TWO - DIMENSIONAL
LATERALLY - INTEGRATED ESTUARINE
NUMERICAL WATER QUALITY MODEL

VOLUME II - USER'S MANUAL

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KINGSTON, RHODE ISLAND

1974

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This report, the second in a series of two, is a user's manual for a numerical water quality simulation model complete with Fortran IV program listings and verification runs. The first volume describes the detailed development of the model and its application to Narragansett Bay, Narragansett, Rhode Island. Additional copies of this volume, as well as volume one, can be obtained from the URI Marine Advisory Service, Narragansett Bay Campus, Narragansett, Rhode Island 02882. no longer available

USER'S MANUAL

A COMPUTER SIMULATION MODEL

TWO-DIMENSIONAL, LATERALLY-INTEGRATED, ESTUARINE NUMERICAL WATER QUALITY MODEL

NABS (Narragansett Bay Study)

TDLIDO (Two-Dimensional, Laterally-Integrated
Dissolved Oxygen - Non-dimensional z axis)

TDLIDI (Two-Dimensional, Laterally-Integrated
Dissolved Oxygen - Dimensional z axis)

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I. INTRODUCTION

The computer programs outlined in this appendix are based on the laterally-averaged mass-transport equations as developed in the main body of this work. These programs have been written for an IBM 360/50 computer in Fortran IV H-level and at present (8/72) have been employed to study the conservative and dissolved oxygen-biochemical oxygen demand (D.O.-B.O.D.) systems. Indications are provided in Chapter A-V as to how this program can be extended to higher order reaction schemes . No attempt has been made to minimize computer time at the expense of program simplicity.

The programming approach used was specifically directed toward developing an accurate prediction model for the D.O.-B.O.D. system. Therefore the subroutine division of the program reflects this trend, with each routine performing a specific portion of the calculation for the D.O.-B.O.D. system while the main program solves the finite-difference approximation of the basic mass-transport equation.

Both programs, non-dimensional z axis (TDLIDO) and dimensional z axis (TDLIDI) models will be presented in the following discussion, and indications will be made as appropriate to show how they differ in input, output and general operation.

II. ESTUARY MODEL

CONSERVATIVE SYSTEM

In order to check to assure that the boundary conditions and finite difference model were properly formulated, a conservative system option was built into the computer models. In addition this system can be used to study the movement of any conservative constituent in the estuary such as salinity, alkalinity, or chlorides.

D.O.-B.O.D. SYSTEM

One of the basic water quality descriptors is the dissolved oxygen system. Such a system involves two subsystems as shown in Fig. A-1:

(a.) Biochemical Oxygen Demand (B.O.D.) System

(b.) Dissolved Oxygen (D.O.) System

These two systems combine to form a basic set

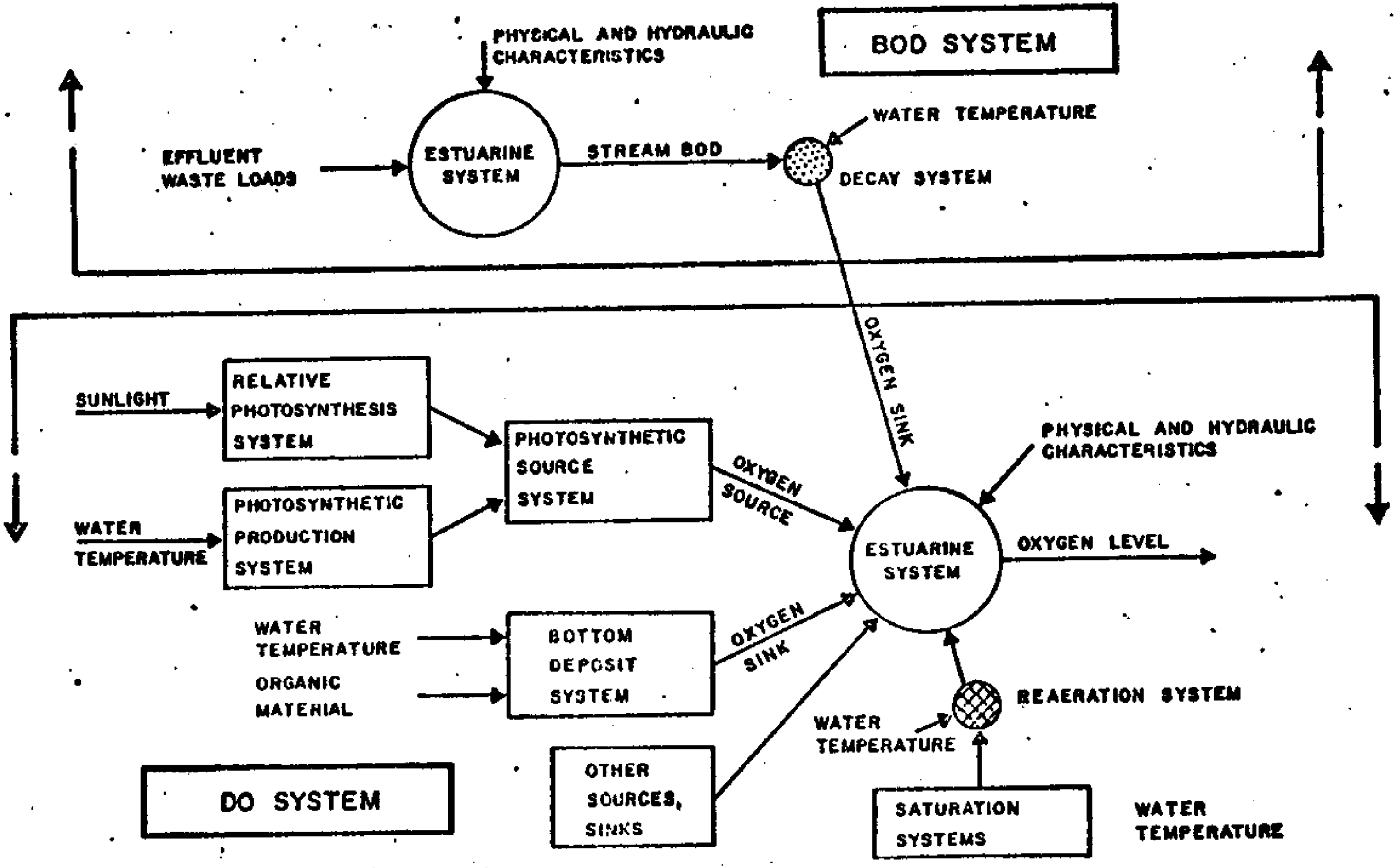


FIG. A-1 DISSOLVED OXYGEN SYSTEM

of two mass balance second order partial differential equations representing the two subsystems. In equation form they are given by

$$\frac{\partial L}{\partial t} = -u\frac{\partial L}{\partial x} - v\frac{\partial L}{\partial y} - w\frac{\partial L}{\partial z} + \frac{\partial}{\partial x}\left(e_x\frac{\partial L}{\partial x}\right) + \frac{\partial}{\partial y}\left(e_y\frac{\partial L}{\partial y}\right) + \frac{\partial}{\partial z}\left(e_z\frac{\partial L}{\partial z}\right) - K_D L + J \qquad \text{(A1)}$$

B.O.D. System

and

$$\frac{\partial c}{\partial t} = -u\frac{\partial c}{\partial x} - v\frac{\partial c}{\partial y} - w\frac{\partial c}{\partial z} + \frac{\partial}{\partial x}\left(e_x\frac{\partial c}{\partial x}\right) + \frac{\partial}{\partial y}\left(e_y\frac{\partial c}{\partial y}\right) + \frac{\partial}{\partial z}\left(e_z\frac{\partial c}{\partial z}\right) + K_A\left(c_{SAT} - c\right) - K_D L + S_{DO} \qquad \text{(A2)}$$

D.O. System

where

L - B.O.D. in mg/l

c - D.O. in mg/l

u,v,w - Tidal velocities in the x,y and z directions respectively

e_x, e_y, e_z - Dispersion coefficients in the x,y, and z direction respectively

J - Sources of B.O.D. in lbs./day

K_D - B.O.D. decay coefficient

K_A - D.O. reareation coefficient

c_{SAT} - Oxygen saturation value

S_{DO} - Sources or sinks of D.O. in mg/l

The equations, after being laterally integrated, [Eqs. (A1) and (A2)] are employed to represent the D.O. - B.O.D. system in the computer models. It can be noted that only the carbonaceous B.O.D. has been modeled and the same is true for the decay coefficients in both the D.O. and B.O.D. equations. There has also been no direct account taken for the obvious biological activity present in the water column as well as benthic activities. Simple programming changes in both programs can be made to correct for these other effects if desired. There is, however, a general source-sink term in the oxygen balance equation which may be employed to simulate biological activities and their subsequent D.O. loadings.

The exact formulations of the various coefficients have been noted in the description of each subroutine's function, leaving the possibility open of easily changing the formulations to suit particular estuarine environments.

III. PROGRAM OPERATION

DECK CONSTRUCTION

NABS-TDLIDO and TDLIDI programs were specifically designed for an IBM 360/50 computer in use at the University of Rhode Island, Kingston, Rhode Island. They were written in Fortran IV, Level H. There are, however, no special system subroutines used in the programs other than the normal exponential, sine, and absolute value types and therefore, the program should be adaptable to any computer that has a sufficiently large core available (about 256K for 16 x 50 arrays) and accepts Fortran IV, Level H as a programming language. A typical deck make up is shown in Fig. A-2.

In the preceeding discussion a list of the control cards as described in Fig. A-2 will be presented along with an explanation of how they are to be completed.

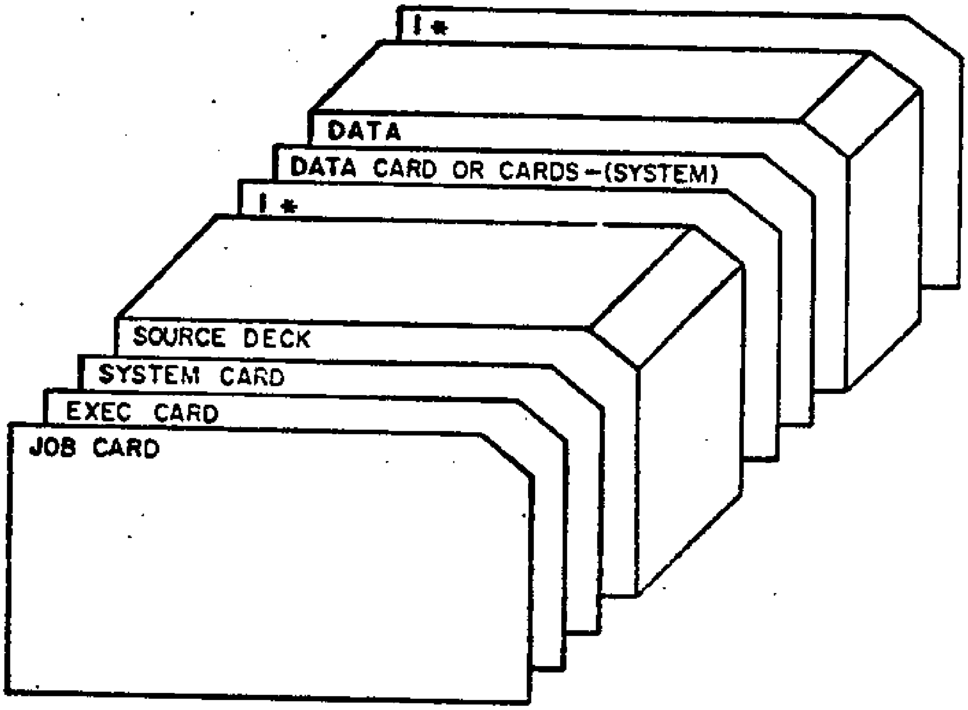


FIG. A-2 TYPICAL IBM 360/50 DECK MAKEUP

(a) The first card submitted of any deck must be a job card ('b' - denotes a blank card column)

Card Columns	Required Information
1 to 2	//
3 to 10	Registration code of user
11 to 15	b JOB b
16	(
17 to 26	Registered sponsor account code
27	,
28 to 30	estimated job time in minutes
31	,
32 to 34	estimated job line output in thousands
35	,
36 to 38	estimated card punched output
39	)
40	,
41 to 71	users name, MSGLEVEL = 1

EXAMPLE:

```
//TDLIDO b JØB b (INØ100.010.010,250), SPAULDING,
   MSGLEVEL = 1
```

(b) The second card is the system execution card.

```
//bEXECbFØRTHCLG' PARM.FORT = 'OPT=2'
```

(c) The third card is a system card. Since only FORTRAN is used in this program, the card must be punched

```
//FØRT.SYSINbDDb *
```

(d) The next group of cards consists of the program cards (i.e. the source deck). If an object deck is used the system control cards under (b), (c), and (f) must be changed accordingly.

(e) Following the source deck is an end card containing the following symbols

```
/ *
```

(f) The data control card indicates that the data is to follow. The format for this card is

```
//GØ.SYSINbDDb*
```

(g) All data is included in the next section and an outline is presented in the section on data input requirements as to the format of this data.

(h) Following the data deck is the end card of the format:

```
/*
```

If data of velocity fields or time varying water quality boundary conditions is to be read from a disc data file then the appropriate job control language (JCL) cards should be inserted at the end of the source deck to define the file name and other pertinent system information.

GRID SELECTION AND BOUNDARY VALUES

To set up a computation in a certain area, geographic information has to be transferred onto the grid points of the staggered grid system. It also must be decided what portion of the estuary or estuary-river system are to be modeled. This criteria will in part be determined by the size of computer storage available and also by the expense of computer time. In order to see how a typical estuary grid system should be arranged we will consider an example for the dimensional case first.

Consider a typical Bay as shown in Fig. A-3. We wish to model this estuary from its mouth at the open ocean or sound to the head in the river. As a first step the maximum estuary depth and length from head to mouth are determined. With these dimensions the overall size or area to be modeled is found.

The next step is to formulate the size of the estuary grids in both the x (longitudinal) and z (vertical) directions. Care should be taken to assure that an intelligent choice is made between a fine grid size requiring large amounts of computer memory and time with subsequently good spatial resolution and a coarse grid system requiring considerably less

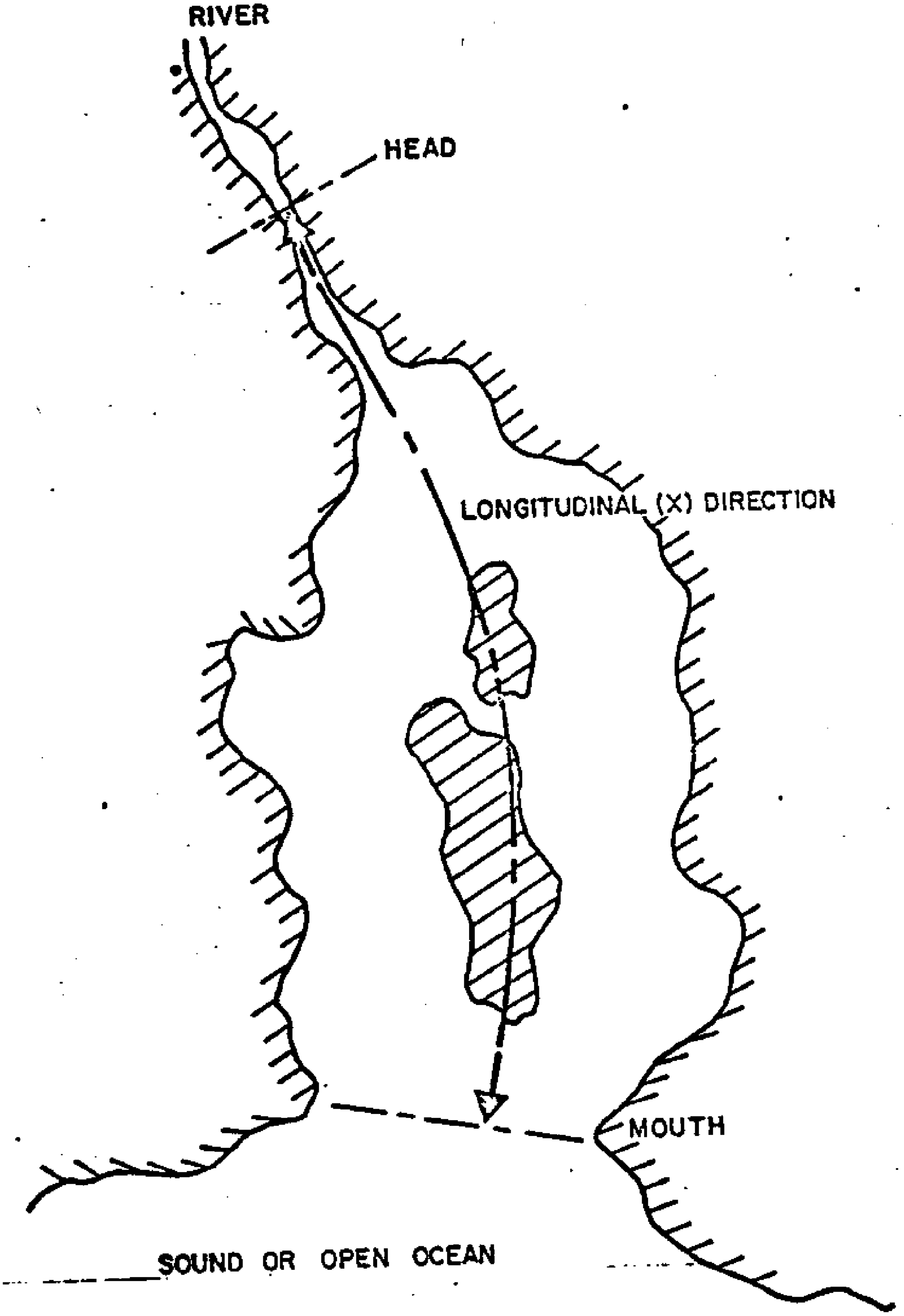


FIG. A-3 TYPICAL ESTUARY

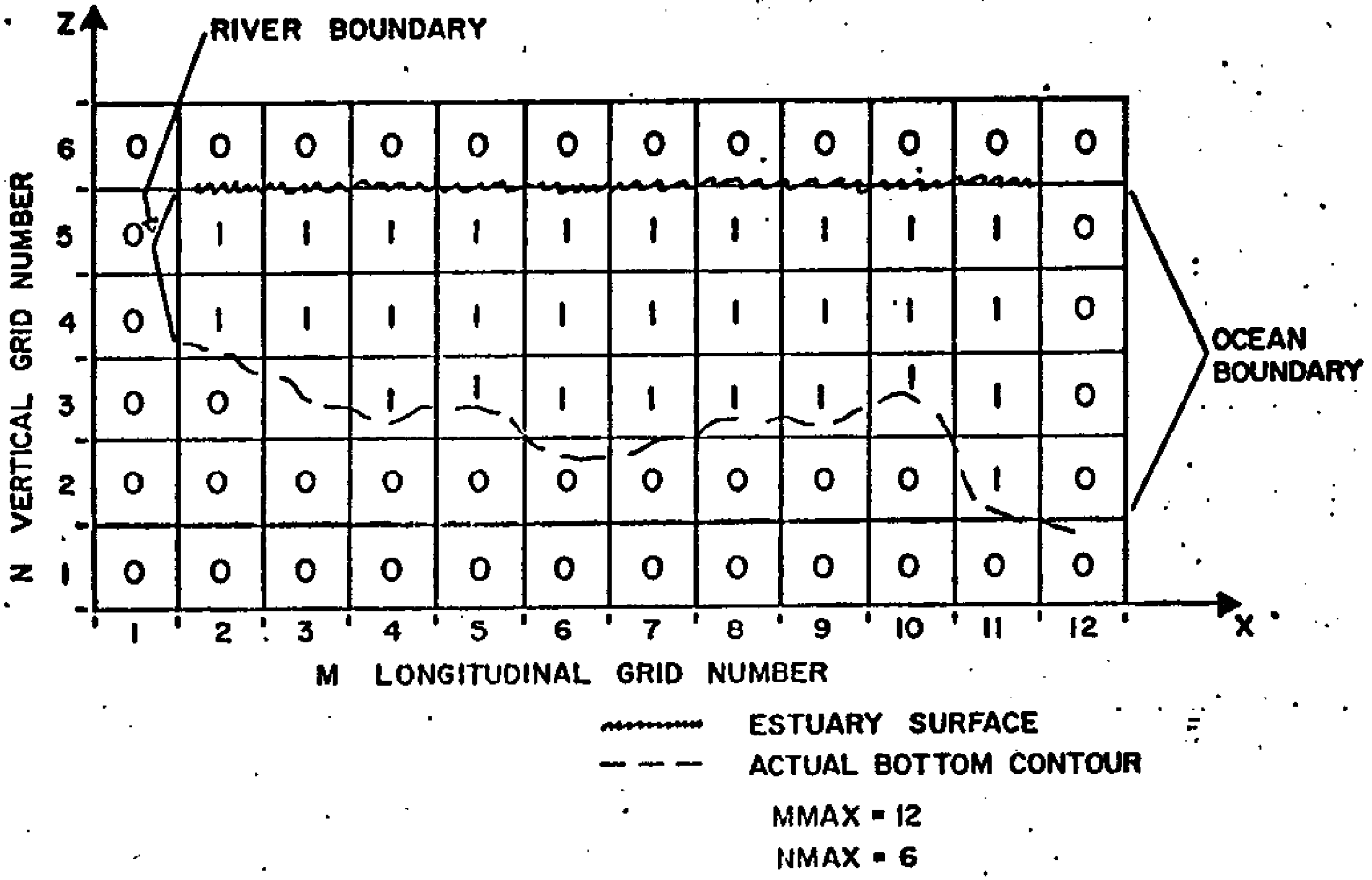
computer memory and time but with poorer spatial resolution. Also in most estuaries the length is very much greater than the maximum depth so that the grid sizes are much smaller in the z direction than in the x direction leading to long thin grids which must be noted when viewing program output.

Let us assume that for our typical estuary the length from head to mouth is 5 nm. and the maximum depth is 20 ft. It is to be noted that the length measurement should be taken along a line that approximately represents the mean longitudinal tidal motion as shown by the dotted line in Fig. A-3. This procedure is used to help assure that the laterally-averaged approximation is as realistically represented for the actual application as possible. If the length were taken as a straight geographical distance large cross stream currents would be neglected due to the orientation of the x axis. Assuming a 3038 ft. (1/2 nm) grid size in the x direction and a 5 ft.

grid spacing in the z direction would mean a grid array N=4, M=10, where N is the number of vertical grids and M is the number of longitudinal grids. However, due to computational considerations for boundary conditions, both open and closed, there must be at least one more grid space on all sides of the computational field. Hence for this particular problem, the grid array size must be N=6, M=12. In the computer program this grid array size is denoted as NMAX and MMAX, i.e. where N=1,NMAX, and M=1,MMAX.

Another rule required by the finite-difference computational scheme is that there must be at least 2 grid squares in any direction. This allows the mass densities to change in both directions and prevents mass densities from being fixed artificially due to a computational inadequacy. As a review then, the computational scheme requires

(1) At least one grid space on all sides beyond those required for actual



	1	2	3	4	5	6	7	8	9	10	11	12
6	0	0	0	0	0	0	0	0	0	0	0	0
5	0	1	1	1	1	1	1	1	1	1	1	0
4	0	1	1	1	1	1	1	1	1	1	1	0
3	0	0		1	1	1	1	1	1	1	1	0
2	0	0	0	0	0	0	0	0	0	0	1	0
1	0	0	0	0	0	0	0	0	0	0	0	0

FIG. A-4 ESTUARY GRID COMPUTATIONAL FIELD FOR A TYPICAL DIMENSIONAL VERTICAL AXIS MODEL APPLICATION estuary representation.

(2) At least two computational grids in any direction.

To represent this information for computer programming purposes a computational grid field or array called H(N,M) is formulated as shown in Fig. A-4. The locations where a one (1) appears indicate grids in which computations are to be performed and a zero (0) or default indicate that no computation is to be performed. Information on how these data are provided to the program is given in the Data Input section.

Throughout this discussion no reference has been made to the obvious fact that the sea level is not constant but varies according to the tidal stage. This variation in height from the mean sea level has been assumed small for the dimensional z axis model in comparison to the accuracy of estuary depths as computed from the computational grid field approximation. Cases of larger tidal variations can be handled only by the non-dimensional z axis model.

The next problem to be dealt with is that there are open boundary conditions at the river and ocean outlets to the estuary. To indicate for computational purposes where these outlets or open boundaries occur use is made of open boundary value control numbers MØBD( ) and NØBD( ), where each MØBD value represents an open boundary on a given line M and each NØBD ( ) value represents an open boundary on a line N.

As an example let us develop the MØBD and NØBD values for the grid system shown in Fig. A-4. A visual check shows that no open boundaries occur along any line N and therefore there are no NØBD values (NBC=0 where NBC is the number of NØBD values); however, along lines M=1 and M=12 we have open boundary conditions. Since there are two open boundaries MBC=2, where MBC is the number of open boundaries along line M.

In formulating these boundary control values the first two numbers represent the M number of the open boundary. The second two digits represent the lower N number of the boundary, the third two numbers indicate the upper N number of the boundary and the last number gives an indication as to the position in the computational field of the bound. If the open bound is on the right or upper side of the grid where M=MMAX, or N=NMAX then a value of one is chosen; if the open bound is on the left or lower side wher M=1 or near N=1, zero is used. For this example (Fig. A-4) then the MØBD( ) values are

MØBD(1) = 01/04/05/0

and

MØBD(2) = 12/02/05/1

then MBC = 2

and the NØBD( ) values are unneeded therefore

NBC = 0

If it is decided that open boundaries should be placed on any line N a similar procudeure to that shown above can be employed, with an analogous interpretation of the control numbers. For example, suppose that we decide to have one open boundary on line N=2, in grids M = 4 and 5, then NBC = 1

NØBD = 02/04/05/0

A troublesome question concerning open boundaries is what can be done when other river flows or runoff water enter the estuary that cannot be adequately included as shown in Fig. A-4. If the entrance of this "side" flow is large enough in comparison to the volume of the water in the laterally averaged grid immediately adjacent to it then the mass density of a given constituent in that grid can be preset to an appropriate value to reflect this inflow. In general, however, this is not the case since the inflow volumes are usually considerably smaller than the volume of the estuary grid. Handling of this case is very difficult and has to be adjusted for each water quality parameter under study. As a typical example to simulate the B.O.D. loading produced by runoff water, the volume of storm water being deposited in the estuary would be converted into a B.O.D. loading in lbs./day and injected into appropriate grids along the estuary surface.

The grid selection for the non-dimensional z axis model of the laterally-averaged mass-transport equation is considerably simpler than that for the dimensional model. After determining the size of the x grid spacing one has only to decide the maximum number of vertical grids desired for the total area being modeled. The active computational grid field H(N,M) then becomes a rectangle. For the case outlined in Fig. A-4 assume that we desire to have 4 vertical grids then our grid computational field appears as a rectangle with ("1's") in spaces N = 2,5; and M = 2,11.

To account for the depth variation in each section another set of data input to the program giving the section depth at each grid location M = 1, MMAX is required. This depth should correspond to the approximate mean sea level depth of the section.

The open boundary conditions for the river and ocean boundaries as shown in Fig. A-4 now become

MØBD(1) = 01/02/05/1   river

and

MØBD(2) = 12/02/05/1   ocean

It is seen that these values, in their ranges of N(02/05) are exactly the same, however, depth variations adjust this seemingly unrealistic grid approximation.

DATA INPUT REQUIREMENTS

In an effort to make data input for NABS-TDLIDO and TDLIDI as simple as possible Table A-1 has been developed which lists the data name, a general description including appropriate dimensions (i.e. ft., ft./sec, mg/l, etc.), the format for data cards, and any conditions that must be met for their use.

When searching for the information to fill these data fields especially in the cases of those specified on the staggered grid system an effort should be made to find the values at those locations as this will give the most accurate representation of the area under study. This is particularly true for the estuary width matrix since the solution scheme for the difference equations is sensitive to width variations. For cases where islands are found in the middle of an estuary, the islands, conceptually, are moved against one shore and a new cross sectional bottom profile is estimated using either a mean or maximum depth as a reference and a bottom profile similar to the previous estuary section. Interpretation of model results has to be viewed carefully in light of this new profile adjustment.

Since these computer program models are only for the mass transport equation, values of the tidal velocity variations need to be predicted by other means. Provisions have been made in subroutine VELC to handle velocity inputs. Either the fields of the w and u velocities can be specified at every half time step, an interval of AT/2 apart, or they can be computed from a Fourier series type formula based on experimental data or in the usual case a reliable one-dimensional tidal model (1) can be used to predict the tidal velocities and heights in the x direction and w velocities can be initially neglected since they are usually small. In any case, with some simple programming, subroutine VELC can be used to handle a variety of velocity input conditions.

To specify mass densities at open boundaries another subroutine called BOVAL is employed. At the present, since water quality data gathering is usually done in terms of season averages rather than instantaneous values, the mass densities at open boundaries are set constant. The program however can handle varying boundary conditions if so desired by simply adjusting the programming to read or calculate these conditions.

Additional information on how these velocity and mass density inputs are handles is described under the subroutine functional description for the appropriate routine.

In general to obtain the D.O.-B.O.D. coupled system from the computer program the control number ISALT is set equal to one (ISALT = 1), while for the conservative case, ISALT $>$ 1. Careful checking of the data input conditions reveals which read statements are passed over or skipped for each case. Similar type control parameters are used for dispersion terms (IDIF), sources and sinks (ISOU), decay values (IDEC), and velocity input (IVEL) conditions and are noted accordingly in Table A-1.

Since the development of both the dimensionless and dimensional z axis models is analogous the data inputs to both models are very similar and differences are only in a few parameters. Therefore,Table A-1 will present the data input for the dimensional model with notations made under the conditions column, for variations caused by using the non-dimensional z axis model.

DESCRIPTION DATA NAME	FORMAT	CONDITIONS	NO. OF CARDS
AT- full time step for difference equation in sec.	F8.3		1
MAXST - total number of time steps to be completed	I3		1
NMAX,MMAX - the number of grids in the z and x directions	2I2		1
DDX,DDZ - x and z direction grid sizes in ft.	2F7.2	DDZ omitted for dimensionless model	1
IPUNCH - number of time steps at which punched output is desired	I3		1
NPR - total number of times printed output is desired			
NPRINT ( ) - the time steps at which printed output is desired	I4		NPR
NFP - number of grids for which time varying plots of concentration are desired	I2		1

Table A-1 Data Input Specifications

DATA NAME DESCRIPTION	FORMAT	CONDITIONS	NO. OF CARDS
NP(I),MP(I) the N, and M numbers for grids in which time varying plots of concentration are desired	2I2		NFP
IGL,IGU - plots of D.O. & B.O.D. or conservative case are provided for column N=IGL to column N = IGU, plus vertically averaged values in each section	2I2	If IGL or IGU equal 0 only obtain vertical section averages	1
ISOU,IDIF,ISALT,IDEC, IVEL,ISMO - control parameters	5I2	ISOU- source of D.O. IDIF- diffusion coeff. ISALT- D.O. - B.O.D. or conservative case IDEC- Decay coefficient IVEL- velocity read in ISMO- width matrix smoothing	1
NBC,MBC - number of NOBD boundary conditions number of MOBD boundary conditions	2I2	If NBC,MBC equals zero skips appropriate boundary conditions	1

Table A-1 Data Input Specifications (Cont'd.)

DATA NAME DESCRIPTION	FORMAT	CONDITIONS	NO. OF CARDS
NOBD ( ) boundary conditions	I8	If NBC equals zero this read is passed over	NBC
MOBD ( ) boundary conditions	I8	If MBC equals zero this read is passed over	MBC
A2,B2,SKK,V1 values for the computation of the decay coefficient (ref. subroutine DECAY)	2F10.4,F5.2,F6.1	If IDEC=1 these values are read and next read skipped	1
DA,DB,DC,DE	4F15.8	If IDEC > 1 these values are read and previuos statement is skipped	1
SNETA,BET1,GAMS coefficients of the vertical dispersion coefficient (ref. subroutine DIFFU)	3F10.5	GAMS = 0.0 no wind condition, BET1 = 0 constant density profile	1
WH,WT,WL - wave - height (ft) wave period (sec) wave length (ft) employed in vertical dispersion coefficient (ref. subroutine DIFFU)	3F10.5	WH,WT,WL must always be specified even if GAMS = 0.0 above	1

Table A-1 Data Input Specifications (Cont'd.)

DATA NAME DESCRIPTION	FORMAT	CONDITIONS	NO. OF CARDS
H(N,M) - Computational grid field	30I2		MMAX
B(N,M) - estuary width field in ft. (columns 1-10)	10F8.1		MMAX
B(N,M) - estuary width field in ft. (columns 11 to NMAX)	10F8.1		MMAX
JS(N,M)- estuary B.O.D. loadings in lbs/day (columns 1-10)	10F7.1	If ISALT> 1 passes over this read	MMAX
JS(N,M) - estuary B.O.D. loadings in lbs/day (columns 11-NMAX)	10F7.1	If ISALT> 1 skips this read	MMAX
DX(N,M) - x direction dispersion coefficient in ft^2/sec (columns 1-10)	10F5.2	If IDIF>1 skips this read	MMAX
DX(N,M) - x direction dispersion coefficient in ft^2/sec (columns 11-NMAX)	10F5.2	If IDIF>1 skips this read	MMAX
DZ(N,M) -vertical dispersion coefficient in ft^2/sec. (columns 1-10)	10F5.2	If IDIF>1 skips this read	MMAX
DZ(N,M) -vertical dispersion coefficient in ft^2/sec (columns 11-NMAX)	10F5.2	If IDIF>1 skips this read	MMAX

Table A-1 Data Input Specifications (Cont'd)

DATA NAME DESCRIPTION	FORMAT	CONDITIONS	NO. OF CARDS
COP(N,M) - initial value of D.O. or salinity mg/l (columns 1-10)	10F5.2		MMAX
COP(N,M) - initial value of D.O. or salinity mg/l (columns 11-NMAX)	10F5.2		MMAX
LS(N,M) - initial value value of B.O.D. in mg/l (columns 1-10)	10F5.2	If ISALT > 1 skips this read	MMAX
LS(N,M) - initial value of B.O.D. in mg/l (columns 11-NMAX)	10F5.2	If ISALT > 1 skips this read	MMAX
P(N,M) - source or sink of dissolved oxygen (mg/l) (columns 11-NMAX)	10F6.2	If ISCU > 1 skips this read, presets field to zero	MMAX
TS(N,M) temperature of water in (°F) (columns 1-10)	10F6.2		MMAX
TS(N,M) temperature of water in (°F) (columns 11-NMAX)	10F6.2		MMAX
SS(N,M) - salinity in estuary (columns 1-10)	10F6.2	Omitted if ISALT > 1	MMAX
SS(N,M) - salinity in estuary (columns 11-NMAX)	10F6.2		MMAX
DEP - mean sea level depth in ft.	F7.2	Used only for dimensionless model	MMAX

Table A-1 Data Input Specifications (Cont'd)

DATA NAME DESCRIPTION	FORMAT	CONDITIONS	NO. OF CARDS
U(N,M) -u velocity (+ ebb) ft/sec (columns 1-10)	10F6.2	IVEL must equal 1 to read this	MMAX
U(N.M) - u velocity (+ ebb) ft/sec (columns 11-NMAX)	10F6.2	IVEL must equal 1 to read this	MMAX
W(N,M) - w velocity (+ upward) ft/sec (columns 1-10)	10F6.2	IVEL must equal 1 to read this	MMAX
W(N,M) - w velocity (+ upward) ft/sec. (columns 11-NMAX)	10F6.2	IVEL must equal 1 to read this	MMAX

Table A-1 Data Input Specifications (Cont'd)

COMMON AND DIMENSION STATEMENTS

When the final grid system has been decided upon, along with all the boundary specifications, the CØMMØN and DIMENSIØN statements of the program should be adjusted so as to require as little computer memory as is feasible. To help in this matter a table has been developed which shows the appropriate minimum storage allocations necessary. In Table A-2 the following notations are used:

MMAX - Number of grid points in the x direction

NMAX - Number of grid points in the z direction

NBC - Number of NØBD boundary values

MBC - Number of MØBD boundary values

NFP - Number of grids for which time varying concentrations are to be plotted

COMMON BLOCK

ARRAY NAME	CONDITIONS	DIMENSIONS
NBD ( )		1.5* MMAX
MBD ( )		1.5* MMAX
NOBD ( )		NBC + 1
MOBD ( )		MBC + 1
AR ( )		MMAX
DEP ( )		MMAX
CS ( )		MMAX
TS (,)		NMAX, MMAX
SS (,)		NMAX, MMAX
P (,)		NMAX, MMAX
CO (,)		NMAX, MMAX
LS (,)		NMAX, MMAX
JS (,)		NMAX, MMAX
H (,)		NMAX, MMAX
CT (,)		NMAX, MMAX
U (,)		NMAX, MMAX
W (,)		NMAX, MMAX
COP (,)		NMAX, MMAX

Table A-2 Storage Allocation Specification

COMMON BLOCK

ARRAY NAME	CONDITIONS	DIMENSIONS
D (,)		NMAX, MMAX
DX (,)		NMAX, MMAX
DZ (,)		NMAX, MMAX
B (,)		NMAX, MMAX
RAR(,)		NMAX, MMAX
CSC(,)		NMAX, MMAX
SE( )	Unnecessary for dimensional model	MMAX
SEP( )	Unnecessary for dimensional model	MMAX

Table A-2 Storage Allocation Specification (Cont'd.)

MAIN PROGRAM

ARRAY NAME	DIMENSIONS
AA ( )	MMAX
BB ( )	MMAX
CC ( )	MMAX
DD ( )	MMAX
AA2 ( )	MMAX
BB2 ( )	MMAX
CC2 ( )	MMAX
DD2 ( )	MMAX
E ( )	MMAX
Q ( )	MMAX
NPRINT ( )	2 *MMAX

SUBROUTINE INIT

ARRAY NAME	DIMENSIONS
NU ( )	NMAX

Table A-2 Storage Allocation Specification (Cont'd)

DIMENSION STATEMENTS

SUBROUTINE ANSW

ARRAY NAME	DIMENSIONS
NO ( )	NMAX

SUBROUTINE PLOTS

ARRAY NAME	DIMENSIONS
A (,)	MMAX, 3
COAV ( )	MMAX
LSAV ( )	MMAX

SUBROUTINE AXVAL

ARRAY NAME	DIMENSIONS
NO ( )	NMAX

Table A-2 Storage Allocation Specification (Cont'd)

NAMED COMMONS

/TIMV/

ARRAY NAME	DIMENSION
CODO (,)	MAXST, NFP
BOD (,)	MAXST, NFP
TIH (,)	MAXST, NFP
NP ( )	NFP
MP ( )	NFP

/CHEZY/

ARRAY NAME	DIMENSION
C ( )	MMAX

Table A-2 Storage Allocation Specification (Cont'd.)

PROGRAM INPUT

Conservative Case D.O. - B.O.D. System	TDLIDI
Conservative Case D.O. - B.O.D. System	TDLIDO

SAMPLE INPUT - TDLIDI

(DIMENSIONAL VERTICAL AXIS MODEL)

CONSERVATIVE CASE

```
120.0
100
1048
 3033.   5.0
101
 2
1407
1445
 3
   1
  50
 .99
1415
 2 2 2 2 2 0
 0 2
 0114151
 4602151
 .00859      .276       .00957
 0.0         0.0        0.0
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
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 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0
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 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0
 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0
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 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
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0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
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0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 0
0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 0
0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.
 660.    660.    660.    660.    660.    660.    660.    660.    660.    660.
 360.    360.    360.    360.    360.    360.    360.    360.    360.    360.
3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.
2250.   2250.   2250.   2250.   2250.   2250.   2250.   2250.   2250.   2250.
1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.
4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.
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4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.
6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.
5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.
5250.   5250.   5250.   5250.   5250.   5250.   5250.   5250.   5250.   5250.
8190.   8190.   8190.   8190.   8190.   8190.   8190.   8190.   8190.   8190.
5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.
17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.
18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.
20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.
19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.
20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.
35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.
34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.
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31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.
33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.
35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.
31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.
29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.
30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.
26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.
24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.
34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.
41400.  41400.  41400.  41400.  41400.  41400.  41400.  41400.  41400.  41400.
35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.
28110.  28110.  28110.  28110.  28110.  28110.  28110.  28110.  28110.  28110.
25890.  25890.  25890.  25890.  25890.  25890.  25890.  25890.  25890.  25890.
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26110. 26110. 26110. 26110. 26110. 26110. 26110. 26110. 26110. 26110.
21030. 21030. 21030. 21030. 21030. 21030. 21030. 21030. 21030. 21030.
21090. 21090. 21090. 21090. 21090. 21090. 21090. 21090. 21090. 21090.
17460. 17460. 17460. 17460. 17460. 17460. 17460. 17460. 17460. 17460.
17100. 17100. 17100. 17100. 17100. 17100. 17100. 17100. 17100. 17100.
21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600.
14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700.
21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600. 21600.
9900.  9900.  9900.  9900.  9900.  9900.  9900.  9900.  9900.  9900.
16500. 16500. 16500. 16500. 16500. 16500. 16500. 16500. 16500. 16500.
14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700. 14700.
1000.  1000.  1000.  1000.  1000.  1000.
1590.  1590.  1590.  1590.  1590.  1590.
1200.  1200.  1200.  1200.  1200.  1200.
660.   660.   660.   660.   600.   600.
360.   360.   360.   360.   360.   360.
3000.  3000.  3000.  3000.  3000.  3000.
2250.  2250.  2250.  2250.  2250.  2250.
1800.  1800.  1800.  1800.  1800.  1800.
4740.  4740.  4740.  4740.  4740.  4740.
5880.  5880.  5880.  5880.  5880.  5880.
4500.  4500.  4500.  4500.  4500.  4500.
6810.  6810.  6810.  6810.  6810.  6810.
5400.  5400.  5400.  5400.  5400.  5400.
5250.  5250.  5250.  5250.  5250.  5250.
8190.  8190.  8190.  8190.  8190.  8190.
5580.  5580.  5580.  5580.  5580.  5580.
17100. 17100. 17100. 17100. 17100. 17100.
18000. 18000. 18000. 18000. 18000. 18000.
20100. 20100. 20100. 20100. 20100. 20100.
19080. 19080. 19080. 19080. 19080. 19080.
20490. 24090. 20490. 20490. 20490. 20490.
35790. 35790. 35790. 35790. 35790. 35790.
34800. 34800. 34800. 34800. 34800. 34800.
29400. 29400. 29400. 29400. 29400. 29400.
31500. 31500. 31500. 31500. 31500. 31500.
33000. 33000. 33000. 33000. 33000. 33000.
35400. 35400. 35400. 35400. 35400. 35400.
31290. 31290. 31290. 31290. 31290. 31290.
29640. 29640. 29640. 29640. 29640. 29640.
30480. 30480. 30480. 30480. 30480. 30480.
26490. 26490. 26490. 26490. 26490. 26490.
24810. 24810. 24810. 24810. 24810. 24810.
34200. 34200. 34200. 34200. 34200. 34200.
41400. 41400. 41400. 41400. 41400. 41400.
35400. 35400. 35400. 35400. 35400. 35400.
26110. 26110. 26110. 26110. 26110. 26110.
25890. 25890. 25890. 25890. 25890. 25890.
26110. 26110. 26110. 26110. 26110. 26110.
21030. 21030. 21030. 21030. 21030. 21030.
21090. 21090. 21090. 21090. 21090. 21090.
17460. 17460. 17460. 17460. 17460. 17460.
```

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17100.  17100.   17100.   17100.   17100.   17100.
21600.  21600.   21600.   21600.   21600.   21600.
14700.  14700.   14700.   14700.   14700.   14700.
21600.  21600.   21600.   21600.   21600.   21600.
9900.   9900.    9900.    9900.    9900.    9900.
16500.  16500.   16500.   16500.   16500.   16500.
14700.  14700.   14700.   14700.   14700.   14700.
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
0.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0   4.0
```

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4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
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4.0  4.0  4.0  4.0  4.0  0.0
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4.0  4.0  4.0  4.0  4.0  0.0
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4.0  4.0  4.0  4.0  4.0  0.0
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4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
4.0  4.0  4.0  4.0  4.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

```
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    64.
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    63.8
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    63.4
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    63.2   64.
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    63.0   63.5
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.9
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.9
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.9   67.9
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.8   63.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.8   63.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    62.3   63.0   63.0
0.0    0.0    0.0    0.0    0.0    0.0    62.8   62.9   63.1   63.2
0.0    0.0    0.0    0.0    0.0    0.0    62.9   62.4   63.2   63.3
0.0    0.0    0.0    0.0    0.0    0.0    62.7   62.9   63.3   63.5
0.0    0.0    0.0    0.0    0.0    0.0    62.7   63.0   63.4   63.7
0.0    0.0    0.0    0.0    0.0    0.0    62.7   63.0   63.4   63.9
0.0    0.0    0.0    0.0    0.0    62.7   62.9   63.0   63.5   64.0
0.0    0.0    0.0    0.0    67.7   62.7   62.3   63.    63.5   64.0
0.0    0.0    0.0    0.0    62.7   62.7   62.8   63.0   63.5   64.0
0.0    0.0    62.7   62.7   62.7   62.3   63.    63.5   63.5   64.0
0.0    0.0    62.7   62.4   62.7   62.7   63.7   63.    63.5   63.5
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.4    0.0    0.0    0.0    0.0
0.0    0.0    0.0    69.4   73.4   0.0
0.0    0.0    0.0    69.5   73.0   0.0
0.0    69.3   70.0   71.0   72.9   0.0
0.0    67.1   70.0   71.0   72.6   0.0
```

0.0	68.5	69.0	71.0	72.1	0.0
0.0	68.7	69.7	[illegible]	72.0	0.0
0.0	68.5	69.7	71.0	71.8	0.0
0.0	68.3	68.2	69.0	71.5	0.0
0.0	0.00	67.8	68.5	71.4	0.0
0.0	0.00	67.6	69.0	71.2	0.0
0.0	0.00	67.4	69.0	71.0	0.0
0.0	67.0	68.3	69.0	70.8	0.0
0.0	66.8	67.8	68.4	71.5	0.0
0.0	0.00	66.4	67.8	70.5	0.0
0.0	66.2	67.0	68.0	70.4	0.0
0.0	66.1	67.0	68.8	70.3	0.0
0.0	65.0	67.0	69.0	70.2	0.0
0.0	65.2	65.9	69.3	70.1	0.0
0.0	65.4	65.0	68.6	69.8	0.0
0.0	65.0	64.8	68.5	69.4	0.0
0.0	0.00	64.8	67.8	69.2	0.0
64.0	64.7	64.8	67.3	68.9	0.0
64.0	64.8	65.6	67.3	68.7	0.0
64.5	64.8	66.7	67.1	68.5	0.0
64.3	65.0	66.5	67.2	68.4	0.0
64.5	65.0	66.0	67.0	69.2	0.0
64.1	65.1	66.1	67.1	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
65.0	66.0	66.5	67.7	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
64.0	65.0	66.0	67.0	68.0	0.0
64.1	65.0	65.8	67.0	67.9	0.0
64.1	65.0	65.6	67.0	67.5	0.0
64.1	64.8	65.4	66.0	67.4	0.0
64.2	64.7	65.2	66.0	67.2	0.0
64.2	64.6	65.0	66.0	66.5	0.0
64.2	64.6	64.8	65.0	66.5	0.0
64.2	64.6	64.8	65.0	66.6	0.0
64.2	64.8	64.9	65.0	66.6	0.0
64.2	64.6	64.8	65.0	66.4	0.0
64.3	64.5	64.8	65.0	66.2	0.0
64.3	64.8	64.6	65.0	66.2	0.0
64.3	64.6	65.4	65.7	66.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0

SAMPLE INPUT - TDLIDI

(DIMENSIONAL VERTICAL AXIS MODEL)

D.O. - B.O.D. CASE

```
173.0
100
1648
 3039.   5.0
101
 2
1427
1435
 3
   1
  50
  99
1415
 2 2 1 2 2 0
 0 2
 0114151
 4403151
0.0000234        0.0              0.0              0.0
 .00859     .270       .00557
 0.0        0.0        0.0
 0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  1  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  1  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  0  1  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  1  1  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  1  1  1  1  1  1  1  0
 0  0  0  0  0  0  0  0  1  1  1  1  1  1  1  0
```

```
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 0
0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 0
0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 1000.   1000.   1000.   1000.   1000.   1000.   1000.   1000.   1000.   1000.
 1590.   1590.   1590.   1590.   1590.   1590.   1590.   1590.   1590.   1590.
 1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.   1200.
  660.    660.    660.    660.    660.    660.    660.    660.    660.    660.
 360.    360.    360.    360.    360.    360.    360.    360.    360.    360.
 3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.   3000.
 2250.    2250.   2250.  2250.   2250.   2250.   2250.   2250.   2250.   2250.
 1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.   1800.
 4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.   4740.
 5880.    5880.  5880.   5880.   5880.   5880.   5880.   5880.   5880.   5880.
 4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.   4500.
 6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.   6810.
 5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.   5400.
 5250.    5250.  5250.   5250.   5250.   5250.   5250.   5250.   5250.   5250.
 8190.    8190.  8190.   8190.   8190.   8190.   8190.   8190.   8190.   8190.
 5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.   5580.
 17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.
 18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.  18000.
 20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.  20100.
 19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.  19080.
 20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.  20490.
 35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.  35790.
 34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.  34800.
 29400.  29400.  29400.  29400.  29400.  29400.  29400.  29400.  29400.  29400.
 31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.  31500.
 33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.  33000.
 35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.
 31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.  31290.
 29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.  29640.
 30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.  30480.
 26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.  26490.
 24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.  24810.
 34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.  34200.
 41400.  41400.  41400.   41400.  41400.  41400.  41400.  41400.  41400.  41400.
 35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.  35400.
 23110.  23110.  23110.  23110.  23110.  23110.  23110.  23110.  23110.  23110.
```

```
25890. 25890.  25890.  25890.  25890.  25890.  25890.  25890.  25890.  25890.
26110. 26110.  26110.  26110.  26110.  26110.  26110.  26110.  26110.  26110.
21030. 21030.  21030.  21030.  21030.  21030.  21030.  21030.  21030.  21030.
21090. 21090.  21090.  21090.  21090.  21090.  21090.  21090.  21090.  21090.
17460. 17460.  17460.  17460.  17460.  17460.  17460.  17460.  17460.  17460.
17100. 17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.  17100.
21600. 21600.  21600.  21600.  21600.  21600.  21600.  21600.  21600.  21600.
14700. 14700.  14700.  14700.  14700.  14700.  14700.  14700.  14700.  14700.
21600. 21600.  21600.  21600.  21600.  21600.  21600.  21600.  21600.  21600.
9900.  9900.   9900.   9900.   9900.   9900.   9900.   9900.   9900.   9900.
16500. 16500.  16500.  16500.  16500.  16500.  16500.  16500.  16500.  16500.
14700. 14700.  14700.  14700.  14700.  14700.  14700.  14700.  14700.  14700.
1000.  1000.   1000.   1000.   1000.   1000.
1590.  1590.   1590.   1590.   1590.   1590.
1200.  1200.   1200.   1200.   1200.   1200.
 660.   660.   660.    660.    660.    660.
 360.   360.   360.    360.    360.    360.
3000.  3000.   3000.   3000.   3000.   3000.
2250.   2250.   2250.  2250.   2250.   2250.
1800.  1800.   1800.   1800.   1800.   1800.
4740.  4740.   4740.   4740.   4740.   4740.
5880.   5880.  5880.   5880.   5880.   5880.
4500.  4500.   4500.   4500.   4500.   4500.
6810.  6810.   6810.   6810.   6810.   6810.
5400.  5400.   5400.   5400.   5400.   5400.
5250.   5250.  5250.   5250.   5250.   5250.
6150.   6150.  6150.   6150.   6150.   6150.
5580.  5580.   5580.   5580.   5580.   5580.
17100. 17100.  17100.  17100.  17100.  17100.
18000. 18000.  18000.  18000.  18000.  18000.
20100. 20100.  20100.  20100.  20100.  20100.
19080. 19080.  19080.  19080.  19080.  19080.
20490. 20490.  20490.  20490.  20490.  20490.
35790. 35790.  35790.  35790.  35790.  35790.
34800. 34800.  34800.  34800.  34800.  34800.
29400. 29400.  29400.  29400.  29400.  29400.
31500. 31500.  31500.  31500.  31500.  31500.
33000. 33000.  33000.  33000.  33000.  33000.
35400. 35400.  35400.  35400.  35400.  35400.
31290. 31290.  31290.  31290.  31290.  31290.
29640. 29640.  29640.  29640.  29640.  29640.
30480. 30480.  30480.  30480.  30480.  30480.
26490. 26490.  26490.  26490.  26490.  26490.
24810. 24810.  24810.  24810.  24810.  24810.
34200. 34200.  34200.  34200.  34200.  34200.
41400. 41400.  41400.  41400.  41400.  41400.
35400. 35400.  35400.  35400.  35400.  35400.
26110. 26110.  26110.  26110.  26110.  26110.
25890. 25890.  25890.  25890.  25890.  25890.
26110. 26110.  26110.  26110.  26110.  26110.
21030. 21030.  21030.  21030.  21030.  21030.
21090. 21090.  21090.  21090.  21090.  21090.
```

```
17460. 17460.  17460.  17460.  17460.  17460.
17100. 17100.  17100.  17100.  17100.  17100.
21600. 21600.  21600.  21600.  21600.  21600.
14700. 14700.  14700.  14700.  14700.  14700.
21600. 21600.  21600.  21600.  21600.  21600.
9900.  9900.   9900.   9900.   9900.   9900.
16500. 16500.  16500.  16500.  16500.  16500.
14700. 14700.  14700.  14700.  14700.  14700.
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     1275.   0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     30.     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     1200.   0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     0.0     290.0   0.0     0.0     0.0
  0.0    0.0     0.0     0.0     0.0     133.    0.0     0.0     0.0     0.0
  0.0    0.0     0.0     0.0     2.0     0.0     0.0     0.0     0.0     0.0
```

```
   0.0  0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0  0.0    0.0    0.0    0.0    0.0
   0.0 14200.  0.0    0.0    0.0    0.0
0.0     0.0    0.0    0.0    0.0    0.0
0.0     0.0    0.0    0.0    0.0    0.0
    0.0 1300.   0.0    0.0    0.0    0.0
    0.0  0.0   2160.   0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0 2000.   0.0    0.0    0.0    0.0
    0.0  0.0    40.    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
  4.0    0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0   1200.   0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
    0.0  0.0    0.0    0.0    0.0    0.0
```

```
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.10
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.20
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.30
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.30   6.40
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.40   6.40
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.50   6.50
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    6.60   6.60
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    7.00   7.00
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    7.20   7.20
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    7.40   7.40
0.0    0.0    0.0    0.0    0.0    0.0    0.0    7.48   7.43   7.48
0.0    0.0    0.0    0.0    0.0    0.0    7.46   7.45   7.43   7.48
0.0    0.0    0.0    0.0    0.0    0.0    7.48   7.49   7.48   7.49
0.0    0.0    0.0    0.0    0.0    0.0    7.42   7.48   7.46   7.43
0.0    0.0    0.0    0.0    0.0    0.0    7.40   7.49   7.45   7.48
0.0    0.0    0.0    0.0    0.0    0.0    7.46   7.44   7.43   7.48
0.0    0.0    0.0    0.0    0.0    7.49   7.46   7.44   7.45   7.43
0.0    0.0    0.0    0.0    7.48   7.48   7.42   7.43   7.43   7.48
0.0    0.0    0.0    7.48   7.40   7.45   7.40   7.43   7.45   7.48
0.0    0.0    7.45   7.42   7.45   7.40   7.48   7.43   7.40   7.49
0.0    0.0    7.48   7.45   7.44   7.49   7.48   7.43   7.49   7.43
0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    0.0    0.0    0.0
0.0    0.0    0.0    1.50   3.50   0.0
0.0    0.0    1.40   2.00   3.50   0.0
0.0    2.00   2.50   3.50   4.00   0.0
```

```
0.0  2.00 3.00 3.80 4.10 0.0
0.0  2.10 2.80 3.70 4.20 0.0
0.0  2.50 3.10 4.00 4.40 0.0
0.0  2.90 3.50 4.10 4.80 0.0
0.0  3.30 3.80 4.30 5.00 0.0
0.0  0.0  3.50 5.10 5.50 0.0
0.0  0.0  3.70 5.10 6.00 0.0
0.0  0.0  3.90 5.20 6.10 0.0
0.0  3.90 4.00 5.20 6.20 0.0
0.0  4.10 4.10 5.30 6.30 0.0
0.0  0.0  4.20 5.40 6.30 0.0
0.0  4.40 4.90 5.50 6.40 0.0
0.0  4.60 5.10 5.60 6.50 0.0
0.0  4.90 5.10 5.90 6.60 0.0
0.0  5.20 5.70 6.00 6.90 0.0
0.0  5.70 5.90 6.40 7.10 0.0
0.0  6.10 6.30 6.50 7.20 0.0
0.0  6.30 6.40 6.60 7.30 0.0
6.10 6.30 6.50 6.80 7.30 0.0
6.10 6.40 6.70 6.90 7.30 0.0
6.10 6.40 6.70 6.90 7.30 0.0
6.20 6.50 6.80 7.00 7.30 0.0
6.30 6.60 6.90 7.00 7.30 0.0
6.40 6.60 6.90 7.00 7.30 0.0
6.50 6.70 6.90 7.10 7.30 0.0
6.50 6.70 7.00 7.10 7.30 0.0
6.60 6.80 7.00 7.10 7.30 0.0
6.70 6.80 7.00 7.10 7.30 0.0
6.70 6.90 7.00 7.10 7.30 0.0
7.20 7.10 7.30 7.40 7.45 0.0
7.30 7.40 7.42 7.48 7.48 0.0
7.42 7.43 7.42 7.43 7.46 0.0
7.49 7.43 7.48 7.45 7.49 0.0
7.48 7.43 7.45 7.45 7.46 0.0
7.45 7.48 7.49 7.43 7.45 0.0
7.48 7.43 7.42 7.46 7.46 0.0
7.48 7.46 7.48 7.46 7.46 0.0
7.43 7.46 7.48 7.46 7.45 0.0
7.49 7.45 7.45 7.46 7.40 0.0
7.49 7.46 7.45 7.45 7.46 0.0
7.48 7.42 7.48 7.46 7.46 0.0
7.48 7.46 7.48 7.46 7.48 0.0
7.45 7.46 7.48 7.46 7.46 0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

```
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.3
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.1
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.8
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.6
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.4   0.4
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   0.0   0.0   0.0
 0.0   0.0   0.0   4.0   4.0   0.0
 0.0   0.0   0.0   4.0   4.0   0.0
 0.0   3.7   3.5   3.8   3.8   0.0
 0.0   3.9   3.9   3.9   3.9   0.0
 0.0   3.6   3.5   3.6   3.6   0.0
 0.0   3.6   3.6   3.6   3.6   0.0
 0.0   3.4   3.4   3.4   3.4   0.0
 0.0   3.1   3.1   3.1   3.1   0.0
 0.0  -0.0   3.0   3.0   3.0   0.0
 0.0   0.0   3.0   3.0   3.0   0.0
 0.0   0.0    2.9   2.9   2.9   .0
```

```
0.0  2.5  2.6  2.8  2.9  0.0
0.0  2.3  2.5  2.0  2.8  0.0
0.0  0.0  2.7  2.7  2.7  0.0
0.0  2.5  2.6  2.6  2.6  0.0
0.0  2.5  2.6  2.6  2.5  0.0
0.0  2.4  2.4  2.4  2.4  0.0
0.0  2.3  2.3  2.3  2.3  0.0
0.0  2.3  2.3  2.3  2.3  0.0
0.0  2.1  2.1  2.1  2.1  0.0
0.0  0.0  2.0  2.0  2.0  0.0
2.0  2.0  2.0  2.0  2.0  0.0
2.0  2.0  2.0  2.0  2.0  0.0
1.6  1.6  1.6  1.6  1.6  0.0
1.4  1.5  1.5  1.6  1.4  0.0
1.3  1.3  1.3  1.3  1.3  0.0
1.0  1.0  1.0  1.0  1.0  0.0
0.9  0.8  0.8  0.8  0.8  0.0
0.6  0.6  0.6  0.6  0.6  0.0
0.4  0.4  0.4  0.4  0.4  0.0
0.3  0.3  0.3  0.3  0.3  0.0
0.1  0.1  0.1  0.1  0.1  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    64.
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   63.6
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   63.4
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   63.2    64.
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   63.0   63.5
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.9
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.9
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.9   62.9
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.8   63.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.8   63.0
    0.0    0.0    0.0    0.0    0.0    0.0    0.0   62.8   63.0   63.0
    0.0    0.0    0.0    0.0    0.0    0.0   62.9   62.9   63.1   63.2
    0.0    0.0    0.0    0.0    0.0    0.0   62.3   62.9   63.2   63.3
    0.0    0.0    0.0    0.0    0.0    0.0   62.7   62.9   63.3   63.5
    0.0    0.0    0.0    0.0    0.0    0.0   62.7   63.0   63.4   63.7
    0.0    0.0    0.0    0.0    0.0    0.0   62.7   63.0   63.4   63.9
    0.0    0.0    0.0    0.0    0.0   62.7   62.4   63.0   63.5   64.0
    0.0    0.0    0.0    0.0   62.7   62.7   62.3    63.   63.5   64.0
    0.0    0.0    0.0    0.0   62.7   62.7   62.8   63.0   63.5   64.0
    0.0    0.0   62.7   62.7   62.7   62.8    63.   63.5   63.5   64.0
    0.0    0.0   62.7   62.4   62.7   62.7   63.7    63.   63.5   63.5
    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0    0.0    0.0    0.0
    0.0    0.0    0.0   65.0   73.4    0.0
    0.0    0.0    0.0   65.5   73.0    0.0
    0.0   67.3   70.0   71.0   72.3    0.0
    0.0   69.1   70.0   71.0   72.5    0.0
    0.0   69.5   69.0   71.3   72.4    0.0
    0.0   63.7   69.7    70.   72.0    0.0
    0.0   68.5   67.7   71.0   71.3    0.0
    0.0   69.3   68.2   69.0   71.0    0.0
    0.0   0.00   67.8   68.5   71.4    0.0
    0.0   0.03   67.6   69.0   71.2    0.0
    0.0   0.00   67.4   69.3   71.0    0.0
    0.0   67.0   68.3   69.0   71.8    0.0
    0.0 66.[illegible]   67.8   68.4   71.6    0.0
    0.0   0.00   66.4   67.5   70.5    0.0
    0.0   66.2   67.0   68.0   70.4    0.0
    0.0   66.1   67.0   66.3   70.3    0.0
    0.0   65.0   67.0   69.0   70.2    0.0
    0.0   64.8   65.5   69.3   70.1    0.0
    0.0   65.4   65.0   68.8 69.[illegible]    0.0
```

```
  0.0   65.0   64.    68.5   69.4   0.0
  0.0   0.0    64.    67.3   69.2   0.0
 64.6   64.7   64.0   67.3   67.9   0.0
 64.5   64.6   66.6   67.3   66.7   0.0
 64.5   64.6   66.7   67.1   67.6   0.0
 64.3   65.0   66.5   67.2   68.4   0.0
 64.5   65.0   66.0   67.0   68.2   0.0
 64.1   65.1   66.1   67.1   69.0   0.0
 64.0   65.0   66.0   67.0   69.0   0.0
 65.0   66.0   66.5   67.7    8.0   0.0
 64.0   65.0   66.0   67.0   68.0   0.0
 64.0   65.0   66.0   67.0   68.0   0.0
 64.0   65.0   66.0   67.0   68.0   0.0
 64.0   65.0   66.0   67.0   68.0   0.0
 64.0   65.0   66.0   67.0   69.0   0.0
 64.1   65.0   65.8   67.0   67.6   0.0
 64.1   65.0   65.6   67.0   67.0   0.0
 64.1   64.8   65.4   66.6   67.4   0.0
 64.2   64.7   65.2   66.0   67.2   0.0
 64.2   64.6   65.0   66.0   66.0   0.0
 64.2   64.0   64.8   65.0   66.6   0.0
 64.2   64.6   64.8   65.0   66.6   0.0
 64.2   64.0   64.8   65.0   66.0   0.0
 64.2   64.6   64.8   65.0   66.6   0.0
 64.3   64.5   64.8   65.0   66.2   0.0
 64.0   64.8   64.8   65.0   66.2   0.0
 64.3   64.8   65.4   65.7   66.2   0.0
  0.0   0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  0.0   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   31.5
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   31.5
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   31.3
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.5  32.4
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.2  32.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.9
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.5
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.6  32.6
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.7  32.6
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.7  32.6
0.0   0.0   0.0   0.0   0.0   0.0   0.0   32.8  32.7  32.6
0.0   0.0   0.0   0.0   0.0   0.0   32.9  32.4  32.7  32.6
0.0   0.0   0.0   0.0   0.0   0.0   33.0  33.0  33.0  32.9
0.0   0.0   0.0   0.0   0.0   0.0   33.0  33.0  33.0  32.9
0.0   0.0   0.0   0.0   0.0   0.0   33.2  33.1  33.0  33.0
0.0   0.0   0.0   0.0   0.0   0.0   33.5  33.5  33.3  33.2
0.0   0.0   0.0   0.0   0.0   33.7  33.5  33.4  33.3  33.2
0.0   0.0   0.0   0.0   33.8  33.7  33.5  33.4  33.3  33.2
0.0   0.0   0.0   33.9  33.8  33.6  33.5  33.4  33.3  33.2
0.0   0.0   34.0  34.0  33.9  33.6  33.5  33.4  33.3  33.2
0.0   0.0   34.0  34.0  33.9  33.5  33.5  33.4  33.3  33.1
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   [illegible]  27.0  0.0
0.0   0.0   30.1  28.0  27.0  0.0
0.0   [illegible]  29.5  27.[illegible]  27.5  0.0
0.0   30.2  30.0  27.7  27.5  0.0
0.0   31.4  30.0  28.0  [illegible]  0.0
0.0   30.6  30.0  28.0  28.5  0.0
0.0   30.0  29.8  29.0  28.7  0.0
0.0   31.0  29.7  28.0  29.2  0.0
0.0   0.0   31.1  29.0  29.5  0.0
0.0   0.0   31.1  29.0  29.5  0.0
0.0   0.0   31.1  30.5  29.7  0.0
0.0   31.2  31.0  30.5  30.1  0.0
0.0   31.2  31.0  30.5  30.1  0.0
0.0   0.0   31.0  30.6  30.2  0.0
0.0   31.0   30.8  30.2  30.[illegible] 0.0
0.0   31.0   30.6  30.2  30.0 0.0
0.0   31.0  30.7  30.4  29.9  0.0
0.0   31.0  30.7  30.5  30.4  0.0
0.0   30.7  30.7  30.6  30.6  0.0
0.0   30.6  30.8  30.7  30.7  0.0
0.0   31.1  31.0  30.9  30.4  0.0
31.1  31.1  30.9  30.8  30.8  0.0
31.2  31.0  30.8  30.6  30.9  0.0
31.3  31.1  30.5  30.8  30.[illegible]  0.0
31.2  31.2  30.8  30.6  31.0  0.0
 31.4 31.2  30.5  30.2  30.0  0.0
31.5  31.3  31.5  31.5  31.3  0.0
```

```
32.7   31.7   31.0   32.2   32.3   0.0
32.3   32.2   32.3   32.3   32.3   0.0
32.9   32.7   32.6   32.5   32.4   0.0
32.9   32.7   32.6   32.5   32.4   0.0
32.4   32.3   32.3   32.2   32.3   0.0
32.5   32.4   32.4   32.3   32.3   0.0
32.5   32.5   32.4   32.3   32.2   0.0
32.5   32.4   32.4   32.3   32.2   0.0
32.5   32.4   32.4   32.3   32.2   0.0
32.4   32.3   32.2   32.2   32.1   0.0
32.8   32.8   32.7   32.7   32.8   0.0
33.0   33.0   33.0   32.9   32.9   0.0
33.0   33.0   33.0   33.0   33.0   0.0
33.1   33.0   33.0   33.0   33.0   0.0
33.1   33.0   33.0   32.9   32.9   0.0
33.1   33.0   33.0   33.0   33.0   0.0
33.1   33.0   33.0   33.0   33.0   0.0
33.1   33.0   33.0   33.0   33.0   0.0
33.1   33.0   33.0   33.0   33.0   0.0
 0.0    0.0    0.0    0.0    0.0   0.0
```

SAMPLE INPUT - TDLIDO

(DIMENSIONLESS VERTICAL AXIS MODEL)

CONSERVATIVE CASE

```
480.
100
1648
 3038.
101
 2
1407
1445
 3
   1
  50
  99
1415
 2 2 2 2 2 0
 0 2
 0102151
 4802151
.00959        0.0       .00957
 0.0        0.0          0.0
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
```

```
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.   6076.
9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.
9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.   9104.
21266.  21266.  21266.  21266.  21266.  21266.  21266.  21266.  21266.  21266.
18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.
18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.
18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.
18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.
18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.  18228.
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18228.  18228.  18228.  18228.  18228.  18228.
21266.  21266.  21266.  21266.  21266.  21266.
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12152.   12152.   12152.   12152.   12152.   12152.
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0.0  4.   4.   4.   4.   4.   4.   4.   4.   4.
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0.0  55.  55.  55.  55.  55.  55.  55.  55.  55.
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0.0   55.   55.   55.   55.   55.   55.   55.   55.   55.
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0.0   55.   55.   55.   55.   55.   55.   55.   55.   55.
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6.6
8.0
12.0
19.5
22.0
19.5
23.0
18.0
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17.1
13.8
17.1
22.0
19.5
17.8
18.7
21.3
23.6
19.6
19.2
20.5
17.4
24.4
26.2
24.0
27.8
33.0
32.9
31.9
33.8
33.5
31.4
31.4
36.2
37.4
36.7
41.9
45.6
46.5
45.0
44.8
44.5
48.3
59.7
54.5
67.4
62.3
65.5

SAMPLE INPUT

FOR

TDLIDO

(DIMENSIONLESS VERTICAL AXIS MODEL)

SAMPLE INPUT - TDLIDO
(DIMENSIONLESS VERTICAL AXIS MODEL)
D.O. - B.O.D. CASE

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100
1648
 3038.
101
 2
1407
1445
 3
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  50
  99
1415
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 0 2
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 4802151
0.0000115      0.0              0.0              0.0
.00859      0.0      .00957
 0.0        0.0       0.0
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 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
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0.0     0.0     2040.   2040.   2040.   2040.   2040.   2040.   2040.   2040.
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0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
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0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
2040.    2040.    2040.    2040.    0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
372.0    372.0    372.0    372.0    372.0    0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      17.6     0.0       0.0
0.0      0.0      0.0      0.0      0.0      0.0
583.0    583.0    583.0    583.0    583.0    0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
328.     328.     328.     328.     328.     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
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0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
535.     535.     535.     535.     535.     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      55.0     0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      2.56     0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      214.0    0.0      0.0
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0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      44.5      0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      0.0      0.0      0.
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      3150.    3150.     0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      315.0     0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      32.4      0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      127.0     0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
0.0      0.0      0.0      3.24      0.0     0.0
0.0      0.0      0.0      0.0      0.0      0.0
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0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  1.50 1.50 1.60 1.70 1.90 2.20 2.50 2.80 2.90
0.0  1.70 1.80 1.90 1.90 2.20 2.50 2.90 2.90 3.00
0.0  2.00 2.10 2.20 2.20 2.50 2.60 3.10 3.20 3.30
0.0  2.20 2.40 2.50 2.50 2.80 3.00 3.30 3.40 3.70
0.0  2.30 2.50 2.80 2.80 2.90 3.20 3.50 3.70 4.00
0.0  2.50 2.80 3.00 3.00 3.30 3.50 3.70 3.90 4.10
0.0  2.90 3.00 3.30 3.50 3.70 3.90 4.00 4.00 4.30
0.0  3.00 3.20 3.80 3.90 4.00 4.10 4.20 4.30 4.50
0.0  3.30 3.70 4.00 4.10 4.20 4.20 4.30 4.40 5.00
0.0  3.80 4.00 4.30 4.30 4.40 4.40 4.60 5.00 5.20
0.0  4.00 4.40 4.50 4.50 4.90 5.00 5.10 5.20 5.30
0.0  4.30 4.50 4.70 4.80 5.00 5.20 5.30 5.30 5.50
0.0  4.50 4.80 5.00 5.00 5.10 5.40 5.50 5.60 5.80
0.0  4.70 5.00 5.10 5.20 5.30 5.50 5.80 6.00 6.00
0.0  5.00 5.20 5.30 5.30 5.50 5.70 6.00 6.20 6.30
0.0  5.30 5.30 5.50 5.60 5.80 6.00 6.20 6.40 6.60
0.0  5.50 5.50 5.70 5.90 6.00 6.10 6.30 6.60 6.80
0.0  5.60 5.70 5.90 6.00 6.20 6.30 6.70 6.80 7.00
0.0  5.80 5.90 6.10 6.20 6.50 6.50 6.70 7.00 7.10
0.0  6.00 6.00 6.30 6.30 6.70 6.80 7.00 7.20 7.30
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0.0  6.40 6.50 6.70 6.80 7.00 7.20 7.30 7.40 7.48
0.0  6.60 6.70 6.80 7.00 7.20 7.30 7.40 7.48 7.48
0.0  6.70 6.80 7.00 7.20 7.30 7.40 7.48 7.48 7.48
0.0  6.90 7.00 7.20 7.30 7.40 7.48 7.48 7.48 7.48
0.0  7.00 7.20 7.30 7.40 7.48 7.48 7.48 7.48 7.48
0.0  7.20 7.30 7.40 7.40 7.48 7.48 7.48 7.48 7.48
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0.0  7.40 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48
0.0  7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48
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0.0  7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48
0.0  7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
3.10 3.20 3.50 3.70 3.70 0.0
3.00 3.30 3.70 3.80 4.00 0.0
3.50 3.60 4.00 4.00 4.30 0.0
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3.90 4.00 4.10 4.30 4.50 0.0
4.10 4.30 4.50 4.70 4.90 0.0
4.30 4.50 4.80 5.00 5.00 0.0
4.50 4.70 5.00 5.20 5.30 0.0
4.80 5.00 5.20 5.30 5.50 0.0
5.10 5.20 5.40 5.50 5.70 0.0
5.30 5.40 5.80 5.90 6.00 0.0
5.50 5.70 6.00 6.10 6.50 0.0
5.60 6.00 6.30 6.50 7.00 0.0
6.00 6.30 6.60 7.00 7.00 0.0
6.30 6.60 7.00 7.10 7.20 0.0
6.70 7.00 7.20 7.20 7.30 0.0
6.90 7.10 7.30 7.30 7.40 0.0
7.00 7.30 7.40 7.40 7.48 0.0
7.30 7.40 7.48 7.48 7.48 0.0
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7.48 7.48 7.48 7.48 7.48 0.0
7.48 7.48 7.48 7.48 7.48 0.0
0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  1.9  1.9  2.0  2.1  2.4  2.7  3.0  3.2  3.8
0.0  1.5  1.7  1.9  2.0  2.4  2.6  3.0  3.2  3.7
0.0  1.4  1.6  1.8  2.0  2.3  2.6  2.9  3.1  3.7
0.0  1.1  1.5  1.7  2.0  2.3  2.6  2.9  3.1  3.7
0.0  1.1  1.4  1.5  2.0  2.3  2.5  2.7  3.0  3.6
0.0  1.0  1.3  1.4  1.7  2.3  2.5  2.8  3.0  3.6
0.0  1.0  1.1  1.3  1.5  2.0  2.4  2.8  3.0  3.6
```

```
0.0 0.9  1.0  1.2  1.4  1.8  2.4  2.9  3.2  3.4
0.0 0.8  0.9  1.1  1.3  1.7  2.2  2.8  3.0  3.3
0.0 0.8  0.9  1.0  1.2  1.6  2.0  2.7  2.8  3.2
0.0 0.8  0.9  0.9  1.0  1.4  1.8  2.3  2.7  2.9
0.0 0.8  0.8  0.8  0.9  1.2  1.5  2.0  2.6  2.8
0.0 0.8  0.8  0.8  0.8  1.0  1.4  1.8  2.2  2.6
0.0 0.9  0.7  0.8  0.8  0.9  1.3  1.6  2.0  2.5
0.0 0.7  0.7  0.8  0.8  0.8  1.0  1.4  1.8  2.4
0.0 0.7  0.7  0.7  0.7  0.8  0.9  1.3  1.6  2.2
0.0 0.6  0.7  0.7  0.7  0.8  0.8  1.2  1.4  2.0
0.0 0.6  0.6  0.7  0.7  0.9  0.8  1.1  1.3  1.7
0.0 0.6  0.6  0.6  0.7  0.7  0.8  1.0  1.1  1.4
0.0 0.6  0.6  0.6  0.6  0.7  0.8  0.9  1.0  1.3
0.0 0.6  0.6  0.6  0.6  0.7  0.7  0.8  0.9  1.1
0.0 0.6  0.6  0.6  0.6  0.6  0.7  0.8  0.8  1.0
0.0 0.5  0.6  0.6  0.6  0.6  0.7  0.7  0.8  0.9
0.0 0.5  0.5  0.6  0.6  0.6  0.6  0.7  0.7  0.8
0.0 0.5  0.5  0.5  0.6  0.6  0.6  0.6  0.7  0.7
0.0 0.4  0.4  0.5  0.5  0.5  0.6  0.6  0.6  0.6
0.0 0.4  0.4  0.4  0.4  0.5  0.5  0.6  0.6  0.6
0.0 0.3  0.3  0.4  0.4  0.4  0.5  0.5  0.6  0.6
0.0 0.3  0.3  0.3  0.3  0.4  0.4  0.5  0.5  0.6
0.0 0.2  0.2  0.3  0.3  0.3  0.3  0.4  0.5  0.5
0.0 0.2  0.2  0.2  0.2  0.2  0.2  0.3  0.3  0.4
0.0 0.1  0.1  0.2  0.2  0.2  0.3  0.3  0.3  0.3
0.0 0.1  0.1  0.1  0.1  0.1  0.1  0.1  0.1  0.2
0.0 0.1  0.1  0.1  0.1  0.1  0.1  0.1  0.1  0.2
0.0 0.0  0.0  0.0  0.1  0.1  0.1  0.1  0.1  0.1
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
4.4  4.4  4.5  4.5  4.6  0.0
4.4  4.4  4.5  4.5  4.6  0.0
4.3  4.4  4.5  4.5  4.6  0.0
4.3  4.3  4.4  4.4  4.5  0.0
4.2  4.2  4.3  4.4  4.4  0.0
4.0  4.0  4.1  4.1  4.2  0.0
3.9  4.0  4.0  4.0  4.1  0.0
3.6  3.8  3.9  4.0  4.0  0.0
3.5  3.7  3.8  3.9  3.9  0.0
3.4  3.6  3.7  3.7  3.8  0.0
3.2  3.5  3.6  3.6  3.7  0.0
```

```
3.1   3.4   3.5   3.5   3.6   0.0
3.0   3.3   3.4   3.4   3.5   0.0
2.8   3.2   3.2   3.3   3.4   0.0
2.6   2.9   3.1   3.1   3.2   0.0
2.4   2.8   3.0   3.0   3.0   0.0
2.2   2.7   2.8   2.9   2.9   0.0
2.0   2.6   2.6   2.7   2.8   0.0
1.9   2.4   2.5   2.6   2.7   0.0
1.9   2.2   2.4   2.5   2.7   0.0
1.8   2.1   2.2   2.4   2.6   0.0
1.7   2.0   2.1   2.3   2.3   0.0
1.3   1.9   2.0   2.1   2.2   0.0
1.1   1.6   1.6   1.9   2.1   0.0
1.0   1.3   1.6   1.8   2.0   0.0
0.7   1.1   1.4   1.7   1.9   0.0
0.7   1.0   1.3   1.6   1.8   0.0
0.6   0.8   1.1   1.4   1.6   0.0
0.6   0.7   0.8   1.3   1.4   0.0
0.5   0.6   0.7   1.0   1.2   0.0
0.4   0.5   0.6   0.7   0.8   0.0
0.4   0.4   0.5   0.6   0.7   0.0
0.2   0.3   0.4   0.4   0.5   0.0
0.1   0.1   0.2   0.2   0.3   0.0
0.1   0.1   0.1   0.1   0.1   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
0.0     65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0   65.0
```

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0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
0.0   65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0  65.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
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65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
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65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
65.0  65.0  65.0  65.0  65.0  0.0
```

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65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
65.0   65.0   65.0   65.0   65.0   0.0
 0.0   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 0.0  30.0 29.9 29.6 29.0 28.7 28.6 27.8 27.7 27.6
 0.0  30.1 30.0 29.9 29.4 29.0 28.5 28.0 27.7 27.7
 0.0  30.2 30.0 29.9 29.6 29.4 29.0 28.5 27.8 27.7
 0.0  30.3 30.1 30.0 29.8 29.6 29.3 28.8 28.3 27.9
 0.0  30.4 30.2 30.1 30.0 29.8 29.5 29.0 28.5 28.1
 0.0  30.5 30.4 30.2 30.0 29.9 29.7 29.2 28.9 28.5
 0.0  30.7 30.5 30.4 30.2 30.0 29.8 29.4 29.0 28.7
 0.0  30.8 30.7 30.5 30.4 30.2 29.9 29.5 29.0 28.9
 0.0  31.0 30.9 30.6 30.5 30.1 30.0 29.8 29.4 29.0
 0.0  31.2 31.0 30.7 30.6 30.4 30.1 29.9 29.4 29.0
 0.0  31.3 31.2 30.9 30.8 30.5 30.3 30.1 29.7 29.3
 0.0  31.4 31.3 31.0 30.9 30.7 30.5 30.2 29.8 29.4
 0.0  31.4 31.3 31.2 31.0 30.8 30.6 30.3 30.0 29.6
 0.0  31.6 31.4 31.3 31.1 30.9 30.7 30.5 30.2 29.8
 0.0  31.8 31.7 31.4 31.3 31.1 30.8 30.5 30.4 30.0
 0.0  31.9 31.8 31.7 31.6 31.4 31.1 30.9 30.6 30.4
 0.0  32.0 31.9 31.8 31.7 31.5 31.4 30.7 30.7 30.6
 0.0  32.1 32.0 31.9 31.8 31.6 31.4 31.2 30.8 30.6
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 0.0  32.4 32.3 32.2 32.1 31.7 31.6 31.5 31.2 30.9
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 0.0  32.6 32.5 32.4 32.3 32.3 32.2 31.8 31.5 31.2
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0.0  32.6 32.6 32.5 32.5 32.4 32.3 31.9 31.6 31.5
0.0  32.7 32.6 32.6 32.5 32.4 32.3 32.1 31.7 31.6
0.0  32.7 32.7 32.7 32.6 32.5 32.4 32.2 31.9 31.7
0.0  32.8 32.8 32.7 32.6 32.5 32.4 32.3 32.0 31.8
0.0  32.8 32.8 32.7 32.6 32.5 32.4 32.3 32.1 31.9
0.0  32.8 32.8 32.7 32.6 32.5 32.4 32.4 32.2 31.9
0.0  32.8 32.8 32.8 32.7 32.6 32.4 32.4 32.3 32.0
0.0  32.9 32.9 32.3 32.8 32.7 32.5 32.4 32.3 32.1
0.0  32.9 32.9 32.9 32.8 32.8 32.7 32.5 32.4 32.2
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0.0  33.0 33.0 33.0 32.9 32.8 32.7 32.6 32.5 32.4
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0.0  33.1 33.1 33.1 33.1 33.0 33.0 33.0 33.0 32.9
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0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0  0.0  0.0
27.5 27.4 27.3 27.3 27.2 0.0
27.5 27.5 27.4 27.3 27.3 0.0
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27.7 27.6 27.6 27.5 27.4 0.0
27.8 27.7 27.7 27.6 27.5 0.0
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28.3 28.0 28.0 27.9 27.8 0.0
28.5 28.3 28.2 28.1 28.1 0.0
28.7 28.5 28.3 28.2 28.2 0.0
28.9 28.7 28.5 28.4 28.3 0.0
29.0 28.9 28.7 28.6 28.5 0.0
29.1 29.0 28.8 28.7 28.6 0.0
29.2 29.0 28.9 28.8 28.8 0.0
29.4 29.3 29.0 29.0 28.9 0.0
29.6 29.5 29.2 29.2 29.0 0.0
29.8 29.6 29.4 29.3 29.2 0.0
30.0 29.7 29.6 29.4 29.4 0.0
30.2 29.8 29.6 29.5 29.5 0.0
30.4 30.0 29.9 29.7 29.6 0.0
30.6 30.2 30.1 29.9 29.7 0.0
30.9 30.3 30.2 30.0 29.9 0.0
31.0 30.5 30.3 30.2 30.1 0.0
31.0 30.5 30.3 30.2 30.2 0.0
31.0 30.9 30.7 30.4 30.3 0.0
31.1 31.0 30.9 30.7 30.6 0.0
31.3 31.0 31.0 30.8 30.7 0.0
31.6 31.3 31.0 31.0 30.8 0.0
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31.7 31.5 31.1 31.0 31.0 0.0
31.7 31.4 31.2 31.0 31.0 0.0
31.8 31.5 31.3 31.2 31.2 0.0
31.8 31.6 31.5 31.4 31.3 0.0
32.0 31.8 31.7 31.6 31.5 0.0
32.1 31.9 31.8 31.7 31.6 0.0
32.2 32.0 31.9 31.8 31.7 0.0
32.2 32.1 32.0 31.9 31.8 0.0
32.4 32.3 32.2 32.0 31.9 0.0
32.5 32.4 32.3 32.2 32.0 0.0
32.6 32.5 32.4 32.3 32.2 0.0
32.7 32.6 32.5 32.5 32.4 0.0
32.7 32.6 32.5 32.5 32.4 0.0
32.8 32.7 32.7 32.7 32.6 0.0
32.9 32.9 32.8 32.8 32.8 0.0
33.0 33.0 33.0 32.9 32.9 0.0
33.1 33.1 33.1 33.0 33.0 0.0
33.2 33.1 33.1 33.1 33.1 0.0
33.2 33.1 33.1 33.1 33.1 0.0
0.0  0.0  0.0  0.0  0.0  0.0
6.58
6.57
6.55
19.53
19.52
22.0
19.48
22.97
18.12
17.10
13.75
17.07
22.05
19.8
17.78
18.67
21.32
22.13
19.57
19.2
20.5
17.41
24.36
26.2
24.0
27.77
32.85
32.93
31.93
33.83
33.5
31.37
```

31.36
36.22
37.42
36.7
41.86
45.63
46.45
45.08
44.79
44.77
48.31
59.7
54.45
67.43
62.0
65.0

OUTLINE OF PROGRAM COMPUTATIONS

The following description, in logical step form, gives an indication of the computational flow of NABS-TDLIDO or TDLIDI. Indications will be made where needed to show how the flow differs for conservative (salinity) and non-conservative (D.O. - B.O.D.) water quality indicators. This outline, in no manner, is meant to represent a comprehensive flow chart for the program, but provides a useful procedural insight to its operation. More complete indications of each subroutines function is indicated in that section.

(1) The initial heading (NABS-DO-BOD) is printed

(2) The initial data fields with dimension (NMAX,MMAX) are preset to 0.0

(3) The data as noted in the data requirements section is read (except for the velocity or any other time varying data)

(4) Subroutine FIND is called which using the

boundary conditions and the grid computation field H(N,M) sets up control numbers for the difference equations looping

(5) Initial values of variables are written

(6) Subroutine DECAY is called to compute the B.O.D. coefficient of decay (skipped for conservative case)

(7) Subroutine SOLUB is called to compute oxygen saturation values (skipped for conservative case)

(8) Time looping starts (NST = 1 number of time step)

(9) Subroutine VELC is called to determine velocity field

(10) Subroutine DIFFU is called to compute the dispersion coefficients -if they have not been read -in the x and z directions from empirical formulas

(11) Subroutine REAR is called to calculate the surface reareation coefficient (skipped if conservative case)

(12) Initial mass density values LS(N,M) for B.O.D. are stored in the working table matrix CO(N,M) (skipped for conservative case)

(13) Initial mass density values COP(N,M) for D.O. or salinity are stored in the working table matrix CO(N,M) (skipped if B. O. D. looping from 12 has begun)

(14) Using computational control NBD as set up in subroutine FIND the mass density on each column N is computed and stored in working table matrix CT(N,M) using subroutine BOVAL to determine the open boundary conditions

(15) Values of CT(N,M) are placed into array CO(N,M)

(16) If in B.O.D. looping sets LS(N,M) = CT(N,M), for D.O. or salinity loop sets COP(N,M) = CT(N,M). Therefore, for a conservative case one pass is made through steps (14)-(16)

while for D.O.-B.O.D., the B.O.D. equation is solved first and then the D.O. equation is solved, i.e. two passes through (14)-(16). This completes the first half time step.

(17) Employing information gathered from reexecuting steps (9) - (13), then using computational controls MBD as set up in subroutine FIND and boundary values from subroutine BOVAL the mass densities on each row M are computed and stored in working table matrix CT(N,M), using similar arguments for D.O. and B.O.D. looping.

(18) If print out is desired [NST=NPRINT ( )], the computed results are printed and execution continues.

(19) If punched outout is required (NST = IPUNCH) this task is performed and execution continues.

(20) The time is incremented by one step (AT) and subsequent time steps continue by returning to (9) (NST = NST+1)

(21) When NST = MAXST or the number of time steps

equals the maximum number of time steps desired, execution is terminated and plots of the time varying concentrations for particular points along with the tidal height (dimensionless vertical axis) or velocity (dimensional vertical axis) are printed.

SIMPLE SUBROUTINE OUTLINE AND FUNCTIONAL DESCRIPTION

Main

In this description only the solution procedure for finite-difference equations will be shown, the other functions of MAIN having been more adequately described in the previous paragraphs. Figure A-5 shows how the main relates to the other subroutines.

The solution of the finite-difference approximation to the laterally-averaged mass-transport equation as formulated with a Peaceman Rachford splitting tech-

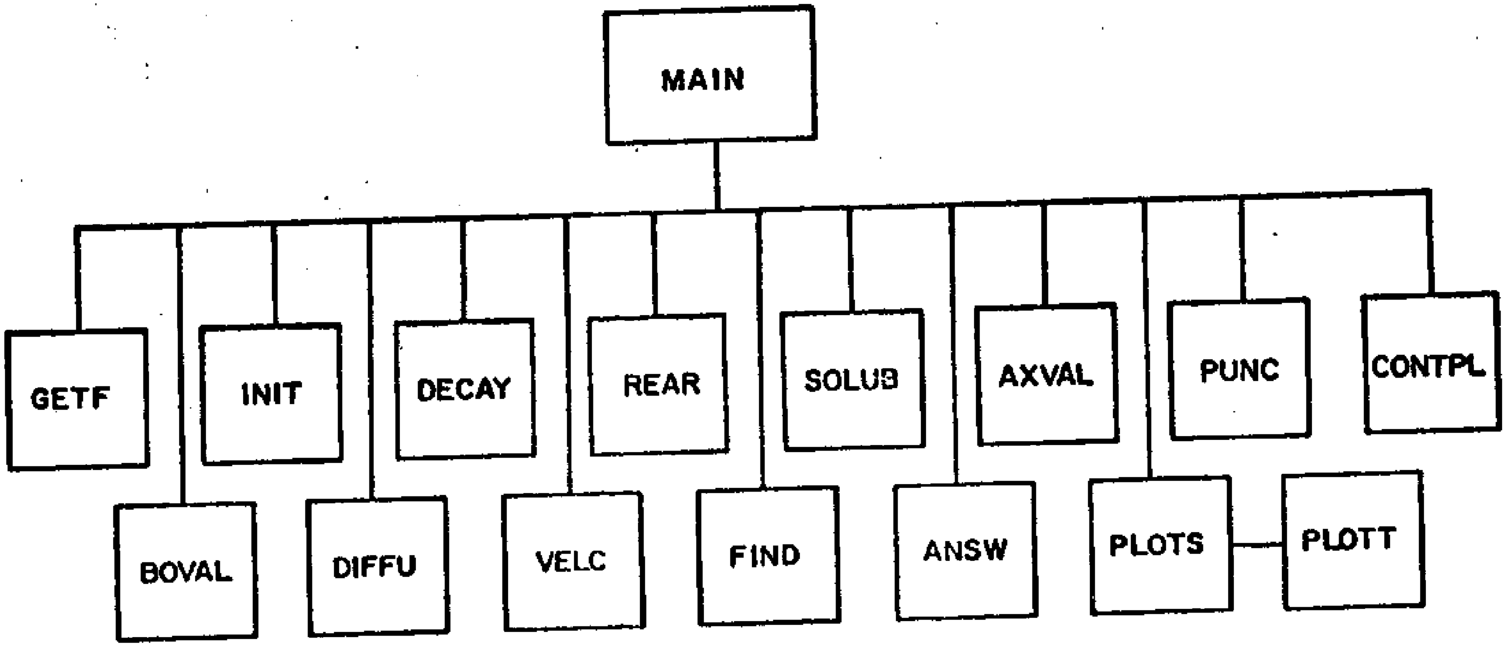

FIG. A-5 SIMPLE OUTLINE OF RELATIONSHIPS BETWEEN THE MAIN PROGRAM AND SUBROUTINES nique is essentially completed in two steps. The mass densities for the first-half time step are computed along each column N and for the second half-time step along each row M.

Computation Of Mass Density On Row N

Taking the first NBD( ) value as formulated in subroutine FIND it is decomposed into its components. (A check of the functional description of subroutine FIND would be helpful in better understanding this presentation). The column N in which we are computing mass densities and the upper and lower boundary conditions are determined from this NBD value. Having established these conditions a D0 loop proceeds to find the coefficients of the implicit mass density equation for the first half time step on each row M until computation from the upper bound to the lower bound (i.e. M-small to M-large) has been completed for a given column N. Now a set of recursion terms are calculated which incorporate the land-water or open boundary conditions and back substitution of the recursion terms in recursion equations gives the mass densities for each grid in the column. A similar procedure as outlined above is carried out until all the active computational columns have been completed or equivalently, when all the NBD values have been used.

Computation Of Mass Density On Row M

Now using the MBD values as found in subroutine FIND an analogous procedure to that described previously is performed for the second half of the time step but along the M rows.

Proceeding in this manner to solve the finite-difference equation once on each column N and once on each row M an entire time step is completed. For all subsequent time steps a similar procedure is followed.

Subroutine PLOTS

Subroutine PLOTS sets up D.O.-B.O.D. or conservative values to be plotted versus estuary longitudinal section number. It is designed to plot any column N or group of columns and also obtain vertical averages over each row M. Control numbers IGL and IGU control the upper and lower bounds of the N columns for plotting. If either or both IGL and IGU are zeros only the vertical averages are obtained.

Subroutine PUNC

This subroutine provides punched output D.O.-B.O.D. or conservative data at the IPUNCH number. Data so obtained can be used for an initial condition for a subsequent model run. For instance, if IPUNCH = 257 data at that time step would be punched.

Subroutine ANSW

Subroutine ANSW prints the main variables computed or employed during computation:

D.O. or conservative value	COP(N,M)
B.O.D.	LS(N,M)
tidal velocites	U(N,M)
	W(N,M)

Subroutine AXVAL

Prints the auxiliary variables computed or employed during computation

Dispersion DX(N,M), DZ(N,M)

Reareation Coefficient RAR(N,M)

B.O.D. decay doefficients D(N,M)

Oxygen surface solubility CS(M)

Subroutine FIND

Using the values in matrix H(N,M) which represents the grid computation field and the designation of the open boundary values as given by

MØBD(MBC) and NØBD(NBC) values, subroutine FIND develops a table of numbers for controlling the starting and stopping of consecutive computations over the rows (constant values of M or in the z direction) and columns (constant values of N or in the x direction) of the grid system. These values are denoted as NBD for the columns N and MBD for the rows M.

Values in these tables contain up to eight digits. By assigning letters to each digit we may more easily describe them. For example, a table value of NBD is SR/NO/NF/LU

SR	gives information about the boundary type, S describes the lower bound and R the upper bound

i.e.

SR=00	land water boundary at both upper and lower bound of field
SR=01	land water boundary at lower bound and open boundary at upper bound

NO	the column number of interest
MF	lower value of active computational grid M on column NO
LU	upper value of active computational grid M on column NO

Analogous results are also obtained for the MBD values

Subroutine SOLUB

This subroutine computes the oxygen saturation value at the estuary air-water inferface according to

$$C_{SAT} = -(.0841-.00256(TS)+.0000374(TS)^2)SS$$
$$+14.161-.394(TS)+.007714(TS)^2-.0000646(TS)^3$$

where TS - temperature (°C)

SS - salinity in %.

Subroutine REAR

This subroutine computes the reareation coefficient for the D.O. equation according to the

Krenkel-Thackston (37) formula.

$$AR20 = .000125(1 + (\frac{\bar{U}}{\sqrt{gH}})^{1/2})\ (U*)$$

where

g - acceleration due to gravity ft/sec^2

$\bar{U}$ - mean longitudinal tidal velocity ft/sec

H - present estuary depth (ft)

$U*$ - $\bar{U}g^{1/2}/C_z$ - shear velocity

C_z - Chezy coefficient

and corrected for temperature

$$RAR = (AR20)\ (TS)^{POW}$$

where

TS - Temperature ($^{\circ}$C)

POW - constant

Reareation values are computed only for the grids at the surface, but artificial reareation may be included by simple programming.

Subroutine VELC

This subroutine which is called every time step reads, computes, or presets the velocities in the entire grid field. If IVEL is greater than

1 the model at present (8/72) reads tidal height and velocity data from a disc data file and forces it to obey the one dimensional continuity equation using tidal height as the forcing parameter. If IVEL = 1 the model can read data for U and W at every half time step and assumes a conservative field.

Subroutine DECAY

The decay coefficient for the B.O.D.-D.O. equations is computed from either (if IDEC = 1)

$$K_D = A2 + B2(H)^{SKK} = D20$$

where A2, B2, and SKK are constants

H - estuary depth

and temperature corrected according to

$$K_D = (D20)(V1)^{TS-20}$$

where V1 - constant

TS - temperature of water

--or--(if IDEC>1)

$$K_D = DA + DB(TS) + DC(TS)^2 + DE(TS)^3$$

where DA, DB,DC,DE are constants and TS - temperature (°C)

Subroutine DIFFU

This subroutine calculates the dispersion coefficients from empirical relations in both the x and z directions for IDIF = 2. For the x direction Elders modified formulation is employed

$$D_x = 14.3\ H\ \bar{U}(2g)^{1/2} C_z^{-1} + DW$$

where

H - mean depth (ft)
$\bar{U}$ - mean velocity at that time (ft/sec)
g - gravity (ft/sec^2)
C_z - Chezy coefficient
DW - wind contribution

In the z direction Pritchard's model is used

$$D_z = \eta_p \frac{U_z^2 (H-z)^2}{H^3}(1+\beta_p R_i)^{-2} + \alpha_p \frac{z(H-z)}{H} \frac{WH}{WT} e^{-\frac{2\pi z}{WL}}(1+\beta_p R_i)^{-2}$$

$\eta_p, \beta_p, \alpha_p$ - empirical constants

U - mean velocity at that time (ft/sec)

z - depth measured vertically downward from MSL (ft)

H - depth (ft)

WH - wave height (ft)

WL - wavelength (ft)

WT - wave period (sec)

R_i - Richardson number

If IDEC = 1 read statements are executed at every half time step to find D_x and D_z.

Subroutine BOVAL

BOVAL reads the boundary conditions of concentration for all specified boundary points for both D.O.,B.O.D. and conservative constituents. This subroutine is called every half time step and therefore can simulate a time varying boundary condition by simply using a read statement in place of setting the boundary mass densities constant.

It is noted that the boundary conditions are divided into two sections or conservative case (IPASS = 1) the first set of values are for B.O.D. on the open boundaries, while the second set are for the D.O. (IPASS = 2) on the open boundaries. In the set for D.O., if it is desired to have a saturation oxygen level boundary at any point on an open boundary then the mass density is set equal to CS( ) of the nearest surface grid square which has been designated in the grid computation field [H(N,M)] as a one.

Subroutine INIT

Writes the initial array variables or the initial conditions for the problem.

GRID COMPUTATION FIELD

ESTUARY WIDTH MATRIX 1000ft.

INITIAL CONCENTRATION (mg/L)

INITIAL BOD CONCENTRATION (mg/l)

WASTE LOADS IN 1000 lbs/day

SOURCES OR SINKS OF DO (mg/l)

TEMPERATURE FIELD (^{o}F)

TIME AVERAGE SALINITY (%.)

AVERAGE SECTION DEPTH (ft) (for dimensionless z axis model only)

In addition the subroutine performs a data smoothing operation on the width matrix to eliminate any step width gradients. The data input ISMO gives the number of passes through this smoothing operation. If ISMO equal zero width data smoothing is performed.

Subroutine GETF

Handles initial reading of array variables

H(N,M) - grid computation field

B(N,M) - estuary widths

JS(N,M) - point B.O.D. loadings

DX(N,M) - dispersion in the x direction

DZ(N,M) - dispersion in the z direction

COP(N,M) - D.O. or salinity

LS(N,M) - B.O.D.

P(N,M) - sources or sinks

TS(N,M) - temperature

SS(N,M) - salinity

The input data requirements in Table A-1 show the format requirements and dimensions to be employed.

Subroutine CMASS

When this routine is included it calculates the conservation of mass of a conservative substance. At each time step the mass in the field is computed and the total mass input and outflows from the time the model run was begun are used to calculate the present conservation of mass and is compared to the initial mass in the field at time t=0. Hence, a determination of the cumulative mass loss or gain of the estuary is determined.

Subroutine CONTPL

The stored values of concentrations for each time step are plotted along with the tidal height (dimensionless vertical axis model) or tidal velocity (dimensional vertical axis model) for the full number of time steps the program executes (MAXST).

PROGRAM OUTPUT

As with other phases of the program development the output has been labeled for a comprehensive D.O.-B.O.D. model, rather than left in a general form. The printed output of the program can be presented in roughly four groups: title page, control parameters, initial conditions, and time step calculated information. In an effort to make as concise and logical a presentation of this output as possible a list will be made in the following pages of this printed information and an indication of how these results can be obtained or suppressed.

To help in more clearly understanding this list of program output, sample outputs from actual computer runs will be presented at the conclusion of this section. Cases for conservative and D.O.-B.O.D. reaction scheme for both TDLIDI and TDLIDO will be presented.

To aid in understanding the output matrices there will be a written explanation of the orientation of estuary surface, bottom and open boundaries given in the listings to follow:

(1) TITLE PAGE

The title page contains the name of the program, NABS - standing for Narragansett Bay Study. This is followed by the statement D.O.-B.O.D. showing that the program has been developed for that particular water quality system. Information on the programer's name and address, and the date of last program revision are printed on subsequent lines.

(2) CONTROL PARAMETERS

Included in this section are the outputs which show how the estuary grid system appears after formulation and a list of control numbers employed to start and stop the looping for each of the split portions of the finite difference equation approximation.

(a) Computational Control Numbers

The number, NUM, of the computational control and the control numbers for both the x direction (constant column N) of computation, NBD, and z direction (constant row M) of computation, MBD are presented. A detailed review of the meaning of these numbers can be obtained in the description of subroutine FIND. The numbers NIND and MIND represent the total number of passes or loops through each computation plus one for the NBD and MBD control number respectively.

(b) Grid Computation Field

The number 1 in a grid space means that computations are to be performed for that grid or that the grid is active,(0) zero on the other hand meaning that the grid is inactive and no computation is performed. Numbers along the top of the page represent the column numbers N and the numbers on the left hand side are the row numbers M. To orient oneself then, the estuary surface is in column NMAX-1 and the ocean boundary is at the botton of the page. This makes the river boundary coincide with the top of the page and the bottom contour towards the left side of the page.

(3) INITIAL CONDITIONS

In each of the arrays presented in this section the numbers along the top of the page indicate the column numbers N from 1 to NMAX (z direction) and the numbers along the left hand side indicate the row or longitudinal estuary section number M from 1 to NMAX (x direction). For orientation purposes then the surface of the estuary is in column N = NMAX - 1, the open boundary to the ocean is in row M = MMAX, and the open boundary to the main inflowing river if one exists is in row M = 1. For a more physical approach if the printed computer output sheet is rotated 90 CCW the estuary surface is at the top, the estuary bottom is nearest you and the ocean and river boundaries to your right and left respectively.

(a) Estuary Width Matrix 1000 ft

The estuary width matrix as presented here may be smoothed by a simple averaging process to alleviate any computational problems caused by excessively steep spatial width gradients. Therefore, this output will not agree with the input width field data but should bear a close resemblance if smoothing has been used.

(b) Initial Concentration (MG/L)

The initial concentration of D.O. or conservative values are printed.

(c) Initial B.O.D. Concentration (mg/1)

If the solution to B.O.D. - D.O. equation is sought the initial B.O.D. concentration is printed in (mg/l), while for salinity or the conservative case this output is suppressed.

(d) Waste loads in 1000 lbs./day

As indicated this represents the steady B.O.D. loadings to the estuary in 1000 lbs./day. Time varying loads can be handled by placing the read statement for this quantity in subroutine VELC. In a conservative case this output is suppressed.

(e) Sources or Sinks of D.O. (mg/1)

To account for various D.O. loadings due to zooplankton, phytoplankton, benthic demands, etc. the steady state sources and sinks or D.O. are presented in (mg/l). This output is however suppressed for conservative type problems.

(f) Temperature Field (°F)

The constant estuary temperature field in °F is presented.

(g) Time Average Salinity (‰)

The time averaged salinity profile in (‰) for the estuary field is presented. These values should reflect an average over time which approximately corresponds to that used for the temperature field. This output is suppressed for the conservative case.

(h) Averaged Section Depth (ft.)

The average MSL depth of water columns for all longitudinal sections (M) are printed for the dimensionless z-axis model only.

Time Step Calculated Information

The information printed in this section can be obtained at the completion of every step, however since this adds considerably to computer time only a few of the time steps are actually written. Specifications for this output is accomplished by setting NPRINT ( ) equal to the time step (NST) at which printout is desired.

In regard to the printing of the fields or arrays, and orientation of the output matrix, the exact same format as described in the initial conditions output section applies. There is however, in addition, the number of the time steps (NST) and the actual time in hours from the start of the program. (Actual time = NST * time step(AT))

(a) Concentration of Dissolved Oxygen (mg/l)

The D.O. in (mg/l) or the conservative values at the completion of the time step given is printed.

(b) Concentration of B.O.D. (mg/l)

The B.O.D. (mg/l) values at the completion of the stated time step are printed. In a conservative case this output is suppressed.

(c) u Velocity Field (- FLOOD) -FPS

The u or x directed velocity component is presented in ft/sec. The notation (- FLOOD) is used to show that a negative u velocity corresponds to estuary flooding when the ocean entrance of the grid system occurs in row M = MMAX.

(d) w Velocity Field - FPS

The w or z directed velocity component is presented in ft/sec. This velocity is positive in the direction of ascending column numbers N for a given row M; therefore an upwelling velocity is positive.

(e) Dispersion Coefficient for x Direction (ft^2/sec)

The dispersion coefficients for the x - direction as based on read values or a modified Elder's formulation are printed.

(f) Dispersion Coefficient for z Direction (ft^2/sec)

The dispersion coefficients for the z direction as supplied or based on Pritchard's formulation are given.

(g) Reareation Coefficients X 1000000 (1/sec)

The reareation coefficients for the surface based on the Thackston-Krenkel (37) formulation are presented. By suitably adjusting the values in this array in subroutine REAR effects of artifical reareation can also be included. These results are suppressed for conservative cases.

(h) B.O.D. Decay Coefficients (1/sec) X 1000000

The B.O.D. decay coefficients in (1/sec) for the estuary are printed after having been water temperature corrected. This output is suppressed for the conservative cases.

(i) Surface Oxygen Solubility (mg/l)

The surface oxygen saturation values for each estuary section M are printed. This printout is also suppressed for conservative cases.

(j) Graphs

In order to present the data in a format for quick reviewing a plotting technique was developed. The scope of the graphical output is the ability to plot any given column N (i.e. dimensional or nondimensional water level depth) or successive series of columns against the rows (i.e. estuary longitudinal section numbers). For instance if column NMAX - 1 is plotted, the surface values of mass densities are obtained. In addition, a vertically averaged set of mass densities is also plotted against the longitudinal estuary section number. It is to be remembered that these plots are for the time step as given by the previous set of time calculated information.

(j1) D.O. (1) B.O.D. (2) in (mg/l) vs.

Estuary longitudinal section number

The D.O. given by the number (1) and B.O.D. noted by number (2) are plotted vs. estuary longitudinal section number. The estuary section number os given in ascending order on the left hand side of the page and the scaled by the largest value, mass densities are shown at the bottom of the page. The chart number presented at the top of the page just under the title gives the column number N for which the plot was executed. If IGL or IGU in the read statements are set equal to zero this printout is surpressed. In the case of a conservative constituent its mass densities are printed under the number (1) and the number (2) is used simply to describe a reference state.

An abnormality in this IBM adapted special scientific subroutine is that whenever the mass densities of D.O. and B.O.D. are relatively close as determined by the scaling factor used for mass densities then a (2) is printed. This should however, cause no problem in interpretation as long as the phenomena is understood.

(j2) Average DO (1) B.O.D. (2) m (mg/l) vs. Estuary Longitudinal Section Number

The notations and graph orientation of this plotted output is exactly analogous to that given above, the only difference being that all these values have been averaged over the vertical sections or constant M rows.

In addition to printed output the program also has the capability to provide punched output in the same format as required for initial mass density or concentration program inputs. This data is desired since the time required to "start" the program, that is to go from a uniform mass density field to its actual quasi-steady value is the order of many days. Avoiding this problem can be accomplished by developing a quasi-steady state condition and using it for the initial conditions to the program thus avoiding , to a large extent, the "start up" problem. For the D.O. - B.O.D. system both D.O. and B.O.D. are provided as output when NST, the time step, equals IPUNCH, end of the time step at which punched output is desired. A similar situation holds in the conservative case however only one array containing the salinity, alkalinity etc. is punched.

PROGRAM OUTPUT

Conservative Case
D.O. - B.O.D. System

TDLIDI

Conservative Case
D.O. - B.O.D. System

TDLIDO

SAMPLE OUTPUT - TDLIDI

(DIMENSIONAL VERTICAL AXIS MODEL)

CONSERVATIVE CASE

```
NN     NN      AA      BBBBBBB    SSSSSS
NN     NN     AAAA     BBBBBBBB  SSSSSSSS
NNN    NN    AA  AA    BB     BB SS
NNN    NN    AA  AA    BB     BB SS
NNNN   NN   AA    AA   BBBBBBB   SSSSSSS
NN NN  NN   AAAAAAAA   BBBBBBB    SSSSSSS
NN   NNNN   AAAAAAAA   BB     BB        SS
NN    NNN   AA    AA   BB     BB        SS
NN    NNN   AA    AA   BBBBBBBB  SSSSSSSS
NN     NN   AA    AA   BBBBBBB    SSSSSS

    DDD   OO         BBB   CC  DDD
    D  D O  O        B  B C  C D  D
    D  D O  O   --   BBB  C  C D  D
    D  D O  O        B  B C  C D  D
    DDD   OO         BBB   CC  DDD
```

```
PROGRAM DEVELOPED BY - P. SPAULDING
UNIVERSITY OF RHODE ISLAND  WALLS HALL 222C
JUNE 1972
```

COMPUTATIONAL CONTROL NUMBERS

```
NUM      NMC      NMD
  1   1034647    21415
  2   1044547    31315
  3   1054447    41215
  4   1064347    51215
  5   1073947    61215
  6   1083747    71215
  7     93031    81215
  8   1093447    91215
  9   1102747   101315
 10   1112747   111115
 11    120409   121315
 12    171314   131215
 13   1121647   141215
 14   1131347   151315
 15  11140247   161215
 16  11150247   171215
 17         0   181215
 18         0   191215
 19         0   201215
 20         0   211215
 21         0   221215
 22         0   231115
 23         0   241115
 24         0   251115
 25         0   261115
 26         0   271015
 27         0   281015
 28         0   291015
 29         0   300315
 30         0   310315
 31         0   321015
 32         0   331015
 33         0   340715
 34         0   350715
 35         0   360515
 36         0   370713
 37         0   380715
 38         0   390719
 39         0   400715
 40         0   410715
 41         0   420715
 42         0   430615
 43         0   440519
 44         0   450415
 45         0   460315
 46         0   470315
 47         0        0
 48         0        0

NINC = 17 .  NIND = 47
```

```
GRID COMPUTATION FIELD

          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
  1     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
  2     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   0.
  3     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
  4     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  5     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  6     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  7     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  8     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  9     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 10     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 11     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 12     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 13     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 14     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 15     1.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 16     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 17     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 18     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 19     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 20     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 21     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 22     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 23     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 24     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 25     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 26     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 27     0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 28     0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 29     0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 30     0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 31     0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 32     0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 33     0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 34     0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 35     0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 36     0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 37     0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 38     0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 39     0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 40     0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 41     0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 42     0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 43     0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 44     0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 45     0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 46     0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 47     0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 48     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
```

```
ESTUARY WIDTH MATRIX 1000 FT

       1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
 1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.6   1.6   0.0
 3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.2   1.2   1.2   0.0
 4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.7   0.7   0.7   0.7   0.0
 5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.4   0.4   0.4   0.4   0.0
 6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.0   3.0   3.0   3.0   0.0
 7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.3   2.3   2.3   2.3   0.0
 8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.8   1.8   1.8   1.8   0.0
 9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.7   4.7   4.7   4.7   0.0
10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.9   5.9   5.9   0.0
11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.5   4.5   4.5   0.0
12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.8   6.8   6.8   0.0
13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.4   5.4   5.4   5.4   0.0
14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.3   5.3   5.3   5.3   0.0
15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   8.2   8.2   8.2   0.0
16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.6   5.6   5.6   5.6   0.0
17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  17.1  17.1  17.1  17.1   0.0
18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  18.0  18.0  18.0  18.0   0.0
19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  20.1  20.1  20.1  20.1   0.0
20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  19.1  19.1  19.1  19.1   0.0
21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  20.5  20.5  20.5  20.5   0.0
22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  35.8  35.8  35.8  35.8   0.0
23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  34.8  34.8  34.8  34.8  34.8   0.0
24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  29.4  29.4  29.4  29.4  29.4   0.0
25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.5  31.5  31.5  31.5  31.5   0.0
26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  33.0  33.0  33.0  33.0  33.0   0.0
27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  35.4  35.4  35.4  35.4  35.4  35.4   0.0
28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.3  31.3  31.3  31.3  31.3  31.3   0.0
29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  29.6  29.6  29.6  29.6  29.6  29.6   0.0
30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.5  30.5  30.5  30.5  30.5  30.5  30.5   0.0
31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  26.5  26.5  26.5  26.5  26.5  26.5  26.5   0.0
32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  24.8  24.8  24.8  24.8  24.8  24.8   0.0
33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  34.2  34.2  34.2  34.2  34.2  34.2   0.0
34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  41.4  41.4  41.4  41.4  41.4  41.4  41.4   0.0
35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  35.4  35.4  35.4  35.4  35.4  35.4  35.4   0.0
36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  28.1  28.1  28.1  28.1  28.1  28.1  28.1   0.0
37   0.0   0.0   0.0   0.0   0.0   0.0   0.0  25.9  25.9  25.9  25.9  25.9  25.9  25.9  25.9   0.0
38   0.0   0.0   0.0   0.0   0.0   0.0  26.1  26.1  26.1  26.1  26.1  26.1  26.1  26.1  26.1   0.0
39   0.0   0.0   0.0   0.0   0.0   0.0  21.0  21.0  21.0  21.0  21.0  21.0  21.0  21.0  21.0   0.0
40   0.0   0.0   0.0   0.0   0.0   0.0  21.1  21.1  21.1  21.1  21.1  21.1  21.1  21.1  21.1   0.0
41   0.0   0.0   0.0   0.0   0.0   0.0  17.5  17.5  17.5  17.5  17.5  17.5  17.5  17.5  17.5   0.0
42   0.0   0.0   0.0   0.0   0.0   0.0  17.1  17.1  17.1  17.1  17.1  17.1  17.1  17.1  17.1   0.0
43   0.0   0.0   0.0   0.0   0.0  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6   0.0
44   0.0   0.0   0.0   0.0  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7   0.0
45   0.0   0.0   0.0  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6  21.6   0.0
46   0.0   0.0   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   9.9   0.0
47   0.0   0.0  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5  16.5   0.0
48   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

INITIAL CONCENTRATION (UG/L)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
2	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
3	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
4	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
5	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
6	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
7	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
8	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
9	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
10	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
11	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
12	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
13	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
14	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
15	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
16	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
17	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
18	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
19	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
20	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
21	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
22	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
23	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
24	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
25	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
26	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
27	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
28	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
29	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
30	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
31	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
32	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
33	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
34	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
35	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
36	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
37	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
38	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
39	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
40	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
41	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
42	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
43	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
44	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
45	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
46	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
47	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0
48	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0

TEMPERATURE FIELD (F)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.6	73.4	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.5	73.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.1	70.0	71.0	72.8	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	[illegible]	71.0	72.6	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.9	67.1	71.0	72.4	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	67.7	71.0	72.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.5	67.7	71.0	71.8	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	[illegible]	[illegible]	71.6	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	67.5	71.4	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.6	67.0	71.2	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	67.4	67.0	71.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	64.4	67.0	70.8	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.5	[illegible]	[illegible]	70.6	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	66.4	67.4	70.5	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.2	[illegible]	64.0	70.4	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	[illegible]	64.9	70.3	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	[illegible]	67.0	70.2	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	[illegible]	67.3	70.1	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	67.0	67.8	69.8	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	[illegible]	66.5	69.4	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	[illegible]	67.8	69.2	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.6	66.7	[illegible]	67.3	68.9	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.5	66.1	66.6	67.1	68.7	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.5	66.1	66.7	67.1	68.6	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.5	66.1	66.5	67.2	68.4	0.0
27	0.0	[illegible]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.0	64.5	65.5	66.0	67.0	68.2	0.0
28	[illegible]	[illegible]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0	64.1	66.1	66.1	67.1	68.0	0.0
29	[illegible]	[illegible]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4	64.0	66.5	66.0	67.0	68.0	0.0
30	[illegible]	[illegible]	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]	64.0	65.1	66.3	66.5	67.7	68.0	0.0
31	[illegible]	[illegible]	0.0	[illegible]	0.0	0.0	0.0	0.0	61.3	64.5	64.0	66.0	66.0	67.0	68.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.9	64.0	65.9	66.3	67.3	68.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.7	64.0	65.0	66.0	67.0	68.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.9	62.9	64.0	65.3	66.0	67.0	68.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.8	63.0	64.0	64.3	66.0	67.0	68.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.8	63.0	64.1	65.0	65.0	67.0	67.8	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.8	63.0	63.0	64.1	65.0	64.5	67.0	67.6	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	62.8	62.9	63.1	63.2	64.1	64.8	65.5	67.0	67.4	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	62.4	62.9	63.2	63.3	64.2	64.7	65.2	66.0	67.2	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	62.7	62.9	63.3	63.5	64.2	64.6	65.0	66.0	66.8	0.0
41	[illegible]	0.0	0.0	[illegible]	0.0	0.0	62.7	63.0	63.4	63.7	64.2	64.0	65.2	66.0	66.6	0.0
42	0.0	0.0	0.0	[illegible]	0.0	0.0	62.7	61.0	63.9	63.9	64.2	64.0	65.5	65.0	66.6	0.0
43	[illegible]	[illegible]	0.0	0.0	0.0	62.7	62.4	63.0	63.2	64.0	64.2	64.6	65.4	65.0	66.6	0.0
44	[illegible]	[illegible]	0.0	0.0	62.7	62.7	62.4	63.0	63.3	64.0	64.2	64.6	65.8	65.3	66.6	0.0
45	0.0	0.0	0.0	0.0	62.7	62.7	62.4	63.3	63.3	64.0	64.1	64.8	65.8	65.0	66.2	0.0
46	0.0	0.0	62.7	62.7	62.7	62.8	63.0	63.5	63.5	64.0	64.3	64.8	65.6	65.0	66.2	0.0
47	0.0	0.0	62.7	62.4	62.7	62.7	63.7	63.0	63.5	63.5	64.1	65.4	65.4	65.7	66.2	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER =  1     TIME =   0.03HRS.

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 43     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 44     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 45     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.10    4.00    4.00     0.0
 46     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.20    4.00    4.10    4.00    4.00     0.0
 47     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
 U VELOCITY FIELD (-FLOOD) -FPS.      STEP NUMBER =  1      TIME =   0.03HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04    0.0    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09   0.14    0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03  -0.03   0.04    0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03  -0.03   0.01    0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.03  -0.03   0.07    0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04  -0.04   0.10    0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.24    0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04   0.04    0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06   0.09    0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09   0.16    0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10   0.16    0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.23    0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.05  -0.05   0.07    0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10   0.18    0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.14  -0.14  -0.14   0.40    0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10   0.26    0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13   0.35    0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.11  -0.11  -0.11   0.27    0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.22    0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06  -0.06   0.15    0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.08  -0.08  -0.08   0.20    0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25   0.96    0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.17  -0.17  -0.17  -0.17   0.66    0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.24  -0.24  -0.24  -0.24   0.94    0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25   0.97    0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.04    0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23   1.12    0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.08    0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25   1.46    0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.21  -0.21  -0.21  -0.21  -0.21   1.01    0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23   1.13    0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.04    0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22   1.27    0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27   1.55    0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30   1.81    0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.34  -0.34  -0.34  -0.34  -0.34  -0.34  -0.34   2.35    0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   3.31    0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41   3.28    0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40   3.20    0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44   3.61    0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30   2.45    0.0
 43    0.0    0.0    0.0    0.0    0.0  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45   4.11    0.0
 44    0.0    0.0    0.0    0.0  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63   6.49    0.0
 45    0.0    0.0    0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47   5.21    0.0
 46    0.0    0.0  -1.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26   3.44    0.0
 47    0.0    0.0  -0.08  -0.14  -0.08  -0.09  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08   1.06    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
W VELOCITY FIELD -FPS.     STEP NUMBER =  1     TIME =   [illegible]

       1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
 1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00020.00020.0   0.0
 4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0030-.0011-.00020.0   0.0
 5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   -.0010-.0006-.00010.0   0.0
 6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00300.00010.00020.0   0.0
 7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00300.00000.00000.0   0.0
 8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]               0.0
 9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   -.0011-.0001-.00010.0   0.0
10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00010.00010.0   0.0
11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00000.00010.0   0.0
12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00000.00010.0   0.0
13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00010.00010.00010.0   0.0
14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   -.0001-.0002-.00010.0   0.0
15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00010.00010.0   0.0
16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00020.00020.00020.0   0.0
17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]               0.0
18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]               0.0
19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   -.0010-.0011-.00010.0   0.0
20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   -.0010-.0001-.00010.0   0.0
21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]               0.0
22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                     0.0
23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                     0.0
24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                     0.0
25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                     0.0
26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.0
27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.0
28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.0
29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.0
30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.0
31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.0
32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.0
33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.0
34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                     -.00020.0   0.0
35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.0
36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                           0.00160.0   0.0
37   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 -.00120.0   0.0
38   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 -.00310.0   0.0
39   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 -.00140.0   0.0
40   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 -.00260.0   0.0
41   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.00100.0   0.0
42   0.0   0.0   0.0   0.0   0.0   0.0   [illegible]                                 0.00260.0   0.0
43   0.0   0.0   0.0   0.0   0.0   [illegible]                                       0.00160.0   0.0
44   0.0   0.0   0.0   0.0   [illegible]                                             -.00020.0   0.0
45   0.0   0.0   0.0   [illegible]                                                   -.00210.0   0.0
46   0.0   0.0   [illegible]                              0.0   0.0   0.0   0.0   0.0   0.0   0.0
47   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
48   0.0   0.0
```

```
DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER =  1     TIME =   0.03HRS
          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.76    0.0    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.54   2.54   1.81    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.03   1.03   1.03   1.50    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.98   0.98   0.98   0.40    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.08   1.08   1.08   2.51    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.18   1.18   1.18   3.46    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.00   3.00   3.00   4.19    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.31   1.31   1.39    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.53   1.53   2.29    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.49   2.49   4.20    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.55   2.55   4.15    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.03   3.03   3.03   7.99    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.72   1.72   2.36    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.59   2.59   4.64    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.09   4.09   4.09  13.63    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.51   3.51   3.51   8.90    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.52   4.52   4.52  11.93    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.57   3.57   3.57   9.03    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.30   3.30   3.30   7.31    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.12   2.12   2.12   4.99    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.76   2.76   2.76   6.84    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.21  10.21  10.21  10.21  35.04    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.94   6.94   6.94   6.94  26.61    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   9.07   9.07   9.07   9.07  30.15    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.17  10.17  10.17  10.17  37.28    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.41  10.41  10.41  10.41  10.41  45.94    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.87  10.87  10.87  10.87  10.87  52.76    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.64  10.64  10.64  10.64  10.64  50.64    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  11.55  11.55  11.55  11.55  11.55  11.55  29.57    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  11.37  11.37  11.37  11.37  11.37  54.41    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.60  10.60  10.60  10.60  10.60  52.51    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.26  10.26  10.26  10.26  10.26  47.15    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  12.02  12.02  12.02  12.02  12.02  12.02  69.10    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  14.29  14.29  14.29  14.29  14.29  14.29  83.25    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  16.39  16.39  16.39  16.39  16.39  16.39  97.03    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0  20.46  20.46  20.46  20.46  20.46  20.46  20.46 142.41    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0  27.83  27.83  27.83  27.83  27.83  27.83  27.83  27.83 221.63    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0  26.90  26.90  26.90  26.90  26.90  26.90  26.90  26.90 217.32    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0  26.24  26.24  26.24  26.24  26.24  26.24  26.24  26.24 211.98    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0  29.22  29.22  29.22  29.22  29.22  29.22  29.22  29.22 218.99    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0  19.61  19.61  19.61  19.61  19.61  19.61  19.61  19.61 162.55    0.0
 43     0.0    0.0    0.0    0.0    0.0  33.05  33.05  33.05  33.05  33.05  33.05  33.05  33.05  33.05 108.13    0.0
 44     0.0    0.0    0.0    0.0  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96 512.75    0.0
 45     0.0    0.0    0.0  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11 441.92    0.0
 46     0.0    0.0  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74 311.76    0.0
 47     0.0    0.0   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84  93.41    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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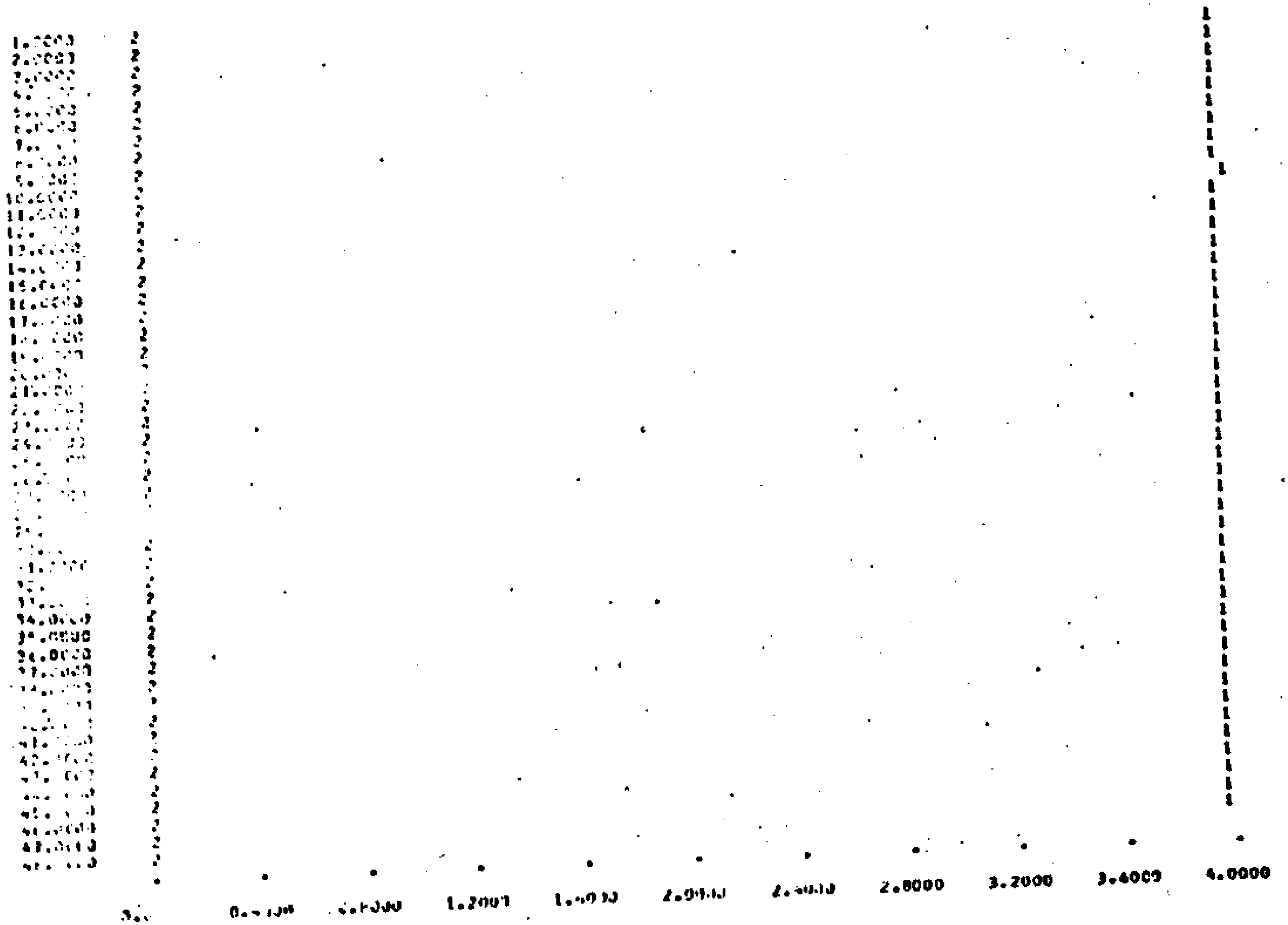
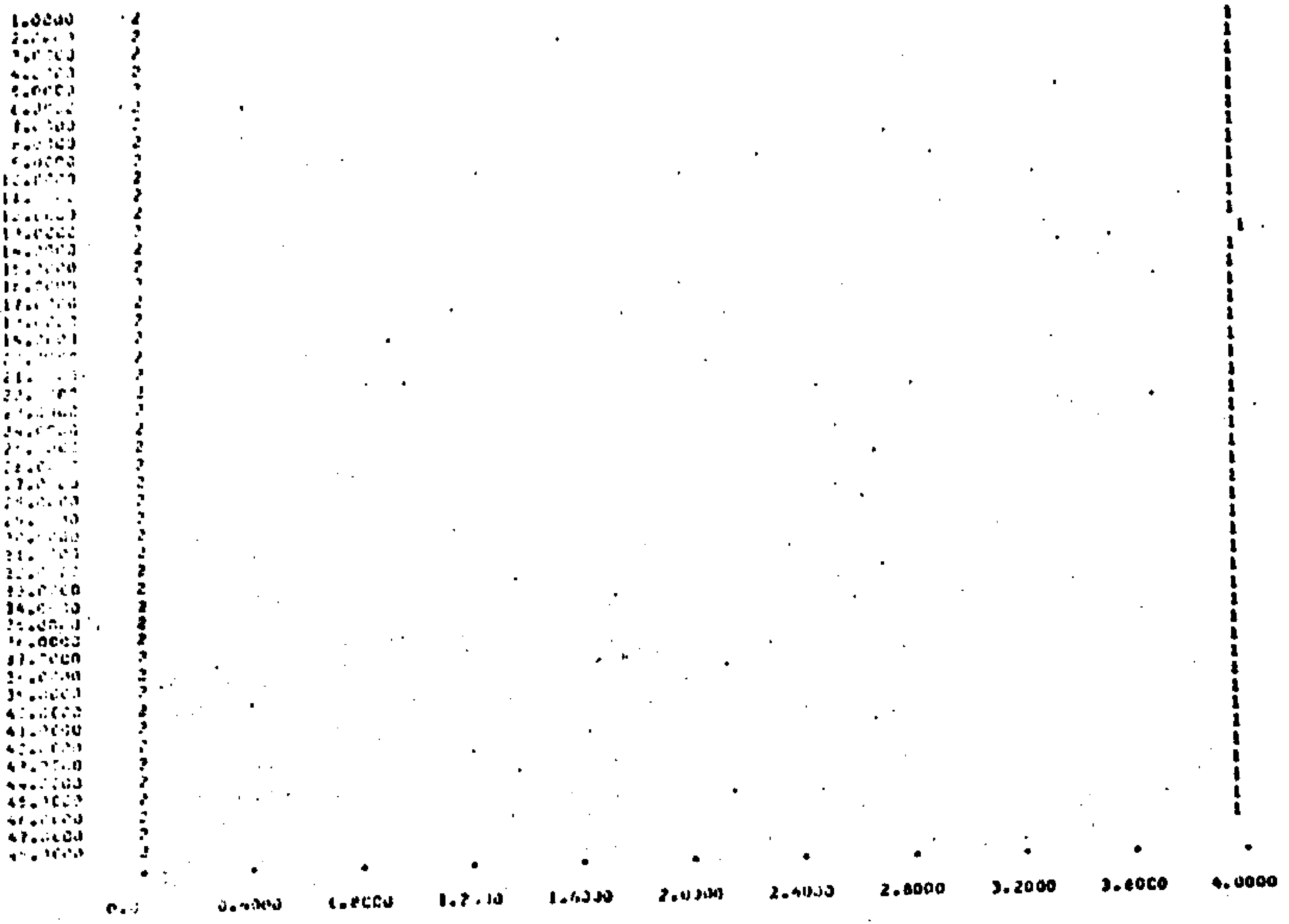
DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)     STEP NUMBER =  1     TIME =   0.03HRS

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00012.0    .0
  2    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00023.00075.0    .0
  3    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00306.00028.00028.0    .0
  4    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00306.00027.00027.0    .0
  5    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00037.00033.00030.0    .0
  6    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00304.00039.00039.0    .0
  7    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00918.00084.00084.0    .0
  8    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00017.00017.0    .0
  9    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00015.00048.0    .0
 10    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00023.00076.0    .0
 11    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00024.00077.0    .0
 12    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00014.00053.00083.0    .0
 13    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00044.00048.0    .0
 14    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00025.00391.0    .0
 15    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00324.00128.00124.0    .0
 16    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00121.00094.00094.0    .0
 17    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00121.00126.00126.0    .0
 18    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00172.00130.00130.0    .0
 19    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00113.00084.00084.0    .0
 20    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00113.00059.00059.0    .0
 21    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00117.00077.00077.0    .0
 22    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00053.00231.00332.00234.0    .0
 23    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00143.00167.00243.00167.0    .0
 24    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00142.00243.00126.00230.0    .0
 25    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible].00234.00117.00230.0    .0
 26    .0    .0    .0    .0    .0    .0    .0    .0    .0 .00013.00117.00311.00330.00197.0    .0
 27    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]                 .00200.0    .0
 28    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]                 .00230.0    .0
 29    .0    .0    .0    .0    .0    .0    .0    .0 .00033 [illegible]              .00217.0    .0
 30    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]                 .00176.0    .0
 31    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]                 .00207.0    .0
 32    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]          .00110.00197.0    .0
 33    .0    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]                 .00100.0    .0
 34    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]              .00427.00227.0    .0
 35    .0    .0    .0    .0    .0    .0    .0    .0 [illegible]       .00573.00541.00260.0    .0
 36    .0    .0    .0    .0    .0    .0    .0    .0 .00043 [illegible]              .00269.0    .0
 37    .0    .0    .0    .0    .0    .0    .0 .01040 [illegible]              .00657.00310.0    .0
 38    .0    .0    .0    .0    .0    .0 .00044 [illegible]                     .00432.00303.0    .0
 39    .0    .0    .0    .0    .0    .0 .00643 [illegible]                            .00295.0    .0
 40    .0    .0    .0    .0    .0    .0 [illegible]                                   .00324.0    .0
 41    .0    .0    .0    .0    .0    .0 .00047 [illegible]                     .00441.00221.0    .0
 42    .0    .0    .0    .0    .0    .0 .00011.01721 [illegible]                      .00316.0    .0
 43    .0    .0    .0    .0    .0 .00044 [illegible]                   .01401.00622.00615.0    .0
 44    .0    .0    .0    .0 .00050.00415.00922.01407.01743.01564.01744.01341.00663.00292.0    .0
 45    .0    .0    .0 .00035.00292.00063 [illegible] .01319.01503.01503 [illegible] .00355.00152.0    .0
 46    .0    .0 .00022.00152.00153 [illegible] .00749.01372.00914 [illegible]  .00102.01344.0    .0
 47    .0    .0 .00066.00044.00162.00166.00281.00253.00265.00293.00217 .0    .0    .0    .0    .0
 48    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
```

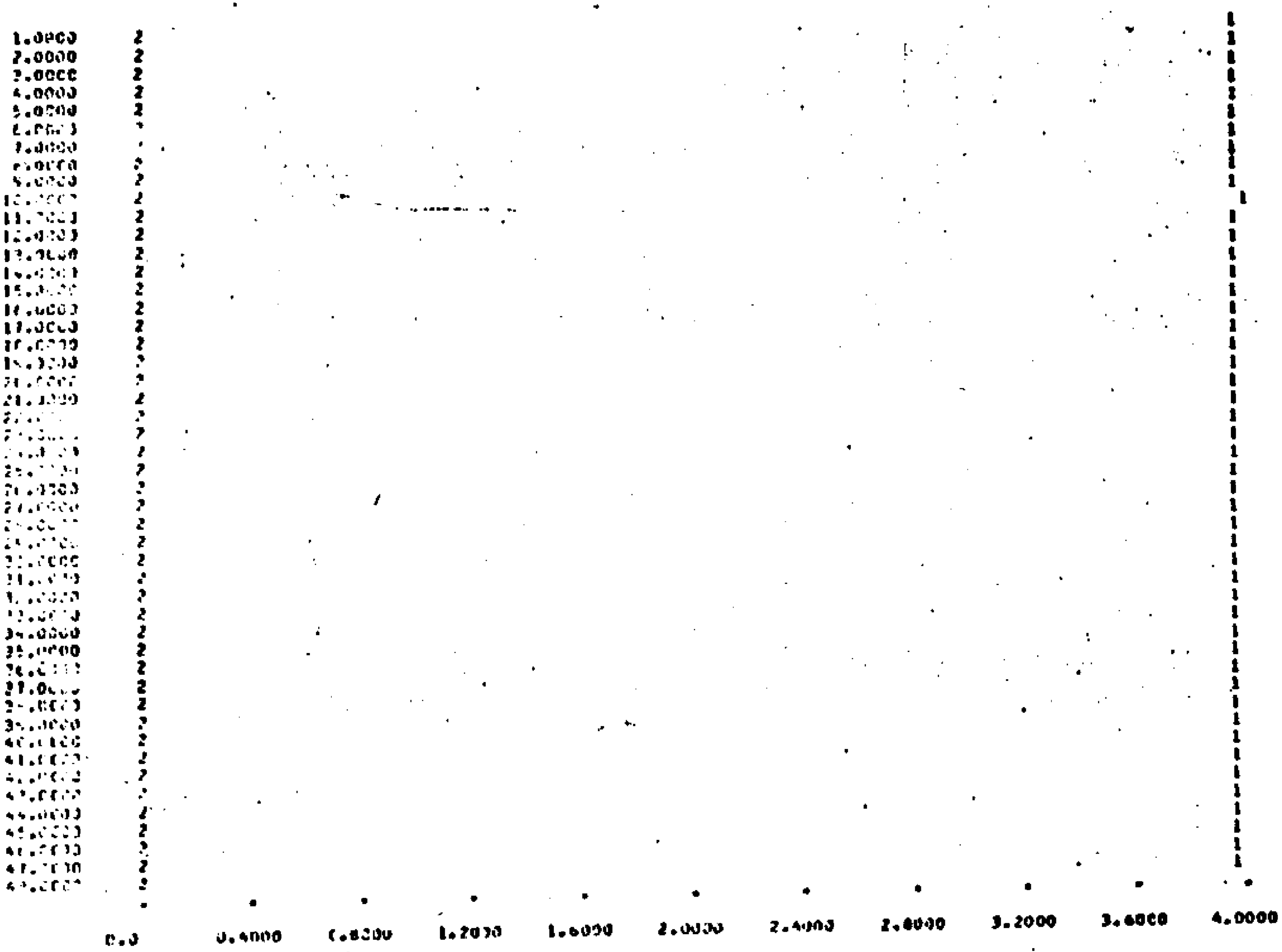
T.C. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



T.C. (1) + NO3-N. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE C.O.D. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



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CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 50     TIME =   1.67HRS.
             1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00    0.0
  3        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00    0.0
  4        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
  5        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
  6        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
  7        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
  8        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
  9        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 10        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00    0.0
 11        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00    0.0
 12        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00    0.0
 13        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 14        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 15        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00    0.0
 16        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 17        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 18        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 19        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 20        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 21        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 22        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00    0.0
 23        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00    0.0
 24        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00    0.0
 25        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00    0.0
 26        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00    0.0
 27        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 28        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 29        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 30        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 31        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 32        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 33        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 34        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 35        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 36        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 37        0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 38        0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 39        0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 40        0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 41        0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 42        0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 43        0.0    0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 44        0.0    0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 45        0.0    0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 46        0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 47        0.0    0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 48        0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
 U VELOCITY FIELD (I-FLOW,J) -FPS.     STEP NUMBER = 90     TIME =   1.47MS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02    0.0    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03   0.03    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.04   0.04  -0.17    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.11   0.11   0.11  -0.40    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.12   0.12   0.12  -0.33    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.16   0.16   0.16  -0.44    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.25   0.25   0.25  -0.73    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.05  -0.03    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.08   0.03  -0.10    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.09   0.07  -0.11    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.05  -0.03    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.06   0.06  -0.11    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02   0.11    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.00  -0.00   0.05    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01   0.03    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01  -0.06    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.04   0.04   0.04  -0.10    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01  -0.01    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02   0.09    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02   0.09    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.06   0.18    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01   0.01  -0.04    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.07    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.06    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.05    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02  -0.02  -0.02   0.10    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04  -0.04  -0.04  -0.04   0.20    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06  -0.06  -0.06  -0.06   0.30    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.55    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.07  -0.07  -0.07  -0.07  -0.07   0.37    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09   0.50    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.08  -0.08  -0.08  -0.08  -0.08   0.40    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.51    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10   0.62    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.59    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10   0.71    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.74    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14   1.16    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13   1.07    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23   1.48    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13   1.13    0.0
 43     0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.83    0.0
 44     0.0    0.0    0.0    0.0  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36   3.68    0.0
 45     0.0    0.0  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31   3.38    0.0
 46     0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22   2.06    0.0
 47     0.0    0.0  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12   1.52    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
W VELOCITY FIELD -FPS.     STEP NUMBER = 50     TIME =   1.47HRS.

        1      2      3      4      5      6      7      8      9      10     11     12     13     14     15     16
 1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00003.00000.0      0.0
 3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0011-.0002-.00030.0      0.0
 4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0001-.00010.0      0.0
 5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0002-.0005-.00080.0      0.0
 6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0004-.00000.00040.0      0.0
 7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0011-.0002-.00010.0      0.0
 8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00743.00050.00000.0      0.0
 9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.00010.0      0.0
10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00000.0      0.0
11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.0      0.0
12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0001-.00010.0      0.0
13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00013.00020.00040.0      0.0
14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.00000.0      0.0
15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0000-.00010.0      0.0
16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0001-.00020.0      0.0
17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0000-.00010.0      0.0
18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                0.0
19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01311.00160.00020.0      0.0
20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                0.0
21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01110.00200.00010.0      0.0
22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                       0.0
23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                       0.0
24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                       0.0
25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                       0.0
26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                              0.0
27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                              0.0
28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                              0.0
29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                     0.0
30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                     0.0
31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                              0.0
32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                              0.0
33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00020.00020.00010.00010.00010.0      0.0
34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00000.00000.00000.00000.00000.0      0.0
35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.0001-.0002-.0002-.00010.0      0.0
36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00020.00010.00010.00010.00010.00010.0      0.0
37    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
38    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
39    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
40    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
41    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
42    0.0    0.0    0.0    0.0    0.0    0.0    [illegible]                                              0.0
43    0.0    0.0    0.0    0.0    0.0    [illegible]                                                     0.0
44    0.0    0.0    0.0    0.0    [illegible]                                                            0.0
45    0.0    0.0    0.0    [illegible]                                                     -.0042-.00470.0      0.0
46    0.0    0.0    [illegible]                                                     -.0034-.0004-.00040.0      0.0
47    0.0    0.0    -.0001-.0001-.0002-.0002-.0002-.0103-.0003-.0001-.0003 0.0    0.0    0.0    0.0           0.0
48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
DISPERSION COEFFICIENT FOR X DIRECTION (FT**2/SEC)     STEP NUMBER = 50     TIME =   1.67HRS
            1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.42     0.0     0.0
  3       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.79    0.79    0.89     0.0
  4       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.55    1.55    1.55    5.85     0.0
  5       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.61    3.61    3.61   13.59     0.0
  6       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.15    4.15    4.15   11.18     0.0
  7       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.29    5.29    5.29   14.90     0.0
  8       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    8.36    8.36    8.36   24.51     0.0
  9       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.85    1.85    0.50     0.0
 10       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.17    2.17    2.61     0.0
 11       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.39    2.39    2.79     0.0
 12       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.25    1.75    0.78     0.0
 13       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.14    2.14    2.14    3.81     0.0
 14       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.57    0.57    3.73     0.0
 15       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.35    0.35    1.38     0.0
 16       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.52    0.52    0.52    0.95     0.0
 17       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.04    1.04    1.04    2.17     0.0
 18       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.42    1.42    1.42    3.30     0.0
 19       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.44    0.44    0.44    0.39     0.0
 20       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.64    0.64    0.64    2.68     0.0
 21       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.71    0.71    0.71    3.13     0.0
 22       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0 [illegible] 1.96    1.96    1.96    6.22     0.0
 23       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.64    0.58    0.58    0.58    1.84     0.0
 24       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.57    0.57    0.57    0.57    2.79     0.0
 25       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.45    0.45    0.55    0.45    2.24     0.0
 26       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.41    0.41    0.41    0.41    0.41    2.04     0.0
 27       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.86    0.86    0.86    0.86    0.86    4.78     0.0
 28       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.75    1.75    1.75    1.75    1.75    9.30     0.0
 29       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.74    2.74    2.74    2.74    2.74   14.34     0.0
 30       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.86    4.86    4.86    4.86    4.86    4.86   29.72     0.0
 31       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.71    3.71    3.71    3.71    3.71   15.65     0.0
 32       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.43    4.43    4.43    4.43    4.43   23.18     0.0
 33       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.73    3.73    3.73    3.73    3.73   15.81     0.0
 34       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.64    4.68    4.68    4.68    4.68    4.68   27.84     0.0
 35       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.54    5.54    5.54    5.54    5.54    5.54   33.33     0.0
 36       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.11    5.11    5.11    5.11    5.11    5.11   31.50     0.0
 37       0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.38    6.01    6.01    6.01    6.01    6.01    6.01   41.38     0.0
 38       0.0     0.0     0.0     0.0     0.0     0.0    6.02    6.02    6.02    6.02    6.02    6.02    6.02    6.02   49.58     0.0
 39       0.0     0.0     0.0     0.0     0.0     0.0    9.28    9.28    9.28    9.28    9.28    9.28    9.28    9.28   76.65     0.0
 40       0.0     0.0     0.0     0.0     0.0     0.0    8.55    8.55    8.55    8.55    8.55    8.55    8.55    8.55   70.80     0.0
 41       0.0     0.0     0.0     0.0     0.0     0.0   15.11   15.11   15.11   15.11   15.11   15.11   15.11   15.11  124.67     0.0
 42       0.0     0.0     0.0     0.0     0.0     0.0    8.44    8.44    8.44    8.44    8.44    8.44    8.44    8.44   75.04     0.0
 43       0.0     0.0     0.0     0.0     0.0   14.52   14.52   14.52   14.52   14.52   14.52   14.52   14.52   14.52  133.19     0.0
 44       0.0     0.0     0.0     0.0   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26  290.25     0.0
 45       0.0     0.0     0.0   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95  286.23     0.0
 46       0.0     0.0   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11  259.56     0.0
 47       0.0     0.0   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80  136.46     0.0
 48       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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 DISPERSION COEFFICIENT FOR Z DIRECTION (FT**2/SEC)     STEP NUMBER = 90     TIME =   1.67HRS

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
  2    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00007.0    .0
  3    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00037.00023.0    .0
  4    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .01309.00042.00042.0    .0
  5    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00122.00101.00101.0    .0
  6    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00325.00116.00116.0    .0
  7    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00032.00141.00140.0    .0
  8    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00351.00234.00234.0    .0
  9    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00052.00052.0    .0
 10    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00021.00068.0    .0
 11    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00022.00072.0    .0
 12    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00017.00038.0    .0
 13    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00013.00053.00053.0    .0
 14    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00016.00016.0    .0
 15    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00009.00302.0    .0
 16    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00301.00314.00314.0    .0
 17    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00306.00027.[illegible].0    .0
 18    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00134.00040.00040.0    .0
 19    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00003.00012.00012.0    .0
 20    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00304.00019.00018.0    .0
 21    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00305.00029.00029.0    .0
 22    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00312.00055.00055.0    .0
 23    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00002.00011.00017.00011.0    .0
 24    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00102.00011.00017.00013.0    .0
 25    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00102.00111.00015.00010.0    .0
 26    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00302.00111.00011.00009.0    .0
 27    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00100.00116.00127.00027.00016.0    .0
 28    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00005.00116.00156.00056.00016.0    .0
 29    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00009.00153.00064.00011.00053.0    .0
 30    .0    .0    .0    .0    .0    .0    .0    .0    .00012.00076.00136.[illegible].00151.00076.0    .0
 31    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00006.[illegible].00111.00107.00107.0    .0
 32    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00014.[illegible].00145.00145.00036.0    .0
 33    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00012.00072.00123.00123.00077.0    .0
 34    .0    .0    .0    .0    .0    .0    .0    .0    .00011.00171.[illegible].00116.00136.00171.0    .0
 35    .0    .0    .0    .0    .0    .0    .0    .0    .00016.00154.00163.00176.00163.00086.0    .0
 36    .0    .0    .0    .0    .0    .0    .0    .0    .00011.00081.00151.00179.00151.00081.0    .0
 37    .0    .0    .0    .0    .0    .0    .0    .00012.00079.00157.00230.00209.00151.00079.0    .0
 38    .0    .0    .0    .0    .0    .0    .00010.00067.00143.00196.00217.00196.00143.00067.0    .0
 39    .0    .0    .0    .0    .0    .0    .00015.00104.00213.00336.00314.00316.00218.00105.0    .0
 40    .0    .0    .0    .0    .0    .0    .00016.00096.00201.00277.00312.00282.00201.00096.0    .0
 41    .0    .0    .0    .0    .0    .0    .00132.00170.00155.[illegible].[illegible].[illegible].[illegible].00170.0    .0
 42    .0    .0    .0    .0    .0    .0    .00014.00100.00204.[illegible].00174.00254.00201.00130.0    .0
 43    .0    .0    .0    .0    .0    .00019.00133.00300.00442.00526.[illegible].00442.00300.00139.0    .0
 44    .0    .0    .0    .0    .00012.00235.00422.00776.00901.00157.[illegible].00379.01522.00235.0    .0
 45    .0    .0    .0    .00027.00163.00520.00773.00862.00973.00972.[illegible].00979.00429.00187.0    .0
 46    .0    .0    .00017.00125.00255.00590.00635.01718.01775.01710.01135.00983.00297.00129.0    .0
 47    .0    .0    .00009.00070.00182.00290.00416.00349.00416.00292.00344.00259.00162.00070.0    .0
 48    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
```
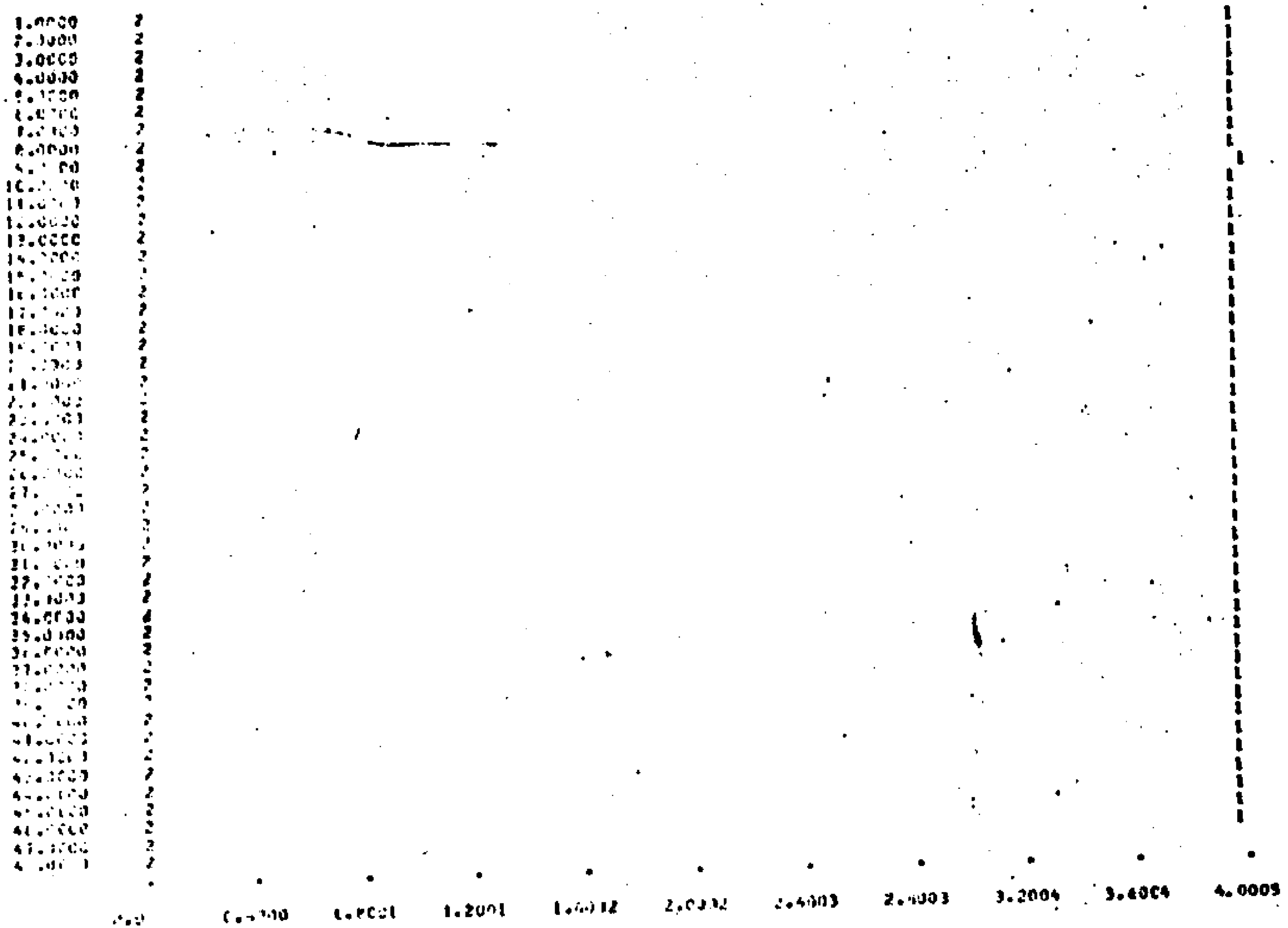
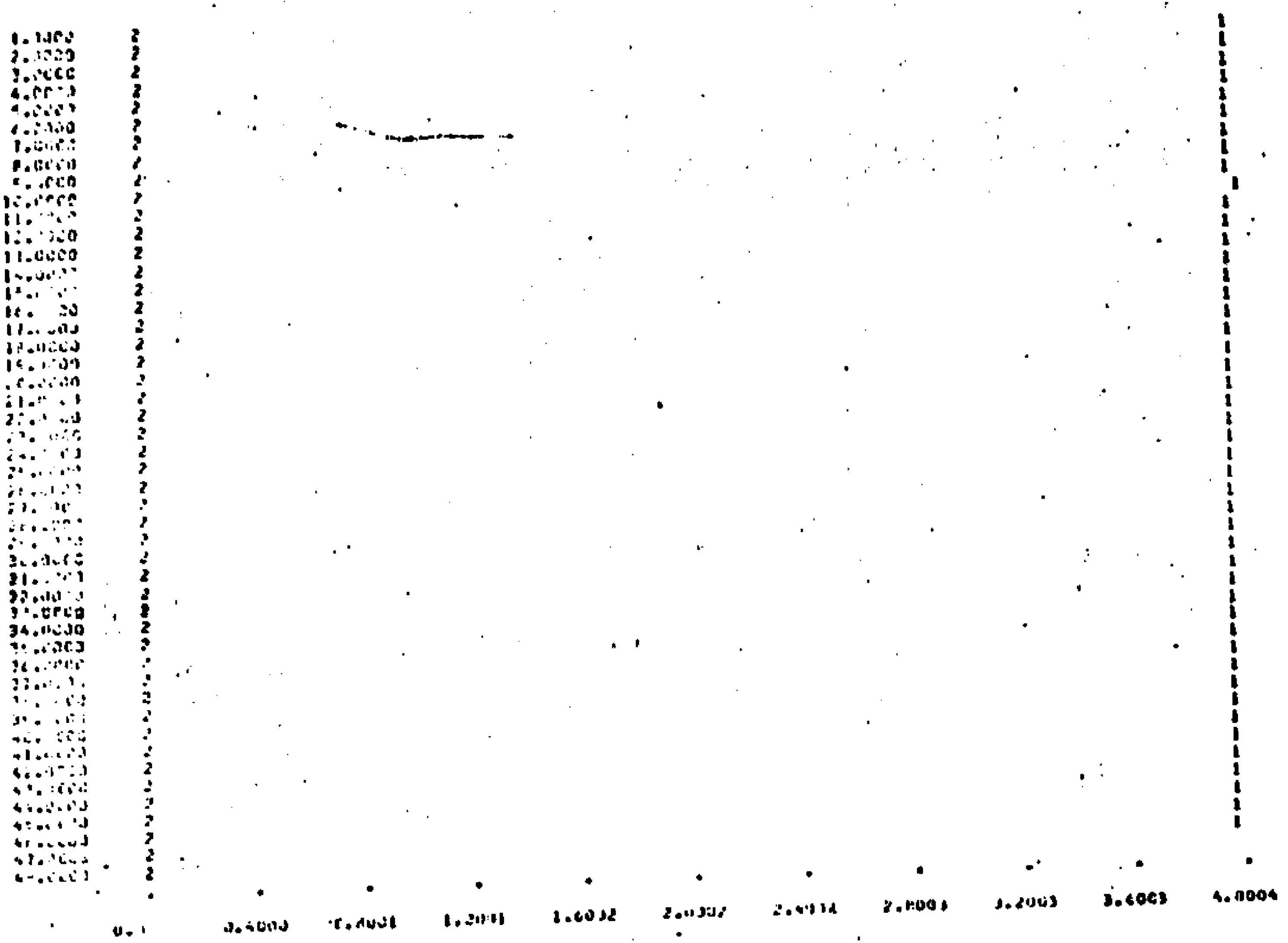
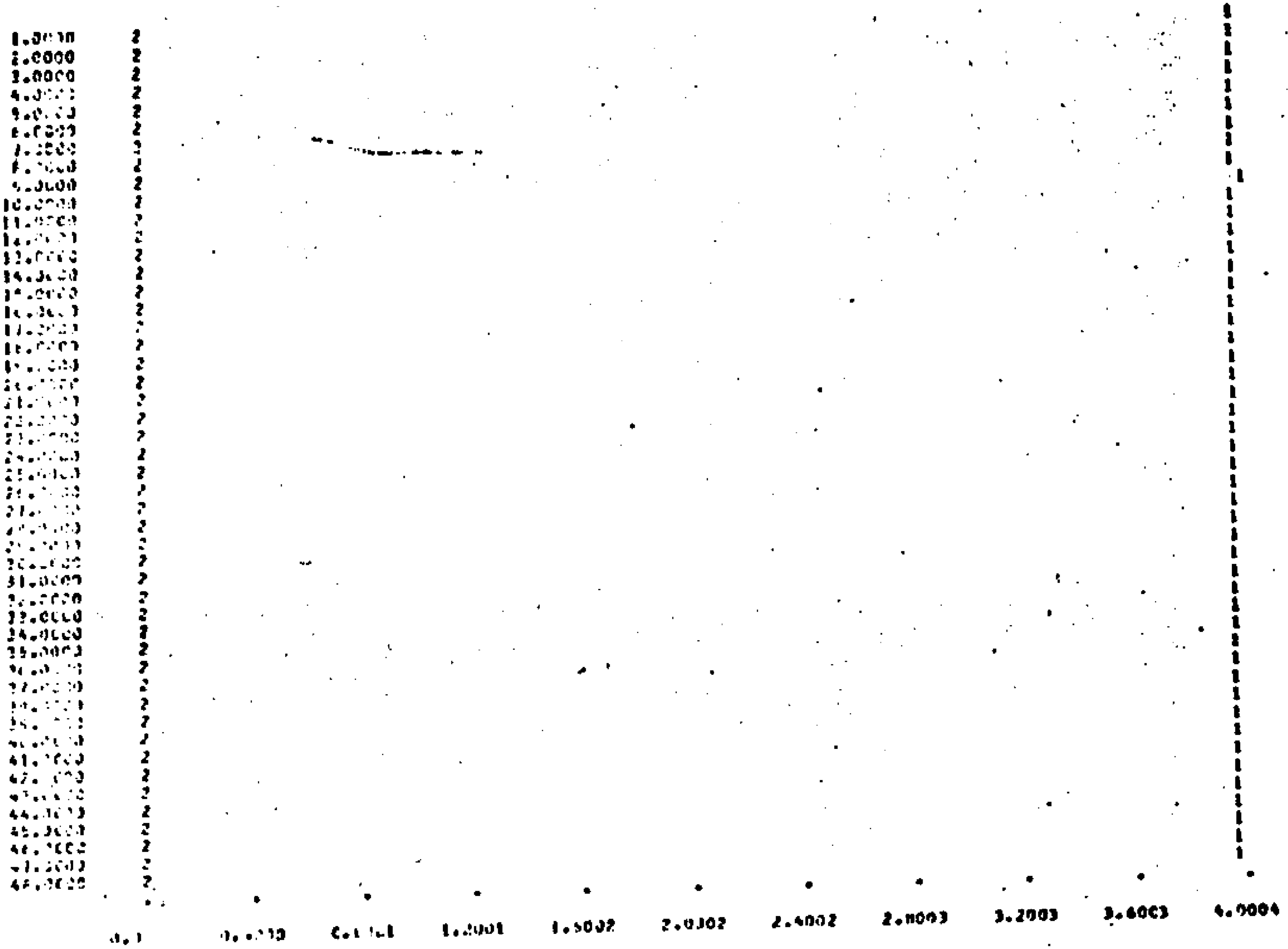

F.C. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



T.C. (1) & A.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



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CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 99     TIME =   3.30HRS.

         1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00     0.0
  3    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
  4    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  5    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  6    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  7    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  8    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
  9    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 10    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 11    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 12    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 13    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 14    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 15    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
 16    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 17    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 18    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 19    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 20    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 21    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 22    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00     0.0
 23    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 24    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 25    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 26    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00     0.0
 27    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 28    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 29    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 30    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 31    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 32    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 33    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 34    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 35    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 36    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 37    0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 38    0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 39    0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 40    0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 41    0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 42    0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 43    0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 44    0.0     0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 45    0.0     0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 46    0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 47    0.0     0.0    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00    4.00     0.0
 48    0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
U VELOCITY FIELD (-FLOOD) -FPS.      STEP NUMBER = 99      TIME =   9.30HRS.

         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.40    0.0    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.38  -0.38   0.30    0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.10    0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31  -0.26    0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.41  -0.41  -0.41   0.95    0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.37  -0.37  -0.37   0.82    0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43   0.95    0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.44  -0.44   0.63    0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.27  -0.27   0.34    0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.21  -0.21   0.20    0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23   0.27    0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29   0.66    0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22   0.24    0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30   0.46    0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.79    0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30   0.75    0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.70    0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.77    0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.36  -0.36  -0.36   0.54    0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30   0.81    0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29   0.73    0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.26  -0.26  -0.26  -0.26   0.96    0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29  -0.29   1.02    0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.38  -0.38  -0.38  -0.38   1.37    0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43  -0.43   1.57    0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43  -0.43  -0.43   1.99    0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.50  -0.50  -0.50  -0.50  -0.50   2.66    0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.53  -0.53  -0.53  -0.53  -0.53   2.51    0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49   2.79    0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.54  -0.54  -0.54  -0.54  -0.54   2.59    0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.39  -0.39  -0.39  -0.39  -0.39   1.80    0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.59  -0.59  -0.59  -0.59  -0.59   2.80    0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.77  -0.77  -0.77  -0.77  -0.77  -0.77   4.41    0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.73  -0.73  -0.73  -0.73  -0.73  -0.73   4.24    0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.64  -0.64  -0.64  -0.64  -0.64  -0.64   3.77    0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   2.90    0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   3.32    0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04    0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04    0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.56    0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.56    0.0
 43    0.0    0.0    0.0    0.0    0.0  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56   4.96    0.0
 44    0.0    0.0    0.0    0.0  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16   1.62    0.0
 45    0.0    0.0    0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19   2.14    0.0
 46    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23   2.85    0.0
 47    0.0    0.0  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32   3.92    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
 * VELOCITY FIELD -FPS.     STEP NUMBER = 99     TIME =   3.30HRS.

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00060.00040.0     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0003-.0002-.00070.0     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0070-.0000-.00010.0     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00070.00190.00290.0     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0031-.0004-.00060.0     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0030-.0000-.00310.0     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0007-.00060.00060.0     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0002-.00030.0     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0001-.00010.0     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00010.00010.0     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00350.00050.01050.0     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0105-.0006-.00070.0     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00010.00000.0     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00590.00100.01010.0     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00120.00170.00120.0     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.01100.00010.00010.0     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.01100.00010.00010.0     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00100.00010.00020.0     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0100-.0001-.00010.0     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00010.00110.00060.0     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00050.00140.00040.00140.0     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0003-.0031-.0001-.00120.0     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00020.00130.00050.00170.0     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00010.00130.00030.00040.0     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0070[illegible]0.0013[illegible]0.00070.0     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0007[illegible]0.00150.00050.00060.0     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     [illegible]-.0013-.0006-.00090.0     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0000[illegible]0.0037[illegible]0.00060.0     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0100[illegible]-.0017-.0011-.0010-.00100.0     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0001[illegible]-.0012-.00150.0     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00050.00110.00170.00230.00290.0     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00130.00180.00110.00260.00330.00300.0     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0002-.0004-.0007-.0009-.0012-.00140.0     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     -.0003-.0007-.0011-.0015-.0019-.00230.0     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.00070.0033-.0002-.0035-.0010-.0015-.00190.0     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0     0.00070.0070[illegible]0.00170.00170.00070.0     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0     -.0007-.0015-.0022-.0030-.0036-.0044-.0053-.00610.0     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0     [illegible]0.00240.0     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0     [illegible]-.00010.0     0.0
 43     0.0     0.0     0.0     0.0     0.0     [illegible]0.0160.0     0.0
 44     0.0     0.0     0.0     0.0     [illegible]-.0047-.00700.0     0.0
 45     0.0     0.0     0.0     [illegible]0.00170.00190.00200.0     0.0
 46     0.0     0.0     0.00040.0002-.0003-.0003-.0005-.0007-.0009-.0011-.0013-.0015-.0017-.00190.0     0.0
 47     0.0     0.0     [illegible]0.00229[illegible]0.00420.00450.0     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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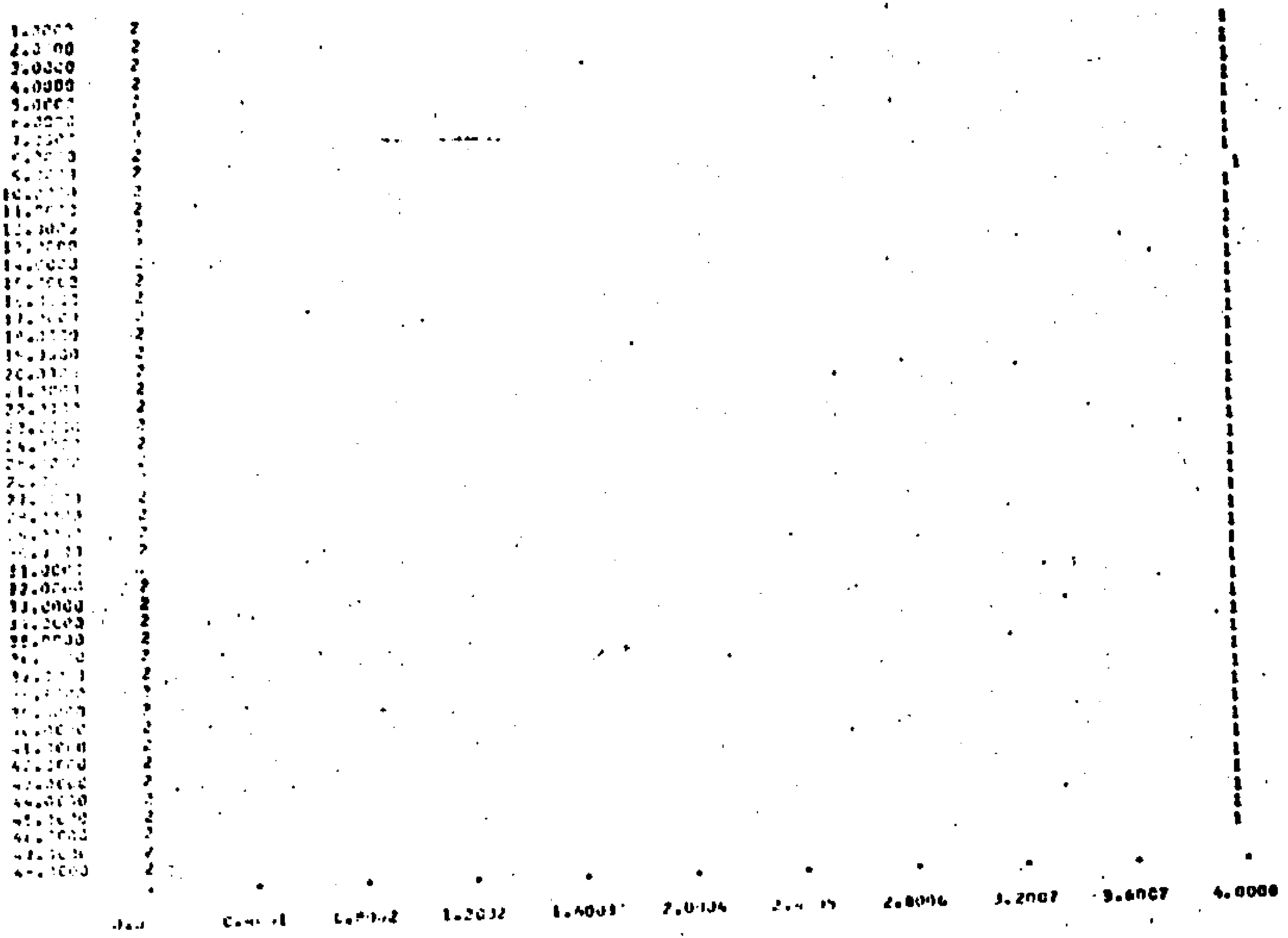
DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER = 99     TIME =   3.30HRS

         1      2      3      4      5      6      7      8      9     10     11     12     13     14    15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.62   0.0    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.47  10.47  8.13    0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.86   6.86   6.86  3.38    0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.42  10.42  10.42  8.91    0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  13.75  13.75  13.75 31.86    0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  12.61  12.61  12.61 27.58    0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  14.46  14.46  14.46 32.15    0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  15.00  15.00 21.25    0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.06   7.06  8.71    0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   5.68   5.68  5.21    0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.05   6.05  7.07    0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   9.96   9.96   9.96 22.68    0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.55   7.55  8.00    0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.76   7.76 12.02    0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.55  10.55  10.55 27.72    0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.05  10.05  10.05 25.25    0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.42  10.42  10.42 26.36    0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.32  10.32  10.32 26.02    0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  12.24  12.24  12.24 31.80    0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.21  10.21  10.21 27.26    0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   9.94   9.94   9.94 24.69    0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  11.51  11.51  11.51  11.51 39.80    0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  11.98  11.98  11.98  11.98 41.61    0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  15.43  15.43  15.43  15.43 55.43    0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  17.59  17.59  17.59  17.59 63.65    0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  20.67  20.67  20.67  20.67  20.67 95.65    0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  26.61  26.61  26.61  26.61  26.61125.80    0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  25.11  25.11  25.11  25.11  25.11110.58    0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  26.66  26.66  26.66  26.66  26.66  26.66151.06    0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  29.29  29.29  29.29  29.29  29.29139.19    0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  18.39  18.39  18.39  18.39  18.39 83.76    0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  27.98  27.98  27.98  27.98  27.98132.44    0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  41.68  41.68  41.68  41.68  41.68  41.68240.16    0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  39.28  39.28  39.28  39.28  39.28  39.28227.76    0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  34.55  34.55  34.55  34.55  34.55  34.55202.42    0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0  25.74  25.74  25.74  25.74  25.74  25.74  25.74175.86    0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0  28.36  28.36  28.36  28.36  28.36  28.36  28.36  28.36222.04    0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  2.58    0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  2.57    0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0  13.32  13.32  13.32  13.32  13.32  13.32  13.32  13.32103.44    0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0  13.32  13.32  13.32  13.32  13.37  13.37  13.37  13.37103.51    0.0
 43    0.0    0.0    0.0    0.0    0.0  13.56  40.64  40.64  40.64  40.64  40.64  40.64  40.64  40.64361.58    0.0
 44    0.0    0.0    0.0    0.0  12.39  12.39  12.39  12.39  12.39  12.39  12.39  12.39  12.39  12.39127.61    0.0
 45    0.0    0.0    0.0  16.45  16.45  16.45  16.45  16.45  16.45  16.45  16.45  16.45  16.45  16.45181.55    0.0
 46    0.0    0.0  20.57  20.57  20.57  20.57  20.57  20.57  20.57  20.57  20.57  20.57  20.57  20.57256.54    0.0
 47    0.0    0.0  29.17  29.17  29.17  29.17  29.17  29.17  29.17  29.17  29.17  29.17  29.17  29.17352.88    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.0    0.0
```

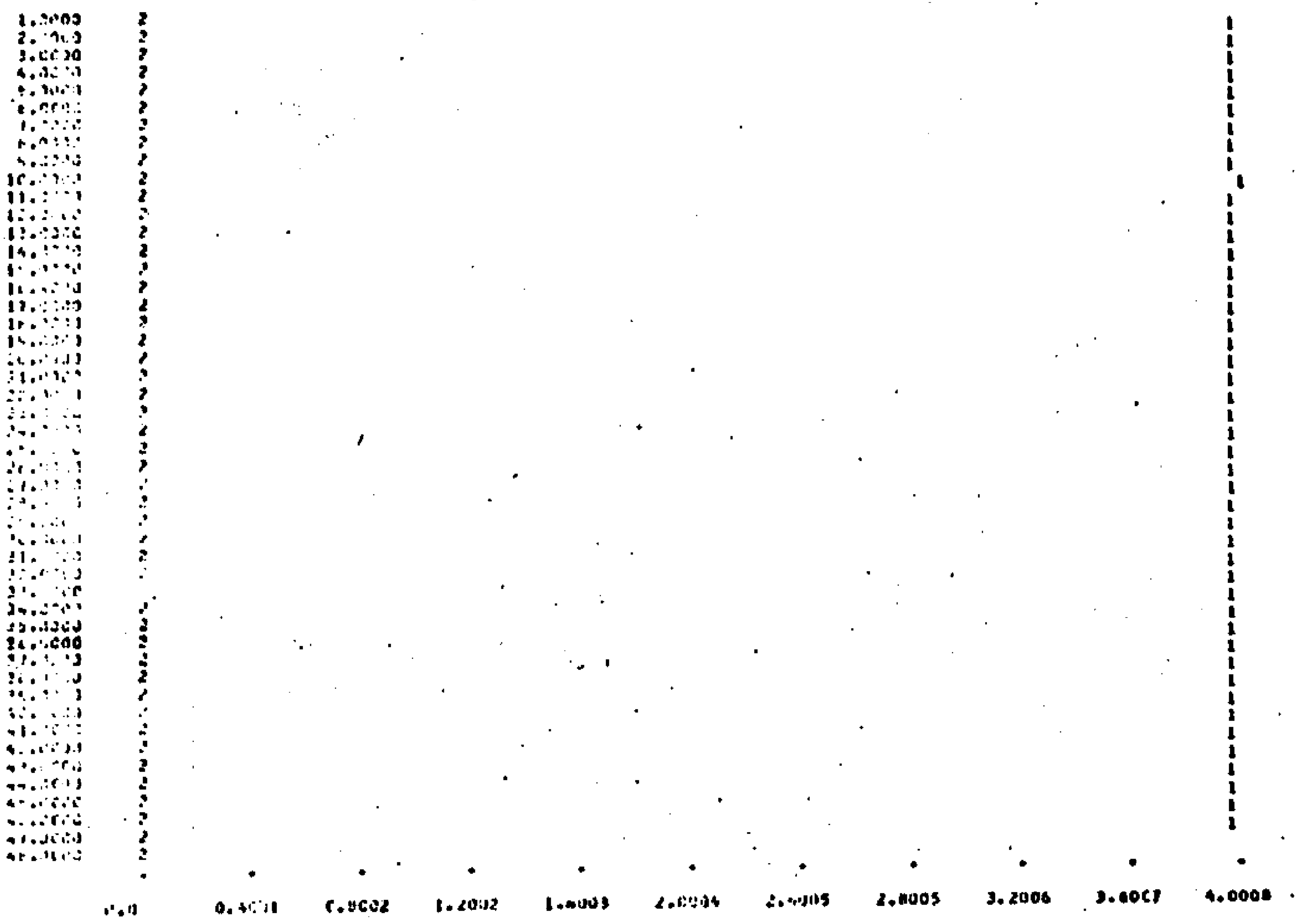
```
DISPERSION COEFFICIENT FOR Z DIRECTION (FT**2/SEC)     STEP NUMBER = 99     TIME =   3.30HRS

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15     16
 1   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0      .0
 2   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00122.0      .0
 3   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00095.00308.0      .0
 4   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00041.00189.00188.0      .0
 5   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00064.00297.00292.0      .0
 6   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00094.00385.00385.0      .0
 7   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00077.00351.00353.0      .0
 8   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00068.00405.00405.0      .0
 9   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00420.00420.0      .0
10   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00068.00220.0      .0
11   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00053.00172.0      .0
12   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00057.00184.0      .0
13   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00059.00273.00273.0      .0
14   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00211.00211.0      .0
15   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00015.00242.0      .0
16   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00267.00269.0      .0
17   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00208.00208.0      .0
18   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00065.00292.00292.0      .0
19   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00287.00289.0      .0
20   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00075.00343.00343.0      .0
21   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00062.00286.00286.0      .0
22   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00278.00276.0      .0
23   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00049.00324.00376.00264.0      .0
24   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00051.00279.00395.00279.0      .0
25   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00066.00363.00510.00360.0      .0
26   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00075.00406.00578.00408.0      .0
27   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00065.00391.00656.00656.00390.0      .0
28   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00085.00513.00857.00857.00510.0      .0
29   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00064.00481.00804.00804.00481.0      .0
30   .0    .0    .0    .0    .0    .0    .0    .0    .00065.00418.00777.00721.00777.00418.0      .0
31   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00464.00665.01024.00664.00465.0      .0
32   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00098.00352.00591.00591.00357.0      .0
33   .0    .0    .0    .0    .0    .0    .0    .0    .0    .00067.00510.00901.00901.00510.0      .0
34   .0    .0    .0    .0    .0    .0    .0    .0    .00101.00653.01215.01439.01214.00653.0      .0
35   .0    .0    .0    .0    .0    .0    .0    .0    .00097.00673.01150.01374.01158.00623.0      .0
36   .0    .0    .0    .0    .0    .0    .0    .0    .00085.00540.01019.01208.01019.00540.0      .0
37   .0    .0    .0    .0    .0    .0    .0    .00050.00338.00672.00882.00882.00672.00338.0      .0
38   .0    .0    .0    .0    .0    .0    .00043.00316.00663.00926.01024.00926.00663.00316.0      .0
39   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0      .0
40   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0      .0
41   .0    .0    .0    .0    .0    .0    .00021.00150.00313.00439.00486.00439.00313.00150.0      .0
42   .0    .0    .0    .0    .0    .0    .00021.00150.00313.00439.00499.00439.00313.00150.0      .0
43   .0    .0    .0    .0    .0    .00094.00309.00861.01234.01509.01465.01218.00861.00389.0      .0
44   .0    .0    .0    .0    .00014.00103.00229.01147.02431.01464.00653.01149.00729.00103.0      .0
45   .0    .0    .0    .00010.00123.00272.00627.00514.00601.00636.00594.01421.01272.00120.0      .0
46   .0    .0    .00017.00112.00106.00491.00649.00755.00792.00755.00649.00491.00306.00132.0      .0
47   .0    .0    .00025.00189.00436.00703.00927.01078.01131.01070.00927.00700.00436.00180.0      .0
48   .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0      .0
```

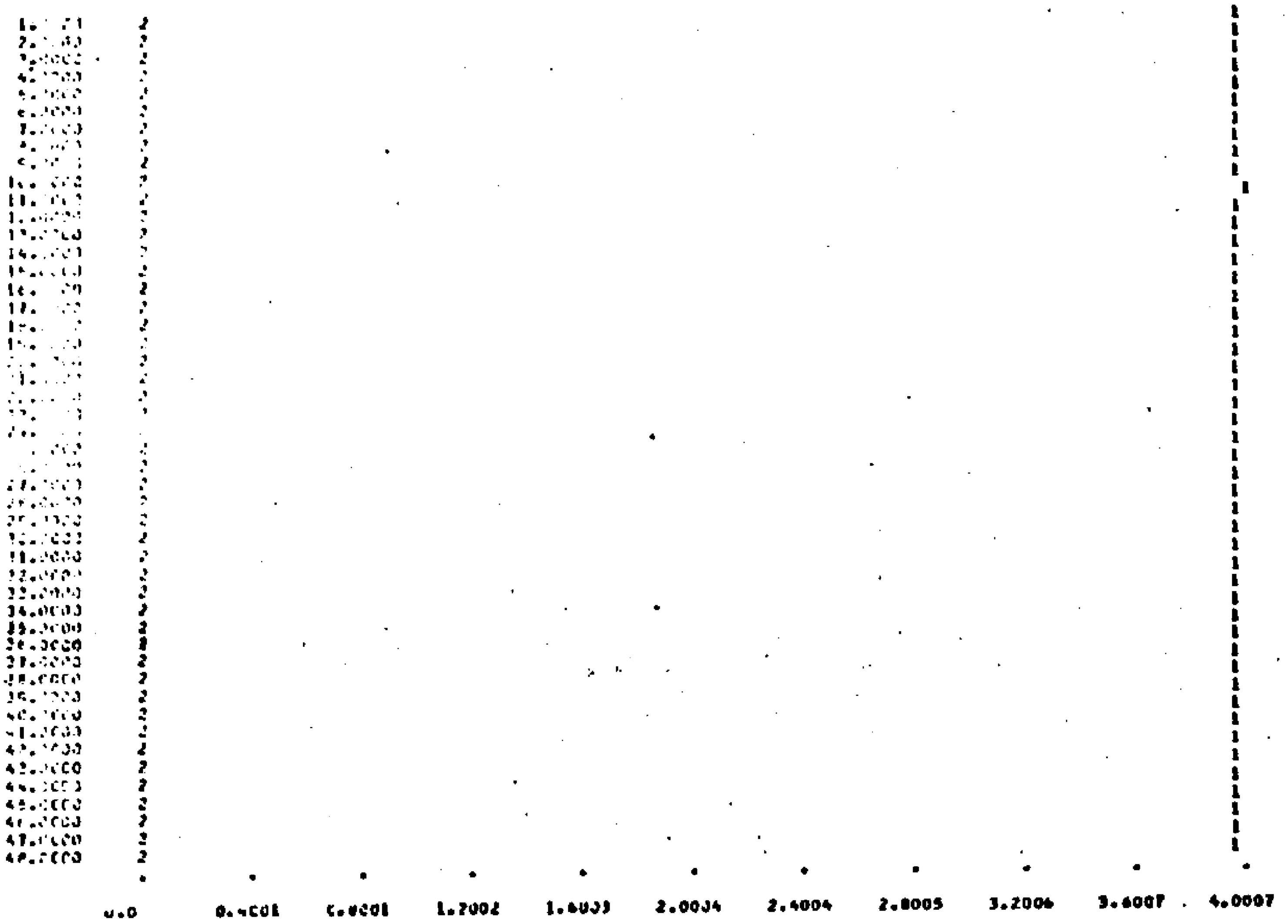
C.C. (1) & A.O.P. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



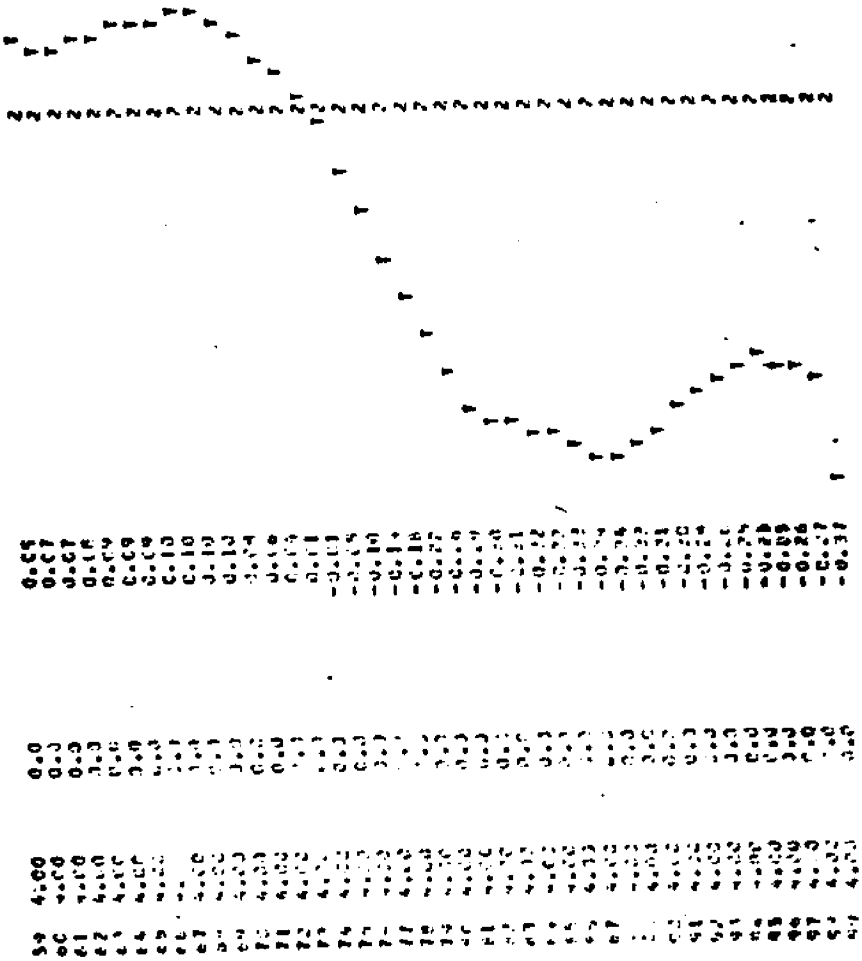
F.C. (1) & A.U.C. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



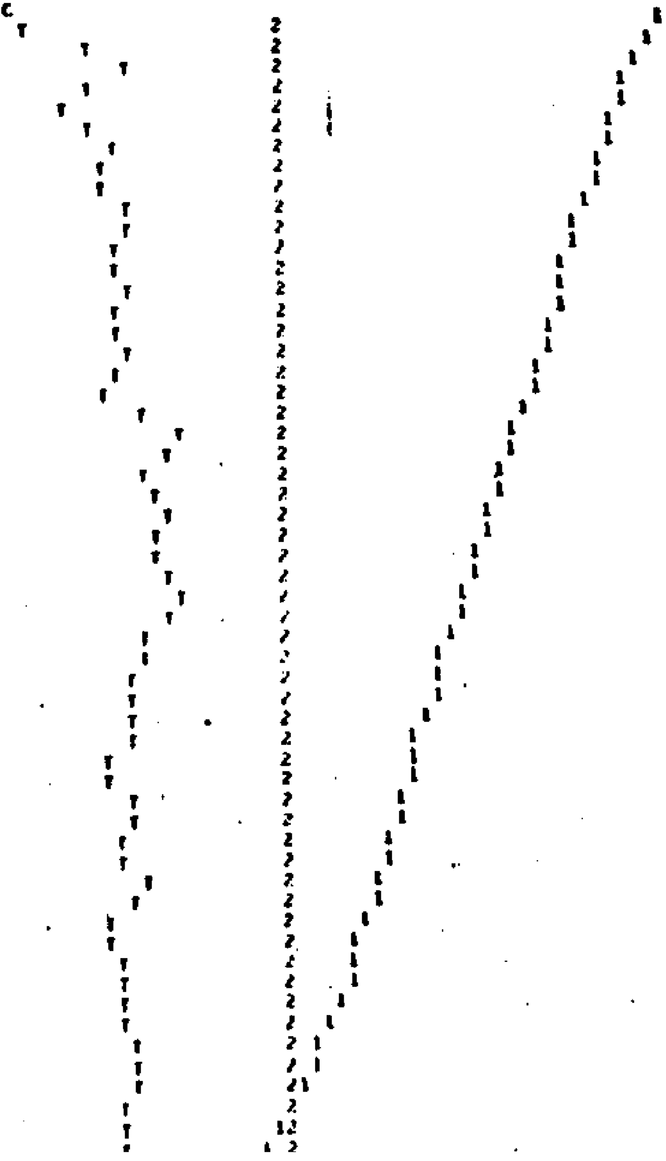
AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
PLOT OF D.O.(1), R.O.D.(2), AND TIDAL VELOCITY (T)FOR GRID N=14  M= 7  TIME STEP= 0.03 HRS.
     D.O.          R.O.D.        TIDAL VELOCITY FT/SEC
  1  4.00          0.0              -0.04
  2  4.00          0.0              -0.04
  3  4.00          0.0              -0.05
  4  4.00          0.0              -0.06
  5  4.00          0.0              -0.06
  6  4.00          0.0              -0.06
  7  4.00          0.0              -0.07
  8  4.00          0.0              -0.08
  9  4.00          0.0              -0.09
 10  4.00          0.0              -0.08
 11  4.00          0.0              -0.08
 12  4.00          0.0              -0.08
 13  4.00          0.0              -0.08
 14  4.00          0.0              -0.09
 15  4.00          0.0              -0.11
 16  4.00          0.0              -0.11
 17  4.00          0.0              -0.11
 18  4.00          0.0              -0.12
 19  4.00          0.0              -0.13
 20  4.00          0.0              -0.14
 21  4.00          0.0              -0.14
 22  4.00          0.0              -0.13
 23  4.00          0.0              -0.14
 24  4.00          0.0              -0.16
 25  4.00          0.0              -0.17
 26  4.00          0.0              -0.18
 27  4.00          0.0              -0.18
 28  4.00          0.0              -0.18
 29  4.00          0.0              -0.19
 30  4.00          0.0              -0.20
 31  4.00          0.0              [illegible]
 32  4.00          0.0              -0.19
 33  4.00          0.0              -0.18
 34  4.00          0.0              -0.19
 35  4.00          0.0              -0.20
 36  4.00          0.0              [illegible]
 37  4.00          0.0              -0.18
 38  4.00          0.0              -0.16
 39  4.00          0.0              -0.14
 40  4.00          0.0              -0.11
 41  4.00          0.0              -0.08
 42  4.00          0.0              -0.04
 43  4.00          0.0              -0.01
 44  4.00          0.0               0.02
 45  4.00          0.0               0.04
 46  4.00          0.0               0.07
 47  4.00          0.0               0.10
 48  4.00          0.0               0.13
 49  4.00          0.0               0.15
 50  4.00          0.0               0.16
 51  4.00          0.0               0.16
 52  4.00          0.0               0.16
 53  4.00          0.0               0.16
 54  4.00          0.0               0.14
 55  4.00          0.0               0.12
 56  4.00          0.0               0.10
 57  4.00          0.0               0.10
```



```
PLOT OF C.O.(1), H.D.O.(2), AND TIDAL VELOCITY (T)FOR GRID N=14  M=45  TIME STEP= 0.03 HRS.
     C.O.        H.D.O.        TIDAL VELOCITY FT/SEC
 1   4.00        2.0           -0.47
 2   4.00        0.0           -0.35
 3   4.00        0.0           -0.29
 4   4.00        0.0           -0.35
 5   4.00        0.0           -0.40
 6   4.00        0.0           -0.35
 7   4.00        0.0           -0.30
 8   4.00        0.0           -0.32
 9   4.00        0.0           -0.33
10   4.00        0.0           -0.28
11   4.00        0.0           -0.27
12   4.00        0.0           -0.31
13   4.00        0.0           -0.30
14   4.00        0.0           -0.28
15   4.00        0.0           -0.29
16   4.00        0.0           -0.30
17   4.00        0.0           -0.25
18   4.00        0.0           -0.29
19   4.00        0.0           -0.31
20   4.00        0.0           -0.25
21   4.00        0.0           -0.18
22   4.00        0.0           -0.21
23   4.00        0.0           -0.16
24   4.00        0.0           -0.23
25   4.00        0.0           -0.19
26   4.00        0.0           -0.22
27   4.00        0.0           -0.[illegible]
28   4.00        0.0           -0.19
29   4.00        0.0           -0.17
30   4.00        0.0           -0.21
31   4.00        0.0           -0.25
32   4.00        0.0           -0.26
33   4.00        0.0           -0.27
34   4.00        0.0           -0.28
35   4.00        0.0           -0.27
36   4.00        0.0           -0.[illegible]
37   4.00        0.0           -0.32
38   4.00        0.0           -0.33
39   4.00        0.0           -0.[illegible]
40   4.00        0.0           -0.[illegible]
41   4.00        0.0           -0.31
42   4.00        0.0           -0.29
43   4.00        0.0           -0.25
44   4.00        0.0           -0.28
45   4.00        0.0           -0.33
46   4.00        0.0           -0.32
47   4.00        0.0           -0.[illegible]
48   4.00        0.0           -0.29
49   4.00        0.0           -0.31
50   4.00        0.0           -0.31
51   4.00        0.0           -0.[illegible]
52   4.00        0.0           -0.27
53   4.00        0.0           -0.28
54   4.00        0.0           -0.30
55   4.00        0.0           -0.20
```



SAMPLE OUTPUT - TDLIDI

(DIMENSIONAL VERTICAL AXIS MODEL)

D.O. - B.O.D. CASE

```
NN      NN      AA      BBBBBB      SSSSSS
NN      NN     AAAA     BBBBBBB    SSSSSSSS
NNN     NN    AA  AA    BB    BB   SS
NNN     NN    AA  AA    BB    BB   SS
NNNN    NN   AA    AA   BBBBBBB    SSSSSSS
NN NN   NN   AAAAAAAA   BBBBBBB     SSSSSSS
NN   NNNN    AAAAAAAA   BB    BB         SS
NN    NNN    AA    AA   BB    BB         SS
NN    NNN    AA    AA   BBBBBBB    SSSSSSSS
NN     NN    AA    AA   BBBBBB      SSSSSS

      DDD   OO          BBB   CC  DDD
      D  D O  O         B  B C    D  D
      D  D O  O   --    BBB  C    D  D
      D  D O  O         B  B C    D  D
      DDD   OO          BBB   CC  DDD


PROGRAM DEVELOPED BY - P. SPAULDING
UNIVERSITY OF RHODE ISLAND  WALES HALL 222C
JUNE 1972
```

COMPUTATIONAL CONTROL NUMBERS

```
ROW      NAC       MHD
  1    1334467    21415
  2    1234567    31315
  3    1234467    41215
  4    1234347    51215
  5    1371247    61215
  6    1244747    71215
  7      93311    81215
  8    1234447    91215
  9    1102747   101315
 10    1112347   111315
 11     120479   121315
 12     121314   131215
 13    1171447   141215
 14    1192147   151315
 15   11142447   161215
 16   11153247   171215
 17          0   181215
 18          0   191215
 19          0   201215
 20          0   211215
 21          0   221215
 22          0   231115
 23          0   241115
 24          0   251115
 25          0   [illegible]
 26          0   261315
 27          0   281315
 28          0   271315
 29          0   301315
 30          0   310315
 31          0   321015
 32          0   331715
 33          0   341715
 34          0   350315
 35          0   360415
 36          0   370815
 37          0   380715
 38          0   390715
 39          0   400715
 40              410715
 41          0   420715
 42          0   430815
 43          0   441515
 44          0   450415
 45          0   461315
 46          0   473115
 47          0        0
 48          0        0

NLST = 17     NTMD = 47
```

```
GRID COMPUTATION FIELD

      1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
  1   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
  2   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   0.
  3   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
  4   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  5   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  6   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  7   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  8   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
  9   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 10   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 11   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 12   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 13   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 14   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 15   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   0.
 16   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 17   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 18   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 19   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 20   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 21   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 22   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.
 23   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 24   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 25   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 26   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   0.
 27   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 28   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 29   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 30   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 31   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 32   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 33   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   0.
 34   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 35   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 36   0.   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   0.
 37   0.   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 38   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 39   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 40   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 41   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 42   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 43   0.   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 44   0.   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 45   0.   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 46   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 47   0.   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 48   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
```

ESTUARY WIDTH MATRIX 1000 FT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	3.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	4.7	4.7	4.7	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	5.9	5.9	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5	4.5	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	6.8	6.8	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.4	5.4	5.4	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3	5.3	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	8.2	8.2	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	5.6	5.6	5.6	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	17.1	17.1	17.1	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	18.0	18.0	18.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.1	20.1	20.1	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	19.1	19.1	19.1	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	20.5	20.5	20.5	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35.8	35.8	35.8	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8	34.8	34.8	34.8	34.8	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	29.4	29.4	29.4	29.4	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.5	31.5	31.5	31.5	31.5	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	31.0	31.0	31.0	31.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.4	35.4	35.4	35.4	35.4	35.4	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	31.3	31.3	31.3	31.3	31.3	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.6	29.6	29.6	29.6	29.6	29.6	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.5	30.5	30.5	33.5	33.5	33.5	30.5	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.5	26.5	26.5	26.5	26.5	26.5	26.5	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	24.8	24.8	24.8	24.8	24.8	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2	34.2	34.2	34.2	34.2	34.2	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	41.4	41.4	41.4	41.4	41.4	41.4	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.4	35.4	35.4	35.4	35.4	35.4	35.4	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.1	28.1	28.1	28.1	28.1	28.1	28.1	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	0.0
43	0.0	0.0	0.0	0.0	0.0	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	0.0
44	0.0	0.0	0.0	0.0	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	0.0
45	0.0	0.0	0.0	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	0.0
46	0.0	0.0	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	0.0
47	0.0	0.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INITIAL CONCENTRATION (MG/L)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	3.9	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.0	3.9	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.9	3.5	4.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.0	3.8	4.1	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.9	3.9	4.2	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	3.1	4.0	4.5	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	3.5	4.1	4.8	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.8	4.3	5.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	5.1	5.5	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	5.1	6.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	5.2	6.1	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.0	5.2	6.2	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.1	5.3	6.3	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	5.4	6.3	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.9	5.5	6.4	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	5.1	5.6	6.5	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	5.1	5.9	6.6	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.7	6.0	6.9	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	5.9	6.4	7.1	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	6.1	6.5	7.2	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	6.4	6.6	7.3	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	6.3	6.5	6.8	7.3	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	6.4	6.7	6.7	7.3	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	6.4	6.7	6.9	7.3	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	6.5	6.8	7.0	7.3	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	6.3	6.6	6.9	7.0	7.3	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	6.4	6.6	6.9	7.0	7.3	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	6.5	6.7	6.9	7.1	7.3	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	6.4	6.5	6.7	7.0	7.1	7.3	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	6.4	6.6	6.8	7.0	7.1	7.3	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	6.5	6.7	6.8	7.0	7.1	7.3	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	6.7	6.9	7.0	7.1	7.3	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	7.2	7.1	7.3	7.4	7.5	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	7.2	7.3	7.4	7.5	7.5	7.5	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	7.4	7.5	7.5	7.5	7.5	7.5	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
43	0.0	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
44	0.0	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
45	0.0	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
46	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
47	0.0	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INITIAL BOD CONCENTRATION (MG/L)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.8	3.8	3.8	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.8	3.8	3.8	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.6	3.6	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.6	3.6	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4	3.4	3.4	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.1	3.1	3.1	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.9	2.9	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8	2.8	2.8	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8	2.8	2.8	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6	2.6	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6	2.6	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4	2.4	2.4	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.8	1.8	1.8	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.0	1.0	1.0	1.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
WASTE LOADS IN 1000 LBS/DAY

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  14.00    0.0    0.0    0.0    0.0
 8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.00    0.0    0.0    0.0    0.0
11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.16    0.0    0.0    0.0
12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.00    0.0    0.0    0.0    0.0
14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.04    0.0    0.0    0.0
15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.00    0.0    0.0    0.0    0.0    0.0
18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.30    0.0    0.0    0.0
24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.27    0.0    0.0    0.0    0.0    0.0    0.0    0.0
32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.03    0.0    0.0    0.0    0.0    0.0    0.0    0.0
36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
37    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
38    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
39    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
40    0.0    0.0    0.0    0.0    0.0    0.0   6.20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
41    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
42    0.0    0.0    0.0    0.0    0.0    0.0   0.29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
43    0.0    0.0    0.0    0.0    0.0   0.11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
44    0.0    0.0    0.0    0.0   0.00    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
45    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
46    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
47    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SOURCES OR SINKS OF DO (MG/L)

        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
  1   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  2   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  3   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  4   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  5   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  6   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  7   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  8   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  9   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 10   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 11   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 12   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 13   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 14   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 15   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 16   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 17   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 18   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 19   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 20   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 21   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 22   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 23   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 24   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 25   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 26   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 27   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 28   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 29   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 30   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 31   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 32   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 33   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 34   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 35   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 36   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 37   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 38   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 39   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 40   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 41   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 42   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 43   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 44   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 45   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 46   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 47   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 48   0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

```
TEMPERATURE FIELD (F)

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  69.6  73.4   0.0
  3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  69.5  73.0   0.0
  4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  69.3  70.0  71.0  72.8   0.0
  5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  69.1  70.0  71.0  72.6   0.0
  6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  68.9  69.0  71.0  72.4   0.0
  7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  68.7  67.7  70.0  72.0   0.0
  8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  68.5  69.1  71.0  71.8   0.0
  9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  68.3  68.2  69.0  71.6   0.0
 10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  67.8  68.5  71.4   0.0
 11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  67.6  69.0  71.2   0.0
 12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  67.4  69.0  71.0   0.0
 13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  67.0  64.3  69.0  70.8   0.0
 14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  66.8  67.8  68.4  71.6   0.0
 15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  66.6  67.8  70.5   0.0
 16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  66.2  67.0  69.0  70.4   0.0
 17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  66.1  67.0  68.8  70.3   0.0
 18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  65.0  67.0  69.0  70.2   0.0
 19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  65.8  65.9  69.3  70.1   0.0
 20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  65.4  65.0  68.8  69.8   0.0
 21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  65.0  64.8  68.5  69.4   0.0
 22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.8  67.8  69.2   0.0
 23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.0  64.7  64.8  67.3  68.9   0.0
 24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.5  64.8  65.6  67.3  68.7   0.0
 25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.5  65.0  66.7  67.1  68.6   0.0
 26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.3  65.0  66.5  67.2  68.4   0.0
 27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  64.0  64.5  65.0  66.0  67.0  68.2   0.0
 28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  63.8  64.1  65.1  66.1  67.1  68.0   0.0
 29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  61.4  64.0  65.0  66.0  67.0  68.0   0.0
 30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  61.2  64.0  65.0  66.0  66.5  67.7  68.0   0.0
 31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  61.3  63.5  64.0  65.0  66.0  67.0  68.0   0.0
 32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.9  64.0  65.0  66.0  67.0  68.0   0.0
 33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.4  64.0  65.0  66.0  67.0  68.0   0.0
 34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.7  62.9  64.0  65.0  66.0  67.0  68.0   0.0
 35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.8  63.0  64.0  65.0  66.0  67.0  68.0   0.0
 36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.8  63.0  64.1  65.0  65.8  67.0  67.8   0.0
 37   0.0   0.0   0.0   0.0   0.0   0.0   0.0  62.8  63.0  63.3  64.1  65.0  65.6  67.0  67.6   0.0
 38   0.0   0.0   0.0   0.0   0.0   0.0  62.8  62.9  61.1  63.2  64.1  64.8  65.4  65.0  67.4   0.0
 39   0.0   0.0   0.0   0.0   0.0   0.0  62.8  62.9  61.8  63.3  64.2  64.7  65.2  66.0  67.2   0.0
 40   0.0   0.0   0.0   0.0   0.0   0.0  62.7  62.9  61.3  63.5  64.2  64.6  65.0  66.0  66.8   0.0
 41   0.0   0.0   0.0   0.0   0.0   0.0  62.7  61.3  63.4  63.7  64.2  64.6  64.6  65.0  66.6   0.0
 42   0.0   0.0   0.0   0.0   0.0   0.0  62.7  63.0  63.4  63.4  64.2  64.6  64.8  65.0  66.6   0.0
 43   0.0   0.0   0.0   0.0   0.0  62.7  62.3  63.0  63.5  64.0  64.2  64.6  64.8  65.0  66.6   0.0
 44   0.0   0.0   0.0   0.0  62.7  62.7  62.8 [illegible] 61.5  64.0  64.2  64.6  64.8  65.0  66.6   0.0
 45   0.0   0.0   0.0   0.0  62.7  62.7  62.8  63.0  61.5  64.0  64.3  64.6  64.6  65.0  66.2   0.0
 46   0.0   0.0  62.7  62.7  62.7  62.8  63.0  63.5  63.5  64.0  64.3  64.8  64.8  65.0  66.2   0.0
 47   0.0   0.0  62.7  62.5  62.7  62.7  63.7  63.0  63.5  63.5  64.3  64.8  65.4  65.7  66.2   0.0
 48   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
TIME AVERAGE SALINITY (T)

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
 1    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 2    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.0  27.0   0.0
 3    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.1  28.0  27.3   0.0
 4    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  29.5  27.6  27.5   0.0
 5    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.2  30.0  27.7  27.5   0.0
 6    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.4  30.0  28.0  28.0   0.0
 7    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.6  30.0  29.0  28.5   0.0
 8    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.8  27.8  28.0  28.7   0.0
 9    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  27.7  28.0  29.2   0.0
10    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.1  29.0  29.5   0.0
11    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.1  29.0  29.5   0.0
12    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.1  30.3  29.7   0.0
13    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.2  31.0  30.5  30.1   0.0
14    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.2  31.0  30.5  30.1   0.0
15    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  30.6  30.2   0.0
16    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  30.8  30.2  30.0   0.0
17    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  31.0  30.2  30.0   0.0
18    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  30.7  30.4  29.9   0.0
19    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.0  30.7  30.5  30.4   0.0
20    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.7  30.7  30.6  30.6   0.0
21    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  30.8  30.8  30.7  30.7   0.0
22    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.1  31.0  30.9  30.8   0.0
23    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.1  31.1  31.0  30.8  30.8   0.0
24    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.2  31.0  30.8  30.8  30.9   0.0
25    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.3  31.1  30.9  30.8  30.8   0.0
26    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.3  31.2  30.8  30.6  31.0   0.0
27    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.5  31.4  31.2  30.5  30.2  30.0   0.0
28    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.5  31.5  31.5  31.5  31.5  31.5   0.0
29    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  31.9  32.7  31.7  32.0  32.2  32.3   0.0
30    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.5  32.4  32.3  32.3  32.3  32.3  32.3   0.0
31    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.2  32.3  32.9  32.7  32.6  32.5  32.4   0.0
32    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.9  32.6  32.7  32.6  32.5  32.4   0.0
33    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.5  32.4  32.4  32.3  32.2  32.3   0.0
34    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.6  32.6  32.5  32.4  32.4  32.3  32.3   0.0
35    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.7  32.6  32.5  32.5  32.6  32.3  32.2   0.0
36    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.7  32.6  32.5  32.4  32.4  32.3  32.2   0.0
37    0.0   0.0   0.0   0.0   0.0   0.0   0.0  32.8  32.7  32.6  32.5  32.4  32.4  32.3  32.2   0.0
38    0.0   0.0   0.0   0.0   0.0   0.0  32.9  32.9  32.7  32.6  32.4  32.3  32.2  32.2  32.1   0.0
39    0.0   0.0   0.0   0.0   0.0   0.0  33.0  33.0  33.0  32.9  32.8  32.8  32.7  32.7  32.6   0.0
40    0.0   0.0   0.0   0.0   0.0   0.0  33.0  33.0  33.0  32.9  33.0  33.0  33.0  32.9  32.8   0.0
41    0.0   0.0   0.0   0.0   0.0   0.0  33.2  33.1  33.0  33.0  33.0  33.0  33.0  33.0  33.0   0.0
42    0.0   0.0   0.0   0.0   0.0   0.0  33.5  33.5  33.1  33.2  33.1  33.0  33.0  33.0  33.0   0.0
43    0.0   0.0   0.0   0.0   0.0  33.7  33.5  33.4  33.3  33.2  33.1  33.0  33.0  32.9  32.8   0.0
44    0.0   0.0   0.0   0.0  32.8  33.7  33.5  33.4  33.3  33.2  33.1  33.0  33.0  33.0  33.0   0.0
45    0.0   0.0   0.0  33.9  33.8  33.6  33.5  33.4  33.3  33.2  33.1  33.0  33.0  33.0  33.0   0.0
46    0.0   0.0  34.0  34.0  33.4  33.6  33.5  33.4  33.3  33.2  33.1  33.0  33.0  33.0  33.0   0.0
47    0.0   0.0  34.0  34.0  33.9  33.6  33.5  33.4  33.3  33.1  33.1  33.0  33.0  33.0  33.0   0.0
48    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER =  1     TIME =   0.03HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.90   3.90    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.90   2.00   3.89    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.09   2.90   3.50   4.00    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.00   3.00   3.80   4.10    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.10   2.80   3.90   4.20    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.50   3.10   4.00   4.40    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.93   3.50   4.10   4.79    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.30   3.80   4.30   5.00    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.50   5.10   5.50    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.70   5.10   5.49    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.90   5.20   6.04    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.90   4.00   5.20   6.19    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.10   4.10   5.30   6.30    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.20   5.40   6.29    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.40   4.90   5.50   6.39    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.63   5.10   5.60   6.44    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.90   5.10   5.90   6.59    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   5.30   5.70   6.00   6.89    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   5.70   5.90   6.40   7.10    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.10   6.30   6.50   7.20    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.30   6.40   6.60   7.24    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.10   6.33   6.50   6.79   7.29    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.10   6.40   6.70   6.91   7.30    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.10   6.40   6.70   6.90   7.29    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.70   6.50   6.80   7.00   7.30    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.10   6.30   6.60   6.90   7.00   7.30    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.20   6.40   6.63   6.90   7.03   7.30    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.30   6.50   6.70   6.90   7.10   7.30    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.30   6.40   6.50   6.70   6.99   7.10   7.30    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.40   6.43   6.61   6.80   7.00   7.10   7.30    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.40   6.70   6.80   7.00   7.10   7.30    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.60   6.70   6.90   7.00   7.10   7.29    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.00   7.00   7.20   7.11   7.30   7.40   7.47    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.20   7.70   7.30   7.40   7.48   7.48   7.48    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.40   7.40   7.48   7.48   7.48   7.48   7.48    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 43     0.0    0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 44     0.0    0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 45     0.0    0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 46     0.0    0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 47     0.0    0.0   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40   7.40    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
CONCENTRATION OF B.O.D. (MG/L)     STEP NUMBER =  1     TIME =    0.03HRS.

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00    4.00     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.80    3.80    3.80    3.80     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.80    3.80    3.80    3.80     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.60    3.60    3.60    3.60     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.60    3.60    3.60    3.60     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.10    3.10    3.10    3.10     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.00    3.00    3.00     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.00    3.00    3.00     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.90    2.90    2.90     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.80    2.80    2.80    2.80     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.80    2.80    2.80    2.80     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.70    2.70    2.70     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.60    2.60    2.60    2.60     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.60    2.60    2.60    2.60     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.40    2.40    2.40    2.40     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.30    2.30    2.30    2.30     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.30    2.30    2.30    2.30     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.10    2.10    2.10    2.10     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.00    2.00    2.00    2.00     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.00    2.00    2.00    2.00    2.00     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.00    2.00    2.00    2.00    2.00     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.80    1.80    1.80    1.80    1.81     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.60    1.60    1.60    1.60    1.61     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.30    1.30    1.30    1.30    1.30    1.31     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.10    1.00    1.00    1.00    1.00    1.01     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.80    0.80    0.80    0.80    0.80    0.81     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.60    0.60    0.60    0.60    0.60    0.60    0.61     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.40    0.40    0.40    0.40    0.40    0.40    0.41     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.20    0.30    0.30    0.30    0.30    0.31     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.10    0.10    0.10    0.10    0.10    0.11     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   -0.00   -0.00   -0.00   -0.00   -0.00    0.00    0.00     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0   -0.00    0.00    0.00   -0.00    0.00    0.00    0.00    0.00     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00    0.00    0.00     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00    0.00    0.00     0.0
 43     0.0     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00     0.0
 44     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00    0.00     0.0
 45     0.0     0.0     0.0    0.00   -0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00   -0.00    0.00     0.0
 46     0.0     0.0   -0.00    0.00    0.00   -0.00    0.00    0.00    0.00   -0.00    0.00    0.00    0.00    0.00    0.00     0.0
 47     0.0     0.0   -0.00   -0.00   -0.00    0.00   -0.00    0.00   -0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
U VELOCITY FIELD (-FLUID) -FPS.     STEP NUMBER =  1     TIME =   0.03MMS.

           1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04    0.0    0.0
  3      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09   0.14    0.0
  4      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03  -0.03   0.04    0.0
  5      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03  -0.03   0.01    0.0
  6      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03  -0.03   0.07    0.0
  7      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04  -0.04   0.10    0.0
  8      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.24    0.0
  9      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04   0.04    0.0
 10      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06   0.09    0.0
 11      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09   0.16    0.0
 12      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10   0.16    0.0
 13      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.23    0.0
 14      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.05  -0.05   0.07    0.0
 15      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10   0.18    0.0
 16      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.14  -0.14  -0.14   0.40    0.0
 17      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10   0.26    0.0
 18      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13   0.35    0.0
 19      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.11  -0.11  -0.11   0.27    0.0
 20      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09   0.22    0.0
 21      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06  -0.06   0.15    0.0
 22      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.08  -0.08  -0.08   0.20    0.0
 23      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25   0.94    0.0
 24      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.17  -0.17  -0.17  -0.17   0.66    0.0
 25      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.24  -0.24  -0.24  -0.24   0.94    0.0
 26      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25   0.97    0.0
 27      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.04    0.0
 28      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23   1.12    0.0
 29      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.08    0.0
 30      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25   1.46    0.0
 31      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.21  -0.21  -0.21  -0.21  -0.21   1.01    0.0
 32      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23   1.13    0.0
 33      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22   1.04    0.0
 34      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22   1.27    0.0
 35      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27   1.55    0.0
 36      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30   1.81    0.0
 37      0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.34  -0.34  -0.34  -0.34  -0.34  -0.34  -0.34   2.35    0.0
 38      0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   3.31    0.0
 39      0.0    0.0    0.0    0.0    0.0    0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41   3.28    0.0
 40      0.0    0.0    0.0    0.0    0.0    0.0  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40  -0.40   3.20    0.0
 41      0.0    0.0    0.0    0.0    0.0    0.0  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44   3.61    0.0
 42      0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.10  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30   2.45    0.0
 43      0.0    0.0    0.0    0.0    0.0  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45   4.11    0.0
 44      0.0    0.0    0.0    0.0  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63  -0.63   6.49    0.0
 45      0.0    0.0    0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47   5.21    0.0
 46      0.0    0.0  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26   3.44    0.0
 47      0.0    0.0  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08  -0.08   1.04    0.0
 48      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
 W VELOCITY FIELD -FPS.     STEP NUMBER =  1     TIME =    0.03HRS.
         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00020.0    0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0000-.0001-.00020.0    0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0000-.00010.0    0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.00020.0    0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01300.01001.00400.0    0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.00020.0    0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0001-.00010.0    0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.0    0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.0    0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.0    0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.00010.0    0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0007-.00030.0    0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00030.0    0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00020.00020.0    0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00020.00030.0    0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.00020.0    0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.00010.0    0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.00010.0    0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.00010.0    0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00020.00020.0    0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00040.00070.00090.00120.0    0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0003-.0005-.00070.0    0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00030.00040.00060.0    0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.00010.00010.0    0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00040.00010.00010.00030.00020.0    0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0000-.0000-.0001-.00010.0    0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.0001-.0001-.00020.0    0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00040.00050.00050.00060.00060.00070.0    0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0004-.0005-.0007-.0004-.0005-.00100.0    0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00001.00001.00010.00010.0    0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.00020.00030.00040.0    0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00040.00040.00050.00060.00070.00070.0    0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.00010.00010.00010.00010.0    0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0000-.0000-.0001-.0001-.0002-.00020.0    0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00060.00060.00060.00060.00060.00060.00060.0    0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0    0.00070.00080.00100.00110.00120.00140.00150.00160.0    0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0    -.0003-.0003-.0004-.0006-.0007-.0009-.0011-.00120.0    0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0000-.0000-.0001-.0001-.0001-.0001-.00010.0    0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0    0.0000-.0000-.0001-.0002-.0002-.0003-.0003-.00040.0    0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0    -.0002-.0003-.0007-.0010-.0012-.0015-.0018-.00200.0    0.0
 43    0.0    0.0    0.0    0.0    0.0    0.0    0.00073.00173.00160.00203.00240.00281.00323.00360.00400.0    0.0
 44    0.0    0.0    0.0    0.0    0.0    0.00100.00040.00033.00090.00060.00080.00070.00070.00060.00060.0    0.0
 45    0.0    0.0    0.0    0.0    0.00020.00080.00090.00100.00110.00130.00120.00130.00140.00150.00160.0    0.0
 46    0.0    0.0    0.0    0.0004-.0002-.0010-.0014-.0026-.0034-.0042-.0050-.0058-.0066-.0074-.00820.0    0.0
 47    0.0    0.0    -.0003-.0004-.0006-.0008-.0009-.0011-.0013-.0014-.0016-.0018-.0019-.00210.0    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)      STEP NUMBER =  1      TIME =   0.03HRS

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.76    0.0    0.0
 3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.54   2.54   3.81    0.0
 4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.03   1.03   1.03   1.50    0.0
 5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.98   0.98   0.98   0.48    0.0
 6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.08   1.08   1.08   2.51    0.0
 7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.38   1.38   1.38   3.36    0.0
 8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.00   3.00   3.00   8.19    0.0
 9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.31   1.31   1.39    0.0
10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.53   1.53   2.29    0.0
11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.49   2.49   4.20    0.0
12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.55   2.55   4.15    0.0
13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.03   3.03   3.03   7.99    0.0
14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.72   1.72   2.36    0.0
15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.59   2.59   4.64    0.0
16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.69   4.69   4.69  13.83    0.0
17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.51   3.51   3.51   8.90    0.0
18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.52   4.52   4.52  11.93    0.0
19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.57   3.57   3.57   9.03    0.0
20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.00   3.00   3.00   7.31    0.0
21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.12   2.12   2.12   4.99    0.0
22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.76   2.76   2.76   6.84    0.0
23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.21  10.21  10.21  10.21  39.34    0.0
24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   6.94   6.94   6.94   6.94  26.61    0.0
25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   9.87   9.87   9.87   9.87  38.15    0.0
26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.19  10.19  10.19  10.19  39.28    0.0
27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.41  10.41  10.41  10.41  10.41  49.99    0.0
28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.87  10.87  10.87  10.87  10.87  52.76    0.0
29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.44  10.44  10.44  10.44  10.44  50.84    0.0
30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  13.55  13.55  13.55  13.55  13.55  13.55  79.57    0.0
31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  11.07  11.07  11.07  11.07  11.07  54.41    0.0
32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.68  10.68  10.68  10.68  10.68  52.53    0.0
33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  10.26  10.26  10.26  10.26  10.26  49.15    0.0
34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  12.02  12.02  12.02  12.02  12.02  12.02  65.10    0.0
35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  14.29  14.29  14.29  14.29  14.29  14.29  83.25    0.0
36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  16.39  16.39  16.39  16.39  16.39  16.39  97.03    0.0
37    0.0    0.0    0.0    0.0    0.0    0.0    0.0  20.46  20.46  20.46  20.46  20.46  20.46  20.46142.41    0.0
38    0.0    0.0    0.0    0.0    0.0    0.0  27.83  27.83  27.83  27.83  27.83  27.83  27.83  27.83221.63    0.0
39    0.0    0.0    0.0    0.0    0.0    0.0  26.90  26.90  26.90  26.90  26.90  26.90  26.90  26.90217.32    0.0
40    0.0    0.0    0.0    0.0    0.0    0.0  26.24  26.24  26.24  26.24  26.24  26.24  26.24  26.24211.98    0.0
41    0.0    0.0    0.0    0.0    0.0    0.0  29.22  29.22  29.22  29.22  29.22  29.22  29.22  29.22238.99    0.0
42    0.0    0.0    0.0    0.0    0.0    0.0  19.61  19.61  19.61  19.61  19.61  19.61  19.61  19.61162.55    0.0
43    0.0    0.0    0.0    0.0    0.0  33.05  33.05  33.05  33.05  33.05  33.05  33.05  33.05  33.05300.13    0.0
44    0.0    0.0    0.0    0.0  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96  49.96512.25    0.0
45    0.0    0.0    0.0  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11  40.11441.92    0.0
46    0.0    0.0  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74  23.74311.76    0.0
47    0.0    0.0   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84   6.84  93.41    0.0
48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)      STEP NUMBER =  1      TIME =   0.03HRS

       1       2       3       4       5       6       7       8       9       10      11      12      13      14      15      16
  1   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0
  2   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00012.0        .0
  3   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00023.00075.0        .0
  4   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00006.00028.00028.0        .0
  5   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00006.00027.00027.0        .0
  6   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00007.00030.00030.0        .0
  7   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00008.00039.00039.0        .0
  8   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00018.00084.00084.0        .0
  9   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00037.00037.0        .0
 10   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00015.00048.0        .0
 11   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00023.00076.0        .0
 12   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00076.00077.0        .0
 13   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00018.00081.00083.0        .0
 14   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00044.00048.0        .0
 15   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00025.00041.0        .0
 16   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00028.00173.00128.0        .0
 17   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00021.00078.00078.0        .0
 18   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00028.00175.00126.0        .0
 19   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00022.00103.00130.0        .0
 20   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00018.00084.00084.0        .0
 21   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00013.00099.00097.0        .0
 22   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00117.00277.00277.0        .0
 23   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00043.00234.00332.00234.0        .0
 24   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00031.00162.00213.00162.0        .0
 25   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00042.00230.00326.00230.0        .0
 26   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .00044.00238.00337.00238.0        .0
 27   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00033.00197.00330.00333.00197.0        .0
 28   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00035.00204.00350.00350.00208.0        .0
 29   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00033.00200.00336.00336.00200.0        .0
 30   .0      .0      .0      .0      .0      .0      .0      .0      .00035.00212.00395.00464.00395.00212.0        .0
 31   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00117.00326.00347.00326.00176.0        .0
 32   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00014.00207.00349.00347.00207.0        .0
 33   .0      .0      .0      .0      .0      .0      .0      .0      .0      .00031.00197.00330.00330.00197.0        .0
 34   .0      .0      .0      .0      .0      .0      .0      .0      .00029.00155.00353.00515.00353.00188.0        .0
 35   .0      .0      .0      .0      .0      .0      .0      .0      .00035.00227.00422.00540.00422.00227.0        .0
 36   .0      .0      .0      .0      .0      .0      .0      .0      .00040.00260.00481.00573.00481.00260.0        .0
 37   .0      .0      .0      .0      .0      .0      .0      .01040.00267.00534.00701.00701.00534.00267.0        .0
 38   .0      .0      .0      .0      .0      .0      .00044.00310.00647.00909.01005.00909.00647.00310.0        .0
 39   .0      .0      .0      .0      .0      .0      .00041.00303.00637.01144.00581.00486.00632.00303.0        .0
 40   .0      .0      .0      .0      .0      .0      .00042.00295.00616.00965.00957.00865.00616.00275.0        .0
 41   .0      .0      .0      .0      .0      .0      .00047.00329.00656.00965.01065.00963.00656.00329.0        .0
 42   .0      .0      .0      .0      .0      .0      .00031.00221.00461.00696.00711.00646.00461.00221.0        .0
 43   .0      .0      .0      .0      .0      .00044.00311.00686.01037.01192.01192.01007.00685.00316.0        .0
 44   .0      .0      .0      .0      .00056.00415.00922.01407.01744.01804.01744.01407.00922.00415.0        .0
 45   .0      .0      .0      .00015.00292.00663.01041.01339.01503.01533.01339.01041.00663.00292.0        .0
 46   .0      .0      .00020.00152.00353.00566.00747.00872.00914.00872.00747.00566.00353.00152.0        .0
 47   .0      .0      .00006.00044.00102.00164.00217.00251.00265.00251.00217.00164.00102.00044.0        .0
 48   .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0      .0
```

```
REAERATION COEFFICIENTS X 100000 (1/SEC)     STEP NUMBER =  1     TIME =   0.03HRS

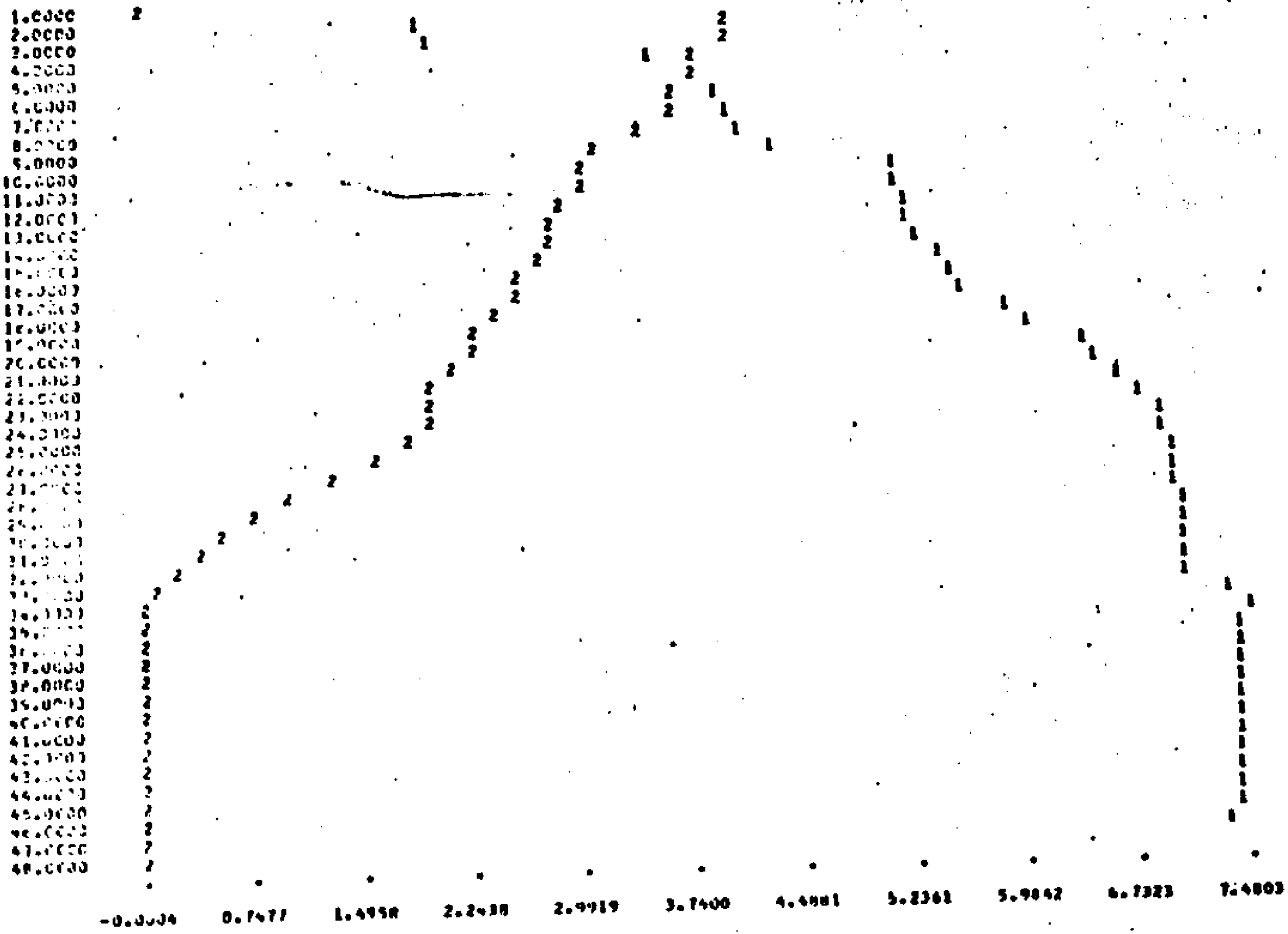
        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.12   0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.03   0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01   0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.04   0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.06   0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.14   0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.07   0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.13   0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.13   0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.14   0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.04   0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.14   0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.25   0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.15   0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.21   0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.16   0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.13   0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.68   0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.12   0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.46   0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.31   0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.45   0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.46   0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.41   0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.43   0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.41   0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.49   0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.32   0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.43   0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.40   0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.42   0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.51   0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.60   0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.69   0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.87   0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.85   0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.83   0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.94   0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.61   0.0
 43    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.97   0.0
 44    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.44   0.0
 45    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.00   0.0
 46    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.57   0.0
 47    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.15   0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
ROD DECAY COEFFICIENTS X 1000000 (1/SEC)      STEP NUMBER =  1     TIME =   0.03MS

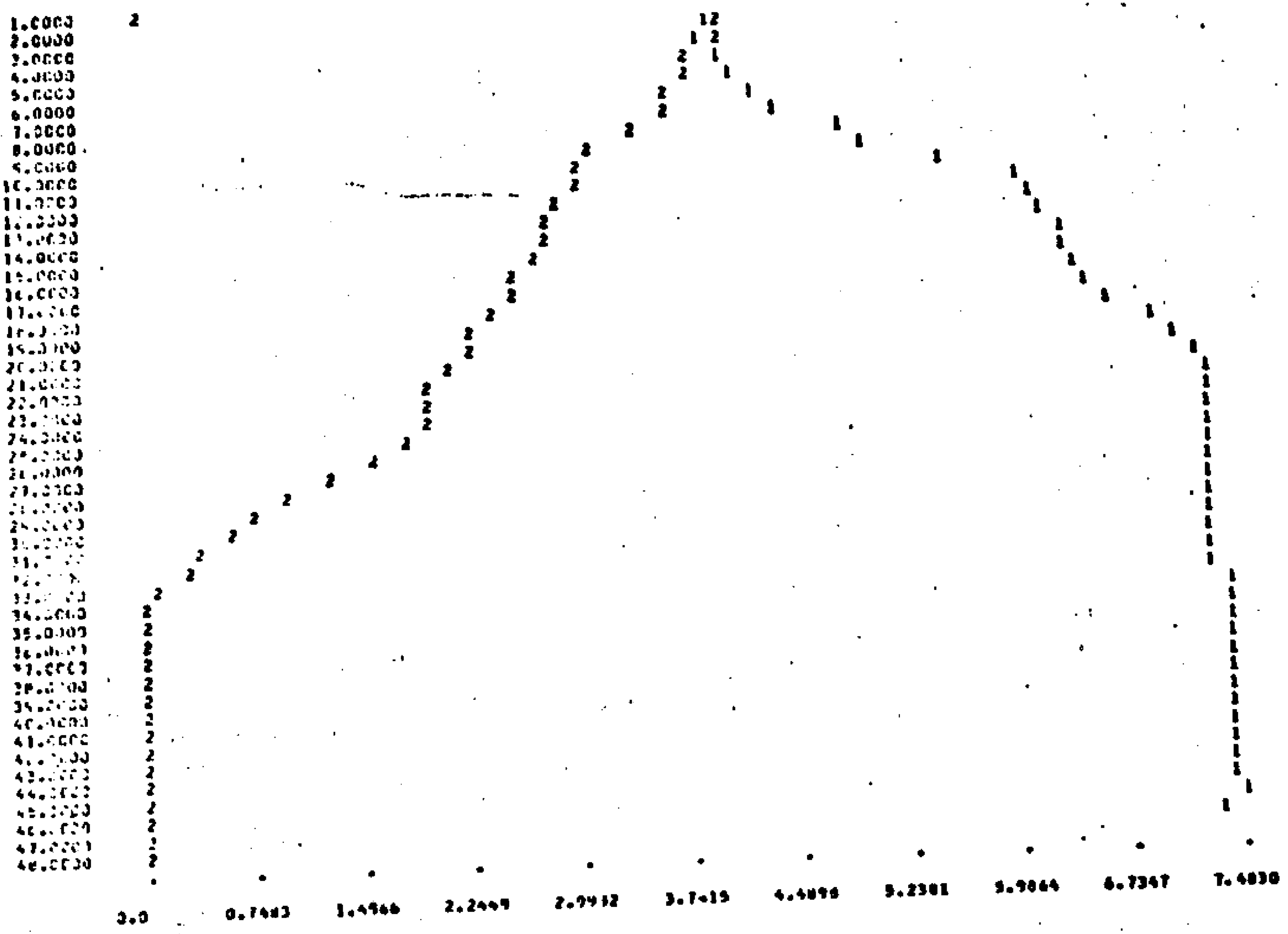
          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 43     0.0    0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 44     0.0    0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 45     0.0    0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 46     0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 47     0.0    0.0    3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                         0.0
                         7.1717
                         7.1848
                         7.1891
                         7.2025
                         7.1932
                         7.1974
                         7.2017
                         7.1924
                         7.1922
                         7.2058
                         7.2102
                         7.2054
                         7.1511
                         7.2214
                         7.2376
                         7.2445
                         7.2561
                         7.2491
                         7.2512
                         7.2745
                         7.2839
                         7.3051
                         7.3146
                         7.3265
                         7.3383
                         7.3434
                         7.3362
                         7.2579
                         7.2579
                         7.2531
                         7.2531
                         7.2479
                         7.2479
                         7.3077
                         7.3171
                         7.3315
                         7.3508
                         7.3412
                         7.3607
                         7.3657
                         7.3657
                         7.3754
                         7.3657
                         7.3952
                         7.3952
                         7.3952
                         0.0
```

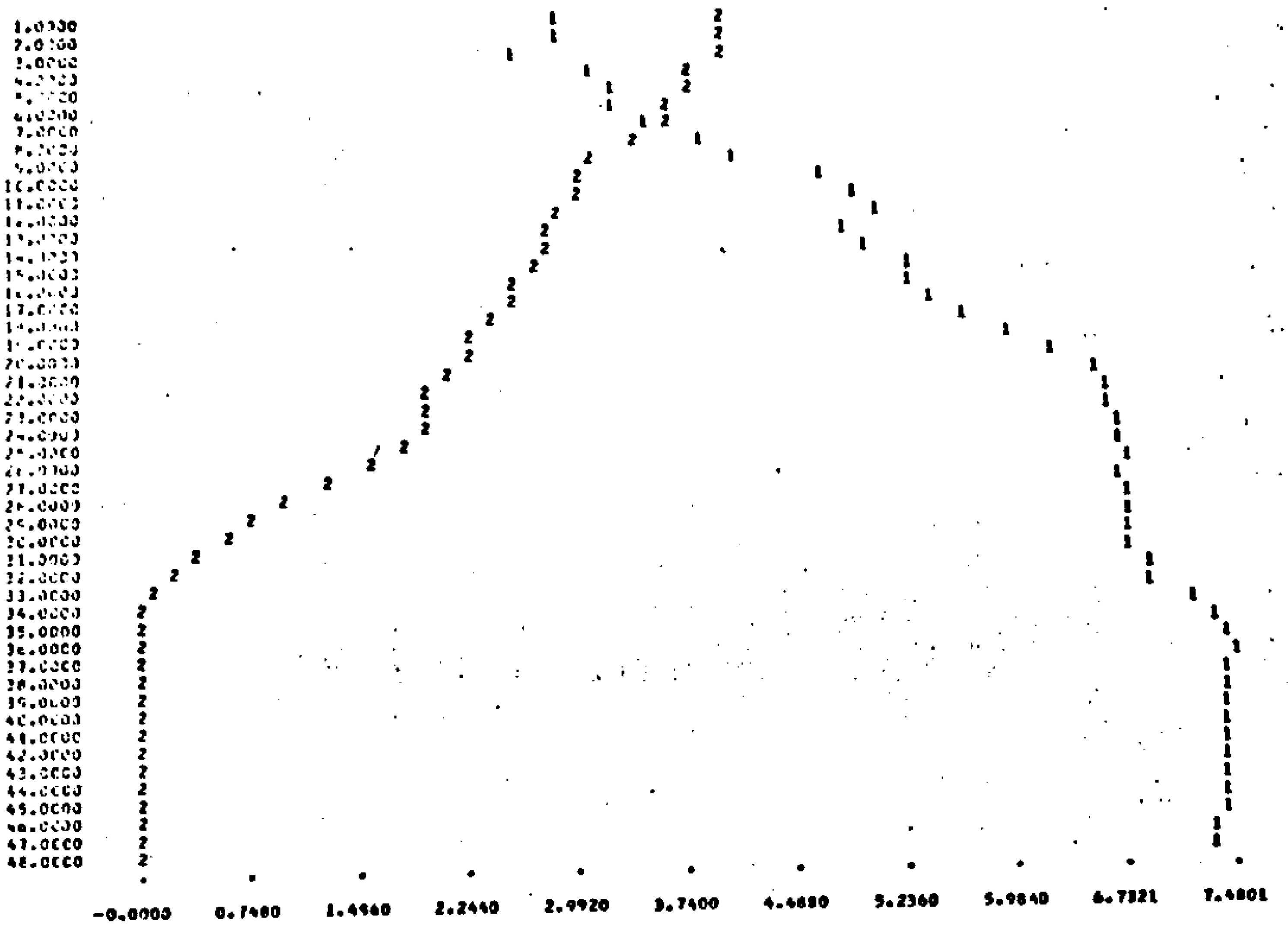
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 50     TIME =   1.67HRS.

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.90  3.90  0.0
  3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.09  2.42  2.73  0.0
  4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.89  3.33  4.00  3.58  0.0
  5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.03  3.05  3.73  3.98  0.0
  6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.36  2.73  3.53  3.90  0.0
  7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.53  3.23  3.83  4.14  0.0
  8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.96  3.61  4.01  4.34  0.0
  9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.34  3.94  4.42  4.78  0.0
 10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.49  4.93  5.21  0.0
 11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.82  5.09  5.56  0.0
 12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.00  5.25  5.81  0.0
 13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.86  4.16  5.02  5.80  0.0
 14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.08  4.40  5.58  6.25  0.0
 15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.21  5.75  5.98  0.0
 16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.34  4.95  5.42  6.05  0.0
 17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.61  5.08  5.46  6.06  0.0
 18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.94  5.76  5.84  6.27  0.0
 19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.15  5.78  6.08  6.53  0.0
 20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.73  6.02  6.52  6.94  0.0
 21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.09  6.31  6.53  7.08  0.0
 22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.27  6.38  6.56  7.12  0.0
 23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.05  6.27  6.46  6.67  7.01  0.0
 24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.09  6.45  6.73  6.96  7.21  0.0
 25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.08  6.41  6.64  6.83  7.11  0.0
 26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.20  6.54  6.78  6.96  7.18  0.0
 27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.07  6.31  6.58  6.80  6.96  7.18  0.0
 28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.21  6.44  6.65  6.85  7.00  7.21  0.0
 29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.31  6.51  6.72  6.90  7.08  7.25  0.0
 30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.29  6.40  6.52  6.69  6.88  7.03  7.20  0.0
 31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.40  6.47  6.69  6.87  7.33  7.15  7.28  0.0
 32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.52  6.73  6.92  6.96  7.06  7.25  0.0
 33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.65  6.78  6.72  7.02  7.10  7.18  0.0
 34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.02  7.07  7.19  7.23  7.29  7.38  7.36  0.0
 35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.24  7.26  7.36  7.42  7.47  7.48  7.45  0.0
 36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.43  7.44  7.47  7.47  7.48  7.48  7.47  0.0
 37   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.47  7.49  7.49  7.48  7.48  7.48  7.47  0.0
 38   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.58  7.48  7.46  7.48  7.48  7.48  7.46  7.47  0.0
 39   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.48  7.48  7.48  7.48  7.44  7.48  7.48  7.47  0.0
 40   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.48  7.48  7.48  7.48  7.49  7.48  7.48  7.47  0.0
 41   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.58  7.48  7.48  7.48  7.43  7.48  7.48  7.47  0.0
 42   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.49  7.44  7.58  7.48  7.41  7.48  7.49  7.47  0.0
 43   0.0   0.0   0.0   0.0   0.0   7.44  7.48  7.48  7.49  7.49  7.41  7.42  7.48  7.48  7.46  0.0
 44   0.0   0.0   0.0   0.0   7.48  7.44  7.48  7.46  7.44  7.44  7.44  7.44  7.48  7.48  7.49  0.0
 45   0.0   0.0   0.0   7.48  7.48  7.43  7.48  7.48  7.48  7.43  7.44  7.48  7.48  7.48  7.46  0.0
 46   0.0   0.0   7.46  7.47  7.47  7.47  7.47  7.47  7.47  7.47  7.44  7.48  7.49  7.48  7.49  0.0
 47   0.0   0.0   7.43  7.40  7.40  7.40  7.40  7.40  7.40  7.40  7.40  7.43  7.40  7.40  7.40  0.0
 48   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
CONCENTRATION OF N.O.D. (MG/L)     STEP NUMBER = 50     TIME =   1.67HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1    1.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   4.00   4.00    0.0
 3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.87   3.87   3.94    0.0
 4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.72   3.67   3.78   3.84    0.0
 5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.71   3.72   3.72   3.73    0.0
 6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.52   3.52   3.52   3.52    0.0
 7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.51   3.51   3.52   3.54    0.0
 8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.26   3.28   3.31   3.42    0.0
 9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.01   3.01   3.02   3.10    0.0
10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.93   2.94   2.95    0.0
11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.92   2.93   2.95    0.0
12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.81   2.81   2.87    0.0
13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.74   2.73   2.74   2.76    0.0
14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.74   2.74   2.74   2.75    0.0
15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.63   2.63   2.66    0.0
16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.55   2.54   2.54   2.56    0.0
17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.52   2.52   2.52   2.59    0.0
18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.32   2.32   2.33   2.42    0.0
19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.24   2.24   2.25   2.30    0.0
20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.24   2.24   2.25   2.28    0.0
21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   2.04   2.04   2.05   2.09    0.0
22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.96   1.96   1.96   1.97    0.0
23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.95   1.96   1.96   1.96   1.96    0.0
24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.95   1.95   1.95   1.95   1.98    0.0
25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.73   1.73   1.73   1.74   1.83    0.0
26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.52   1.52   1.52   1.54   1.69    0.0
27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.26   1.22   1.22   1.22   1.24   1.44    0.0
28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   1.33   0.94   0.94   0.94   0.96   1.16    0.0
29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.74   0.75   0.75   0.75   0.77   0.93    0.0
30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.57   0.55   0.55   0.55   0.55   0.56   0.73    0.0
31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.37   0.36   0.37   0.37   0.37   0.40   0.55    0.0
32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.17   0.26   0.27   0.27   0.27   0.40    0.0
33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.38   0.07   0.07   0.07   0.08   0.22    0.0
34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.03  -0.01  -0.01  -0.01  -0.01  -0.01   0.06    0.0
35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.00   0.00   0.00   0.00   0.00   0.00   0.01    0.0
36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.00  -0.00  -0.00  -0.00   0.00   0.00   0.00    0.0
37    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.00   0.00   0.00   0.00   0.00  -0.00  -0.00   0.00    0.0
38    0.0    0.0    0.0    0.0    0.0    0.0   0.00   0.00   0.00  -0.00  -0.00   0.00   0.00   0.00   0.00    0.0
39    0.0    0.0    0.0    0.0    0.0    0.0   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
40    0.0    0.0    0.0    0.0    0.0    0.0   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
41    0.0    0.0    0.0    0.0    0.0    0.0  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00   0.00   0.00   0.00    0.0
42    0.0    0.0    0.0    0.0    0.0    0.0   0.00  -0.00  -0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
43    0.0    0.0    0.0    0.0    0.0   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00   0.00    0.0
44    0.0    0.0    0.0    0.0   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00   0.00    0.0
45    0.0    0.0    0.0   0.00  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00  -0.00   0.00    0.0
46    0.0    0.0  -0.00   0.00   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00   0.00   0.00   0.00   0.00    0.0
47    0.0    0.0   0.00  -0.00  -0.00   0.00   0.00   0.00   0.00   0.00   0.00  -0.00  -0.00  -0.00   0.00    0.0
48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
U VELOCITY FIELD (-FLUXID) -FPS.      STEP NUMBER = 50     TIME =   1.67HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02    0.0    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.03  -0.03   0.03    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.04   0.04   0.04  -0.17    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.11   0.11   0.11  -0.40    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.12   0.12   0.12  -0.33    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.16   0.16   0.16  -0.44    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.25   0.25   0.25  -0.73    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.05  -0.03    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.08   0.09  -0.10    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.09   0.09  -0.11    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.05   0.05  -0.03    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.06   0.06   0.06  -0.11    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02   0.11    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.00  -0.03   0.05    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01   0.03    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.03   0.03   0.03  -0.06    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.04   0.04   0.04  -0.10    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01  -0.01    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02   0.09    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02   0.09    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06  -0.06   0.18    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   0.01   0.01   0.01   0.01  -0.04    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.07    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.06    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.01  -0.01  -0.01  -0.01   0.05    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.02  -0.02  -0.02  -0.02  -0.02   0.10    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04  -0.04  -0.04  -0.04  -0.04   0.20    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.06  -0.06  -0.06  -0.06  -0.06   0.30    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.55    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.07  -0.07  -0.07  -0.07  -0.07   0.37    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09   0.50    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.08  -0.08  -0.08  -0.08  -0.08   0.40    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.51    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10   0.62    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.59    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10  -0.10   0.71    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09  -0.09   0.74    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14  -0.14   1.16    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13   1.07    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23   1.88    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13   1.13    0.0
 43     0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.83    0.0
 44     0.0    0.0    0.0    0.0  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36  -0.36   3.68    0.0
 45     0.0    0.0    0.0  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31  -0.31   3.38    0.0
 46     0.0    0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22   2.86    0.0
 47     0.0    0.0  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12   1.52    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
W VELOCITY FIELD -FPS.     STEP NUMBER = 50     TIME =    1.47HRS.
       1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
 1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.00000.00000.0      0.0
 4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0031-.0002-.00030.0      0.0
 5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0001-.0001-.00010.0      0.0
 6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0032-.0005-.00000.0      0.0
 7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0010-.00000.00000.0      0.0
 8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0031-.0007-.00010.0      0.0
 9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00040.00050.00000.0      0.0
10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0001-.00010.0      0.0
11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00030.00000.0      0.0
12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.0      0.0
13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0031-.0001-.00010.0      0.0
14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00310.00020.00040.0      0.0
15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.00000.0      0.0
16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0030-.0006-.00010.0      0.0
17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0031-.0001-.00020.0      0.0
18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.0000-.00010.0      0.0
19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00030.00010.00010.0      0.0
20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.00020.0      0.0
21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00100.00030.00000.0      0.0
22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00020.00010.0      0.0
23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.0011-.0003-.00040.0      0.0
24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00000.00100.00010.00020.0      0.0
25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.0000-.0000-.00000.0      0.0
26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0001-.0000-.0000-.00000.0      0.0
27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00000.00100.00110.00010.00010.0      0.0
28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00000.00010.00010.00010.00010.0      0.0
29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.00010.00010.00020.0      0.0
30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.00010.00010.00040.00040.0      0.0
31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0001-.0002-.0002-.0001-.0004-.00040.0      0.0
32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00000.00010.00010.00010.00020.0      0.0
33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.00000.00000.00000.00010.00010.0      0.0
34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00020.00020.00030.00030.00030.0      0.0
35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00000.00000.00000.00100.00000.00000.0      0.0
36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.0001-.0001-.0002-.0002-.00030.0      0.0
37   0.0   0.0   0.0   0.0   0.0   0.0   0.0 0.00070.00020.00010.00010.00010.00010.00010.0      0.0
38   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.00010.00010.00010.00010.00010.00010.0      0.0
39   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00010.00010.00020.00020.00030.00030.00030.0      0.0
40   0.0   0.0   0.0   0.0   0.0   0.0-.0000-.0000-.0001-.0001-.0001-.0001-.0001-.00010.0      0.0
41   0.0   0.0   0.0   0.0   0.0   0.0 0.00010.00020.00030.00050.00060.00070.00080.00090.0      0.0
42   0.0   0.0   0.0   0.0   0.0   0.0-.0002-.0003-.0005-.0006-.0008-.0010-.0011-.00130.0      0.0
43   0.0   0.0   0.0   0.0   0.0 0.00030.00050.00070.00090.00100.00120.00140.00150.00170.0      0.0
44   0.0   0.0   0.0   0.0 0.00060.00060.00070.00080.00090.00100.00110.00120.00120.00130.0      0.0
45   0.0   0.0   0.0 0.00050.00060.00070.00090.00100.00110.00120.00130.00150.00160.00170.0      0.0
46   0.0   0.0 0.0004-.0000-.0005-.0010-.0014-.0019-.0023-.0026-.0033-.0037-.0042-.00470.0      0.0
47   0.0   0.0-.0001-.0001-.0007-.0002-.0002-.0003-.0003-.0003-.0003-.0004-.0004-.00040.0      0.0
48   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER = 50     TIME =   1.67HRS

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.42     0.0     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.79    0.79    0.89     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.55    1.55    1.55    5.85     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.61    3.61    3.61   13.59     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.15    4.15    4.15   11.18     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.29    5.29    5.29   14.90     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    8.36    8.36    8.36   24.51     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.85    1.85    0.50     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.17    2.17    2.61     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.39    2.39    2.79     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.25    1.25    0.78     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.14    2.14    2.14    3.81     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.57    0.57    3.73     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.05    0.05    1.38     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.52    0.52    0.52    6.55     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.04    1.04    1.04    2.17     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.42    1.42    1.42    3.30     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.44    0.44    0.44    0.39     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.64    0.64    0.64    2.88     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.71    0.71    0.71    3.13     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.96    1.96    1.96    6.22     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.58    0.58    0.58    0.58    1.84     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.57    0.57    0.57    0.57    2.78     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.45    0.45    0.45    0.45    2.24     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.41    0.41    0.41    0.41    2.04     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.86    0.86    0.86    0.86    0.86    4.76     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.75    1.75    1.75    1.75    1.75    9.30     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.74    2.74    2.74    2.74    2.74   14.34     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.84    4.84    4.84    4.84    4.84    4.84   29.72     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.71    3.71    3.71    3.71    3.71   15.45     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.43    4.43    4.43    4.43    4.43   23.18     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.73    3.73    3.73    3.73    3.73   18.81     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.68    4.68    4.68    4.68    4.68    4.68   27.84     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.54    5.54    5.54    5.54    5.54    5.54   33.33     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.11    5.11    5.11    5.11    5.11    5.11   31.50     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0    6.01    6.01    6.01    6.01    6.01    6.01    6.01   43.38     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0    6.02    6.02    6.02    6.02    6.02    6.02    6.02    6.02   49.56     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0    9.28    9.28    9.28    9.28    9.28    9.28    9.28    9.28   76.65     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0    8.55    8.55    8.55    8.55    8.55    8.55    8.55    8.55   70.80     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0   15.11   15.11   15.11   15.11   15.11   15.11   15.11   15.11  124.67     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0    8.88    8.88    8.88    8.88    8.88    8.88    8.88    8.88   75.08     0.0
 43     0.0     0.0     0.0     0.0     0.0   14.52   14.52   14.52   14.52   14.52   14.52   14.52   14.52   14.52  133.19     0.0
 44     0.0     0.0     0.0     0.0   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26   28.26  240.25     0.0
 45     0.0     0.0     0.0   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95   25.95  246.23     0.0
 46     0.0     0.0   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11   20.11  259.56     0.0
 47     0.0     0.0   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80   10.80  130.46     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)     STEP NUMBER = 50     TIME =   1.67HRS

      1     2     3     4     5     6     7     8     9     10    11    12    13    14    15    16
  1  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
  2  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00007.0     .0
  3  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00007.00023.0     .0
  4  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00009.00042.00042.0     .0
  5  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00022.00101.00101.0     .0
  6  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00025.00116.00116.0     .0
  7  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00032.00140.00140.0     .0
  8  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00051.00234.00234.0     .0
  9  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00052.00052.0     .0
 10  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00021.00068.0     .0
 11  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00022.00072.0     .0
 12  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00012.00038.0     .0
 13  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00013.00059.00059.0     .0
 14  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00016.00016.0     .0
 15  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00003.00002.0     .0
 16  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00003.00014.00014.0     .0
 17  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00006.00029.00029.0     .0
 18  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00009.00040.00040.0     .0
 19  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00003.00012.00012.0     .0
 20  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00004.00018.00018.0     .0
 21  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00004.00020.00020.0     .0
 22  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00012.00055.00055.0     .0
 23  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00002.00013.00019.00013.0     .0
 24  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00002.00011.00017.00013.0     .0
 25  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00002.00010.00015.00010.0     .0
 26  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00002.00009.00013.00009.0     .0
 27  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00003.00016.00027.00027.00016.0     .0
 28  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00006.00034.00056.00056.00034.0     .0
 29  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00009.00053.00088.00088.00053.0     .0
 30  .0    .0    .0    .0    .0    .0    .0    .0    .00012.00076.00141.00167.00141.00076.0     .0
 31  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00059.00109.00133.00109.00059.0     .0
 32  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00014.00086.00147.00145.00086.0     .0
 33  .0    .0    .0    .0    .0    .0    .0    .0    .0    .00012.00072.00123.00120.00072.0     .0
 34  .0    .0    .0    .0    .0    .0    .0    .0    .00011.00073.00136.00162.00136.00073.0     .0
 35  .0    .0    .0    .0    .0    .0    .0    .0    .00014.00083.00163.00194.00163.00086.0     .0
 36  .0    .0    .0    .0    .0    .0    .0    .0    .00013.00081.00151.00179.00151.00081.0     .0
 37  .0    .0    .0    .0    .0    .0    .0    .00012.00079.00157.00206.00206.00157.00079.0     .0
 38  .0    .0    .0    .0    .0    .0    .00013.00067.00140.00176.00217.00196.00143.00067.0     .0
 39  .0    .0    .0    .0    .0    .0    .00015.00104.00213.00306.00339.00305.00218.00104.0     .0
 40  .0    .0    .0    .0    .0    .0    .00014.00096.00201.00292.00312.00287.00201.00096.0     .0
 41  .0    .0    .0    .0    .0    .0    .00012.00170.00155.00379.00351.00498.00355.00170.0     .0
 42  .0    .0    .0    .0    .0    .0    .00014.00100.00204.00271.00324.00291.00204.00100.0     .0
 43  .0    .0    .0    .0    .0    .00019.00139.00300.00442.00526.00524.00442.00303.00139.0     .0
 44  .0    .0    .0    .0    .00032.00235.00522.00746.00964.01057.00984.00746.00522.00235.0     .0
 45  .0    .0    .0    .00025.00189.00424.00573.00866.00977.00977.00866.00573.00429.00189.0     .0
 46  .0    .0    .00017.00125.00295.00489.00633.00738.00775.00730.00635.00480.00299.00129.0     .0
 47  .0    .0    .00029.00073.00162.00259.00343.00399.00419.00399.00343.00259.00162.00070.0     .0
 48  .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
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REAERATION COEFFICIENTS X 100000CC (1/SEC)     STEP NUMBER = 50     TIME =   1.67HRS

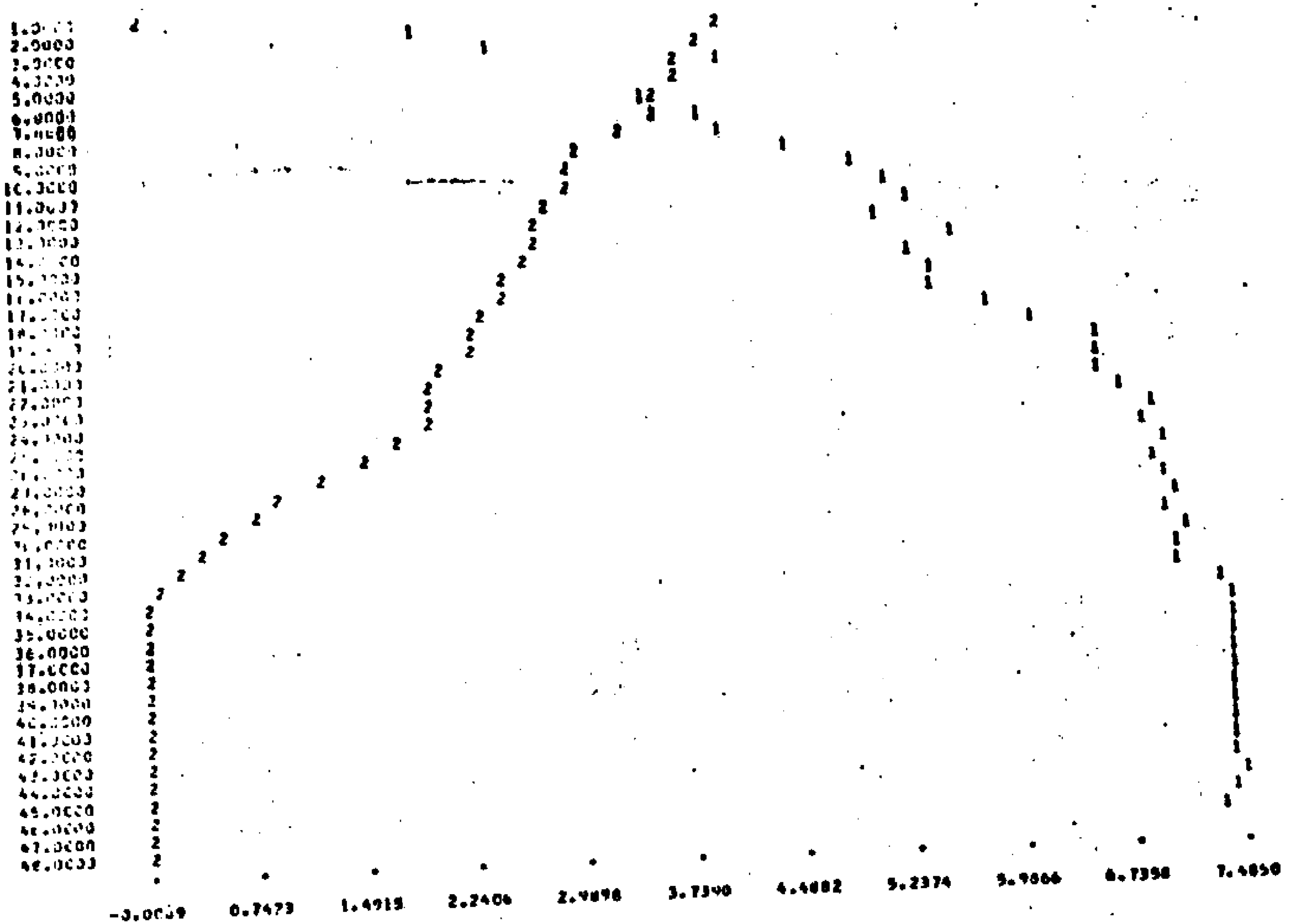
        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.03   0.0
  4   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.10   0.0
  5   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.25   0.0
  6   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.20   0.0
  7   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.27   0.0
  8   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.46   0.0
  9   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01   0.0
 10   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.08   0.0
 11   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.08   0.0
 12   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 13   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.06   0.0
 14   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.06   0.0
 15   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.04   0.0
 16   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 17   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.04   0.0
 18   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.06   0.0
 19   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.01   0.0
 20   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.05   0.0
 21   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.05   0.0
 22   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.11   0.0
 23   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 24   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.03   0.0
 25   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 26   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.02   0.0
 27   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.03   0.0
 28   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.07   0.0
 29   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.11   0.0
 30   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.17   0.0
 31   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.11   0.0
 32   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.18   0.0
 33   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.14   0.0
 34   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.16   0.0
 35   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.19   0.0
 36   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.18   0.0
 37   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.19   0.0
 38   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.17   0.0
 39   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.27   0.0
 40   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.25   0.0
 41   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.46   0.0
 42   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.27   0.0
 43   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.34   0.0
 44   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.76   0.0
 45   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.62   0.0
 46   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.47   0.0
 47   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.24   0.0
 48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
ROD DECAY COEFFICIENTS X 1000000 (1/SEC)     STEP NUMBER = 50     TIME =   1.67HRS

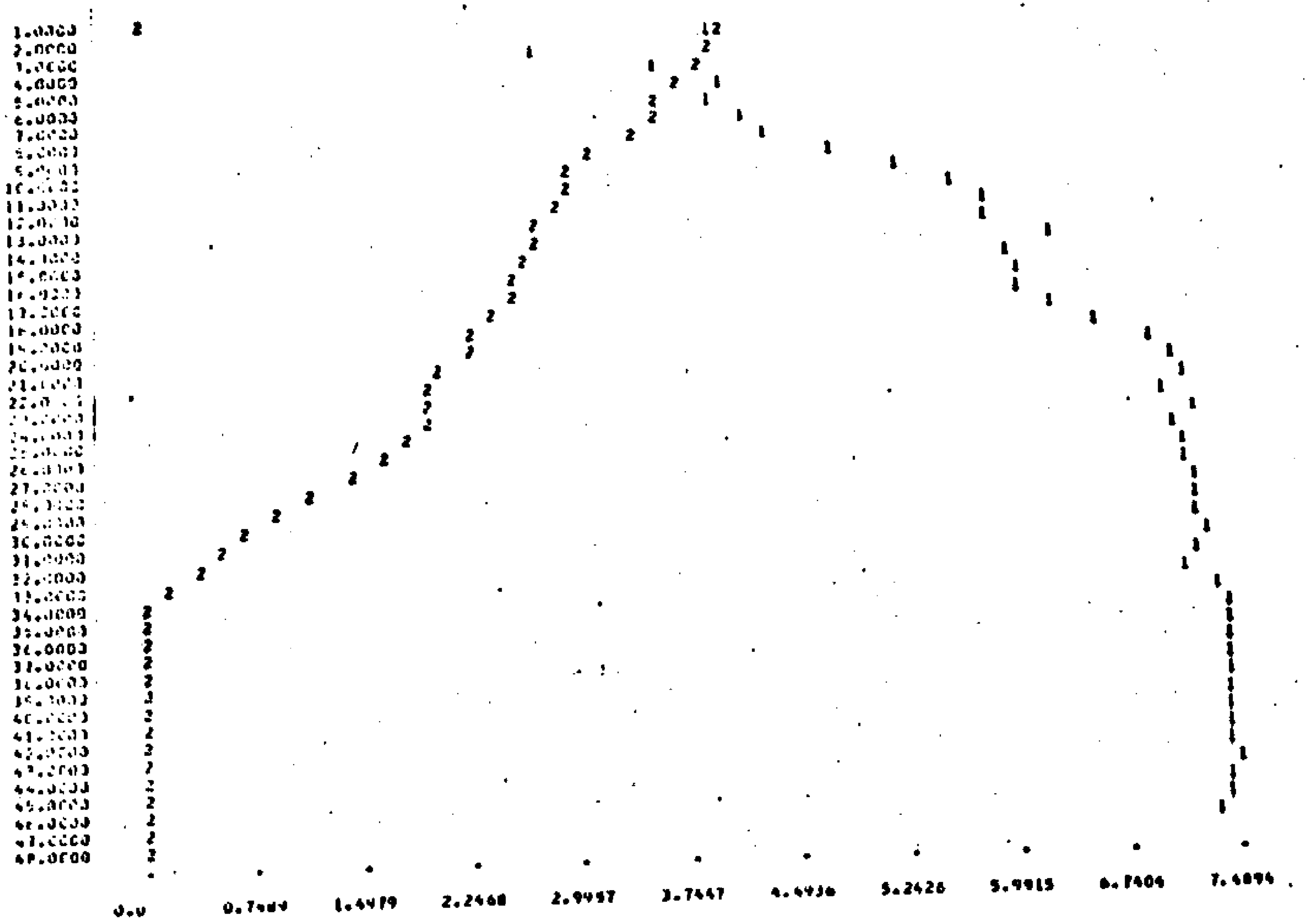
         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40    0.0
  3    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40    0.0
  4    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
  5    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
  6    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
  7    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
  8    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
  9    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 10    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40    0.0
 11    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40    0.0
 12    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40    0.0
 13    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 14    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 15    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40    0.0
 16    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 17    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 18    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 19    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 20    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 21    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 22    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40    0.0
 23    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40    0.0
 24    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40    0.0
 25    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40    0.0
 26    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40    0.0
 27    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 28    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 29    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 30    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 31    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 32    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 33    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 34    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 35    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 36    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 37    0.0    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 38    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 39    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 40    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 41    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 42    0.0    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 43    0.0    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 44    0.0    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 45    0.0    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 46    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 47    0.0    0.0   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40   3.40    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                           0.0
                           7.1717
                           7.1848
                           7.1891
                           7.2025
                           7.1932
                           7.1974
                           7.2017
                           7.1924
                           7.1922
                           7.2058
                           7.2102
                           7.2054
                           7.1511
                           7.2214
                           7.2376
                           7.2445
                           7.2561
                           7.2357
                           7.2512
                           7.2745
                           7.2839
                           7.3058
                           7.3146
                           7.3765
                           7.3311
                           7.3414
                           7.3362
                           7.2979
                           7.2919
                           7.2931
                           7.2931
                           7.2979
                           7.2979
                           7.3027
                           7.3171
                           7.3315
                           7.3508
                           7.3412
                           7.3607
                           7.3457
                           7.3457
                           7.3744
                           7.3657
                           7.3952
                           7.3952
                           7.3952
                           0.0
```

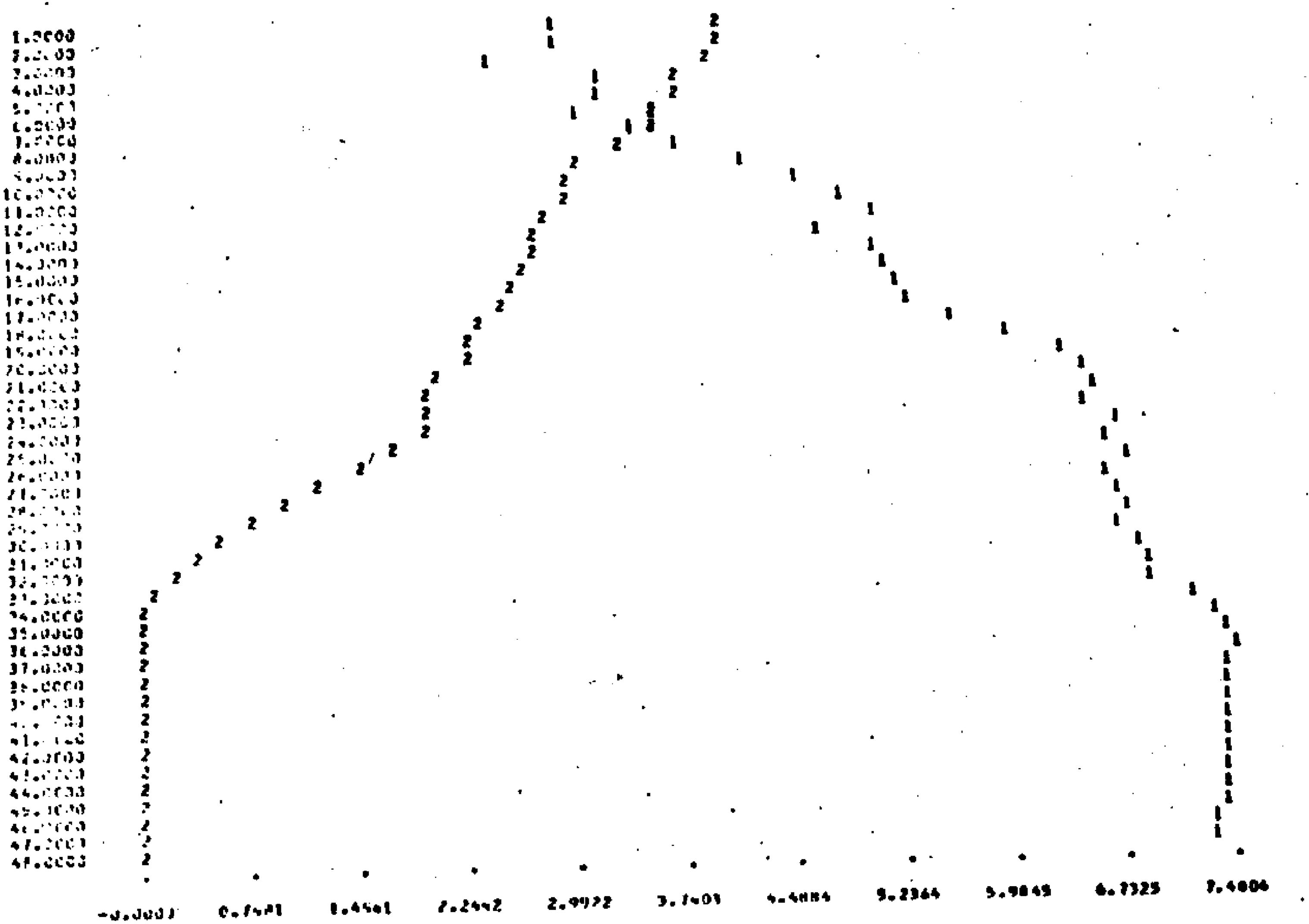
D.O. (1) & S.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 99     TIME =   9.30HRS.

         1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.91  3.09  0.0
  3    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.14  2.56  2.46  0.0
  4    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   1.84  3.33  3.77  3.37  0.0
  5    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.01  3.06  3.50  3.83  0.0
  6    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.04  2.73  3.22  3.56  0.0
  7    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   2.59  3.34  3.71  3.88  0.0
  8    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.05  3.70  3.95  3.97  0.0
  9    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.37  4.06  4.41  4.47  0.0
 10    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.53  4.74  4.92  0.0
 11    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.02  5.02  5.15  0.0
 12    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.15  5.19  5.51  0.0
 13    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   3.82  4.35  4.87  5.25  0.0
 14    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.15  4.90  5.81  5.58  0.0
 15    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.26  5.07  5.60  0.0
 16    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.10  5.00  5.33  5.72  0.0
 17    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   4.69  5.10  5.33  5.51  0.0
 18    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.06  5.48  5.79  5.86  0.0
 19    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.53  5.93  6.10  6.00  0.0
 20    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   5.87  6.28  6.01  6.52  0.0
 21    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.12  6.33  6.53  6.83  0.0
 22    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.25  6.38  6.51  6.82  0.0
 23    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.01  6.26  6.47  6.68  6.85  0.0
 24    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.08  6.47  6.75  6.95  7.10  0.0
 25    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.07  6.43  6.59  6.75  6.99  0.0
 26    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.21  6.56  6.75  6.91  7.05  0.0
 27    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.05  6.31  6.53  6.71  6.86  7.04  0.0
 28    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.23  6.50  6.69  6.83  6.97  7.07  0.0
 29    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.34  6.57  6.74  6.88  7.02  7.16  0.0
 30    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.29  6.42  6.54  6.87  6.90  6.92  7.05  0.0
 31    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.44  6.63  6.86  6.99  7.10  7.19  7.14  0.0
 32    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.55  6.74  6.84  6.94  7.09  7.22  0.0
 33    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   6.76  6.87  6.79  7.05  7.11  7.10  0.0
 34    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.05  7.16  7.24  7.24  7.32  7.37  7.21  0.0
 35    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.32  7.35  7.41  7.45  7.47  7.46  7.31  0.0
 36    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.49  7.49  7.50  7.49  7.48  7.46  7.38  0.0
 37    0.0   0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.49  7.48  7.48  7.48  7.48  7.48  7.42  0.0
 38    0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.46  0.0
 39    0.0   0.0   0.0   0.0   0.0   0.0   7.49  7.48  7.48  7.48  7.48  7.48  7.48  7.47  7.46  0.0
 40    0.0   0.0   0.0   0.0   0.0   0.0   7.49  7.48  7.49  7.48  7.49  7.41  7.48  7.49  7.47  0.0
 41    0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.48  7.49  7.49  7.49  7.49  7.48  7.47  7.46  0.0
 42    0.0   0.0   0.0   0.0   0.0   0.0   7.48  7.48  7.49  7.49  7.48  7.41  7.48  7.47  7.46  0.0
 43    0.0   0.0   0.0   0.0   0.0   7.44  7.48  7.43  7.41  7.49  7.44  7.41  7.48  7.49  7.46  0.0
 44    0.0   0.0   0.0   0.0   7.48  7.48  7.49  7.48  7.44  7.40  7.40  7.44  7.48  7.48  7.48  0.0
 45    0.0   0.0   0.0   7.47  7.46  7.47  7.47  7.47  7.47  7.47  7.47  7.47  7.48  7.49  7.45  0.0
 46    0.0   0.0   7.44  7.44  7.44  7.45  7.45  7.46  7.46  7.47  7.47  7.44  7.48  7.44  7.49  0.0
 47    0.0   0.0   7.40  7.40  7.43  7.40  7.43  7.40  7.43  7.40  7.43  7.43  7.40  7.40  7.40  0.0
 48    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
CONCENTRATION OF B.O.D. (MG/L)     STEP NUMBER = 99     TIME =   3.30HRS.

           1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
   1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
   2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    4.00    4.00     0.0
   3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.78    3.79    3.84     0.0
   4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.65    3.60    3.64    3.76     0.0
   5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.63    3.64    3.64    3.66     0.0
   6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.44    3.45    3.45    3.45     0.0
   7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.42    3.42    3.44    3.48     0.0
   8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.11    3.18    3.29    3.40     0.0
   9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.93    2.93    2.96    3.10     0.0
  10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.87    2.97    2.90     0.0
  11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.93    2.86    2.90     0.0
  12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.72    2.76    2.84     0.0
  13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.69    2.68    2.69    2.72     0.0
  14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.69    2.67    2.69    2.71     0.0
  15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.55    2.56    2.63     0.0
  16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.49    2.47    2.47    2.51     0.0
  17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.42    2.42    2.42    2.54     0.0
  18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.73    2.74    2.24    2.44     0.0
  19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.19    2.19    2.20    2.28     0.0
  20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.17    2.18    2.21    2.28     0.0
  21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.97    1.97    1.99    2.12     0.0
  22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.91    1.91    1.91    1.96     0.0
  23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.92    1.92    1.92    1.92    1.98     0.0
  24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.88    1.89    1.89    1.71    1.96     0.0
  25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.65    1.65    1.65    1.60    1.83     0.0
  26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.43    1.43    1.44    1.49    1.73     0.0
  27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    1.70    1.13    1.11    1.13    1.16    1.51     0.0
  28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.73    0.86    0.86    0.88    0.96    1.32     0.0
  29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.66    0.69    0.64    0.70    0.75    1.14     0.0
  30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.59    0.49    0.48    0.48    0.45    0.51    0.87     0.0
  31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.33    0.30    0.32    0.34    0.39    0.51    0.60     0.0
  32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.13    0.21    0.21    0.22    0.27    0.58     0.0
  33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.05    0.04    0.03    0.04    0.05    0.35     0.0
  34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.00   -0.01   -0.01   -0.01   -0.01   -0.02    0.16     0.0
  35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   -0.00    0.00    0.00    0.00    0.00    0.02    0.09     0.0
  36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00    0.00    0.00    0.01    0.05     0.0
  37     0.0     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.02     0.0
  38     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00   -0.00    0.00    0.00   -0.00   -0.00    0.01     0.0
  39     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
  40     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
  41     0.0     0.0     0.0     0.0     0.0     0.0   -0.00   -0.00   -0.00   -0.00    0.00    0.00    0.00    0.00    0.00     0.0
  42     0.0     0.0     0.0     0.0     0.0     0.0    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
  43     0.0     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00   -0.00    0.00     0.0
  44     0.0     0.0     0.0     0.0    0.00   -0.00   -0.00   -0.00   -0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
  45     0.0     0.0     0.0    0.00   -0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00   -0.00    0.00     0.0
  46     0.0     0.0    0.00   -0.00    0.00   -0.00   -0.00   -0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00     0.0
  47     0.0     0.0   -0.00    0.00   -0.00    0.00    0.00    0.00   -0.00   -0.00   -0.00   -0.00   -0.00   -0.00    0.00     0.0
  48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
 U VELOCITY FIELD (-FLOOD) -FPS.      STEP NUMBER = 99      TIME =   3.30HRS.
           1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.40    0.0    0.0
  3      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.38  -0.38   0.30    0.0
  4      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.10    0.0
  5      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31  -0.26    0.0
  6      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.41  -0.41  -0.41   0.95    0.0
  7      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.37  -0.37  -0.37   0.82    0.0
  8      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43   0.75    0.0
  9      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.44  -0.44   0.63    0.0
 10      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.27  -0.27   0.34    0.0
 11      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.21  -0.21   0.20    0.0
 12      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.23  -0.23   0.27    0.0
 13      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29   0.66    0.0
 14      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.22  -0.22   0.24    0.0
 15      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30   0.46    0.0
 16      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.79    0.0
 17      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30   0.75    0.0
 18      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.76    0.0
 19      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.31  -0.31  -0.31   0.77    0.0
 20      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.36  -0.36  -0.36   0.94    0.0
 21      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.30  -0.30  -0.30   0.81    0.0
 22      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29   0.73    0.0
 23      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.28  -0.28  -0.28  -0.28   0.96    0.0
 24      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.29  -0.29  -0.29  -0.29   1.02    0.0
 25      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.39  -0.39  -0.38  -0.38   1.37    0.0
 26      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43  -0.43   1.57    0.0
 27      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.43  -0.43  -0.43  -0.43  -0.43   1.59    0.0
 28      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.56  -0.56  -0.56  -0.56  -0.56   2.46    0.0
 29      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.53  -0.53  -0.53  -0.53  -0.53   2.51    0.0
 30      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49   2.79    0.0
 31      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.54  -0.54  -0.54  -0.54  -0.54   2.59    0.0
 32      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.39  -0.39  -0.39  -0.39  -0.39   1.80    0.0
 33      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.59  -0.59  -0.59  -0.59  -0.59   2.80    0.0
 34      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.77  -0.77  -0.77  -0.77  -0.77  -0.77   4.41    0.0
 35      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.73  -0.73  -0.73  -0.73  -0.73  -0.73   4.24    0.0
 36      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.64  -0.64  -0.64  -0.64  -0.64  -0.64   3.77    0.0
 37      0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   2.90    0.0
 38      0.0    0.0    0.0    0.0    0.0    0.0  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42  -0.42   3.32    0.0
 39      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.04    0.0
 40      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0  -0.64    0.0
 41      0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.56    0.0
 42      0.0    0.0    0.0    0.0    0.0    0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20   1.56    0.0
 43      0.0    0.0    0.0    0.0    0.0  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56   4.96    0.0
 44      0.0    0.0    0.0    0.0  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16   1.62    0.0
 45      0.0    0.0    0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19   2.14    0.0
 46      0.0    0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23   2.85    0.0
 47      0.0    0.0  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32  -0.32   3.92    0.0
 48      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
V VELOCITY FIELD -FPS.     STEP NUMBER = 99     TIME =   3.70HRS.

       1      2      3      4      5      6      7      8      9      10     11     12     13     14     15     16
 1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 3   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00060.00040.0    0.0
 4   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0003-.0002-.00070.0    0.0
 5   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0030-.0000-.00010.0    0.0
 6   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00070.00180.00290.0    0.0
 7   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0004-.00060.0    0.0
 8   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0000-.0000-.00010.0    0.0
 9   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0007-.00000.00060.0    0.0
10   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0002-.00030.0    0.0
11   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.00030.0    0.0
12   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00130.0    0.0
13   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00050.00050.00050.0    0.0
14   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0005-.0006-.00070.0    0.0
15   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00030.00060.0    0.0
16   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00050.00030.00010.0    0.0
17   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00070.00170.0    0.0
18   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00030.00010.00010.0    0.0
19   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00000.00010.00010.0    0.0
20   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00010.00020.0    0.0
21   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0000-.0001-.00010.0    0.0
22   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00100.00100.0    0.0
23   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00050.00040.00040.00010.0    0.0
24   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0003-.0001-.0001-.00020.0    0.0
25   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00130.00050.00070.0    0.0
26   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00120.00130.00140.0    0.0
27   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00070.00080.00180.00090.00090.0    0.0
28   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00020.00110.00040.00050.00060.0    0.0
29   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0012-.0013-.0004-.00050.0    0.0
30   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00080.00040.00070.00170.00090.00060.0    0.0
31   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0008-.0004-.0007-.0019-.0009-.00100.0    0.0
32   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0001-.0006-.0019-.0017-.00150.0    0.0
33   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00010.00110.00170.00210.00290.0    0.0
34   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00130.00140.00230.00280.00330.00180.0    0.0
35   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0002-.0006-.0007-.0019-.0012-.00140.0    0.0
36   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    -.0003-.0007-.0011-.0015-.0019-.00230.0    0.0
37   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.00070.0001-.0007-.0006-.0010-.0015-.00190.0    0.0
38   0.0    0.0    0.0    0.0    0.0    0.0    0.00070.00070.00070.00070.00070.00070.00070.00070.0    0.0
39   0.0    0.0    0.0    0.0    0.0    0.0    -.0007-.0015-.0022-.0030-.0038-.0046-.0053-.00610.0    0.0
40   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
41   0.0    0.0    0.0    0.0    0.0    0.0    0.00030.00060.00090.00120.00150.00180.00210.00240.0    0.0
42   0.0    0.0    0.0    0.0    0.0    0.0    -.0030-.0300-.0030-.0091-.0030-.0010-.0000-.00110.0    0.0
43   0.0    0.0    0.0    0.0    0.0    0.02090.00170.00240.00120.00110.00950.00540.00610.00600.0    0.0
44   0.0    0.0    0.0    0.0    0.0001-.0013-.0014-.0021-.0011-.0013-.0049-.0058-.0067-.00760.0    0.0
45   0.0    0.0    0.0    0.00010.00050.00370.00800.01000.01240.01490.01520.01760.01900.01700.0    0.0
46   0.0    0.0    0.00040.0002-.0001-.0001-.0005-.0007-.0017-.0011-.0013-.0015-.0017-.00190.0    0.0
47   0.0    0.0    0.00300.00071.00110.00150.00180.00720.00700.00700.00940.00380.00420.00450.0    0.0
48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER = 99     TIME =    3.30HRS
          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    7.62     0.0     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.47   10.47    8.13     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    6.86    6.86    6.86    3.38     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.42   10.42   10.42    6.91     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   13.75   13.75   13.75   31.86     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   12.61   12.61   12.61   27.58     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   14.46   14.46   14.46   32.15     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   15.00   15.00   21.75     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    7.06    7.06    8.71     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    5.66    5.69    5.21     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    6.05    6.05    7.07     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    9.96    9.96    9.96   22.68     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    7.55    7.55    8.00     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    7.76    7.76   17.02     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.55   10.55   10.55   21.22     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.05   10.05   10.05   25.25     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.42   10.42   10.42   26.36     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.32   10.32   10.32   26.42     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   12.24   12.24   12.24   11.80     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   10.21   10.21   10.21   27.26     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    9.96    9.96    9.96   24.69     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   11.53   11.53   11.53   11.53   36.80     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   11.98   11.98   11.98   11.98   41.61     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   15.43   15.43   15.43   15.43   55.43     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   17.50   17.50   17.50   17.50   63.65     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   20.67   20.67   20.67   20.67   20.67   95.65     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   26.61   26.61   26.61   26.61   26.61  125.80     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   25.10   25.10   25.10   25.10   25.10  118.58     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   26.66   26.66   26.66   26.66   26.66   26.66  151.84     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   29.29   29.29   29.29   29.29   29.29  139.19     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   18.09   18.09   18.09   18.09   18.09   83.76     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   27.98   27.98   27.98   27.98   27.98  132.44     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   41.64   41.64   41.64   41.64   41.64   41.64  260.16     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   39.28   39.28   39.28   39.28   39.28   39.28  273.76     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0   34.55   34.55   34.55   34.55   34.55   34.55  202.47     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0   25.74   25.74   25.74   25.74   25.74   25.74   25.74  175.66     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0   28.36   28.36   28.36   28.36   28.36   28.36   28.36   28.36  222.06     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.58     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    2.57     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0   13.32   13.32   13.32   13.32   13.32   13.32   13.32   13.32  103.44     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0   13.32   13.32   13.32   13.32   13.32   13.32   13.32   13.32  103.51     0.0
 43     0.0     0.0     0.0     0.0     0.0   40.64   40.64   40.64   40.64   40.64   40.64   40.64   40.64   40.64  361.58     0.0
 44     0.0     0.0     0.0     0.0   12.39   12.39   12.39   12.39   12.39   12.39   12.39   12.39   12.39   12.39  127.61     0.0
 45     0.0     0.0     0.0   16.45   16.45   16.45   16.45   16.45   16.45   16.45   16.45   16.45   16.45   16.45  151.55     0.0
 46     0.0     0.0   20.57   20.57   20.57   20.57   20.57   20.57   20.57   20.57   20.57   20.57   20.57   20.57  258.54     0.0
 47     0.0     0.0   29.17   29.17   29.17   29.17   29.17   29.17   29.17   29.17   29.17   29.17   29.17   29.17  352.88     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)     STEP NUMBER = 99     TIME =    3.30HRS

          1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
  2    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00122.0    .0
  3    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00095.00308.0    .0
  4    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00188.00189.0    .0
  5    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00064.00292.00292.0    .0
  6    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00084.00385.00385.0    .0
  7    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00077.00353.00353.0    .0
  8    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00088.00405.00405.0    .0
  9    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00423.00420.0    .0
 10    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00064.00220.0    .0
 11    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00053.00172.0    .0
 12    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00057.00184.0    .0
 13    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00059.00273.00273.0    .0
 14    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00211.00211.0    .0
 15    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00075.00242.0    .0
 16    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00289.00289.0    .0
 17    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00281.00281.0    .0
 18    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00064.00292.00292.0    .0
 19    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00063.00287.00287.0    .0
 20    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00075.00343.00343.0    .0
 21    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00067.00206.00206.0    .0
 22    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00061.00278.00278.0    .0
 23    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00049.00264.00374.00264.0    .0
 24    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00051.00275.00396.00275.0    .0
 25    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00066.00360.00510.00360.0    .0
 26    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00075.00408.00578.00408.0    .0
 27    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00065.00393.00656.00656.00393.0    .0
 28    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00085.00510.00857.00857.00510.0    .0
 29    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00080.00481.00804.00804.00481.0    .0
 30    .0    .0    .0    .0    .0    .0    .0    .0    .00065.00418.00777.00921.00777.00418.0    .0
 31    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00464.00864.01024.00864.00464.0    .0
 32    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00058.00352.00591.00591.00352.0    .0
 33    .0    .0    .0    .0    .0    .0    .0    .0    .0    .00089.00536.00901.00901.00536.0    .0
 34    .0    .0    .0    .0    .0    .0    .0    .0    .00101.00653.01214.01437.01214.00653.0    .0
 35    .0    .0    .0    .0    .0    .0    .0    .0    .00097.00623.01154.01374.01154.00623.0    .0
 36    .0    .0    .0    .0    .0    .0    .0    .0    .00085.00548.01019.01208.01019.00548.0    .0
 37    .0    .0    .0    .0    .0    .0    .0    .00050.00334.00672.00882.00882.00672.00338.0    .0
 38    .0    .0    .0    .0    .0    .0    .00045.00316.00660.00926.01024.00926.00660.00316.0    .0
 39    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
 40    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
 41    .0    .0    .0    .0    .0    .0    .00021.00150.00313.00439.00486.00439.00313.00150.0    .0
 42    .0    .0    .0    .0    .0    .0    .00021.00150.00313.00439.00486.00439.00313.00150.0    .0
 43    .0    .0    .0    .0    .0    .00056.00389.00841.01238.01465.01465.01238.00841.00389.0    .0
 44    .0    .0    .0    .0    .00014.00103.00229.00349.00433.00466.00433.00349.00229.00103.0    .0
 45    .0    .0    .0    .00016.00120.00272.00427.00549.00616.00616.00549.00427.00272.00120.0    .0
 46    .0    .0    .00017.00132.00306.00491.00649.00755.00792.00755.00649.00491.00306.00132.0    .0
 47    .0    .0    .00025.00188.00436.00700.00927.01078.01131.01078.00927.00700.00436.00188.0    .0
 48    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
```

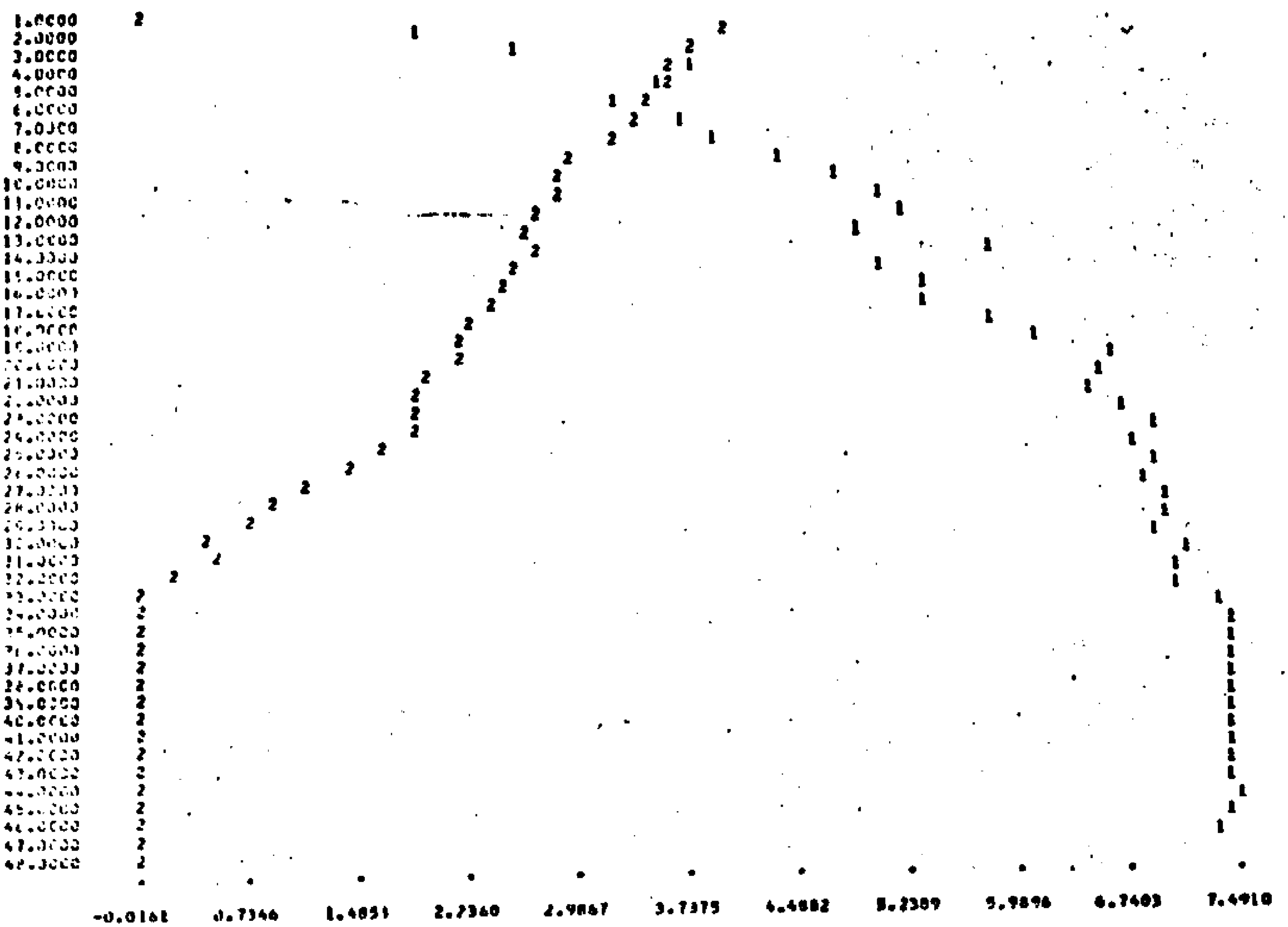
REAERATION COEFFICIENTS X 1000000 (1/SEC)   STEP NUMBER = 99   TIME = 3.30HRS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.52	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.39	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.42	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.39	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.51	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.49	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.48	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.45	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.49	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.67	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.78	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.82	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.12	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.05	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.99	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.71	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.18	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.45	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.56	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.36	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.87	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.87	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.19	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.37	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.64	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

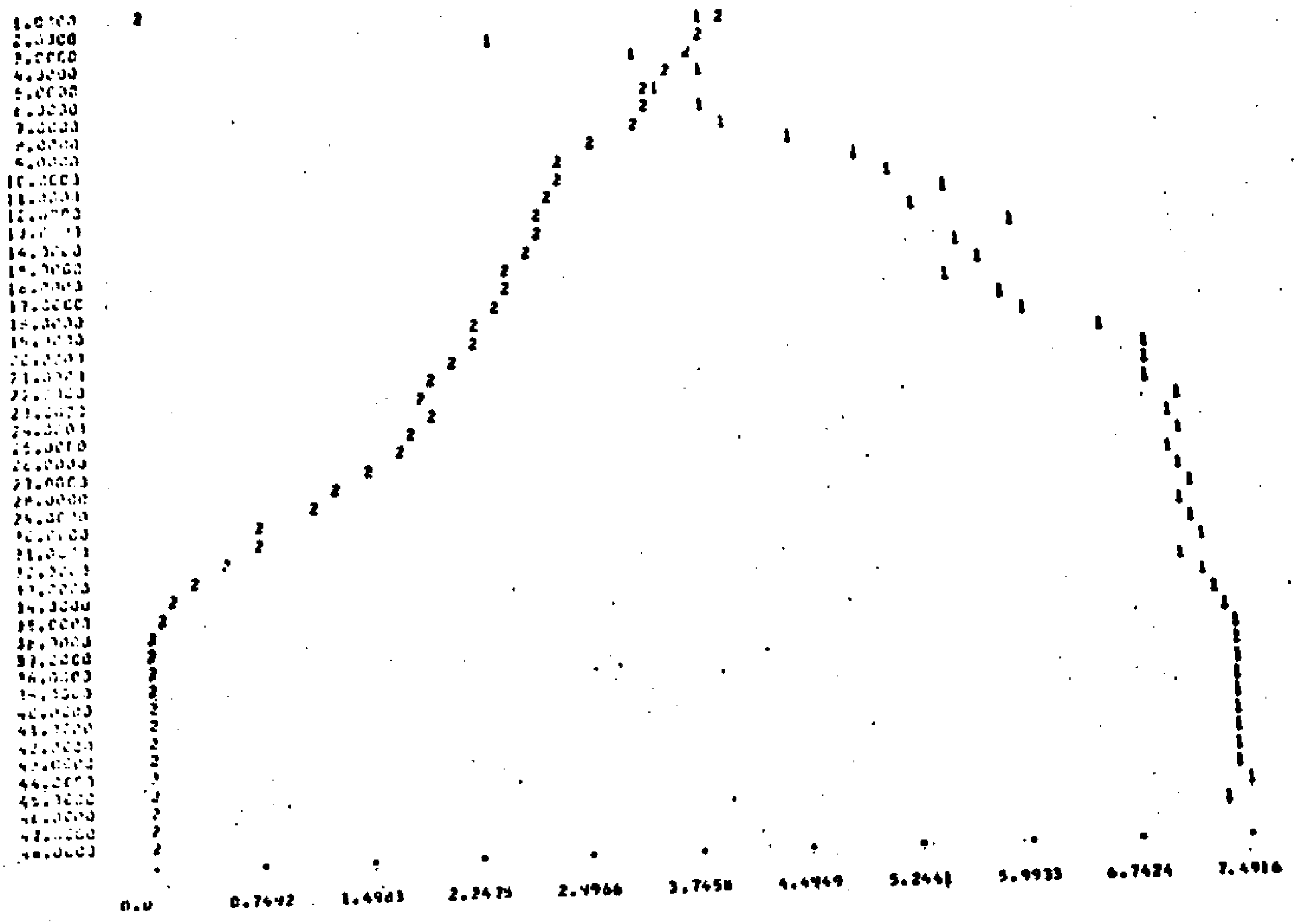
```
990 DECAY COEFFICIENTS X 100000 (1/SEC)     STEP NUMBER = 99     TIME =  3.30HRS
          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 43     0.0     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 44     0.0     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 45     0.0     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 46     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 47     0.0     0.0    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40    3.40     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                               0.0
                               7.1717
                               7.1848
                               7.1891
                               7.2025
                               7.1932
                               7.1974
                               7.2017
                               7.1974
                               7.1922
                               7.2058
                               7.2102
                               7.2094
                               7.1911
                               7.2214
                               7.2376
                               7.2465
                               7.2461
                               7.2397
                               7.2512
                               7.2745
                               7.2839
                               7.3051
                               7.3144
                               7.3205
                               7.3313
                               7.3534
                               7.3362
                               7.2979
                               7.2970
                               7.2931
                               7.2911
                               7.2975
                               7.2979
                               7.3027
                               7.3171
                               7.3315
                               7.3508
                               7.3412
                               7.3607
                               7.3657
                               7.3657
                               7.3754
                               7.3657
                               7.3552
                               7.3557
                               7.3552
                               0.0
```

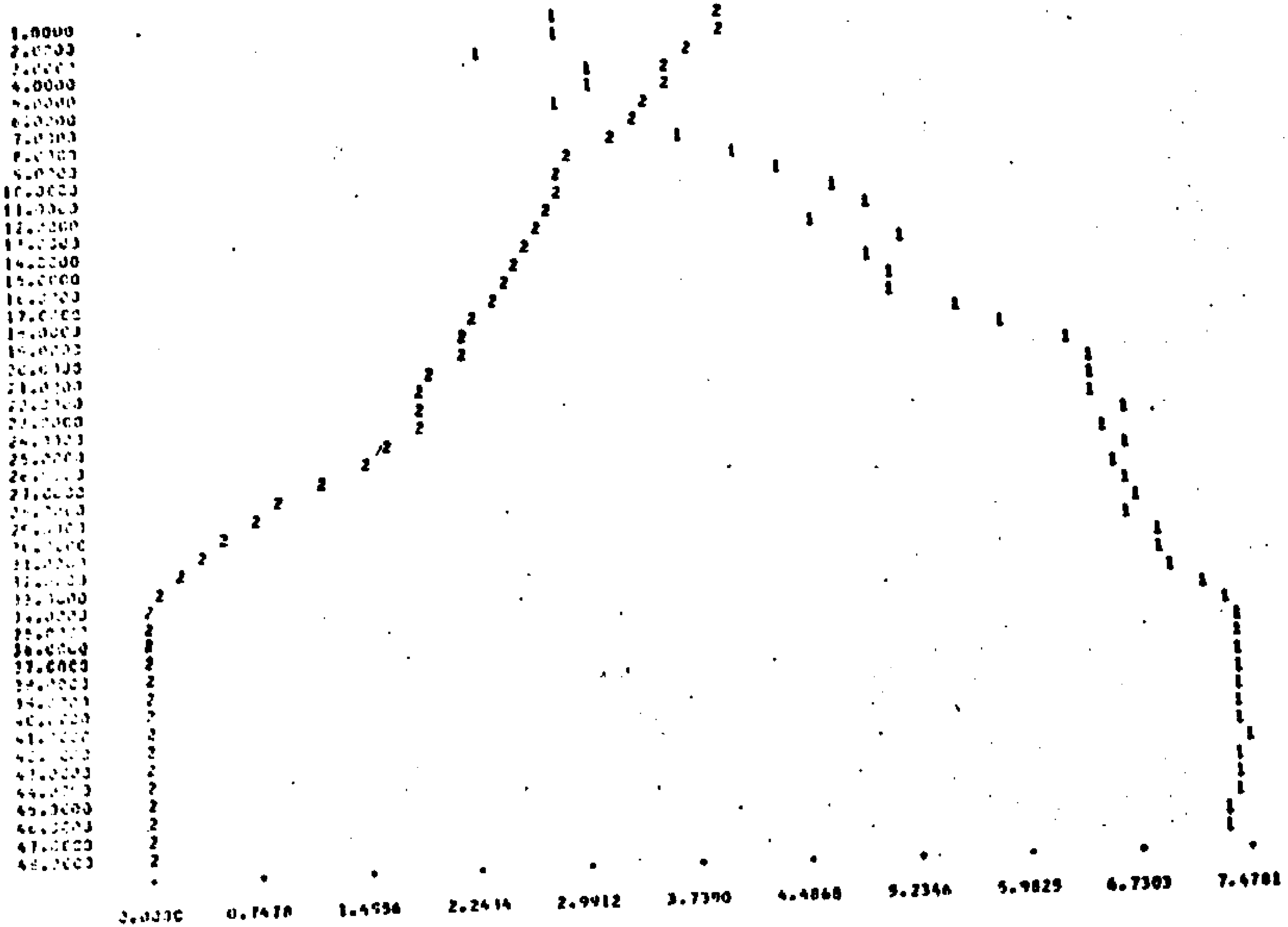
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



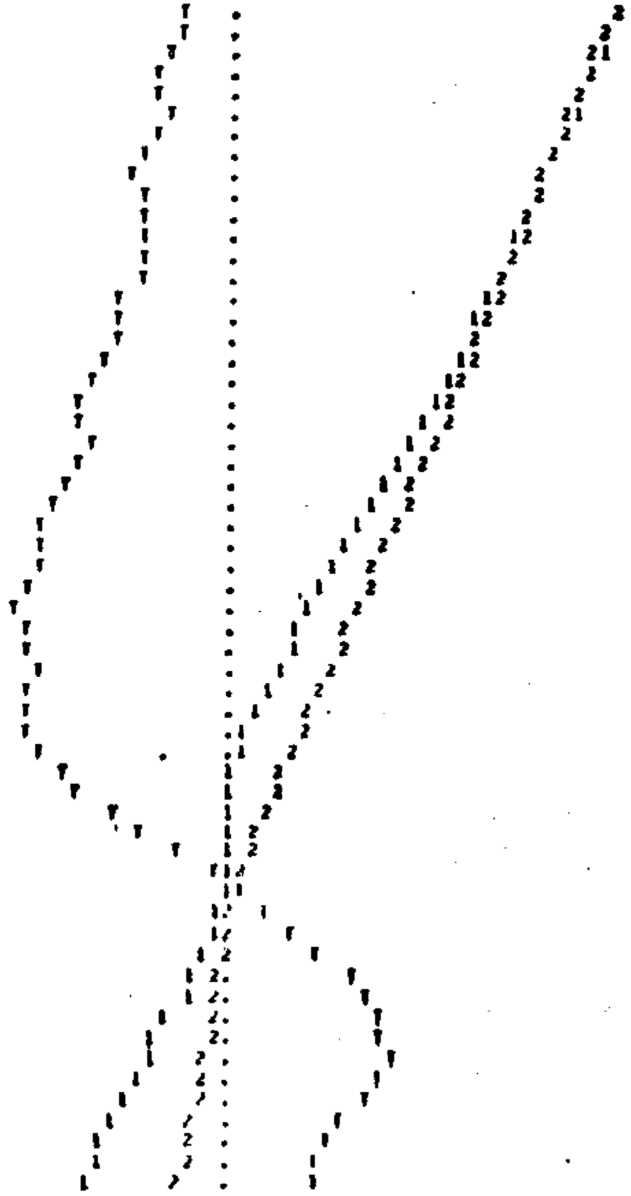
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



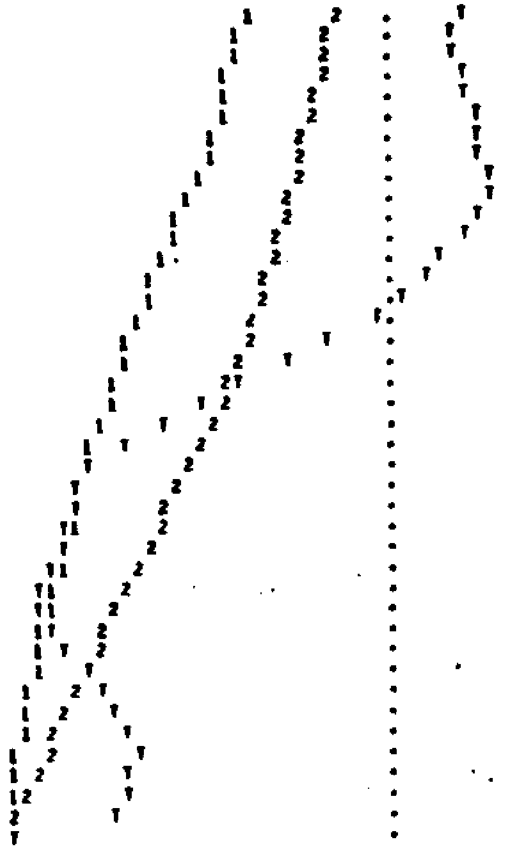
AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



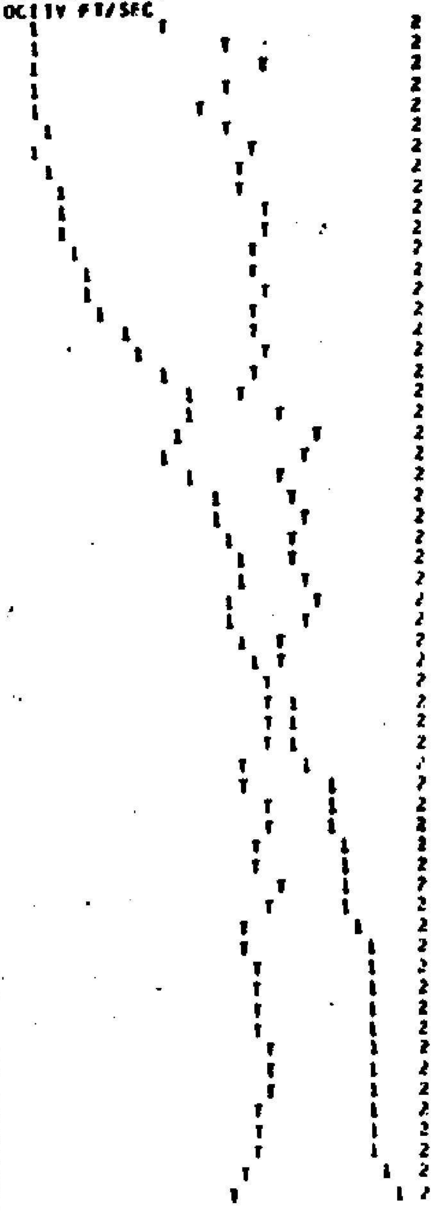
```
PLOT OF D.O.(1), A.O.D.(2), AND TIDAL VELOCITY (T)FOR GRID N=14  P= 7  TIME STEP= 0.03 HRS.
    C.O.          A.O.D.         TIDAL VELOCITY FT/SEC
 1  4.00          3.60              -0.04
 2  4.00          3.60              -0.04
 3  3.99          3.60              -0.05
 4  3.99          3.59              -0.06
 5  3.99          3.59              -0.06
 6  3.98          3.59              -0.06
 7  3.98          3.59              -0.07
 8  3.98          3.59              -0.08
 9  3.97          3.59              -0.09
10  3.97          3.58              -0.08
11  3.97          3.58              -0.08
12  3.96          3.58              -0.08
13  3.96          3.58              -0.08
14  3.96          3.58              -0.09
15  3.95          3.57              -0.10
16  3.95          3.57              -0.11
17  3.94          3.57              -0.11
18  3.94          3.57              -0.12
19  3.94          3.57              -0.13
20  3.93          3.57              -0.14
21  3.92          3.56              -0.14
22  3.92          3.56              -0.13
23  3.92          3.56              -0.14
24  3.91          3.56              -0.16
25  3.91          3.56              -0.17
26  3.90          3.55              -0.18
27  3.90          3.55              -0.18
28  3.89          3.55              -0.18
29  3.89          3.55              -0.19
30  3.89          3.55              -0.20
31  3.88          3.54              -0.20
32  3.88          3.54              -0.19
33  3.87          3.54              -0.18
34  3.87          3.54              -0.19
35  3.86          3.54              -0.20
36  3.86          3.53              -0.20
37  3.86          3.53              -0.18
38  3.86          3.53              -0.16
39  3.85          3.53              -0.14
40  3.85          3.53              -0.11
41  3.85          3.52              -0.08
42  3.85          3.52              -0.04
43  3.85          3.52              -0.01
44  3.85          3.52               0.02
45  3.85          3.52               0.04
46  3.85          3.52               0.07
47  3.85          3.52               0.10
48  3.84          3.52               0.13
49  3.84          3.52               0.15
50  3.81          3.52               0.16
51  3.81          3.51               0.16
52  3.82          3.51               0.16
53  3.82          3.51               0.16
54  3.81          3.51               0.15
55  3.81          3.51               0.12
56  3.81          3.51               0.10
57  3.81          3.51               0.10
58  3.81          3.51               0.09
```



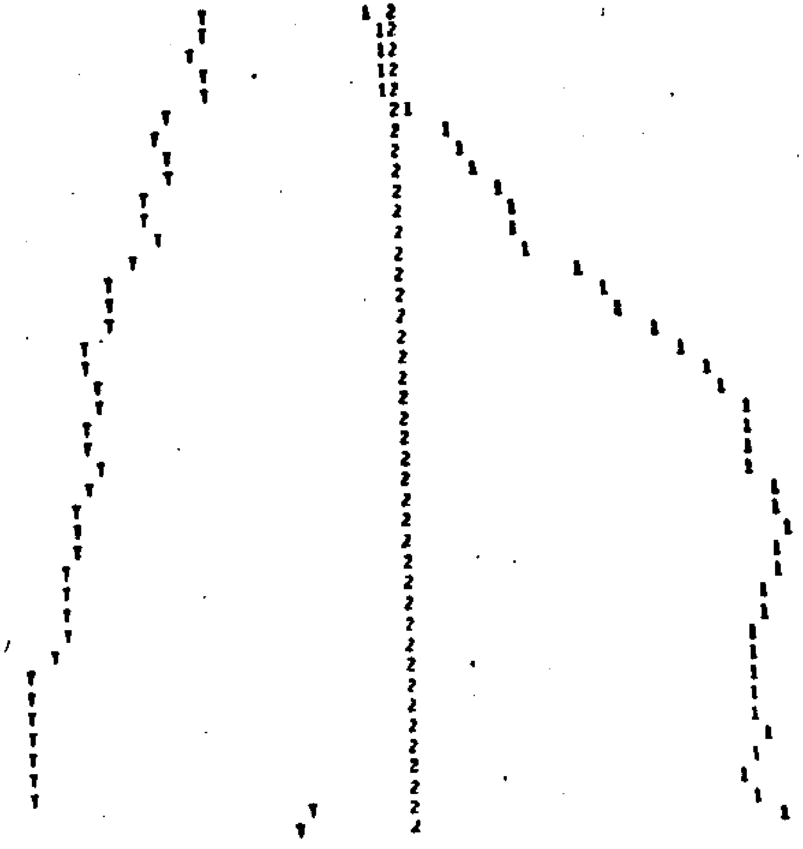
```
59   3.80   3.51   0.09
60   3.80   3.51   0.07
61   3.79   3.50   0.07
62   3.79   3.50   0.08
63   3.79   3.50   0.09
64   3.79   3.50   0.09
65   3.79   3.50   0.09
66   3.78   3.50   0.10
67   3.78   3.50   0.10
68   3.78   3.50   0.10
69   3.77   3.50   0.10
70   3.77   3.49   0.09
71   3.77   3.49   0.06
72   3.76   3.49   0.04
73   3.76   3.49   0.01
74   3.76   3.49  -0.01
75   3.75   3.49  -0.05
76   3.75   3.49  -0.10
77   3.75   3.48  -0.14
78   3.74   3.48  -0.18
79   3.74   3.48  -0.22
80   3.74   3.48  -0.26
81   3.74   3.48  -0.29
82   3.73   3.47  -0.30
83   3.73   3.47  -0.31
84   3.73   3.47  -0.32
85   3.73   3.47  -0.32
86   3.73   3.46  -0.33
87   3.72   3.46  -0.34
88   3.72   3.46  -0.34
89   3.72   3.46  -0.33
90   3.72   3.45  -0.31
91   3.72   3.45  -0.30
92   3.71   3.45  -0.28
93   3.71   3.45  -0.26
94   3.71   3.45  -0.25
95   3.71   3.44  -0.25
96   3.71   3.44  -0.25
97   3.71   3.44  -0.26
98   3.71   3.44  -0.27
99   3.71   3.44  -0.37
```



```
PLOT OF D.O.(1), B.O.D.(2), AND TIDAL VELOCITY (T)FOR GRID N=14  M=45  TIME STEP= 0.03 HRS.
      D.O.        B.O.D.         TIDAL VELOCITY FT/SEC
  1   7.48        -0.00              -0.47
  2   7.48         0.00              -0.35
  3   7.48         0.00              -0.28
  4   7.48        -0.00              -0.35
  5   7.48        -0.00              -0.40
  6   7.48        -0.00              -0.35
  7   7.48        -0.00              -0.30
  8   7.48        -0.00              -0.32
  9   7.48        -0.00              -0.33
 10   7.48        -0.00              -0.28
 11   7.48        -0.00              -0.27
 12   7.48        -0.00              -0.31
 13   7.48        -0.00              -0.30
 14   7.48        -0.00              -0.28
 15   7.48        -0.00              -0.29
 16   7.48        -0.00              -0.30
 17   7.48        -0.00              -0.28
 18   7.48        -0.00              -0.29
 19   7.48        -0.00              -0.31
 20   7.48        -0.00              -0.25
 21   7.48        -0.00              -0.18
 22   7.48        -0.00              -0.21
 23   7.48        -0.00              -0.26
 24   7.48        -0.00              -0.23
 25   7.48        -0.00              -0.19
 26   7.48        -0.00              -0.22
 27   7.48        -0.00              -0.24
 28   7.48        -0.00              -0.19
 29   7.48        -0.00              -0.17
 30   7.48        -0.00              -0.21
 31   7.48        -0.00              -0.25
 32   7.48        -0.00              -0.26
 33   7.48        -0.00              -0.27
 34   7.48        -0.00              -0.28
 35   7.48        -0.00              -0.27
 36   7.48        -0.00              -0.29
 37   7.48        -0.00              -0.32
 38   7.48        -0.00              -0.33
 39   7.48        -0.00              -0.28
 40   7.48        -0.00              -0.28
 41   7.48        -0.00              -0.31
 42   7.48        -0.00              -0.29
 43   7.48        -0.00              -0.25
 44   7.48        -0.00              -0.28
 45   7.48        -0.00              -0.33
 46   7.48        -0.00              -0.32
 47   7.48        -0.00              -0.29
 48   7.48        -0.00              -0.29
 49   7.48        -0.00              -0.31
 50   7.48        -0.00              -0.31
 51   7.48        -0.00              -0.28
 52   7.48        -0.00              -0.27
 53   7.48        -0.00              -0.28
 54   7.48        -0.00              -0.30
 55   7.48        -0.00              -0.30
 56   7.48        -0.00              -0.30
 57   7.48        -0.00              -0.32
 58   7.48        -0.00              -0.35
```



```
59   7.49    -0.00    -0.34
60   7.49    -0.00    -0.35
61   7.49    -0.00    -0.36
62   7.49    -0.00    -0.35
63   7.49    -0.00    -0.36
64   7.49    -0.00    -0.41
65   7.49    -0.00    -0.44
66   7.49    -0.00    -0.42
67   7.49    -0.00    -0.42
68   7.49    -0.00    -0.46
69   7.49    -0.00    -0.46
70   7.49    -0.00    -0.47
71   7.49    -0.00    -0.48
72   7.49    -0.00    -0.55
73   7.49    -0.00    -0.54
74   7.49    -0.00    -0.54
75   7.49    -0.00    -0.58
76   7.49    -0.00    -0.59
77   7.49    -0.00    -0.55
78   7.49    -0.00    -0.56
79   7.49    -0.00    -0.59
80   7.49    -0.00    -0.59
81   7.49    -0.00    -0.57
82   7.49    -0.00    -0.58
83   7.49    -0.00    -0.60
84   7.49    -0.00    -0.60
85   7.49    -0.00    -0.61
86   7.49    -0.00    -0.64
87   7.49    -0.00    -0.64
88   7.49    -0.00    -0.63
89   7.49    -0.00    -0.63
90   7.49    -0.00    -0.66
91   7.49    -0.00    -0.70
92   7.49    -0.00    -0.72
93   7.49    -0.00    -0.72
94   7.49    -0.00    -0.72
95   7.49    -0.00    -0.71
96   7.49    -0.00    -0.70
97   7.49    -0.00    -0.71
98   7.49    -0.00    -0.18
99   7.49    -0.00    -0.19
```



SAMPLE OUTPUT - TDLIDO

(DIMENSIONLESS VERTICAL AXIS MODEL)

CONSERVATIVE CASE

```
NN    NN     AA     BBBBBB     SSSSSS
NN    NN    AAAA    BBBBBBB   SSSSSSSS
NNN   NN   AA  AA   BB    BB  SS
NNN   NN   AA  AA   BB    BB  SS
NNNN  NN  AA    AA  BBBBBBB   SSSSSSS
NN NN NN  AAAAAAAA  BBBBBBB    SSSSSSS
NN  NNNN  AAAAAAAA  BB    BB        SS
NN   NNN  AA    AA  BB    BB        SS
NN   NNN  AA    AA  BBBBBBB   SSSSSSSS
NN    NN  AA    AA  BBBBBB     SSSSSS

     DDD   OO        BBB   OO  DDD
     D  D O  O       B  B O  O D  D
     D  D O  O   --  BBB  O  O D  D
     D  D O  O       B  B O  O D  D
     DDD   OO        BBB   OO  DDD


PROGRAM DEVELOPED BY - N. SPAULDING
UNIVERSITY OF RHODE ISLAND  WALES HALL 222C
JUNE 1972
```

COMPUTATIONAL CONTROL NUMBERS

```
NJO      NAO        NBO
  1   11320247     20215
  2   11330247     30215
  3   11340247     40215
  4   11350247     50215
  5   11360247     60215
  6   11370247     70215
  7   11380247     80215
  8   11390247     90215
  9   11100247    100215
 10   11110247    110215
 11   11120247    120215
 12   11130247    130215
 13   11140247    140215
 14   11150247    150215
 15          0    160215
 16          0    170215
 17          0    180215
 18          0    190215
 19          0    200215
 20          0    210215
 21          0    220215
 22          0    230215
 23          0    240215
 24          0    250215
 25          0    260215
 26          0    270215
 27          0    280215
 28          0    290215
 29          0    300215
 30          0    310215
 31          0    320215
 32          0    330215
 33          0    340215
 34          0    350215
 35          0    360215
 36          0    370215
 37          0    380215
 38          0    390215
 39          0    400215
 40          0    410215
 41          0    420215
 42          0    430215
 43          0    440215
 44          0    450215
 45          0    460215
 46          0    470215
 47          0         0
 48          0         0

NIND = 15    NIND = 47
```

```
GRID COMPUTATION FIELD

       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
  1   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
  2   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  3   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  4   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  5   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  6   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  7   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  8   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
  9   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 10   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 11   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 12   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 13   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 14   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 15   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 16   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 17   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 18   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 19   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 20   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 21   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 22   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 23   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 24   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 25   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 26   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 27   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 28   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 29   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 30   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 31   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 32   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 33   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 34   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 35   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 36   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 37   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 38   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 39   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 40   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 41   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 42   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 43   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 44   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 45   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 46   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 47   0.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.
 48   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
```

ESTUARY WIDTH MATRIX 1000 FT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
3	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
4	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
5	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
6	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
7	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
8	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
9	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
10	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
11	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
12	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
13	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
14	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
15	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
16	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
17	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
18	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
19	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
20	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
21	0.0	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	0.0
22	0.0	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	0.0
23	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
24	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
25	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
26	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
27	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
28	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
29	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
30	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
31	0.0	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	0.0
32	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
33	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
34	0.0	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	0.0
35	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
36	0.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	0.0
37	0.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	0.0
38	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
39	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
40	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
41	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
42	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
43	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
44	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
45	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
46	0.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	0.0
47	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
INITIAL CONCENTRATION (MG/L)

       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
 1   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 2   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 3   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 4   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 5   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 6   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 7   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 8   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
 9   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
10   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
11   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
12   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
13   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
14   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
15   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
16   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
17   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
18   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
19   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
20   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
21   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
22   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
23   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
24   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
25   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
26   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
27   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
28   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
29   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
30   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
31   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
32   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
33   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
34   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
35   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
36   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
37   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
38   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
39   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
40   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
41   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
42   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
43   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
44   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
45   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
46   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
47   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
48   0.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
```

TEMPERATURE FIELD (F)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
2	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
3	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
4	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
5	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
6	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
7	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
8	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
9	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
10	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
11	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
12	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
13	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
14	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
15	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
16	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
17	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
18	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
19	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
20	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
21	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
22	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
23	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
24	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
25	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
26	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
27	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
28	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
29	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
30	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
31	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
32	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
33	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
34	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
35	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
36	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
37	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
38	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
39	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
40	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
41	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
42	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
43	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
44	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
45	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
46	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
47	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0
48	0.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	0.0

```
               AVERAGE SECTION DEPTH FT.
   1     6.600
   2     6.600
   3     8.000
   4    12.900
   5    19.500
   6    22.300
   7    19.500
   8    23.000
   9    19.000
  10    17.100
  11    13.800
  12    17.100
  13    22.000
  14    19.900
  15    17.800
  16    19.700
  17    21.400
  18    23.600
  19    19.600
  20    19.200
  21    23.500
  22    17.400
  23    24.400
  24    26.300
  25    24.000
  26    27.400
  27    33.000
  28    32.900
  29    31.900
  30    33.600
  31    33.500
  32    31.400
  33    31.400
  34    35.200
  35    37.400
  36    36.700
  37    41.900
  38    42.600
  39    46.500
  40    49.900
  41    44.800
  42    44.800
  43    49.300
  44    50.700
  45    54.500
  46    67.400
  47    62.300
  48    65.500
```

```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER =  1     TIME =   0.13HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 3     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 4     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 5     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 6     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 7     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 8     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 9     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
10     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
11     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
12     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
13     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
14     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
15     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
16     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
17     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
18     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
19     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
20     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
21     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
22     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
23     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
24     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
25     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
26     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
27     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
28     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
29     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
30     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
31     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
32     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
33     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
34     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
35     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
36     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
37     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
38     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
39     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
40     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
41     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
42     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
43     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
44     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
45     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
46     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
47     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
U VELOCITY FIELD (-FLOOD) -FPS.     STEP NUMBER =  1     TIME =   0.13HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2   0.0    0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.19   0.0
  3   0.0    0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.0
  4   0.0    0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.0
  5   0.0    0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.0
  6   0.0    0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.0
  7   0.0    0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.0
  8   0.0    0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.0
  9   0.0    0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.0
 10   0.0    0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.0
 11   0.0    0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.0
 12   0.0    0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.0
 13   0.0    0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.29   0.0
 14   0.0    0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.0
 15   0.0    0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.0
 16   0.0    0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.0
 17   0.0    0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.0
 18   0.0    0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.0
 19   0.0    0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.0
 20   0.0    0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.0
 21   0.0    0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.0
 22   0.0    0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.0
 23   0.0    0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.0
 24   0.0    0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.0
 25   0.0    0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.51   0.0
 26   0.0    0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.0
 27   0.0    0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.0
 28   0.0    0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.41   0.0
 29   0.0    0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.45   0.0
 30   0.0    0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.50   0.0
 31   0.0    0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.43   0.0
 32   0.0    0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.44   0.0
 33   0.0    0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.0
 34   0.0    0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.47   0.0
 35   0.0    0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.58   0.0
 36   0.0    0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.68   0.0
 37   0.0    0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.0
 38   0.0    0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.78   0.0
 39   0.0    0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.79   0.0
 40   0.0    0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.83   0.0
 41   0.0    0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.73   0.0
 42   0.0    0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.75   0.0
 43   0.0    0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.99   0.0
 44   0.0    0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.0
 45   0.0    0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.91   0.0
 46   0.0    0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.93   0.0
 47   0.0    0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.0
 48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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* VELOCITY FIELD -FPS.     STEP NUMBER =  1     TIME =  0.13HRS.
           1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  4      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  5      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  6      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  7      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  8      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  9      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 10      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 11      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 12      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 13      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 14      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 15      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 16      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 17      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 18      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 19      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 20      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 21      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 22      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 23      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 24      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 25      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 26      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 27      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 28      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 29      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 30      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 31      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 32      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 33      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 34      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 35      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 36      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 37      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 38      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 39      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 40      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 41      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 42      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 43      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 44      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 45      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 46      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 47      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 48      0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER =  1     TIME =   0.13HRS

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19    3.19     0.0
  3     0.0    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33    4.33     0.0
  4     0.0    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37    5.37     0.0
  5     0.0    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13    6.13     0.0
  6     0.0    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85     0.0
  7     0.0    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02     0.0
  8     0.0    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16     0.0
  9     0.0    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11     0.0
 10     0.0   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62   12.62     0.0
 11     0.0   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24     0.0
 12     0.0   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56     0.0
 13     0.0   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44   11.44     0.0
 14     0.0    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84    5.84     0.0
 15     0.0    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45     0.0
 16     0.0    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99     0.0
 17     0.0   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18     0.0
 18     0.0   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35   12.35     0.0
 19     0.0   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79   13.79     0.0
 20     0.0    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07     0.0
 21     0.0    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19     0.0
 22     0.0    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06     0.0
 23     0.0   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06     0.0
 24     0.0   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49     0.0
 25     0.0   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66     0.0
 26     0.0   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92     0.0
 27     0.0   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77   19.77     0.0
 28     0.0   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76   20.76     0.0
 29     0.0   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13     0.0
 30     0.0   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88   25.88     0.0
 31     0.0   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17     0.0
 32     0.0   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57     0.0
 33     0.0   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88     0.0
 34     0.0   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04     0.0
 35     0.0   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68     0.0
 36     0.0   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05     0.0
 37     0.0   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99     0.0
 38     0.0   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51     0.0
 39     0.0   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30     0.0
 40     0.0   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52     0.0
 41     0.0   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03   48.03     0.0
 42     0.0   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07     0.0
 43     0.0   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67     0.0
 44     0.0   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07   69.07     0.0
 45     0.0   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52     0.0
 46     0.0   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94   86.94     0.0
 47     0.0   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83   69.83     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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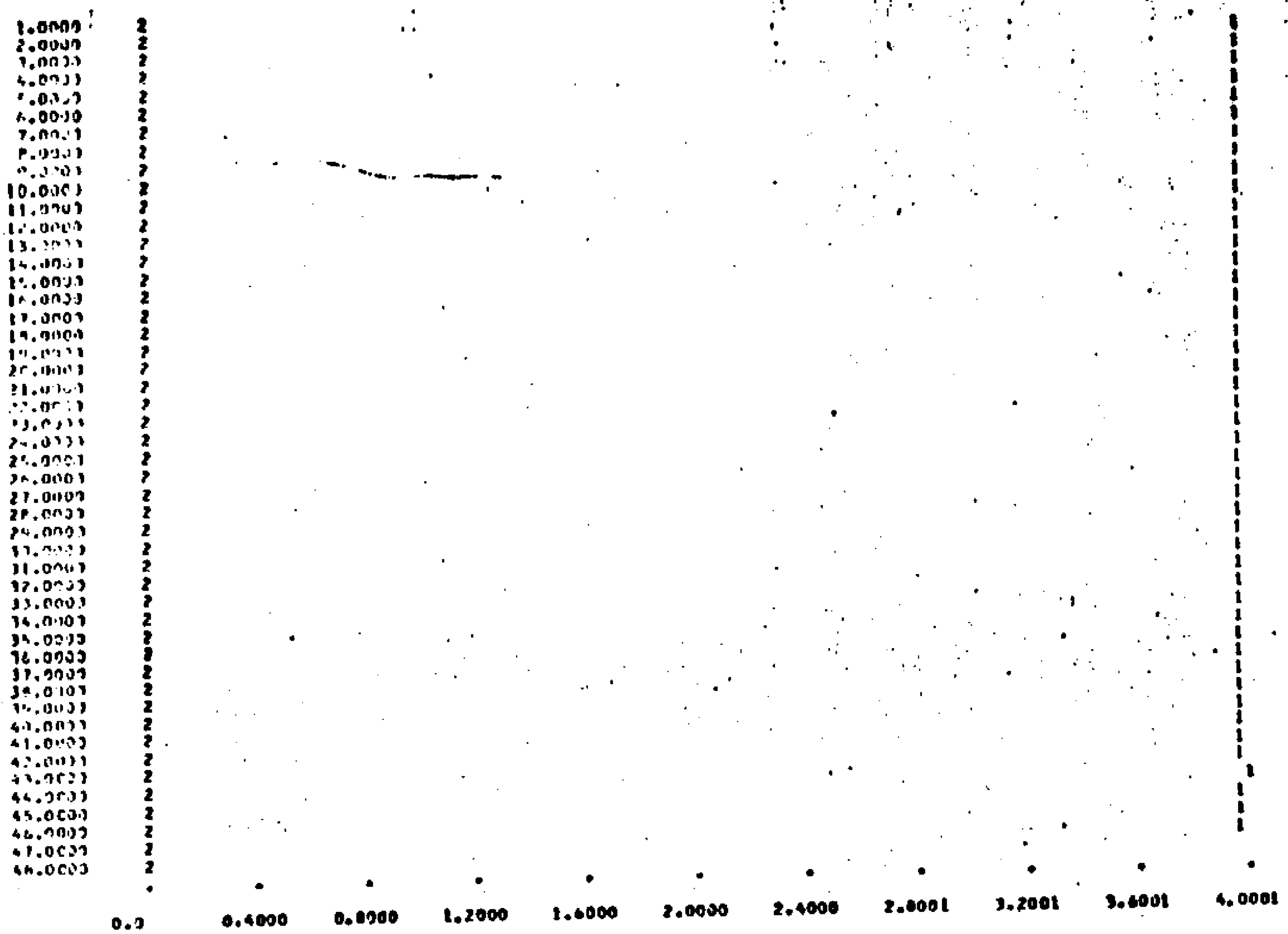
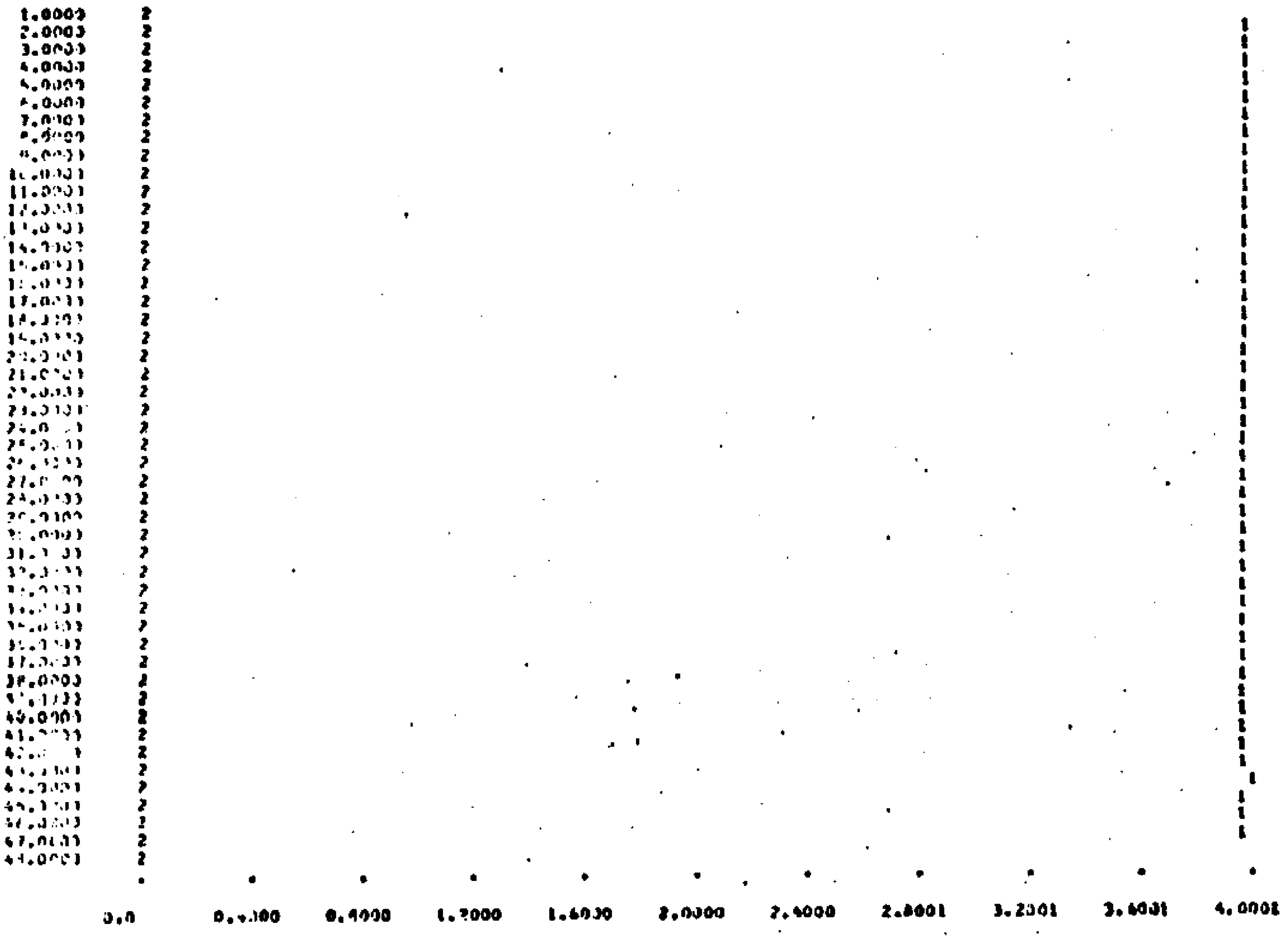
DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)      STEP NUMBER =  1     TIME =   0.13HRS

           1      2      3      4      5      6      7      8      9      10     11     12     13     14     15     16
  1       .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
  2       .0     .00012.00012.00029.00057.00064.00077.00084.00084.00077.00064.00047.00029.00012.0     .0
  3       .0     .00007.00017.00043.00066.00089.00106.00115.00115.00106.00089.00066.00040.00017.0     .0
  4       .0     .00013.00027.00052.00090.00116.00139.00151.00151.00139.00116.00086.00052.00022.0     .0
  5       .0     .00004.00027.00065.00105.00143.00171.00186.00186.00171.00143.00105.00065.00027.0     .0
  6       .0     .00004.00032.00076.00126.00167.00201.00217.00217.00200.00167.00124.00076.00032.0     .0
  7       .0     .00005.00039.00089.00145.00196.00236.00255.00255.00234.00196.00145.00089.00039.0     .0
  8       .0     .00006.00043.00101.00166.00224.00264.00292.00292.00258.00224.00166.00101.00043.0     .0
  9       .0     .00004.00031.00078.00124.00171.00207.00225.00225.00207.00171.00124.00078.00031.0     .0
 10       .0     .00037.00058.00135.00221.00299.00351.00387.00387.00358.00299.00221.00135.00058.0     .0
 11       .0     .00018.00064.00150.00244.00331.00396.00430.00430.00396.00331.00244.00153.00064.0     .0
 12       .0     .00016.00047.00111.00181.00245.00291.00319.00319.00293.00245.00181.00111.00047.0     .0
 13       .0     .00017.00053.00125.00204.00276.00330.00359.00359.00330.00276.00204.00125.00053.0     .0
 14       .0     .00012.00027.00065.00105.00143.00171.00196.00196.00171.00143.00105.00065.00027.0     .0
 15       .0     .00009.00039.00092.00150.00211.00242.00264.00264.00242.00211.00150.00092.00039.0     .0
 16       .0     .00013.00046.00104.00176.00239.00281.00311.00311.00285.00239.00175.00128.00046.0     .0
 17       .0     .00007.00052.00123.00203.00271.00324.00362.00362.00324.00271.00203.00121.00052.0     .0
 18       .0     .00018.00059.00139.00226.00305.00365.00397.00397.00365.00305.00226.00139.00059.0     .0
 19       .0     .00015.00054.00151.00250.00339.00409.00441.00441.00409.00339.00250.00151.00054.0     .0
 20       .0     .00013.00017.00074.00144.00195.00233.00261.00261.00233.00195.00144.00074.00017.0     .0
 21       .0     .00045.00016.00069.00147.00198.00237.00250.00250.00237.00198.00147.00090.00041.0     .0
 22       .0     .00015.00012.00094.00161.00218.00263.00281.00281.00260.00219.00161.00099.00042.0     .0
 23       .0     .00011.00071.00160.00272.00364.00453.00474.00479.00440.00364.00272.00156.00071.0     .0
 24       .0     .00014.00115.00154.00251.00349.00407.00462.00462.00407.00349.00251.00144.00115.0     .0
 25       .0     .00012.00095.00224.00366.00455.00502.00534.00544.00532.00455.00366.00224.00095.0     .0
 26       .0     .00017.00092.00217.00355.00477.00573.00623.00621.00573.00479.00354.00217.00092.0     .0
 27       .0     .00011.00090.00232.00383.00514.00615.00654.00649.00615.00514.00389.00232.00097.0     .0
 28       .0     .00016.00105.00267.00406.00557.00655.00711.00711.00655.00557.00401.00267.00105.0     .0
 29       .0     .00014.00112.00261.00413.00547.00635.00756.00754.00635.00537.00413.00263.00112.0     .0
 30       .0     .00017.00131.00308.00505.00682.00815.00896.00895.00815.00682.00534.00308.00131.0     .0
 31       .0     .00015.00113.00265.00411.00560.00701.00762.00762.00701.00560.00411.00265.00113.0     .0
 32       .0     .00016.00109.00256.00419.00527.00678.00747.00717.00676.00527.00413.00256.00109.0     .0
 33       .0     .00015.00115.00273.00462.00598.00715.00773.00776.00715.00591.00462.00273.00115.0     .0
 34       .0     .00017.00133.00312.00509.00689.00823.00870.00875.00824.00689.00509.00312.00133.0     .0
 35       .0     .00022.00149.00357.00659.00877.01031.01151.01161.01059.00877.00664.00397.00149.0     .0
 36       .0     .00015.00147.00462.00756.01022.01273.01321.01329.01273.01022.00756.00462.00177.0     .0
 37       .0     .00025.00236.00478.00782.01058.01265.01376.01376.01265.01058.00782.00478.00236.0     .0
 38       .0     .00036.00279.00654.01072.01451.01735.01896.01896.01735.01451.01072.00655.00279.0     .0
 39       .0     .00037.00236.00672.01097.01485.01776.01931.01931.01776.01495.01097.00672.00236.0     .0
 40       .0     .00044.00292.00686.01121.01517.01815.01971.01971.01815.01517.01121.00686.00292.0     .0
 41       .0     .00033.00256.00603.00985.01333.01594.01734.01733.01594.01333.00985.00603.00256.0     .0
 42       .0     .00031.00262.00614.01006.01361.01628.01773.01770.01628.01361.01006.00610.00262.0     .0
 43       .0     .00168.00374.00879.01437.01945.02326.02529.02529.02326.01945.01437.00874.00374.0     .0
 44       .0     .00153.00380.00894.01460.01976.02363.02570.02570.02363.01976.01463.00895.00380.0     .0
 45       .0     .00351.00486.00904.01494.02009.02401.02511.02611.02491.02007.01494.00904.00346.0     .0
 46       .0     .00363.00488.01143.01876.02538.03015.03101.03101.03015.02534.01876.01146.00498.0     .0
 47       .0     .00351.00396.00932.01522.02060.02463.02678.02678.02463.02059.01522.00932.00396.0     .0
 48       .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
```

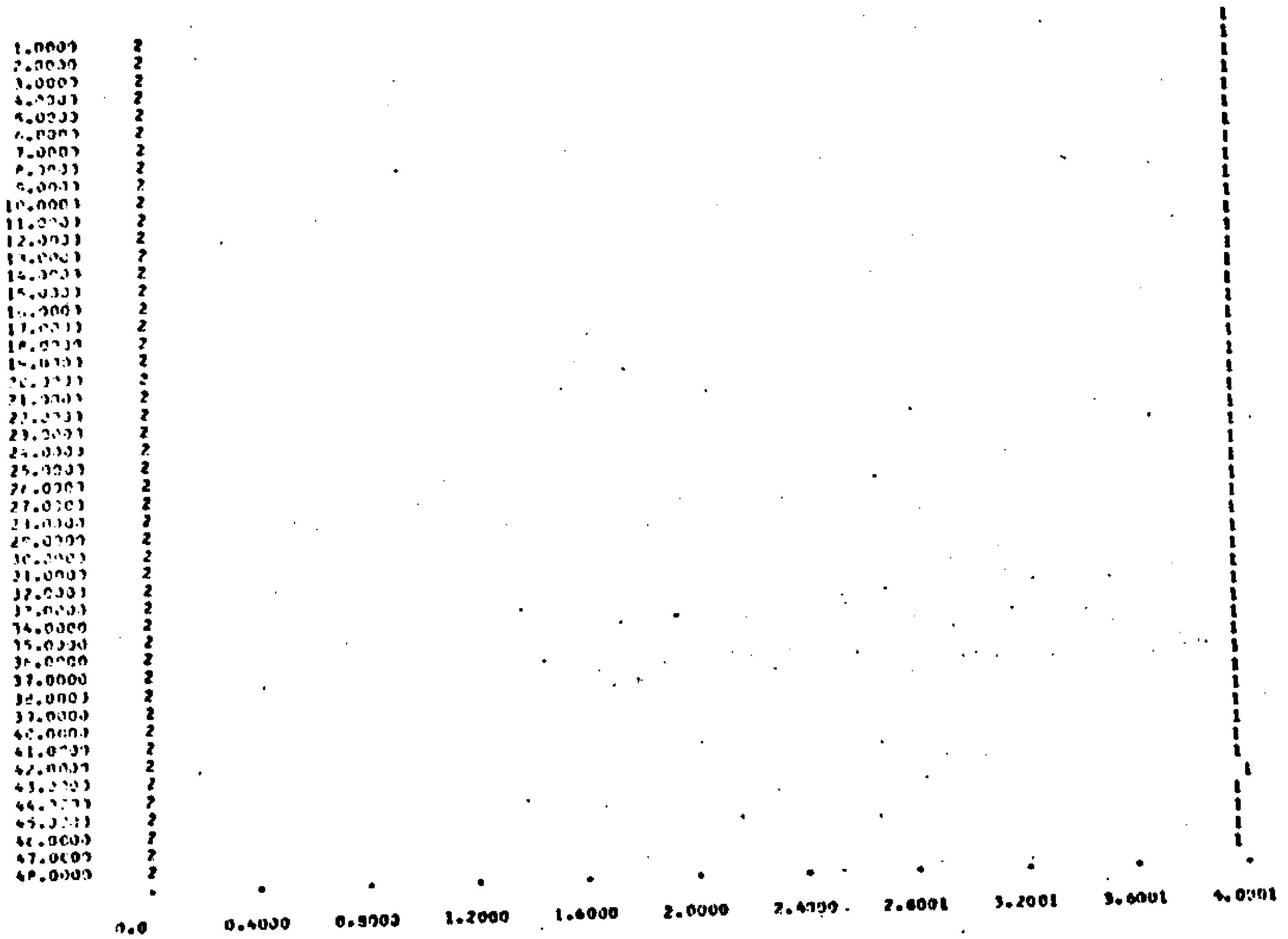
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 16



C.O. (1) & N.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)    STEP NUMBER = 50    TIME =  6.67HRS.
          1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  3     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  4     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  5     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  6     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  7     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  8     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
  9     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 10     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 11     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 12     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 13     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 14     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 15     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 16     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 17     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 18     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 19     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 20     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 21     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 22     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 23     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 24     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 25     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 26     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 27     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 28     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 29     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 30     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 31     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 32     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 33     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 34     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 35     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 36     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 37     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 38     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 39     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 40     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 41     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 42     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 43     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 44     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 45     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 46     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 47     0.0  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00  4.00   0.0
 48     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
U VELOCITY FIELD (-FLOOD) -FPS.      STEP NUMBER = 50      TIME =    6.67HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2   0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22    0.0
  3   0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22    0.0
  4   0.0  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18    0.0
  5   0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13    0.0
  6   0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13    0.0
  7   0.0  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17    0.0
  8   0.0  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17    0.0
  9   0.0  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17    0.0
 10   0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30    0.0
 11   0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41    0.0
 12   0.0  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24    0.0
 13   0.0  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21    0.0
 14   0.0  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12    0.0
 15   0.0  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18    0.0
 16   0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20    0.0
 17   0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20    0.0
 18   0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20    0.0
 19   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 20   0.0  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16    0.0
 21   0.0  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15    0.0
 22   0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19    0.0
 23   0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23    0.0
 24   0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19    0.0
 25   0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30    0.0
 26   0.0  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25    0.0
 27   0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23    0.0
 28   0.0  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24    0.0
 29   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 30   0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30    0.0
 31   0.0  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26    0.0
 32   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 33   0.0  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28    0.0
 34   0.0  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28    0.0
 35   0.0  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35    0.0
 36   0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41    0.0
 37   0.0  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38    0.0
 38   0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47    0.0
 39   0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47    0.0
 40   0.0  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50    0.0
 41   0.0  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44    0.0
 42   0.0  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45    0.0
 43   0.0  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60    0.0
 44   0.0  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49    0.0
 45   0.0  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55    0.0
 46   0.0  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56    0.0
 47   0.0  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49    0.0
 48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
U VELOCITY FIELD -FPS.     STEP NUMBER = 50     TIME =  6.67HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 43     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 44     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 45     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 46     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 47     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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```
 DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER = 50     TIME =   6.67HRS

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41   2.41    0.0
  3     0.0   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07   3.07    0.0
  4     0.0   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71   3.71    0.0
  5     0.0   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14   4.14    0.0
  6     0.0   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67    0.0
  7     0.0   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45   5.45    0.0
  8     0.0   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18    0.0
  9     0.0   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78    0.0
 10     0.0   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37   8.37    0.0
 11     0.0   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31    0.0
 12     0.0   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96    0.0
 13     0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 14     0.0   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76    0.0
 15     0.0   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37    0.0
 16     0.0   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25    0.0
 17     0.0   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99    0.0
 18     0.0   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67   7.67    0.0
 19     0.0   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55   8.55    0.0
 20     0.0   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00    0.0
 21     0.0   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08    0.0
 22     0.0   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58    0.0
 23     0.0   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23    0.0
 24     0.0   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16    0.0
 25     0.0  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83    0.0
 26     0.0  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36    0.0
 27     0.0  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84    0.0
 28     0.0  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44  12.44    0.0
 29     0.0  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23  13.23    0.0
 30     0.0  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47    0.0
 31     0.0  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30    0.0
 32     0.0  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02    0.0
 33     0.0  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88    0.0
 34     0.0  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78    0.0
 35     0.0  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89  19.89    0.0
 36     0.0  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17    0.0
 37     0.0  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70    0.0
 38     0.0  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92    0.0
 39     0.0  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39    0.0
 40     0.0  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17  33.17    0.0
 41     0.0  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21  29.21    0.0
 42     0.0  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97    0.0
 43     0.0  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53    0.0
 44     0.0  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19    0.0
 45     0.0  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56    0.0
 46     0.0  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46    0.0
 47     0.0  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01  43.01    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)     STEP NUMBER = 50     TIME =    6.67HRS

         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
  2     .0     .00031.00009.00022.00016.00048.00058.00063.00063.00058.00049.00036.00027.00019.0     .0
  3     .0     .00032.00012.00029.00047.00063.00075.00092.00087.00075.00063.00047.00028.00012.0     .0
  4     .0     .00032.00015.00036.00059.00090.00096.00104.00109.00096.00080.00059.00036.00015.0     .0
  5     .0     .00032.00015.00044.00071.00096.00115.00125.00125.00115.00096.00071.00044.00019.0     .0
  6     .0     .00033.00022.00052.00094.00114.00132.00146.00141.00136.00114.00094.00057.00022.0     .0
  7     .0     .00031.00026.00060.00099.00131.00159.00171.00171.00159.00131.00098.00057.00026.0     .0
  8     .0     .00034.00029.00064.00112.00151.00181.00187.00167.00191.00151.00112.00063.00024.0     .0
  9     .0     .00093.00022.00053.00086.00116.00139.00151.00151.00139.00116.00086.00053.00027.0     .0
 10     .0     .00033.00030.00079.00147.00179.00217.00254.00254.00237.00179.00147.00091.00038.0     .0
 11     .0     .00035.00042.00094.00160.00216.00254.00211.00201.00255.00216.00160.00094.00042.0     .0
 12     .0     .00004.00011.00071.00119.00162.00193.00210.00211.00193.00162.00117.00073.00031.0     .0
 13     .0     .00035.00035.00042.00136.00141.00214.00245.00236.00216.00101.00114.00072.00035.0     .0
 14     .0     .00007.00010.00042.00069.00092.00113.00129.00120.00110.00092.00069.00042.00018.0     .0
 15     .0     .00031.00025.00059.00096.00129.00155.00168.00164.00155.00129.00095.00058.00025.0     .0
 16     .0     .00005.00029.00067.00110.00149.00176.00194.00194.00176.00149.00110.00067.00029.0     .0
 17     .0     .00015.00031.00077.00125.00169.00201.00220.00224.00201.00169.00125.00077.00031.0     .0
 18     .0     .00016.00036.00086.00140.00190.00227.00257.00247.00227.00190.00140.00086.00036.0     .0
 19     .0     .00035.00040.00095.00155.00210.00251.00273.00273.00251.00210.00155.00095.00040.0     .0
 20     .0     .00013.00021.00055.00099.00124.00144.00157.00157.00144.00124.00089.00055.00023.0     .0
 21     .0     .00011.00024.00056.00091.00123.00147.00150.00162.00147.00124.00091.00056.00024.0     .0
 22     .0     .00001.00026.00061.00099.00134.00163.00176.00175.00163.00134.00099.00061.00026.0     .0
 23     .0     .00014.00043.00102.00167.00225.00273.00293.00293.00270.00225.00167.00102.00043.0     .0
 24     .0     .00015.00040.00093.00152.00206.00246.00267.00266.00246.00216.00152.00093.00039.0     .0
 25     .0     .00017.00057.00135.00220.00298.00355.00397.00397.00355.00298.00220.00135.00057.0     .0
 26     .0     .00007.00055.00139.00212.00293.00365.00376.00376.00344.00293.00212.00139.00055.0     .0
 27     .0     .00014.00059.00139.00227.00309.00369.00410.00410.00369.00309.00227.00139.00059.0     .0
 28     .0     .00031.00061.00146.00242.00328.00392.00426.00426.00392.00328.00242.00146.00061.0     .0
 29     .0     .00091.00067.00157.00257.00348.00416.00452.00452.00415.00349.00257.00157.00057.0     .0
 30     .0     .00017.00078.00185.00301.00407.00487.00519.00519.00497.00417.00301.00194.00074.0     .0
 31     .0     .00010.00068.00153.00250.00352.00421.00457.00457.00421.00352.00253.00153.00055.0     .0
 32     .0     .00009.00066.00155.00253.00342.00405.00445.00445.00406.00342.00253.00155.00066.0     .0
 33     .0     .00009.00070.00164.00268.00363.00433.00472.00472.00434.00363.00269.00165.00071.0     .0
 34     .0     .00013.00090.00187.00309.00417.00497.00561.00561.00540.00417.00308.00191.00097.0     .0
 35     .0     .00011.00103.00241.00394.00534.00641.00696.00696.00636.00534.00394.00241.00103.0     .0
 36     .0     .00018.00120.00282.00461.00621.00743.00810.00813.00746.00621.00461.00282.00124.0     .0
 37     .0     .00016.00124.00291.00475.00643.00769.00836.00836.00769.00643.00475.00291.00126.0     .0
 38     .0     .00022.00170.00399.00652.00882.01054.01147.01147.01054.00882.00652.00399.00173.0     .0
 39     .0     .00022.00174.00409.00667.00902.01077.01174.01174.01079.00902.00667.00409.00177.0     .0
 40     .0     .00021.00170.00417.00682.00921.01104.01203.01203.01114.00971.00682.00417.00178.0     .0
 41     .0     .00021.00156.00367.00599.00813.00967.01054.01054.00959.00813.00599.00367.00156.0     .0
 42     .0     .00021.00160.00376.00614.00831.00995.01081.01081.00995.00831.00614.00376.00160.0     .0
 43     .0     .00030.00228.00537.00877.01187.01423.01544.01543.01420.01187.00877.00537.00228.0     .0
 44     .0     .00011.00232.00546.00892.01207.01445.01578.01577.01445.01207.00892.00545.00232.0     .0
 45     .0     .00011.00236.00556.00709.01229.01471.01598.01594.01470.01229.00709.00556.00236.0     .0
 46     .0     .00019.00300.00736.01153.01561.01965.02029.02029.01856.01561.01153.00706.00300.0     .0
 47     .0     .00032.00244.00574.00937.01269.01517.01650.01650.01517.01269.00937.00574.00244.0     .0
 48     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
```
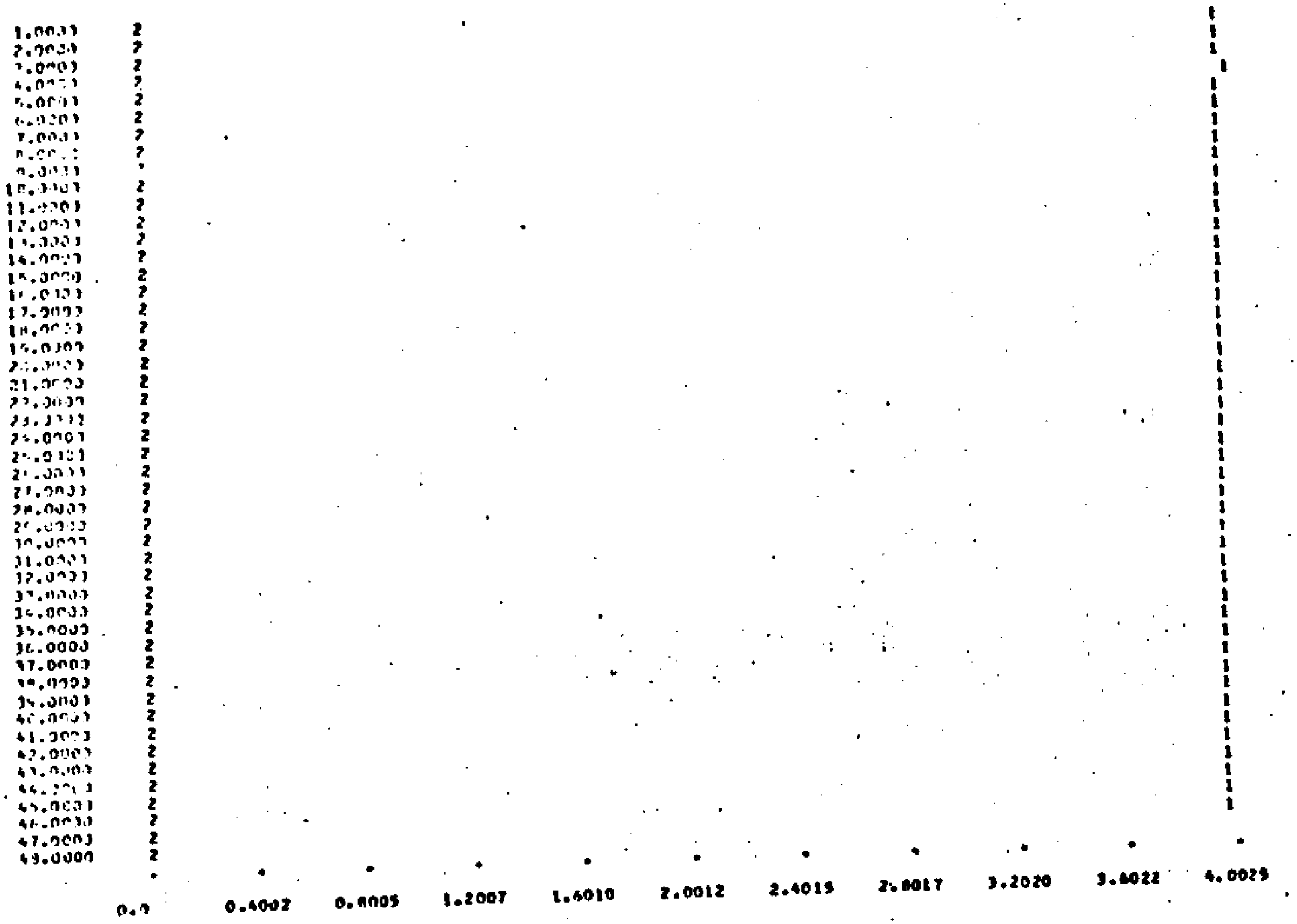
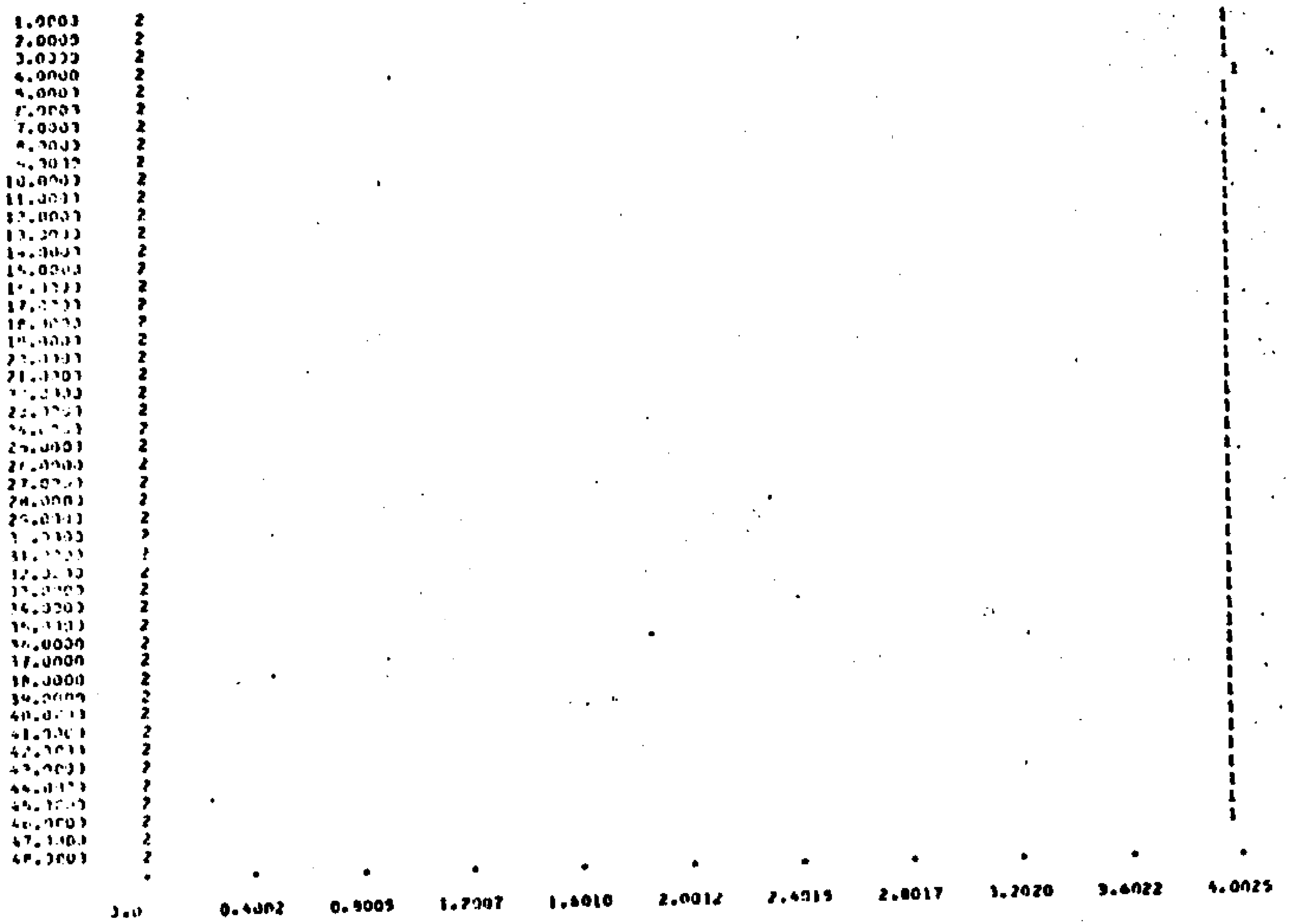
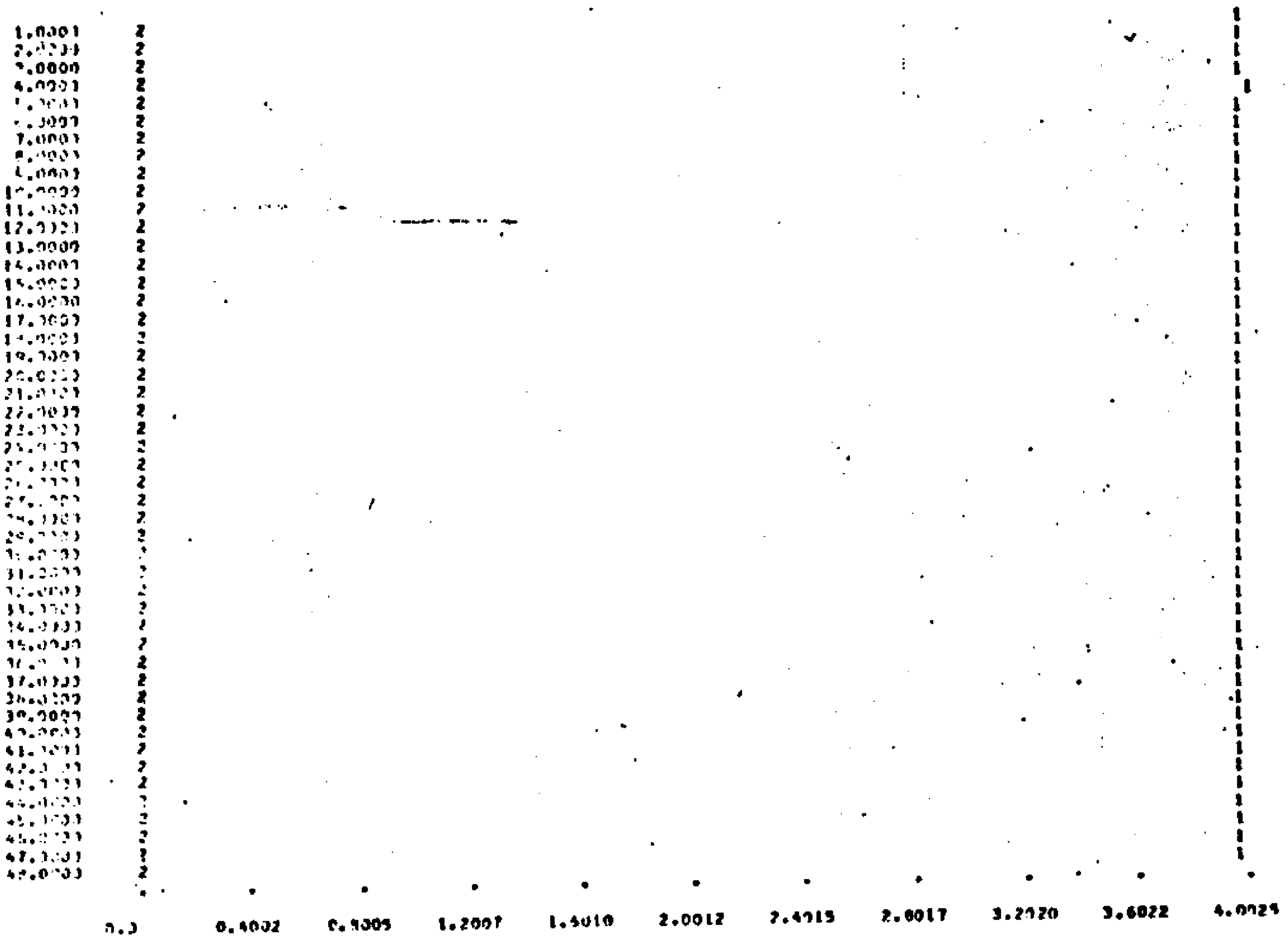

D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



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CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 99     TIME =  13.20HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  3     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  4     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  5     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  6     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  7     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  8     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
  9     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 10     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 11     0.0   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99    0.0
 12     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.01    0.0
 13     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 14     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 15     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 16     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 17     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 18     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 19     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 20     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 21     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 22     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 23     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 24     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 25     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 26     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 27     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 28     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 29     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 30     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 31     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 32     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 33     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 34     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 35     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 36     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 37     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 38     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 39     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 40     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 41     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 42     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 43     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 44     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 45     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 46     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 47     0.0   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00   4.00    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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U VELOCITY FIELD (-FLOOD) -FPS.     STEP NUMBER = 99    .TIME =  13.20HRS.

         1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
 1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 2     0.0    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23     0.0
 3     0.0    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26    0.26     0.0
 4     0.0    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23     0.0
 5     0.0    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17    0.17     0.0
 6     0.0    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18    0.18     0.0
 7     0.0    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24    0.24     0.0
 8     0.0    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23    0.23     0.0
 9     0.0    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22     0.0
10     0.0    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40     0.0
11     0.0    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55    0.55     0.0
12     0.0    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33     0.0
13     0.0    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28     0.0
14     0.0    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16    0.16     0.0
15     0.0    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25    0.25     0.0
16     0.0    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29    0.29     0.0
17     0.0    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28     0.0
18     0.0    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28    0.28     0.0
19     0.0    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39     0.0
20     0.0    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22    0.22     0.0
21     0.0    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21    0.21     0.0
22     0.0    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27     0.0
23     0.0    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32    0.32     0.0
24     0.0    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27    0.27     0.0
25     0.0    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42    0.42     0.0
26     0.0    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35     0.0
27     0.0    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31    0.31     0.0
28     0.0    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33    0.33     0.0
29     0.0    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36     0.0
30     0.0    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40    0.40     0.0
31     0.0    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35    0.35     0.0
32     0.0    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36    0.36     0.0
33     0.0    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39    0.39     0.0
34     0.0    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37    0.37     0.0
35     0.0    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46    0.46     0.0
36     0.0    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54    0.54     0.0
37     0.0    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49    0.49     0.0
38     0.0    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61     0.0
39     0.0    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61     0.0
40     0.0    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64    0.64     0.0
41     0.0    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56    0.56     0.0
42     0.0    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57    0.57     0.0
43     0.0    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76    0.76     0.0
44     0.0    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62    0.62     0.0
45     0.0    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69    0.69     0.0
46     0.0    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70    0.70     0.0
47     0.0    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61    0.61     0.0
48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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```
W VELOCITY FIELD -FPS.      STEP NUMBER = 99      TIME =  13.20MS.

            1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  4       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  5       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  7       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  8       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  9       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 10       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 11       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 12       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 13       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 14       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 15       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 16       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 17       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 18       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 19       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 20       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 21       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 22       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 23       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 24       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 25       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 26       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 27       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 28       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 29       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 30       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 31       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 32       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 33       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 34       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 35       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 36       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 37       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 38       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 39       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 40       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 41       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 42       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 43       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 44       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 45       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 46       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 47       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 48       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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```
DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)      STEP NUMBER = 99     TIME =  13.70HRS

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35   3.35    0.0
  3    0.0   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42   4.42    0.0
  4    0.0   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30   5.30    0.0
  5    0.0   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97   5.97    0.0
  6    0.0   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73   6.73    0.0
  7    0.0   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77   7.77    0.0
  8    0.0   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78   8.78    0.0
  9    0.0   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79   6.79    0.0
 10    0.0  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79  11.79    0.0
 11    0.0  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28  13.28    0.0
 12    0.0   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71   9.71    0.0
 13    0.0  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49  10.49    0.0
 14    0.0   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21   5.21    0.0
 15    0.0   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44   7.44    0.0
 16    0.0   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64   8.64    0.0
 17    0.0   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67   9.67    0.0
 18    0.0  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62  10.62    0.0
 19    0.0  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82  11.82    0.0
 20    0.0   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97   6.97    0.0
 21    0.0   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90   6.90    0.0
 22    0.0   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58   7.58    0.0
 23    0.0  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40  12.40    0.0
 24    0.0  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92  10.92    0.0
 25    0.0  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73  15.73    0.0
 26    0.0  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02  15.02    0.0
 27    0.0  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58  15.58    0.0
 28    0.0  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31  16.31    0.0
 29    0.0  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31  17.31    0.0
 30    0.0  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16  20.16    0.0
 31    0.0  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25  17.25    0.0
 32    0.0  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80  16.80    0.0
 33    0.0  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81  17.81    0.0
 34    0.0  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14  20.14    0.0
 35    0.0  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23  25.23    0.0
 36    0.0  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27  29.27    0.0
 37    0.0  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83  29.83    0.0
 38    0.0  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00  40.00    0.0
 39    0.0  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43  40.43    0.0
 40    0.0  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24  41.24    0.0
 41    0.0  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16  36.16    0.0
 42    0.0  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87  36.87    0.0
 43    0.0  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17  52.17    0.0
 44    0.0  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50  51.50    0.0
 45    0.0  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53  51.53    0.0
 46    0.0  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10  64.10    0.0
 47    0.0  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21  51.21    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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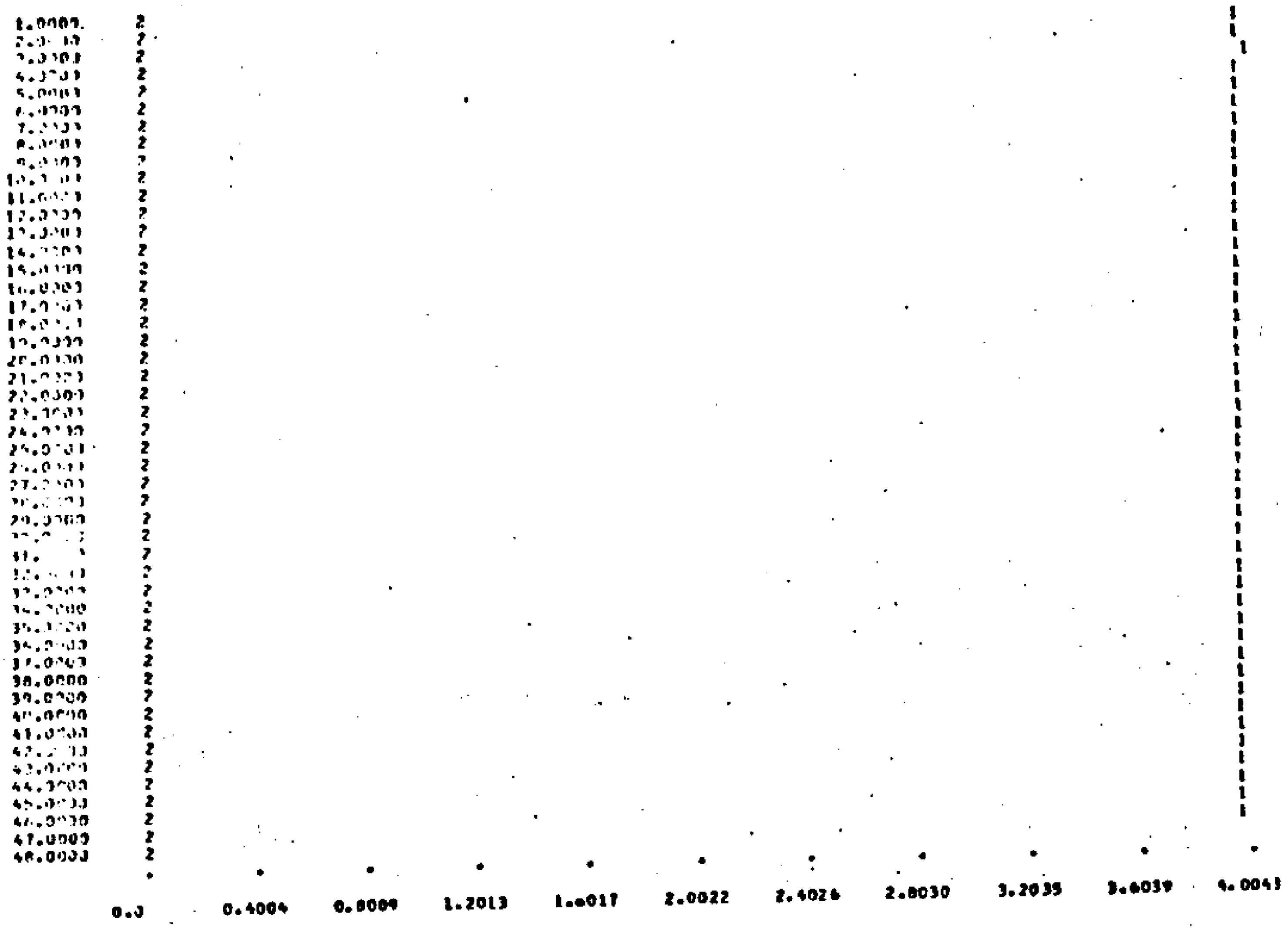
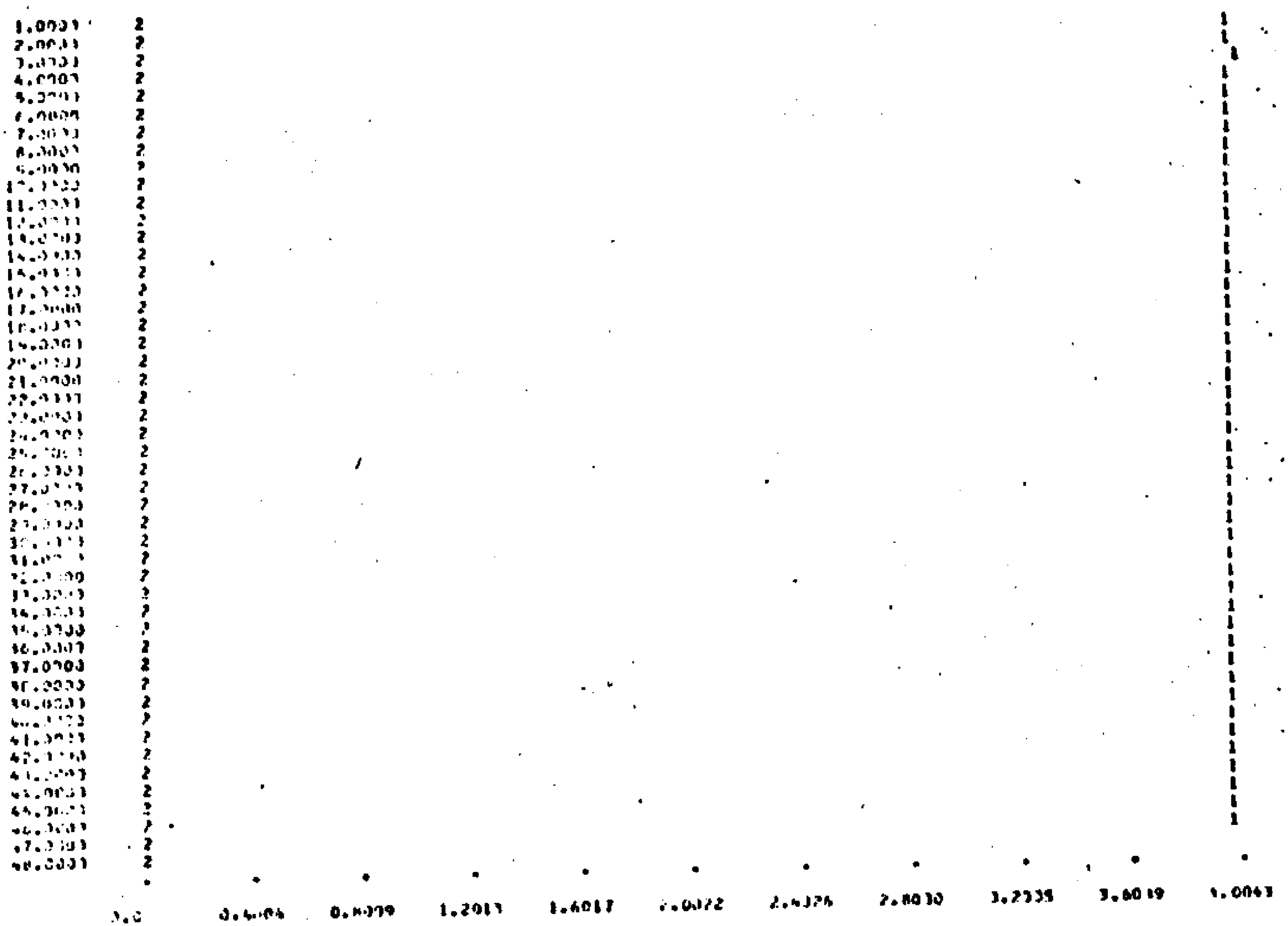
DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)      STEP NUMBER = 99      TIME =  13.20HRS

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1       .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
 2       .0     .00002.00013.00031.00050.00067.00081.00088.00088.00081.00067.00050.00031.00013.0     .0
 3       .0     .00007.00017.00041.00067.00091.00109.00118.00118.00109.00091.00067.00041.00017.0     .0
 4       .0     .00003.00022.00052.00095.00114.00137.00149.00149.00137.00114.00095.00052.00022.0     .0
 5       .0     .00003.00027.00063.00103.00139.00166.00181.00181.00166.00139.00103.00063.00027.0     .0
 6       .0     .00004.00032.00074.00121.00164.00196.00213.00213.00196.00164.00121.00074.00032.0     .0
 7       .0     .00005.00036.00085.00140.00190.00227.00246.00246.00227.00190.00140.00085.00036.0     .0
 8       .0     .00005.00041.00097.00159.00214.00257.00240.00240.00257.00215.00159.00097.00041.0     .0
 9       .0     .00004.00032.00075.00122.00165.00194.00215.00215.00198.00165.00122.00075.00032.0     .0
10       .0     .00007.00054.00126.00207.00280.00334.00354.00354.00334.00280.00207.00126.00054.0     .0
11       .0     .00008.00059.00139.00228.00308.00368.00401.00401.00368.00308.00228.00139.00059.0     .0
12       .0     .00006.00043.00102.00167.00226.00271.00293.00293.00270.00226.00167.00102.00043.0     .0
13       .0     .00006.00049.00115.00187.00253.00301.00313.00313.00301.00253.00187.00115.00049.0     .0
14       .0     .00003.00024.00054.00094.00127.00152.00166.00166.00152.00127.00094.00058.00026.0     .0
15       .0     .00004.00034.00081.00132.00179.00214.00232.00232.00214.00179.00132.00081.00034.0     .0
16       .0     .00005.00040.00093.00152.00206.00247.00264.00264.00247.00206.00152.00093.00040.0     .0
17       .0     .00006.00045.00106.00173.00235.00280.00305.00305.00280.00235.00173.00106.00045.0     .0
18       .0     .00007.00050.00119.00194.00262.00314.00341.00341.00314.00262.00194.00119.00050.0     .0
19       .0     .00007.00056.00131.00215.00290.00347.00378.00378.00347.00290.00215.00131.00056.0     .0
20       .0     .00004.00032.00075.00122.00166.00198.00215.00215.00198.00166.00122.00075.00032.0     .0
21       .0     .00005.00032.00076.00123.00167.00200.00217.00217.00200.00167.00123.00075.00032.0     .0
22       .0     .00005.00035.00082.00135.00182.00218.00237.00237.00218.00182.00135.00082.00035.0     .0
23       .0     .00006.00050.00117.00194.00263.00302.00304.00304.00302.00263.00194.00117.00050.0     .0
24       .0     .00007.00053.00125.00204.00275.00329.00354.00354.00329.00275.00204.00125.00053.0     .0
25       .0     .00013.00076.00177.00291.00396.00475.00515.00515.00475.00396.00291.00177.00076.0     .0
26       .0     .00009.00073.00172.00281.00380.00455.00496.00496.00455.00380.00281.00172.00073.0     .0
27       .0     .00013.00078.00183.00299.00405.00484.00527.00527.00484.00405.00299.00183.00078.0     .0
28       .0     .00011.00083.00194.00318.00430.00514.00559.00559.00514.00430.00318.00194.00083.0     .0
29       .0     .00011.00087.00205.00336.00455.00544.00591.00591.00544.00455.00336.00205.00087.0     .0
30       .0     .00014.00107.00253.00392.00531.00635.00691.00691.00635.00531.00392.00253.00107.0     .0
31       .0     .00011.00084.00206.00337.00456.00546.00593.00593.00546.00456.00337.00206.00084.0     .0
32       .0     .00011.00094.00220.00376.00462.00528.00574.00574.00528.00462.00376.00220.00094.0     .0
33       .0     .00012.00090.00211.00344.00466.00557.00605.00605.00557.00466.00344.00211.00090.0     .0
34       .0     .00011.00103.00241.00394.00533.00637.00693.00693.00637.00533.00394.00241.00103.0     .0
35       .0     .00017.00130.00306.00500.00677.00810.00881.00881.00810.00677.00500.00306.00130.0     .0
36       .0     .00021.00151.00356.00581.00786.00941.01023.01023.00941.00786.00581.00356.00151.0     .0
37       .0     .00021.00156.00366.00598.00809.00968.01052.01052.00968.00809.00598.00366.00156.0     .0
38       .0     .00024.00213.00500.00816.01105.01321.01437.01437.01321.01105.00816.00500.00213.0     .0
39       .0     .00024.00217.00509.00832.01126.01347.01465.01465.01347.01126.00832.00509.00217.0     .0
40       .0     .00029.00221.00519.00848.01148.01373.01493.01493.01373.01148.00848.00519.00221.0     .0
41       .0     .00025.00193.00454.00741.01003.01200.01306.01306.01200.01003.00741.00454.00193.0     .0
42       .0     .00025.00197.00462.00756.01022.01223.01330.01330.01223.01022.00756.00462.00197.0     .0
43       .0     .00036.00280.00659.01076.01456.01741.01893.01893.01741.01456.01076.00659.00280.0     .0
44       .0     .00037.00283.00666.01089.01473.01762.01916.01916.01762.01473.01089.00666.00283.0     .0
45       .0     .00037.00286.00673.01100.01488.01780.01935.01935.01780.01488.01100.00673.00286.0     .0
46       .0     .00047.00360.00847.01385.01874.02241.02435.02436.02241.01874.01385.00847.00360.0     .0
47       .0     .00038.00291.00683.01116.01511.01807.01964.01964.01807.01511.01116.00683.00291.0     .0
48       .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
```

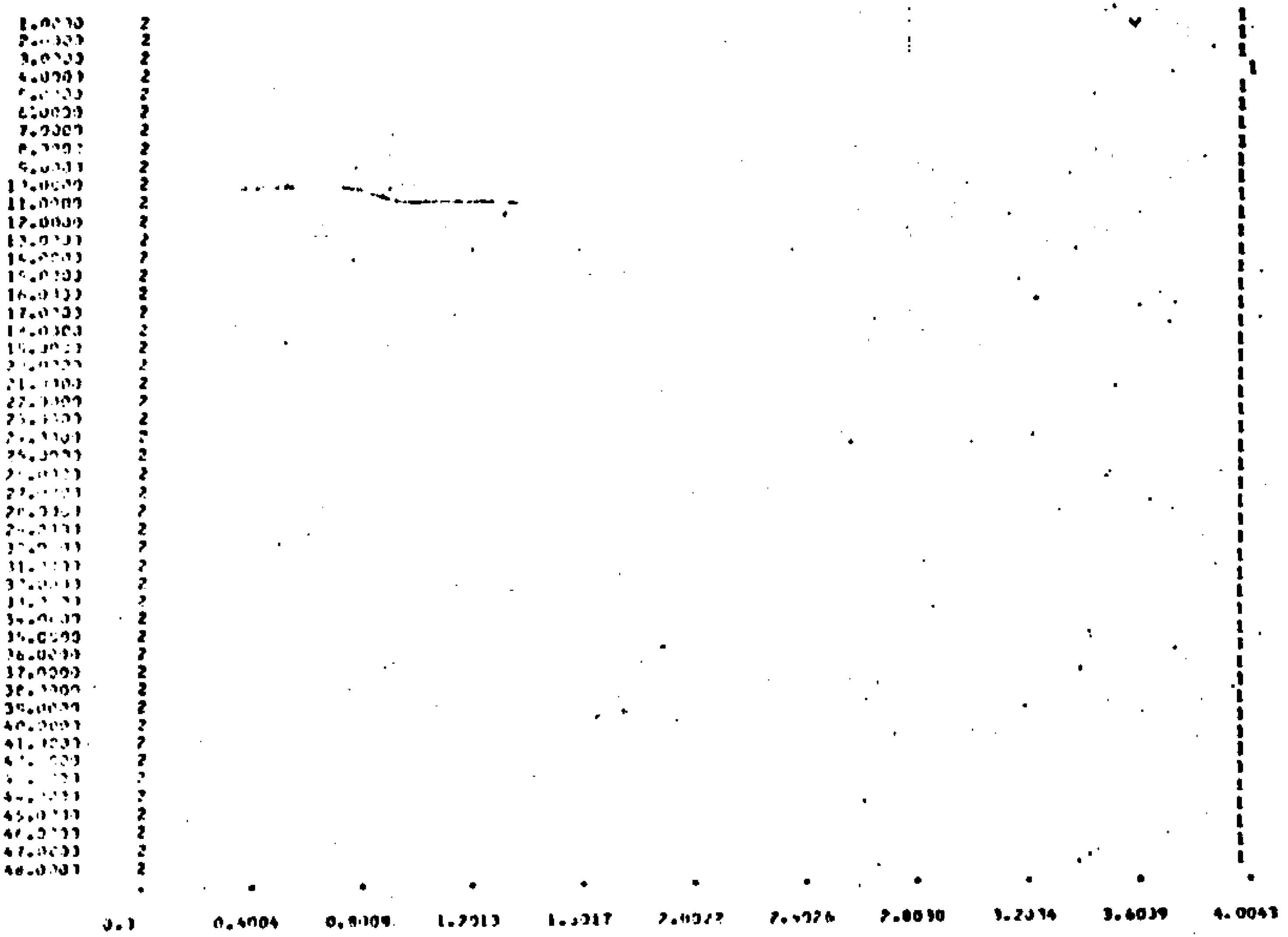
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



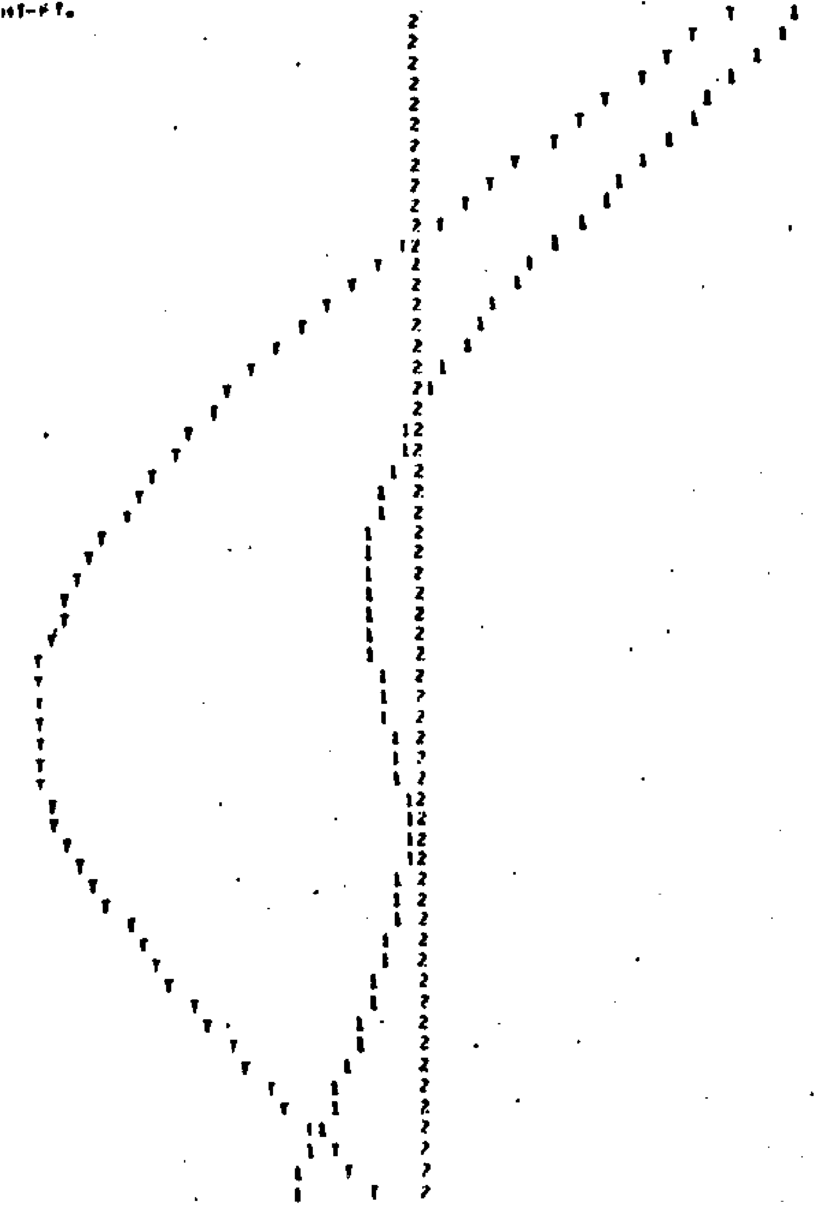
D.O. (1) & D.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



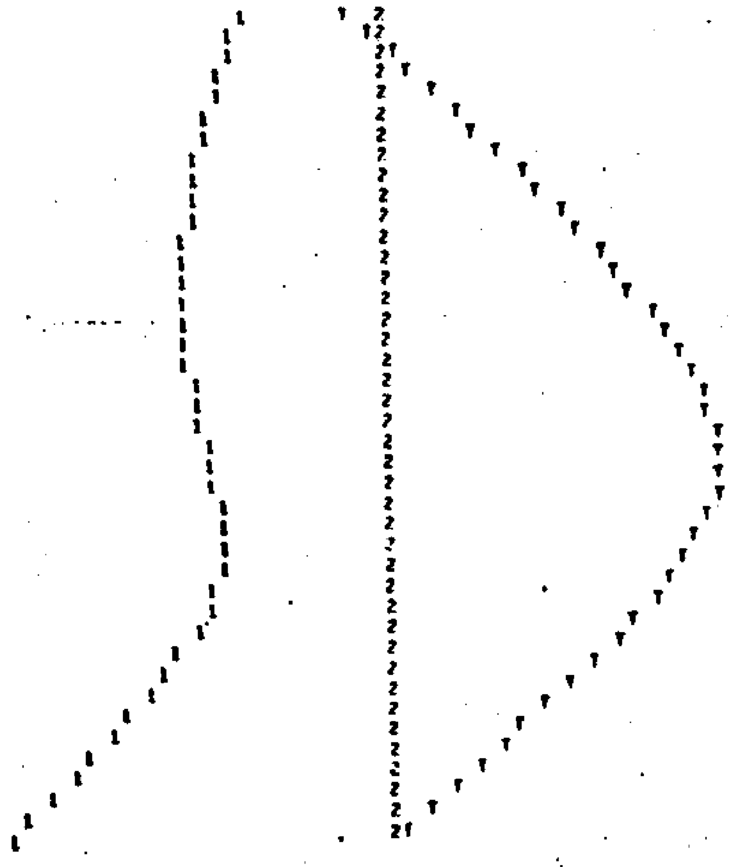
AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



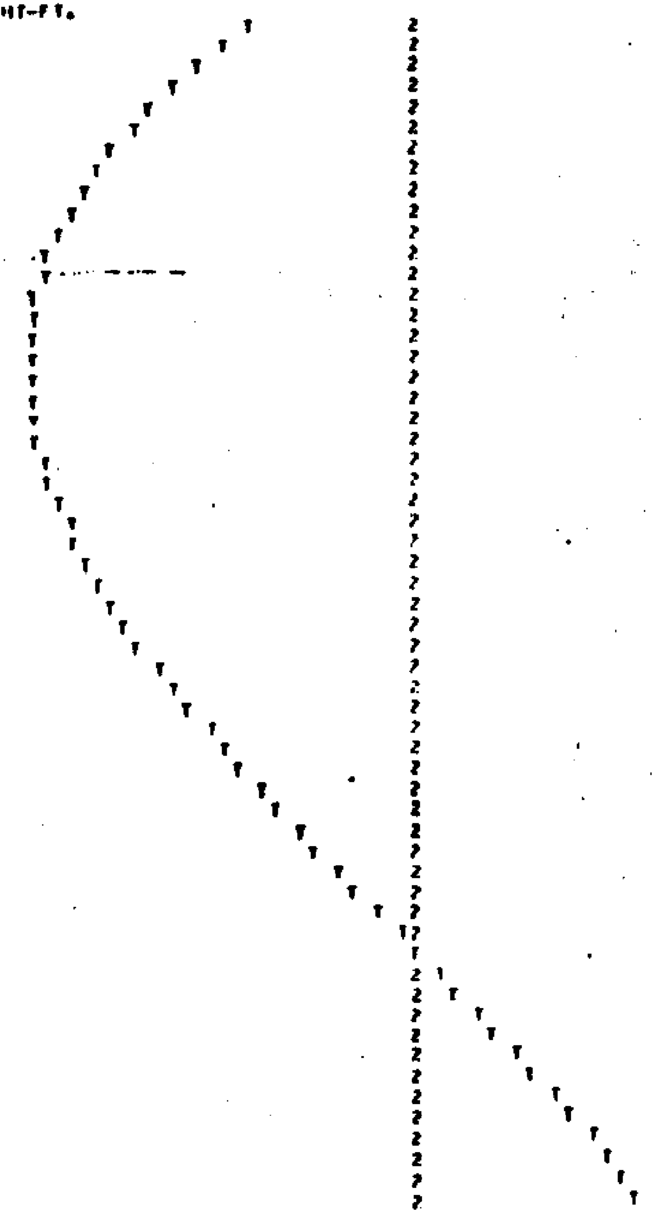
```
     PLOT OF D.O. (1), B.O.D. (2), AND TIDE HEIGHT (T) FOR GRID N=14  M= 7  TIME STEP= 0.13  HRS.
      D.O.          B.O.D.         TIDE HEIGHT-FT.
  1   4.00          0.0             1.26
  2   4.00          0.0             1.14
  3   4.00          0.0             1.02
  4   4.00          0.0             0.91
  5   4.00          0.0             0.79
  6   4.00          0.0             0.67
  7   4.00          0.0             0.56
  8   4.00          0.0             0.44
  9   4.00          0.0             0.33
 10   4.00          0.0             0.22
 11   4.00          0.0             0.10
 12   4.00          0.0            -0.01
 13   4.00          0.0            -0.11
 14   4.00          0.0            -0.22
 15   4.00          0.0            -0.32
 16   4.00          0.0            -0.42
 17   4.00          0.0            -0.52
 18   4.00          0.0            -0.61
 19   4.00          0.0            -0.69
 20   4.00          0.0            -0.78
 21   4.00          0.0            -0.86
 22   4.00          0.0            -0.93
 23   4.00          0.0            -1.01
 24   4.00          0.0            -1.07
 25   4.00          0.0            -1.14
 26   4.00          0.0            -1.20
 27   4.00          0.0            -1.25
 28   4.00          0.0            -1.30
 29   4.00          0.0            -1.34
 30   4.00          0.0            -1.39
 31   4.00          0.0            -1.42
 32   4.00          0.0            -1.44
 33   4.00          0.0            -1.46
 34   4.00          0.0            -1.47
 35   4.00          0.0            -1.48
 36   4.00          0.0            -1.48
 37   4.00          0.0            -1.47
 38   4.00          0.0            -1.46
 39   4.00          0.0            -1.43
 40   4.00          0.0            -1.40
 41   4.00          0.0            -1.35
 42   4.00          0.0            -1.30
 43   4.00          0.0            -1.25
 44   4.00          0.0            -1.20
 45   4.00          0.0            -1.14
 46   4.00          0.0            -1.07
 47   4.00          0.0            -1.01
 48   4.00          0.0            -0.94
 49   4.00          0.0            -0.87
 50   4.00          0.0            -0.80
 51   4.00          0.0            -0.73
 52   4.00          0.0            -0.65
 53   4.00          0.0            -0.58
 54   4.00          0.0            -0.50
 55   4.00          0.0            -0.42
 56   4.00          0.0            -0.35
 57   4.00          0.0            -0.27
 58   4.00          0.0            -0.19
```



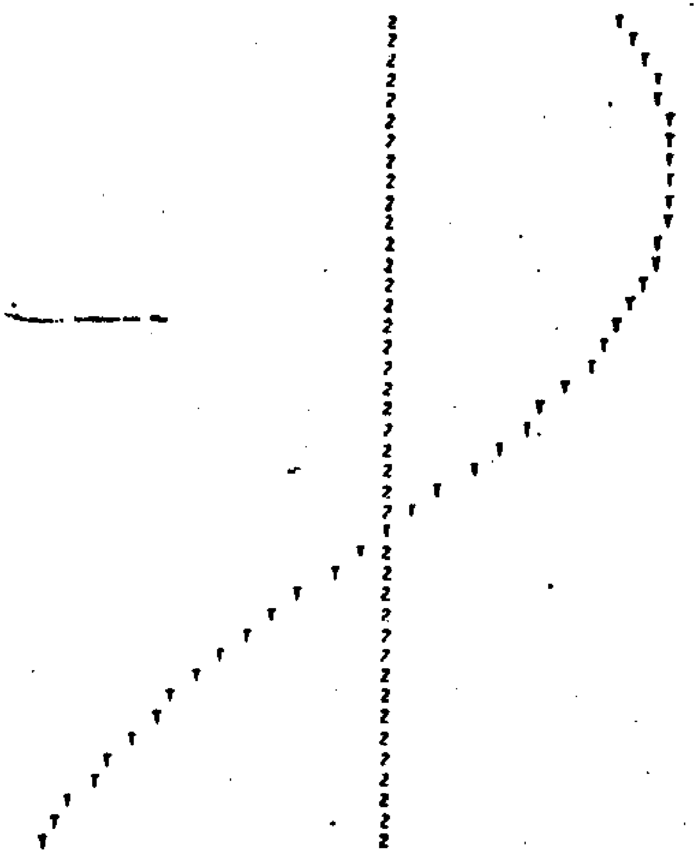
```
59  4.00      0.0       -0.10
60  4.00      0.0       -0.02
61  4.00      0.0        0.06
62  4.00      0.0        0.14
63  4.00      0.0        0.23
64  4.00      0.0        0.31
65  4.00      0.0        0.39
66  4.00      0.0        0.47
67  4.00      0.0        0.55
68  4.00      0.0        0.63
69  4.00      0.0        0.71
70  4.00      0.0        0.78
71  4.00      0.0        0.85
72  4.00      0.0        0.92
73  4.00      0.0        0.98
74  4.00      0.0        1.05
75  4.00      0.0        1.11
76  4.00      0.0        1.16
77  4.00      0.0        1.21
78  4.00      0.0        1.24
79  4.00      0.0        1.27
80  4.00      0.0        1.30
81  4.00      0.0        1.31
82  4.00      0.0        1.31
83  4.00      0.0        1.30
84  4.00      0.0        1.27
85  4.00      0.0        1.23
86  4.00      0.0        1.18
87  4.00      0.0        1.12
88  4.00      0.0        1.05
89  4.00      0.0        0.98
90  4.00      0.0        0.90
91  4.00      0.0        0.82
92  4.00      0.0        0.73
93  4.00      0.0        0.64
94  4.00      0.0        0.54
95  4.00      0.0        0.45
96  4.00      0.0        0.35
97  4.00      0.0        0.26
98  4.00      0.0        0.16
99  4.00      0.0        0.06
```



```
PLOT OF D.O. (1), B.O.D. (2), AND TIDE HEIGHT (T) FOR GRID N=14  M=45  TIME STEP= 0.13  HRS.
     D.O.       B.O.D.       TIDE HEIGHT-FT.
 1   4.00       0.0          -0.67
 2   4.00       0.0          -0.78
 3   4.00       0.0          -0.89
 4   4.00       0.0          -0.99
 5   4.00       0.0          -1.09
 6   4.00       0.0          -1.18
 7   4.00       0.0          -1.26
 8   4.00       0.0          -1.32
 9   4.00       0.0          -1.39
10   4.00       0.0          -1.44
11   4.00       0.0          -1.49
12   4.00       0.0          -1.53
13   4.00       0.0          -1.56
14   4.00       0.0          -1.59
15   4.00       0.0          -1.60
16   4.00       0.0          -1.61
17   4.00       0.0          -1.62
18   4.00       0.0          -1.62
19   4.00       0.0          -1.61
20   4.00       0.0          -1.59
21   4.00       0.0          -1.58
22   4.00       0.0          -1.55
23   4.00       0.0          -1.52
24   4.00       0.0          -1.49
25   4.00       0.0          -1.45
26   4.00       0.0          -1.41
27   4.00       0.0          -1.35
28   4.00       0.0          -1.31
29   4.00       0.0          -1.25
30   4.00       0.0          -1.20
31   4.00       0.0          -1.13
32   4.00       0.0          -1.07
33   4.00       0.0          -1.00
34   4.00       0.0          -0.93
35   4.00       0.0          -0.86
36   4.00       0.0          -0.78
37   4.00       0.0          -0.71
38   4.00       0.0          -0.63
39   4.00       0.0          -0.55
40   4.00       0.0          -0.47
41   4.00       0.0          -0.38
42   4.00       0.0          -0.30
43   4.00       0.0          -0.22
44   4.00       0.0          -0.13
45   4.00       0.0          -0.05
46   4.00       0.0           0.04
47   4.00       0.0           0.12
48   4.00       0.0           0.20
49   4.00       0.0           0.29
50   4.00       0.0           0.37
51   4.00       0.0           0.45
52   4.00       0.0           0.53
53   4.00       0.0           0.61
54   4.00       0.0           0.69
55   4.00       0.0           0.76
56   4.00       0.0           0.83
57   4.00       0.0           0.84
                              0.85
```



```
59   4.00    0.0     1.01
60   4.00    0.0     1.06
61   4.00    0.0     1.10
62   4.00    0.0     1.14
63   4.00    0.0     1.17
64   4.00    0.0     1.19
65   4.00    0.0     1.21
66   4.00    0.0     1.22
67   4.00    0.0     1.22
68   4.00    0.0     1.22
69   4.00    0.0     1.20
70   4.00    0.0     1.18
71   4.00    0.0     1.15
72   4.00    0.0     1.11
73   4.00    0.0     1.06
74   4.00    0.0     1.01
75   4.00    0.0     0.94
76   4.00    0.0     0.87
77   4.00    0.0     0.78
78   4.00    0.0     0.69
79   4.00    0.0     0.59
80   4.00    0.0     0.49
81   4.00    0.0     0.38
82   4.00    0.0     0.26
83   4.00    0.0     0.15
84   4.00    0.0     0.03
85   4.00    0.0    -0.09
86   4.00    0.0    -0.21
87   4.00    0.0    -0.33
88   4.00    0.0    -0.44
89   4.00    0.0    -0.55
90   4.00    0.0    -0.66
91   4.00    0.0    -0.77
92   4.00    0.0    -0.87
93   4.00    0.0    -0.96
94   4.00    0.0    -1.06
95   4.00    0.0    -1.14
96   4.00    0.0    -1.22
97   4.00    0.0    -1.30
98   4.00    0.0    -1.36
99   4.00    0.0    -1.42
```



SAMPLE OUTPUT - TDLIDO

(DIMENSIONLESS VERTICAL AXIS MODEL)

D.O. - B.O.D. CASE

```
NN     NN     AA     BBBBBB      SSSSSS
NN     NN    AAAA    BBBBBBBB   SSSSSSSS
NNN    NN   AA  AA   BB     BB  SS
NNNN   NN   AA  AA   BB     BB  SS
NNNNN  NN  AA    AA  BBBBBBBB   SSSSSSS
NN NN  NN  AAAAAAAA  BBBBBBB     SSSSSSS
NN  NN NN  AAAAAAAA  BB     BB        SS
NN   NNNN  AA    AA  BB     BB        SS
NN    NNN  AA    AA  BBBBBBBB   SSSSSSSS
NN     NN  AA    AA  BBBBBB      SSSSSS

      DDD   OO        BBB   OO  DDD
      D  D O  O       B  B O  O D  D
      D  D O  O  --   BBB  O  O D  D
      D  D O  O       B  B O  O D  D
      DDD   OO        BBB   OO  DDD
```

```
PROGRAM DEVELOPED BY - R. SPAULDING
UNIVERSITY OF RHODE ISLAND  WALES HALL  222C
JUNE 1972
```

COMPUTATIONAL CONTROL NUMBERS

```
[illegible]  [illegible]  [illegible]
   1   11020247     20215
   2   11030247     30215
   3   11040247     40215
   4   11050247     50215
   5   11060247     60215
   6   11070247     70215
   7   11080247     80215
   8   11090247     90215
   9   11100247    100215
  10   11110247    110215
  11   11120247    120215
  12   11130247    130215
  13   11140247    140215
  14   11150247    150215
  15          0    160215
  16          0    170215
  17          0    180215
  18          0    190215
  19          0    200215
  20          0    210215
  21          0    220215
  22          0    230215
  23          0    240215
  24          0    250215
  25          0    260215
  26          0    270215
  27          0    280215
  28          0    290215
  29          0    300215
  30          0    310215
  31          0    320215
  32          0    330215
  33          0    340215
  34          0    350215
  35          0    360215
  36          0    370215
  37          0    380215
  38          0    390215
  39          0    400215
  40          0    410215
  41          0    420215
  42          0    430215
  43          0    440215
  44          0    450215
  45          0    460215
  46          0    470215
  47          0         0
  48          0         0

[illegible] = 15     [illegible] = 47
```

```
GRID COMPUTATION FIELD

        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16
  1    0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.
  2    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  3    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  4    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  5    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  6    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  7    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  8    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
  9    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 10    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 11    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 12    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 13    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 14    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 15    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 16    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 17    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 18    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 19    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 20    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 21    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 22    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 23    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 24    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 25    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 26    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 27    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 28    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 29    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 30    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 31    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 32    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 33    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 34    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 35    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 36    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 37    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 38    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 39    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 40    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 41    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 42    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 43    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 44    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 45    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 46    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 47    0.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  1.  0.
 48    0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.  0.
```

ESTUARY WIDTH MATRIX 1000 FT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
3	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
4	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
5	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
6	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
7	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
8	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
9	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
10	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
11	0.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0
12	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
13	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0
14	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
15	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
16	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
17	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
18	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
19	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
20	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
21	0.0	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	0.0
22	0.0	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	0.0
23	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
24	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
25	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
26	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
27	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
28	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
29	0.0	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	0.0
30	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
31	0.0	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	0.0
32	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
33	0.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	0.0
34	0.0	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	0.0
35	0.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	0.0
36	0.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	0.0
37	0.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	0.0
38	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
39	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
40	0.0	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	0.0
41	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
42	0.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	0.0
43	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
44	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
45	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
46	0.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	0.0
47	0.0	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INITIAL CONCENTRATION (MG/L)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	1.4	1.5	1.6	1.7	1.9	2.2	2.5	2.8	2.9	3.1	3.2	3.5	3.7	3.7	0.0
3	0.0	1.7	1.9	1.9	1.9	2.2	2.5	2.8	2.9	3.0	3.3	3.3	3.7	3.9	[illegible]	[illegible]
4	0.0	2.0	2.1	2.2	2.2	2.5	2.8	3.1	3.2	3.3	3.5	3.6	4.0	4.2	4.3	0.0
5	0.0	2.2	2.4	2.4	2.5	2.8	3.0	3.3	3.5	3.7	3.9	4.0	4.3	4.1	4.5	0.0
6	0.0	2.3	2.5	2.8	2.8	2.9	3.2	3.6	3.7	4.0	4.1	4.3	4.5	4.7	4.7	0.0
7	0.0	2.5	2.4	3.0	3.0	3.3	3.5	3.9	3.9	4.1	4.3	4.5	4.8	5.3	5.0	0.0
8	0.0	2.9	3.0	3.1	3.5	3.7	3.9	4.0	4.3	4.3	4.5	4.7	5.0	5.2	[illegible]	0.0
9	0.0	3.0	3.2	3.8	3.9	4.0	4.1	4.2	4.3	4.5	[illegible]	5.0	5.2	5.3	5.5	0.0
10	0.0	3.3	3.7	4.0	4.1	4.2	4.2	4.3	4.5	5.0	5.1	5.2	5.4	5.5	5.7	0.0
11	0.0	3.4	4.0	4.1	4.2	4.4	4.4	4.6	5.0	5.2	5.1	5.4	5.4	5.9	6.0	0.0
12	0.0	4.0	4.4	4.5	4.5	4.9	5.0	5.1	5.2	5.3	5.5	5.7	6.0	6.1	6.5	0.0
13	0.0	4.1	4.5	4.7	4.8	5.0	5.2	5.3	5.3	5.5	5.6	6.0	6.3	6.5	7.0	0.0
14	0.0	4.5	4.8	5.0	5.0	5.1	5.4	5.5	5.6	5.8	6.0	6.3	6.6	7.0	7.0	0.0
15	0.0	4.7	5.0	5.1	5.2	5.3	5.5	5.8	6.0	6.0	6.3	6.6	7.0	7.1	7.2	0.0
16	0.0	5.0	5.2	5.3	5.3	5.5	5.7	6.0	6.2	6.4	6.7	7.0	7.2	7.3	7.3	0.0
17	0.0	5.1	5.3	5.5	5.6	5.8	6.0	6.2	6.4	6.6	[illegible]	7.1	7.3	7.4	7.4	0.0
18	0.0	5.5	5.6	5.7	5.9	6.0	6.1	6.5	6.6	6.8	7.1	7.3	7.4	7.4	7.5	0.0
19	0.0	[illegible]	5.7	[illegible]	6.0	[illegible]	[illegible]	6.7	6.8	7.0	7.1	7.4	7.5	7.5	7.5	0.0
20	0.0	5.8	5.9	6.1	6.2	6.5	6.5	6.9	7.0	7.1	7.4	7.5	7.5	7.5	7.5	0.0
21	0.0	6.0	6.1	6.1	6.3	6.7	6.8	7.0	7.2	7.3	7.4	7.5	7.5	7.5	7.5	0.0
22	0.0	6.2	6.1	6.5	6.5	6.9	7.0	7.2	7.4	7.4	7.5	7.5	7.5	7.3	7.5	0.0
23	0.0	6.4	6.5	6.7	6.8	7.0	7.2	7.3	7.4	7.5	7.7	7.5	7.5	7.4	7.5	0.0
24	0.0	[illegible]	6.7	6.9	7.0	7.2	7.3	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
25	0.0	[illegible]	[illegible]	7.1	7.2	7.3	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
26	0.0	[illegible]	7.1	7.2	7.1	7.4	7.5	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
27	0.0	7.0	7.2	7.3	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
28	0.0	7.2	7.3	7.4	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
29	0.0	7.3	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
30	0.0	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
31	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
32	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
33	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
34	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
35	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
36	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
37	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
38	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
39	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
40	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
41	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
42	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
43	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
44	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
45	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
46	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
47	0.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INITIAL BOD CONCENTRATION (MG/L)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	1.9	1.9	2.0	2.1	2.4	2.7	3.0	3.2	3.8	4.3	4.4	4.5	4.5	4.6	0.0
3	0.0	1.5	1.7	1.9	2.0	2.4	2.6	3.0	3.2	3.7	4.4	4.4	4.5	4.5	4.6	0.0
4	0.0	1.4	1.6	1.9	2.0	2.3	2.6	2.9	3.1	3.7	4.3	4.4	4.5	4.5	4.6	0.0
5	0.0	1.1	1.5	1.7	2.0	2.3	2.6	2.9	3.1	3.7	4.3	4.3	4.4	4.4	4.5	0.0
6	0.0	1.1	1.4	1.5	2.0	2.3	2.5	2.9	3.0	3.6	4.2	4.2	4.3	4.4	4.4	0.0
7	0.0	1.0	1.3	1.4	1.7	2.3	2.5	2.8	3.0	3.6	4.1	4.0	4.1	4.1	4.2	0.0
8	0.0	1.0	1.1	1.3	1.5	2.0	2.4	2.8	3.0	3.6	3.9	4.0	4.0	4.0	4.1	0.0
9	0.0	0.9	1.0	1.2	1.4	1.8	2.4	2.8	3.2	3.4	3.6	3.8	3.9	4.0	4.0	0.0
10	0.0	0.8	0.9	1.1	1.3	1.7	2.2	2.8	3.0	3.3	3.5	3.7	3.8	3.7	3.9	0.0
11	0.0	0.8	0.9	1.0	1.2	1.6	2.0	2.7	2.9	3.2	3.4	3.6	3.7	3.7	3.8	0.0
12	0.0	0.9	0.8	0.9	1.0	1.4	1.8	2.3	2.7	2.9	3.2	3.5	3.6	3.6	3.7	0.0
13	0.0	0.8	0.8	0.8	0.9	1.2	1.5	2.0	2.5	2.8	3.1	3.4	3.5	3.5	3.6	0.0
14	0.0	0.9	0.9	0.8	0.8	1.0	1.4	1.8	2.2	2.6	3.0	3.3	3.4	3.4	3.5	0.0
15	0.0	0.9	0.7	0.8	0.8	0.9	1.3	1.6	2.0	2.5	2.9	3.2	3.2	3.3	3.4	0.0
16	0.0	0.7	0.7	0.8	0.8	0.8	1.0	1.4	1.3	2.4	2.6	2.9	3.1	3.1	3.2	0.0
17	0.0	0.7	0.7	0.7	0.7	0.8	0.9	1.3	1.6	2.2	2.5	2.9	3.0	3.0	3.0	0.0
18	0.0	0.6	0.7	0.7	0.7	0.8	0.8	1.2	1.4	2.0	2.2	2.7	2.8	2.7	2.8	0.0
19	0.0	0.6	0.6	0.7	0.7	0.8	0.8	1.1	1.3	1.7	2.0	2.6	2.6	2.7	2.8	0.0
20	0.0	0.6	0.6	0.6	0.7	0.7	0.8	1.0	1.1	1.4	1.9	2.4	2.5	2.4	2.7	0.0
21	0.0	0.6	0.6	0.6	0.6	0.7	0.9	0.9	1.0	1.3	1.9	2.2	2.4	2.5	2.7	0.0
22	0.0	0.6	0.6	0.6	0.6	0.7	0.7	0.9	0.9	1.1	1.9	2.1	2.2	2.4	2.6	0.0
23	0.0	0.6	0.6	0.6	0.6	0.6	0.7	0.9	0.9	1.0	1.7	2.0	2.1	2.1	2.3	0.0
24	0.0	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	1.3	1.8	2.0	2.1	2.2	0.0
25	0.0	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.8	1.1	1.6	1.6	1.9	2.1	0.0
26	0.0	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	1.0	1.3	1.6	1.8	2.0	0.0
27	0.0	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	1.0	1.4	1.7	1.9	0.0
28	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	1.0	1.3	1.6	1.8	0.0
29	0.0	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.8	1.1	1.4	1.6	0.0
30	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.9	1.3	1.4	0.0
31	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.6	0.7	1.0	1.2	0.0
32	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.8	0.0
33	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.0
34	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.0
35	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.0
36	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

WASTE LOADS IN 1000 LBS/DAY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	2.34	2.05	2.05	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.05	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.37	0.37	0.37	0.37	0.37	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.58	0.54	0.58	0.58	0.58	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.37	0.33	0.33	0.33	0.33	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.53	0.53	0.53	0.53	0.57	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.71	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.67	0.57	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.15	3.15	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
SOURCES OR SINKS OF DO (MG/L)

       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
  1  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  2  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  3  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  4  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  5  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  6  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  7  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  8  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
  9  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 10  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 11  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 12  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 13  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 14  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 15  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 16  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 17  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 18  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 19  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 20  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 21  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 22  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 23  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 24  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 25  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 26  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 27  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 28  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 29  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 30  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 31  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 32  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 33  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 34  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 35  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 36  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 37  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 38  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 39  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 40  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 41  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 42  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 43  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 44  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 45  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 46  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 47  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
 48  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

TEMPERATURE FIELD (F)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
2	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
3	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
4	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
5	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
6	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
7	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
8	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
9	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
10	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
11	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
12	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
13	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
14	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
15	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
16	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
17	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
18	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
19	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
20	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
21	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
22	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
23	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
24	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
25	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
26	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
27	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
28	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
29	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
30	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
31	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
32	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
33	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
34	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
35	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
36	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
37	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
38	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
39	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
40	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
41	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
42	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
43	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
44	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
45	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
46	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
47	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0
48	0.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.0

TIME AVERAGE SALINITY (%)

```
         1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2    0.0  30.3  29.9  29.6  29.0  28.7  28.6  28.0  27.7  27.6  27.5  27.4  27.3  27.3  27.2   0.0
  3    0.0  31.1  30.0  29.9  29.4  29.0  28.5  28.0  27.7  27.7  27.5  27.5  27.4  27.3  27.3   0.0
  4    0.0  30.7  30.3  29.9  29.7  29.4  29.0  28.5  27.4  27.7  27.6  27.5  27.5  27.4  27.3   0.0
  5    0.0  30.3  30.1  30.0  29.8  29.6  29.3  28.3  28.1  27.9  27.7  27.6  27.6  27.5  27.4   0.0
  6    0.0  31.4  30.2  30.1  30.0  29.8  29.5  29.0  28.5  28.1  27.8  27.7  27.7  27.6  27.5   0.0
  7    0.0  30.5  30.6  30.7  30.0  29.9  29.7  29.2  28.3  28.5  28.0  27.9  27.8  27.7  27.6   0.0
  8    0.0  30.7  30.5  30.4  30.2  30.0  29.8  29.4  28.6  28.7  28.3  28.0  27.9  27.9  27.8   0.0
  9    0.0  30.8  30.7  30.5  30.4  30.2  29.9  29.5  29.0  28.9  28.4  28.1  28.2  28.1  28.1   0.0
 10    0.0  31.0  30.9  30.6  30.5  30.1  30.0  29.8  29.4  29.0  28.1  28.6  28.3  28.2  28.2   0.0
 11    0.0  31.2  31.0  30.7  30.6  30.4  30.1  29.9  29.6  29.0  28.5  28.7  28.5  28.4  28.3   0.0
 12    0.0  31.3  31.2  30.9  30.8  30.6  30.3  30.1  29.7  29.3  29.0  28.8  28.7  28.6  28.5   0.0
 13    0.0  31.4  31.1  31.0  30.9  30.7  30.5  30.2  29.4  29.6  29.1  29.0  28.9  28.7  28.6   0.0
 14    0.0  31.4  31.1  31.2  31.0  30.9  30.6  30.3  30.1  29.6  29.2  29.3  29.0  28.8  28.8   0.0
 15    0.0  31.5  31.4  31.3  31.1  30.9  30.7  30.5  30.2  29.8  29.4  29.5  29.2  29.0  28.9   0.0
 16    0.0  31.8  31.7  31.4  31.3  31.1  30.9  30.6  30.5  30.0  29.6  29.6  29.4  29.2  29.0   0.0
 17    0.0  31.9  31.8  31.7  31.6  31.4  31.1  30.8  30.6  30.4  29.8  29.7  29.6  29.3  29.2   0.0
 18    0.0  32.0  31.9  31.8  31.7  31.5  31.4  30.9  30.7  30.6  30.3  29.6  29.6  29.4  29.4   0.0
 19    0.0  32.1  32.0  31.9  31.8  31.6  31.4  31.2  30.3  30.6  30.4  30.0  29.9  29.5  29.5   0.0
 20    0.0  32.2  32.2  32.0  31.9  31.6  31.5  31.3  31.3  30.7  30.6  30.2  30.1  29.7  29.6   0.0
 21    0.0  32.4  32.3  32.2  32.1  31.9  31.6  31.5  31.3  30.9  30.9  30.3  30.2  29.9  29.7   0.0
 22    0.0  32.3  32.4  32.4  32.2  32.1  32.0  31.6  31.4  31.0  31.0  30.5  30.3  30.0  29.9   0.0
 23    0.0  32.6  32.5  32.4  32.3  32.3  32.2  31.9  31.5  31.2  31.0  30.5  30.3  30.2  30.1   0.0
 24    0.0  32.5  32.6  32.5  32.4  32.3  32.2  31.7  31.6  31.4  31.0  30.6  30.7  30.2  30.2   0.0
 25    0.0  32.6  32.6  32.5  32.4  32.3  32.2  31.7  31.6  31.2  31.1  31.0  30.9  30.4  30.3   0.0
 26    0.0  32.6  32.5  32.5  32.5  32.4  32.3  31.9  31.6  31.5  31.3  31.0  31.0  30.7  30.6   0.0
 27    0.0  32.7  32.7  32.6  32.5  32.4  32.4  32.1  31.7  31.6  31.6  31.3  31.0  30.8  30.7   0.0
 28    0.0  32.7  32.7  32.7  32.6  32.5  32.4  32.2  31.9  31.7  31.7  31.5  31.1  31.0  30.8   0.0
 29    0.0  32.8  32.8  32.7  32.6  32.5  32.4  32.3  32.1  31.8  31.7  31.6  31.2  31.0  31.0   0.0
 30    0.0  32.9  32.9  32.7  32.6  32.5  32.4  32.3  32.1  31.9  31.9  31.5  31.3  31.2  31.0   0.0
 31    0.0  32.9  32.9  32.7  32.6  32.5  32.4  32.4  32.1  32.0  31.8  31.6  31.5  31.4  31.2   0.0
 32    0.0  32.9  32.9  32.8  32.7  32.6  32.4  32.4  32.3  32.1  32.0  31.9  31.7  31.6  31.3   0.0
 33    0.0  32.9  33.0  32.8  32.8  32.7  32.5  32.4  32.3  32.2  32.1  32.0  31.8  31.7  31.5   0.0
 34    0.0  32.9  32.9  32.9  32.8  32.9  32.7  32.5  32.5  32.3  32.2  32.1  31.9  31.8  31.6   0.0
 35    0.0  33.0  32.9  32.9  32.9  32.9  32.7  32.6  32.5  32.4  32.2  32.1  32.0  31.9  31.7   0.0
 36    0.0  33.0  33.0  33.0  32.9  32.8  32.7  32.6  32.6  32.5  32.4  32.3  32.2  32.0  31.8   0.0
 37    0.0  33.0  33.0  33.0  33.0  32.9  32.9  32.7  32.7  32.6  32.5  32.4  32.3  32.2  31.9   0.0
 38    0.0  33.0  33.0  33.0  33.0  33.0  32.9  32.8  32.7  32.7  32.6  32.5  32.4  32.3  32.0   0.0
 39    0.0  33.1  33.0  33.0  33.0  33.0  33.0  32.9  32.9  32.8  32.7  32.6  32.5  32.5  32.2   0.0
 40    0.0  33.1  33.1  33.1  33.0  33.0  33.0  33.0  32.9  32.9  32.8  32.7  32.5  32.5  32.4   0.0
 41    0.0  33.1  33.1  33.1  33.1  33.1  33.0  33.0  33.0  33.0  32.9  32.9  32.7  32.7  32.6   0.0
 42    0.0  33.1  33.1  33.1  33.1  33.0  33.1  33.0  33.1  33.1  33.0  33.0  32.8  32.8  32.8   0.0
 43    0.0  33.2  33.2  33.1  33.1  33.1  33.1  33.1  33.1  33.1  33.1  33.1  33.0  32.9  32.9   0.0
 44    0.0  33.2  33.2  33.2  33.2  33.1  33.1  33.1  33.1  33.2  33.1  33.1  33.1  33.0  33.0   0.0
 45    0.0  33.3  33.3  33.3  33.2  33.2  33.2  33.2  33.2  33.2  33.2  33.1  33.1  33.1  33.1   0.0
 46    0.0  33.3  33.3  33.3  33.3  33.2  33.2  33.2  33.2  33.2  33.2  33.1  33.1  33.1  33.1   0.0
 47    0.0  33.3  33.3  33.3  33.3  33.2  33.2  33.2  33.2  33.2  33.2  33.1  33.1  33.1  33.1   0.0
 48    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

	AVERAGE SECTION DEPTH FT.
1	6.580
2	6.970
3	6.550
4	19.333
5	19.573
6	22.100
7	19.480
8	27.970
9	18.120
10	17.130
11	14.750
12	17.370
13	22.050
14	19.410
15	17.750
16	18.673
17	21.321
18	22.130
19	13.570
20	19.290
21	[illegible]
22	17.613
23	[illegible]
24	26.500
25	24.033
26	27.770
27	32.051
28	33.910
29	31.930
30	31.933
31	31.570
32	31.373
33	31.363
34	34.223
35	37.620
36	36.703
37	41.803
38	43.633
39	46.453
40	45.080
41	45.793
42	44.770
43	47.113
44	43.703
45	[illegible]
46	67.130
47	42.303
48	65.033

```
 CONCENTRATION OF DISSOLVED OXYGEN (MG/L)      STEP NUMBER =  1      TIME =   0.13HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   1.49   1.50   1.61   1.74   1.96   2.22   2.49   2.74   2.89   3.06   3.20   3.45   3.65   3.68    0.0
  3     0.0   1.69   1.80   1.90   2.06   2.27   2.59   2.65   2.82   2.94   3.11   3.27   3.48   3.72   3.92    0.0
  4     0.0   1.99   2.09   2.18   2.27   2.52   2.79   3.01   3.17   3.30   3.44   3.62   3.86   3.98   4.24    0.0
  5     0.0   2.19   2.39   2.48   2.54   2.79   3.01   3.24   3.47   3.64   3.84   3.99   4.22   4.27   4.46    0.0
  6     0.0   2.29   2.50   2.77   2.81   2.94   3.22   3.51   3.72   3.92   4.00   4.26   4.55   4.65   4.86    0.0
  7     0.0   2.49   2.80   2.98   3.05   3.29   3.53   3.77   3.93   4.18   4.26   4.47   4.73   4.94   4.97    0.0
  8     0.0   2.99   3.01   3.29   3.50   3.69   3.85   3.96   4.07   4.25   4.45   4.67   4.92   5.16   5.26    0.0
  9     0.0   2.99   3.22   3.76   3.89   3.99   4.09   4.19   4.31   4.50   4.73   4.95   5.14   5.27   5.46    0.0
 10     0.0   3.29   3.71   3.98   4.09   4.16   4.24   4.35   4.59   4.75   5.00   5.17   5.31   5.44   5.64    0.0
 11     0.0   3.78   4.02   4.24   4.12   4.38   4.53   4.73   4.86   5.06   5.24   5.43   5.60   5.80   5.91    0.0
 12     0.0   3.91   4.35   4.49   4.63   4.80   4.97   5.08   5.18   5.32   5.44   5.66   5.86   6.05   6.39    0.0
 13     0.0   4.29   4.51   4.69   4.85   5.01   5.15   5.25   5.36   5.46   5.66   5.90   6.19   6.45   6.91    0.0
 14     0.0   4.49   4.80   4.98   5.01   5.14   5.35   5.69   5.61   5.78   5.99   6.25   6.56   6.92   6.98    0.0
 15     0.0   4.59   5.00   5.10   5.21   5.34   5.54   5.75   5.91   6.07   6.27   6.56   6.87   7.06   7.17    0.0
 16     0.0   4.89   5.20   5.29   5.36   5.53   5.74   5.95   6.15   6.28   6.61   6.89   7.09   7.16   7.27    0.0
 17     0.0   5.24   5.31   5.50   5.64   5.82   6.01   6.20   6.39   6.60   6.82   7.03   7.21   7.28   7.37    0.0
 18     0.0   5.49   5.51   5.71   5.89   6.02   6.21   6.40   6.60   6.70   6.99   7.19   7.33   7.39   7.45    0.0
 19     0.0   5.59   5.71   5.90   6.04   6.20   6.41   6.59   6.81   7.00   7.17   7.33   7.42   7.46   7.46    0.0
 20     0.0   5.71   5.91   6.10   6.25   6.44   6.61   6.80   6.99   7.14   7.30   7.42   7.46   7.47   7.47    0.0
 21     0.0   5.99   6.01   6.29   6.39   6.64   6.82   6.99   7.15   7.29   7.40   7.46   7.47   7.47   7.47    0.0
 22     0.0   6.19   6.30   6.48   6.60   6.84   7.03   7.19   7.31   7.40   7.44   7.46   7.47   7.47   7.47    0.0
 23     0.0   6.39   6.51   6.70   6.95   7.02   7.14   7.29   7.37   7.47   7.44   7.47   7.47   7.47   7.47    0.0
 24     0.0   6.59   6.79   6.87   7.01   7.18   7.23   7.38   7.45   7.47   7.47   7.47   7.47   7.47   7.47    0.0
 25     0.0   6.61   6.91   7.02   7.14   7.27   7.30   7.43   7.46   7.47   7.47   7.47   7.47   7.47   7.47    0.0
 26     0.0   6.85   7.01   7.19   7.30   7.33   7.44   7.47   7.47   7.47   7.47   7.47   7.47   7.47   7.47    0.0
 27     0.0   6.99   7.20   7.33   7.40   7.45   7.47   7.48   7.48   7.48   7.49   7.47   7.47   7.47   7.47    0.0
 28     0.0   7.19   7.30   7.39   7.41   7.46   7.47   7.48   7.49   7.48   7.49   7.47   7.47   7.47   7.47    0.0
 29     0.0   7.29   7.40   7.47   7.48   7.48   7.48   7.49   7.48   7.48   7.48   7.48   7.47   7.47   7.47    0.0
 30     0.0   7.39   7.47   7.48   7.49   7.48   7.48   7.48   7.49   7.48   7.48   7.48   7.48   7.47   7.47    0.0
 31     0.0   7.43   7.46   7.49   7.48   7.48   7.49   7.49   7.49   7.48   7.48   7.43   7.48   7.47   7.47    0.0
 32     0.0   7.49   7.49   7.48   7.48   7.48   7.48   7.49   7.48   7.49   7.48   7.48   7.48   7.48   7.49    0.0
 33     0.0   7.43   7.48   7.49   7.48   7.48   7.48   7.48   7.48   7.48   7.49   7.48   7.48   7.49   7.48    0.0
 34     0.0   7.44   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.49   7.49   7.48   7.43   7.44    0.0
 35     0.0   7.49   7.49   7.48   7.48   7.49   7.49   7.49   7.48   7.48   7.49   7.49   7.48   7.49   7.48    0.0
 36     0.0   7.49   7.47   7.43   7.48   7.48   7.43   7.43   7.48   7.48   7.49   7.48   7.48   7.42   7.49    0.0
 37     0.0   7.48   7.48   7.49   7.49   7.48   7.43   7.48   7.43   7.48   7.41   7.48   7.48   7.49   7.48    0.0
 38     0.0   7.46   7.48   7.48   7.48   7.49   7.48   7.48   7.43   7.46   7.40   7.40   7.48   7.43   7.48    0.0
 39     0.0   7.49   7.48   7.48   7.48   7.48   7.48   7.48   7.40   7.40   7.49   7.48   7.48   7.48   7.48    0.0
 40     0.0   7.49   7.48   7.48   7.49   7.49   7.48   7.49   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 41     0.0   7.49   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.49   7.49   7.48   7.49   7.49    0.0
 42     0.0   7.43   7.48   7.49   7.48   7.46   7.49   7.49   7.49   7.44   7.48   7.49   7.48   7.49   7.48    0.0
 43     0.0   7.48   7.48   7.48   7.48   7.49   7.49   7.46   7.48   7.49   7.48   7.49   7.48   7.49   7.49    0.0
 44     0.0   7.49   7.48   7.48   7.48   7.49   7.49   7.49   7.48   7.49   7.49   7.48   7.48   7.49   7.48    0.0
 45     0.0   7.49   7.48   7.44   7.48   7.48   7.48   7.49   7.48   7.49   7.49   7.49   7.48   7.49   7.48    0.0
 46     0.0   7.49   7.49   7.48   7.48   7.48   7.49   7.48   7.48   7.48   7.49   7.40   7.48   7.44   7.48    0.0
 47     0.0   7.48   7.48   7.48   7.48   7.49   7.49   7.43   7.48   7.48   7.48   7.48   7.46   7.49   7.43    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
CONCENTRATION OF B.O.D. (MG/L)     STEP NUMBER =  1     TIME =   0.13HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    1.90   1.91   2.01   2.16   2.43   2.72   3.01   3.29   3.76   4.21   4.36   4.46   4.49   4.58   0.0
  3     0.0    1.51   1.74   1.94   2.18   2.42   2.74   2.99   3.47   3.70   3.92   4.26   4.39   4.47   4.55   0.0
  4     0.0    1.40   1.61   1.82   2.05   2.33   2.61   2.97   3.24   3.65   4.06   4.33   4.44   4.48   4.57   0.0
  5     0.0    1.13   1.58   1.72   2.01   2.31   2.60   2.95   3.19   3.66   4.12   4.28   4.36   4.38   4.47   0.0
  6     0.0    1.10   1.41   1.56   2.00   2.30   2.55   2.46   3.12   3.57   4.02   4.19   4.28   4.17   4.38   0.0
  7     0.0    1.03   1.30   1.45   1.79   2.24   2.52   2.79   3.13   3.50   3.84   3.98   4.06   4.07   4.18   0.0
  8     0.0    1.03   1.11   1.34   1.49   2.03   2.61   2.79   3.10   3.57   3.78   3.96   3.98   3.99   4.08   0.0
  9     0.0    0.99   1.01   1.22   1.66   1.99   2.37   2.78   3.12   3.37   3.57   3.74   3.87   3.97   3.98   0.0
 10     0.0    0.83   0.93   1.15   1.44   1.83   2.27   2.63   2.93   3.21   3.43   3.61   3.75   3.85   3.88   0.0
 11     0.0    0.89   [illegible]   1.13   1.39   1.75   2.18   2.49   2.86   3.06   3.31   3.48   3.61   3.69   3.77   0.0
 12     0.0    0.83   0.87   0.95   1.17   1.51   1.91   2.26   2.58   2.89   3.14   3.35   3.52   3.59   3.67   0.0
 13     0.0    0.83   0.83   0.83   1.00   1.28   1.64   2.15   2.43   2.78   3.04   3.29   3.43   3.49   3.57   0.0
 14     0.0    0.79   0.80   0.80   0.85   1.06   1.42   1.91   2.19   2.58   2.96   3.23   3.36   3.39   3.48   0.0
 15     0.0    0.69   0.71   0.79   0.85   1.02   1.32   1.76   2.03   2.40   2.76   3.05   3.19   3.20   3.38   0.0
 16     0.0    0.73   0.71   0.77   0.92   0.91   1.15   1.56   1.66   2.21   2.56   2.81   3.01   3.09   3.18   0.0
 17     0.0    0.73   0.70   0.70   0.74   0.84   1.05   1.32   1.70   2.03   2.43   2.63   2.90   2.79   2.99   0.0
 18     0.0    0.60   0.70   0.70   0.73   0.81   0.97   1.19   1.56   1.85   2.23   2.51   2.75   2.86   2.89   0.0
 19     0.0    0.59   0.61   0.69   0.73   0.80   0.95   1.12   1.49   1.67   2.06   2.36   2.57   2.67   2.78   0.0
 20     0.0    0.63   0.60   0.62   0.69   0.74   0.85   0.99   1.19   1.47   1.85   2.25   2.46   2.59   2.68   0.0
 21     0.0    0.63   0.63   0.60   0.61   0.71   0.81   0.92   1.09   1.39   1.77   2.12   2.35   2.49   2.67   0.0
 22     0.0    0.63   0.63   0.60   0.63   0.68   0.74   0.83   0.90   1.27   1.63   1.90   2.18   2.37   2.57   0.0
 23     0.0    0.63   0.60   0.60   0.61   0.65   0.72   0.80   0.96   1.22   1.50   1.96   2.07   2.26   2.29   0.0
 24     0.0    0.57   0.63   0.60   0.60   0.63   0.64   0.76   0.81   1.12   1.31   1.60   1.94   2.03   2.18   0.0
 25     0.0    0.50   0.51   0.59   0.60   0.61   0.65   0.68   0.77   0.92   1.15   1.39   1.63   1.75   2.07   0.0
 26     0.0    0.51   0.50   0.52   0.54   0.60   0.61   0.65   0.70   0.93   1.01   1.26   1.53   1.76   1.97   0.0
 27     0.0    0.43   0.51   0.47   0.51   0.53   0.57   0.60   0.61   0.66   0.89   1.09   1.35   1.65   1.87   0.0
 28     0.0    0.47   0.51   0.40   0.43   0.49   0.53   0.57   0.60   0.65   0.76   0.93   1.26   1.36   1.78   0.0
 29     0.0    0.30   0.31   0.37   0.41   0.43   0.44   0.53   0.57   0.61   0.67   0.82   1.07   1.16   1.58   0.0
 30     0.0    0.30   0.30   0.31   0.33   0.38   0.44   0.47   0.51   0.57   0.63   0.71   0.87   1.21   1.39   0.0
 31     0.0    0.20   0.21   0.27   0.30   0.31   0.34   0.41   0.47   0.50   0.54   0.60   0.73   0.99   1.20   0.0
 32     0.0    0.20   0.20   0.23   0.20   0.21   0.24   0.28   0.33   0.37   0.44   0.50   0.54   0.70   0.80   0.0
 33     0.0    0.11   0.11   0.19   0.21   0.24   0.27   0.30   0.31   0.34   0.37   0.43   0.49   0.63   0.79   0.0
 34     0.0    0.13   0.10   0.10   0.10   0.10   0.11   0.12   0.14   0.18   0.23   0.39   0.38   0.42   0.53   0.0
 35     0.0    0.13   0.10   0.10   0.10   0.10   0.10   0.11   0.13   0.13   0.15   0.14   0.16   0.22   0.30   0.0
 36     0.0    0.11   0.11   0.09   0.08   0.10   0.10   0.10   0.11   0.11   0.11   0.11   0.11   0.11   0.11   0.0
 37     0.0    0.00   0.00   0.00   0.00   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.0
 38     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 39     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 40     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 41     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 42     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 43     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 44     0.0    0.00   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00   0.0
 45     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 46     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 47     0.0    0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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U VELOCITY FIELD (-FLOOD) -FPS. STEP NUMBER = 1 TIME = 0.13HRS.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.0
3	0.0	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.0
4	0.0	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.0
5	0.0	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.0
6	0.0	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.0
7	0.0	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.0
8	0.0	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.0
9	0.0	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.0
10	0.0	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.0
11	0.0	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.0
12	0.0	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.0
13	0.0	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.0
14	0.0	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.0
15	0.0	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.0
16	0.0	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.0
17	0.0	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.0
18	0.0	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.0
19	0.0	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.0
20	0.0	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.0
21	0.0	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.0
22	0.0	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.0
23	0.0	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.0
24	0.0	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.0
25	0.0	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.0
26	0.0	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.0
27	0.0	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.0
28	0.0	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.0
29	0.0	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.0
30	0.0	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.0
31	0.0	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.0
32	0.0	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.0
33	0.0	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.0
34	0.0	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.0
35	0.0	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.0
36	0.0	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.0
37	0.0	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.0
38	0.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.0
39	0.0	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.0
40	0.0	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.0
41	0.0	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.0
42	0.0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.0
43	0.0	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.0
44	0.0	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.0
45	0.0	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.0
46	0.0	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.0
47	0.0	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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* VELOCITY FIELD -FPS.    STEP NUMBER =  1     TIME =   0.13MS.

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 43     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 44     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 45     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 46     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 47     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)     STEP NUMBER =  1     TIME =   0.13HRS

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10    3.10     0.0
  3     0.0    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41    4.41     0.0
  4     0.0    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13    5.13     0.0
  5     0.0    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91    5.91     0.0
  6     0.0    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85    6.85     0.0
  7     0.0    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02    8.02     0.0
  8     0.0    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16    9.16     0.0
  9     0.0    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11    7.11     0.0
 10     0.0   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61   12.61     0.0
 11     0.0   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24   14.24     0.0
 12     0.0   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56   10.56     0.0
 13     0.0   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43   11.43     0.0
 14     0.0    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86    5.86     0.0
 15     0.0    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45    8.45     0.0
 16     0.0    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99    9.99     0.0
 17     0.0   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18   11.18     0.0
 18     0.0   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41   12.41     0.0
 19     0.0   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87   13.87     0.0
 20     0.0    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07    8.07     0.0
 21     0.0    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19    8.19     0.0
 22     0.0    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06    9.06     0.0
 23     0.0   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06   15.06     0.0
 24     0.0   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49   13.49     0.0
 25     0.0   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66   19.66     0.0
 26     0.0   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92   18.92     0.0
 27     0.0   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78   19.78     0.0
 28     0.0   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77   20.77     0.0
 29     0.0   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13   22.13     0.0
 30     0.0   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87   25.87     0.0
 31     0.0   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17   22.17     0.0
 32     0.0   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57   21.57     0.0
 33     0.0   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88   22.88     0.0
 34     0.0   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04   26.04     0.0
 35     0.0   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68     0.0
 36     0.0   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05   38.05     0.0
 37     0.0   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99   38.99     0.0
 38     0.0   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51   52.51     0.0
 39     0.0   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30   53.30     0.0
 40     0.0   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52   54.52     0.0
 41     0.0   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02   48.02     0.0
 42     0.0   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07   49.07     0.0
 43     0.0   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67   69.67     0.0
 44     0.0   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06   69.06     0.0
 45     0.0   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52   69.52     0.0
 46     0.0   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95   86.95     0.0
 47     0.0   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85   69.85     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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 DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)      STEP NUMBER =  1      TIME =   0.13HRS

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
   1     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
   2     .0     .00092.00012.00029.00047.00066.00077.00093.00093.00077.00064.00047.00029.00012.0     .0
   3     .0     .00012.00017.00040.00066.00089.00106.00115.00115.00106.00089.00066.00040.00017.0     .0
   4     .0     .01003.00022.00052.00086.00116.00139.00151.00151.00138.00116.00086.00052.00022.0     .0
   5     .0     .01144.00027.00055.00105.00143.00171.00186.00186.00171.00143.00105.00055.00027.0     .0
   6     .0     .00034.00032.00076.00123.00167.00200.00217.00217.00200.00167.00123.00076.00032.0     .0
   7     .0     .00035.00038.00088.00145.00196.00234.00256.00256.00234.00196.00145.00088.00038.0     .0
   8     .0     .00045.00043.00101.00166.00224.00268.00292.00292.00268.00224.00166.00101.00043.0     .0
   9     .0     .03034.00033.00078.00129.00173.00207.00225.00225.00207.00173.00129.00078.00032.0     .0
  10     .0     .03107.00048.00135.00221.00292.00353.00389.00389.00356.00292.00221.00135.00056.0     .0
  11     .0     .01129.00064.00153.00244.00331.00399.00430.00430.00395.00331.00244.00150.00064.0     .0
  12     .0     .03316.00047.00111.00191.00265.00291.00319.00319.00293.00245.00181.00111.00047.0     .0
  13     .0     .03117.00051.00125.00206.00276.00333.00359.00359.00333.00276.00206.00125.00051.0     .0
  14     .0     .00016.00027.00065.00105.00143.00171.00185.00185.00171.00143.00105.00065.00027.0     .0
  15     .0     .01105.00029.00072.00159.00201.00242.00266.00266.00242.00203.00150.00092.00049.0     .0
  16     .0     .03315.00056.00134.00176.00219.00263.00313.00313.00265.00239.00176.00108.00046.0     .0
  17     .0     .03397.03052.00124.00264.00271.00324.00352.00352.00324.00271.00261.00121.00052.0     .0
  18     .0     .00019.00059.00138.00226.00305.00365.00397.00397.00365.00305.00226.00138.00059.0     .0
  19     .0     .01128.00065.00151.00250.00339.00411.00451.00451.00435.00337.00250.00151.00065.0     .0
  20     .0     .03015.00037.00099.00166.00195.00211.00253.00253.00211.00195.00164.00088.00037.0     .0
  21     .0     .03395.00048.00093.00147.00198.00237.00258.00258.00237.00199.00147.00093.00038.0     .0
  22     .0     .01115.00052.00094.00161.00218.00260.00283.00283.00260.00218.00161.00098.00042.0     .0
  23     .0     .03119.00071.00166.00272.00368.00446.00478.00479.00460.00368.00272.00166.00071.0     .0
  24     .0     .11934.00065.00154.00251.00346.00407.00442.00442.00407.00343.00251.00154.00065.0     .0
  25     .0     .00012.00095.00226.00366.00495.00592.00644.00644.00592.00495.00366.00225.00095.0     .0
  26     .0     .01012.00092.00217.00356.00479.00573.00621.00623.00573.00479.00356.00217.00092.0     .0
  27     .0     .19117.00099.00237.00380.00514.00615.00668.00668.00615.00514.00380.00237.00099.0     .0
  28     .0     .01234.00105.00247.00396.00547.00656.00711.00711.00656.00547.00396.00247.00105.0     .0
  29     .0     .02041.00112.00261.00433.00592.00695.00756.00756.00695.00592.00433.00261.00112.0     .0
  30     .0     .33017.00131.00304.00506.00682.00815.00896.00896.00815.00682.00506.00304.00131.0     .0
  31     .0     .01119.00113.00260.00433.00586.00701.00762.00762.00701.00586.00433.00266.00113.0     .0
  32     .0     .01114.00109.00256.00419.00567.00678.00737.00737.00678.00567.00419.00256.00109.0     .0
  33     .0     .03015.00115.00273.00442.00598.00715.00778.00778.00715.00598.00442.00273.00115.0     .0
  34     .0     .01217.00133.00312.00509.00689.00824.00896.00896.00825.00689.00509.00312.00133.0     .0
  35     .0     .01352.00160.00397.00646.00877.01049.01141.01141.01049.00877.00646.00397.00160.0     .0
  36     .0     .03125.00197.00462.00755.01022.01221.01329.01329.01221.01022.00755.00462.00197.0     .0
  37     .0     .03126.00204.00478.00782.01059.01265.01376.01376.01265.01058.00782.00478.00204.0     .0
  38     .0     .00016.00279.00656.01072.01450.01735.01886.01886.01735.01450.01072.00656.00279.0     .0
  39     .0     .03017.00296.00672.01097.01485.01776.01931.01931.01776.01485.01097.00672.00296.0     .0
  40     .0     .03114.00292.00686.01121.01517.01815.01973.01973.01815.01517.01121.00686.00292.0     .0
  41     .0     .03333.00256.00603.00985.01332.01594.01733.01733.01594.01332.00985.00603.00256.0     .0
  42     .0     .03315.00262.00615.01005.01361.01627.01770.01770.01627.01361.01005.00615.00262.0     .0
  43     .0     .03349.00474.00679.01437.01945.02325.02529.02529.02325.01945.01437.00679.00474.0     .0
  44     .0     .33342.00390.00994.01460.01976.02363.02573.02573.02363.01976.01460.00894.00380.0     .0
  45     .0     .03353.00366.00859.01404.02007.02401.02611.02611.02401.02007.01484.00909.00366.0     .0
  46     .0     .03323.00408.01148.01876.02538.03035.03301.03301.03035.02538.01875.01154.00440.0     .0
  47     .0     .03351.00396.00932.01522.02060.02463.02678.02679.02463.02060.01522.00932.00396.0     .0
  48     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
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REGRESSION COEFFICIENTS X 1000000 (1/SEC)     STEP NUMBER =  1     TIME =  0.13HRS

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.32  0.0
  3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.45  0.0
  4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.07  0.0
  5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
  6   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
  7   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
  8   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.10  0.0
  9   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
 10   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.26  0.0
 11   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.44  0.0
 12   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.22  0.0
 13   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.14  0.0
 14   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
 15   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 16   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.18  0.0
 17   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
 18   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
 19   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.24  0.0
 20   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.34  0.0
 21   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
 22   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
 23   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 24   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 25   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.21  0.0
 26   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 27   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
 28   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 29   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
 30   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
 31   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 32   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
 33   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
 34   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 35   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
 36   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.20  0.0
 37   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
 38   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.18  0.0
 39   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 40   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.19  0.0
 41   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 42   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 43   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.21  0.0
 44   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 45   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
 46   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 47   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 48   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
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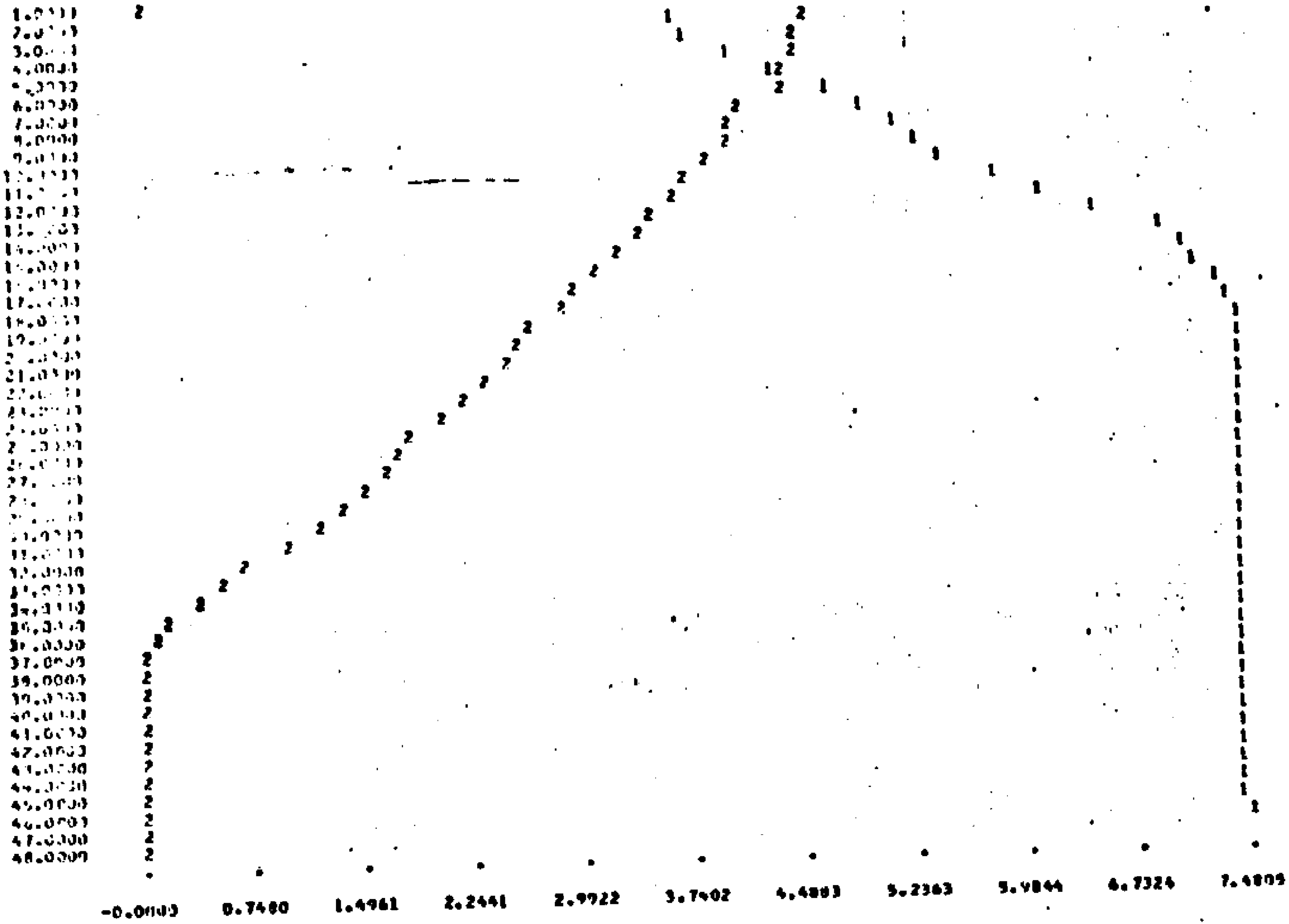
ROD DECAY COEFFICIENTS X 1000000 (1/SEC)     STEP NUMBER =  1     TIME =   0.13HRS

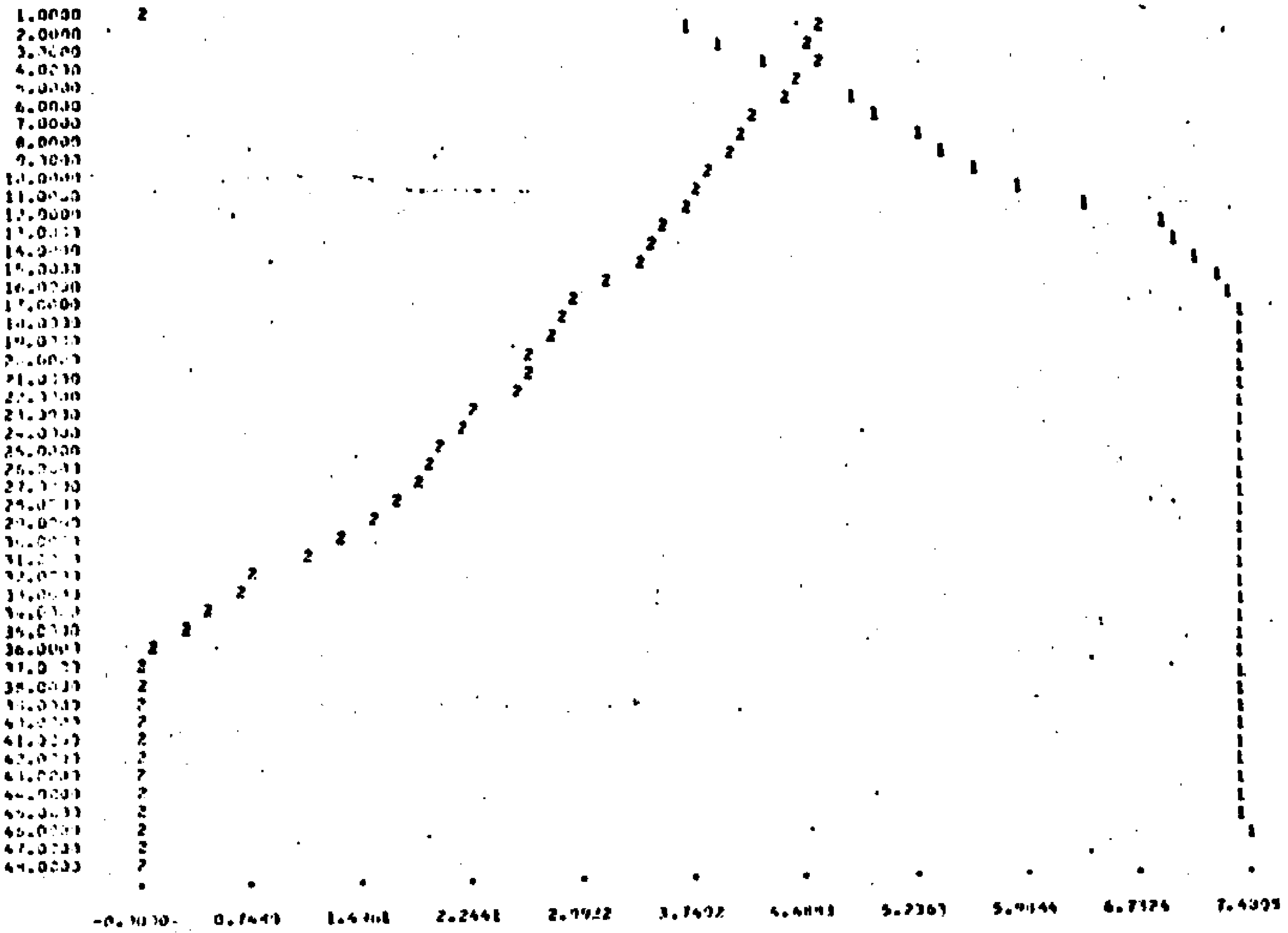
         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  3    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  4    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  5    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  6    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  7    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  8    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  9    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 10    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 11    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 12    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 13    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 14    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 15    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 16    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 17    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 18    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 19    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 20    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 21    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 23    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 24    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 25    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 26    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 27    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 28    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 29    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 30    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 31    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 32    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 33    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 34    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 35    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 36    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 37    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 38    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 39    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 40    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 41    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 42    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 43    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 44    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 45    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 46    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 47    0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                                 0.0
                                 7.7740
                                 7.7690
                                 7.7690
                                 7.7641
                                 7.7591
                                 7.7541
                                 7.7442
                                 7.7292
                                 7.7243
                                 7.7193
                                 7.7094
                                 7.7044
                                 7.6944
                                 7.6895
                                 7.6845
                                 7.6745
                                 7.6646
                                 7.6596
                                 7.6546
                                 7.6497
                                 7.6397
                                 7.6298
                                 7.6243
                                 7.6198
                                 7.6049
                                 7.5999
                                 7.5950
                                 7.5850
                                 7.5850
                                 7.5751
                                 7.5701
                                 7.5601
                                 7.5557
                                 7.5502
                                 7.5457
                                 7.5402
                                 7.5353
                                 7.5253
                                 7.5154
                                 7.5154
                                 7.5054
                                 7.4955
                                 7.4905
                                 7.4855
                                 7.4806
                                 7.4806
                                 0.0
```

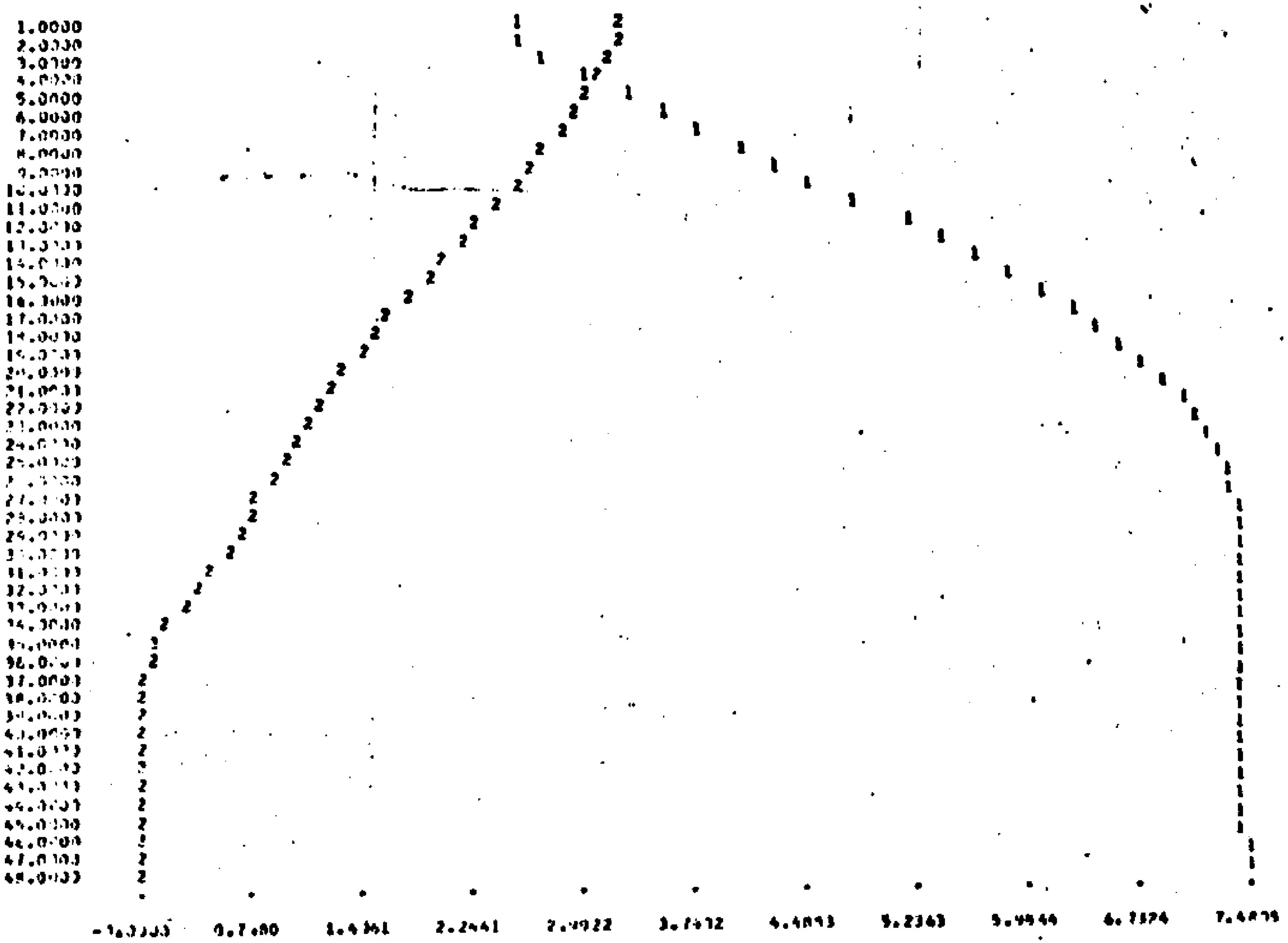
C.O.D. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)    STEP NUMBER = 50    TIME =  6.67HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   1.50   1.51   1.63   1.74   1.97   2.23   2.48   2.71   2.97   3.04   3.19   3.41   3.61   3.66    0.0
  3     0.0   1.55   1.73   1.82   1.93   1.84   1.85   1.86   1.86   1.85   1.85   1.85   1.85   1.86   1.88    0.0
  4     0.0   1.71   1.84   1.91   1.96   1.99   2.01   2.13   2.06   2.08   2.10   2.12   2.15   2.18   2.22    0.0
  5     0.0   1.82   2.06   2.16   2.23   2.29   2.34   2.38   2.43   2.47   2.51   2.56   2.62   2.69   2.73    0.0
  6     0.0   1.98   2.24   2.36   2.44   2.51   2.56   2.62   2.67   2.72   2.77   2.83   2.90   2.94   3.12    0.0
  7     0.0   2.12   2.50   2.64   2.72   2.79   2.86   2.90   2.94   2.99   3.05   3.10   3.17   3.25   3.36    0.0
  8     0.0   2.49   2.81   2.92   2.99   3.05   3.10   3.16   3.14   3.22   3.27   3.32   3.37   3.45   3.55    0.0
  9     0.0   2.69   3.08   3.21   3.29   3.35   3.40   3.45   3.50   3.55   3.60   3.65   3.72   3.80   3.92    0.0
 10     0.0   3.36   3.33   3.55   3.64   3.68   3.71   3.73   3.75   3.77   3.83   3.82   3.85   3.89   3.94    0.0
 11     0.0   3.34   3.66   3.72   3.73   3.78   3.79   3.81   3.82   3.91   3.85   3.86   3.88   3.90   3.92    0.0
 12     0.0   3.42   3.95   4.01   4.04   4.06   4.03   4.09   4.11   4.12   4.13   4.15   4.16   4.18   4.21    0.0
 13     0.0   3.97   4.32   4.40   4.44   4.47   4.50   4.52   4.54   4.57   4.59   4.61   4.64   4.68   4.73    0.0
 14     0.0   4.24   4.50   4.71   4.78   4.84   4.89   4.86   4.99   5.05   5.11   5.18   5.26   5.37   5.53    0.0
 15     0.0   4.54   4.93   5.06   5.13   5.19   5.24   5.20   5.33   5.37   5.42   5.47   5.53   5.61   5.72    0.0
 16     0.0   4.74   5.20   5.37   5.39   5.45   5.49   5.53   5.57   5.61   5.65   5.73   5.75   5.92   5.90    0.0
 17     0.0   5.35   5.44   5.56   5.63   5.69   5.76   5.78   5.82   5.86   5.90   5.95   6.00   6.06   6.15    0.0
 18     0.0   5.32   5.66   5.78   5.86   5.92   5.96   6.01   6.05   6.09   6.13   6.17   6.22   6.28   6.37    0.0
 19     0.0   5.49   5.89   5.99   6.06   6.11   6.15   6.19   6.22   6.26   6.29   6.33   6.37   6.42   6.48    0.0
 20     0.0   5.61   6.02   6.16   6.25   6.31   6.36   6.41   6.45   6.49   6.53   6.57   6.61   6.66   6.77    0.0
 21     0.0   5.84   6.21   6.35   6.44   6.50   6.55   6.49   6.63   6.66   6.69   6.72   6.75   6.77   6.82    0.0
 22     0.0   6.09   6.45   6.57   6.63   6.68   6.71   6.76   6.77   6.79   6.81   6.83   6.85   6.87   6.89    0.0
 23     0.0   6.37   6.67   6.75   6.79   6.82   6.86   6.96   6.87   6.89   6.90   6.91   6.92   6.93   6.94    0.0
 24     0.0   6.47   6.76   6.85   6.89   6.94   6.96   6.98   7.00   7.01   7.02   7.02   7.07   7.02   7.01    0.0
 25     0.0   6.61   6.93   6.99   7.02   7.04   7.05   7.06   7.07   7.07   7.08   7.08   7.08   7.03   7.00    0.0
 26     0.0   6.79   7.04   7.09   7.11   7.13   7.14   7.16   7.15   7.15   7.15   7.15   7.14   7.11   7.17    0.0
 27     0.0   6.91   7.14   7.20   7.21   7.22   7.23   7.23   7.23   7.22   7.22   7.21   7.20   7.18   7.15    0.0
 28     0.0   7.14   7.23   7.26   7.27   7.27   7.27   7.27   7.26   7.26   7.25   7.23   7.22   7.20   7.16    0.0
 29     0.0   7.27   7.31   7.32   7.32   7.31   7.31   7.10   7.30   7.29   7.28   7.27   7.25   7.23   7.20    0.0
 30     0.0   7.31   7.36   7.34   7.35   7.34   7.34   7.33   7.32   7.31   7.31   7.30   7.28   7.27   7.24    0.0
 31     0.0   7.40   7.40   7.39   7.38   7.37   7.34   7.35   7.35   7.34   7.33   7.32   7.31   7.29   7.26    0.0
 32     0.0   7.43   7.42   7.41   7.40   7.40   7.33   7.39   7.38   7.36   7.37   7.36   7.36   7.34   7.33    0.0
 33     0.0   7.45   7.42   7.42   7.41   7.40   7.40   7.40   7.39   7.39   7.38   7.38   7.37   7.36   7.35    0.0
 34     0.0   7.46   7.45   7.44   7.44   7.43   7.43   7.43   7.42   7.42   7.42   7.41   7.41   7.40   7.39    0.0
 35     0.0   7.45   7.45   7.45   7.45   7.45   7.45   7.44   7.44   7.43   7.44   7.44   7.44   7.43   7.43    0.0
 36     0.0   7.47   7.46   7.46   7.46   7.45   7.47   7.45   7.45   7.45   7.45   7.45   7.45   7.45   7.45    0.0
 37     0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.47   7.47   7.47   7.47    0.0
 38     0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.49   7.48   7.49   7.48   7.48   7.48   7.48    0.0
 39     0.0   7.48   7.48   7.48   7.48   7.49   7.48   7.48   7.48   7.48   7.48   7.49   7.48   7.48   7.48    0.0
 40     0.0   7.44   7.49   7.48   7.48   7.48   7.43   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 41     0.0   7.49   7.48   7.48   7.48   7.48   7.48   7.44   7.44   7.50   7.48   7.44   7.48   7.43   7.48    0.0
 42     0.0   7.43   7.43   7.49   7.48   7.48   7.49   7.48   7.48   7.49   7.49   7.43   7.47   7.44   7.48    0.0
 43     0.0   7.48   7.48   7.48   7.48   7.48   7.44   7.48   7.49   7.46   7.48   7.49   7.48   7.48   7.48    0.0
 44     0.0   7.49   7.48   7.48   7.48   7.48   7.49   7.44   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 45     0.0   7.49   7.48   7.48   7.48   7.48   7.48   7.18   7.49   7.48   7.49   7.49   7.48   7.48   7.48    0.0
 46     0.0   7.44   7.48   7.48   7.48   7.48   7.47   7.48   7.49   7.48   7.48   7.49   7.48   7.49   7.48    0.0
 47     0.0   7.43   7.49   7.48   7.48   7.44   7.49   7.48   7.48   7.48   7.48   7.49   7.48   7.44   7.48    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
CONCENTRATION OF B.O.D. (MG/L)     STEP NUMBER = 50     TIME =   6.67HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2    0.0   1.70   1.92   2.04   2.19   2.46   2.74   3.02   3.31   3.73   4.13   4.31   4.42   4.47   4.56    0.0
 3    0.0   2.22   2.53   2.58   2.60   2.61   2.62   2.42   2.62   2.62   2.62   2.62   2.63   2.64   2.66    0.0
 4    0.0   1.63   2.15   2.28   2.35   2.40   2.45   2.48   2.52   2.55   2.57   2.63   2.67   2.72   2.79    0.0
 5    0.0   1.12   1.71   1.93   2.07   2.18   2.24   2.34   2.44   2.52   2.59   2.68   2.77   2.89   3.04    0.0
 6    0.0   1.06   1.90   2.15   2.31   2.43   2.53   2.62   2.71   2.79   2.87   2.96   3.05   3.14   3.20    0.0
 7    0.0   0.99   1.64   1.88   2.02   2.13   2.23   2.31   2.39   2.46   2.54   2.62   2.71   2.82   2.97    0.0
 8    0.0   0.98   1.62   1.74   1.97   2.08   2.16   2.34   2.32   2.39   2.47   2.55   2.63   2.74   2.87    0.0
 9    0.0   0.95   1.39   1.64   1.91   1.94   2.05   2.14   2.23   2.32   2.41   2.50   2.60   2.72   2.86    0.0
10    0.0   0.94   1.69   1.81   1.90   1.97   2.03   2.38   2.12   2.16   2.21   2.26   2.31   2.38   2.47    0.0
11    0.0   1.20   1.78   1.90   1.96   2.00   2.03   2.06   2.08   2.10   2.13   2.15   2.18   2.21   2.26    0.0
12    0.0   1.09   1.69   1.82   1.89   1.94   1.93   2.01   2.05   2.08   2.11   2.15   2.19   2.24   2.30    0.0
13    0.0   0.97   1.44   1.59   1.68   1.74   1.79   1.54   1.88   1.92   1.95   2.00   2.05   2.12   2.20    0.0
14    0.0   0.93   0.92   1.12   1.24   1.61   1.52   1.53   1.73   1.83   1.94   2.05   2.17   2.31   2.47    0.0
15    0.0   0.77   1.31   1.18   1.30   1.39   1.48   1.55   1.63   1.70   1.77   1.85   1.94   2.06   2.70    0.0
16    0.0   0.57   1.32   1.17   1.26   1.34   1.40   1.55   1.51   1.55   1.61   1.67   1.74   1.83   1.94    0.0
17    0.0   0.63   0.93   1.07   1.16   1.23   1.30   1.35   1.41   1.48   1.57   1.59   1.64   1.75   1.87    0.0
18    0.0   0.56   0.85   0.98   1.07   1.14   1.21   1.26   1.32   1.38   1.44   1.53   1.58   1.67   1.60    0.0
19    0.0   0.55   0.46   0.57   1.05   1.11   1.16   1.20   1.25   1.29   1.36   1.39   1.45   1.53   1.63    0.0
20    0.0   0.47   0.65   0.80   0.89   0.96   1.02   1.10   1.14   1.21   1.27   1.35   1.41   1.51   1.68    0.0
21    0.0   0.44   0.63   0.73   0.82   0.89   0.95   1.31   1.07   1.14   1.20   1.24   1.36   1.47   1.62    0.0
22    0.0   0.48   0.63   0.73   0.84   0.86   0.91   0.76   1.01   1.06   1.11   1.17   1.24   1.34   1.47    0.0
23    0.0   0.51   0.58   0.76   0.81   0.85   0.93   0.93   0.96   1.00   1.04   1.08   1.13   1.20   1.28    0.0
24    0.0   0.43   0.55   0.63   0.69   0.74   0.79   0.85   0.84   0.93   0.97   1.05   1.13   1.22   1.35    0.0
25    0.0   0.52   0.57   0.63   0.59   0.72   0.75   0.76   0.81   0.85   0.67   0.91   0.96   1.01   1.10    0.0
26    0.0   0.52   0.57   0.59   0.62   0.65   0.61   0.72   0.75   0.70   0.82   0.86   0.91   0.97   1.07    0.0
27    0.0   0.34   0.52   0.47   0.51   0.55   0.59   0.62   0.65   0.67   0.73   0.79   0.86   0.92   1.03    0.0
28    0.0   0.32   0.28   0.43   0.46   0.50   0.51   0.37   0.60   0.64   0.68   0.73   0.79   0.88   1.00    0.0
29    0.0   0.25   0.15   0.39   0.43   0.46   0.49   0.51   0.54   0.58   0.61   0.65   0.70   0.76   0.86    0.0
30    0.0   0.25   0.32   0.36   0.39   0.42   0.44   0.46   0.49   0.51   0.56   0.57   0.61   0.66   0.75    0.0
31    0.0   0.19   0.29   0.29   0.32   0.35   0.37   0.39   0.42   0.44   0.47   0.50   0.53   0.59   0.60    0.0
32    0.0   0.17   0.20   0.22   0.24   0.26   0.24   0.24   0.38   0.32   0.36   0.36   0.38   0.41   0.47    0.0
33    0.0   0.11   0.18   0.21   0.23   0.24   0.25   0.27   0.29   0.29   0.31   0.32   0.34   0.37   0.40    0.0
34    0.0   0.08   0.11   0.12   0.14   0.15   0.16   0.17   0.19   0.19   0.20   0.22   0.23   0.25   0.29    0.0
35    0.0   0.06   0.09   0.10   0.10   0.11   0.11   0.11   0.12   0.12   0.13   0.13   0.14   0.15   0.17    0.0
36    0.0   0.03   0.06   0.07   0.07   0.08   0.04   0.08   0.04   0.07   0.09   0.09   0.09   0.10   0.10    0.0
37    0.0   0.00   0.01   0.01   0.01   0.02   0.02   0.02   0.02   0.02   0.02   0.02   0.02   0.02   0.02    0.0
38    0.0   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.01   0.01   0.01   0.01   0.01    0.0
39    0.0  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.01   0.01   0.01   0.02   0.02   0.01    0.0
40    0.0   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.01  -0.01  -0.01  -0.01    0.0
41    0.0  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
42    0.0   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00    0.0
43    0.0   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   1.00    0.0
44    0.0  -0.00  -0.00  -0.00  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
45    0.0  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
46    0.0   0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00  -0.00    0.0
47    0.0  -0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
48    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
U VELOCITY FIELD (-FLOOD) -FPS.     STEP NUMBER = 50     TIME =   6.67HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2   0.0  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22  -0.22    0.0
  3   0.0  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28    0.0
  4   0.0  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11  -0.11    0.0
  5   0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13    0.0
  6   0.0  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13  -0.13    0.0
  7   0.0  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17    0.0
  8   0.0  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17  -0.17    0.0
  9   0.0  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16    0.0
 10   0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30    0.0
 11   0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41    0.0
 12   0.0  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24    0.0
 13   0.0  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21    0.0
 14   0.0  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12  -0.12    0.0
 15   0.0  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18  -0.18    0.0
 16   0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20    0.0
 17   0.0  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20  -0.20    0.0
 18   0.0  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21  -0.21    0.0
 19   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 20   0.0  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16  -0.16    0.0
 21   0.0  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15  -0.15    0.0
 22   0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19    0.0
 23   0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23    0.0
 24   0.0  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19  -0.19    0.0
 25   0.0  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30  -0.30    0.0
 26   0.0  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25  -0.25    0.0
 27   0.0  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23  -0.23    0.0
 28   0.0  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24  -0.24    0.0
 29   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 30   0.0  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29  -0.29    0.0
 31   0.0  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26  -0.26    0.0
 32   0.0  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27  -0.27    0.0
 33   0.0  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28    0.0
 34   0.0  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28  -0.28    0.0
 35   0.0  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35  -0.35    0.0
 36   0.0  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41  -0.41    0.0
 37   0.0  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38  -0.38    0.0
 38   0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47    0.0
 39   0.0  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47  -0.47    0.0
 40   0.0  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50    0.0
 41   0.0  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44  -0.44    0.0
 42   0.0  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45  -0.45    0.0
 43   0.0  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60  -0.60    0.0
 44   0.0  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49  -0.49    0.0
 45   0.0  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55  -0.55    0.0
 46   0.0  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56  -0.56    0.0
 47   0.0  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50  -0.50    0.0
 48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
W VELOCITY FIELD -FPS.      STEP NUMBER = 50     TIME =   6.67HRS.

          1       2       3       4       5       6       7       8       9      10      11      12      13      14      15      16
  1     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  2     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  3     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  4     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  5     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  6     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  7     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  8     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  9     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 10     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 11     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 12     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 13     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 14     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 15     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 16     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 17     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 18     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 19     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 20     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 21     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 22     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 23     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 24     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 25     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 26     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 27     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 28     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 29     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 30     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 31     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 32     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 33     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 34     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 35     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 36     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 37     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 38     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 39     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 40     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 41     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 42     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 43     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 44     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 45     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 46     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 47     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 48     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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DISPERSION COEFFICIENT FOR X DIRECTION (FT**2/SEC)     STEP NUMBER = 50     TIME =   6.67HRS

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40   2.40    0.0
  3     0.0   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11   3.11    0.0
  4     0.0   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54   3.54    0.0
  5     0.0   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99   3.99    0.0
  6     0.0   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67   4.67    0.0
  7     0.0   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44   5.44    0.0
  8     0.0   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18   6.18    0.0
  9     0.0   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78   4.78    0.0
 10     0.0   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36   8.36    0.0
 11     0.0   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31   9.31    0.0
 12     0.0   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96   6.96    0.0
 13     0.0   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48   7.48    0.0
 14     0.0   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76   3.76    0.0
 15     0.0   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37   5.37    0.0
 16     0.0   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25   6.25    0.0
 17     0.0   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99   6.99    0.0
 18     0.0   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71   7.71    0.0
 19     0.0   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60   8.60    0.0
 20     0.0   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00   5.00    0.0
 21     0.0   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08   5.08    0.0
 22     0.0   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58   5.58    0.0
 23     0.0   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23   9.23    0.0
 24     0.0   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16   8.16    0.0
 25     0.0  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83  11.83    0.0
 26     0.0  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36  11.36    0.0
 27     0.0  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84  11.84    0.0
 28     0.0  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45  12.45    0.0
 29     0.0  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22  13.22    0.0
 30     0.0  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47  15.47    0.0
 31     0.0  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30  13.30    0.0
 32     0.0  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02  13.02    0.0
 33     0.0  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88  13.88    0.0
 34     0.0  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78  15.78    0.0
 35     0.0  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88  19.88    0.0
 36     0.0  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17  23.17    0.0
 37     0.0  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70  23.70    0.0
 38     0.0  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92  31.92    0.0
 39     0.0  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39  32.39    0.0
 40     0.0  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16  33.16    0.0
 41     0.0  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20  29.20    0.0
 42     0.0  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97  29.97    0.0
 43     0.0  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53  42.53    0.0
 44     0.0  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19  42.19    0.0
 45     0.0  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56  42.56    0.0
 46    -0.0  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46  53.46    0.0
 47     0.0  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02  43.02    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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DISPERSION COEFFICIENT FOR Z DIRECTION (FT**2/SEC)     STEP NUMBER = 50     TIME =   6.67HRS

         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
  2     .0     .00001.00019.00022.00036.00058.00054.00063.00063.00059.00049.00036.00022.00009.0     .0
  3     .0     .00002.00012.00029.00046.00061.00075.00082.00082.00075.00063.[illegible].00028.00012.0     .0
  4     .0     .00002.00015.[illegible].[illegible].[illegible].[illegible].00106.[illegible].[illegible].[illegible].[illegible].00036.00015.0     .0
  5     .0     .00002.[illegible].00044.00071.[illegible].[illegible].[illegible].00125.[illegible].[illegible].00071.[illegible].00017.0     .0
  6     .0     .00011.00022.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00051.00022.0     .0
  7     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00173.00173.00150.[illegible].[illegible].[illegible].[illegible].0     .0
  8     .0     [illegible].[illegible].[illegible].00112.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00112.00068.00029.0     .0
  9     .0     [illegible].00022.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00053.00022.0     .0
 10     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 11     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00261.[illegible].[illegible].[illegible].[illegible].00052.0     .0
 12     .0     [illegible].[illegible].[illegible].00119.[illegible].[illegible].00210.00210.00193.00162.00117.[illegible].[illegible].0     .0
 13     .0     [illegible].[illegible].00112.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00087.[illegible].0     .0
 14     .0     [illegible].00015.[illegible].00068.00092.[illegible].00119.00119.[illegible].[illegible].[illegible].00067.[illegible].0     .0
 15     .0     [illegible].01025.[illegible].[illegible].00129.[illegible].[illegible].[illegible].[illegible].00172.[illegible].00053.00025.0     .0
 16     .0     [illegible].00029.[illegible].00110.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00067.00029.0     .0
 17     .0     [illegible].00033.00077.00125.[illegible].00201.[illegible].00229.[illegible].[illegible].[illegible].00077.00033.0     .0
 18     .0     [illegible].00036.00096.00140.[illegible].00227.[illegible].[illegible].00227.[illegible].[illegible].[illegible].00036.0     .0
 19     .0     .00003.00040.00075.00155.00210.00251.00273.00271.00251.00210.00155.00095.00040.0     .0
 20     .0     [illegible].[illegible].00095.[illegible].00121.[illegible].[illegible].[illegible].[illegible].00121.[illegible].[illegible].00023.0     .0
 21     .0     [illegible].[illegible].[illegible].[illegible].00121.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00024.0     .0
 22     .0     [illegible].[illegible].[illegible].00099.[illegible].00169.00176.00175.00160.00135.[illegible].[illegible].[illegible].0     .0
 23     .0     [illegible].[illegible].[illegible].[illegible].00225.[illegible].[illegible].[illegible].[illegible].00225.[illegible].00112.[illegible].0     .0
 24     .0     [illegible].[illegible].[illegible].00152.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 25     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00135.00057.0     .0
 26     .0     [illegible].[illegible].[illegible].00212.[illegible].[illegible].[illegible].[illegible].[illegible].00211.00212.[illegible].00155.0     .0
 27     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 28     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00121.[illegible].[illegible].00053.0     .0
 29     .0     [illegible].00067.00157.00257.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00257.00157.[illegible].0     .0
 30     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00076.0     .0
 31     .0     [illegible].[illegible].00159.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 32     .0     [illegible].[illegible].00159.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00155.[illegible].0     .0
 33     .0     [illegible].00070.00165.[illegible].[illegible].[illegible].[illegible].00472.[illegible].[illegible].[illegible].00165.00070.0     .0
 34     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 35     .0     [illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].0     .0
 36     .0     [illegible].00120.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00120.0     .0
 37     .0     .00019.00124.00291.00475.00653.00767.00836.00836.00769.00653.00475.00291.00124.0     .0
 38     .0     .00022.00170.00399.00652.00992.01056.01147.01147.01056.00932.00652.00399.00176.0     .0
 39     .0     .00022.00174.00418.00667.00932.01079.01175.01176.01079.00932.00667.00439.00174.0     .0
 40     .0     .00021.00176.00417.00702.00923.01106.01233.01203.01106.00923.00642.00417.00176.0     .0
 41     .0     .00020.00156.00367.00599.[illegible].[illegible].[illegible].[illegible].[illegible].00610.00367.00167.00156.0     .0
 42     .0     .00021.[illegible].00376.00614.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00351.00176.00165.0     .0
 43     .0     [illegible].[illegible].[illegible].00977.01167.[illegible].[illegible].[illegible].[illegible].[illegible].00377.[illegible].00228.0     .0
 44     .0     .00039.00232.[illegible].00892.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00232.0     .0
 45     .0     [illegible].00236.[illegible].00908.[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].[illegible].00556.00236.0     .0
 46     .0     .00039.00300.00706.01154.[illegible].01866.02029.02029.01866.01541.01153.00796.00307.0     .0
 47     .0     .00012.00254.00574.00947.01269.01517.01650.01653.01517.01269.00937.00574.00244.0     .0
 48     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
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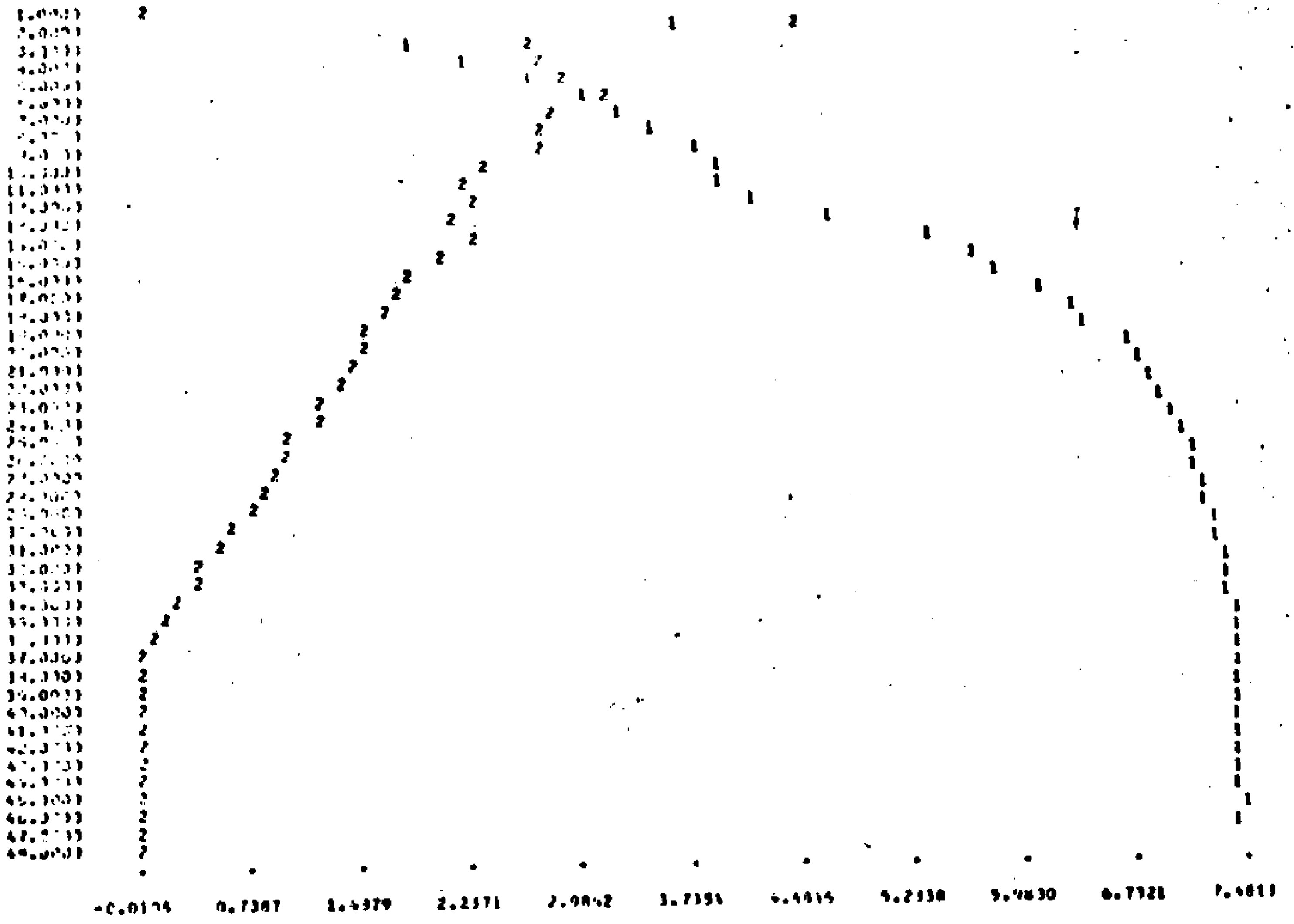
SEPARATION COEFFICIENTS X 1000000 (1/SEC)   STEP NUMBER = 50   TIME = 6.67HRS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.56	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.74	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

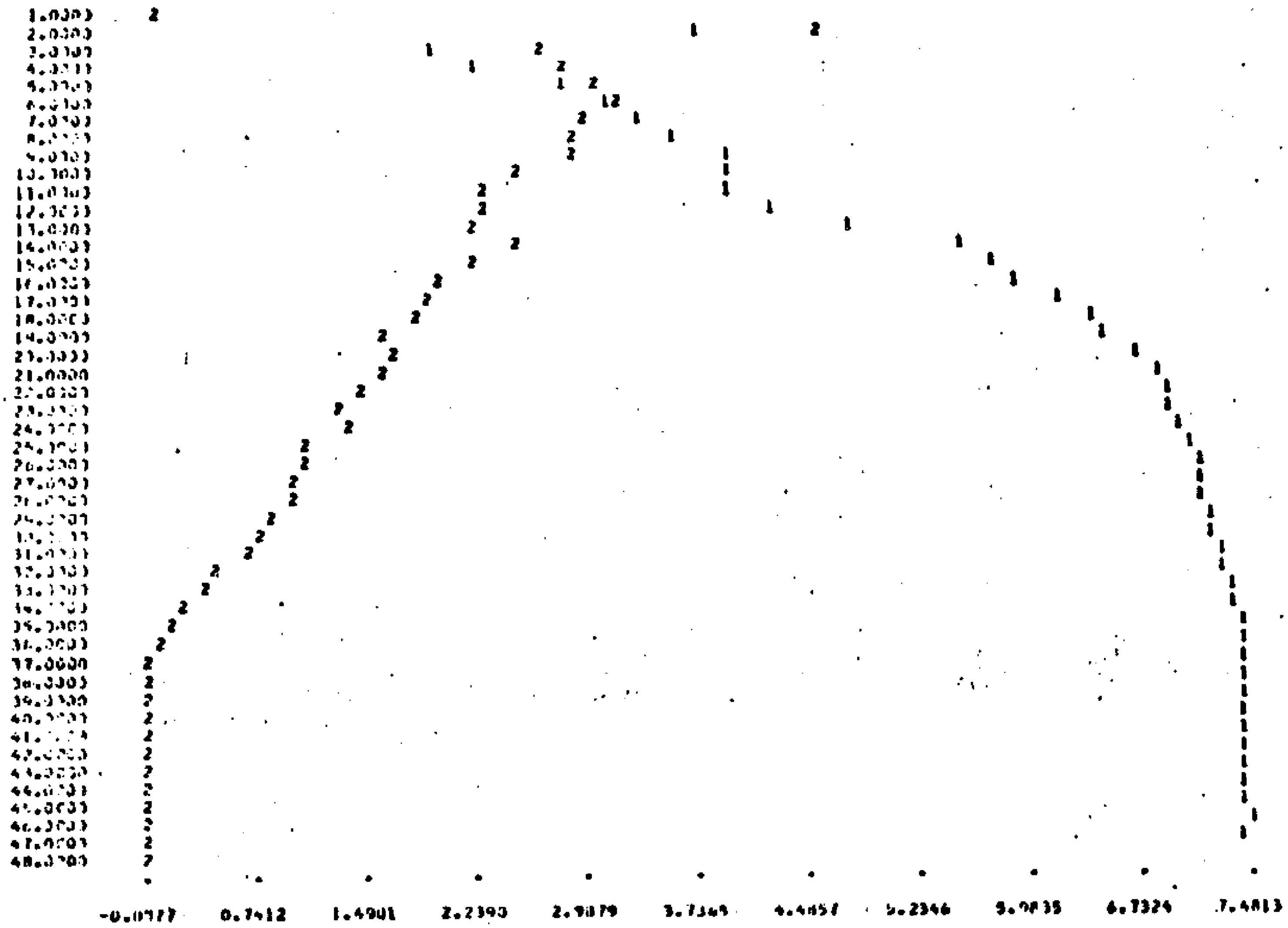
```
    N11 DECAY COEFFICIENTS X 1.00000 (1/SEC)      STEP NUMBER = 50      TIME =   6.67HRS

           1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  3       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  4       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  5       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  6       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  7       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  8       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
  9       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 10       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 11       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 12       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 13       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 14       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 15       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 16       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 17       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 18       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 19       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 20       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 21       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 22       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 23       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 24       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 25       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 26       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 27       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 28       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 29       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 30       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 31       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 32       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 33       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 34       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 35       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 36       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 37       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 38       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 39       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 40       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 41       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 42       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 43       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 44       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 45       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 46       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 47       0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 48       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                                  0.0
                                  7.7740
                                  7.7690
                                  7.7690
                                  7.7641
                                  7.7591
                                  7.7541
                                  7.7442
                                  7.7292
                                  7.7243
                                  7.7194
                                  7.7094
                                  7.7044
                                  7.6944
                                  7.6895
                                  7.6845
                                  7.6745
                                  7.6646
                                  7.6596
                                  7.6546
                                  7.6497
                                  7.6397
                                  7.6294
                                  7.6244
                                  7.6194
                                  7.6093
                                  7.5993
                                  7.5993
                                  7.5850
                                  7.5853
                                  7.5751
                                  7.5701
                                  7.5601
                                  7.5532
                                  7.5532
                                  7.5452
                                  7.5402
                                  7.5351
                                  7.5253
                                  7.5154
                                  7.5154
                                  7.5054
                                  7.4955
                                  7.4905
                                  7.4935
                                  7.4915
                                  7.4805
                                  0.0
```

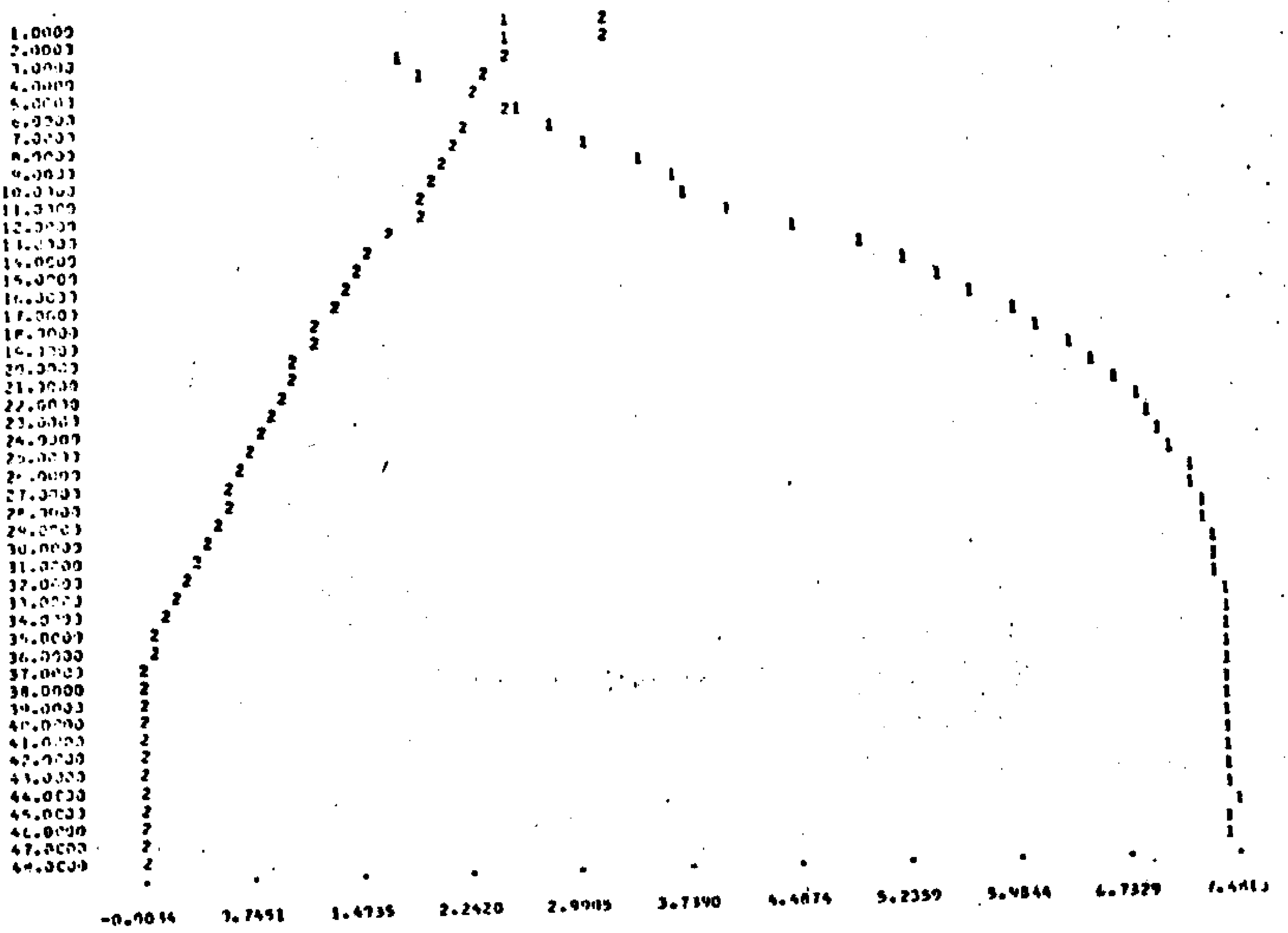
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



```
CONCENTRATION OF DISSOLVED OXYGEN (MG/L)     STEP NUMBER = 99     TIME =  13.20HRS.

          1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
  1     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
  2     0.0  1.53  1.51  1.62  1.76  1.97  2.24  2.50  2.74  2.90  3.27  3.22  3.44  3.64  3.70   0.0
  3     0.0  1.10  1.13  1.13  1.14  1.15  1.16  1.17  1.18  1.19  1.20  1.21  1.22  1.23  1.24   0.0
  4     0.0  1.39  1.55  1.59  1.61  1.62  1.63  1.64  1.65  1.66  1.67  1.68  1.70  1.71  1.73   0.0
  5     0.0  1.70  1.82  1.87  1.89  1.91  1.93  1.95  1.96  1.98  1.99  2.01  2.03  2.06  2.10   0.0
  6     0.0  1.95  1.99  2.03  2.06  2.09  2.10  2.12  2.14  2.16  2.18  2.20  2.23  2.26  2.32   0.0
  7     0.0  2.12  2.31  2.44  2.47  2.49  2.51  2.53  2.54  2.56  2.57  2.59  2.61  2.64  2.67   0.0
  8     0.0  2.44  2.67  2.71  2.74  2.76  2.77  2.78  2.79  2.81  2.82  2.83  2.85  2.87  2.89   0.0
  9     0.0  2.71  2.97  3.02  3.05  3.07  3.08  3.10  3.11  3.13  3.14  3.16  3.17  3.20  3.23   0.0
 10     0.0  3.15  3.30  3.32  3.33  3.34  3.35  3.35  3.35  3.35  3.36  3.36  3.37  3.37  3.38   0.0
 11     0.0  3.43  3.51  3.52  3.53  3.53  3.54  3.54  3.54  3.55  3.54  3.55  3.55  3.55  3.56   0.0
 12     0.0  3.73  3.86  3.88  3.89  3.90  3.90  3.91  3.91  3.91  3.92  3.92  3.92  3.93  3.93   0.0
 13     0.0  4.05  4.25  4.27  4.29  4.30  4.31  4.32  4.33  4.34  4.34  4.35  4.36  4.37  4.39   0.0
 14     0.0  4.23  4.52  4.59  4.62  4.64  4.67  4.69  4.71  4.73  4.75  4.77  4.81  4.85  4.92   0.0
 15     0.0  4.82  4.84  4.90  4.94  4.96  4.98  5.10  5.01  5.02  5.04  5.06  5.07  5.10  5.13   0.0
 16     0.0  4.91  5.12  5.18  5.21  5.23  5.24  5.26  5.27  5.29  5.30  5.31  5.33  5.35  5.37   0.0
 17     0.0  5.09  5.39  5.43  5.46  5.48  5.50  5.51  5.53  5.54  5.55  5.56  5.58  5.60  5.62   0.0
 18     0.0  5.11  5.60  5.66  5.69  5.71  5.73  5.74  5.76  5.77  5.79  5.80  5.81  5.83  5.86   0.0
 19     0.0  5.34  5.81  5.86  5.89  5.91  5.92  5.93  5.95  5.95  5.96  5.97  5.98  5.99  6.01   0.0
 20     0.0  5.56  5.99  6.06  6.09  6.12  6.14  6.15  6.17  6.18  6.19  6.21  6.22  6.24  6.26   0.0
 21     0.0  5.15  6.17  6.24  6.28  6.30  6.32  6.33  6.34  6.35  6.37  6.38  6.39  6.40  6.42   0.0
 22     0.0  6.09  6.37  6.43  6.45  6.47  6.48  6.49  6.50  6.51  6.51  6.51  6.52  6.53  6.54   0.0
 23     0.0  6.31  6.55  6.57  6.59  6.60  6.61  6.61  6.62  6.62  6.62  6.63  6.63  6.63  6.64   0.0
 24     0.0  6.45  6.67  6.71  6.72  6.73  6.73  6.74  6.74  6.74  6.74  6.74  6.74  6.74  6.74   0.0
 25     0.0  6.61  6.79  6.82  6.81  6.83  6.83  6.84  6.84  6.85  6.84  6.84  6.84  6.84  6.84   0.0
 26     0.0  6.75  6.89  6.91  6.92  6.92  6.92  6.93  6.93  6.93  6.92  6.92  6.92  6.92  6.92   0.0
 27     0.0  6.93  7.02  7.05  7.04  7.06  7.06  7.03  7.03  7.03  7.02  7.02  7.01  7.00  6.99   0.0
 28     0.0  7.31  7.11  7.11  7.11  7.10  7.10  7.09  7.09  7.10  7.07  7.06  7.05  7.04  7.02   0.0
 29     0.0  7.14  7.16  7.17  7.17  7.16  7.15  7.15  7.14  7.13  7.11  7.12  7.11  7.09  7.07   0.0
 30     0.0  7.24  7.21  7.22  7.21  7.20  7.20  7.19  7.19  7.18  7.17  7.17  7.16  7.15  7.13   0.0
 31     0.0  7.32  7.24  7.27  7.25  7.26  7.24  7.23  7.23  7.22  7.21  7.21  7.19  7.18  7.16   0.0
 32     0.0  7.17  7.13  7.32  7.31  7.31  7.30  7.30  7.29  7.29  7.28  7.28  7.27  7.26  7.25   0.0
 33     0.0  7.11  7.35  7.34  7.33  7.32  7.32  7.32  7.31  7.31  7.30  7.30  7.30  7.29  7.28   0.0
 34     0.0  7.42  7.39  7.39  7.38  7.37  7.37  7.37  7.36  7.36  7.36  7.35  7.35  7.34  7.34   0.0
 35     0.0  7.41  7.42  7.41  7.41  7.41  7.41  7.41  7.40  7.40  7.43  7.43  7.40  7.39  7.39   0.0
 36     0.0  7.44  7.43  7.42  7.42  7.42  7.42  7.42  7.42  7.42  7.42  7.42  7.42  7.41  7.41   0.0
 37     0.0  7.47  7.46  7.46  7.46  7.46  7.46  7.46  7.46  7.46  7.46  7.45  7.45  7.45  7.45   0.0
 38     0.0  7.48  7.48  7.48  7.48  7.48  7.48  7.47  7.47  7.47  7.47  7.47  7.47  7.47  7.47   0.0
 39     0.0  7.44  7.44  7.48  7.40  7.49  7.44  7.48  7.48  7.48  7.48  7.49  7.47  7.47  7.47   0.0
 40     0.0  7.44  7.48  7.44  7.48  7.48  7.49  7.48  7.49  7.49  7.48  7.48  7.48  7.48  7.48   0.0
 41     0.0  7.46  7.49  7.48  7.48  7.48  7.48  7.44  7.48  7.48  7.48  7.48  7.48  7.48  7.48   0.0
 42     0.0  7.48  7.44  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.44  7.49  7.48  7.48  7.48   0.0
 43     0.0  7.44  7.48  7.49  7.48  7.48  7.44  7.44  7.48  7.44  7.48  7.48  7.48  7.48  7.48   0.0
 44     0.0  7.45  7.48  7.49  7.48  7.48  7.48  7.48  7.48  7.48  7.49  7.43  7.48  7.49  7.48   0.0
 45     0.0  7.49  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.48   0.0
 46     0.0  7.48  7.48  7.48  7.48  7.48  7.48  7.48  7.49  7.48  7.49  7.48  7.48  7.48  7.48   0.0
 47     0.0  7.48  7.48  7.48  7.48  7.44  7.46  7.44  7.45  7.48  7.44  7.48  7.48  7.48  7.48   0.0
 48     0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
CONCENTRATION OF B.O.D. (MG/L)      STEP NUMBER = 99      TIME =  13.20HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0   1.90   1.91   2.03   2.18   2.45   2.74   3.09   3.33   3.77   4.17   4.36   4.47   4.51   4.60    0.0
  3     0.0   1.75   1.70   1.70   1.71   1.72   1.73   1.75   1.77   1.78   1.80   1.81   1.82   1.82   1.82    0.0
  4     0.0   1.27   1.59   1.77   1.81   1.85   1.87   1.89   1.91   1.93   1.95   1.97   1.99   2.02   2.10    0.0
  5     0.0   0.95   1.63   1.60   1.68   1.73   1.78   1.82   1.85   1.89   1.93   1.97   2.01   2.07   2.15    0.0
  6     0.0   1.01   1.80   1.45   2.03   2.04   2.12   2.16   2.19   2.22   2.26   2.29   2.32   2.35   2.34    0.0
  7     0.0   0.90   1.37   1.48   1.54   1.58   1.62   1.65   1.68   1.71   1.74   1.77   1.81   1.86   1.93    0.0
  8     0.0   0.92   1.41   1.52   1.59   1.63   1.67   1.70   1.73   1.76   1.79   1.82   1.86   1.90   1.96    0.0
  9     0.0   0.92   1.30   1.42   1.49   1.54   1.57   1.61   1.64   1.67   1.70   1.75   1.78   1.83   1.88    0.0
 10     0.0   1.11 [illegible] 1.49 1.51   1.53   1.54   1.55   1.56   1.57   1.58   1.59   1.60   1.62   1.63    0.0
 11     0.0   1.71   1.44   1.47   1.49   1.50   1.51   1.38   1.52   1.52   1.53   1.51   1.53   1.54   1.54    0.0
 12     0.0   1.21   1.34   1.40   1.43   1.45 [illegible] 1.48 1.49   1.50   1.52   1.53   1.55   1.57   1.59    0.0
 13     0.0   0.79   1.16   1.24   1.27   1.33   1.37   1.16   1.35   1.37   1.34   1.40   1.42   1.44   1.47    0.0
 14     0.0   0.51   0.86   0.99   1.07   1.14   1.19   1.25   1.29   1.34   1.39   1.45   1.52   1.59   1.70    0.0
 15     0.0   0.50   0.96   1.05   1.10   1.13   1.14   1.19   1.22   1.24   1.27   1.39   1.34   1.38   1.44    0.0
 16     0.0   0.64   0.93   1.00   1.04   1.06   1.09   1.10   1.11   1.13   1.15   1.16   1.18   1.21   1.24    0.0
 17     0.0   0.57   0.87   0.93   0.97   1.00   1.02   1.04   1.06   1.07   1.09   1.11   1.13   1.16   1.20    0.0
 18     0.0 [illegible] 0.93 0.87   0.91   0.93   0.96   0.98   1.03   1.07   1.03   1.06   1.08   1.11   1.15    0.0
 19     0.0 [illegible] 0.79 0.85   0.88   0.90   0.91   0.93   0.94   0.95   0.96   0.91   0.97   1.01   1.04    0.0
 20     0.0 [illegible] 0.66 0.73   0.77   0.80   0.83   0.85   0.89   0.93   0.92   0.95   0.98   1.02   1.07    0.0
 21     0.0   0.72   0.61   0.68   0.72   0.75   0.78   0.80   0.83   0.85   0.84   0.91   0.94   0.98   1.04    0.0
 22     0.0 [illegible] 0.60 0.66   0.69   0.71   0.74   0.75   0.77   0.79   0.81   0.83   0.85   0.89   0.93    0.0
 23     0.0   0.47   0.64   0.67   0.69   0.71   0.72   0.73   0.74   0.75   0.76   0.77   0.78   0.80   0.81    0.0
 24     0.0   0.44   0.51   0.58   0.61   0.64   0.66   0.59   0.69   0.71   0.73   0.75   0.78   0.81   0.85    0.0
 25     0.0   0.44   0.52   0.56   0.58   0.59   0.61   0.62   0.63   0.64   0.65   0.66   0.68   0.70   0.72    0.0
 26     0.0 [illegible] 0.50 0.53   0.55   0.56   0.57   0.58   0.59   0.60   0.61   0.62   0.63   0.65   0.67    0.0
 27     0.0    0.    0.41   0.45   0.47   0.48   0.53   0.51   0.52   0.51   0.55   0.56   0.58   0.50   0.63    0.0
 28     0.0 [illegible] 0.37 0.40   0.42   0.44   0.46   0.47   0.49   0.50   0.52   0.51   0.56   0.54   0.62    0.0
 29     0.0   0.26   0.33   0.36   0.38   0.40   0.41   0.43   0.44   0.45   0.46   0.49   0.50   0.52   0.55    0.0
 30 [illegible] 0.23 0.31   0.34   0.35   0.37   0.39   0.39   0.43   0.40   0.41   0.41   0.44   0.46   0.48    0.0
 31 [illegible] 0.11 0.26   0.29   0.30   0.32   0.33   0.34   0.35   0.36   0.37   0.38   0.40   0.42   0.44    0.0
 32     0.0   1.11   0.21   0.22   0.23   0.24   0.25   0.25   0.26   0.26   0.27   0.29   0.28   0.33   0.31    0.0
 33     0.0   1.12   0.19   0.20   0.21   0.21   0.22   0.23   0.21   0.24   0.24   0.25   0.26   0.27   0.28    0.0
 34     0.0   0.03   0.12   0.14   0.14   0.15   0.16   0.16   0.16   0.17   0.17   0.14   0.19   0.20   0.21    0.0
 35     0.0   0.07   0.09   0.10   0.10   0.10   0.10   0.11   0.11   0.11   0.11   0.12   0.17   0.17   0.13    0.0
 36     0.0   0.35   0.07 [illegible] 0.08 0.04  0.04   0.08   0.04   0.08   0.04   0.07   0.09   0.07   0.09    0.0
 37     0.0   0.02   0.03 [illegible] 0.03 0.03  0.03   0.06   0.04   0.05   0.04   0.04   0.04   0.04   0.04    0.0
 38     0.0   0.30   0.01   0.01   0.01   1.01   0.01   0.01   0.01   0.01   0.00   0.03   0.00   0.03   0.00    0.0
 39     0.0   1.09   0.03   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.01   0.02   0.02   0.02    0.0
 40     0.0   0.17   0.00   0.00  -1.00   0.00   0.03   0.03   0.00   0.10   0.00   0.00   0.01   0.01   0.01    0.0
 41     0.0   0.01   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00    0.0
 42     0.0  -0.00  -0.03   0.00   0.00   0.00   0.01   0.03   0.03   0.00   0.01   0.01   0.06   0.00   0.00    0.0
 43     0.0   0.33   0.00   0.00   0.03   0.00   0.07   0.13   0.03   0.00   0.01   0.09   0.10   0.03   0.00    0.0
 44     0.0   0.11   0.00  -0.00  -1.00  -0.01  -0.00  -0.11  -0.00  -0.01  -0.01  -0.03  -0.00  -0.33  -0.00    0.0
 45     0.0   0.01   0.11   0.00   0.00   0.30   0.01   0.30   0.00   0.10   0.00   0.03   0.00   0.00   0.00    0.0
 46     0.0   0.10   0.00   0.00   0.11   0.00   0.03   0.10   0.00   0.00   1.00   0.01   0.00   0.00   0.00    0.0
 47     0.0   0.00   0.00   0.00   0.00   0.00   0.00   0.07   0.03   0.00   0.00   0.00   0.10   0.03   0.00    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
U VELOCITY FIELD (-FLOOD) -FPS.     STEP NUMBER = 99     TIME =  13.20HRS.

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2   0.0   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23    0.0
  3   0.0   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32    0.0
  4   0.0   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14    0.0
  5   0.0   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17   0.17    0.0
  6   0.0   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18   0.18    0.0
  7   0.0   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24   0.24    0.0
  8   0.0   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23   0.23    0.0
  9   0.0   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22    0.0
 10   0.0   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40    0.0
 11   0.0   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55   0.55    0.0
 12   0.0   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33    0.0
 13   0.0   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28    0.0
 14   0.0   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16   0.16    0.0
 15   0.0   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25   0.25    0.0
 16   0.0   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28    0.0
 17   0.0   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28   0.28    0.0
 18   0.0   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30   0.30    0.0
 19   0.0   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38    0.0
 20   0.0   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22   0.22    0.0
 21   0.0   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21   0.21    0.0
 22   0.0   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27    0.0
 23   0.0   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32   0.32    0.0
 24   0.0   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27   0.27    0.0
 25   0.0   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42   0.42    0.0
 26   0.0   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35    0.0
 27   0.0   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31   0.31    0.0
 28   0.0   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33   0.33    0.0
 29   0.0   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36    0.0
 30   0.0   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40   0.40    0.0
 31   0.0   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35   0.35    0.0
 32   0.0   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36   0.36    0.0
 33   0.0   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38   0.38    0.0
 34   0.0   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37   0.37    0.0
 35   0.0   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46   0.46    0.0
 36   0.0   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54   0.54    0.0
 37   0.0   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49   0.49    0.0
 38   0.0   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61    0.0
 39   0.0   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61    0.0
 40   0.0   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64   0.64    0.0
 41   0.0   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56   0.56    0.0
 42   0.0   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57   0.57    0.0
 43   0.0   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76   0.76    0.0
 44   0.0   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62   0.62    0.0
 45   0.0   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69    0.0
 46   0.0   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69   0.69    0.0
 47   0.0   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61   0.61    0.0
 48   0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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W VELOCITY FIELD -FPS.     STEP NUMBER = 99     TIME =  13.20HRS.

          1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
  1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  2     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  3     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  4     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  5     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  6     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  7     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  8     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
  9     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 10     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 11     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 12     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 13     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 14     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 15     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 16     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 17     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 18     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 19     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 20     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 21     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 22     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 23     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 24     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 25     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 26     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 27     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 28     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 29     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 30     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 31     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 32     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 33     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 34     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 35     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 36     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 37     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 38     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 39     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 40     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 41     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 42     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 43     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 44     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 45     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 46     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 47     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
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DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)   STEP NUMBER = 99   TIME = 13.20HRS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	0.0
3	0.0	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	0.0
4	0.0	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	0.0
5	0.0	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.76	0.0
6	0.0	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	0.0
7	0.0	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	0.0
8	0.0	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	0.0
9	0.0	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	6.78	0.0
10	0.0	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	11.78	0.0
11	0.0	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	0.0
12	0.0	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	9.71	0.0
13	0.0	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	0.0
14	0.0	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	5.21	0.0
15	0.0	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	0.0
16	0.0	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.64	0.0
17	0.0	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	0.0
18	0.0	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	0.0
19	0.0	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	11.89	0.0
20	0.0	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	6.87	0.0
21	0.0	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	0.0
22	0.0	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	7.58	0.0
23	0.0	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.40	0.0
24	0.0	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	10.92	0.0
25	0.0	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	15.73	0.0
26	0.0	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	15.02	0.0
27	0.0	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	0.0
28	0.0	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	16.32	0.0
29	0.0	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	17.31	0.0
30	0.0	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	20.16	0.0
31	0.0	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	0.0
32	0.0	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	0.0
33	0.0	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	0.0
34	0.0	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	20.14	0.0
35	0.0	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	25.23	0.0
36	0.0	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	29.27	0.0
37	0.0	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	0.0
38	0.0	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	0.0
39	0.0	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	40.43	0.0
40	0.0	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	41.24	0.0
41	0.0	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	36.15	0.0
42	0.0	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	36.87	0.0
43	0.0	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	52.17	0.0
44	0.0	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	51.50	0.0
45	0.0	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	51.53	0.0
46	0.0	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18	0.0
47	0.0	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	51.23	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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DISPERSION COEFFICIENT FOR Z DIRECTION (FT**2/SEC)      STEP NUMBER = 99      TIME = 13.70HRS

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
 2     .0     .00112.01011.00030.00093.00067.00391.01049.00099.00091.00067.00359.00031.00311.0     .0
 3     .0     .00112.00317.00341.00067.00391.00109.00118.00118.00108.00071.00067.00041.00017.0     .0
 4     .0     .00111.00272.00452.00084.00114.00117.00149.00141.00117.00114.00094.00057.00022.0     .0
 5     .0     .00101.01177.00061.00103.00119.00106.00131.00141.00146.00111.00111.00061.00027.0     .0
 6     .0     .00124.00132.00375.00121.00164.00196.00213.00213.00196.00165.00124.00074.00032.0     .0
 7     .0     .00125.00135.00396.00140.00109.00727.00246.00236.00227.00149.00149.00095.00036.0     .0
 8     .0     .00115.00151.00037.00159.00215.00257.00273.00273.00247.00215.00153.00047.00041.0     .0
 9     .0     .00114.00132.00175.00122.00165.00197.00215.00215.00197.00165.00122.00075.00032.0     .0
10     .0     .00117.00139.00176.00207.00280.00344.00366.00335.00334.00293.00267.00174.00035.0     .0
11     .0     .00114.00204.00113.00270.00306.00363.00408.00431.00345.00394.00224.00133.00159.0     .0
12     .0     .00134.00151.00102.00167.00225.00270.00291.00291.00270.00225.00167.00102.00041.0     .0
13     .0     .00135.00134.00115.00187.00253.00193.00329.00321.00301.00259.00147.00115.00049.0     .0
14     .0     .00114.00124.00104.00094.00127.00137.00176.00156.00152.00127.00095.00054.00024.0     .0
15     .0     .00111.00114.00081.00132.00179.00214.00232.00232.00214.00179.00132.00081.00036.0     .0
16     .0     .00123.00150.00351.00152.00236.00247.00258.00264.00247.00216.00152.00091.00041.0     .0
17     .0     .00135.00135.00195.00173.00236.00280.00305.00315.00280.00216.00173.00125.00055.0     .0
18     .0     .00117.00159.00119.00194.00262.00314.00341.00341.00314.00262.00194.00119.00053.0     .0
19     .0     .00117.00136.00131.00215.00290.00347.00378.00378.00347.00271.00215.00131.00056.0     .0
20     .0     .00116.00112.00075.00122.00165.00193.00215.00215.00199.00165.00122.00075.00032.0     .0
21     .0     .00116.00157.00076.00121.00167.00201.00217.00217.00200.00167.00121.00076.00032.0     .0
22     .0     .00116.00045.00087.00135.00192.00219.00237.00237.00218.00182.00135.00082.00035.0     .0
23     .0     .00114.00050.00117.00226.00301.00362.00395.00395.00362.00301.00226.00117.00035.0     .0
24     .0     .00107.00053.00125.00201.00275.00329.00358.00358.00329.00275.00204.00125.00053.0     .0
25     .0     .00111.00076.00177.00291.00396.00475.00515.00515.00474.00396.00291.00177.00076.0     .0
26     .0     .00111.00073.00115.00281.00341.00454.00494.00495.00455.00341.00281.00177.00073.0     .0
27     .0     .00111.00178.00143.00250.00405.00486.00527.00527.00486.00405.00299.00194.00074.0     .0
28     .0     .00111.00183.00194.00318.00430.00511.00559.00551.00514.00433.00314.00194.00083.0     .0
29     .0     .00111.00087.00276.00446.00555.00545.00591.00591.00544.00454.00346.00210.00087.0     .0
30     .0     .00113.00107.00240.00392.00531.00635.00690.00690.00635.00531.00392.00251.00112.0     .0
31     .0     .00111.00148.00204.00337.00556.00565.00593.00593.00556.00456.00337.00235.00188.0     .0
32     .0     .00111.00165.00203.00376.00452.00529.00574.00574.00528.00442.00326.00203.00087.0     .0
33     .0     .00112.00190.00211.00344.00466.00557.00605.00605.00557.00466.00344.00211.00090.0     .0
34     .0     .00113.00163.00251.00374.00531.00637.00693.00693.00637.00511.00394.00241.00111.0     .0
35     .0     .00117.00139.00336.00553.00677.00913.00981.00981.00810.00677.00539.00306.00131.0     .0
36     .0     .00121.00151.00356.00581.00786.00943.01021.01021.00943.00786.00581.00356.00151.0     .0
37     .0     .00021.00156.00366.00594.00809.00963.01052.01052.00968.00809.00578.00366.00155.0     .0
38     .0     .00328.00213.00503.00816.01105.01321.01437.01437.01321.01105.00816.00503.00213.0     .0
39     .0     .00374.00217.00507.00827.01126.01347.01465.01465.01347.01126.00812.00509.00217.0     .0
40     .0     .00024.00221.00517.00844.01148.01373.01493.01493.01371.01149.00849.00519.00221.0     .0
41     .0     .00025.00191.00453.00741.01003.01203.01304.01304.01209.01003.00741.00454.00191.0     .0
42     .0     .00025.00187.00462.00756.01027.01223.01330.01330.01223.01022.00756.00462.00197.0     .0
43     .0     .00116.00280.00659.01076.01456.01741.01893.01893.01741.01456.01076.00659.00280.0     .0
44     .0     .00117.00283.00666.01087.01473.01762.01916.01916.01762.01473.01087.00666.00283.0     .0
45     .0     .00117.00286.00673.01100.01488.01780.01935.01935.01780.01488.01101.00673.00286.0     .0
46     .0     .00047.00360.00847.01385.01874.02241.02436.02436.02241.01874.01385.00847.00360.0     .0
47     .0     .00038.00291.00681.01116.01511.01807.01964.01964.01807.01511.01116.00681.00291.0     .0
48     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0     .0
```
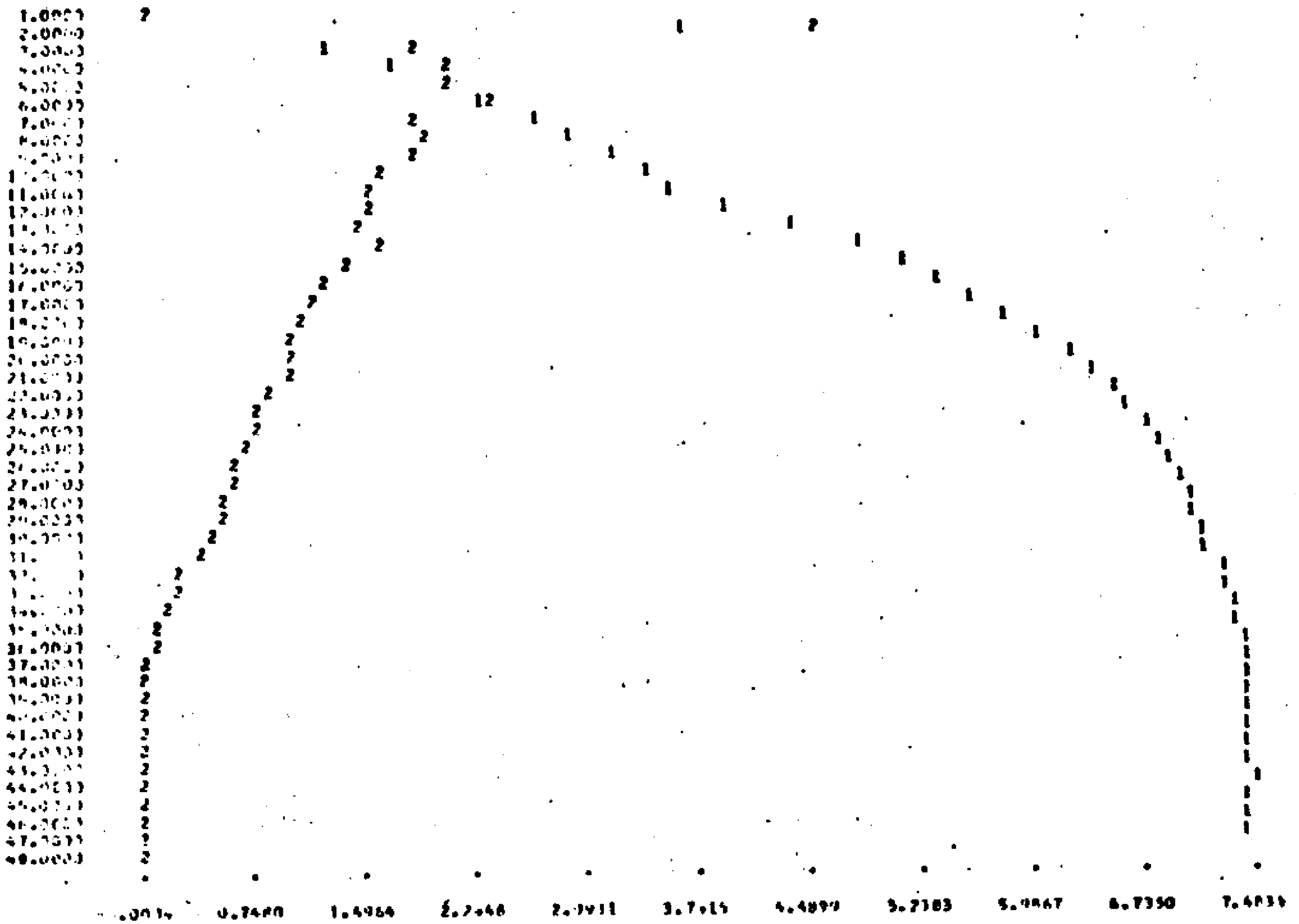

```
H, HEATING COEFFICIENTS X 1000000 (1/SEC)     STEP NUMBER = 99     TIME = 13.20HRS

        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16
 1    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 2    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.46  0.0
 3    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.43  0.0
 4    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.08  0.0
 5    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
 6    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.07  0.0
 7    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
 8    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
 9    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.14  0.0
10    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.27  0.0
11    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.49  0.0
12    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.23  0.0
13    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
14    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
15    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
16    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.19  0.0
17    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
18    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.14  0.0
19    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.23  0.0
20    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
21    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
22    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.10  0.0
23    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
24    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
25    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.20  0.0
26    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.14  0.0
27    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
28    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
29    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
30    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
31    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
32    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
33    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
34    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
35    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.11  0.0
36    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
37    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.17  0.0
38    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.14  0.0
39    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
40    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.15  0.0
41    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
42    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.13  0.0
43    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.16  0.0
44    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.10  0.0
45    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.12  0.0
46    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.10  0.0
47    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.09  0.0
48    0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

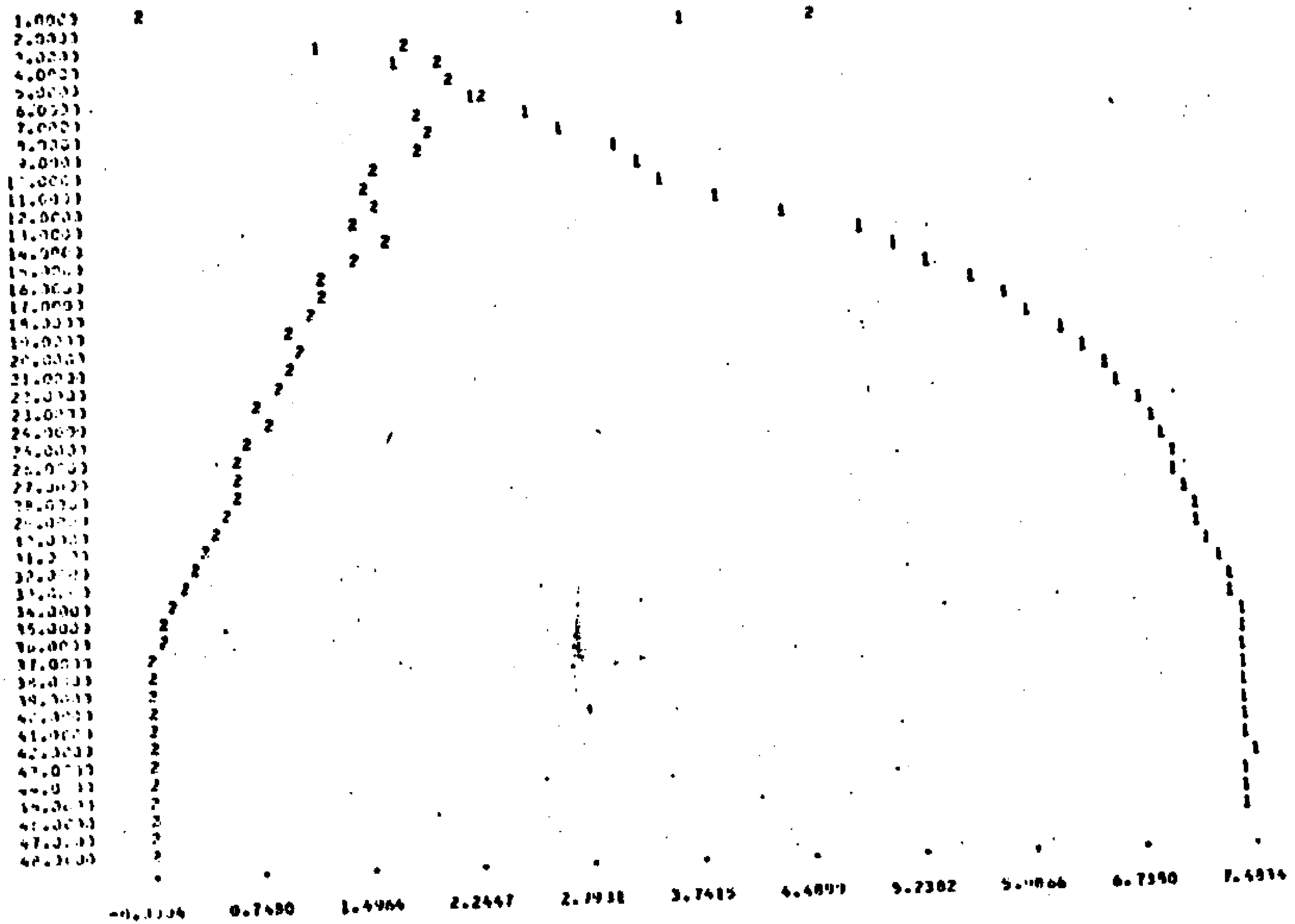
```
M') DECAY COEFFICIENTS X 1000000 (1/SEC)      STEP NUMBER = 99      TIME =  13.20HRS

        1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16
 1     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
 2     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 3     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 4     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 5     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 6     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 7     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 8     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
 9     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
10     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
11     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
12     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
13     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
14     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
15     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
16     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
17     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
18     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
19     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
20     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
21     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
22     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
23     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
24     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
25     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
26     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
27     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
28     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
29     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
30     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
31     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
32     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
33     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
34     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
35     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
36     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
37     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
38     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
39     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
40     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
41     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
42     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
43     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
44     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
45     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
46     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
47     0.0  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50  11.50    0.0
48     0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
```

```
SURFACE OXYGEN SOLUBILITY (MG/L)
                              0.0
                               7.7740
                               7.7690
                               7.7690
                               7.7641
                               7.7591
                               7.7541
                               7.7442
                               7.7292
                               7.7243
                               7.7193
                               7.7094
                               7.7044
                               7.6944
                               7.6895
                               7.6845
                               7.6745
                               7.6645
                               7.6596
                               7.6545
                               7.6497
                               7.6397
                               7.6298
                               7.6249
                               7.6199
                               7.6049
                               7.5949
                               7.5850
                               7.5800
                               7.5750
                               7.5751
                               7.5701
                               7.5601
                               7.5552
                               7.5502
                               7.5452
                               7.5402
                               7.5353
                               7.5253
                               7.5154
                               7.5154
                               7.5054
                               7.4955
                               7.4905
                               7.4855
                               7.4806
                               7.4806
                                0.0
```

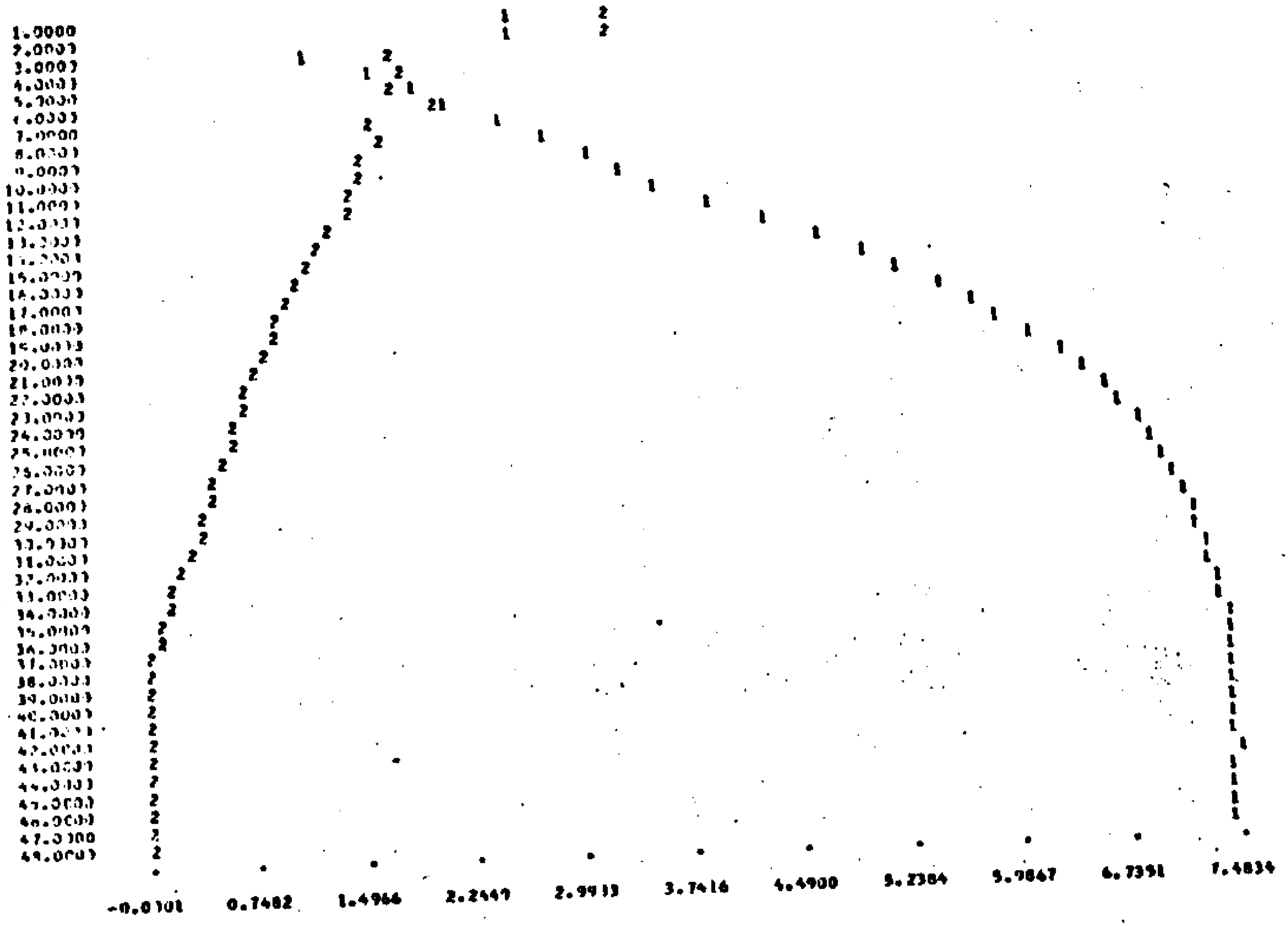
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 14



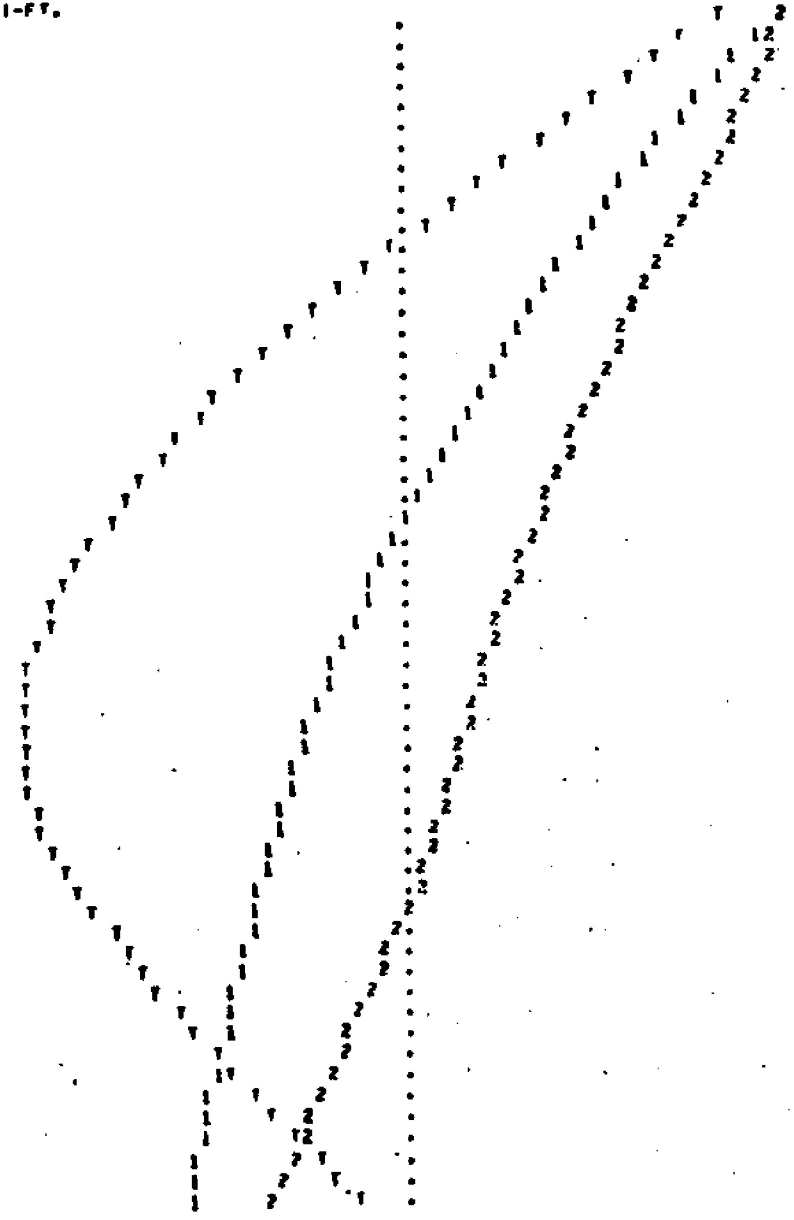
D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 15



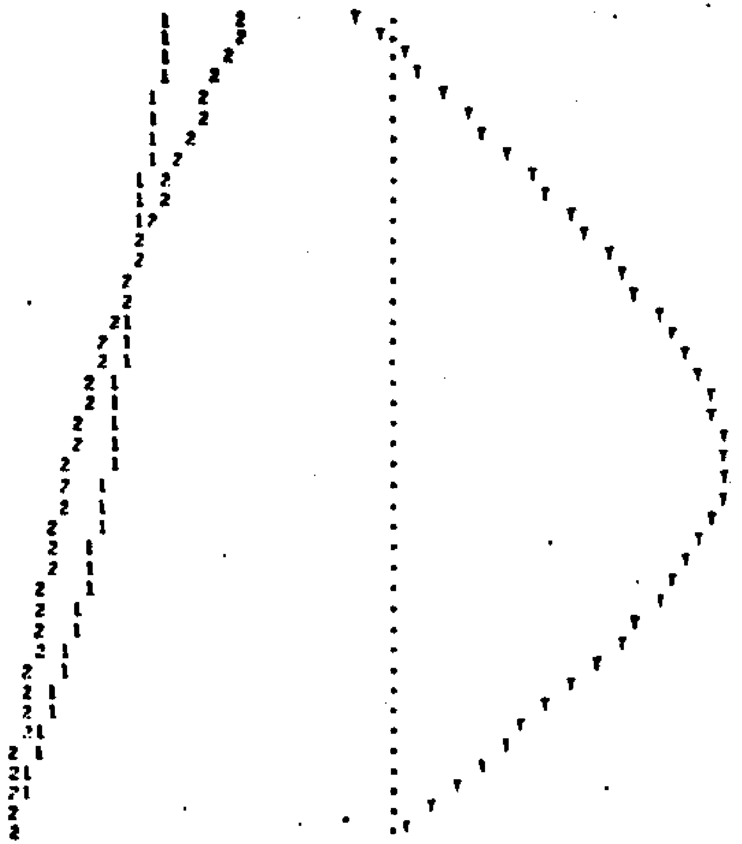
AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDINAL SECTION NUMBER
CHART 1



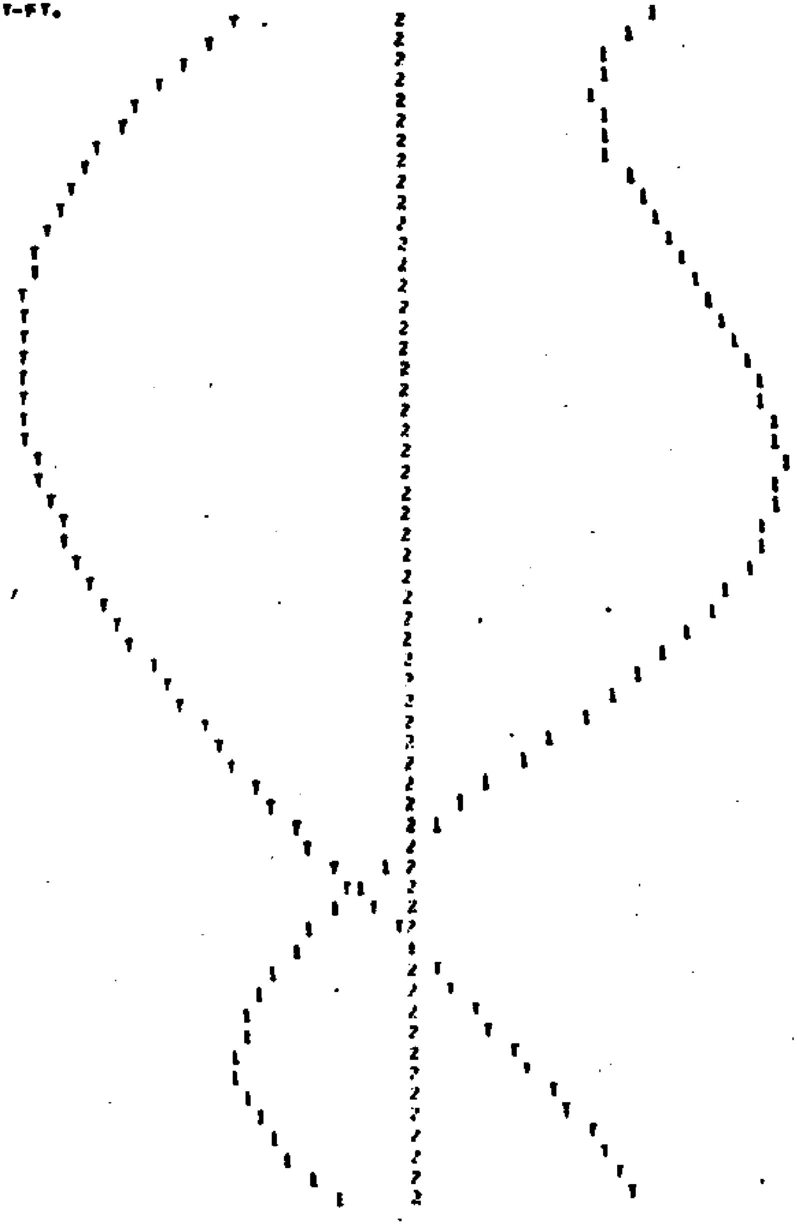
```
PLOT OF D.O. (1), B.O.D. (2), AND TIDE HEIGHT (T) FOR GRID N=14  M= 7  TIME STEP= 0.13  HRS.
    D.O.        B.O.D.       TIDE HEIGHT-FT.
 1  4.94        4.09          1.24
 2  4.87        4.07          1.14
 3  4.81        4.05          1.07
 4  4.75        4.03          0.91
 5  4.69        4.00          0.79
 6  4.63        3.97          0.67
 7  4.59        3.94          0.56
 8  4.52        3.91          0.44
 9  4.47        3.87          0.33
10  4.42        3.84          0.22
11  4.37        3.80          0.10
12  4.32        3.77         -0.01
13  4.28        3.74         -0.11
14  4.23        3.70         -0.22
15  4.19        3.67         -0.32
16  4.14        3.64         -0.42
17  4.10        3.61         -0.52
18  4.05        3.58         -0.61
19  4.02        3.55         -0.70
20  3.98        3.52         -0.78
21  3.94        3.49         -0.86
22  3.90        3.46         -0.93
23  3.87        3.44         -1.01
24  3.83        3.41         -1.07
25  3.80        3.39         -1.14
26  3.77        3.36         -1.20
27  3.73        3.34         -1.25
28  3.70        3.31         -1.30
29  3.67        3.29         -1.34
30  3.64        3.27         -1.39
31  3.62        3.25         -1.42
32  3.59        3.23         -1.45
33  3.56        3.21         -1.46
34  3.54        3.19         -1.48
35  3.51        3.17         -1.48
36  3.49        3.15         -1.48
37  3.47        3.13         -1.47
38  3.45        3.11         -1.46
39  3.43        3.09         -1.43
40  3.41        3.08         -1.40
41  3.40        3.06         -1.35
42  3.38        3.04         -1.30
43  3.36        3.01         -1.25
44  3.35        2.99         -1.20
45  3.33        2.96         -1.14
46  3.31        2.94         -1.07
47  3.30        2.91         -1.01
48  3.28        2.89         -0.94
49  3.26        2.85         -0.87
50  3.25        2.82         -0.80
51  3.23        2.79         -0.73
52  3.22        2.76         -0.65
53  3.21        2.74         -0.58
54  3.19        2.71         -0.50
55  3.18        2.68         -0.42
56  3.17        2.65         -0.35
57  3.15        2.62         -0.27
58  3.14        2.59         -0.19
```

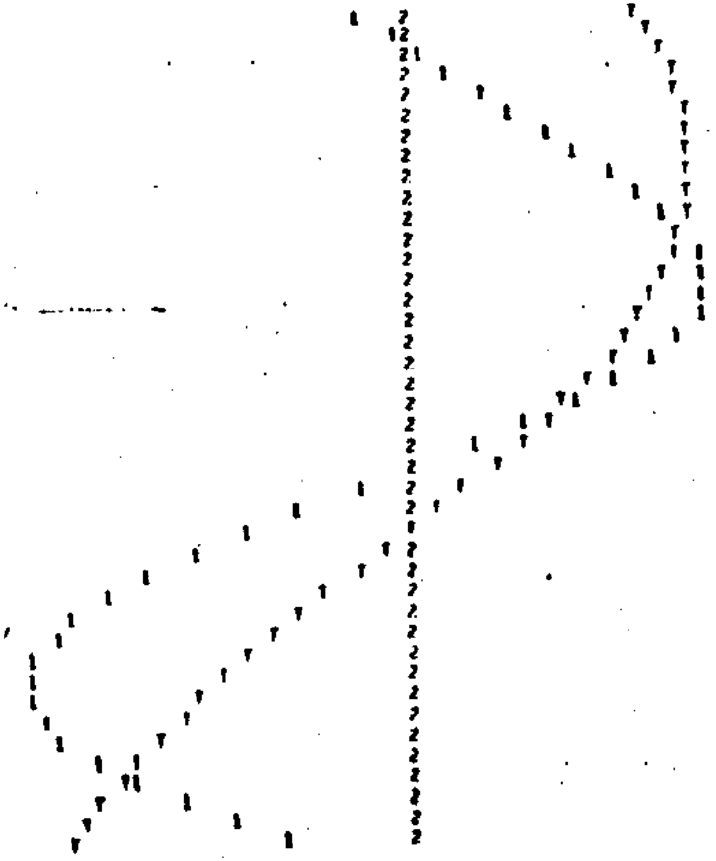


```
59  3.13   2.56   -0.10
60  3.12   2.53   -0.02
61  3.11   2.51    0.06
62  3.10   2.49    0.14
63  3.09   2.45    0.23
64  3.08   2.42    0.31
65  3.07   2.39    0.39
66  3.06   2.37    0.47
67  3.05   2.34    0.55
68  3.04   2.32    0.63
69  3.04   2.29    0.71
70  3.03   2.27    0.78
71  3.02   2.24    0.85
72  3.01   2.22    0.92
73  3.00   2.20    0.99
74  3.00   2.17    1.05
75  2.99   2.15    1.11
76  2.99   2.13    1.16
77  2.97   2.11    1.21
78  2.97   2.07    1.24
79  2.96   2.04    1.27
80  2.95   2.06    1.30
81  2.94   2.03    1.31
82  2.93   2.03    1.31
83  2.92   2.01    1.30
84  2.91   2.00    1.27
85  2.90   1.99    1.23
86  2.88   1.99    1.18
87  2.87   1.97    1.12
88  2.86   1.96    1.05
89  2.85   1.95    0.99
90  2.82   1.94    0.90
91  2.80   1.93    0.82
92  2.78   1.92    0.73
93  2.76   1.91    0.64
94  2.74   1.90    0.56
95  2.72   1.88    0.45
96  2.71   1.88    0.35
97  2.68   1.87    0.26
98  2.65   1.87    0.16
99  2.63   1.86    0.06
```



```
PLOT OF D.O. (1), R.D.O. (2), AND TIDE HEIGHT (T) FOR GRID N=14  M=45  TIME STEP= 0.13  HRS.
      D.O.        R.D.O.       TIDE HEIGHT-FT.
 1   7.48         0.00          -0.67
 2   7.44         0.00          -0.78
 3   7.48         0.00          -0.89
 4   7.44         0.00          -0.99
 5   7.44         0.00          -1.09
 6   7.48         0.00          -1.18
 7   7.44         0.00          -1.26
 8   7.43         0.00          -1.32
 9   7.48         0.00          -1.39
10   7.48         0.00          -1.44
11   7.48         0.00          -1.49
12   7.44         0.00          -1.53
13   7.44         0.00          -1.56
14   7.44         0.00          -1.58
15   7.48         0.00          -1.60
16   7.48         0.00          -1.61
17   7.48         0.00          -1.62
18   7.48         0.00          -1.62
19   7.48         0.00          -1.61
20   7.48         0.00          -1.59
21   7.48         0.00          -1.58
22   7.44         0.00          -1.55
23   7.48         0.00          -1.52
24   7.44         0.00          -1.49
25   7.48         0.00          -1.45
26   7.49         0.00          -1.41
27   7.43         0.00          -1.36
28   7.44         0.00          -1.31
29   7.44         0.00          -1.25
30   7.44         0.00          -1.20
31   7.49         0.00          -1.13
32   7.48         0.00          -1.07
33   7.44         0.00          -1.00
34   7.48         0.00          -0.93
35   7.48         0.00          -0.86
36   7.48         0.00          -0.79
37   7.48         0.00          -0.71
38   7.48         0.00          -0.63
39   7.48         0.00          -0.55
40   7.49         0.00          -0.47
41   7.48         0.00          -0.39
42   7.48         0.00          -0.30
43   7.44         0.00          -0.22
44   7.44         0.00          -0.13
45   7.43         0.00          -0.05
46   7.43         0.00           0.04
47   7.49         0.00           0.12
48   7.48         0.00           0.21
49   7.48         0.00           0.29
50   7.48         0.00           0.37
51   7.49         0.00           0.45
52   7.43         0.00           0.53
53   7.44         0.00           0.61
54   7.45         0.00           0.69
55   7.48         0.00           0.76
56   7.44         0.00           0.83
57   7.48         0.00           0.89
58   7.48         0.00           0.95
```





```
59  7.48   0.09   1.01
60  7.48   0.00   1.06
61  7.48   0.00   1.10
62  7.48   0.00   1.14
63  7.48   0.00   1.17
64  7.48   0.00   1.19
65  7.48   0.00   1.21
66  7.48   0.00   1.22
67  7.48   0.00   1.22
68  7.48   0.00   1.22
69  7.48   0.00   1.20
70  7.48   0.00   1.18
71  7.48   0.00   1.15
72  7.48   0.00   1.11
73  7.48   0.00   1.06
74  7.48   0.00   1.01
75  7.48   0.00   0.94
76  7.48   0.00   0.87
77  7.48   0.00   0.78
78  7.48   0.00   0.69
79  7.48   0.00   0.59
80  7.48   0.00   0.49
81  7.48   0.00   0.38
82  7.48   0.00   0.26
83  7.48   0.10   0.15
84  7.48   0.00   0.03
85  7.48   0.00  -0.09
86  7.48   0.00  -0.21
87  7.48   0.00  -0.33
88  7.48   0.00  -0.44
89  7.48   0.00  -0.55
90  7.48   0.00  -0.66
91  7.48   0.00  -0.77
92  7.48   0.00  -0.87
93  7.48   0.00  -0.96
94  7.48   0.00  -1.06
95  7.48   0.00  -1.14
96  7.48   0.00  -1.22
97  7.48   0.00  -1.30
98  7.48   0.00  -1.36
99  7.48   0.00  -1.42
```

IV DIGITAL COMPUTER PROGRAM LISTING

LISTING - TDLIDO

DIMENSIONLESS VERTICAL AXIS MODEL

```
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C       THIS PROGRAM SOLVES THE LATERALLY INTEGRATED TWO DIMENSIONAL
C       (X,Z) MASS TRANSPORT EQUATION FOR A DIMENSIONLESS VERTICAL AXIS (Z)
C       BOTH CONSERVATIVE CASES AND THE D.O.-B.O.D. SYSTEM CAN BE SOLVED
C       AN ALTERNATING DIRECTION IMPLICIT FINITE DIFFERENCE SCHEME WITH A
C       STANDARD PEACEMAN-RACHFORD SPLITTING TECHNIQUE IS USED TO SOLVE
C       THE MASS TRANSPORT EQUATION ON A STAGGERED GRID SYSTEM
C       INFORMATION REGARDING PROGRAM INPUT AND OUTPUT, AS WELL AS FUNCTION
C       ARE PROVIDED IN THE USER'S MANUAL (APPENDIX A) OR THE MAIN BODY
C       OF THIS REPORT
C       THIS PROGRAM WAS ORIGINALLY WRITTEN BY M. L. SPAULDING, JUNE 1972
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
      DIMENSION AA(50),BB(50),CC(50),DD(50),AA2(50),BB2(50),
     1 CC2(50),DD2(50),F(50),G(50),NPRINT(50)
      REAL JS,LS
      COMMON NH(150),NBD(90),NOHD(3),NOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),WAR(16,50),CSO(16,50),SE(50),SEP(50)
      COMMON /PECA/H2,SKK,DA,DB,DC,DE,VI,A2
      COMMON /DIFZS/SNETA,BETI,GAMS,AB,ATWL
      COMMON /TIMV/COOD(720,5),SOD(720,5),TIM(720,5),NP(5),MP(5)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        TITLE PAGE WRITTEN
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
       WRITE(6,30)
30     FORMAT(1H1,////////////////////)
       WRITE(6,31)
31     FORMAT(40X,2HNN,4X,2HNN,5X,2HAA,5X,6HBBBBBB,5X,6HSSSSSS,/,40X,
     12HNN,4X,2HNN,4X,4HAAAA,4X,7HBBBBBBB,3X,8HSSSSSSSS,/,40X,3HNNN,3X,
     22HNN,3X,2HAA,2X,2HAA,3X,2HBB,4X,2HBB,2X,2HSS,/,40X,3HNNN,3X,2HNN,
     33X,2HAA,2X,2HAA,3X,2HBB,4X,2HBB,2X,2HSS,/,40X,4HNNNN,2X,2HNN,2X,
     4          2HAA,4X,2HAA,2X,7HBBBBBBB,3X,7HSSSSSSS,/,40X,2HNN,1X,2HNN,
     51X,2HNN,2X,8HAAAAAAAA,2X,7HBBBBBBB,4X,7HSSSSSSS,/,40X,2HNN,2X,
     64HNNNN,2X,8HAAAAAAAA,2X,2HBB,4X,2HBB,3X,2HSS,/,40X,2HNN,3X,3HNNN,
     72X,2HAA,4X,2HAA,2X,2HBB,4X,2HBB,3X,2HSS,/,40X,2HNN,3X,3HNNN,2X,
     8   2HAA,4X,2HAA,2X,7HBBBBBBB,3X,8HSSSSSSSS,/,40X,2HNN,4X,2HNN,2X,
     92HAA,4X,2HAA,2X,6HBBBBBB,5X,6HSSSSSS)
       WRITE(6,32)
32     FORMAT(//,45X,3HDDD,3X,2HOO,7X,3HBBB,3X,2HOO,2X,3HDDD,/,45X,1HD,
     12X,1HD,1X,1HO,2X,1HO,5X,1HB,2X,1HB,1X,1HO,2X,1HO,1X,1HD,2X,1HD,/,
     245X,1HD,2X,1HD,1X,1HO,2X,1HO,2X,2H--,2X,3HBBB,2X,1HO,2X,1HO,1X,
```

```
     31HD,2X,1HD,/,45X,1HD,2X,1HD,1X,1HD,2X,1HD,7X,1HB,2X,1HB,1X,1HD,2X,
     41HD,1X,1HD,2X,1HD,/,45X,3HDDD,3X,2HDD,7X,3HBBB,3X,2HDD,2X,3HDDD)
      WRITE(6,33)
33    FORMAT(///////////,40X,'PROGRAM DEVELOPED BY - M. SPAULDING',
     1 /,40X,'UNIVERSITY OF RHODE ISLAND  WALES HALL 222C',/,40X,
     3 'JUNE 1972')
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C  INITIAL READ STATEMENTS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      READ(5,1)AT
1     FORMAT(F8.3)
      READ(5,2)MAXST
2     FORMAT(I3)
      READ(5,3)NMAX,MMAX
3     FORMAT(2I2)
      READ(5,20)DDX
20    FORMAT(F7.2)
      READ(5,21)IPUNCH
21    FORMAT(I3)
      READ(5,9998)NFP
9998  FORMAT(I2)
      DO 9997  I=1,NFP
9997  READ(5,9996)NP(I),MP(I)
9996  FORMAT(2I2)
      READ(5,19)NPR
19    FORMAT(I2)
      DO 17 K=1,NPR
17    READ(5,18)NPRINT(K)
18    FORMAT(I4)
      READ(5,25)IGL,IGU
25    FORMAT(2I2)
      READ(5,4)ISOU,IDIF,ISALT,IDEC,IVEL,ISMO
4     FORMAT(6I2)
      READ(5,7)NBC,MBC
7     FORMAT(2I2)
      IF(NBC.EQ.0) GO TO 550
      DO 8 J=1,NBC
8     READ(5,9)NOBD(J)
9     FORMAT(I8)
550   CONTINUE
      IF(MBC.EQ.0) GO TO 551
      DO 10 J=1,MBC
10    READ(5,11) MOBD(J)
11    FORMAT(I8)
551   CONTINUE
      IF(ISALT.GT.1) GO TO 16
      IF(IDEC.GT.1) GO TO 14
      READ(5,13)A2,B2,SKK,V1
```

```
13      FORMAT(2F10.4,F5.2,F6.1)
        GO TO 16
14      CONTINUE
        READ(5,15)DA,DM,DC,DE
15      FORMAT(4F15.8)
16      CONTINUE
        READ(5,40)SHETA,BET1,GAMS
40      FORMAT(3F10.5)
        READ(5,41)WM,WT,WL
41      FORMAT(3F10.5)
        MINDO=MBC+1
        NINDO=NBC+1
        NSECT=MMAX
        DO 100 N=1,NMAX
        DO 100 M=1,MMAX
        JS(N,M)=0.0
        CSC(N,M)=0.0
        RAR(N,M)=0.0
        LS(N,M)=0.0
        CD(N,M)=0.0
        CT(N,M)=0.
        COP(N,M)=0.0
        P(N,M)=0.0
        U(N,M)=0.0
        W(N,M)=0.0
        D(N,M)=0.0
        DX(N,M)=0.0
        DZ(N,M)=0.0
        B(N,M)=0.0
        TS(N,M)=0.0
        SS(N,M)=0.0
100     CONTINUE
        DO 1500 JK=1,MMAX
        SF(JK)=0.0
1500    SEP(JK)=0.0
        CALL GETF(NMAX,MMAX,IDIF,ISALT,ISCU)
        CALL FIND(MIND,NIND,MMAX,NMAX,MINDO,NINDO,NSECT)
        CALL INIT(NMAX,MMAX,ISALT,ISMO)
        TAU=DT/2.
        FAX1=TAU/(4.*DDX)
        NZ=NMAX-2
        DDA=FLOAT(NZ)
        DDZ=1./DDA
        FAX2=TAU/(2.*(DDX**2))
        FAZ1=TAU/(4.*DDZ)
        FAZ2=TAU/(2.*(DDZ**2))
        IF(ISALT.GT.1) GO TO 555
        CALL DECAY(NMAX,MMAX,IDEC)
        CALL SOLUB(NMAX,MMAX)
555     CONTINUE
        NST=1
600     CONTINUE
```

```
      ICALL=1
      CALL VELC(NMAX,MMAX,IVEL,NST,DDX,DDZ,TAU,ICALL)
      IF(IDIF.EQ.1) GO TO 202
      CALL DIFFU(NMAX,MMAX,DDZ)
202   CONTINUE
      IF(ISALT.GT.1) GO TO 556
      CALL PEAR(MMAX,NMAX)
556   CONTINUE
      IPASS=2
      IF(ISALT.GT.1) GO TO 552
1105  CONTINUE
      IF(IPASS.EQ.1) GO TO 800
      BETS=1.0
      BETB=2.0
      ALPHA=1.0
      BETA=0.0
      BETB1=0.0
      DO 1301 M=1,MMAX
      DO 1301 N=1,NMAX
1301  CO(N,M)=COP(N,M)
      GO TO 801
800   CONTINUE
      DO 1300 M=1,MMAX
      DO 1300 N=1,NMAX
1300  CO(N,M)=LS(N,M)
      ALPHA=0.0
      BETA=1.0
      BETB=1.0
      BETS=0.0
      BETB1=1.0
      GO TO 557
552   CONTINUE
      IPASS=1
      DO 553 M=1,MMAX
      DO 553 N=1,NMAX
553   CO(N,M)=COP(N,M)
      BETS=0.0
      BETB=0.0
      ALPHA=0.0
      BETA=0.0
      BETB1=0.0
557   CONTINUE
801   CONTINUE
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       COMPUTE COP ON EACH COLUMN N
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      CALL BCVAL(NMAX,MMAX,IPASS,NST)
      NUM=1
```

```
      IF(NST.EQ.MAXST) GO TO 903
514   CONTINUE
      IF(NUM.EQ.NINS) GO TO 905
      NSRCH=NMO(NUM)/1000000
      N=NMO(NUM)/10000-NSRCH*100
      MF=NMO(NUM)/100-NSRCH*10000-N*100
      L=NMO(NUM)-NSRCH*1000000-N*10000-MF*100
      NN=N-1
      NNN=N+1
      MFF=MF-1
      DO 503 M=MF,L
      MM=M-1
      MMM=M+1
      IF(H(N,MM).EQ.0.0) GO TO 61
      GO TO 62
61    H(N,MM)=H(N,M)
62    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 63
      GO TO 64
63    H(NN,M)=H(N,M)
64    CONTINUE
      IF(H(NN,MM).EQ.0.0) GO TO 65
      GO TO 66
65    H(NN,MM)=H(N,MM)
66    CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 67
      GO TO 68
67    U(N,MM)=0.0
      DX(N,MM)=0.0
      IF(NBC.GT.1.AND.MM.EQ.1) GO TO 362
      GO TO 68
362   U(N,MM)=U(N,M)
      DX(N,MM)=DX(N,M)
68    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 69
      GO TO 70
69    DZ(NN,M)=0.0
      W(NN,M)=0.0
      CO(NN,M)=CO(N,M)
70    CONTINUE
      IF(H(NNN,M).EQ.0.0) GO TO 71
      GO TO 72
71    CO(NNN,M)=CO(N,M)
      W(N,M)=0.0
      DZ(N,M)=0.0
72    CONTINUE
      H1=DEP(MM)+(SE(MM)+SE(M))/2.
      H2=(DEP(M)+DEP(MM))/2.+SE(M)
      H3=DEP(M)+(SE(M)+SE(MMM))/2.
      H4=DEP(M)+(SEP(M)+SEP(MMM))/2.
      H5=DEP(MM)+(SEP(M)+SEP(MM))/2.
      H6=(DEP(M)+DEP(MM))/2.+SEP(M)
```

```
      B0=.25*(B(N,M)+B(N,MM)+B(NN,M)+B(NN,MM))
      B1=B(N,MM)+B(N,M)
      B2=B(NN,MM)+B(NN,M)
      B3=B(N,MM)+B(NN,MM)
      B4=B(NN,M)+B(N,M)
      AA2(M)=-FAX1*B3*U(N,MM)*H1-FAX2*B3*DX(N,MM)*H5
      BB2(M)=H6*B0-FAX1*B3*U(N,MM)*H1+FAX1*B4*U(N,M)*H3+FAX2*B4*DX(N,M)
     1 *H4+FAX2*B3*DX(N,MM)*H5+TAU*B0*H6*D(N,M)*.5*BETB1+TAU*B0*H6*
     2 RAR(N,M)*.5*ALPHA
      CC2(M)=FAX1*B4*U(N,M)*H3-FAX2*B4*DX(N,M)*H4
      DD2(M)=CC(N,M)*B0*H2-FAZ1*B1*W(N,M)*(CO(N,M)+CO(NNN,M))+
     1 FAZ1*B2*W(NN,M)*(CO(N,M)+CO(NN,M))+FAZ2*B1*(DZ(N,M)/H2)*
     2 (CO(NNN,M)-CC(N,M))+FAZ2*B2*DZ(NN,M)*(CO(NN,M)-CO(N,M))/H2-H2*
     3 TAU*(-B0*RAR(N,M)*CSC(N,M)*ALPHA+B0*D(N,M)*LS(N,M)*.5*BETA
     4 +B0*RAR(N,M)*CO(N,M)*.5*ALPHA+B0*P(N,M)*BETS-B0*JS(N,M)*BETA/
     5 (DDX*DDZ*H2*RC))
 503  CONTINUE
      DO 1008 K=MF,L
      IF(K.EQ.MF) GO TO 1001
      GO TO 1002
 1001 MOF=MF+1
      E(MOF)=-CC2(K)/BB2(K)
      D(MOF)=DD2(K)/BB2(K)
      GO TO 1003
 1002 MO=K+1
      E(MO)=-(CC2(K))/(BB2(K)+AA2(K)*E(K))
      D(MO)=(DD2(K)-AA2(K)*D(K))/(BB2(K)+AA2(K)*E(K))
      IIJ=L+1
      E(IIJ)=0.0
 1003 CONTINUE
      IF(NSRCH.EQ.10.OR.NSRCH.EQ.11) GO TO 1005
      GO TO 1006
 1005 MOF=MF+1
      E(MOF)=0.0
      D(MOF)=CO(N,MFF)
 1006 CONTINUE
      IF(NSRCH.EQ.01.OR.NSRCH.EQ.11) GO TO 1007
      GO TO 1008
 1007 JL=L+1
      E(JL)=0.0
      D(JL)=CO(N,JL)
 1008 CONTINUE
      DO 1100 J=MF,L
      JJ=L+MF+1-J
      J1=L+MF-J
      CT(N,J1)=E(JJ)*CT(N,JJ)+D(JJ)
 1100 CONTINUE
      NUM=NUM+1
      GO TO 514
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
```

```
C         COMPUTE COP ON EACH ROW M
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
 805    CONTINUE
        DO 350 M=1,MMAX
        DO 350 N=1,NMAX
 350    CO(N,M)=CT(N,M)
        IF(ISALT.GT.1) GO TO 115
        IF(IPASS.EQ.2) GO TO 115
        DO 116 M=1,MMAX
        DO 116 N=1,NMAX
 116    LS(N,M)=CO(N,M)
        GO TO 862
 115    CONTINUE
        DO 860 M=1,MMAX
        DO 860 N=1,NMAX
 860    COP(N,M)=CO(N,M)
        IF(ISALT.GT.1) GO TO 862
        IPASS=IPASS-1
        GO TO 1105
 862    CONTINUE
        ICALL=2
        CALL VELC(NMAX,MMAX,IVEL,NST,DDX,DDZ,TAU,ICALL)
        IF(IDIF.EQ.1) GO TO 871
        CALL DIFF(NMAX,MMAX,DDZ)
 871    CONTINUE
        IF (ISALT.GT.1) GO TO 872
        CALL REAP(MMAX,NMAX)
 872    CONTINUE
        IPASS=1
        IF (ISALT.GT.1) GO TO 863
 864    CONTINUE
        IF(IPASS.EQ.1) GO TO 865
        BETS=1.0
        BETB=2.0
        ALPHA=1.0
        BETA=0.0
        BETB1=0.0
        DO 866 M=1,MMAX
        DO 866 N=1,NMAX
 866    CO(N,M)=COP(N,M)
        GO TO 867
 865    CONTINUE
        DO 868 M=1,MMAX
        DO 868 N=1,NMAX
 868    CO(N,M)=LS(N,M)
        ALPHA=0.0
        BETA=1.0
        BETB=1.0
        BETS=0.0
        BETB1=1.0
```

```
      GO TO 869
863   CONTINUE
      DO 870 M=1,MMAX
      DO 870 N=1,NMAX
870   CD(N,M)=CCM(N,M)
      BETS=0.0
      BETB=0.0
      BETA=0.0
      ALPHA=0.0
      BETA1=0.0
869   CONTINUE
867   CONTINUE
      CALL HOVAL(NMAX,MMAX,IPASS,NST)
      IF(NST.EQ.MAXST) GO TO 400
      NUM=1
414   CONTINUE
      IF(NUM.EQ.MIND) GO TO 405
      MSRCH=MBD(NUM)/1000000
      M=MBD(NUM)/10000-MSRCH*100
      NF=MBD(NUM)/100-MSRCH*10000-M*100
      L=MBD(NUM)-MSRCH*1000000-M*10000-NF*100
      NFF=NF-1
      MMM=M+1
      MM=M-1
      DO 406 N=NF,L
      NN=N-1
      NNN=N+1
      IF(H(N,MM).EQ.0.0) GO TO 80
      GO TO 81
80    H(N,MM)=H(N,M)
81    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 82
      GO TO 83
82    H(NN,M)=H(N,M)
83    CONTINUE
      IF(H(NN,MM).EQ.0.0) GO TO 84
      GO TO 85
84    H(NN,MM)=H(N,MM)
85    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 86
      GO TO 87
86    W(NN,M)=0.0
      DZ(NN,M)=0.0
87    CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 88
      GO TO 89
88    CONTINUE
      IF(MBC.GT.1.AND.MM.EQ.1) GO TO 360
      GO TO 361
360   DX(N,MM)=DX(N,M)
      GO TO 89
361   CONTINUE
```

```
      U(N,MM)=0.0
      DX(N,MM)=0.0
      CD(N,MM)=CC(N,M)
89    CONTINUE
      IF(H(N,MMM).EQ.0.0) GO TO 90
      GO TO 91
90    CONTINUE
      IF(MMM.EQ.MMAX) GO TO 91
      CD(N,MMM)=CC(N,M)
91    CONTINUE
     IF(H(NN,M).EQ.0.0) GO TO 605
     GO TO 606
605   W(N,M)=0.0
      DZ(N,M)=0.0
606   CONTINUE
      SS1=1.0
      SS2=1.0
      SS3=1.0
      SS4=1.0
      IF(IPASS.EQ.2) GO TO 5673
      IF(JS(N,M).GT.0.0.AND.U(N,M).GT.0.0) GO TO 5666
      GO TO 5667
5666  SS1=1.0
      SS2=1.0
      SS3=0.0
      SS4=2.0
5667  CONTINUE
      IF(JS(N,MMM).GT.0.0.AND.U(N,MMM).GT.0.0) GO TO 5668
      GO TO 5669
5668  SS1=0.0
      SS2=2.0
      SS3=1.0
      SS4=1.0
5669  CONTINUE
      IF(JS(N,M).GT.0.0.AND.U(N,M).LT.0.0) GO TO 5670
      GO TO 5671
5670  SS1=0.0
      SS2=2.0
      SS3=1.0
      SS4=1.0
5671  CONTINUE
      IF(JS(N,MM).GT.0.0.AND.U(N,MM).LT.0.0) GO TO 5672
      GO TO 5673
5672  SS1=1.0
      SS2=1.0
      SS3=0.0
      SS4=2.0
5673  CONTINUE
      H1=DEP(MM)+(SE(MM)+SE(M))/2.
      H2=(DEP(M)+DEP(MM))/2.+SE(M)
      H3=DEP(M)+(SE(M)+SE(MMM))/2.
      H4=DEP(M)+(SEP(M)+SEP(MMM))/2.
```

```
      H5=DEP(MM)+(SEP(M)+SEP(MM))/2.
      H6=(DEP(M)+DEP(MM))/2.+SEP(M)
      BO=.25*(B(N,M)+B(N,MM)+B(NN,M)+B(NN,MM))
      B1=B(N,MM)+B(N,M)
      B2=B(NN,MM)+B(NN,M)
      B3=B(N,MM)+B(NN,MM)
      B4=B(NN,M)+B(N,M)
      AA(N)=-FAZ1*B2*A(NN,M)-(FAZ2*B2*DZ(NN,M))/H6
      BB(N)=FAZ1*B1*A(N,M)+BO*H5-FAZ1*B2*A(NN,M)+FAZ2*B1*DZ(N,M)/H6+
     1 (FAZ2*B2*DZ(NN,M))/H6+H6*TAU*BO*D(N,M)*.5*BETB1+H6*TAU*BO*
     2 *AK(N,M)*.5*ALPHA
      CC(N)=FAZ1*B1*A(N,M)-(FAZ2*B1*DZ(N,M))/H6
      DD(N)=CO(N,M)*BO*H2-FAX1*B4*U(N,M)*H3*(CO(N,M)*SS1+CO(N,MMM)*SS2)
     1 +FAX1*B3*U(N,MM)*H1*(CO(N,M)*SS3+CO(N,MM)*SS4)+FAX2*B4*DX(N,M)*H3
     2 *(CO(N,MMM)-CO(N,M))-FAX2*B3*DX(N,MM)*H1*(CO(N,M)-CO(N,MM))-H2*
     3 TAU*(-BO*FAB(N,M)*CSC(N,M)*ALPHA+BO*D(N,M)*LS(N,M)*BETB*.5
     4 +BO*BAK(N,M)*CC(N,M)*ALPHA*.5
     5 BO*P(N,M)*BETS-BC*JS(N,M)*BETA/(BC*DDX*DDZ*H2))
406   CONTINUE
      DO 900 K=NF,L
      IF(K.EQ.NF) GO TO 901
      GO TO 902
901   NOF=NF+1
      E(NOF)=-CC(K)/BB(K)
      D(NOF)=DD(K)/BB(K)
      GO TO 903
902   NQ=K+1
      E(NQ)=-CC(K)/(BB(K)+AA(K)*E(K))
      D(NQ)=(DD(K)-AA(K)*D(K))/(BB(K)+AA(K)*E(K))
      IJL=L+1
      E(IJL)=0.0
903   CONTINUE
      IF(MSRCH.EQ.10.OR.MSRCH.EQ.11) GO TO 905
      GO TO 906
905   NOF=NF+1
      E(NOF)=0.0
      D(NOF)=CO(NFF,M)
906   CONTINUE
      IF(MSRCH.EQ.01.OR.MSRCH.EQ.11) GO TO 907
      GO TO 908
907   L1=L+1
      E(L1)=0.0
      D(L1)=CO(L1,M)
908   CONTINUE
900   CONTINUE
      DO 910 J=NF,L
      JJ=L+NF+1-J
      J1=L+NF-J
      CT(J1,M)=E(JJ)*CT(JJ,M)+D(JJ)
910   CONTINUE
      NUM=NUM+1
      GO TO 414
```

```
405     CONTINUE
        DO 351 M=1,MMAX
        DO 351 N=1,NMAX
351     CC(N,M)=CT(N,M)
        IF(ISALT.GT.1) GO TO 554
        IF(IPASS.EQ.1) GO TO 913
554     CONTINUE
        DO 1115 M=1,MMAX
        DO 1115 N=1,NMAX
1115    COP(N,M)=CC(N,M)
        IF(ISALT.GT.1) GO TO 1110
        GO TO 915
913     CONTINUE
        DO 914 M=1,MMAX
        DO 914 N=1,NMAX
914     LS(N,M)=CC(N,M)
915     CONTINUE
        IF(IPASS.EQ.2) GO TO 1110
        IPASS=IPASS+1
        GO TO 826
1110    CONTINUE   C C C C C C C C C C C C C C C C C C C C C C C C C C C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          PRINT AND PLOT ANSWERS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
        DO 52 K=1,NPR
        IF(NST.EQ.NPRINT(K)) GO TO 51
52      CONTINUE
        GO TO 53
51      CONTINUE
        CALL [illegible](NMAX,MMAX,IPASS,AT,NST,ISALT)
        CALL ANAL(NMAX,MMAX,NST,AT,ISALT)
        CALL PLOTS(NMAX,MMAX,IGL,IGU)
53      CONTINUE
        IF(NST.EQ.IPUNCH) GO TO 830
        GO TO 831
830     CALL PUNC(NMAX,MMAX,ISALT)
831     CONTINUE
        DO 9995 I=1,NFP
        CODO(NST,I)=COP(NP(I),MP(I))
        BCC(NST,I)=LS(NP(I),MP(I))
        TIM(NST,I)=SEP(MP(I))
9995    CONTINUE
        NST=NST+1
        GO TO 810
400     CONTINUE
        CALL CONTPL(MAXST,NFP,AT)
        STOP
        END
```

```
      SUBROUTINE GETF(NMAX,MMAX,IDIF,ISALT,ISOU)
      REAL JS,LS
      COMMON NBD(50),MBD(9)),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),WAR(16,50),CSC(16,50),SF(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          INITIAL READ STATEMENTS FOR ARRAYS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 20 M=1,MMAX
      READ(5,21) (NBD(N),N=1,NMAX)
      DO 20 N=1,NMAX
20    H(N,M)=FLOAT(NBD(N))
21    FORMAT(30I2)
      DO 22 M=1,MMAX
22    READ(5,23)(B(N,M),N=1,10)
      DO 230 M=1,MMAX
230   READ(5,23)(B(N,M),N=11,NMAX)
23    FORMAT(10F8.1)
      IF(ISALT.GT.1) GO TO 400
      DO 24 M=1,MMAX
24    READ(5,25)(JS(N,M),N=1,10)
      DO 250 M=1,MMAX
250   READ(5,25)(JS(N,M),N=11,NMAX)
25    FORMAT(10F7.1)
400   CONTINUE
      IF(IDIF.GT.1) GO TO 40
      DO 26 M=1,MMAX
26    READ(5,27)(DX(N,M),N=1,10)
      DO 270 M=1,MMAX
270   READ(5,27)(DX(N,M),N=11,NMAX)
      DO 28 M=1,MMAX
28    READ(5,27)(DZ(N,M),N=1,10)
      DO 280 M=1,MMAX
260   READ(5,27)(DZ(N,M),N=11,NMAX)
27    FORMAT(10F5.2)
40    CONTINUE
      DO 29 M=1,MMAX
29    READ(5,30)(COP(N,M),N=1,10)
      DO 300 M=1,MMAX
300   READ(5,30)(COP(N,M),N=11,NMAX)
30    FORMAT(10F5.2)
      IF(ISALT.GT.1) GO TO 41
      DO 31 M=1,MMAX
31    READ(5,32)(LS(N,M),N=1,10)
      DO 320 M=1,MMAX
320   READ(5,32)(LS(N,M),N=11,NMAX)
32    FORMAT(10F5.2)
```

```
41      CONTINUE
        IF(ISCU.GT.1) GO TO 42
        DO 33 M=1,MMAX
33      READ(5,34)(P(N,M),N=1,10)
        DO 340 M=1,MMAX
340     READ(5,34)(P(N,M),N=11,NMAX)
34      FORMAT(10F6.2)
42      CONTINUE
        DO 370 M=1,MMAX
370     READ(5,371)(TS(N,M),N=1,10)
        DO 372 M=1,MMAX
372     READ(5,371)(TS(N,M),N=11,NMAX)
371     FORMAT(10F6.2)
        IF(ISALT.GT.1) GO TO 410
        DO 35 M=1,MMAX
35      READ(5,36)(SS(N,M),N=1,10)
        DO 37 M=1,MMAX
37      READ(5,36)(SS(N,M),N=11,NMAX)
36      FORMAT(10F5.2)
410     CONTINUE
        DO 39 M=1,MMAX
39      READ(5,38)DEP(M)
38      FORMAT(F7.2)
        RETURN
        END
```

```
      SUBROUTINE INIT(NMAX,MMAX,ISALT,ISMO)
      REAL JS,LS
      DIMENSION NU(20)
      COMMON NBC(50),MBC(50),NTRD(3),MTRD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       WRITE INITIAL FIELD VALUES
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      WRITE(6,50)
50    FORMAT(1H1,10X,'GRID COMPUTATION FIELD')
      DO 51 N=1,NMAX
51    NU(N)=N
      WRITE(6,52)(NU(N),N=1,NMAX)
52    FORMAT(1H0,10X,20I4)
      DO 53 M=1,MMAX
53    WRITE(6,54)M,(H(N,M),N=1,NMAX)
54    FORMAT(8X,I2,4X,20(F2.0,2X))
      WRITE(6,540)
540   FORMAT(1H1,10X,'ESTUARY WIDTH MATRIX 1000 FT')
      WRITE(6,55)(NU(N),N=1,NMAX)
55    FORMAT(1H0,10X,20I5)
      DO 32 N=1,NMAX
      DO 32 M=1,MMAX
      IF(H(N,M).EQ.0.0) GO TO 33
      GO TO 32
33    B(N,M)=0.0
32    CONTINUE
      IF(ISMO.EQ.0) GO TO 130
      DO 113 JO=1,ISMO
      DO 20 M=1,MMAX
      DO 20 N=1,NMAX
      NN=N-1
      MM=M-1
      NNN=N+1
      MMM=M+1
      IF(H(N,M).EQ.0.0) GO TO 20
      IF(H(N,MM).EQ.0.0) GO TO 5
      GO TO 6
5     B(N,MM)=B(N,MMM)
6     CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 7
      GO TO 8
7     B(NN,M)=B(NNN,M)
8     CONTINUE
      IF(H(N,MMM).EQ.0.0) GO TO 9
      GO TO 10
```

```
9       B(N,MMM)=B(N,MM)
10      CONTINUE
        IF(B(NNN,M).EQ.0.0) GO TO 111
        GO TO 112
111     B(NNN,M)=B(NN,M)
112     CONTINUE
        IF(B(NNN,MM).EQ.0.0) GO TO 21
        GO TO 22
21      B(NNN,MM)=B(NN,MMM)
22      CONTINUE
        IF(B(NNN,MMM).EQ.0.0) GO TO 23
        GO TO 24
23      B(NNN,MMM)=B(NN,MM)
24      CONTINUE
        IF(B(NN,MMM).EQ.0.0) GO TO 25
        GO TO 26
25      B(NN,MMM)=B(NNN,MM)
26      CONTINUE
        IF(B(NN,MM).EQ.0.0) GO TO 27
        GO TO 28
27      B(NN,MM)=B(NNN,MMM)
28      CONTINUE
        BB=.125*(B(NNN,MM)+B(NNN,M)+B(NNN,MMM)+B(N,MM)+B(N,MMM)+B(NN,MM)+
      1 B(NN,M)+B(NN,MMM))
        B(N,M)=.5*(BB+B(N,M))
20      CONTINUE
        DO 29 M=1,MMAX
        DO 29 N=1,NMAX
        IF(H(N,M).EQ.0.0) GO TO 30
        GO TO 29
30      B(N,M)=0.0
31      CONTINUE
29      CONTINUE
113     CONTINUE
130     CONTINUE
        DO 56 M=1,MMAX
        DO 56 N=1,NMAX
56      B(N,M)=B(N,M)/1000.
        DO 12 M=1,MMAX
        DO 12 N=1,NMAX
        IF(H(N,M).EQ.0.0) GO TO 11
        GO TO 12
11      B(N,M)=0.0
12      CONTINUE
        DO 57 M=1,MMAX
57      WRITE(6,570)M,(B(N,M),N=1,NMAX)
570     FORMAT(3X,I2,2X,20F5.1)
        DO 59 M=1,MMAX
        DO 59 N=1,NMAX
59      B(N,M)=1000.*B(N,M)
        WRITE(6,60)
60      FORMAT(1H1,10X,'INITIAL CONCENTRATION (MG/L)')
```

```
      WRITE(6,61)(NU(N),N=1,NMAX)
61    FORMAT(1H0,10X,20I4)
      DO 62 M=1,MMAX
62    WRITE(6,63)M,(CCP(N,M),N=1,NMAX)
63    FORMAT(8X,I2,2X,20F4.1)
      IF(ISALT.GT.1) GO TO 90
      WRITE(6,64)
64    FORMAT(1H1,10X,'INITIAL BOD CONCENTRATION (MG/L)')
      WRITE(6,65)(NU(N),N=1,NMAX)
65    FORMAT(1H0,10X,20I4)
      DO 66 M=1,MMAX
66    WRITE(6,67)M,(LS(N,M),N=1,NMAX)
67    FORMAT(8X,I2,2X,20F4.1)
      WRITE(6,68)
68    FORMAT(1H1,10X,'WASTE LOADS IN 1000 LBS/DAY')
      WRITE(6,69)(NU(N),N=1,NMAX)
69    FORMAT(1H0,10X,20I6)
      DO 70 M=1,MMAX
      DO 15 N=1,NMAX
15    JS(N,M)=JS(N,M)/1000.0
70    WRITE(6,71)M,(JS(N,M),N=1,NMAX)
71    FORMAT(8X,I2,3X,20F6.2)
      DO 16 M=1,MMAX
      DO 16 N=1,NMAX
16    JS(N,M)=JS(N,M)*185.5448
      WRITE(6,72)
72    FORMAT(1H1,10X,'SOURCES OR SINKS OF DO (MG/L)')
      WRITE(6,73)(NU(N),N=1,NMAX)
73    FORMAT(1H0,10X,20I4)
      DO 74 M=1,MMAX
74    WRITE(6,75)M,(P(N,M),N=1,NMAX)
75    FORMAT(8X,I2,3X,20F4.2)
90    CONTINUE
      WRITE(6,80)
80    FORMAT(1H1,10X,'TEMPERATURE FIELD (F)')
      WRITE(6,81)(NU(N),N=1,NMAX)
81    FORMAT(1H0,10X,20I5)
      DO 82 M=1,MMAX
82    WRITE(6,83)M,(TS(N,M),N=1,NMAX)
83    FORMAT(8X,I2,2X,20F5.1)
      IF(ISALT.GT.1) GO TO 91
      WRITE(6,78)
78    FORMAT(1H1,20X,'TIME AVERAGE SALINITY (%)')
      WRITE(6,79)(NU(N),N=1,NMAX)
79    FORMAT(1H0,10X,20I5)
      DO 84 M=1,MMAX
84    WRITE(6,85)M,(SS(N,M),N=1,NMAX)
85    FORMAT(8X,I2,2X,20F5.1)
91    CONTINUE
      WRITE(6,601)
601   FORMAT(1H1,20X,'AVERAGE SECTION DEPTH FT.')
      DO 603 M=1,MMAX
```

```
603     WRITE(6,602)M,DEF(M)
602     FORMAT(10X,I2,3X,F8.3)
        RETURN
        END
```

```
      SUBROUTINE FIND(MIND,NIND,MMAX,NMAX,MINDD,NINDD,NSECT)
       LOGICAL START
       COMMON NBD(50),MBD(50),NOBD(3),MOBD(3),AR(50),DFP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),Q(16,50),COF(16,50),LS(15,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),R(16,50),
     3 DX(16,50),DZ(16,50),G(16,50),WAR(16,50),CSC(16,50),SE(50),SFP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         GRID COMPUTATIONAL CONTROL  VALUES ARE COMPUTED
C       REFERENCE - LEENDERTSE, J. J., 'ASPECTS OF A COMPUTATIONAL MODEL
C       FOR LONG PERIOD WATER WAVE PROPAGATION', RAND CORP. MEMORANDUM
C       RM-5294-PR.
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 1 J=1,NSECT
      NBD(J)=0
    1 MBD(J)=0
      MIND=1
      NIND=1
      DO 2 N=2,NMAX
       START=.TRUE.
      DO 3 M=2,MMAX
      IF(.NOT.START) GO TO 4
      IF(H(N,M).EQ.0.)GO TO 3
      NBD(NIND)=M*100+NBD(NIND)
      START=.FALSE.
      GO TO 3
    4 IF(H(N,M).NE.0.)GO TO 5
      NBD(NIND)=M-1+NBD(NIND)+10000*N
      GO TO 6
    5 IF(M.NE.MMAX) GO TO 3
      NBD(NIND)= M+NBD(NIND)+10000*N
    6 NIND=NIND+1
       START=.TRUE.
    3 CONTINUE
    2 CONTINUE
       DO 12 M=2,MMAX
       START=.TRUE.
       DO 13 N=2,NMAX
       IF(.NOT.START)GO TO 14
       IF( H(N,M).EQ.0.) GO TO 13
       MBD(MIND)=N*100+MBD(MIND)
       START=.FALSE.
       GO TO 13
   14 IF(H(N,M).NE.0.) GO TO 15
       MBD(MIND)=N-1+MBD(MIND)+10000*M
       GO TO 16
   15 IF(N.NE.NMAX) GO TO 13
       MBD(MIND)=N+MBD(MIND)+10000*M
   16 MIND=MIND+1
```

```
      START=.TRUE.
   13 CONTINUE
   12 CONTINUE
      NUM=1
  100 IF(NUM.EQ.NIAD) GO TO 300
      N=  NBD(NUM)/10000
      MF = NBD(NUM)/100  -N*100
      L  =NBD(NUM)-N*10000-MF*100
      MFLEF=MF-1
      LRIG=L+1
      NA=1
  200 IF(NA.EQ.MINDC)GO TO  210
      M=MOBD(NA)/100000
      NBOT=MOBD(NA)/1000 -M*100
      NTOP=MOBD(NA)/10  -M*10000 -NBOT*100
      NBERN=MOBD(NA)-M*100000-NBOT*1000-NTOP*10
       IF(NBERN.GT.1) GO TO 501
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(MFLEF.EQ.M)) NBD(NUM)=
     1NBD(NUM) +10000000
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(LRIG.EQ.M))  NBD(NUM)=
     1NBD(NUM)+1000000
       GO TO 205
  501 IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(MFLEF.EQ.M)) NBD(NUM)=
     1NBD(NUM)+7000000
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(LRIG.EQ.M))  NBD(NUM)=
     1NBD(NUM) +20000000
  205 NA=NA+1
      GO TO 200
  210 NUM=NUM+1
      GO TO 100
  300 CONTINUE
      NUM=1
  101 IF(NUM.EQ.MIND) GO TO 301
      M=MBD(NUM)/10000
      NF=MBD(NUM)/100  -M*100
      L=MBD(NUM)-M*10000-NF*100
      NFBOT=NF-1
      LTOP=L+1
      NA=1
  201 IF(NA.EQ.NINDD)GO TO 211
      N=NOBD(NA)/100000
      MLEF=NOBD(NA)/1000-N*100
      MRIG=NOBD(NA)/10-N*10000-MLEF*100
      MBERN=NOBD(NA)-N*100000-MLEF*1000-MRIG*10
      IF(MBERN.GT.1) GO TO 502
      IF(M.GE.MLEF.AND.M.LE.MRIG.AND.NFBOT.EQ.N) MBD(NUM)=MBD(NUM)
     1     +  10000000
       IF(M.GE.MLEF.AND.M.LE.MRIG.AND.LTOP.EQ.N) MBD(NUM)=MBD(NUM)
     1  +10000000
      GO TO 206
  502 IF(M.GE.MLEF.AND.M.LE.MRIG.AND.NFBOT.EQ.N) MBD(NUM)=MBD(NUM)
     1     +  20000000
```

```
      IF(M.GE.MLEF.AND.M.LE.MRIG.AND.LTOP.EQ.N) MBD(NUM)=MBD(NUM)
     1 +2000000
  206 MA=MA+1
      GO TO 201
  211 NUM=NUM+1
      GO TO 101
  301 CONTINUE
       WRITE(6,23)
23     FORMAT(1H1,20X,'COMPUTATIONAL CONTROL NUMBERS')
      WRITE(6,20)
      DO 22 J=1,NSECT
      WRITE(6,21) J,NBD(J),MBD(J)
   22 CONTINUE
      WRITE(6,30) NIND,MIND
  30  FORMAT(/,2X,'NIND = ',I2,5X,'MIND = ',I2)
   20 FORMAT(///,3X,3HNUM,6X,3HNBD,7X,3HMBD)
   21 FORMAT(1H ,2X,I4,2X,I9,1X,I9)
      RETURN
      END
```

```
      SUBROUTINE VELC(NMAX,MMAX,IVEL,NST,DDX,DDZ,TAU,ICALL)
      COMMON NBD(50),NBT(50),NMPD(3),MPD(3),ZP(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CP(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50),SF(50),SEP(50)
      DIMENSION UL(50),UP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        VELOCITIES ARE READ IN OR CALCULATED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IVEL.EQ.2) GO TO 800
      DO 1 M=1,MMAX
1     READ(5,2)(U(N,M),N=1,10)
2     FORMAT(10F6.2)
      DO 3 M=1,MMAX
3     READ(5,2)(U(N,M),N=11,NMAX)
      DO 4 M=1,MMAX
4     READ(5,5)(W(N,M),N=1,10)
      DO 6 M=1,MMAX
6     READ(5,5)(W(N,M),N=11,NMAX)
5     FORMAT(10F6.2)
      GO TO 19
800   CONTINUE
      IF(ICALL.EQ.1.AND.NST.EQ.1) GO TO 40
      GO TO 41
40    READ(1,9)(UL(M),M=1,MMAX)
      READ(1,9)(SF(M),M=1,MMAX)
9     FORMAT(10F6.3)
      GO TO 46
41    CONTINUE
      DO 45 M=1,MMAX
      UL(M)=UP(M)
45    SF(M)=SEP(M)
46    CONTINUE
      READ(1,9)(UP(M),M=1,MMAX)
      READ(1,9)(SEP(M),M=1,MMAX)
      DO 80 M=1,MMAX
      DO 80 N=1,NMAX
80    U(N,M)= (UL(M)+UP(M))/2.0
      DO 42 M=1,MMAX
      DO 42 N=1,NMAX
      MMM=M+1
      MM=M-1
      NN=N-1
      NNN=N+1
      IF(H(N,M).EQ.0.0) GO TO 42
      IF(H(NN,M).EQ.0.0) GO TO 12
      GO TO 13
12    W(NN,M)=0.0
```

```
      B(NN,M)=B(N,M)
 13   CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 14
      GO TO 15
 14   U(N,MM)=0.0
      B(N,MM)=B(N,M)
      IF(MM.EQ.1) U(N,MM)=U(N,M)
 15   CONTINUE
      IF(H(NN,MM).EQ.0.0) GO TO 19
      GO TO 20
 19   B(NN,MM)=B(N,MM)
 20   CONTINUE
      B1=B(N,MM)+B(N,M)
      B2=B(NN,MM)+B(NN,M)
      B3=B(N,MM)+B(NN,MM)
      B4=B(NN,M)+B(N,M)
      W(N,M)=0.0
      DSMMM=(SE(MMM)+SEP(MMM)+SE(M)+SEP(M))/4.+DEP(M)
      DSMM=(SE(MM)+SEP(MM)+SE(M)+SEP(M))/4.0+DEP(MM)
      FACTA=1./(B4*DSMMM)
      U(N,M)=FACTA*(B3*U(N,MM)*DSMM-(DDX/TAU)*B1*(SEP(M)-SE(M)))
 42   CONTINUE
 18   CONTINUE
      RETURN
      END
```

```
      SUBROUTINE DIFFU(NMAX,MMAX,DDZ)
      COMMON NRC(50),MSD(50),NTH(3),HOBO(3),AW(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CD(16,50),CDF(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),R(16,50),WAR(16,50),CSC(16,50),SE(50),SEP(50)
      COMMON /WIFZS/ SNETA,BETI,GAMS,WH,WT,WL
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       DISPERSION COEFFICIENTS ARE CALCULATED USING EMPIRICAL RELATIONS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      COMMON /CHEZY/C(50)
      G=32.2
      CMANN=0.025
      DO 2 M=1,MMAX
      MM=M-1
      IF(M.EQ.1) GO TO 3
      A=2.*(DEP(M)+DEP(MM))*.75
      GO TO 4
3     CONTINUE
      A=4.*DEP(M)*.75
4     CONTINUE
      IF(A.LT.0.001) A=.001
      A=EXP(ALOG(A)/6.)
      C(M)=1.49*A/(CMANN*1.732)
2     CONTINUE
      DO 6 M=1,MMAX
      DO 6 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 7
      DW=0.0
      GG=2.*G
      DX(N,M)=(14.3*(DEP(M)+SE(M))*ABS(U(N,M))*SQRT(GG))/C(M)+DW
      GO TO 8
7     DX(N,M)=0.0
8     CONTINUE
6     CONTINUE
      DO 9 M=1,MMAX
      DO 9 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 10
      IZ=NMAX-N
      SZ=FLOAT(IZ)
      Z=(SZ*DDZ-DDZ/2.)*(DEP(M)+SE(M))
      HE=((Z**2)*(((DEP(M)+SE(M))-Z)**2))/((DEP(M)+SE(M))**3)
      IF(WL.EQ.0.0.OR.WH.EQ.0.0.OR.WT.EQ.0.0) GO TO 16
      IF(SS(N,M).EQ.0.0) GO TO 18
      HA=(-6.28*Z)/WL
      HW=(Z*((DEP(M)+SE(M))-Z)*WH*EXP(HA))/(WT*(DEP(M)+SE(M)))
      GO TO 17
16    HW=0.0
17    CONTINUE
```

```
      NN=N+1
      IF(SS(N,M).EQ.0.0) GO TO 18
      IF(H(NN,M).EQ.0.0) SS(NN,M)=SS(N,M)
      SIGMU=-.093+.8149*SS(N,M)-.000482*(SS(N,M)**2)+.0000068*(SS(N,M)
     1 **3)
      SIGML=-.093+.8149*SS(NN,M)-.000482*(SS(NN,M)**2)+.0000068*
     1 (SS(NN,M)**3)
      DENSU=(SIGMU/1000.)+1.0
      DENSL=(SIGML/1000.)+1.0
      DENDIF=DENSL-DENSU
      IF(ABS(DENDIF).LT.0.000001) GO TO 18
      DENAV=(DENSL+DENSU)/2.
      RIB=(G*(DENSU-DENSL))/(DDZ*DENAV*(DEP(M)+SE(M)))
      RIC=(.7*ABS(U(N,M))/(DEP(M)+SE(M)))**2
      RI=RIB/RIC
      GO TO 19
18    RI=0.0
19    CONTINUE
      RID=(1.+BETI*RI)**2
      DZ(N,M)=(SNETA*HE*ABS(U(N,M)))/RID+(GAMS*H3)/RIC
      GO TO 11
10    DZ(N,M)=0.0
11    CONTINUE
9     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE BOVAL(NMAX,MMAX,IPASS,AST)
      REAL JS,LS
      COMMON NBD(90),MBD(90),NBPD(3),MBPD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),KAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        BOUNDARY VALUES ARE SPECIFIED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IPASS.EQ.2) GO TO 7
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C      B.O.D. OR CONSERVATIVE BOUNDARY CONDITION SPECIFIED
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 8 N=2,15
      M=49
8     CO(N,M)=0.0
      CO(2,1)=1.9
      CO(3,1)=1.9
      CO(4,1)=2.0
      CO(5,1)=2.1
      CO(6,1)=2.4
      CO(7,1)=2.7
      CO(8,1)=3.0
      CO(9,1)=3.2
      CO(10,1)=3.8
      CO(11,1)=4.4
      CO(12,1)=4.4
      CO(13,1)=4.5
      CO(14,1)=4.5
      CO(15,1)=4.6
      GO TO 9
7     CONTINUE
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C      D. O. BOUNDARY CONDITION SPECIFIED
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 10 N=2,15
      M=48
      MM=47
10    CO(N,M)=CS(MM)
      CO(2,1)=1.5
      CO(3,1)=1.5
      CO(4,1)=1.6
      CO(5,1)=1.7
      CO(6,1)=1.9
```

```
      CO(7,1)=2.2
      CO(8,1)=2.5
      CO(9,1)=2.8
      CO(10,1)=2.9
      CO(11,1)=3.1
      CO(12,1)=3.2
      CO(13,1)=3.5
      CO(14,1)=3.7
      CO(15,1)=3.7
9     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE DECAY(NMAX,MMAX,IDEC)
      COMMON NAD(50),MAD(50),NORD(3),MORD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),ST(16,50),COF(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),D(16,50),W(16,50),B(16,50),
     3 DX(16,50),DZ(16,50),R(16,50),PAR(16,50),CSC(16,50),SE(50),SEP(50)
      COMMON /DECA/B2,SKK,DA,DB,DC,DE,V1,A2
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        POD DECAY RATES ARE CALCULATED FROM FIELD DATA
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IDEC.GT.1) GO TO 9
      DO 8 K=1,MMAX
      DO 8 J=1,NMAX
      D20=A2+B2*(DEP(K)**SKK)
8     D(J,K)=D20*(V1**(TS(J,K)-20.))
      GO TO 11
9     CONTINUE
      DO 10 K=1,MMAX
      DO 10 J=1,NMAX
      D(J,K)=DA+DB*TS(J,K)+DC*(TS(J,K)**2)+DE*(TS(J,K)**3)
10    CONTINUE
11    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE SOLUB(NMAX,MMAX)
      COMMON NOC(50),MOB(50),NNHD(3),MZPD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COF(16,50),LS(16,50),
     2 US(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         OXYGEN SOLUBILITY VALUES ARE COMPUTED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      MNA=MMAX-1
      DO 3 M=2,MNA
      LSUR=NMAX-1
      TST=(TS(LSUR,M)-32.)/1.8
      TERM=.0841-.00256*TST+.0000374*(TST**2)
      TERM1=14.161-.3943*TST+.007714*(TST**2)
      TERM2=.0000646*(TST**3)
 3    CS(M)=TERM1-TERM2-SS(LSUR,M)*TERM
      CS(1)=0.0
      CS(MMAX)=0.0
      MML=MMAX-1
      NNM=NMAX-1
      DO 4 M=2,MML
      DO 4 N=2,NMAX
      IF(N.EQ.NNM) GO TO 5
      GO TO 6
 5    CSC(N,M)=CS(M)
      GO TO 4
 6    CSC(N,M)=0.0
 4    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE REAR(MMAX,NMAX)
      COMMON NMC(90),MMC(90),NNOD(3),MNOD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COF(16,50),LS(16,50),
     2 US(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         REAERATION COEFFICIENTS ARE COMPUTED
C
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      COMMON /CHEZY/C(50)
      G=32.2
      MMA=MMAX-1
      NSUR=NMAX-1
      DO 8 M=2,MMA
      TSS=(TS(NSUR,M)-32.)/1.8
      N=NMAX-1
      USTAR=(ABS(U(N,M))*SQRT(G))/C(M)
      GH=G*(DEP(M)+SE(M))
      FR=(ABS(U(N,M)))/(SQRT(GH))
      AR20=(.000125*(1.+SQRT(FR))*USTAR)/(DEP(M)+SE(M))
      TMPA=1.016
      POW=TSS-20.
 8    AR(M)=AR20*((TMPA)**POW)
      MML=MMAX-1
      NNM=NMAX-1
      DO 9 M=2,MML
      DO 9 N=2,NMAX
      IF(N.EQ.NNM) GO TO 10
      GO TO 11
 10   RAR(N,M)=AR(M)
      GO TO 9
 11   RAR(N,M)=0.0
 9    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE ANSW(NMAX,MMAX,IPASS,AT,NST,ISALT)
      REAL JS,LS
      COMMON NBP(90),MBP(90),NPOD(3),MPOD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAX(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         ANSWERS FOR GIVEN STEP ARE WRITTEN
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION NO(20)
      DO 21 M=1,MMAX
      DO 21 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 22
      GO TO 21
22    CO(N,M)=0.0
      U(N,M)=0.0
      W(N,M)=0.0
      LS(N,M)=0.00
      COP(N,M)=0.0
21    CONTINUE
      SNT=FLOAT(NST)
      TIM=(AT*SNT)/3600.
      WRITE(6,1)NST,TIM
1     FORMAT(1H1,10X,'CONCENTRATION OF DISSOLVED OXYGEN (MG/L)',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS.')
      DO 2 N=1,NMAX
2     NO(N)=N
      WRITE(6,3)(NO(N),N=1,NMAX)
3     FORMAT(1H0,10X,20I6)
      DO 4 M=1,MMAX
4     WRITE(6,5)M,(COP(N,M),N=1,NMAX)
5     FORMAT(8X,I2,2X,20F6.2)
      IF(ISALT.GT.1) GO TO 25
      WRITE(6,6)NST,TIM
6     FORMAT(1H1,10X,'CONCENTRATION OF B.O.D. (MG/L)',5X,'STEP NUMBER =
     1',I3,5X,'TIME =',F7.2,'HRS.')
      WRITE(6,7)(NO(N),N=1,NMAX)
7     FORMAT(1H0,10X,20I6)
      DO 8 M=1,MMAX
8     WRITE(6,9)M,(LS(N,M),N=1,NMAX)
9     FORMAT(8X,I2,2X,20F6.2)
25    CONTINUE
      WRITE(6,10)NST,TIM
10    FORMAT(1H1,10X,'U VELOCITY FIELD (-FLOOD) -FPS.',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS.')
      WRITE(6,11)(NO(N),N=1,NMAX)
11    FORMAT(1H0,10X,20I6)
      DO 12 M=1,MMAX
```

```
12       WRITE(6,13)M,(U(N,M),N=1,NMAX)
13       FORMAT(8X,I2,2X,20F6.2)
         WRITE(6,14)NST,TIM
14       FORMAT(1H1,10X,'W VELOCITY FIELD -FPS.',5X,'STEP NUMBER =',I3,
     1    5X,'TIME  =',F7.2,'HRS.')
         WRITE(6,15)(NC(N),N=1,NMAX)
15       FORMAT(1H0,10X,20I6)
         DO 16 M=1,MMAX
16       WRITE(6,17)M,(W(N,M),N=1,NMAX)
17       FORMAT(8X,I2,3X,20F6.4)
20       CONTINUE
         RETURN
         END
```

```
      SUBROUTINE AXVAL(NMAX,MMAX,NST,AT,ISALT)
      DIMENSION NO(20)
      COMMON NBO(50),MBO(50),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),CUP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),Q(16,50),
     3 DX(16,50),DZ(16,50),D(16,50),RAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        AUXILIARY VALUES ARE WRITTEN FOR GIVEN TIME STEP
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      SNT=FLOAT(NST)
      TIM=(AT*SNT)/3600.
      DO 2 M=1,MMAX
      DO 2 N=1,NMAX
      NO(N)=N
      IF(H(N,M).EQ.0.0) GO TO 3
      GO TO 2
3     D(N,M)=0.0
      DX(N,M)=0.0
      DZ(N,M)=0.0
      CSC(N,M)=0.0
      RAR(N,M)=0.0
2     CONTINUE
      WRITE(6,4)NST,TIM
4    FORMAT(1H1,10X,'DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)
     1',5X,'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,5)(NO(N),N=1,NMAX)
5     FORMAT(1H0,10X,20I6)
      DO 6 M=1,MMAX
6     WRITE(6,7)M,(DX(N,M),N=1,NMAX)
7     FORMAT(8X,I2,2X,20F6.2)
      WRITE(6,8)NST,TIM
8    FORMAT(1H1,10X,'DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)
     1',5X,'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,9)(NO(N),N=1,NMAX)
9     FORMAT(1H0,10X,20I6)
      DO 10 M=1,MMAX
10    WRITE(6,11)M,(DZ(N,M),N=1,NMAX)
11    FORMAT(8X,I2,4X,20F6.5)
      IF(ISALT.GT.1) GO TO 50
      WRITE(6,12)NST,TIM
12    FORMAT(1H1,10X,'REAERATION COEFFICIENTS X 1000000 (1/SEC)',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,13)(NO(N),N=1,NMAX)
13    FORMAT(1H0,10X,20I6)
      DO 14 M=1,MMAX
      N=NMAX-1
14    RAR(N,M)=RAR(N,M)*1000000.
      DO 20 M=1,MMAX
```

```
20    WRITE(6,15)M,(RAR(N,M),N=1,NMAX)
15    FORMAT(8X,I2,3X,20F6.2)
      DO 40 M=1,MMAX
      N=NMAX-1
40    RAR(N,M)=RAR(N,M)/1000000.
      WRITE(6,16)NST,TIM
16    FORMAT(1H1,10X,'BOD DECAY COEFFICIENTS X 1000000 (1/SEC)',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,17)(NC(N),N=1,NMAX)
17    FORMAT(1H0,10X,20I6)
      DO 23 M=1,MMAX
      DO 23 N=1,NMAX
23    D(N,M)=D(N,M)*1000000.
      DO 18 M=1,MMAX
18    WRITE(6,19)M,(D(N,M),N=1,NMAX)
19    FORMAT(8X,I2,2X,20F6.2)
      DO 41 M=1,MMAX
      DO 41 N=1,NMAX
41    D(N,M)=D(N,M)/1000000.
      WRITE(6,86)
86    FORMAT(1H1,10X,'SURFACE OXYGEN SOLUBILITY (MG/L)')
      WRITE(6,87)(CS(M),M=1,MMAX)
87    FORMAT(30X,F15.4)
50    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE PLOTS(NMAX,MMAX,IGL,IGU)
      REAL JS,LS
      REAL LSAV
      COMMON NBD(90),MBD(50),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),AAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        COMPUTED CONCENTRATIONS ARE SET UP FOR PLOTTING
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION A(48,3),COAV(48),LSAV(48)
      IF(IGL.EQ.0.OR.IGU.EQ.0) GO TO 9
      DO 3 N=IGL,IGU
      DO 2 J=1,MMAX
      A(J,1)=FLOAT(J)
      A(J,2)=COP(N,J)
2     A(J,3)=LS(N,J)
      NO=N
      NSN=48
      MSM=3
      LSL=48
      NSS=0
      WRITE(6,4)
4     FORMAT(1H1,5X,'D.O. (1) $ B.O.D. (2) IN MG/L VS ESTUARY LONGITUDI
     1NAL SECTION NUMBER')
      CALL PLOTT(NO,A,NSN,MSM,LSL,NSS)
3     CONTINUE
9     CONTINUE
      NM=MMAX-2
      DO 5 NUM=1,NM
      MSRCH=MBD(NUM)/1000000
      M=MBD(NUM)/10000-MSRCH*100
      NL=MBD(NUM)/100-MSRCH*10000-M*100
      NU=MBD(NUM)-MSRCH*1000000-M*10000-NL*100
      SUMDO=0.0
      SUMBOD=0.0
      DO 6 J=NL,NL
      SUMDO=SUMDO+COP(J,M)
6     SUMBOD=SUMBOD+LS(J,M)
      NUMD=NU-NL+1
      SNUMD=FLOAT(NUMD)
      COAV(M)=SUMDO/SNUMD
      LSAV(M)=SUMBOD/SNUMD
5     CONTINUE
      MM=MMAX-1
      COAV(MMAX)=COAV(MM)
      LSAV(MMAX)=LSAV(MM)
      COAV(1)=COAV(2)
```

```
      LSAV(1)=LSAV(2)
      NO1=1
      DO 7 J=1,MMAX
      A(J,1)=FLOAT(J)
      A(J,2)=CTAV(J)
7     A(J,3)=LSAV(J)
      WRITE(6,8)
8     FORMAT(1H1,5X,'AVERAGE D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY
     1 LONGITUDINAL SECTION NUMBER')
      NSN=48
      MSM=3
      LSL=48
      NSS=0
      CALL PLOTT(NO1,A,NSN,MSM,LSL,NSS)
      RETURN
      END
```

```
C         SUBROUTINE PLOTT                                                      PLOT 004
      SUBROUTINE PLOTT(NO,A,N,M,NL,NS)
       COMMON NBD(90),MBD(90),NOBD(3),MOBD(3),AP(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COF(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),PAX(16,50),CSC(16,50),SF(50),SFP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         PLOTTING SUBROUTINE REF. IBM SPECIAL SUBROUTINES
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION OUT(101),YPR(11),ANG(9),A(1)                                    PLOT 037
      DATA BLANK/' '/,ANG/'1','2','3','4','5','6','7','8','9'/
C                                                                               PLOT 038
    1 FORMAT(60X,7H CHART  ,I3,//)
    2 FORMAT(1H ,F11.4,5X,101A1)                                                PLOT 040
    3 FORMAT(1H )                                                               PLOT 041
    4 FORMAT(10H 123456789)                                                     PLOT 042
    5 FORMAT(10A1)                                                              PLOT 043
    7 FORMAT(1H ,16X,101H.         .         .         .         .              PLOT M01
     1    .         .         .         .         .         .)                  PLOT 045
    8 FORMAT(1H0,9X,11F10.4)                                                    PLOT 046
C                                                                               PLOT 047
C     ..........................................................................PLOT 048
C                                                                               PLOT 049
      NLL=NL                                                                    PLOT 050
C                                                                               PLOT 051
      IF(NS) 16, 16, 10                                                         PLOT 052
C                                                                               PLOT 053
C        SORT BASE VARIABLE DATA IN ASCENDING ORDER                             PLOT 054
C                                                                               PLOT 055
   10 DO 15 I=1,N                                                               PLOT 056
      DO 14 J=I,N                                                               PLOT 057
      IF(A(I)-A(J)) 14, 14, 11                                                  PLOT 058
   11 L=I-N                                                                     PLOT 059
      LL=J-N                                                                    PLOT 060
      DO 12 K=1,M                                                               PLOT 061
      L=L+N                                                                     PLOT 062
      LL=LL+N                                                                   PLOT 063
      F=A(L)                                                                    PLOT 064
      A(L)=A(LL)                                                                PLOT 065
   12 A(LL)=F                                                                   PLOT 066
   14 CONTINUE                                                                  PLOT 067
   15 CONTINUE                                                                  PLOT 068
C                                                                               PLOT 069
C        TEST NLL                                                               PLOT 070
C                                                                               PLOT 071
   16 IF(NLL) 20, 18, 20                                                        PLOT 072
   18 NLL=50                                                                    PLOT 073
C                                                                               PLOT 074
```

```
C        PRINT TITLE                                          PLOT 075
C                                                             PLOT 076
   20 WRITE(6,1)NO                                            PLOT 077
C                                                             PLOT 086
C        FIND SCALE FOR BASE VARIABLE                         PLOT 087
C                                                             PLOT 088
       XSCAL=(A(N)-A(1))/(FLOAT(NLL-1))
C
C      FIND SCALE FOR CROSS VARIABLES
C
      M1=N+1                                                  PLOT M02
      YMIN=A(M1)                                              PLOT M03
      YMAX=YMIN                                               PLOT M04
      M2=M*N                                                  PLOT 096
      DO 40 J=M1,M2                                           PLOT 097
      IF(A(J)-YMIN) 28,26,26                                  PLOT 098
   26 IF(A(J)-YMAX) 40,40,30                                  PLOT 099
   28 YMIN=A(J)                                               PLOT 100
      GO TO 40                                                PLOT 101
   30 YMAX=A(J)                                               PLOT 102
   40 CONTINUE                                                PLOT 103
      YSCAL=(YMAX-YMIN)/100.0                                 PLOT 104
C                                                             PLOT 105
C        FIND BASE VARIABLE PRINT POSITION                    PLOT 106
C                                                             PLOT 107
      XB=A(1)                                                 PLOT 108
      L=1                                                     PLOT 109
      MY=M-1                                                  PLOT 110
      I=1                                                     PLOT M05
   45 F=I-1                                                   PLOT M06
      XPR=XB+F*XSCAL                                          PLOT 113
      IF(A(L)-XPR) 50,50,70                                   PLOT 114
C                                                             PLOT 115
C        FIND CROSS-VARIABLES                                 PLOT 116
   50 L2=L+1
      IF(L2-N) 51,51,54
   51 DO 52 IL=L2,N
      IF(A(IL)-XPR) 52,52,53
   52 CONTINUE
      L=N
      GO TO 54
   53 L=IL-1
   54 DO 55 IX=1,101
   55 OUT(IX)=BLANK                                           PLOT 119
      DO 60 J=1,MY                                            PLOT 120
      LL=L+J*N                                                PLOT 121
      JP=((A(LL)-YMIN)/YSCAL)+1.0                             PLOT 122
      OUT(JP)=ANG(J)                                          PLOT 123
   60 CONTINUE                                                PLOT 124
C                                                             PLOT 125
C        PRINT LINE AND CLEAR, OR SKIP                        PLOT 126
C                                                             PLOT 127
```

```
      WRITE(6,2)XPR,(OLT(I2),I2=1,101)                                  PLOT 128
      L=L+1                                                             PLOT 129
      GO TO 80                                                          PLOT 130
   70 WRITE(6,3)                                                        PLOT 131
   80 I=I+1                                                             PLOT M07
      IF(I-NLL) 45, 84, 86                                              PLOT M08
   84 XPR=A(N)                                                          PLOT M09
      GO TO 50                                                          PLOT M10
C                                                                       PLOT 133
C         PRINT CROSS-VARIABLES NUMBERS                                 PLOT 134
C                                                                       PLOT 135
   86 WRITE(6,7)                                                        PLOT M11
      YPR(1)=YMIN                                                       PLOT 137
      DO 90 KN=1,9                                                      PLOT 138
   90 YPR(KN+1)=YPR(KN)+YSCAL*10.0                                      PLOT 139
      YPR(11)=YMAX                                                      PLOT 140
      WRITE(6,8)(YPR(IP),IP=1,11)                                       PLOT 141
      RETURN                                                            PLOT 142
      END                                                               PLOT 143
```

```
      SUBROUTINE PUNC(NMAX,MMAX,ISALT)
      REAL JS,LS
      COMMON NPU(90),MPU(90),NBOD(3),MBOD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CU(16,50),CCP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50),SE(50),SEP(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         INITIAL BOD AND DO VALUES FOR NEXT RUN ARE PUNCHED OUT
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 5 M=1,MMAX
5     WRITE(7,6)(CCP(N,M),N=1,10)
      DO 7 M=1,MMAX
7     WRITE(7,6)(CCP(N,M),N=11,NMAX)
6     FORMAT(10F5.2)
      IF(ISALT.GT.1) GO TO 8
      DO 2 M=1,MMAX
2     WRITE(7,3)(LS(N,M),N=1,10)
      DO 4 M=1,MMAX
4     WRITE(7,3)(LS(N,M),N=11,NMAX)
3     FORMAT(10F5.2)
8     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE CONTPL(MAXST,NFP,AT)
      COMMON /TIMV/CODD(720,5),BOD(720,5),TIH(720,5),NP(5),MP(5)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C     TIME VARYING PLOTS OF CONCENTRATIONS AND TIDAL HEIGHTS FOR SPECIFIED
C     GRIDS ARE PRINTED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      REAL LINE(61)
      DATA BLANK/' '/,DOT/'.'/,STAR/'1'/,CROSS/'2'/,TIDH/'T'/
      MAXST1=MAXST-1
      TSHR=AT/3600.
      DO 25 I=1,NFP
      ZA=0.0
      ZB=0.0
      ZC=0.0
      ZE=BOD(1,I)
      ZD=CODD(1,I)
      DO 35 K=1,MAXST1
      ZM=ABS(CODD(K,I))
      ZN=ABS(BOD(K,I))
      ZL=ABS(TIH(K,I))
      ZS=CODD(K,I)
      ZR=BOD(K,I)
      IF(ZM.GT.ZA) ZA=ZM
      IF(ZN.GT.ZB) ZB=ZN
      IF(ZL.GT.ZC) ZC=ZL
      IF(ZS.LT.ZD) ZD=ZS
      IF(ZR.LT.ZE) ZE=ZR
36    CONTINUE
      ZBOD=(ZB+ZE)/2.
      ZCOD=(ZA+ZD)/2.
      WRITE(6,3)NP(I),MP(I),TSHR
3     FORMAT(1H1,6X,'PLOT OF D.O. (1), B.O.D. (2), AND TIDE HEIGHT (T)
     1FOR GRID N=',I2,2X,'M=',I2,2X,'TIME STEP=',F5.2,2X,'HRS.')
      WRITE(6,4)
4     FORMAT(6X,'D.O.',6X,'B.O.D.',6X,'TIDE HEIGHT-FT.')
      DO 40 K=1,MAXST1
      DO 45 J=1,61
45    LINE(J)=BLANK
      LINE(31)=DOT
      ZBD=ZB-ZE
      IF(ABS(ZBD).LT.0.001) GO TO 41
      JJ=((BOD(K,I)-ZBOD)/((ZB-ZE)/2.))*30.+31.
      GO TO 46
41    CONTINUE
      JJ=31
46    CONTINUE
      ZCD=ZA-ZD
      IF(ABS(ZCD).LT.0.001) GO TO 42
```

```
      JK=(((COD(K,I)-ZCO)/((Z5-ZO)/2.))*30.+31.
      GO TO 47
42    CONTINUE
      JK=31
47    CONTINUE
      JL=31.5+((TIH(K,I)/ZC)*30.
      LINE(JK)=STAR
      LINE(JJ)=CROSS
      LINE(JL)=TICH
40    WRITE(6,10)K,COOD(K,I),BOD(K,I),TIH(K,I),(LINE(J),J=1,61)
10    FORMAT(2X,I3,1X,F5.2,5X,F5.2,10X,F5.2,3X,61A1)
25    CONTINUE
      RETURN
      END
```

LISTING - TDLIDI

DIMENSIONAL VERTICAL AXIS MODEL

```
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C       THIS PROGRAM SOLVES THE LATERALLY INTEGRATED TWO DIMENSIONAL
C       (X,Z) MASS TRANSPORT EQUATION FOR A DIMENSIONAL   VERTICAL AXIS (Z)
C       BOTH CONSERVATIVE CASES AND THE D.O.-B.O.D. SYSTEM CAN BE SOLVED
C       AN ALTERNATING DIRECTION IMPLICIT FINITE DIFFERENCE SCHEME WITH A
C       STANDARD PEACEMAN-RACHFORD SPLITTING TECHNIQUE IS USED TO SOLVE
C       THE MASS TRANSPORT EQUATION ON A STAGGERED GRID SYSTEM
C       INFORMATION REGARDING PROGRAM INPUT AND OUTPUT, AS WELL AS FUNCTION
C       ARE PROVIDED IN THE USER'S MANUAL(APPENDIX A) OR THE MAIN BODY
C       OF THIS REPORT
C       THIS PROGRAM WAS ORIGINALLY WRITTEN BY M. L. SPAULDING, JUNE 1972
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
      DIMENSION AA(50),BB(50),CC(50),DD(50),AA2(50),BB2(50),
     1 CC2(50),DD2(50),F(50),Q(50),NPRINT(50)
      REAL JS,LS
      COMMON NPD(90),MHD(90),NOHD(3),MOHD(3),AR(50),DEP(50),CS(50),
     1   TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),Q(16,50),WAR(16,50),CSC(16,50)
      COMMON /RECA/EZ,SKK,DX,DT,PC,TC,VL,A2
      COMMON /DIFES/SHETA,BETI,GAMS,DH,HT,WL
      COMMON /TIMS/CONC(370,5),COD(370,5),TIM(370,5),NP(5),MP(5)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       TITLE PAGE WRITTEN
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      WRITE(6,30)
 30   FORMAT(1H1,////////////////////)
      WRITE(6,31)
 31   FORMAT(40X,2HNN,4X,2HNN,5X,2HAA,5X,6HBBBBBB,5X,6HSSSSSS,/,40X,
     12HNN,4X,2HNN,4X,4HAAAA,4X,7HBBBBBBB,3X,8HSSSSSSSS,/,40X,3HNNN,3X,
     22HNN,3X,2HAA,2X,2HAA,3X,2HBB,4X,2HBB,2X,2HSS,/,40X,3HNNN,3X,2HNN,
     33X,2HAA,2X,2HAA,3X,2HBB,4X,2HBB,2X,2HSS,/,40X,4HNNNN,2X,2HNN,2X,
     4            2HAA,4X,2HAA,2X,7HBBBBBBB,3X,7HSSSSSSS,/,40X,2HNN,1X,2HNN,
     51X,2HNN,2X,8HAAAAAAAA,2X,7HBBBBBBB,4X,7HSSSSSSS,/,40X,2HNN,2X,
     64HNNNN,2X,8HAAAAAAAA,2X,2HBB,4X,2HBB,6X,2HSS,/,40X,2HNN,3X,3HNNN,
     72X,2HAA,4X,2HAA,2X,2HBB,4X,2HBB,3X,2HSS,/,40X,2HNN,3X,3HNNN,2X,
     8    2HAA,4X,2HAA,2X,7HBBBBBBB,3X,8HSSSSSSSS,/,40X,2HNN,4X,2HNN,2X,
     92HAA,4X,2HAA,2X,6HBBBBBB,5X,6HSSSSSS)
      WRITE(6,32)
 32   FORMAT(//,45X,3HDDD,3X,2HOO,7X,3HBBB,3X,2HOO,2X,3HDDD,/,45X,1HD,
     12X,1HD,1X,1HO,2X,1HO,6X,1HB,2X,1HB,1X,1HO,2X,1HO,1X,1HD,2X,1HD,/,
     245X,1HD,2X,1HD,1X,1HO,2X,1HO,2X,2H--,2X,3HBBB,2X,1HO,2X,1HO,1X,
```

```
     31HD,2X,1HD,/,45X,1HD,2X,1HD,1X,1HD,2X,1HD,6X,1HD,2X,1HD,1X,1HD,2X,
     41HD,1X,1HD,2X,1HD,/,45X,3HDDD,3X,2HDD,7X,3HDDD,3X,2HDD,2X,3HDDD)
      WRITE(6,33)
33    FORMAT(//////////,40X,'PROGRAM DEVELOPED BY - M. SPAULDING',
     1 /,40X,'UNIVERSITY OF RHODE ISLAND  WALES HALL 222C',/,40X,
     3 'JUNE 1972')
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C  INITIAL READ STATEMENTS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      READ(5,1)AT
1     FORMAT(F8.3)
      READ(5,2)MAXST
2     FORMAT(I3)
      READ(5,3)KMAX,MMAX
3     FORMAT(2I2)
      READ(5,20)DDX,DDZ
20    FORMAT(2F7.2)
      READ(5,21)IPUNCH
21    FORMAT(I3)
      READ(5,9998)NFP
9998  FORMAT(I2)
      DO 9997 I=1,NFP
9997  READ(5,9996)NP(I),MP(I)
9996  FORMAT(2I2)
      READ(5,19)NPR
19    FORMAT(I2)
      DO 17 K=1,NPR
17    READ(5,18)NPRINT(K)
18    FORMAT(I4)
      READ(5,25)IGL,IGU
25    FORMAT(2I2)
      READ(5,4)ISCU,IDIF,ISALT,IDEC,IVEL,ISMD
4     FORMAT(6I2)
      READ(5,7)NBC,MBC
7     FORMAT(2I2)
      IF(NBC.EQ.0) GO TO 550
      DO 8 J=1,NBC
8     READ(5,9)NOBO(J)
9     FORMAT(I8)
550   CONTINUE
      IF(MBC.EQ.0) GO TO 551
      DO 10 J=1,MBC
10    READ(5,11) MOBO(J)
11    FORMAT(I8)
551   CONTINUE
      IF(ISALT.GT.1) GO TO 16
      IF(IDEC.GT.1) GO TO 14
      READ(5,13)A2,A2,SKK,V1
```

```
13      FORMAT(2F10.4,F5.2,F6.1)
        GO TO 16
14      CONTINUE
        READ(5,15)DA,DB,DC,DE
15      FORMAT(4F15.8)
16      CONTINUE
        READ(5,40)SNETA,BETL,GAMS
40      FORMAT(3F10.5)
        READ(5,41)WH,WT,WL
41      FORMAT(3F10.5)
        MINDO=MBC+1
        NINDO=NBC+1
        DO 100 M=1,MMAX
        DO 100 N=1,NMAX
        JS(N,M)=0.0
        CSC(N,M)=0.0
        RAF(N,M)=0.0
        LS(N,M)=0.0
        CO(N,M)=0.0
        COP(N,M)=0.0
        CT(N,M)=0.0
        P(N,M)=0.0
        U(N,M)=0.0
        W(N,M)=0.0
        D(N,M)=0.0
        DX(N,M)=0.0
        DZ(N,M)=0.0
        B(N,M)=0.0
        TS(N,M)=0.0
        SS(N,M)=0.0
100     CONTINUE
        NSECT=MMAX
        CALL GETF(NMAX,MMAX,IDIF,ISALT,ISOU)
        CALL FIND(MIND,NIND,MMAX,NMAX,MINDO,NINDO,NSECT)
        CALL INIT(NMAX,MMAX,ISALT,ISMO)
        TAU=AT/2.
        FAX1=TAU/(4.*DDX)
        FAX2=TAU/(2.*(DDX**2))
        FAZ1=TAU/(4.*DDZ)
        FAZ2=TAU/(2.*(DDZ**2))
        NST=1
600     CONTINUE
        CALL VELC(NMAX,MMAX,IVEL,NST,DDX,DDZ)
        IF(IDIF.EQ.1) GO TO 202
        CALL DIFFU(NMAX,MMAX,DDZ)
202     CONTINUE
        IF(ISALT.GT.1) GO TO 556
        CALL REAR(MMAX,NMAX)
556     CONTINUE
        IF(ISALT.GT.1) GO TO 555
        CALL DECAY(NMAX,MMAX,IDEC)
        CALL SOLUB(NMAX,MMAX)
```

```
555     CONTINUE
        IPASS=2
        IF(ISALT.GT.1) GO TO 552
1105    CONTINUE
        IF(IPASS.EQ.1) GO TO 800
        ALPHA=1.0
        BETS=1.0
        BETA=0.0
        BETB=2.0
        BETB1=0.0
        DO 1301 M=1,MMAX
        DO 1301 N=1,NMAX
1301    CO(N,M)=COP(N,M)
        GO TO 801
800     CONTINUE
        DO 1300 M=1,MMAX
        DO 1300 N=1,NMAX
1300    CO(N,M)=CS(N,M)
        ALPHA=0.0
        BETA=1.0
        BETB=1.0
        BETS=0.0
        BETB1=1.0
        GO TO 557
552     CONTINUE
        IPASS=1
        DO 553 M=1,MMAX
        DO 553 N=1,NMAX
553     CO(N,M)=COP(N,M)
        ALPHA=0.0
        BETA=0.0
        BETB=0.0
        BETS=0.0
        BETB1=0.0
557     CONTINUE
801     CONTINUE
        CALL ZOVAL(NMAX,MMAX,IPASS,NST)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          COMPUTE COP ON EACH COLUMN N
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
        NUM=1
        IF(NST.EQ.MAXST) GO TO 400
514     CONTINUE
        IF(NUM.EQ.NIND) GO TO 905
        NSRCH=NBD(NUM)/1000000
        N=NBD(NUM)/10000-NSRCH*100
        MF=NBD(NUM)/100-NSRCH*10000-N*100
        L=NBD(NUM)-NSRCH*1000000-N*10000-MF*100
```

```
      NN=N-1
      NNN=N+1
      MFF=MF-1
      DO 503 M=MF,L
      MM=M-1
      MMM=M+1
      IF(H(N,MM).EQ.0.0) GO TO 61
      GO TO 62
 61   B(N,MM)=B(N,M)
 62   CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 63
      GO TO 64
 63   B(NN,M)=B(N,M)
 64   CONTINUE
      IF(H(NN,MM).EQ.0.0) GO TO 65
      GO TO 66
 65   B(NN,MM)=B(N,M)
 66   CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 67
      GO TO 68
 67   U(N,MM)=0.0
      DX(N,MM)=0.0
      IF(MBC.GT.1.AND.MM.EQ.1) GO TO 362
      GO TO 68
 362  U(N,MM)=U(N,M)
      DX(N,MM)=DX(N,M)
 68   CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 69
      GO TO 70
 69   DZ(NN,M)=0.0
      W(NN,M)=0.0
      CO(NN,M)=CO(N,M)
 70   CONTINUE
      IF(H(NNN,M).EQ.0.0) GO TO 71
      GO TO 72
 71   CO(NNN,M)=CO(N,M)
      W(N,M)=0.0
      DZ(N,M)=0.0
 72   CONTINUE
      B0=.25*(B(N,M)+B(N,MM)+B(NN,M)+B(NN,MM))
      B1=B(N,MM)+B(N,M)
      B2=B(NN,MM)+B(NN,M)
      B3=B(N,MM)+B(NN,MM)
      B4=B(NN,M)+B(N,M)
      AA2(M)=-FAX1*B3*U(N,MM)-FAX2*B1*DX(N,MM)
      BB2(M)=B0-FAX1*B3*U(N,MM)+FAX1*B4*U(N,M)+FAX2*B4*DX(N,M)
     1 +FAX2*B3*DX(N,MM)+TAU*B0*Q(N,M)*.5*BETB1+TAU*B0*RAR(N,M)*.5*ALPHA
      CC2(M)=FAX1*B4*U(N,M)-FAX2*B4*DX(N,M)
      DD2(M)=CO(N,M)*B0-FAZ1*B1*W(N,M)*(CC(N,M)+CO(NNN,M))+
     1 FAZ1*B2*W(NN,M)*(CC(N,M)+CO(NN,M))+FAZ2*B1*DZ(N,M)*
     2 (CO(NNN,M)-CO(N,M))+FAZ2*B2*DZ(NN,M)*(CO(NN,M)-CO(N,M))
     3 -TAU*(-B0*RAR(N,M)*CSC(N,M)*APLHA+B0*Q(N,M)*LS(N,M)*BETB*.5
```

```
     4 +BO*PAR(N,M)*CO(N,M)*ALPHA*.5+BO*P(N,M)*BETS-BO*JS(N,M)*BETA/
     5 (DDX*DDZ*BO))
503    CONTINUE
       DO 1003 K=MF,L
       IF(K.EQ.MF) GO TO 1001
       GO TO 1002
1001   MOF=MF+1
       E(MOF)=-CC2(K)/BB2(K)
       D(MOF)=DD2(K)/BB2(K)
       GO TO 1003
1002   MO=K+1
       E(MO)=-(CC2(K))/(BB2(K)+AA2(K)*E(K))
       D(MO)=(DD2(K)-AA2(K)*D(K))/(BB2(K)+AA2(K)*E(K))
       IIJ=L+1
       E(IIJ)=0.0
1003   CONTINUE
       IF(NSRCH.EQ.10.OR.NSRCH.EQ.11) GO TO 1005
       GO TO 1006
1005   MOF=MF+1
       E(MOF)=0.0
       D(MOF)=CO(N,MFF)
1006   CONTINUE
       IF(NSRCH.EQ.01.OR.NSRCH.EQ.11) GO TO 1007
       GO TO 1008
1007   JL=L+1
       E(JL)=0.0
       D(JL)=CO(N,JL)
1008   CONTINUE
       DO 1100 J=MF,L
       JJ=L+MF+1-J
       J1=L+MF-J
       CT(N,J1)=E(JJ)*CT(N,JJ)+D(JJ)
1100   CONTINUE
       NUM=NUM+1
       GO TO 514
805    CONTINUE
       DO 350 M=1,MMAX
       DO 350 N=1,NMAX
350    CO(N,M)=CT(N,M)
       IF(ISALT.GT.1) GO TO 115
       IF(IPASS.EQ.2) GO TO 115
       DO 116 M=1,MMAX
       DO 116 N=1,NMAX
116    LS(N,M)=CO(N,M)
       GO TO 862
115    CONTINUE
       DO 860 M=1,MMAX
       DO 860 N=1,NMAX
860    COP(N,M)=CO(N,M)
       IF(ISALT.GT.1) GO TO 862
       IPASS=IPASS-1
       GO TO 1105
```

```
262     CONTINUE
        IF(IDIF.EQ.1) GO TO 871
        CALL DIFFU(NMAX,MMAX,DDZ)
871     CONTINUE
        IF(ISALT.GT.1) GO TO 872
        CALL REAR(MMAX,NMAX)
872     CONTINUE
        IPASS=1
        IF(ISALT.GT.1) GO TO 863
864     CONTINUE
        IF(IPASS.EQ.1) GO TO 865
        BETS=1.0
        BETB=2.0
        ALPHA=1.0
        BETA=0.0
        BETB1=0.0
        DO 866 M=1,MMAX
        DO 866 N=1,NMAX
866     CO(N,M)=COP(N,M)
        GO TO 867
865     CONTINUE
        DO 868 M=1,MMAX
        DO 868 N=1,NMAX
868     CO(N,M)=LS(N,M)
        ALPHA=0.0
        BETA=1.0
        BETB=1.0
        BETS=0.0
        BETB1=1.0
        GO TO 869
863     CONTINUE
        DO 870 M=1,MMAX
        DO 870 N=1,NMAX
870     CO(N,M)=COP(N,M)
        BETS=0.0
        BETB=0.0
        BETA=0.0
        ALPHA=0.0
        BETB1=0.0
869     CONTINUE
867     CONTINUE
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          COMPUTE COP ON EACH ROW M
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
        CALL BOVAL(NMAX,MMAX,IPASS,NST)
        IF(NST.EQ.MAXST) GO TO 400
        NUM=1
414     CONTINUE
```

```
      IF(NUM.EQ.MINO) GO TO 405
      MSRCH=MBD(NUM)/1000000
      M=MBD(NUM)/10000-MSRCH*100
      NF=MBD(NUM)/100-MSRCH*10000-M*100
      L=MBD(NUM)-MSRCH*1000000-M*10000-NF*100
      LL=L-1
      NFF=NF-1
      MMM=M+1
      MM=M-1
      DO 406 N=NF,L
      NN=N-1
      NNN=N+1
      IF(H(N,MM).EQ.0.0) GO TO 80
      GO TO 81
80    B(N,MM)=B(N,M)
81    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 82
      GO TO 83
82    B(NN,M)=B(N,M)
83    CONTINUE
      IF(H(NN,MM).EQ.0.0) GO TO 84
      GO TO 85
84    B(NN,MM)=B(N,M)
85    CONTINUE
      IF(H(NN,M).EQ.0.0) GO TO 86
      GO TO 87
86    W(NN,M)=0.0
      DZ(NN,M)=0.0
87    CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 88
      GO TO 89
88    CONTINUE
      IF(MBC.GT.1.AND.MM.EQ.1) GO TO 360
      GO TO 361
360   U(N,MM)=U(N,M)
      DX(N,MM)=DX(N,M)
      GO TO 89
361   CONTINUE
      U(N,MM)=0.0
      CO(N,MM)=CO(N,M)
      DX(N,MM)=0.0
89    CONTINUE
      IF(H(N,MMM).EQ.0.0) GO TO 90
      GO TO 91
90    CONTINUE
      IF(MMM.EQ.MMAX) GO TO 91
      CO(N,MMM)=CO(N,M)
      U(N,M)=0.0
      DX(N,M)=0.0
91    CONTINUE
      IF(H(NNN,M).EQ.0.0) GO TO 605
      GO TO 606
```

```
605     W(N,M)=0.0
        DZ(N,M)=0.0
606     CONTINUE
        SS1=1.0
        SS2=1.0
        SS3=1.0
        SS4=1.0
        IF(IPASS.EQ.2) GO TO 5673
        IF(JS(N,M).GT.0.0.AND.U(N,M).GT.0.0) GO TO 5666
        GO TO 5667
5666    SS1=1.0
        SS2=1.0
        SS3=0.0
        SS4=2.0
5667    CONTINUE
        IF(JS(N,MMM).GT.0.0.AND.U(N,MMM).GT.0.0) GO TO 5668
        GO TO 5669
5668    SS1=0.0
        SS2=2.0
        SS3=1.0
        SS4=1.0
5669    CONTINUE
        IF(JS(N,M).GT.0.0.AND.U(N,M).LT.0.0) GO TO 5670
        GO TO 5671
5670    SS1=0.0
        SS2=2.0
        SS3=1.0
        SS4=1.0
5671    CONTINUE
        IF(JS(N,MM).GT.0.0.AND.U(N,MM).LT.0.0) GO TO 5672
        GO TO 5673
5672    SS1=1.0
        SS2=1.0
        SS3=0.0
        SS4=2.0
5673    CONTINUE
        BO=.25*(B(N,M)+B(N,MM)+B(NN,M)+B(NN,MM))
        B1=B(N,MM)+B(N,M)
        B2=B(NN,MM)+B(NN,M)
        B3=B(N,MM)+B(NN,MM)
        B4=B(NN,M)+B(N,M)
        AA(N)=-FAZ1*B2*W(NN,M)-FAZ2*B2*DZ(NN,M)
        BB(N)=FAZ1*B1*W(N,M)+BO-FAZ1*B2*W(NN,M)+FAZ2*B1*DZ(N,M)
      1 +FAZ2*B2*DZ(NN,M)+BO*TAU*D(N,M)*.5*BETH1+BO*TAU*RAR(N,M)*.5*ALPHA
        CC(N)=FAZ1*B1*W(N,M)-FAZ2*B1*DZ(N,M)
        DD(N)=CO(N,M)*BO-FAX1*B4*U(N,M)*(CO(N,M)*SS1+CC(N,MMM)*SS2)+FAX1
      1 *B3*U(N,MM)*(CO(N,M)*SS3+CO(N,MM)*SS4)+FAX2*B4*DX(N,M)*(CO(N,MMM)
      2 -CO(N,M))-FAX2*B3*DX(N,MM)*(CO(N,M)-CO(N,MM))-TAU*(-BO*RAR(N,M)*
      4 CSC(N,M)*ALPHA+BO*D(N,M)*LS(N,M)*BETB*.5+BO*RAR(N,M)*CO(N,M)*
      5 ALPHA*.5+BO*P(N,M)*BETS-BO*JS(N,M)*BETA/(EO*DCX*DCZ))
406     CONTINUE
        DO 900 K=NF,L
```

```
      IF(K.EQ.NF) GO TO 901
      GO TO 902
901   NOF=NF+1
      E(NOF)=-CC(K)/BB(K)
      Q(NOF)=DD(K)/BB(K)
      GO TO 903
902   NO=K+1
      E(NO)=-CC(K)/(BB(K)+AA(K)*E(K))
      Q(NO)=(DD(K)-AA(K)*Q(K))/(BB(K)+AA(K)*E(K))
      IJL=L+1
      E(IJL)=0.0
903   CONTINUE
      IF(MSRCH.EQ.10.OR.MSRCH.EQ.11) GO TO 905
      GO TO 906
905   NOF=NF+1
      E(NOF)=0.0
      Q(NOF)=CT(NFF,M)
906   CONTINUE
      IF(MSRCH.EQ.01.OR.MSRCH.EQ.11) GO TO 907
      GO TO 908
907   L1=L+1
      E(L1)=0.0
      Q(L1)=CT(L1,M)
908   CONTINUE
900   CONTINUE
      DO 910 J=NF,L
      JJ=L+NF+1-J
      J1=L+NF-J
      CT(J1,M)=E(JJ)*CT(JJ,M)+Q(JJ)
910   CONTINUE
      NUM=NUM+1
      GO TO 404
405   CONTINUE
      DO 351 M=1,MMAX
      DO 351 N=1,NMAX
351   CO(N,M)=CT(N,M)
      IF(ISALT.GT.1) GO TO 554
      IF(IPASS.EQ.1) GO TO 913
554   CONTINUE
      DO 1115 M=1,MMAX
      DO 1115 N=1,NMAX
1115  COP(N,M)=CC(N,M)
      IF(ISALT.GT.1) GO TO 1110
      GO TO 915
913   CONTINUE
      DO 914 M=1,MMAX
      DO 914 N=1,NMAX
914   LS(N,M)=CC(N,M)
915   CONTINUE
      IF(IPASS.EQ.2) GO TO 1110
      IPASS=IPASS+1
      GO TO 804
```

```
1110   CONTINUE
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        PRINT AND PLOT ANSWERS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
       DO 52 K=1,NPR
       IF(NST.EQ.NPRINT(K)) GO TO 51
52     CONTINUE
       GO TO 53
51     CONTINUE
       CALL ANSW(NMAX,MMAX,IPASS,AT,NST,ISALT)
       CALL AXVAL(NMAX,MMAX,NST,AT,ISALT)
       CALL PLOTS(NMAX,MMAX,IGL,IGU)
53     CONTINUE
       IF(NST.EQ.IPUNCH) GO TO 830
       GO TO 831
830    CALL PUNC(NMAX,MMAX,ISALT)
831    CONTINUE
       DO 9995 I=1,NFP
       COOD(NST,I)=CCP(NP(I),MP(I))
       BOD(NST,I)=LS(NP(I),MP(I))
       TIM(NST,I)=L(NP(I),MP(I))
9995   CONTINUE
       NST=NST+1
       GO TO 600
400    CONTINUE
       CALL CONTPL(MAXST,NFP,AT)
       STOP
       END
```

```
      SUBROUTINE GETF(NMAX,MMAX,IDIF,ISALT,ISOU)
      REAL JS,LS
      COMMON NBD(50),MBD(50),NOND(3),MOND(3),AS(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),KAM(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          INITIAL READ STATEMENTS FOR ARRAYS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 20 M=1,MMAX
      READ(5,21) (NBD(N),N=1,NMAX)
      DO 20 N=1,NMAX
20    H(N,M)=FLOAT(NBD(N))
21    FORMAT(30I2)
      DO 22 M=1,MMAX
22    READ(5,23)(B(N,M),N=1,10)
      DO 230 M=1,MMAX
230   READ(5,23)(B(N,M),N=11,NMAX)
23    FORMAT(10F8.1)
      IF(ISALT.GT.1) GO TO 400
      DO 24 M=1,MMAX
24    READ(5,25)(JS(N,M),N=1,10)
      DO 250 M=1,MMAX
250   READ(5,25)(JS(N,M),N=11,NMAX)
25    FORMAT(10F7.1)
400   CONTINUE
      IF(IDIF.GT.1) GO TO 40
      DO 26 M=1,MMAX
26    READ(5,27)(DX(N,M),N=1,10)
      DO 270 M=1,MMAX
270   READ(5,27)(DX(N,M),N=11,NMAX)
      DO 28 M=1,MMAX
28    READ(5,27)(DZ(N,M),N=1,10)
      DO 280 M=1,MMAX
280   READ(5,27)(DZ(N,M),N=11,NMAX)
27    FORMAT(10F5.2)
40    CONTINUE
      DO 29 M=1,MMAX
29    READ(5,30)(COP(N,M),N=1,10)
      DO 300 M=1,MMAX
300   READ(5,30)(COP(N,M),N=11,NMAX)
30    FORMAT(10F5.2)
      IF(ISALT.GT.1) GO TO 41
      DO 31 M=1,MMAX
31    READ(5,32)(LS(N,M),N=1,10)
      DO 320 M=1,MMAX
320   READ(5,32)(LS(N,M),N=11,NMAX)
32    FORMAT(10F5.2)
```

```
41      CONTINUE
        IF(ISPU.GT.1) GO TO 42
        DO 33 M=1,MMAX
33      READ(5,34)(P(N,M),N=1,10)
        DO 340 M=1,MMAX
340     READ(5,34)(P(N,M),N=11,NMAX)
34      FORMAT(10F6.2)
42      CONTINUE
        DO 370 M=1,MMAX
370     READ(5,371)(TS(N,M),N=1,10)
        DO 372 M=1,MMAX
372     READ(5,371)(TS(N,M),N=11,NMAX)
371     FORMAT(10F6.2)
        IF(ISALT.GT.1) GO TO 410
        DO 35 M=1,MMAX
35      READ(5,36)(SS(N,M),N=1,10)
        DO 37 M=1,MMAX
37      READ(5,36)(SS(N,M),N=11,NMAX)
36      FORMAT(10F6.2)
410     CONTINUE
        RETURN
        END
```

```
      SUBROUTINE INIT(NMAX,MMAX,ISALT,ISMO)
      REAL JS,LS
      DIMENSION NU(20)
      COMMON NBD(50),MBD(50),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CU(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),KAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       WRITE INITIAL FIELD VALUES
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      WRITE(6,50)
50    FORMAT(1H1,10X,'GRID COMPUTATION FIELD')
      DO 51 N=1,NMAX
51    NU(N)=N
      WRITE(6,52)(NU(N),N=1,NMAX)
52    FORMAT(1H0,10X,20I4)
      DO 53 M=1,MMAX
53    WRITE(6,54)M,(H(N,M),N=1,NMAX)
54    FORMAT(8X,I2,4X,20(F2.0,2X))
      WRITE(6,540)
540   FORMAT(1H1,10X,'ESTUARY WIDTH MATRIX 1000 FT')
      WRITE(6,55)(NU(N),N=1,NMAX)
55    FORMAT(1H0,10X,20I5)
      DO 32 M=1,MMAX
      DO 32 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 33
      GO TO 32
33    B(N,M)=0.0
32    CONTINUE
      IF(ISMO.EQ.0) GO TO 130
      DO 113 JQ=1,ISMO
      DO 20 M=1,MMAX
      DO 20 N=1,NMAX
      NN=N-1
      MM=M-1
      NNN=N+1
      MMM=M+1
       IF(H(N,M).EQ.0.0) GO TO 20
       IF(B(N,MM).EQ.0.0) GO TO 5
       GO TO 6
5      B(N,MM)=B(N,MMM)
6      CONTINUE
       IF(B(NN,M).EQ.0.0) GO TO 7
       GO TO 8
7      B(NN,M)=B(NNN,M)
8      CONTINUE
       IF(B(N,MMM).EQ.0.0) GO TO 9
       GO TO 10
```

```
9       B(N,MMM)=B(N,MM)
10      CONTINUE
        IF(B(NNN,M).EQ.0.0) GO TO 111
        GO TO 112
111     B(NNN,M)=B(NN,M)
112     CONTINUE
        IF(B(NNN,MM).EQ.0.0) GO TO 21
        GO TO 22
21      B(NNN,MM)=B(NN,MMM)
22      CONTINUE
        IF(B(NNN,MMM).EQ.0.0) GO TO 23
        GO TO 24
23      B(NNN,MMM)=B(NN,MM)
24      CONTINUE
        IF(B(NN,MMM).EQ.0.0) GO TO 25
        GO TO 26
25      B(NN,MMM)=B(NNN,MM)
26      CONTINUE
        IF(B(NN,MM).EQ.0.0) GO TO 27
        GO TO 28
27      B(NN,MM)=B(NNN,MMM)
28      CONTINUE
        IF(B(NNN,MMM).EQ.0.0.AND.B(NN,MMM).EQ.0.0) GO TO 100
        GO TO 101
100     B(NNN,MMM)=B(N,M)
        B(NN,MMM)=B(N,M)
101     CONTINUE
        BB=.125*(B(NNN,MM)+B(NNN,M)+B(NNN,MMM)+B(N,MM)+B(N,MMM)+B(NN,MM)+
      1 B(NN,M)+B(NN,MMM))
        B(N,M)=.5*(BB+B(N,M))
20      CONTINUE
        DO 29 M=1,MMAX
        DO 29 N=1,NMAX
        IF(H(N,M).EQ.0.0) GO TO 30
        GO TO 29
30      B(N,M)=0.0
29      CONTINUE
113     CONTINUE
130     CONTINUE
        DO 56 M=1,MMAX
        DO 56 N=1,NMAX
56      B(N,M)=B(N,M)/1000.
        DO 12 M=1,MMAX
        DO 12 N=1,NMAX
        IF(H(N,M).EQ.0.0) GO TO 11
        GO TO 12
11      B(N,M)=0.0
12      CONTINUE
        DO 57 M=1,MMAX
57      WRITE(6,570)M,(B(N,M),N=1,NMAX)
570     FORMAT(5X,I2,2X,20F5.1)
        DO 59 M=1,MMAX
```

```
      DO 59 M=1,MMAX
59    H(N,M)=1000.*H(N,M)
      WRITE(6,60)
60    FORMAT(1H1,10X,'INITIAL CONCENTRATION (MG/L)')
      WRITE(6,61)(NU(N),N=1,NMAX)
61    FORMAT(1H0,10X,20I4)
      DO 62 M=1,MMAX
62    WRITE(6,63)M,(COP(N,M),N=1,NMAX)
63    FORMAT(8X,I2,2X,20F4.1)
      IF(ISALT.GT.1) GO TO 90
      WRITE(6,64)
64    FORMAT(1H1,10X,'INITIAL BOD CONCENTRATION (MG/L)')
      WRITE(6,65)(NU(N),N=1,NMAX)
65    FORMAT(1H0,10X,20I4)
      DO 66 M=1,MMAX
66    WRITE(6,67)M,(LS(N,M),N=1,NMAX)
67    FORMAT(8X,I2,2X,20F4.1)
      WRITE(6,68)
68    FORMAT(1H1,10X,'WASTE LOADS IN 1000 LBS/DAY')
      WRITE(6,69)(NU(N),N=1,NMAX)
69    FORMAT(1H0,10X,20I6)
      DO 70 M=1,MMAX
      DO 15 N=1,NMAX
15    JS(N,M)=JS(N,M)/1000.0
70    WRITE(6,71)M,(JS(N,M),N=1,NMAX)
71    FORMAT(8X,I2,3X,20F6.2)
      DO 16 M=1,MMAX
      DO 16 N=1,NMAX
16    JS(N,M)=JS(N,M)*6.7269
      WRITE(6,72)
72    FORMAT(1H1,10X,'SOURCES OR SINKS OF DO (MG/L)')
      WRITE(6,73)(NU(N),N=1,NMAX)
73    FORMAT(1H0,10X,20I4)
      DO 74 M=1,MMAX
74    WRITE(6,75)M,(P(N,M),N=1,NMAX)
75    FORMAT(8X,I2,3X,20F4.2)
90    CONTINUE
      WRITE(6,80)
80    FORMAT(1H1,10X,'TEMPERATURE FIELD (F)')
      WRITE(6,81)(NU(N),N=1,NMAX)
81    FORMAT(1H0,10X,20I5)
      DO 82 M=1,MMAX
82    WRITE(6,83)M,(TS(N,M),N=1,NMAX)
83    FORMAT(8X,I2,2X,20F5.1)
      IF(ISALT.GT.1) GO TO 91
      WRITE(6,78)
78    FORMAT(1H1,20X,'TIME AVERAGE SALINITY (%)')
      WRITE(6,79)(NU(N),N=1,NMAX)
79    FORMAT(1H0,10X,20I5)
      DO 84 M=1,MMAX
84    WRITE(6,85)M,(SS(N,M),N=1,NMAX)
85    FORMAT(8X,I2,2X,20F5.1)
```

```
91    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE FIND(MIND,NIND,MMAX,NMAX,MINDO,NINDO,NSECT)
       LOGICAL START
       COMMON NBD(90),MBD(90),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CO(16,50),CEP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          GRID COMPUTATIONAL CONTROL  VALUES ARE COMPUTED
C        REFERENCE - LEENDERSTE, J. J., 'ASPECTS OF A COMPUTATIONAL MODEL
C        FOR LONG PERIOD WATER WAVE PROPAGATION', RAND CORP. MEMORANDUM
C        RM-5294-PR.
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 1 J=1,NSECT
       NBD(J)=0
    1 MBD(J)=0
      MIND=1
      NIND=1
      DO 2 N=2,NMAX
       START=.TRUE.
      DO 3 M=2,MMAX
      IF(.NOT.START) GO TO 4
      IF(H(N,M).EQ.0.)GO TO 3
      NBD(NIND)=M*100+NBD(NIND)
      START=.FALSE.
      GO TO 3
    4 IF(H(N,M).NE.0.)GO TO 5
      NBD(NIND)=M-1+NBD(NIND)+10000*N
      GO TO 6
    5 IF(M.NE.MMAX) GO TO 3
      NBD(NIND)= M+NBD(NIND)+10000*N
    6 NIND=NIND+1
      START=.TRUE.
    3 CONTINUE
    2 CONTINUE
      DO 12 M=2,MMAX
      START=.TRUE.
      DO 13 N=2,NMAX
      IF(.NOT.START)GO TO 14
      IF( H(N,M).EQ.0.) GO TO 13
      MBD(MIND)=N*100+MBD(MIND)
      START=.FALSE.
      GO TO 13
   14 IF(H(N,M).NE.0.) GO TO 15
      MBD(MIND)=N-1+MBD(MIND)+10000*M
      GO TO 16
   15 IF(N.NE.NMAX) GO TO 13
      MBD(MIND)=N+MBD(MIND)+10000*M
   16 MIND=MIND+1
```

```
      START=.TRUE.
   13 CONTINUE
   12 CONTINUE
      NUM=1
  100 IF(NUM.EQ.NIND) GO TO 300
      N=  NBD(NUM)/10000
      MF = NBD(NUM)/100  -N*100
      L  =NBD(NUM)-N*10000-MF*100
      MFLEF=MF-1
      LRIG=L+1
      NA=1
  200 IF(NA.EQ.MINDO)GO TO  210
      M=MOBD(NA)/100000
      NBOT=MOBD(NA)/1000 -M*100
      NTOP=MOBD(NA)/10  -M*10000 -NBOT*100
      MAERN=MOBD(NA)-M*100000-NBOT*1000-NTOP*10
       IF(MAERN.GT.1) GO TO 501
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(MFLEF.EQ.M)) NBD(NUM)=
     1NBD(NUM) +10000000
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(LRIG.EQ.M))  NBD(NUM)=
     1NBD(NUM)+1000000
       GO TO 205
  501  IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(MFLEF.EQ.M)) NBD(NUM)=
     1NBD(NUM)+2000000
       IF(((N.GE.NBOT).AND.(N.LE.NTOP)).AND.(LRIG.EQ.M))  NBD(NUM)=
     1NBD(NUM) +20000000
  205 NA=NA+1
      GO TO 200
  210 NUM=NUM+1
      GO TO 100
  300 CONTINUE
      NUM=1
  101 IF(NUM.EQ.MIND) GO TO 301
      M=MBD(NUM)/10000
      NF=MBD(NUM)/100  -M*100
      L=MBD(NUM)-M*10000-NF*100
      NFBOT=NF-1
      LTOP=L+1
      NA=1
  201 IF(NA.EQ.NINDO)GO TO 211
      N=NOBD(NA)/100000
      MLEF=NOBD(NA)/1000-N*100
      MRIG=NOBD(NA)/10-N*10000-MLEF*100
      MAERN=NOBD(NA)-N*100000-MLEF*1000-MRIG*10
       IF(MAERN.GT.1) GO TO 502
       IF(M.GE.MLEF.AND.M.LE.MRIG.AND.NFBOT.EQ.N) MBD(NUM)=MBD(NUM)
     1     +  10000000
        IF(M.GE.MLEF.AND.M.LE.MRIG.AND.LTOP.EQ.N) MBD(NUM)=MBD(NUM)
     1  +1000000
       GO TO 206
  502 IF(M.GE.MLEF.AND.M.LE.MRIG.AND.NFBOT.EQ.N) MBD(NUM)=MBD(NUM)
     1     +  20000000
```

```
      IF(M.GE.MLEF.AND.M.LE.MRIG.AND.LTOP.EQ.N) MBD(NUM)=MBD(NUM)
     1 +2000000
  206 NA=NA+1
      GO TO 201
  211 NUM=NUM+1
      GO TO 101
  301 CONTINUE
       WRITE(6,23)
23     FORMAT(1H1,20X,'COMPUTATIONAL CONTROL NUMBERS')
      WRITE(6,20)
   20 FORMAT(///,3X,3HNUM,6X,3HNBD,7X,3HMBD)
      DO 22 J=1,NSECT
      WRITE(6,21) J,NBD(J),MBD(J)
   22 CONTINUE
      WRITE(6,30) NIND,MIND
  30  FORMAT(/,2X,'NIND = ',I2,5X,'MIND = ',I2)
   21 FORMAT(1H ,2X,I4,2X,I9,1X,I9)
      RETURN
      END
```

```
      SUBROUTINE VELC(NMAX,MMAX,IVEL,NST,DDX,DDZ)
      COMMON NBD(90),MBD(90),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),CCP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
      DIMENSION UU(50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        VELOCITIES ARE READ IN OR CALCULATED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IVEL.EQ.2) GO TO 800
      DO 1 M=1,MMAX
1     READ(5,2)(U(N,M),N=1,10)
2     FORMAT(10F6.2)
      DO 3 M=1,MMAX
3     READ(5,2)(U(N,M),N=11,NMAX)
      DO 4 M=1,MMAX
4     READ(5,5)(W(N,M),N=1,10)
      DO 6 M=1,MMAX
6     READ(5,5)(W(N,M),N=11,NMAX)
5     FORMAT(10F6.2)
      GO TO 17
800   CONTINUE
      READ(1,9)(UU(M),M=1,MMAX)
9     FORMAT(10F6.3)
      DO 11 M=1,MMAX
      DO 11 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 11
      U(N,M)=UU(M)
      NSSN=NMAX-1
      IF(N.EQ.NSSN) U(N,M)=0.0
11    CONTINUE
      DO 16 M=1,MMAX
      DO 16 N=1,NMAX
      MM=M-1
      MMM=M+1
      NN=N-1
      NNN=N+1
      IF(H(N,M).EQ.0.0) GO TO 16
      IF(H(NN,M).EQ.0.0) GO TO 12
      GO TO 13
12    W(NN,M)=0.0
      B(NN,M)=B(N,M)
13    CONTINUE
      IF(H(N,MM).EQ.0.0) GO TO 14
      GO TO 15
14    U(N,MM)=0.0
      B(N,MM)=B(N,M)
      IF(MM.EQ.1) U(N,MM)=U(N,M)
```

```
15      CONTINUE
        IF(H(NN,MM).EQ.0.0) GO TO 19
        GO TO 20
19      B(NN,MM)=B(N,M)
20      CONTINUE
        IF(H(N,MMM).EQ.0.0) GO TO 50
        GO TO 51
50      CONTINUE
        IF(MMM.EQ.MMAX) GO TO 51
        U(N,M)=0.0
51      CONTINUE
        B1=B(N,MM)+B(N,M)
        B2=B(NN,MM)+B(NN,M)
        B3=B(N,MM)+B(NN,MM)
        B4=B(NN,M)+B(N,M)
        W(N,M)=(((-1.)/(2.*DDX))*(B4*U(N,M)-B3*U(N,MM))+(B2/(2.*DDZ))*
     1 W(NN,M))*((2.*DDZ)/B1)
        IF(H(NNN,M).EQ.0.0) GO TO 21
        GO TO 22
21      U(N,M)=((2.*DDX)/B4)*((B2/(2.*DDZ))*W(NN,M)+(B3/(2.*DDX))*U(N,MM)
     1 )
        W(N,M)=0.0
22      CONTINUE
16      CONTINUE
17      CONTINUE
        RETURN
        END
```

```
      SUBROUTINE DIFFL(NMAX,MMAX,DDZ)
      COMMON NBD(90),MBD(50),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CC(16,50),CCP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),V(16,50),RAR(16,50),CSC(16,50)
      COMMON /DIFZS/ SNETA,BET1,GAMS,WM,WT,WL
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C     DISPERSION COEFFICIENTS ARE CALCULATED USING EMPIRICAL RELATIONS
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      COMMON /CHEZY/C(50)
      NSM=MMAX-2
      DO 15 NUM=1,NSM
      MSRCH=MBD(NUM)/1000000
      M=MBD(NUM)/10000-MSRCH*100
      NF=MBD(NUM)/100-MSRCH*10000-M*100
      NL=MBD(NUM)-MSRCH*1000000-M*10000-NF*100
      NDIF=NL-NF+1
      SNDIF=FLOAT(NDIF)
      DEP(M)=SNDIF*DDZ
15    CONTINUE
      DEP(1)=DEP(2)
      NSMA=MMAX-1
      DEP(MMAX)=DEP(NSMA)
      G=32.2
      CMANN=0.025
      DO 2 M=1,MMAX
      MM=M-1
      IF(M.EQ.1) GO TO 3
      A=2.*(DEP(M)+DEP(MM))*.75
      GO TO 4
3     CONTINUE
      A=4.*DEP(M)*.75
4     CONTINUE
      IF(A.LT.0.001) A=.001
      A=EXP(ALOG(A)/6.)
      C(M)=1.49*A/(CMANN*1.732)
2     CONTINUE
      DO 6 M=1,MMAX
      DO 6 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 7
        DW=0.0
      GG=2.*G
      DX(N,M)=(14.3*(DEP(M))*ABS(U(N,M))*SQRT(GG))/C(M)+DW
      GO TO 8
7     DX(N,M)=0.0
8     CONTINUE
6     CONTINUE
      DO 9 M=1,MMAX
```

```
      DO 9 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 10
      IZ=NMAX-N
      SZ=FLOAT(IZ)
      Z=SZ*DDZ-DDZ/2.
      HE=((Z**2)*((DEP(M)-Z)**2))/(DEP(M)**3)
      IF(WL.EQ.0.0.OR.WH.EQ.0.0.OR.WT.EQ.0.0) GO TO 16
      HA=(-6.28*Z)/WL
      HB=(Z*(DEP(M)-Z)*WH*EXP(HA))/(WT*DEP(M))
      GO TO 17
16    HB=0.0
17    CONTINUE
      NN=N+1
      IF(H(NN,M).EQ.0.0) SS(NN,M)=SS(N,M)
      IF(SS(N,M).EQ.0.0) GO TO 18
      SIGMU=-.093+.8149*SS(N,M)-.000482*(SS(N,M)**2)+.0000068*(SS(N,M)
     1 **3)
      SIGML=-.093+.8149*SS(NN,M)-.000482*(SS(NN,M)**2)+.0000068*
     1 (SS(NN,M)**3)
      DENSU=(SIGMU/1000.)+1.0
      DENSL=(SIGML/1000.)+1.0
      DENDIF=DENSL-DENSL
      IF(ABS(DENDIF).LT.000001) GO TO 18
      DENAV=(DENSL+DENSU)/2.
      RIB=(G*(DENSU-DENSL))/(DDZ*DENAV)
      RIC=(.7*ABS(U(N,M))/DEP(M))**2
      RI=RIB/RIC
      RI=ABS(RI)
      GO TO 19
18    RI=0.0
19    CONTINUE
      RID=(1.+BETI*RI)**2
      DZ(N,M)=(SNETA*HE*ABS(U(N,M)))/RID+(GAMS*HB)/RIC
      GO TO 11
10    DZ(N,M)=0.0
11    CONTINUE
9     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE BOVAL(NMAX,MMAX,IPASS,NST)
      REAL JS,LS
      COMMON NBP(50),MBP(50),NCPD(3),MCPD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),CCP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),WAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        BOUNDARY VALUES ARE SPECIFIED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IPASS.EQ.2) GO TO 7
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C      B.O.D. OR CONSERVATIVE BOUNDARY CONDITION SPECIFIED
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      CO(14,1)=4.0
      CO(15,1)=4.0
      M=48
      DO 11 N=3,15
11    CO(N,M)=0.0
      GO TO 9
7     CONTINUE
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C      D.O. BOUNDARY CONDITION SPECIFIED
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 10 N=3,15
      M=48
      MM=47
10    CO(N,M)=CS(MM)
      CO(14,1)=1.9
      CO(15,1)=3.9
9     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE DECAY(NMAX,MMAX,IDEC)
      COMMON NBD(50),MBD(50),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),F(16,50),CD(16,50),CCP(16,50),ES(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),WAR(16,50),CSC(16,50)
      COMMON /DECA/B2,SKK,DA,DB,DC,DE,V1,A2
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         BOD DECAY RATES ARE CALCULATED FROM FIELD DATA
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      IF(IDEC.GT.1) GO TO 9
      DO 8 K=1,MMAX
      DO 8 J=1,NMAX
      D20=A2+B2*(DEP(K)**SKK)
8     D(J,K)=D20*(V1**(TS(J,K)-20.))
      GO TO 11
9     CONTINUE
      DO 10 K=1,MMAX
      DO 10 J=1,NMAX
      D(J,K)=DA+DB*TS(J,K)+DC*(TS(J,K)**2)+DE*(TS(J,K)**3)
10    CONTINUE
11    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE SOLUB(NMAX,MMAX)
      COMMON NDE(90),MBE(90),NORD(3),MORD(3),AR(50),DEP(50),CS(50),
    1  TS(16,50),SS(16,50),P(16,50),CO(16,50),CCP(16,50),LS(16,50),
    2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
    3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C        OXYGEN SOLUBILITY VALUES ARE COMPUTED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      MNA=MMAX-1
      DO 3 M=2,MNA
      LSUR=NMAX-1
      TST=(TS(LSUR,M)-32.)/1.8
      TERM=.0841-.00256*TST+.0000374*(TST**2)
      TERM1=14.161-.3943*TST+.007714*(TST**2)
      TERM2=.0000646*(TST**3)
3     CS(M)=TERM1-TERM2-SS(LSUR,M)*TERM
      CS(1)=0.0
      CS(MMAX)=0.0
      MML=MMAX-1
      NNM=NMAX-1
      DO 4 M=2,MML
      DO 4 N=2,NMAX
      IF(N.EQ.NNM) GO TO 5
      GO TO 6
5     CSC(N,M)=CS(M)
      GO TO 4
6     CSC(N,M)=0.0
4     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE REAR(MMAX,NMAX)
      COMMON NPD(90),MPD(90),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1   TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C          REARFATION COEFFICIENTS ARE COMPUTED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      COMMON /CHEZY/C(50)
      G=32.2
      MNA=MMAX-1
      NSUR=NMAX-1
      DO 8 M=2,MNA
      TSS=(TS(NSUR,M)-32.)/1.8
      N=NMAX-1
      USTAR=(ABS(U(N,M))*SQRT(G))/C(M)
      GH=G*(DEP(M))
      FR=(ABS(U(N,M)))/(SQRT(GH))
      AR20=(.000125*(1.+SQRT(FR))*USTAR)/(DEP(M))
      TMPA=1.016
      POW=TSS-20.
 8    AR(M)=AR20*((TMPA)**POW)
      MML=MMAX-1
      NNM=NMAX-1
      DO 9 M=2,MML
      DO 9 N=2,NMAX
      IF(N.EQ.NNM) GO TO 10
      GO TO 11
 10   RAR(N,M)=AR(M)
      GO TO 9
 11   RAR(N,M)=0.0
 9    CONTINUE
      RETURN
      END
```

```
      SUBROUTINE ANSA(NMAX,MMAX,IPASS,AT,NST,ISALT)
      REAL JS,LS
      COMMON NBD(50),MBD(50),NOPO(3),MOPO(3),AR(50),DEP(50),CS(50),
     1 TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),C(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),HAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         ANSWERS FOR GIVEN STEP ARE WRITTEN
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION NO(20)
      DO 21 M=1,MMAX
      DO 21 N=1,NMAX
      IF(H(N,M).EQ.0.0) GO TO 22
      GO TO 21
22    CO(N,M)=0.0
      U(N,M)=0.0
      W(N,M)=0.0
      COP(N,K)=0.0
      LS(N,M)=0.00
21    CONTINUE
      SNT=FLOAT(NST)
      TIM=(AT*SNT)/3600.
      WRITE(6,1)NST,TIM
1     FORMAT(1H1,10X,'CONCENTRATION OF DISSOLVED OXYGEN (MG/L)',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS.')
      DO 2 N=1,NMAX
2     NO(N)=N
      WRITE(6,3)(NO(N),N=1,NMAX)
3     FORMAT(1H0,12X,20I6)
      DO 4 M=1,MMAX
4     WRITE(6,5)M,(COP(N,M),N=1,NMAX)
5     FORMAT(8X,I2,2X,20F6.2)
       IF(ISALT.GT.1) GO TO 25
      WRITE(6,6)NST,TIM
6     FORMAT(1H1,10X,'CONCENTRATION OF B.O.D. (MG/L)',5X,'STEP NUMBER =
     1',I3,5X,'TIME =',F7.2,'HRS.')
      WRITE(6,7)(NO(N),N=1,NMAX)
7     FORMAT(1H0,10X,20I6)
      DO 8 M=1,MMAX
8     WRITE(6,9)M,(LS(N,M),N=1,NMAX)
9     FORMAT(8X,I2,2X,20F6.2)
25    CONTINUE
      WRITE(6,10)NST,TIM
      FORMAT(1H1,10X,'U VELOCITY FIELD (-FLOOD) -FPS.',5X,
     1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS.')
      WRITE(6,11)(NO(N),N=1,NMAX)
      FORMAT(1H0,10X,20I6)
      DO 12 M=1,MMAX
```

```
12       WRITE(6,13)M,(U(N,M),N=1,NMAX)
13       FORMAT(8X,I2,2X,20F6.2)
         WRITE(6,14)NST,TIM
14       FORMAT(1H1,10X,'W VELOCITY FIELD -FPS.',5X,'STEP NUMBER =',I3,
     1    5X,'TIME =',F7.2,'HRS.')
         WRITE(6,15)(NC(N),N=1,NMAX)
15       FORMAT(1H0,10X,20I6)
         DO 16 M=1,MMAX
16       WRITE(6,17)M,(W(N,M),N=1,NMAX)
17       FORMAT(8X,I2,3X,20F6.4)
         RETURN
         END
```

```
      SUBROUTINE AKVAL(NMAX,MMAX,NST,AT,ISALT)
      DIMENSION NO(20)
      COMMON NPR(50),[illegible](50),[illegible](3),MOLO(3),AR(50),DEP(50),CS(50),
     1   TS(16,50),SS(16,50),P(16,50),CG(16,50),COP(16,50),LS(16,50),
     2 DS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         AUXILIARY VALUES ARE WRITTEN FOR GIVEN TIME STEP
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      SNT=FLOAT(NST)
      TIM=(AT*SNT)/3600.
      DO 2 M=1,MMAX
      DO 2 N=1,NMAX
      NO(N)=N
      IF(H(N,M).EQ.0.0) GO TO 3
      GO TO 2
3     D(N,M)=0.0
      DX(N,M)=0.0
      DZ(N,M)=0.0
      CSC(N,M)=0.0
      RAR(N,M)=0.0
2     CONTINUE
      WRITE(6,4)NST,TIM
4    FORMAT(1H1,10X,'DISPERSION COEFFICIENT FOR X DIRECTION (FT*FT/SEC)
    1',5X,'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,5)(NO(N),N=1,NMAX)
5     FORMAT(1HC,10X,20I6)
      DO 6 M=1,MMAX
6     WRITE(6,7)M,(DX(N,M),N=1,NMAX)
7     FORMAT(8X,I2,2X,20F6.2)
      WRITE(6,8)NST,TIM
8    FORMAT(1H1,10X,'DISPERSION COEFFICIENT FOR Z DIRECTION (FT*FT/SEC)
    1',5X,'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,9)(NO(N),N=1,NMAX)
9     FORMAT(1HC,10X,20I6)
      DO 10 M=1,MMAX
10    WRITE(6,11)M,(DZ(N,M),N=1,NMAX)
11    FORMAT(8X,I2,4X,20F6.5)
      IF(ISALT.GT.1) GO TO 50
      WRITE(6,12)NST,TIM
12    FORMAT(1H1,10X,'REAERATION COEFFICIENTS X 1000000 (1/SEC)',5X,
    1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
      WRITE(6,13)(NO(N),N=1,NMAX)
13    FORMAT(1HC,10X,20I6)
      DO 14 M=1,MMAX
      N=NMAX-1
14    RAR(N,M)=RAR(N,M)*1000000.
      DO 20 M=1,MMAX
```

```
20      WRITE(6,15)M,(RAR(N,M),N=1,NMAX)
15      FORMAT(8X,I2,3X,20F6.2)
        DO 40 M=1,MMAX
        N=NMAX-1
40      RAR(N,M)=RAR(N,M)/1000000.
        WRITE(6,16)NST,TIM
16      FORMAT(1H1,10X,'BOD DECAY COEFFICIENTS X 1000000 (1/SEC)',5X,
      1 'STEP NUMBER =',I3,5X,'TIME =',F7.2,'HRS')
        WRITE(6,17)(ND(N),N=1,NMAX)
17      FORMAT(1H0,10X,20I6)
        DO 23 M=1,MMAX
        DO 23 N=1,NMAX
23      D(N,M)=D(N,M)*1000000.
        DO 18 M=1,MMAX
18      WRITE(6,19)M,(D(N,M),N=1,NMAX)
19      FORMAT(8X,I2,2X,20F6.2)
        DO 41 M=1,MMAX
        DO 41 N=1,NMAX
41      D(N,M)=D(N,M)/1000000.
        WRITE(6,86)
86      FORMAT(1H1,10X,'SURFACE OXYGEN SOLUBILITY (MG/L)')
        WRITE(6,87)(CS(M),M=1,MMAX)
87      FORMAT(30X,F15.4)
50      CONTINUE
        RETURN
        END
```

```
      SUBROUTINE PLOTS(NMAX,MMAX,IGL,IGU)
      REAL JS,LS
      REAL LSAV
      COMMON NBD(90),MBD(90),NOBD(3),MOBD(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),Q(16,50),
     3 DX(16,50),DZ(16,50),R(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C       COMPUTED CONCENTRATIONS ARE SET UP FOR PLOTTING
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION A(42,3),COAV(43),LSAV(43)
      IF(IGL.EQ.0.OR.IGL.EQ.0) GO TO 9
      DO 3 N=IGL,IGL
      DO 2 J=1,MMAX
      A(J,1)=FLOAT(J)
      A(J,2)=COP(N,J)
 2    A(J,3)=LS(N,J)
      NO=N
      NSM=42
      MSM=3
      LSL=42
      NSS=0
      WRITE(6,4)
 4    FORMAT(1H1,5X,'D.O. (1) & B.O.D. (2) IN MG/L VS ESTUARY LONGITUDI
     1NAL SECTION NUMBER')
      CALL PLOTT(NO,A,NSM,MSM,LSL,NSS)
 3    CONTINUE
 9    CONTINUE
      MM=MMAX-2
      DO 5 NUM=1,MM
      MSRCH=MBD(NUM)/1000000
      M=MBD(NUM)/10000-MSRCH*100
      NL=MBD(NUM)/100-MSRCH*10000-M*100
      NU=MBD(NUM)-MSRCH*1000000-M*10000-NL*100
      SUMDO=0.0
      SUMBOD=0.0
      DO 6 J=NL,NU
      SUMDO=SUMDO+COP(J,M)
 6    SUMBOD=SUMBOD+LS(J,M)
      NUMD=NU-NL+1
      SNUMD=FLOAT(NUMD)
      COAV(M)=SUMDO/SNUMD
      LSAV(M)=SUMBOD/SNUMD
 5    CONTINUE
      MM=MMAX-1
      COAV(MMAX)=COAV(MM)
      LSAV(MMAX)=LSAV(MM)
      COAV(1)=COAV(2)
```

```
      LSAV(1)=LSAV(2)
      NCL=1
      DO 7 J=1,MMAX
      A(J,1)=FLOAT(J)
      A(J,2)=COAV(J)
7     A(J,3)=LSAV(J)
      WRITE(6,8)
8     FORMAT(1H1,5X,'AVERAGE D.O. (1) $ B.O.D. (2) IN MG/L VS ESTUARY
     1 LONGITUDINAL SECTION NUMBER')
      NSN=48
      MSM=3
      LSL=48
      NSS=0
      CALL PLOTT(NCL,A,NSN,MSM,LSL,NSS)
      RETURN
      END
```

```
C         SUBROUTINE PLOTT                                                PLOT 004
      SUBROUTINE PLOTT(NC,A,N,M,NL,NS)
       COMMON NRE(50),NBD(90),NOMO(3),NOAP(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CC(16,50),CCP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),O(16,50),
     3 DX(16,50),DZ(16,50),B(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         PLOTTING SUBROUTINE REF. IBM SPECIAL SUBROUTINES
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DIMENSION OUT(101),YPR(11),ANG(9),A(1)                              PLOT 037
      DATA BLANK/' '/,ANG/'1','2','3','4','5','6','7','8','9'/
C                                                                         PLOT 038
    1 FORMAT(60X,7H CHART ,I3,//)
    2 FORMAT(1H ,F11.4,5X,101A1)                                          PLOT 040
    3 FORMAT(1H )                                                         PLOT 041
    4 FORMAT(10H 123456789)                                               PLOT 042
    5 FORMAT(101A1)                                                       PLOT 043
    7 FORMAT(1H ,16X,101H.         .         .         .         .        PLOT M01
     1    .         .         .         .         .         .)            PLOT 045
    8 FORMAT(1H0,9X,11F10.4)                                              PLOT 046
C                                                                         PLOT 047
C     ....................................................................PLOT 048
C                                                                         PLOT 049
      NLL=NL                                                              PLOT 050
C                                                                         PLOT 051
      IF(NS) 16, 16, 10                                                   PLOT 052
C                                                                         PLOT 053
C         SORT BASE VARIABLE DATA IN ASCENDING ORDER                      PLOT 054
C                                                                         PLOT 055
   10 DO 15 I=1,N                                                         PLOT 056
      DO 14 J=I,N                                                         PLOT 057
      IF(A(I)-A(J)) 14, 14, 11                                            PLOT 058
   11 L=I-N                                                               PLOT 059
      LL=J-N                                                              PLOT 060
      DO 12 K=1,M                                                         PLOT 061
      L=L+N                                                               PLOT 062
      LL=LL+N                                                             PLOT 063
      F=A(L)                                                              PLOT 064
      A(L)=A(LL)                                                          PLOT 065
   12 A(LL)=F                                                             PLOT 066
   14 CONTINUE                                                            PLOT 067
   15 CONTINUE                                                            PLOT 068
C                                                                         PLOT 069
C         TEST NLL                                                        PLOT 070
C                                                                         PLOT 071
   16 IF(NLL) 20, 18, 20                                                  PLOT 072
   18 NLL=50                                                              PLOT 073
C                                                                         PLOT 074
```

```
C        PRINT TITLE
C
   20 WRITE(6,1)NO
C
C        FIND SCALE FOR BASE VARIABLE
C
      XSCAL=(A(N)-A(1))/(FLOAT(NL-1))
C
C        FIND SCALE FOR CROSS-VARIABLES
C
      M1=N+1
      YMIN=A(M1)
      YMAX=YMIN
      M2=M*N
      DO 40 J=M1,M2
      IF(A(J)-YMIN) 28,26,26
   26 IF(A(J)-YMAX) 40,40,30
   28 YMIN=A(J)
      GO TO 40
   30 YMAX=A(J)
   40 CONTINUE
      YSCAL=(YMAX-YMIN)/100.0
C
C        FIND BASE VARIABLE PRINT POSITION
C
      XB=A(1)
      L=1
      MY=M-1
      I=1
   45 F=I-1
      XPR=XB+F*XSCAL
      IF(A(L)-XPR) 50,50,70
C
C        FIND CROSS-VARIABLES
C
   50 L2=L+1
      IF(L2-N) 51,51,54
   51 DO 52 IL=L2,N
      IF(A(IL)-XPR) 52,52,53
   52 CONTINUE
      L=N
      GO TO 54
   53 L=IL-1
   54 DO 55 IX=1,101
   55 OUT(IX)=BLANK
      DO 60 J=1,MY
      LL=L+J*N
      JP=((A(LL)-YMIN)/YSCAL)+1.0
      OUT(JP)=ANG(J)
   60 CONTINUE
C
C        PRINT LINE AND CLEAR, OR SKIP
```

```
C                                                                       PLOT 127
      WRITE(6,2)XPR,(OUT(IZ),IZ=1,101)                                  PLOT 128
      L=L+1                                                             PLOT 129
      GO TO 80                                                          PLOT 130
   70 WRITE(6,3)                                                        PLOT 131
   80 I=I+1                                                             PLOT M07
      IF(I-NLL) 45, 84, 86                                              PLOT M08
   84 XPR=A(N)                                                          PLOT M09
      GO TO 50                                                          PLOT M10
C                                                                       PLOT 133
C           PRINT CROSS-VARIABLES NUMBERS                               PLOT 134
C                                                                       PLOT 135
   86 WRITE(6,7)                                                        PLOT M11
      YPR(1)=YMIN                                                       PLOT 137
      DO 90 KN=1,9                                                      PLOT 138
   90 YPR(KN+1)=YPR(KN)+YSCAL*10.0                                      PLOT 139
      YPR(11)=YMAX                                                      PLOT 140
      WRITE(6,8)(YPR(IP),IP=1,11)                                       PLOT 141
      RETURN                                                            PLOT 142
      END                                                               PLOT 143
```

```
      SUBROUTINE PUNC(NMAX,MMAX,ISALT)
      REAL JS,LS
      COMMON NAD(50),MAD(50),NCBD(3),MCBD(3),AR(50),DEP(50),CS(50),
     1  TS(16,50),SS(16,50),P(16,50),CO(16,50),COP(16,50),LS(16,50),
     2 JS(16,50),H(16,50),CT(16,50),U(16,50),W(16,50),D(16,50),
     3 DX(16,50),DZ(16,50),A(16,50),RAR(16,50),CSC(16,50)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C         INITIAL BOD AND DO VALUES FOR NEXT RUN ARE PUNCHED OUT
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      DO 5 M=1,MMAX
5     WRITE(7,6)(COP(N,M),N=1,10)
      DO 7 M=1,MMAX
7     WRITE(7,6)(COP(N,M),N=11,NMAX)
6     FORMAT(10F5.2)
      IF(ISALT.GT.1) GO TO 8
      DO 2 M=1,MMAX
2     WRITE(7,3)(LS(N,M),N=1,10)
      DO 4 M=1,MMAX
4     WRITE(7,3)(LS(N,M),N=11,NMAX)
3     FORMAT(10F5.2)
8     CONTINUE
      RETURN
      END
```

```
      SUBROUTINE CONTPL(MAXST,NFP,AT)
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
C
C
C     TIME VARYING PLOTS OF CONCENTRATIONS AND TIDAL VELOCITIES FOR SPECIFIED
C     GRIDS ARE PRINTED
C
C
C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C
      COMMON /TIMV/CODC(370,5),BOD(370,5),TIH(370,5),NP(5),MP(5)
      REAL LINE(61)
      DATA BLANK/' '/,DOT/'.'/,STAR/'1'/,CROSS/'2'/,TIDH/'T'/
      MAXST1=MAXST-1
      TSHR=AT/3600.
      DO 25 I=1,NFP
      ZA=0.0
      ZB=0.0
      ZC=0.0
      ZE=BOD(1,I)
      ZD=CODO(1,I)
      DO 36 K=1,MAXST1
      ZM=ABS(CODO(K,I))
      ZN=ABS(BOD(K,I))
      ZL=ABS(TIH(K,I))
      ZS=CODO(K,I)
      ZR=BOD(K,I)
      IF(ZM.GT.ZA) ZA=ZM
      IF(ZL.GT.ZC) ZC=ZL
      IF(ZN.GT.ZB) ZB=ZN
      IF(ZS.LT.ZD) ZD=ZS
      IF(ZR.LT.ZE) ZE=ZR
   36 CONTINUE
      ZBOD=(ZB+ZE)/2.
      ZCOD=(ZA+ZD)/2.
      WRITE(6,3)NP(I),MP(I),TSHR
    3 FORMAT(1H1,5X,'PLOT OF D.O.(1), B.O.D.(2), AND TIDAL VELOCITY (T)
     1FOR GRID N=',I2,2X,'M=',I2,2X,'TIME STEP=',F5.2,1X,'HRS.')
      WRITE(6,4)
    4 FORMAT(5X,'D.O.',6X,'B.O.D.',6X,'TIDAL VELOCITY FT/SEC')
      DO 40 K=1,MAXST1
      DO 45 J=1,61
   45 LINE(J)=BLANK
      LINE(31)=DOT
      ZBO=ZB-ZE
      IF(ABS(ZBO).LT.0.001) GO TO 41
      JJ=((BOD(K,I)-ZBOD)/((ZB-ZE)/2.))*30.+31.
      GO TO 46
   41 CONTINUE
      JJ=31
   46 CONTINUE
      ZCO=ZA-ZD
      IF(ABS(ZCO).LT.0.001) GO TO 42
```

```
      JK=((CODC(K,I)-ZCOD)/((ZA-ZB)/2.))*30.+31.0
      GO TO 47
42    CONTINUE
      JK=31
47    CONTINUE
      JL=31.+(TIH(K,I)/ZC)*30.
      LINE(JK)=STAR
      LINE(JJ)=CROSS
      LINE(JL)=TIDH
40    WRITE(6,10)K,CODC(K,I),BOD(K,I),TIH(K,I),(LINE(J),J=1,61)
10    FORMAT(2X,I3,1X,F5.2,5X,F5.2,10X,F5.2,3X,61A1)
25    CONTINUE
      RETURN
      END
```

V FUTURE ADAPTATIONS OF PROGRAM

The next step in the program development after more extensive verification on the other estuaries would be to extend the water quality modeling effort to include other reaction schemes such as that for nitrogen. Indications on how this might be achieved is outlined in the work of Leenderste and Gritton and the main body of this work (24,25).

Implementation of these procedures on the present model can be achieved by simply rewriting the governing equations and changing slightly the looping relations as defined in the general program outline given.