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DRAWDOWN MODELLING OF AN INTERCEPTOR RECOVERY TRENCH

Prepared for:

United States Navy
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Jacksonville, Florida

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Prepared under the Supervision of David Schaer
Florida PG Number 495

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Foster Wheeler Environmental Corporation
Norcross, Georgia

Drawdown Modelling of an Interceptor Recovery Trench

August 28, 1995

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1.0 INTRODUCTION

The remedial design for capture and recovery of LNAPL at the NAS in Jacksonville, is based on three interceptor trenches located within homogenous fine to medium grained sands excavated to a depth of 18 ft below land surface. The longest trench is 240 ft long. Each trench is 14 inches wide. Groundwater is located only a few feet below land surface.

The trench design includes laying a screened length of HDPE piping at the bottom of the trench and filling the trench in with pea gravel. The horizontal screen is linked to a vertical screened well at one end of the trench. Placing a water pump in this well will result in a wedge-shaped drawdown configuration within the trench. The majority of the flow within the trenches will derive from gravity drainage. The drawdown configuration should allow more effective LNAPL capture due to the increased flow gradients within the vicinity of the trench.

As a result of trench installation two of the sections of the horizontal screens were damaged. The 190 ft trench and 240 ft trench had only 10 ft and 40 ft respectively of horizontal screen installed within them. Construction of the trenches suggested that there could be a discrepancy between the expected drawdown and the actual drawdown within the trenches. Two investigative techniques presented themselves to determine if such a discrepancy exists; field testing and groundwater modelling. The more reliable field testing was not a feasible alternative due to the cost of treating contaminated water yielded during testing. It was decided that a groundwater model (MODFLOW) could yield useful relative drawdown information. Only the 240 ft long trench was modelled in this way.

The groundwater model is used purely as a tool to determine relative drawdown information within and around one trench. It in no way represents the actual drawdown configuration resulting from pumping the trench due to the simplistic assumptions and inputs associated with the model.

2.0 HYDROGEOLOGIC SETTING

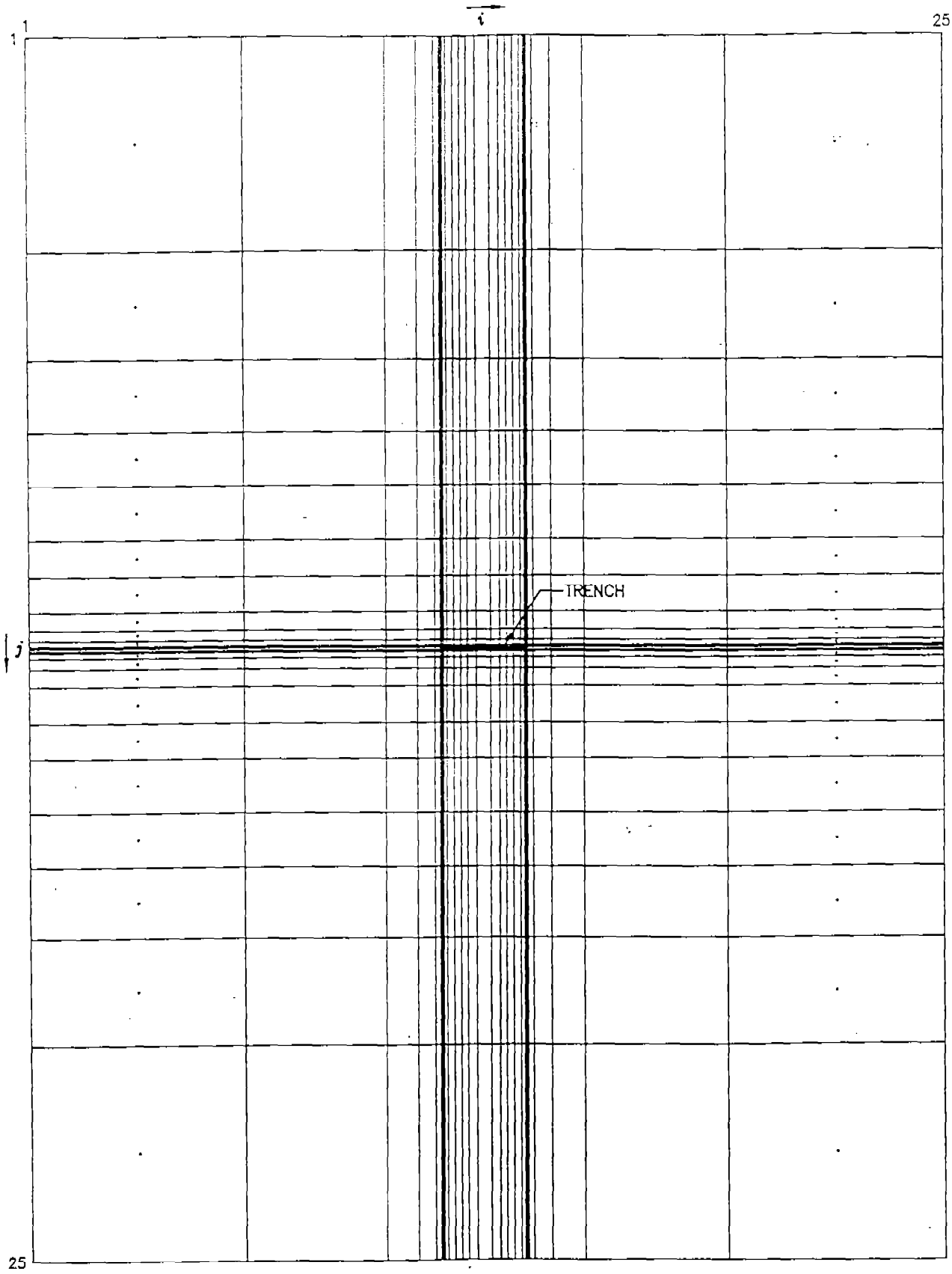
One trench 240 ft long by 1 ft wide by 18 ft deep (13 ft of saturated thickness) is located within fine sands. The trench is filled with pea-gravel with a hydraulic conductivity of 10000 ft/day based on grain-size analysis (Appendix A). An aquifer test performed by the Geologic Survey yielded a hydraulic conductivity of 4.5 ft/day. Calibrated groundwater modelling using MODFLOW was also performed by the Geologic Survey and yielded a hydraulic conductivity of 7.5 ft/day (Davis et al, 1995). Groundwater is located only a few feet below land-surface and the hydrogeologic setting is unconfined. No known hydraulic boundaries are proximal to the trench.

3.0 MODELLING SETUP

MODFLOW was used to model the drawdown configuration resulting from pumping or (stressing) one node located at the end of the 240 ft long trench. A 25 x 25 variable sized rectangular grid was used to run the simulations (Figure 1). The trench was modelled as a 1 ft wide by 240 ft long by 13 ft deep linear feature located within homogenous sands. This trench was chosen since it represents a worst case situation. Pumping or stressing the node results in dewatering the trench through linear flow. The pumping node intersects the full thickness of the saturated medium within the trench.

3.1 Assumptions

Grid sized so that outermost nodes show no head change
Aquifer thickness equals the depth of the trench
Initial head 13 ft
Transient state required a specific yield input = 0.22
Steady-state required no storage parameters
Constant head nodes placed along grid sides perpendicular to the length of the trench.
Variable sized 25 column by 25 row grid
Trench modelled as 1 ft wide
Pumping nodes are located at each trench end
Media is homogenous and isotropic
No natural flow gradient inputted into model
Unconfined
K-pea-gravel 10000 ft/day, K-fine sand 7.5 ft/day
Pumping rate 1000 ft^3/day = 5.2 gpm
No recharge is modelled



· DENOTES CONSTANT HEAD

0 100 200 300 400
SCALE IN FEET

FOSTER WHEELER

Figure 1

MODEL GRID

PLOT DATE AUGUST 4, 1995 C:\3987113\9904\03000-01.DWG

4.0 MODEL RESULTS

Two modelling scenarios are presented; a steady-state scenario and a transient-state scenario. Model inputs and outputs are located in Appendices B and C.

Steady-State

PUMPING DURATION (days)	PUMPING RATE (gpm)	WELL NODE DRAWDOWN (feet)	DRAWDOWN AT NODE AT OPPOSITE END OF TRENCH (feet)
50	5.2	6.787	6.726

Transient

0.1	5.2	0.040	0.014
1	5.2	0.1861	0.1569
10	5.2	0.7173	0.6864
50	5.2	1.634	1.600

5.0 DISCUSSION OF RESULTS

Drawdown results suggest that only minor horizontal hydraulic gradients will form within the trench during pumping. Well node drawdowns will be almost identical to drawdowns at the node representing the opposite end of the trench. This suggests that the full extent or absence of screen within the trench should have little to no effect on the trench drawdown configuration because the pea-gravel presents little resistance to flow.

The lower drawdowns calculated from the transient-state simulations compared to the steady-state simulation are attributable to adding an aquifer storage (specific yield) parameter to the transient-state simulations. A storage of 0.22 is used for all the transient-state simulations.

Transient flow simulations give some indication as to how the trench would gradually dewater due to storage effects. More detailed modelling would need to be performed to determine the approximate time since pumping commenced for trench storage to become negligible and aquifer storage to dominate.

The pumping rate used for the computer simulations does not adequately reflect the true

sustainable rates in the field. Aquifer test data (Davis et al, 1995a) suggest that a trench of the size modelled in these simulations may yield a steady-state pumping rate in the range of approximately 10-75 gpm for a trench drawdown of approximately 5 to 12 ft.

6.0 MODELLING LIMITATIONS

6.1 Aquifer heterogeneities

Aquifer heterogeneities are not modelled within the computer simulations. Localized lithological changes may vary the hydrogeological conditions from unconfined to semi-confined settings.

6.2 Storage effects

Aquifer and trench storage effects are not modelled within the steady-state simulations; i.e. the only water available to feed the hydrogeologic system is derived from the constant head boundaries.

6.3 Single-trench modelling

The non-orthogonal orientation of the trenches to one another precludes the use of a finite-difference model to determine the combined hydraulic effects that would result from pumping the trench field. Groundwater modelling is simulated only for one trench.

6.4 Boundary conditions

The model does not take into account any boundary conditions that may be present in the field. Two artificial constant head boundaries have been modelled perpendicular to the long trench axis. These constant head boundaries are exclusively used to provide a constant storage of water to the model. They in no way represent actual site conditions.

6.5 Initial head conditions

No well-specific water-levels are inputted into the model. All initial water-levels have a head of 13 feet. The model does not accurately represent natural groundwater flow conditions, and as such no calibration studies were performed.

6.6 Turbulent effects

The presence of extremely conductive material (pea-gravel) to low conductive material (aquifer material) may lead to spurious errors. Turbulent flow effects may form within the trench during

pumping. MODFLOW may not be adequately equipped to deal with this complication.

6.7 Recharge effects

No recharge parameters are modelled in the simulations. In actuality drawdowns may be significantly reduced. The effects may be more noticeable due to the shallow nature of the groundwater table.

7.0 CONCLUSIONS

Pumping (stressing) one end of a hydraulically conductive trench located within lower conductive fine-sands, forms a low horizontal hydraulic gradient within the trench. The pumping node and the trench node located at the opposite end of the trench have almost identical drawdowns. This configuration is similar to the drawdown configuration (mainly due to gravity drainage) forming as a result of pumping a trench underlain by screened pipe installed along the entire length of the trench.

The exact pumping rate value for a steady-state scenario is presently unknown. Based on limited aquifer test data obtained by the USGS (Davis et al 1995a), sustainable flow-rates within the trench may range from 10-75 gpm.

8.0 REFERENCES

Davis, J.H., Planert, M. and Andrews, W.J., 1995, Simulation of Ground-Water Flow at the U.S. Naval Air Station, Jacksonville, Florida, with an Evaluation of Changes to Ground-Water Movement Caused by Proposed Remedial Designs at Operable Unit 1, U.S. Department of the Interior Administrative Report, U.S. Geological Survey.

Davis, J.H., and Planert, M., 1995a, Documentation of Aquifer Test conducted near Operable Unit 1 at the U.S. Naval Air Station, Jacksonville, Florida, U.S. Department of the Interior.

Domenico, P.A., and Schwartz, F.W., 1990, Physical and Chemical Hydrogeology, pg. 118, Table 4.2; 'Values of specific yield from various geologic materials.'

Hazen, A., 1911, Discussion of "Dams on Soil Foundations," Trans, Amer. Soc. Civil Engrs., v. 73, pg. 199

McDonald, G.M., and Harbaugh, A.W., 1988, Techniques of Water-Resources Investigations of the United States Geological Survey, Chapter A1, A Modular Three-Dimensional Finite-Difference Ground-Water Flow Model, Book 6.

APPENDIX A

Pea-gravel grain-size analysis

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BY JAC DATE 6-22-95 SHEET 1 OF 2

CHKD. BY _____ DATE _____ OFS NO. _____ DEPT. NO. _____

CLIENT _____

PROJECT _____

SUBJECT _____

Pea Gravel in Florida is typically defined as #89 Stone

FLORIDA DEPARTMENT OF TRANSPORTATION

COARSE AGGREGATE — GRADATION

Amounts Finer than Each Laboratory Sieve (Square Openings), mass percent

Previous DOT Number	Size Number	Nominal Size, Square Openings	4" (100-mm)	3½" (90-mm)	3" (75-mm)	2½" (63-mm)	2" (50-mm)
	1	3½" to 1½" (90 to 37.5-mm)	100	90-100	....	25-60	....
	2	2½" to 1½" (63 to 37.5-mm)	....	....	100	90-100	35-70
	24	2½" to 3/4" (63 to 19.0-mm)	....	....	100	90-100	....
	3	2" to 1" (50 to 25.0-mm)	....	....	....	100	90-100
3 M	357	2" to No. 4 (50 to 4.75-mm)	....	....	....	100	95-100
	4	1½" to 3/4" 37.5 to 19.0-mm)	....	....	....	....	100
	467	1½" to No. 4 (37.5 to 4.75-mm)	....	....	....	....	100
	5	1" to 1/2" (37.5 to 12.5-mm)	....	....	....	....	....
11	56	1" to 3/8" (25.0 to 9.5-mm)	....	....	....	....	....
5 & 9	57	1" to No. 4 (25.0 to 4.75-mm)	....	....	....	....	....
12	6	3/4" to 3/8" (19.0 to 9.5-mm)	....	....	....	....	....
	67	3/4" to No. 4 (19.0 to 4.75-mm)	....	....	....	....	....
	68	3/4" to No.8 (19.0 to 2.36-mm)	....	....	....	....	....
14 & 15	7	1/2" to No.4 (12.5 to 4.75-mm)	....	....	....	....	....
	78	1/2" to No. 8 (12.5 to 2.36-mm)	....	....	....	....	....
	8	3/8" to No. 8 (9.5 to 2.36-mm)	....	....	....	....	....
16 & 16S	89	~~3/8" to No. 16~~ (9.5 to 1.18-mm)	— Pea Gravel				
	9	No. 4 to No. 16 (4.75 to 1.18-mm)	....	....	....	....	....
	10	No. 4 to 0 (4.75-mm)	....	....	....	....	....

Screenings.

The above gradations represent the extreme limits for the various sizes indicated, all sources of supply. For any grade from any one source, the gradation shall be specified above.

FLORIDA DEPARTMENT OF TRANSPORTATION

COARSE AGGREGATE—GRADATION

Amounts Finer than Each Laboratory Sieve (Square Openings), mass percent

1½" (37.5-mm)	1" (25.0-mm)	3/4" (19.0-mm)	1/2" (12.5-mm)	3/8" (9.5-mm)	No. 4 (4.75-mm)	No. 8 (2.36-mm)	No. 16 (1.18-mm)	No. 50 (0.300 mm)	No. 100 (0.150 mm)
0-15	....	0-5	....	....	....	....	....	....	....
0-15	....	0-5	....	....	....	....	....	....	....
25-60	....	0-10	0-5	....	....	....	....	....	....
35-70	0-15	....	0-5	....	....	....	....	....	....
....	35-70	....	10-30	....	0-5	....	....	....	....
90-100	20-55	0-15	....	0-5	....	....	....	....	....
95-100	....	35-70	....	10-30	0-5	....	....	....	....
100	90-100	20-55	0-10	0-5	....	....	....	....	....
100	90-100	40-75	15-35	0-15	0-5	....	....	....	....
100	95-100	....	25-60	....	0-10	0-5	....	....	....
....	100	90-100	20-55	0-15	0-5	....	....	....	....
....	100	90-100	....	20-55	0-10	0-5	....	....	....
....	100	90-100	....	30-65	5-25	0-10	0-5	....	....
....	....	100	90-100	40-70	0-15	0-5	....	....	....
....	....	100	90-100	40-75	5-25	0-10	0-5	....	....
....	....	....	100	65-100	10-30	0-10	0-5	....	....
....	....	....	100	90-100	20-55	5-30	0-10	0-5	....
....	....	....	....	100	85-100	10-40	0-10	0-5	....
....	....	....	....	100	85-100	....	....	....	10-30

which will be used in determining the suitability for use of coarse aggregate from held reasonably uniform and not subject to the extreme percentages of gradation

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BY JAC DATE 6-22-95 SHEET 2 OF 2

CHKD. BY _____ DATE _____ OFS NO. _____ DEPT. NO. _____

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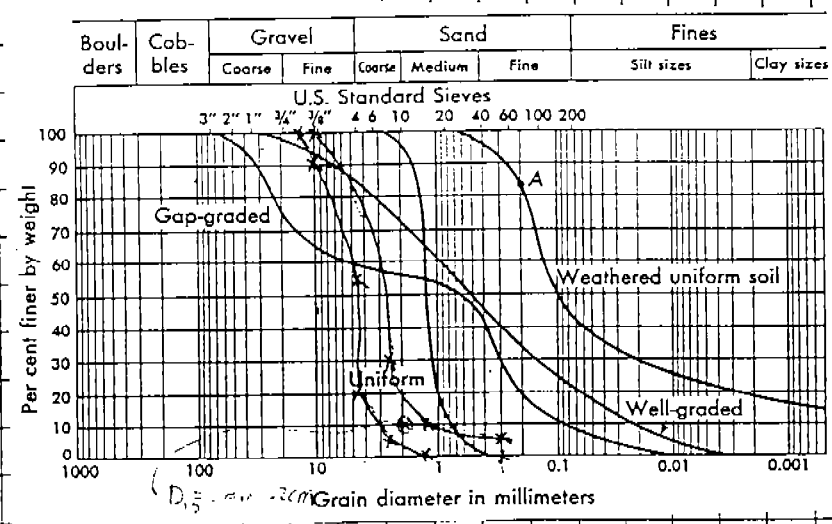
SUBJECT _____

The gradation of #89 stone is as shown



To calculate Permeability, use Hazen's equation

$$K = 100\, D_{10}^2$$

Where: D_{10} is the diameter at which 10% of the soil is finer (cm)

K is permeability (cm/sec)

D_{10} = 2 mm = 0.2 cm (see gradation curve)

and

$$K = 100\,(0.2)^2 = 4 \text{ cm/sec}$$

APPENDIX B

Steady-State Simulation

STEADY-STATE SIMULATION

```
          U.S. GEOLOGICAL SURVEY MODULAR FINITE-DIFFERENCE GROUND-WATER MODEL
0TRENCH REMEDIAL DESIGN                                   NAS, JACKSONVILLE, FL.
  1 LAYERS      25 ROWS      25 COLUMNS
  1 STRESS PERIOD(S) IN SIMULATION
 MODEL TIME UNIT IS DAYS
0I/O UNITS:
 ELEMENT OF IUNIT:  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
     I/O UNIT: 11 12  0  0  0  0  0  0 19  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
0BAS1 – BASIC MODEL PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT  1
 ARRAYS RHS AND BUFF WILL SHARE MEMORY.
 START HEAD WILL BE SAVED
   5679 ELEMENTS IN X ARRAY ARE USED BY BAS
   5679 ELEMENTS OF X ARRAY USED OUT OF  30000
0BCF1 – BLOCK-CENTERED FLOW PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 11
 STEADY-STATE SIMULATION
    LAYER  AQUIFER TYPE
    ------------
     1      1
   1251 ELEMENTS IN X ARRAY ARE USED BY BCF
   6930 ELEMENTS OF X ARRAY USED OUT OF  30000
0WEL1 – WELL PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM 12
 MAXIMUM OF   1 WELLS
     4 ELEMENTS IN X ARRAY ARE USED FOR WELLS
   6934 ELEMENTS OF X ARRAY USED OUT OF  30000
0SIP1 – STRONGLY IMPLICIT PROCEDURE SOLUTION PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 19
 MAXIMUM OF 100 ITERATIONS ALLOWED FOR CLOSURE
  5 ITERATION PARAMETERS
   2905 ELEMENTS IN X ARRAY ARE USED BY SIP
   9839 ELEMENTS OF X ARRAY USED OUT OF  30000
1TRENCH REMEDIAL DESIGN                                   NAS, JACKSONVILLE, FL.
0
```

BOUNDARY ARRAY FOR LAYER 1 WILL BE READ ON UNIT 1 USING FORMAT: (25I2)

```
      1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
 ..........................................................................
0 1  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 2  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 3  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 4  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 5  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 6  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 7  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 8  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 9  -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 10 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 11 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 12 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 13 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 14 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 15 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 16 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 17 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 18 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 19 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 20 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 21 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 22 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 23 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 24 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
0 25 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  -1
 AQUIFER HEAD WILL BE SET TO  999.90    AT ALL NO-FLOW NODES (IBOUND=0).
```

STEADY-STATE SIMULATION

INITIAL HEAD FOR LAYER 1 WILL BE READ ON UNIT 1 USING FORMAT: (25F4.1)

```
    1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
0  1 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  2 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  3 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  4 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  5 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  6 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  7 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  8 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0  9 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 10 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 11 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 14 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 15 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 16 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 17 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 18 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 19 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 20 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 21 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 22 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 23 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 24 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 25 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
```

DEFAULT OUTPUT CONTROL – THE FOLLOWING OUTPUT COMES AT THE END OF EACH STRESS PERIOD:
TOTAL VOLUMETRIC BUDGET
HEAD
DRAWDOWN

0 COLUMN TO ROW ANISOTROPY = 1.000000
0

DELR WILL BE READ ON UNIT 11 USING FORMAT: (25F5.1)

600.00	300.00	200.00	150.00	150.00	100.00	100.00	50.000	30.000	15.000
5.0000	3.0000	1.0000	3.0000	5.0000	15.000	30.000	50.000	100.00	100.00
150.00	150.00	200.00	300.00	600.00					

0

DELC WILL BE READ ON UNIT 11 USING FORMAT: (25F5.1)

600.00	400.00	90.000	50.000	15.000	5.0000	5.0000	10.000	20.000	20.000
20.000	25.000	40.000	25.000	20.000	20.000	20.000	10.000	5.0000	5.0000
15.000	50.000	90.000	400.00	600.00					

0

HYD. COND. ALONG ROWS FOR LAYER 1 WILL BE READ ON UNIT 11 USING FORMAT: (25F7.1)

STEADY-STATE SIMULATION

```
       1     2     3     4     5     6     7     8     9    10
      11    12    13    14    15    16    17    18    19    20
      21    22    23    24    25
-----------------------------------------------------------------------------
0 1  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 2  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 3  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 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   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 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   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 6  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 7  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 8  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 9  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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 10 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 11 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 12 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 13 7.5   7.5   7.5   7.5   7.5   7.5   1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04
     1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 7.5
     7.5   7.5   7.5   7.5   7.5
0 14 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 15 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 16 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 17 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 18 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 19 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
0 20 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   7.5   7.5   7.5   7.5   7.5   7.5
     7.5   7.5   7.5   7.5   7.5
```

```
0 21 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 22 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 23 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 24 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 25 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
                                  BOTTOM = 0.0000000E+00 FOR LAYER 1


                    SOLUTION BY THE STRONGLY IMPLICIT PROCEDURE
                    ____________________________________________
0                   MAXIMUM ITERATIONS ALLOWED FOR CLOSURE =     100
                          ACCELERATION PARAMETER =    1.0000
                     HEAD CHANGE CRITERION FOR CLOSURE =   0.10000E-02
                     SIP HEAD CHANGE PRINTOUT INTERVAL =      1
0
  5 ITERATION PARAMETERS CALCULATED FROM SPECIFIED WSEED = 0.00100000 :

     0.0000000E+00 0.8221720E+00 0.9683772E+00 0.9943766E+00 0.9990000E+00
1                   STRESS PERIOD NO.  1, LENGTH =  50.00000
                    ____________________________________________

                     NUMBER OF TIME STEPS =   10

                     MULTIPLIER FOR DELT =    1.500

                    INITIAL TIME STEP SIZE = 0.4411891
0       1 WELLS
                    LAYER  ROW   COL   STRESS RATE   WELL NO.
                    ____________________________________
                     1    13    19   -1000.0        1
0
  21 ITERATIONS FOR TIME STEP  1 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
_____________________________________________________________________________
 -0.2921   ( 1, 13, 19) -0.4270   ( 1, 14,  7) -0.6354   ( 1, 12, 10) -1.785   ( 1, 17,  8) -3.740   ( 1,  6,  9)
 -0.3761   ( 1,  1, 21) -0.1817   ( 1,  3, 22) -0.2022   ( 1, 14, 16) -0.2025   ( 1, 12, 12) -0.4323   ( 1, 15, 12)
  0.4782E-01 ( 1, 23,  7) 0.2981E-01 ( 1,  3, 21) -0.3507E-01 ( 1,  7, 13) -0.1294E-01 ( 1,  5, 14) -0.2928E-01 ( 1, 11, 10)
  0.5300E-02 ( 1,  3, 12) -0.2841E-02 ( 1,  8, 11) -0.2369E-02 ( 1,  7, 12) 0.1679E-02 ( 1, 10,  7) 0.1202E-02 ( 1, 21, 12)
  0.4037E-03 ( 1,  3,  8)
0
   1 ITERATIONS FOR TIME STEP  2 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
_____________________________________________________________________________
  0.2189E-03 ( 1,  5, 10)
0
   1 ITERATIONS FOR TIME STEP  3 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
_____________________________________________________________________________
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0.1659E-03 (1, 6, 11)
0
1 ITERATIONS FOR TIME STEP 4 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.1340E-03 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 5 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.1125E-03 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 6 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.9628E-04 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 7 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.8378E-04 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 8 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.7357E-04 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 9 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.6513E-04 (1, 6, 12)
0
1 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD 1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

0.5792E-04 (1, 6, 12)
0
1 HEAD IN LAYER 1 AT END OF TIME STEP 10 IN STRESS PERIOD 1

	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25					
0 1	13.00	12.20	11.78	11.52	11.33	11.21	11.15	11.12	11.12	11.12
	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.15	11.21
	11.33	11.51	11.78	12.20	13.00					
0 2	13.00	12.01	11.41	10.97	10.60	10.35	10.19	10.12	10.10	10.10
	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.12	10.18	10.34
	10.60	10.96	11.40	12.01	13.00					
0 3	13.00	11.93	11.20	10.59	9.950	9.358	8.938	8.769	8.721	8.709

	8.706	8.706	8.706	8.706	8.706	8.707	8.718	8.763	8.928	9.347
	9.941	10.58	11.20	11.92	13.00					
0 4	13.00	11.91	11.16	10.49	9.762	8.997	8.399	8.183	8.124	8.108
	8.106	8.105	8.105	8.105	8.105	8.106	8.119	8.174	8.384	8.982
	9.751	10.48	11.15	11.91	13.00					
0 5	13.00	11.90	11.14	10.46	9.683	8.814	8.082	7.849	7.787	7.771
	7.768	7.767	7.767	7.767	7.767	7.768	7.781	7.837	8.062	8.796
	9.671	10.45	11.14	11.90	13.00					
0 6	13.00	11.90	11.14	10.45	9.660	8.756	7.975	7.737	7.675	7.659
	7.656	7.655	7.655	7.655	7.655	7.656	7.668	7.724	7.953	8.737
	9.648	10.44	11.13	11.90	13.00					
0 7	13.00	11.90	11.13	10.44	9.649	8.726	7.919	7.679	7.618	7.601
	7.598	7.598	7.597	7.597	7.597	7.599	7.611	7.666	7.896	8.707
	9.636	10.43	11.13	11.90	13.00					
0 8	13.00	11.90	11.13	10.44	9.632	8.682	7.832	7.591	7.529	7.513
	7.510	7.509	7.509	7.509	7.509	7.510	7.522	7.577	7.808	8.663
	9.619	10.43	11.13	11.90	13.00					
0 9	13.00	11.90	11.13	10.42	9.601	8.593	7.647	7.405	7.345	7.330
	7.326	7.326	7.325	7.325	7.325	7.326	7.337	7.389	7.619	8.572
	9.587	10.41	11.12	11.89	13.00					
0 10	13.00	11.89	11.12	10.41	9.564	8.475	7.365	7.136	7.082	7.068
	7.065	7.064	7.064	7.064	7.063	7.064	7.072	7.116	7.332	8.452
	9.550	10.40	11.11	11.89	13.00					
0 11	13.00	11.89	11.11	10.40	9.533	8.358	7.034	6.841	6.799	6.787
	6.784	6.784	6.783	6.783	6.783	6.782	6.787	6.818	6.994	8.333
	9.519	10.39	11.11	11.89	13.00					
0 12	13.00	11.89	11.11	10.39	9.507	8.234	6.585	6.477	6.455	6.448
	6.446	6.445	6.445	6.444	6.444	6.442	6.442	6.449	6.532	8.207
	9.493	10.38	11.10	11.89	13.00					
0 13	13.00	11.89	11.11	10.38	9.489	8.081	6.274	6.264	6.258	6.254
	6.252	6.251	6.250	6.250	6.249	6.247	6.242	6.233	6.213	8.051
	9.474	10.37	11.10	11.89	13.00					
0 14	13.00	11.89	11.11	10.39	9.507	8.234	6.585	6.477	6.456	6.448
	6.446	6.445	6.445	6.445	6.444	6.443	6.442	6.449	6.533	8.207
	9.493	10.38	11.10	11.89	13.00					
0 15	13.00	11.89	11.11	10.40	9.533	8.358	7.034	6.841	6.799	6.787
	6.785	6.784	6.784	6.783	6.783	6.783	6.787	6.818	6.994	8.333
	9.519	10.39	11.11	11.89	13.00					
0 16	13.00	11.89	11.12	10.41	9.564	8.475	7.365	7.136	7.082	7.068
	7.065	7.064	7.064	7.064	7.064	7.064	7.073	7.117	7.332	8.452
	9.550	10.40	11.11	11.89	13.00					
0 17	13.00	11.90	11.13	10.42	9.601	8.593	7.647	7.405	7.346	7.330
	7.327	7.326	7.326	7.326	7.326	7.327	7.337	7.389	7.619	8.572
	9.587	10.41	11.12	11.89	13.00					
0 18	13.00	11.90	11.13	10.44	9.632	8.682	7.832	7.591	7.530	7.514
	7.511	7.510	7.510	7.510	7.510	7.511	7.523	7.577	7.808	8.663
	9.619	10.43	11.13	11.90	13.00					
0 19	13.00	11.90	11.13	10.44	9.649	8.727	7.919	7.680	7.618	7.602
	7.599	7.598	7.598	7.598	7.598	7.599	7.611	7.666	7.896	8.708
	9.636	10.43	11.13	11.90	13.00					
0 20	13.00	11.90	11.14	10.45	9.660	8.756	7.975	7.737	7.675	7.659
	7.656	7.656	7.655	7.655	7.655	7.657	7.669	7.724	7.953	8.737
	9.648	10.44	11.13	11.90	13.00					
0 21	13.00	11.90	11.14	10.46	9.684	8.814	8.082	7.849	7.787	7.771
	7.768	7.767	7.767	7.767	7.767	7.769	7.781	7.837	8.062	8.796
	9.671	10.45	11.14	11.90	13.00					
0 22	13.00	11.91	11.16	10.49	9.762	8.997	8.399	8.183	8.124	8.109
	8.106	8.105	8.105	8.105	8.105	8.107	8.119	8.174	8.384	8.982
	9.751	10.48	11.15	11.91	13.00					
0 23	13.00	11.93	11.20	10.59	9.950	9.358	8.938	8.769	8.721	8.709
	8.707	8.706	8.706	8.706	8.706	8.708	8.718	8.763	8.928	9.347
	9.941	10.58	11.20	11.92	13.00					
0 24	13.00	12.01	11.41	10.97	10.60	10.35	10.19	10.12	10.10	10.10
	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.12	10.18	10.34
	10.60	10.96	11.40	12.01	13.00					

0 25	13.00	12.20	11.78	11.52	11.33	11.21	11.15	11.12	11.12	11.12
	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.15	11.21
	11.33	11.52	11.78	12.20	13.00					

1 DRAWDOWN IN LAYER 1 AT END OF TIME STEP 10 IN STRESS PERIOD 1

	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25					
0 1	0.0	0.8003	1.222	1.484	1.672	1.786	1.851	1.876	1.883	1.885
	1.885	1.885	1.885	1.885	1.885	1.885	1.883	1.876	1.851	1.787
	1.673	1.485	1.224	0.8013	0.0					
0 2	0.0	0.9919	1.595	2.031	2.396	2.655	2.813	2.878	2.896	2.901
	2.901	2.902	2.902	2.902	2.901	2.901	2.897	2.879	2.816	2.659
	2.400	2.035	1.598	0.9938	0.0					
0 3	0.0	1.074	1.797	2.414	3.050	3.642	4.062	4.231	4.279	4.291
	4.294	4.294	4.294	4.294	4.294	4.293	4.282	4.237	4.072	3.653
	3.059	2.421	1.802	1.077	0.0					
0 4	0.0	1.091	1.842	2.507	3.238	4.003	4.601	4.817	4.876	4.892
	4.894	4.895	4.895	4.895	4.895	4.894	4.881	4.826	4.616	4.018
	3.249	2.515	1.847	1.094	0.0					
0 5	0.0	1.098	1.859	2.543	3.317	4.186	4.918	5.151	5.213	5.229
	5.232	5.233	5.233	5.233	5.233	5.232	5.219	5.163	4.938	4.204
	3.329	2.551	1.864	1.100	0.0					
0 6	0.0	1.099	1.863	2.553	3.340	4.244	5.025	5.263	5.325	5.341
	5.344	5.345	5.345	5.345	5.345	5.344	5.332	5.276	5.047	4.263
	3.352	2.561	1.868	1.102	0.0					
0 7	0.0	1.100	1.865	2.557	3.351	4.274	5.081	5.321	5.382	5.399
	5.402	5.402	5.403	5.403	5.403	5.401	5.389	5.334	5.104	4.293
	3.364	2.566	1.871	1.103	0.0					
0 8	0.0	1.101	1.869	2.564	3.368	4.318	5.168	5.409	5.471	5.487
	5.490	5.491	5.491	5.491	5.491	5.490	5.478	5.423	5.192	4.337
	3.381	2.573	1.874	1.104	0.0					
0 9	0.0	1.104	1.874	2.577	3.399	4.407	5.353	5.595	5.655	5.670
	5.674	5.674	5.675	5.675	5.675	5.674	5.663	5.611	5.381	4.428
	3.413	2.586	1.880	1.106	0.0					
0 10	0.0	1.106	1.881	2.592	3.436	4.525	5.635	5.864	5.918	5.932
	5.935	5.936	5.936	5.936	5.937	5.936	5.928	5.884	5.668	4.548
	3.450	2.601	1.886	1.109	0.0					
0 11	0.0	1.108	1.886	2.603	3.467	4.642	5.966	6.159	6.201	6.213
	6.216	6.216	6.217	6.217	6.217	6.218	6.213	6.182	6.006	4.667
	3.481	2.612	1.891	1.111	0.0					
0 12	0.0	1.109	1.890	2.612	3.493	4.766	6.415	6.523	6.545	6.552
	6.554	6.555	6.555	6.556	6.556	6.558	6.558	6.551	6.468	4.793
	3.507	2.621	1.895	1.112	0.0					
0 13	0.0	1.110	1.892	2.618	3.511	4.919	6.726	6.736	6.742	6.746
	6.748	6.749	6.750	6.750	6.751	6.753	6.758	6.767	6.787	4.949
	3.526	2.627	1.898	1.113	0.0					
0 14	0.0	1.109	1.890	2.612	3.493	4.766	6.415	6.523	6.544	6.552
	6.554	6.555	6.555	6.555	6.556	6.557	6.558	6.551	6.467	4.793
	3.507	2.621	1.895	1.112	0.0					
0 15	0.0	1.108	1.886	2.603	3.467	4.642	5.966	6.159	6.201	6.213
	6.215	6.216	6.216	6.217	6.217	6.217	6.213	6.182	6.006	4.667
	3.481	2.612	1.891	1.111	0.0					
0 16	0.0	1.106	1.881	2.592	3.436	4.525	5.635	5.864	5.918	5.932
	5.935	5.936	5.936	5.936	5.936	5.936	5.927	5.883	5.668	4.548
	3.450	2.601	1.886	1.109	0.0					
0 17	0.0	1.104	1.874	2.577	3.399	4.407	5.353	5.595	5.654	5.670
	5.673	5.674	5.674	5.674	5.674	5.673	5.663	5.611	5.381	4.428
	3.413	2.586	1.880	1.106	0.0					
0 18	0.0	1.101	1.869	2.564	3.368	4.318	5.168	5.409	5.470	5.486
	5.489	5.490	5.490	5.490	5.490	5.489	5.477	5.423	5.192	4.337
	3.381	2.573	1.874	1.104	0.0					
0 19	0.0	1.100	1.865	2.557	3.351	4.273	5.081	5.320	5.382	5.398

```
     5.401    5.402    5.402    5.402    5.402    5.401    5.389    5.334    5.104    4.292
     3.364    2.566    1.871    1.103     0.0
0 20   0.0    1.099    1.863    2.553    3.340    4.244    5.025    5.263    5.325    5.341
     5.344    5.344    5.345    5.345    5.345    5.343    5.331    5.276    5.047    4.263
     3.352    2.561    1.868    1.102     0.0
0 21   0.0    1.098    1.859    2.543    3.316    4.186    4.918    5.151    5.213    5.229
     5.232    5.233    5.233    5.233    5.233    5.231    5.219    5.163    4.938    4.204
     3.329    2.551    1.864    1.100     0.0
0 22   0.0    1.091    1.842    2.507    3.238    4.003    4.601    4.817    4.876    4.891
     4.894    4.895    4.895    4.895    4.895    4.893    4.881    4.826    4.616    4.018
     3.249    2.515    1.847    1.094     0.0
0 23   0.0    1.074    1.797    2.414    3.050    3.642    4.062    4.231    4.279    4.291
     4.293    4.294    4.294    4.294    4.294    4.292    4.282    4.237    4.072    3.653
     3.059    2.421    1.802    1.077     0.0
0 24   0.0   0.9919    1.595    2.031    2.396    2.655    2.813    2.877    2.896    2.900
     2.901    2.901    2.901    2.901    2.901    2.901    2.896    2.879    2.816    2.659
     2.400    2.035    1.598   0.9938     0.0
0 25   0.0   0.8003    1.222    1.484    1.672    1.786    1.850    1.876    1.883    1.884
     1.885    1.885    1.885    1.885    1.885    1.885    1.883    1.876    1.851    1.787
     1.673    1.485    1.224   0.8012     0.0
0
```

VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 10 IN STRESS PERIOD 1

```
0        CUMULATIVE VOLUMES    L**3                    RATES FOR THIS TIME STEP    L**3/T

           IN:                                   IN:
           --                                    --
            STORAGE =  0.00000E+00                  STORAGE =  0.00000E+00
          CONSTANT HEAD =   50004.                CONSTANT HEAD =   1000.1
             WELLS =  0.00000E+00                   WELLS =  0.00000E+00
0            TOTAL IN =   50004.                  TOTAL IN =   1000.1
0          OUT:                                  OUT:
           --                                    --
            STORAGE =  0.00000E+00                  STORAGE =  0.00000E+00
          CONSTANT HEAD =  0.00000E+00              CONSTANT HEAD =  0.00000E+00
             WELLS =   50000.                     WELLS =   1000.0
0            TOTAL OUT =   50000.                 TOTAL OUT =   1000.0
0            IN - OUT =   3.5352                  IN - OUT =  0.67078E-01
0       PERCENT DISCREPANCY =          0.01       PERCENT DISCREPANCY =          0.01


0
```

TIME SUMMARY AT END OF TIME STEP 10 IN STRESS PERIOD 1

	SECONDS	MINUTES	HOURS	DAYS	YEARS
TIME STEP LENGTH	0.146541E+07	24423.5	407.059	16.9608	0.464361E-01
STRESS PERIOD TIME	0.432000E+07	72000.0	1200.00	50.0000	0.136893
TOTAL SIMULATION TIME	0.432000E+07	72000.0	1200.00	50.0000	0.136893

1

APPENDIX C

Transient-State Simulation

TRANSIENT-STATE SIMULATION

```
1            U.S. GEOLOGICAL SURVEY MODULAR FINITE-DIFFERENCE GROUND-WATER MODEL
0TRENCH REMEDIAL DESIGN                                   NAS, JACKSONVILLE, FL.
  1 LAYERS      25 ROWS      25 COLUMNS
  4 STRESS PERIOD(S) IN SIMULATION
 MODEL TIME UNIT IS DAYS
0I/O UNITS:
 ELEMENT OF IUNIT:  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
      I/O UNIT: 11 12  0  0  0  0  0  0 19  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
0BAS1 – BASIC MODEL PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT  1
 ARRAYS RHS AND BUFF WILL SHARE MEMORY.
 START HEAD WILL BE SAVED
   5679 ELEMENTS IN X ARRAY ARE USED BY BAS
   5679 ELEMENTS OF X ARRAY USED OUT OF  30000
0BCF1 – BLOCK-CENTERED FLOW PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 11
 TRANSIENT SIMULATION
    LAYER  AQUIFER TYPE
    ------------
      1      1
   1876 ELEMENTS IN X ARRAY ARE USED BY BCF
   7555 ELEMENTS OF X ARRAY USED OUT OF  30000
0WEL1 – WELL PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM 12
 MAXIMUM OF   1 WELLS
      4 ELEMENTS IN X ARRAY ARE USED FOR WELLS
   7559 ELEMENTS OF X ARRAY USED OUT OF  30000
0SIP1 – STRONGLY IMPLICIT PROCEDURE SOLUTION PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 19
 MAXIMUM OF 100 ITERATIONS ALLOWED FOR CLOSURE
  5 ITERATION PARAMETERS
   2905 ELEMENTS IN X ARRAY ARE USED BY SIP
   10464 ELEMENTS OF X ARRAY USED OUT OF  30000
1TRENCH REMEDIAL DESIGN                                   NAS, JACKSONVILLE, FL.
0
```

BOUNDARY ARRAY FOR LAYER 1 WILL BE READ ON UNIT 1 USING FORMAT: (25I2)

```
     1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
 ..........................................................................
 0 1 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 2 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 3 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 4 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 5 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 6 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 7 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 8 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 9 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 10 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 11 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 12 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 13 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 14 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 15 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 16 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 17 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 18 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 19 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 20 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 21 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 22 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 23 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 24 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
 0 25 -1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1 -1
```

TRANSIENT-STATE SIMULATION

AQUIFER HEAD WILL BE SET TO 999.90 AT ALL NO-FLOW NODES (IBOUND=0).

INITIAL HEAD FOR LAYER 1 WILL BE READ ON UNIT 1 USING FORMAT: (25F4.1)

```
      1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
     16  17  18  19  20  21  22  23  24  25
-----------------------------------------------------------------------------
0 1  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 2  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 3  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 4  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 5  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 6  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 7  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 8  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 9  13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 10 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 11 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 14 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 15 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 16 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 17 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 18 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 19 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 20 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 21 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 22 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 23 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 24 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
0 25 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13
```

DEFAULT OUTPUT CONTROL -- THE FOLLOWING OUTPUT COMES AT THE END OF EACH STRESS PERIOD:
TOTAL VOLUMETRIC BUDGET
HEAD
DRAWDOWN

0 COLUMN TO ROW ANISOTROPY = 1.000000

0

DELR WILL BE READ ON UNIT 11 USING FORMAT: (25F5.1)

```
 600.00   300.00   200.00   150.00   150.00   100.00   100.00   50.000   30.000   15.000
 5.0000   3.0000   1.0000   3.0000   5.0000   15.000   30.000   50.000   100.00   100.00
 150.00   150.00   200.00   300.00   600.00
0
```

DELC WILL BE READ ON UNIT 11 USING FORMAT: (25F5.1)

```
 600.00   400.00   90.000   50.000   15.000   5.0000   5.0000   10.000   20.000   20.000
 20.000   25.000   40.000   25.000   20.000   20.000   20.000   10.000   5.0000   5.0000
 15.000   50.000   90.000   400.00   600.00
```

PRIMARY STORAGE COEF = 0.2200000 FOR LAYER 1

HYD. COND. ALONG ROWS FOR LAYER 1 WILL BE READ ON UNIT 11 USING FORMAT: (25F7.1)

```
     1     2     3     4     5     6     7     8     9    10
    11    12    13    14    15    16    17    18    19    20
    21    22    23    24    25
-----------------------------------------------------------------------------
0 1 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 2 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 3 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 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   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 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   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 6 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 7 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 8 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 9 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 10 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 11 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 12 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 13 7.5  7.5   7.5   7.5   7.5   7.5   1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04
    1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 1.0000E+04 7.5
    7.5   7.5   7.5   7.5   7.5
0 14 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 15 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 16 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 17 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
0 18 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   7.5   7.5   7.5   7.5   7.5   7.5
    7.5   7.5   7.5   7.5   7.5
```

```
0 19 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 20 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 21 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 22 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 23 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 24 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5
0 25 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    7.5    7.5    7.5    7.5    7.5    7.5
     7.5    7.5    7.5    7.5    7.5

                         BOTTOM = 0.0000000E+00 FOR LAYER  1
0

                      SOLUTION BY THE STRONGLY IMPLICIT PROCEDURE
                      ---------------------------------------
0                  MAXIMUM ITERATIONS ALLOWED FOR CLOSURE =     100
                         ACCELERATION PARAMETER =    1.0000
                    HEAD CHANGE CRITERION FOR CLOSURE =   0.10000E-02
                    SIP HEAD CHANGE PRINTOUT INTERVAL =      1
0
  5 ITERATION PARAMETERS CALCULATED FROM SPECIFIED WSEED = 0.00100000 :

     0.0000000E+00  0.8221720E+00  0.9683772E+00  0.9943766E+00  0.9990000E+00
1                  STRESS PERIOD NO.  1, LENGTH = 0.1000000
                   ---------------------------------------

                   NUMBER OF TIME STEPS =   10

                   MULTIPLIER FOR DELT =    1.500

                  INITIAL TIME STEP SIZE = 0.8823783E-03
     1 WELLS
                  LAYER   ROW   COL   STRESS RATE   WELL NO.
                  ---------------------------------------
                   1      13     19     -1000.0        1
0
   1 ITERATIONS FOR TIME STEP  1 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.9424E-03 (  1, 13, 19)
0
   2 ITERATIONS FOR TIME STEP  2 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.1305E-02 (  1, 13, 19) -0.3415E-06 (  1, 14, 18)
0
```

TRANSIENT-STATE SIMULATION

```
  2 ITERATIONS FOR TIME STEP  3 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.1768E-02 ( 1, 13, 19) -0.9127E-06 ( 1, 14, 18)
0
  2 ITERATIONS FOR TIME STEP  4 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.2343E-02 ( 1, 13, 19) -0.2320E-05 ( 1, 14, 18)
0
  2 ITERATIONS FOR TIME STEP  5 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.3038E-02 ( 1, 13, 19) -0.5603E-05 ( 1, 14, 18)
0
  2 ITERATIONS FOR TIME STEP  6 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.3857E-02 ( 1, 13, 19) -0.1349E-04 ( 1, 14, 17)
0
  2 ITERATIONS FOR TIME STEP  7 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.4808E-02 ( 1, 13, 19) -0.3305E-04 ( 1, 14, 14)
0
  2 ITERATIONS FOR TIME STEP  8 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.5926E-02 ( 1, 13, 19) -0.7614E-04 ( 1, 14, 13)
0
  2 ITERATIONS FOR TIME STEP  9 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.7307E-02 ( 1, 13, 19) -0.1664E-03 ( 1, 14, 13)
0
  2 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD  1
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------
 -0.9171E-02 ( 1, 13, 19) -0.3501E-03 ( 1, 14, 12)
0
1          HEAD IN LAYER  1 AT END OF TIME STEP 10 IN STRESS PERIOD  1
     ------------------------------------------

      1      2      3      4      5      6      7      8      9     10
     11     12     13     14     15     16     17     18     19     20
     21     22     23     24     25
.......................................................................
```

0 1	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 2	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 3	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 4	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 5	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 6	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 7	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 8	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 9	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 10	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 11	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 12	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 13	13.00	13.00	13.00	13.00	13.00	13.00	12.99	12.98	12.98	12.98
	12.98	12.98	12.98	12.98	12.98	12.98	12.97	12.97	12.96	13.00
	13.00	13.00	13.00	13.00	13.00					
0 14	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 15	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 16	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 17	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 18	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 19	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 20	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 21	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					

```
0 22 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 23 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 24 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 25 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
1          DRAWDOWN IN LAYER  1 AT END OF TIME STEP 10 IN STRESS PERIOD  1
```

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25					

```
0  1 0.0000E+00 1.9073E-06 0.0000E+00 1.9073E-06 1.9073E-06 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00 0.0000E+00
     1.9073E-06 1.9073E-06 0.0000E+00 1.9073E-06 0.0000E+00
0  2 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
     0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0  3 0.0000E+00 0.0000E+00 9.5367E-07 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
     0.0000E+00 0.0000E+00 9.5367E-07 0.0000E+00 0.0000E+00
0  4 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
     0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0  5 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
     0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
     1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0  6 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
     0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07
     1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0  7 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
     0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07
     1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0  8 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
     0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 1.9073E-06 9.5367E-07
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0  9 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00 1.9073E-06 0.0000E+00 0.0000E+00
     0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 1.9073E-06 1.9073E-06 0.0000E+00
     9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 10 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 2.8610E-06 2.8610E-06 2.8610E-06 3.8147E-06
     3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 5.7220E-06 1.0490E-05 0.0000E+00
     9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 11 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 3.9101E-05 5.0545E-05 5.9128E-05 6.5804E-05
     6.8665E-05 7.0572E-05 7.1526E-05 7.2479E-05 7.4387E-05 7.9155E-05 8.8692E-05 1.1158E-04 1.6594E-04 9.5367E-07
     9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 12 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 2.8610E-06 9.2983E-04 1.1845E-03 1.4029E-03 1.5650E-03
     1.6346E-03 1.6584E-03 1.6699E-03 1.6823E-03 1.7128E-03 1.8024E-03 2.0113E-03 2.4548E-03 3.5362E-03 1.2398E-05
     0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0 13 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 6.3896E-05 1.4292E-02 1.7191E-02 1.9569E-02 2.1203E-02
     2.1996E-02 2.2324E-02 2.2490E-02 2.2657E-02 2.2997E-02 2.3870E-02 2.5994E-02 3.0360E-02 4.0498E-02 2.3842E-04
     1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 14 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 2.8610E-06 9.2983E-04 1.1845E-03 1.3981E-03 1.5507E-03
     1.6260E-03 1.6575E-03 1.6727E-03 1.6890E-03 1.7223E-03 1.8063E-03 2.0123E-03 2.4557E-03 3.5362E-03 1.2398E-05
     0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0 15 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 3.9101E-05 5.0545E-05 5.9128E-05 6.5804E-05
     6.8665E-05 6.9618E-05 6.9618E-05 7.0572E-05 7.2479E-05 7.9155E-05 8.8692E-05 1.1158E-04 1.6594E-04 9.5367E-07
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   9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 16 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 2.8610E-06 2.8610E-06 2.8610E-06 3.8147E-06
   3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 3.8147E-06 5.7220E-06 1.0490E-05 0.0000E+00
   9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 17 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00 1.9073E-06 0.0000E+00 0.0000E+00
   0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 1.9073E-06 1.9073E-06 0.0000E+00
   9.5367E-07 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 18 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
   0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 1.9073E-06 9.5367E-07
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0 19 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
   0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07
   1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0 20 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00
   0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07
   1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0 21 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
   0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
   1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0 22 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
   0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0 23 0.0000E+00 0.0000E+00 9.5367E-07 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
   0.0000E+00 0.0000E+00 9.5367E-07 0.0000E+00 0.0000E+00
0 24 0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
   0.0000E+00 0.0000E+00 -9.5367E-07 0.0000E+00 0.0000E+00
0 25 0.0000E+00 1.9073E-06 0.0000E+00 1.9073E-06 1.9073E-06 0.0000E+00 0.0000E+00 0.0000E+00 9.5367E-07 9.5367E-07
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00 0.0000E+00 0.0000E+00
   1.9073E-06 1.9073E-06 0.0000E+00 1.9073E-06 0.0000E+00
0
```

VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 10 IN STRESS PERIOD 1

```
0        CUMULATIVE VOLUMES     L**3                    RATES FOR THIS TIME STEP     L**3/T

           IN:                                  IN:

            STORAGE =   101.14                        STORAGE =   1000.0
         CONSTANT HEAD =  0.10820E-03                 CONSTANT HEAD =  0.11035E-02
            WELLS =  0.00000E+00                      WELLS =  0.00000E+00
0           TOTAL IN =   101.14                      TOTAL IN =   1000.0
0          OUT:                                  OUT:

            STORAGE =  0.52244                        STORAGE =  0.00000E+00
         CONSTANT HEAD =  0.51631E-05                 CONSTANT HEAD =  0.20696E-04
            WELLS =   100.00                         WELLS =   1000.0
0           TOTAL OUT =   100.52                     TOTAL OUT =   1000.0
0           IN - OUT =  0.61677                      IN - OUT =  -0.34790E-02
0      PERCENT DISCREPANCY =          0.61           PERCENT DISCREPANCY =          0.00


0
```

TIME SUMMARY AT END OF TIME STEP 10 IN STRESS PERIOD 1

	SECONDS	MINUTES	HOURS	DAYS	YEARS
TIME STEP LENGTH	2930.32	48.8471	0.814118	0.339216E-01	0.928722E-04

TRANSIENT-STATE SIMULATION

```
  STRESS PERIOD TIME      8640.00     144.000     2.40000     0.100000E+00  0.273785E-03
TOTAL SIMULATION TIME     8640.00     144.000     2.40000     0.100000E+00  0.273785E-03
1
1                         STRESS PERIOD NO.  2, LENGTH =  1.000000
                          ----------------------------------------

                          NUMBER OF TIME STEPS =   10

                          MULTIPLIER FOR DELT =   1.500

                         INITIAL TIME STEP SIZE = 0.8823783E-02
0REUSING WELLS FROM LAST STRESS PERIOD
0
  2 ITERATIONS FOR TIME STEP  1 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.2292E-02 (  1, 13, 19) -0.2436E-04 (  1, 14, 12)
0
  2 ITERATIONS FOR TIME STEP  2 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.3270E-02 (  1, 13, 19) -0.5345E-04 (  1, 14, 12)
0
  2 ITERATIONS FOR TIME STEP  3 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.4631E-02 (  1, 13, 19) -0.1157E-03 (  1, 14, 12)
0
  2 ITERATIONS FOR TIME STEP  4 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.6514E-02 (  1, 13, 19) -0.2456E-03 (  1, 14, 12)
0
  2 ITERATIONS FOR TIME STEP  5 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.9073E-02 (  1, 13, 19) -0.5088E-03 (  1, 14, 12)
0
  3 ITERATIONS FOR TIME STEP  6 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1244E-01 (  1, 13, 19) -0.1021E-02 (  1, 14, 12)  0.6017E-04 (  1, 12, 10)
0
  3 ITERATIONS FOR TIME STEP  7 IN STRESS PERIOD  2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1665E-01 (  1, 13, 19) -0.1974E-02 (  1, 14, 12)  0.1413E-03 (  1, 12, 10)
0
  3 ITERATIONS FOR TIME STEP  8 IN STRESS PERIOD  2
```

0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.2167E-01 (1, 13, 19) -0.3660E-02 (1, 14, 12) -0.3565E-03 (1, 12, 15)
0
3 ITERATIONS FOR TIME STEP 9 IN STRESS PERIOD 2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.2736E-01 (1, 13, 19) -0.6499E-02 (1, 14, 11) -0.8990E-03 (1, 12, 15)
0
4 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD 2
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.3360E-01 (1, 13, 19) -0.1104E-01 (1, 14, 11) -0.2108E-02 (1, 12, 15) -0.2754E-03 (1, 14, 14)
0
1 HEAD IN LAYER 1 AT END OF TIME STEP 10 IN STRESS PERIOD 2

	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25					
0 1	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 2	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 3	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 4	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 5	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 6	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 7	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 8	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 9	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 10	13.00	13.00	13.00	13.00	13.00	13.00	12.99	12.99	12.99	12.99
	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	13.00
	13.00	13.00	13.00	13.00	13.00					
0 11	13.00	13.00	13.00	13.00	13.00	13.00	12.98	12.98	12.98	12.98
	12.98	12.98	12.98	12.98	12.98	12.98	12.98	12.97	12.97	13.00
	13.00	13.00	13.00	13.00	13.00					
0 12	13.00	13.00	13.00	13.00	13.00	13.00	12.93	12.93	12.92	12.92
	12.92	12.92	12.92	12.92	12.92	12.92	12.92	12.92	12.91	13.00
	13.00	13.00	13.00	13.00	13.00					

```
0 13 13.00    13.00    13.00    13.00    13.00    12.99    12.84    12.84    12.84    12.83
     12.83    12.83    12.83    12.83    12.83    12.83    12.83    12.82    12.81    12.99
     13.00    13.00    13.00    13.00    13.00
0 14 13.00    13.00    13.00    13.00    13.00    13.00    12.93    12.93    12.92    12.92
     12.92    12.92    12.92    12.92    12.92    12.92    12.92    12.92    12.91    13.00
     13.00    13.00    13.00    13.00    13.00
0 15 13.00    13.00    13.00    13.00    13.00    13.00    12.98    12.98    12.98    12.98
     12.98    12.98    12.98    12.98    12.98    12.98    12.98    12.97    12.97    13.00
     13.00    13.00    13.00    13.00    13.00
0 16 13.00    13.00    13.00    13.00    13.00    13.00    12.99    12.99    12.99    12.99
     12.99    12.99    12.99    12.99    12.99    12.99    12.99    12.99    12.99    13.00
     13.00    13.00    13.00    13.00    13.00
0 17 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 18 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 19 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 20 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 21 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 22 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 23 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 24 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 25 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
1          DRAWDOWN IN LAYER 1 AT END OF TIME STEP 10 IN STRESS PERIOD 2
```

```
     1        2        3        4        5        6        7        8        9        10
     11       12       13       14       15       16       17       18       19       20
     21       22       23       24       25
```

```
0 1 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.9073E-06
    1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
    9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0 2 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
    9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
    9.5367E-07 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 3 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 2.8610E-06 2.8610E-06
    1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 2.8610E-06 2.8610E-06 1.9073E-06 1.9073E-06 9.5367E-07
    1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0 4 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.1444E-05 1.2398E-05 1.4305E-05 1.4305E-05
    1.4305E-05 1.4305E-05 1.4305E-05 1.4305E-05 1.4305E-05 1.5259E-05 1.6212E-05 1.5259E-05 1.5259E-05 9.5367E-07
    9.5367E-07 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 5 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 1.0490E-05 1.2875E-04 1.4305E-04 1.4877E-04 1.5068E-04
    1.5163E-04 1.5259E-04 1.5354E-04 1.5354E-04 1.5450E-04 1.5736E-04 1.6212E-04 1.7071E-04 1.8024E-04 1.4305E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 6 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 1.9073E-05 2.7370E-04 3.0136E-04 3.1281E-04 3.2043E-04
    3.2425E-04 3.2520E-04 3.2616E-04 3.2711E-04 3.2806E-04 3.3188E-04 3.4237E-04 3.5954E-04 3.8052E-04 2.7657E-05
```

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    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0  7 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 2.5749E-05 3.8433E-04 4.2057E-04 4.3774E-04 4.4823E-04
    4.5300E-04 4.5490E-04 4.5586E-04 4.5681E-04 4.5776E-04 4.6253E-04 4.7684E-04 5.0163E-04 5.3120E-04 3.7193E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0  8 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 4.0054E-05 6.2561E-04 6.8378E-04 7.0953E-04 7.2670E-04
    7.3338E-04 7.3624E-04 7.3814E-04 7.3910E-04 7.4196E-04 7.5054E-04 7.7248E-04 8.1158E-04 8.6117E-04 5.7220E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0  9 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 2.8610E-06 9.3460E-05 1.5974E-03 1.7319E-03 1.7948E-03 1.8349E-03
    1.8511E-03 1.8578E-03 1.8616E-03 1.8654E-03 1.8730E-03 1.8940E-03 1.9455E-03 2.0418E-03 2.1715E-03 1.3256E-04
    2.8610E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 10 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 6.6757E-06 3.0613E-04 6.0005E-03 6.4325E-03 6.6395E-03 6.7825E-03
    6.8455E-03 6.8693E-03 6.8827E-03 6.8951E-03 6.9218E-03 6.9923E-03 7.1592E-03 7.4921E-03 7.9784E-03 4.2343E-04
    7.6294E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 11 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 1.4305E-05 9.0504E-04 2.0696E-02 2.1895E-02 2.2504E-02 2.2944E-02
    2.3185E-02 2.3269E-02 2.3309E-02 2.3348E-02 2.3424E-02 2.3602E-02 2.4093E-02 2.5104E-02 2.6722E-02 1.2197E-03
    2.0027E-05 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 12 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 3.3379E-05 2.5158E-03 7.0583E-02 7.3540E-02 7.5244E-02 7.6335E-02
    7.6772E-02 7.6986E-02 7.7101E-02 7.7219E-02 7.7460E-02 7.8096E-02 7.9547E-02 8.2358E-02 8.7509E-02 3.3054E-03
    4.5776E-05 1.9073E-06 -9.5367E-07 9.5367E-07 0.0000E+00
0 13 0.0000E+00 9.5367E-07 -9.5367E-07 1.9073E-06 7.6294E-05 7.2632E-03 0.1569    0.1605    0.1633    0.1651
    0.1661    0.1664    0.1666    0.1668    0.1672    0.1682    0.1706    0.1753    0.1861    9.2325E-03
    1.0300E-04 1.9073E-06 -9.5367E-07 9.5367E-07 0.0000E+00
0 14 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 3.3379E-05 2.5158E-03 7.0591E-02 7.3557E-02 7.5243E-02 7.6325E-02
    7.6824E-02 7.7038E-02 7.7149E-02 7.7262E-02 7.7495E-02 7.8101E-02 7.9534E-02 8.2353E-02 8.7508E-02 3.3054E-03
    4.5776E-05 1.9073E-06 -9.5367E-07 9.5367E-07 0.0000E+00
0 15 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 1.4305E-05 9.0504E-04 2.0711E-02 2.1934E-02 2.2564E-02 2.2972E-02
    2.3155E-02 2.3227E-02 2.3263E-02 2.3298E-02 2.3371E-02 2.3571E-02 2.4092E-02 2.5104E-02 2.6722E-02 1.2197E-03
    2.0027E-05 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 16 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 6.6757E-06 3.0613E-04 6.0024E-03 6.4373E-03 6.6462E-03 6.7844E-03
    6.8550E-03 6.8808E-03 6.8932E-03 6.9056E-03 6.9294E-03 6.9914E-03 7.1592E-03 7.4930E-03 7.9794E-03 4.2343E-04
    7.6294E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 17 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 2.8610E-06 9.3460E-05 1.5984E-03 1.7319E-03 1.7929E-03 1.8330E-03
    1.8520E-03 1.8597E-03 1.8635E-03 1.8682E-03 1.8759E-03 1.8969E-03 1.9464E-03 2.0418E-03 2.1715E-03 1.3256E-04
    2.8610E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 18 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 4.0054E-05 6.2656E-04 6.8378E-04 7.0858E-04 7.2384E-04
    7.3147E-04 7.3528E-04 7.3719E-04 7.3814E-04 7.4196E-04 7.5150E-04 7.7248E-04 8.1158E-04 8.6117E-04 5.7220E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 19 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 2.5749E-05 3.8433E-04 4.2152E-04 4.3678E-04 4.4632E-04
    4.5109E-04 4.5300E-04 4.5395E-04 4.5490E-04 4.5776E-04 4.6349E-04 4.7779E-04 5.0163E-04 5.3120E-04 3.7193E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 20 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 1.9073E-06 1.9073E-05 2.7370E-04 3.0136E-04 3.1281E-04 3.1948E-04
    3.2234E-04 3.2425E-04 3.2520E-04 3.2520E-04 3.2711E-04 3.3188E-04 3.4237E-04 3.5954E-04 3.8052E-04 2.7657E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 21 0.0000E+00 9.5367E-07 0.0000E+00 9.5367E-07 9.5367E-07 1.0490E-05 1.2875E-04 1.4305E-04 1.4877E-04 1.5163E-04
    1.5259E-04 1.5259E-04 1.5259E-04 1.5354E-04 1.5354E-04 1.5640E-04 1.6308E-04 1.7071E-04 1.8024E-04 1.4305E-05
    1.9073E-06 9.5367E-07 0.0000E+00 9.5367E-07 0.0000E+00
0 22 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.1444E-05 1.2398E-05 1.4305E-05 1.4305E-05
    1.4305E-05 1.4305E-05 1.4305E-05 1.4305E-05 1.5259E-05 1.5259E-05 1.6212E-05 1.5259E-05 1.5259E-05 9.5367E-07
    9.5367E-07 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 23 0.0000E+00 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 1.9073E-06 2.8610E-06 2.8610E-06
    1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 2.8610E-06 2.8610E-06 1.9073E-06 1.9073E-06 9.5367E-07
    1.9073E-06 1.9073E-06 9.5367E-07 1.9073E-06 0.0000E+00
0 24 0.0000E+00 9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07 9.5367E-07 9.5367E-07
    9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 -9.5367E-07 -9.5367E-07 -9.5367E-07
    9.5367E-07 9.5367E-07 -9.5367E-07 9.5367E-07 0.0000E+00
0 25 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.9073E-06
    1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07
    9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0
```

VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 10 IN STRESS PERIOD 2

TRANSIENT-STATE SIMULATION

```
0          CUMULATIVE VOLUMES     L**3                    RATES FOR THIS TIME STEP     L**3/T

             IN:                                      IN:
             --                                       --
              STORAGE =   1102.0                          STORAGE =   999.97
            CONSTANT HEAD = 0.13373E-02                     CONSTANT HEAD =  0.12330E-02
               WELLS =  0.00000E+00                        WELLS =  0.00000E+00
0             TOTAL IN =   1102.0                         TOTAL IN =   999.97
0            OUT:                                     OUT:
             ---                                      ---
              STORAGE =   1.1276                          STORAGE =  0.15061
            CONSTANT HEAD =  0.52265E-05                    CONSTANT HEAD =  0.00000E+00
               WELLS =   1100.0                           WELLS =   1000.0
0             TOTAL OUT =   1101.1                        TOTAL OUT =   1000.2
0             IN - OUT =  0.87329                         IN - OUT = -0.18103
0        PERCENT DISCREPANCY =          0.08              PERCENT DISCREPANCY =          -0.02


0


     TIME SUMMARY AT END OF TIME STEP 10 IN STRESS PERIOD  2
                        SECONDS    MINUTES    HOURS     DAYS       YEARS
                  ------------------------------------------------------
   TIME STEP LENGTH      29308.3     488.471    8.14118    0.339216    0.928723E-03
  STRESS PERIOD TIME     86400.0     1440.00    24.0000     1.00000    0.273785E-02
 TOTAL SIMULATION TIME   95040.0     1584.00    26.4000     1.10000    0.301164E-02
1
1                        STRESS PERIOD NO.  3, LENGTH =  10.00000
                         ----------------------------

                         NUMBER OF TIME STEPS =   10

                         MULTIPLIER FOR DELT =    1.500

                        INITIAL TIME STEP SIZE = 0.8823783E-01
0REUSING WELLS FROM LAST STRESS PERIOD
0
   3 ITERATIONS FOR TIME STEP   1 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.9198E-02 (  1, 13, 19) -0.1067E-02 (  1, 14, 12) -0.8000E-04 (  1, 12, 15)
0
   3 ITERATIONS FOR TIME STEP   2 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1287E-01 (  1, 13, 19) -0.2144E-02 (  1, 14, 12) -0.2244E-03 (  1, 12, 15)
0
   3 ITERATIONS FOR TIME STEP   3 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1760E-01 (  1, 13, 19) -0.4124E-02 (  1, 14, 12) -0.5875E-03 (  1, 12, 15)
0
   4 ITERATIONS FOR TIME STEP   4 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
```

```
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.2340E-01 ( 1, 13, 19) -0.7532E-02 ( 1, 14, 12) -0.1427E-02 ( 1, 12, 15) -0.1798E-03 ( 1, 14, 14)
0
   4 ITERATIONS FOR TIME STEP  5 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.3025E-01 ( 1, 12, 19) -0.1298E-01 ( 1, 14, 11) -0.3191E-02 ( 1, 12, 15) -0.5309E-03 ( 1, 14, 14)
0
   5 ITERATIONS FOR TIME STEP  6 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.3942E-01 ( 1, 12, 19) -0.2084E-01 ( 1, 14, 11) -0.6537E-02 ( 1, 12, 15) -0.1382E-02 ( 1, 14, 14) -0.3841E-03 ( 1, 12, 12)
0
   5 ITERATIONS FOR TIME STEP  7 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.4911E-01 ( 1, 12, 19) -0.3101E-01 ( 1, 14, 11) -0.1224E-01 ( 1, 12, 15) -0.3180E-02 ( 1, 14, 14) -0.8770E-03 ( 1, 12, 11)
0
   6 ITERATIONS FOR TIME STEP  8 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.5827E-01 ( 1, 12, 19) -0.4306E-01 ( 1, 14, 10) -0.2098E-01 ( 1, 12, 15) -0.6517E-02 ( 1, 14, 14) -0.1813E-02 ( 1, 12, 11)
 -0.9540E-03 ( 1, 14, 11)
0
   7 ITERATIONS FOR TIME STEP  9 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.6576E-01 ( 1, 12, 19) -0.5580E-01 ( 1, 14,  9) -0.3301E-01 ( 1, 12, 15) -0.1203E-01 ( 1, 14, 14)-0.3420E-02 ( 1, 12, 11)
 -0.1824E-02 ( 1, 14, 11)  0.4676E-03 ( 1, 19, 12)
0
   9 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD  3
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------
 -0.7341E-01 ( 1, 11, 19) -0.6813E-01 ( 1, 14,  9) -0.4791E-01 ( 1, 12, 15) -0.2143E-01 ( 1, 15, 15) -0.5988E-02 ( 1, 12, 12)
 -0.3028E-02 ( 1, 14, 11)  0.1271E-02 ( 1, 20, 11)  0.1181E-02 ( 1, 19, 12)  0.2584E-03 ( 1, 20, 13)
0
1            HEAD IN LAYER  1 AT END OF TIME STEP 10 IN STRESS PERIOD  3
      ----------------------------------------------------------------------
       1      2      3      4      5      6      7      8      9     10
      11     12     13     14     15     16     17     18     19     20
      21     22     23     24     25
-----------------------------------------------------------------------------------
0 1  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00
     13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00
     13.00  13.00  13.00  13.00  13.00
0 2  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00
     13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00  13.00
     13.00  13.00  13.00  13.00  13.00
```

TRANSIENT-STATE SIMULATION

0 3	13.00	13.00	13.00	13.00	13.00	13.00	12.99	12.99	12.99	12.99
	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	13.00
	13.00	13.00	13.00	13.00	13.00					
0 4	13.00	13.00	13.00	13.00	13.00	12.98	12.95	12.95	12.95	12.94
	12.94	12.94	12.94	12.94	12.94	12.94	12.94	12.95	12.95	12.98
	13.00	13.00	13.00	13.00	13.00					
0 5	13.00	13.00	13.00	13.00	13.00	12.97	12.91	12.89	12.89	12.89
	12.89	12.89	12.89	12.89	12.89	12.89	12.89	12.89	12.90	12.97
	13.00	13.00	13.00	13.00	13.00					
0 6	13.00	13.00	13.00	13.00	13.00	12.96	12.89	12.87	12.87	12.87
	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.88	12.96
	12.99	13.00	13.00	13.00	13.00					
0 7	13.00	13.00	13.00	13.00	12.99	12.96	12.88	12.86	12.86	12.86
	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.86	12.87	12.96
	12.99	13.00	13.00	13.00	13.00					
0 8	13.00	13.00	13.00	13.00	12.99	12.96	12.86	12.84	12.84	12.84
	12.83	12.83	12.83	12.83	12.83	12.83	12.83	12.84	12.85	12.95
	12.99	13.00	13.00	13.00	13.00					
0 9	13.00	13.00	13.00	13.00	12.99	12.94	12.81	12.79	12.79	12.79
	12.79	12.79	12.79	12.79	12.79	12.79	12.79	12.79	12.80	12.94
	12.99	13.00	13.00	13.00	13.00					
0 10	13.00	13.00	13.00	13.00	12.99	12.93	12.73	12.71	12.70	12.70
	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.72	12.92
	12.99	13.00	13.00	13.00	13.00					
0 11	13.00	13.00	13.00	13.00	12.99	12.90	12.62	12.60	12.59	12.59
	12.59	12.59	12.59	12.59	12.59	12.59	12.59	12.59	12.60	12.90
	12.99	13.00	13.00	13.00	13.00					
0 12	13.00	13.00	13.00	13.00	12.99	12.88	12.45	12.43	12.43	12.42
	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.87
	12.99	13.00	13.00	13.00	13.00					
0 13	13.00	13.00	13.00	13.00	12.99	12.84	12.31	12.31	12.31	12.30
	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.29	12.28	12.83
	12.99	13.00	13.00	13.00	13.00					
0 14	13.00	13.00	13.00	13.00	12.99	12.88	12.45	12.43	12.43	12.42
	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.42	12.87
	12.99	13.00	13.00	13.00	13.00					
0 15	13.00	13.00	13.00	13.00	12.99	12.90	12.62	12.60	12.59	12.59
	12.59	12.59	12.59	12.59	12.59	12.59	12.59	12.59	12.60	12.90
	12.99	13.00	13.00	13.00	13.00					
0 16	13.00	13.00	13.00	13.00	12.99	12.93	12.73	12.71	12.70	12.70
	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.72	12.92
	12.99	13.00	13.00	13.00	13.00					
0 17	13.00	13.00	13.00	13.00	12.99	12.94	12.81	12.79	12.79	12.79
	12.79	12.79	12.79	12.79	12.79	12.79	12.79	12.79	12.80	12.94
	12.99	13.00	13.00	13.00	13.00					
0 18	13.00	13.00	13.00	13.00	12.99	12.96	12.86	12.84	12.84	12.84
	12.83	12.83	12.83	12.83	12.83	12.83	12.83	12.84	12.85	12.95
	12.99	13.00	13.00	13.00	13.00					
0 19	13.00	13.00	13.00	13.00	12.99	12.96	12.88	12.86	12.86	12.86
	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.86	12.87	12.96
	12.99	13.00	13.00	13.00	13.00					
0 20	13.00	13.00	13.00	13.00	13.00	12.96	12.89	12.87	12.87	12.87
	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.88	12.96
	12.99	13.00	13.00	13.00	13.00					
0 21	13.00	13.00	13.00	13.00	13.00	12.97	12.91	12.89	12.89	12.89
	12.89	12.89	12.89	12.89	12.89	12.89	12.89	12.89	12.90	12.97
	13.00	13.00	13.00	13.00	13.00					
0 22	13.00	13.00	13.00	13.00	13.00	12.98	12.95	12.95	12.95	12.94
	12.94	12.94	12.94	12.94	12.94	12.94	12.94	12.95	12.95	12.98
	13.00	13.00	13.00	13.00	13.00					
0 23	13.00	13.00	13.00	13.00	13.00	13.00	12.99	12.99	12.99	12.99
	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	12.99	13.00
	13.00	13.00	13.00	13.00	13.00					

```
0 24 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
0 25 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
1          DRAWDOWN IN LAYER  1 AT END OF TIME STEP 10 IN STRESS PERIOD  3
           ----------------------------------------------------------------

     1        2        3        4        5        6        7        8        9       10
    11       12       13       14       15       16       17       18       19       20
    21       22       23       24       25
.......................................................................................
0  1 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06
     1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 2.8610E-06 1.9073E-06 1.9073E-06
     9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0  2 0.0000E+00 9.5367E-07 -1.9073E-06 2.8610E-06 1.8120E-05 8.3923E-05 1.8501E-04 2.2221E-04 2.3365E-04 2.3651E-04
     2.3746E-04 2.3746E-04 2.3746E-04 2.3746E-04 2.3746E-04 2.3651E-04 2.2984E-04 1.9550E-04 9.0599E-05
     1.9073E-05 3.8147E-06 -1.9073E-06 9.5367E-07 0.0000E+00
0  3 0.0000E+00 9.5367E-07 5.7220E-06 8.4877E-05 7.4768E-04 4.2686E-03 1.0460E-02 1.2356E-02 1.2867E-02 1.3024E-02
     1.3067E-02 1.3081E-02 1.3086E-02 1.3091E-02 1.3100E-02 1.3110E-02 1.3070E-02 1.2744E-02 1.1067E-02 4.5700E-03
     8.0681E-04 9.2506E-05 6.6757E-06 9.5367E-07 0.0000E+00
0  4 0.0000E+00 9.5367E-07 1.4305E-05 2.4033E-04 2.4729E-03 1.6605E-02 4.5932E-02 5.3165E-02 5.4966E-02 5.5521E-02
     5.5681E-02 5.5734E-02 5.5758E-02 5.5779E-02 5.5816E-02 5.5879E-02 5.5806E-02 5.4785E-02 4.8521E-02 1.7736E-02
     2.6608E-03 2.5940E-04 1.5259E-05 9.5367E-07 0.0000E+00
0  5 0.0000E+00 9.5367E-07 2.0027E-05 3.6907E-04 4.1504E-03 3.0918E-02 9.3731E-02 0.1065    0.1094    0.1103
     0.1106    0.1107    0.1107    0.1108    0.1109    0.1110    0.1110    0.1096    9.8810E-02 3.2950E-02
     4.4594E-03 3.9864E-04 2.0981E-05 9.5367E-07 0.0000E+00
0  6 0.0000E+00 9.5367E-07 2.1935E-05 4.1389E-04 4.7579E-03 3.6466E-02 0.1136    0.1283    0.1316    0.1327
     0.1330    0.1331    0.1331    0.1332    0.1333    0.1335    0.1335    0.1320    0.1197    3.8837E-02
     5.1088E-03 4.4632E-04 2.2888E-05 9.5367E-07 0.0000E+00
0  7 0.0000E+00 9.5367E-07 2.1935E-05 4.3678E-04 5.0764E-03 3.9446E-02 0.1246    0.1402    0.1438    0.1449
     0.1452    0.1453    0.1454    0.1455    0.1456    0.1458    0.1458    0.1442    0.1312    4.1999E-02
     5.4493E-03 4.7112E-04 2.3842E-05 9.5367E-07 0.0000E+00
0  8 0.0000E+00 9.5367E-07 2.3842E-05 4.7207E-04 5.5761E-03 4.4236E-02 0.1426    0.1598    0.1636    0.1649
     0.1653    0.1654    0.1655    0.1655    0.1656    0.1658    0.1659    0.1643    0.1501    4.7077E-02
     5.9834E-03 5.0926E-04 2.5749E-05 9.5367E-07 0.0000E+00
0  9 0.0000E+00 9.5367E-07 2.6703E-05 5.4646E-04 6.6595E-03 5.5152E-02 0.1860    0.2063    0.2107    0.2121
     0.2126    0.2128    0.2129    0.2129    0.2131    0.2133    0.2135    0.2120    0.1956    5.8636E-02
     7.1411E-03 5.8842E-04 2.8610E-05 9.5367E-07 0.0000E+00
0 10 0.0000E+00 9.5367E-07 3.0518E-05 6.4945E-04 8.2893E-03 7.3430E-02 0.2673    0.2912    0.2962    0.2979
     0.2985    0.2987    0.2988    0.2989    0.2991    0.2995    0.3000    0.2990    0.2807    7.7945E-02
     8.8787E-03 7.0000E-04 3.3379E-05 9.5367E-07 0.0000E+00
0 11 0.0000E+00 9.5367E-07 3.4332E-05 7.4863E-04 9.9878E-03 9.5148E-02 0.3797    0.4046    0.4095    0.4114
     0.4122    0.4124    0.4126    0.4127    0.4130    0.4136    0.4146    0.4148    0.3980    0.1008
     1.0684E-02 8.0585E-04 3.7193E-05 9.5367E-07 0.0000E+00
0 12 0.0000E+00 1.9073E-06 3.7193E-05 8.4305E-04 1.1754E-02 0.1221    0.5513    0.5700    0.5742    0.5762
     0.5771    0.5774    0.5776    0.5778    0.5781    0.5790    0.5809    0.5837    0.5768    0.1291
     1.2559E-02 9.0694E-04 4.0054E-05 1.9073E-06 0.0000E+00
0 13 0.0000E+00 9.5367E-07 4.0054E-05 9.1839E-04 1.3404E-02 0.1594    0.6864    0.6906    0.6937    0.6957
     0.6967    0.6971    0.6973    0.6975    0.6979    0.6990    0.7014    0.7064    0.7173    0.1682
     1.4305E-02 9.8705E-04 4.2915E-05 1.9073E-06 0.0000E+00
0 14 0.0000E+00 1.9073E-06 3.7193E-05 8.4305E-04 1.1753E-02 0.1221    0.5513    0.5700    0.5742    0.5762
     0.5771    0.5775    0.5776    0.5778    0.5782    0.5790    0.5809    0.5837    0.5768    0.1291
     1.2559E-02 9.0694E-04 4.0054E-05 1.9073E-06 0.0000E+00
0 15 0.0000E+00 9.5367E-07 3.4332E-05 7.4863E-04 9.9869E-03 9.5139E-02 0.3797    0.4046    0.4096    0.4116
     0.4123    0.4126    0.4127    0.4128    0.4131    0.4136    0.4147    0.4148    0.3980    0.1008
     1.0685E-02 8.0585E-04 3.7193E-05 9.5367E-07 0.0000E+00
0 16 0.0000E+00 9.5367E-07 3.0518E-05 6.4945E-04 8.2884E-03 7.3417E-02 0.2673    0.2912    0.2962    0.2980
     0.2986    0.2988    0.2989    0.2990    0.2992    0.2996    0.3001    0.2990    0.2807    7.7947E-02
     8.8787E-03 7.0000E-04 3.3379E-05 9.5367E-07 0.0000E+00
0 17 0.0000E+00 9.5367E-07 2.6703E-05 5.4550E-04 6.6586E-03 5.5137E-02 0.1858    0.2062    0.2107    0.2122
     0.2127    0.2129    0.2130    0.2130    0.2132    0.2134    0.2136    0.2120    0.1956    5.8638E-02
```

```
   7.1411E-03 5.8842E-04 2.8610E-05 9.5367E-07 0.0000E+00
0 18 0.0000E+00 9.5367E-07 2.3842E-05 4.7207E-04 5.5752E-03 4.4225E-02 0.1425    0.1597    0.1636    0.1649
   0.1653    0.1655    0.1655    0.1656    0.1657    0.1660    0.1661    0.1644    0.1501    4.7079E-02
   5.9834E-03 5.0926E-04 2.5749E-05 9.5367E-07 0.0000E+00
0 19 0.0000E+00 9.5367E-07 2.1935E-05 4.3678E-04 5.0755E-03 3.9436E-02 0.1245    0.1401    0.1437    0.1448
   0.1452    0.1453    0.1454    0.1455    0.1456    0.1459    0.1459    0.1443    0.1312    4.2001E-02
   5.4493E-03 4.7112E-04 2.3842E-05 9.5367E-07 0.0000E+00
0 20 0.0000E+00 9.5367E-07 2.1935E-05 4.1389E-04 4.7569E-03 3.6457E-02 0.1135    0.1282    0.1316    0.1326
   0.1329    0.1330    0.1331    0.1332    0.1333    0.1336    0.1336    0.1320    0.1197    3.8839E-02
   5.1088E-03 4.4632E-04 2.2888E-05 9.5367E-07 0.0000E+00
0 21 0.0000E+00 9.5367E-07 2.0027E-05 3.6907E-04 4.1494E-03 3.0910E-02 9.3699E-02 0.1064    0.1094    0.1103
   0.1106    0.1107    0.1107    0.1108    0.1109    0.1111    0.1111    0.1096    9.8816E-02 3.2951E-02
   4.4594E-03 3.9864E-04 2.0981E-05 9.5367E-07 0.0000E+00
0 22 0.0000E+00 9.5367E-07 1.4305E-05 2.4033E-04 2.4719E-03 1.6602E-02 4.5930E-02 5.3174E-02 5.4984E-02 5.5551E-02
   5.5714E-02 5.5764E-02 5.5785E-02 5.5805E-02 5.5838E-02 5.5894E-02 5.5825E-02 5.4798E-02 4.8525E-02 1.7737E-02
   2.6617E-03 2.5940E-04 1.5259E-05 9.5367E-07 0.0000E+00
0 23 0.0000E+00 9.5367E-07 5.7220E-06 8.4877E-05 7.4768E-04 4.2677E-03 1.0460E-02 1.2360E-02 1.2877E-02 1.3036E-02
   1.3077E-02 1.3089E-02 1.3094E-02 1.3099E-02 1.3105E-02 1.3113E-02 1.3069E-02 1.2743E-02 1.1068E-02 4.5700E-03
   8.0681E-04 9.2506E-05 6.6757E-06 9.5367E-07 0.0000E+00
0 24 0.0000E+00 9.5367E-07 -1.9073E-06 2.8610E-06 1.8120E-05 8.3923E-05 1.8501E-04 2.2221E-04 2.3365E-04 2.3651E-04
   2.3746E-04 2.3746E-04 2.3746E-04 2.3746E-04 2.3746E-04 2.3842E-04 2.3651E-04 2.2984E-04 1.9550E-04 9.0599E-05
   1.9073E-05 3.8147E-06 -1.9073E-06 9.5367E-07 0.0000E+00
0 25 0.0000E+00 9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06
   1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 1.9073E-06 2.8610E-06 1.9073E-06 1.9073E-06
   9.5367E-07 9.5367E-07 9.5367E-07 9.5367E-07 0.0000E+00
0

          VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 10 IN STRESS PERIOD 3
          ------------------------------------------------------------------------
0        CUMULATIVE VOLUMES    L**3                    RATES FOR THIS TIME STEP    L**3/T
         ----------                                    ----------

           IN:                                        IN:
           --                                         --
            STORAGE =   11102.                          STORAGE =   999.97
         CONSTANT HEAD =  0.11443E-01                     CONSTANT HEAD =  0.98692E-03
             WELLS =  0.00000E+00                         WELLS =  0.00000E+00
0           TOTAL IN =   11102.                         TOTAL IN =   999.98
0          OUT:                                       OUT:
           ---                                        ---
            STORAGE =   1.4606                          STORAGE =  0.00000E+00
         CONSTANT HEAD =  0.52265E-05                     CONSTANT HEAD =  0.00000E+00
             WELLS =   11100.                           WELLS =   1000.0
0           TOTAL OUT =   11101.                        TOTAL OUT =   1000.0
0           IN - OUT =  0.55859                        IN - OUT = -0.24109E-01
0       PERCENT DISCREPANCY =          0.01             PERCENT DISCREPANCY =          0.00


0


TIME SUMMARY AT END OF TIME STEP 10 IN STRESS PERIOD 3
                    SECONDS    MINUTES    HOURS     DAYS       YEARS
                    -------------------------------------------------
   TIME STEP LENGTH    293083.    4884.71    81.4118    3.39216    0.928722E-02
  STRESS PERIOD TIME   864000.    14400.0    240.000    10.0000    0.273785E-01
 TOTAL SIMULATION TIME 959040.    15984.0    266.400    11.1000    0.303901E-01
1
1                    STRESS PERIOD NO.  4, LENGTH =  50.00000
```

TRANSIENT-STATE SIMULATION

```
                    NUMBER OF TIME STEPS =   10

                    MULTIPLIER FOR DELT =   1.500

                  INITIAL TIME STEP SIZE = 0.4411891
0REUSING WELLS FROM LAST STRESS PERIOD
0
   4 ITERATIONS FOR TIME STEP  1 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1457E-01 (  1, 12, 18) -0.6156E-02 (  1, 14, 11) -0.2197E-02 (  1,  7, 13) -0.2794E-03 (  1, 14, 14)
0
   4 ITERATIONS FOR TIME STEP  2 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.1994E-01 (  1, 12, 18) -0.1052E-01 (  1, 14, 11) -0.4103E-02 (  1,  7, 12) -0.7578E-03 (  1, 14, 14)
0
   5 ITERATIONS FOR TIME STEP  3 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.2644E-01 (  1, 12, 19) -0.1677E-01 (  1, 14, 11) -0.7302E-02 (  1,  7, 12) -0.1836E-02 (  1, 14, 14)  0.5669E-03 (  1,  7, 12)
0
   6 ITERATIONS FOR TIME STEP  4 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.3441E-01 (  1, 11, 19) -0.2490E-01 (  1, 14, 10) -0.1243E-01 (  1, 12, 15) -0.3991E-02 (  1, 14, 14) -0.1208E-02 (  1, 12, 11)
 -0.6012E-03 (  1, 14, 11)
0
   7 ITERATIONS FOR TIME STEP  5 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.4392E-01 (  1, 11, 19) -0.3482E-01 (  1, 14, 10) -0.2102E-01 (  1, 12, 15) -0.7850E-02 (  1, 15, 15)  0.2406E-02 (  1,  7, 10)
 -0.1229E-02 (  1, 14, 11)  0.5157E-03 (  1, 19, 12)
0
   9 ITERATIONS FOR TIME STEP  6 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.5331E-01 (  1, 11, 19) -0.4599E-01 (  1, 14,  9) -0.3280E-01 (  1, 12, 15) -0.1540E-01 (  1, 15, 15)  0.4869E-02 (  1,  8,  8)
 -0.2178E-02 (  1, 14, 11)  0.1218E-02 (  1, 20, 12)  0.1061E-02 (  1, 19, 13)  0.2125E-03 (  1, 20, 14)
0
   9 ITERATIONS FOR TIME STEP  7 IN STRESS PERIOD  4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE
LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL
-----------------------------------------------------------------------------------------
 -0.6238E-01 (  1, 10, 19) -0.5661E-01 (  1, 14,  9) -0.4732E-01 (  1, 12, 15) -0.2701E-01 (  1, 15, 15)  0.8720E-02 (  1,  8,  7)
 -0.3404E-02 (  1, 14, 11)  0.2262E-02 (  1, 20, 11)  0.2018E-02 (  1, 19, 13)  0.4416E-03 (  1, 21, 15)
0
   9 ITERATIONS FOR TIME STEP  8 IN STRESS PERIOD  4
```

0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.7010E-01 (1, 10, 19) -0.6588E-01 (1, 14, 8) -0.6344E-01 (1, 12, 15) -0.4300E-01 (1, 15, 15) -0.1504E-01 (1, 8, 16)
-0.4788E-02 (1, 14, 10) 0.3302E-02 (1, 20, 11) 0.2996E-02 (1, 19, 13) 0.6906E-03 (1, 21, 14)
0
10 ITERATIONS FOR TIME STEP 9 IN STRESS PERIOD 4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.7575E-01 (1, 17, 19) -0.7222E-01 (1, 14, 8) -0.7958E-01 (1, 12, 14) -0.6315E-01 (1, 15, 15) -0.2631E-01 (1, 8, 16)
-0.6274E-02 (1, 14, 10) 0.4623E-02 (1, 21, 10) 0.3691E-02 (1, 19, 12) -0.1023E-02 (1, 11, 15) -0.8698E-03 (1, 20, 10)
0
11 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD 4
0MAXIMUM HEAD CHANGE FOR EACH ITERATION:
0 HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL HEAD CHANGE LAYER,ROW,COL

-0.8530E-01 (1, 22, 19) -0.7515E-01 (1, 14, 7) -0.9440E-01 (1, 12, 11) -0.8792E-01 (1, 19, 12) -0.4205E-01 (1, 8, 15)
0.7998E-02 (1, 21, 9) 0.5858E-02 (1, 21, 10) 0.3813E-02 (1, 20, 12) -0.1741E-02 (1, 12, 12) -0.1105E-02 (1, 21, 10)
0.3238E-03 (1, 9, 10)
0
1 HEAD IN LAYER 1 AT END OF TIME STEP 10 IN STRESS PERIOD 4

	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25					
0 1	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
	13.00	13.00	13.00	13.00	13.00					
0 2	13.00	13.00	13.00	13.00	12.99	12.98	12.97	12.96	12.96	12.96
	12.96	12.96	12.96	12.96	12.96	12.96	12.96	12.96	12.97	12.98
	12.99	13.00	13.00	13.00	13.00					
0 3	13.00	13.00	12.99	12.97	12.91	12.79	12.69	12.65	12.64	12.64
	12.64	12.64	12.64	12.64	12.64	12.64	12.64	12.65	12.69	12.79
	12.91	12.97	12.99	13.00	13.00					
0 4	13.00	13.00	12.99	12.96	12.87	12.68	12.48	12.42	12.40	12.40
	12.40	12.40	12.40	12.40	12.40	12.40	12.40	12.41	12.48	12.67
	12.87	12.96	12.99	13.00	13.00					
0 5	13.00	13.00	12.99	12.96	12.85	12.60	12.34	12.26	12.24	12.24
	12.23	12.23	12.23	12.23	12.23	12.23	12.24	12.25	12.33	12.60
	12.85	12.96	12.99	13.00	13.00					
0 6	13.00	13.00	12.99	12.96	12.84	12.58	12.29	12.21	12.19	12.18
	12.18	12.18	12.18	12.18	12.18	12.18	12.18	12.20	12.27	12.57
	12.84	12.95	12.99	13.00	13.00					
0 7	13.00	13.00	12.99	12.95	12.84	12.57	12.26	12.18	12.16	12.15
	12.15	12.15	12.15	12.15	12.15	12.15	12.15	12.17	12.25	12.56
	12.84	12.95	12.99	13.00	13.00					
0 8	13.00	13.00	12.99	12.95	12.84	12.55	12.22	12.13	12.11	12.11
	12.11	12.10	12.10	12.10	12.10	12.10	12.11	12.12	12.20	12.54
	12.83	12.95	12.99	13.00	13.00					
0 9	13.00	13.00	12.99	12.95	12.83	12.51	12.12	12.04	12.02	12.01
	12.01	12.01	12.01	12.01	12.01	12.01	12.01	12.03	12.11	12.50
	12.82	12.95	12.99	13.00	13.00					
0 10	13.00	13.00	12.99	12.95	12.82	12.46	11.98	11.89	11.87	11.87
	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.88	11.96	12.45
	12.81	12.95	12.99	13.00	13.00					
0 11	13.00	13.00	12.99	12.95	12.81	12.40	11.80	11.73	11.71	11.71
	11.71	11.71	11.71	11.71	11.71	11.71	11.71	11.72	11.78	12.39

```
     12.80    12.95    12.99    13.00    13.00
0 12 13.00    13.00    12.99    12.95    12.80    12.34    11.57    11.52    11.51    11.51
     11.51    11.51    11.51    11.51    11.51    11.51    11.51    11.51    11.54    12.33
     12.79    12.94    12.99    13.00    13.00
0 13 13.00    13.00    12.99    12.95    12.79    12.27    11.40    11.39    11.39    11.39
     11.39    11.39    11.39    11.39    11.39    11.39    11.38    11.38    11.37    12.26
     12.79    12.94    12.99    13.00    13.00
0 14 13.00    13.00    12.99    12.95    12.80    12.34    11.57    11.52    11.51    11.51
     11.51    11.51    11.51    11.51    11.51    11.51    11.51    11.51    11.54    12.33
     12.79    12.94    12.99    13.00    13.00
0 15 13.00    13.00    12.99    12.95    12.81    12.40    11.80    11.73    11.71    11.71
     11.71    11.71    11.71    11.71    11.71    11.71    11.71    11.72    11.78    12.39
     12.80    12.95    12.99    13.00    13.00
0 16 13.00    13.00    12.99    12.95    12.82    12.46    11.98    11.89    11.87    11.87
     11.87    11.87    11.87    11.87    11.87    11.87    11.87    11.88    11.96    12.45
     12.81    12.95    12.99    13.00    13.00
0 17 13.00    13.00    12.99    12.95    12.83    12.51    12.12    12.04    12.02    12.01
     12.01    12.01    12.01    12.01    12.01    12.01    12.01    12.03    12.11    12.50
     12.82    12.95    12.99    13.00    13.00
0 18 13.00    13.00    12.99    12.95    12.84    12.55    12.22    12.13    12.11    12.11
     12.10    12.10    12.10    12.10    12.10    12.10    12.11    12.12    12.20    12.54
     12.83    12.95    12.99    13.00    13.00
0 19 13.00    13.00    12.99    12.95    12.84    12.57    12.26    12.18    12.16    12.15
     12.15    12.15    12.15    12.15    12.15    12.15    12.15    12.17    12.25    12.56
     12.84    12.95    12.99    13.00    13.00
0 20 13.00    13.00    12.99    12.96    12.84    12.58    12.29    12.21    12.19    12.18
     12.18    12.18    12.18    12.18    12.18    12.18    12.18    12.20    12.27    12.57
     12.84    12.95    12.99    13.00    13.00
0 21 13.00    13.00    12.99    12.96    12.85    12.60    12.34    12.26    12.24    12.24
     12.23    12.23    12.23    12.23    12.23    12.23    12.24    12.25    12.33    12.60
     12.85    12.96    12.99    13.00    13.00
0 22 13.00    13.00    12.99    12.96    12.87    12.68    12.48    12.42    12.40    12.40
     12.40    12.40    12.40    12.40    12.40    12.40    12.40    12.41    12.48    12.67
     12.87    12.96    12.99    13.00    13.00
0 23 13.00    13.00    12.99    12.97    12.91    12.79    12.69    12.65    12.64    12.64
     12.64    12.64    12.64    12.64    12.64    12.64    12.64    12.65    12.69    12.79
     12.91    12.97    12.99    13.00    13.00
0 24 13.00    13.00    13.00    13.00    12.99    12.98    12.97    12.96    12.96    12.96
     12.96    12.96    12.96    12.96    12.96    12.96    12.96    12.96    12.97    12.98
     12.99    13.00    13.00    13.00    13.00
0 25 13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00    13.00
     13.00    13.00    13.00    13.00    13.00
1          DRAWDOWN IN LAYER  1 AT END OF TIME STEP 10 IN STRESS PERIOD  4
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     1        2        3        4        5        6        7        8        9        10
     11       12       13       14       15       16       17       18       19       20
     21       22       23       24       25
.......................................................................................
0  1 0.0000E+00 1.0490E-05 6.0081E-05 1.9455E-04 4.4346E-04 7.6294E-04 1.0042E-03 1.1129E-03 1.1454E-03 1.1539E-03
    1.1549E-03 1.1559E-03 1.1559E-03 1.1559E-03 1.1559E-03 1.1549E-03 1.1482E-03 1.1187E-03 1.0138E-03 7.7438E-04
    4.5109E-04 1.9836E-04 6.1035E-05 1.0490E-05 0.0000E+00
0  2 0.0000E+00 1.5831E-04 1.2007E-03 4.5729E-03 1.1869E-02 2.2787E-02 3.1533E-02 3.5419E-02 3.6551E-02 3.6852E-02
    3.6910E-02 3.6922E-02 3.6926E-02 3.6928E-02 3.6927E-02 3.6898E-02 3.6661E-02 3.5634E-02 3.1904E-02 2.3173E-02
    1.2129E-02 4.6883E-03 1.2341E-03 1.6308E-04 0.0000E+00
0  3 0.0000E+00 7.0190E-04 6.4240E-03 2.9411E-02 9.0847E-02 0.2055    0.3080    0.3491    0.3607    0.3638
    0.3644    0.3645    0.3646    0.3646    0.3646    0.3643    0.3620    0.3516    0.3123    0.2093
    9.2943E-02 3.0182E-02 6.6090E-03 7.2289E-04 0.0000E+00
0  4 0.0000E+00 8.5449E-04 8.1196E-03 3.9121E-02 0.1296    0.3225    0.5152    0.5804    0.5979    0.6025
    0.6034    0.6036    0.6037    0.6038    0.6038    0.6035    0.6003    0.5851    0.5230    0.3288
    0.1326    4.0148E-02 8.3532E-03 8.8024E-04 0.0000E+00
0  5 0.0000E+00 9.1648E-04 8.8434E-03 4.3621E-02 0.1498    0.3952    0.6629    0.7399    0.7595    0.7646
```

```
    0.7656    0.7659    0.7660    0.7661    0.7662    0.7660    0.7627    0.7463    0.6736    0.4031
    0.1533    4.4767E-02 9.0981E-03 9.4414E-04 0.0000E+00
0 6 0.0000E+00 9.3365E-04 9.0542E-03 4.4958E-02 0.1561    0.4192    0.7148    0.7949    0.8149    0.8201
    0.8212    0.8215    0.8216    0.8217    0.8218    0.8217    0.8184    0.8018    0.7265    0.4276
    0.1597    4.6139E-02 9.3145E-03 9.6226E-04 0.0000E+00
0 7 0.0000E+00 9.4223E-04 9.1562E-03 4.5615E-02 0.1592    0.4314    0.7419    0.8234    0.8436    0.8489
    0.8501    0.8504    0.8505    0.8506    0.8507    0.8505    0.8473    0.8307    0.7542    0.4401
    0.1629    4.6814E-02 9.4204E-03 9.7084E-04 0.0000E+00
0 8 0.0000E+00 9.5463E-04 9.3069E-03 4.6583E-02 0.1638    0.4500    0.7844    0.8678    0.8881    0.8936
    0.8948    0.8951    0.8952    0.8953    0.8954    0.8952    0.8921    0.8756    0.7975    0.4592
    0.1676    4.7808E-02 9.5739E-03 9.8419E-04 0.0000E+00
0 9 0.0000E+00 9.7847E-04 9.5892E-03 4.8435E-02 0.1729    0.4886    0.8770    0.9630    0.9833    0.9888
    0.9901    0.9904    0.9905    0.9906    0.9908    0.9906    0.9877    0.9718    0.8921    0.4986
    0.1770    4.9708E-02 9.8658E-03 1.0080E-03 0.0000E+00
0 10 0.0000E+00 1.0042E-03 9.9125E-03 5.0610E-02 0.1842    0.5424    1.023     1.107     1.126     1.131
    1.133     1.133     1.133     1.133     1.133     1.134     1.131     1.118     1.042     0.5537
    0.1885    5.1941E-02 1.0199E-02 1.0347E-03 0.0000E+00
0 11 0.0000E+00 1.0252E-03 1.0172E-02 5.2399E-02 0.1940    0.5969    1.197     1.271     1.286     1.291
    1.292     1.292     1.292     1.293     1.293     1.293     1.292     1.284     1.220     0.6095
    0.1986    5.3777E-02 1.0465E-02 1.0567E-03 0.0000E+00
0 12 0.0000E+00 1.0414E-03 1.0382E-02 5.3880E-02 0.2028    0.6560    1.434     1.477     1.486     1.489
    1.490     1.491     1.491     1.491     1.491     1.492     1.493     1.493     1.463     0.6699
    0.2076    5.5297E-02 1.0680E-02 1.0738E-03 0.0000E+00
0 13 0.0000E+00 1.0529E-03 1.0521E-02 5.4893E-02 0.2094    0.7274    1.600     1.605     1.609     1.611
    1.612     1.612     1.613     1.613     1.613     1.614     1.617     1.622     1.634     0.7430
    0.2144    5.6336E-02 1.0824E-02 1.0843E-03 0.0000E+00
0 14 0.0000E+00 1.0414E-03 1.0382E-02 5.3879E-02 0.2028    0.6559    1.434     1.477     1.486     1.489
    1.490     1.491     1.491     1.491     1.491     1.492     1.493     1.493     1.463     0.6699
    0.2076    5.5297E-02 1.0681E-02 1.0738E-03 0.0000E+00
0 15 0.0000E+00 1.0252E-03 1.0172E-02 5.2397E-02 0.1940    0.5969    1.197     1.271     1.286     1.290
    1.292     1.292     1.292     1.292     1.293     1.293     1.292     1.284     1.220     0.6095
    0.1986    5.3778E-02 1.0465E-02 1.0567E-03 0.0000E+00
0 16 0.0000E+00 1.0042E-03 9.9125E-03 5.0608E-02 0.1842    0.5424    1.023     1.107     1.126     1.131
    1.133     1.133     1.133     1.133     1.134     1.134     1.132     1.118     1.042     0.5537
    0.1885    5.1942E-02 1.0199E-02 1.0347E-03 0.0000E+00
0 17 0.0000E+00 9.7847E-04 9.5892E-03 4.8432E-02 0.1729    0.4885    0.8768    0.9629    0.9833    0.9889
    0.9902    0.9906    0.9907    0.9908    0.9910    0.9909    0.9880    0.9720    0.8922    0.4986
    0.1770    4.9709E-02 9.8658E-03 1.0080E-03 0.0000E+00
0 18 0.0000E+00 9.5463E-04 9.3060E-03 4.6580E-02 0.1638    0.4500    0.7842    0.8677    0.8882    0.8939
    0.8952    0.8956    0.8957    0.8958    0.8959    0.8956    0.8923    0.8757    0.7976    0.4592
    0.1676    4.7809E-02 9.5749E-03 9.8419E-04 0.0000E+00
0 19 0.0000E+00 9.4223E-04 9.1562E-03 4.5612E-02 0.1591    0.4313    0.7418    0.8233    0.8437    0.8493
    0.8507    0.8510    0.8511    0.8512    0.8512    0.8509    0.8475    0.8308    0.7542    0.4401
    0.1629    4.6815E-02 9.4204E-03 9.7084E-04 0.0000E+00
0 20 0.0000E+00 9.3365E-04 9.0532E-03 4.4954E-02 0.1560    0.4191    0.7146    0.7948    0.8150    0.8206
    0.8219    0.8222    0.8223    0.8224    0.8224    0.8221    0.8186    0.8019    0.7266    0.4276
    0.1597    4.6141E-02 9.3145E-03 9.6226E-04 0.0000E+00
0 21 0.0000E+00 9.1648E-04 8.8434E-03 4.3617E-02 0.1498    0.3951    0.6628    0.7398    0.7596    0.7650
    0.7661    0.7664    0.7665    0.7666    0.7666    0.7663    0.7629    0.7464    0.6737    0.4031
    0.1533    4.4768E-02 9.0981E-03 9.4414E-04 0.0000E+00
0 22 0.0000E+00 8.5449E-04 8.1196E-03 3.9117E-02 0.1296    0.3224    0.5151    0.5804    0.5979    0.6026
    0.6036    0.6038    0.6039    0.6039    0.6040    0.6037    0.6004    0.5852    0.5230    0.3288
    0.1326    4.0150E-02 8.3542E-03 8.8024E-04 0.0000E+00
0 23 0.0000E+00 7.0095E-04 6.4230E-03 2.9408E-02 9.0831E-02 0.2054    0.3079    0.3491    0.3607    0.3638
    0.3644    0.3645    0.3646    0.3646    0.3646    0.3643    0.3620    0.3517    0.3123    0.2093
    9.2949E-02 3.0183E-02 6.6090E-03 7.2289E-04 0.0000E+00
0 24 0.0000E+00 1.5831E-04 1.2007E-03 4.5719E-03 1.1868E-02 2.2784E-02 3.1528E-02 3.5413E-02 3.6547E-02 3.6848E-02
    3.6906E-02 3.6919E-02 3.6922E-02 3.6925E-02 3.6923E-02 3.6896E-02 3.6659E-02 3.5635E-02 3.1906E-02 2.3175E-02
    1.2130E-02 4.6883E-03 1.2341E-03 1.6308E-04 0.0000E+00
0 25 0.0000E+00 1.0490E-05 6.0081E-05 1.9455E-04 4.4346E-04 7.6294E-04 1.0042E-03 1.1129E-03 1.1444E-03 1.1530E-03
    1.1549E-03 1.1549E-03 1.1559E-03 1.1559E-03 1.1559E-03 1.1549E-03 1.1482E-03 1.1187E-03 1.0138E-03 7.7438E-04
    4.5109E-04 1.9836E-04 6.1035E-05 1.0490E-05 0.0000E+00
0
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TRANSIENT-STATE SIMULATION

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                VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 10 IN STRESS PERIOD  4
                ------------------------------------------------------------------------------
0          CUMULATIVE VOLUMES     L**3                    RATES FOR THIS TIME STEP     L**3/T
           ---------                                      ---------------

             IN:                                          IN:
             --                                           --
              STORAGE =   61099.                            STORAGE =   999.82
           CONSTANT HEAD =   5.6364                          CONSTANT HEAD =  0.27729
               WELLS =  0.00000E+00                            WELLS =  0.00000E+00
0             TOTAL IN =   61105.                           TOTAL IN =   1000.1
0            OUT:                                         OUT:
             ---                                          ---
              STORAGE =   1.4719                            STORAGE =  0.00000E+00
           CONSTANT HEAD =  0.52265E-05                       CONSTANT HEAD =  0.00000E+00
               WELLS =   61100.                             WELLS =   1000.0
0             TOTAL OUT =   61101.                          TOTAL OUT =   1000.0
0             IN - OUT =   3.1055                          IN - OUT =  0.10022
0        PERCENT DISCREPANCY =          0.01                PERCENT DISCREPANCY =          0.01


0


      TIME SUMMARY AT END OF TIME STEP 10 IN STRESS PERIOD  4
                          SECONDS     MINUTES    HOURS      DAYS       YEARS
                          ---------------------------------------------------
   TIME STEP LENGTH      0.146541E+07  24423.5    407.059    16.9608    0.464361E-01
  STRESS PERIOD TIME     0.432000E+07  72000.0    1200.00    50.0000    0.136893
 TOTAL SIMULATION TIME   0.527904E+07  87984.0    1466.40    61.1000    0.167283
1
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31 August, 1995

MEMORANDUM

FROM: 1855

SUBJ: EXCAVATION OF OU1 LNAPL RECOVERY TRENCHES

- Three trenches were required for the LNAPL recovery system : Short trench - 20 feet in length, South trench - 195 feet, and the North trench - 240 feet.
- The work plan requires that the trenches be 20' deep and 14" wide. A 6" perforated HDPE (high density polyethylene) pipe wrapped in filter fabric was to be installed continuously at the bottom of the trenches on top of a 6" layer of pea gravel, the remainder of the trench being filled with the pea gravel up to a level 2 feet below ground surface. This pipe was being installed as a means of enhancing ground water flow through the pea gravel to the sumps located at both ends of each trench. This pipe serves no purpose at this point in the LNAPL recovery scheme, but was to be incorporated in design of a ground water extraction system at a later date should the system not perform up to expectations in the passive mode.
- The trenching contractor began the installation of the LNAPL recovery trenches on April 12, 1995.
- The short trench was installed in one hour (0840 to 0940). There were no problems noted on the daily report.
- Installation of the South trench began at 0850 on April 13. I was contacted later that morning by ROICC ConRep Larry Blackburn. Larry relayed that he had been informed by the Site Superintendent (Steve Johnston, Ebasco) that after trenching approximately 40 feet on the south trench the 6" HDPE pipe had broken and that the trenching operations had been halted. I then spoke personally with the Site Superintendent. He stated that pipe had broken and that if they continued trenching there would be a gap in the 6" piping of approximately 10 feet. After evaluating the function of the pipe in the proposed ground water extraction system, I concluded that a 10 foot break in the continuity of the pipe would not significantly reduce the performance. I contacted Mr. Johnston and directed him to continue trenching. At no time did I direct the contractor that it was acceptable to continue trenching without laying the pipe.
- I was contacted later that day by Mr. Johnston and he informed me that the trenching machine had encountered buried obstructions (tree stumps or trunks) which had stalled the trencher. He asked if they should change the direction of the trench or excavate the obstruction. I instructed him to excavate the obstructions and continue trenching.
- Larry and I visited the site on the morning of April 18 and during the course of our conversations with Mr. Johnston, he informed us that the remainder of the south trench was installed without the pipe. He also told us that the pipe had broken after 10 feet of trenching on the North trench and that it had also been completed without installing the remainder of the pipe. Concerning the north trench the daily report stated "smooth trenching the entire 240' length".

B.K. Moring, P.E.