

**WATER USE PERMIT APPLICATION AND
SUPPORTING DOCUMENTATION
FOR YOUNGQUIST BROTHERS
GREAT LAKES PROPERTY,
LEE COUNTY, FLORIDA**



MISSIMER & ASSOCIATES, INC.

Environmental and Groundwater Services

WATER USE PERMIT APPLICATION AND
SUPPORTING DOCUMENTATION
FOR YOUNGQUIST BROTHERS
GREAT LAKES PROPERTY,
LEE COUNTY, FLORIDA

Prepared for:

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ORIGINAL SUBMITTAL

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MAY 21 1991

WPB

Prepared by:

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Project Number CH1-532



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HYDROGEOLOGIC INVESTIGATION OF THE GREAT LAKES PROPERTY AREA

I. INTRODUCTION

Missimer & Associates, Inc. was contracted to apply and provide supporting information for a water use permit for irrigation of a 54 hole golf course to be located in Sections 15 and 16, Township 46 South, Range 26 East. Approximately 280 acres of golf course will be irrigated. The owner of the development is Youngquist Brothers, Inc. It is proposed that withdrawals for irrigation will come from on-site lakes. Water use is anticipated to begin in early 1992. A hydrologic investigation of the area was conducted including a background data study and computer hydraulic modeling to assess potential impacts of future surface water use. A general site location map is given in Figure 1, the locations of data wells and aquifer performance testing are shown in Figure 2. The results and conclusions of the study are included herein.

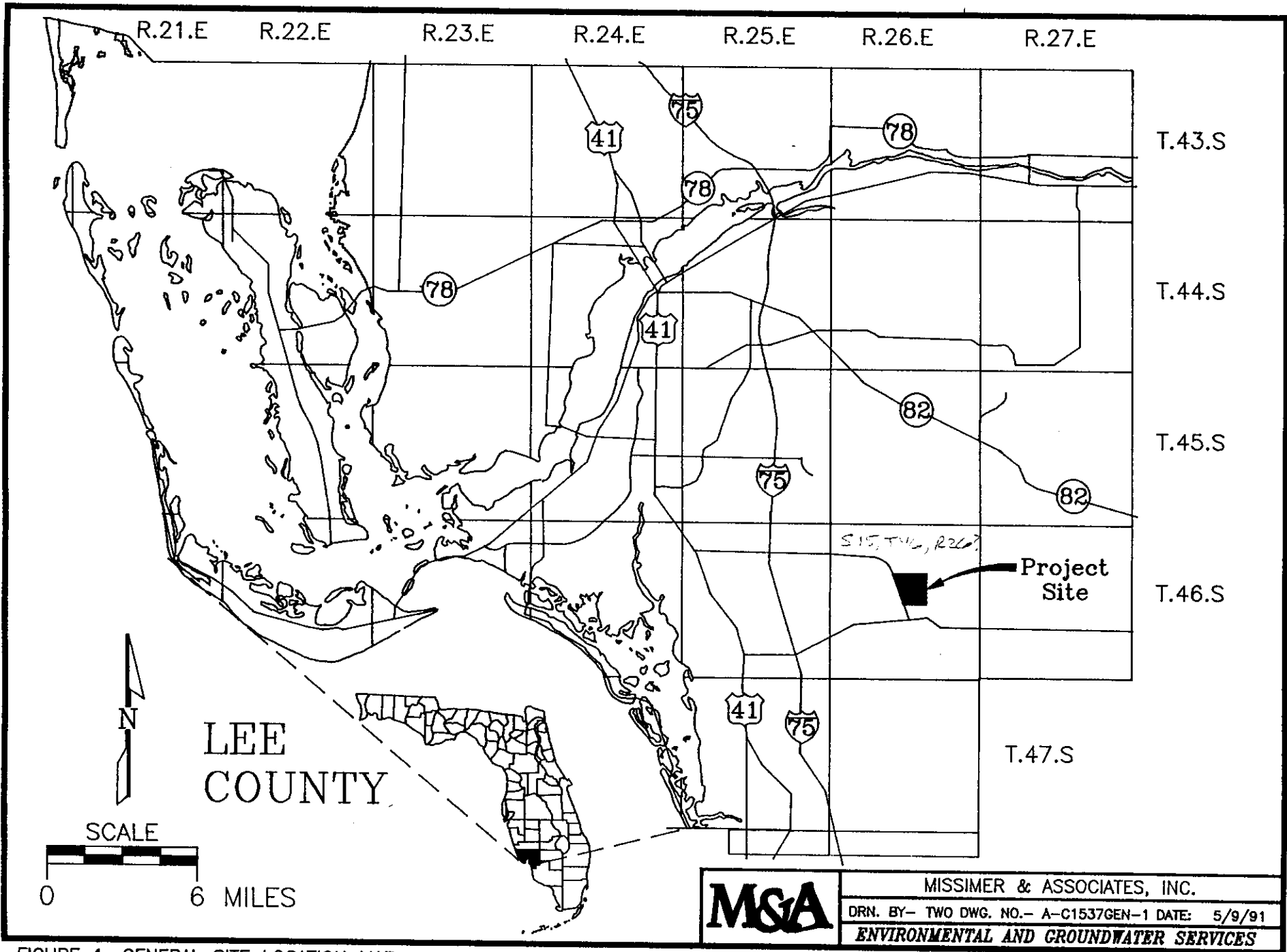


FIGURE 1. GENERAL SITE LOCATION MAP.

II. HYDROGEOLOGY

A. Geology

The near surface geology of the Great Lakes area is characterized by late Tertiary-age sediments and sedimentary rocks composed of interbedded clastic and carbonate materials of varying permeability. A generalized stratigraphic section is summarized below and schematically illustrated in Figure 3. Geologist's logs used to compile the site geology are given in Appendix C.

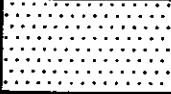

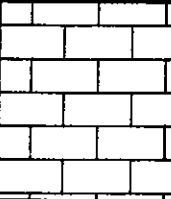

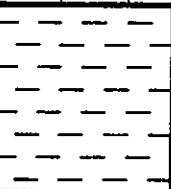
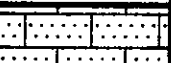
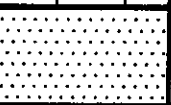
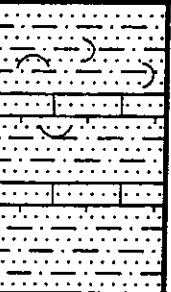
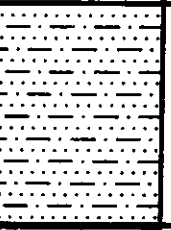
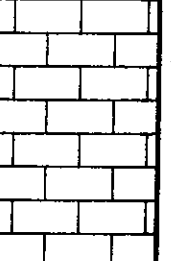
1. Pamlico Sand Formation

The Pamlico Sand is the uppermost formation present in the area. This stratigraphic unit is composed of very fine quartz sand and shell material with some interbedded clay and small amounts of organic detritus. The Pamlico Sand is not lithified, although in some areas seasonal fluctuations in groundwater levels have led to the creation of a thin, very hard, brown, crustal sandstone caprock in the upper section. The Pamlico formation is late Pleistocene in age and represents deposition in a shallow water, marine terrace setting. The formation varies in thickness from 5 feet to 14 feet in the Great Lakes area.

2. Ft. Thompson - Calooshatchee Marl

The undifferentiated Ft. Thompson - Calooshatchee Marl, a thin, discontinuous interval, unconformably underlies the Pamlico Sand. This stratigraphic unit, where present, consists of a heterogeneous mixture of poorly lithified limestone, calcareous sandstones and shell material. This unit is Pleistocene in age and ranges in thickness from 1 foot to 17 feet where present in this area.

DEPTH, IN FEET, RELATIVE TO MEAN SEA LEVEL

FORMATION	SYMBOL	LITHOLOGY	AQUIFER
PAMLICO SAND		SAND, QUARTZ, BROWN	WATER-TABLE AQUIFER
FT. THOMPSON-CAL MARL		LIMESTONE, SHELL, MARL	
TAMIAMI FORMATION		LIMESTONE	
BUCKINGHAM LIMESTONE		MARL, LIGHT GRAY	CONFINING BEDS
CAPE CORAL CLAY		CLAY, GREEN	
LEHIGH ACRES SANDSTONE		SANDSTONE, GRAY	SANDSTONE AQUIFER
		SAND, QUARTZ	
GREEN MEADOWS CLAY		CLAY, SAND, LIMESTONE, SHELL	CONFINING BEDS
FORT MYERS CLAY		CLAY, GRAY, SANDY, PHOSPHATIC	CONFINING BEDS
UNNAMED LIMESTONE		LIMESTONE, LT. GRAY, CLAYEY, PHOSPHATIC	MID HAWTHORN AQUIFER

HAWTHORN GROUP

PEACE RIVER FORMATION

ARCADIA



MISSIMER & ASSOCIATES, INC.

DRN. BY- JCS DWG. NO.- A-C1537COL-2 DATE: 5/9/91

ENVIRONMENTAL AND GROUNDWATER SERVICES

FIGURE 3. GENERALIZED HYDROSTRATIGRAPHIC COLUMN FOR SOUTHEASTERN LEE COUNTY.

3. Tamiami Formation

The uppermost section of the Tamiami Formation consists of a very porous, hard, tan, marine limestone with interbedded sandy limestone and calcareous sandstone. The unit contains solution cavities which accounts for its high porosity. This limestone is underlain by the Buckingham Limestone, a thin marly limestone sequence. It is a gray carbonate mud containing variable percentages of limestone, silt and shell. The thickness of the Tamiami Formation porous limestone unit ranges from 54 feet to 125 feet in this area; the underlying Buckingham Limestone ranges in thickness from 0 feet to 10 feet. This wide variation is attributed to a structural low to the southwest which can be traced at least to late Eocene deposits.

4. Hawthorn Group

The Miocene-age Hawthorn Group is a regionally extensive stratigraphic unit which underlies all of Florida and parts of southern Georgia and South Carolina. This Group is a mixed carbonate-clastic deposit consisting of phosphatic limestones, lime muds, sandstone, and dolomite of the Peace River and Arcadia formations. For the purpose of this report, the Hawthorn Group has been divided into five informal members (to a depth of 200 feet) which are described below in order of increasing depth.

a) Peace River Formation

The uppermost member of the Peace River Formation is the Cape Coral Clay member. This stratigraphic unit is a tight, green, carbonate mud with some quartz silt and sand. In the Great Lakes area it ranges in thickness from about 30 feet to 60 feet. The Lehigh Acres Sandstone member of the Hawthorn Formation underlies the Cape Coral Clay. This member is characterized by an interbedded sequence

of sandstones, limestones, and unconsolidated to poorly consolidated silty sands. Thickness of this unit averages 70 feet and permeability is generally fair to poor.

The Green Meadows Clay member of the Hawthorn formation underlies the Lehigh Acres Sandstone. This unit is a green, sandy, dolomitic, silty clay. Average thickness in the area is 40 feet.

The Fort Myers Clay member underlies the Green Meadows Clay. This unit is a gray, sandy, phosphatic clay about 30 feet thick. The contact between the Fort Myers Clay member and the Green Meadows Clay member is gradational in the Great Lakes area.

b) Arcadia Formation

An unnamed limestone unit of the Arcadia Formation underlies the Fort Myers Clay. This stratigraphic unit is a sandy, white to light gray, phosphatic, fossiliferous limestone with minor interbedded dolomite. In places this unit is characterized by good porosity. Thickness is approximately 25 to 50 feet.

The underlying lithology consists of a thick sequence of carbonate clays, marls, and minor limestone and dolomites providing significant confinement between the overlying sediments and the Floridan Aquifer system.

B. Aquifer Descriptions

1. Water Table Aquifer

The water-table aquifer is comprised of the hydraulically interconnected Pamlico Sand formation, Fort Thompson-Caloosahatchee marl and permeable limestone sections of the Tamiami Formation and Buckingham Limestone. This aquifer is

present under unconfined or semi-unconfined conditions. Recharge to the aquifer originates principally from rainfall, with some secondary recharge emanating from leakage from surface water bodies and movement of upgradient groundwater through the site. Discharge from the water-table aquifer occurs through evapotranspiration, drainage to surface water bodies, lateral groundwater flow with ultimate discharge to the area along the coastline or in the nearshore marine environment, and from pumpage of wells.

An aquifer test was performed on the water-table aquifer near the proposed site. The test yield transmissivity values ranging from 200,000 to 900,000 gallons per day per foot (gpd/ft). The storage coefficient ranges from 1.7×10^{-1} to 1.8×10^{-5} (Table 1).

The water table aquifer in south Lee County is generally characterized by water of moderately good quality. The average range of various dissolved chemical constituents in water from this aquifer are given in Table 2. Water in this aquifer is normally characterized by high concentrations of dissolved iron, low dissolved chlorides, high color, and a calcium/magnesium ratio of greater than 5. The water normally meets most recommended potable water standards set by the U.S. Environmental Protection Agency except for dissolved iron. The water table aquifer is susceptible to contamination by pesticides and fertilizers.

The lower confining boundary of the water-table aquifer is provided by the low permeability marls within the Buckingham Limestone and the underlying Cape Coral Clay.

TABLE 1. AQUIFER COEFFICIENTS CALCULATED FOR THE
WATER-TABLE AQUIFER
USING DIFFERENT ANALYSIS METHODS

ANALYSIS METHOD	T (gpd/ft)	S	K^1/b^1
1. Boulton U_A (semi-unconfined)	205,000	5.2×10^{-3}	
2. Boulton U_Y (semi-unconfined)	195,000	1.7×10^{-1}	
3. Hantush-Inflection (semi-confined)	300,500	2.0×10^{-5}	
4. Boulton (semi-confined)	900,000	8.0×10^{-4}	8.0×10^{-2}
5. Statistical Recovery (confined)	430,000		
6. Jacobs (confined)	776,000	1.8×10^{-5}	

T = Transmissivity
S = Storage Coefficient
 K^1/b^1 = Leakage Coefficient or Leakance

**TABLE 2. QUALITY OF WATER IN THE WATER-TABLE AQUIFER
IN SOUTH LEE COUNTY (BASED ON U.S.G.S. CHEMICAL
ANALYSES WITH EXTENDED RANGES)**

DISSOLVED CONSTITUENT	RANGE IN CONCENTRATION (mg/l)
Calcium	80-150
Magnesium	2-10
Sodium	10-60
Potassium	0.3-1.0
Strontium	0.2-0.5
Bicarbonate	200-400
Sulfate	0.2-5.0
Chloride	10-150
Nitrate	0.00-0.2
Nitrite	0.00-0.01
Fluoride	0.1-0.4
Phosphate (total ortho)	0.00-0.01
Total Dissolved Solids	200-400
Silica	6-15
Total hardness	200-500
Alkalinity	160-320
Iron	0.2-6.0

2. Sandstone Aquifer

The Sandstone Aquifer lies in the Lehigh Acres sandstone member of the Hawthorn Group. It is an artesian aquifer throughout nearly all of south Lee County. It varies in thickness from about 40 feet to more than 100 feet. This aquifer is not significantly present in the extreme western part of Lee County and it declines in significance to the south near the Collier County line. Facies changes in the Lehigh Acres sandstone, from limestone and sandstone into silty and sandy clays and marls, form the aquifer boundaries.

The Cape Coral clay forms the overlying confining bed for the Sandstone Aquifer. It is a carbonate mud of variable thickness from 30 to 60 feet and has a low vertical permeability. However, recharge to the aquifer occurs primarily from above, through this clay. The base of the aquifer is confined by various clay and marl beds within the Green Meadows clay member. Leakage could occur from minor water-bearing beds within the Green Meadows clay if the aquifer were artificially stressed (e.g., pumped).

An aquifer test was conducted on the Sandstone Aquifer in Section 22, one mile south of the Great Lakes property by the Missimer & Associates, Inc. (Figure 1). This test yielded transmissivity values ranging from about 15,250 to 28,000 gpd/ft (Table 3). The leakance coefficient for the upper confining clay is not well established, but is probably on the order of 1×10^{-3} to 1×10^{-4} gpd/ft².

Water in the Sandstone Aquifer is generally of potable quality. Dissolved chloride concentrations within the aquifer range from 35 to 120 mg/l. The total dissolved solids concentrations are slightly higher than in overlying aquifers and the dissolved iron is significantly lower. These and additional water quality parameters are given in Table 4.

TABLE 3. AQUIFER COEFFICIENTS CALCULATED FOR THE
 SANDSTONE AQUIFER
 USING DIFFERENT ANALYSIS METHODS ON THREE WELLS

WELL LM-931		
ANALYSIS METHOD	TRANSMISSIVITY (T) ¹	STORAGE COEFFICIENT (S)
Jacob semi-log (confined)	16,500	2.7 x 10 ⁻⁴
Chow (confined)	15,250	3.8 x 10 ⁻⁴
Statistical Recovery (confined)	27,000	----
WELL L-1984		
Jacob semi-log (confined)	18,850	1.7 x 10 ⁻⁴
Chow (confined)	17,200	6 x 10 ⁻⁴
Statistical Recovery (confined)	26,000	----
WELL L-2193		
Jacob semi-log (confined)	16,500	5.2 x 10 ⁻⁴
Chow (confined)	15,800	6.5 x 10 ⁻⁴
Statistical Recovery (confined)	28,000	----

TABLE 4.

QUALITY OF WATER IN THE
SANDSTONE AQUIFER
(BASED ON U.S.G.S. CHEMICAL ANALYSES)

DISSOLVED SOLIDS	RANGE IN CONCENTRATION (mg/l)
Calcium	52-91
Magnesium	18-20
Sodium	46-180
Potassium	2.8-10
Strontium	0.33-0.47
Bicarbonate	275-387
Sulfate	24-82
Chloride	35-120
Fluoride	0.5-1.5
Total dissolved solids	361-771
Silica	25-64
Total hardness	200-310
Alkalinity	226-317
Iron	0.02-0.08

3. Mid Hawthorn Aquifer

The Mid Hawthorn aquifer is comprised of the unnamed limestone unit of the Arcadia Formation occurring beneath a regional erosion disconformity. This aquifer is present under artesian confined conditions. Based upon wells drilled in the San Carlos Park area, transmissivities average 14,000 gpd/ft (Montgomery, 1988). Water quality in the aquifer is near potable throughout most of Lee County.

APPENDIX A

**Administrative Form RC-1A and Application
for a Water Use Permit Form RC-1W**

APPENDIX B

Supporting Documentation

SECTION I

Site Information

- A. The location sketch is included as Item I-1.
- B. The aerial photograph is included as Item I-2.
- C. Wetlands

Item I-3.

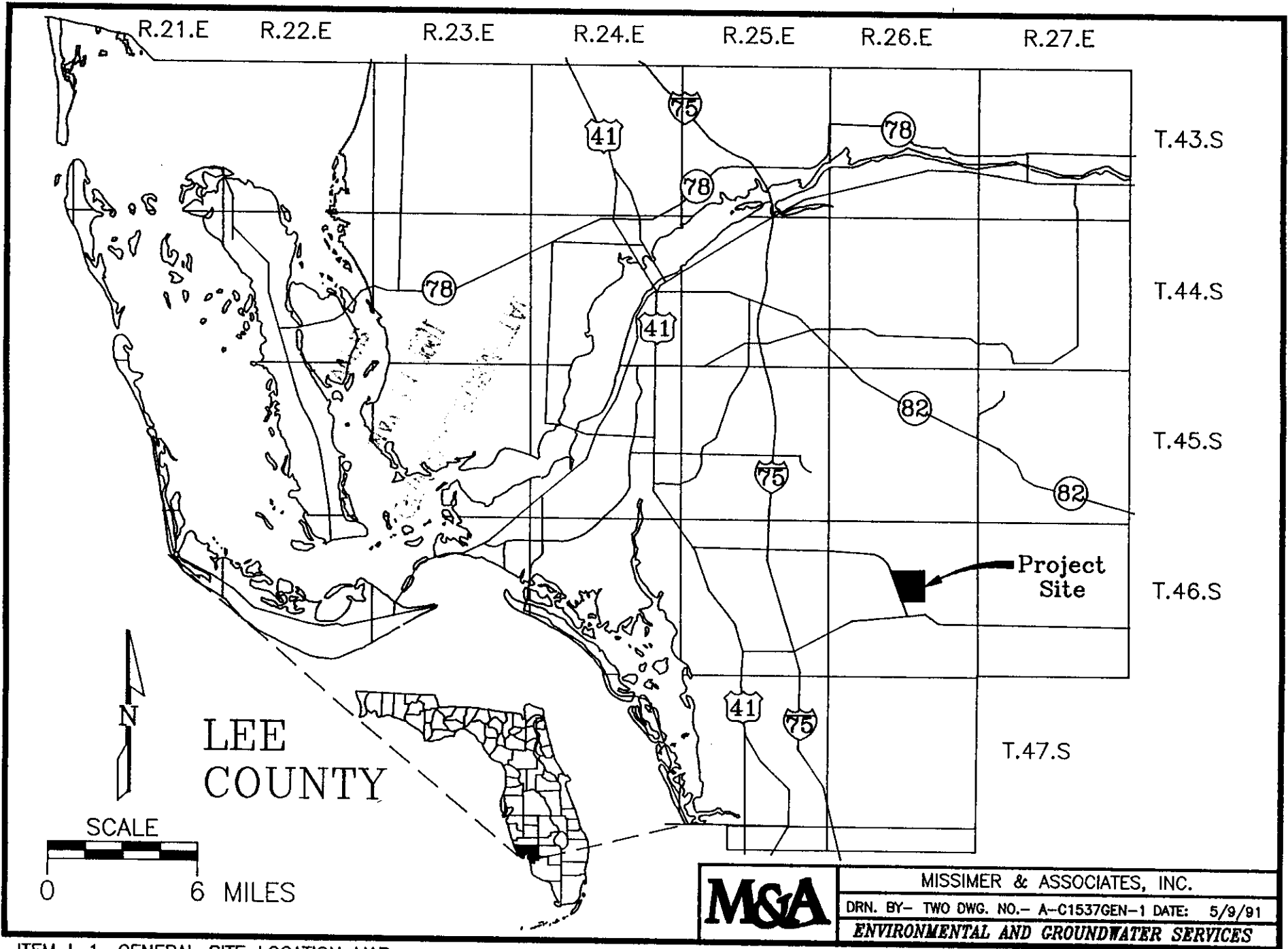
A map of existing cover is submitted as Item I-3.

Item I-4.

Proposed preservation techniques are detailed in the Surface Water Management Plan submitted under separate cover.

Item I-5.

N/A



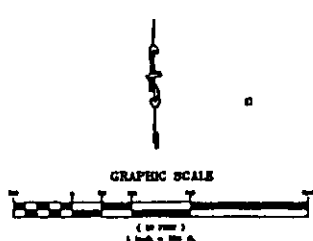
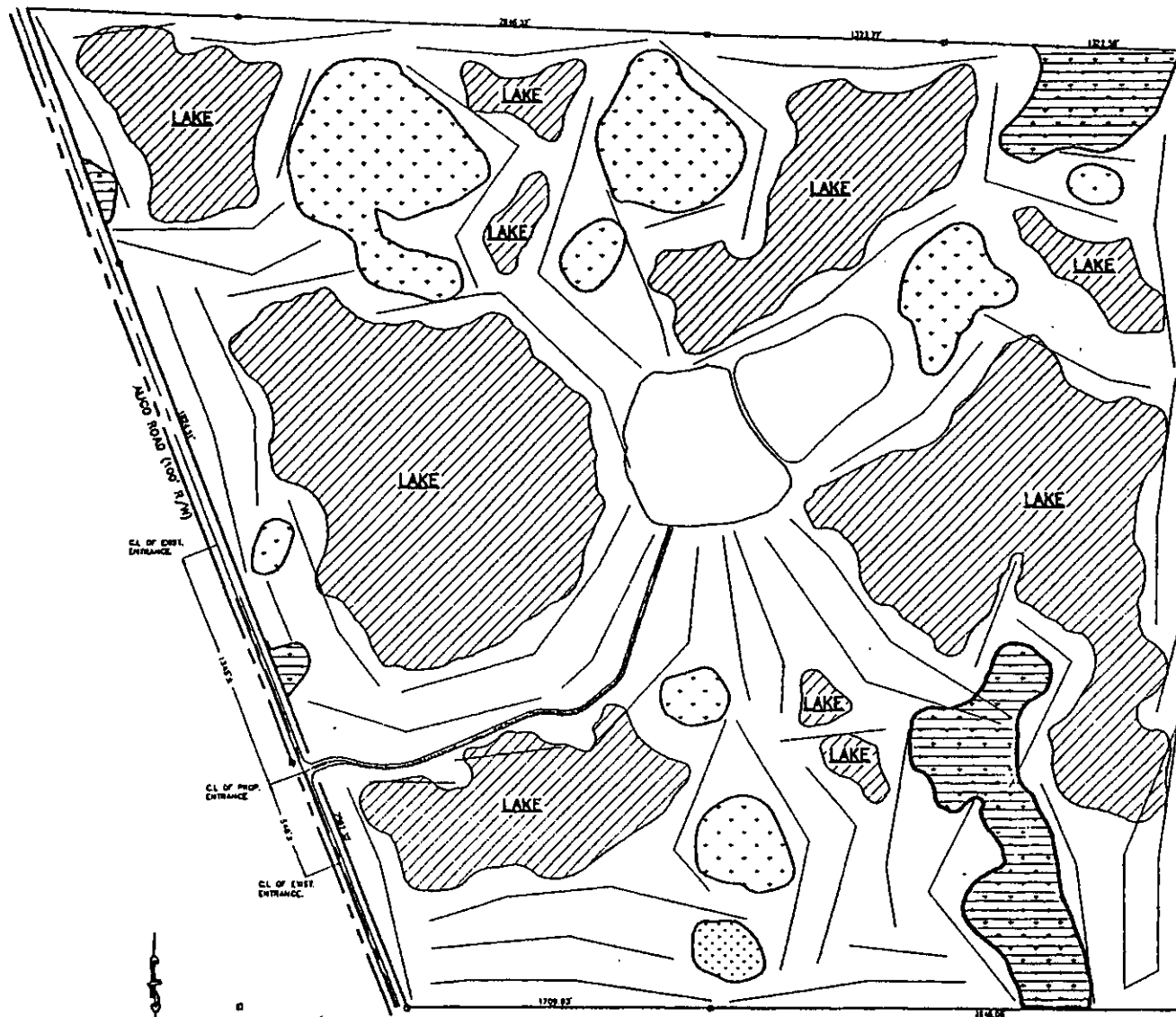
ITEM I-1. GENERAL SITE LOCATION MAP.



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DRN. BY- TWO DWG. NO.- A-C1537GEN-1 DATE: 5/9/91

ENVIRONMENTAL AND GROUNDWATER SERVICES



LEGEND

	LAKE
	ISOLATED WETLANDS
	NON-ISOLATED WETLANDS

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ITEM I-3. EXISTING WETLAND COVER

SECTION II

Project Information

- A.1. A Project map is included as Item II-1.
 - 2. It is proposed that water use will begin in early 1992.

- B. An application for modification of the existing, surface water management permit is being filed.

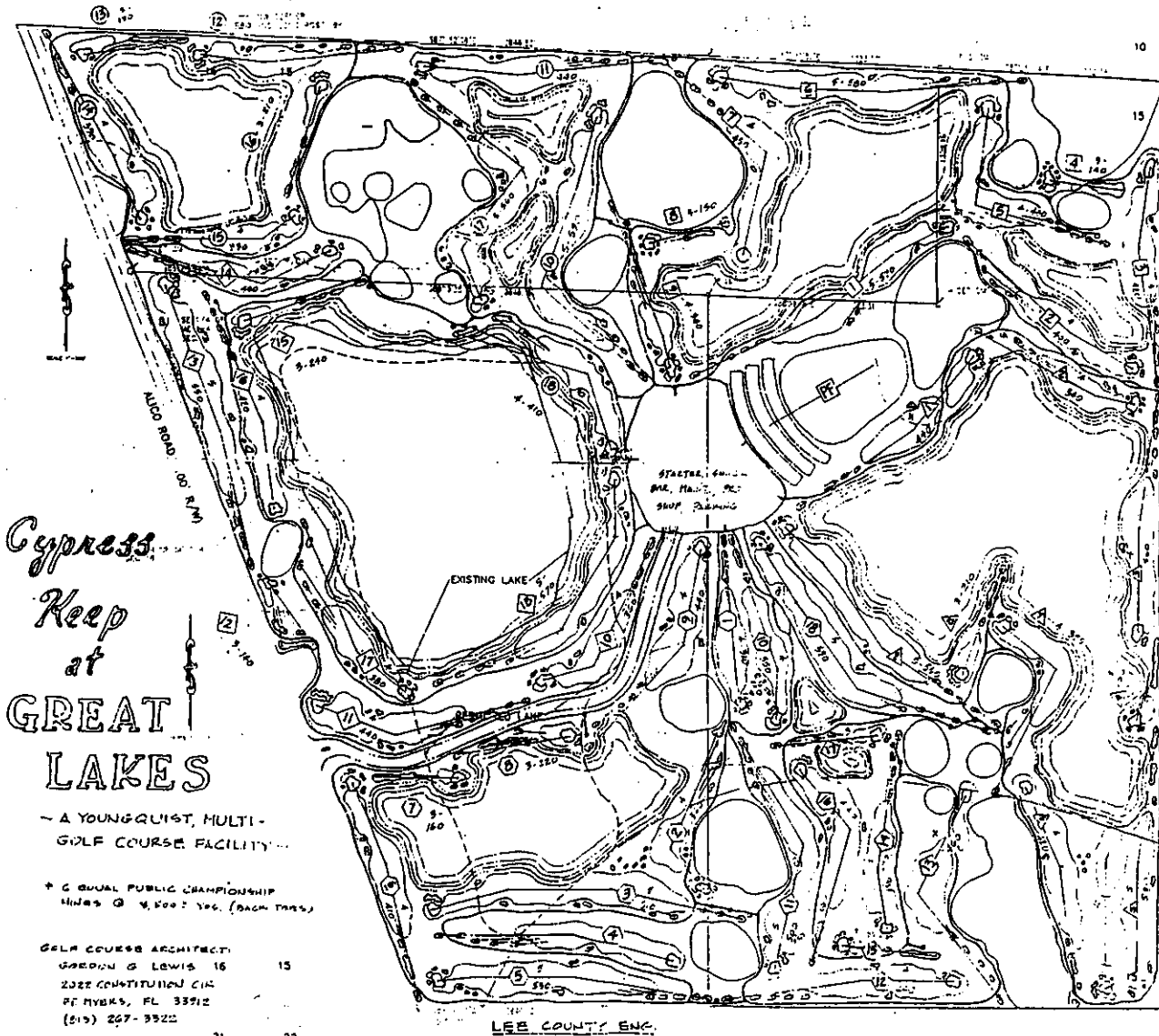
- C. A right of way permit will not be required.

- D.1. There are no existing or proposed wells.
 - 2. The proposed locations of surface water withdrawal pumps are included as Item II-2B.
 - 3. There are no existing or proposed withdrawal culverts.

- E.1. There are no existing water use problems and none are anticipated
 - 2. The evaluation of potential impacts associated with the proposed water withdrawals was performed utilizing a groundwater flow model. A brief report and data summary are included as Item II-4.

- F. There are no known pollution sources on or near the property.

- G. The type of water use is irrigation.



Cypress
 Keep
 at
**GREAT
 LAKES**

- A YOUNGQUIST, MULTI-GOLF COURSE FACILITY -
 + 9 EQUAL PUBLIC CHAMPIONSHIP Holes @ 9,500' Yds. (BACK TURNS)
 GOLF COURSE ARCHITECT:
 GORDON G. LEWIS 16 15
 2022 CONSTITUTION CIR
 FT MYERS, FL 33912
 (813) 267-3322
 21 22

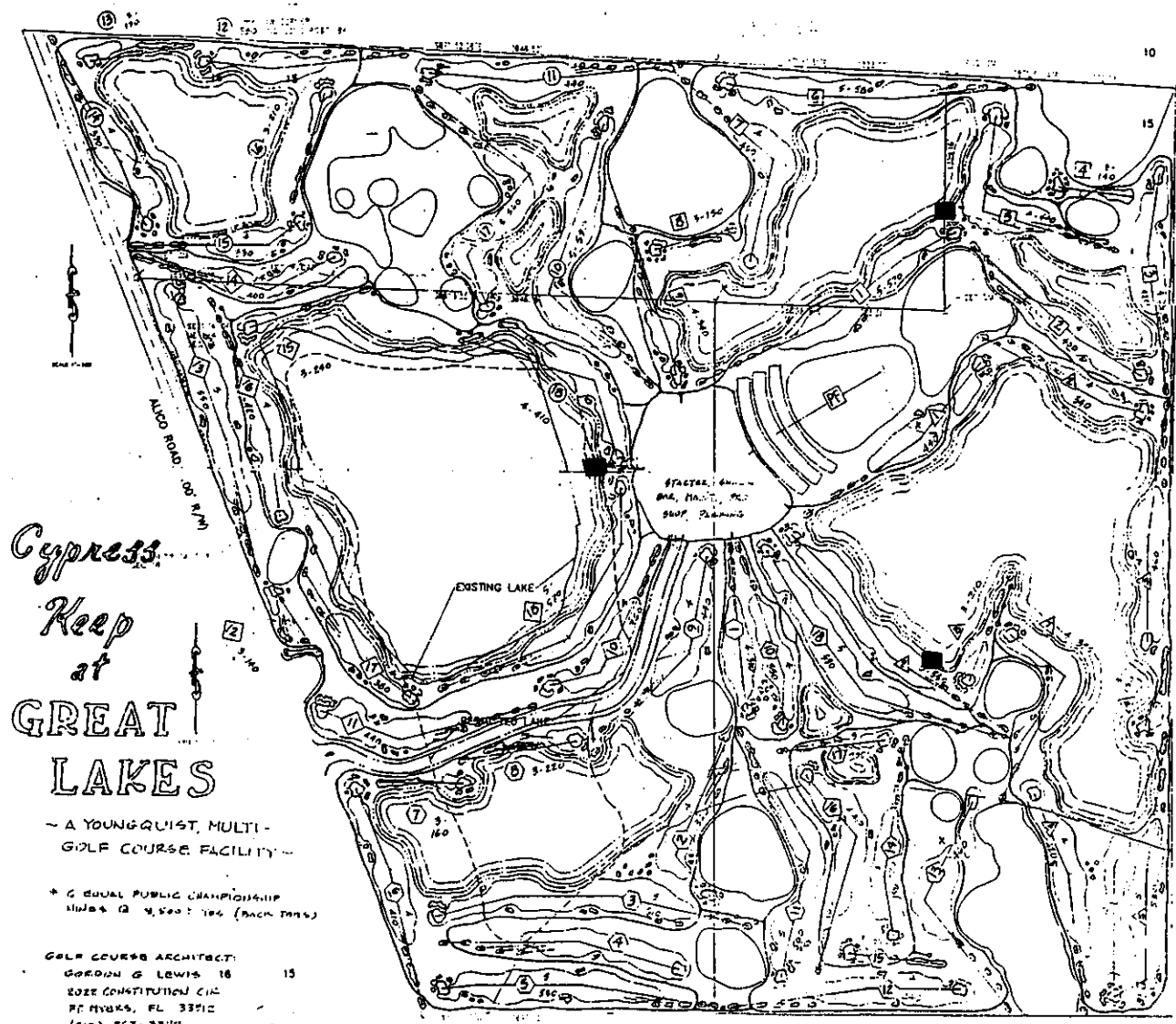
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Form 0845-G41

**TABLE B
DESCRIPTION OF SURFACE WATER PUMPS**

DRAINAGE DISTRICT				
PUMP NUMBER	1	2	3	
MAP DESIGNATION	1	2	3	
SURFACE WATER BODY	lake	lake	lake	
EXISTING OR PROPOSED	proposed	proposed	proposed	
PUMP MANUFACTURER AND MODEL NUMBER	to be determined	to be determined	to be determined	
PUMP TYPE	to be determined	to be determined	to be determined	
PUMP CAPACITY (GPM)	1500	1500	1500	
PUMP HORSEPOWER	50	50	50	
PUMP DIAMETER	10"	10"	10"	
ELEVATION OF INTAKE (NGVD)*	0	0	0	
IS PUMP A TWO WAY PUMP?	no	no	no	



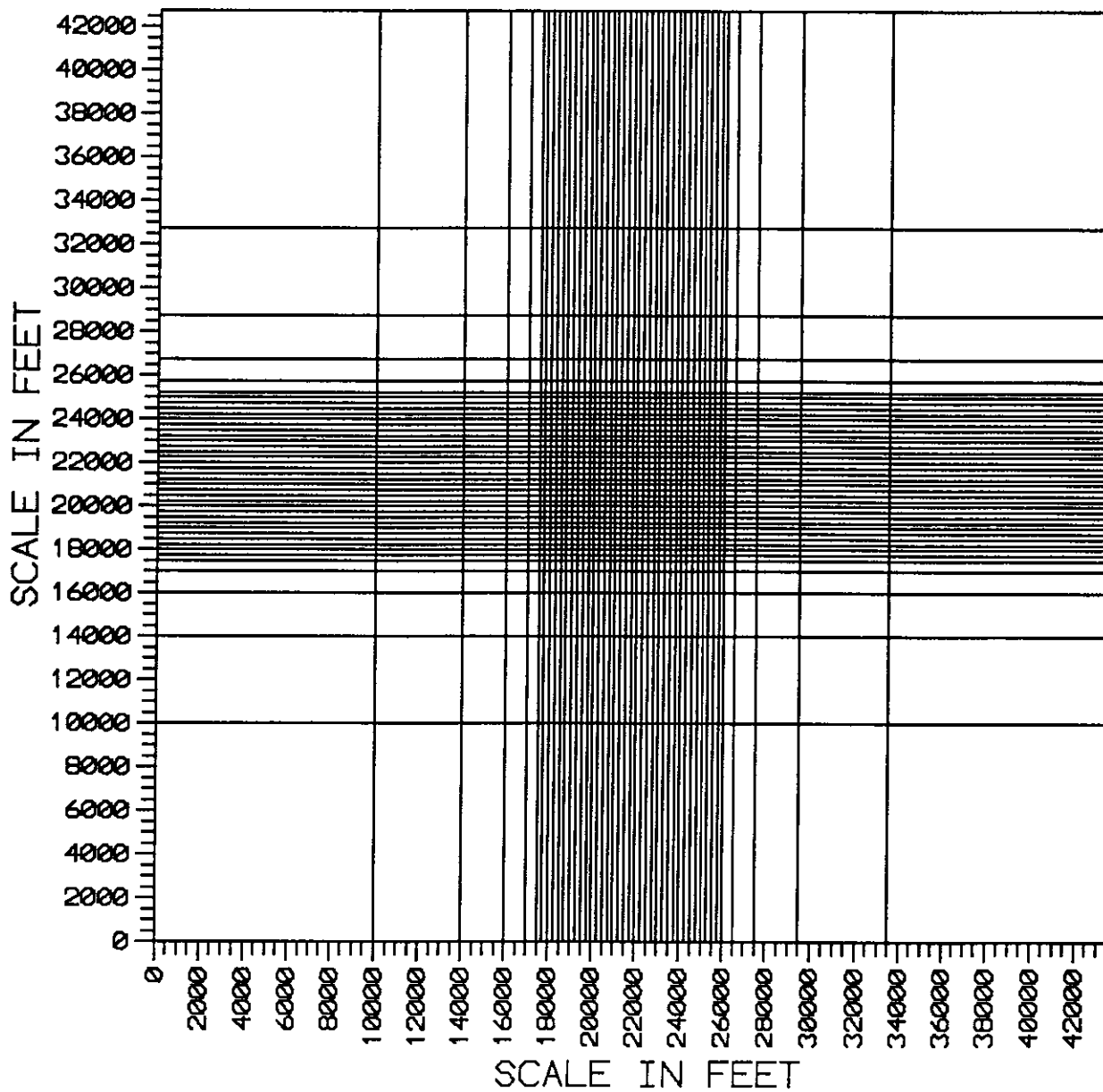
■ Proposed Surface Water Withdrawal Pumps

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ITEM II-B (a). PROPOSED SURFACE PUMP LOCATIONS.

SECTION II, ITEM II-4

**Groundwater Flow Model Evaluating
Potential Impacts Associated with
the Proposed Water Withdrawals**



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FIGURE 1. VARIABLY SPACED MODEL GRID. CORE AREA GRID CELL SPACING IS 250 FEET FOR INCREASED RESOLUTION IN THE VICINITY OF THE LAKES.

GROUNDWATER FLOW MODEL DESCRIPTION

In order to address the issue of potential for water production from the lakes, a computerized simulation was conducted. The groundwater flow model evaluates the hydraulic impacts of pumping 1.63 million gallons per day (MGD) from the interconnected lakes.

The U.S. Geological Survey modular three-dimensional finite-difference groundwater flow model (MODFLOW) was used to simulate the behavior of the unconfined water table aquifer and the confined Sandstone Aquifer system. This computerized numerical simulation of the hydraulic flow field was conducted as an aid toward achieving optimal irrigation supply design and to estimate the capacity and impacts of the proposed lake withdrawals.

A three layer, variable grid cell spacing model was designed to discretize a 19.5 mile² region surrounding the Youngquist Great Lakes site (Figure 1). Model layers 1 and 2 were used to simulate the water table aquifer, and model layer 3 represents the Sandstone Aquifer. Model cells were specified to be rectangles measuring between 250 feet and 4000 feet on edge (Figure 1). The grid dimensions are 22950 feet in the north-south direction (41 cells; 4.35 miles), and 23,700 feet in the east-west direction (44 cells; 4.49 miles). The model core area, centered on the Great Lakes site, was discretized using square cells with a dimension of 250 feet for improved resolution in the area of interest.

Withdrawals from the lakes totalling 1.63 MGD were specified using the MODFLOW Recharge package. The lakes were hydraulically connected in such a manner that the cumulative drawdown in each lake was identical. This connection reflects the pipeline connections which will be installed between the lakes. Thus, drawdown is the same in all lakes at any given time. The source of water for these withdrawals comes from a combination of lake storage ($S = 1.0$) and water table aquifer specific yield ($S = 0.20$). The flow model was run in transient mode for 90 days without

without ?

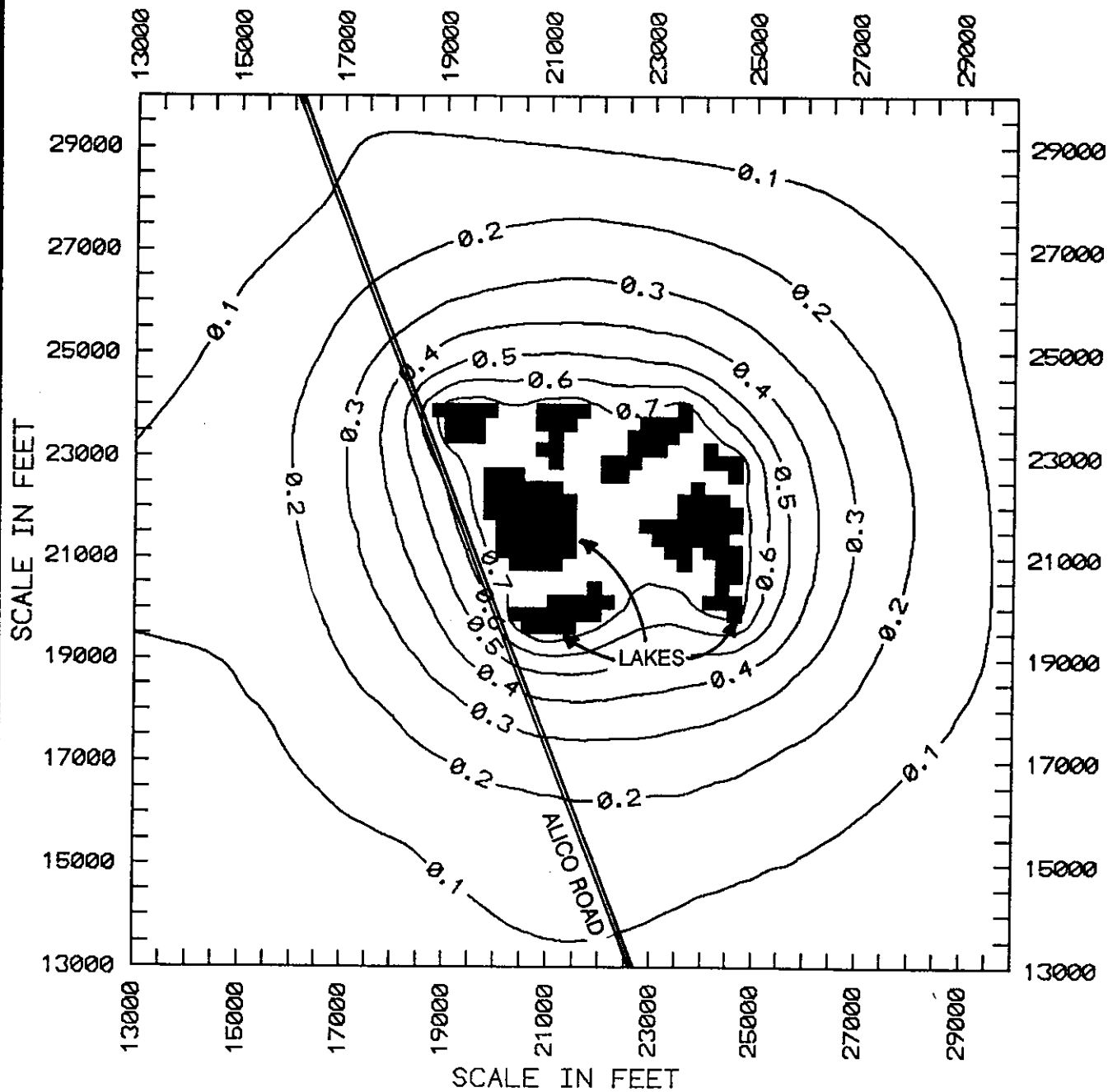
rainfall recharge.

Water table aquifer transmissivity (T) was specified to be 200,000 gpd/ft based upon water table aquifer performance tests conducted in the area. A confined aquifer transmissivity of 20,000 gpd/ft was taken from aquifer performance tests conducted at the Lee County Wellfield in 1977. Sandstone Aquifer leakance was determined to be 0.001 to 0.0001 gpd/ft³ during those tests. In this model we use a leakance of 0.0005 gpd/ft³.

The lateral boundaries were defined to be of Type II (no-flow boundaries) and were placed at a minimum distance of 3.6 miles from the site. This distance defines the maximum potential radius of influence of the proposed withdrawals within the model grid system, and eliminates all lateral recharge from beyond the model boundary. This is a conservative model design in which drawdowns are extremely unlikely to be underestimated for the given aquifer transmissivity distribution. All water withdrawn from the lakes is derived from storage within the bounds of the model area.

Initial condition piezometric heads were specified to be uniformly horizontal. No attempt is made to simulate actual head distributions. Therefore, only drawdown predictions are made by this model.

Predictive simulations were conducted using a withdrawal rate of 1.63 MGD from the lakes. The maximum drawdown which occurs after 90 days of continuous pumping without recharge from precipitation is 0.78 feet (see Figure 2). Therefore, all wetlands in the vicinity of the lakes system will experience drawdown of less than 1.0 foot. The complete MODFLOW output is listed in the appendix.



— 0.2 — DRAWDOWN CONTOURS IN FEET

CONTOUR INTERVAL = 0.1 FEET



LAKE

NORTH



M&A

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FIGURE 2. SIMULATED DRAWDOWN MAP OF THE WATER TABLE AQUIFER AT THE GREAT LAKES SITE. WITHDRAWAL RATE IS 1.80 MGD FROM THE LAKES FOR 90 DAYS WITHOUT RECHARGE

**MODFLOW MODEL
INPUT PACKAGES**

MODFLOW BASIC PACKAGE

YOUNGQUIST GREAT LAKES GOLF COURSE; TRANSIENT SIMULATION - CH1537
LAKES CONNECTED BY LAYER 1

11 00 0 0 0 0 0 18 19 0 0 22 1 4

0 1
0 1(44I2)
0 2(44I2)
0 3(44I2)

2 LAYER 1 REPRESENTS PIPELINE BETWEEN LAKES
2 LAYER 2 REPRESENTS WATER TABLE W/LAKES
2 LAYER 3 REPRESENTS WATER TABLE BELOW LAKES

999.99
0
0
0
90

0.
0.
0.
30 1.

MODFLOW STRONGLY IMPLICIT PROCEDURE PACKAGE

50 5
1. .0005 1 .0073294 1

MODFLOW OUTPUT CONTROL PACKAGE

9	9	0	0	
0	0	0	0	ALL LAYERS TREATED THE SAME WAY
0	1	0	0	1
0	0	0	0	
0	1	0	0	2
0	0	0	0	
0	1	0	0	3
0	0	0	0	
0	1	0	0	4
0	0	0	0	
0	1	0	0	5
0	0	0	0	
0	1	0	0	6
0	0	0	0	
0	1	0	0	7
0	0	0	0	
0	1	0	0	8
0	0	0	0	
0	1	0	0	9
0	0	0	0	
0	1	0	0	10
0	0	0	0	ALL LAYERS TREATED THE SAME WAY
0	1	0	0	11
0	0	0	0	
0	1	0	0	12
0	0	0	0	
0	1	0	0	13
0	0	0	0	
0	1	0	0	14
0	0	0	0	
0	1	0	0	15
0	0	0	0	
0	1	0	0	16
0	0	0	0	
0	1	0	0	17
0	0	0	0	
0	1	0	0	18
0	0	0	0	
0	1	0	0	19
0	0	0	0	
0	1	0	0	20
0	0	0	0	ALL LAYERS TREATED THE SAME WAY
0	1	0	0	21
0	0	0	0	
0	1	0	0	22
0	0	0	0	
0	1	0	0	23
0	0	0	0	
0	1	0	0	24
0	0	0	0	
0	1	0	0	25
0	0	0	0	
0	1	0	0	26
0	0	0	0	
0	1	0	0	27
0	0	0	0	
0	1	0	0	28
0	0	0	0	
0	1	0	0	29
0	1	1	0	
0	1	0	0	30

**MODFLOW MODEL
OUTPUT FILE**

AVERAGE SEED = 0.00037268
MINIMUM SEED = 0.0000227

0 5 ITERATION PARAMETERS CALCULATED FROM AVERAGE SEED:

0.0000000E+00 0.8610579E+00 0.9806951E+00 0.9973177E+00 0.9996273E+00

0 26 ITERATIONS FOR TIME STEP 1 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.1569E-02 (1, 19, 18) -0.3368E-02 (1, 19, 18) -0.6733E-02 (2, 19, 18) -0.2092E-01 (1, 20, 24) -0.1510E-01 (1, 14, 2)
-0.3132E-02 (1, 24, 25) -0.4267E-02 (1, 24, 25) -0.4948E-02 (1, 22, 37) -0.7709E-02 (1, 3, 5) -0.4060E-01 (1, 34, 36)
0.1043E-01 (2, 26, 36) 0.9424E-02 (2, 23, 38) 0.6560E-02 (2, 14, 36) -0.1538E-01 (1, 34, 6) -0.8579E-02 (1, 15, 3)
-0.2470E-02 (1, 31, 1) -0.2191E-02 (1, 37, 26) -0.4204E-02 (1, 35, 30) 0.6032E-02 (1, 28, 4) -0.8138E-02 (1, 37, 41)
-0.1797E-02 (2, 26, 36) 0.1637E-02 (2, 22, 38) -0.1435E-02 (1, 28, 4) -0.2692E-02 (1, 34, 5) -0.1828E-02 (1, 18, 4)
0.4407E-03 (1, 6, 2)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

0 OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 2 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.6846E-02 (2, 18, 23) -0.6121E-02 (2, 19, 25) -0.8227E-02 (2, 19, 22) -0.1553E-01 (1, 18, 26) -0.1333E-01 (1, 14, 2)
0.2586E-02 (1, 5, 1) -0.3433E-02 (1, 24, 25) -0.4249E-02 (1, 22, 37) -0.6434E-02 (1, 4, 8) -0.3329E-01 (1, 34, 36)
0.8266E-02 (2, 26, 36) 0.7447E-02 (2, 23, 38) 0.5288E-02 (2, 14, 36) -0.1243E-01 (1, 34, 6) -0.6916E-02 (1, 15, 3)
-0.2052E-02 (1, 32, 1) -0.1749E-02 (1, 37, 26) -0.3383E-02 (1, 35, 31) 0.4856E-02 (1, 28, 4) -0.6525E-02 (1, 37, 41)
0.1518E-02 (2, 26, 36) 0.1381E-02 (2, 23, 38) -0.1178E-02 (1, 29, 4) -0.2304E-02 (1, 35, 5) -0.1526E-02 (1, 18, 4)
0.3695E-03 (1, 6, 2)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

0 OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 3 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8002E-02 (2, 21, 24) -0.7631E-02 (2, 27, 28) -0.8846E-02 (2, 24, 25) -0.1394E-01 (1, 18, 26) -0.1244E-01 (1, 14, 2)
0.2419E-02 (1, 5, 1) -0.3261E-02 (1, 17, 37) -0.3892E-02 (1, 22, 37) -0.5820E-02 (1, 4, 8) -0.3038E-01 (1, 34, 36)
0.7408E-02 (2, 26, 36) 0.6663E-02 (2, 23, 38) 0.4778E-02 (2, 14, 36) -0.1105E-01 (1, 34, 6) -0.6225E-02 (1, 15, 3)
-0.1858E-02 (1, 32, 1) -0.1565E-02 (1, 37, 27) -0.3056E-02 (1, 35, 31) 0.4318E-02 (1, 28, 4) -0.5833E-02 (1, 37, 41)
0.1403E-02 (2, 26, 36) 0.1279E-02 (2, 23, 38) -0.1096E-02 (1, 31, 5) -0.2235E-02 (1, 35, 5) -0.1414E-02 (1, 19, 4)
0.3373E-03 (1, 6, 2)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

0 OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 4 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8172E-02 (2, 22, 25) -0.8392E-02 (2, 27, 28) -0.9006E-02 (2, 24, 25) -0.1298E-01 (1, 17, 27) -0.1171E-01 (1, 14, 2)
0.2282E-02 (1, 5, 1) -0.3126E-02 (1, 17, 37) -0.3648E-02 (1, 21, 38) -0.5392E-02 (1, 3, 5) -0.2829E-01 (1, 34, 36)
0.6814E-02 (2, 26, 36) 0.6125E-02 (2, 23, 38) 0.4431E-02 (2, 14, 36) -0.1009E-01 (1, 34, 6) -0.5762E-02 (1, 15, 3)
-0.1723E-02 (1, 31, 1) -0.1430E-02 (1, 37, 27) -0.2816E-02 (1, 35, 32) 0.3953E-02 (1, 28, 4) -0.5339E-02 (1, 37, 41)
0.1320E-02 (2, 26, 36) 0.1204E-02 (2, 23, 38) -0.1033E-02 (1, 31, 5) -0.2167E-02 (1, 34, 6) -0.1332E-02 (1, 19, 4)
-0.3165E-03 (1, 41, 5)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

0 OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 5 IN STRESS PERIOD 1

MAXIMUM 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

-0.7906E-02 (2, 22, 25) -0.8724E-02 (2, 28, 27) -0.8819E-02 (2, 24, 25) -0.1224E-01 (1, 17, 27) -0.1112E-01 (1, 14, 2)
0.2174E-02 (1, 6, 1) -0.2995E-02 (1, 17, 37) -0.3456E-02 (1, 21, 38) -0.5066E-02 (1, 3, 5) -0.2663E-01 (1, 34, 36)
0.6355E-02 (2, 26, 36) 0.5710E-02 (2, 23, 38) 0.4163E-02 (2, 14, 36) -0.9353E-02 (1, 34, 6) -0.5406E-02 (1, 15, 3)
-0.1619E-02 (1, 31, 1) -0.1322E-02 (1, 37, 27) -0.2628E-02 (1, 35, 32) 0.3671E-02 (1, 28, 4) -0.4955E-02 (1, 37, 41)
0.1255E-02 (2, 26, 36) 0.1145E-02 (2, 23, 38) -0.9825E-03 (1, 32, 5) -0.2106E-02 (1, 34, 6) -0.1264E-02 (1, 19, 4)
-0.3098E-03 (1, 41, 5)

0
OHEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 6 IN STRESS PERIOD 1

MAXIMUM 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

-0.7539E-02 (2, 22, 25) -0.8774E-02 (2, 28, 27) -0.8530E-02 (2, 24, 25) -0.1164E-01 (1, 17, 27) -0.1061E-01 (1, 15, 2)
-0.2082E-02 (1, 41, 43) -0.2874E-02 (1, 17, 37) -0.3294E-02 (1, 21, 38) -0.4799E-02 (1, 3, 5) -0.2525E-01 (1, 34, 36)
0.5980E-02 (2, 26, 36) 0.5372E-02 (2, 23, 38) 0.3942E-02 (2, 14, 36) -0.8756E-02 (1, 34, 6) -0.5113E-02 (1, 15, 3)
-0.1532E-02 (1, 31, 1) -0.1233E-02 (1, 37, 27) -0.2470E-02 (1, 35, 32) 0.3446E-02 (1, 27, 4) -0.4643E-02 (1, 38, 41)
0.1201E-02 (2, 26, 36) 0.1096E-02 (2, 23, 38) -0.9394E-03 (1, 32, 5) -0.2045E-02 (1, 34, 6) -0.1206E-02 (1, 19, 4)
-0.3022E-03 (1, 41, 5)

0
OHEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 7 IN STRESS PERIOD 1

MAXIMUM 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

-0.7177E-02 (2, 22, 25) -0.8717E-02 (2, 29, 27) -0.8256E-02 (2, 25, 25) -0.1111E-01 (1, 17, 27) -0.1016E-01 (1, 15, 2)
-0.2005E-02 (1, 41, 43) -0.2763E-02 (1, 17, 37) -0.3153E-02 (1, 21, 38) -0.4570E-02 (1, 3, 5) -0.2406E-01 (1, 34, 36)
0.5662E-02 (2, 26, 36) 0.5086E-02 (2, 23, 38) 0.3753E-02 (2, 14, 36) -0.8256E-02 (1, 34, 6) -0.4863E-02 (1, 15, 3)
-0.1458E-02 (1, 31, 1) -0.1164E-02 (1, 38, 28) -0.2333E-02 (1, 35, 32) 0.3260E-02 (1, 27, 4) -0.4382E-02 (1, 38, 41)
0.1153E-02 (2, 26, 36) 0.1052E-02 (2, 23, 38) -0.9006E-03 (1, 32, 5) -0.1988E-02 (1, 35, 6) -0.1154E-02 (1, 19, 4)
-0.2940E-03 (1, 41, 6)

0
OHEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 8 IN STRESS PERIOD 1

MAXIMUM 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

-0.6855E-02 (2, 23, 25) -0.8632E-02 (2, 29, 27) -0.7988E-02 (2, 25, 25) -0.1065E-01 (1, 17, 27) -0.9762E-02 (1, 15, 2)
-0.1935E-02 (1, 41, 43) -0.2660E-02 (1, 17, 37) -0.3027E-02 (1, 21, 38) -0.4370E-02 (1, 3, 5) -0.2301E-01 (1, 34, 36)
0.5387E-02 (2, 26, 36) 0.4839E-02 (2, 23, 38) 0.3587E-02 (2, 14, 36) -0.7828E-02 (1, 34, 6) -0.4645E-02 (1, 15, 3)
-0.1392E-02 (1, 31, 1) -0.1105E-02 (1, 38, 28) -0.2214E-02 (1, 35, 32) 0.3099E-02 (1, 27, 4) -0.4157E-02 (1, 38, 41)
0.1111E-02 (2, 26, 36) 0.1012E-02 (2, 23, 38) -0.8652E-03 (1, 32, 5) -0.1933E-02 (1, 34, 7) -0.1107E-02 (1, 19, 4)
-0.2860E-03 (1, 41, 6)

0
OHEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 9 IN STRESS PERIOD 1

MAXIMUM 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

-0.7187E-02 (2, 4, 20) -0.8499E-02 (2, 29, 27) -0.7729E-02 (2, 25, 25) -0.1023E-01 (1, 17, 27) -0.9400E-02 (1, 15, 2)
-0.1870E-02 (1, 41, 43) -0.2566E-02 (1, 17, 37) -0.2914E-02 (1, 21, 38) -0.4192E-02 (1, 3, 5) -0.2207E-01 (1, 34, 36)
0.5144E-02 (2, 26, 36) 0.4621E-02 (2, 23, 38) 0.3440E-02 (2, 14, 36) -0.7455E-02 (1, 34, 6) -0.4451E-02 (1, 15, 3)
-0.1334E-02 (1, 31, 1) -0.1054E-02 (1, 38, 28) -0.2111E-02 (1, 35, 33) 0.2959E-02 (1, 27, 4) -0.3960E-02 (1, 38, 41)

0.1072E-02 (2, 26, 36) 0.9768E-03 (2, 23, 38) -0.8338E-03 (1, 33, 6) -0.1880E-02 (1, 34, 7) -0.1065E-02 (1, 19, 4)
-0.2779E-03 (1, 41, 6)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 10 IN STRESS PERIOD 1

OMAXIMUM 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

-0.7523E-02 (2, 4, 21) -0.8341E-02 (2, 29, 27) -0.7483E-02 (2, 25, 25) -0.9855E-02 (1, 17, 27) -0.9069E-02 (1, 15, 2)
-0.1810E-02 (1, 41, 43) -0.2479E-02 (1, 17, 37) -0.2810E-02 (1, 21, 38) -0.4031E-02 (1, 3, 5) -0.2122E-01 (1, 34, 36)
0.4928E-02 (2, 26, 36) 0.4427E-02 (2, 23, 38) 0.3307E-02 (2, 14, 36) -0.7126E-02 (1, 34, 6) -0.4277E-02 (1, 15, 3)
-0.1281E-02 (1, 31, 1) -0.1008E-02 (1, 38, 29) -0.2020E-02 (1, 35, 33) 0.2835E-02 (1, 27, 4) -0.3785E-02 (1, 38, 41)
0.1037E-02 (2, 26, 36) 0.9440E-03 (2, 23, 38) -0.8058E-03 (1, 33, 6) -0.1828E-02 (1, 34, 7) -0.1026E-02 (1, 19, 4)
-0.2701E-03 (1, 41, 6)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 11 IN STRESS PERIOD 1

OMAXIMUM 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

-0.7772E-02 (2, 4, 21) -0.8170E-02 (2, 29, 27) -0.7250E-02 (2, 25, 25) -0.9515E-02 (1, 13, 24) -0.8767E-02 (1, 16, 2)
-0.1754E-02 (1, 41, 43) -0.2398E-02 (1, 17, 37) -0.2715E-02 (1, 21, 38) -0.3886E-02 (1, 3, 5) -0.2045E-01 (1, 35, 36)
0.4733E-02 (2, 26, 36) 0.4252E-02 (2, 23, 38) 0.3187E-02 (2, 14, 36) -0.6831E-02 (1, 34, 6) -0.4120E-02 (1, 15, 3)
-0.1233E-02 (1, 31, 1) -0.9671E-03 (1, 38, 29) -0.1938E-02 (1, 35, 33) 0.2724E-02 (1, 27, 4) -0.3629E-02 (1, 38, 41)
0.1004E-02 (2, 26, 36) 0.9137E-03 (2, 23, 38) -0.7797E-03 (1, 33, 6) -0.1778E-02 (1, 34, 7) -0.9960E-03 (1, 39, 18)
-0.2625E-03 (1, 41, 6)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 12 IN STRESS PERIOD 1

OMAXIMUM 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

-0.7951E-02 (2, 4, 21) -0.7995E-02 (2, 29, 27) -0.7032E-02 (2, 25, 25) -0.9208E-02 (1, 13, 24) -0.8488E-02 (1, 16, 2)
-0.1702E-02 (1, 41, 43) -0.2323E-02 (1, 17, 37) -0.2628E-02 (1, 21, 38) -0.3752E-02 (1, 3, 5) -0.1975E-01 (1, 35, 36)
0.4555E-02 (2, 26, 36) 0.4093E-02 (2, 23, 38) 0.3076E-02 (2, 14, 36) -0.6565E-02 (1, 34, 6) -0.3975E-02 (1, 15, 3)
-0.1190E-02 (1, 31, 1) -0.9301E-03 (1, 38, 29) -0.1863E-02 (1, 35, 33) 0.2622E-02 (1, 27, 4) -0.3488E-02 (1, 31, 28)
0.9735E-03 (2, 26, 36) 0.8856E-03 (2, 23, 38) -0.7553E-03 (1, 33, 6) -0.1729E-02 (1, 34, 7) -0.9696E-03 (1, 39, 18)
-0.2553E-03 (1, 41, 6)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 13 IN STRESS PERIOD 1

OMAXIMUM 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

-0.8076E-02 (2, 4, 21) -0.7819E-02 (2, 29, 27) -0.6826E-02 (2, 25, 25) -0.8922E-02 (1, 13, 24) -0.8229E-02 (1, 16, 2)
-0.1653E-02 (1, 41, 43) -0.2253E-02 (1, 17, 37) -0.2546E-02 (1, 21, 38) -0.3629E-02 (1, 3, 5) -0.1910E-01 (1, 35, 36)
0.4393E-02 (2, 26, 36) 0.3947E-02 (2, 23, 38) 0.2975E-02 (2, 14, 36) -0.6322E-02 (1, 34, 6) -0.3843E-02 (1, 15, 3)
-0.1149E-02 (1, 31, 1) -0.8961E-03 (1, 38, 29) -0.1795E-02 (1, 35, 33) 0.2530E-02 (1, 27, 4) -0.3390E-02 (1, 31, 28)
0.9451E-03 (2, 26, 36) 0.8594E-03 (2, 23, 38) -0.7325E-03 (1, 33, 6) -0.1683E-02 (1, 34, 7) -0.9441E-03 (1, 39, 18)
-0.2483E-03 (1, 41, 6)

0 HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0
OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 14 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8160E-02 (2, 4, 21) -0.7646E-02 (2, 29, 27) -0.6632E-02 (2, 25, 25) -0.8656E-02 (1, 13, 24) -0.7987E-02 (1, 16, 2)
-0.1607E-02 (1, 41, 43) -0.2187E-02 (1, 17, 37) -0.2470E-02 (1, 21, 38) -0.3516E-02 (1, 3, 5) -0.1850E-01 (1, 35, 36)
0.4243E-02 (2, 26, 36) 0.3813E-02 (2, 23, 38) 0.2880E-02 (2, 14, 36) -0.6100E-02 (1, 34, 6) -0.3720E-02 (1, 15, 3)
-0.1112E-02 (1, 31, 1) -0.8649E-03 (1, 38, 29) -0.1732E-02 (1, 35, 33) 0.2445E-02 (1, 27, 4) -0.3297E-02 (1, 31, 28)
0.9186E-03 (2, 26, 36) 0.8348E-03 (2, 23, 38) -0.7110E-03 (1, 33, 6) -0.1639E-02 (1, 34, 7) -0.9197E-03 (1, 39, 18)
-0.2417E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 15 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8210E-02 (2, 4, 21) -0.7477E-02 (2, 29, 27) -0.6449E-02 (2, 25, 25) -0.8406E-02 (1, 13, 24) -0.7760E-02 (1, 16, 2)
-0.1564E-02 (1, 41, 43) -0.2126E-02 (1, 17, 37) -0.2399E-02 (1, 21, 38) -0.3410E-02 (1, 3, 5) -0.1793E-01 (1, 35, 36)
0.4105E-02 (2, 26, 36) 0.3689E-02 (2, 23, 38) 0.2793E-02 (2, 14, 36) -0.5896E-02 (1, 35, 5) -0.3606E-02 (1, 15, 3)
-0.1077E-02 (1, 31, 1) -0.8360E-03 (1, 38, 29) -0.1673E-02 (1, 35, 33) 0.2367E-02 (1, 27, 4) -0.3209E-02 (1, 31, 28)
0.8936E-03 (2, 26, 36) 0.8118E-03 (2, 23, 38) -0.6909E-03 (1, 33, 6) -0.1598E-02 (1, 34, 7) -0.8962E-03 (1, 39, 18)
-0.2353E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 16 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8233E-02 (2, 4, 21) -0.7321E-02 (2, 30, 27) -0.6315E-02 (2, 14, 35) -0.8173E-02 (1, 13, 24) -0.7547E-02 (1, 16, 2)
-0.1523E-02 (1, 41, 43) -0.2068E-02 (1, 17, 37) -0.2333E-02 (1, 21, 38) -0.3311E-02 (1, 3, 5) -0.1741E-01 (1, 35, 36)
0.3976E-02 (2, 26, 36) 0.3574E-02 (2, 23, 38) 0.2711E-02 (2, 14, 36) -0.5708E-02 (1, 35, 5) -0.3500E-02 (1, 15, 3)
-0.1045E-02 (1, 31, 1) -0.8091E-03 (1, 38, 29) -0.1619E-02 (1, 35, 33) 0.2294E-02 (1, 27, 4) -0.3126E-02 (1, 31, 28)
0.8701E-03 (2, 26, 36) 0.7900E-03 (2, 23, 38) -0.6719E-03 (1, 33, 6) -0.1559E-02 (1, 33, 9) -0.8738E-03 (1, 39, 18)
-0.2293E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 17 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8236E-02 (2, 4, 21) -0.7177E-02 (2, 6, 26) -0.6194E-02 (2, 14, 35) -0.7952E-02 (1, 13, 24) -0.7347E-02 (1, 16, 2)
-0.1484E-02 (1, 41, 43) -0.2013E-02 (1, 17, 37) -0.2270E-02 (1, 21, 38) -0.3218E-02 (1, 3, 5) -0.1692E-01 (1, 35, 36)
0.3857E-02 (2, 26, 36) 0.3467E-02 (2, 23, 38) 0.2634E-02 (2, 14, 36) -0.5532E-02 (1, 35, 5) -0.3400E-02 (1, 15, 3)
-0.1015E-02 (1, 31, 1) -0.7841E-03 (1, 38, 29) -0.1568E-02 (1, 35, 33) 0.2226E-02 (1, 27, 4) -0.3047E-02 (1, 31, 28)
0.8478E-03 (2, 26, 36) 0.7695E-03 (2, 23, 38) -0.6539E-03 (1, 33, 6) -0.1522E-02 (1, 33, 9) -0.8524E-03 (1, 39, 18)
-0.2235E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 18 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

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

-0.8221E-02 (2, 4, 21) -0.7077E-02 (2, 6, 26) -0.6076E-02 (2, 14, 35) -0.7745E-02 (1, 13, 24) -0.7157E-02 (1, 16, 2)
-0.1447E-02 (1, 41, 43) -0.1962E-02 (1, 17, 37) -0.2210E-02 (1, 21, 38) -0.3130E-02 (1, 3, 5) -0.1646E-01 (1, 35, 36)

0.3744E-02 (2, 26, 36) 0.3366E-02 (2, 23, 38) 0.2562E-02 (2, 14, 36) -0.5368E-02 (1, 35, 5) -0.3306E-02 (1, 15, 3)
-0.9867E-03 (1, 31, 1) -0.7607E-03 (1, 38, 29) -0.1521E-02 (1, 35, 33) 0.2162E-02 (1, 27, 4) -0.2972E-02 (1, 31, 28)
0.8267E-03 (2, 26, 36) 0.7501E-03 (2, 23, 38) -0.6370E-03 (1, 33, 6) -0.1487E-02 (1, 33, 9) -0.8319E-03 (1, 39, 18)
-0.2180E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 19 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:
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

-0.8194E-02 (2, 4, 21) -0.6976E-02 (2, 6, 26) -0.5962E-02 (2, 14, 35) -0.7548E-02 (1, 13, 24) -0.6978E-02 (1, 16, 2)
-0.1412E-02 (1, 41, 43) -0.1913E-02 (1, 17, 37) -0.2154E-02 (1, 21, 38) -0.3048E-02 (1, 3, 5) -0.1602E-01 (1, 35, 36)
0.3639E-02 (2, 26, 36) 0.3272E-02 (2, 23, 38) 0.2494E-02 (2, 14, 36) -0.5215E-02 (1, 35, 5) -0.3218E-02 (1, 15, 3)
-0.9600E-03 (1, 31, 1) -0.7387E-03 (1, 38, 29) -0.1476E-02 (1, 35, 33) 0.2103E-02 (1, 27, 4) -0.2901E-02 (1, 31, 28)
0.8067E-03 (2, 26, 36) 0.7317E-03 (2, 23, 38) -0.6209E-03 (1, 33, 6) -0.1454E-02 (1, 33, 9) -0.8123E-03 (1, 39, 18)
-0.2128E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 20 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:
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

-0.8155E-02 (2, 4, 21) -0.6875E-02 (2, 6, 26) -0.5851E-02 (2, 14, 35) -0.7362E-02 (1, 13, 24) -0.6808E-02 (1, 16, 2)
-0.1379E-02 (1, 41, 43) -0.1866E-02 (1, 17, 37) -0.2101E-02 (1, 21, 38) -0.2970E-02 (1, 3, 5) -0.1561E-01 (1, 35, 36)
0.3540E-02 (2, 26, 36) 0.3183E-02 (2, 23, 38) 0.2430E-02 (2, 14, 36) -0.5071E-02 (1, 35, 5) -0.3135E-02 (1, 15, 3)
-0.9348E-03 (1, 31, 1) -0.7180E-03 (1, 38, 29) -0.1435E-02 (1, 35, 33) 0.2046E-02 (1, 27, 4) -0.2833E-02 (1, 31, 28)
0.7877E-03 (2, 26, 36) 0.7142E-03 (2, 23, 38) -0.6056E-03 (1, 33, 6) -0.1422E-02 (1, 33, 9) -0.7935E-03 (1, 39, 18)
-0.2078E-03 (1, 41, 6)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 21 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:
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

-0.8107E-02 (2, 4, 21) -0.6774E-02 (2, 6, 26) -0.5743E-02 (2, 14, 35) -0.7185E-02 (1, 13, 24) -0.6646E-02 (1, 16, 2)
-0.1348E-02 (1, 41, 43) -0.1822E-02 (1, 17, 37) -0.2051E-02 (1, 21, 38) -0.2897E-02 (1, 3, 5) -0.1522E-01 (1, 35, 36)
0.3446E-02 (2, 26, 36) 0.3099E-02 (2, 23, 38) 0.2369E-02 (2, 14, 36) -0.4935E-02 (1, 35, 5) -0.3056E-02 (1, 15, 3)
-0.9109E-03 (1, 31, 1) -0.6985E-03 (1, 38, 29) -0.1395E-02 (1, 35, 33) 0.1993E-02 (1, 27, 4) -0.2768E-02 (1, 31, 28)
0.7696E-03 (2, 26, 36) 0.6975E-03 (2, 23, 38) -0.5911E-03 (1, 33, 6) -0.1391E-02 (1, 33, 9) -0.7756E-03 (1, 39, 18)
-0.2030E-03 (1, 41, 7)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0
26 ITERATIONS FOR TIME STEP 22 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:
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

-0.8052E-02 (2, 4, 21) -0.6673E-02 (2, 6, 26) -0.5638E-02 (2, 14, 35) -0.7017E-02 (1, 13, 24) -0.6492E-02 (1, 16, 2)
-0.1317E-02 (1, 41, 43) -0.1780E-02 (1, 16, 37) -0.2003E-02 (1, 21, 38) -0.2827E-02 (1, 3, 5) -0.1485E-01 (1, 35, 36)
0.3358E-02 (2, 26, 36) 0.3020E-02 (2, 23, 38) 0.2312E-02 (2, 14, 36) -0.4807E-02 (1, 35, 5) -0.2982E-02 (1, 15, 3)
-0.8884E-03 (1, 31, 1) -0.6801E-03 (1, 38, 29) -0.1358E-02 (1, 35, 33) 0.1943E-02 (1, 27, 4) -0.2706E-02 (1, 31, 28)
0.7524E-03 (2, 26, 36) 0.6817E-03 (2, 23, 38) -0.5772E-03 (1, 33, 6) -0.1361E-02 (1, 33, 9) -0.7584E-03 (1, 39, 18)
-0.1985E-03 (1, 41, 7)

HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0

26 ITERATIONS FOR TIME STEP 23 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

U 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

-0.7991E-02 (2, 4, 21) -0.6574E-02 (2, 6, 26) -0.5536E-02 (2, 14, 35) -0.6857E-02 (1, 13, 24) -0.6346E-02 (1, 16, 2)
-0.1289E-02 (1, 41, 43) -0.1740E-02 (1, 16, 37) -0.1957E-02 (1, 21, 38) -0.2760E-02 (1, 3, 5) -0.1449E-01 (1, 35, 36)
0.3274E-02 (2, 26, 36) 0.2945E-02 (2, 23, 38) 0.2257E-02 (2, 14, 36) -0.4685E-02 (1, 35, 5) -0.2911E-02 (1, 15, 3)
-0.8669E-03 (1, 31, 1) -0.6627E-03 (1, 38, 29) -0.1323E-02 (1, 35, 33) 0.1896E-02 (1, 27, 4) -0.2646E-02 (1, 31, 28)
0.7359E-03 (2, 26, 36) 0.6665E-03 (2, 23, 38) -0.5640E-03 (1, 33, 6) -0.1333E-02 (1, 33, 9) -0.7419E-03 (1, 39, 18)
-0.1942E-03 (1, 41, 7)

O HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0

26 ITERATIONS FOR TIME STEP 24 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

U 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

-0.7926E-02 (2, 4, 21) -0.6475E-02 (2, 6, 26) -0.5438E-02 (2, 14, 35) -0.6704E-02 (1, 13, 24) -0.6206E-02 (1, 16, 2)
-0.1261E-02 (1, 41, 43) -0.1703E-02 (1, 16, 37) -0.1913E-02 (1, 21, 38) -0.2697E-02 (1, 3, 5) -0.1416E-01 (1, 35, 36)
0.3195E-02 (2, 26, 36) 0.2874E-02 (2, 23, 38) 0.2205E-02 (2, 14, 36) -0.4570E-02 (1, 35, 5) -0.2843E-02 (1, 15, 3)
-0.8465E-03 (1, 31, 1) -0.6462E-03 (1, 38, 29) -0.1289E-02 (1, 35, 33) 0.1850E-02 (1, 27, 4) -0.2590E-02 (1, 31, 28)
0.7201E-03 (2, 26, 36) 0.6520E-03 (2, 23, 38) -0.5514E-03 (1, 33, 6) -0.1306E-02 (1, 33, 9) -0.7261E-03 (1, 39, 18)
-0.1900E-03 (1, 41, 7)

O HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0

26 ITERATIONS FOR TIME STEP 25 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

U 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

-0.7857E-02 (2, 4, 21) -0.6379E-02 (2, 6, 26) -0.5343E-02 (2, 14, 35) -0.6558E-02 (1, 13, 24) -0.6072E-02 (1, 16, 2)
-0.1235E-02 (1, 41, 43) -0.1667E-02 (1, 16, 37) -0.1871E-02 (1, 21, 38) -0.2636E-02 (1, 3, 5) -0.1384E-01 (1, 35, 36)
0.3119E-02 (2, 26, 36) 0.2806E-02 (2, 23, 38) 0.2155E-02 (2, 14, 36) -0.4461E-02 (1, 35, 5) -0.2779E-02 (1, 15, 3)
-0.8271E-03 (1, 31, 1) -0.6305E-03 (1, 38, 29) -0.1258E-02 (1, 35, 33) 0.1808E-02 (1, 27, 4) -0.2535E-02 (1, 31, 28)
0.7050E-03 (2, 26, 36) 0.6382E-03 (2, 23, 38) -0.5394E-03 (1, 33, 6) -0.1280E-02 (1, 33, 9) -0.7109E-03 (1, 39, 18)
-0.1860E-03 (1, 41, 7)

O HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0

26 ITERATIONS FOR TIME STEP 26 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

U 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

-0.7785E-02 (2, 4, 22) -0.6283E-02 (2, 6, 26) -0.5250E-02 (2, 14, 35) -0.6419E-02 (1, 13, 24) -0.5944E-02 (1, 16, 2)
-0.1209E-02 (1, 41, 43) -0.1632E-02 (1, 16, 37) -0.1832E-02 (1, 21, 38) -0.2579E-02 (1, 3, 5) -0.1353E-01 (1, 35, 36)
0.3047E-02 (2, 26, 36) 0.2741E-02 (2, 23, 38) 0.2107E-02 (2, 14, 36) -0.4357E-02 (1, 35, 5) -0.2717E-02 (1, 15, 3)
-0.8086E-03 (1, 31, 1) -0.6155E-03 (1, 38, 29) -0.1228E-02 (1, 35, 33) 0.1767E-02 (1, 27, 4) -0.2483E-02 (1, 31, 28)
0.6905E-03 (2, 26, 36) 0.6249E-03 (2, 23, 38) -0.5279E-03 (1, 33, 6) -0.1254E-02 (1, 33, 9) -0.6963E-03 (1, 39, 18)
-0.1822E-03 (1, 41, 7)

O HEAD/DRAWDOWN PRINTOUT FLAG = 0 TOTAL BUDGET PRINTOUT FLAG = 0 CELL-BY-CELL FLOW TERM FLAG = 0

OUTPUT FLAGS FOR ALL LAYERS ARE THE SAME:

HEAD DRAWDOWN HEAD DRAWDOWN
PRINTOUT PRINTOUT SAVE SAVE

0 1 0 0

26 ITERATIONS FOR TIME STEP 27 IN STRESS PERIOD 1

MAXIMUM HEAD CHANGE FOR EACH ITERATION:

U 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

U.S. GEOLOGICAL SURVEY MODULAR FINITE-DIFFERENCE GROUND-WATER MODEL

YOUNGQUIST GREAT LAKES GOLF COURSE; TRANSIENT SIMULATION - CH1537 LAKES CONNECTED BY LAYER 1
 3 LAYERS 41 ROWS 44 COLUMNS

1 STRESS PERIOD(S) IN SIMULATION

MODEL TIME UNIT IS DAYS

I/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 0 0 0 0 0 0 18 19 0 0 22 0 0 0 0 0 0 0 0 0 0 0

BAS1 -- 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

52413 ELEMENTS IN X ARRAY ARE USED BY BAS

52413 ELEMENTS OF X ARRAY USED OUT OF 100000

BCF1 -- BLOCK-CENTERED FLOW PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 11

TRANSIENT SIMULATION

LAYER AQUIFER TYPE

```
-----
1      0
2      0
3      0
```

5415 ELEMENTS IN X ARRAY ARE USED BY BCF

57828 ELEMENTS OF X ARRAY USED OUT OF 100000

RCH1 -- RECHARGE PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 18

OPTION 1 -- RECHARGE TO TOP LAYER

1804 ELEMENTS OF X ARRAY USED FOR RECHARGE

59632 ELEMENTS OF X ARRAY USED OUT OF 100000

SIP1 -- STRONGLY IMPLICIT PROCEDURE SOLUTION PACKAGE, VERSION 1, 9/1/87 INPUT READ FROM UNIT 19

MAXIMUM OF 50 ITERATIONS ALLOWED FOR CLOSURE

5 ITERATION PARAMETERS

21853 ELEMENTS IN X ARRAY ARE USED BY SIP

81485 ELEMENTS OF X ARRAY USED OUT OF 100000

YOUNGQUIST GREAT LAKES GOLF COURSE; TRANSIENT SIMULATION - CH1537

LAKES CONNECTED BY LAYER 1

BOUNDARY ARRAY = 1 FOR LAYER 1
 BOUNDARY ARRAY = 2 FOR LAYER 2
 BOUNDARY ARRAY = 3 FOR LAYER 3

AQUIFER HEAD WILL BE SET TO 999.99 AT ALL NO-FLOW NODES (IBOUND=0).

INITIAL HEAD = 0.0000000E+00 FOR LAYER 1
 INITIAL HEAD = 0.0000000E+00 FOR LAYER 2
 INITIAL HEAD = 0.0000000E+00 FOR LAYER 3

HEAD PRINT FORMAT IS FORMAT NUMBER 9 DRAWDOWN PRINT FORMAT IS FORMAT NUMBER 9

HEADS WILL BE SAVED ON UNIT 0 DRAWDOWNS WILL BE SAVED ON UNIT 0

OUTPUT CONTROL IS SPECIFIED EVERY TIME STEP

COLUMN TO ROW ANISOTROPY = 1.000000

DELRL WILL BE READ ON UNIT 11 USING FORMAT: (10F5.0)

```
-----
10000.  4000.0  2000.0  1000.0  500.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00
1000.0  2000.0  4000.0  10000.
```

DELC WILL BE READ ON UNIT 11 USING FORMAT: (10F5.0)

```
-----
10000.  4000.0  2000.0  1000.0  500.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00  250.00
250.00  250.00  250.00  250.00  250.00  250.00  500.00  1000.0  2000.0  4000.0
10000.
```

PRIMARY STORAGE COEF = 0.1000000E-05 FOR LAYER 1
 TRANSMIS. ALONG ROWS = 999999.0 FOR LAYER 1

VERT HYD COND /THICKNESS FOR LAYER 1 WILL BE READ ON UNIT 11 USING FORMAT: (44F2.0)

PRIMARY STORAGE COEF FOR LAYER 2 WILL BE READ ON UNIT 11 USING FORMAT: (44F2.0)

4	0.00	0.02	0.08	0.15	0.19	0.21	0.22	0.24	0.25	0.26	0.28	0.29	0.30	0.31	0.31	0.32	0.33	0.33	0.33	0.33
	0.33	0.33	0.33	0.33	0.32	0.32	0.31	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.24	0.23	0.21	0.20	0.19	0.17
	0.14	0.08	0.02	0.00																
5	0.00	0.02	0.10	0.18	0.24	0.27	0.29	0.31	0.33	0.36	0.37	0.39	0.41	0.42	0.43	0.43	0.44	0.44	0.44	0.45
	0.45	0.44	0.44	0.44	0.43	0.43	0.42	0.41	0.40	0.39	0.38	0.37	0.35	0.33	0.31	0.30	0.28	0.26	0.24	0.22
	0.17	0.10	0.03	0.00																
6	0.00	0.02	0.10	0.19	0.26	0.30	0.33	0.36	0.38	0.41	0.44	0.46	0.47	0.49	0.49	0.50	0.51	0.51	0.51	0.51
	0.51	0.51	0.51	0.50	0.50	0.49	0.48	0.48	0.47	0.45	0.44	0.42	0.40	0.38	0.36	0.34	0.32	0.29	0.27	0.24
	0.19	0.11	0.03	0.00																
7	0.00	0.03	0.11	0.21	0.28	0.32	0.35	0.39	0.42	0.45	0.48	0.51	0.52	0.54	0.55	0.55	0.55	0.56	0.56	0.56
	0.56	0.56	0.55	0.55	0.54	0.54	0.53	0.52	0.51	0.50	0.48	0.46	0.44	0.42	0.39	0.37	0.34	0.32	0.29	0.26
	0.20	0.11	0.03	0.00																
8	0.00	0.03	0.11	0.22	0.30	0.34	0.38	0.42	0.46	0.50	0.54	0.57	0.58	0.59	0.60	0.60	0.61	0.61	0.61	0.61
	0.61	0.61	0.60	0.59	0.59	0.58	0.58	0.57	0.57	0.55	0.53	0.51	0.48	0.45	0.42	0.40	0.37	0.34	0.32	0.28
	0.21	0.12	0.03	0.00																
9	0.00	0.03	0.11	0.22	0.31	0.36	0.40	0.45	0.50	0.55	0.60	0.63	0.65	0.66	0.66	0.66	0.66	0.66	0.67	0.67
	0.67	0.67	0.65	0.64	0.64	0.63	0.63	0.63	0.63	0.62	0.59	0.56	0.52	0.49	0.46	0.43	0.40	0.37	0.34	0.30
	0.23	0.12	0.03	0.00																
10	0.00	0.03	0.12	0.23	0.32	0.38	0.43	0.48	0.54	0.61	0.69	0.72	0.73	0.74	0.73	0.71	0.71	0.72	0.73	0.73
	0.74	0.73	0.71	0.69	0.68	0.68	0.69	0.69	0.69	0.70	0.66	0.61	0.57	0.53	0.50	0.46	0.43	0.39	0.36	0.32
	0.24	0.13	0.03	0.00																
11	0.00	0.03	0.12	0.24	0.33	0.40	0.44	0.50	0.57	0.67	0.77	0.78	0.78	0.78	0.78	0.76	0.75	0.76	0.78	0.78
	0.79	0.78	0.75	0.73	0.72	0.73	0.75	0.75	0.76	0.78	0.72	0.66	0.62	0.58	0.53	0.49	0.45	0.42	0.38	0.33
	0.25	0.13	0.03	0.00																
12	0.00	0.03	0.12	0.24	0.34	0.40	0.45	0.51	0.58	0.66	0.75	0.78	0.78	0.79	0.78	0.77	0.77	0.78	0.79	0.79
	0.79	0.78	0.77	0.76	0.76	0.77	0.79	0.79	0.79	0.78	0.75	0.70	0.66	0.62	0.57	0.53	0.48	0.44	0.40	0.35
	0.26	0.14	0.03	0.00																
13	0.00	0.03	0.12	0.25	0.34	0.41	0.46	0.51	0.57	0.64	0.72	0.78	0.78	0.79	0.78	0.78	0.78	0.78	0.79	0.79
	0.79	0.78	0.78	0.77	0.78	0.79	0.79	0.79	0.79	0.78	0.76	0.75	0.71	0.67	0.62	0.56	0.51	0.47	0.43	0.37
	0.27	0.14	0.03	0.00																
14	0.00	0.03	0.13	0.25	0.35	0.41	0.45	0.50	0.56	0.62	0.68	0.74	0.76	0.77	0.78	0.78	0.78	0.79	0.79	0.79
	0.79	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.78	0.78	0.76	0.73	0.66	0.60	0.54	0.49	0.44	0.38
	0.28	0.15	0.04	0.00																
15	0.00	0.03	0.13	0.25	0.34	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.74	0.76	0.78	0.79	0.79	0.79	0.79	0.79
	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.78	0.79	0.79	0.78	0.71	0.63	0.57	0.51	0.46	0.40
	0.29	0.15	0.04	0.00																
16	0.00	0.03	0.13	0.25	0.34	0.40	0.44	0.48	0.53	0.58	0.63	0.68	0.72	0.76	0.79	0.79	0.79	0.79	0.79	0.79
	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.78	0.72	0.65	0.58	0.53	0.47	0.41
	0.30	0.15	0.04	0.00																
17	0.00	0.03	0.13	0.25	0.34	0.39	0.43	0.47	0.52	0.57	0.61	0.66	0.71	0.76	0.79	0.79	0.80	0.80	0.80	0.80
	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.77	0.72	0.65	0.59	0.54	0.49
	0.30	0.16	0.04	0.00																
18	0.00	0.03	0.12	0.24	0.33	0.38	0.42	0.46	0.51	0.55	0.60	0.65	0.70	0.76	0.79	0.79	0.80	0.80	0.80	0.80
	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.77	0.72	0.66	0.60	0.54	0.49	0.42
	0.31	0.16	0.04	0.00																
19	0.00	0.03	0.12	0.24	0.32	0.38	0.41	0.45	0.49	0.54	0.58	0.63	0.69	0.75	0.79	0.79	0.80	0.80	0.80	0.80
	0.80	0.79	0.79	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.74	0.67	0.61	0.55	0.50	0.43
	0.31	0.16	0.04	0.00																
20	0.00	0.03	0.12	0.23	0.32	0.37	0.40	0.44	0.48	0.52	0.57	0.62	0.67	0.72	0.77	0.79	0.80	0.80	0.80	0.80
	0.80	0.79	0.79	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.74	0.67	0.61	0.55	0.50	0.43
	0.31	0.16	0.04	0.00																
21	0.00	0.03	0.12	0.23	0.31	0.36	0.39	0.43	0.47	0.51	0.55	0.60	0.65	0.70	0.76	0.79	0.80	0.80	0.80	0.80
	0.80	0.79	0.78	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.78	0.73	0.67	0.61	0.55	0.50	0.43
	0.31	0.16	0.04	0.00																
22	0.00	0.03	0.12	0.22	0.30	0.35	0.38	0.41	0.45	0.49	0.53	0.58	0.63	0.68	0.75	0.79	0.79	0.80	0.80	0.80
	0.80	0.79	0.78	0.78	0.77	0.77	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.74	0.67	0.61	0.55	0.50	0.43
	0.31	0.16	0.04	0.00																
23	0.00	0.03	0.11	0.22	0.29	0.33	0.37	0.40	0.44	0.48	0.52	0.56	0.61	0.66	0.71	0.77	0.79	0.79	0.80	0.80
	0.79	0.79	0.78	0.77	0.77	0.76	0.77	0.77	0.78	0.79	0.79	0.79	0.79	0.79	0.74	0.67	0.60	0.55	0.49	0.42
	0.31	0.16	0.04	0.00																
24	0.00	0.03	0.11	0.21	0.28	0.32	0.35	0.39	0.42	0.46	0.50	0.54	0.59	0.64	0.69	0.73	0.77	0.78	0.79	0.79
	0.79	0.79	0.78	0.78	0.76	0.75	0.75	0.75	0.76	0.77	0.77	0.78	0.79	0.79	0.74	0.66	0.60	0.54	0.48	0.41
	0.30	0.16	0.04	0.00																
25	0.00	0.03	0.11	0.20	0.27	0.31	0.34	0.37	0.40	0.44	0.48	0.52	0.57	0.62	0.67	0.71	0.75	0.77	0.78	0.79
	0.79	0.79	0.79	0.78	0.76	0.74	0.73	0.73	0.74	0.75	0.76	0.78	0.79	0.77	0.72	0.65	0.58	0.52	0.47	0.40
	0.29	0.15	0.04	0.00																
26	0.00	0.02	0.10	0.19	0.26	0.30	0.32	0.35	0.39	0.42	0.46	0.50	0.55	0.60	0.65	0.71	0.76	0.78	0.79	0.79
	0.79	0.79	0.79	0.79	0.75	0.73	0.71	0.71	0.71	0.72	0.75	0.78	0.78	0.78	0.72	0.63	0.57	0.51	0.46	0.39
	0.29	0.15	0.04	0.00																
27	0.00	0.02	0.10	0.19	0.25	0.28	0.31	0.34	0.37	0.40	0.44	0.48	0.52	0.57	0.63	0.71	0.78	0.79	0.79	0.79
	0.79	0.79	0.79	0.76	0.72	0.70	0.68	0.67	0.68	0.68	0.70	0.73	0.75	0.77	0.69	0.61	0.54	0.49	0.44	0.38
	0.28	0.14	0.03	0.00																
28	0.00	0.02	0.10	0.18	0.24	0.27	0.30	0.32	0.35	0.38	0.42	0.46	0.50	0.54	0.60	0.66	0.74	0.78	0.78	0.79
	0.78	0.76	0.74	0.71	0.68	0.66	0.65	0.64	0.64	0.64	0.65	0.66	0.67	0.68	0.62	0.56	0.51	0.46	0.42	0.36
	0.26	0.14	0.03	0.00																
29	0.00	0.02	0.09	0.17	0.22	0.26	0.28	0.31	0.33	0.36	0.39	0.43	0.47	0.51	0.56	0.61	0.66	0.71	0.73	0.73

31	0.24	0.13	0.03	0.00																
	0.00	0.02	0.08	0.15	0.20	0.23	0.25	0.27	0.29	0.32	0.35	0.37	0.40	0.44	0.47	0.50	0.53	0.56	0.57	0.58
	0.58	0.57	0.56	0.55	0.54	0.53	0.52	0.51	0.51	0.50	0.50	0.49	0.48	0.47	0.45	0.42	0.39	0.36	0.34	0.30
	0.23	0.12	0.03	0.00																
32	0.00	0.02	0.08	0.14	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.37	0.40	0.43	0.45	0.48	0.50	0.51	0.52
	0.52	0.52	0.51	0.51	0.50	0.49	0.48	0.47	0.47	0.46	0.45	0.45	0.43	0.42	0.40	0.38	0.36	0.33	0.31	0.28
	0.21	0.12	0.03	0.00																
33	0.00	0.02	0.07	0.14	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.32	0.34	0.37	0.39	0.41	0.43	0.45	0.46	0.46
	0.47	0.47	0.46	0.46	0.45	0.45	0.44	0.43	0.43	0.42	0.41	0.40	0.39	0.38	0.36	0.35	0.33	0.31	0.29	0.25
	0.20	0.11	0.03	0.00																
34	0.00	0.02	0.07	0.13	0.17	0.19	0.20	0.22	0.24	0.26	0.27	0.29	0.31	0.33	0.35	0.37	0.39	0.40	0.41	0.42
	0.42	0.42	0.42	0.42	0.41	0.41	0.40	0.40	0.39	0.38	0.38	0.37	0.36	0.34	0.33	0.31	0.30	0.28	0.26	0.24
	0.18	0.10	0.03	0.00																
35	0.00	0.02	0.07	0.12	0.15	0.17	0.19	0.20	0.22	0.24	0.25	0.27	0.29	0.30	0.32	0.34	0.35	0.36	0.37	0.38
	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.36	0.36	0.35	0.34	0.33	0.32	0.31	0.30	0.29	0.27	0.26	0.24	0.22
	0.17	0.10	0.03	0.00																
36	0.00	0.02	0.06	0.11	0.14	0.16	0.17	0.19	0.20	0.22	0.23	0.25	0.26	0.28	0.29	0.30	0.32	0.33	0.33	0.34
	0.34	0.35	0.35	0.34	0.34	0.34	0.33	0.33	0.32	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.23	0.22	0.20
	0.16	0.09	0.02	0.00																
37	0.00	0.01	0.06	0.10	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.28	0.29
	0.29	0.30	0.30	0.30	0.29	0.29	0.29	0.28	0.28	0.27	0.27	0.26	0.25	0.24	0.24	0.22	0.21	0.20	0.19	0.17
	0.14	0.08	0.02	0.00																
38	0.00	0.01	0.05	0.08	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.21
	0.21	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.21	0.20	0.20	0.19	0.19	0.18	0.17	0.16	0.15	0.14	0.13	
	0.11	0.07	0.02	0.00																
39	0.00	0.01	0.03	0.04	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.07
	0.06	0.04	0.01	0.00																
40	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	0.01	0.01	0.00	0.00																
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00																

VOLUMETRIC BUDGET FOR ENTIRE MODEL AT END OF TIME STEP 30 IN STRESS PERIOD 1

CUMULATIVE VOLUMES	L**3	RATES FOR THIS TIME STEP	L**3/T
IN:		IN:	
---		---	
STORAGE =	0.19546E+08	STORAGE =	0.21668E+06
CONSTANT HEAD =	0.00000E+00	CONSTANT HEAD =	0.00000E+00
RECHARGE =	0.00000E+00	RECHARGE =	0.00000E+00
TOTAL IN =	0.19546E+08	TOTAL IN =	0.21668E+06
OUT:		OUT:	
----		----	
STORAGE =	0.00000E+00	STORAGE =	0.00000E+00
CONSTANT HEAD =	0.00000E+00	CONSTANT HEAD =	0.00000E+00
RECHARGE =	0.19613E+08	RECHARGE =	0.21792E+06
TOTAL OUT =	0.19613E+08	TOTAL OUT =	0.21792E+06
IN - OUT =	-66590.	IN - OUT =	-1240.1
PERCENT DISCREPANCY =	-0.34	PERCENT DISCREPANCY =	-0.57

TIME SUMMARY AT END OF TIME STEP 30 IN STRESS PERIOD 1

	SECONDS	MINUTES	HOURS	DAYS	YEARS
TIME STEP LENGTH	259200.	4320.00	72.0000	3.00000	0.821355E-02
STRESS PERIOD TIME	0.777600E+07	129600.	2160.00	90.0000	0.246407
TOTAL SIMULATION TIME	0.777600E+07	129600.	2160.00	90.0000	0.246407

SECTION III
Irrigation Water Use

- A.1. Proof of ownership is submitted as Item III-1.
 - 2. A change of zoning to community facility planned development is pending.

- B.1. The crop type is turf grass; total irrigated acreage is 280.6 acres.
 - 2. The table of crop requirements is submitted as Item III-4.

- C. 1.63 MGD of water is needed for irrigation. This value was calculated using a modified Blaney-Criddle Method. Calculations are submitted as Item III-4B.

- D. Water conservation techniques will be employed. These will include the use of xeriscape, tree and shrub areas. Limited open areas and irrigation at night.

- E. No freeze protection is requested.

- F. The golf course irrigation request is submitted as Item III-8.

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE
 COUNTY OF LEE
 16-46-26-00-00001.3000
 TAXES AND ASSESSMENTS IF PAID IN

TAKE CHECKS PAYABLE TO:
 DICK STEELE TAX COLLECTOR
 P.O. BOX 850
 FT MYERS, FL 33902

NOVEMBER: 104.17	DECEMBER: 105.25	JANUARY: 106.34	FEBRUARY: 107.42	MARCH: 108.51	APRIL: 123.71	NR
---------------------	---------------------	--------------------	---------------------	------------------	------------------	----

LC 000 050	
ASSESS VAL	153450
WHL-EX VAL	146600
TAXABLE VAL	6850

PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS

N E 1/4/ OF N E 1/4
 E OF ALICO RD
 OR 2085/0832

YOUNGQUIST HARVEY TR
 P O BOX 06257
 FT MYERS
 FL 33906

020011 025638602 00000108514 00003263 011940

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE
 COUNTY OF LEE
 16-46-26-00-00001.3000
 TAXES AND ASSESSMENTS IF PAID IN

* RETAIN THIS PORTION FOR YOUR RECORDS *
 DICK STEELE TAX COLLECTOR
 PO BOX 850
 FT MYERS FL 33902

NOVEMBER: 104.17	DECEMBER: 105.25	JANUARY: 106.34	FEBRUARY: 107.42	MARCH: 108.51	APRIL: 123.71
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LC 000 050	
ASSESS VAL	153450
WHL-EX VAL	146600
TAXABLE VAL	6850

PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS

Alice 151

N E 1/4/ OF N E 1/4
 E OF ALICO RD
 OR 2085/0832

YOUNGQUIST HARVEY TR
 P O BOX 06257
 FT MYERS
 FL 33906

AD VALOREM TAXES

ACRES

TAXING AUTHORITY	MILLAGE	TAXES LEVIES
LEES COUNTY GENERAL REVENUE	0.7850	
LEES COUNTY CAPITAL OUTLAY	0.3200	
LEES COUNTY LIBRARY FUND	0.3700	
PUBLIC SCHOOL - BY STATE LAW	0.8900	
PUBLIC SCHOOL - BY LOCAL BOARD	0.7100	
WEST COAST INLAND WATERWAY	0.0500	
SOUTH FLORIDA WATER MANAGEMENT	0.5470	
LEES COUNTY HYACINTH CONTROL	0.0400	
LEES COUNTY MOSQUITO CONTROL	0.4038	
CO UNINCORPORATED - MSTU	0.7704	

RECEIVED NOV 2 1990

NAME OF LEVYING AUTHORITY	NON AD VALOREM ASSESSMENTS	RATE/BASIS	LEVY
TOTAL TAXES AND LEVIES			108.5

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE COUNTY OF LEE 15-46-26-00-00001-1000 TAXES AND ASSESSMENTS IF PAID IN

* RETURN THIS PORTION WITH YOUR PAYMENT * MAKE CHECKS PAYABLE TO: DICK STEELE TAX COLLECTOR P.O. BOX 350 FT. MYERS, FL 33902

NOVEMBER: 128.46	DECEMBER: 129.80	JANUARY: 131.15	FEBRUARY: 132.47	MARCH: 133.81	APRIL: 135.75	NR
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS
 64 000 050
 ASSESS VAL 544000
 WHL-EX VAL 585550
 TAXABL VAL 8450

YOUNGQUIST HARVEY TR
 P O BOX 06257
 FT MYERS FL 33906

N W 1/4 OF N E 1/4 E
 N W 1/4 OF N W 1/4 E
 N E 1/4 OF N W 1/4 E
 OR 2085/082

020014 025638009 0000233810 00004610 013931

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE COUNTY OF LEE 15-46-26-00-00001-1000 TAXES AND ASSESSMENTS IF PAID IN

* RETURN THIS PORTION FOR YOUR RECORDS * DICK STEELE TAX COLLECTOR P.O. BOX 350 FT MYERS FL 33902

NOVEMBER: 128.46	DECEMBER: 129.80	JANUARY: 131.15	FEBRUARY: 132.47	MARCH: 133.81	APRIL: 135.75
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS
 64 000 050
 ASSESS VAL 544000
 WHL-EX VAL 585550
 TAXABL VAL 8450

Alice 151

YOUNGQUIST HARVEY TR
 P O BOX 06257
 FT MYERS FL 33906

N W 1/4 OF N E 1/4 E
 N W 1/4 OF N W 1/4 E
 N E 1/4 OF N W 1/4 E
 OR 2085/082

AD VALOREM TAXES		ACRES	00
TAXING AUTHORITY	MILLAGE	TAXES	LEVI
Lee County General Revenue	0.7850		
Lee County Capital Outlay	0.4320		
Lee County Library Fund	0.3705		
Public School - By State Law	0.2390		
Public School - By Local Board	0.2300		
West Coast Inland Waterway	0.5470		
South Florida Water Management	1.0405		
Lee County Hyacinth Control	0.4038		
Lee County Mosquito Control	0.704		
CO UNINCORPORATED - MSTU			

RECEIVED NOV 2 1990

NON AD VALOREM ASSESSMENTS		RATE/BASIS	LEVY
NAME OF LEVYING AUTHORITY			
TOTAL TAXES AND LEVIES			133.8

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE
 COUNTY OF LEE
 16-46-26-00-00001.0000
 TAXES AND ASSESSMENTS IF PAID IN

* RETURN THIS PORTION WITH YOUR PAYMENT *
 MAKE CHECKS PAYABLE TO:
 DICK STEELE TAX COLLECTOR
 P.O. BOX 350
 FT. MYERS, FL 33902

NOVEMBER: 35.12	DECEMBER: 35.48	JANUARY: 35.85	FEBRUARY: 36.21	MARCH: 36.56	APRIL: 37.01	NF
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS

60 000 050
 ASSESS VAL 51780
 WHL-EX VAL 49470
 TAXABL VAL 2310

THAT PT OF N 1/2 & S 1/2 OF SEC 16 LYING E OF ALICO RD LESS PAR 1.300 OR 2010/0921

YOUNGQUIST HARVEY & YOUNGQUIST TIMOTHY G
 15000 PINE RIDGE RD
 FT MYERS FL 33908

020011 025638106 00000036582 000011202 013931

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE
 COUNTY OF LEE
 16-46-26-00-00001.0000
 TAXES AND ASSESSMENTS IF PAID IN

* RETAIN THIS PORTION FOR YOUR RECORDS *
 DICK STEELE TAX COLLECTOR
 PO BOX 350
 FT MYERS FL 33902

NOVEMBER: 35.12	DECEMBER: 35.48	JANUARY: 35.85	FEBRUARY: 36.21	MARCH: 36.56	APRIL: 37.01
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS

60 000 050
 ASSESS VAL 51780
 WHL-EX VAL 49470
 TAXABL VAL 2310

THAT PT OF N 1/2 & S 1/2 OF SEC 16 LYING E OF ALICO RD LESS PAR 1.300 OR 2010/0921

YOUNGQUIST HARVEY & YOUNGQUIST TIMOTHY G
 15000 PINE RIDGE RD
 FT MYERS FL 33908

RECEIVED NOV 3 1 1990

TAXING AUTHORITY	MILLAGE	TAXES LEVY
LEE COUNTY GENERAL REVENUE	4.7850	11.00
LEE COUNTY CAPITAL OUTLAY	0.0000	0.00
LEE COUNTY LIBRARY FUND	0.0000	0.00
PUBLIC SCHOOL - BY STATE LAW	0.0000	0.00
PUBLIC SCHOOL - BY LOCAL BOARD	0.0000	0.00
NORTH COAST INLAND WATERWAY	0.0000	0.00
SOUTH FLORIDA WATER MANAGEMENT	0.0000	0.00
LEE COUNTY HYACINTH CONTROL	0.0000	0.00
LEE COUNTY MOSQUITO CONTROL	0.0000	0.00
LEE CO UNINCORPORATED - MSTU	0.0000	0.00

Pit

NAME OF LEVYING AUTHORITY	RATE/BASIS	LEVY

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE COUNTY OF LEE 15-46-26-00-00001.0000 TAXES AND ASSESSMENTS IF PAID IN

* RETURN THIS PORTION WITH YOUR PAYMENT * MAKE CHECKS PAYABLE TO: DICK STEELE TAX COLLECTOR P.O. BOX 350 FT MYERS, FL 33902

NOVEMBER: 1065.02	DECEMBER: 1076.12	JANUARY: 1087.21	FEBRUARY: 1098.31	MARCH: 1109.40	APRIL: 1156.61	NR
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS
 L4 000 050
 ASSESS VAL 2474460
 HML-EX VAL 2404410
 TAXABL VAL 70050

YOUNGQUIST HARVEY &
 YOUNGQUIST TIMOTHY G
 15000 PINE RIDGE RD
 FT MYERS FL 33908

ALL SEC 15
 LESS PAR 1.100 & 1.001 &
 1.002
 OR 2010/0921

020011 025637703 00001107403 00033201 013931

NOTICE OF AD VALOREM TAXES AND NON AD VALOREM ASSESSMENTS DUE FOR YEAR 1990 REAL ESTATE COUNTY OF LEE 15-46-26-00-00001.0000 TAXES AND ASSESSMENTS IF PAID IN

* DETACH HERE * * DETACH HERE * * DETACH HERE * * DETACH HERE * * DETACH HERE * * DETACH HERE *
 * RETAIN THIS PORTION FOR YOUR RECORDS *
 DICK STEELE TAX COLLECTOR
 PO BOX 350
 FT MYERS FL 33902

NOVEMBER: 1065.02	DECEMBER: 1076.12	JANUARY: 1087.21	FEBRUARY: 1098.31	MARCH: 1109.40	APRIL: 1156.61
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PAYMENT OF TAXES MUST BE IN US DOLLARS BY CHECKS DRAWN ON US BANKS
 L4 000 050
 ASSESS VAL 2474460
 HML-EX VAL 2404410
 TAXABL VAL 70050

RECEIVED

YOUNGQUIST HARVEY &
 YOUNGQUIST TIMOTHY G
 15000 PINE RIDGE RD
 FT MYERS FL 33908

ALL SEC 15
 LESS PAR 1.100 & 1.001 &
 1.002
 OR 2010/0921

AD VALOREM TAXES ACRES

TAXING AUTHORITY	MILLAGE	TAXES	LEVY
LEE COUNTY GENERAL REVENUE	4.78	1165.00	1.64
LEE COUNTY CAPITAL OUTLAY	0.00	0.00	0.00
LEE COUNTY LIBRARY FUND	0.00	0.00	0.00
PUBLIC SCHOOL - BY STATE LAW	0.00	0.00	0.00
PUBLIC SCHOOL - BY LOCAL BOARD	0.00	0.00	0.00
WEST COAST INLAND WATERWAY	0.00	0.00	0.00
SOUTH FLORIDA WATER MANAGEMENT	0.00	0.00	0.00
LEE COUNTY HYACINTH CONTROL	0.00	0.00	0.00
LEE COUNTY MOSQUITO CONTROL	0.00	0.00	0.00
LEE CO UNINCORPORATED - MSTU	0.00	0.00	0.00

515
 Pit

NON AD VALOREM ASSESSMENTS

NAME OF LEVYING AUTHORITY	RATE/BASIS	LEVY
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CALCULATIONS OF IRRIGATION REQUIREMENTS
FOR GRASS-----
IN FT. MYERS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	1.90	2.16	2.21	2.37	3.90	9.09	8.47	8.00	8.13	3.88	1.37	1.51	52.99
EVAPOTRANSPIRATION	1.88	2.16	3.67	5.10	6.70	7.47	7.93	7.61	6.40	4.88	3.03	2.17	58.99
AVE. EFFECTIVE RAIN	0.88	1.01	1.12	1.29	2.19	4.72	4.56	4.27	4.04	1.97	0.69	0.73	27.46
8-IN-10 EFF. RAIN	0.76	0.87	0.96	1.11	1.88	4.06	3.92	3.67	3.48	1.69	0.60	0.62	23.61
AVERAGE IRRIGATION	1.00	1.16	2.55	3.81	4.51	2.75	3.37	3.35	2.36	2.91	2.33	1.44	31.53
2-IN-10 IRRIGATION	1.12	1.30	2.70	4.00	4.82	3.41	4.01	3.94	2.93	3.18	2.43	1.54	35.38

SUPPLEMENTAL CROP REQUIREMENT = 31.53 INCHES

MAXIMUM MONTH REQUIREMENT = 4.82 INCHES (OCCURS IN MAY)

- NOTES: 1. EVAPOTRANSPIRATION WAS CALCULATED USING A MODIFIED BLANBY-CRIDDLE METHOD.
 2. MEAN RAINFALL WAS AVERAGED FROM 98 YEARS OF RECORD AT FT. MYERS.
 3. AVERAGE EFFECTIVE RAINFALL IS THE AMOUNT OF RAINFALL THAT WOULD BE EXPECTED TO BE USEFUL TO CROPS DURING AN AVERAGE YEAR.
 4. 8-IN-10 EFFECTIVE RAINFALL IS WHAT WOULD BE EXPECTED TO BE USEFUL FOR CROPS WITH A PROBABILITY OF 8 YEARS IN 10
 5. AVERAGE IRRIGATION IS THE NET AMMOUNT THAT SHOULD BE APPLIED FOR MAXIMUM YIELDS DURING AN AVERAGE YEAR.
 6. 2-IN-10 IRRIGATION IS THE NET AMOUNT THAT SHOULD BE APPLIED FOR MAXIMUM YIELDS WITH A PROBABILITY OF REQUIREMENT OF THE AMOUNT SHOWN BEING 2 YEARS IN 10.
 7. BASED ON .8 SOIL TYPE.

CALCULATION OF IRRIGATION REQUIREMENTS

THIS PROJECT IS LOCATED IN A REDUCED THRESHOLD AREA

STATION: FT. MYERS

CROP: GRASS-----

SYSTEM: spray

ACREAGE: 280.60 (SOIL TYPE: .8) EFFICIENCY: 0.75

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 4.82 INCHES

MAXIMUM DAILY SUPPLEMENTAL WATER USE:

$4.82 \text{ IN/30 DAYS} \times 280.60 \text{ AC} / 0.75 \times .02715 \text{ MG/AC-IN} = 1.63 \text{ MG}$

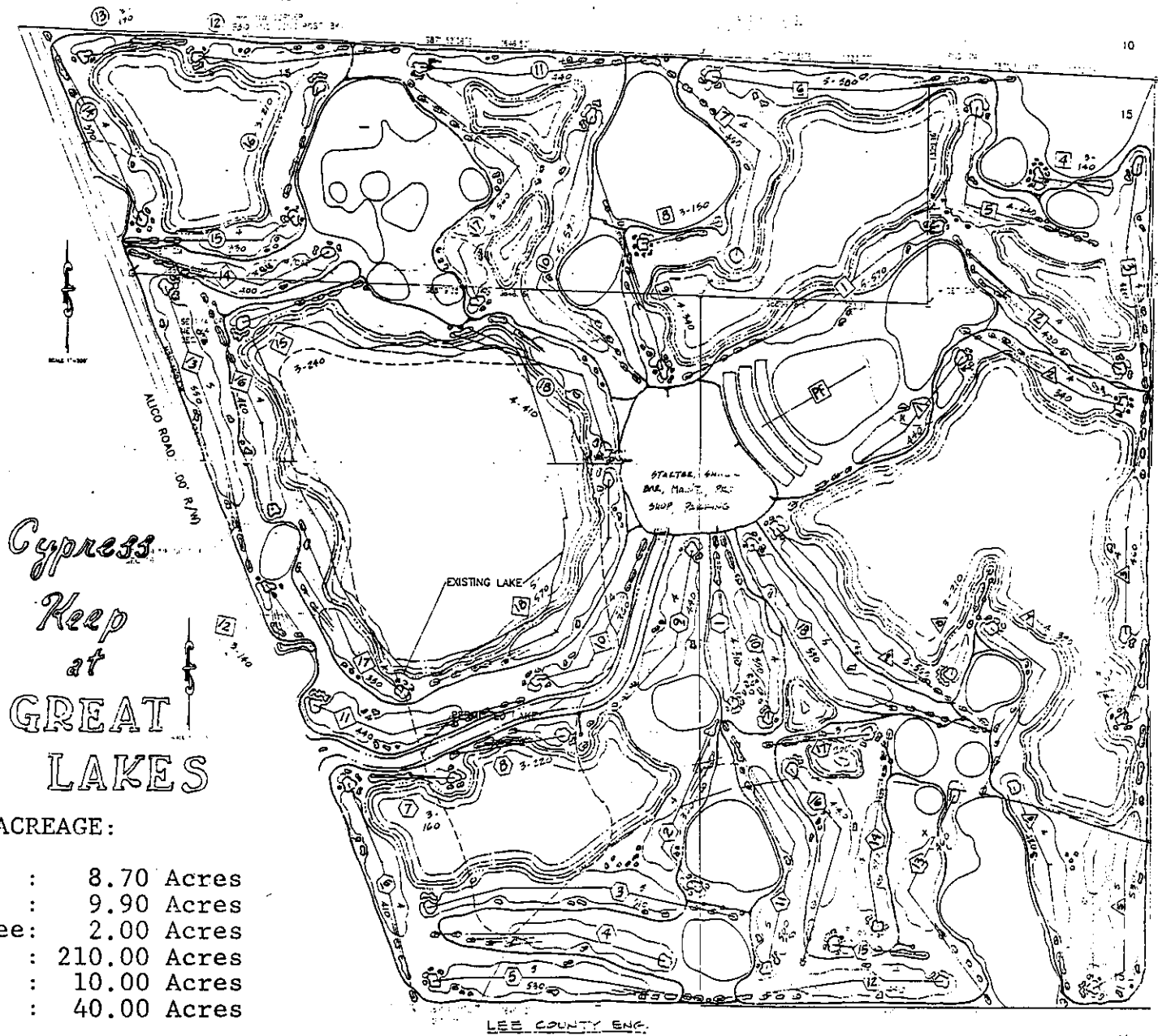
AVERAGE ANNUAL SUPPLEMENTAL REQUIREMENT: 31.53 INCHES

AVERAGE ANNUAL SUPPLEMENTAL WATER USE:

$31.53 \text{ IN} \times 280.60 \text{ AC} / 0.75 \times .02715 \text{ MG/AC-IN} = 320.30 \text{ MG}$

CALCULATED MAXIMUM DAILY ALLOCATION: 1.63 MG
(5.01 ACRE FEET)

CALCULATED MAXIMUM ANNUAL ALLOCATION: 320.30 MG
(983.33 ACRE FEET)



Cypress
 Keep
 at
 GREAT
 LAKES

IRRIGATED ACREAGE:

Greens	:	8.70 Acres
Tees	:	9.90 Acres
Practice Tee:		2.00 Acres
Fairways	:	210.00 Acres
Practice	:	10.00 Acres
Rough	:	40.00 Acres
<hr/>		
Total	:	280.60 Acres

LEE COUNTY ENG.

ITEM III-8. GOLF COURSE IRRIGATION REQUEST

APPENDIX C
Geologist's Log

Table A-1 Geologist's Log L-M-922

<u>Depth (feet)</u>	<u>Description</u>
0-3	Sand, quartz, light tan, fine to very fine.
3-5	Limestone, light brown, sandy, hard.
5-7	Sand, quartz; with yellow clay, limestone and sandstone fragments.
7-11	Limestone, brown; micro-crystalline, some quartz sand, hard.
11-13	Sandstone, brown; with yellow-brown clay.
13-17	Silt, brown; with quartz sand and clay, weathered limestone fragments, paleosol horizon.
17-24	Limestone, soft, marly, white, more than 50% biogenic, shell detritus, Pleistocene fossils.
24-34	Shell, with fragments of consolidated light gray limestone and calcareous sandstone, Pleistocene fossils.
34-36	Limestone, light gray, cemented, hard, biogenic.
36-42	Shell, with limestone fragments, Pleistocene fossils.
42-47	Limestone, gray, very hard, small shell fragments.
47-51	Limestone, gray to light gray, hard to medium hard, cemented shell fragments, micro-crystalline texture.
51-53	Limestone, steel gray to nearly blue very hard micro-crystalline, may be dolomitic.

(Con't.)

Table A-1 (Con't.).

<u>Depth (feet)</u>	<u>Description</u>
53-66	Limestone, gray, medium hard, interbedded light gray limestone, some shell.
66-77	Limestone, medium hard, few fossils,, gray.
77-84	Limestone, light gray, fossiliferous, molds, sponge-like, small vugs.
84-94	Limestone, gray, slightly harder than above.
94-104	Limestone, gray and light gray, interbedded, soft.
104-113	Limestone, light gray, shelly, bryzoans, soft.
113-120	Clay, dark green, carbonate, some weathered rock fragments and barnacle fragments.
120-124	Clay, dark green to gray, silty, barnacle fragments.
124-130	Clay, green-gray, silty, shelly.
130-138	Clay, green, carbonate, fat, slightly phosphatic.
138-144	Clay, green, same as above, microfossils.
144-146	Clay, green, some phosphate, few shell fragments.
146-156	Limestone, light gray, some fossils.
156-164	Limestone, light gray, same generally as above, granular nature perhaps pelleted.
164-174	Limestone, lt. gray to gray, cemented lime sand.
174-196	Limestone, lt. gray, same as above, little if any quartz sand.

(Con't.)

Table A-1 (Con't.).

<u>Depth (feet)</u>	<u>Description</u>
196-204	Sandstone, light gray, cemented by carbonate micrite, shelly, nearly unconsolidated.
204-212	Sand, quartz, very fine, same carbonate mud (3-5%).
212-218	Sandstone, light gray, same as above, calcareous cement, shell, some phosphate.
218-228	Sand and silt, quartz, gray, with 5-10% carbonate clay, phosphatic.
228-240	Sandstone, with interbedded quartz sand and silt, shelly.
234-244	Sandstone, gray, minor interbedded sand, slightly shelly.
244-264	Poor sample, quartz sand, soft partially consolidated sandstone.
264-284	Sandstone and sand, poorly consolidated, finer grained with depth.
284-294	Mud, gray to green, mixed quartz sand, silt and carbonate clay, shelly.
294-304	Mud, green, silty, phosphatic, some quartz sand.

Table A-2 Geologist's Log L-M-923.

<u>Depth (ft.)</u>	<u>Description</u>
0-14	Sand, quartz, gray, very fine, some shell, some brown sandstone.
14-24	Sand, quartz, very fine, silt and clay 5-15%, light gray, interbedded laminae of clay, dark brown.
24-29	Silt, light gray to gray, with very fine quartz sand, higher percentage of silt and clay than above.
29-36	Limestone, light gray, Pleistocene fossils, shell, medium hardness.
36-44	Limestone, light tan to light gray, shelly, some carbonate sand.
44-47	Limestone, same as above, with interbedded hard gray limestone (no sample).
47-50	Shell, unconsolidated, with some interbedded light brown sandstone (quartz).
50-60	Limestone, shelly, loosely consolidated shell beds, lt. tan to lt. gray.
60-64	Limestone, gray, hard, some shell.
64-80	Limestone, light gray, medium hardness, vugged, all carbonate, some shell.
80-84	Limestone, gray, partially consolidated, marly, carbonate mud mixed with rock fragments, clay = 5-10%, shell.
84-88	Limestone, gray, medium hard, porous, some shell.
88-104	Limestone and marl, interbedded, gray, upper part coralline, marl contains shell perhaps sand, reef complex.
104-114	Limestone, light gray, porous, medium hard, some shell fragments.
114-124	Limestone, light tan to tan, hard, high porosity.

(Con't.)

Table A-2 (Con't.). Geologist's Log L-M-923.

<u>Depth (ft.)</u>	<u>Description</u>
124-134	Limestone, gray to light gray, thin hard beds and overall medium hardness.
134-138	Limestone, lt. gray, medium hard, with thin very hard beds, brownish dolomite (?) beds.
138-144	Limestone, partially unconsolidated, lt. gray, marly.
144-154	Limestone lt. gray, marl, more clay than above (Buckingham ?).
154-158	Marl, gray to light brown, unconsolidated, barnacles, shell fragments.
158-164	Clay, dark green, carbonate, some shell, silty.
164-174	Clay, green, very silty, thinner than above.
174-184	Clay, green (lighter than above), less silt, fat.
184-200	Clay, dark green, microfossils, silty.
200-204	Limestone, gray, cemented carbonate sand.
204-213	Limestone, light gray, medium hard, some shell.
213-214	Limestone, tan; sample does not reflect color, thin bed.
214-224	Sandstone, gray-lt. tan, medium hard some shell; quartz sand (very fine) cemented by carbonate.
224-228	Sandstone, gray, loosely consolidated, some partially consolidated carbonate mud, low porosity.
228-238	Sandstone, lt. tan, with shell, loosely consolidated, soft, Bryzoans, moderate to poor permeability.

(Con't.)

Table A-2 (Con't.). Geologist's Log L-M-923.

<u>Depth (ft.)</u>	<u>Description</u>
238-244	Sandstone, lt. gray to lt. tan, shelly, soft.
244-254	Sandstone, lt. gray, nearly unconsolidated quartz sand and shelly, minor percent of carbonate mud.
254-259	Sandstone, gray, soft, poorly consolidated, high percentage of carbonate silt with very fine quartz sand.
259-264	Sandstone and sand, gray, with shell and carbonate silt, poor permeability.
264-269	Sandstone, gray to lt. gray, medium hard, some phosphate, some molds and casts.
269-284	Sandstone, lt. gray, shelly, soft but well consolidated.
284-292	Marl, gray, carbonate mud with quartz sand and silt, shelly.
292-299	Sand and sandstone, gray-green, with carbonate clay, some shell, poor permeability.
299-304	Sandstone, lt. gray, hard, some interbedded soft marl, shelly.
304-309	Sandstone, sand, and green clay, interbedded with shell, phosphatic.
309-324	Clay, green; more than 50% quartz silt and sandy.

Table A-3 Geologist's Log L-M-924

<u>Depth (ft.)</u>	<u>Description</u>
0-2	Sand, quartz, brown to light brown, medium to very fine grain size.
2-4	Clay and sand, yellow, quartz sand mixed with residual soil clay, true clay mineral assemblage.
4-22	Sand, quartz, light tan to light gray, very fine grain, some shell near base.
22-23	Limestone, light tan, shelly, very soft.
23-40	Sand and shell, light tan, very fine to silt grain-size, thin shell fragments.
40-43	Limestone, sandy, gray to light brown, very hard.
43-44	Shell, medium-size whole fossils, <u>Chione cancellata</u> , <u>Chlamys</u> sp. etc., probable Pleistocene assemblage.
44-60	Limestone, light gray and light tan, poorly consolidated, bedded shell, same as above.
60-64	Limestone, gray, hard, fairly pure CaCO ₃ , little or no quartz sand.
64-66	Limestone, gray, same generally as above, small vugs, imbedded fossil shell.
66-74	Limestone, gray, not as dark as above, hard.
74-84	Limestone light gray, soft, with shell and some unconsolidated carbonate silt, heavy water loss zone at top.
84-89	Limestone, gray, shell fragments, soft, nearly same as above.
89-99	Limestone, light gray to buff, shelly, same generally as above with some silt.
99-104	Limestone, silty, partially consolidated carbonate shell fragments and lime mud.

(Con't.)

Table A-3 (Con't.). Geologist's Log L-M-924.

104-114	Limestone, light gray, shell fragments, some bedded carbonate silt.
114-118	Limestone, lt. tan to buff, some light brown, consolidated.
118-124	Limestone, lt. brown, medium hard, vugged.
124-134	Limestone, light gray, medium hard, very porous.
134-144	Limestone, light gray, same as above.
144-148	Limestone, nearly white, medium hard, very porous.
148-155	Limestone, light tan to light gray, silty.
155-159	Marl, light gray to gray carbonate mud, limestone fragments and shell.
159-164	Clay, green, carbonate, shell fragments, fat.

Table A-4 Geologist's Log L-M-926.

<u>Depth (ft.)</u>	<u>Description</u>
0-4	Sand, quartz, dark brown, organic, iron-stained, very fine, slightly clayey.
4-7	Sand, quartz, brown, same generally as above with less clay, some weathered rock fragments.
7-10	Sandstone, lt. gray, medium hard, very fine quartz sand +80% cemented by carbonate.
10-15	Sand, quartz, lt. brown to tan, very fine, clean.
15-24	Sandstone, lt. brown, shelly, shells appear weathered, overall sequence medium hard, very permeable.
24-26	Shell, thin bed, unconsolidated shell, mostly <u>Chione cancellata</u> .
26-30	Sandstone and shell, interbedded, sandstone is medium hard to hard, shell sequence is Pleistocene, high permeability.
30-34	Limestone, lt. gray, sandy, medium hard to hard, some shell.
34-39	Sandstone, lt. gray, hard, tightly cemented, some shell and molds and casts.
39-44	Limestone, lt. gray, very hard, trace of very fine quartz sand, medium porosity.
44-50	Limestone, gray, clean with some shell, higher porosity than above.
50-64	Limestone, lt. tan to dark gray, very hard light color limestone - very permeable, darker limestone very hard - medium porosity.
64-74	Limestone, lt. gray, medium hard, trace of shell, high porosity.

(Con't.)

Table A-4 (Con't.). Geologist's Log L-M- 926.

<u>Depth (ft.)</u>	<u>Description</u>
74-79	Limestone, gray, hard to medium hard, same as above.
79-84	Limestone, gray, very hard, shelly, probably interbedded, high porosity.
84-87	Marl, gray, mixture of gray carbonate mud and rock fragments.
87-94	Clay, green, carbonate, silty, abundant micro-fossils, fat.
94-104	Clay, green, slightly silty, fairly clean, abundant micro-fossils.
104-114	Clay, green, light color than above, carbonate, less silt than above.
114-124	Clay, green, same as above with some shell fragments.
124-126	Clay, green, some weathered rock and shell fragments, phosphorite nodules.
126-134	Limestone, gray-tan, slightly phosphatic, some shell, medium hard, medium porosity.
134-144	Limestone, gray-tan, slightly sandy, trace of shell, medium hard, medium porosity.
144-146	Limestone, gray-tan to tan, sandy, same as above.
146-155	Sandstone, tan, very fine quartz sand and very fine micro-phosphorite nodules.
155-164	Sandstone, tan, more than 60% shell fragments nearly unconsolidated, soft, very porous.
164-174	Sandstone, tan-lt. gray, very shelly, lithified better than above, very porous.
174-184	Sandstone, gray, medium hard, less shell, medium porosity.

(Con't.)

Table A-4 (Con't.). Geologist's Log L-M-926.

<u>De th (ft.)</u>	<u>Description</u>
184-188	Marl, gray, mixture of gray carbonate mud and rock-fragments, slightly phosphatic.
188-195	Clay, green, very silty, phosphatic, same quartz sand.

Table A-5 Geologist's Log L-M-928.

<u>Depth (ft.)</u>	<u>Description</u>
0-3	Sand and sandstone, tan, very hard, crustal sandstone, caliche-like.
3-10	Sand, quartz, brown to yellow, slightly clayey, medium to very fine sand grain size.
10-16	Sandstone, brown to yellow, clayey, hard, clay fills small voids, low porosity.
16-24	Sandstone and limestone, gray, quartz sand cemented by varying percentages of carbonate, minor quantity of shell fragments.
24-34	Limestone, lt. gray, very hard, and shell, interbedded (sandstone frags. - from above), shells are very small (3-5 mm maximum diameter).
34-44	Limestone, gray, sandy, very hard; interbedded with medium-size shell fragments, extremely high overall porosity.
44-54	Limestone, lt. tan, medium hard, with interbedded shell.
54-64	Limestone, dark gray, very hard, phosphatic, some interbedded shell, but less than above.
64-74	Limestone, gray, medium hard some phosphate, thick beds of shell (very finely broken).
74-84	Limestone, gray, medium hard to soft, pockets of quartz sand (probably filled solution cavities).
84-94	Limestone, gray, very hard, phosphate nodules, medium porosity - vugged, some large fossil shells.
94-104	Limestone, gray, medium hard, some shell and quartz sand.

(Con't.)

Table A-5 (Con't.). Geologist's Log L-M-928.

<u>Depth (ft.)</u>	<u>Description</u>
104-114	Limestone, gray to lt. tan, several different colored lithologies, medium hard, some coralline limestone.
114-124	Limestone, gray to lt. gray, similar to above, small vugs.
124-134	Limestone, lt. gray, tightly cemented, medium hard, shell cemented within.
134-138	Limestone, lt. gray to lt. tan, same as above, soft.
138-140	Clay, brown-gray, silty, (no sample).
140-144	Clay, gray-green, carbonate mud, with a high percentage of quartz silt (poor sample).
144-154	Clay, green, less silt than above, fat, commonly called "blue clay".
154-164	Clay, green, very fine grain-size, low percentage of silt, very tight.
164-168	Clay, green, carbonate mud with impurities, same generally as above.
168-184	Limestone, light gray, medium hard, small vugs, high porosity.
184-191	Limestone, light gray, medium hard, some shell.
191-200	Sandstone, tan-gray, medium hard, medium porosity.
200-204	Sandstone, gray-tan, same as above (no sample).
204-214	Sandstone, light gray to light tan, medium hard, some cemented shell fragments (<u>Chlamys</u> sp.).
214-224	Sandstone, lt. gray, soft, disseminate shell fragments, carbonate cement loose particularly at base.

(Con't.)

Table A-5 (Con't.). Geologist's Log L-M-928.

<u>Depth (ft.)</u>	<u>Description</u>
224-226	Clay, lt. green-gray, carbonate mud, phosphatic.
226-235	Clay, green, shell fragments, some sandstone fragments.
235-240	Marl, gray, mixture of carbonate mud, quartz silt, rock fragments, and shell, some phosphate nodules.
240-244	Limestone, lt. gray, sandy, medium porosity, some shell.
244-250	Sandstone, lt. gray, very fine sand cemented by well-lithified carbonate.
250-264	Sandstone, gray-tan, phosphatic, some carbonate mud.

Table A-6. Geologist's Log L-M-929.

<u>Depth (ft.)</u>	<u>Description</u>
0-3	Sand, quartz, white to lt. gray (no sample).
3-6	Sand, gray-brown, 2-4% clay, high percentage of quartz silt, low porosity.
6-12	Sandstone, lt. tan to brown, and brown clay, soft interbedded sequence, abundant quartz silt, low porosity.
12-16	Sandstone, lt. gray, quartz sand and silt cemented by 1-3% carbonate, medium hard to soft.
16-24	Limestone, tan to lt. gray, medium hard, sandy, water loss zone - high permeability.
24-34	Sandstone, lt. gray, and sandy limestone, variable percentages of quartz sand and carbonate cement, shell fragments.
34-44	Sandstone, lt. gray, and shell, small fragments and whole shell, <u>Chione cancellata</u> , interbedded sequence.
44-48	Sandstone and shell, lt. gray, interbedded medium hard sandstone and unconsolidated shell hash.
48-58	Limestone, shell, and sand, interbedded sequence, sand and shell beds are unconsolidated, highly permeable zone.
58-64	Limestone, dark gray, slightly phosphatic, very hard.
64-70	Limestone, dark gray, same as above, appears to be slightly sandy, phosphatized shell fragments.
70-80	Limestone, gray, medium hard to hard, vugged, high porosity.
80-94	Limestone and sandstone, lt. gray to tan, hard, entire sequence sandy, hard.

(Con t.)

Table A-6 (Con't.). Geologist's Log L-M-929.

<u>Depth (ft.)</u>	<u>Description</u>
94-104	Limestone, lt. gray and gray, chalky texture, shell fragments, medium hard to soft, low porosity.
104-114	Limestone, gray, hard, fairly clean, some shell fragments, small vugs, medium to high porosity.
114-124	Limestone, tan to gray, medium hard, less shell than above.
124-130	Limestone, same as above (no sample).
130-137	Clay, gray, some shell and rock fragments, quartz silt and some sand.
137-154	Clay, green, variable color from very dark to nearly olive, dark clay has abundant micro-fossils, some quartz silt, barnacles.
154-180	Clay, green, same as above, quite silty, (poor sample).
180-194	Limestone, gray-tan, medium hard, high porosity, little if any sand, some shell (1-2%).
194-204	Limestone, lt. tan to cream, medium hard to soft, high porosity.
204-208	Sandstone, tan, medium hard, very fine quartz sand cemented by carbonate.
208-224	Sandstone, gray-tan, soft, some shell and echinoid spines, slightly clayey (gray carbonate mud).
224-240	Sandstone, gray-tan, soft, same generally as above.
240-244	Marl, green, mixture of green carbonate mud, shell, rock fragments, and some phosphorite.
244-255	Sand and shell, with green carbonate mud, some sandstone, interbedded, phosphatic, higher porosity than above.

(Con't.)

Table A-6(Con't.). Geologist's Log L-M-929.

<u>Depth (ft.)</u>	<u>Description</u>
255-260	Sandstone, gray, soft, high percentage of loosely consolidated quartz sand and shell, some phosphorite.
260-264	Sandstone, gray, medium hard, trace of shell, medium porosity.
264-274	Sandstone, gray, clayey, soft, poorly lithified, low porosity.
274-284	Marl, gray, interbedded and mixed gray carbonate mud, quartz sand and silt, shell, and rock fragments.

Table A-7 (Con't.). Geologist's Log L-M-931.

<u>Depth (ft.)</u>	<u>Description</u>
116-124	Limestone, lt. tan and gray, soft, similar to 94-104.
124-134	Limestone, tan and lt. gray, medium hard, shell fragments.
134-144	Limestone, lt. tan to cream, medium hard, molds of burrows, very porous.
144-156	Limestone, lt. gray, medium hard, some shell.
156-162	Marl, gray, quartz silt with carbonate mud, and rock fragments.
162-164	Clay, green, high percentage of quartz silt and sand.
164-174	Clay, green-gray, carbonate mud with silt and some shell, fat.
174-184	Clay, green, carbonate mud and quartz silt, earthy texture.
184-194	Clay, green, carbonate mud, less silt than above.
194-204	Clay, green, dark green at base, darker carbonate mud contains abundant foraminifera.
204-212	Limestone, lt. gray-tan, medium hard, very little if any quartz sand.
212-224	Limestone, lt. gray to gray, some shell fragments, <u>Anomia</u> sp, some molds and casts, some quartz sand.
224-234	Sandstone, tan, very fine quartz sand cemented by carbonate, shelly.
234-244	Sandstone, tan, very fine quartz sand +60%, shell fragments, <u>Chlamys</u> sp., softer than above.
244-258	Sand and shell, unconsolidated (no sample).

(Con't.)

Table A-7 (Con't.). Geologist's Log L-M-931.

<u>Depth (ft.)</u>	<u>Description</u>
258-262	Marl, carbonate mud, gray, with limestone fragments and some very fine quartz sand.
262-264	Marl, same as above, with thin laminae of consolidated limestone.
264-274	Sandstone, thin shell fragments and quartz sand very loosely cemented.
274-278	Sandstone, tan-gray, medium hard, some phosphorite and shell.
278-284	Limestone, gray, hard, sandy, with minor interbedded green clay.
284-290	Sand, gray, with quartz silt and some carbonate mud.
290-294	Clay, gray, carbonate mud with quartz silt (poor sample).
294-304	Clay, green, very silty and sandy (poor sample).

Table A-8. Geologist's Log L-M-933.

<u>Depth (ft.)</u>	<u>Description</u>
0-12	No samples - sand and clayey sand.
12-17	Sandstone, lt. tan to tan, with sandy limestone, hard, very porous, spary-calcite cement.
17-24	Limestone, lt. tan to lt. gray, sandy, shell fragments, hard.
24-30	Shell and limestone, lt. tan, small shells interbedded with thin limestone beds, soft.
30-34	Limestone, lt. tan; and sandstone, gray, with thin, interbedded shell, large whole shells and fragments, <u>Chione cancellata</u> , <u>Turritella</u> sp., hard and soft.
34-44	Shell and sandstone, lt. tan, whole shells apparent Pleistocene complex, probable interbedded sequence.
44-49	Shell, very finely broken, shell hash, some very thin laminae of tan carbonate mud and limestone.
49-54	Limestone, gray, and sandstone, lt. brown, hard, very fine quartz sand cemented by carbonate.
54-64	Limestone, dark gray, hard, some quartz sand and micro-phosphorite nodules cemented within.
64-74	Limestone, gray, lt. gray, and lt. tan, coral fragments, medium hard to soft.
74-84	Limestone, lt. gray, with some disseminate tan shell fragments, medium hard to soft.
84-94	Limestone, lt. tan, some burrow casts, medium soft, some fragments of dark, phosphatic limestone.
94-104	Limestone, gray and lt. gray, slightly phosphatic, very porous, med. hard.

(Con't.)

Table A-8 (Con't.). Geologist's Log L-M-933.

<u>Depth (ft.)</u>	<u>Description</u>
104-124	Limestone, lt. gray and tan, sponge-like texture, medium hard, very porous.
124-134 219-259	Limestone, lt. tan, similar to above, very porous.
134-144 261-281	Limestone, lt. tan, very pure CaCO_3 compared to the overall sequence, very porous.
144-154	Limestone, lt. gray, soft, slightly marly, shelly, not as well consolidated as sequence above, phosphatic limestone nodules.
154-164	Clay, green, large quantities of quartz silt, rock and shell fragments, could be termed marl.
164-174	Clay, green, quartz silt and sand +35%, clay is really a carbonate mud.
174-184	Clay, green, some silt but less than above, a few shell and rock fragments, fairly dense.
184-196	Clay, green, darker than above, dense, fat, less silt.
196-204	Limestone, gray and yellow, appears weathered, medium hard to soft.
204-214	Limestone, gray, cemented carbonate fragments, shells and pellete, porous.
214-224	Sandstone, lt. tan, very fine quartz sand cemented by carbonate, sand% quite variable, soft to medium hard.
224-234	Sandstone, lt. tan, higher percentage of sand than above, increased quantity of shell fragments.
234-244	Sandstone, tan-gray, beds of poorly lithified sand and carbonate mud interbedded with medium hard sandstone and laminae of green clay.

(Con't.)

Table A-8 (Con't.). Geologist's Log L-M-933.

<u>Depth (ft.)</u>	<u>Description</u>
244-249	Sandstone, quartz sand, and mud, interbedded and mixed, shelly, soft, low porosity.
249-259	Sandstone, "dirty", shell fragments, some carbonate mud 2-5%, and some medium hard lt. gray sandstone, overall gray-tan color.
259-264	Sandstone, lt. tan to lt. gray, well consolidated, better water producer than above.
264-284	Sandstone, gray-tan, soft, quartz sand and some mud, low overall porosity, phosphatic
284-289	Sandstone, gray, increasing percentage of fines with depth, slightly clayey (gray).
289-304	Marl, interbedded and disparate gray carbonate mud, quartz sand and silt and shell.

Table A-7. Geologist's Log L-M- 931.

<u>Depth (ft.)</u>	<u>Description</u>
0-1 124	Sand, quartz, medium to very fine grain.
1-3	Sandstone, brown, medium hard, very fine quartz sand cemented by carbonate.
3-8	Clay, sandy, yellow-brown, quartz silt abundant, shelly, 20-25% clay.
8-24	Clay, dark gray, quartz sand and silt +50%, shelly, mixture of separate lithologies.
24-34	Sandstone, lt. tan to cream, hard, some shell, very fine quartz sand tightly cemented by carbonate.
34-44	Sandstone, gray-tan, hard, some shell, similar to above.
44-54	Sandstone, gray, and bedded shell hash, medium hard.
54-59	Limestone, lt. gray, and shell, hard to medium hard.
59-64	Limestone, dark gray, sandy, very hard, some phosphate.
64-69	Limestone, dark gray and gray, with some micro-crystalline limestone or dolomite (chert like appearance), very hard.
69-78	Limestone, lt. gray, medium hard, quite porous.
78-84	Limestone, lt. tan, soft, corals and fine shell hash, apparent reef material.
84-94	Limestone, lt. tan and gray, with shell hash, bryzoans common, soft.
94-104	Limestone, lt. tan and gray, same as above, apparent reef material.
104-116	Limestone, tan, medium hard, vugged, quite porous.

(Con't.)

Geologist's Log L-M-934.

<u>Depth (ft.)</u>	<u>Description</u>
0-12	Sand, tan, quartz (0-5), clayey sand yellow-brown (5-12) no sample.
12-17	Sandstone, lt. brown, medium hard, some shell, very fine quartz sand cemented with carbonate.
17-24	Limestone and shell, unconsolidated, bedded shell interbedded with cream to tan sandy limestone, soft, very porous.
24-40	Shell and sand, rock fragments (no sample).
40-45	Sandstone, brown to lt. brown, soft to medium hard, very fine quartz sand cemented by carbonate.
45-50	Limestone, lt. gray, with interbedded shell hash, very porous.
50-57	Limestone, same as above and dark gray sandy limestone, abundant shell fragments.
57-62	Sandstone, dark gray, very hard, phosphatic, appears to be an anoxic carbonate.
62-65	Sandstone, gray, medium to very hard, some shell fragments, trace of phosphorite.
65-70	Limestone, gray, very hard, nearly pure carbonate, only trace of very fine quartz sand.
70-77	Limestone, lt. gray, medium hard, vugged, very porous.
77-79	Limestone, brown, appears like chert, low porosity, hard, colloidal fractures.
79-83	Limestone, gray to lt. gray, coralline, reef complex, very high porosity.
83-88	Limestone, lt. gray and lt. tan, slightly clayey, some poorly consolidated carbonate mud, shell fragments (large fossils).

(Con't.)

Table A-9 (Con't.). Geologist's Log L-M-934.

<u>Depth (ft.)</u>	<u>Description</u>
88-98	Limestone, lt. gray, medium hard, shell and small shell fragments, medium to high porosity.
98-105	Limestone, lt. gray to white, chalky texture, shelly, soft, low porosity.
105-115	Limestone, tan, medium hard, very porous, small vugs.
115-125	Limestone, tan, medium hard, same as above.
125-132	Limestone, tan to lt. gray, medium hard to soft, vugged, apparent higher porosity than above.
132-145	Limestone, white to lt. gray, medium hard, high porosity, bryzoan fragments.
145-154	Limestone, tan, medium hard, interbedded with small shell beds.
154-156	Clay, lt. green-gray, very silty, weathered rock fragments, some barnacle fragments, greener toward base.
156-160	Marl, soft, lt. gray to gray, mixture of carbonate mud, shell, quartz silt, and some limestone (both fragments and bedded).
160-185	Clay, green, carbonate mud, quartz silt and sand +25%, shell fragments, phosphate nodules.
185-202	Clay, dark green, less silt than above, dense, phosphatic, micro-fossils, dark olive green near base.
202-205	Limestone, lt. gray, clean, little if any quartz sand, medium hard.
205-218	Limestone, lt. gray, some sandstone or sandy limestone toward base, soft to medium hard.

(Con't.)

Table A-9 (Con't.). Geologist's Log L-M-934.

<u>Depth (ft.)</u>	<u>Description</u>
218-225	Limestone, gray, slightly clayey, soft, lower porosity than above.
225-235	Sandstone, tan, soft, very fine quartz sand cemented by carbonate, bryzoan fragments.
235-245	Sandstone, tan, soft, shelly, thin shell fragments of <u>Chlamys</u> sp. (?).
245-255	Sandstone, tan, very shelly, +35%, phosphatic, soft.
255-265	Sandstone, gray, soft, very fine quartz sand cemented by carbonate with some loosely consolidated carbonate mud, overall low porosity.
265-275	Sandstone, gray-tan, harder than above, phosphatic, medium porosity.
275-285	Sandstone, gray-tan, and limestone, lt. gray, interbedded, medium hard, some shell, medium porosity.
285-290	Sandstone, gray, very silty, phosphatic, low porosity, shell fragments abundant.
290-305	Marl, gray-green, mixture of carbonate mud and silt, quartz silt, rock fragments, shell, and some minor phosphate.

Table A-10. Geologist's Log L-M-936.

<u>Depth (ft.)</u>	<u>Description</u>
0-6	Sand, quartz, very fine, tan, clean.
6-13	Sand, tan-gray, clayey (3-8%).
13-20	Shell and sandstone, loose, unconsolidated sandstone occurs as fragments only, Pleistocene shell complex.
20-23	Limestone and shell, loosely cemented, moderate-size shells.
23-25	Limestone, brown and white, very hard, sandy, (shell in sample from above).
25-36	Shell, large fragments, unconsolidated, limestone fragments.
36-44	Sandstone, tan, very hard, some shell, very fine quartz sand cemented by carbonate.
44-50	Limestone and shell, interbedded, whole fossil shells, medium overall hardness, very high porosity.
50-64	Limestone, gray, medium hard, cemented shell, interbedded lt. gray, soft, porous limestone.
64-69	Limestone, lt. tan, soft, shelly, very porous.
69-74	Limestone, gray, some shell, phosphatic, shell material vugged and weathered.
74-79	Limestone, gray, and partially consolidated, bedded shell, soft, very porous.
79-84	Limestone, lt. gray, very porous, sponge-like appearance, medium hard, some shell.
84-104	Limestone, lt. gray to gray-tan, same as above, with thin beds of microcrystalline dolomite, sandy.
104-114	Limestone, tan to buff, sandy, medium hard.

(Con't.)

Table A-10 (Con't.). Geologist's Log L-M-936.

<u>Depth (ft.)</u>	<u>Description</u>
114-120	Limestone, lt. tan to cream, some coral fragments, and shell.
120-124	Marl, lt. gray, mixture of carbonate mud, shell, and rock fragments.
124-132	Clay, green, quartz sand and silt, (poor sample).
132-144	Clay, green, fat, fairly pure carbonate mud with minor quartz silt.
144-154	Clay, green, lighter color than above, higher percentage of quartz silt than above, some phosphate nodules.
154-164	Clay, green, interbedded lt. green and dark green beds, mostly carbonate.
164-176	Clay, green, tight, mostly carbonate similar to above.
176-184	Limestone, lt. gray, nearly devoid of quartz sand, some shell fragments.
184-192	Limestone, lt. gray and lt. tan, cemented carbonate sand and shell.
192-194	Limestone and sandstone, lt. tan, sand percent increases with depth, medium hard to soft.
194-204	Sandstone, lt. tan, medium hard, very fine quartz sand cemented tightly by carbonate, some shell.
204-214	Sandstone, lt. tan, with minor interbedded loose quartz sand, percentage of quartz sand increases with depth.
214-224	Sandstone, sand, and shell, loosely cemented, nearly unconsolidated.
224-230	Sandstone, sand, and shell, same as above.
230-234	Marl, mixture of brown-green carbonate mud, phosphorite nodules, shell, and lt. tan sandstone fragments.

(Con't.)

Table A-10(Con't.). Geologist's Log L-M-936.

<u>Depth (ft.)</u>	<u>Description</u>
234-238	Sandstone, lt. gray, medium hard, well cemented.
238-242	Sandstone or sandy limestone, gray, medium hard.
242-266	Marl, mixture of brown-green carbonate mud, tan sandstone fragments, and shell, probably several interbedded distinctive lithologies.
266-274	Sandstone, gray sandy, some shell and clay, another complex lithologic sequence.
274-284	Sandstone, gray, hard, interbedded with clay.

Table A-11. Geologist's Log L-M-938.

<u>Depth (ft.)</u>	<u>Description</u>
0-5	Sand, tan to brown, quartz, very fine, some silt and clay.
5-15	Clay, gray, sandy, thin beds of brown and lt. gray sandstone, poor permeability.
15-20	Sandstone and sand, clayey, poorly consolidated, mixed lithology, could be termed "marl".
20-25	Limestone, gray, fairly soft, clayey, poor permeability.
25-32	Limestone and shell, whole and fragmented shell in a loose matrix of primary micrite, soft.
32-36	Sandstone, buff, medium hard, some thin beds of hard lt. brown sandstone, some shell.
36-42	Limestone, buff to light gray, sandy, nearly a carbonate cemented siltstone with quartz sand, shell fragments.
42-45	Shell, whole and fragmented <u>Chione cancellata</u> , apparent Pleistocene assemblage.
45-50	Shell, with lt. gray limestone, same generally as above.
50-55	Sandstone, gray, very hard, cemented shell fragments, phosphatic.
55-65	Limestone, light gray, hard, sandy, some molds and casts.
65-70	Limestone, gray, hard, darker than above, phosphatic.
70-75	Limestone, light gray, moderately hard, softer than above, moderate to high porosity.
75-85	Limestone, light gray, with coral at base, same as above.

(Con t.)

Table A-11 (Con't/). Geologist's Log L-M-938.

<u>Depth (ft.)</u>	<u>Description</u>
85-95	Limestone, coralline, with shell, apparent reef complex; very high permeability.
95-102	Limestone, gray and tan, very hard, may be dolomitic.
102-105	Limestone, tan, soft, vugged high permeability and porosity.
105-113	Limestone, tan and light gray, soft, high porosity, turbular carbonate secreting organisms.
113-121	Limestone, tan to light gray, moderately hard, high porosity, similar to above.
121-125	Limestone, tan to light gray, chalky texture, shelly, lower porosity than above.
125-132	Limestone, light tan, chalky texture, harder than above, shelly, some quartz sand.
132-138	Marl, limestone fragments imbedded in a gray, carbonate mud matrix, sample does not reflect true lithology.
138-142	Clay, gray-green, sandy and silty, rock fragments and shell.
142-145	Clay, green, quartz silt, some shell, very low permeability.
145-155	Clay, green, pelleted texture, significant percentage of quartz sand and silt.
155-165	Clay, green, with some quartz silt, lower percentage of silt than above.
165-175	Clay, green, lighter color than above, more than 80% carbonate mud, fewer impurities than above.
175-180	Clay, green, same as above.

(Con't.)

Table A-11 (Con't.). Geologist's Log L-M-938.

<u>Depth (ft.)</u>	<u>Description</u>
180-185	Limestone, light gray, moderately hard, high porosity (poor sample - mixed with clay).
185-190	Limestone, light gray, some shell fragments, relatively soft.
190-195	Limestone, light tan, some quartz sand, bryozoan fragments, high porosity.
195-205	Limestone, light tan and gray, hard, cemented shell fragments with secondary carbonate cement.
205-210	Sandstone, light gray, soft, some shell fragments, very fine quartz sand and silt cemented by carbonate.
210-215	Sandstone and shell, lt. gray to lt. green, soft, well-consolidated.
215-220	Sandstone, with shell, same as above.
220-225	Sandstone and shell, some as above.
225-230	Sandstone, with shell, lt. gray, harder than above.
230-235	Sand and shell, very fine quartz sand with shell, abundant quartz silt, lt. gray.
235-241	Sand and shell, same as above, with some beds of consolidated, cemented soft sandstone.
241-245	Silt, quartz, with some green clay, phosphatic, all quartz is very fine.
245-249	Clay, green; silty, some shell fragments, mostly carbonate.
249-252	Sand, very fine, lt. gray (no sample).
252-255	Sandstone, lt. gray, soft, low porosity.
255-262	Sandstone, lt. gray, hard, shell fragments, quartz grains very fine.

(Con't.)

Table A-11(Con't.). Geologist's Log L-M-938.

<u>Depth (ft.)</u>	<u>Description</u>
262-265	Shell and sand, light gray, unconsolidated.
265-277	Same as above.
277-285	Sandstone, lt. gray, clayey.

Table A-12. Geologist's Log L-M-940.

<u>Depth (ft.)</u>	<u>Description</u>
0-3	Sand and clay, brown, peat with mixture of very fine quartz sand and brown clay, some shell fragments.
3-5	Sand (no sample).
5-10	Sandstone, white to lt. gray, medium hard, more than 70% quartz sand.
10-25	Sand, gray, with gray carbonate mud, carbonate mud fraction 10-15%, low permeability.
25-32	Shell, with some carbonate marl and sandstone, interbedded, all small Pleistocene shell.
32-40	Sandstone, lt. gray to gray, hard, some shell, very fine quartz sand cemented tightly by carbonate.
40-44	Shell, slightly cemented in sandstone, high porosity, <u>Chione cancellata</u> .
44-46	Shell (no sample).
46-55	Sandstone, lt. gray to lt. tan, shelly, large and small fragments, <u>Chione cancellata</u> .
55-64	Sandstone, gray, 10-15% quartz sand, light tan sandstone - higher percentage of quartz sand, hard.
64-84	Limestone, gray to dark gray, darker limestone very hard, some shell, very low percentage of quartz sand.
84-96	Limestone, lt. gray and gray, shell, soft, bryzoan fragments.
96-104	Limestone, gray, slightly marly, numerous fossils, <u>Turritella</u> sp., low porosity.
104-116	Limestone, gray, soft, vugged, high porosity, shelly, some interbedded marl.

(Con't.)

Table A-12 (Con't.). Geologist's Log L-M-940.

<u>Depth (ft.)</u>	<u>Description</u>
116-124	Limestone, gray-tan, medium hard, shelly, high porosity.
124-138	Limestone, lt. gray-lt. tan, slightly phosphatic, soft, shelly.
138-144	Limestone, tan to lt. gray, slightly sandy, medium hard to soft, very porous, some molds of burrows.
144-152	Limestone, lt. gray, 3-5% carbonate mud, soft, low porosity, some shell.
152-160	Marl, green, very silty, phosphatic, shell and rock fragments.
160-184	Clay, green, slightly silty, numerous micro-fossils.
184-204	Clay, olive green, slightly silty, lighter color than above.
204-216	Limestone (no sample).
216-224	Limestone, gray, medium hard, medium porosity, bryzoan fragments.
224-244	Sandstone, tan, soft, very fine quartz sand cemented by carbonate, slightly phosphatic.
244-249	Sandstone, tan, with interbedded shell fragments and quartz sand.
249-259	Sandstone, tan, soft, with high percentage of shell fragments.
259-264	Sandstone, lt. gray, medium hard, lower percentage of shell fragments than above.
264-269	Sandstone, gray, soft, slightly consolidated very fine quartz sand, cemented by carbonate mud, medium to low porosity.
269-274	Marl, green, shell fragments and rock fragments in matrix of green carbonate mud.

(on't.)

Table A-12(Con't.). Geologist's Log L-M-940.

<u>Depth (ft.)</u>	<u>Description</u>
274-280	Sandstone, gray, medium hard, with shell.
280-284	Marl, lt. gray, shell, sandstone fragments, and quartz sand with carbonate mud matrix.