E 00	0.2316E 00	0.4037E 00	0.3997E 00	0.2024E 00	0.1985E 02	0.0
0.2488E 02	-0.1137E 02	0.3548E 00	0.2310E 00	0.4036E 00	0.3989E 00	0.2011E 00	0.1985E 02	0.0
0.2500E 02	-0.1146E 02	0.3548E 00	0.2303E 00	0.4035E 00	0.3982E 00	0.2000E 00	0.1985E 02	0.0
0.2513E 02	-0.1156E 02	0.3547E 00	0.2297E 00	0.4034E 00	0.3974E 00	0.1988E 00	0.1985E 02	0.0
0.2525E 02	-0.1165E 02	0.3547E 00	0.2291E 00	0.4033E 00	0.3966E 00	0.1978E 00	0.1985E 02	0.0
0.2538E 02	-0.1175E 02	0.3547E 00	0.2284E 00	0.4032E 00	0.3958E 00	0.1967E 00	0.1985E 02	0.0
0.2550E 02	-0.1184E 02	0.3546E 00	0.2277E 00	0.4031E 00	0.3950E 00	0.1957E 00	0.1985E 02	0.0
0.2563E 02	-0.1194E 02	0.3546E 00	0.2271E 00	0.4029E 00	0.3942E 00	0.1947E 00	0.1986E 02	0.0
0.2575E 02	-0.1204E 02	0.3545E 00	0.2264E 00	0.4028E 00	0.3934E 00	0.1937E 00	0.1986E 02	0.0
0.2588E 02	-0.1213E 02	0.3545E 00	0.2259E 00	0.4028E 00	0.3926E 00	0.1927E 00	0.1986E 02	0.0
0.2600E 02	-0.1223E 02	0.3544E 00	0.2251E 00	0.4027E 00	0.3918E 00	0.1917E 00	0.1986E 02	0.0
0.2613E 02	-0.1233E 02	0.3544E 00	0.2245E 00	0.4026E 00	0.3910E 00	0.1908E 00	0.1986E 02	0.0
0.2625E 02	-0.1243E 02	0.3543E 00	0.2238E 00	0.4025E 00	0.3902E 00	0.1898E 00	0.1986E 02	0.0
0.2638E 02	-0.1253E 02	0.3543E 00	0.2231E 00	0.4024E 00	0.3894E 00	0.1888E 00	0.1986E 02	0.0
0.2650E 02	-0.1263E 02	0.3543E 00	0.2224E 00	0.4022E 00	0.3886E 00	0.1878E 00	0.1986E 02	0.0
0.2663E 02	-0.1273E 02	0.3542E 00	0.2218E 00	0.4022E 00	0.3878E 00	0.1868E 00	0.1986E 02	0.0
0.2675E 02	-0.1283E 02	0.3542E 00	0.2211E 00	0.4019E 00	0.3870E 00	0.1858E 00	0.1986E 02	0.0
0.2688E 02	-0.1294E 02	0.3541E 00	0.2204E 00	0.4018E 00	0.3862E 00	0.1848E 00	0.1986E 02	0.0
0.2700E 02	-0.1304E 02	0.3541E 00	0.2198E 00	0.4017E 00	0.3853E 00	0.1838E 00	0.1986E 02	0.0
0.2713E 02	-0.1314E 02	0.3540E 00	0.2191E 00	0.4017E 00	0.3845E 00	0.1828E 00	0.1986E 02	0.0
0.2725E 02	-0.1325E 02	0.3540E 00	0.2184E 00	0.4015E 00	0.3836E 00	0.1818E 00	0.1986E 02	0.0
0.2738E 02	-0.1335E 02	0.3539E 00	0.2177E 00	0.4014E 00	0.3827E 00	0.1808E 00	0.1986E 02	0.0
0.2750E 02	-0.1346E 02	0.3539E 00	0.2170E 00	0.4013E 00	0.3818E 00	0.1797E 00	0.1986E 02	0.0
0.2763E 02	-0.1356E 02	0.3538E 00	0.2163E 00	0.4011E 00	0.3809E 00	0.1787E 00	0.1986E 02	0.0
0.2775E 02	-0.1367E 02	0.3538E 00	0.2156E 00	0.4012E 00	0.3800E 00	0.1777E 00	0.1986E 02	0.0
0.2788E 02	-0.1378E 02	0.3537E 00	0.2149E 00	0.4010E 00	0.3790E 00	0.1766E 00	0.1986E 02	0.0
0.2800E 02	-0.1388E 02	0.3537E 00	0.2143E 00	0.4008E 00	0.3781E 00	0.1756E 00	0.1986E 02	0.0
0.2813E 02	-0.1399E 02	0.3536E 00	0.2136E 00	0.4007E 00	0.3771E 00	0.1745E 00	0.1987E 02	0.0
0.2825E 02	-0.1410E 02	0.3536E 00	0.2129E 00	0.4005E 00	0.3761E 00	0.1735E 00	0.1987E 02	0.0
0.2838E 02	-0.1421E 02	0.3535E 00	0.2122E 00	0.4004E 00	0.3750E 00	0.1724E 00	0.1987E 02	0.0
0.2850E 02	-0.1432E 02	0.3535E 00	0.2115E 00	0.4002E 00	0.3740E 00	0.1713E 00	0.1987E 02	0.0
0.2863E 02	-0.1444E 02	0.3534E 00	0.2107E 00	0.4001E 00	0.3730E 00	0.1703E 00	0.1987E 02	0.0
0.2875E 02	-0.1455E 02	0.3534E 00	0.2100E 00	0.3999E 00	0.3719E 00	0.1692E 00	0.1987E 02	0.0
0.2888E 02	-0.1466E 02	0.3533E 00	0.2093E 00	0.4000E 00	0.3708E 00	0.1681E 00	0.1987E 02	0.0
0.2900E 02	-0.1478E 02	0.3533E 00	0.2085E 00	0.3997E 00	0.3697E 00	0.1670E 00	0.1987E 02	0.0
0.2913E 02	-0.1489E 02	0.3532E 00	0.2079E 00	0.3996E 00	0.3687E 00	0.1658E 00	0.1987E 02	0.0
0.2925E 02	-0.1500E 02	0.3532E 00	0.2072E 00	0.3995E 00	0.3676E 00	0.1647E 00	0.1987E 02	0.0
0.2938E 02	-0.1512E 02	0.3531E 00	0.2065E 00	0.3992E 00	0.3664E 00	0.1636E 00	0.1987E 02	0.0
0.2950E 02	-0.1524E 02	0.3531E 00	0.2057E 00	0.3991E 00	0.3653E 00	0.1624E 00	0.1987E 02	0.0
0.2963E 02	-0.1536E 02	0.3530E 00	0.2050E 00	0.3992E 00	0.3642E 00	0.1613E 00	0.1987E 02	0.0
0.2975E 02	-0.1547E 02	0.3530E 00	0.2043E 00	0.3989E 00	0.3630E 00	0.1601E 00	0.1987E 02	0.0
0.2988E 02	-0.1559E 02	0.3529E 00	0.2036E 00	0.3987E 00	0.3619E 00	0.1590E 00	0.1987E 02	0.0
0.3000E 02	-0.1571E 02	0.3529E 00	0.2028E 00	0.3986E 00	0.3607E 00	0.1578E 00	0.1987E 02	0.0
0.3013E 02	-0.1583E 02	0.3528E 00	0.2021E 00	0.3984E 00	0.3595E 00	0.1566E 00	0.1987E 02	0.0
0.3025E 02	-0.1595E 02	0.3527E 00	0.2014E 00	0.3983E 00	0.3583E 00	0.1554E 00	0.1987E 02	0.0
0.3038E 02	-0.1608E 02	0.3527E 00	0.2006E 00	0.3981E 00	0.3571E 00	0.1542E 00	0.1987E 02	0.0
0.3050E 02	-0.1620E 02	0.3526E 00	0.1999E 00	0.3979E 00	0.3558E 00	0.1529E 00	0.1987E 02	0.0

0.3063E 02	-0.1632E 02	0.3526E -00	0.1992E 00	0.3977E 00	0.3545E 00	0.1517E 00	0.1988E 02	0.0
0.3075E 02	-0.1645E 02	0.3525E 00	0.1984E 00	0.3976E 00	0.3533E 00	0.1505E 00	0.1988E 02	0.0
0.3088E 02	-0.1657E 02	0.3525E 00	0.1977E 00	0.3973E 00	0.3520E 00	0.1492E 00	0.1988E 02	0.0
0.3100E 02	-0.1670E 02	0.3524E 00	0.1969E 00	0.3973E 00	0.3507E 00	0.1480E 00	0.1988E 02	0.0
0.3113E 02	-0.1683E 02	0.3524E 00	0.1962E 00	0.3971E 00	0.3494E 00	0.1467E 00	0.1988E 02	0.0
0.3125E 02	-0.1695E 02	0.3523E 00	0.1954E 00	0.3970E 00	0.3481E 00	0.1454E 00	0.1988E 02	0.0
0.3138E 02	-0.1708E 02	0.3522E 00	0.1947E 00	0.3967E 00	0.3468E 00	0.1441E 00	0.1988E 02	0.0
0.3150E 02	-0.1721E 02	0.3522E 00	0.1939E 00	0.3968E 00	0.3456E 00	0.1428E 00	0.1988E 02	0.0
0.3163E 02	-0.1734E 02	0.3521E 00	0.1932E 00	0.3965E 00	0.3443E 00	0.1416E 00	0.1988E 02	0.0
0.3175E 02	-0.1748E 02	0.3521E 00	0.1924E 00	0.3963E 00	0.3431E 00	0.1403E 00	0.1988E 02	0.0
0.3188E 02	-0.1761E 02	0.3520E 00	0.1916E 00	0.3962E 00	0.3419E 00	0.1390E 00	0.1989E 02	0.0
0.3200E 02	-0.1774E 02	0.3519E 00	0.1909E 00	0.3961E 00	0.3407E 00	0.1377E 00	0.1989E 02	0.0
0.3213E 02	-0.1788E 02	0.3519E 00	0.1901E 00	0.3958E 00	0.3395E 00	0.1364E 00	0.1989E 02	0.0
0.3225E 02	-0.1801E 02	0.3518E 00	0.1893E 00	0.3956E 00	0.3383E 00	0.1351E 00	0.1989E 02	0.0
0.3238E 02	-0.1815E 02	0.3518E 00	0.1886E 00	0.3954E 00	0.3371E 00	0.1338E 00	0.1989E 02	0.0
0.3250E 02	-0.1828E 02	0.3517E 00	0.1878E 00	0.3955E 00	0.3359E 00	0.1325E 00	0.1989E 02	0.0
0.3263E 02	-0.1842E 02	0.3516E 00	0.1870E 00	0.3952E 00	0.3348E 00	0.1313E 00	0.1989E 02	0.0
0.3275E 02	-0.1856E 02	0.3516E 00	0.1862E 00	0.3951E 00	0.3336E 00	0.1300E 00	0.1989E 02	0.0
0.3288E 02	-0.1870E 02	0.3515E 00	0.1855E 00	0.3946E 00	0.3323E 00	0.1287E 00	0.1989E 02	0.0
0.3300E 02	-0.1884E 02	0.3514E 00	0.1847E 00	0.3946E 00	0.3311E 00	0.1275E 00	0.1989E 02	0.0
0.3313E 02	-0.1899E 02	0.3514E 00	0.1839E 00	0.3945E 00	0.3298E 00	0.1262E 00	0.1990E 02	0.0
0.3325E 02	-0.1913E 02	0.3513E 00	0.1831E 00	0.3942E 00	0.3285E 00	0.1250E 00	0.1990E 02	0.0
0.3338E 02	-0.1927E 02	0.3512E 00	0.1823E 00	0.3942E 00	0.3272E 00	0.1237E 00	0.1990E 02	0.0
0.3350E 02	-0.1942E 02	0.3512E 00	0.1815E 00	0.3938E 00	0.3259E 00	0.1225E 00	0.1990E 02	0.0
0.3363E 02	-0.1956E 02	0.3511E 00	0.1807E 00	0.3938E 00	0.3245E 00	0.1213E 00	0.1990E 02	0.0
0.3375E 02	-0.1971E 02	0.3510E 00	0.1799E 00	0.3934E 00	0.3231E 00	0.1200E 00	0.1990E 02	0.0
0.3388E 02	-0.1986E 02	0.3510E 00	0.1791E 00	0.3933E 00	0.3217E 00	0.1188E 00	0.1990E 02	0.0
0.3400E 02	-0.2001E 02	0.3509E 00	0.1783E 00	0.3933E 00	0.3202E 00	0.1175E 00	0.1990E 02	0.0
0.3413E 02	-0.2016E 02	0.3508E 00	0.1775E 00	0.3930E 00	0.3187E 00	0.1163E 00	0.1990E 02	0.0
0.3425E 02	-0.2031E 02	0.3508E 00	0.1767E 00	0.3928E 00	0.3173E 00	0.1150E 00	0.1990E 02	0.0
0.3438E 02	-0.2046E 02	0.3507E 00	0.1759E 00	0.3927E 00	0.3156E 00	0.1138E 00	0.1990E 02	0.0
0.3450E 02	-0.2062E 02	0.3506E 00	0.1751E 00	0.3922E 00	0.3142E 00	0.1125E 00	0.1990E 02	0.0
0.3463E 02	-0.2077E 02	0.3506E 00	0.1743E 00	0.3924E 00	0.3127E 00	0.1112E 00	0.1990E 02	0.0
0.3475E 02	-0.2093E 02	0.3505E 00	0.1735E 00	0.3922E 00	0.3111E 00	0.1100E 00	0.1990E 02	0.0
0.3488E 02	-0.2109E 02	0.3504E 00	0.1727E 00	0.3916E 00	0.3095E 00	0.1087E 00	0.1990E 02	0.0
0.3500E 02	-0.2125E 02	0.3503E 00	0.1719E 00	0.3918E 00	0.3079E 00	0.1074E 00	0.1990E 02	0.0
0.3513E 02	-0.2141E 02	0.3503E 00	0.1710E 00	0.3915E 00	0.3062E 00	0.1061E 00	0.1990E 02	0.0
0.3525E 02	-0.2157E 02	0.3502E 00	0.1702E 00	0.3911E 00	0.3045E 00	0.1048E 00	0.1990E 02	0.0
0.3538E 02	-0.2173E 02	0.3501E 00	0.1694E 00	0.3913E 00	0.3028E 00	0.1035E 00	0.1990E 02	0.0
0.3550E 02	-0.2189E 02	0.3500E 00	0.1683E 00	0.3905E 00	0.3010E 00	0.1021E 00	0.1990E 02	0.0
0.3563E 02	-0.2206E 02	0.3499E 00	0.1666E 00	0.3901E 00	0.2991E 00	0.1008E 00	0.1991E 02	0.0
0.3575E 02	-0.2223E 02	0.3497E 00	0.1645E 00	0.3896E 00	0.2972E 00	0.9941E-01	0.1991E 02	0.0
0.3588E 02	-0.2240E 02	0.3496E 00	0.1625E 00	0.3891E 00	0.2953E 00	0.9803E-01	0.1991E 02	0.0
0.3600E 02	-0.2257E 02	0.3494E 00	0.1604E 00	0.3885E 00	0.2934E 00	0.9664E-01	0.1991E 02	0.0
0.3613E 02	-0.2275E 02	0.3492E 00	0.1583E 00	0.3881E 00	0.2914E 00	0.9524E-01	0.1991E 02	0.0
0.3625E 02	-0.2293E 02	0.3490E 00	0.1562E 00	0.3874E 00	0.2895E 00	0.9382E-01	0.1991E 02	0.0
0.3638E 02	-0.2311E 02	0.3488E 00	0.1541E 00	0.3870E 00	0.2875E 00	0.9240E-01	0.1991E 02	0.0
0.3650E 02	-0.2330E 02	0.3486E 00	0.1519E 00	0.3863E 00	0.2856E 00	0.9096E-01	0.1991E 02	0.0
0.3663E 02	-0.2350E 02	0.3483E 00	0.1498E 00	0.3856E 00	0.2836E 00	0.8953E-01	0.1991E 02	0.0
0.3675E 02	-0.2369E 02	0.3481E 00	0.1476E 00	0.3851E 00	0.2818E 00	0.8809E-01	0.1991E 02	0.0
0.3688E 02	-0.2389E 02	0.3479E 00	0.1455E 00	0.3845E 00	0.2799E 00	0.8665E-01	0.1992E 02	0.0
0.3700E 02	-0.2410E 02	0.3477E 00	0.1433E 00	0.3837E 00	0.2781E 00	0.8522E-01	0.1992E 02	0.0
0.3713E 02	-0.2431E 02	0.3474E 00	0.1411E 00	0.3831E 00	0.2763E 00	0.8380E-01	0.1992E 02	0.0
0.3725E 02	-0.2452E 02	0.3472E 00	0.1388E 00	0.3825E 00	0.2746E 00	0.8239E-01	0.1992E 02	0.0
0.3738E 02	-0.2474E 02	0.3470E 00	0.1366E 00	0.3818E 00	0.2728E 00	0.8099E-01	0.1992E 02	0.0
0.3750E 02	-0.2497E 02	0.3467E 00	0.1344E 00	0.3811E 00	0.2711E 00	0.7961E-01	0.1992E 02	0.0
0.3763E 02	-0.2520E 02	0.3464E 00	0.1321E 00	0.3804E 00	0.2694E 00	0.7825E-01	0.1992E 02	0.0
0.3775E 02	-0.2543E 02	0.3462E 00	0.1298E 00	0.3796E 00	0.2677E 00	0.7690E-01	0.1992E 02	0.0
0.3788E 02	-0.2567E 02	0.3459E 00	0.1275E 00	0.3787E 00	0.2660E 00	0.7558E-01	0.1992E 02	0.0
0.3800E 02	-0.2592E 02	0.3456E 00	0.1252E 00	0.3780E 00	0.2642E 00	0.7427E-01	0.1992E 02	0.0
0.3813E 02	-0.2617E 02	0.3454E 00	0.1229E 00	0.3773E 00	0.2624E 00	0.7298E-01	0.1992E 02	0.0
0.3825E 02	-0.2643E 02	0.3451E 00	0.1206E 00	0.3764E 00	0.2605E 00	0.7171E-01	0.1992E 02	0.0
0.3838E 02	-0.2670E 02	0.3448E 00	0.1182E 00	0.3755E 00	0.2586E 00	0.7044E-01	0.1992E 02	0.0
0.3850E 02	-0.2697E 02	0.3445E 00	0.1159E 00	0.3747E 00	0.2566E 00	0.6919E-01	0.1992E 02	0.0
0.3863E 02	-0.2725E 02	0.3442E 00	0.1135E 00	0.3738E 00	0.2545E 00	0.6793E-01	0.1992E 02	0.0
0.3875E 02	-0.2753E 02	0.3439E 00	0.1111E 00	0.3729E 00	0.2524E 00	0.6668E-01	0.1992E 02	0.0
0.3888E 02	-0.2783E 02	0.3436E 00	0.1087E 00	0.3719E 00	0.2502E 00	0.6543E-01	0.1992E 02	0.0
0.3900E 02	-0.2813E 02	0.3432E 00	0.1063E 00	0.3710E 00	0.2481E 00	0.6418E-01	0.1992E 02	0.0
0.3913E 02	-0.2844E 02	0.3428E 00	0.1039E 00	0.3700E 00	0.2459E 00	0.6292E-01	0.1992E 02	0.0
0.3925E 02	-0.2876E 02	0.3425E 00	0.1015E 00	0.3690E 00	0.2437E 00	0.6166E-01	0.1992E 02	0.0
0.3938E 02	-0.2909E 02	0.3421E 00	0.9900E-01	0.3679E 00	0.2416E 00	0.6040E-01	0.1993E 02	0.0
0.3950E 02	-0.2943E 02	0.3417E 00	0.9653E-01	0.3668E 00	0.2396E 00	0.5915E-01	0.1993E 02	0.0
0.3963E 02	-0.2978E 02	0.3414E 00	0.9405E-01	0.3657E 00	0.2375E 00	0.5790E-01	0.1993E 02	0.0
0.3975E 02	-0.3014E 02	0.3410E 00	0.9156E-01	0.3645E 00	0.2355E 00	0.5667E-01	0.1993E 02	0.0
0.3988E 02	-0.3051E 02	0.3405E 00	0.8906E-01	0.3631E 00	0.2335E 00	0.5545E-01	0.1993E 02	0.0
0.4000E 02	-0.3090E 02	0.3401E 00	0.8682E-01	0.3622E 00	0.2316E 00	0.5424E-01	0.1993E 02	0.0
0.4013E 02	-0.3130E 02	0.3398E 00	0.8498E-01	0.3613E 00	0.2296E 00	0.5305E-01	0.1993E 02	0.0
0.4025E 02	-0.3170E 02	0.3394E 00	0.8299E-01	0.3603E 00	0.2275E 00	0.5188E-01	0.1993E 02	0.0
0.4038E 02	-0.3212E 02	0.3391E 00	0.8108E-01	0.3592E 00	0.2254E 00	0.5071E-01	0.1993E 02	0.0
0.4050E 02	-0.3255E 02	0.3387E 00	0.7917E-01	0.3582E 00	0.2232E 00	0.4956E-01	0.1993E 02	0.0
0.4063E 02	-0.3299E 02	0.3383E 00	0.7726E-01	0.3571E 00	0.2209E 00	0.4841E-01	0.1994E 02	0.0
0.4075E 02	-0.3344E 02	0.3380E 00	0.7534E-01	0.3560E 00	0.2185E 00	0.4726E-01	0.1994E 02	0.0
0.4088E 02	-0.3391E 02	0.3376E 00	0.7341E-01	0.3549E 00	0.2161E 00	0.4612E-01	0.1994E 02	0.0
0.4100E 02	-0.3439E 02	0.3372E 00	0.7147E-01	0.3537E 00	0.2138E 00	0.4498E-01	0.1994E 02	0.0

0.4113E 02	-0.3488E 02	0.3368E 00	0.6954E-01	0.3525E 00	0.2115E 00	0.4384E-01	0.1994E 02	0.0
0.4125E 02	-0.3539E 02	0.3363E 00	0.6759E-01	0.3512E 00	0.2092E 00	0.4271E-01	0.1994E 02	0.0
0.4138E 02	-0.3591E 02	0.3359E 00	0.6564E-01	0.3499E 00	0.2071E 00	0.4160E-01	0.1994E 02	0.0
0.4150E 02	-0.3645E 02	0.3355E 00	0.6369E-01	0.3486E 00	0.2049E 00	0.4050E-01	0.1994E 02	0.0
0.4163E 02	-0.3701E 02	0.3350E 00	0.6173E-01	0.3472E 00	0.2028E 00	0.3942E-01	0.1994E 02	0.0
0.4175E 02	-0.3759E 02	0.3345E 00	0.5977E-01	0.3459E 00	0.2007E 00	0.3836E-01	0.1994E 02	0.0
0.4188E 02	-0.3819E 02	0.3340E 00	0.5781E-01	0.3442E 00	0.1987E 00	0.3734E-01	0.1995E 02	0.0
0.4200E 02	-0.3881E 02	0.3335E 00	0.5584E-01	0.3426E 00	0.1968E 00	0.3634E-01	0.1995E 02	0.0
0.4213E 02	-0.3945E 02	0.3330E 00	0.5387E-01	0.3410E 00	0.1949E 00	0.3537E-01	0.1995E 02	0.0
0.4225E 02	-0.4012E 02	0.3324E 00	0.5190E-01	0.3393E 00	0.1929E 00	0.3442E-01	0.1995E 02	0.0
0.4238E 02	-0.4081E 02	0.3318E 00	0.4992E-01	0.3376E 00	0.1907E 00	0.3349E-01	0.1995E 02	0.0
0.4250E 02	-0.4153E 02	0.3312E 00	0.4794E-01	0.3358E 00	0.1883E 00	0.3256E-01	0.1995E 02	0.0
0.4263E 02	-0.4228E 02	0.3306E 00	0.4601E-01	0.3338E 00	0.1856E 00	0.3162E-01	0.1995E 02	0.0
0.4275E 02	-0.4306E 02	0.3300E 00	0.4427E-01	0.3324E 00	0.1828E 00	0.3066E-01	0.1995E 02	0.0
0.4288E 02	-0.4389E 02	0.3294E 00	0.4269E-01	0.3307E 00	0.1800E 00	0.2969E-01	0.1995E 02	0.0
0.4300E 02	-0.4472E 02	0.3289E 00	0.4111E-01	0.3290E 00	0.1773E 00	0.2871E-01	0.1995E 02	0.0
0.4313E 02	-0.4560E 02	0.3283E 00	0.3952E-01	0.3272E 00	0.1749E 00	0.2774E-01	0.1995E 02	0.0
0.4325E 02	-0.4651E 02	0.3277E 00	0.3794E-01	0.3254E 00	0.1725E 00	0.2677E-01	0.1996E 02	0.0
0.4338E 02	-0.4745E 02	0.3270E 00	0.3637E-01	0.3234E 00	0.1701E 00	0.2582E-01	0.1996E 02	0.0
0.4350E 02	-0.4844E 02	0.3264E 00	0.3479E-01	0.3213E 00	0.1673E 00	0.2488E-01	0.1996E 02	0.0
0.4363E 02	-0.4947E 02	0.3257E 00	0.3322E-01	0.3192E 00	0.1641E 00	0.2392E-01	0.1996E 02	0.0
0.4375E 02	-0.5055E 02	0.3250E 00	0.3164E-01	0.3170E 00	0.1607E 00	0.2295E-01	0.1996E 02	0.0
0.4388E 02	-0.5167E 02	0.3242E 00	0.3008E-01	0.3147E 00	0.1574E 00	0.2196E-01	0.1996E 02	0.0
0.4400E 02	-0.5286E 02	0.3234E 00	0.2851E-01	0.3122E 00	0.1545E 00	0.2100E-01	0.1996E 02	0.0
0.4413E 02	-0.5410E 02	0.3226E 00	0.2695E-01	0.3096E 00	0.1522E 00	0.2008E-01	0.1996E 02	0.0
0.4425E 02	-0.5541E 02	0.3217E 00	0.2540E-01	0.3066E 00	0.1504E 00	0.1923E-01	0.1996E 02	0.0
0.4438E 02	-0.5679E 02	0.3208E 00	0.2388E-01	0.3041E 00	0.1487E 00	0.1846E-01	0.1996E 02	0.0
0.4450E 02	-0.5826E 02	0.3198E 00	0.2246E-01	0.3014E 00	0.1468E 00	0.1774E-01	0.1996E 02	0.0
0.4463E 02	-0.5981E 02	0.3189E 00	0.2111E-01	0.2985E 00	0.1443E 00	0.1705E-01	0.1996E 02	0.0
0.4475E 02	-0.6146E 02	0.3180E 00	0.1977E-01	0.2955E 00	0.1414E 00	0.1634E-01	0.1996E 02	0.0
0.4488E 02	-0.6320E 02	0.3169E 00	0.1843E-01	0.2922E 00	0.1385E 00	0.1563E-01	0.1996E 02	0.0
0.4500E 02	-0.6506E 02	0.3158E 00	0.1710E-01	0.2887E 00	0.1362E 00	0.1493E-01	0.1996E 02	0.0
0.4513E 02	-0.6704E 02	0.3147E 00	0.1579E-01	0.2850E 00	0.1346E 00	0.1431E-01	0.1996E 02	0.0
0.4525E 02	-0.6917E 02	0.3134E 00	0.1448E-01	0.2810E 00	0.1337E 00	0.1378E-01	0.1996E 02	0.0
0.4538E 02	-0.7147E 02	0.3121E 00	0.1319E-01	0.2767E 00	0.1330E 00	0.1334E-01	0.1996E 02	0.0
0.4550E 02	-0.7397E 02	0.3106E 00	0.1198E-01	0.2719E 00	0.1314E 00	0.1290E-01	0.1996E 02	0.0
0.4563E 02	-0.7668E 02	0.3092E 00	0.1089E-01	0.2677E 00	0.1281E 00	0.1235E-01	0.1997E 02	0.0
0.4575E 02	-0.7963E 02	0.3077E 00	0.9830E-02	0.2629E 00	0.1230E 00	0.1161E-01	0.1997E 02	0.0
0.4588E 02	-0.8285E 02	0.3061E 00	0.8788E-02	0.2577E 00	0.1172E 00	0.1071E-01	0.1997E 02	0.0
0.4600E 02	-0.8639E 02	0.3043E 00	0.7762E-02	0.2518E 00	0.1127E 00	0.9785E-02	0.1997E 02	0.0
0.4613E 02	-0.9032E 02	0.3023E 00	0.6756E-02	0.2453E 00	0.1100E 00	0.9018E-02	0.1997E 02	0.0
0.4625E 02	-0.9473E 02	0.3001E 00	0.5773E-02	0.2380E 00	0.1091E 00	0.8493E-02	0.1997E 02	0.0
0.4638E 02	-0.9976E 02	0.2976E 00	0.4815E-02	0.2295E 00	0.1090E 00	0.8190E-02	0.1997E 02	0.0
0.4650E 02	-0.1056E 03	0.2947E 00	0.3888E-02	0.2194E 00	0.1091E 00	0.8000E-02	0.1997E 02	0.0
0.4663E 02	-0.1125E 03	0.2912E 00	0.3051E-02	0.2078E 00	0.1080E 00	0.7739E-02	0.1997E 02	0.0
0.4675E 02	-0.1209E 03	0.2874E 00	0.2309E-02	0.1950E 00	0.1034E 00	0.7152E-02	0.1997E 02	0.0
0.4688E 02	-0.1313E 03	0.2829E 00	0.1591E-02	0.1733E 00	0.9408E-01	0.6132E-02	0.1998E 02	0.0
0.4700E 02	-0.1452E 03	0.2766E 00	0.8851E-03	0.1519E 00	0.8605E-01	0.5089E-02	0.1998E 02	0.0
0.4713E 02	-0.1665E 03	0.2662E 00	0.3203E-03	0.1064E 00	0.8254E-01	0.4461E-02	0.1998E 02	0.0
0.4725E 02	-0.2079E 03	0.2473E 00	0.9264E-04	0.4570E-01	0.8179E-01	0.4229E-02	0.1998E 02	0.0
0.4738E 02	-0.2695E 03	0.2280E 00	0.4271E-04	0.8824E-02	0.8175E-01	0.4168E-02	0.1998E 02	0.0
0.4750E 02	-0.2952E 03	0.2213E 00	0.3460E-04	0.1186E-02	0.8175E-01	0.4151E-02	0.1998E 02	0.0
0.4763E 02	-0.2993E 03	0.2202E 00	0.3353E-04	0.1751E-03	0.8170E-01	0.4135E-02	0.1998E 02	0.0
0.4775E 02	-0.2999E 03	0.2200E 00	0.3339E-04	0.5146E-04	0.8135E-01	0.4077E-02	0.1998E 02	0.0
0.4788E 02	-0.2999E 03	0.2200E 00	0.3338E-04	0.3664E-04	0.7948E-01	0.3862E-02	0.1998E 02	0.0
0.4800E 02	-0.2999E 03	0.2200E 00	0.3337E-04	0.3455E-04	0.7262E-01	0.3290E-02	0.1998E 02	0.0
0.4813E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3409E-04	0.5878E-01	0.2371E-02	0.1999E 02	0.0
0.4825E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3383E-04	0.5191E-01	0.1798E-02	0.1999E 02	0.0
0.4838E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3369E-04	0.5004E-01	0.1583E-02	0.1999E 02	0.0
0.4850E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3350E-04	0.4969E-01	0.1525E-02	0.1999E 02	0.0
0.4863E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3402E-04	0.4965E-01	0.1513E-02	0.1999E 02	0.0
0.4875E 02	-0.3000E 03	0.2200E 00	0.3337E-04	0.3369E-04	0.4964E-01	0.1511E-02	0.1999E 02	0.0
0.4888E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3447E-04	0.4964E-01	0.1510E-02	0.1999E 02	0.0
0.4900E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3343E-04	0.4961E-01	0.1507E-02	0.1999E 02	0.0
0.4913E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3401E-04	0.4920E-01	0.1473E-02	0.1999E 02	0.0
0.4925E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3434E-04	0.4483E-01	0.1246E-02	0.1999E 02	0.0
0.4938E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3479E-04	0.2156E-01	0.4370E-03	0.2000E 02	0.0
0.4950E 02	-0.3000E 03	0.2200E 00	0.3336E-04	0.3440E-04	0.1719E-01	0.2094E-03	0.2000E 02	0.0
0.4963E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3361E-04	0.1677E-01	0.1757E-03	0.2000E 02	0.0
0.4975E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3374E-04	0.1675E-01	0.1722E-03	0.2000E 02	0.0
0.4988E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3342E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5000E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5013E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3355E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5025E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3368E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5038E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3426E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5050E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0
0.5063E 02	-0.3000E 03	0.2200E 00	0.3335E-04	0.3335E-04	0.1674E-01	0.1720E-03	0.2000E 02	0.0

TIME ,HOURS = 10.00000
LENGTH OF SOIL PROFILE, CM= 50.6250C
VOLUME OF WATER IN THE SOIL PROFILE , CM = 17.27124

TOTAL NH-4 IN EXCH. PHASE, MG = 34.68225
TOTAL NH-4 IN SOIL SOLUTION PHASE, MG = 77.61763
TOTAL NH-4 IN SOIL, MG = 112.29988

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TOTAL NH-3 IN SCIL SCLUTICN, MG= 288.06494
TOTAL ORGANIC N IN THE SOIL, MG =1610.29150
TOTAL NO-2 RELEASED FROM THE SOIL, MG =    0.0
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