TECHNICAL PUBLICATION 88-12

GROUND WATER RESOURCE ASSESSMENT OF HENDRY COUNTY, FLORIDA

by
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PART II - APPENDICES

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Hydrogeology Division
Resource Planning Department
South Florida Water Management District

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APPENDIX A-1

INTRODUCTION

Introduction

Appendix A contains data used to develop the geologic and hydrogeologic information presented in this report. This portion of the appendix is presented in four parts. Appendix A-2 is a table listing all the wells used to evaluate the geologic and hydrogeologic system in the study area. The wells are listed in numerical order and grouped by county. All the wells were assigned a number for this study, and that number appears in the first column in the table. The first letter or letters indicate the county where the well is located. Hendry County wells start with HY, Glades county wells start with GL, Collier County wells start with C, and Lee County wells start with L. The first numeral in the Hendry County well numbers designate the portion of the county where the well is located. Wells with numbers between 100 and 199 are located in west of the range 30 - range 31 border. Wells with numbers between 200 and 299 are located east of this line and to the north of the township 45 - township 46 line. Wells with numbers between 300 and 399 are located to the south of the township 45 - township 46 line. Wells in Glades County are numbered between 400 and 499. Wells in Collier and Lee Counties are designated by numbers assigned previous to this study. These well numbers can be cross referenced to other well numbering systems listed in the table. Well locations are listed by section, township, and range, and latitude and longitude. Elevations of the wells, total depth, and available geophysics are also listed in appendix A-2.

Appendix A-3 is a table of the tops and thicknesses of the various geologic units described in this report. The wells are listed in the same order as in Appendix A-2. Data is presented as elevations relative to NGVD.

Appendix A-4 is a table of the tops and thicknesses of the various hydrostratigraphic units described in this report. The format of this table is similar to Appendix A-3.

Appendix A-5 contains lithologic descriptions and hydrostratigraphic columns of all the geologic control wells. In addition, reproductions of available geophysics are included here. The wells are listed in the same order as in the previous appendices. The lithologic log appears first, followed by the hydrostratigraphic column and the geophysical logs (if available). Figure A-1 is a legend for the hydrostratigraphic columns.

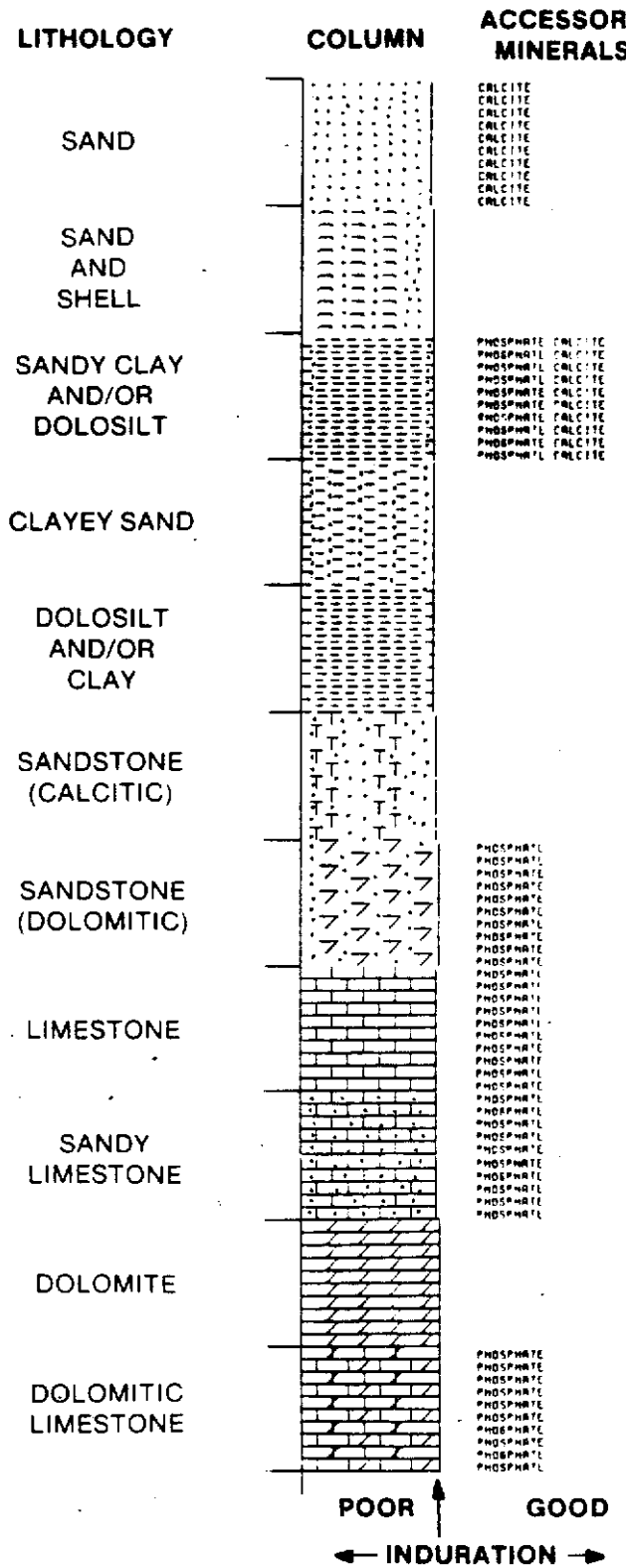

LITHOLOGY
COLUMN
ACCESSORY MINERALS
SAND
SAND AND SHELL
SANDY CLAY AND/OR DOLOSILT
CLAYEY SAND
DOLOSILT AND/OR CLAY
SANDSTONE (CALCITIC)
SANDSTONE (DOLOMITIC)
LIMESTONE
SANDY LIMESTONE
DOLOMITE
DOLOMITIC LIMESTONE
CALCITE
PHOSPHATE
POOR
GOOD
INDURATION

Figure A-1

APPENDIX A-2

INFORMATION ON SELECTED GEOLOGIC CONTROL WELLS

INFORMATION ON GEOLOGIC CONTROL WELLS

SFWMD WELL NUMBER	USGS WELL NUMBER	SFWMD RTA WELL NUMBER	MISSIMER WELL NUMBER	S/T/R	LAT	LONG	ELEVATION	TOTAL DEPTH	GEO-PHYSICS
HY101	HE909			11/45/30	263453	811800	32	190	
HY102	HE619			25/43/28	264337	812838	23	346	E,G
HY103	HE621			30/43/29	264258	812757	25	350	
HY104	HE616			25/43/29	264258	812326	24	320	E,G
HY105	HE622			19/43/29	264533	812727	18	340	
HY106	HE618			32/42/29	264648	812617	20	300	E,G
HY107	HE617			10/43/29	264542	812448	14	302	E,G
HY108	HE083			10/43/28	264451	813030	15	125	
HY109	HE557			28/43/28	264235	813106	18	341	
HY110	HE529			22/45/29	263310	812509	33	413	G
HY111	HE555			21/44/29	263843	812607	28	440	
HY112	HE519			29/45/28	263157	813206	30	650	
HY113	HE559			10/44/28	263955	813030	28	340	E,G
HY114	HE773			24/44/29	263845	812240	30	180	
HY115	HE600			16/43/29	264430	812545	20	465	
HY116	HE429			9/46/29	264448	812616	15	303	
HY117	HE431			16/43/29	264357	812616	20	323	E,G
HY118		RTA5		20/45/29	263332	812610	34	380	E,G,N
HY119	HE008	RTA6		16/44/29	263845	812612	28	380	E,G,N,C
HY120		RTA9		16/44/28	263912	813158	25	380	E,G,N
HY121			HM120	6/45/28	263518	813328	28	260	
HY122	HE570			10/45/28	263430	813030	32	200	E
HY123				20/44/30	263840	812045	27	1000	
HY124		RTA3	HM83	20/45/28	263245	813230	27	240	
HY125	HE1013			12/45/30	263513	811707	30	500	E,G,N,C
HY126	HE620			24/43/28	264355	812808	15	340	
HY127	HE615			33/43/29	264200	812606	27	300	
HY128	HE1079			20/44/30	263813	812038	27	502	E,G,N,C
HY201	HE900			10/45/33	263515	810120	23	285	
HY202	HE907			16/45/34	264433	805615	19	202	
HY203	HE885			6/45/32	263620	810944	28	300	
HY204	HE594			28/43/31	264318	811436	21	300	
HY205	HE560			6/44/33	264133	810408	23	90	
HY206				19/45/32	263341	811006	30	350	E,G,N,C
HY207	HE1015			30/45/33	263213	810409	27	350	E,G,N,C
HY208	HE1074			9/44/33	264045	810230	20	503	E,G,N,C
HY209	HE1075			27/45/34	263207	805533	18	502	E,G,N,C
HY210				5/44/31	264130	811525	25	502	E,G,N,C
HY301			HM265	8/47/34	262440	805650	20	132	
HY302			HM245	5/47/34	262520	805730	20	145	
HY303			HM263	7/47/34	262455	805800	20	140	
HY304			HM259	6/47/34	262540	805800	20	140	
HY305			HM255	6/47/34	262540	805730	20	165	
HY306	HE902			36/46/33	262612	805819	22	280	
HY307	HE901			35/46/31	262545	811136	26	300	
HY308	HE1056			14/47/32	262319	810555	24	400	E,G,N,C
HY309	HE908			33/46/32	262543	810740	24	165	
HY310				3/48/33	262042	810118	20	482	E,G,N,C

E = ELECTRIC
G = GAMMA
N = NEUTRON
C = CALIPER
T = TEMPERATURE

INFORMATION ON GEOLOGIC CONTROL WELLS

SFWMD WELL NUMBER	USGS WELL NUMBER	SFWMD RTA WELL NUMBER	MISSIMER WELL NUMBER	S/T/R	LAT	LONG	ELEVATION	TOTAL DEPTH	GEO-PHYSICS	
HY311	HE1022			23/48/32	261746	810618	20	460	E,G,N,C	E = ELECTRIC
HY312	HE591			21/46/34	262810	805620	15	100		G = GAMMA
HY313	HE868			27/47/33	262140	810055	25	97		N = NEUTRON
HY314	HE1016			26/47/31	262215	811130	23	400	E,G,N,C	C = CALIPER
HY315			HM291	12/46/32	263000	810500	26	120		T = TEMPERATURE
GL401	GL319	RTA7		18/42/29	264906	812757	40	460	E,G,N,C	
GL402		RTA16		16/42/28	264908	813110	40	120		
C2040	C983			24/47/28	262210	812840	20	520		
C2041	C989			23/48/28	261733	812920	25	280	E,G,N,C	
C2042				29/47/30	262138	812055	22	460	G,E,C	
C2046	C988			36/48/28	261518	812902	15	200		
C2054	C632			31/46/29	262602	812701	25	340		
C2055	C681			1/47/29	262509	812237	30	540		
C2056			CM753	10/46/29	262925	812455	30	183		
C2058	C578			28/46/28	262640	813101	21	260		
C2059	C531			7/46/29	262859	812730	42	410		
C2061	C684			23/48/29	261740	812354	18	498		
C2062	C683			17/48/28	261736	813245	16	460		
C2064	C1076			18/46/30	262855	812135	30	245		
C2066	C1074			1/47/30	262510	811705	27	130		
L001	L2063			33/45/27	263053	813637	30	1340		
L002	L0628			28/43/27	264212	813750	19	435		
L009	L0625			9/44/27	263927	813650	23	540		
L022	L5708			10/43/27	264433	813606	19	1200	E,G,N,T	
L025				29/44/27	263718	813820	25	1100		
L027				8/46/27	262900	813757	28	382	E,G	

APPENDIX A-3

TABLE OF GEOLOGIC INFORMATION

GEOLOGIC DATA TABLE

WELL NUMBER	(DATUM NGVD) S/T/R	LAT	LONG	TAMIAMI FORMATION TOP	TAMIAMI FORMATION THICKNESS	HAWTHORN GROUP TOP	HAWTHORN GROUP MCC THICK.	HAWTHORN GROUP UC THICK.	HAWTHORN GROUP LC TOP
HY101	11/45/30	263453	811800	31	29	2			
HY102	25/43/28	264337	812838		0	-27			
HY103	30/43/29	264258	812757		0	-25	0	130	-155
HY104	25/43/29	264258	812326		0	-36	0	230	-266
HY105	19/43/29	264533	812727		0	-42	0	120	-162
HY106	32/42/29	264648	812617		0	-44			
HY107	10/43/29	264542	812448		0	-91	0	157	-248
HY108	10/43/28	264451	813030		0	-75			
HY109	28/43/28	264235	813106		0	-7			
HY110	22/45/29	263310	812509	3	9	-6	21		
HY111	21/44/29	263843	812607	13	30	-17	0	90	-107
HY112	29/45/28	263157	813206	30	100	-70	50	200	-320
HY113	10/44/28	263955	813030		0	-27	20	60	-107
HY114	24/44/29	263845	812240	20	20	0			
HY115	16/43/29	264430	812545		0	-104			
HY116	9/46/29	264448	812616		0	-118			
HY117	16/43/29	264357	812616		0	-63	0	220	-283
HY118	20/45/29	263332	812610	24	15	9	65	220	-276
HY119	16/44/29	263845	812612	8	20	-12	0	300	-312
HY120	16/44/28	263912	813158		0	5			
HY121	6/45/28	263518	813328	23	15	3			
HY122	10/45/28	263430	813030	19	7	12	0	145	-133
HY123	20/44/30	263840	812045	-3	30	-33			
HY124	20/45/28	263245	813230	7	65	-58	15		
HY125	12/45/30	263513	811707	10	5	5	210	207	-412
HY126	24/43/28	264355	812808		0	-35	0	130	-165
HY127	33/43/29	264200	812606		0	-13	0	130	-143
HY128	20/44/30	263813	812038	19	14	5			
HY201	10/45/33	263515	810120	-52	75	-127			
HY202	16/45/34	264433	805615		0	14	185		
HY203	6/45/32	263620	810944	22	44	-22			
HY204	28/43/31	264318	811436	16	90	-74	85		
HY205	6/44/33	264133	810408		0				
HY206	19/45/32	263341	811006	5	82	-77			
HY207	30/45/33	263213	810409	-26	87	-93	0	162	-255
HY208	9/44/33	264045	810230	18	13	5	165	310	-470
HY209	27/45/34	263207	805533	12	176	-179	0	285	-449
HY210	5/44/31	264130	811525	12	18	-6			
HY301	8/47/34	262440	805650	-55					
HY302	5/47/34	262520	805730	-35					
HY303	7/47/34	262455	805800	-60					
HY304	6/47/34	262540	805800	-66					
HY305	6/47/34	262540	805730	-125					
HY306	36/46/33	262612	805819	-68	100	-168			
HY307	35/46/31	262545	811136	21	75	-54			
HY308	14/47/32	262319	810555	24	140	-116	0	252	-376
HY309	33/46/32	262543	810740	-16	81	-94			
HY310	3/48/33	262042	810118	-20	100	-120			

MCC = MIOCENE COARSE CLASTICS

UC = UPPER CLASIC ZONE

LC = LOWER CARBONATE ZONE

GEOLOGIC DATA TABLE

WELL NUMBER	(DATUM NGVD) S/T/R	LAT	LONG	TAMIAMI FORMATION TOP	TAMIAMI FORMATION THICKNESS	HAWTHORN GROUP TOP	HAWTHORN GROUP MCC THICK.	HAWTHORN GROUP UC THICK.	HAWTHORN GROUP LC TOP
HY311	23/48/32	261746	810618	19	123	-104	0	234	-338
HY312	21/46/34	262810	805620	-25					
HY313	27/47/33	262140	810055	-25					
HY314	26/47/31	262215	811130	-12	40	-52	0	285	-337
HY315	12/46/32	263000	810500	-14					
GL401	18/42/29	264906	812757	20	70	-50	0	140	-190
GL402	16/42/28	264908	813110	30	50	-20			
C2040	24/47/28	262210	812840	17	139	-156	94	170	-430
C2041	23/48/28	261733	812920	17	162	-145	0	175	-320
C2042	29/47/30	262138	812055	19	117	-98	117	193	-408
C2046	36/48/28	261518	812902	3	167	-155			
C2054	31/46/29	262602	812701		0	5	130		
C2055	1/47/29	262509	812237	30	30	0	120	340	-460
C2056	10/46/29	262925	812455	0	45	-15			
C2058	28/46/28	262640	813101	11	90	-79			
C2059	7/46/29	262859	812730	22	15	7	105	250	-348
C2061	23/48/29	261740	812354	8	50	-42	160	180	-382
C2062	17/48/28	261736	813245	-1	53	-54	65	185	-304
C2064	18/46/30	262855	812135	-30	40	-70			
C2066	1/47/30	262510	811705	7	90				
L001	33/45/27	263053	813637	-15	80	-95			
L002	28/43/27	264212	813750	19	30	-11			
L009	9/44/27	263927	813650	13	20	-7			
L022	10/43/27	264433	813606	15	16	-1	0	281	-301
L025	29/44/27	263718	813820	25	30	-5	0	295	-325
L027	8/46/27	262900	813757	-7	64	-71	10	231	-312

MCC = MIOCENE COARSE CLASTICS

UC = UPPER CLASIC ZONE

LC = LOWER CARBONATE ZONE

APPENDIX A-4

TABLE OF HYDROSTRATIGRAPHIC INFORMATION

HYDROSTRATIGRAPHIC DATA TABLE
(DATUM NGVD)

WELL NUMBER	SAS THICK.	WTA THICK.	TMCZ THICK.	LTA TOP	LTA THICK.	UHCZ TOP	SSCLAS TOP	SSCLAS THICK	SSCARB TOP	SSCARB THICK
HY101	180	15	30	-13	135	-148				
HY102	4	4				19	-72	65	-157	50
HY103	15	15				10	-85	60	-155	60
HY104	40	40				-16				
HY105	40	40				-22	-112	50	-162	35
HY106	20	20				0				
HY107	40	3	7	4	30	-26				
HY108	100	35	25	-45	40	-85				
HY109	25	25				-7			-107	40
HY110	40	5	25	3	10	-7	-52	35	-103	30
HY111	45	10	5	13	30	-17			-107	28
HY112	100	20	10	0	70	-70			-120	60
HY113	25	25				3	-52	55	-132	20
HY114	10	10				20				
HY115	99	99				-79				
HY116	83	83				-68			-153	10
HY117	51	51				-31	-108	15	-123	16
HY118	50	25	15	-6	10	-26	-56	40	-116	40
HY119	40	40				-12			-112	40
HY120	20	20				5	-25	30	-125	40
HY121	20	20				8	-97	34	-131	30
HY122	20	20				12			-143	
HY123	60	60				-33				
HY124	100	40	20	-33	40	-73			-123	30
HY125	185	7	13	10	165	-155	-172	20		
HY126	45	45				-30	-105	30	-155	60
HY127	20	20				7	-103	40	-143	30
HY128	22	22				5	-265	60		0
HY201	150	30	45	-52	75	-127				
HY202	125	35	10	-26	80	-106				
HY203	55	6	39	-17	10	-27				
HY204	95	35	10	-24	50	-74				
HY205										
HY206	100	11	66	-47	23	-70				
HY207	120	35	40	-48	45	-93				
HY208	140	15	20	-15	105	-120				
HY209	156	3	19	-4	134	-138				
HY210	98	13	64	-52	22	-77				
HY301		25	50	-55						
HY302		20	45	-45						
HY303		45	40	-65						
HY304		65	21	-66						
HY305		70	75	-125						
HY306	195	30	55	-63	105	-168				
HY307	80	10	20	-4	50	-54				
HY308	100	30	40	-46	30	-76				
HY309	130	6	31	-16	90	-106				
HY310	140	5	35	-20	100	-120				

SAS = SURFICIAL AQUIFER SYSTEM

WTA = WATER TABLE AQUIFER

TMCZ = TAMIAMI CONFINING ZONE

LTA = LOWER TAMIAMI AQUIFER

UHCZ = UPPER HAWTHORN CONFINING ZONE

SSCLAS = CLASTIC ZONE - SANDSTONE AQUIFER

SSCARB = CARBONATE ZONE - SANDSTONE AQUIFER

HYDROSTRATIGRAPHIC DATA TABLE
(DATUM NGVD)

WELL NUMBER	SAS THICK.	WT AQ THICK.	TM CZ THICK.	LT AQ TOP	LT AQ THICK.	UHCZ TOP	SSCLAS TOP	SSCLAS THICK	SSCARB TOP	SSCARB THICK
HY311	124	12	66	-58	49	-107				
HY312		20	40	-45						
HY313		30	40	-45						
HY314	75	10	30	-17	35	-52				
HY315		9	36	-19						
GL401	20	20				20				
GL402	60	15	5	20	40	-20				
C2040	208	90	60	-130	58	-188	-270	45	-315	40
C2041	170	50	25	-50	95	-145			-207	38
C2042	130	55	30	-63	45	-108	-288	80		
C2046	170	60	30	-75	80	-155				
C2054	150	150				-125	-135	20	-195	80
C2055	50	50				-20	-100	30	-130	70
C2056	95	95				-65	-90	20	-135	
C2058	100	55	35	-69	10	-79	-89	70		
C2059	96	15	20	7	61	-54			-148	60
C2061	170	30	20	-32	110	-142	-172	30	-202	100
C2062	150	55	10	-49	85	-134				
C2064	100	40	20	-30	40	-70	-130	50		
C2066		80	10	-63						
L001	125	125				-95			-140	160
L002	30	30				-11			-46	110
L009	30	30				-7			-22	90
L022	20	20				-1	-71	60	-131	38
L025	30	30				-5			-35	150
L027	99	15	5	8	79	-71			-110	94

SAS = SURFICIAL AQUIFER SYSTEM

WTA = WATER TABLE AQUIFER

TMCZ = TAMIAMI CONFINING ZONE

LTA = LOWER TAMIAMI AQUIFER

UHCZ = UPPER HAWTHORN CONFINING ZONE

SSCLAS = CLASTIC ZONE - SANDSTONE AQUIFER

SSCARB = CARBONATE ZONE - SANDSTONE AQUIFER

APPENDIX A-5

INDIVIDUAL WELL DESCRIPTIONS, HYDROSTRATIGRAPHIC COLUMNS, AND GEOPHYSICS FROM SELECTED WELLS

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 101
TOTAL DEPTH: 00190 FT.
43 SAMPLES FROM 0 TO 190 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.45S R.30E S.11
LAT = N 26D 34M 53
LON = W 81D 18M 00
ELEVATION - 032 FT

OWNER/DRILLER: USGS WELL HE-909

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	180	SURFICIAL AQUIFER SYSTEM
0	15	WATER TABLE AQUIFER
15	45	TAMIAMI CONFINING ZONE
45	180	LOWER TAMIAMI AQUIFER
180	190	UPPER HAWTHORN CONFINING ZONE

0. -	1.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
1. -	30.	122TMIM	TAMIAMI FM.
30. -	190.	122HTRN	HAWTHORN GROUP

0 - 1 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS-05%, IRON STAIN-%;

1 - 5 SAND; GRAYISH ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;

5 - 8 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;

8 - 15 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;

15 - 20 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, PHOSPHATIC SAND-02%;

20 - 25 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-02%;

25 - 30 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, PHOSPHATIC SAND-02%;

30 - 45 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
SOME SHELL FRAGMENTS & WELL ROUNDED FROSTED COARSE GRAINS

45 - 55 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;

55 - 85 SAND; LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-02%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;

85 - 95 SAND; MODERATE GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-01%;

95 - 105 AS ABOVE
AS ABOVE WITH 5% CALCITE

105 - 120 SAND; VERY LIGHT GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-03%, PHOSPHATIC SAND-01%;

120 - 150 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, IRON STAIN- %;

150 - 170 SAND; VERY LIGHT GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-02%, PHOSPHATIC SAND-01%, CALCILUTITE-01%;

170 - 175 NO SAMPLES

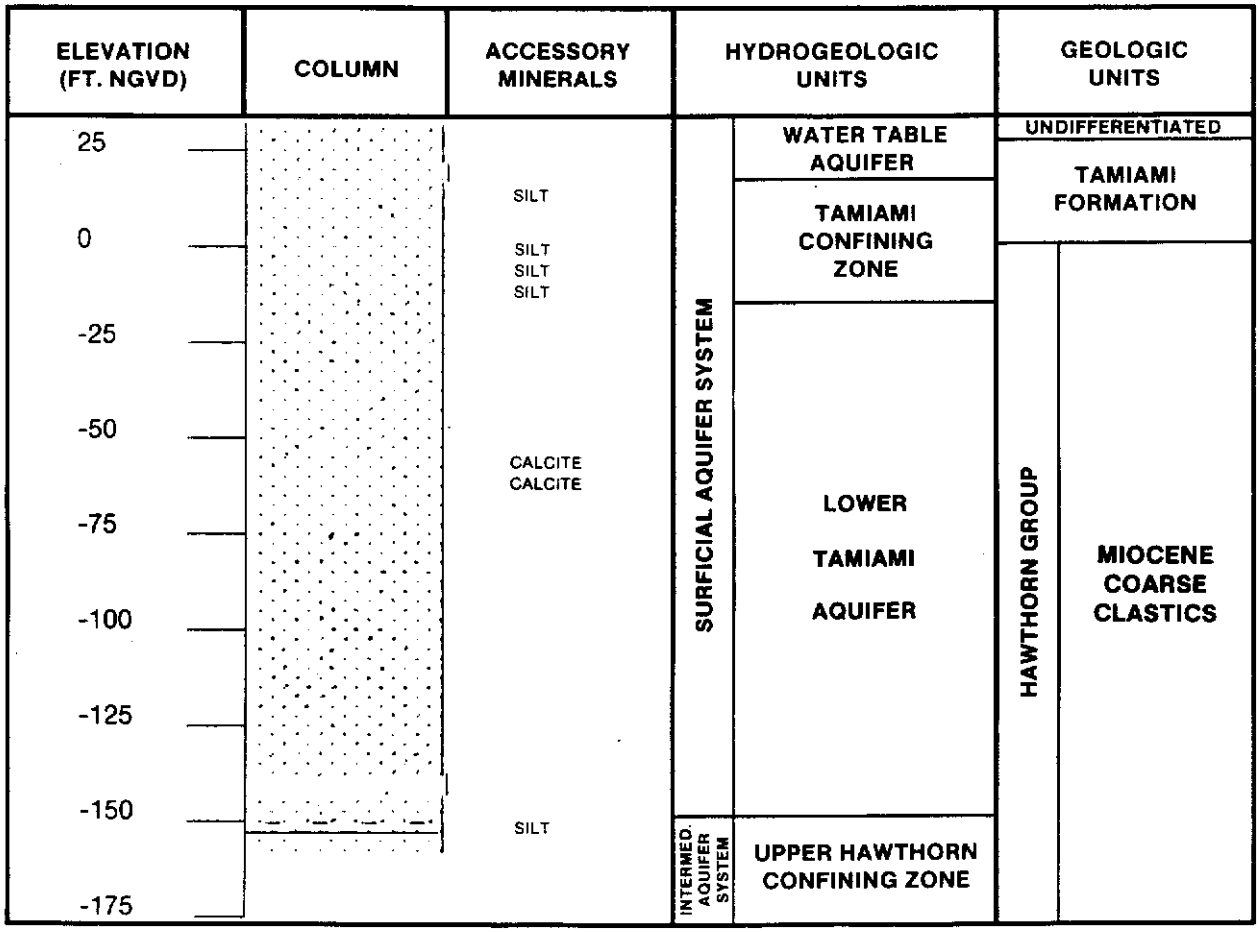
175 - 177 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, CALCILUTITE-01%;

177 - 180 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-01%;

180 - 185 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;

185 - 190 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-01%;

190 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
SILT
SILT
SILT
SILT
CALCITE
CALCITE
SILT
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMED. AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS

HY101

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 102 | COUNTY - HENDRY
TOTAL DEPTH: 00346 FT. | LOCATION: T.43S R.28E S.25
55 SAMPLES FROM 0 TO 346 FT. | LAT = N 26D 43M 37
LON = W 81D 28M 38
COMPLETION DATE - N/A | ELEVATION - 023 FT
OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: USGS WELL HE-619

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	4	SURFICIAL AQUIFER SYSTEM
0	4	WATER TABLE AQUIFER
4	100	UPPER HAWTHORN CONFINING ZONE
100	165	CLASTIC ZONE - SANDSTONE AQUIFER
165	180	CONFINING ZONE
180	230	CARBONATE ZONE - SANDSTONE AQUIFER
230	346	MID HAWTHORN CONFINING ZONE

0. -	50.	090UDSC UNDIFFERENTIATED SAND AND CLAY
50. -	346.	122HTRN HAWTHORN GROUP

0 - 1 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, PEAT-03%, IRON STAIN- %, PLANT REMAINS- %;

1 - 4 SAND; MODERATE YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, PEAT-01%, IRON STAIN- %, PLANT REMAINS- %;

4 - 6 CALCILUTITE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, IRON STAIN- %;

6 - 10 AS ABOVE

10 - 15 AS ABOVE

15 - 20 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 25 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-03%;

25 - 30 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 35 AS ABOVE

35 - 40 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 AS ABOVE

45 - 50 AS ABOVE

50 - 60 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%;
FOSSILS: FOSSIL FRAGMENTS;

60 - 65 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-02%;
FOSSILS: FOSSIL FRAGMENTS;

65 - 70 AS ABOVE

70 - 75 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

75 - 80 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS;

80 - 85 AS ABOVE

85 - 90 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS;

90 - 95 AS ABOVE

95 - 100 SILT; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 105 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;

105 - 110 AS ABOVE

110 - 115 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

115 - 120 AS ABOVE

120 - 130 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

130 - 140 AS ABOVE

140 - 145 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
WITH 15% SANDY LIMESTONE

145 - 150 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
WITH 50% SANDY LIMESTONE

150 - 155 AS ABOVE
SAMPLE CONSISTS OF WELL ROUNDED FROSTED GRANULES TO PEBBLES WITH 20% LIMESTONEAND MICRITE

155 - 160 AS ABOVE

160 - 165 GRAVEL; LIGHT OLIVE GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC GRAVEL-05%, LIMESTONE-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

165 - 170 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRAVEL; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC GRAVEL-03%, QUARTZ-15%;
OTHER FEATURES: FROSTED;

170 - 175 AS ABOVE
WITH 10% FROSTED ROUNDED QUARTZ GRANULES

175 - 180 AS ABOVE

180 - 185 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRANULE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC GRAVEL-02%, QUARTZ-05%;
OTHER FEATURES: FROSTED;

185 - 190 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, MOLDIC, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-40%, PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL MOLDS;

190 - 195 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL MOLDS;

195 - 200 AS ABOVE

200 - 205 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL MOLDS;

205 - 210 AS ABOVE

210 - 215 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL MOLDS;

215 - 220 AS ABOVE

220 - 225 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL MOLDS;

225 - 230 AS ABOVE
MICRITE INCREASES WITH DEPTH FROM 195 TO 230

230 - 240 CALCILUTITE; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

240 - 250 AS ABOVE
WITH 3% CALCITE SHELL FRAGMENTS

250 - 260 SAND; MODERATE GRAYISH GREEN TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%, SILT-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, SPICULES;

260 -- 270 AS ABOVE

270 - 280 AS ABOVE

280 - 292 SAND; MODERATE GRAYISH GREEN TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%, SILT-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, SPICULES;
WITH 2% DOLOMITE

292 - 303 AS ABOVE

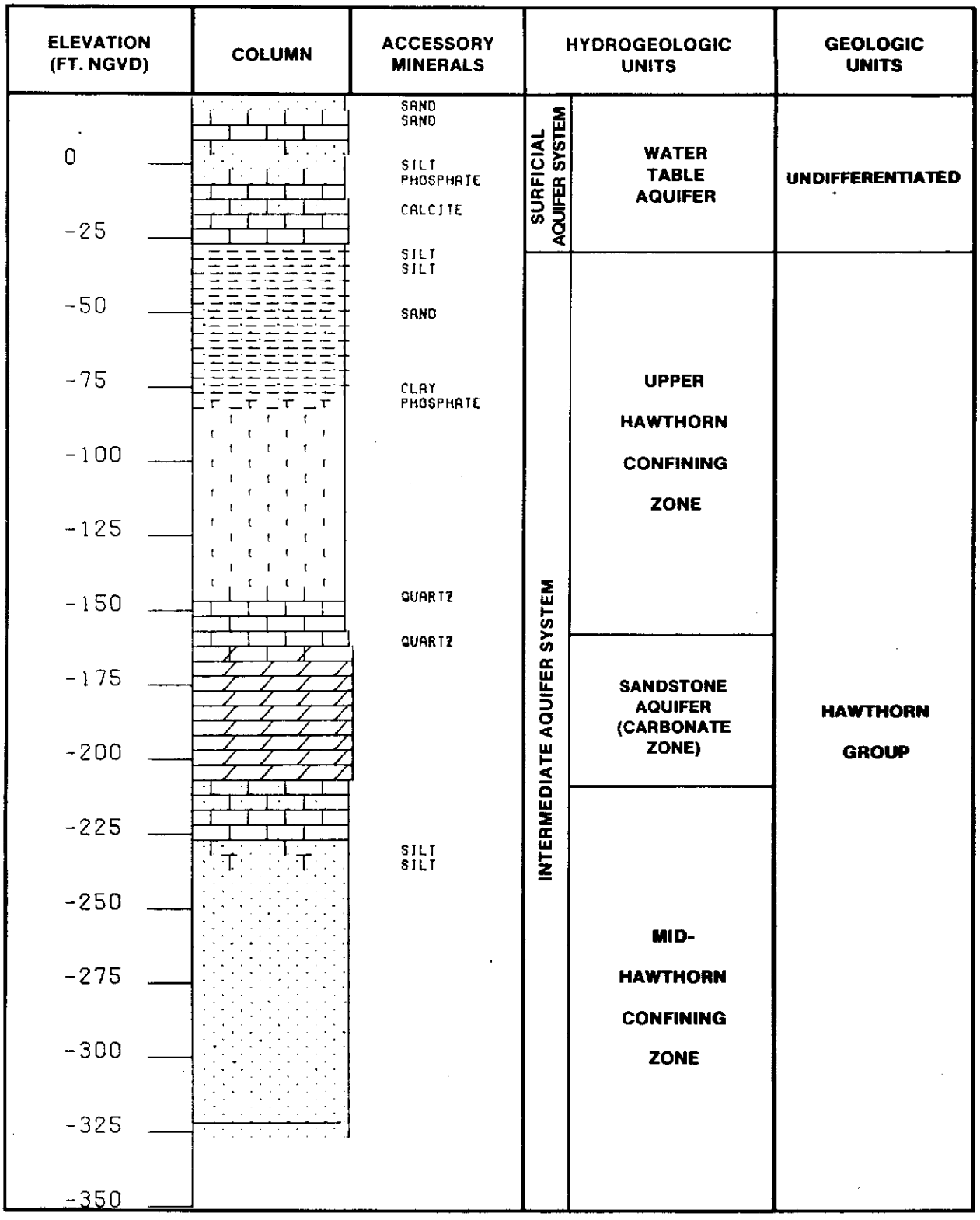
303 - 314 SAND; MODERATE GRAYISH GREEN TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%, SILT-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES, SPICULES, FOSSIL FRAGMENTS;

314 - 325 AS ABOVE

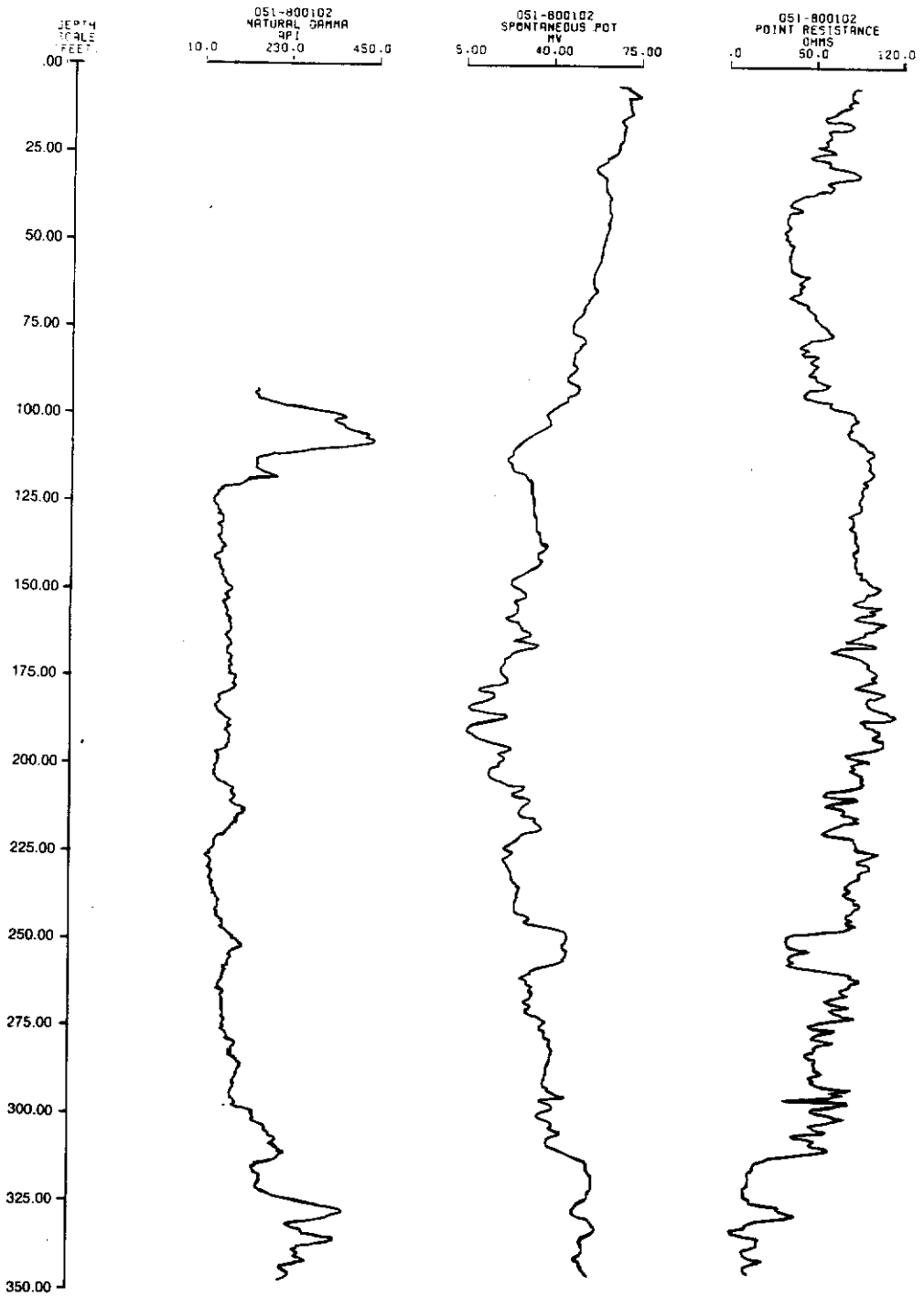
325 - 336 AS ABOVE

336 - 346 SAND; MODERATE GRAYISH GREEN TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%, SILT-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES, SPICULES, FOSSIL FRAGMENTS;
WITH 15% CLAY & 2% PHOSPHATIC SAND

346 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
SAND
SAND
SILT
PHOSPHATE
CALCITE
SILT
SILT
SAND
CLAY
PHOSPHATE
QUARTZ
QUARTZ
SILT
SILT
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID-HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP

HY102



GEOPHYSICS, WELL HY-102 (HE-619)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 103
TOTAL DEPTH: 00350 FT.
51 SAMPLES FROM 0 TO 350 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.29E S.30
LAT = N 26D 42M 58
LON = W 81D 27M 57
ELEVATION - 025 FT

OWNER/DRILLER: USGS WELL HE-621

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	15	SURFICIAL AQUIFER SYSTEM
0	15	WATER TABLE AQUIFER
15	110	UPPER HAWTHORN CONFINING ZONE
110	170	CLASTIC ZONE - SANDSTONE AQUIFER
170	180	CONFINING ZONE
180	240	CARBONATE ZONE - SANDSTONE AQUIFER
240	350	MID HAWTHORN CONFINING ZONE

0.	50.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
50.	350.	122HTRN	HAWTHORN GROUP

0 - 4 LIMESTONE; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMONITE-05%, IRON STAIN- %;

4 - 10 CALCILUTITE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%;

10 - 15 CALCILUTITE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
MANY WHOLE GASTROPOD SHELLS IN SAMPLE

15 - 20 SAND; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 25 SAND; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 AS ABOVE

30 - 35 SAND; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 SAND; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 AS ABOVE
WITH MORE SILT & TRACES OF CLAY

45 - 50 AS ABOVE

50 - 55 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

55 - 60 AS ABOVE

60 - 65 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

65 - 70 AS ABOVE

70 - 75 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

75 - 80 AS ABOVE

80 - 85 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

85 - 90 AS ABOVE

90 - 100 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

100 - 105 AS ABOVE

105 - 110 AS ABOVE

110 - 120 GRAVEL; ; INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;

120 - 130 AS ABOVE

130 - 140 GRAVEL; ; INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;

140 - 150 AS ABOVE

150 - 160 AS ABOVE
DECREASING GRAIN SIZE, 10% SANDY LIMESTONE

160 - 170 GRAVEL; ; INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC GRAVEL-05%;

170 - 175 CALCILUTITE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MICROCRYSTALLINE; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
FOSSILS: FOSSIL FRAGMENTS;

175 - 180 AS ABOVE

180 - 185 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

185 - 190 AS ABOVE

190 - 195 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

195 - 200 AS ABOVE

200 - 205 AS ABOVE

205 - 210 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

210 - 215 AS ABOVE

215 - 220 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, CLAY-05%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

220 - 225 AS ABOVE

225 - 230 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, CLAY-05%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

230 - 240 AS ABOVE

240 - 250 DOLO-SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, DOLOMITE-10%, PHOSPHATIC GRAVEL-01%;

250 - 260 AS ABOVE
WITH A TRACE OF DOLOMITE FRAGMENTS

260 - 270 DOLO-SILT; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, MOLDIC; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-03%, PHOSPHATIC GRAVEL-01%,
PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

270 - 280 AS ABOVE

280 - 290 SAND; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-35%, SILT-10%, DOLOMITE-05%, PHOSPHATIC SAND-02%;

290 - 300 AS ABOVE

300 - 310 SAND; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-38%, SILT-10%, DOLOMITE-05%, PHOSPHATIC SAND-02%;

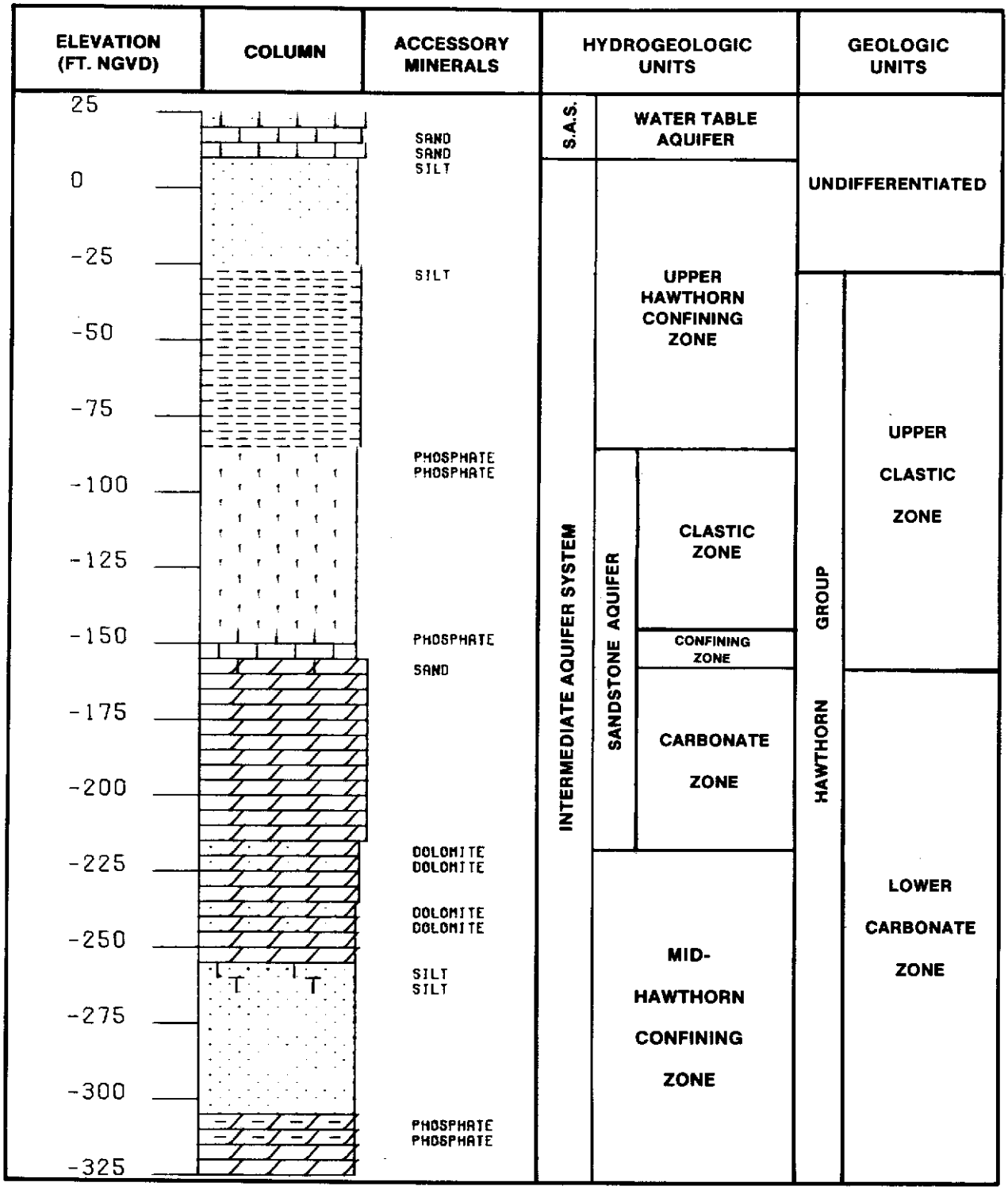
310 - 320 SAND; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-38%, SILT-10%, DOLOMITE-05%, PHOSPHATIC SAND-04%;

320 - 330 AS ABOVE

330 - 340 DOLO-SILT; OLIVE GRAY; 10% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-15%, CLAY-05%, PHOSPHATIC GRAVEL-05%;
FOSSILS: FOSSIL FRAGMENTS;
SAMPLE CONSISTS OF 20% DOLOMITIZED SHELL FRAGMENTS

340 - 350 AS ABOVE

350 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
SAND
SAND
SILT
SILT
PHOSPHATE
PHOSPHATE
PHOSPHATE
SAND
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
SILT
SILT
PHOSPHATE
PHOSPHATE
S.A.S.
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
MID-HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY103

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 104 COUNTY - HENDRY
TOTAL DEPTH: 320 FT. LOCATION: T.43S R.29E S.25 A
39 SAMPLES FROM 0 TO 320 FT. LAT = N 26D 42M 58
LON = W 81D 23M 26
COMPLETION DATE - / /73 ELEVATION - 24 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER: HE-616 DRILLED BY USGS,MUD ROTARY; 3 MILES SOUTH OF LABELLE & 3 MI. EAST

WORKED BY: DESCRIBED BY MIKE KNAPP (6-26-84), SAMPLE QUALITY (FAIR)
HYDROGEOLOGIC UNITS
0 40 WATER TABLE AQUIFER
40 290 UPPER HAWTHORN CONFINING BEDS
290 320 MID-HAWTHORN AQUIFER

0.0- 60.0 090UDSC UNDIFFERENTIATED SAND AND CLAY
60.0- 320.0 122HTRN HAWTHORN GROUP

0 - 3 SAND; LIGHT GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
FOSSILS: PLANT REMAINS;

3 - 6 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): ORGANIC MATRIX;
FOSSILS: PLANT REMAINS;

6 - 8 AS ABOVE

8 - 10 SHELL BED; WHITE; 30% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;
CHLONE CANCELLATTA

10 - 15 AS ABOVE

15 - 20 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

20 - 25 AS ABOVE MUCH SHELL (CAVINGS?)

25 - 30 AS ABOVE

30 - 40 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-15%;
FOSSILS: MOLLUSKS, CORAL;

40 - 45 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS;
MOLLUSK SHELL FRAGMENTS INTERMIXED WITH SILT

45 - 60 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-15%, QUARTZ SAND-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS;

60 - 65 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, DOLOMITE-30%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-02%, SILT-25%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, OOLITES, BENTHIC FORAMINIFERA;

80 - 100 AS ABOVE

100 - 110 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CLAY-02%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS;

110 - 120 AS ABOVE

120 - 130 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

130 - 140 AS ABOVE

140 - 150 AS ABOVE

150 - 160 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-35%, SILT-10%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

160 - 170 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 190 CLAY; YELLOWISH GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%, SILT-05%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

190 - 200 AS ABOVE

200 - 210 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, QUARTZ SAND-10%, HEMATITE-04%;
FOSSILS: MOLLUSKS;

210 - 220 AS ABOVE

220 - 230 CLAY; YELLOWISH GRAY TO DARK GRAYISH YELLOW; 01% POROSITY, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-15%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

230 - 240 AS ABOVE

240 - 250 CLAY; YELLOWISH GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-30%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

250 - 260 AS ABOVE MUCH SHELL IN SAMPLE

260 - 270 AS ABOVE

270 - 280 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

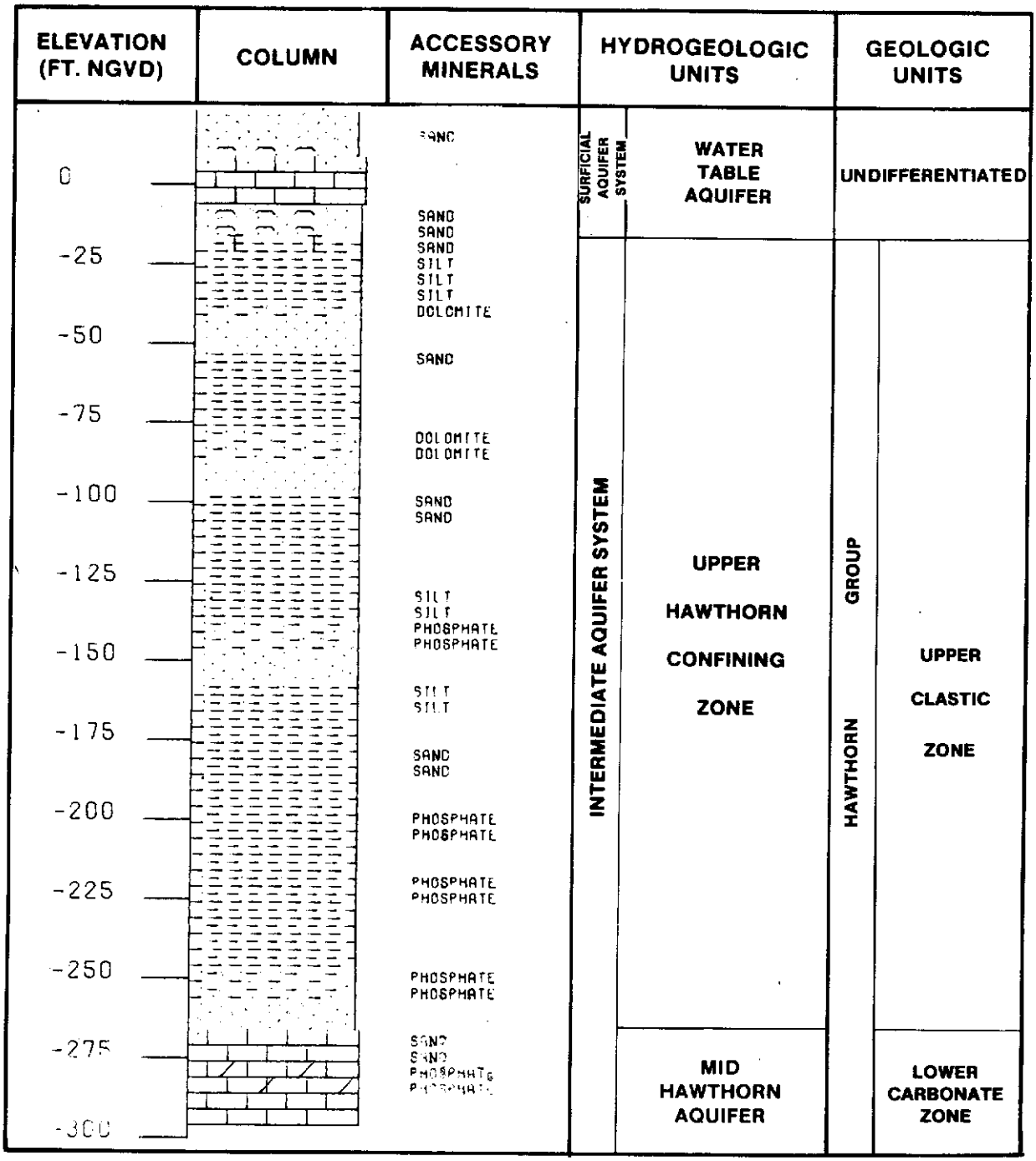
280 - 290 AS ABOVE

290 - 300 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, QUARTZ SAND-08%;
FOSSILS: MOLLUSKS;

300 - 310 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-10%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, CORAL;

310 - 320 AS ABOVE

320 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
SAND
SAND
SAND
SILT
SILT
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DOLOMITE
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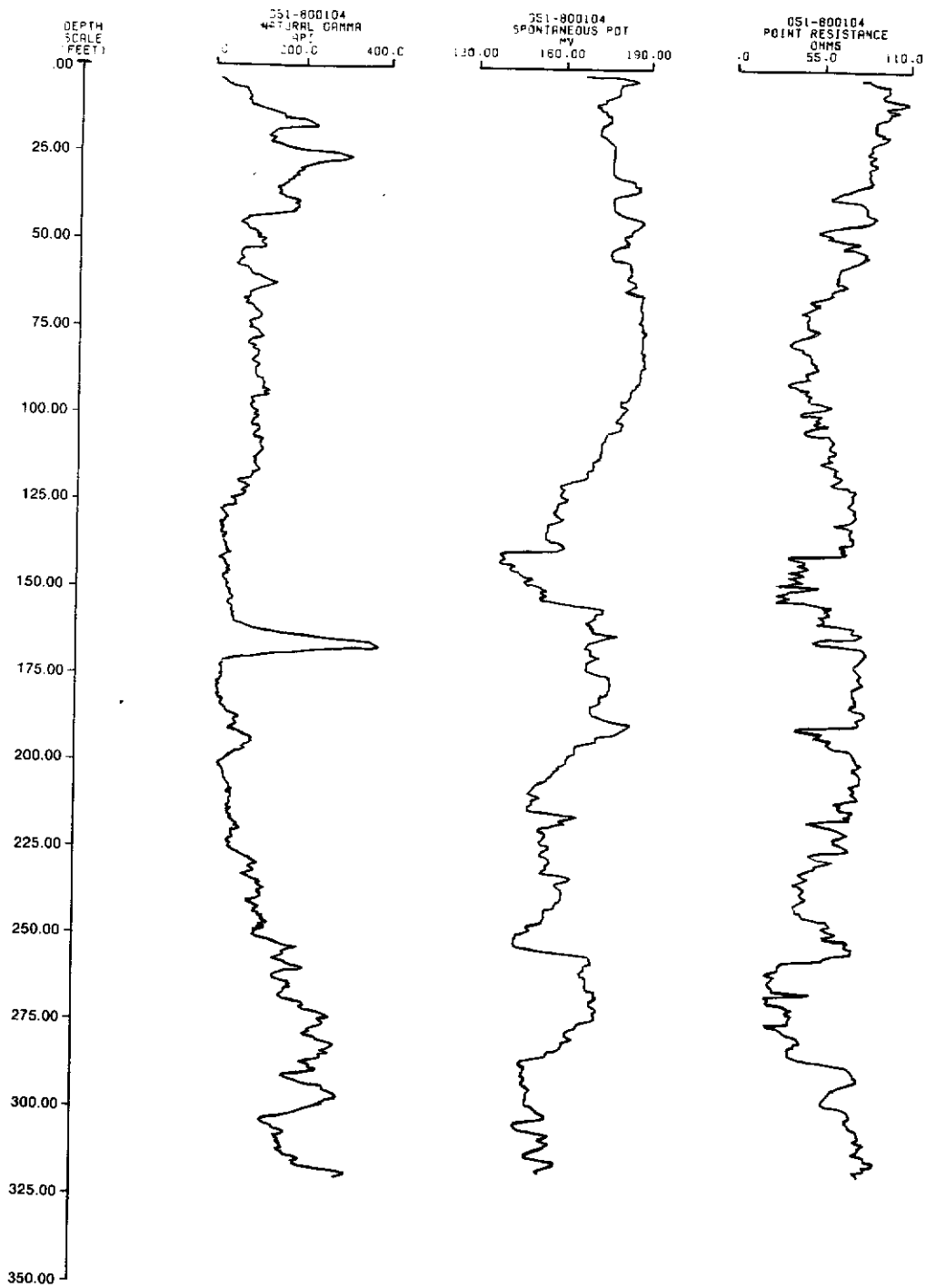
SAND
SAND
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE
MID HAWTHORN AQUIFER
LOWER CARBONATE ZONE

HY104



GEOPHYSICS, WELL HY-104 (HE-616)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 105
TOTAL DEPTH: 00340 FT.
51 SAMPLES FROM 5 TO 340 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.29E S.19
LAT = N 26D 45M 33
LON = W 81D 27M 27
ELEVATION - 018 FT

OWNER/DRILLER: USGS WELL HE-622

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	40	SURFICIAL AQUIFER SYSTEM
0	40	WATER TABLE AQUIFER
40	130	UPPER HAWTHORN CONFINING ZONE
130	180	CLASTIC ZONE - SANDSTONE AQUIFER
180	215	CARBONATE ZONE - SANDSTONE AQUIFER
215	340	MID HAWTHORN CONFINING ZONE

0.	- 5.	000NOSM	NO SAMPLES
5.	- 60.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
60.	- 340.	122HTRN	HAWTHORN GROUP

0 - 5 NO SAMPLES

5 - 10 SAND; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
GASTROPODS

10 - 15 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
GASTROPODS, CHIONE CANCELLATA

15 - 20 AS ABOVE

20 - 25 AS ABOVE

25 - 30 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;
SAMPLE IS 40% SHELL FRAGMENTS

30 - 40 AS ABOVE

40 - 50 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

50 - 55 AS ABOVE

55 - 60 AS ABOVE

60 - 65 DOLO-SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS;
HIGH UNALTERED SHELL FRAGMENT CONTENT

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 DOLO-SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS;
WITH MUCH LOWER SHELL CONTENT

80 - 85 AS ABOVE

85 - 90 AS ABOVE

90 - 95 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

95 - 100 AS ABOVE
WITH 10% DOLOMITIZED SHELL FRAGMENTS

100 - 105 AS ABOVE

105 - 110 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

110 - 120 AS ABOVE

120 - 130 AS ABOVE

130 - 140 SHELL BED; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-05%;
OTHER FEATURES: FROSTED;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
WELL ROUNDED FROSTED QUARTZ GRANULES

140 - 145 AS ABOVE

145 - 150 GRAVEL; LIGHT GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRANULE; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%, PHOSPHATIC GRAVEL-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

150 - 155 AS ABOVE
WITH MORE FOSSILS

155 - 160 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED, CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES;
SAMPLE IS 30% SHELL FRAGMENTS & 30% FROSTED QUARTZ GRANULES

160 - 165 AS ABOVE

165 - 170 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED, CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, MOLDIC, INTERGRANULAR;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: WORM TRACES, BRYOZOA, FOSSIL FRAGMENTS;
FROSTED QUARTZ GRANULES

185 - 190 AS ABOVE

190 - 195 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC GRAVEL-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, SPICULES;

195 - 200 DOLOMITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

200 - 205 AS ABOVE

205 - 210 DOLOMITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

210 - 215 AS ABOVE

215 - 220 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, LIMESTONE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

220 - 230 AS ABOVE
WITH 20% FROSTED QUARTZ SAND AND GRANULES

230 - 240 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, LIMESTONE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

240 - 250 AS ABOVE

250 - 260 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, LIMESTONE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

260 - 270 AS ABOVE

270 - 280 AS ABOVE
WITH HIGH SHELL FRAGMENT CONTENT

280 - 290 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, LIMESTONE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

290 - 300 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CLAY-05%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

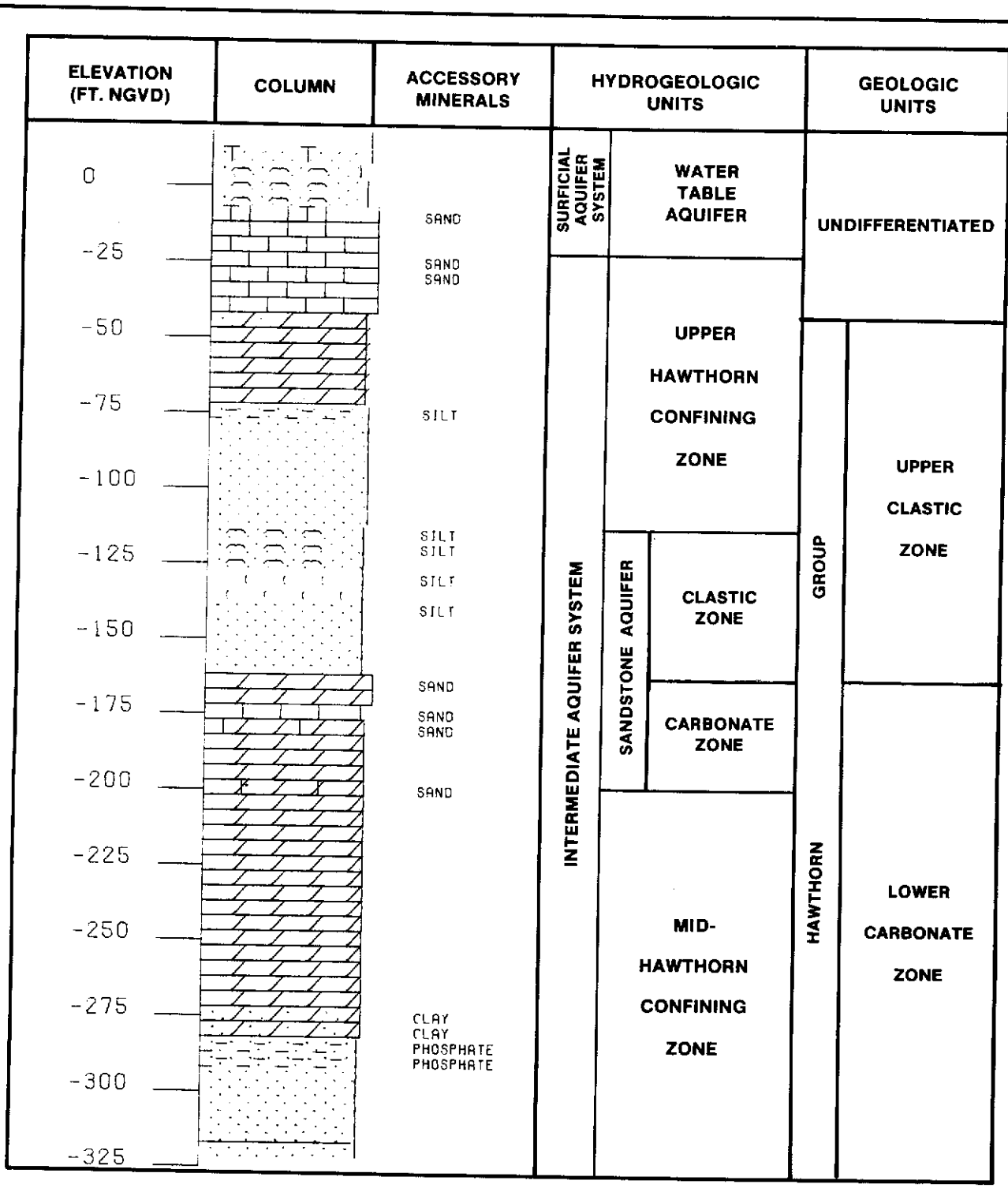
300 - 310 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-07%, PHOSPHATIC GRAVEL-04%, CLAY-03%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES;
15% SHELL FRAGMENTS

310 - 320 AS ABOVE
WITH 30% SHELL FRAGMENTS

320 - 330 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-07%, PHOSPHATIC GRAVEL-04%, CLAY-03%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES;

330 - 340 AS ABOVE

340 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
SAND
SAND
SAND
SILT
SILT
SILT
SILT
SILT
SAND
SAND
SAND
SAND
CLAY
CLAY
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID-HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY105

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 106
TOTAL DEPTH: 00300 FT.
58 SAMPLES FROM 0 TO 300 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC

COUNTY - HENDRY
LOCATION: T.42S R.29E S.32
LAT = N 26D 46M 48
LON = W 81D 26M 17
ELEVATION - 020 FT

OWNER/DRILLER: USGS WELL HE-618

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 20 SURFICIAL AQUIFER SYSTEM
0 20 WATER TABLE AQUIFER
20 250 UPPER HAWTHORN CONFINING ZONE
250 300 MID-HAWTHORN AQUIFER (LOW YIELD)

0. - 64. 090UDSC UNDIFFERENTIATED SAND AND CLAY
64. - 300. 122HTRN HAWTHORN GROUP

0 - 5 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN-%;

5 - 8 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

8 - 10 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-01%, IRON STAIN- %;

10 - 15 SAND; DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-25%, CALCILUTITE-04%, IRON STAIN- %;

15 - 20 SAND; LIGHT OLIVE BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-04%, IRON STAIN- %;

20 - 25 SANDSTONE; DARK GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-45%;
OTHER FEATURES: FROSTED;

25 - 30 AS ABOVE

30 - 35 SANDSTONE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, CLAY-02%;
OTHER FEATURES: FROSTED;

35 - 38 SAND; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-25%, SILT-20%;
OTHER FEATURES: FROSTED;

38 - 40 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%, SILT-05%;
OTHER FEATURES: FROSTED;

40 - 45 AS ABOVE

45 - 50 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-25%;

50 - 55 AS ABOVE

55 - 60 AS ABOVE

60 - 64 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO VERY COARSE;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

64 - 66 DOLOMITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
90-100% ALTERED; SUBHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-04%, CALCILUTITE-03%;

66 - 68 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-04%, PHOSPHATIC GRAVEL-01%;

68 - 70 AS ABOVE

70 - 75 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-04%, CLAY-02%, PHOSPHATIC GRAVEL-01%;

75 - 80 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%;

80 - 85 AS ABOVE

85 - 90 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-10%, PHOSPHATIC GRAVEL-01%;

90 - 95 DOLO-SILT; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-10%, PHOSPHATIC SAND-01%;

95 - 100 AS ABOVE

100 - 105 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-01%;

105 - 110 AS ABOVE
WITH BRYOZOA & SHELL FRAGMENTS

110 - 115 AS ABOVE
WITH SPICULES

115 - 120 SILT; LIGHT OLIVE GRAY; 07% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, DOLOMITE-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

120 - 125 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, QUARTZ SAND-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

125 - 130 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

130 - 140 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

140 - 150 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

150 - 155 AS ABOVE

155 - 160 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

160 - 165 AS ABOVE

165 - 170 SHELL BED; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-05%, CLAY-03%, PHOSPHATIC GRAVEL-02%;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

185 - 190 SHELL BED; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-05%, CLAY-03%, PHOSPHATIC GRAVEL-02%;

190 - 195 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

195 - 200 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

200 - 205 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

205 - 210 AS ABOVE

210 - 215 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

215 - 220 AS ABOVE

220 - 225 AS ABOVE

225 - 230 SILT; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

230 - 235 AS ABOVE

235 - 240 AS ABOVE

240 - 245 CLAY; YELLOWISH GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;
SAMPLE CONSISTS OF 15% ALTERED SHELL FRAGMENTS

245 - 250 AS ABOVE

250 - 255 CALCILUTITE; LIGHT GREENISH GRAY TO DARK GREENISH GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-10%;
FOSSILS: FOSSIL FRAGMENTS;

255 - 260 AS ABOVE

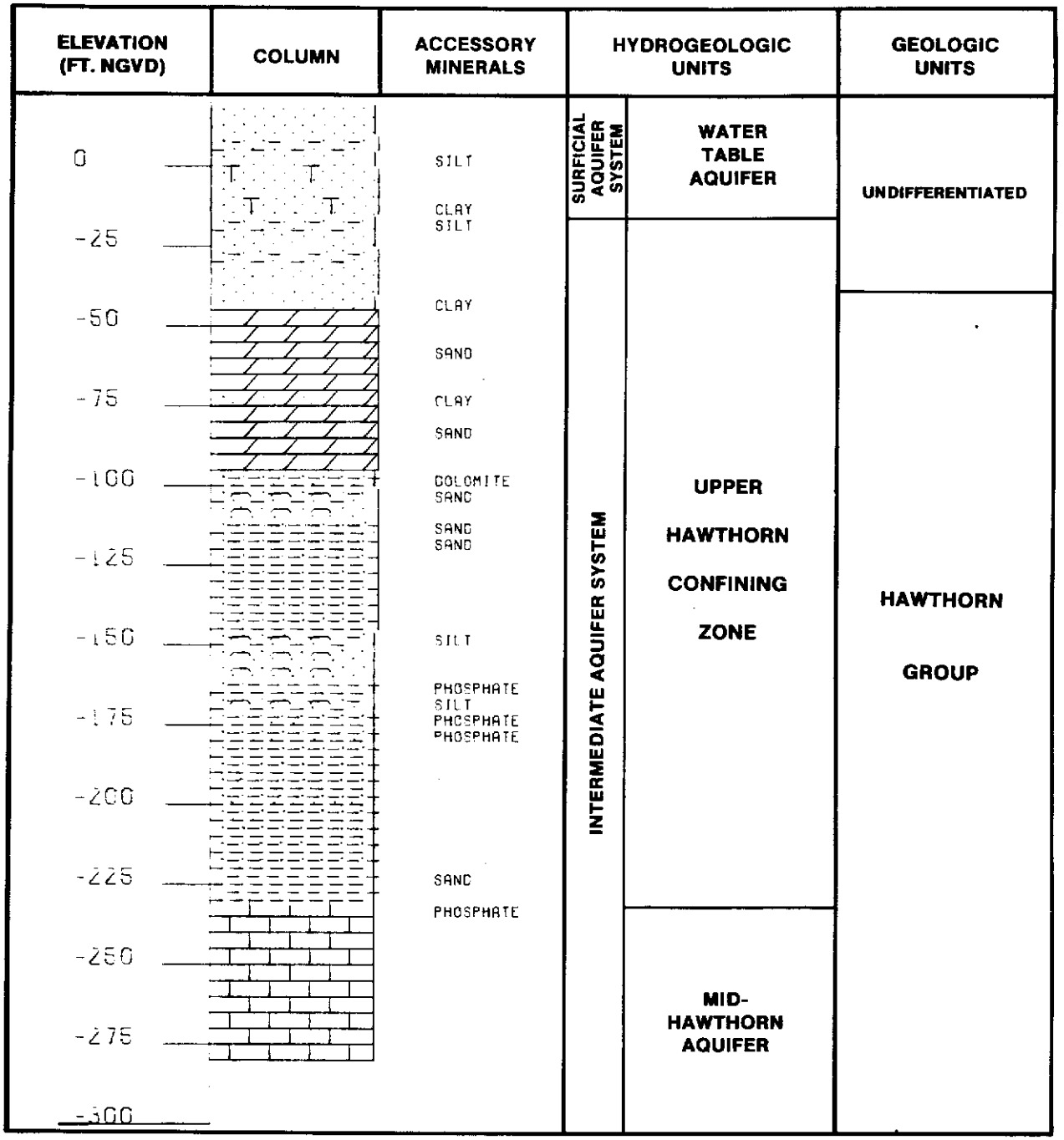
260 - 270 CALCILUTITE; LIGHT GREENISH GRAY TO DARK GREENISH GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 19% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
FOSSILS: FOSSIL FRAGMENTS;

270 - 280 AS ABOVE

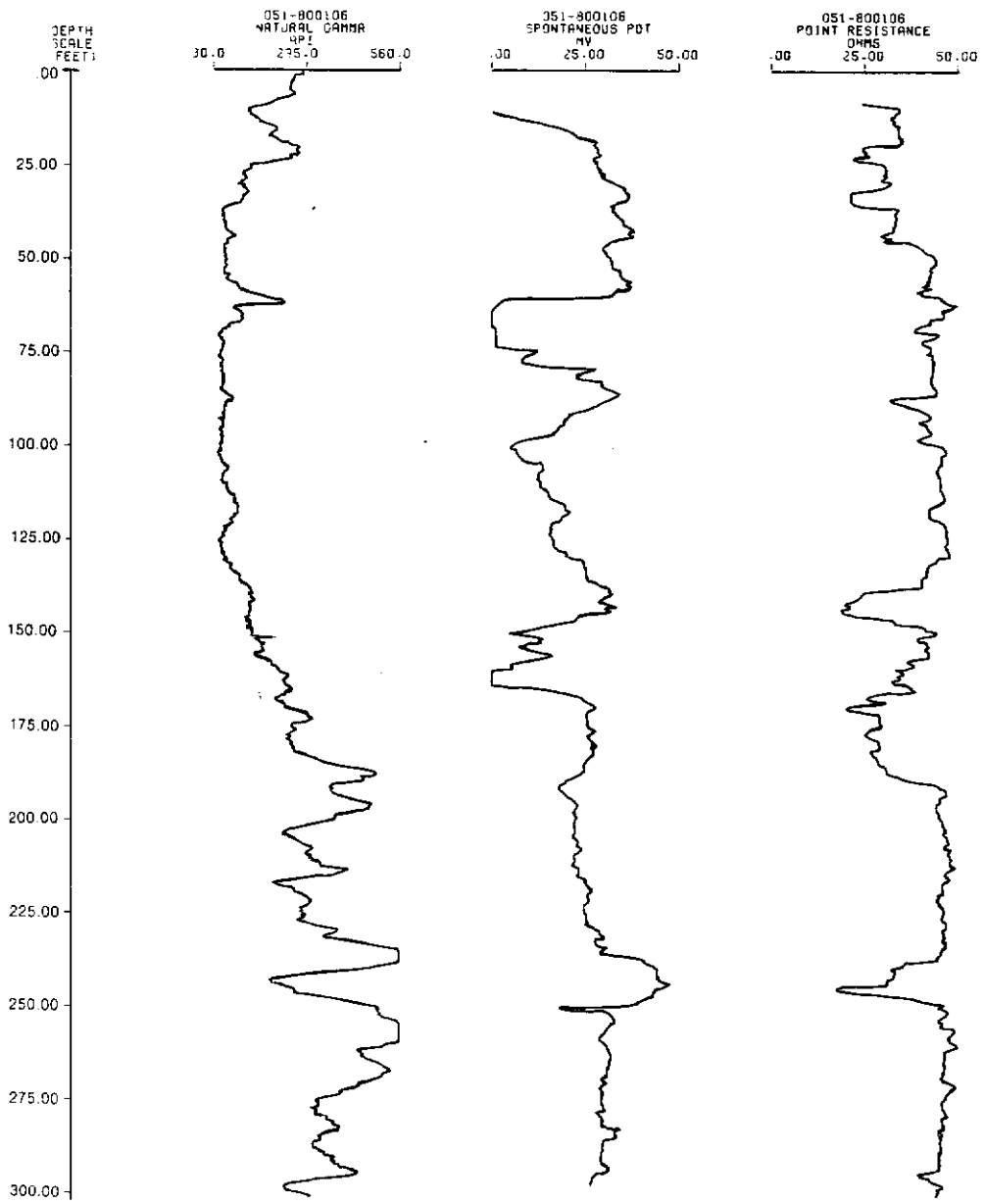
280 - 290 AS ABOVE

290 - 300 CALCILUTITE; LIGHT GREENISH GRAY TO DARK GREENISH GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 19% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
FOSSILS: FOSSIL FRAGMENTS;

300 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
SILT
CLAY
SILT
CLAY
SAND
CLAY
SAND
DOLOMITE
SAND
SAND
SAND
SILT
PHOSPHATE
SILT
PHOSPHATE
PHOSPHATE
SAND
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
UNDIFFERENTIATED
HAWTHORN GROUP

HY106



GEOPHYSICS, WELL HY-106 (HE-618)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 107
TOTAL DEPTH: 00302 FT.
58 SAMPLES FROM 0 TO 302 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC

COUNTY - HENDRY
LOCATION: T.43S R.29E S.10
LAT = N 26D 45M 42
LON = W 81D 24M 48
ELEVATION - 014 FT

OWNER/DRILLER: USGS WELL HE-617

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	40	SURFICIAL AQUIFER SYSTEM
0	3	WATER TABLE AQUIFER
3	10	TAMIAMI CONFINING ZONE
10	40	LOWER TAMIAMI AQUIFER
40	302	UPPER HAWTHORN CONFINING ZONE

0. -	105.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
105. -	302.	122HTRN	HAWTHORN GROUP

0 - 3 SAND; PINKISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN- %;
OTHER FEATURES: MUDDY;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

3 - 4 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%, IRON STAIN- %;

4 - 6 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%, IRON STAIN- %;

6 - 8 SAND; GRAYISH ORANGE TO DARK YELLOWISH ORANGE; 20% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%;
GASTROPODS

8 - 10 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%;
FOSSILS: FOSSIL FRAGMENTS;
GASTROPODS

10 - 15 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS;
CHIONE CANCELLATA, TURRITELLA

15 - 20 AS ABOVE

20 - 25 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS;

25 - 30 AS ABOVE

30 - 35 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-02%, CALCILUTITE-02%, SILT-02%;
FOSSILS: BRYOZOA;

35 - 40 AS ABOVE

40 - 45 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

45 - 50 AS ABOVE

50 - 55 AS ABOVE

55 - 60 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

60 - 65 AS ABOVE

65 - 70 AS ABOVE

70 - 75 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

75 - 80 AS ABOVE

80 - 85 AS ABOVE

85 - 90 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

90 - 95 AS ABOVE

95 - 100 AS ABOVE

100 - 105 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;
WITH GRAVEL SIZE ROUNDED FROSTED QUARTZ & PHOSPHORITE

105 - 110 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%;

110 - 115 AS ABOVE

115 - 120 AS ABOVE

120 - 125 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%;

125 - 130 AS ABOVE

130 - 135 AS ABOVE

135 - 140 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%;

140 - 145 AS ABOVE

145 - 150 AS ABOVE

150 - 155 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%;

155 - 160 AS ABOVE

160 - 165 AS ABOVE

165 - 170 SHELL BED; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-15%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

170 - 175 AS ABOVE

175 - 180 SHELL BED; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-15%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

180 - 190 AS ABOVE

190 - 200 SHELL BED; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-15%, PHOSPHATIC GRAVEL-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

200 - 205 AS ABOVE

205 - 210 AS ABOVE

210 - 215 SHELL BED; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CLAY-10%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

215 - 220 AS ABOVE

220 - 225 AS ABOVE

225 - 230 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

230 - 235 AS ABOVE

235 - 240 AS ABOVE

240 - 245 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

245 - 252 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

252 - 257 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

257 - 262 AS ABOVE

262 - 267 SHELL BED; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, LIMESTONE-10%, SILT-05%, PHOSPHATIC SAND-01%;

267 - 272 AS ABOVE

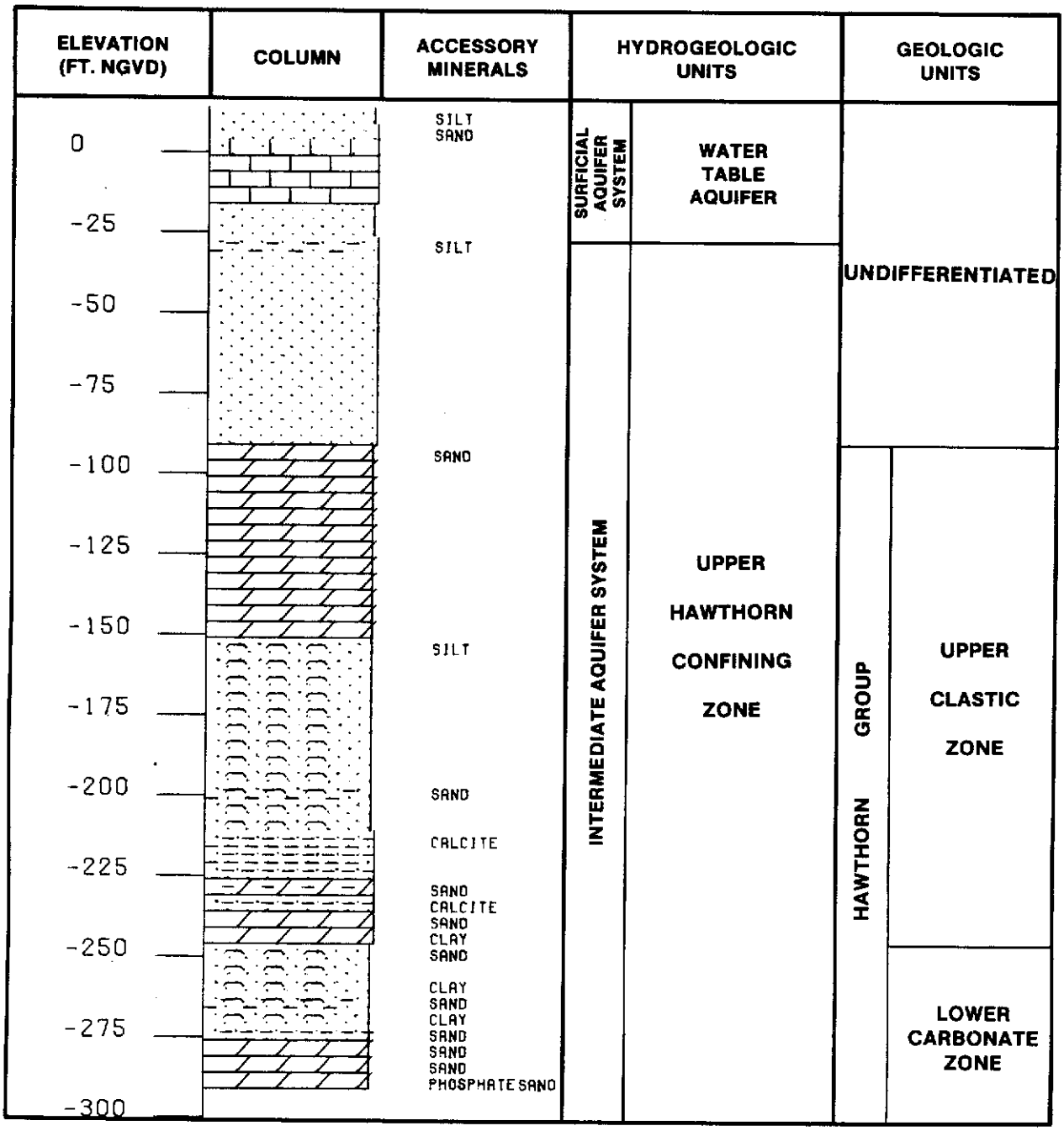
272 - 282 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: CLAY-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES;

282 - 287 AS ABOVE

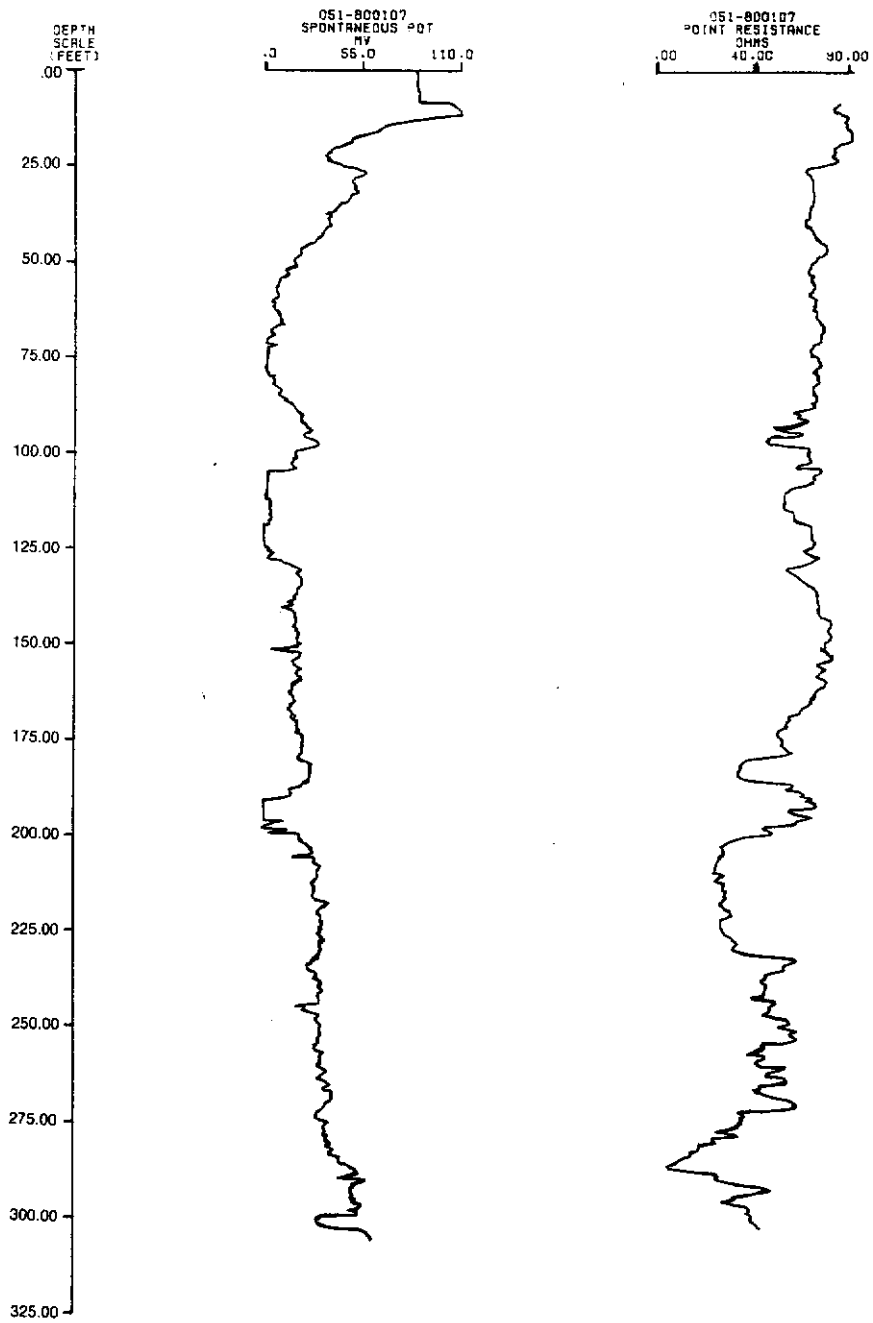
287 - 292 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-10%, LIMESTONE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

292 - 302 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-05%, LIMESTONE-05%, PHOSPHATIC SAND-03%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

302 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
SILT
SAND
SILT
SAND
SILT
SAND
CALCITE
SAND
CALCITE
SAND
CLAY
SAND
CLAY
SAND
CLAY
SAND
SAND
SAND
PHOSPHATE SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY107



GEOPHYSICS, WELL HY-107 (HE-617)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 108
TOTAL DEPTH: 00125 FT.
25 SAMPLES FROM 0 TO 125 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.28E S.10
LAT = N 26D 44M 51
LON = W 81D 30M 30
ELEVATION - 015 FT

OWNER/DRILLER: USGS WELL HE-83

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	100	SURFICIAL AQUIFER SYSTEM
0	35	WATER TABLE AQUIFER
35	60	TAMIAMI CONFINING ZONE
60	100	LOWER TAMIAMI AQUIFER
100	125	UPPER HAWTHORN CONFINING ZONE

0. -	90.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
90. -	125.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-01%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES;

5 - 10 AS ABOVE

10 - 15 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-01%;

15 - 20 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 25 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 AS ABOVE

30 - 35 AS ABOVE

35 - 40 CALCILUTITE; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-05%;

40 - 45 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-02%;

45 - 50 AS ABOVE

50 - 55 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-01%;

55 - 60 AS ABOVE

60 - 65 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;
WITH MORE SHELLS AND WELL ROUNDED QUARTZ & PHOSPHORITE GRANULES

80 - 85 AS ABOVE

85 - 90 AS ABOVE

90 - 95 GRAVEL; VERY LIGHT ORANGE TO LIGHT GRAY; 35% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

95 - 100 AS ABOVE
WITH 50% UNALTERED SHELL FRAGMENTS

100 - 105 SAND; OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%;

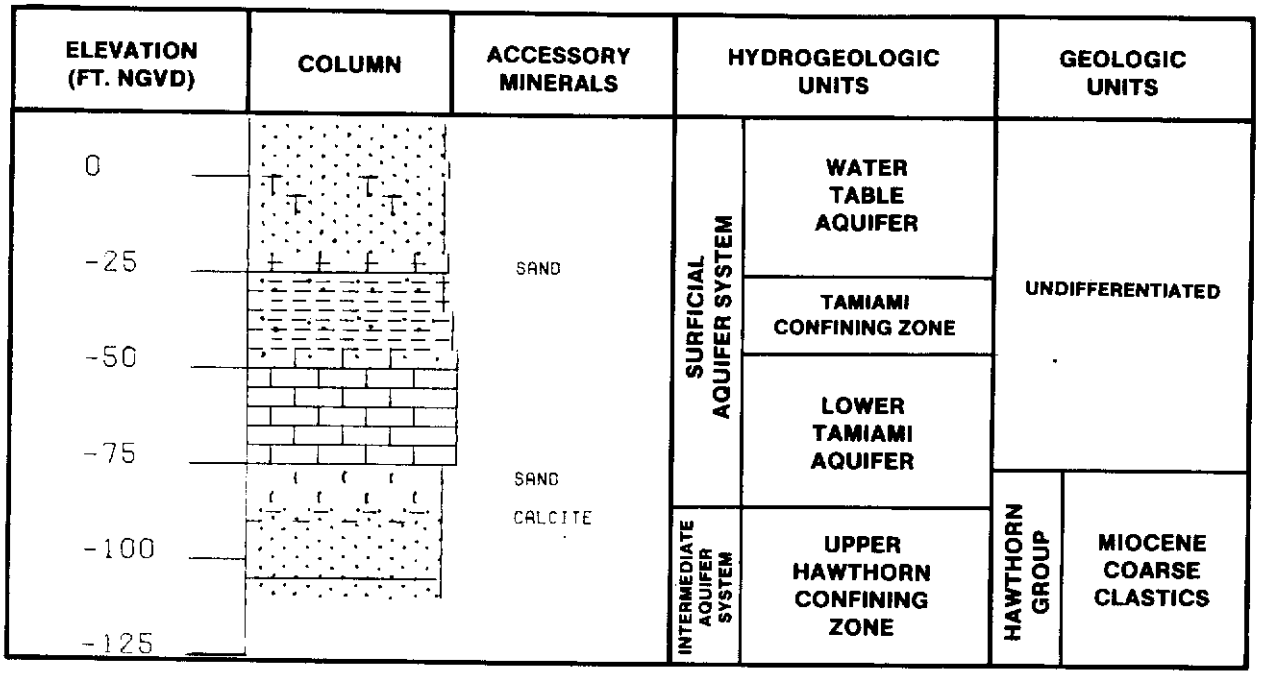
105 - 110 AS ABOVE

110 - 115 AS ABOVE

115 - 120 SAND; OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%;

120 - 125 AS ABOVE

125 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
SAND
SAND
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
MIOCENE COARSE CLASTICS

HY108

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 109
TOTAL DEPTH: 00341 FT.
69 SAMPLES FROM 0 TO 341 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.28E S.28
LAT = N 26D 42M 35
LON = W 81D 31M 06
ELEVATION - 018 FT

OWNER/DRILLER: USGS WELL HE557

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	25	SURFICIAL AQUIFER SYSTEM
0	25	WATER TABLE AQUIFER
25	125	UPPER HAWTHORN CONFINING ZONE
125	165	CARBONATE ZONE - SANDSTONE AQUIFER
165	341	MID HAWTHORN CONFINING ZONE

0. -	25.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
25. -	341.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN- %, LIMONITE- %;

5 - 10 SHELL BED; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%;
FOSSILS: MOLLUSKS;
GASTROPODS

10 - 15 AS ABOVE

15 - 20 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%;
OTHER FEATURES: CALCAREOUS;

20 - 25 AS ABOVE

25 - 30 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-10%;
OTHER FEATURES: CALCAREOUS;

30 - 35 AS ABOVE

35 - 40 AS ABOVE

40 - 45 CLAY; YELLOWISH GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-10%;
OTHER FEATURES: CALCAREOUS;

45 - 50 AS ABOVE

50 - 55 AS ABOVE

55 - 60 CLAY; YELLOWISH GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-10%;
OTHER FEATURES: CALCAREOUS;

60 - 65 AS ABOVE

65 - 70 AS ABOVE

70 - 75 CLAY; GRAYISH OLIVE GREEN; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%;

75 - 80 AS ABOVE
WITH FROSTED ROUNDED QUARTZ GRANULES

80 - 85 SAND; OLIVE GRAY TO YELLOWISH GRAY; LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES;

85 - 90 LIMESTONE; GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

90 - 95 AS ABOVE

95 - 100 CLAY; GRAYISH YELLOW TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, PHOSPHATIC SAND-01%,
PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS, FROSTED;

100 - 105 AS ABOVE

105 - 110 AS ABOVE

110 - 115 CLAY; GRAYISH YELLOW TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, PHOSPHATIC SAND-01%,
PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS, FROSTED;

115 - 120 AS ABOVE

120 - 125 AS ABOVE

125 - 130 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;

130 - 135 AS ABOVE

135 - 140 AS ABOVE

140 - 145 LIMESTONE; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: BANDED,
ACCESSORY MINERALS: QUARTZ SAND-05%;

145 - 150 AS ABOVE

150 - 155 CALCILUTITE; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: WORM TRACES;

155 - 165 AS ABOVE

165 - 170 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-01%;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-01%;

185 - 190 AS ABOVE

190 - 195 AS ABOVE

195 - 200 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-01%, PHOSPHATIC SAND-01%;

200 - 205 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%;
FOSSILS: BRYOZOA;

205 - 210 AS ABOVE

210 - 215 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;

215 - 220 AS ABOVE

220 - 225 AS ABOVE

225 - 230 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;

230 - 235 CLAY; LIGHT OLIVE GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

235 - 240 AS ABOVE

240 - 245 AS ABOVE

245 - 250 CLAY; LIGHT OLIVE GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

250 - 255 AS ABOVE

255 - 260 AS ABOVE

260 - 265 CLAY; LIGHT OLIVE GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

265 - 270 AS ABOVE

270 - 275 AS ABOVE

275 - 280 CLAY; LIGHT OLIVE GRAY TO OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

280 - 285 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

285 - 290 AS ABOVE

290 - 295 AS ABOVE

295 - 300 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

300 - 305 AS ABOVE

305 - 310 AS ABOVE

310 - 315 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

315 - 320 AS ABOVE

320 - 325 AS ABOVE

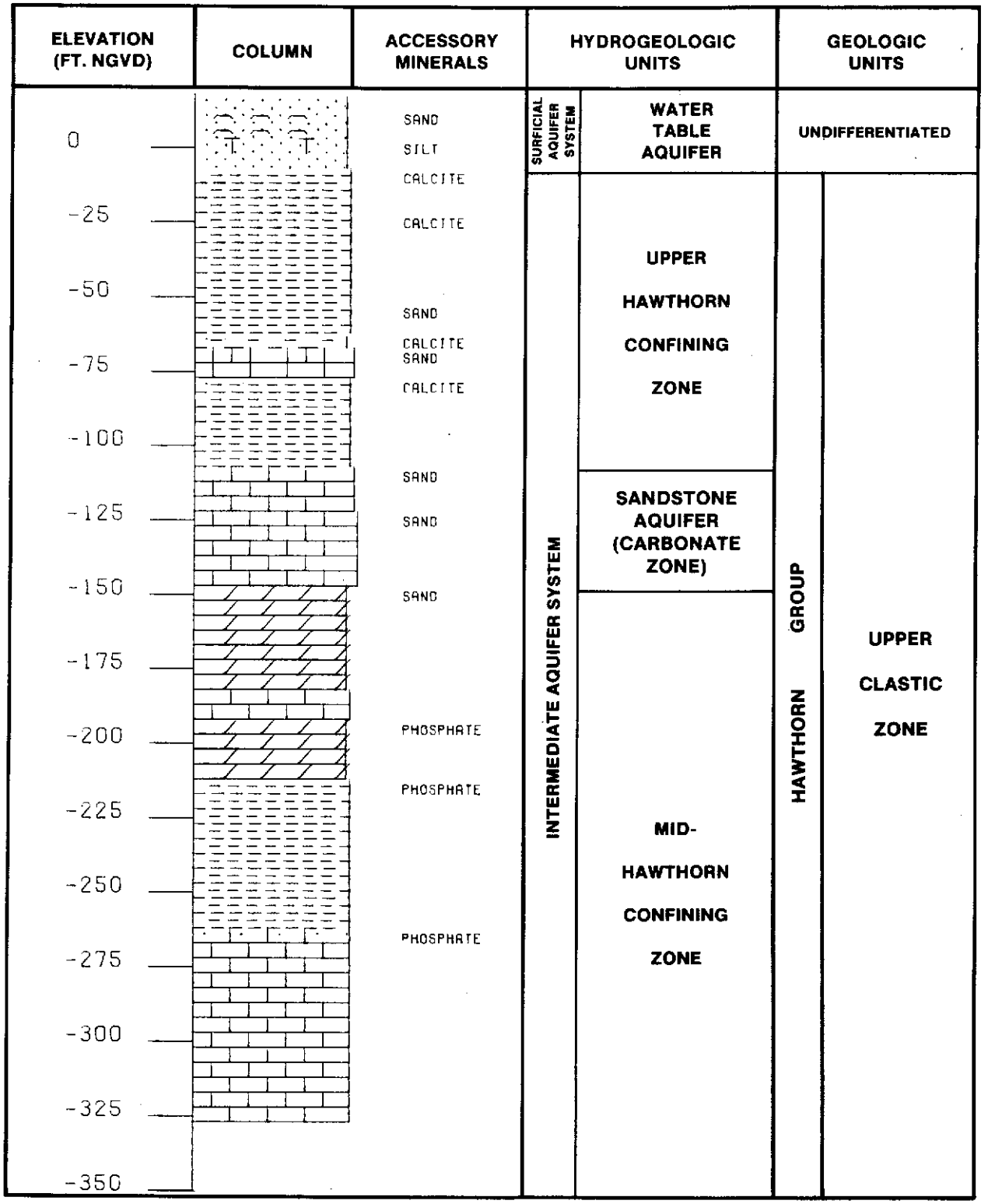
325 - 330 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

330 - 335 AS ABOVE

335 - 340 AS ABOVE

340 - 341 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

341 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
SAND
SILT
CALCITE
CALCITE
SAND
CALCITE
SAND
CALCITE
SAND
SAND
SAND
PHOSPHATE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID-HAWTHORN CONFINING ZONE
INTERMEDIATE AQUIFER SYSTEM
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY109

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 110 COUNTY - HENDRY
TOTAL DEPTH: 00413 FT. LOCATION: T.45S R.29E S.22
62 SAMPLES FROM 0 TO 410 FT. LAT = N 26D 33M 10
LON = W 81D 25M 09
COMPLETION DATE - N/A ELEVATION - 033 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC

OWNER/DRILLER: USGS WELL HE529

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	40	SURFICIAL AQUIFER SYSTEM
0	5	WATER TABLE AQUIFER
5	30	TAMIAMI CONFINING ZONE
30	40	LOWER TAMIAMI AQUIFER
40	85	UPPER HAWTHORN CONFINING ZONE
85	120	CLASTIC ZONE - SANDSTONE AQUIFER
120	135	CONFINING ZONE
135	165	CARBONATE ZONE - SANDSTONE AQUIFER
165	320	MID HAWTHORN CONFINING ZONE
320	380	MID HAWTHORN AQUIFER(LOW YIELD)
380	410	LOWER HAWTHORN CONFINING ZONE

0.	- 30.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
30.	- 39.	122TMIM	TAMIAMI FM.
39.	- 410.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;

5 - 10 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PLANT REMAINS- %;

10 - 15 SAND; GRAYISH BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%, MICA-01%;

15 - 20 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-05%;

20 - 25 AS ABOVE
WITH 30% SAND

25 - 30 SAND; YELLOWISH GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, SILT-05%, PHOSPHATIC SAND-01%;

30 - 35 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, MICA-01%;

35 - 39 AS ABOVE
WITH 1% COARSE ROUNDED FROSTED GRANULES

39 - 40 GRAVEL; YELLOWISH GRAY TO VERY LIGHT GRAY; 25% POROSITY,
GRAIN SIZE: GRANULE; RANGE: FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

40 - 45 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ-20%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

45 - 50 AS ABOVE
WITH 5% QUARTZ GRAVEL

50 - 55 NO SAMPLES

55 - 60 AS ABOVE
WITH NO QUARTZ GRAVEL

60 - 65 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: MICA-01%;
FOSSILS: FOSSIL FRAGMENTS;

65 - 70 AS ABOVE
WITH MORE (15%) SHELL FRAGMENTS

70 - 75 AS ABOVE
WITH NO SHELL FRAGMENTS

75 - 80 AS ABOVE

80 - 85 AS ABOVE
WITH 5% MEDIUM SIZE QUARTZ GRAINS

85 - 90 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CALCILUTITE-02%;
40% OF GRAINS FROSTED

90 - 95 AS ABOVE

95 - 100 SAND; LIGHT OLIVE GRAY TO GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ-10%, SILT-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 105 SAND; OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

105 - 110 AS ABOVE
WITH FROSTED ROUNDED QUARTZ AND PHOSPHORITE GRANULES

110 - 115 GRAVEL; YELLOWISH GRAY TO DARK GREENISH GRAY; 20% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

115 - 120 GRAVEL; YELLOWISH GRAY TO DARK GREENISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRANULE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-03%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

120 - 125 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, QUARTZ-03%;

125 - 130 AS ABOVE
WITH NO FROSTED ROUNDED QUARTZ GRAINS

130 - 135 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;

135 - 140 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%;

140 - 145 AS ABOVE

145 - 150 AS ABOVE

150 - 155 AS ABOVE

155 - 160 AS ABOVE

160 - 165 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%;

165 - 170 DOLO-SILT; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: WORM TRACES;

170 - 175 AS ABOVE
WITH 15% FINE SAND

175 - 185 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%;
OTHER FEATURES: CHALKY;

185 - 195 AS ABOVE
WITH 40% SAND

195 - 200 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;

200 - 205 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;

205 - 210 AS ABOVE

210 - 215 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-02%;

215 - 220 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SPAR-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

220 - 230 AS ABOVE
WITH SPICULES

230 - 240 AS ABOVE

240 - 250 AS ABOVE
WITH MORE CALCITE & 10% FROSTED QUARTZ GRANULES

250 - 260 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-25%, CLAY-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

260 - 270 AS ABOVE

270 - 280 AS ABOVE
WITH 2% PHOSPHATIC SAND & BRYOZOA

280 - 290 SILT; LIGHT OLIVE GRAY; LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CLAY-15%, PHOSPHATIC SAND-05%, CALCILUTITE-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

290 - 300 SILT; LIGHT OLIVE GRAY; LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-05%, CALCILUTITE-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

300 - 310 AS ABOVE

310 - 320 SILT; LIGHT OLIVE GRAY; LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CLAY-15%, PHOSPHATIC SAND-07%, CALCILUTITE-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

320 - 330 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

330 - 340 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

340 - 350 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

350 - 360 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: SPAR-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

360 - 370 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

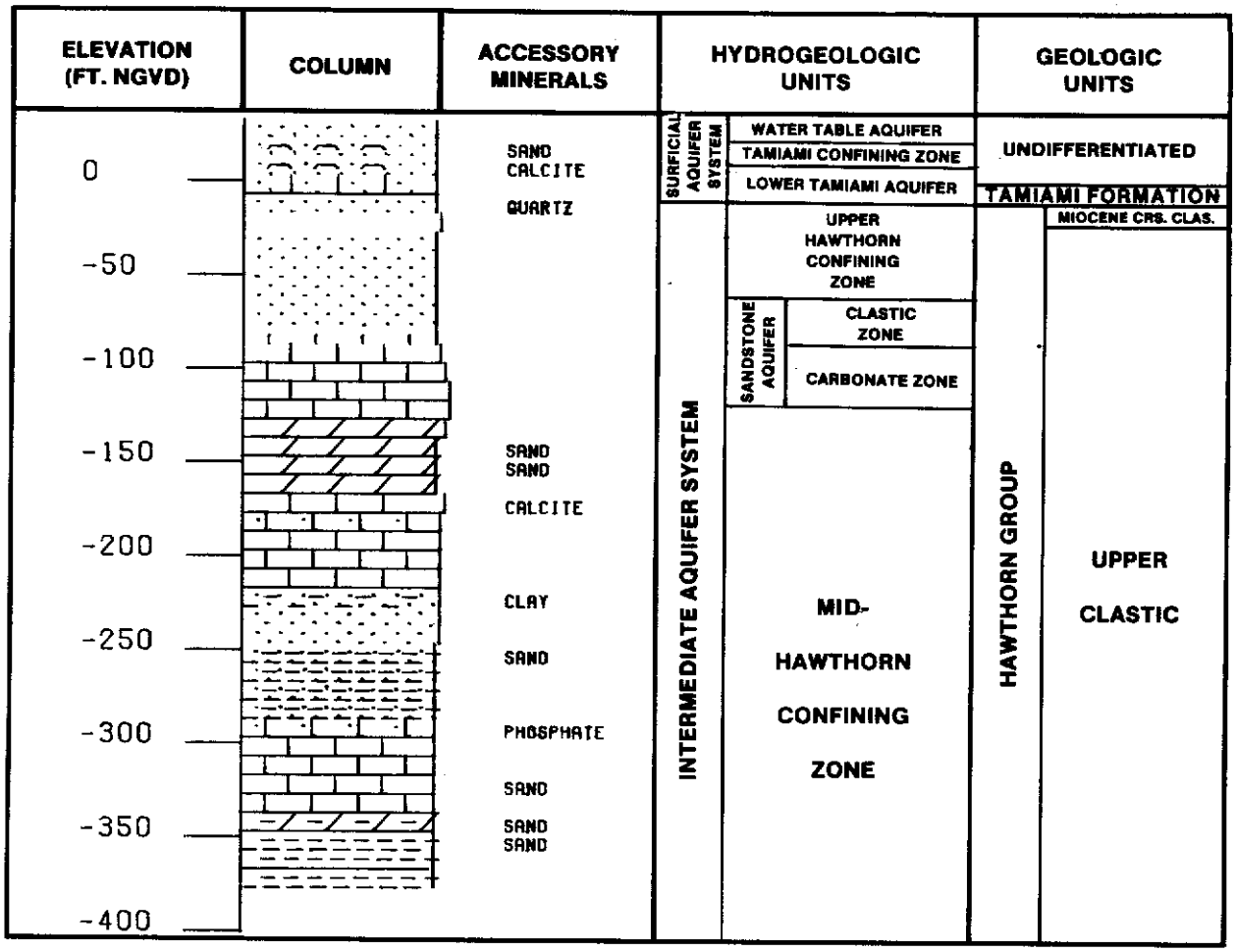
370 - 380 DOLO-SILT; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

380 - 390 CLAY; OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, SPAR-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

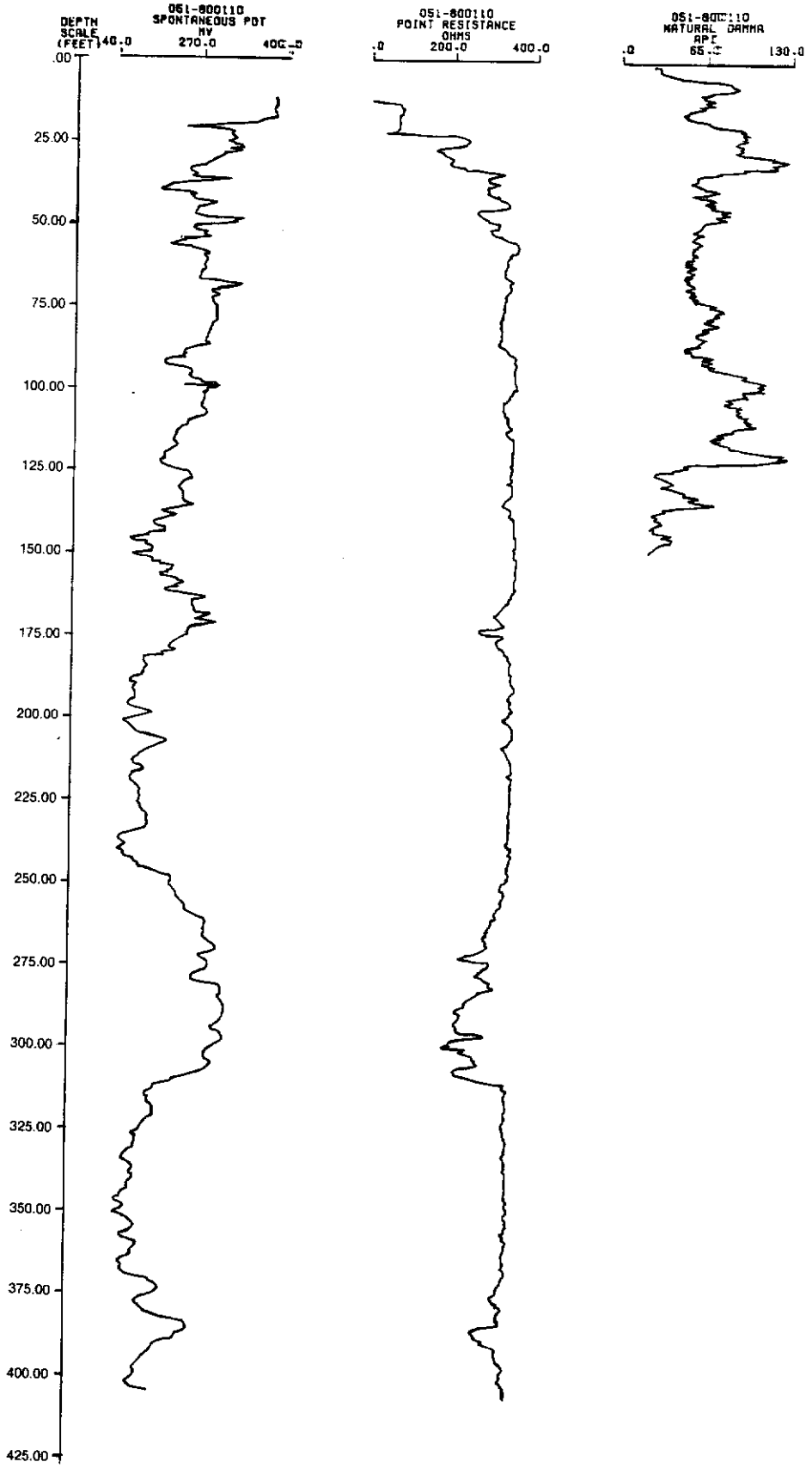
390 - 400 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

400 - 410 AS ABOVE

410 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
SAND
CALCITE
QUARTZ
SAND
SAND
CALCITE
CLAY
SAND
PHOSPHATE
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID-HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
MIOCENE CRS. CLAS.
HAWTHORN GROUP
UPPER CLASTIC

HY110



GEOPHYSICS, WELL HY-110 (HE-529)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 111
TOTAL DEPTH: 00440 FT.
70 SAMPLES FROM 0 TO 400 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.44S R.29E S.21
LAT = N 26D 38M 43
LON = W 81D 26M 07
ELEVATION - 028 FT

OWNER/DRILLER: USGS WELL HE-555

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	45	SURFICIAL AQUIFER SYSTEM
0	10	WATER TABLE AQUIFER
10	15	TAMIAMI CONFINING ZONE
15	45	LOWER TAMIAMI AQUIFER
45	135	UPPER HAWTHORN CONFINING ZONE
135	163	CARBONATE ZONE - SANDSTONE AQUIFER
163	230	MID HAWTHORN CONFINING ZONE
230	295	MID HAWTHORN AQUIFER(LOW YIELD)
295	440	LOWER HAWTHORN CONFINING ZONE

0. -	15.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
15. -	45.	122TMIN	TAMIAMI FM.
45. -	440.	122HTRN	HAWTHORN GROUP

0 - 4 SAND; DARK YELLOWISH ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, LIMONITE- %;

4 - 6 SAND; DARK GRAYISH YELLOW TO LIGHT OLIVE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;

6 - 10 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE; 30% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

10 - 15 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
20% SHELL (CHIONE CANCELLATA)

15 - 22 LIMESTONE; WHITE TO MODERATE DARK GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CRYSTALS, CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

30 - 35 LIMESTONE; WHITE TO MODERATE DARK GRAY; 10% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-15%, SPAR-10%;

35 - 40 CALCILUTITE; WHITE TO MODERATE DARK GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%, SPAR-25%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS;

40 - 45 LIMESTONE; GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: WORM TRACES;

45 - 50 CLAY; LIGHT GRAYISH GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, LIMESTONE-15%, CALCILUTITE-10%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

50 - 55 AS ABOVE

55 - 60 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%;

60 - 65 AS ABOVE

65 - 70 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;
WITH 30% FINE SAND

70 - 75 AS ABOVE

75 - 80 AS ABOVE

80 - 85 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;

85 - 90 AS ABOVE

90 - 95 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%;
WITH 50% SAND

95 - 100 AS ABOVE

100 - 105 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%;
WITH 2% GRANULE SIZED QUARTZ AND PHOSPHORITE

105 - 110 AS ABOVE

110 - 115 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%;
WITH 10% GRAVEL SIZED QUARTZ AND PHOSPHORITE, CALCITE SHELL

115 - 120 AS ABOVE

120 - 125 GRAVEL; DARK GRAY TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: COARSE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%, CALCITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

125 - 130 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-10%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS;
10% GRANULE SIZED QUARTZ, VERY FINE SAND

130 - 135 AS ABOVE
WITH CALCITE REPLACED SHELL FRAG., FINE SAND

135 - 145 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: FOSSIL FRAGMENTS;
5% GRANULE SIZED QUARTZ

145 - 150 AS ABOVE
NO QUARTZ GRANULES

150 - 155 LIMESTONE; YELLOWISH GRAY; 25% POROSITY, MOLDIC, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%;

155 - 160 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: FOSSIL FRAGMENTS;

160 - 163 LIMESTONE; YELLOWISH GRAY; 35% POROSITY, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

163 - 165 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;

165 - 170 AS ABOVE

170 - 175 AS ABOVE

175 - 180 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;

180 - 185 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: FOSSIL FRAGMENTS;

185 - 190 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS;

190 - 195 AS ABOVE

195 - 200 AS ABOVE

200 - 205 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS;

205 - 210 AS ABOVE

210 - 215 AS ABOVE

215 - 220 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS;

220 - 225 AS ABOVE

225 - 230 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

230 - 235 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, QUARTZ-10%;
OTHER FEATURES: FROSTED;

235 - 255 AS ABOVE

255 - 275 AS ABOVE

275 - 295 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, QUARTZ-10%, PHOSPHATIC SAND-04%, CLAY- %;
OTHER FEATURES: FROSTED;

295 - 315 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, LIMESTONE-10%, PHOSPHATIC SAND-05%;

315 - 320 NO SAMPLES

320 - 330 CLAY; ;
OTHER FEATURES: POOR SAMPLE;

330 - 340 CLAY; MODERATE OLIVE BROWN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-07%, LIMESTONE-07%;
FOSSILS: MOLLUSKS;

340 - 350 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: LIMESTONE-40%, QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

350 - 360 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS;

360 - 365 AS ABOVE

365 - 370 AS ABOVE

370 - 375 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, SILT-10%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

375 - 380 AS ABOVE

380 - 385 AS ABOVE

385 - 390 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, SILT-10%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

390 - 395 AS ABOVE

395 - 400 AS ABOVE

400 - 405 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, SILT-10%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

405 - 410 AS ABOVE

410 - 415 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, LIMESTONE-20%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

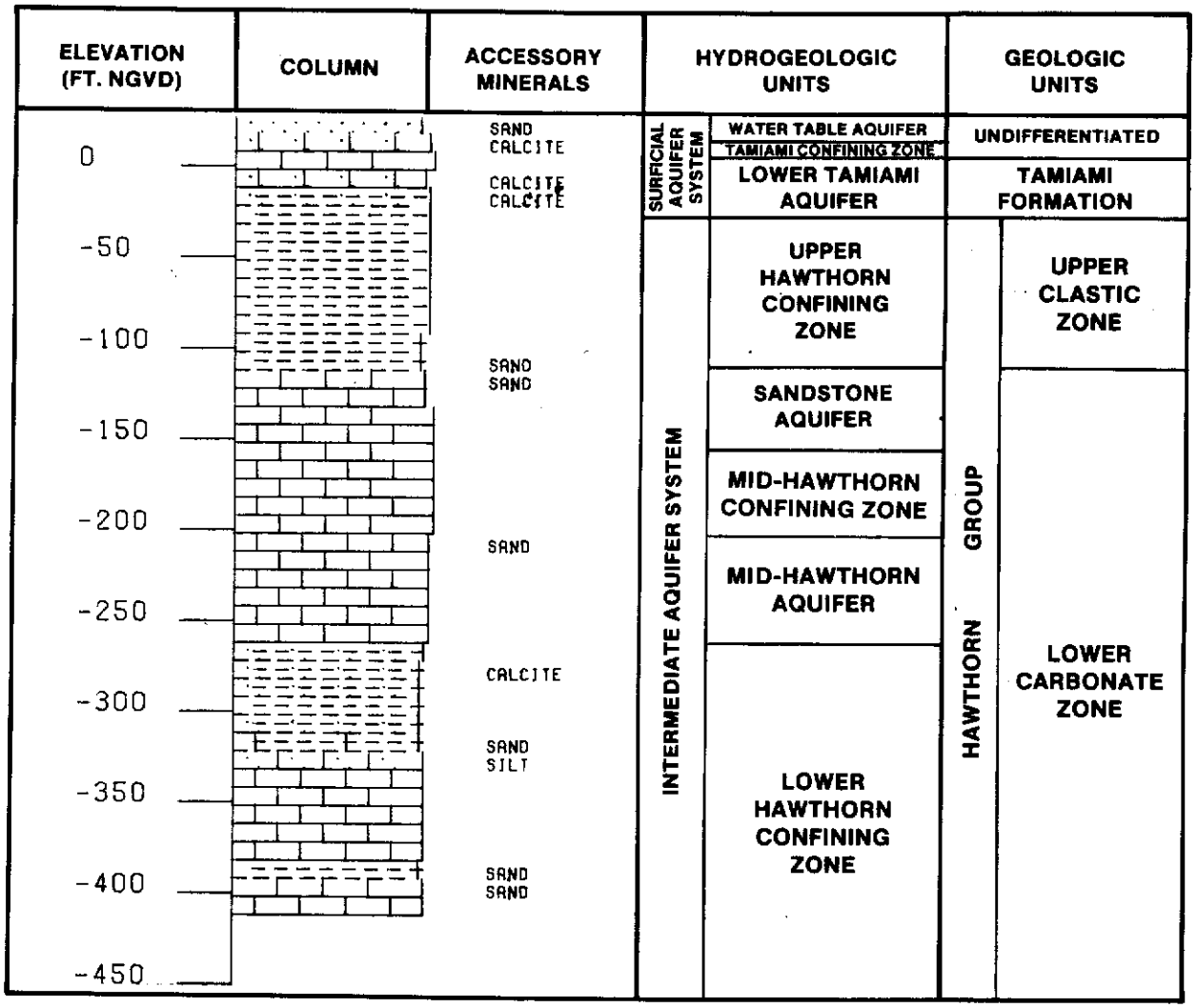
415 - 425 CALCILUTITE; LIGHT OLIVE GRAY TO VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%, CLAY-05%;

425 - 430 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-08%;
FOSSILS: FOSSIL FRAGMENTS;

430 - 435 AS ABOVE

435 - 440 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

440 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
SAND
CALCITE
CALCITE
CALCITE
SAND
SAND
SAND
CALCITE
SAND
SILT
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
MID-HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY111

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 112
TOTAL DEPTH: 00650 FT.
66 SAMPLES FROM 0 TO 650 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.45S R.28E S.29
LAT = N 26D 31M 57
LON = W 81D 32M 06
ELEVATION - 030 FT

OWNER/DRILLER: USGS WELL HE-519

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	100	SURFICIAL AQUIFER SYSTEM
0	20	WATER TABLE AQUIFER
20	30	TAMIAMI CONFINING ZONE
30	100	LOWER TAMIAMI AQUIFER
100	150	UPPER HAWTHORN CONFINING ZONE
150	210	CARBONATE ZONE - SANDSTONE AQUIFER
210	220	NO SAMPLES
220	260	MID HAWTHORN CONFINING ZONE
260	300	MID HAWTHORN AQUIFER(LOW YIELD)
300	550	LOWER HAWTHORN CONFINING ZONE
550	650	LOWER HAWTHORN/TAMPA PRODUCING ZONE

0. -	100.	122TMIM	TAMIAMI FM.
100. -	650.	122HTRN	HAWTHORN GROUP

0 - 10 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

10 - 20 AS ABOVE

20 - 30 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-03%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 40 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 50 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

50 - 60 AS ABOVE

60 - 70 AS ABOVE

70 - 80 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

80 - 90 AS ABOVE

90 - 100 AS ABOVE

100 - 110 GRAVEL; YELLOWISH GRAY TO BLACK; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: COARSE TO GRAVEL;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%, LIMESTONE-01%;
OTHER FEATURES: FROSTED;

110 - 120 AS ABOVE

120 - 130 AS ABOVE

130 - 140 GRAVEL; YELLOWISH GRAY TO BLACK; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: COARSE TO GRAVEL;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%, LIMESTONE-01%;
OTHER FEATURES: FROSTED;

140 - 150 AS ABOVE

150 - 160 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, MOLDIC, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
FOSSILS: WORM TRACES, FOSSIL MOLDS;

160 - 170 AS ABOVE

170 - 180 AS ABOVE

180 - 190 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, MOLDIC, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
FOSSILS: WORM TRACES, FOSSIL MOLDS;

190 - 200 AS ABOVE

200 - 210 AS ABOVE

210 - 220 NO SAMPLES

220 - 230 LIMESTONE; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
OTHER FEATURES: CHALKY;

230 - 240 AS ABOVE

240 - 250 AS ABOVE

250 - 260 LIMESTONE; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
OTHER FEATURES: CHALKY;

260 - 270 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, LIMESTONE-04%;
FOSSILS: FOSSIL FRAGMENTS;

270 - 280 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, LIMESTONE-04%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

280 - 290 AS ABOVE

290 - 300 LIMESTONE; VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;

300 - 310 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%, SILT-05%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

310 - 320 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-05%, SPAR-01%;

320 - 330 LIMESTONE; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
OTHER FEATURES: CHALKY;

330 - 340 SILT; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, QUARTZ SAND-05%, PHOSPHATIC SAND-05%;

340 - 350 AS ABOVE

350 - 360 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

360 - 370 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

370 - 380 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
WITH 15% HARD CLAY PIECES

380 - 390 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

390 - 400 AS ABOVE

400 - 410 AS ABOVE

410 - 420 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

420 - 430 AS ABOVE

430 - 440 AS ABOVE

440 - 450 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

450 - 460 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

460 - 470 NO SAMPLES

470 - 480 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

480 - 490 AS ABOVE

490 - 500 AS ABOVE

500 - 510 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
SLIGHTLY ALTERED TO DOLOMITE AND DOLOSILT

510 - 520 AS ABOVE

520 - 530 AS ABOVE

530 - 540 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

540 - 550 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-10%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
HIGHER DEGREE OF ALTERATION

550 - 560 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-05%, CLAY-02%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

560 - 570 AS ABOVE

570 - 580 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-05%, CLAY-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
WITH 10% PHOSPHATIC GRAVEL

580 - 590 AS ABOVE

590 - 600 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-05%, CLAY-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

600 - 610 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-05%, CLAY-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
WITH 10% PHOSPHATIC GRAVEL

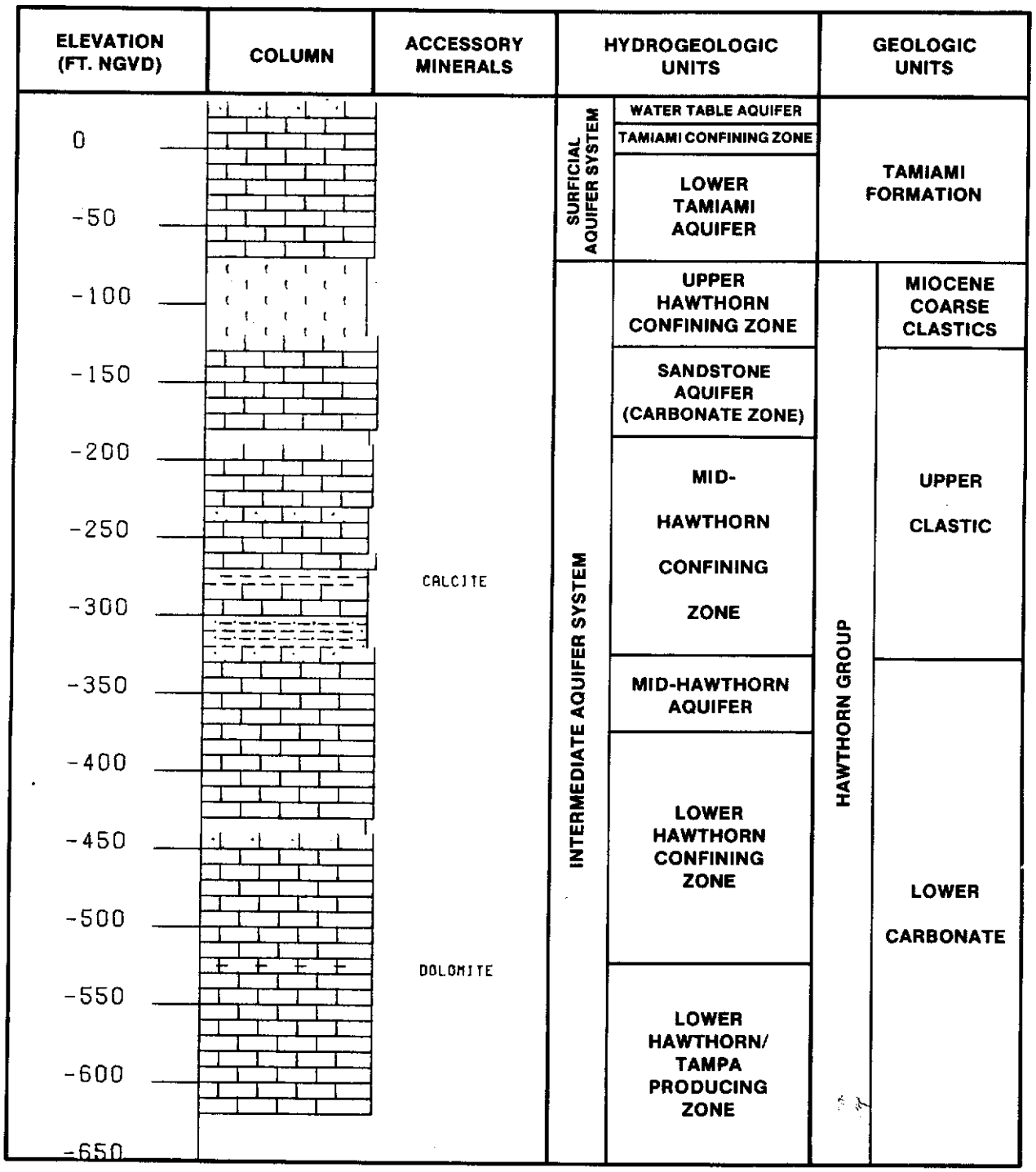
610 - 620 AS ABOVE

620 - 630 AS ABOVE

630 - 640 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-05%, CLAY-05%, PHOSPHATIC GRAVEL-10%;
OTHER FEATURES: BROWN ANHYDRITE CRYSTALS;
FOSSILS: FOSSIL FRAGMENTS;

640 - 650 AS ABOVE

650 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
-650
CALCITE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID-HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
LOWER HAWTHORN/ TAMPA PRODUCING ZONE
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC
LOWER CARBONATE

HY112

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 113
TOTAL DEPTH: 00340 FT.
68 SAMPLES FROM 0 TO 340 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.44S R.28E S.10
LAT = N 26D 39M 55
LON = W 81D 30M 30
ELEVATION - 028 FT

OWNER/DRILLER: USGS WELL HE-559

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	25	SURFICIAL AQUIFER SYSTEM
0	25	WATER TABLE AQUIFER
25	80	UPPER HAWTHORN CONFINING ZONE
80	135	CLASTIC ZONE - SANDSTONE AQUIFER
135	160	CONFINING ZONE
160	180	CARBONATE ZONE - SANDSTONE AQUIFER
180	340	MID HAWTHORN CONFINING ZONE

0. -	55.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
55. -	340.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK YELLOWISH ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, IRON STAIN- %;

5 - 10 AS ABOVE
WITH SHELL FRAGMENTS

10 - 15 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, LIMONITE-05%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

15 - 20 AS ABOVE

20 - 25 LIMESTONE; GRAYISH ORANGE TO GRAYISH ORANGE PINK; 01% POROSITY,
GRAIN TYPE: INTRACLASTS, CALCILUTITE, PELLET; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SPAR-01%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

25 - 30 SILT; GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

30 - 35 AS ABOVE

35 - 40 CALCILUTITE; DARK GRAYISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 AS ABOVE

45 - 50 CALCILUTITE; DARK GRAYISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS;

50 - 55 AS ABOVE

55 - 60 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-05%, QUARTZ SAND-05%, SILT-05%;
SOME FROSTED ROUNDED GRANULE SIZE QUARTZ

60 - 65 GRAVEL; WHITE TO VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;
SOME FROSTED ROUNDED QUARTZ GRAVEL

80 - 85 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%, CLAY-01%, CALCILUTITE-01%;
SOME FROSTED ROUNDED GRANULE SIZE QUARTZ

85 - 90 AS ABOVE

90 - 95 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%, CLAY-01%, CALCILUTITE-01%;
SOME FROSTED ROUNDED GRANULE SIZE QUARTZ

95 - 100 AS ABOVE

100 - 105 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%, CLAY-01%, CALCILUTITE-01%;
WITH 25% FROSTED ROUNDED GRANULE SIZE QUARTZ

105 - 110 SAND; OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-03%, QUARTZ SAND-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

110 - 115 AS ABOVE

115 - 120 AS ABOVE

120 - 125 SAND; OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-03%, QUARTZ SAND-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

125 - 130 AS ABOVE

130 - 135 AS ABOVE

135 - 140 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

140 - 145 AS ABOVE

145 - 150 AS ABOVE

150 - 155 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

155 - 160 AS ABOVE

160 - 165 LIMESTONE; GRAYISH ORANGE; 20% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, PELLET; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

165 - 170 AS ABOVE

170 - 175 LIMESTONE; GRAYISH ORANGE; 20% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, PELLET; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

175 - 180 AS ABOVE

180 - 185 DOLO-SILT; LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-10%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

185 - 190 AS ABOVE

190 - 195 AS ABOVE

195 - 200 DOLO-SILT; LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, LIMESTONE-10%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

200 - 205 AS ABOVE

205 - 210 DOLO-SILT; LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, LIMESTONE-10%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;
WITH FROSTED GRAVEL SIZE QUARTZ

210 - 215 DOLO-SILT; LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, LIMESTONE-10%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

215 - 220 AS ABOVE

220 - 225 AS ABOVE

225 - 230 DOLO-SILT; LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, LIMESTONE-10%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

230 - 235 AS ABOVE

235 - 240 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%;

240 - 245 AS ABOVE

245 - 250 AS ABOVE

250 - 255 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-15%, PHOSPHATIC SAND-02%;

255 - 260 AS ABOVE

260 - 265 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-10%, PHOSPHATIC SAND-05%, CLAY-05%;

265 - 270 AS ABOVE

270 - 275 AS ABOVE

275 - 280 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-10%, PHOSPHATIC SAND-05%, CLAY-05%;

280 - 285 AS ABOVE

285 - 290 AS ABOVE

290 - 295 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-10%, PHOSPHATIC SAND-05%, CLAY-05%;

295 - 300 AS ABOVE

300 - 305 DOLO-SILT; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%, CALCILUTITE-10%;

305 - 310 AS ABOVE

310 - 315 AS ABOVE

315 - 320 DOLO-SILT; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%, CALCILUTITE-10%;

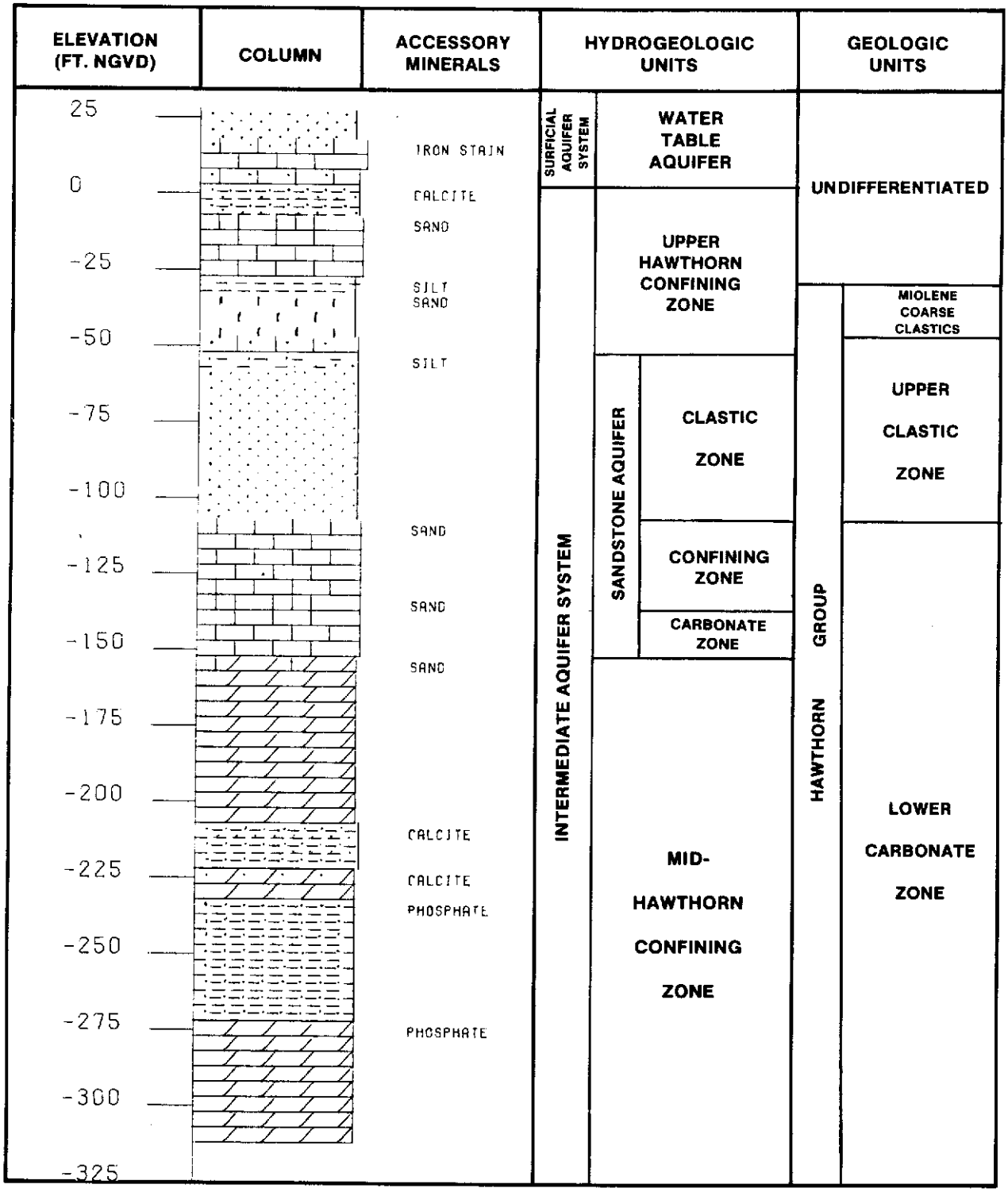
320 - 325 AS ABOVE

325 - 330 AS ABOVE

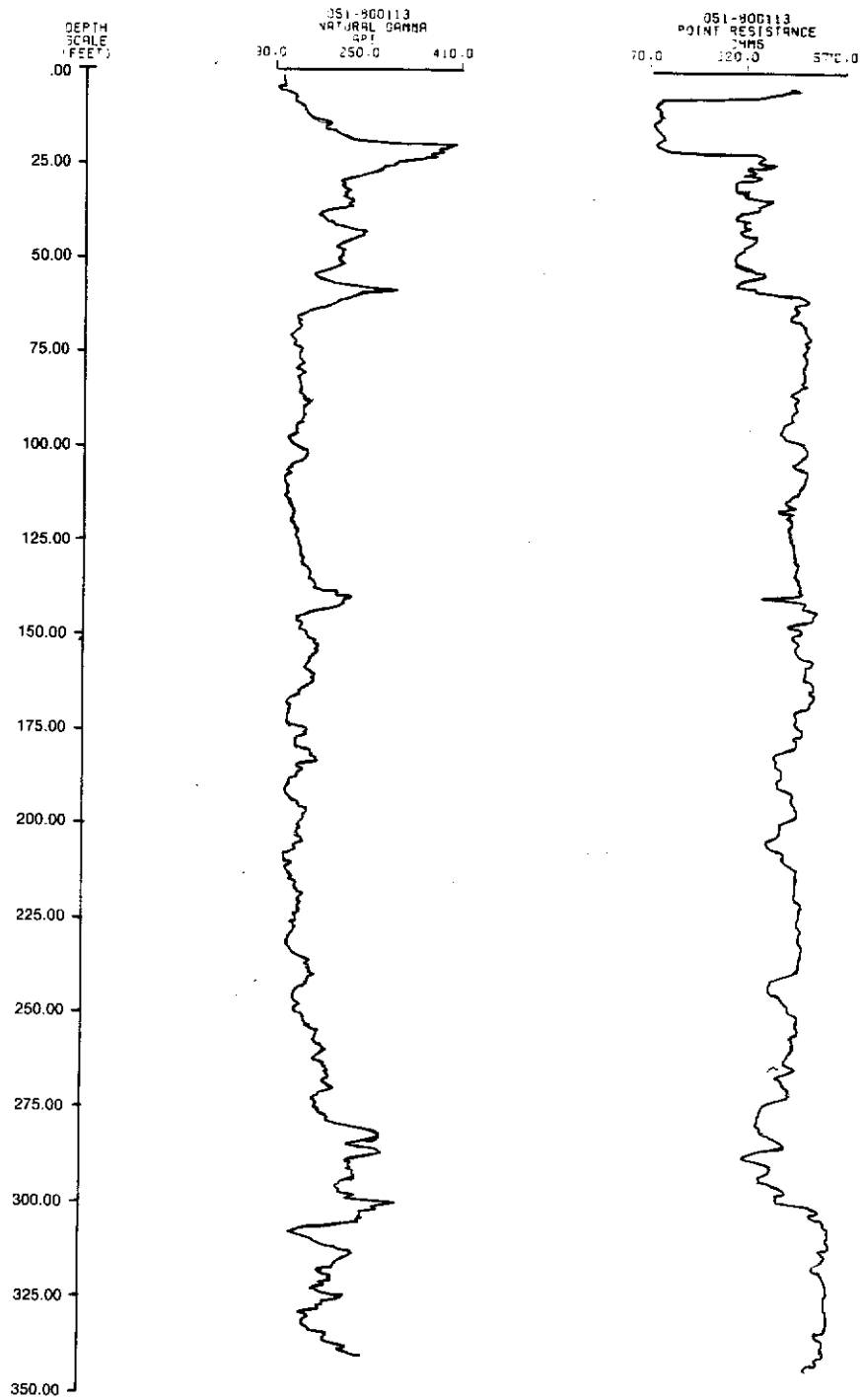
330 - 335 DOLO-SILT; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%, CALCILUTITE-10%;

335 - 340 AS ABOVE

340 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
IRON STAIN
CALCITE
SAND
SILT SAND
SILT
SAND
SAND
SAND
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
UPPER HAWTHORN CONFINING ZONE
MIOLENE COARSE CLASTICS
UPPER CLASTIC ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
INTERMEDIATE AQUIFER SYSTEM
HAWTHORN GROUP
LOWER CARBONATE ZONE
MID-HAWTHORN CONFINING ZONE

HY113



GEOPHYSICS, WELL HY-113 (HE-559)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 114
TOTAL DEPTH: 00180 FT.
17 SAMPLES FROM 0 TO 180 FT.

COMPLETION DATE - / /76
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.44S R.29E S.24 B
LAT = N 26D 38M 45
LON = W 81D 22M 40
ELEVATION - 030 FT

OWNER/DRILLER: USGS WELL HE-773, DRILLED BY ED MILLER

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR

HYDROGEOLOGIC DATA
0 10 WATER TABLE AQUIFER
10 180 UPPER HAWTHORN CONFINING ZONE

0. -	10.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
10. -	30.	122TMIM	TAMIAMI FM.
30. -	180.	122HTRN	HAWTHORN GROUP

0 - 10 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%;

10 - 20 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-45%;

20 - 30 AS ABOVE
DECREASE SAND (5%), SHELL FRAGMENTS

30 - 40 SILT; DARK GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: LIMESTONE-05%;

40 - 50 SAND; LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%;

50 - 60 AS ABOVE

60 - 70 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%;

70 - 80 AS ABOVE

80 - 90 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%;

90 - 110 AS ABOVE

110 - 120 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%;

120 - 140 AS ABOVE

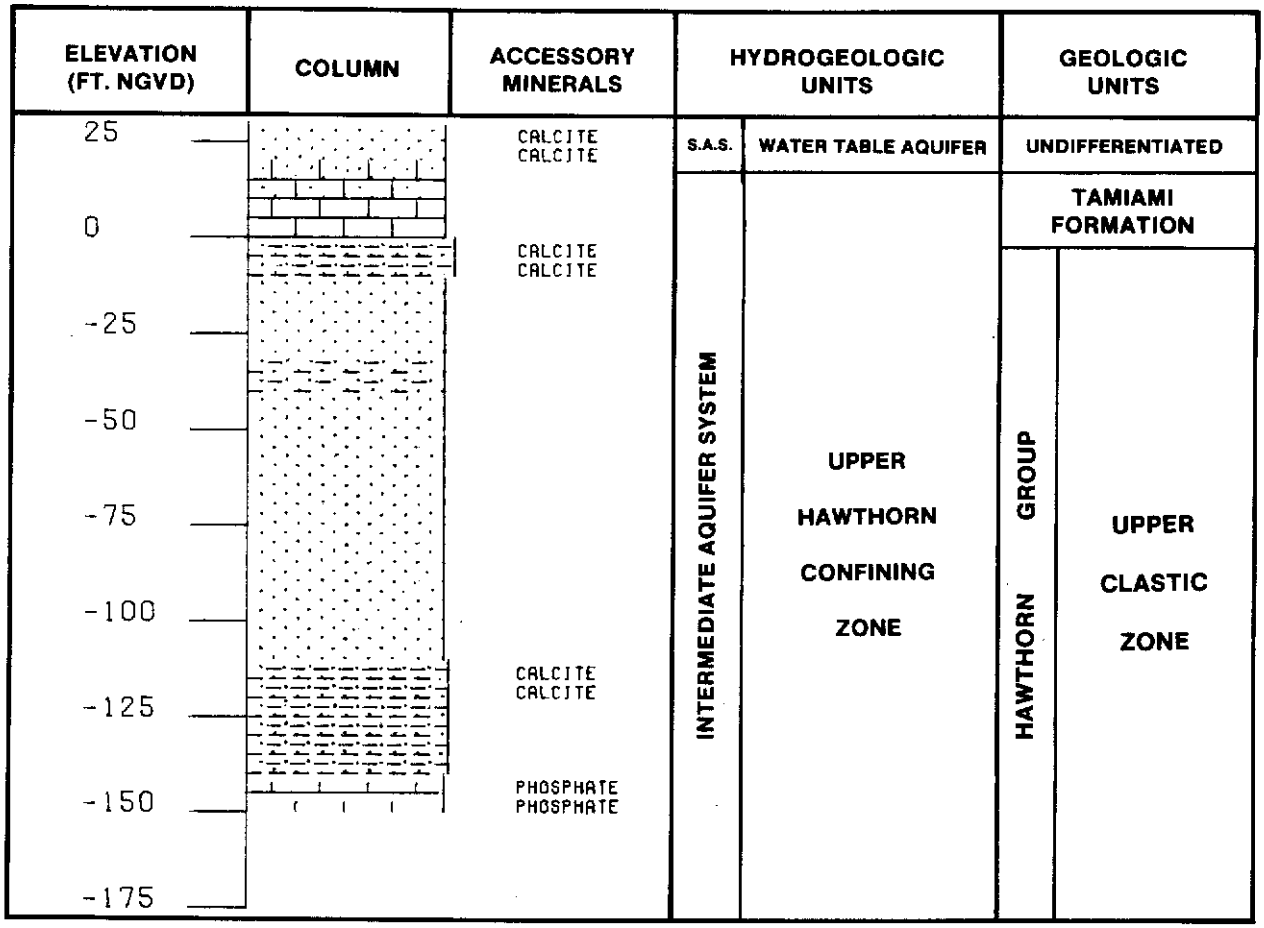
140 - 150 SILT; MODERATE GRAYISH GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-05%, QUARTZ SAND-02%;

150 - 160 AS ABOVE

160 - 170 AS ABOVE
WITH 30% COARSE CLASTICS, 2% PHOSPHATIC GRAVEL

170 - 180 GRAVEL; VERY LIGHT GRAY TO BLACK; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRAVEL; RANGE: VERY COARSE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
OTHER FEATURES: FROSTED;

180 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
S.A.S.
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY114

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 115
TOTAL DEPTH: 00465 FT.
70 SAMPLES FROM 0 TO 465 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.29E S.16
LAT = N 26D 44M 30
LON = W 81D 25M 45
ELEVATION - 020 FT

OWNER/DRILLER: USGS WELL HE-600

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR (WASHED CUTTINGS)
HYDROGEOLOGIC UNITS
0 99 SURFICIAL AQUIFER SYSTEM
0 99 WATER TABLE AQUIFER
99 315 UPPER HAWTHORN CONFINING ZONE
315 465 MID HAWTHORN AQUIFER (LOW YIELD)

0. - 124. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
124. - 465. 122HTRN HAWTHORN GROUP

0 - 2 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%, IRON STAIN- %;

2 - 5 SAND; DARK YELLOWISH ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%, IRON STAIN- %;

5 - 10 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, SHELL-10%;

10 - 13 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-25%, CALCILUTITE-05%;

13 - 18 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-25%, CALCILUTITE-05%, SILT-05%;

18 - 30 SHELL BED; YELLOWISH GRAY TO WHITE; 35% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, SILT-02%;

30 - 38 AS ABOVE

38 - 48 SHELL BED; YELLOWISH GRAY TO WHITE; 35% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, SILT-02%, LIMESTONE-02%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS;

48 - 50 AS ABOVE

50 - 59 SHELL BED; YELLOWISH GRAY TO WHITE; 35% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, LIMESTONE-05%, SILT-02%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES;

59 - 65 AS ABOVE

65 - 69 AS ABOVE

69 - 78 SHELL BED; YELLOWISH GRAY TO WHITE; 35% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, LIMESTONE-05%, SILT-02%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES;

78 - 89 SHELL BED; YELLOWISH GRAY TO WHITE; 35% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, LIMESTONE-05%, SILT-05%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES;

89 - 99 AS ABOVE

99 - 109 SANDSTONE; YELLOWISH GRAY TO MODERATE DARK GRAY; 20% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%, SHELL-40%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

109 - 110 AS ABOVE

110 - 119 NO SAMPLES

119 - 124 SANDSTONE; YELLOWISH GRAY TO MODERATE DARK GRAY; 20% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%, CLAY-03%, QUARTZ SAND-30%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

124 - 130 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-02%, LIMESTONE-02%;

130 - 139 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, LIMESTONE-02%;

139 - 145 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, LIMESTONE-02%;
FOSSILS: FOSSIL FRAGMENTS;

145 - 150 AS ABOVE

150 - 155 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;

155 - 160 AS ABOVE

160 - 165 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;

165 - 170 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%;

185 - 190 AS ABOVE

190 - 194 AS ABOVE

194 - 202 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%;

202 - 209 AS ABOVE

209 - 215 AS ABOVE

215 - 219 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%;

219 - 225 AS ABOVE

225 - 229 AS ABOVE

229 - 235 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%;

235 - 239 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-05%;

239 - 245 PHOSPHATE; YELLOWISH GRAY TO BLACK; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, CLAY-02%, LIMESTONE-02%;
FOSSILS: FOSSIL FRAGMENTS;

245 - 249 AS ABOVE

249 - 255 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC GRAVEL-15%;
OTHER FEATURES: CALCAREOUS;

255 - 259 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%, PHOSPHATIC GRAVEL-01%;

259 - 265 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, CLAY-05%;

265 - 269 AS ABOVE

269 - 279 AS ABOVE

279 - 289 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, CLAY-05%;

289 - 299 AS ABOVE

299 - 310 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, LIMESTONE-10%, CLAY-05%;

310 - 315 AS ABOVE

315 - 325 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-05%;

325 - 330 AS ABOVE

330 - 335 AS ABOVE

335 - 340 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-05%;

340 - 350 AS ABOVE

350 - 360 AS ABOVE

360 - 370 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-05%;

370 - 380 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-02%;

380 - 390 LIMESTONE; GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%;

390 - 405 LIMESTONE; GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-02%;

405 - 415 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, WORM TRACES, FOSSIL FRAGMENTS;

415 - 420 AS ABOVE

420 - 430 AS ABOVE

430 - 440 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, QUARTZ SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

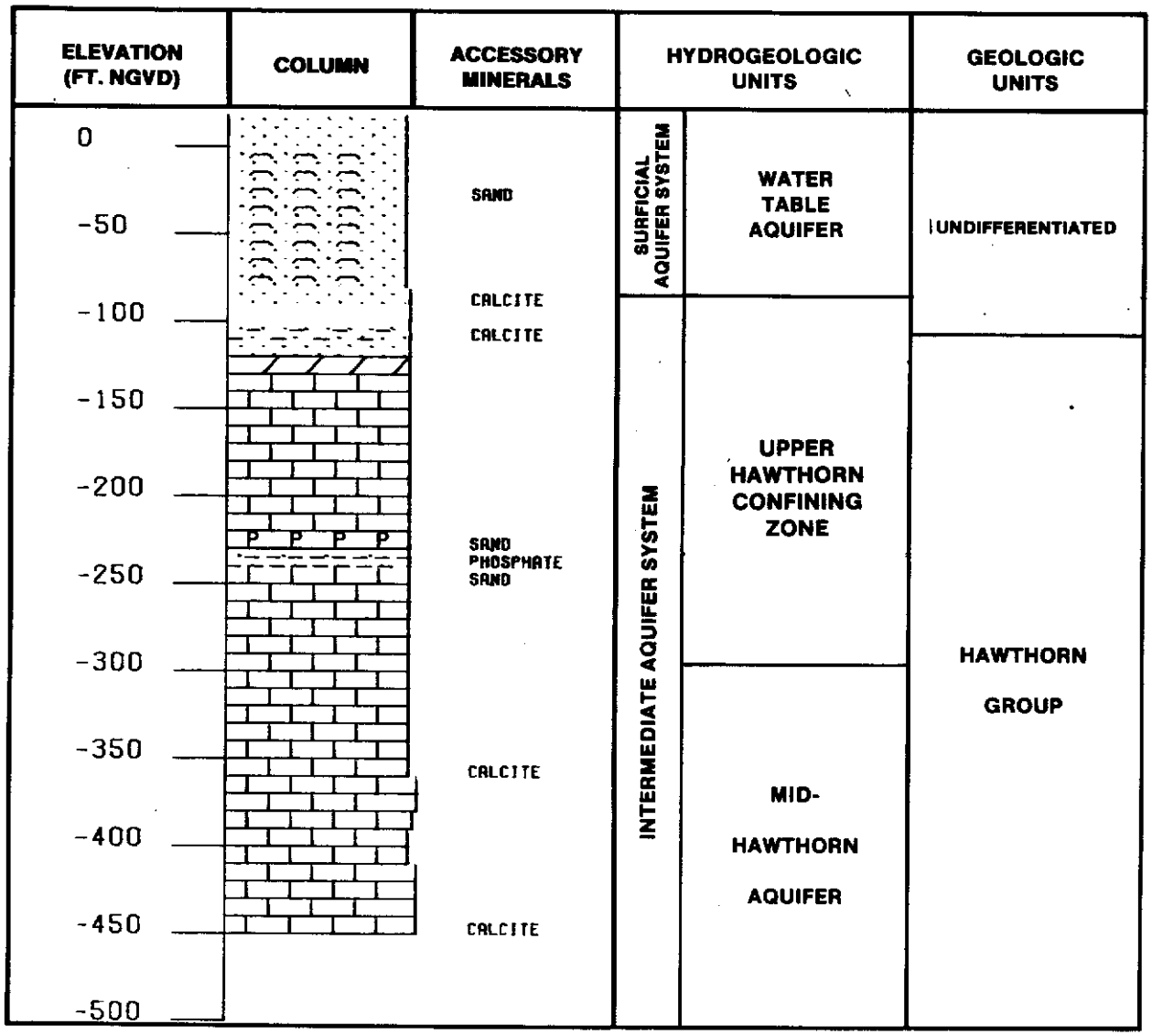
440 - 450 AS ABOVE

450 - 455 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, QUARTZ SAND-02%, CLAY-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

455 - 463 AS ABOVE

463 - 465 DOLOMITE; LIGHT BROWN; 05% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-08%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS, CORAL;

465 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
SAND
CALCITE
CALCITE
SAND
PHOSPHATE
SAND
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
UPPER HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
UNDIFFERENTIATED
HAWTHORN GROUP

HY115

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 116
TOTAL DEPTH: 00303 FT.
54 SAMPLES FROM 0 TO 303 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.29E S.09
LAT = N 26D 44M 48
LON = W 81D 26M 16
ELEVATION - 015 FT

OWNER/DRILLER: USGS WELL HE-429

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	83	SURFICIAL AQUIFER SYSTEM
0	83	WATER TABLE AQUIFER
83	168	UPPER HAWTHORN CONFINING ZONE
168	178	CARBONATE ZONE - SANDSTONE AQUIFER
178	303	MID HAWTHORN CONFINING ZONE

0. -	133.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
133. -	303.	122HTRN	HAWTHORN GROUP

0 - 3 SAND; MODERATE YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-03%, IRON STAIN- %;
25% SANDSTONE, SHELLS (CHIONE CANCELLATA)

3 - 6 CALCILUTITE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;
MICRITE REPLACED SHELL PIECES, CHIONE CANCELLATA

6 - 8 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 25% POROSITY, MOLDIC, VUGULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

8 - 12 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;
GASTROPODS, CHIONE CANCELLATA

12 - 15 AS ABOVE
SAMPLE CONSISTS OF 50% WHOLE GASTROPOD SHELLS

15 - 19 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 7% GASTROPODS

19 - 23 AS ABOVE

23 - 25 AS ABOVE

25 - 30 LIMESTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 35 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%;
FOSSILS: BRYOZOA;
TURRITELLA, GASTROPODS

35 - 40 AS ABOVE

40 - 47 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, MOLDIC, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%;

47 - 55 LIMESTONE; MODERATE DARK GRAY; 05% POROSITY, MOLDIC, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: FOSSIL FRAGMENTS;

55 - 63 AS ABOVE

63 - 68 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: BRYOZOA;

68 - 79 AS ABOVE

79 - 83 LIMESTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: BRYOZOA;

83 - 103 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, SILT-05%, LIMESTONE-02%;
FOSSILS: FOSSIL FRAGMENTS;

103 - 113 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, SILT-05%, LIMESTONE-05%, SHELL-02%;
FOSSILS: FOSSIL FRAGMENTS;

113 - 123 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-20%, SILT-05%, LIMESTONE-05%, SHELL-02%;
FOSSILS: FOSSIL FRAGMENTS;

123 - 128 AS ABOVE
POOR SAMPLE

128 - 133 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, MOLDIC, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-20%, QUARTZ SAND-15%;
FOSSILS: BRYOZOA;

133 - 138 DOLO-SILT; LIGHT GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

138 - 143 AS ABOVE

143 - 148 AS ABOVE

148 - 153 DOLO-SILT; LIGHT GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

153 - 158 AS ABOVE

158 - 163 AS ABOVE

163 - 168 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCITE-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

168 - 173 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

173 - 178 AS ABOVE

178 - 183 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;

183 - 188 AS ABOVE

188 - 193 AS ABOVE

193 - 198 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;

198 - 203 CLAY; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

203 - 208 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, LIMESTONE-02%;
FOSSILS: BRYOZOA;

208 - 211 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-02%;

211 - 215 AS ABOVE

215 - 223 LIMESTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%, CLAY-01%;

223 - 231 AS ABOVE

231 - 233 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC SAND-05%, CLAY-05%, PHOSPHATIC GRAVEL-02%;

233 - 238 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%, PHOSPHATIC GRAVEL-05%,
PHOSPHATIC SAND-02%;

238 - 243 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

243 - 248 AS ABOVE

248 - 255 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-10%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

255 - 263 AS ABOVE
WITH PHOSPHATIC SAND CONTENT DECREASING TO 1%

263 - 267 CALCILUTITE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

267 - 274 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

274 - 280 DOLO-SILT; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

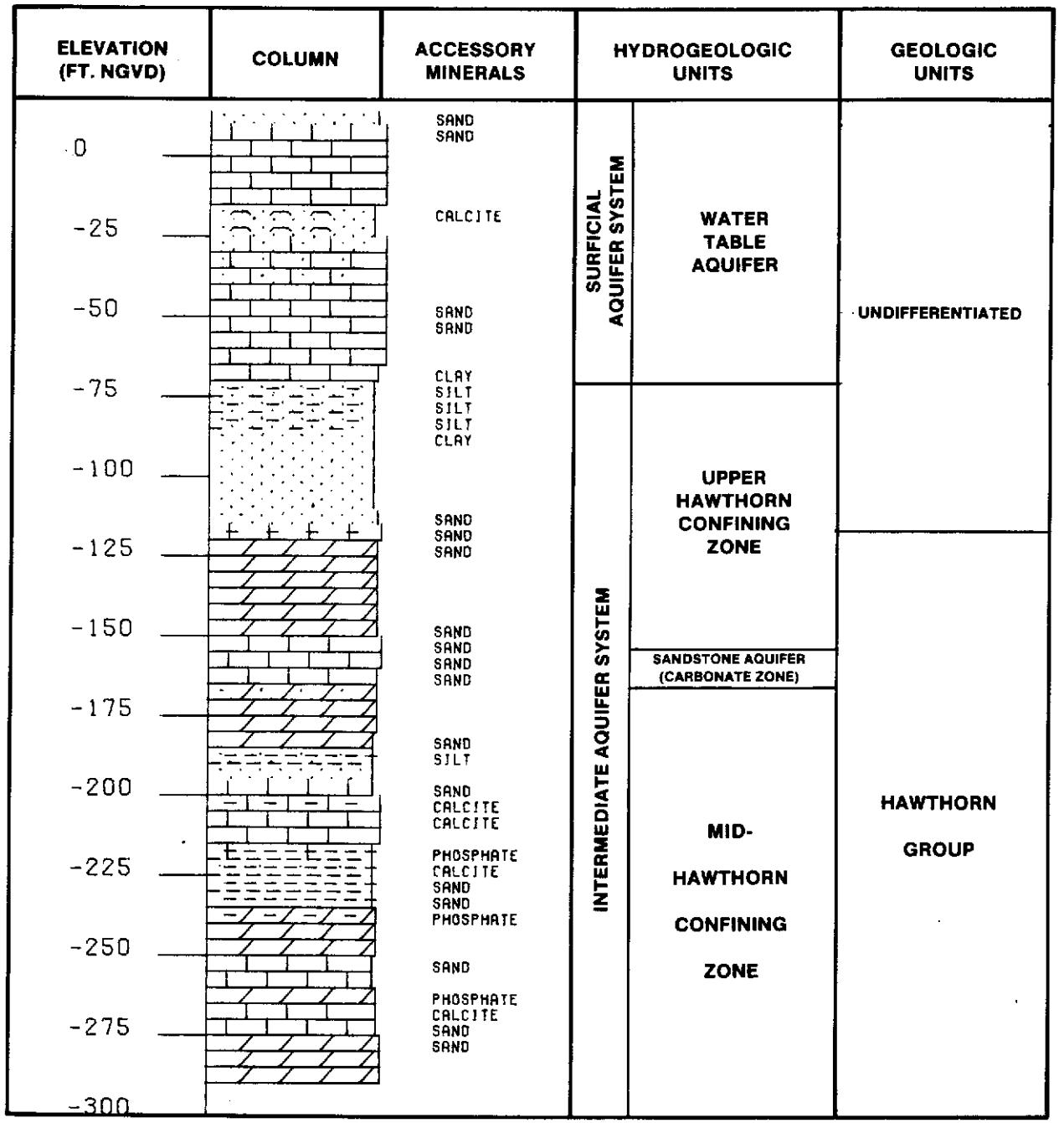
280 - 283 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-25%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

283 - 288 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, SPICULES;

288 - 293 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-05%, LIMESTONE-05%;

293 - 303 AS ABOVE
WITH 5% CLAY

303 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
SAND
SAND
CALCITE
SAND
SAND
CLAY
SILT
SILT
SILT
CLAY
SAND
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SAND
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CALCITE
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PHOSPHATE
CALCITE
SAND
SAND
PHOSPHATE
SAND
PHOSPHATE
CALCITE
SAND
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID-HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP

HY116

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 117
TOTAL DEPTH: 00323 FT.
54 SAMPLES FROM 0 TO 323 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.29E S.16
LAT = N 26D 43M 57
LON = W 81D 26M 16
ELEVATION - 020 FT

OWNER/DRILLER: USGS WELL HE-431

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	51	SURFICIAL AQUIFER SYSTEM
0	51	WATER TABLE AQUIFER
51	128	UPPER HAWTHORN CONFINING ZONE
128	143	CLASTIC ZONE - SANDSTONE AQUIFER
143	159	CARBONATE ZONE - SANDSTONE AQUIFER
159	323	MID HAWTHORN CONFINING ZONE

0.	83.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
83.	323.	122HTRN	HAWTHORN GROUP

0 - 8 SAND; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

8 - 10 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
ABUNDANT SHELL FRAGMENTS (CHIONE CANCELLATA)

10 - 16 AS ABOVE
WITH MORE SHELLS (60%)

16 - 23 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%;
FOSSILS: BRYOZOA;

23 - 26 AS ABOVE

26 - 29 AS ABOVE

29 - 33 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%;
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS;

33 - 38 AS ABOVE

38 - 43 AS ABOVE

43 - 51 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS;

51 - 63 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-02%, LIMESTONE-01%;
FOSSILS: FOSSIL FRAGMENTS;

63 - 73 AS ABOVE

73 - 83 AS ABOVE

83 - 88 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-30%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

88 - 93 AS ABOVE

93 - 98 AS ABOVE

98 - 103 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;
WITH COARSE CLASTICS (5%)

103 - 115 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

115 - 123 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA;

123 - 128 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-25%, LIMESTONE-05%;
FOSSILS: FOSSIL FRAGMENTS;

128 - 143 GRAVEL; LIGHT GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRAVEL; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC GRAVEL-10%, LIMESTONE-05%;
OTHER FEATURES: FROSTED;

143 - 150 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, CLAY-05%, QUARTZ-05%, PHOSPHATIC GRAVEL-01%;

150 - 159 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO VERY COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

159 - 163 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

163 - 168 AS ABOVE

168 - 173 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

173 - 178 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

178 - 183 AS ABOVE

183 - 188 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

188 - 193 AS ABOVE

193 - 198 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-30%;
FOSSILS: FOSSIL FRAGMENTS;

198 - 203 AS ABOVE

203 - 208 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-30%;
FOSSILS: FOSSIL FRAGMENTS;

208 - 213 AS ABOVE

213 - 220 AS ABOVE

220 - 223 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-30%;
FOSSILS: FOSSIL FRAGMENTS;

223 - 228 AS ABOVE

228 - 233 AS ABOVE

233 - 238 CLAY; LIGHT OLIVE GRAY TO MODERATE GRAYISH GREEN; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%;

238 - 243 AS ABOVE

243 - 247 AS ABOVE

247 - 253 CLAY; LIGHT OLIVE GRAY TO MODERATE GRAYISH GREEN; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%;

253 - 258 AS ABOVE

258 - 263 AS ABOVE

263 - 273 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

273 - 278 AS ABOVE

278 - 283 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

283 - 288 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

288 - 293 AS ABOVE

293 - 303 AS ABOVE

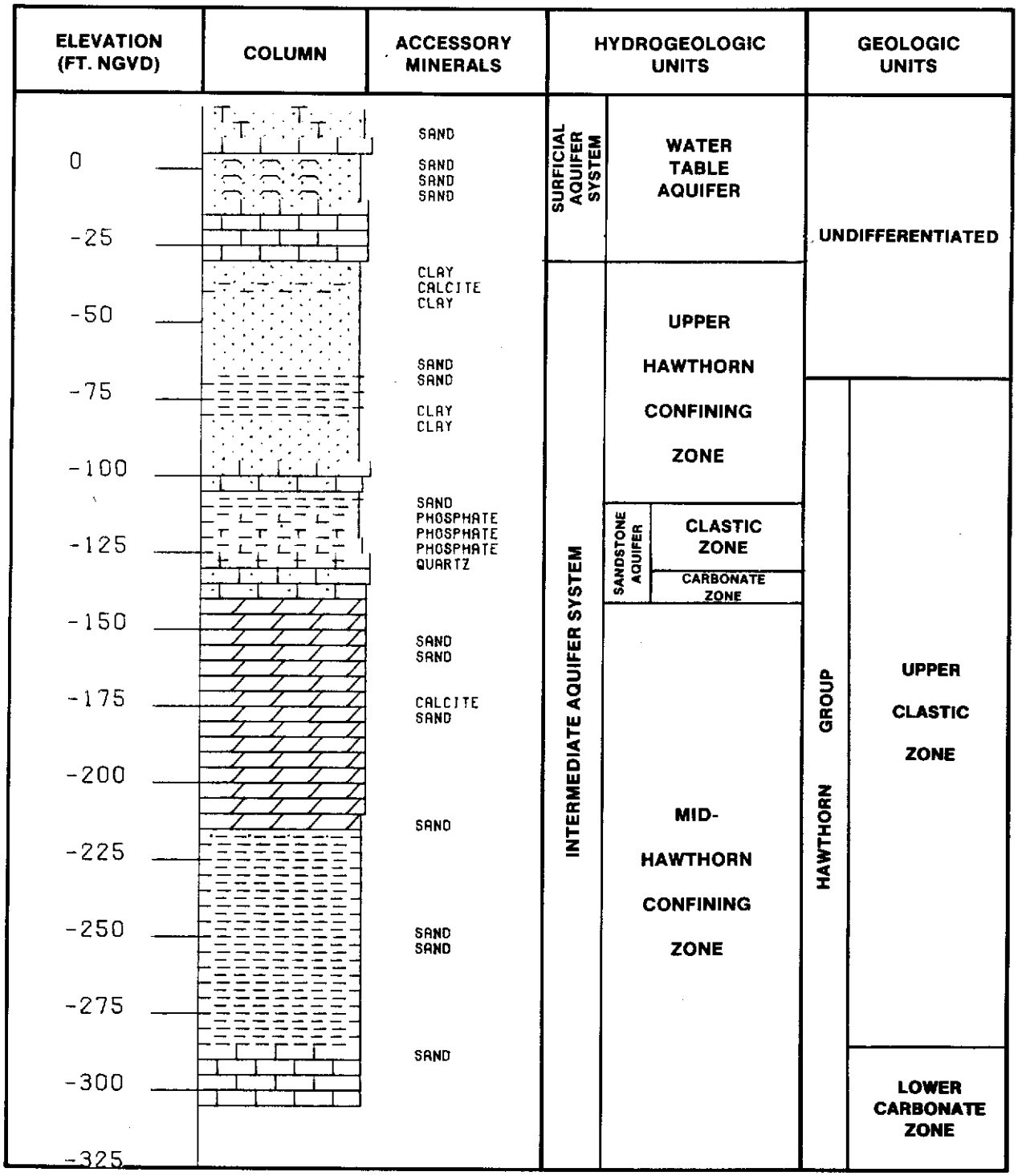
303 - 308 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

308 - 313 AS ABOVE

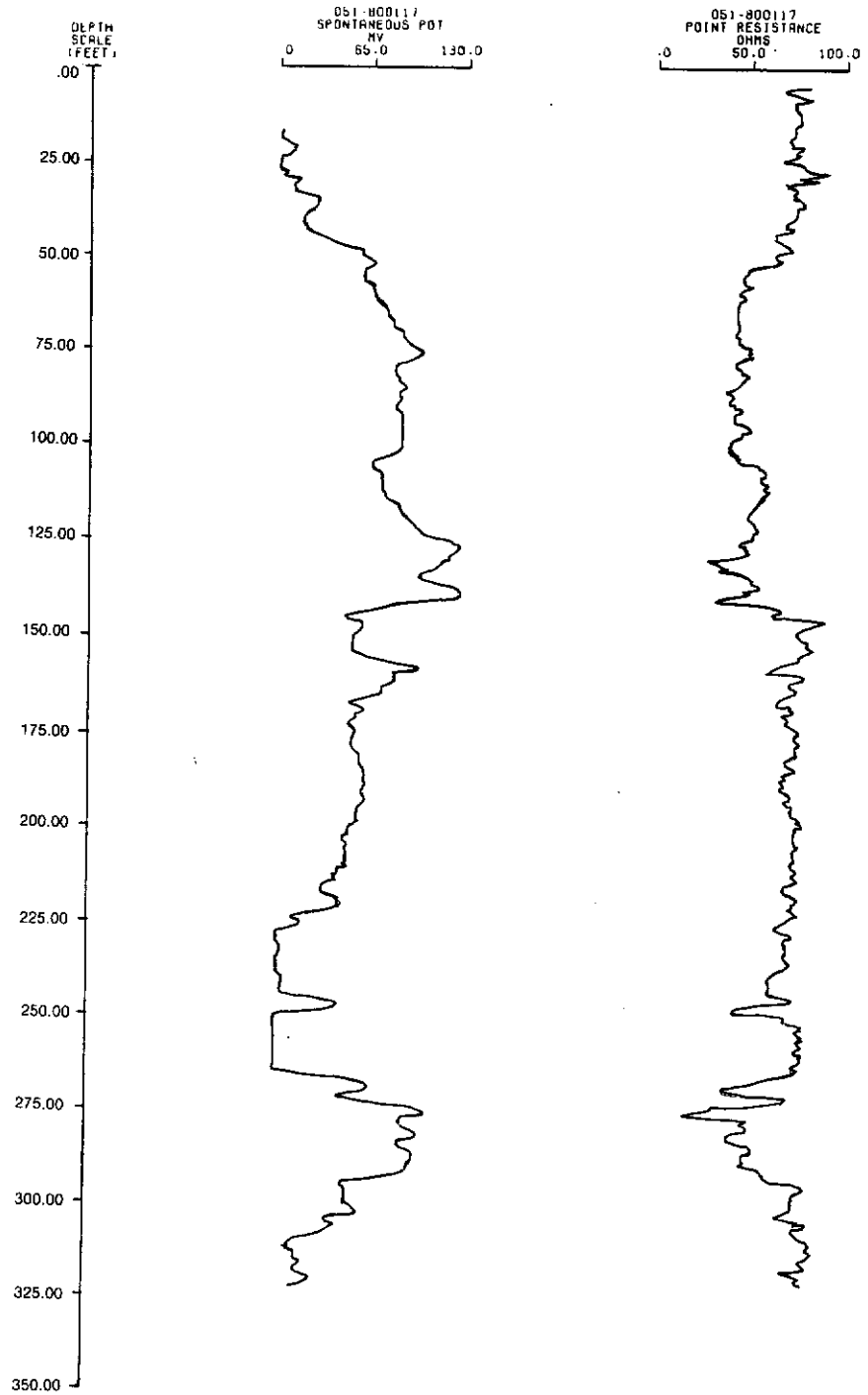
313 - 315 AS ABOVE

315 - 323 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

323 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
SAND
SAND
SAND
SAND
CLAY
CALCITE
CLAY
SAND
SAND
CLAY
CLAY
SAND
PHOSPHATE
PHOSPHATE
PHOSPHATE
QUARTZ
SAND
SAND
CALCITE
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID-HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY117



GEOPHYSICS, WELL HY-117 (HE-431)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 118 COUNTY - HENDRY
TOTAL DEPTH: 380 FT. LOCATION: T.45S R.29E S.20 B
37 SAMPLES FROM 0 TO 380 FT. LAT = N 26D 33M 32
LON = W 81D 26M 10
COMPLETION DATE - 84/18/01 ELEVATION - 34 FT
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA, LATERLOG, NEUTRON

OWNER/DRILLER: RTA-5 DRILLED BY ALVIN WOOSTER (SFWMD) MUD ROTARY; SR29 & CHURCH RD

WORKED BY: DESCRIBED BY SCOTT BURNS (6-15-84), SAMPLE QUALITY (GOOD)
HYDROGEOLOGIC UNITS

0	25	SURFICIAL AQUIFER SYSTEM
0	25	WATER TABLE AQUIFER
25	40	TAMIAMI CONFINING ZONE
40	50	LOWER TAMIAMI AQUIFER
50	60	NO SAMPLES
60	90	UPPER HAWTHORN CONFINING ZONE
90	130	CLASTIC ZONE - SANDSTONE AQUIFER
130	150	CONFINING ZONE
150	190	CARBONATE ZONE - SANDSTONE AQUIFER
190	335	MID HAWTHORN CONFINING ZONE
335	380	MID HAWTHORN AQUIFER

0. -	10.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
10. -	25.	122TMIM	TAMIAMI FM.
25. -	380.	122HTRN	HAWTHORN GROUP

0 - 10 SANDSTONE; GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, SPAR-10%, PHOSPHATIC SAND-03%;
FOSSILS: NO FOSSILS;

10 - 20 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, SPAR-10%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;

20 - 30 SILT; VERY LIGHT GRAY; NOT OBSERVED;
SEDIMENTARY STRUCTURES: STREAKED,
ACCESSORY MINERALS: QUARTZ SAND-05%, CLAY-15%, DOLOMITE-30%, IRON STAIN- %;
OTHER FEATURES: CALCAREOUS, PLASTIC;
ELECTRIC LOGS INDICATE CONTACT OF SILT AND LIMESTONE AT 25FT

30 - 40 AS ABOVE

40 - 50 SAND; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, DOLOMITE-15%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, PLANT REMAINS;

50 - 60 NO SAMPLES

60 - 70 SAND; YELLOWISH GRAY TO LIGHT GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

70 - 80 SAND; GRAYISH OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%;
FOSSILS: NO FOSSILS;

80 - 90 AS ABOVE W/ LARGE MOLLUSK FRAG. 15% MICRITE CEMENT, 10% QUARTZ GRANULES

90 - 100 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, PHOSPHATIC GRAVEL-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
35% MOLLUSK FRAG REPLACED W/ DOLOMITE

100 - 110 AS ABOVE

110 - 120 AS ABOVE WITH 30% MICRITE CEMENT

120 - 130 SAND; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

130 - 140 SANDSTONE; WHITE TO VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, DOLOMITE-15%;

140 - 150 SANDSTONE; LIGHT GREENISH YELLOW; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-10%;

150 - 160 LIMESTONE; WHITE; 12% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-20%;
ELECTRIC LOGS INDICATE LMS/SS CONTACT OCCURS AT 155FT

160 - 170 AS ABOVE

170 - 180 DOLOMITE; MODERATE ORANGE PINK; 12% POROSITY, PIN POINT VUGS,
INTERGRANULAR; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-15%, SPAR-10%;

180 - 190 AS ABOVE

190 - 200 SILT; WHITE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-40%, DOLOMITE-30%, LIMESTONE-15%, QUARTZ SAND-05%;
OTHER FEATURES: CALCAREOUS, CHALKY;
FOSSILS: NO FOSSILS;

200 - 210 AS ABOVE

210 - 220 SILT; VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-35%, DOLOMITE-25%;
OTHER FEATURES: CALCAREOUS, CHALKY;
FOSSILS: NO FOSSILS;

220 - 230 AS ABOVE

230 - 240 AS ABOVE

240 - 250 AS ABOVE WITH 5% SHELL FRAG.

250 - 260 LIMESTONE; YELLOWISH GRAY; 13% PORDSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, DOLOMITE-20%, PHOSPHATIC SAND-02%;

260 - 270 SANDSTONE; YELLOWISH GRAY;
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-30%, PHOSPHATIC SAND-02%;

270 - 280 LIMESTONE; YELLOWISH GRAY; 13% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-45%, DOLOMITE-20%, PHOSPHATIC SAND-02%;

280 - 290 SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-25%, PHOSPHATIC SAND-02%;

290 - 300 CLAY; LIGHT OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC;

300 - 310 AS ABOVE WITH PHOSPHATIC GRAVEL

310 - 320 CLAY; LIGHT OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, LIMESTONE-15%, PHOSPHATIC SAND-08%;
OTHER FEATURES: PLASTIC;

320 - 330 AS ABOVE WITH 8% PHOSPHATIC GRANULES

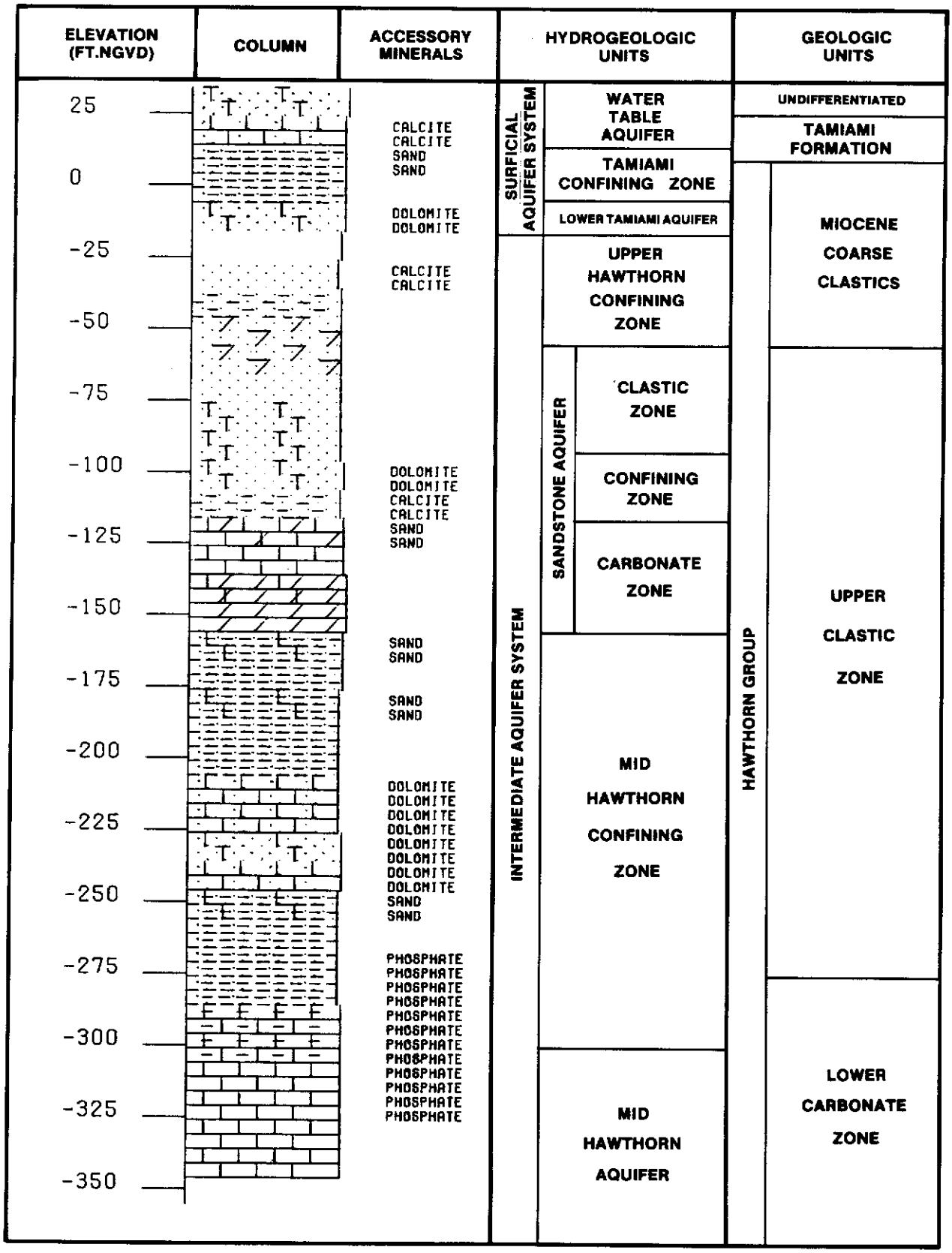
330 - 340 LIMESTONE; VERY LIGHT GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRANULE; MODERATE INDURATION;
ACCESSORY MINERALS: CLAY-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-08%;
FOSSILS: FOSSIL FRAGMENTS;
ELECTRIC LOGS INDICATE DOLOSILT/LMS CONTACT OCCURS AT 335 FT.

340 - 360 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY COARSE; RANGE: MICROCRYSTALLINE TO GRANULE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-08%;
FOSSILS: FOSSIL FRAGMENTS;

360 - 370 AS ABOVE

370 - 380 AS ABOVE

380 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
CALCITE
CALCITE
SAND
SAND
DOLOMITE
DOLOMITE
CALCITE
CALCITE
DOLOMITE
DOLOMITE
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PHOSPHATE
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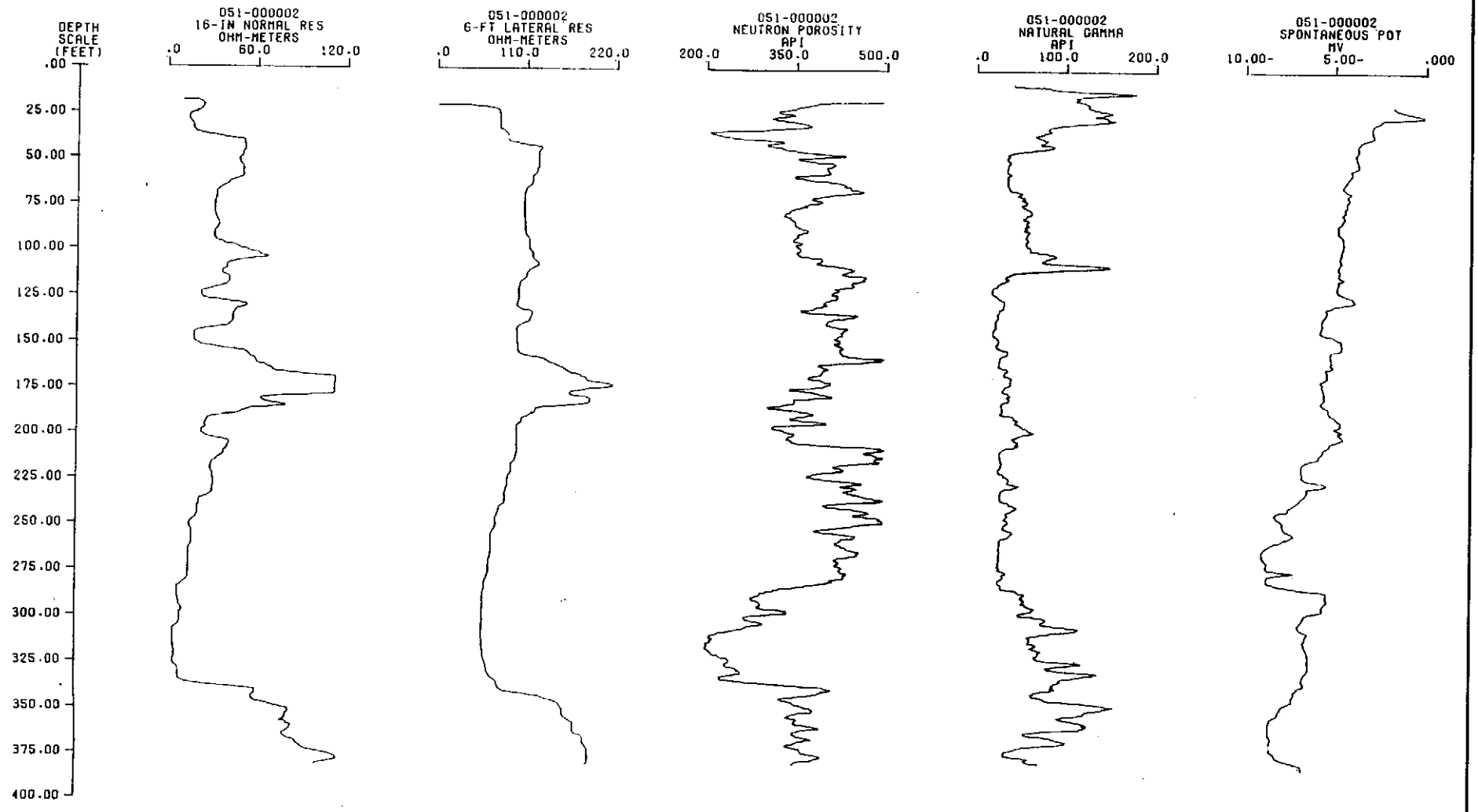
PHOSPHATE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UNDIFFERENTIATED
TAMIAMI FORMATION
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE
HAWTHORN GROUP

HY 118



GEOPHYSICS, WELL HY-118

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 119 COUNTY - HENDRY
TOTAL DEPTH: 380 FT. LOCATION: T.44S R.29E S.16 B
36 SAMPLES FROM 0 TO 380 FT. LAT = N 26D 38M 45
LON = W 81D 26M 12
COMPLETION DATE - 25/01/84 ELEVATION - 28 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, LATERLO

OWNER/DRILLER: RTA6(HE-008)DRILLED BY WOOSTER(SFWMD), SEARS ROAD & SR 29

WORKED BY: DESCRIBED BY SCOTT BURNS (6-15-84), SAMPLE QUALITY (GOOD)
HYDROGEOLOGIC UNITS

0.0 40.0 SURFICIAL AQUIFER SYSTEM
0.0 40.0 WATER TABLE AQUIFER
40.0 140.0 UPPER HAWTHORN CONFINING ZONE
140.0 180.0 CARBONATE ZONE - SANDSTONE AQUIFER
180.0 370.0 MID HAWTHORN CONFINING ZONE
370.0 380.0 MID HAWTHORN AQUIFER

0. - 20 . 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
20. - 40 . 122TMIM TAMIAMI FM.
40. - 380 . 122HTRN HAWTHORN GROUP

0 - 10 SANDSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-15%, IRON STAIN- %;
FOSSILS: NO FOSSILS;

10 - 10 SANDSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-15%, IRON STAIN- %;
FOSSILS: NO FOSSILS;

10 - 20 SANDSTONE; VERY LIGHT GRAY TO YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-40%, SPAR-10%;
FOSSILS: NO FOSSILS;

20 - 30 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 25% ALLOCHEMICAL CONSTITUENTS;
RANGE: CRYPTOCRYSTALLINE TO CRYPTOCRYSTALLINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-04%;
FOSSILS: NO FOSSILS;

30 - 40 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-10%, PHOSPHATIC SAND-03%, IRON STAIN- %;
FOSSILS: MOLLUSKS;
OSTREA FRAGMENTS

40 - 50 CLAY; YELLOWISH GRAY; 10% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%, IRON STAIN- %;
OTHER FEATURES: PLASTIC;
FOSSILS: NO FOSSILS;

50 - 60 AS ABOVE

60 - 70 SILT; LIGHT OLIVE GRAY; 10% POROSITY, LOW PERMEABILITY;
FOSSILS: BENTHIC FORAMINIFERA;

70 - 80 CLAY; OLIVE GRAY; 10% POROSITY, LOW PERMEABILITY; POOR INDURATION;
OTHER FEATURES: PLASTIC;
FOSSILS: BENTHIC FORAMINIFERA, DIATOMS;

80 - 90 AS ABOVE

90 - 100 CLAY; LIGHT OLIVE; 10% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 110 AS ABOVE

110 - 120 SAND; MODERATE GRAYISH GREEN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-40%, PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL FRAGMENTS;

120 - 130 SILT; GRAYISH OLIVE TO WHITE; 12% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, DOLOMITE-20%;
05% QUARTZ GRAVEL

130 - 140 AS ABOVE

140 - 150 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT GRAY; 15% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CLAY-20%, DOLOMITE-10%;

150 - 160 AS ABOVE WITH LESS SILT

160 - 170 LIMESTONE; WHITE; 17% POROSITY, VUGULAR, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, DOLOMITE-10%;

170 - 180 LIMESTONE; WHITE; 12% POROSITY, VUGULAR, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-20%;
OTHER FEATURES: CHALKY;

180 - 190 CALCILUTITE; YELLOWISH GRAY TO WHITE; 10% POROSITY, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-30%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;
MED. GRAINED SUBANGULAR SAND

190 - 200 AS ABOVE

200 - 220 NO SAMPLES

220 - 230 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%, DOLOMITE-15%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;
2% QTZ GRANULES

230 - 240 AS ABOVE

240 - 250 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, DOLOMITE-15%;
FOSSILS: NO FOSSILS;
5% QTZ GRAVEL

250 - 270 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, DOLOMITE-20%;

270 - 290 SILT; YELLOWISH GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-35%, CLAY-35%, PHOSPHATIC SAND-01%;
OTHER FEATURES: PLASTIC;
FOSSILS: NO FOSSILS;

290 - 300 SILT; YELLOWISH GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-04%, CLAY-35%, CALCILUTITE-45%;

300 - 310 SANDSTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC SAND-10%;

310 - 330 CLAY; LIGHT OLIVE GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%;
OTHER FEATURES: POOR SAMPLE, PLASTIC;

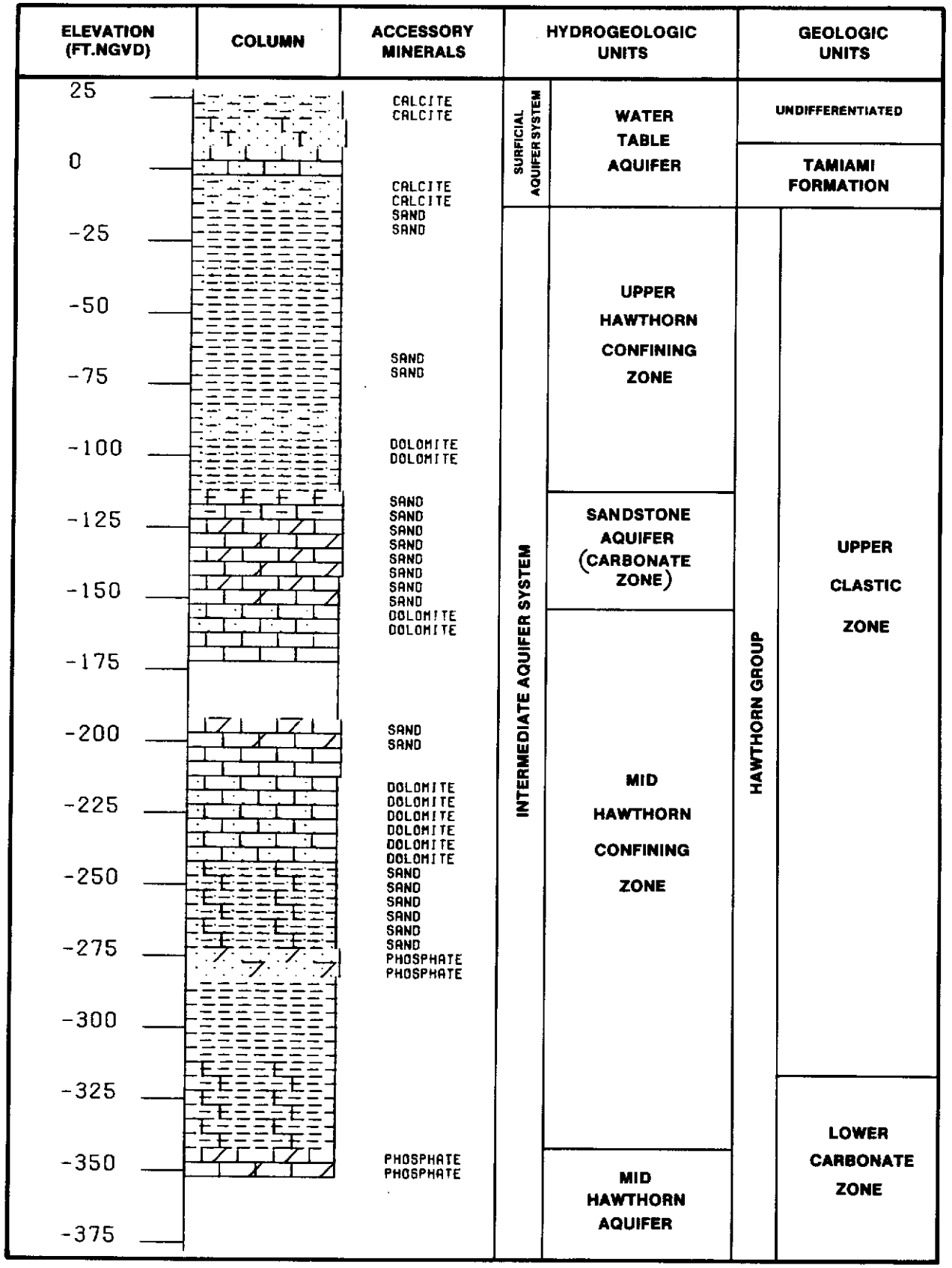
330 - 340 CLAY; GREENISH GRAY; LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC;

340 - 360 CLAY; GREENISH GRAY; LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-25%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;

360 - 370 CLAY; GREENISH GRAY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-04%;

370 - 380 CALCILUTITE; WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

380 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
-375
CALCITE
CALCITE
CALCITE
CALCITE
SAND
SAND
SAND
SAND
DOLOMITE
DOLOMITE
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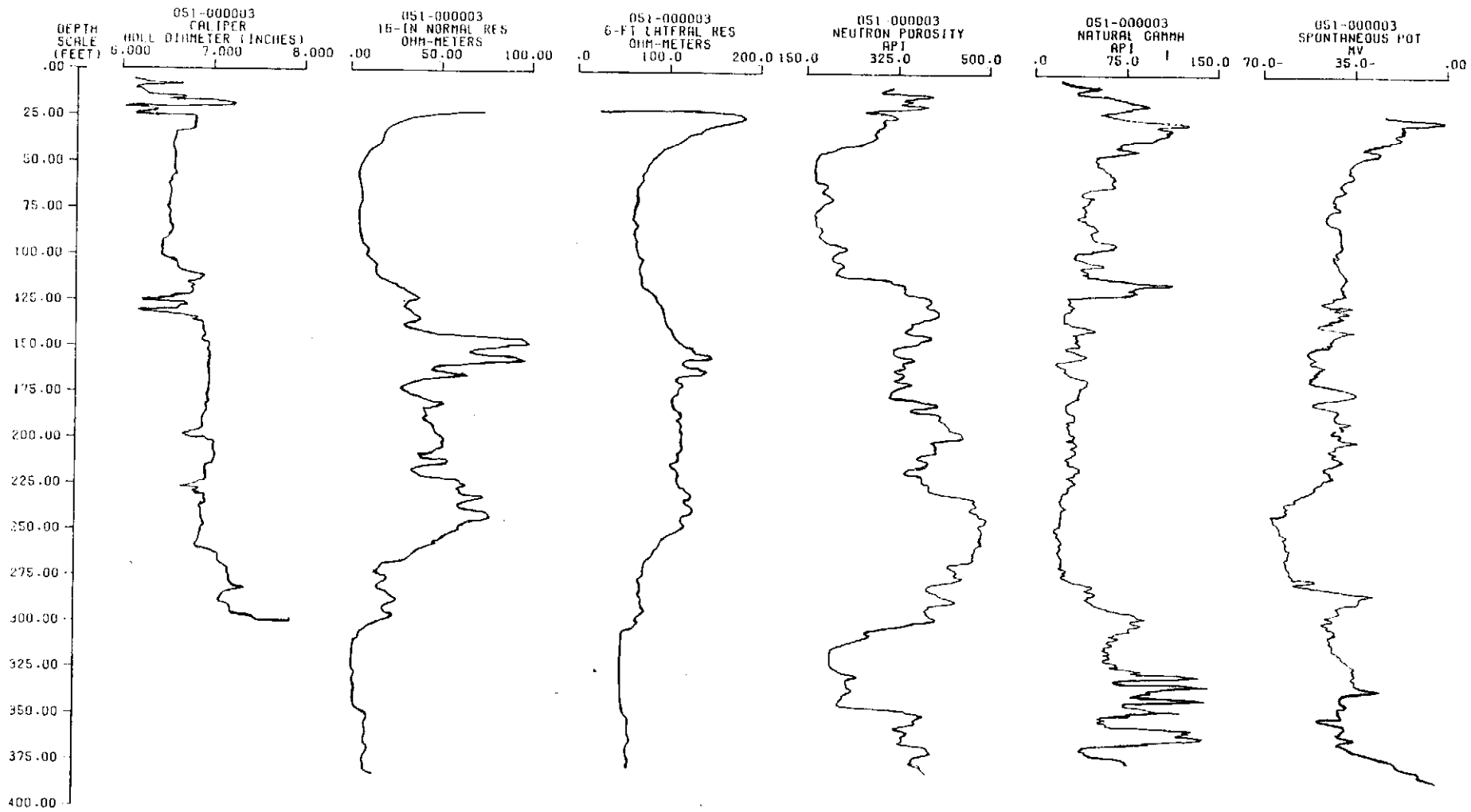
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY 119



GEOPHYSICS, WELL HY-119

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 120 COUNTY - HENDRY
TOTAL DEPTH: 380 FT. LOCATION: T.44S R.28E S.16 C
38 SAMPLES FROM 0 TO 380 FT. LAT = N 26D 39M 12
LON = W 81D 31M 58
COMPLETION DATE - 84/13/03 ELEVATION - 25 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA, LATERLOG, NEUTRO

OWNER/DRILLER: RTA-9 DRILLED BY ALVIN WOOSTER (SFWMD) MUD ROTARY;A.DUDA & SONS

WORKED BY: DESCRIBED BY SCOTT BURNS (6-16-83),SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS
0 20 SURFICIAL AQUIFER SYSTEM
0 20 WATER TABLE AQUIFER
20 50 UPPER HAWTHORN CONFINING ZONE
50 80 CLASTIC ZONE - SANDSTONE AQUIFER
80 150 CONFINING ZONE
150 190 CARBONATE ZONE - SANDSTONE AQUIFER

0. - 20. 090UDSC UNDIFFERENTIATED SAND AND CLAY
20. - 380. 122HTRN HAWTHORN GROUP

0 - 3 SAND; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
FOSSILS: PLANT REMAINS;

3 - 10 LIMESTONE; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, SPAR-10%, HEMATITE-02%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;
VERY FEW FOSSIL FRAGMENTS,MODERATELY SOLUTIONED

10 - 20 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, SPAR-15%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

20 - 30 SILT; YELLOWISH GRAY; LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-25%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC;

30 - 40 AS ABOVE

40 - 50 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-40%, DOLOMITE-15%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;

50 - 60 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
FOSSILS: NO FOSSILS;

60 - 70 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: NO FOSSILS;
LARGE AMOUNT OF FINES WASHED OUT BY DRILL MUD

70 - 80 SAND; LIGHT OLIVE GRAY; 13% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;

80 - 90 SAND; LIGHT GRAYISH GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: SILT-25%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;
3% ROUNDED QTZ GRAVEL

90 - 100 SANDSTONE; LIGHT GRAYISH GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-10%, PHOSPHATIC SAND-02%, QUARTZ SAND- %;
FOSSILS: FOSSIL FRAGMENTS;

100 - 110 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-10%, PHOSPHATIC SAND-02%;
OTHER FEATURES: MUDDY;

110 - 120 SAND; LIGHT GRAYISH GREEN; 18% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%, CALCILUTITE-10%;

120 - 140 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%;

140 - 150 SAND; LIGHT GRAYISH GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-10%;
FOSSILS: NO FOSSILS;
10% QTZ PEBBLES

150 - 160 DOLOMITE; VERY LIGHT GRAY; 18% POROSITY, INTERGRANULAR, PIN POINT VUGS;
SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

160 - 170 DOLOMITE; VERY LIGHT GRAY TO GRAYISH ORANGE; 15% POROSITY, PIN POINT VUGS, MOLDIC,
INTERGRANULAR;
GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-50%, DOLOMITE-50%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

170 - 180 DOLOMITE; GRAYISH ORANGE; 18% POROSITY, PIN POINT VUGS, INTERGRANULAR;
SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

180 - 190 LIMESTONE; VERY LIGHT GRAY TO GRAYISH ORANGE; 15% POROSITY, MOLDIC, PIN POINT VUGS,
INTERGRANULAR;
GRAIN TYPE: SKELETAL, CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
ACCESSORY MINERALS: DOLOMITE-35%, QUARTZ SAND-10%;

190 - 200 CLAY; LIGHT GRAYISH GREEN; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%;

200 - 210 AS ABOVE

210 - 220 CALCILUTITE; WHITE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-25%;
OTHER FEATURES: PLASTIC;

220 - 230 AS ABOVE WITH INCREASED DOLOSILT

230 - 240 CLAY; LIGHT GREENISH GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;

240 - 250 AS ABOVE

250 - 260 CLAY; LIGHT OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC SAND-04%;

260 - 270 AS ABOVE

270 - 280 CLAY; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-45%, CALCILUTITE-15%, PHOSPHATIC SAND-08%;
OTHER FEATURES: PLASTIC;
FOSSILS: NO FOSSILS;

280 - 290 AS ABOVE WITH 20% SUBANGLAR QTZ SAND

290 - 300 CLAY; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-04%;
OTHER FEATURES: PLASTIC;

300 - 310 AS ABOVE

310 - 320 CLAY; LIGHT OLIVE; 08% POROSITY, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;

320 - 330 AS ABOVE WITH INCREASE IN VERY FINE PHOSPHATE (15%)

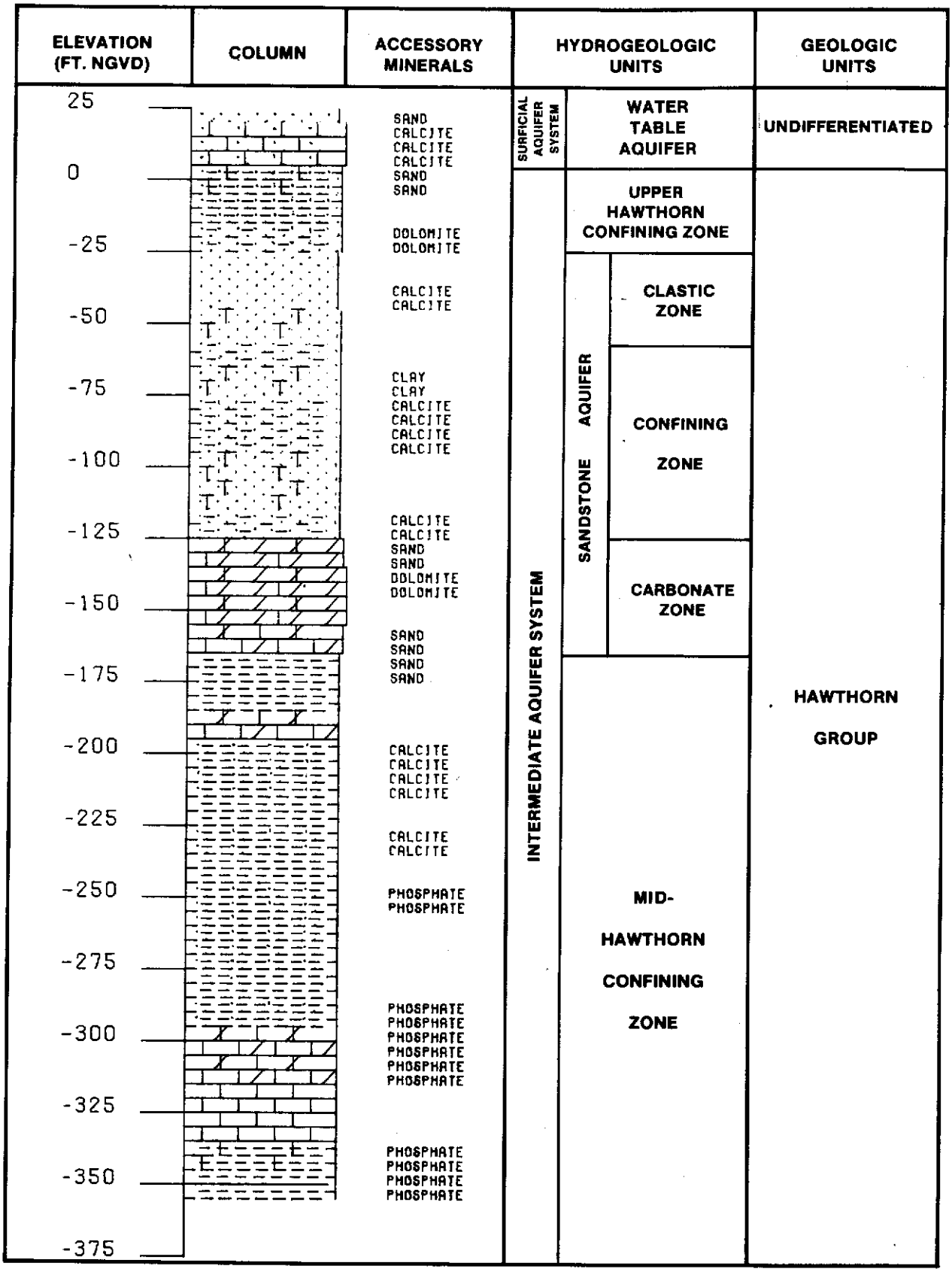
330 - 340 LIMESTONE; LIGHT GREENISH YELLOW; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-20%, PHOSPHATIC SAND-08%;
FOSSILS: NO FOSSILS;

340 - 360 AS ABOVE

360 - 370 CLAY; LIGHT OLIVE TO WHITE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-05%, QUARTZ SAND-15%;

370 - 380 CLAY; LIGHT OLIVE; LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-15%, PHOSPHATIC SAND-08%;

380 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
-375
SAND
CALCITE
CALCITE
CALCITE
SAND
SAND
DOLOMITE
DOLOMITE
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PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
INTERMEDIATE AQUIFER SYSTEM
MID-HAWTHORN CONFINING ZONE
HAWTHORN GROUP

HY120

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 121
TOTAL DEPTH: 260 FT.
24 SAMPLES FROM 0 TO 260 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST

COUNTY - HENDRY
LOCATION: T.45S R.28E S.06 D
LAT = N 26D 35M 18
LON = W 81D 33M 28
ELEVATION - 28 FT

OWNER/DRILLER: H-M-120, MUD ROTARY; TURNER CORP NORTH SITE

WORKED BY: DESCRIBED BY SCOTT BURNS (6-18-84), SAMPLE QUALITY (POOR)

HYDROGEOLOGIC UNITS

0	20	SURFICIAL AQUIFER SYSTEM
0	20	WATER TABLE AQUIFER
20	125	UPPER HAWTHORN CONFINING ZONE
125	159	CLASTIC ZONE - SANDSTONE AQUIFER
159	189	CARBONATE ZONE - SANDSTONE AQUIFER
189	260	MID HAWTHORN CONFINING ZONE

0.	- 5.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
5.	- 20.	122TMIM	TAMIAMI FM.
20.	- 25.	000NOSM	NO SAMPLES
25.	- 260.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; LIGHT BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): IRON CEMENT;
ACCESSORY MINERALS: HEAVY MINERALS-10%;

5 - 15 LIMESTONE; LIGHT BROWN TO VERY LIGHT ORANGE; 20% POROSITY, VUGULAR, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, SKELTAL CAST; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, DOLOMITE-40%, IRON STAIN- %;

15 - 20 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-10%;
OTHER FEATURES: CHALKY;

20 - 25 NO SAMPLES

25 - 30 SILT; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-40%, CLAY-20%, CALCILUTITE-30%, QUARTZ SAND-10%;
OTHER FEATURES: CALCAREOUS, PLASTIC, POOR SAMPLE;
FOSSILS: BENTHIC FORAMINIFERA, DIATOMS;

30 - 40 SILT; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-30%, CALCILUTITE-30%, CLAY-20%, QUARTZ SAND-15%;
OTHER FEATURES: CALCAREOUS, PLASTIC, POOR SAMPLE;
FOSSILS: BENTHIC FORAMINIFERA, DIATOMS;

40 - 66 CLAY; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;

66 - 72 CLAY; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-03%;
15% RECRYSTALIZED SHELL FRAGMENT

72 - 85 CLAY; GRAYISH OLIVE; 08% POROSITY, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-20%, DOLOMITE-20%;
FOSSILS: BENTHIC FORAMINIFERA;
DOLOMITE,GREY,WELL LITHOFIED,HIGHLY RECRYSTALIZED; SAND VERY FINE TO FINE,SUBANGULAR

85 - 90 AS ABOVE WITH 10% FROSTED QTZ GRANULES

90 - 100 SILT; MODERATE GRAYISH GREEN TO MODERATE LIGHT GRAY; 12% POROSITY, INTERGRANULAR;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-45%, DOLOMITE-30%, CALCILUTITE-25%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;

100 - 110 SAND; MODERATE GRAYISH GREEN; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%;
OTHER FEATURES: FROSTED;
MATRIX (DOLOMITE 30%) IS DOLOSILT

110 - 125 SILT; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-35%;
OTHER FEATURES: CALCAREOUS;

125 - 135 SAND; GRAYISH OLIVE; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-35%;
FOSSILS: FOSSIL FRAGMENTS;
5% WHITE MOLLUSK FRAGMENTS

135 - 145 AS ABOVE WITH INCREASE PERCENTAGE OF ROUNDED QTZ GRANULES (30%)

145 - 159 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: SILT-30%, DOLOMITE-10%;
OTHER FEATURES: FROSTED;

159 - 170 DOLOMITE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 14% POROSITY, MOLDIC, VUGULAR, POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: LIMESTONE-35%, QUARTZ SAND-10%;
OTHER FEATURES: PLATY;
FOSSILS: FOSSIL FRAGMENTS;

170 - 183 AS ABOVE

183 - 189 DOLOMITE; VERY LIGHT ORANGE TO MODERATE YELLOWISH BROWN; 15% POROSITY, MOLDIC, VUGULAR, POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, LIMESTONE-30%;
FOSSILS: FOSSIL FRAGMENTS;

189 - 197 CLAY; LIGHT OLIVE GRAY; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CALCAREOUS, PLASTIC, POOR SAMPLE;
LIMESTONE FRAGMENTS IN SAMPLE MAY BE CAVINGS FROM ABOVE

197 - 205 NO SAMPLES

205 - 217 CLAY; LIGHT OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-30%, QUARTZ SAND-20%;
OTHER FEATURES: CALCAREOUS, PLASTIC, POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS, PLANT REMAINS;

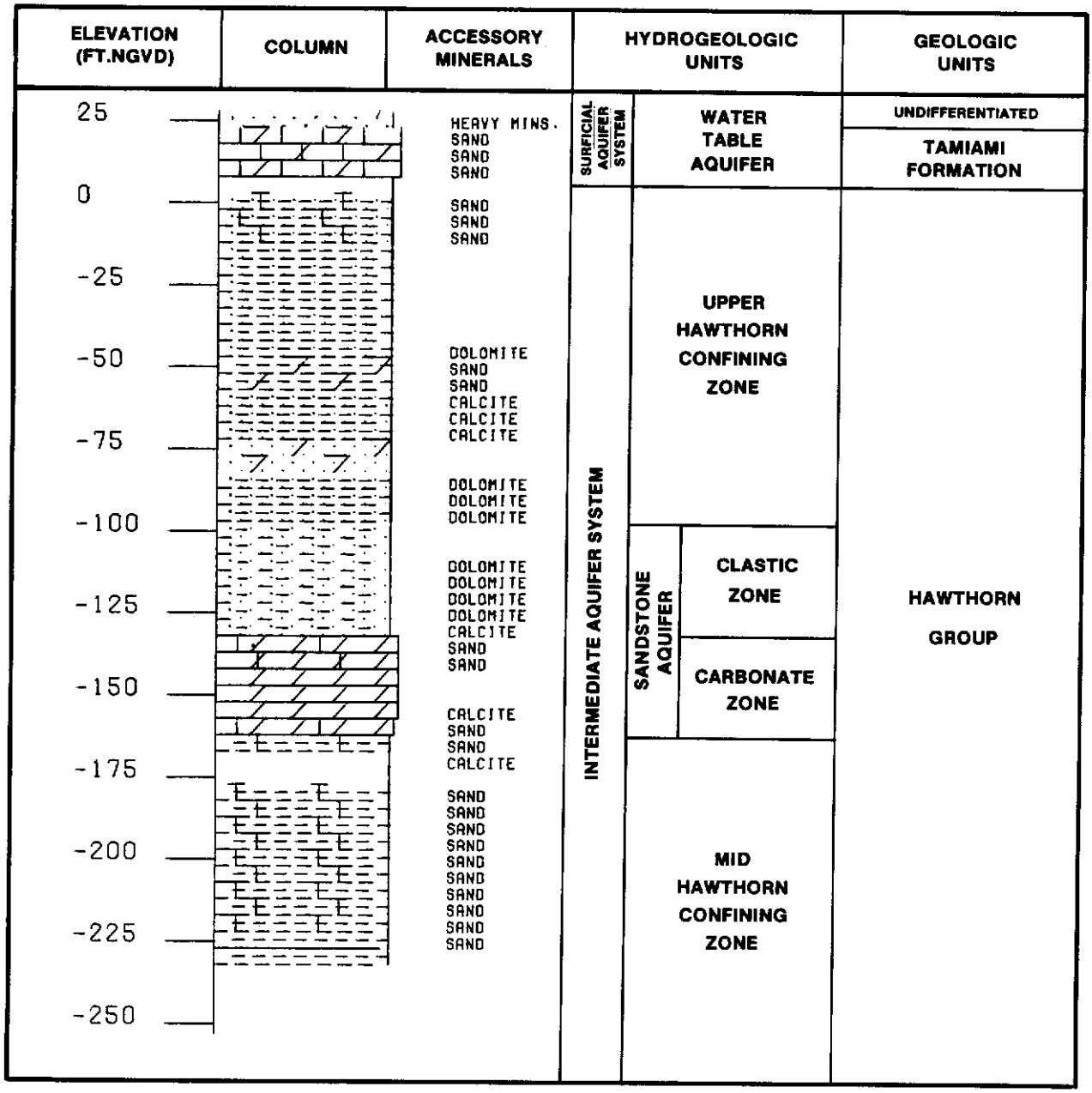
217 - 228 CLAY; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CHALKY, PLASTIC;
FOSSILS: NO FOSSILS;

228 - 242 AS ABOVE WITH 30% WELL INDURATED DOLOMITE, POSSIBLY A STRINGER OR CAVINGS. 35% SUBANGULAR SAND

242 - 252 CLAY; GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-30%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: NO FOSSILS;

252 - 260 AS ABOVE

260 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
HEAVY MINS.
SAND
SAND
SAND
SAND
SAND
SAND
DOLOMITE
SAND
SAND
CALCITE
CALCITE
CALCITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
CALCITE
SAND
SAND
CALCITE
SAND
SAND
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP

HY 121

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 122 COUNTY - HENDRY
TOTAL DEPTH: 200 FT. LOCATION: T.45S R.28E S.10 D
20 SAMPLES FROM 0 TO 200 FT. LAT = N 26D 34M 30
LON = W 81D 30M 30
COMPLETION DATE - / /73 ELEVATION - 32 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC

OWNER/DRILLER: HE-570 DRILLED BY USGS, 4.5 MI WEST SR29, 1 MI NORTH CHURCH RD

WORKED BY: DESCRIBED BY SCOTT BURNS (6-26-84) SAMPLE QUALITY (GOOD)
HYDROGEOLOGIC UNITS
0 20 SURFICIAL AQUIFER SYSTEM
0 20 WATER TABLE AQUIFER
20 175 UPPER HAWTHORN CONFINING ZONE
175 200 CARBONATE ZONE - SANDSTONE AQUIFER

0. - 13. 090UDSC UNDIFFERENTIATED SAND AND CLAY
13. - 20. 122TMIM TAMIAMI FM.
20. - 200. 122HTRN HAWTHORN GROUP

0 - 4 SAND; LIGHT GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-02%;
FOSSILS: PLANT REMAINS;

4 - 13 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
FOSSILS: NO FOSSILS;

13 - 15 SANDSTONE; MODERATE YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, SPAR-02%, LIMESTONE-05%;
FOSSILS: FOSSIL FRAGMENTS;

15 - 20 LIMESTONE; WHITE; 13% POROSITY, PIN POINT VUGS, MOLDIC, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-02%, QUARTZ SAND-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

20 - 30 SILT; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, DOLOMITE-25%, PHOSPHATIC SAND-03%, CALCILUTITE-30%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;
3% APPATITE CRYSTALS

30 - 40 AS ABOVE

40 - 50 SILT; VERY LIGHT GRAY; 00% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, DOLOMITE-30%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;

50 - 60 DOLOMITE; WHITE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS;

60 - 65 SILT; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;

65 - 80 SAND; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
OTHER FEATURES: FROSTED;
FOSSILS: NO FOSSILS;

80 - 100 AS ABOVE

100 - 100 AS ABOVE
POORLY SORTED,VERY FINE TO VERY COARSE

100 - 120 SANDSTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;
OTHER FEATURES: FROSTED;
FOSSILS: PLANT REMAINS;

120 - 137 AS ABOVE
10% ROUNDED QTZ GRANULES

137 - 137 AS ABOVE

137 - 148 SANDSTONE; YELLOWISH GRAY TO WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
FOSSILS: PLANT REMAINS;

148 - 157 AS ABOVE

157 - 165 AS ABOVE

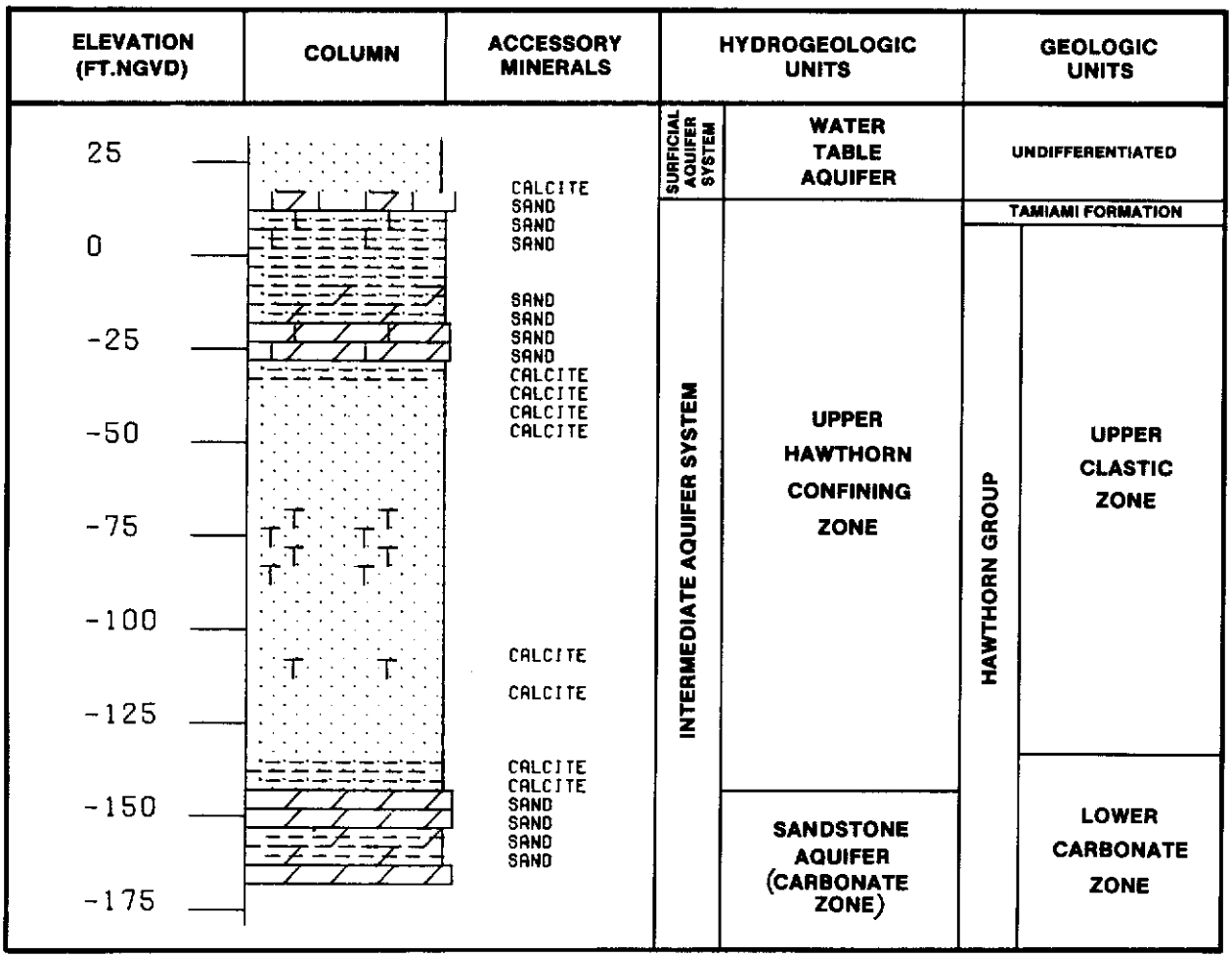
165 - 175 SILT; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, PIN POINT VUGS; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-30%, DOLOMITE-30%;
FOSSILS: NO FOSSILS;

175 - 185 DOLOMITE; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

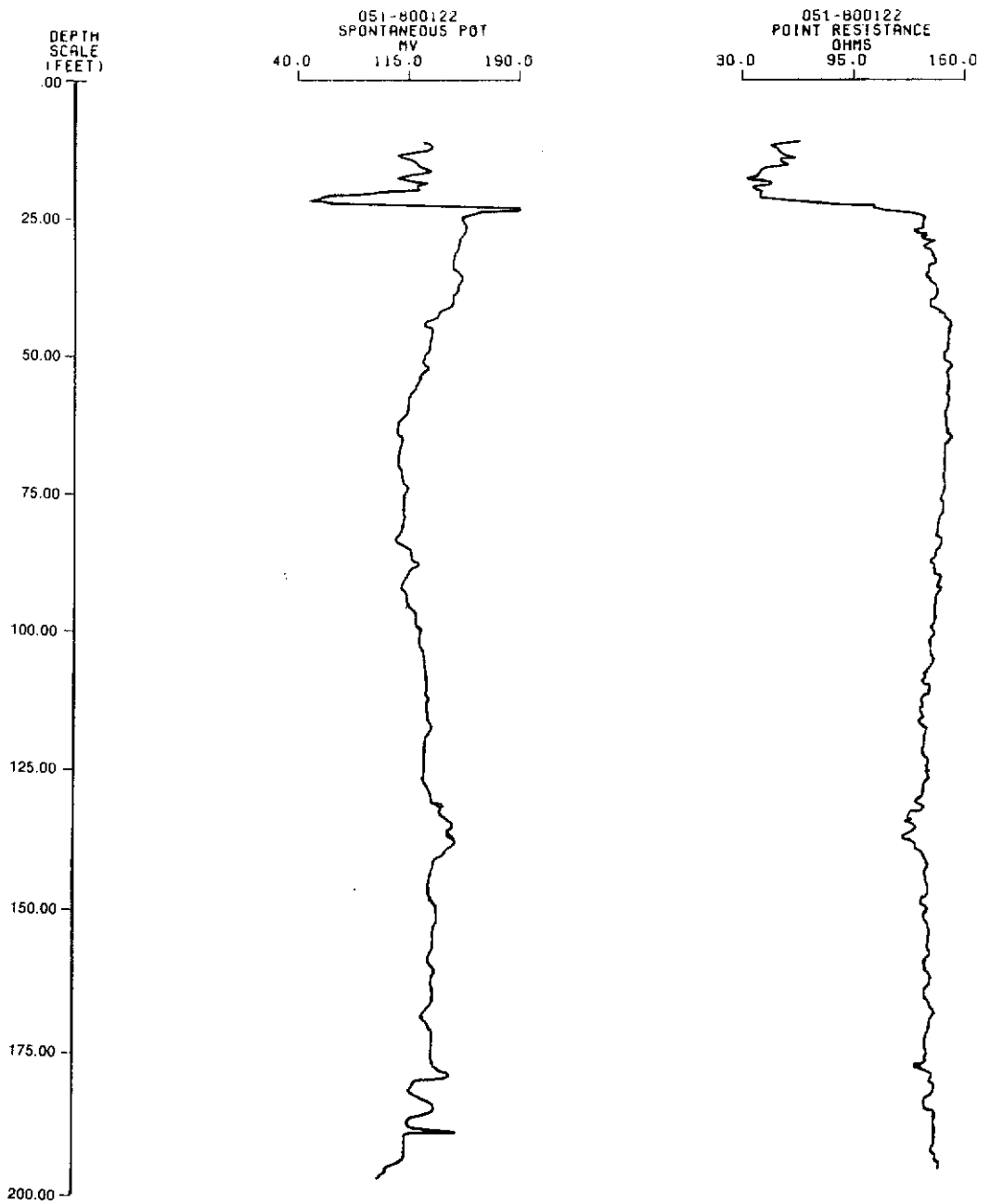
185 - 195 CLAY; WHITE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-40%, QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

195 - 200 DOLOMITE; VERY LIGHT ORANGE; 12% POROSITY, PIN POINT VUGS, MOLDIC,
INTERGRANULAR; EUHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

200 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY 122



GEOPHYSICS, WELL HY-122 (HE-570)

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 123
TOTAL DEPTH: 1000 FT.
34 SAMPLES FROM 0 TO 1000 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST

COUNTY - HENDRY
LOCATION: T.44S R.30E S.20 A
LAT = N 26D 38M 40
LON = W 81D 20M 45
ELEVATION - 27 FT

OWNER/DRILLER: DRILLED BY EXON MUD ROTARY

WORKED BY: DESCRIBED BY SCOTT BURNS (7-3-84),SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 60 SURFICIAL AQUIFER SYSTEM
0 60 WATER TABLE AQUIFER
60 810 HAWTHORN CONFINING ZONE
810 900 LOWER HAWTHORN/TAMPA PRODUCING ZONE
930 1000 SUWANNEE AQUIFER

0.	- 30.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
30.	- 60.	122TMIM	TAMIAMI FM.
60.	- 930.	122HTRN	HAWTHORN GROUP
930.	- 1000.	123SWNN	SUWANNEE LIMESTONE

0 - 30 SAND; GRAYISH ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, SPAR-07%, LIMESTONE-10%;
OTHER FEATURES: FROSTED;
LIMESTONE FRAGMENTS WELL LITHOFIED MICRITE W/ 15% SAND

30 - 60 LIMESTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-20%, DOLOMITE-20%;
FOSSILS: FOSSIL FRAGMENTS, VERTEBRATE, SPICULES, MOLLUSKS;
MOLLUSK FRAGMENTS REPLACED WITH DOLOMITE AND CALCITE

60 - 90 SHELL BED; LIGHT OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-10%, CLAY-10%, PHOSPHATIC SAND-02%;
FOSSILS: CRUSTACEA, MOLLUSKS;
FOSSIL ASSEMBLAGE PRIMARILY CONSISTS OF BARNACLE FRAGMENTS W/ A FEW PELECYPODS AND OYSTER FRAGMENTS IN DOLOSILT MATRIX

90 - 120 SILT; LIGHT OLIVE TO WHITE; 09% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, DOLOMITE-20%, CALCILUTITE-20%, CLAY- %;
OTHER FEATURES: CALCAREOUS;
FOSSILS: CRUSTACEA, MOLLUSKS;
20% BARNACLE AND OSTERIA FRAG. RECRYSTALIZED WITH CALCITE

120 - 150 SANDSTONE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-15%;
FOSSILS: BRYOZOA, MOLLUSKS;

150 - 180 AS ABOVE WITH 30% SHELL FRAGMENTS RECRYSTALIZED W/ CALCITE AND DOLOMITE;
POOR INDURATION

180 - 210 SHELL BED; LIGHT OLIVE GRAY; 10% POROSITY, PIN POINT VUGS; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-15%, QUARTZ SAND-15%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: CRUSTACEA, MOLLUSKS, PLANT REMAINS;

210 - 240 AS ABOVE HIGHLY RECRYSTALIZED BARNACLE FRAGMENTS IN A CALCAREOUS DOLOSILT
MATRIX; 15% SAND

240 - 270 NO SAMPLES

270 - 300 SAND; GRAYISH OLIVE GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-15%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CALCAREOUS, FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
MATRIX IS OLIVE GREY CALCAREOUS DOLOSILT

300 - 330 SAND; MODERATE GRAYISH GREEN TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-05%, LIMESTONE-10%, DOLOMITE-05%, CALCILUTITE-15%;

330 - 360 AS ABOVE

360 - 390 SAND; GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-10%, DOLOMITE-10%, CALCILUTITE-15%, PHOSPHATIC SAND-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

390 - 420 SAND; VERY LIGHT GRAY TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

420 - 450 AS ABOVE

450 - 480 AS ABOVE

480 - 510 SILT; LIGHT OLIVE GRAY TO YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: LIMESTONE-30%, DOLOMITE-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
WHITE WELL LITHOFIED LIMESTONE IN GRAY DOLOSILT MATRIX, POSSIBLY INTERBEDDED

510 - 540 CLAY; LIGHT OLIVE GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: CRUSTACEA, BRYOZOA;

540 - 570 SILT; LIGHT OLIVE GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-55%, DOLOMITE-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS, WORM TRACES;

570 - 600 AS ABOVE WITH 10% FINE GRAINED PHOSPHORITE

600 - 630 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-10%, PHOSPHATIC SAND-08%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;

630 - 660 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: GRANULE; RANGE: CRYPTOCRYSTALLINE TO GRANULE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, DOLOMITE-10%, PHOSPHATIC SAND-08%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, BRYOZOA;
AS ABOVE W LARGER SHELL FRAGMENTS COATED WITH CALCAREOUS SILT

660 - 690 SILT; YELLOWISH GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-70%, DOLOMITE-10%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CALCAREOUS, CHALKY, POOR SAMPLE;
FOSSILS: CRUSTACEA, BRYOZOA;

690 - 720 CALCILUTITE; VERY LIGHT GRAY; 10% POROSITY, PIN POINT VUGS, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE;
MODERATE INDURATION;
ACCESSORY MINERALS: SILT-35%, QUARTZ SAND-15%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CHALKY, POOR SAMPLE;
FOSSILS: CRUSTACEA;

720 - 750 AS ABOVE MEDIUM SIZE LIMESTONE PELLETS IN CALCAREOUS SILT MATRIX

750 - 780 CALCILUTITE; VERY LIGHT GRAY; 08% POROSITY, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, PELLET; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, DOLOMITE-15%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;
POOR SAMPLE, MAJOR CONSTITUENTS (LMS) ARE SUSPECTED TO BE CAVINGS

780 - 810 SAME AS 720 TO 750 SAMPLE

810 - 840 DOLOMITE; VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
LOST CIRCULATION MATERIAL IN SAMPLE

840 - 870 AS ABOVE WITH 20% MICRITE AND 1% PHOSPHORITE

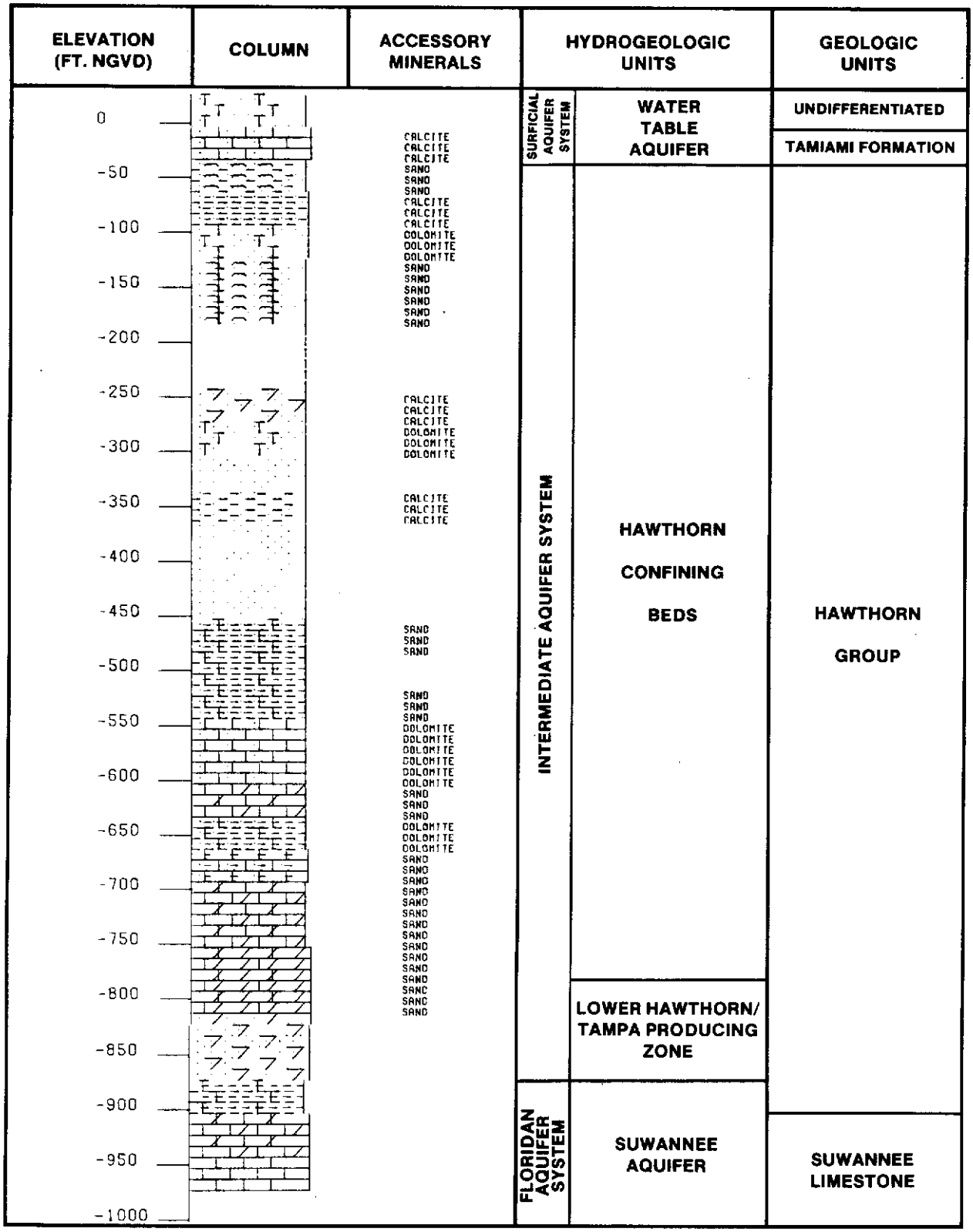
870 - 900 SANDSTONE; VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC SAND-02%;
FOSSILS: NO FOSSILS;

900 - 930 CLAY; DARK GREENISH GRAY; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-40%, QUARTZ SAND-05%, MICA-05%, PHOSPHATIC SAND-03%;
FOSSILS: NO FOSSILS, PLANT REMAINS;
DOLOSILT AND LIMESTONE CONTACT OCCURS BETWEEN 900 AND 930FT MICA AND ORGANIC MATERIAL ARE
LOST CIRCULATION MATERIAL

930 - 970 LIMESTONE; VERY LIGHT ORANGE; 13% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN TYPE: CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-03%;
FOSSILS: WORM TRACES, CONES;
DICTYOCONUS COOKEI

970 - 1000 AS ABOVE

1000 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
-650
-700
-750
-800
-850
-900
-950
-1000
CALCITE
SAND
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
HAWTHORN CONFINING BEDS
HAWTHORN GROUP
LOWER HAWTHORN/ TAMPA PRODUCING ZONE
FLORIDAN AQUIFER SYSTEM
SUWANNEE AQUIFER
SUWANNEE LIMESTONE

HY123

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 124
TOTAL DEPTH: 240 FT.
29 SAMPLES FROM 0 TO 240 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST

COUNTY - HENDRY
LOCATION: T.45S R.28E S.20
LAT = N 26D 32M 45
LON = W 81D 32M 30
ELEVATION - 27 FT

OWNER/DRILLER: RTA3, DRILLED BY MISSIMER & ASSOC; MUD ROTARY; TURNER CORP. SOUTH

WORKED BY: DESCRIBED BY SCOTT BURNS (7-3-84) SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0	100	SURFICIAL AQUIFER SYSTEM
0	40	WATER TABLE AQUIFER
40	60	TAMIAMI CONFING ZONE
60	100	LOWER TAMIAMI AQUIFER
100	150	UPPER HAWTHORN CONFINING ZONE
150	180	CARBONATE ZONE - SANDSTONE AQUIFER
180	240	MID HAWTHORN CONFINING ZONE

0. -	20.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
20. -	85.	122TMIM	TAMIAMI FM.
85. -	240.	122HTRN	HAWTHORN GROUP

0 - 10 SAND; MODERATE BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, LIMONITE-02%;
FOSSILS: PLANT REMAINS;

10 - 15 SANDSTONE; GRAYISH BROWN; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%;
FOSSILS: NO FOSSILS;

15 - 20 SANDSTONE; GRAYISH BROWN TO WHITE; 18% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, LIMESTONE-25%;

20 - 30 LIMESTONE; WHITE TO GRAYISH BROWN; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, SKELETAL; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRANULE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
POORLY SORTED SUBANGULAR SAND FINE TO COARSE GRAINED

30 - 35 AS ABOVE

35 - 40 LIMESTONE; VERY LIGHT GRAY TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, SILT-20%;
FOSSILS: FOSSIL FRAGMENTS;
OSTREA FRAGMENTS

40 - 50 SILT; LIGHT OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-30%, CLAY-10%, QUARTZ SAND-05%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: OOLITES, DIATOMS;

50 - 60 AS ABOVE WITH 3% SILT SIZE PHOSPHORITE

60 - 70 LIMESTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS;

70 - 75 AS ABOVE WITH LARGE PELECYPOD FRAGMENTS AND MOLDS HIGHLY RECRYSTALLIZED

75 - 85 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: REEFAL;
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, VERTEBRATE;
HIGHLY RECRYSTALIZED OSTREA FRAGMENTS; 5% QTZ. PEBBLES

85 - 95 SAND; VERY LIGHT GRAY TO MODERATE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED, REEFAL;
FOSSILS: FOSSIL FRAGMENTS, SHARKS TEETH, CRUSTACEA;
SHELL FRAGMENTS ARAGONTOIC ;BARNACLES,OSTREA,& PELECYPODS

95 - 100 SAND; LIGHT GRAY TO WHITE; 17% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: REEFAL, FROSTED;
FOSSILS: FOSSIL FRAGMENTS, CRUSTACEA;
25% ARAGONITIC SHELL FRAGMENTS AND BARNACLES

100 - 110 SAND; MODERATE GRAYISH GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, DOLOMITE-10%;
FOSSILS: FOSSIL FRAGMENTS;
15% SHELL FRAGMENTS; CLAY AND DOLOSILT MATRIX

110 - 120 SAND; OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-10%, DOLOMITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

120 - 130 AS ABOVE

130 - 140 SAND; GRAYISH OLIVE GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-10%, DOLOMITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
2% QTZ GRANULES

140 - 150 AS ABOVE

150 - 160 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, MOLDIC, PIN POINT VUGS, POSSIBLY HIGH PERMEABILITY;
90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-02%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL MOLDS;

160 - 165 DOLOMITE; YELLOWISH GRAY TO LIGHT GRAY; 15% POROSITY, MOLDIC, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY; 90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-30%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS;

165 - 175 DOLOMITE; YELLOWISH GRAY; 20% POROSITY, MOLDIC, PIN POINT VUGS, POSSIBLY HIGH PERMEABILITY;
90-100% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES;

175 - 180 AS ABOVE

180 - 190 SILT; GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-40%, DOLOMITE-30%, QUARTZ SAND-10%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;

190 - 205 AS ABOVE

205 - 211 CALCILUTITE; VERY LIGHT GRAY; 06% POROSITY, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-45%, PHOSPHATIC SAND-02%, QUARTZ SAND-05%;
OTHER FEATURES: PLASTIC;

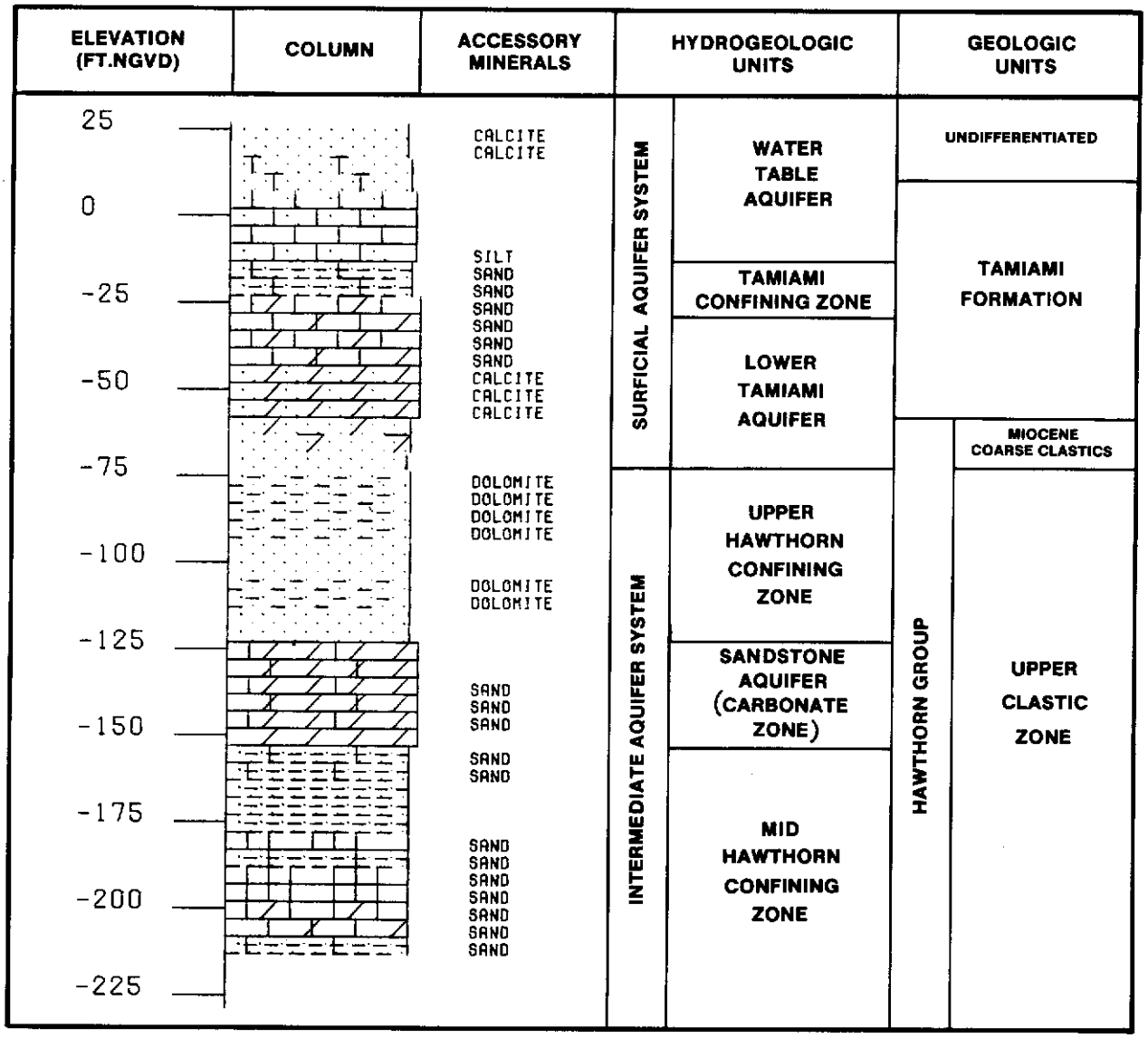
211 - 215 SILT; GREENISH GRAY; 06% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-45%, PHOSPHATIC SAND-02%, QUARTZ SAND-10%;
OTHER FEATURES: CALCAREOUS, PLASTIC;
FOSSILS: FOSSIL FRAGMENTS;
MOLLUSK FRAGMENTS HIGHLY REPLACED WITH DOLOMITE

215 - 225 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-30%, QUARTZ SAND-20%;
OTHER FEATURES: CALCAREOUS, FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

225 - 235 CALCILUTITE; WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS;

235 - 240 SILT; GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-10%, CALCILUTITE-40%, QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: NO FOSSILS;

240 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
CALCITE
CALCITE
SILT
SAND
SAND
SAND
SAND
SAND
SAND
CALCITE
CALCITE
CALCITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE

HY 124

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 125 COUNTY - HENDRY
TOTAL DEPTH: 00500 FT. LOCATION: T.45S R.30E S.12 B
72 SAMPLES FROM 0 TO 500 FT. LAT = N 26D 35M 13
LON = W 81D 17M 07
COMPLETION DATE - 09/06/87 ELEVATION - 030 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-ALICO PROPERTY (SITE A); DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 185 SURFICIAL AQUIFER SYSTEM
0 7 WATER TABLE AQUIFER
7 20 TAMIAMI CONFINING ZONE
20 185 LOWER TAMIAMI AQUIFER
185 202 UPPER HAWTHORN CONFINING ZONE
202 222 CLASTIC ZONE - SANDSTONE AQUIFER(LOW YIELD)
222 500 MID HAWTHORN CONFINING ZONE

0. - 20. 090UDSC UNDIFFERENTIATED SAND AND CLAY
20. - 25. 122TMIM TAMIAMI FM.
25. - 500. 122HTRN HAWTHORN GROUP

0 - 5 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PEAT-03%, HEAVY MINERALS-01%, PLANT REMAINS-01%;
OTHER FEATURES: FROSTED;

5 - 7 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

7 - 15 SAND; LIGHT OLIVE GRAY TO GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-05%, IRON STAIN- %;

15 - 19 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-02%;
OTHER FEATURES: FROSTED;

19 - 20 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-05%, CALCITE-02%, SPAR-01%;

20 - 25 LIMESTONE; LIGHT OLIVE GRAY; 12% POROSITY, MOLDIC, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;
OTHER FEATURES: SUCROSIC;
FOSSILS: BARNACLES;

25 - 33 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%, CALCILUTITE-01%;
OTHER FEATURES: FROSTED;
FOSSILS: BARNACLES;

33 - 37 AS ABOVE

37 - 42 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, VUGULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
FOSSILS: BARNACLES;

42 - 55 SANDSTONE; LIGHT OLIVE GRAY TO GRAYISH ORANGE PINK; 01% POROSITY,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: COARSE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: SUCROSIC;

55 - 60 SANDSTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-01%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;

60 - 65 AS ABOVE

65 - 70 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, CALCILUTITE-01%;

70 - 75 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-01%, SPAR-01%;

75 - 80 AS ABOVE

80 - 82 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: COARSE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-05%;
OTHER FEATURES: SUCROSIC;

82 - 90 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-05%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;

90 - 95 AS ABOVE

95 - 100 AS ABOVE

100 - 102 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
FOSSILS: FOSSIL FRAGMENTS;
CONSTANT CHATTER WHEN DRILLING

102 - 105 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: SPAR-07%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;

105 - 110 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-10%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;

110 - 115 SANDSTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-05%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;

115 - 122 SANDSTONE; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;
CONSTANT CHATTER WHEN DRILLING

122 - 132 SAND; LIGHT GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: VERY COARSE; RANGE: COARSE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;
SOME CALCITE CEMENTED SANDSTONE (10%)

132 - 142 AS ABOVE

142 - 150 SAND; LIGHT GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SPAR-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL FRAGMENTS;
WITH 10% CALCITE CEMENTED SANDSTONE

150 - 162 AS ABOVE

162 - 170 SAND; LIGHT GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SPAR-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
BIT JETTED DOWN WITHOUT DRILLING FROM 162' TO 185'

170 - 182 AS ABOVE

182 - 185 AS ABOVE

185 - 187 GRAVEL; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC GRAVEL-02%;

187 - 197 SAND; GRAYISH OLIVE TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%;

197 - 202 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

202 - 205 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: SILT-05%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

205 - 215 AS ABOVE

215 - 222 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: COARSE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

222 - 235 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;

235 - 240 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%;

240 - 250 AS ABOVE

250 - 260 DOLO-SILT; OLIVE GRAY; 07% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-02%;

260 - 270 AS ABOVE

270 - 280 DOLO-SILT; OLIVE GRAY; 07% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-02%;

280 - 290 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

290 - 294 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-50%, SILT-10%;

294 - 300 AS ABOVE

300 - 310 SILT; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-04%;

310 - 315 DOLO-SILT; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-10%, PHOSPHATIC SAND-04%;

315 - 320 DOLO-SILT; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-10%, CLAY-10%, PHOSPHATIC SAND-04%;

320 - 330 AS ABOVE

330 - 340 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-10%, QUARTZ SAND-50%, PHOSPHATIC SAND-04%, CALCILUTITE-10%;
OTHER FEATURES: FROSTED;

340 - 345 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-10%, QUARTZ SAND-50%, PHOSPHATIC SAND-04%, CALCILUTITE-20%;
OTHER FEATURES: FROSTED;

345 - 350 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-05%;
OTHER FEATURES: FROSTED;

350 - 355 SHELL BED; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-05%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

355 - 360 AS ABOVE

360 - 370 SHELL BED; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-08%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

370 - 380 AS ABOVE

380 - 390 AS ABOVE

390 - 397 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

397 - 405 AS ABOVE

405 - 410 AS ABOVE

410 - 419 DOLO-SILT; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-10%, QUARTZ SAND-30%, PHOSPHATIC SAND-03%;

419 - 422 DOLO-SILT; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-10%, QUARTZ SAND-30%, PHOSPHATIC SAND-03%;
WITH FOSSIL SHELL FRAGMENTS

422 - 425 AS ABOVE

425 - 432 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, CALCILUTITE-10%;

432 - 442 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, CALCILUTITE-20%;

442 - 450 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-15%;

450 - 460 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-20%;

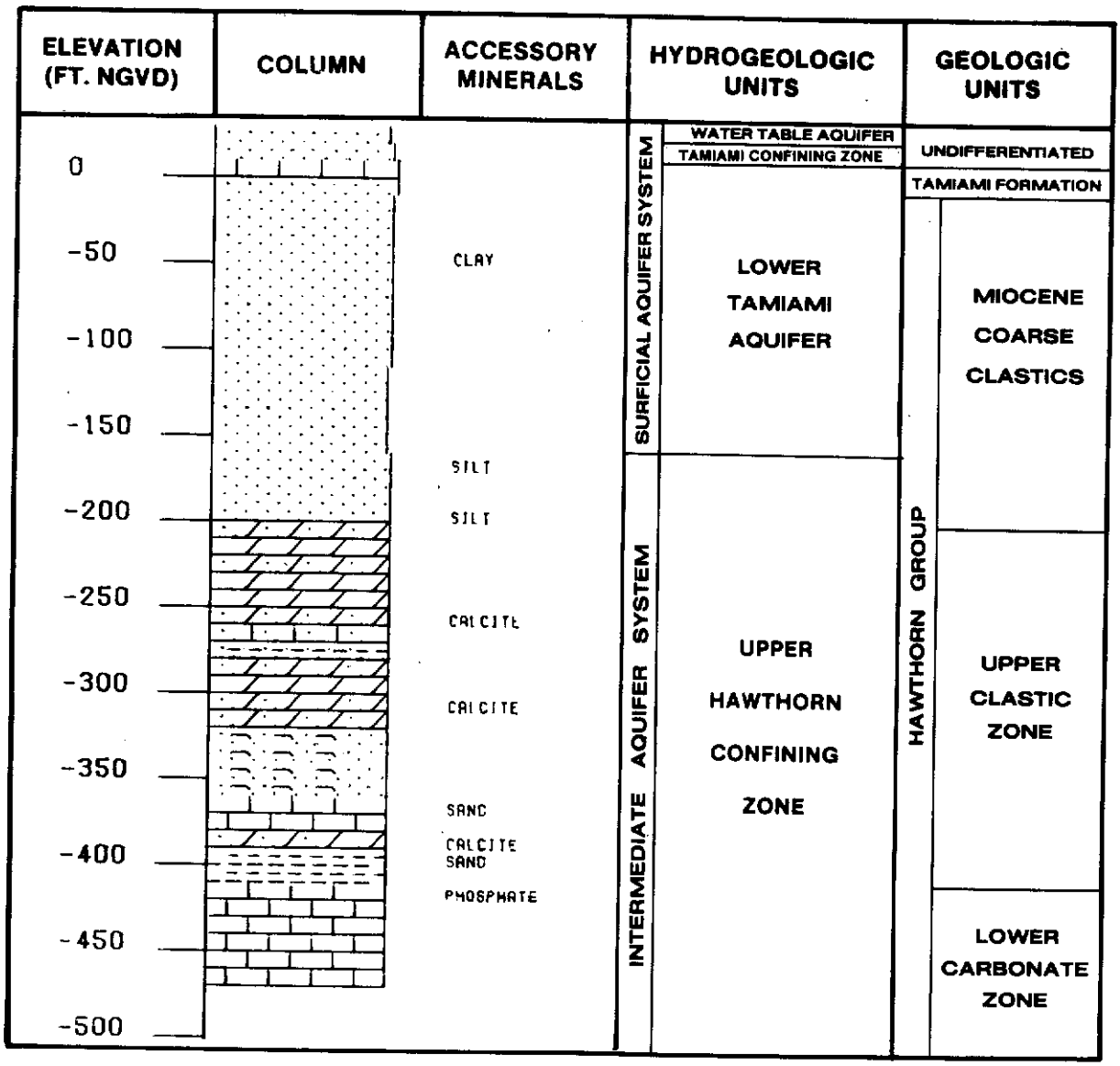
460 - 475 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-20%;
WITH LIMESTONE PIECES

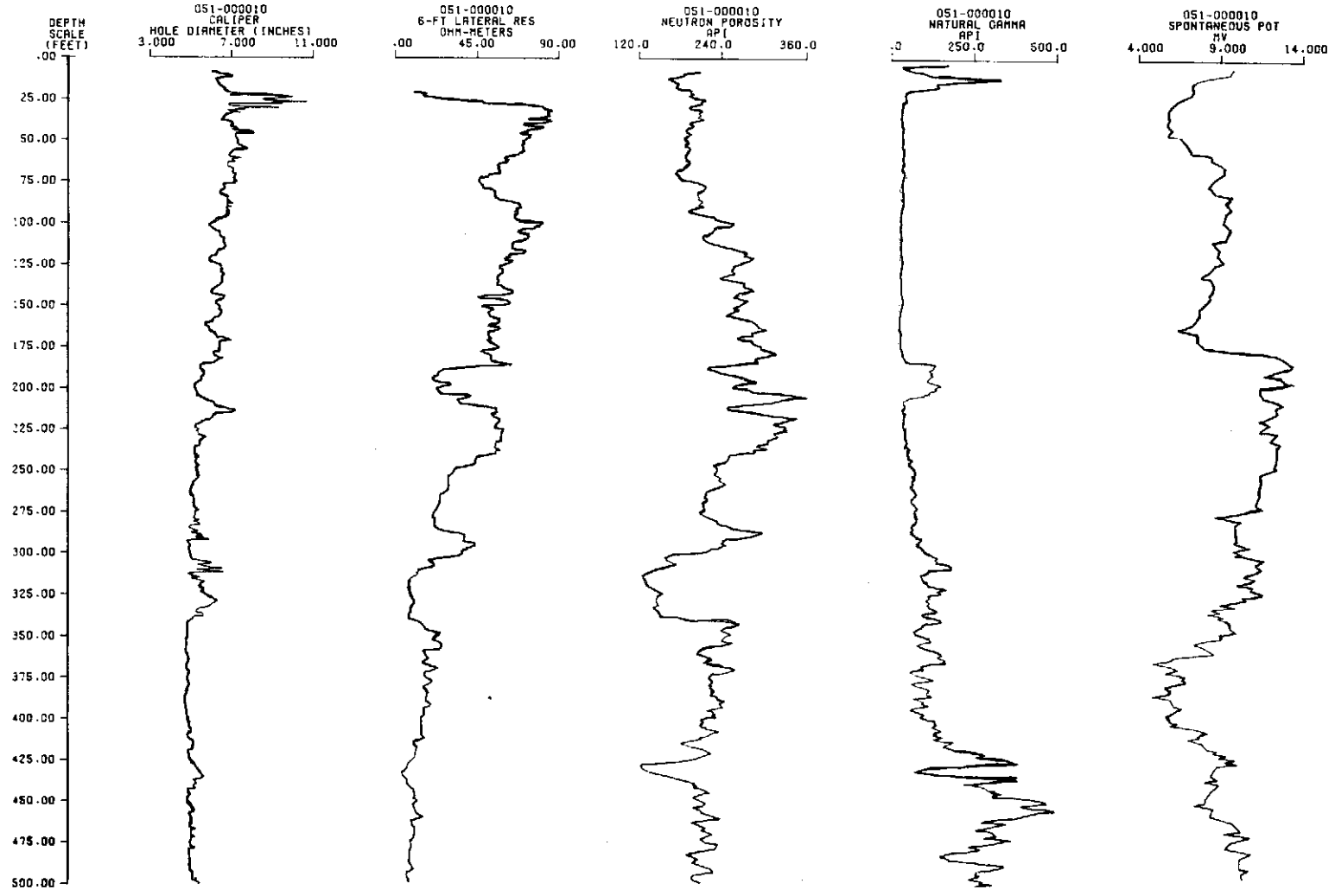
475 - 480 AS ABOVE

480 - 490 CALCILUTITE; YELLOWISH GRAY TO DARK YELLOWISH ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%, LIMESTONE- %;

490 - 500 AS ABOVE

500 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
CLAY
SILT
SILT
CALCITE
CALCITE
SAND
CALCITE SAND
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE



GEOPHYSICS, WELL HY-125

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 126 COUNTY - HENDRY
TOTAL DEPTH: 340 FT. LOCATION: T.43S R.28E S.24 B
36 SAMPLES FROM 0 TO 340 FT. LAT = N 26D 43M 55
LON = W 81D 28M 08
COMPLETION DATE - / /73 ELEVATION - 15 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER: HE-620 DRILLED BY USGS; MUD ROTARY; SR80 APROX 2MI EAST OF FT. DENAUD

WORKED BY: DESCRIBED BY SCOTT BURNS (6-25-84); SAMPLE QUALITY (FAIR)
HYDROGEOLOGIC UNITS

0	45	SURFICIAL AQUIFER SYSTEM
45	120	UPPER HAWTHORN CONFINING ZONE
120	150	CLASTIC ZONE - SANDSTONE AQUIFER
150	170	CONFINING ZONE
170	230	CARBONATE ZONE - SANDSTONE AQUIFER
230	340	MID HAWTHORN CONFINING ZONE

0.0-	50.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
50.0-	340.0	122HTRN	HAWTHORN GROUP

0 - 12 SAND; GRAYISH ORANGE PINK; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-02%, CALCILUTITE-05%;
FOSSILS: PLANT REMAINS;

12 - 18 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
GASTROPODS

18 - 22 SANDSTONE; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
CHLONE CANCELLATE

22 - 30 SHELL BED; WHITE; 25% POROSITY, MOLDIC, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
ARCA (SP), BITTIUM PRISCUM (DALL), ANOMALOCARDIA CALOOSNA, TURITELLA (SP).

30 - 40 AS ABOVE
IRITHIUM (SP.) ECHINOCHAMA CORNUTA, ANOMALOCARDIA CALOOSNA

40 - 45 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, BRYOZOA;

45 - 50 SILT; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-40%, DOLOMITE-40%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CHALKY, PLASTIC;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

50 - 65 CLAY; LIGHT OLIVE GRAY; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-05%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: NO FOSSILS;

65 - 70 AS ABOVE

70 - 75 SAND; LIGHT OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-15%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: NO FOSSILS;

75 - 85 CLAY; MODERATE GRAYISH GREEN; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC;
FOSSILS: NO FOSSILS;

85 - 90 AS ABOVE
NUMEROUS SHELL FRAGMENTS REPLACED WITH DOLOMITE

90 - 100 CLAY; MODERATE GRAYISH GREEN; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%;
OTHER FEATURES: PLASTIC;
FOSSILS: NO FOSSILS;

100 - 110 AS ABOVE

110 - 120 AS ABOVE

120 - 125 SAND; MODERATE GRAYISH GREEN; 08% POROSITY, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-30%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES;

125 - 135 GRAVEL; LIGHT GRAY TO MODERATE GRAYISH GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, PHOSPHATIC GRAVEL-03%;
SILT SIZE DOLOMITE CEMENT

135 - 150 AS ABOVE

150 - 160 CLAY; MODERATE GRAYISH GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-04%, PHOSPHATIC GRAVEL-02%;
FOSSILS: BENTHIC FORAMINIFERA;

160 - 170 AS ABOVE

170 - 180 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-20%;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

180 - 190 AS ABOVE

190 - 200 AS ABOVE

200 - 207 DOLOMITE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

207 - 215 DOLOMITE; WHITE; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

215 - 220 NO SAMPLES

220 - 230 DOLOMITE; WHITE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; ANHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%;
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS;

230 - 240 DOLOMITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
50-90% ALTERED; ANHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-35%;
OTHER FEATURES: CHALKY, CALCAREOUS;

240 - 250 SILT; LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, DOLOMITE-35%, QUARTZ SAND-30%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: NO FOSSILS;

250 - 260 SILT; WHITE; 08% PORDSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-35%, CALCILUTITE-45%;
OTHER FEATURES: CHALKY, CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

260 - 270 AS ABOVE
MODERATE INDURATION ; 2% PHOSPHATE

270 - 280 AS ABOVE

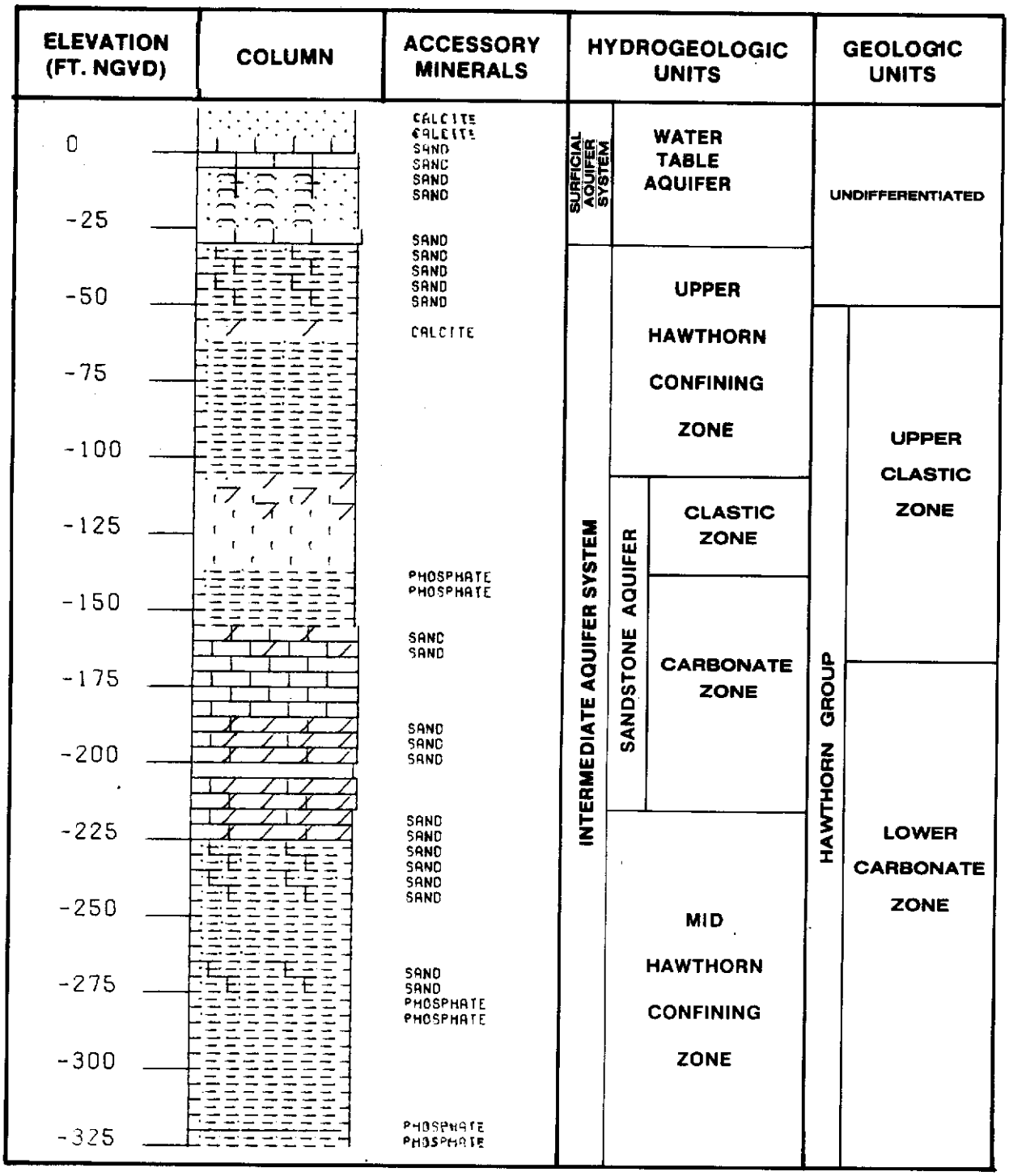
280 - 290 SILT; LIGHT GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-40%, DOLOMITE-40%, QUARTZ SAND-10%;
OTHER FEATURES: CALCAREOUS, CHALKY;
FOSSILS: FOSSIL FRAGMENTS;

290 - 300 CLAY; LIGHT GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC SAND-08%, QUARTZ SAND-20%;
OTHER FEATURES: SPECKLED;
FOSSILS: FOSSIL FRAGMENTS;
ABUNDANT BIVALVE FRAGMENTS (35%) HIGHLY RECRYSTALIZED W/ DOLOMITE

300 - 330 AS ABOVE
INCREASE AMOUNT OF SHELL FRAGMENTS; POOR SAMPLE (CAVINGS)

330 - 340 SILT; MODERATE GRAYISH GREEN TO BLACK; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-10%, QUARTZ SAND-30%, PHOSPHATIC SAND-10%;
FOSSILS: FOSSIL FRAGMENTS;

340 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
CALCITE
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
CALCITE
PHOSPHATE
PHOSPHATE
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PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY126

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 127 COUNTY - HENDRY
TOTAL DEPTH: 300 FT. LOCATION: T.43S R.29E S.33 C
34 SAMPLES FROM 0 TO 300 FT. LAT = N 26D 42M 00
LON = W 81D 26M 06
COMPLETION DATE - / /73 ELEVATION - 27 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST

OWNER/DRILLER: HE-615 DRILLED BY USGS, MUD ROTARY

WORKED BY: DESCRIBED BY SCOTT BURNS (6-27-84). SAMPLE QUALITY (FAIR)
HYDROGEOLOGIC UNITS

0	20	SURFICIAL AQUIFER SYSTEM
0	20	WATER TABLE AQUIFER
20	130	UPPER HAWTHORN CONFINING ZONE
130	170	CLASTIC ZONE - SANDSTONE AQUIFER
170	200	CARBONATE ZONE - SANDSTONE AQUIFER
200	300	MID-HAWTHORN CONFINING ZONE

0.0-	40.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
40.0-	300.0	122HTRN	HAWTHORN GROUP

0 - 2 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-02%;

2 - 6 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

6 - 10 SANDSTONE; DARK YELLOWISH BROWN TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR,
PIN POINT VUGS;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-15%, LIMESTONE-20%;
FOSSILS: NO FOSSILS;

10 - 20 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION;
ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND-30%, PHOSPHATIC SAND-01%;
FOSSILS: NO FOSSILS;

20 - 30 SILT; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-35%, DOLOMITE-20%, CALCILUTITE-10%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: NO FOSSILS;

30 - 35 NO SAMPLES

35 - 40 SANDSTONE; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-10%, CLAY-10%, PHOSPHATIC SAND-02%;
35% DOLOSILT CEMENT

40 - 50 CLAY; DARK GRAYISH GREEN; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CALCAREOUS, PLASTIC, POOR SAMPLE;
FOSSILS: BENTHIC FORAMINIFERA;

50 - 60 AS ABOVE WITH INCREASE IN FINE GRAIN SAND TO 35%

60 - 70 CLAY; DARK GRAYISH GREEN; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-30%, CLAY-10%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA;

70 - 80 AS ABOVE

80 - 90 SAND; MODERATE GRAYISH GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-15%, CLAY-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, ECHINOID;
DOLOMITE IS MICROCRYSTALLINE, SUBANGULAR SILT

90 - 100 AS ABOVE WITH ABUNDANT BENTHIC FORAMINIFERA ;MINOR TRACES OF MICA

100 - 110 AS ABOVE

110 - 120 SAND; MODERATE GRAYISH GREEN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-15%, CLAY-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, ECHINOID;
20% DOLOSILT; FEW FORAMINIFERA

120 - 130 AS ABOVE

130 - 150 SAND; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CLAY-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

150 - 160 SAND; MODERATE LIGHT GRAY TO MODERATE GRAYISH GREEN; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-10%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;

160 - 170 SAND; MODERATE GRAYISH GREEN TO WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, MICA-01%, DOLOMITE-20%, CLAY-10%;
OTHER FEATURES: FROSTED;
DOLOMITE WHITE AND WELL INDURATED

170 - 180 DOLOMITE; VERY LIGHT GRAY; 16% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
GOOD INDURATION;
ACCESSORY MINERALS: LIMESTONE-40%, QUARTZ SAND-05%;
FOSSILS: NO FOSSILS;

180 - 185 AS ABOVE

185 - 195 DOLOMITE; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-40%, PHOSPHATIC SAND-05%, QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;
WELL INDURATED DOLOMITE IN 30% DOLOSILT MATRIX

195 - 200 DOLOMITE; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;
50-90% ALTERED; SUBHEDRAL;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;

200 - 210 CLAY; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%;
OTHER FEATURES: CHALKY, CALCAREOUS;
FOSSILS: NO FOSSILS;

210 - 220 CLAY; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, DOLOMITE-40%;
OTHER FEATURES: CHALKY, CALCAREOUS;
5% AS ABOVE ROUNDED QTZ GRANULES;40% WELL INDURATED DOLOMITE GRANULES

220 - 230 AS ABOVE
20% DOLOMITE GRANULES; 25% FINE GRAINED SAND

230 - 240 CLAY; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY, CALCAREOUS;
FOSSILS: NO FOSSILS;

240 - 240 AS ABOVE

240 - 250 AS ABOVE

250 - 260 CLAY; VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CHALKY, CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

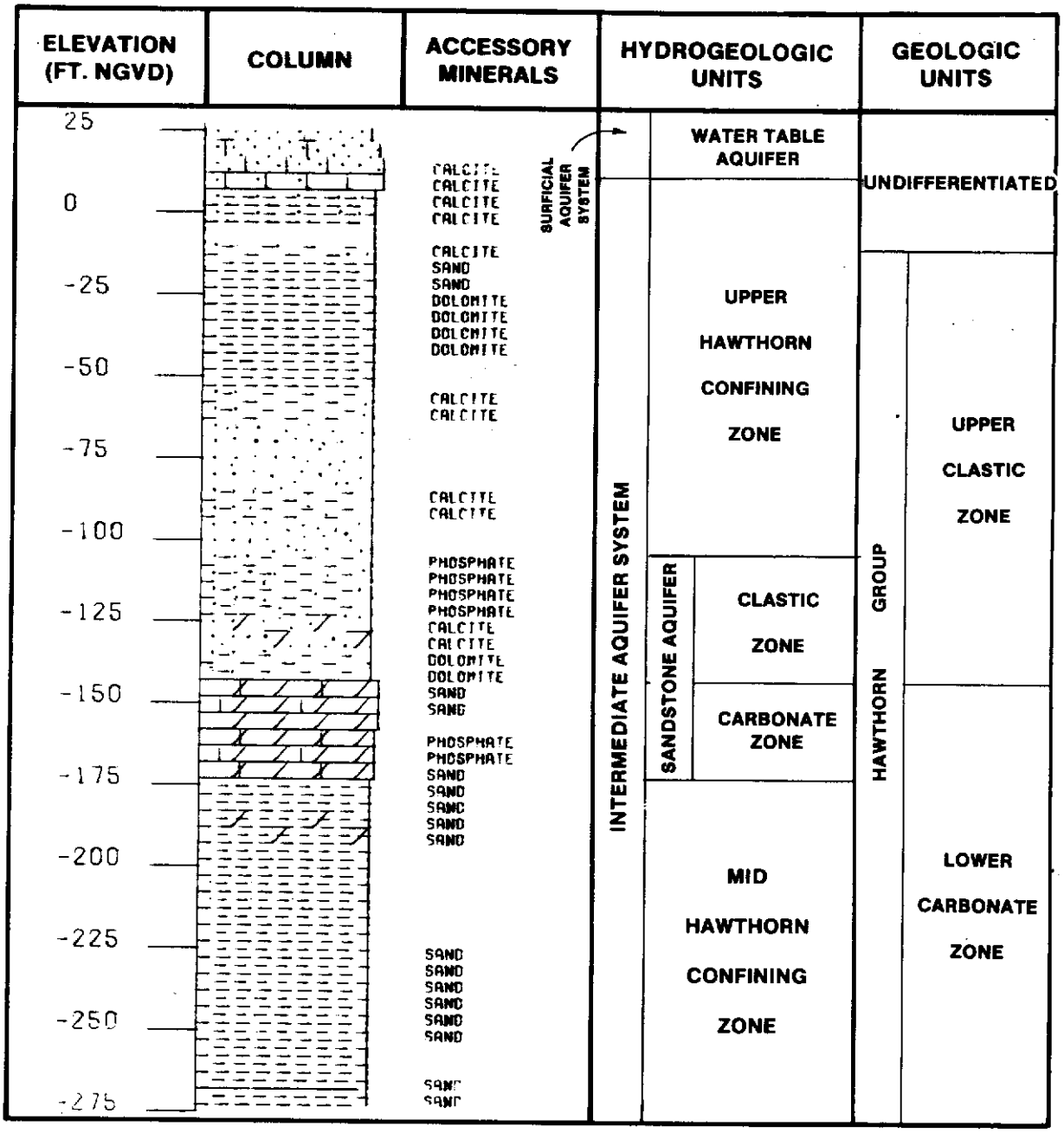
260 - 270 WELL INDURATED DOLOMITE (25%) IN DOLOSILT MATRIX

270 - 280 CLAY; LIGHT OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-03%, PHOSPHATIC GRAVEL-01%, MICA-01%;
FOSSILS: FOSSIL FRAGMENTS;
PELECYPOD FRAG HIGHLY RECRYSTALIZED WITH DOLOMITE

280 - 290 AS ABOVE

290 - 300 CLAY; LIGHT OLIVE; 08% POROSITY, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-10%, PHOSPHATIC SAND-03%, PHOSPHATIC GRAVEL-01%;

300 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SAND
SAND
DOLOMITE
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SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY127

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 128 COUNTY - HENDRY
TOTAL DEPTH: 00502 FT. LOCATION: T.44S R.30E S.20 B
50 SAMPLES FROM 0 TO 502 FT. LAT = N 26D 38M 13
LON = W 81D 20M 38
COMPLETION DATE - 28/10/87 ELEVATION - 027 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-ALICO SITE D; DRILLER: TONY LUBRAND

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD

HYDROGEOLOGIC UNITS

0	22	SURFICIAL AQUIFER SYSTEM
0	22	WATER TABLE AQUIFER
22	292	UPPER HAWTHORN CONFINING ZONE
292	352	CLASTIC ZONE - SANDSTONE AQUIFER
352	502	MID-HAWTHORN CONFINING ZONE

0.	- 4.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
4.	- 8.	000NOSM	NO SAMPLES
8.	- 22.	122TMIM	TAMIAMI FM.
22.	- 502.	122HTRN	HAWTHORN GROUP

0 - 4 SAND; GRAYISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, IRON STAIN- %;

4 - 8 NO SAMPLES

8 - 10 LIMESTONE; YELLOWISH GRAY TO DARK YELLOWISH ORANGE; 10% POROSITY, INTERGRANULAR,
PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CRYSTALS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCITE-20%, QUARTZ SAND-10%;
FOSSILS: BRYOZOA;

10 - 14 CALCILUTITE; VERY LIGHT ORANGE TO GRAYISH BROWN; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS;

14 - 18 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-05%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

18 - 22 AS ABOVE

22 - 28 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

28 - 42 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

42 - 47 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES;

47 - 52 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-30%, SILT-30%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
30% CALCITE REPLACED SHELL FRAGMENTS

52 - 57 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCITE-05%, SILT-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

57 - 62 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-01%, MICA-01%;
FOSSILS: FOSSIL FRAGMENTS;

62 - 82 AS ABOVE

82 - 92 SAND; GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, MICA-01%;
FOSSILS: FOSSIL FRAGMENTS;

92 - 102 SAND; GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, SILT-05%, MICA-02%;
FOSSILS: FOSSIL FRAGMENTS;

102 - 111 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-40%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

111 - 122 SAND; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: SILT-30%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

122 - 132 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-15%, LIMESTONE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

132 - 142 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, CALCILUTITE-15%, LIMESTONE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

142 - 147 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, CALCILUTITE-05%, CLAY-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

147 - 162 AS ABOVE

162 - 182 AS ABOVE

182 - 202 SILT; LIGHT OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;

202 - 222 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-20%, CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;

222 - 225 SAND; YELLOWISH GRAY TO GRAYISH OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-01%;
WELL ROUNDED FROSTED QUARTZ GRANULES

225 - 232 SILT; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-03%, PHOSPHATIC SAND-01%;
40% WELL ROUNDED FROSTED QUARTZ GRANULES

232 - 242 AS ABOVE
15% FOSSIL FRAGMENTS

242 - 250 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;
15% QUARTZ GRANULES, 5% FOSSIL FRAGMENTS

250 - 262 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-30%, CALCILUTITE-02%, LIMESTONE-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

262 - 269 AS ABOVE

269 - 277 SAND; LIGHT OLIVE TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
5% WELL ROUNDED FROSTED QUARTZ GRANULES AND GRAVEL

277 - 282 GRAVEL; YELLOWISH GRAY TO DARK GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRAVEL;
ROUNDNESS:ROUNDED; LOW SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-25%, CALCILUTITE-15%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

282 - 292 AS ABOVE

292 - 302 GRAVEL; YELLOWISH GRAY TO DARK GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRANULE; RANGE: MEDIUM TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-03%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
10% MODERATELY INDURATED SANDSTONE PIECES

302 - 322 AS ABOVE
SANDSTONE INCREASED TO 25%

322 - 342 SANDSTONE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
WELL ROUNDED FROSTED QUARTZ GRANULES

342 - 352 AS ABOVE
10% FOSSIL FRAGMENTS

352 - 362 SAND; LIGHT OLIVE GRAY TO WHITE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
10% WELL ROUNDED FROSTED QUARTZ GRANULES

362 - 377 SAND; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-05%;

377 - 382 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-03%, CLAY-05%, SILT-05%;

382 - 394 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CLAY-10%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

394 - 402 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

402 - 410 AS ABOVE

410 - 412 PHOSPHATE; BLACK; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, QUARTZ SAND-05%, CALCITE-02%;
FOSSILS: FOSSIL FRAGMENTS;
PHOSPHATE IS GRANULAR SIZED

412 - 422 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

422 - 438 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CLAY-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

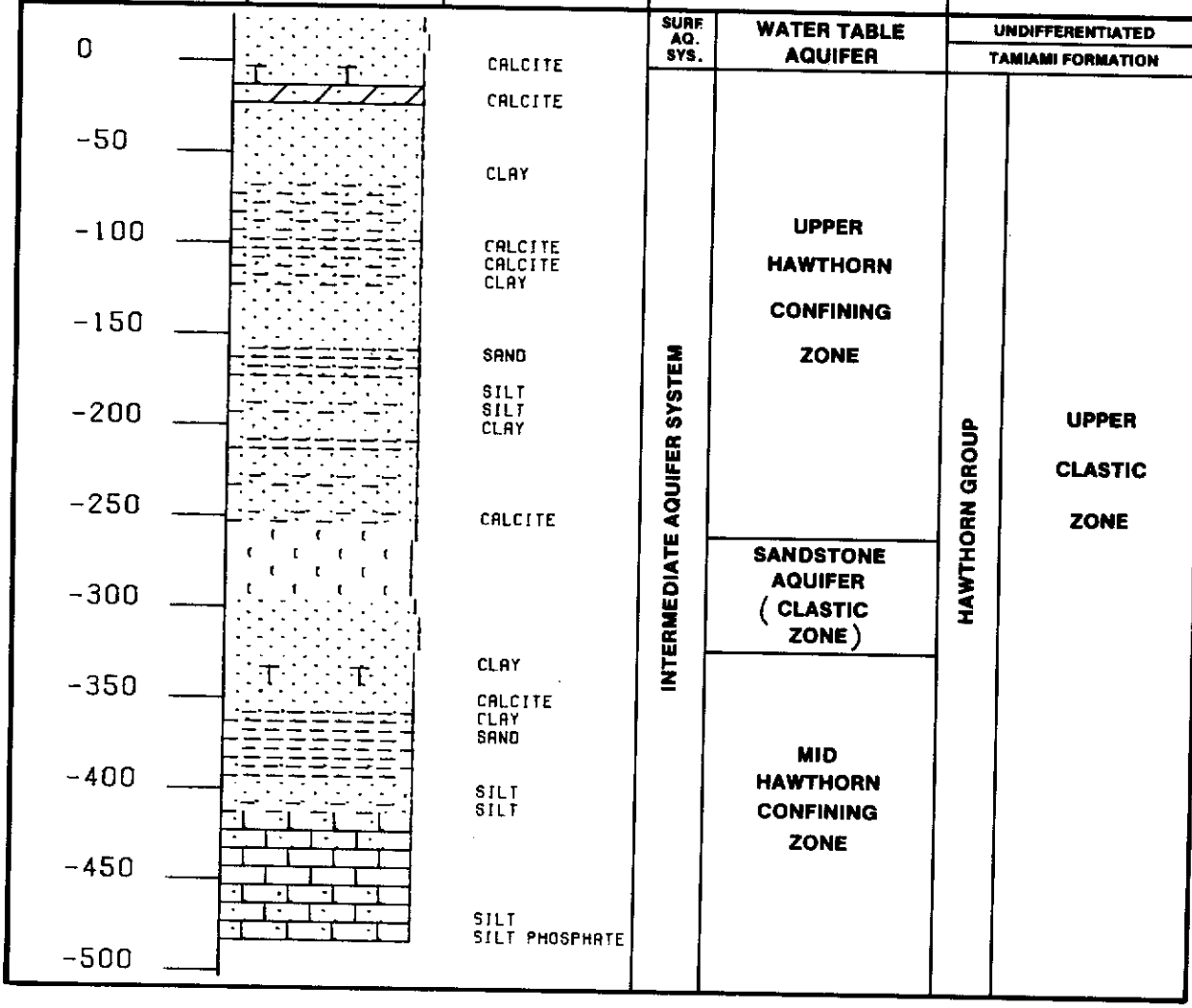
438 - 442 CALCILUTITE; LIGHT OLIVE GRAY TO YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

442 - 462 CALCILUTITE; LIGHT OLIVE GRAY TO YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA;

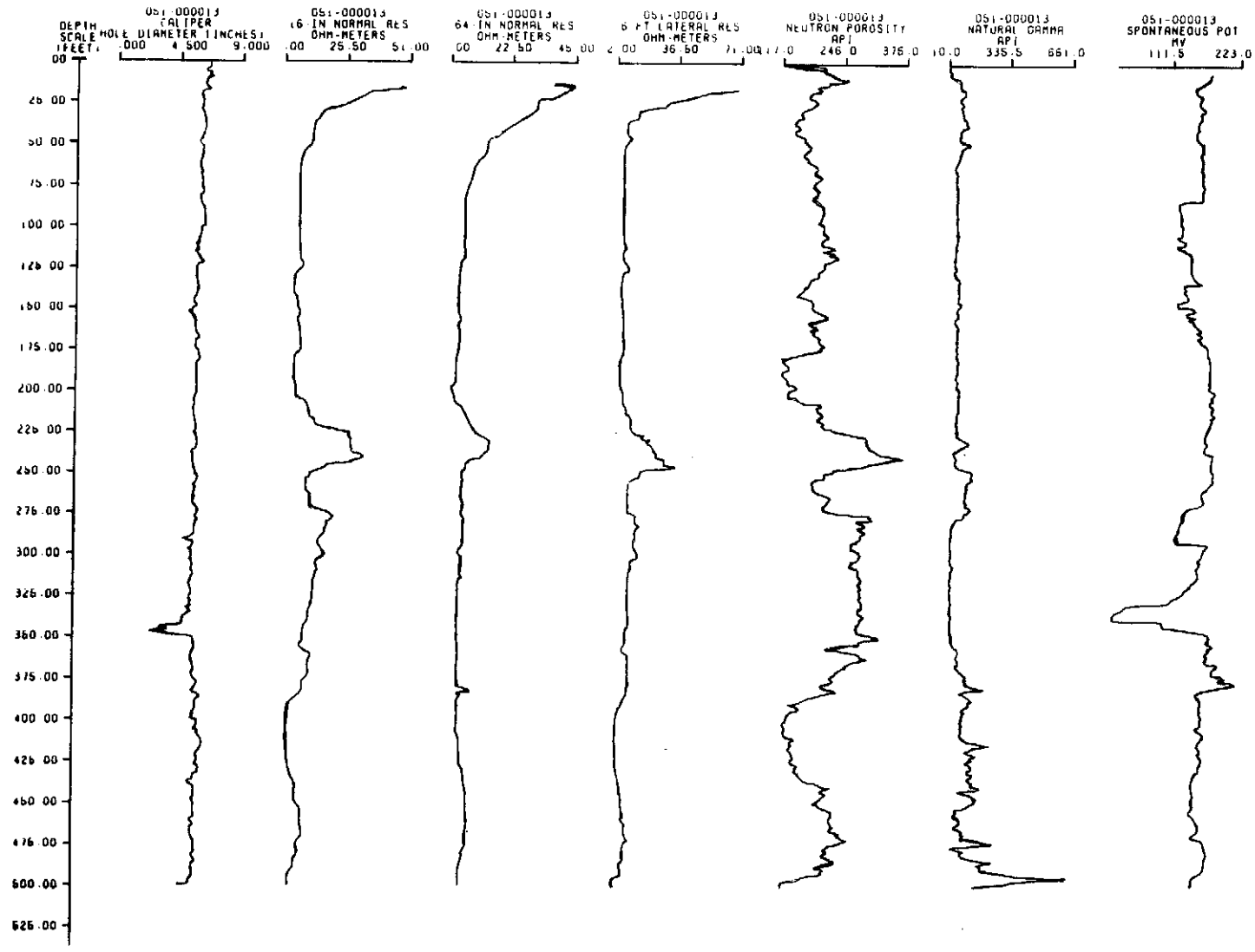
462 - 482 AS ABOVE

482 - 502 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-10%, CALCITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

502 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
SURF AQ. SYS.
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
CALCITE
CALCITE
CLAY
CALCITE
CALCITE
CLAY
SAND
SILT
SILT
CLAY
CALCITE
CLAY
CALCITE
CLAY
SAND
SILT
SILT
SILT
SILT PHOSPHATE
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CLASTIC ZONE)
MID HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY 128



GEOPHYSICS, WELL HY-128

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 201
TOTAL DEPTH: 00285 FT.
56 SAMPLES FROM 0 TO 285 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.45S R.33E S.10
LAT = N 26D 35M 15
LON = W 81D 01M 20
ELEVATION - 023 FT

OWNER/DRILLER: USGS WELL ME-900

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	150	SURFICIAL AQUIFER SYSTEM
0	30	WATER TABLE AQUIFER
30	75	TAMIAMI CONFINING ZONE
75	150	LOWER TAMIAMI AQUIFER
150	285	UPPER HAWTHORN CONFINING ZONE

0. -	75.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
75. -	150.	122TMIM	TAMIAMI FM.
150. -	285.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, IRON STAIN- %, PLANT REMAINS- %;

5 - 10 SANDSTONE; LIGHT YELLOWISH ORANGE TO DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: IRON STAIN- %;
TRACES OF SHELL FRAGMENTS

10 - 30 SANDSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-10%;
FOSSILS: CORAL, MOLLUSKS;
2% WELL ROUNDED GRANULES; WHOLE & BROKEN SHELLS

30 - 35 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-01%;

35 - 50 SAND; OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, SILT-05%;
4% WELL ROUNDED FROSTED GRAINS, SOME SANDSTONE

50 - 70 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%;

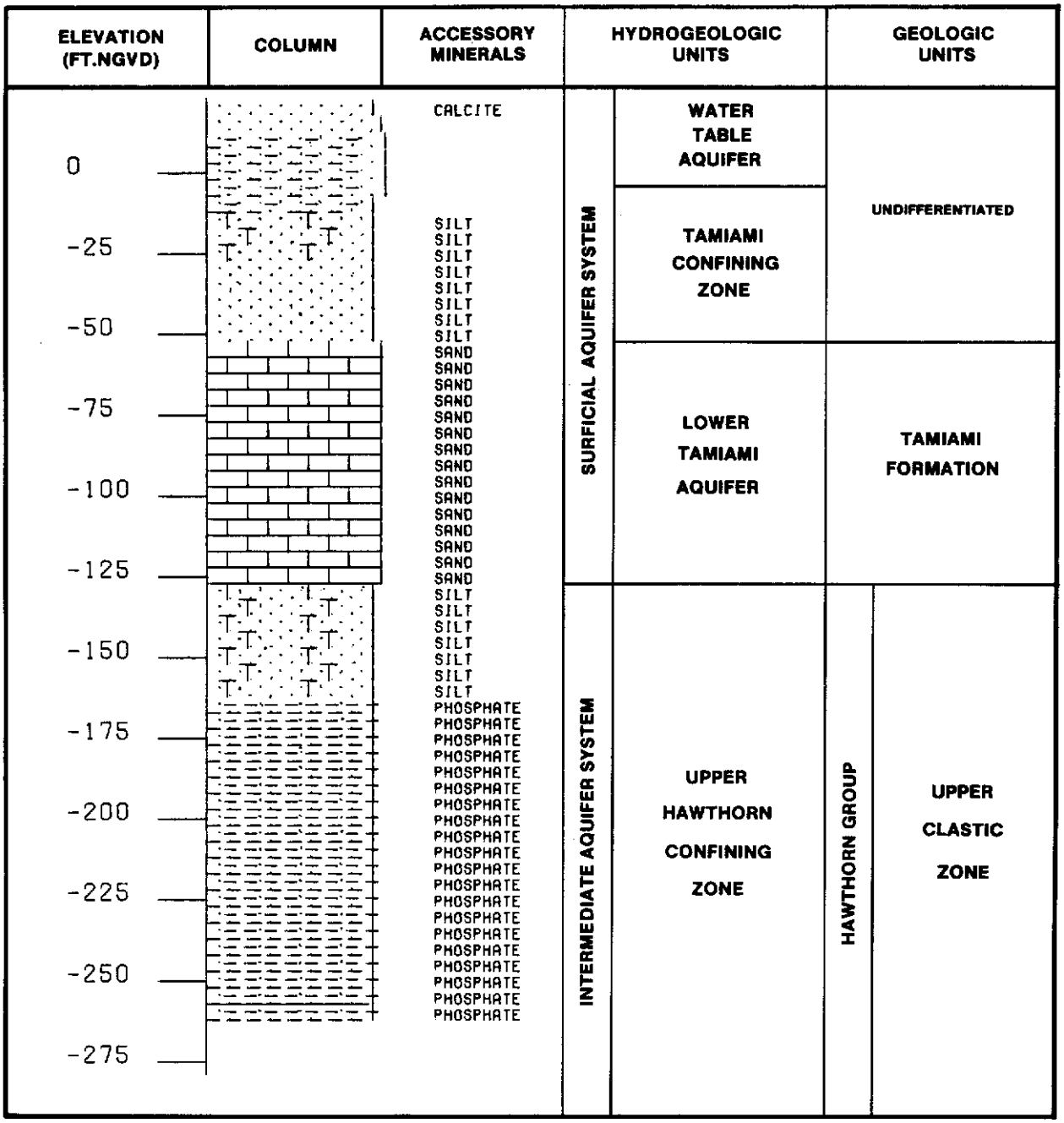
70 - 75 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%;

75 - 150 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

150 - 185 SAND; LIGHT OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-30%, SILT-10%, PHOSPHATIC SAND-03%;

185 - 285 CLAY; OLIVE GRAY; LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-05%;
SOME SHELL FRAGMENTS

285 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
CALCITE
SILT
SAND
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY 201

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 202
TOTAL DEPTH: 00250 FT.
44 SAMPLES FROM 0 TO 250 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.34E S.16
LAT = N 26D 44M 33
LON = W 80D 56M 15
ELEVATION - 019 FT

OWNER/DRILLER: USGS WELL HE-907

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR
HYDROGEOLOGIC UNITS

0	125	SURFICIAL AQUIFER SYSTEM
0	35	WATER TABLE AQUIFER
35	45	CONFINING ZONE
45	125	LOWER TAMIAMI AQUIFER
125	250	UPPER HAWTHORN CONFINING ZONE

0.	- 5.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
5.	- 250.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, PEAT- %;

5 - 10 SAND; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%, IRON STAIN- %;

10 - 15 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, PEAT- %;

15 - 20 AS ABOVE

20 - 25 AS ABOVE

25 - 30 SAND; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-03%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 35 SAND; VERY LIGHT ORANGE TO VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 SAND; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 SAND; VERY LIGHT ORANGE TO LIGHT OLIVE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

45 - 50 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, PHOSPHATIC SAND-02%, CALCITE-01%;

50 - 55 AS ABOVE

55 - 60 AS ABOVE

60 - 65 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, PHOSPHATIC SAND-02%, CALCITE-01%;

65 - 70 AS ABOVE
WITH LOWER FOSSIL FRAGMENT CONTENT

70 - 75 AS ABOVE

75 - 80 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCILUTITE-02%, CALCITE-01%;
FOSSILS: FOSSIL FRAGMENTS;

80 - 85 AS ABOVE

85 - 90 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-02%, CALCILUTITE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

90 - 95 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-02%;

95 - 100 AS ABOVE

100 - 105 AS ABOVE

105 - 110 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-02%;

110 - 115 AS ABOVE

115 - 120 AS ABOVE

120 - 125 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-02%;

125 - 130 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CALCILUTITE-05%, CALCITE-02%, PHOSPHATIC SAND-01%;

130 - 135 SAND; VERY LIGHT ORANGE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-45%, CLAY-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

135 - 140 AS ABOVE

140 - 145 AS ABOVE

145 - 150 SAND; VERY LIGHT ORANGE TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-01%, PHOSPHATIC SAND-01%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

150 - 155 AS ABOVE

155 - 160 AS ABOVE

160 - 165 SAND; VERY LIGHT ORANGE TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-01%, PHOSPHATIC SAND-01%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

165 - 170 AS ABOVE

170 - 175 SAND; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-15%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

175 - 180 AS ABOVE

180 - 185 AS ABOVE

185 - 190 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-05%, CALCILUTITE-01%, CLAY-01%;
FOSSILS: FOSSIL FRAGMENTS;

190 - 195 AS ABOVE

195 - 200 AS ABOVE

200 - 210 CLAY; DARK GREENISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: SILT-10%, QUARTZ SAND-05%, CALCILUTITE-01%;
FOSSILS: FOSSIL FRAGMENTS;

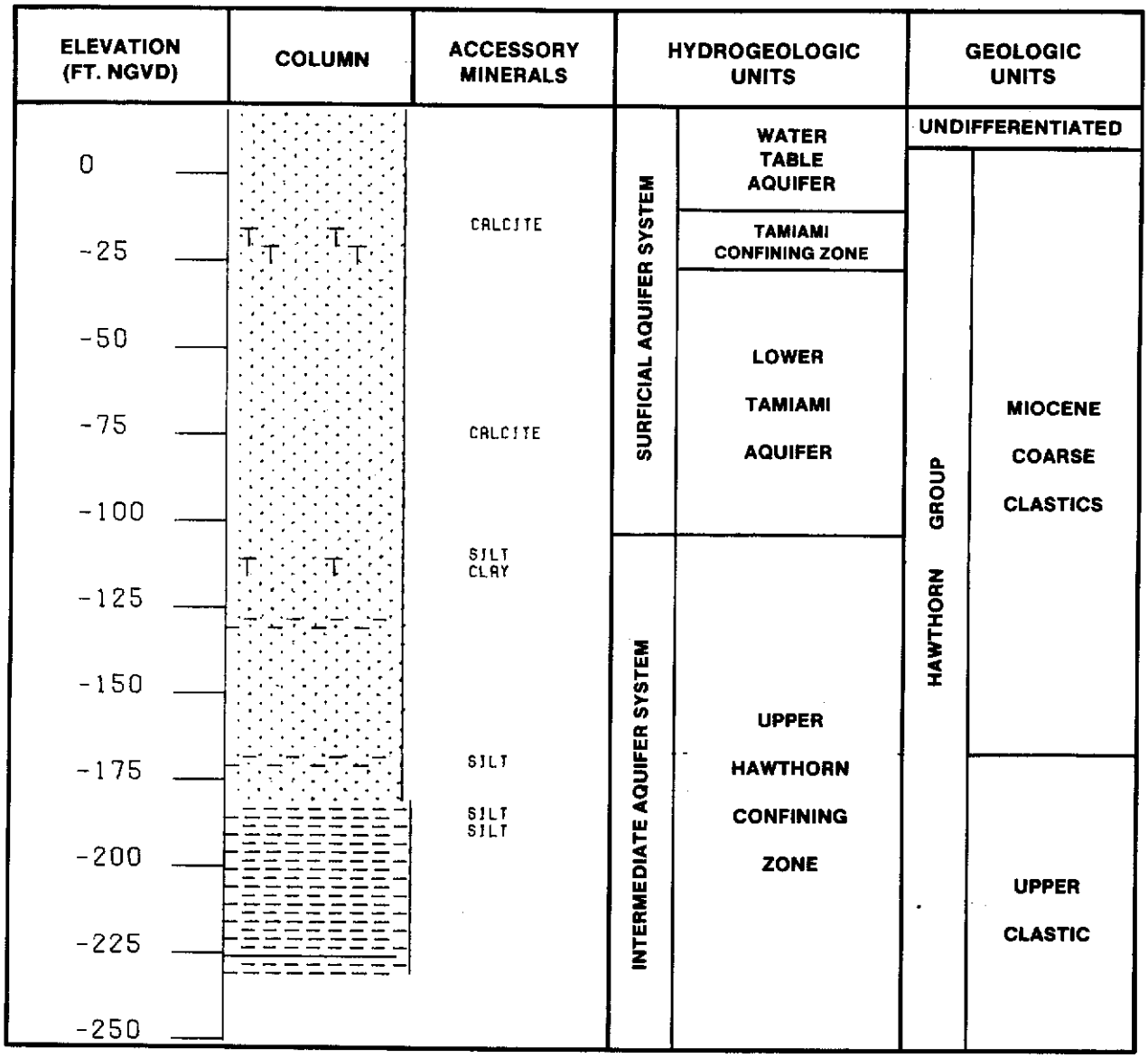
210 - 220 AS ABOVE

220 - 230 AS ABOVE

230 - 240 CLAY; DARK GREENISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: SILT-10%, QUARTZ SAND-05%, CALCILUTITE-01%;
FOSSILS: FOSSIL FRAGMENTS;

240 - 250 AS ABOVE

250 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
CALCITE
CALCITE
SILT CLAY
SILT
SILT SILT
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC

HY202

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 203
TOTAL DEPTH: 00300 FT.
59 SAMPLES FROM 0 TO 300 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.45S R.32E S.06
LAT = N 26D 36M 20
LON = W 81D 09M 44
ELEVATION - 028 FT

OWNER/DRILLER: USGS WELL HE-885

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR
HYDROGEOLOGIC UNITS
0 55 SURFICIAL AQUIFER SYSTEM
0 6 WATER TABLE AQUIFER
6 45 CONFINING ZONE
45 55 LOWER TAMIAMI AQUIFER
55 300 UPPER HAWTHORN CONFINING ZONE

0. - 6. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
6. - 50. 122TMIM TAMIAMI FM.
50. - 300. 122HTRN HAWTHORN GROUP

0 - 6 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, IRON STAIN- %, PLANT REMAINS- %;

6 - 10 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%, PLANT REMAINS- %;
FOSSILS: FOSSIL FRAGMENTS;

10 - 12 AS ABOVE

12 - 25 LIMESTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;

25 - 30 LIMESTONE; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

110 - 115 AS ABOVE
WITH DECREASING SHELL CONTENT

115 - 120 AS ABOVE

120 - 125 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;

125 - 130 AS ABOVE

130 - 135 AS ABOVE

135 - 140 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
WITH INCREASED SHELL AND PHOSPHATIC SAND

140 - 300 AS ABOVE
SAMPLES FROM 60 TO 300 APPEAR TO BE MIXED

300 TOTAL DEPTH

30 - 35 SANDSTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 AS ABOVE

40 - 45 AS ABOVE

45 - 50 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, LIMESTONE-05%;

50 - 55 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, CALCITE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

55 - 60 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;

60 - 65 AS ABOVE
WITH SPARSE SHELL FRAGMENTS SAMPLES FROM 60 TO TOTAL DEPTH APPEAR TO BE MIXED

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, SILT-01%;
WITH MORE SHELL FRAGMENTS

80 - 85 AS ABOVE

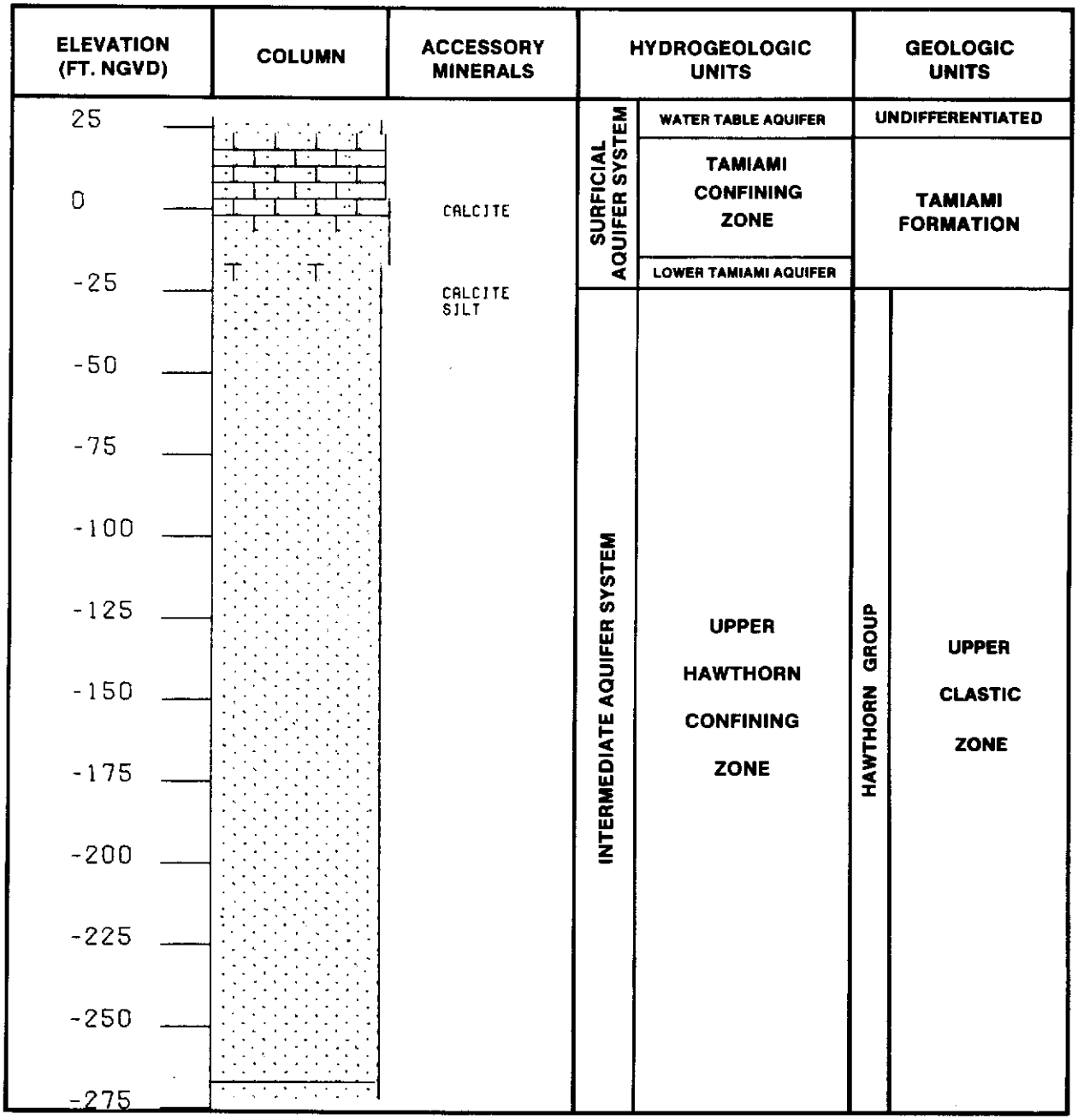
85 - 90 AS ABOVE

90 - 95 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;

95 - 100 AS ABOVE

100 - 105 AS ABOVE

105 - 110 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
CALCITE
CALCITE SILT
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY203

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 204
TOTAL DEPTH: 00300 FT.
40 SAMPLES FROM 0 TO 300 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.43S R.31E S.28
LAT = N 26D 43M 18
LON = W 81D 14M 36
ELEVATION - 021 FT

OWNER/DRILLER: USGS WELL HE-594

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR
HYDROGEOLOGIC UNITS

0	95	SURFICIAL AQUIFER SYSTEM
0	35	WATER TABLE AQUIFER
35	45	TAMIAMI CONFINING ZONE
45	95	LOWER TAMIAMI AQUIFER
95	300	UPPER HAWTHORN CONFINING ZONE

0. -	5.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
5. -	95.	122TMIM	TAMIAMI FM.
95. -	300.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; GRAYISH BROWN TO MODERATE BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN- %, LIMONITE- %;

5 - 10 LIMESTONE; GRAYISH ORANGE TO GRAYISH BROWN; 15% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

10 - 20 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

20 - 25 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES, MOLLUSKS;
GASTROPODS

25 - 30 AS ABOVE

30 - 35 AS ABOVE

35 - 40 LIMESTONE; MODERATE ORANGE PINK TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, SILT-05%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 AS ABOVE

45 - 50 LIMESTONE; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, FOSSIL MOLDS;

50 - 55 AS ABOVE

55 - 60 LIMESTONE; YELLOWISH GRAY TO MODERATE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

60 - 65 AS ABOVE

65 - 70 AS ABOVE

70 - 75 LIMESTONE; YELLOWISH GRAY TO MODERATE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

75 - 80 AS ABOVE

80 - 85 AS ABOVE

85 - 90 LIMESTONE; YELLOWISH GRAY TO MODERATE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

90 - 95 AS ABOVE

95 - 100 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 105 AS ABOVE

105 - 110 AS ABOVE

110 - 120 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

120 - 130 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;
FROSTED QUARTZ GRANULES

130 - 140 AS ABOVE

140 - 150 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%;
FROSTED QUARTZ GRANULES

150 - 160 AS ABOVE

160 - 170 AS ABOVE

170 - 180 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%;
FROSTED QUARTZ GRANULES

180 - 190 SAND; OLIVE GRAY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-01%;

190 - 200 AS ABOVE

200 - 210 AS ABOVE

210 - 220 SAND; OLIVE GRAY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-01%;

220 - 230 AS ABOVE

230 - 240 AS ABOVE

240 - 250 SAND; OLIVE GRAY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-01%;

250 - 260 AS ABOVE

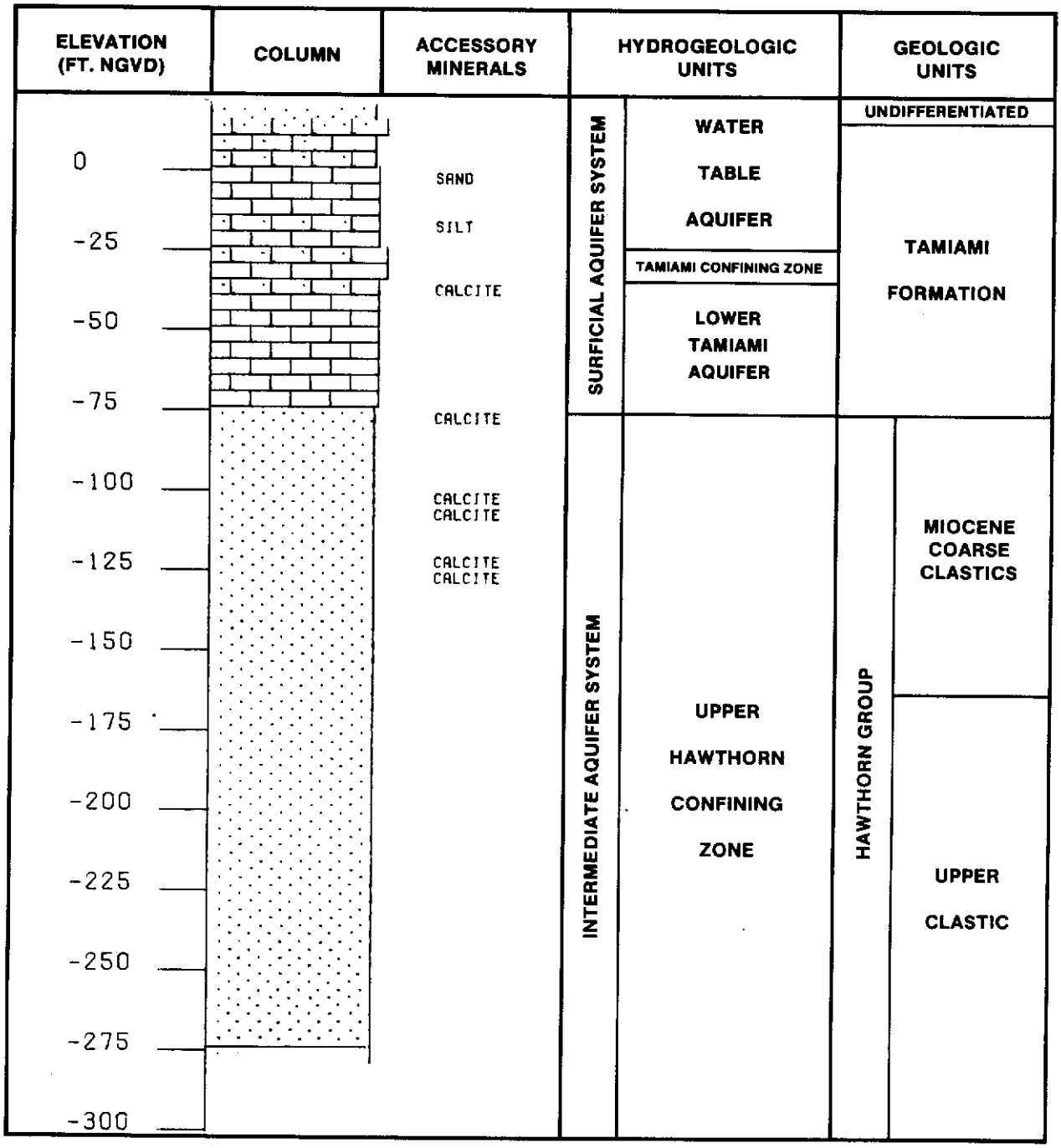
260 - 270 AS ABOVE

270 - 280 SAND; OLIVE GRAY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-01%;

280 - 290 AS ABOVE

290 - 300 AS ABOVE

300 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
SAND
SILT
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC

HY204

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 205
TOTAL DEPTH: 00090 FT.
19 SAMPLES FROM 0 TO 90 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.44S R.33E S.06
LAT = N 26D 41M 33
LON = W 81D 04M 08
ELEVATION - 023 FT

OWNER/DRILLER: USGS WELL HE-630

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR
HYDROGEOLOGIC UNITS
0 90 SURFICIAL AQUIFER SYSTEM
0 2 WATER TABLE AQUIFER
2 90 CONFINING ZONE

0. - 90. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS

0 - 2 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, IRON STAIN- %;

2 - 7 CALCILUTITE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-05%;

7 - 9 CALCILUTITE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, LIMESTONE-05%;

9 - 10 AS ABOVE

10 - 15 SILT; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-02%;
OTHER FEATURES: CALCAREOUS;

15 - 20 AS ABOVE

20 - 25 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-50%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;
SAMPLE CONTAINS 10% FROSTED ROUNDED GRANULE SIZE QUARTZ

25 - 30 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-40%, SHELL-40%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 40 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

45 - 50 AS ABOVE

50 - 55 AS ABOVE

55 - 60 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

60 - 65 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-15%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

65 - 70 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

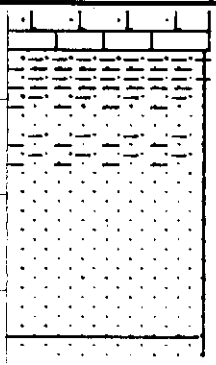
70 - 75 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

75 - 80 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

80 - 85 AS ABOVE

85 - 90 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%, CLAY-15%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

90 TOTAL DEPTH

ELEVATION (FT. NGVD)	COLUMN	ACCESSORY MINERALS	HYDROGEOLOGIC UNITS		GEOLOGIC UNITS
0 -25 -50 -75		SAND PHOSPHATE SILT SILT	SURFICIAL AQUIFER SYSTEM	WATER TABLE AQUIFER TAMIAMI CONFINING ZONE	UNDIFFERENTIATED

HY205

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 206 COUNTY - HENDRY
TOTAL DEPTH: 00350 FT. LOCATION: T.45S R.32E S.19 B
44 SAMPLES FROM 0 TO 350 FT. LAT = N 26D 33M 41
LON = W 81D 10M 06
COMPLETION DATE - 19/05/87 ELEVATION - 030 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-ALICO PROPERTY (SITE B); DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 100 SURFICIAL AQUIFER SYSTEM
0 11 WATER TABLE AQUIFER
11 77 TAMIAMI CONFINING ZONE
77 100 LOWER TAMIAMI AQUIFER
100 350 UPPER HAWTHORN CONFINING ZONE

0.	- 25.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
25.	- 107.	122TMIM	TAMIAMI FM.
107.	- 350.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;

5 - 6 SAND; MODERATE BROWN TO GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS-02%, IRON STAIN- %;

6 - 9 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

9 - 11 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-05%;

11 - 17 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-10%, PHOSPHATIC SAND-01%, IRON STAIN- %;

17 - 20 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC GRAVEL-01%, IRON STAIN- %;

20 - 25 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC GRAVEL-01%, IRON STAIN- %, SHELL- %;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 40 AS ABOVE

40 - 45 CALCILUTITE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SHELL-40%;
FOSSILS: SPICULES;

45 - 50 AS ABOVE

50 - 60 AS ABOVE

60 - 67 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

67 - 75 SANDSTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, SHELL-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

75 - 77 CALCILUTITE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, SHELL-10%, PHOSPHATIC SAND-01%;

77 - 82 SANDSTONE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES;

82 - 90 AS ABOVE

90 - 100 SANDSTONE; YELLOWISH GRAY; 05% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-03%;
FOSSILS: WORM TRACES;

100 - 107 SAND; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-07%, SPAR-05%, PHOSPHATIC SAND-02%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

107 - 112 SAND; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-07%, SPAR-05%, PHOSPHATIC SAND-04%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

112 - 120 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-04%, SHELL-05%;
FOSSILS: FOSSIL FRAGMENTS;

120 - 130 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-05%, SILT-05%, SHELL-05%;
FOSSILS: FOSSIL FRAGMENTS;

130 - 136 AS ABOVE

136 - 140 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

140 - 155 AS ABOVE

155 - 160 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%;

160 - 170 AS ABOVE

170 - 180 AS ABOVE

180 - 195 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, CLAY-05%, PHOSPHATIC SAND-01%;

195 - 200 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;

200 - 210 AS ABOVE

210 - 220 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-10%, PHOSPHATIC SAND-01%, SHELL- %;
FOSSILS: FOSSIL FRAGMENTS;

220 - 233 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-30%, PHOSPHATIC SAND-01%, SHELL- %;

233 - 240 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-30%, PHOSPHATIC SAND-01%, SHELL- %;
FOSSILS: FOSSIL FRAGMENTS;
WITH 10% SANDY LIMESTONE PIECES

240 - 247 SAND; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, SILT-05%;
FOSSILS: FOSSIL FRAGMENTS;

247 - 252 SAND; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, SILT-05%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 3% COARSE CLASTICS

252 - 260 SAND; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, SILT-05%;
FOSSILS: FOSSIL FRAGMENTS;
WITH SANDY LIMESTONE AND CALCAREOUS SHELL FRAGMENTS

260 - 280 SAND; YELLOWISH GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

280 - 300 AS ABOVE

300 - 315 AS ABOVE

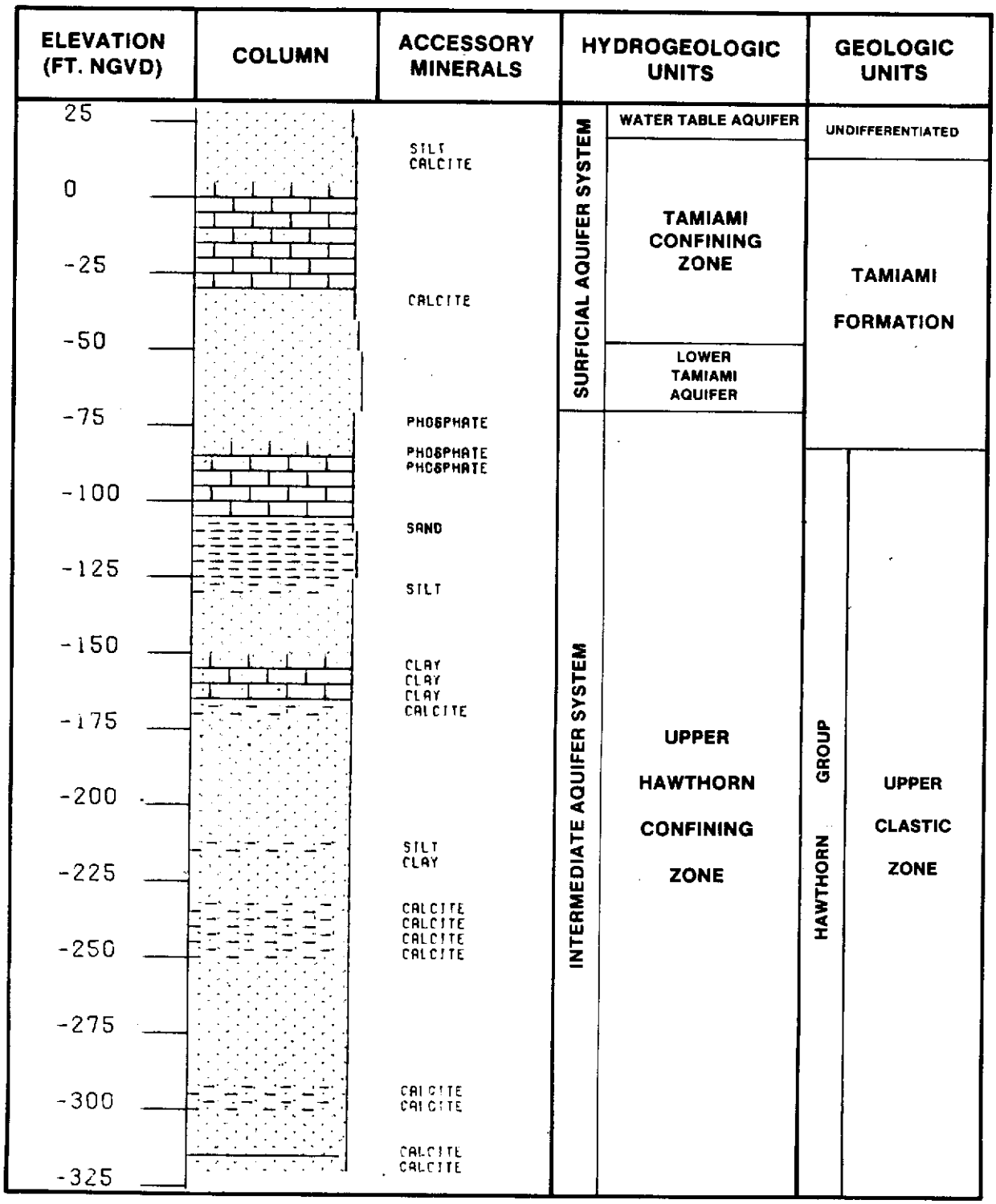
315 - 320 SAND; YELLOWISH GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

320 - 330 SAND; LIGHT OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, LIMESTONE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

330 - 340 SAND; LIGHT OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, LIMESTONE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 10% PHOSPHATIC SAND

340 - 350 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-01%;

350 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
SILT
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SAND
SILT
CLAY
CLAY
CLAY
CALCITE
SILT
CLAY
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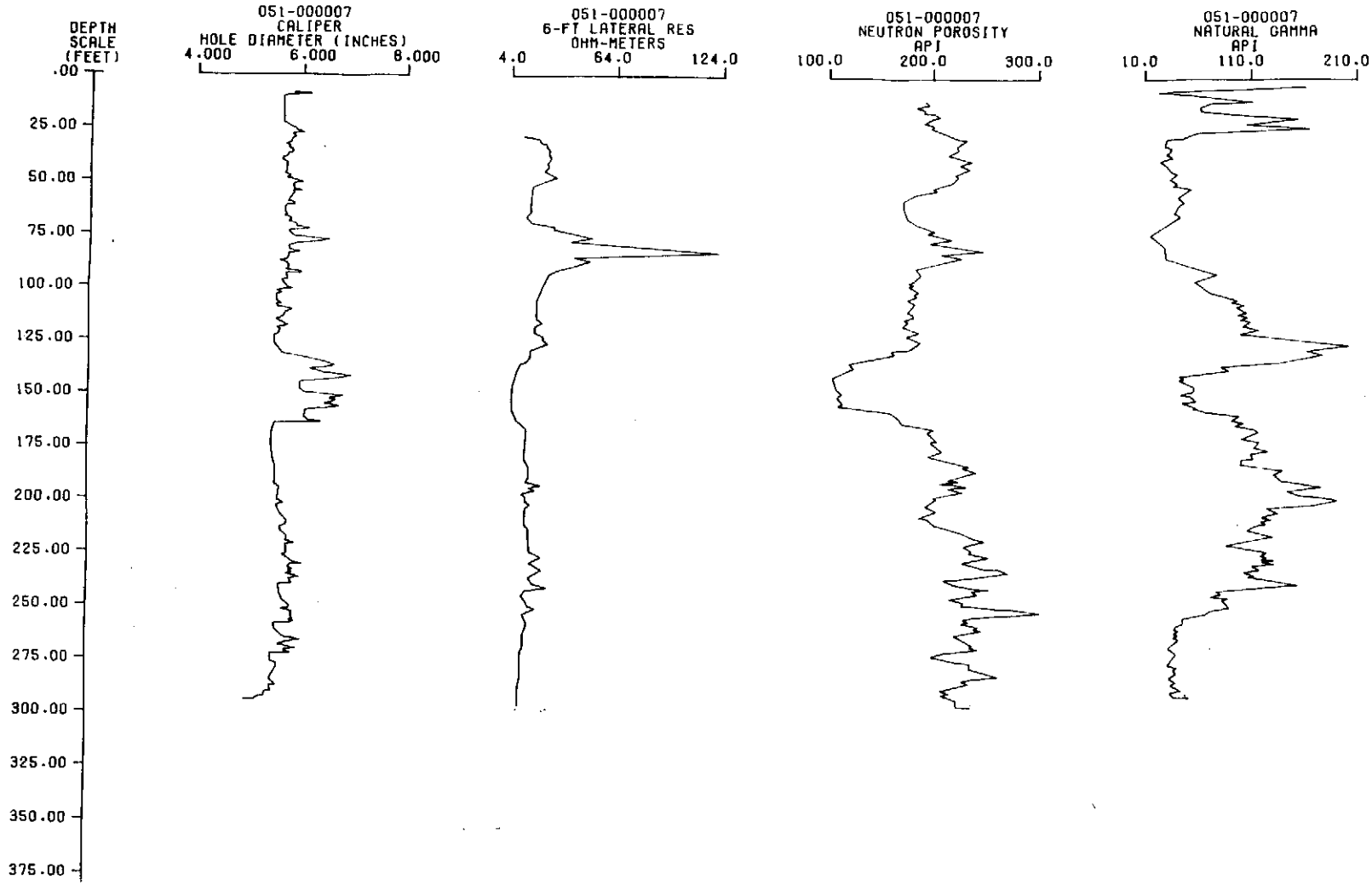
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY206



GEOPHYSICS, WELL HY-206

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 207 COUNTY - HENDRY
TOTAL DEPTH: 00350 FT. LOCATION: T.45S R.33E S.30 C
60 SAMPLES FROM 0 TO 350 FT. LAT = N 26D 32M 13
LON = W 81D 04M 09
COMPLETION DATE - 15/07/87 ELEVATION - 027 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-ALICO PROPERTY (SITE C); DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	120	SURFICIAL AQUIFER SYSTEM
0	35	WATER TABLE AQUIFER
35	75	TAMIAMI CONFINING ZONE
75	120	LOWER TAMIAMI AQUIFER
120	350	UPPER HAWTHORN CONFINING ZONE

0. -	53.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
53. -	120.	122TMIM	TAMIAMI FM.
120. -	350.	122HTRN	HAWTHORN GROUP

0 - 2 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN- %;

2 - 4 AS ABOVE

4 - 10 SAND; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;

10 - 18 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-05%;
OTHER FEATURES: FROSTED;

18 - 22 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-07%;

22 - 30 NO SAMPLES

30 - 35 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-02%;

35 - 40 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%, SILT-05%, HEAVY MINERALS-05%;

40 - 50 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-01%;

50 - 53 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, LIMESTONE-03%, PHOSPHATIC SAND-01%;

53 - 55 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, INTRACLASTS; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, SPICULES;
SAMPLE CONTAINS 60% MICRITE REPLACED SHELLS

55 - 60 AS ABOVE

60 - 62 AS ABOVE
SAND CONTENT DECREASES & REPLACED SHELL CONTENT INCREASES WITH DEPTH FROM 55' - 62'

62 - 67 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-07%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, BRYOZOA, SPICULES;

67 - 70 AS ABOVE

70 - 75 SANDSTONE; LIGHT GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, SPAR-05%, CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

75 - 80 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

80 - 82 AS ABOVE

82 - 93 AS ABOVE

93 - 95 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

95 - 100 AS ABOVE

100 - 102 AS ABOVE

102 - 110 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-60%, CALCILUTITE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

110 - 115 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-60%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

115 - 120 AS ABOVE

120 - 130 SANDSTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%, SHELL-05%;
FOSSILS: FOSSIL FRAGMENTS;

130 - 140 AS ABOVE
WITH FEWER SHELLS AND POORLY INDURATED

140 - 155 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-05%, SHELL-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

155 - 160 SAND; LIGHT OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

160 - 162 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCILUTITE-25%, SILT-05%, SPAR-05%;
FOSSILS: FOSSIL FRAGMENTS;

162 - 165 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, LIMESTONE-07%, SILT-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

165 - 170 AS ABOVE

170 - 175 AS ABOVE

175 - 180 SAND; OLIVE GRAY TO VERY DARK RED; 01% POROSITY, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

180 - 185 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

185 - 190 AS ABOVE

190 - 195 AS ABOVE
EXTREMELY SLOW DRILLING FROM 175 TO 195

195 - 200 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, SILT-05%;

200 - 205 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-15%, SILT-05%;

205 - 210 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-10%, PHOSPHATIC SAND-01%, LIMESTONE-01%;
FOSSILS: FOSSIL FRAGMENTS;

210 - 215 AS ABOVE

215 - 220 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

220 - 225 AS ABOVE

225 - 235 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

235 - 240 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, PHOSPHATIC SAND-02%;

240 - 250 AS ABOVE

250 - 255 SAND; OLIVE GRAY TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;

255 - 260 SAND; OLIVE GRAY TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;

260 - 263 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, SILT-05%;

263 - 270 AS ABOVE

270 - 280 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, SILT-05%, LIMESTONE-02%;

280 - 282 AS ABOVE
MIXED SAMPLE

282 - 290 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-25%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

290 - 294 AS ABOVE

294 - 300 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, LIMESTONE-03%, CLAY-02%;

300 - 310 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, LIMESTONE-03%, CLAY-02%, PHOSPHATIC SAND-01%;

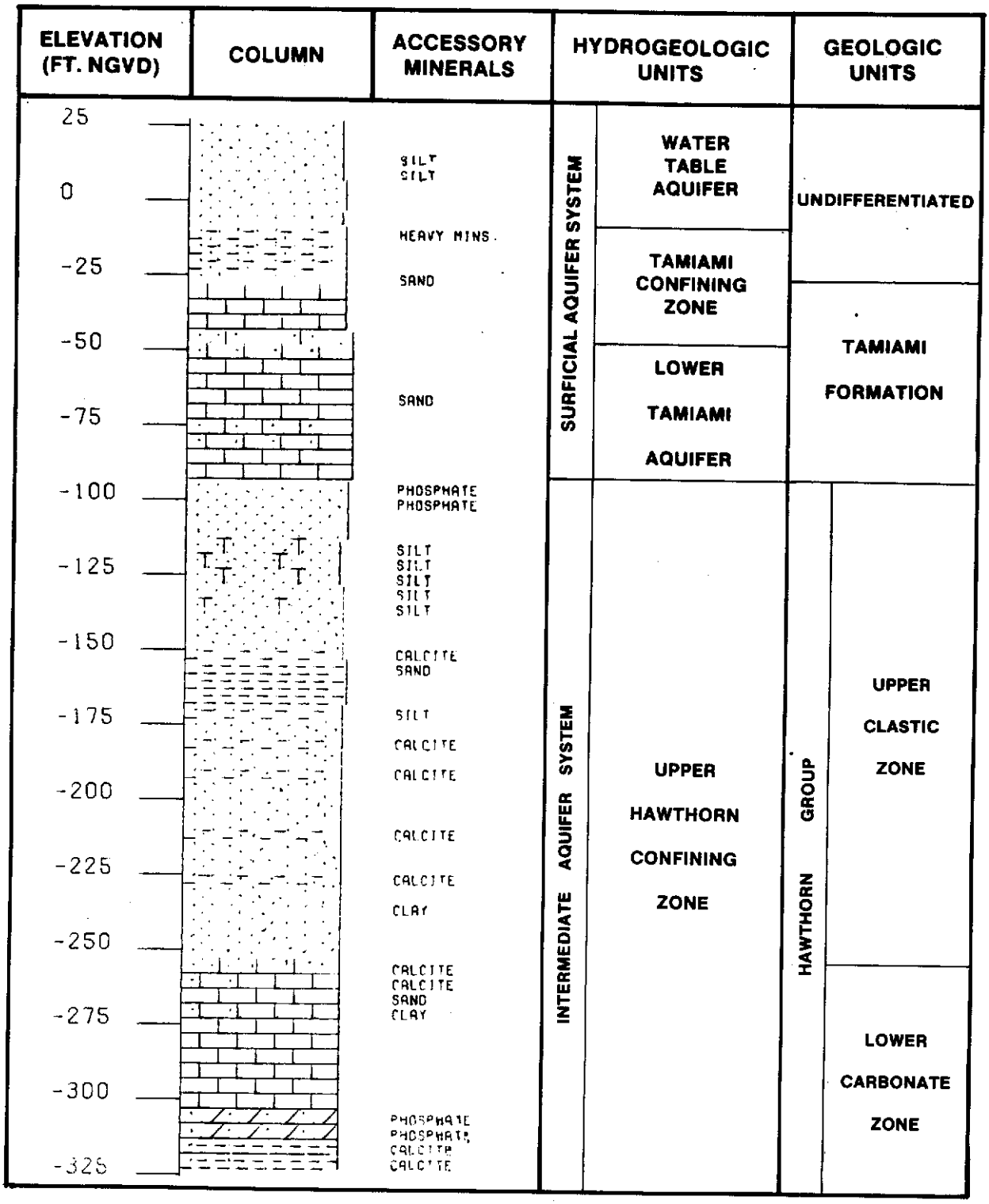
310 - 320 AS ABOVE

320 - 330 AS ABOVE

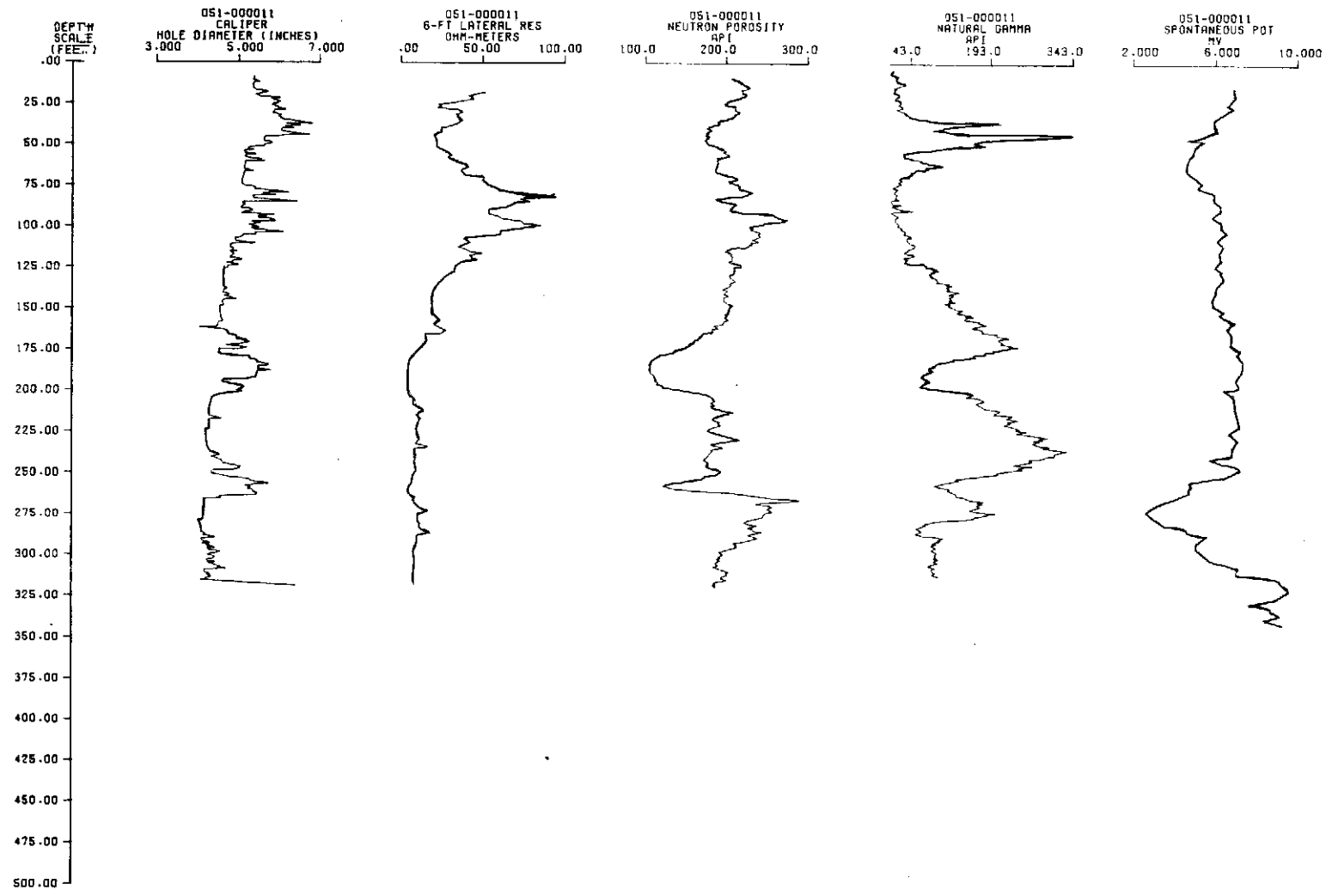
330 - 340 DOLO-SILT; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-20%, CLAY-15%, PHOSPHATIC SAND-05%;

340 - 350 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-10%, PHOSPHATIC SAND-03%;

350 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
SILT
SILT
HEAVY MINS.
SAND
SAND
PHOSPHATE
PHOSPHATE
SILT
SILT
SILT
SILT
SILT
CALCITE
SAND
SILT
CALCITE
CALCITE
CALCITE
CALCITE
CLAY
CALCITE
CALCITE
SAND
CLAY
PHOSPHATE
PHOSPHATE
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY207



GEOPHYSICS, WELL HY-207

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 208 COUNTY - HENDRY
TOTAL DEPTH: 00503 FT. LOCATION: T.44S R.33E S.09 B
45 SAMPLES FROM 0 TO 503 FT. LAT = N 26D 40M 45
LON = W 81D 02M 30
COMPLETION DATE - 09/09/87 ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA, NEUTRON, CALIPER

OWNER/DRILLER: SFWMD-MILLS RANCH; DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	140	SURFICIAL AQUIFER SYSTEM
0	15	WATER TABLE AQUIFER
15	35	TAMIAMI CONFINING ZONE
35	140	LOWER TAMIAMI AQUIFER
140	490	UPPER HAWTHORN CONFINING ZONE
490	503	MID-HAWTHORN AQUIFER

0. -	2.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
2. -	15.	122TMIM	TAMIAMI FM.
15. -	503.	122HTRN	HAWTHORN GROUP

0 - 2 SAND; GRAYISH ORANGE TO DARK YELLOWISH ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, IRON STAIN- %, PLANT REMAINS- %;

2 - 8 LIMESTONE; LIGHT YELLOWISH ORANGE TO DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, INTRACLASTS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

8 - 15 LIMESTONE; VERY LIGHT ORANGE TO LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%;
FOSSILS: FOSSIL FRAGMENTS;

15 - 20 SAND; YELLOWISH GRAY TO LIGHT GREENISH YELLOW; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-50%, SILT-15%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

20 - 35 SAND; VERY LIGHT ORANGE TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-30%, SILT-05%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 60 AS ABOVE
SAND IS MEDIUM TO GRANULE SIZE

60 - 80 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;
5% WELL ROUNDED FROSTED QUARTZ GRANULES

80 - 100 SAND; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-40%, SILT-10%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;
5% WELL ROUNDED FROSTED QUARTZ GRANULES

100 - 120 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-40%;
FOSSILS: FOSSIL FRAGMENTS;
5% WELL ROUNDED FROSTED QUARTZ GRANULES

120 - 140 AS ABOVE

140 - 155 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-40%;
10% WELL ROUNDED FROSTED QUARTZ GRANULES

155 - 160 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-25%, CLAY-03%;
10% WELL ROUNDED FROSTED QUARTZ GRANULES

160 - 175 AS ABOVE

175 - 180 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, SHELL-05%, CLAY-03%, CALCILUTITE-03%;
FOSSILS: FOSSIL FRAGMENTS;
10% WELL ROUNDED FROSTED QUARTZ GRANULES

180 - 200 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, FRACTURE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MEDIUM TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CLAY-01%, CALCILUTITE-01%;

200 - 220 AS ABOVE

220 - 240 SILT; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CLAY-05%, CALCILUTITE-05%, SHELL-05%;
FOSSILS: FOSSIL FRAGMENTS;

240 - 250 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

250 - 260 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-30%, CALCILUTITE-10%, CALCITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

260 - 280 SAND; MODERATE GRAYISH GREEN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, SILT-10%, SHELL-10%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

280 - 290 SAND; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRANULE; RANGE: FINE TO GRAVEL;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-10%, CLAY-05%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES;

290 - 300 AS ABOVE

300 - 307 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

307 - 320 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-10%, LIMESTONE-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

320 - 325 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-10%, SHELL-03%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

325 - 340 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-25%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

340 - 360 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-01%;

360 - 380 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CLAY-10%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;

380 - 390 AS ABOVE

390 - 400 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-05%;

400 - 412 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%;

412 - 420 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-05%, PHOSPHATIC SAND-02%;

420 - 436 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-10%, PHOSPHATIC SAND-02%;

436 - 440 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCITE-07%, CLAY-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

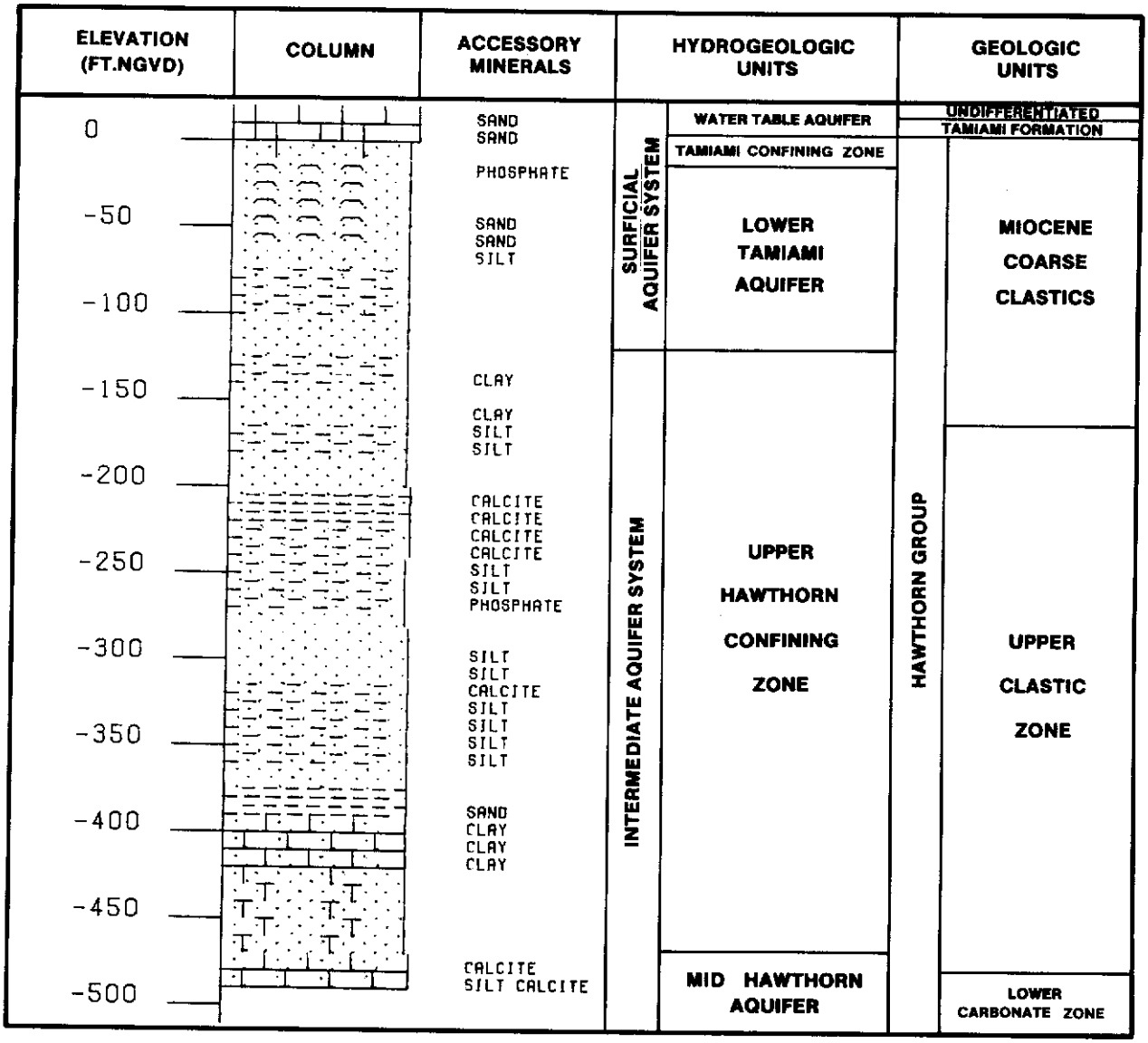
440 - 460 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

460 - 480 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-20%, PHOSPHATIC SAND-04%;
FOSSILS: SPICULES, BRYOZOA, FOSSIL FRAGMENTS;

480 - 490 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-50%, CALCILUTITE-30%, PHOSPHATIC SAND-04%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

490 - 503 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-15%, SILT-05%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS, BRYOZOA;

503 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
SAND
SAND
PHOSPHATE
SAND
SAND
SILT
CLAY
CLAY
SILT
SILT
CALCITE
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CALCITE
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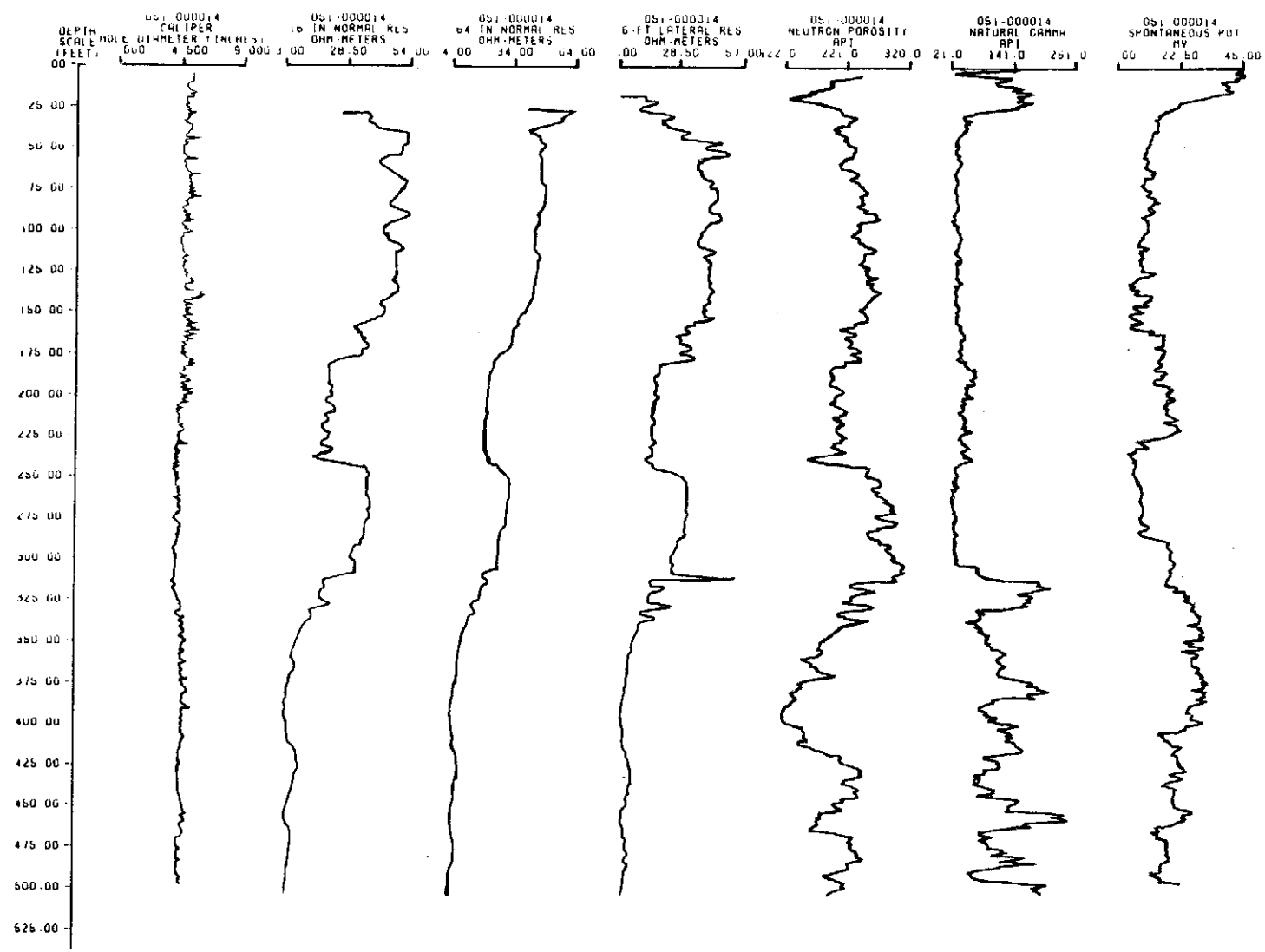
SILT
SAND
CLAY
CLAY
CLAY
CALCITE
SILT CALCITE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
UNDIFFERENTIATED
TAMIAMI FORMATION
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY 208



GEOPHYSICS, WELL HY-208

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 209 COUNTY - HENDRY
TOTAL DEPTH: 00502 FT. LOCATION: T.45S R.34E S.27 D
51 SAMPLES FROM 0 TO 502 FT. LAT = N 26D 32M 07
LON = W 80D 55M 33
COMPLETION DATE - 06/10/87 ELEVATION - 018 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA, NEUTRON, CALIPER

OWNER/DRILLER: SFWMD-U.S. SUGAR MOTT 1 PLANTATION; DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD

HYDROGEOLOGIC UNITS

0	156	SURFICIAL AQUIFER SYSTEM
0	3	WATER TABLE AQUIFER
3	22	TAMIAMI CONFINING ZONE
22	156	LOWER TAMIAMI AQUIFER
156	462	UPPER HAWTHORN CONFINING ZONE
462	482	MID-HAWTHORN AQUIFER (LOW YIELD)
482	502	LOWER HAWTHORN CONFINING ZONE

0. -	6.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
6. -	182.	122TMIM	TAMIAMI FM.
182. -	502.	122HTRN	HAWTHORN GROUP

0 - 3 SAND; VERY LIGHT GRAY TO BLACK; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): ORGANIC MATRIX;
ACCESSORY MINERALS: ORGANICS-25%, PLANT REMAINS- %;

3 - 6 PEAT; DARK YELLOWISH BROWN TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): ORGANIC MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PLANT REMAINS- %;

6 - 8 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN; 05% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-10%, CALCITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

8 - 12 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CRYSTALS, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

12 - 16 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-45%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
SHELLS ARE REPLACED WITH CALCITE, SAND IS FROSTED

16 - 22 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCITE-15%;
FOSSILS: FOSSIL FRAGMENTS;

22 - 30 SANDSTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS;

30 - 38 AS ABOVE

38 - 42 SANDSTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: LIMESTONE-10%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

42 - 62 AS ABOVE

62 - 70 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-10%, CALCITE-10%;
FOSSILS: FOSSIL FRAGMENTS, CORAL, MOLLUSKS;

70 - 82 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: BARNACLES, WORM TRACES, FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;

82 - 85 AS ABOVE

85 - 90 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 29% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, CALCITE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

90 - 102 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, CORAL, WORM TRACES;

102 - 122 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCITE-20%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, WORM TRACES, MOLLUSKS, FOSSIL FRAGMENTS;

122 - 142 AS ABOVE

142 - 156 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SPAR-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, BRYOZOA;

156 - 162 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCITE-20%, CALCILUTITE-10%, SILT-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

162 - 182 SANDSTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS;

182 - 197 NO SAMPLES
FINE SAND-NO RETURNS

197 - 202 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CALCITE-15%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

202 - 222 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-10%;

222 - 242 SILT; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-05%;

242 - 247 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CLAY-05%, PHOSPHATIC SAND-02%, MICA-02%;

247 - 262 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CLAY-05%, PHOSPHATIC SAND-05%, MICA-02%;

262 - 277 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%, MICA-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

277 - 282 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%;

282 - 290 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%, MICA-01%;

290 - 299 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, CALCITE-07%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

299 - 302 AS ABOVE

302 - 315 SAND; OLIVE GRAY TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;

315 - 322 3% WELL ROUNDED FROSTED QUARTZ GRANULES

322 - 342 CALCILUTITE; LIGHT OLIVE TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-05%, PHOSPHATIC SAND-01%;

342 - 352 CALCILUTITE; LIGHT OLIVE TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCITE-10%, SHELL-10%, CLAY-05%;

352 - 362 CALCILUTITE; LIGHT OLIVE TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-05%, PHOSPHATIC SAND-01%;

362 - 375 SAND; GRAYISH OLIVE; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-10%, PHOSPHATIC SAND-05%;

375 - 382 SILT; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-15%, CLAY-10%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

382 - 402 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CLAY-10%, PHOSPHATIC SAND-01%;

402 - 412 AS ABOVE

412 - 422 CALCILUTITE; YELLOWISH GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

422 - 427 AS ABOVE

427 - 432 CALCILUTITE; YELLOWISH GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

432 - 442 CALCILUTITE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCITE-10%, SILT-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, CORAL;

442 - 447 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, SILT-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

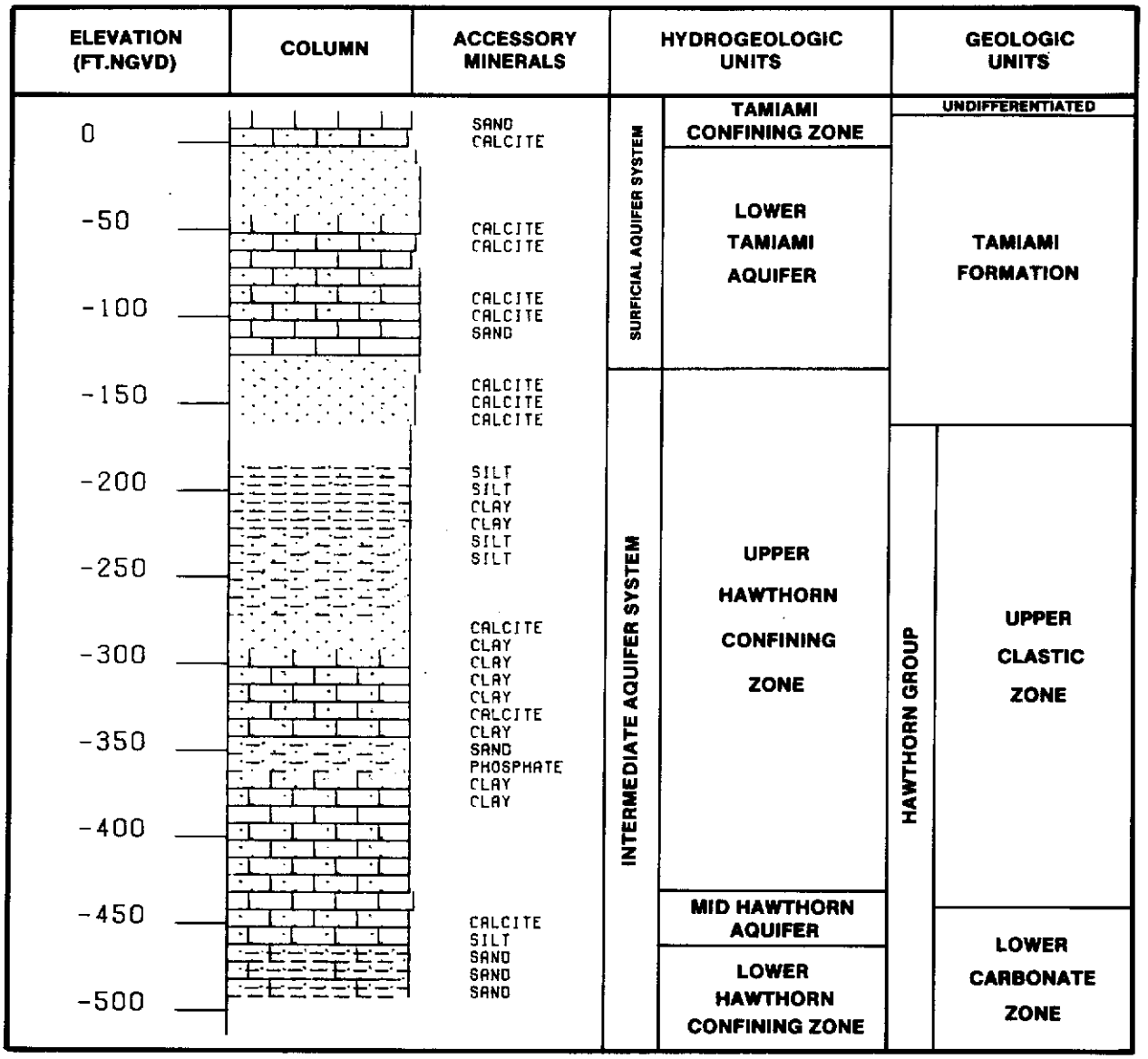
447 - 462 AS ABOVE

462 - 467 SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-30%, PHOSPHATIC SAND-02%;

467 - 482 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCITE-15%, SILT-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

482 - 502 SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-30%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

502 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
SAND
CALCITE
CALCITE
CALCITE
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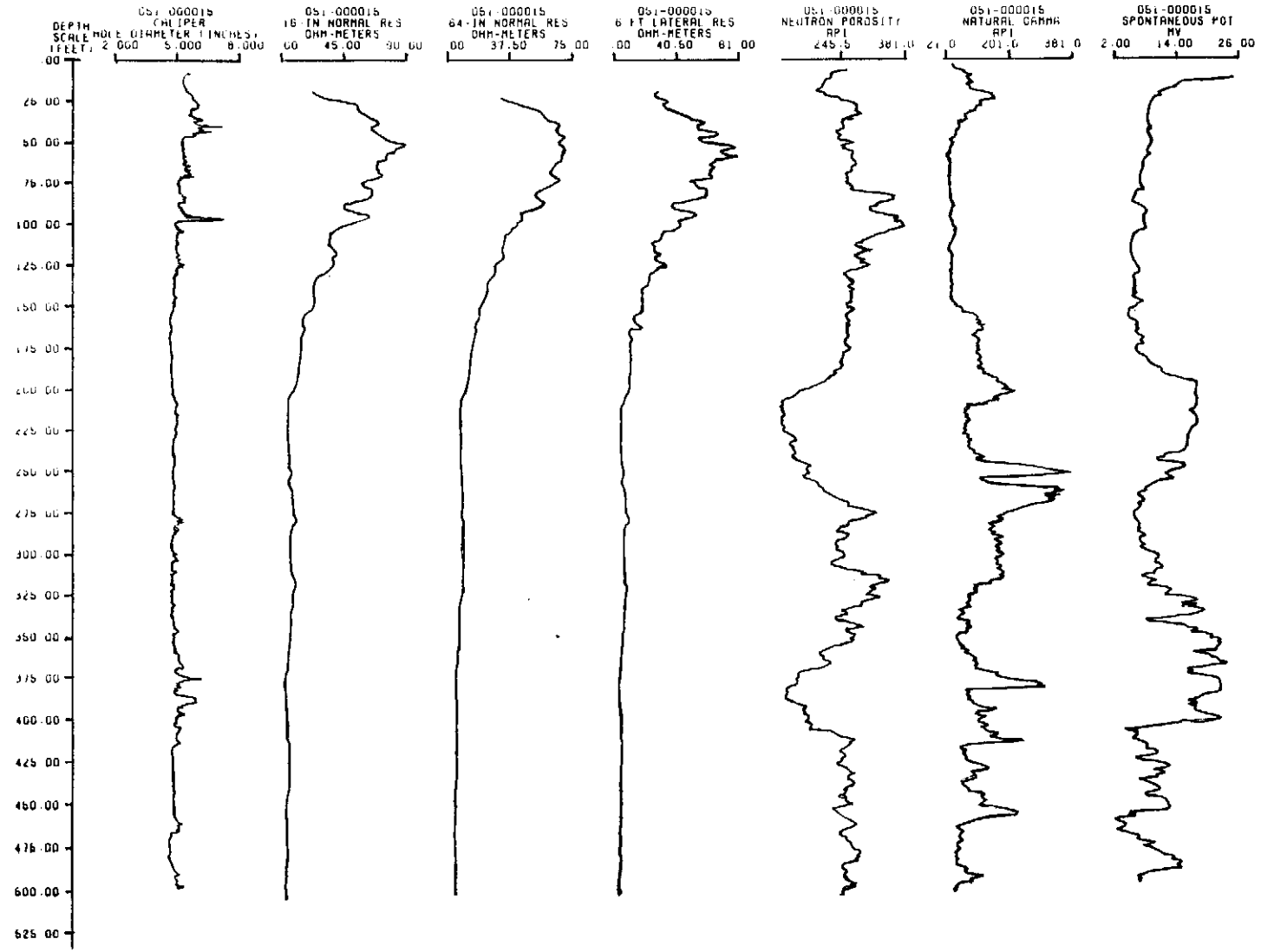
CLAY
SAND
PHOSPHATE
CLAY
CLAY
CALCITE
SILT
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY 209



GEOPHYSICS, WELL HY-209

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 210 COUNTY - HENDRY
TOTAL DEPTH: 00502 FT. LOCATION: T.44S R.31E S.05 A
53 SAMPLES FROM 0 TO 502 FT. LAT = N 26D 41M 30
LON = W 81D 02M 30
COMPLETION DATE - 16/12/87 ELEVATION - 025 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, CALIPER, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-HILLIARD PROPERTY; DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 98 SURFICIAL AQUIFER SYSTEM
0 13 WATER TABLE AQUIFER
13 77 TAMIAMI CONFINING ZONE
77 98 LOWER TAMIAMI AQUIFER(LOW YIELD)
98 102 NO SAMPLES
102 502 UPPER HAWTHORN CONFINING ZONE

0. - 13. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
13. - 31. 122TMIM TAMIAMI FM.
31. - 502. 122HTRN HAWTHORN GROUP

0 - 1 PEAT; BLACK; 15% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): ORGANIC MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PLANT REMAINS-%;

1 - 4 SAND; BROWNISH GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): ORGANIC MATRIX;
ACCESSORY MINERALS: ORGANICS-15%, PLANT REMAINS-%;

4 - 8 SAND; DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %, IRON STAIN-%;

8 - 13 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SHELL-40%, CALCILUTITE-10%;
FOSSILS: FOSSIL FRAGMENTS;

13 - 22 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%, SHELL-01%;
FOSSILS: FOSSIL FRAGMENTS;

22 - 31 CALCILUTITE; YELLOWISH GRAY TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, SHELL-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

31 - 37 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-25%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;

37 - 39 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-15%, LIMESTONE-01%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

39 - 42 SAND; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-10%, CALCILUTITE-10%, LIMESTONE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

42 - 52 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

52 - 57 SAND; GREENISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-25%, PHOSPHATIC SAND-01%, SHELL-01%;
FOSSILS: FOSSIL FRAGMENTS;

57 - 62 SAND; GREENISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-15%, SHELL-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

62 - 67 AS ABOVE

67 - 77 SAND; GREENISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-15%, IRON STAIN-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;
LARGER GRAINS FROSTED

77 - 82 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%, SHELL-10%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

82 - 92 AS ABOVE

92 - 98 SAND; LIGHT OLIVE GRAY TO LIGHT GRAY; 15% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%, IRON STAIN-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

98 - 102 NO SAMPLES
FINE SAND-NO RETURNS

102 - 112 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: SILT-10%, SHELL-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

112 - 122 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-05%, CALCILUTITE-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

122 - 132 AS ABOVE

132 - 142 AS ABOVE

142 - 162 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-01%;

162 - 182 AS ABOVE

182 - 197 AS ABOVE

197 - 202 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-01%;

202 - 222 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;

222 - 242 AS ABOVE

242 - 262 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-01%;

262 - 277 AS ABOVE

277 - 282 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% PORDSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-02%, CALCILUTITE-01%, PHOSPHATIC SAND-01%;

282 - 292 AS ABOVE

292 - 302 AS ABOVE

302 - 315 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, CLAY-02%, CALCILUTITE-01%, PHOSPHATIC SAND-01%;

315 - 322 AS ABOVE

322 - 342 AS ABOVE

342 - 352 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-01%;

352 - 362 AS ABOVE

362 - 372 AS ABOVE

372 - 382 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-01%;

382 - 392 AS ABOVE

392 - 402 SILT; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CLAY-05%;
OTHER FEATURES: FROSTED;

402 - 410 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, CLAY-05%;
OTHER FEATURES: FROSTED;

410 - 412 GRAVEL; VERY LIGHT GRAY TO BLACK; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY COARSE; RANGE: VERY FINE TO GRAVEL;
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, QUARTZ SAND-10%, CALCILUTITE-05%, PHOSPHATIC GRAVEL- %;
OTHER FEATURES: FROSTED;

412 - 422 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-04%;

422 - 432 AS ABOVE

432 - 442 AS ABOVE

442 - 457 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-04%;

457 - 462 AS ABOVE

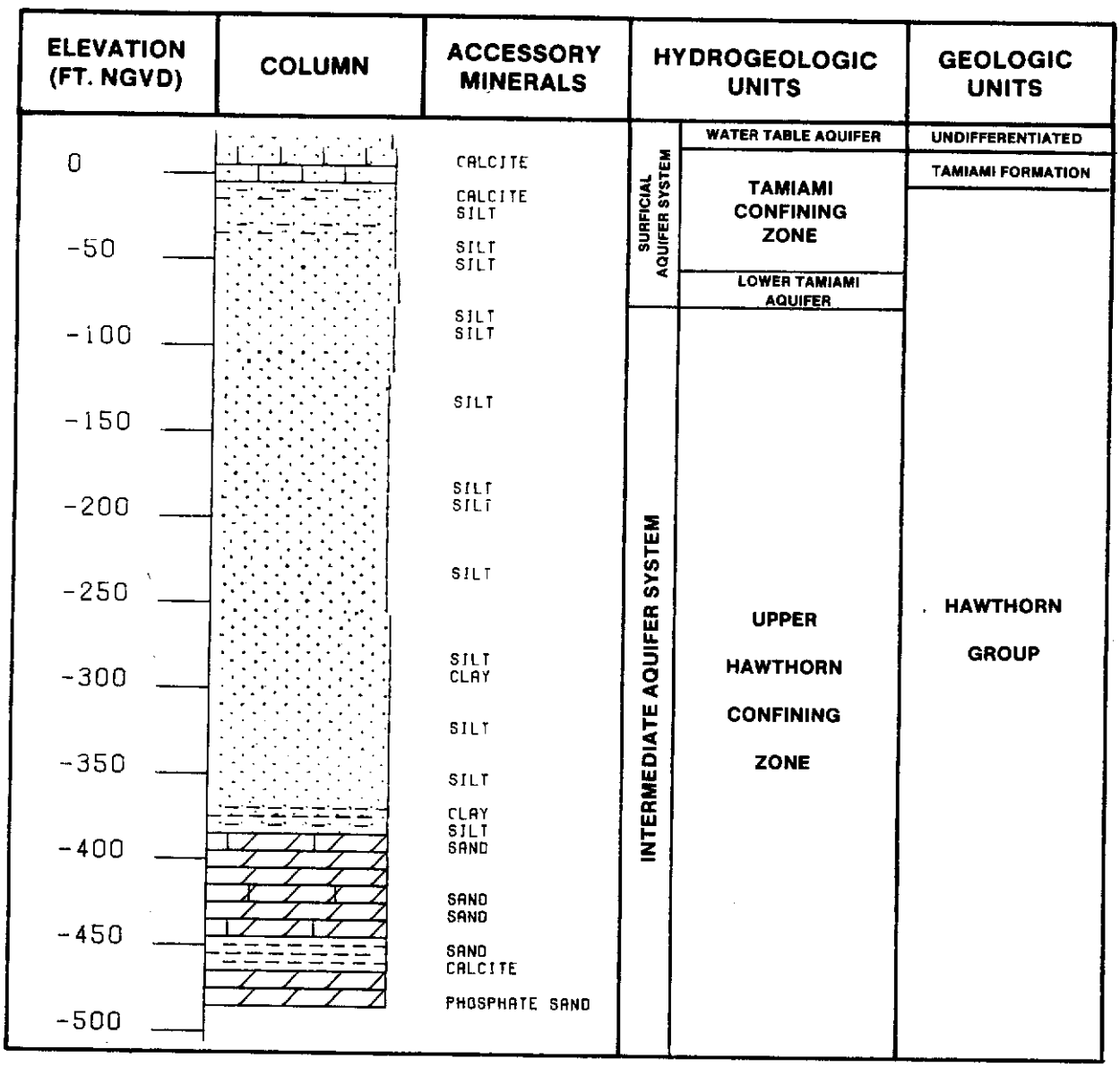
462 - 472 DOLO-SILT; LIGHT OLIVE TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;

472 - 482 CLAY; GREENISH GRAY TO DARK GREENISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;

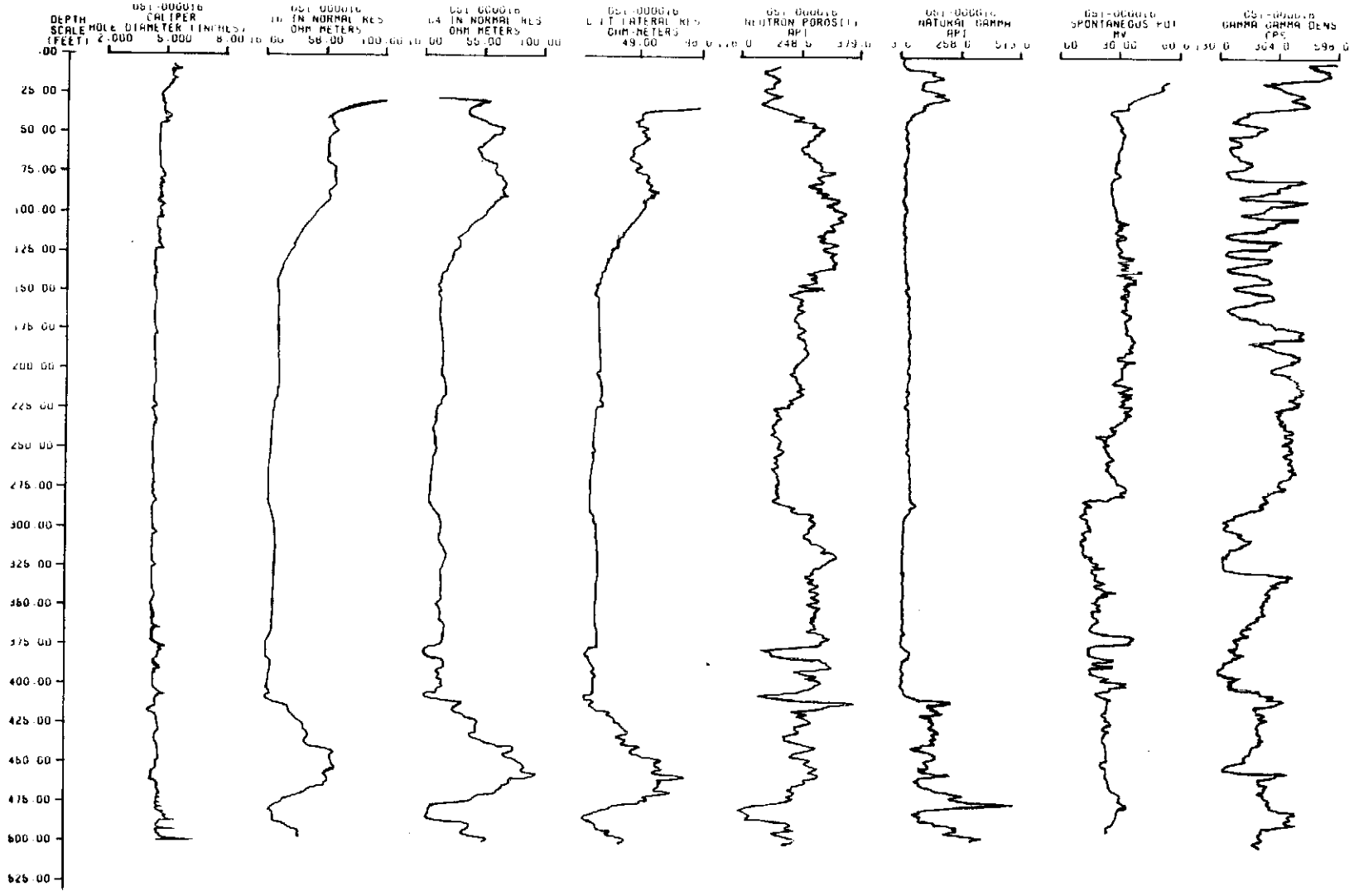
482 - 492 CLAY; MODERATE GRAYISH GREEN TO GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;

492 - 502 DOLO-SILT; LIGHT OLIVE TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-02%, QUARTZ SAND-05%, PHOSPHATIC SAND-06%;

502 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
CALCITE
CALCITE
SILT
SILT
SILT
SILT
SILT
SILT
SILT
SILT
CLAY
SILT
SILT
CLAY
SILT
SILT
SAND
SAND
SAND
CALCITE
PHOSPHATE SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP

HY210



GEOPHYSICS, WELL HY-210

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 301 | COUNTY - HENDRY
TOTAL DEPTH: 00132 FT. | LOCATION: T.47S R.34E S.08 A
26 SAMPLES FROM 0 TO 132 FT. | LAT = N 26D 24M 40
LON = W 80D 56M 50
COMPLETION DATE - N/A | ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: US SUGAR WELL HM-265 (MISSIMER), DRILLED BY B. KOHLMEIER

WORKED BY: BURNS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 132 SURFICIAL AQUIFER SYSTEM
0 25 WATER TABLE AQUIFER
25 75 TAMIAMI CONFINING ZONE
75 132 LOWER TAMIAMI AQUIFER

0. - 75. 090UDSC UNDIFFERENTIATED SAND AND CLAY
75. - 132. 122TMIM TAMIAMI FM.

0 - 5 SAND; MODERATE DARK GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-01%, IRON STAIN- %, PLANT REMAINS- %;
OTHER FEATURES: FROSTED;

5 - 10 SAND; MODERATE DARK GRAY TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-01%, PLANT REMAINS- %;

10 - 15 AS ABOVE
GRAIN SIZE GRANULE WITH LOW SPHERICITY

15 - 20 SAND; MODERATE DARK GRAY TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-01%, PLANT REMAINS- %;

20 - 25 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-03%, LIMONITE-01%;
OTHER FEATURES: FROSTED;

25 - 50 SAND; BROWNISH GRAY TO DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-30%;

50 - 55 AS ABOVE

55 - 60 CLAY; LIGHT OLIVE GRAY; NOT OBSERVED; POOR INDURATION;
OTHER FEATURES: POOR SAMPLE;
SAMPLE CONSISTS MAINLY OF CAVINGS

60 - 70 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC SAND-01%;

70 - 75 SAND; DARK YELLOWISH BROWN; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%;

75 - 85 LIMESTONE; OLIVE GRAY; 18% POROSITY, PIN POINT VUGS, MOLDIC, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-50%, QUARTZ SAND-25%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

85 - 95 AS ABOVE

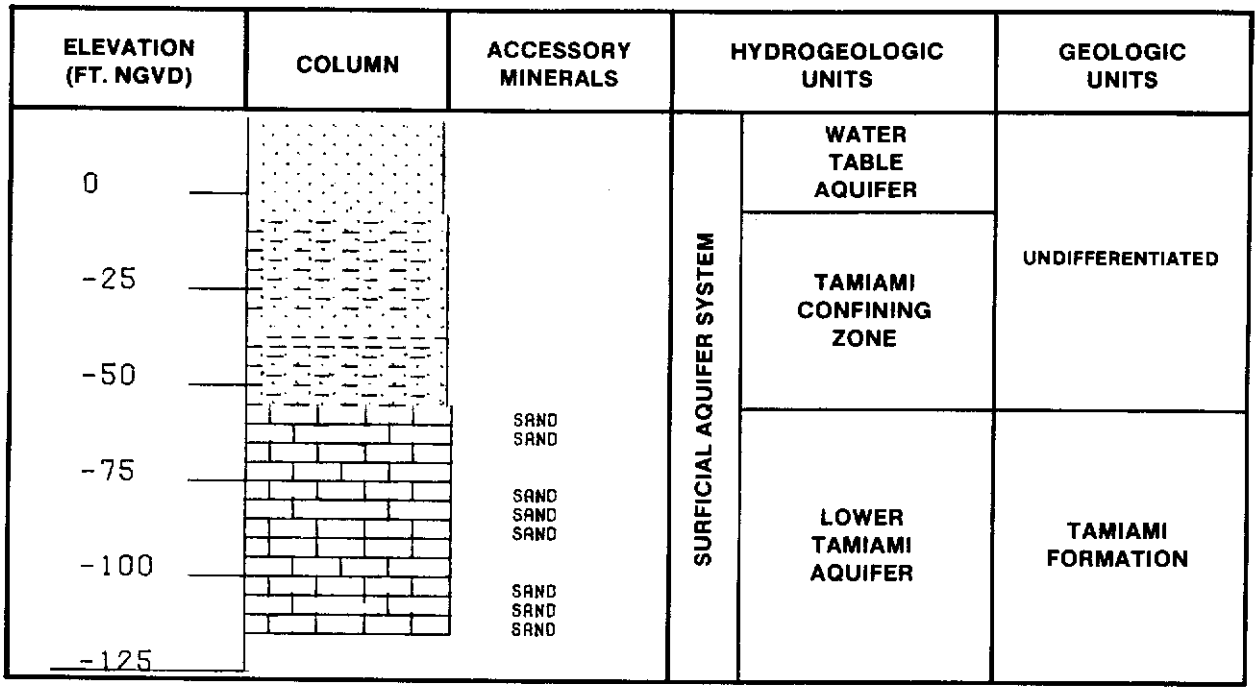
95 - 100 LIMESTONE; LIGHT OLIVE GRAY; 18% POROSITY, PIN POINT VUGS, VUGULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-40%, QUARTZ SAND-10%, CALCILUTITE-25%;
FOSSILS: MOLLUSKS, WORM TRACES;

100 - 110 LIMESTONE; LIGHT OLIVE GRAY; 16% POROSITY, PIN POINT VUGS, VUGULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, PELLET; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-40%, QUARTZ SAND-20%, CALCILUTITE-25%;
FOSSILS: MOLLUSKS, WORM TRACES, FOSSIL FRAGMENTS;

110 - 120 AS ABOVE
BETTER INDURATED

120 - 132 LIMESTONE; LIGHT OLIVE GRAY; 16% POROSITY, PIN POINT VUGS, VUGULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, PELLET; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-40%, QUARTZ SAND-20%, CALCILUTITE-25%;
FOSSILS: MOLLUSKS, WORM TRACES, FOSSIL FRAGMENTS;

132 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY301

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 302 COUNTY - HENDRY
TOTAL DEPTH: 00145 FT. LOCATION: T.47S R.34E S.05 C
23 SAMPLES FROM 0 TO 145 FT. LAT = N 26D 25M 20
LON = W 80D 57M 30
COMPLETION DATE - N/A ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER: US SUGAR H-M-249(MISSIMER)/B. KOHLMEIER

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 145 SURFICIAL AQUIFER SYSTEM
0 20 WATER TABLE AQUIFER
20 65 TAMIAMI CONFINING ZONE
65 145 LOWER TAMIAMI AQUIFER

0. - 55. 090UDSC UNDIFFERENTIATED SAND AND CLAY
55. - 145. 122TMIM TAMIAMI FM.

0 - 5 SAND; DARK BROWN; 00% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS-10%, HEAVY MINERALS-05%, PEAT-02%, IRON STAIN- %;

5 - 10 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-05%, SILT-02%, PLANT REMAINS-01%;
OTHER FEATURES: FROSTED;

10 - 20 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-05%, SILT-02%, PLANT REMAINS-01%;
OTHER FEATURES: FROSTED;

20 - 25 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: CLAY-20%, IRON STAIN- %;

25 - 33 SAND; DARK GRAY; 13% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, SILT-05%, PYRITE-01%;

33 - 37 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%;

37 - 45 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-04%;

45 - 52 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-04%, PHOSPHATIC SAND-02%;
FOSSILS: SHARKS TEETH;

52 - 55 SAND; OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-15%, PHOSPHATIC SAND-04%;

55 - 60 SANDSTONE; LIGHT OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%, CALCILUTITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: WORM TRACES, SPICULES, FOSSIL FRAGMENTS;

60 - 65 AS ABOVE

65 - 75 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SPAR-30%, CALCILUTITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, SPICULES, BRYOZOA;

75 - 117 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, MOLDIC, PIN POINT VUGS;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, SPAR-30%, PHOSPHATIC SAND-01%;
FOSSILS: CORAL, WORM TRACES, MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS;
SAND CONTENT DECREASES, FOSSILS INCREASE WITH DEPTH

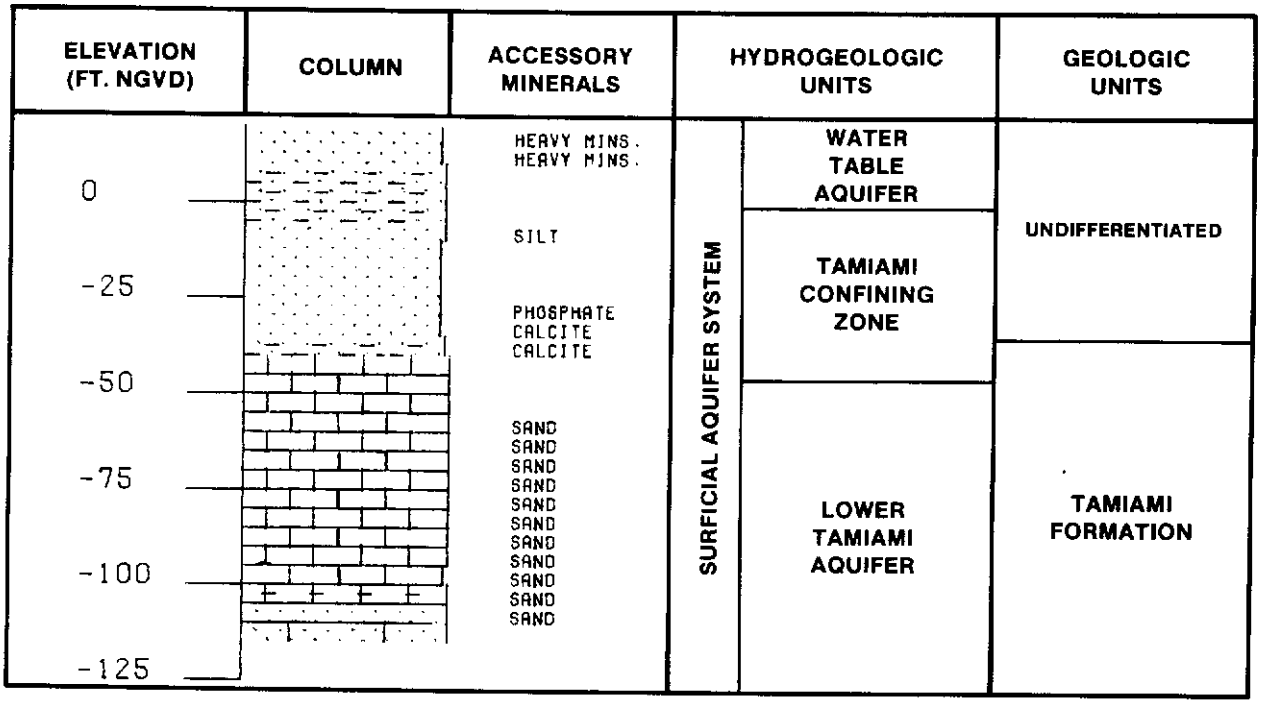
117 - 119 SANDSTONE; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS, BRYOZOA;

119 - 127 LIMESTONE; LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-20%, QUARTZ SAND-15%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: CORAL, BRYOZOA, MOLLUSKS, WORM TRACES, FOSSIL FRAGMENTS;

127 - 132 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES, BRYOZOA, MOLLUSKS, WORM TRACES;

132 - 145 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES, BRYOZOA, MOLLUSKS, WORM TRACES;
SAND CONTENT HIGHER

145 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
HEAVY MINS.
HEAVY MINS.
SILT
PHOSPHATE
CALCITE
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY302

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 303 COUNTY - HENDRY
TOTAL DEPTH: 00140 FT. LOCATION: T.47S R.34E S.07 A
26 SAMPLES FROM 0 TO 140 FT. LAT = N 26D 24M 55
LON = W 80D 58M 00
COMPLETION DATE - N/A ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: US SUGAR WELL HM-263 (MISSMER), DRILLED BY B. KOHLMEIER

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 140 SURFICIAL AQUIFER SYSTEM
0 45 WATER TABLE AQUIFER
45 85 TAMIAMI CONFINING ZONE
85 140 LOWER TAMIAMI AQUIFER

0. - 80. 090UDSC UNDIFFERENTIATED SAND AND CLAY
80. - 140. 122TMIM TAMIAMI FM.

0 - 10 SAND; LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-03%, PLANT REMAINS- %;

10 - 20 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-03%, DOLOMITE-01%;

20 - 25 SAND; OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-03%, DOLOMITE-01%, PLANT REMAINS- %;
OTHER FEATURES: FROSTED;

25 - 30 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-02%;
LARGER GRAINS FROSTED

30 - 35 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

35 - 45 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; LOW SPHERICITY; UNCONSOLIDATED;

45 - 55 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%;
OTHER FEATURES: FROSTED;

55 - 65 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-05%;
OTHER FEATURES: FROSTED;

65 - 70 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-20%;

70 - 80 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-01%;

80 - 85 SANDSTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND- %;

85 - 100 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, MOLDIC, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-03%;
FOSSILS: WORM TRACES, FOSSIL MOLDS, SPICULES;

100 - 110 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, VUGULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%, PHOSPHATIC SAND-04%;
FOSSILS: SPICULES;

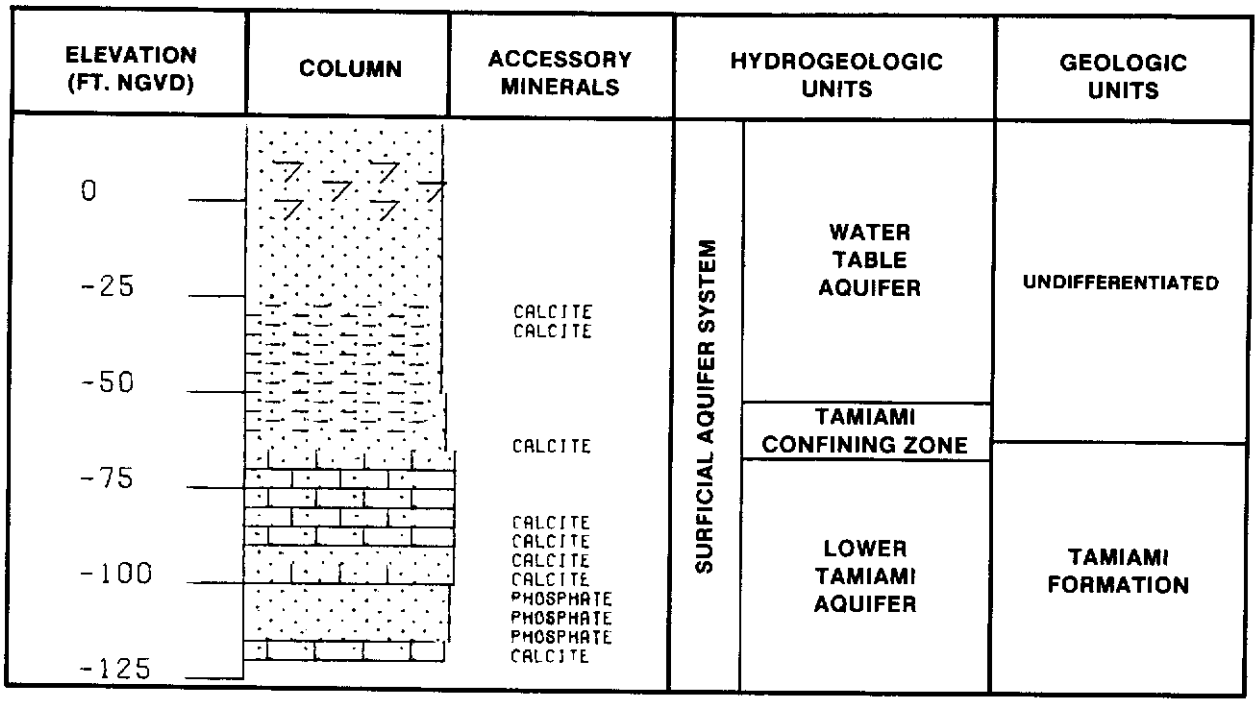
110 - 115 SANDSTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: WORM TRACES, SPICULES;

115 - 120 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, VUGULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%, PHOSPHATIC SAND-04%;
FOSSILS: SPICULES, BRYOZOA;

120 - 135 SANDSTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: BRYOZOA, WORM TRACES, FOSSIL MOLDS, SPICULES;

135 - 140 LIMESTONE; YELLOWISH GRAY; 12% POROSITY, PIN POINT VUGS, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-25%, PHOSPHATIC SAND-02%;
FOSSILS: WORM TRACES, BRYOZOA, FOSSIL MOLDS;

140 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY303

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 304 COUNTY - HENDRY
TOTAL DEPTH: 00140 FT. LOCATION: T.47S R.34E S.06 B
14 SAMPLES FROM 0 TO 140 FT. LAT = N 26D 25M 40
LON = W 80D 58M 00
COMPLETION DATE - N/A ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: US SUGAR WELL HM-259 (MISSIMER), DRILLED BY B. KOHLMEIER

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 140 SURFICIAL AQUIFER SYSTEM
0 65 WATER TABLE AQUIFER
65 86 TAMIAMI CONFINING ZONE
86 140 LOWER TAMIAMI AQUIFER

0. - 86. 090UDSC UNDIFFERENTIATED SAND AND CLAY
86. - 140. 122TMIM TAMIAMI FM.

0 - 10 SAND; MODERATE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-02%, PLANT REMAINS- %;
SOME WELL ROUNDED FROSTED GRAVEL

10 - 20 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-03%, IRON STAIN- %, PLANT REMAINS- %;
LARGER GRAINS FROSTED, SOME GRAVEL AS ABOVE

20 - 40 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%;
OTHER FEATURES: FROSTED;

40 - 45 NO SAMPLES

45 - 55 SAND; DARK YELLOWISH BROWN; 20% POROSITY,
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

55 - 60 NO SAMPLES

60 - 65 SAND; DARK YELLOWISH BROWN; 20% POROSITY,
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

65 - 86 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;

86 - 100 LIMESTONE; LIGHT OLIVE GRAY; 05% POROSITY, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-04%;

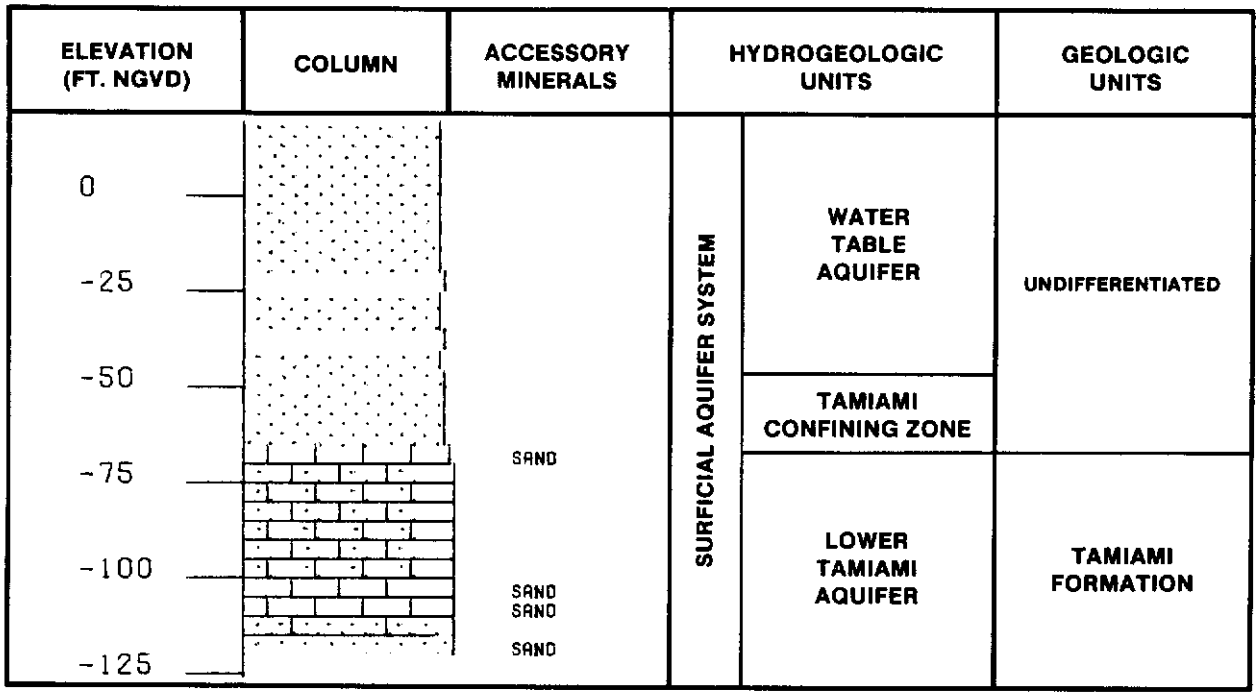
100 - 120 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC, VUGULAR;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-03%;
FOSSILS: SPICULES, BRYOZOA;

120 - 130 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, VUGULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, PELLET; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, SPAR-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS, SPICULES;

130 - 138 SANDSTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, MOLLUSKS;
BARNACLES

138 - 140 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, VUGULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, PELLET; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, SPAR-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS, SPICULES;

140 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY304

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 305
TOTAL DEPTH: 00165 FT.
23 SAMPLES FROM 0 TO 165 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC

COUNTY - HENDRY
LOCATION: T.47S R.34E S.06 A
LAT = N 26D 25M 40
LON = W 80D 57M 30
ELEVATION - 020 FT

OWNER/DRILLER: US SUGAR WELL HM-255 (MISSIMER), DRILLED BY B. KOHLMEIER

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS
0 165 SURFICIAL AQUIFER SYSTEM
0 70 WATER TABLE AQUIFER
70 145 CONFINING ZONE
145 165 LOWER TAMIAMI AQUIFER

0. - 145. 090UDSC UNDIFFERENTIATED SAND AND CLAY
145. - 165. 122TMIM TAMIAMI FM.

0 - 25 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PYRITE-05%, HEAVY MINERALS-02%, IRON STAIN- %;
OTHER FEATURES: FROSTED;

25 - 35 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%;
OTHER FEATURES: FROSTED;

35 - 40 AS ABOVE
WITH 5% DARK STAINED GRAINS

40 - 45 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-02%;
OTHER FEATURES: FROSTED;

45 - 55 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

55 - 65 SAND; DARK YELLOWISH BROWN TO MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

65 - 70 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: HEAVY MINERALS-01%;
LARGER GRAINS FROSTED

70 - 100 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: HEAVY MINERALS-01%, CLAY-02%;
OTHER FEATURES: FROSTED;

100 - 110 SAND; LIGHT OLIVE GRAY TO DARK GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%;

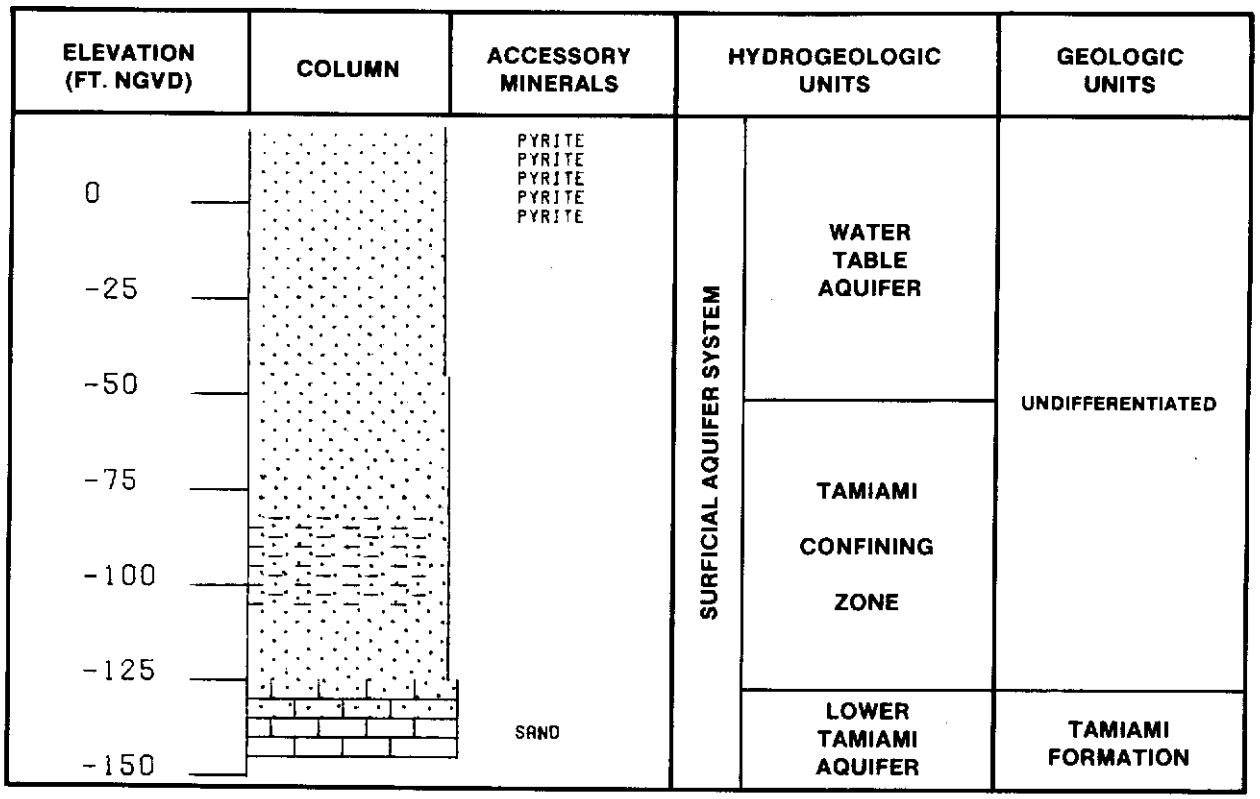
110 - 125 SAND; DARK GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%;
OTHER FEATURES: PLASTIC;

125 - 145 SAND; DARK GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%;
OTHER FEATURES: PLASTIC;

145 - 156 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, MOLDIC, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

156 - 165 AS ABOVE

165 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
PYRITE
PYRITE
PYRITE
PYRITE
PYRITE
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY305

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 306
TOTAL DEPTH: 00280 FT.
53 SAMPLES FROM 0 TO 289 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.46S R.33E S.36 D
LAT = N 26D 26M 12
LON = W 80D 58M 19
ELEVATION - 022 FT

OWNER/DRILLER: USGS WELL HE-902

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	190	SURFICIAL AQUIFER SYSTEM
0	30	WATER TABLE AQUIFER
30	85	TAMIAMI CONFINING ZONE
85	190	LOWER TAMIAMI AQUIFER
190	280	UPPER HAWTHORN CONFINING ZONE

0. -	90.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
90. -	190.	122TMIM	TAMIAMI FM.
190. -	280.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; BLACK TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-07%, PLANT REMAINS- %;

5 - 10 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PLANT REMAINS- %;
OTHER FEATURES: FROSTED;

10 - 20 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

20 - 30 AS ABOVE

30 - 35 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%;

35 - 40 AS ABOVE

40 - 45 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-03%, PHOSPHATIC GRAVEL-02%;
LARGER GRAINS FROSTED

45 - 50 AS ABOVE

50 - 55 CLAY; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%, CALCILUTITE-02%;
SAND GRAINS FROSTED

55 - 60 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, SILT-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

60 - 62 AS ABOVE
WITH MORE SHELL FRAGMENTS & LESS CLAY

62 - 65 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;

65 - 70 SILT; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-02%, CALCILUTITE-02%, PHOSPHATIC SAND-03%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

70 - 75 AS ABOVE

75 - 80 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES;

80 - 85 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES;

85 - 90 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-20%, PHOSPHATIC SAND-02%, PYRITE-01%;
FOSSILS: FOSSIL MOLDS;

90 - 95 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-03%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

95 - 100 AS ABOVE

100 - 105 AS ABOVE

105 - 110 LIMESTONE; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

110 - 115 AS ABOVE

115 - 120 AS ABOVE

120 - 125 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

125 - 130 AS ABOVE

130 - 135 AS ABOVE

135 - 140 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

140 - 145 AS ABOVE

145 - 150 AS ABOVE

150 - 155 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

155 - 160 AS ABOVE

160 - 165 AS ABOVE

165 - 170 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

185 - 190 AS ABOVE

190 - 195 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-04%;

195 - 200 AS ABOVE

200 - 205 AS ABOVE

205 - 210 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

210 - 215 CLAY; OLIVE GRAY TO GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

215 - 220 AS ABOVE

220 - 225 CLAY; OLIVE GRAY TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
MODERATE INDURATION;
ACCESSORY MINERALS: SILT-40%, CALCILUTITE-02%;
OTHER FEATURES: POOR SAMPLE;

225 - 230 AS ABOVE

230 - 235 AS ABOVE

235 - 240 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CLAY-10%, PHOSPHATIC SAND-02%;
OTHER FEATURES: POOR SAMPLE;

240 - 245 AS ABOVE

245 - 250 AS ABOVE

250 - 255 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CLAY-10%, PHOSPHATIC SAND-02%, SHELL- %;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

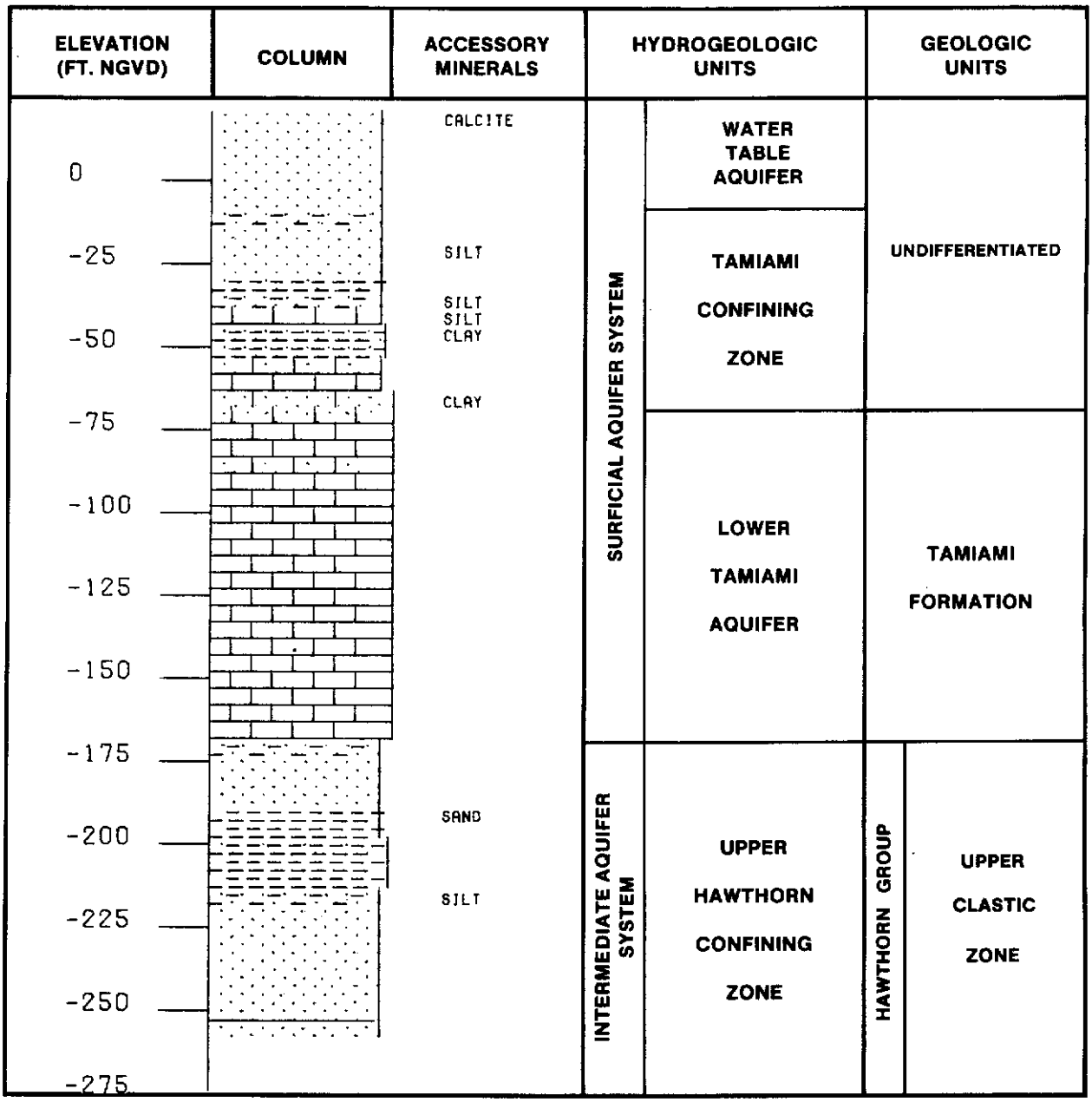
255 - 260 AS ABOVE

260 - 265 AS ABOVE

265 - 270 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-10%, CLAY-10%, PHOSPHATIC SAND-02%, SHELL- %;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

270 - 280 AS ABOVE

280 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
CALCITE
SILT
SILT
SILT
CLAY
CLAY
SAND
SILT
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY306

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 307
TOTAL DEPTH: 00300 FT.
56 SAMPLES FROM 0 TO 300 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.46S R.31E S.35
LAT = N 26D 25M 45
LON = W 81D 11M 36
ELEVATION - 026 FT

OWNER/DRILLER: USGS WELL HE-901

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 80 SURFICIAL AQUIFER SYSTEM
0 10 WATER TABLE AQUIFER
10 30 TAMIAMI CONFINING ZONE
30 80 LOWER TAMIAMI AQUIFER
80 300 UPPER HAWTHORN CONFINING ZONE

0.	- 5.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
5.	- 80.	122TMIM	TAMIAMI FM.
80.	- 300.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; LIGHT BROWN TO MODERATE BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMONITE-10%, PLANT REMAINS- %;
FOSSILS: SPICULES;
SOME LIMESTONE AND SANDSTONE FRAGMENTS

5 - 10 LIMESTONE; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: FOSSIL MOLDS;

10 - 15 CALCILUTITE; VERY LIGHT ORANGE TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR,
PIN POINT VUGS, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-05%;
OTHER FEATURES: CHALKY;
FOSSILS: SPICULES, WORM TRACES;

15 - 20 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
ACCESSORY MINERALS: CALCITE-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS, SPICULES;

20 - 25 AS ABOVE

25 - 30 AS ABOVE

30 - 35 LIMESTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

35 - 40 AS ABOVE

40 - 45 LIMESTONE; LIGHT OLIVE; 30% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, WORM TRACES;

45 - 50 AS ABOVE

50 - 55 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES;

55 - 60 AS ABOVE

60 - 65 AS ABOVE

65 - 70 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-10%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

70 - 75 AS ABOVE

75 - 80 AS ABOVE

80 - 85 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

85 - 90 AS ABOVE

90 - 95 AS ABOVE

95 - 100 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 105 CLAY; LIGHT YELLOWISH ORANGE TO GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

105 - 110 AS ABOVE

110 - 115 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%, CALCILUTITE-05%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS;

115 - 120 AS ABOVE

120 - 125 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

125 - 130 AS ABOVE

130 - 135 AS ABOVE

135 - 140 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

140 - 145 AS ABOVE

145 - 150 AS ABOVE

150 - 155 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-03%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

155 - 160 AS ABOVE

160 - 165 AS ABOVE

165 - 170 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-03%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

170 - 175 AS ABOVE

175 - 180 AS ABOVE

180 - 185 SAND; GRAYISH OLIVE GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-02%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;
SOME FROSTED PEBBLES IN SAMPLE

185 - 190 AS ABOVE

190 - 195 AS ABOVE

195 - 200 SAND; GRAYISH OLIVE GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

200 - 205 AS ABOVE

205 - 210 AS ABOVE

210 - 215 SAND; GRAYISH OLIVE GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

215 - 220 AS ABOVE

220 - 230 AS ABOVE

230 - 240 SAND; GRAYISH OLIVE GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, CALCILUTITE-02%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

240 - 250 AS ABOVE

250 - 260 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-40%, PHOSPHATIC GRAVEL-01%;

260 - 265 AS ABOVE

265 - 270 AS ABOVE

270 - 275 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-40%, PHOSPHATIC GRAVEL-01%;

275 - 280 AS ABOVE

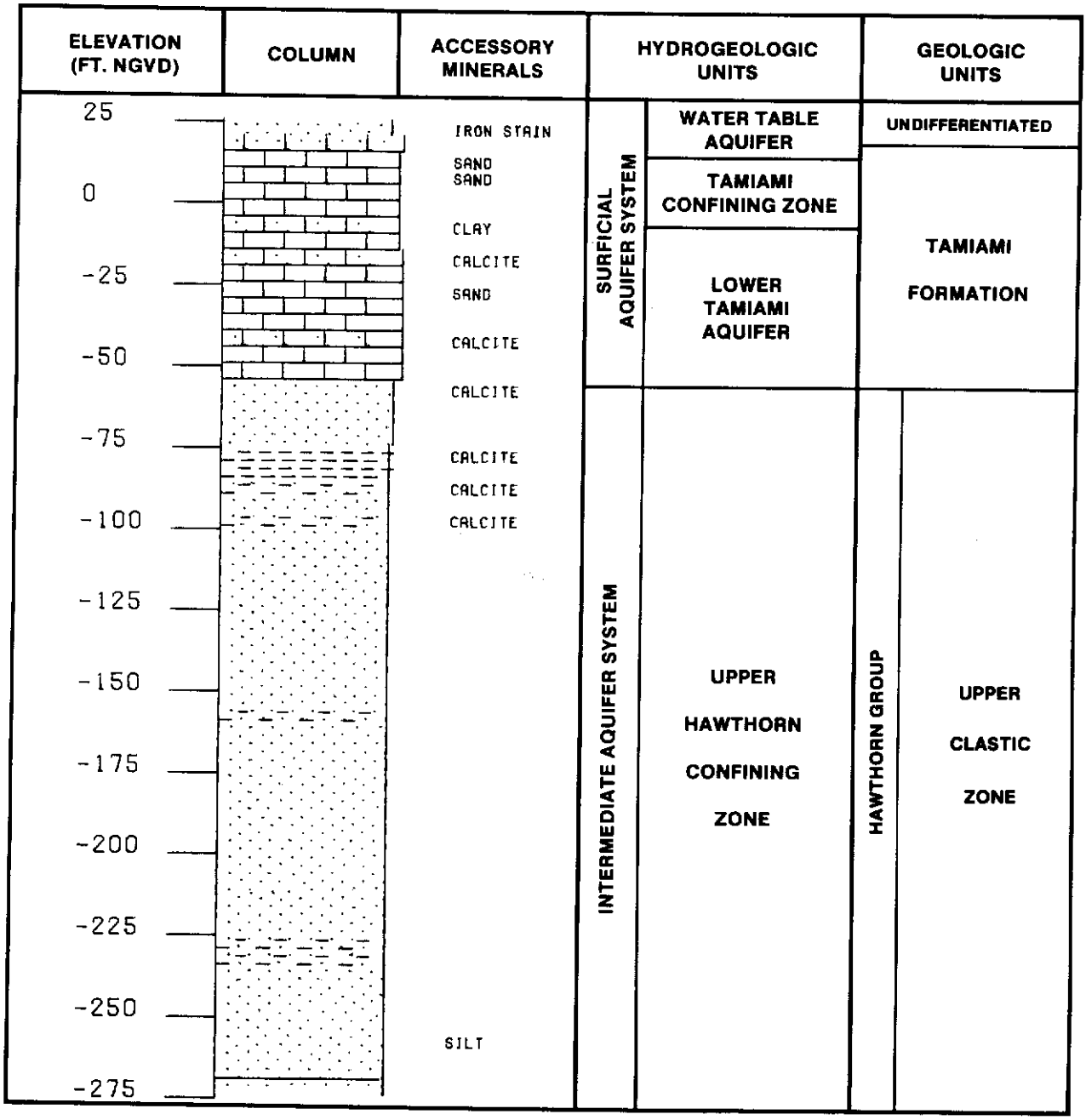
280 - 285 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-10%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, SHARKS TEETH;

285 - 290 AS ABOVE

290 - 295 AS ABOVE

295 - 300 SAND; GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-10%, PHOSPHATIC GRAVEL-03%;
FOSSILS: FOSSIL FRAGMENTS, SHARKS TEETH;

300 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
IRON STAIN
SAND
SAND
CLAY
CALCITE
SAND
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SILT
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY307

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 308 COUNTY - HENDRY
TOTAL DEPTH: 00400 FT. LOCATION: T.47S R.32E S.14 D
54 SAMPLES FROM 0 TO 400 FT. LAT = N 26D 23M 19
LON = W 81D 05M 55
COMPLETION DATE - 17/06/86 ELEVATION - 024 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-GALLAGHER PROPERTY; DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	100	SURFICIAL AQUIFER SYSTEM
0	30	WATER TABLE AQUIFER
30	70	TAMIAMI CONFINING ZONE
70	100	LOWER TAMIAMI AQUIFER
100	392	UPPER HAWTHORN CONFINING ZONE
392	400	MID HAWTHORN AQUIFER (LOW YIELD)

0.	- 140.	122TMIM	TAMIAMI FM.
140.	- 400.	122HTRN	HAWTHORN GROUP

0 - 5 CALCILUTITE; LIGHT BROWN TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-15%, PLANT REMAINS- %;

5 - 10 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAYISH GREEN; 10% POROSITY, INTERGRANULAR,
PIN POINT VUGS, MOLDIC;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-30%;
FOSSILS: FOSSIL FRAGMENTS;

10 - 15 AS ABOVE

15 - 20 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CRYSTALS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-25%, SHELL-10%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 25 LIMESTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-25%, SHELL-05%;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 SHELL BED; LIGHT GREYISH RED TO MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, LIMESTONE-10%;

30 - 35 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-25%, SHELL-10%;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-25%, SHELL-10%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 CALCILUTITE; YELLOWISH GRAY TO MODERATE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%, LIMESTONE-15%, SHELL-05%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES;

45 - 50 AS ABOVE

50 - 55 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-20%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS, WORM TRACES;

55 - 60 LIMESTONE; MODERATE GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

60 - 70 LIMESTONE; MODERATE GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

70 - 80 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, MOLDIC, PIN POINT VUGS, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

80 - 90 LIMESTONE; LIGHT GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SHELL-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

90 - 100 AS ABOVE

100 - 110 LIMESTONE; LIGHT GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-45%, SHELL-05%, SILT-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

110 - 120 AS ABOVE

120 - 130 LIMESTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-10%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

130 - 140 LIMESTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, SHELL-15%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

140 - 145 SAND; YELLOWISH GRAY TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%, LIMESTONE-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

145 - 148 AS ABOVE

148 - 150 SAND; YELLOWISH GRAY TO LIGHT OLIVE; 19% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%, LIMESTONE-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

150 - 153 AS ABOVE

153 - 160 CLAY; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-45%, PHOSPHATIC SAND-02%, LIMESTONE-10%;
FOSSILS: FOSSIL FRAGMENTS;

160 - 165 CLAY; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-10%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

165 - 170 AS ABOVE

170 - 180 SAND; OLIVE GRAY TO GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, SILT-10%, LIMESTONE-05%;
FOSSILS: FOSSIL FRAGMENTS;

180 - 190 AS ABOVE

190 - 195 SAND; GRAYISH OLIVE TO MODERATE GRAYISH GREEN; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%, LIMESTONE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

195 - 200 AS ABOVE
WITH 50% LIMESTONE PIECES AND SHELL FRAGMENTS

200 - 210 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-05%, LIMESTONE-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA;

210 - 220 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, SILT-10%, PHOSPHATIC SAND-01%, LIMESTONE-01%;

220 - 230 AS ABOVE

230 - 235 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%, SILT-10%, LIMESTONE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA;

235 - 240 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-05%, LIMESTONE-01%;

240 - 250 AS ABOVE

250 - 253 AS ABOVE

253 - 260 CLAY; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, LIMESTONE-20%;
FOSSILS: FOSSIL FRAGMENTS;

260 - 270 CLAY; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-05%, LIMESTONE-05%;

270 - 280 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-02%, LIMESTONE-01%;

280 - 295 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-05%, LIMESTONE-20%;

295 - 300 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: LIMESTONE-50%, QUARTZ SAND-10%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES;

300 - 310 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, LIMESTONE-02%, PHOSPHATIC SAND-01%;

310 - 315 AS ABOVE

315 - 320 AS ABOVE

320 - 325 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, LIMESTONE-02%, CLAY-10%, PHOSPHATIC SAND-01%;

325 - 330 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-15%;

330 - 340 AS ABOVE

340 - 350 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, PHOSPHATIC SAND-25%, CLAY-10%, PHOSPHATIC GRAVEL-02%;
FOSSILS: FOSSIL FRAGMENTS;

350 - 360 CLAY; LIGHT OLIVE GRAY TO OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-15%, LIMESTONE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

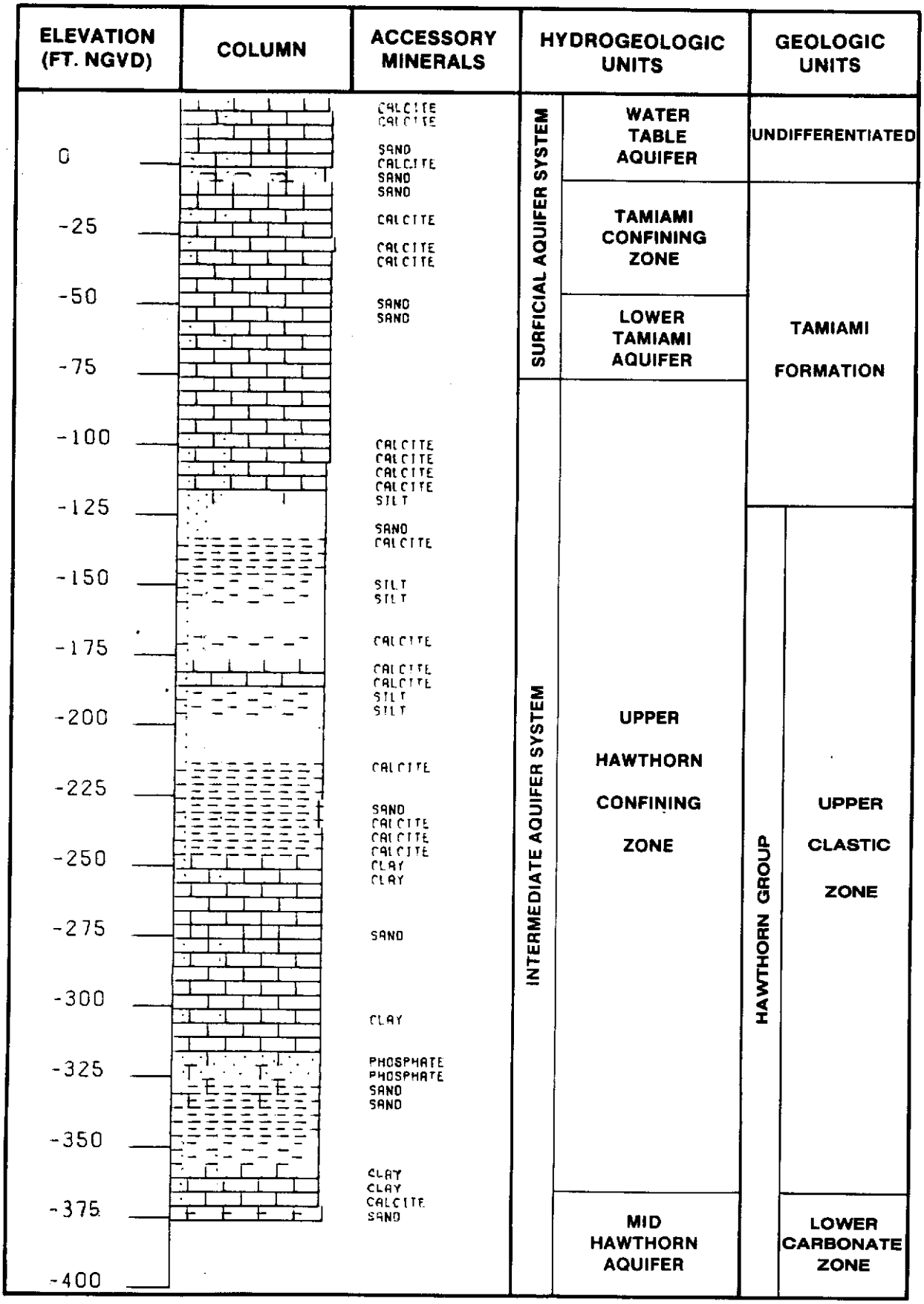
360 - 370 AS ABOVE

370 - 380 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, LIMESTONE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

380 - 392 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CLAY-10%, PHOSPHATIC SAND-02%;

392 - 400 LIMESTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, CLAY-05%, PHOSPHATIC SAND-02%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

400 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
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-100
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-175
-200
-225
-250
-275
-300
-325
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SAND
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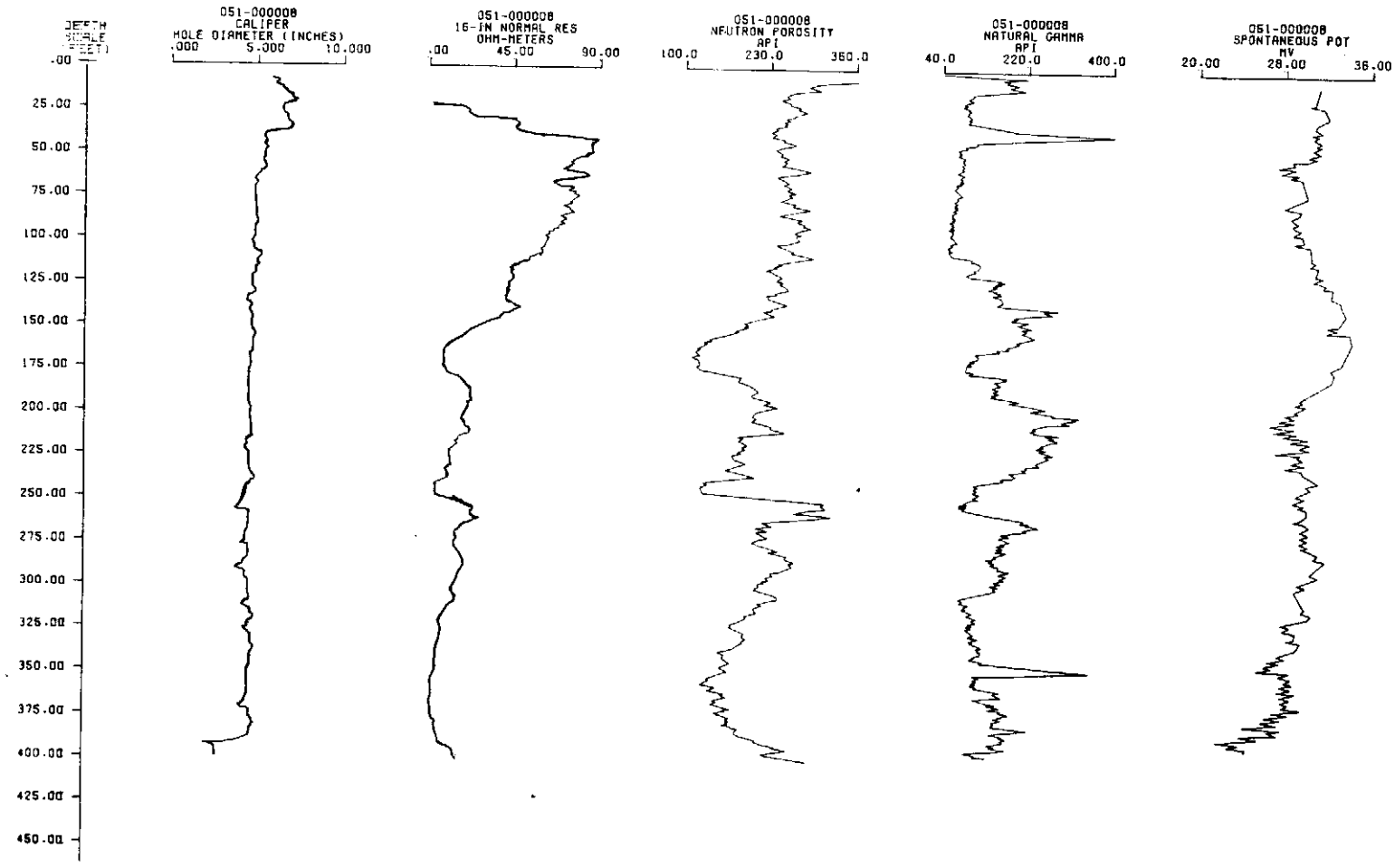
CLAY
CALCITE
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY308



GEOPHYSICS, WELL HY-308

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 309
TOTAL DEPTH: 00165 FT.
39 SAMPLES FROM 0 TO 165 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.46S R.32E S.33
LAT = N 26D 25M 43
LON = W 81D 07M 41
ELEVATION - 024 FT

OWNER/DRILLER: USGS WELL HE-908

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY POOR
HYDROGEOLOGIC UNITS

0	130	SURFICIAL AQUIFER SYSTEM
0	6	WATER TABLE AQUIFER
6	37	TAMIAMI CONFINING ZONE
37	40	NO SAMPLES
40	130	LOWER TAMIAMI AQUIFER
130	165	UPPER HAWTHORN CONFINING ZONE

0. -	37.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
37. -	40.	000NOSM	NO SAMPLES
40. -	118.	122TMIM	TAMIAMI FM.
118. -	165.	122HTRN	HAWTHORN GROUP

0 - 5 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

5 - 6 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

6 - 10 SAND; VERY LIGHT ORANGE TO WHITE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, CLAY-02%;
FOSSILS: FOSSIL FRAGMENTS;

10 - 15 SHELL BED; YELLOWISH GRAY TO GRAYISH YELLOW; 35% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%, LIMESTONE-05%;
SHELL FRAGMENTS ALTERED TO CALCITE

15 - 20 AS ABOVE

20 - 25 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-45%, PHOSPHATIC SAND-02%;

25 - 30 SHELL BED; GRAYISH BROWN TO MODERATE DARK GRAY; 35% POROSITY, INTERGRANULAR;
UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-50%, LIMESTONE-01%;
FOSSILS: SPICULES;

30 - 35 AS ABOVE

35 - 37 AS ABOVE
WITH GRAINS PARTIALLY COATED W/ MICRITE

37 - 40 NO SAMPLES

40 - 45 LIMESTONE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-03%, CALCITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

45 - 50 AS ABOVE
WITH WORM TUBES

50 - 55 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCITE-10%;
FOSSILS: SPICULES, WORM TRACES, BRYOZOA;

55 - 60 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-20%;
FOSSILS: WORM TRACES;

60 - 65 AS ABOVE

65 - 68 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

68 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

80 - 85 AS ABOVE

85 - 90 AS ABOVE

90 - 95 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

95 - 100 AS ABOVE

100 - 105 AS ABOVE

105 - 110 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

110 - 115 AS ABOVE

115 - 118 AS ABOVE

118 - 120 SAND; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-03%, LIMESTONE-02%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

120 - 125 AS ABOVE

125 - 130 AS ABOVE

130 - 135 SAND; VERY LIGHT ORANGE TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-10%, LIMESTONE-10%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

135 - 140 AS ABOVE

140 - 143 AS ABOVE

143 - 145 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-10%, CLAY-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS;

145 - 147 AS ABOVE

147 - 149 SAND; VERY LIGHT ORANGE TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS;

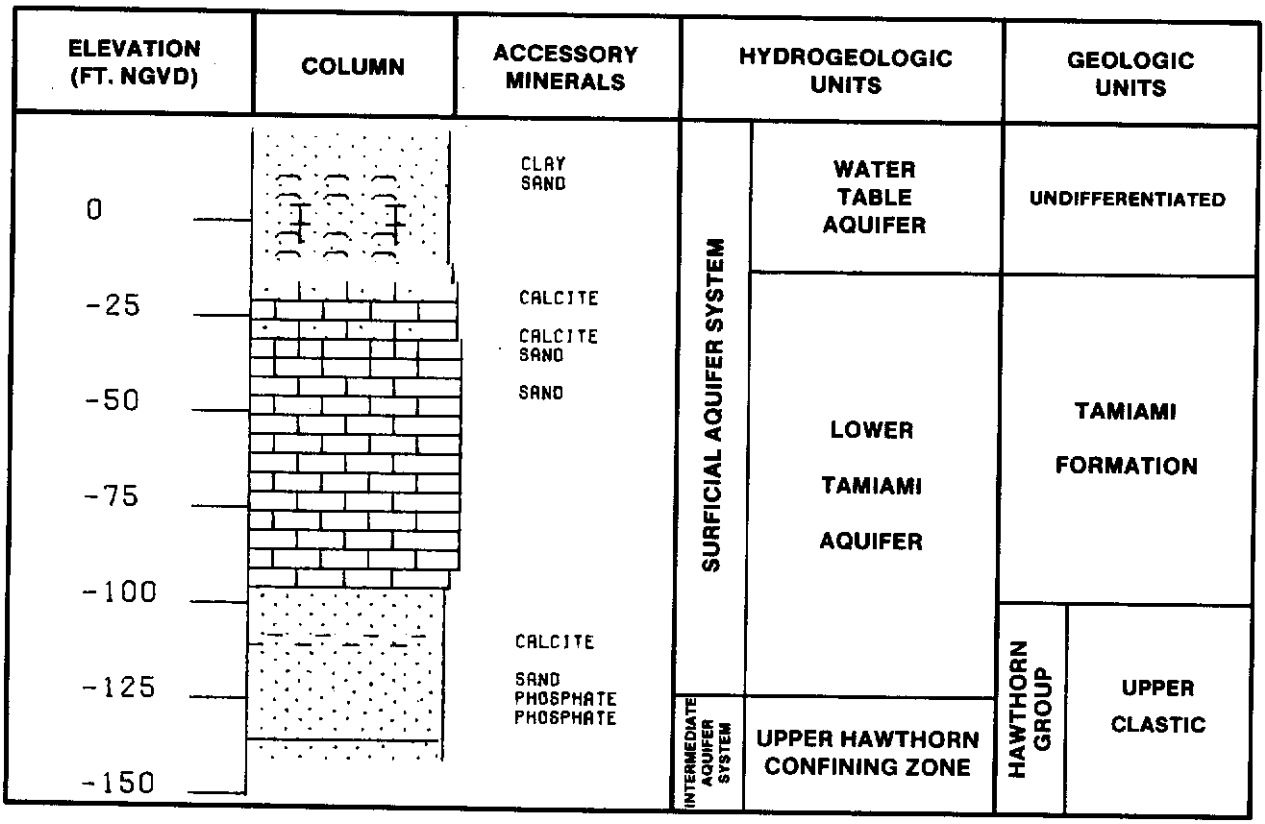
149 - 150 SAND; VERY LIGHT ORANGE TO GRAYISH OLIVE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS;
LOWER SHELL CONTENT THAN 147 TO 149

150 - 155 SAND; VERY LIGHT ORANGE TO OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS;

155 - 160 AS ABOVE

160 - 165 AS ABOVE

165 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
CLAY
SAND
CALCITE
CALCITE
SAND
SAND
CALCITE
SAND
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC

HY309

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 310 COUNTY - HENDRY
TOTAL DEPTH: 00482 FT. LOCATION: T.48S R.33E S.03 D
70 SAMPLES FROM 0 TO 482 FT. LAT = N 26D 20M 42
LON = W 81D 01M 18
COMPLETION DATE - 05/08/86 ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: BIG CYPRESS SEMINOLE INDIAN RESERVATION (SITE 2 - PASTURE),
OWNER/DRILLER: DRILLED BY SFWMD (TONY LUBRANO)

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY FAIR
HYDROGEOLOGIC UNITS

0	140	SURFICIAL AQUIFER SYSTEM
0	5	WATER TABLE AQUIFER
5	40	TAMIAMI CONFINING ZONE
40	140	LOWER TAMIAMI AQUIFER
140	450	UPPER HAWTHORN CONFINING ZONE
450	482	MID HAWTHORN AQUIFER (LOW YIELD)

0. -	40.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
40. -	140.	122TMIM	TAMIAMI FM.
140. -	482.	122HTRN	HAWTHORN GROUP

0 - 3 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

3 - 5 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%;

5 - 7 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-40%, CALCILUTITE-05%;

7 - 10 AS ABOVE

10 - 15 AS ABOVE

15 - 20 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-40%, CALCILUTITE-05%;

20 - 25 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-50%, CALCITE-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 AS ABOVE

30 - 32 AS ABOVE

32 - 35 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-50%, CALCITE-05%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 AS ABOVE

40 - 45 LIMESTONE; LIGHT OLIVE GRAY TO DARK GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BRYOZOA;

45 - 50 AS ABOVE

50 - 55 AS ABOVE

55 - 60 LIMESTONE; LIGHT OLIVE GRAY TO DARK GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BRYOZOA;

60 - 62 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

62 - 65 AS ABOVE

65 - 70 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES;

70 - 75 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES, CORAL;

75 - 77 AS ABOVE

77 - 82 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES, CORAL;
WITH AN INCREASE IN CALCITE CONTENT

82 - 85 AS ABOVE

85 - 90 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES, CORAL;
INCREASED PERMEABILITY

90 - 95 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-10%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES, CORAL;

95 - 100 AS ABOVE

100 - 105 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, SILT-15%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, WORM TRACES, CORAL;

105 - 110 AS ABOVE

110 - 115 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCITE-05%;
FOSSILS: BRYOZOA, MOLLUSKS, WORM TRACES, FOSSIL FRAGMENTS;

115 - 120 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-05%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, WORM TRACES;

120 - 125 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, WORM TRACES;

125 - 130 AS ABOVE

130 - 135 SANDSTONE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-02%;
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;

135 - 140 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC, VUGULAR;
GRAIN TYPE: CRYSTALS, CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

140 - 142 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

142 - 145 AS ABOVE

145 - 150 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

150 - 155 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;
SAMPLE IS 30% BROKEN SHELL

155 - 160 CLAY; ;
ACCESSORY MINERALS: CALCILUTITE-15%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

160 - 162 AS ABOVE

162 - 165 AS ABOVE

165 - 170 CLAY; ;
ACCESSORY MINERALS: CALCILUTITE-15%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS;

170 - 175 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

175 - 180 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-15%;
FOSSILS: FOSSIL FRAGMENTS;

180 - 185 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-30%;

185 - 190 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

190 - 200 AS ABOVE

200 - 210 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;

210 - 220 AS ABOVE

220 - 230 AS ABOVE

230 - 235 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;

235 - 240 AS ABOVE

240 - 242 AS ABOVE

242 - 252 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

252 - 262 AS ABOVE

262 - 272 AS ABOVE

272 - 282 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-35%, SHELL-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

282 - 300 AS ABOVE

300 - 320 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-15%, SILT-05%, PHOSPHATIC SAND-02%;

320 - 340 AS ABOVE

340 - 350 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-15%, SILT-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

350 - 360 AS ABOVE

360 - 370 AS ABOVE

370 - 380 CLAY; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-10%, CALCILUTITE-10%;

380 - 388 CLAY; LIGHT OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;

388 - 400 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

400 - 410 AS ABOVE

410 - 420 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-50%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%, CLAY-02%;
FOSSILS: FOSSIL FRAGMENTS;

420 - 440 AS ABOVE

440 - 450 AS ABOVE

450 - 455 CALCILUTITE; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-15%, CALCITE-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

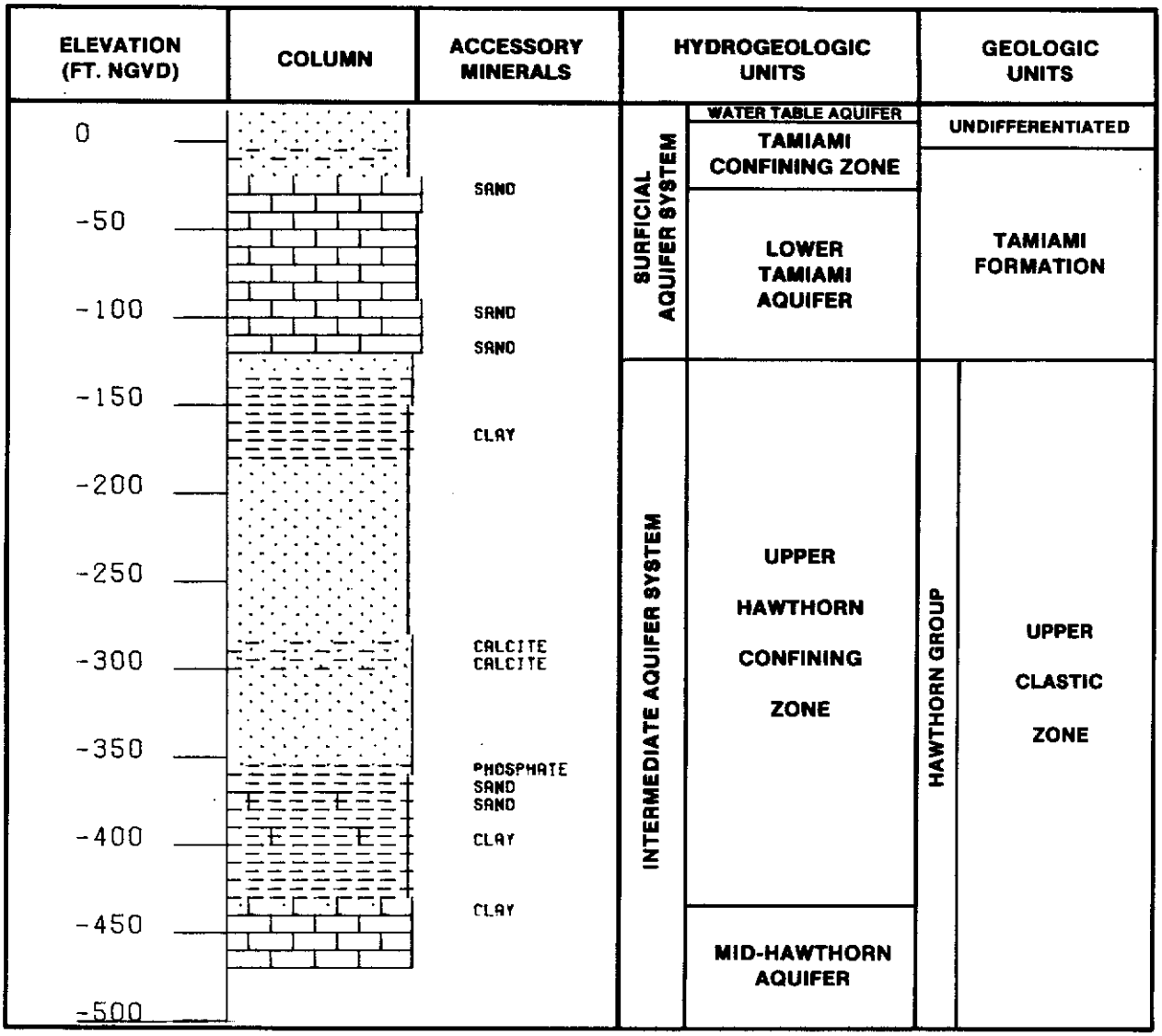
455 - 460 AS ABOVE

460 - 470 AS ABOVE

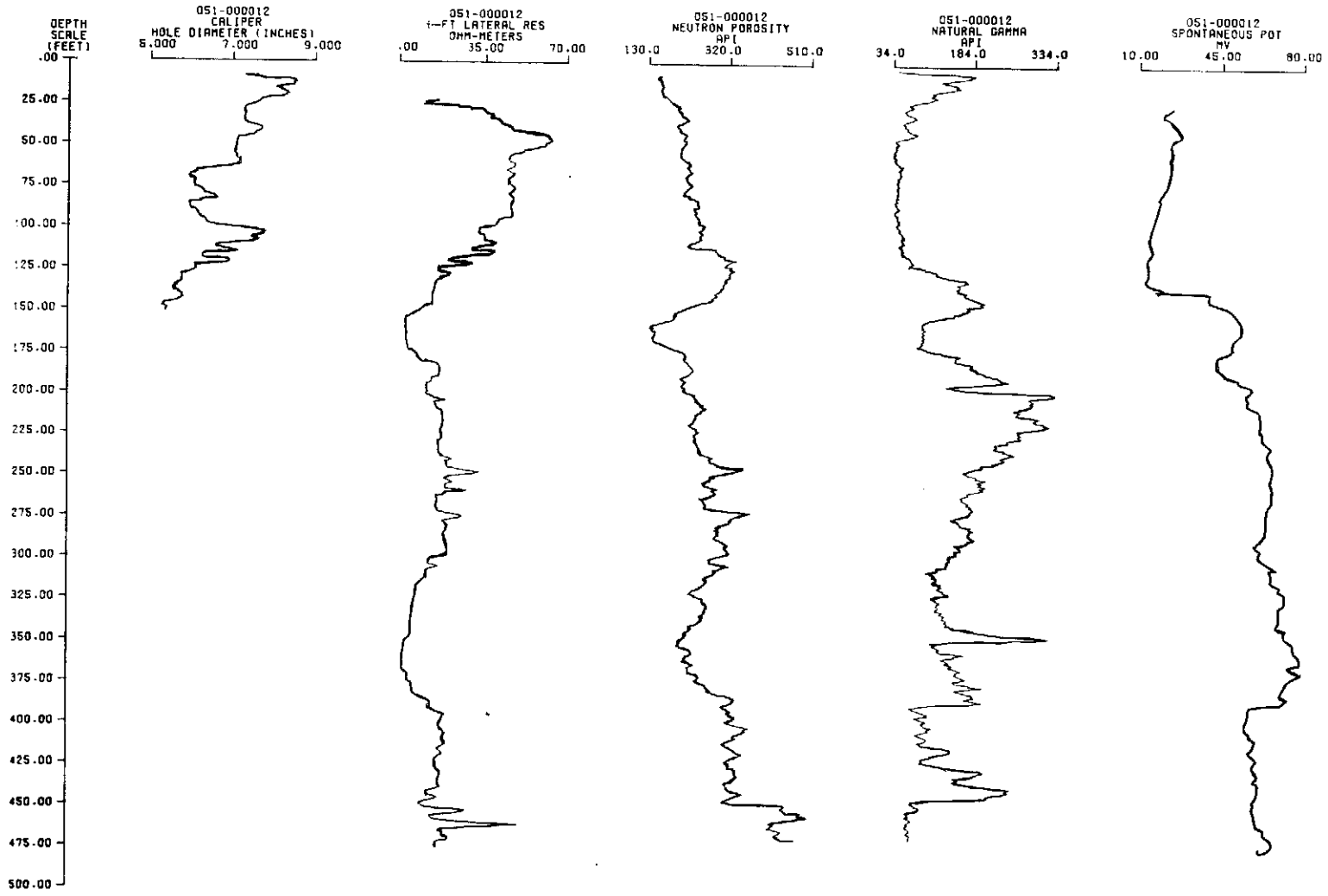
470 - 480 CALCILUTITE; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-05%, CALCITE-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

480 - 482 AS ABOVE

482 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
SAND
SAND
SAND
CLAY
CALCITE
CALCITE
PHOSPHATE SAND
SAND
CLAY
CLAY
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

HY310



GEOPHYSICS, WELL HY-310

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 311 COUNTY - HENDRY
TOTAL DEPTH: 00460 FT. LOCATION: T.48S R.32E S.23 A
80 SAMPLES FROM 0 TO 460 FT. LAT = N 26D 17M 46
LON = W 81D 06M 18
COMPLETION DATE - 27/08/86 ELEVATION - 020 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: BIG CYPRESS SEMINOLE INDIAN RESERVATION (SITE 1 - ROAD),
OWNER/DRILLER: DRILLED BY SFWMD (TONY LUBRANO)

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	124	SURFICIAL AQUIFER SYSTEM
0	12	WATER TABLE AQUIFER
12	78	TAMAIMI CONFINING ZONE
78	127	LOWER TAMIAMI AQUIFER
127	362	UPPER HAWTHORN CONFINING ZONE
362	450	MID HAWTHORN AQUIFER (LOW YIELD)
450	460	LOWER HAWTHORN CONFINING ZONE

0. -	1.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
1. -	124.	122TMIM	TAMIAMI FM.
124. -	460.	122HTRN	HAWTHORN GROUP

0 - 1 SAND; MODERATE BROWN TO LIGHT BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS-01%, LIMESTONE-01%;
OTHER FEATURES: FROSTED;

1 - 2 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 20% POROSITY, VUGULAR;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%;
FOSSILS: FOSSIL FRAGMENTS;

2 - 3 SAND; LIGHT YELLOWISH ORANGE TO DARK YELLOWISH ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, IRON STAIN- %;
OTHER FEATURES: FROSTED;

3 - 7 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS;

7 - 10 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%;
OTHER FEATURES: CALCAREOUS;

10 - 12 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%;
OTHER FEATURES: CALCAREOUS;

12 - 15 CALCILUTITE; WHITE TO VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-01%;

15 - 17 AS ABOVE

17 - 19 AS ABOVE

19 - 25 CALCILUTITE; WHITE TO VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%;

25 - 27 AS ABOVE

27 - 30 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

30 - 32 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

32 - 35 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, LIMESTONE-15%, PHOSPHATIC SAND-01%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: FOSSIL FRAGMENTS;

35 - 40 LIMESTONE; DARK YELLOWISH ORANGE TO LIGHT GRAY; 10% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

40 - 45 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

45 - 50 AS ABOVE

50 - 55 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%, CLAY-05%;
FOSSILS: FOSSIL FRAGMENTS;

55 - 60 AS ABOVE

60 - 62 AS ABOVE

62 - 70 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

70 - 78 AS ABOVE

78 - 80 LIMESTONE; LIGHT GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

80 - 82 AS ABOVE

82 - 85 LIMESTONE; LIGHT GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

85 - 90 AS ABOVE

90 - 95 LIMESTONE; LIGHT GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
CALCITE CONTENT DECREASING

95 - 100 AS ABOVE

100 - 105 AS ABOVE

105 - 110 LIMESTONE; LIGHT GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

110 - 115 LIMESTONE; LIGHT GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

115 - 120 AS ABOVE

120 - 124 AS ABOVE

124 - 127 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-50%, PHOSPHATIC SAND-07%;

127 - 135 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-30%, SILT-25%, PHOSPHATIC SAND-07%;

135 - 140 AS ABOVE

140 - 145 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC SAND-05%, CALCITE-02%;

145 - 150 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-05%, CALCITE-02%, CALCILUTITE-02%;

150 - 155 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

155 - 160 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

160 - 170 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

170 - 180 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-35%;

180 - 190 AS ABOVE

190 - 194 AS ABOVE

194 - 196 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-35%;

196 - 200 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-35%, CALCILUTITE-02%;

200 - 210 AS ABOVE

210 - 220 AS ABOVE

220 - 225 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%;

225 - 245 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-25%;

245 - 250 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-35%;

250 - 260 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%;

260 - 262 AS ABOVE

262 - 265 AS ABOVE

265 - 270 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%;

270 - 280 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-50%;

280 - 290 AS ABOVE

290 - 295 AS ABOVE

295 - 300 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;

300 - 310 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%;

310 - 320 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%, PHOSPHATIC GRAVEL-02%;

320 - 330 AS ABOVE

330 - 340 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-02%;

340 - 350 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-02%;

350 - 358 AS ABOVE

358 - 362 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

362 - 370 AS ABOVE

370 - 382 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-10%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 20% CALCITE REPLACED SHELLS

382 - 390 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

390 - 400 AS ABOVE

400 - 410 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 7% MICRITE AND NO CALCITE REPLACED SHELLS

410 - 420 AS ABOVE

420 - 430 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%, CALCITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
WITH 15% MICRITE(CALCILUTITE)

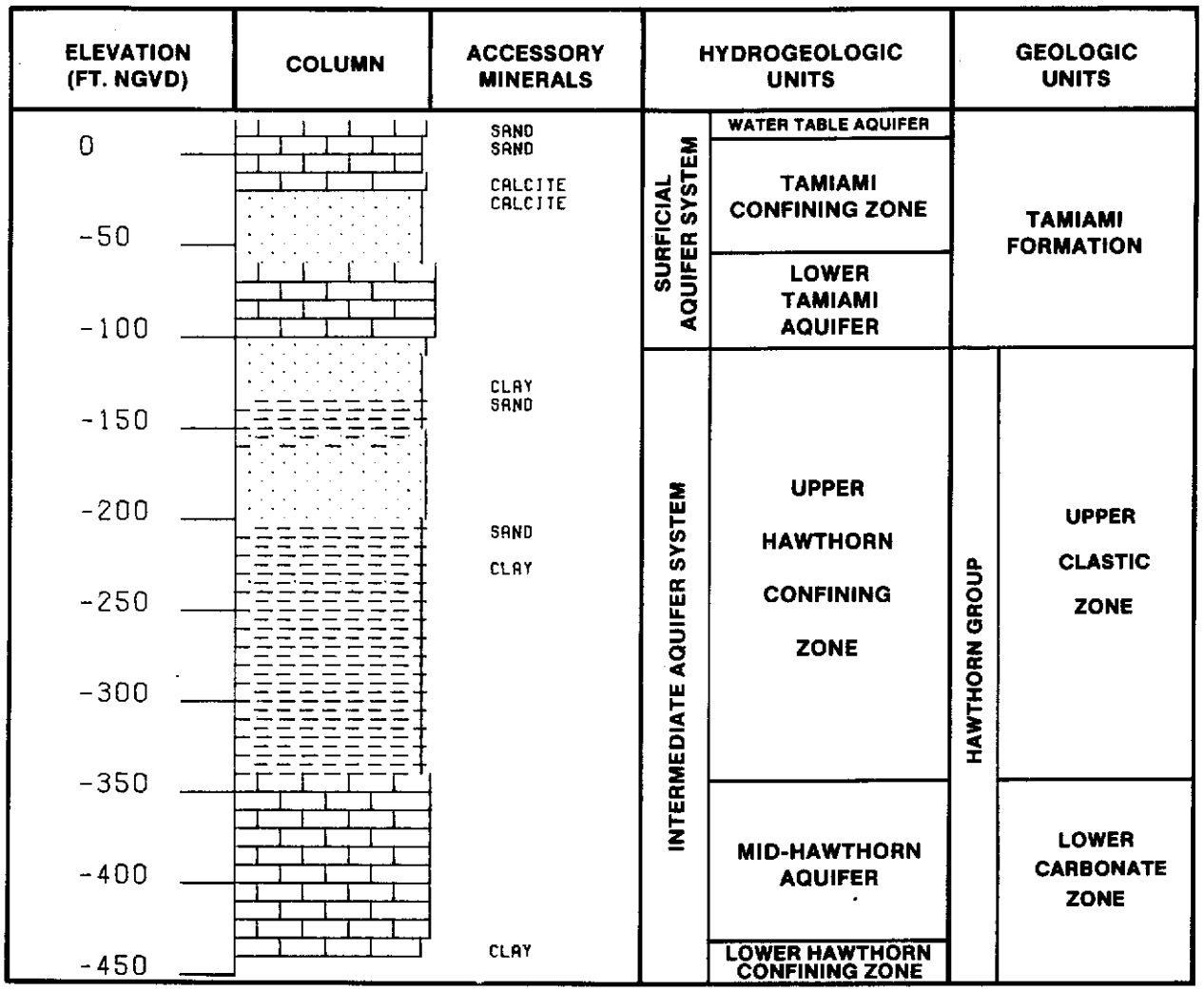
430 - 440 AS ABOVE

440 - 450 AS ABOVE

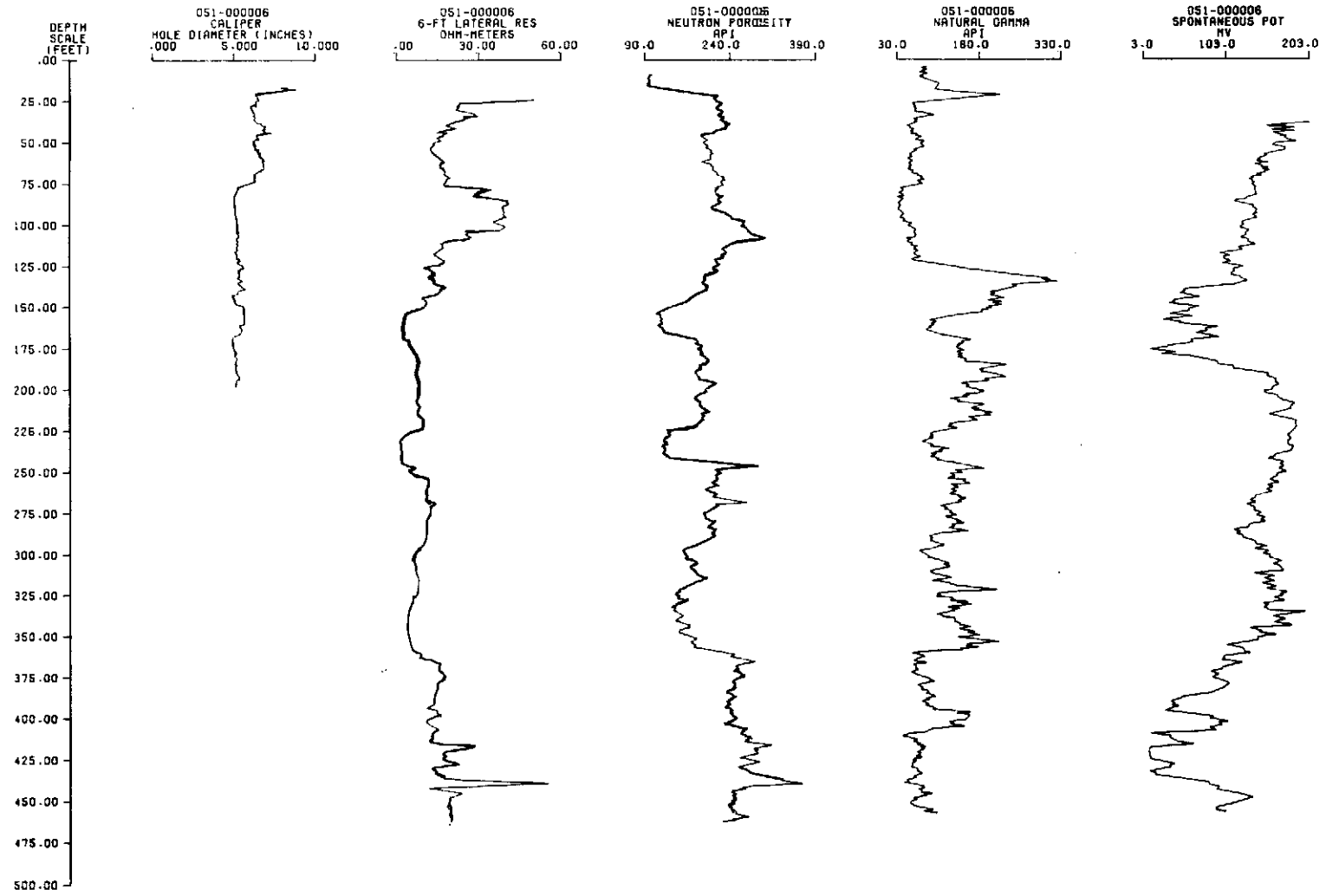
450 - 455 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-05%, CLAY-03%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;

455 - 460 AS ABOVE

460 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
SAND
SAND
CALCITE
CALCITE
CLAY
SAND
SAND
CLAY
CLAY
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY311



GEOPHYSICS, WELL HY-311

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 312
TOTAL DEPTH: 00100 FT.
20 SAMPLES FROM 0 TO 100 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.46S R.34E S.21
LAT = N 26D 28M 10
LON = W 80D 56M 20
ELEVATION - 015 FT

OWNER/DRILLER: USGS WELL HE-591

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 100 SURFICIAL AQUIFER SYSTEM
0 20 WATER TABLE AQUIFER
20 60 TAMIAMI CONFINING ZONE
60 100 LOWER TAMIAMI AQUIFER

0. - 40. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
40. - 100. 122TMIM TAMIAMI FM.

0 - 5 SAND; YELLOWISH GRAY TO MODERATE BROWN; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE-05%, PLANT REMAINS- %;
OTHER FEATURES: FROSTED;

5 - 10 SAND; YELLOWISH GRAY TO MODERATE BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-10%, PLANT REMAINS- %;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

10 - 15 AS ABOVE

15 - 20 AS ABOVE
COARSER GRAINED AND WITH WHOLE SHELLS AND WORM TUBES

20 - 25 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, LIMESTONE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

25 - 30 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL;
ROUNDNESS: ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, LIMESTONE-05%;
OTHER FEATURES: FROSTED;
FOSSILS: FOSSIL FRAGMENTS;

30 - 40 SAND; YELLOWISH GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-05%, SILT-05%;
OTHER FEATURES: FROSTED;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

40 - 45 SANDSTONE; MODERATE LIGHT GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, MOLLUSKS, FOSSIL FRAGMENTS;

45 - 50 AS ABOVE

50 - 55 AS ABOVE

55 - 60 SANDSTONE; MODERATE LIGHT GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, MOLLUSKS, FOSSIL FRAGMENTS;

60 - 65 LIMESTONE; MODERATE LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

65 - 70 AS ABOVE

70 - 75 AS ABOVE

75 - 80 LIMESTONE; MODERATE LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

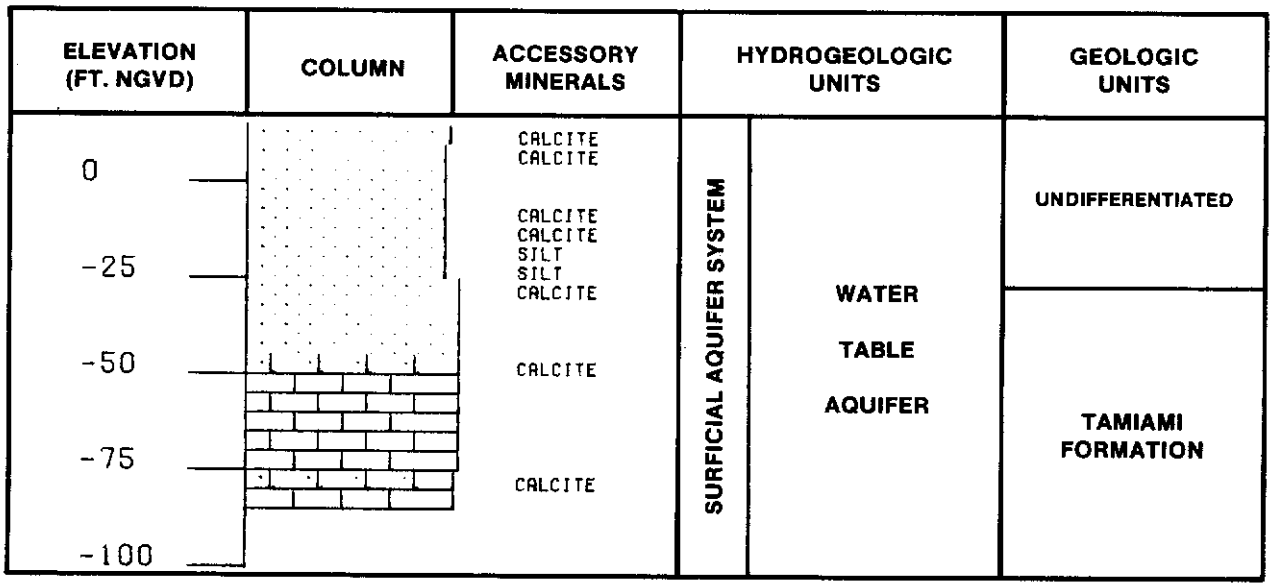
80 - 85 AS ABOVE

85 - 90 AS ABOVE

90 - 95 LIMESTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

95 - 100 AS ABOVE

100 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
CALCITE
CALCITE
CALCITE
CALCITE
SILT
SILT
CALCITE
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY312

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 313
TOTAL DEPTH: 00097 FT.
19 SAMPLES FROM 0 TO 97 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.47S R.33E S.27
LAT = N 26D 21M 40
LON = W 81D 00M 55
ELEVATION - 025 FT

OWNER/DRILLER: USGS WELL HE-868

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 97 SURFICIAL AQUIFER SYSTEM
0 30 WATER TABLE AQUIFER
30 70 TAMIAMI CONFINING ZONE
70 97 LOWER TAMIAMI AQUIFER

0. - 95. 090UDSC UNDIFFERENTIATED SAND AND CLAY
95. - 97. 122TMIM TAMIAMI FM.

0 - 10 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;
OTHER FEATURES: FROSTED;

10 - 15 AS ABOVE

15 - 20 AS ABOVE

20 - 25 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;
OTHER FEATURES: FROSTED;

25 - 30 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, SILT-05%;
OTHER FEATURES: FROSTED;

30 - 35 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, SILT-10%;
OTHER FEATURES: FROSTED;

35 - 40 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %, SILT-10%, PHOSPHATIC SAND-10%;
OTHER FEATURES: FROSTED;

40 - 47 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

47 - 50 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: SHELL-50%, SILT-20%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

50 - 55 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

55 - 60 AS ABOVE

60 - 65 AS ABOVE

65 - 70 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-20%;
FOSSILS: FOSSIL FRAGMENTS;

70 - 75 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: CORAL, FOSSIL FRAGMENTS;

75 - 80 AS ABOVE

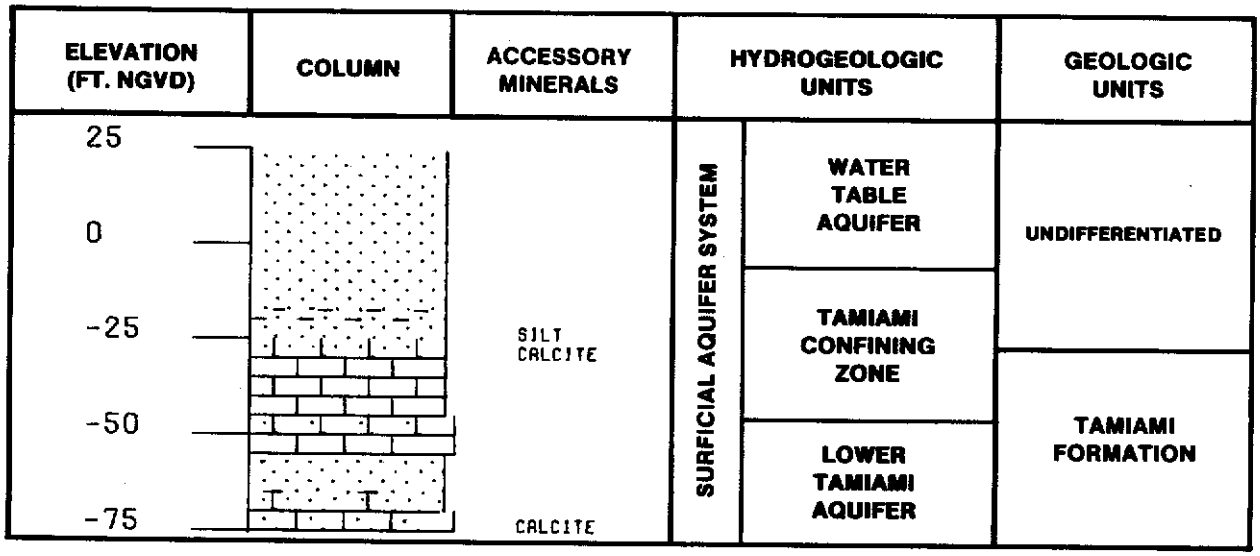
80 - 85 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

85 - 90 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC GRAVEL-01%;
OTHER FEATURES: FROSTED;

90 - 95 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCITE-20%, LIMESTONE-10%, PHOSPHATIC SAND-01%;

95 - 97 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCITE-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

97 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
SILT
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY313

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 314 COUNTY - HENDRY
TOTAL DEPTH: 00400 FT. LOCATION: T.47S R.31E S.26 A
53 SAMPLES FROM 0 TO 400 FT. LAT = N 26D 22M 15
LON = W 81D 11M 30
COMPLETION DATE - 29/04/87 ELEVATION - 023 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, CALIPER, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: SFWMD-BARRON COLLIER PROPERTY; DRILLER: TONY LUBRANO

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS
0 75 SURFICIAL AQUIFER SYSTEM
0 10 WATER TABLE AQUIFER
10 40 TAMIAMI CONFINING ZONE
40 75 LOWER TAMIAMI AQUIFER
75 310 UPPER HAWTHORN CONFINING ZONE
310 400 MID HAWTHORN AQUIFER (LOW YIELD)

0. - 35. 090UDSC UNDIFFERENTIATED SAND AND CLAY
35. - 75. 122TMIM TAMIAMI FM.
75. - 400. 122HTRN HAWTHORN GROUP

0 - 2 NO SAMPLES

2 - 3 CALCILUTITE; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-55%, IRON STAIN- %;

3 - 7 LIMESTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN; 10% POROSITY, INTERGRANULAR,
PIN POINT VUGS, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, IRON STAIN- %;
FOSSILS: FOSSIL FRAGMENTS;

7 - 10 AS ABOVE

10 - 14 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;

14 - 18 NO SAMPLES

18 - 20 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, LIMESTONE- %;
FOSSILS: FOSSIL FRAGMENTS;
WITH FOSSILIZED SHELL FRAGMENTS (LIMESTONE)

20 - 25 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

25 - 30 AS ABOVE

30 - 35 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%;
FOSSILS: SPICULES, FOSSIL FRAGMENTS;

35 - 40 CALCILUTITE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: WORM TRACES, BRYOZOA, FOSSIL FRAGMENTS;

40 - 50 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

50 - 58 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

58 - 60 AS ABOVE

60 - 65 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

65 - 70 AS ABOVE

70 - 75 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, WORM TRACES;

75 - 80 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-04%;
FOSSILS: WORM TRACES;

80 - 89 AS ABOVE

89 - 96 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC SAND-04%;
FOSSILS: WORM TRACES;

96 - 100 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

100 - 105 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: SILT-10%, CLAY-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

105 - 110 CLAY; OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;

110 - 115 AS ABOVE

115 - 120 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%;

120 - 130 AS ABOVE

130 - 140 SAND; OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%;

140 - 150 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, PHOSPHATIC SAND-01%;

150 - 155 AS ABOVE

155 - 160 AS ABOVE

160 - 171 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, PHOSPHATIC SAND-01%;

171 - 176 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%;

176 - 180 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-05%, PHOSPHATIC SAND-03%;

180 - 190 AS ABOVE

190 - 200 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, PHOSPHATIC SAND-01%;

200 - 215 AS ABOVE

215 - 220 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%;

220 - 230 AS ABOVE

230 - 235 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, LIMESTONE-05%, PHOSPHATIC SAND-01%;

235 - 240 AS ABOVE

240 - 250 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, LIMESTONE-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

250 - 260 AS ABOVE

260 - 270 AS ABOVE

270 - 280 SAND; GRAYISH OLIVE GREEN; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-50%, CLAY-05%, PHOSPHATIC SAND-01%;

280 - 300 SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-30%, CLAY-05%, PHOSPHATIC SAND-01%;

300 - 310 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE;
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%, PHOSPHATIC SAND-03%;

310 - 320 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, CLAY-05%, PHOSPHATIC SAND-01%;

320 - 330 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-30%, CLAY-05%, PHOSPHATIC SAND-01%;
WITH 5% LIMESTONE PIECES

330 - 340 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-30%, CLAY-05%, PHOSPHATIC SAND-05%;

340 - 355 AS ABOVE

355 - 360 DOLO-SILT; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-30%, CLAY-05%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL FRAGMENTS;

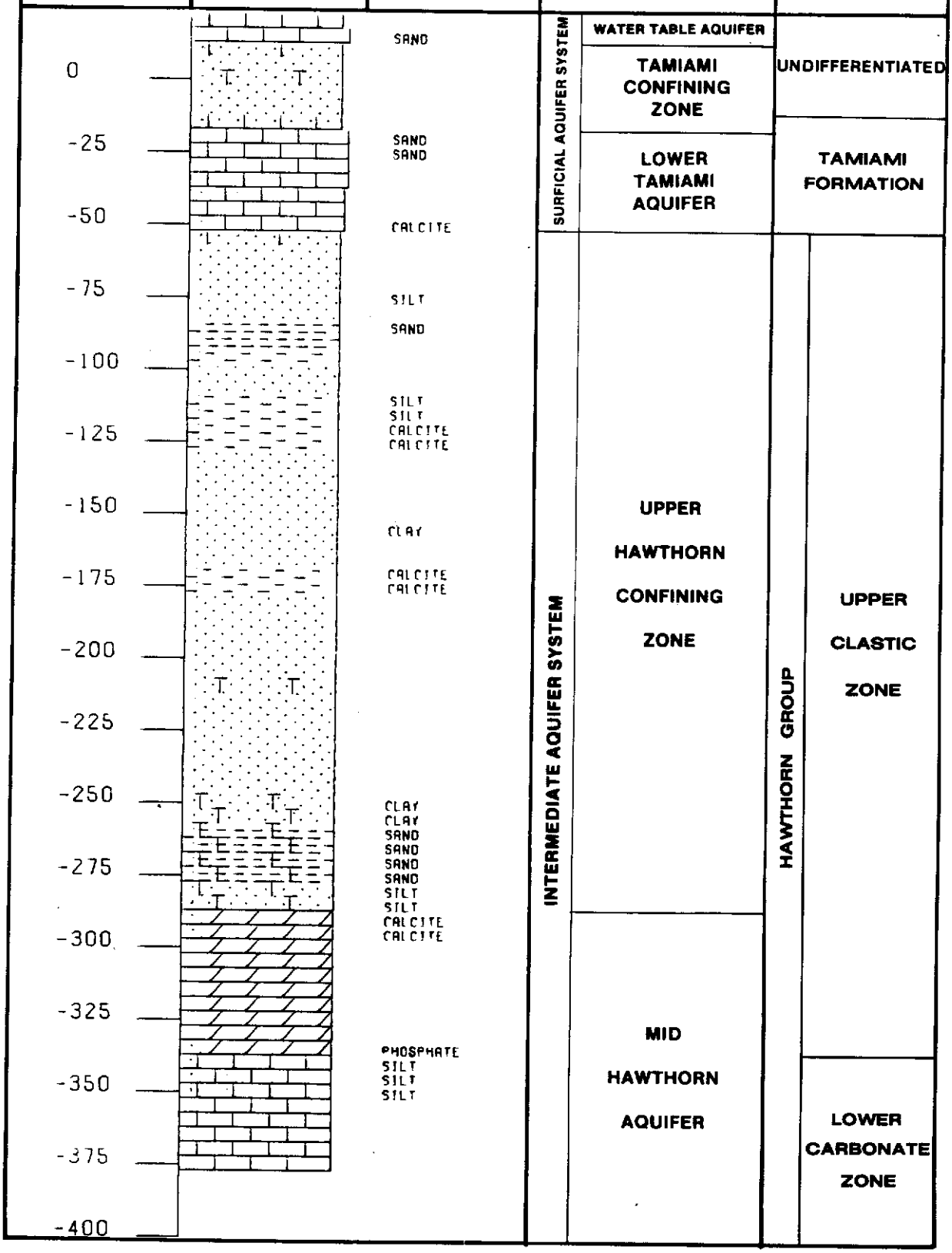
360 - 375 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-05%, LIMESTONE-05%, PHOSPHATIC SAND-01%;

375 - 380 AS ABOVE

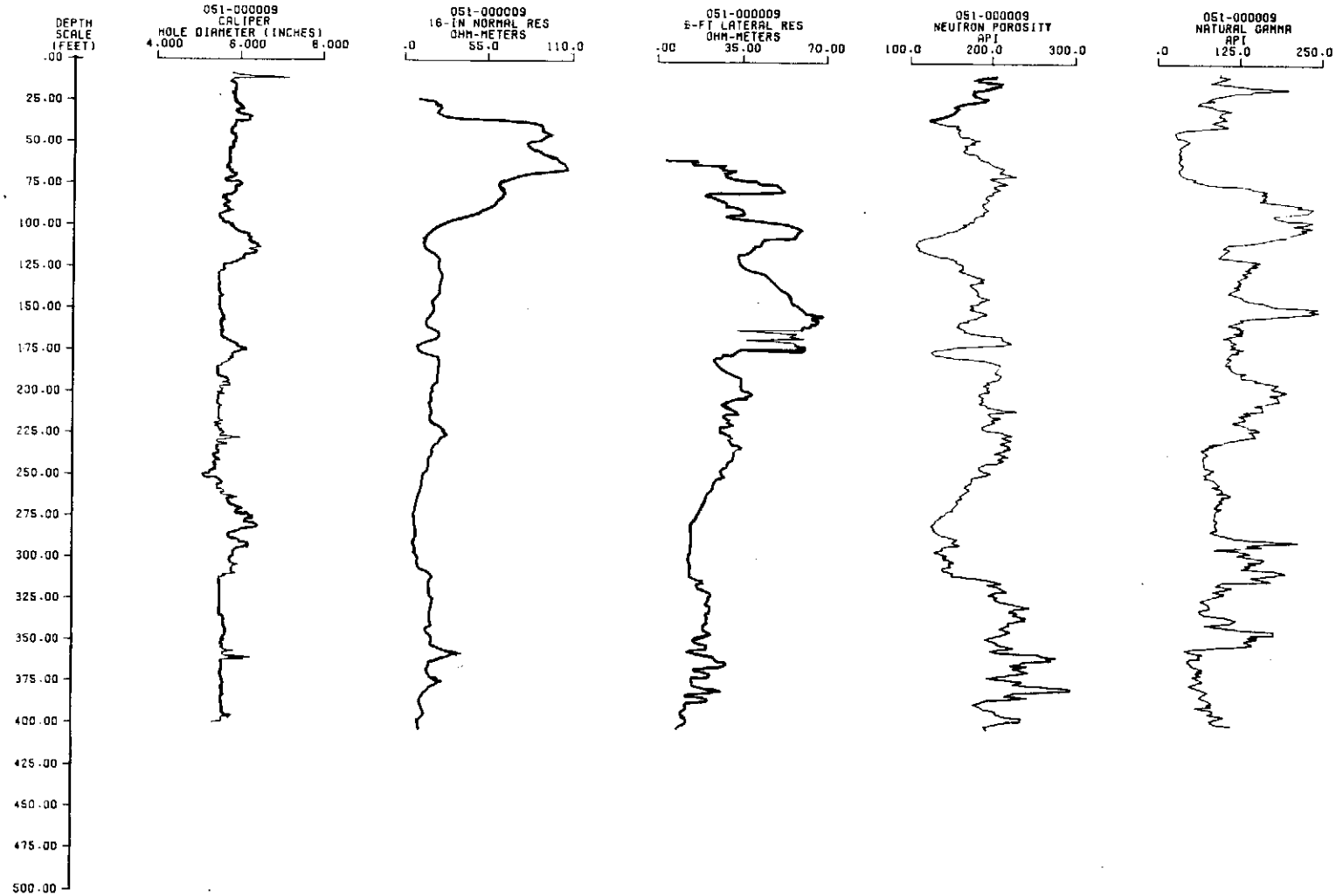
380 - 390 CALCILUTITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-05%, LIMESTONE-05%, PHOSPHATIC SAND-03%;

390 - 400 AS ABOVE

400 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
-375
-400
SAND
SAND
SAND
CALCITE
SILT
SAND
SILT
SILT
CALCITE
CALCITE
CLAY
CALCITE
CALCITE
CLAY
CLAY
SAND
SAND
SAND
SILT
SILT
CALCITE
CALCITE
PHOSPHATE
SILT
SILT
SILT
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
UNDIFFERENTIATED
TAMIAMI FORMATION
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

HY314



GEOPHYSICS, WELL HY-314

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 315
TOTAL DEPTH: 00120 FT.
15 SAMPLES FROM 0 TO 120 FT.

COMPLETION DATE - / /87
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - HENDRY
LOCATION: T.46S R.32E S.12 A
LAT = N 26D 30M 00
LON = W 81D 05M 00
ELEVATION - 026 FT

OWNER/DRILLER: MISSIMER HM-291 ROGERS RANCH (USSC)

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD

HYDROGEOLOGIC UNITS
0 120 SURFICIAL AQUIFER SYSTEM
0 9 WATER TABLE AQUIFER
9 45 TAMIAMI CONFINING ZONE
45 120 LOWER TAMIAMI AQUIFER

0. - 40. 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
40. - 120. 122TMIM TAMIAMI FM.

0 - 9 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: IRON STAIN- %;

9 - 14 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, SILT-05%, LIMESTONE-05%;

14 - 20 SHELL BED; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-20%, LIMESTONE-10%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 30 NO SAMPLES

30 - 40 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, SHELL-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

40 - 45 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-30%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES, WORM TRACES, BRYOZOA;

45 - 53 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-30%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES, SPICULES;

53 - 55 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS:SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-10%;
FOSSILS: FOSSIL FRAGMENTS, SPICULES, WORM TRACES;

55 - 60 AS ABOVE

60 - 70 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-20%, CALCITE-10%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

70 - 80 AS ABOVE

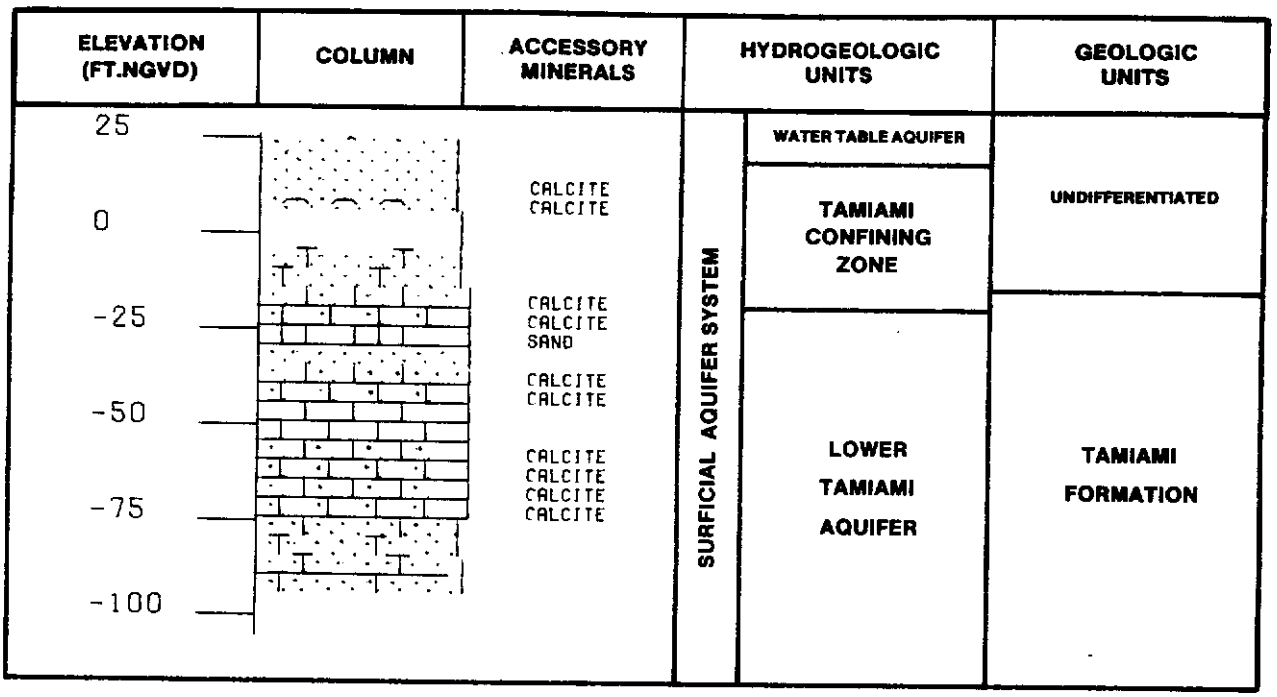
80 - 90 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-20%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: WORM TRACES, FOSSIL FRAGMENTS;

90 - 100 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-20%, CALCITE-10%, PHOSPHATIC SAND-01%;

100 - 110 SANDSTONE; LIGHT OLIVE GRAY TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

110 - 120 SANDSTONE; LIGHT OLIVE GRAY TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR,
PIN POINT VUGS, MOLDIC;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES;

120 TOTAL DEPTH


ELEVATION (FT.NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
CALCITE
CALCITE
CALCITE
CALCITE
SAND
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

HY315

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 401 COUNTY - GLADES
TOTAL DEPTH: 460 FT. LOCATION: T.42S R.29E S.18 A
49 SAMPLES FROM 0 TO 460 FT. LAT = N 26D 49M 06
LON = W 81D 27M 57
COMPLETION DATE - 84/01/02 ELEVATION - 40 FT
OTHER TYPES OF LOGS AVAILABLE - GAMMA, NEUTRON, ELECTRIC, TEMPERATURE

OWNER/DRILLER: RTA7(WGL007)DRILLED BY WOOSTER(SFWMD),SR 720 1.5 MI WEST OF LYKES TOWER

WORKED BY: DESCRIBED BY SCOTT BURNS (7-5-84), SAMPLE QUALITY (POOR)
HYDROGEOLOGIC UNITS

0.0 20.0 SURFICIAL AQUIFER SYSTEM
0.0 20.0 WATER TABLE AQUIFER
20.0 60.0 CONFINING ZONE
60.0 90.0 UNNAMED WHITE LIMESTONE AQUIFER(POSS. SANDSTONE AQ)
90.0 410.0 UPPER HAWTHORN CONFINING ZONE
410.0 460.0 MID-HAWTHORN AQUIFER

0. - 20. 090UDSC UNDIFFERENTIATED SAND AND CLAY
20. - 90. 122TMIN TAMIAMI FM.
90. - 460. 122HTRN HAWTHORN GROUP

0 - 10 SAND; MODERATE YELLOWISH BROWN TO DARK YELLOWISH ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEMATITE-02%, IRON STAIN- %;
FOSSILS: NO FOSSILS;

10 - 20 LIMESTONE; WHITE; 15% POROSITY, MOLDIC, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, SKELTAL CAST; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, IRON STAIN- %;
FOSSILS: FOSSIL MOLDS, ECHINOID;

20 - 30 SILT; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-20%, CALCILUTITE-25%;
OTHER FEATURES: PLASTIC;
FOSSILS: BENTHIC FORAMINIFERA;
SAND MODE IS FINE AND SUBANGULAR

30 - 40 AS ABOVE, DECREASE IN SAND 20%, INCREASE PERCENTAGE OF MICRITE (30%)

40 - 50 LIMESTONE; LIGHT OLIVE GRAY TO WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;
ACCESSORY MINERALS: SILT-40%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;
OLIVE GRAY SANDY SILT INTERBEDDED WITH POORLY LITHOFIED BIOGENIC MICRITE (OSTREA &
PELECYPODS)

50 - 60 SAND; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, CLAY-15%, CALCILUTITE-10%;
FOSSILS: BENTHIC FORAMINIFERA;
CALCAREOUS DOLOSILT MATRIX

60 - 70 LIMESTONE; WHITE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
CHLAMYS NODOSUS

70 - 80 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE; GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
PECTIN MOLDS

80 - 90 AS ABOVE WITH LOWER POROSITY; LESS BIOGENIC

90 - 100 CALCILUTITE; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 5% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-20%, PHOSPHATIC SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

100 - 110 AS ABOVE

110 - 120 CALCILUTITE; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 5% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-20%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

120 - 130 AS ABOVE

130 - 140 SILT; GRAYISH GREEN; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%, CLAY-10%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA;

140 - 150 AS ABOVE

150 - 160 SILT; GRAYISH GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-02%, CLAY-10%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: NO FOSSILS;

160 - 170 AS ABOVE

170 - 180 CLAY; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-15%, PHOSPHATIC SAND-06%, QUARTZ SAND-15%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA;

180 - 190 CLAY; GRAYISH GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CLAY-15%, PHOSPHATIC SAND-04%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA;

190 - 200 AS ABOVE

200 - 210 CALCILUTITE; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-08%;
FOSSILS: NO FOSSILS;

210 - 220 AS ABOVE

220 - 230 CLAY; LIGHT OLIVE BROWN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%, CLAY-20%, PHOSPHATIC SAND-08%;
OTHER FEATURES: PLASTIC, CALCAREOUS;

230 - 240 CALCILUTITE; VERY LIGHT GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%, DOLOMITE-10%;
OTHER FEATURES: CHALKY;

240 - 250 AS ABOVE

250 - 260 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-07%, DOLOMITE-10%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

260 - 270 AS ABOVE

270 - 280 SILT; GRAYISH OLIVE; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: CLAY-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC, CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA;

280 - 300 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

300 - 310 SILT; GRAYISH GREEN; NOT OBSERVED; POOR INDURATION;
ACCESSORY MINERALS: CLAY-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
OTHER FEATURES: PLASTIC, CALCAREOUS;

310 - 320 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

320 - 340 AS ABOVE

340 - 360 CALCILUTITE; WHITE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
MODERATE INDURATION;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CHALKY;
FOSSILS: NO FOSSILS;

360 - 370 AS ABOVE WITH 3% QTZ & PHOSPHATIC GRAVEL

370 - 380 CLAY; LIGHT GRAYISH GREEN; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-04%;
OTHER FEATURES: CALCAREOUS;

380 - 400 CALCILUTITE; YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MICROCRYSTALLINE;
POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-05%, PHOSPHATIC GRAVEL-02%,
PHOSPHATIC SAND-03%;

400 - 410 AS ABOVE

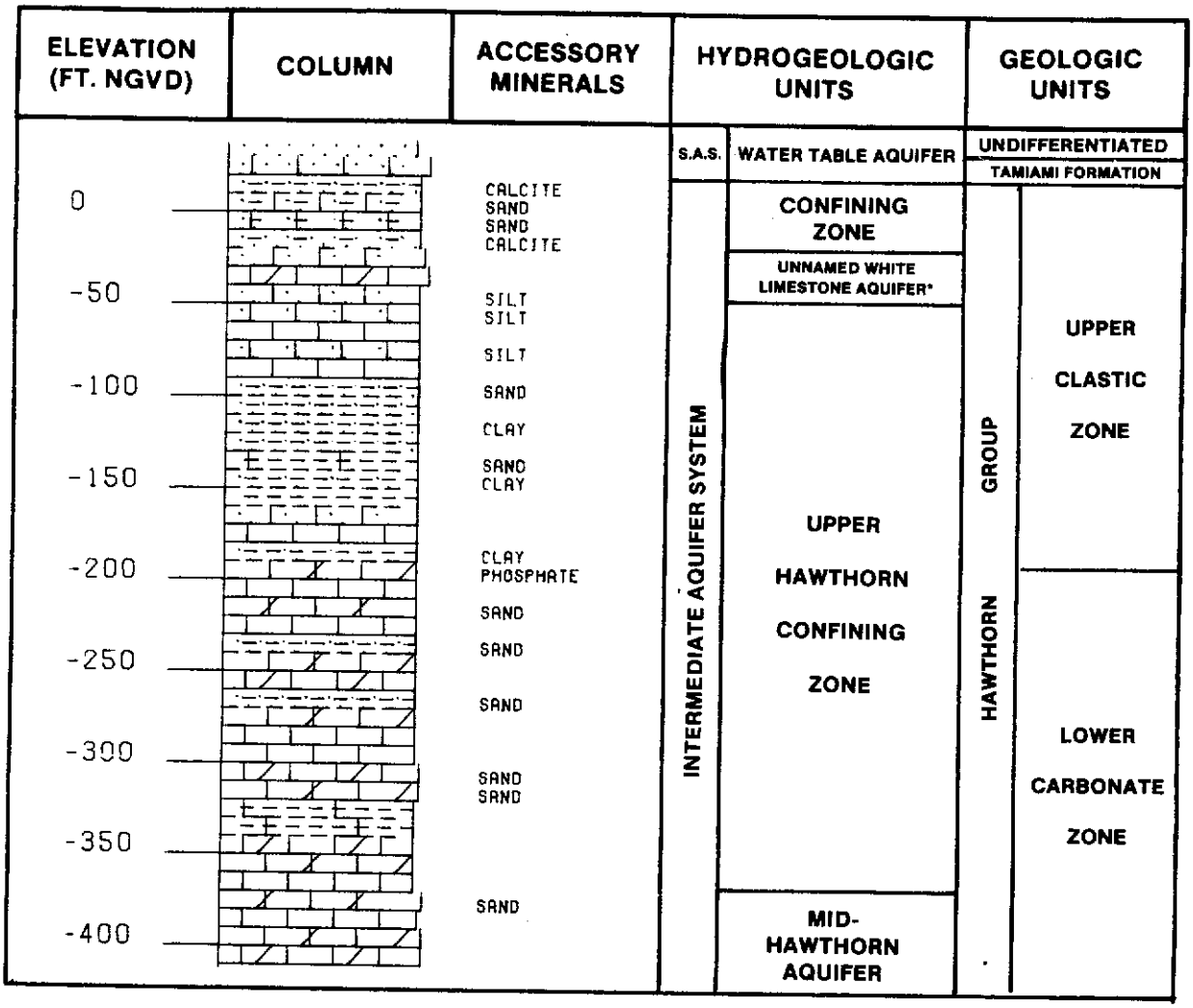
410 - 420 LIMESTONE; WHITE; 13% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-08%, DOLOMITE-10%;

420 - 430 LIMESTONE; WHITE; 11% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%;

430 - 450 LIMESTONE; VERY LIGHT GRAY; 13% POROSITY, INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 12% ALLOCHEMICAL CONSTITUENTS;
GOOD INDURATION;
ACCESSORY MINERALS: DOLOMITE-15%;

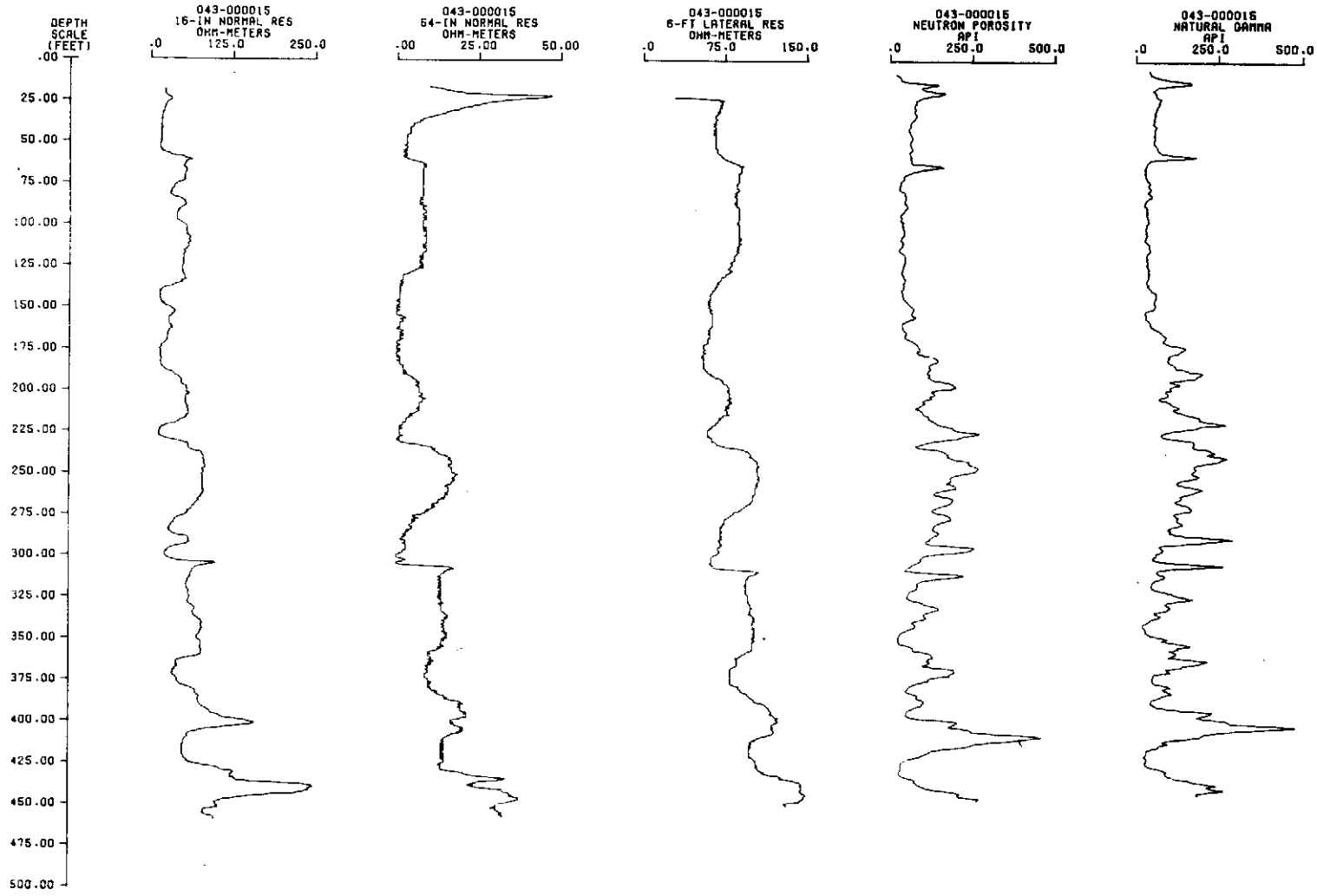
450 - 460 AS SAMPLE 420 TO 430

460 TOTAL DEPTH



*This unit may be part of the sandstone aquifer as discussed in text.

G401



GEOPHYSICS, WELL G-401

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 402
TOTAL DEPTH: 120 FT.
17 SAMPLES FROM 0 TO 120 FT.

COMPLETION DATE - / /81
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST

COUNTY - GLADES
LOCATION: T.42S R.28E S.16 B
LAT = N 26D 49M 08
LON = W 81D 31M 10
ELEVATION - 40 FT

OWNER/DRILLER: RTA16 ROLAND WALKER (OWNER) SIX L'S FARMS; MUD ROTARY

WORKED BY: DESCRIBED BY SCOTT BURNS (7-5-84) SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	60	SURFICIAL AQUIFER SYSTEM
0	15	WATER TABLE AQUIFER
15	20	TAMIAMI CONFINING ZONE
20	60	LOWER TAMIAMI AQUIFER
60	120	UPPER HAWTHORN CONFINING ZONE

0.	- 10.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
10.	- 60.	122TMIM	TAMIAMI FM.
60.	- 120.	122HTRN	HAWTHORN GROUP

0 - 10 SAND; GRAYISH BROWN; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): ORGANIC MATRIX;

10 - 15 LIMESTONE; GRAYISH ORANGE; 12% POROSITY, MOLDIC, VUGULAR;
GRAIN TYPE: CALCILUTITE, PELLET; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-25%, SPAR-20%, IRON STAIN- %;
OTHER FEATURES: MUDDY;
FOSSILS: FOSSIL MOLDS;
WELL LITHOFIED SPARY CALCITE FRAGMENT IN POORLY INDURATED MICRITE; GASTROPOD MOLDS

15 - 20 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;
OTHER FEATURES: MUDDY;
FOSSILS: FOSSIL FRAGMENTS;

20 - 30 SANDSTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL FRAGMENTS;
25% SAND SIZE PELYCPOD FRAGMENTS

30 - 40 SAND; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%;

40 - 50 AS ABOVE

50 - 60 SAND; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%;

60 - 70 SILT; LIGHT OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CLAY-10%, CALCILUTITE-35%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: BENTHIC FORAMINIFERA, DIATOMS;

70 - 75 SAND; LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC GRAVEL-02%, PHOSPHATIC SAND-03%;
OTHER FEATURES: FROSTED;

75 - 78 GRAVEL; MODERATE LIGHT GRAY TO DARK GRAY; 35% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%;
OTHER FEATURES: FROSTED;

78 - 80 SAND; LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;

80 - 90 SAND; WHITE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-05%;
OTHER FEATURES: CHALKY, FROSTED;

90 - 100 SAND; WHITE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-03%;
OTHER FEATURES: FROSTED;

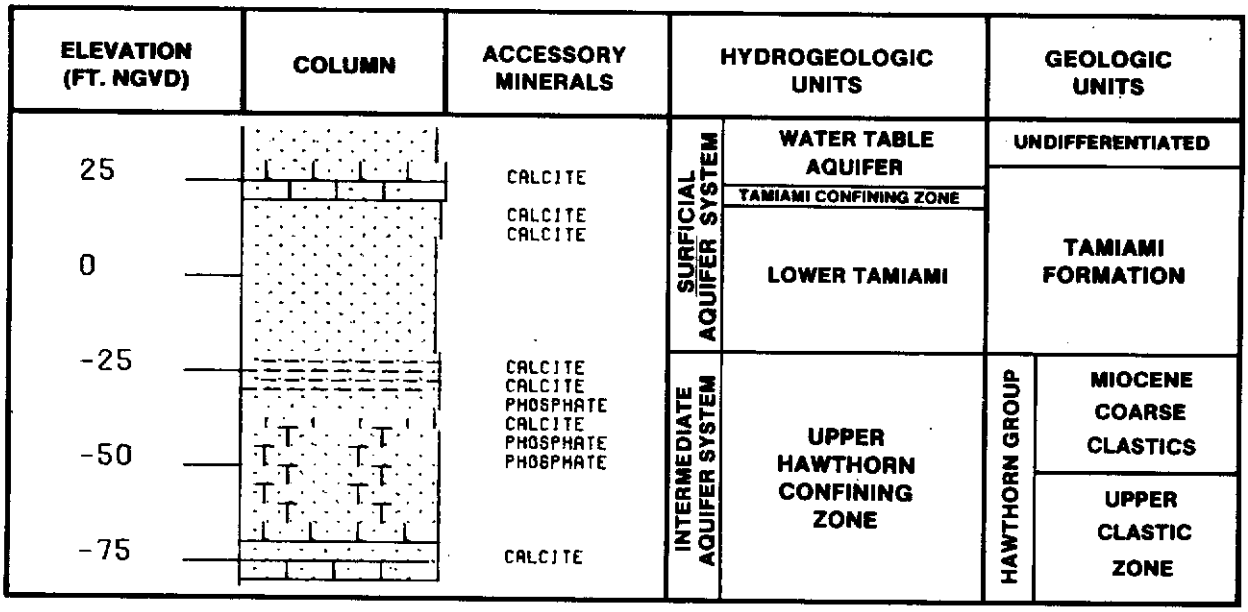
100 - 105 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, LIMESTONE-15%;
LIMESTONE PELLETS 15%

105 - 110 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;

110 - 115 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO ; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-03%;
FOSSILS: NO FOSSILS;

115 - 120 CALCILUTITE; YELLOWISH GRAY; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, INTRACLASTS, PELLET; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;
OTHER FEATURES: FROSTED;

120 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
PHOSPHATE
CALCITE
PHOSPHATE
PHOSPHATE
CALCITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE

G402

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2040
TOTAL DEPTH: 520 FT.
52 SAMPLES FROM 0 TO 520 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.47S R.28E S.24
LAT = N 26D 22M 10
LON = W 81D 28M 40
ELEVATION - 20 FT

OWNER/DRILLER: C2040-SFWMD-ALVIN WOOSTER (DRILLER)

WORKED BY: DESCRIBED BY MIKE KNAPP (12-15-83), SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0 208.0 SURFICIAL AQUIFER SYSTEM
0.0- 90.0 WATER TABLE AQUIFER
90.0- 150.0 TAMIAMI CONFINING ZONE
150.0-208.0 LOWER TAMIAMI AQUIFER
208.0-290.0 UPPER HAWTHORN CONFINING ZONE
290.0-335.0 CLASTIC ZONE - SANDSTONE AQUIFER
335.0-375.0 CARBONATE ZONE - SANDSTONE AQUIFER
375.0-470.0 MID-HAWTHORNE CONFINING ZONE
470.0-520.0 MID-HAWTHORN AQUIFER

0.0-	4.0	000NOSM	NO SAMPLES
4.0-	37.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
37.0-	176.0	122TMIM	TAMIAMI FM.
176.0-	520.0	122HTRN	HAWTHORN GROUP

0 - 4 NO SAMPLES

4 - 10 SHELL BED; BROWNISH GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-20%, CLAY-05%;
FOSSILS: MOLLUSKS;

10 - 20 AS ABOVE,BUT UNCONSOLIDATED,CHIONE AND LARGE GASTROPODS

20 - 30 AS ABOVE

30 - 35 SHELL BED,LOOSELY CEMENTED WITH MICRITE AND SAND

35 - 40 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL;

40 - 50 AS ABOVE

50 - 60 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-25%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

60 - 70 AS ABOVE

70 - 80 LIMESTONE; LIGHT GRAY TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: CORAL, MOLLUSKS, FOSSIL MOLDS, BENTHIC FORAMINIFERA;

80 - 90 AS ABOVE

90 - 100 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, QUARTZ SAND-10%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, PLANKTONIC FORAMINIFERA, BENTHIC FORAMINIFERA;

100 - 120 AS ABOVE

120 - 130 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-02%, QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, PLANKTONIC FORAMINIFERA, BENTHIC FORAMINIFERA;

130 - 140 AS ABOVE

140 - 150 AS ABOVE

150 - 155 LIMESTONE; LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

155 - 160 AS ABOVE

160 - 176 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL MOLDS;

176 - 180 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

180 - 195 NO RECOVERY-CLEAN SANDS

195 - 200 SANDSTONE; MODERATE LIGHT GRAY; 15% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SPAR-30%, CALCILUTITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

200 - 208 AS ABOVE-WITH PHOSPHATE (5%)

208 - 220 SAND; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-05%;
FOSSILS: MOLLUSKS;

220 - 230 AS ABOVE

230 - 240 AS ABOVE

240 - 250 AS ABOVE WITH SHELL (5%) AND PHOSPHATE (5%)

250 - 260 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

260 - 270 AS ABOVE

270 - 280 AS ABOVE

280 - 290 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-30%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS;

290 - 300 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

300 - 310 AS ABOVE BUT UNCONSOLIDATED-QUARTZITE PEBBLES

310 - 320 SANDSTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-40%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

320 - 340 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-01%;
FOSSILS: NO FOSSILS;

340 - 355 SAND; LIGHT OLIVE TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

355 - 360 LIMESTONE; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

360 - 373 AS ABOVE

373 - 374 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, BRYOZOA;

374 - 375 AS ABOVE - (SANDIER 10%)

375 - 380 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

380 - 390 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-25%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

390 - 400 AS ABOVE

400 - 410 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, QUARTZ SAND-30%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

410 - 420 AS ABOVE

420 - 440 AS ABOVE - WITH MORE PHOS (15%)

440 - 450 AS ABOVE

450 - 460 SAND; LIGHT OLIVE TO GRAYISH OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%, CALCILUTITE-10%, PHOSPHATIC SAND-20%;
FOSSILS: MOLLUSKS;

460 - 470 SAMPLE IS A MIX OF ABOVE LITHO-SANDY,PHOS,DOLO LIMESTONE

470 - 480 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, PHOSPHATIC SAND-05%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BRYOZOA;

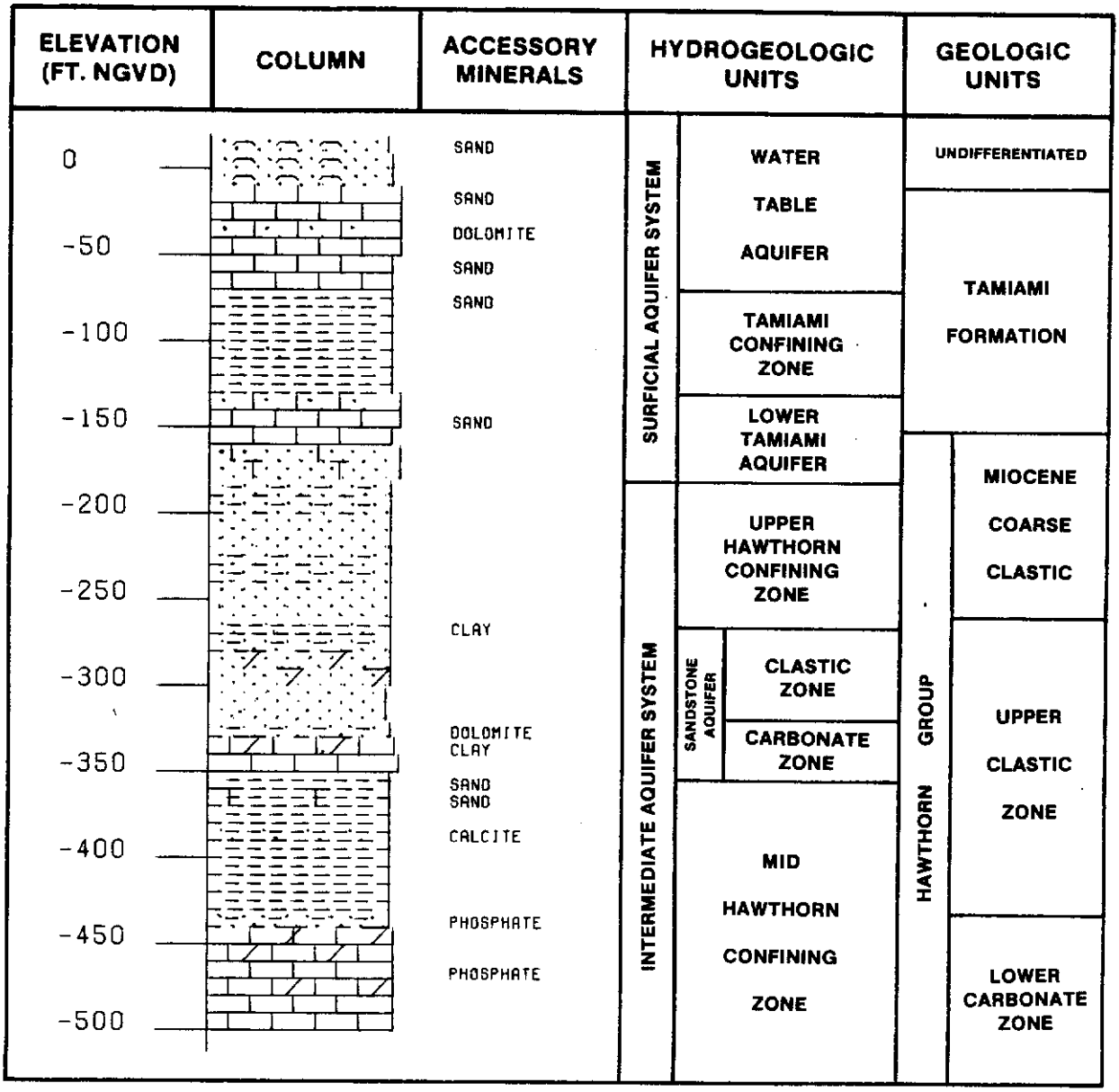
480 - 490 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

490 - 500 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, PLANT REMAINS, BENTHIC FORAMINIFERA, BRYOZOA;

500 - 510 AS ABOVE

510 - 520 AS ABOVE

520 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
SAND
SAND
DOLOMITE
SAND
SAND
SAND
CLAY
DOLOMITE
CLAY
SAND
SAND
CALCITE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTIC
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2041
TOTAL DEPTH: 380 FT.
55 SAMPLES FROM 0 TO 380 FT.

COMPLETION DATE - 83/14/09

COUNTY - COLLIER
LOCATION: T.48S R.28E S.23 A
LAT = N 26D 17M 33
LON = W 81D 31M 07
ELEVATION - 25 FT

OTHER TYPES OF LOGS AVAILABLE - GAMMA, ELECTRIC, CALIPER, NEUTRON

OWNER/DRILLER: SFWMD C2041,OIL WELL RD.& 846,ALVIN WOOSTER DRILLER

WORKED BY: DESCRIBED BY MIKE KNAPP (2-14-84), SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0	170.0	SURFICIAL AQUIFER SYSTEM
0.0	50.0	WATER TABLE AQUIFER
50.0	75.0	TAMIAMI CONFINING ZONE
75.0	170.0	LOWER TAMIAMI AQUIFER
170.0	232.0	UPPER HAWTHORN CONFINING ZONE
232.0	270.0	CARBONATE ZONE - SANDSTONE AQUIFER
270.0	345.0	MID-HAWTHORN CONFINING ZONE
345.0	380.0	MID-HAWTHORN AQUIFER

0.0-	8.0	000NOSM	NO SAMPLES
8.0-	170.0	122TMIM	TAMIAMI FM.
170.0-	380.0	122HTRN	HAWTHORN GROUP

0 - 8 NO SAMPLES

8 - 15 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;
SHELL INTERMIXED

15 - 20 SHELL BED; WHITE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;
CALOOSAHATCHEE TYPE MOLLUSKS

20 - 28 AS ABOVE

28 - 32 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;
MUCH SHELL IN SAMPLE

32 - 35 LIMESTONE; GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR, VUGULAR;
GRAIN TYPE: BIOGENIC, CRYSTALS; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%;

35 - 40 AS ABOVE - SANDIER (40%)

40 - 45 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BRYOZOA;
TYPE OCHOPEE

45 - 50 AS ABOVE

50 - 55 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-15%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

55 - 60 CALCILUTITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 02% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, SILT-15%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;

60 - 70 AS ABOVE - MORE SHELL

70 - 75 AS ABOVE

75 - 80 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

80 - 90 AS ABOVE

90 - 100 LIMESTONE; WHITE TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-03%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, BRYOZOA, CORAL, FOSSIL MOLDS;

100 - 110 AS ABOVE - GOOD TAMIAMI

110 - 115 AS ABOVE

115 - 120 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-08%;
FOSSILS: MOLLUSKS, BRYOZOA, CORAL, FOSSIL MOLDS;

120 - 135 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

135 - 140 AS ABOVE - VERY SANDY (45%) - LOWER POROSITY (15%)

140 - 150 AS ABOVE

150 - 170 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BRYOZOA;

170 - 180 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%;
FOSSILS: MOLLUSKS;

180 - 190 AS ABOVE

190 - 200 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS, BRYOZOA;

200 - 203 AS ABOVE

203 - 210 DOLOMITE; LIGHT GRAY; 10% POROSITY, INTERCRYSTALLINE, PIN POINT VUGS;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-10%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: MOLLUSKS;

210 - 220 CLAY; VERY LIGHT ORANGE TO LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;

220 - 232 AS ABOVE

232 - 238 SANDSTONE; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR, INTERCRYSTALLINE;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%;
SOME LOOSE GRANULE SIZE QUARTZ

238 - 240 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, INTERCRYSTALLINE,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: MOLLUSKS;

240 - 250 AS ABOVE

250 - 260 SANDSTONE; WHITE TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR, INTERCRYSTALLINE,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, SPAR-20%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: MOLLUSKS;

260 - 270 AS ABOVE

270 - 280 SANDSTONE; LIGHT GRAYISH GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-02%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

280 - 290 AS ABOVE

290 - 300 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-05%, QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

300 - 315 AS ABOVE

315 - 322 NO SAMPLE-DRILLER REPORTS HARD DRILLING-DOLOMITE

322 - 330 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, QUARTZ SAND-25%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS;

330 - 335 AS ABOVE-MUCH SHELL

335 - 340 CLAY; GRAYISH BLUE GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-08%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

340 - 345 AS ABOVE

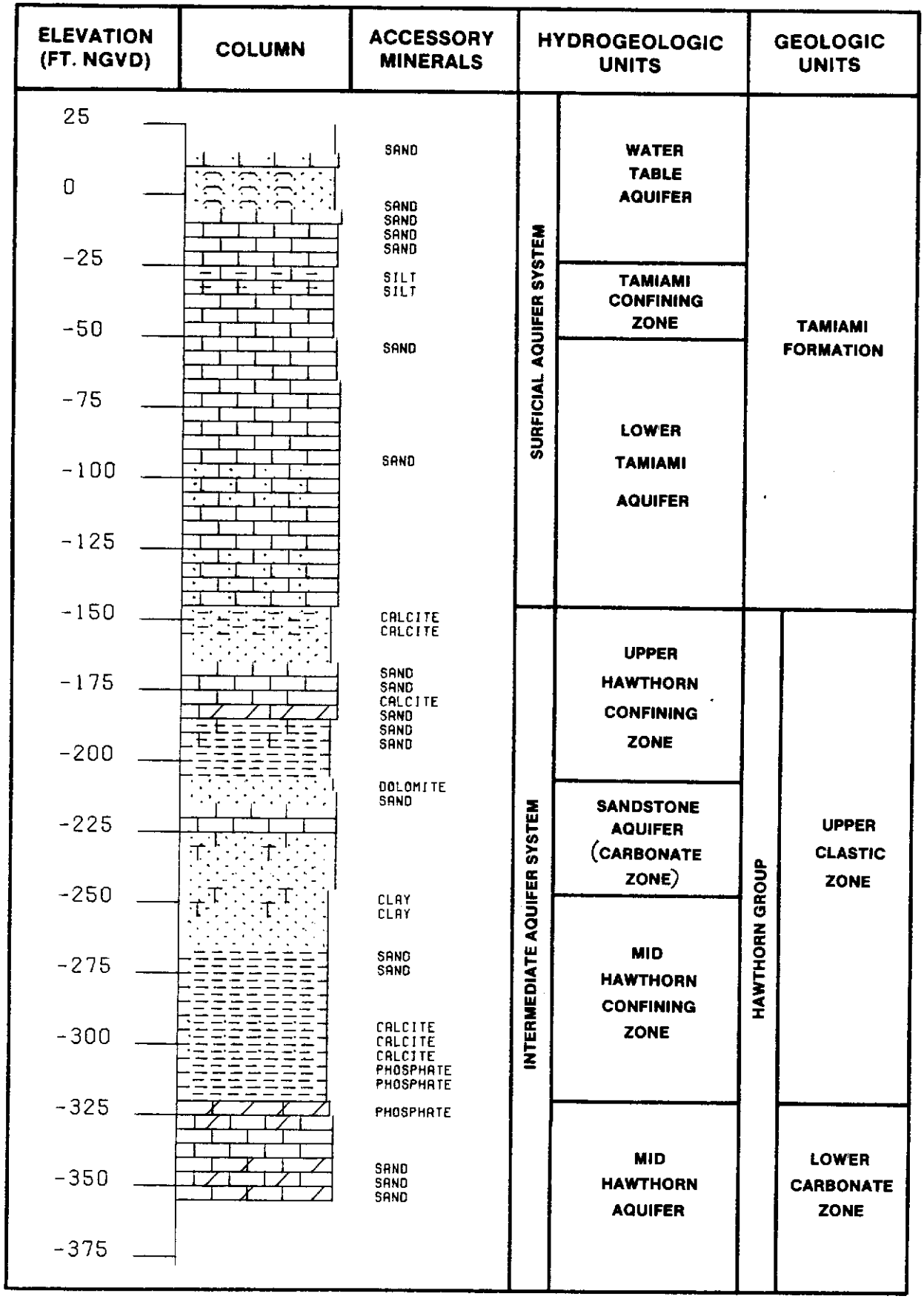
345 - 350 DOLOMITE; YELLOWISH GRAY TO LIGHT OLIVE; 15% POROSITY, INTERGRANULAR,
INTERCRYSTALLINE; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-05%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

350 - 355 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-02%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

355 - 365 AS ABOVE

365 - 380 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-05%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

380 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
-375
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DOLOMITE
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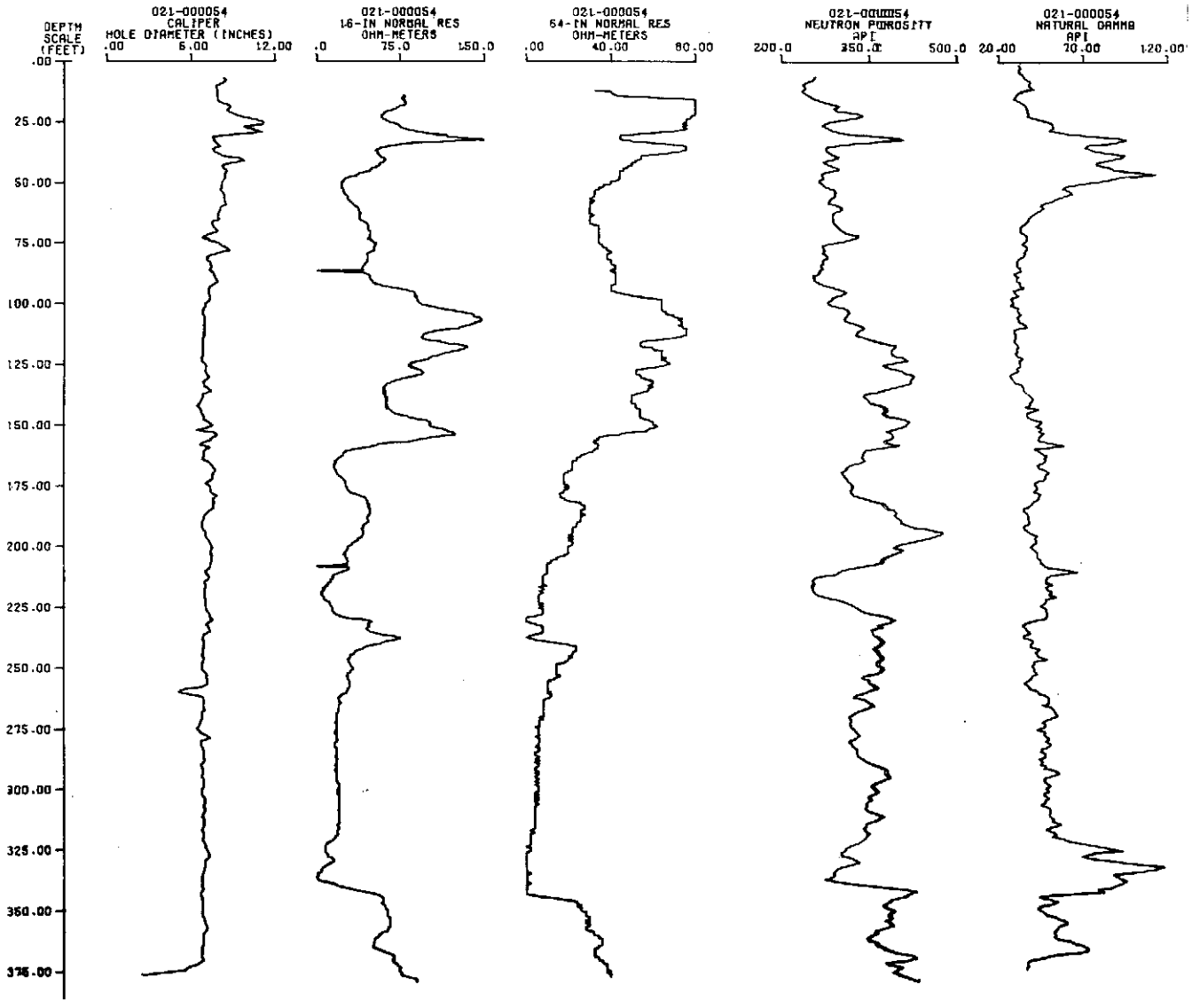
SAND
CALCITE
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2041



GEOPHYSICS, WELL C-2041

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2042
TOTAL DEPTH: 460 FT.
60 SAMPLES FROM 0 TO 460 FT.

COMPLETION DATE - 19/10/83
OTHER TYPES OF LOGS AVAILABLE - GAMMA, ELECTRIC, CALIPER

COUNTY - COLLIER
LOCATION: T.47S R.30E S.29 A
LAT = N 26D 21M 38
LON = W 81D 20M 55
ELEVATION - 22 FT

OWNER/DRILLER: SFWMD C2042,ALVIN WOOSTER (DRILLER)

WORKED BY: DESCRIBED BY MIKE KNAPP (3-19-84),SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0- 130.0 SURFICIAL AQUIFER SYSTEM
0.0- 55.0 WATER TABLE AQUIFER
55.0- 85.0 TAMIAMI CONFINING ZONE
85.0- 130.0 LOWER TAMIAMI AQUIFER
130.0- 310.0 UPPER HAWTHORN CONFINING ZONE
310.0- 390.0 CLASTIC ZONE - SANDSTONE AQUIFER
390.0- 450.0 MID-HAWTHORN CONFINING ZONE
450.0- 460.0 MID-HAWTHORN AQUIFER

0.0-	3.0	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
3.0-	120.0	122TMIM	TAMIAMI FM.
120.0-	460.0	122HTRN	HAWTHORN GROUP

0 - 3 SAND; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;
FOSSILS: MOLLUSKS;

3 - 5 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;

5 - 10 LIMESTONE; DARK YELLOWISH ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

10 - 15 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;
SHELL INTERMIXED

15 - 20 AS ABOVE-CHIONE CANCELLATA

20 - 25 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC, VUGULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

25 - 30 AS ABOVE

30 - 35 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC, INTERCRYSTALLINE;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

35 - 40 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;

40 - 45 AS ABOVE

45 - 55 AS ABOVE - WELL INDURATED

55 - 60 CLAY; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, QUARTZ SAND-35%;
FOSSILS: MOLLUSKS;

60 - 70 SAND; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CLAY-05%, CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

70 - 80 CLAY; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-45%;
FOSSILS: MOLLUSKS;

80 - 85 AS ABOVE

85 - 95 LIMESTONE; LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-04%;
FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL MOLDS, CORAL;

95 - 100 AS ABOVE

100 - 115 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;
SOME V.C. QUARTZITE AND PHOS. GRAINS

115 - 120 AS ABOVE

120 - 130 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;
FOSSILS: MOLLUSKS;

130 - 140 SAND; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, CLAY-05%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

140 - 145 SAND; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

145 - 150 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%;
FOSSILS: MOLLUSKS;

150 - 160 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-05%, CLAY-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

160 - 170 AS ABOVE

170 - 180 AS ABOVE

180 - 190 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-02%, CLAY-02%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

190 - 210 AS ABOVE

210 - 220 SAND; GREENISH GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: COARSE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, DOLOMITE-02%;

220 - 237 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-10%, CLAY-02%, PHOSPHATIC SAND-05%;

237 - 345 AS ABOVE

345 - 255 CLAY; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

255 - 260 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

260 - 265 AS ABOVE

265 - 275 SANDSTONE; WHITE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

275 - 280 AS ABOVE

280 - 310 NO SAMPLES

310 - 320 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;

320 - 330 SAND; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, SHARKS TEETH;

330 - 350 AS ABOVE

350 - 380 SAND; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-03%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

380 - 390 AS ABOVE

390 - 400 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-02%, PHOSPHATIC SAND-05%, QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

400 - 410 AS ABOVE

410 - 420 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-02%, PHOSPHATIC SAND-10%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;

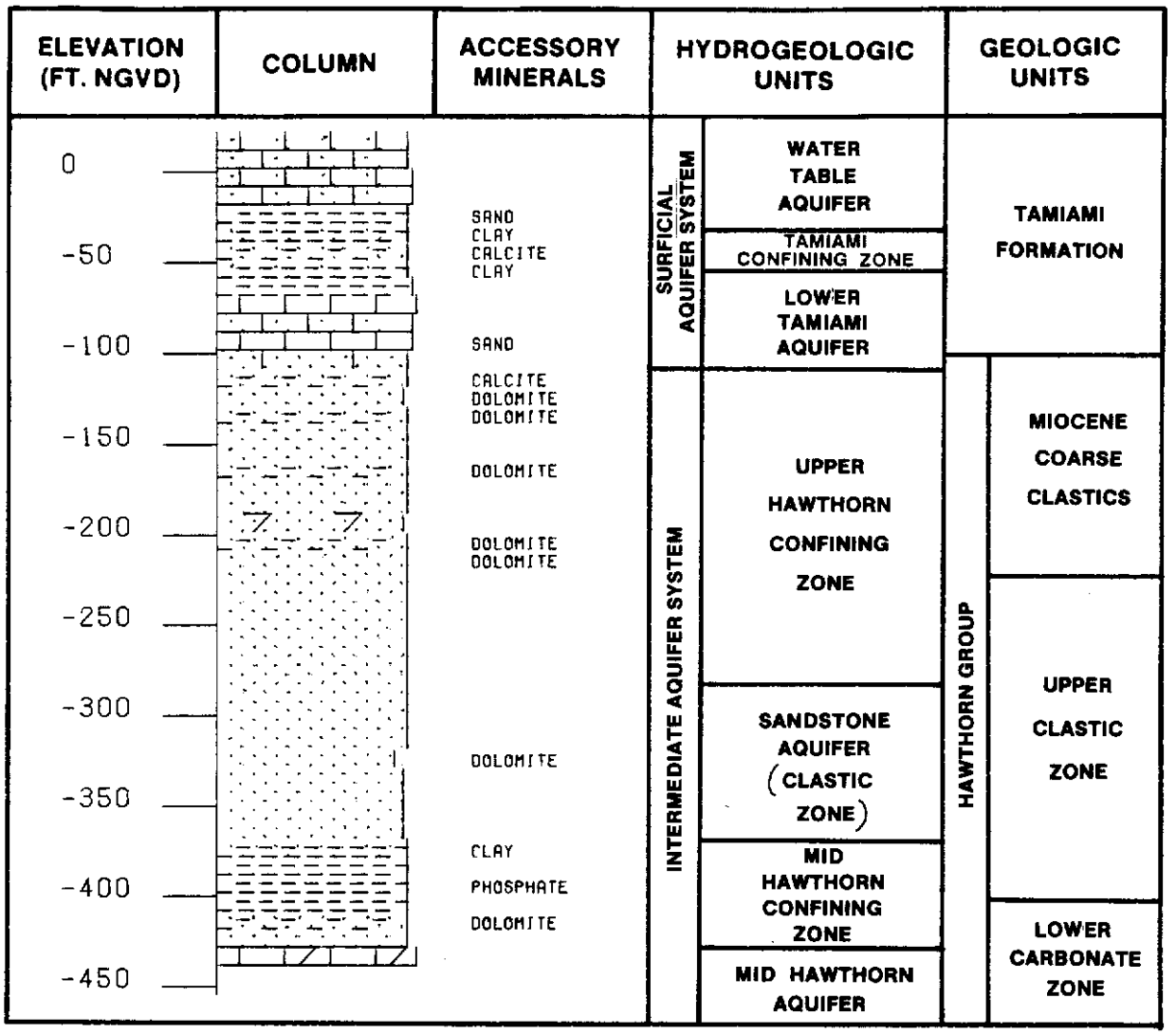
420 - 430 AS ABOVE

430 - 440 SAND; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CLAY-02%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

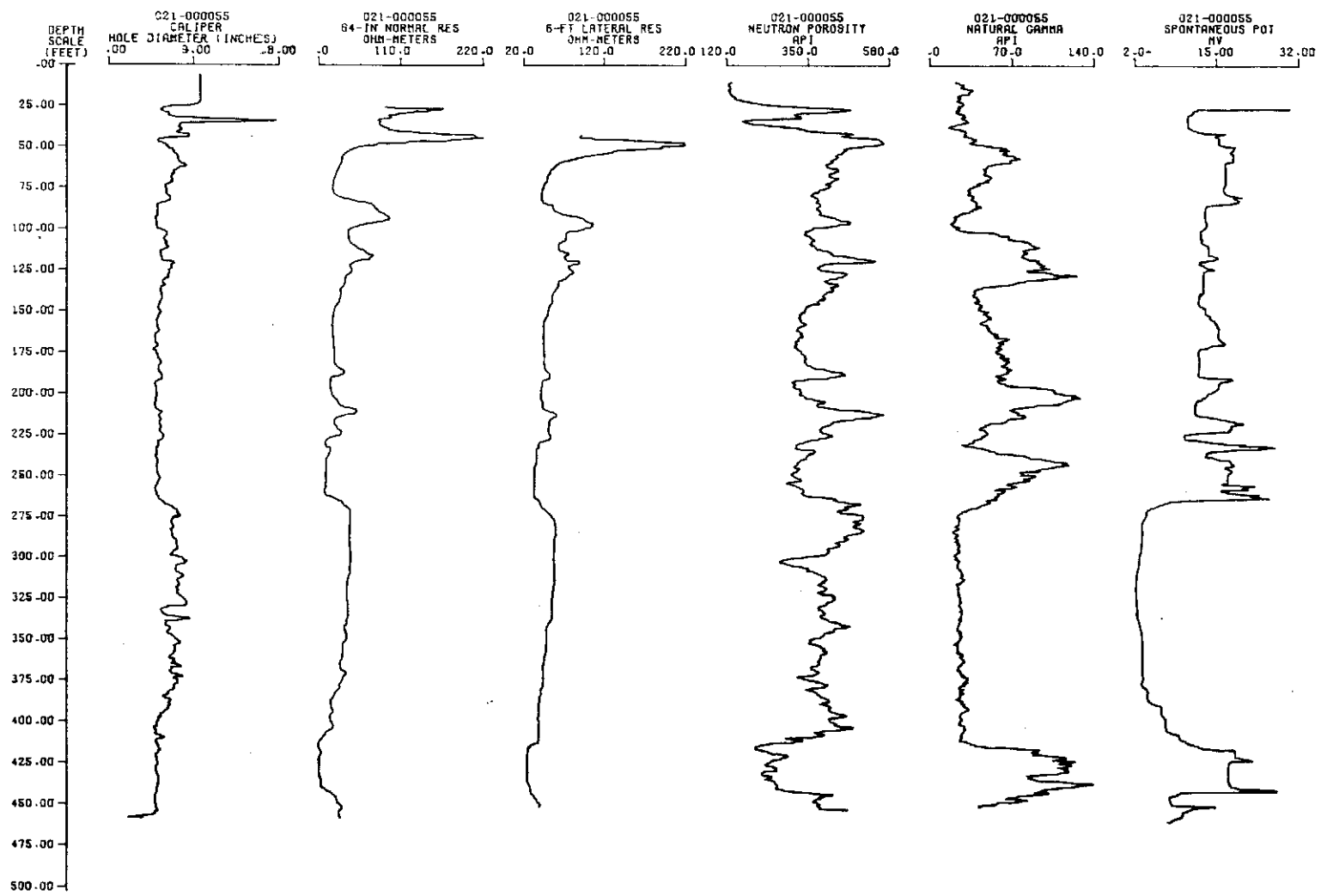
440 - 450 AS ABOVE

450 - 460 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-02%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

460 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
SAND
CLAY
CALCITE
CLAY
SAND
CALCITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
CLAY
PHOSPHATE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CLASTIC ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2042



GEOPHYSICS, WELL C-2042

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2046
TOTAL DEPTH: 200 FT.
20 SAMPLES FROM 0 TO 200 FT.

COMPLETION DATE - 01/01/84
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.48S R.28E S.36 C
LAT = N 26D 15M 18
LON = W 81D 22M 20
ELEVATION - 15 FT

OWNER/DRILLER: SFWMD C2046-CATHERINE ISLAND

WORKED BY: DESCRIBED BY MIKE KNAPP (5-17-84),SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0- 170.0 SURFICIAL AQUIFER SYSTEM
0.0- 60.0 WATER TABLE AQUIFER
60.0- 90.0 TAMIAMI CONFINING ZONE
90.0- 170.0 LOWER TAMIAMI AQUIFER
170.0- 200.0 UPPER HAWTHORN CONFINING ZONE

0.0-	3.0	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
3.0-	170.0	122TMIM	TAMIAMI FM.
170.0-	200.0	122HTRN	HAWTHORN GROUP

0 - 3 SAND; MODERATE LIGHT GRAY; 42% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: HEAVY MINERALS-01%;

3 - 10 LIMESTONE; GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC, INTERCRYSTALLINE;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

10 - 15 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS, CORAL;

15 - 20 SANDSTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

20 - 36 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%;
FOSSILS: MOLLUSKS;
SHELL INTERMIXED

36 - 40 LIMESTONE; LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

40 - 50 SANDSTONE; VERY LIGHT ORANGE TO LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

50 - 60 AS ABOVE

60 - 75 SAND; OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-02%, CALCILUTITE-10%, DOLOMITE-20%;
FOSSILS: MOLLUSKS;

75 - 90 AS ABOVE WITH SHELL

90 - 100 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL;

100 - 110 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL;

110 - 120 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS, BRYOZOA;
GOOD OCHOPEE

120 - 130 AS ABOVE

130 - 140 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS, BRYOZOA;

140 - 150 LIMESTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;
SAMPLE IS A MIX OF ABOVE LITHO AND 150.

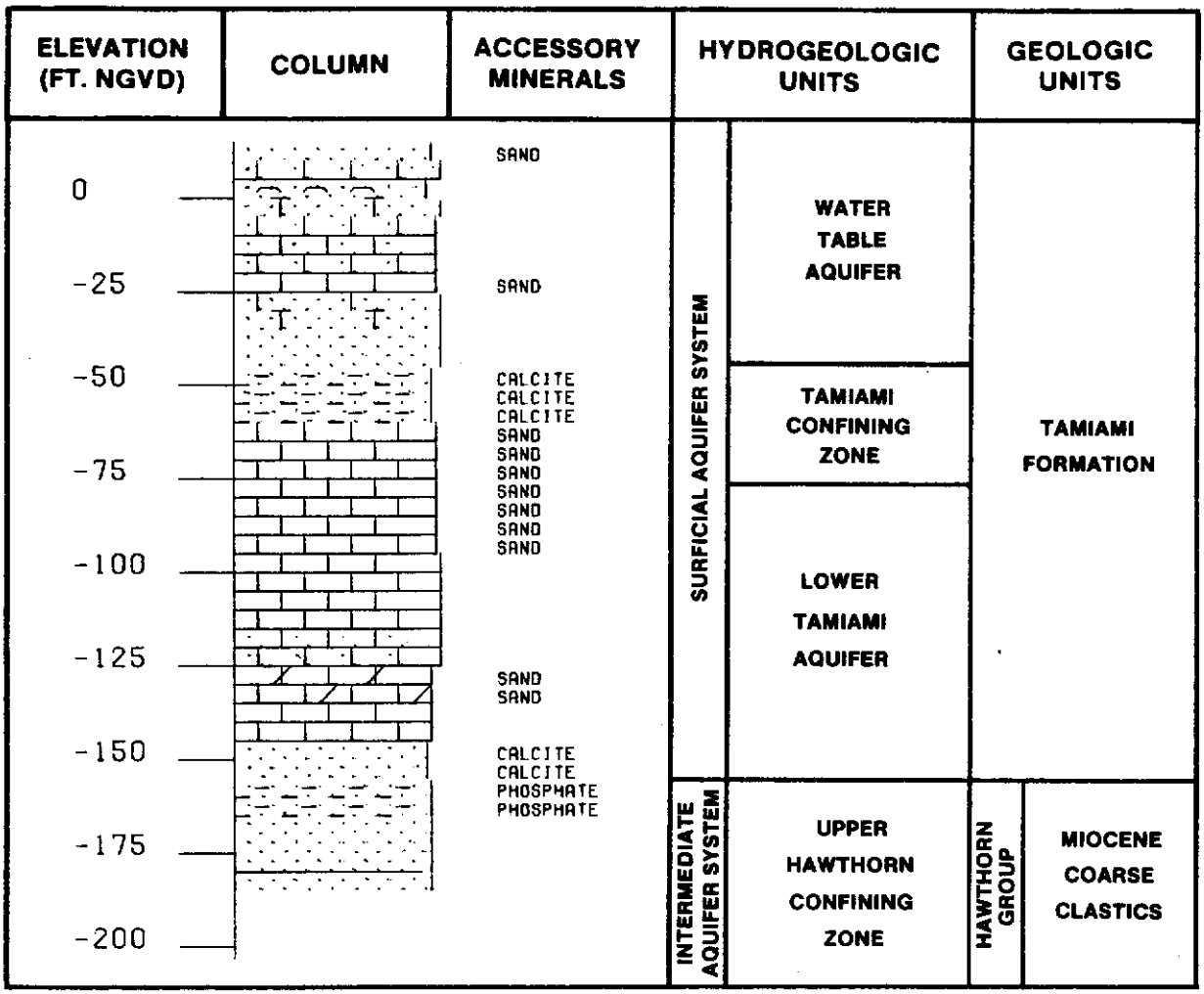
150 - 160 AS ABOVE

160 - 170 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-10%;
OTHER FEATURES: FROSTED;
FOSSILS: MOLLUSKS;

170 - 180 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CLAY-05%, DOLOMITE-10%;
FOSSILS: MOLLUSKS;

180 - 200 AS ABOVE

200 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
SAND
SAND
CALCITE
CALCITE
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
HAWTHORN GROUP
MIOCENE COARSE CLASTICS

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2054
TOTAL DEPTH: 340 FT.
68 SAMPLES FROM 0 TO 340 FT.

COMPLETION DATE - 01/02/84
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.46S R.29E S.31 D
LAT = N 26D 26M 02
LON = W 81D 27M 01
ELEVATION - 25 FT

OWNER/DRILLER: USGS C632

WORKED BY: DESCRIBED BY MIKE KNAPP 2-1-84,SAMPLE QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0	150	SURFICIAL AQUIFER SYSTEM
0	150	WATER TABLE AQUIFER
150	160	UPPER HAWTHORN CONFINING ZONE
160	180	CLASTIC ZONE - SANDSTONE AQUIFER
180	220	CONFINING ZONE
220	300	CARBONATE ZONE - SANDSTONE AQUIFER
300	340	MID HAWTHORN CONFINING ZONE

0.0-	20.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
20.0-	340.0	122HTRN	HAWTHORN GROUP

0 - 10 SAND; GRAYISH ORANGE; 42% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

10 - 20 SAND; VERY LIGHT ORANGE TO LIGHT GREENISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, HEAVY MINERALS-01%;
FOSSILS: MOLLUSKS;

20 - 30 SAND; VERY LIGHT ORANGE TO WHITE; 42% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

30 - 80 SAMPLE ARE ALL SAND SAME AS ABOVE-FROSTED,ROUNDED,MARINE

80 - 100 SAND; VERY LIGHT ORANGE; 42% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
OTHER FEATURES: FROSTED;

100 - 135 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS;
MUCH SAND IN SAMPLE

135 - 140 SAND; WHITE TO VERY LIGHT ORANGE; 42% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-02%;
FOSSILS: MOLLUSKS;

140 - 150 AS ABOVE

150 - 160 CLAY; LIGHT GREENISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-25%;
FOSSILS: MOLLUSKS;

160 - 180 SAND; VERY LIGHT ORANGE; 42% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

180 - 190 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: SILT-20%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

190 - 200 AS ABOVE

200 - 210 CLAY; LIGHT GRAYISH GREEN; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-10%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS;

210 - 220 AS ABOVE

220 - 230 LIMESTONE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS;

230 - 245 AS ABOVE -SANDIER (35%)

245 - 250 AS ABOVE

250 - 260 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-03%;
FOSSILS: MOLLUSKS;

260 - 270 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

270 - 280 AS ABOVE-NO SAND

280 - 290 AS ABOVE

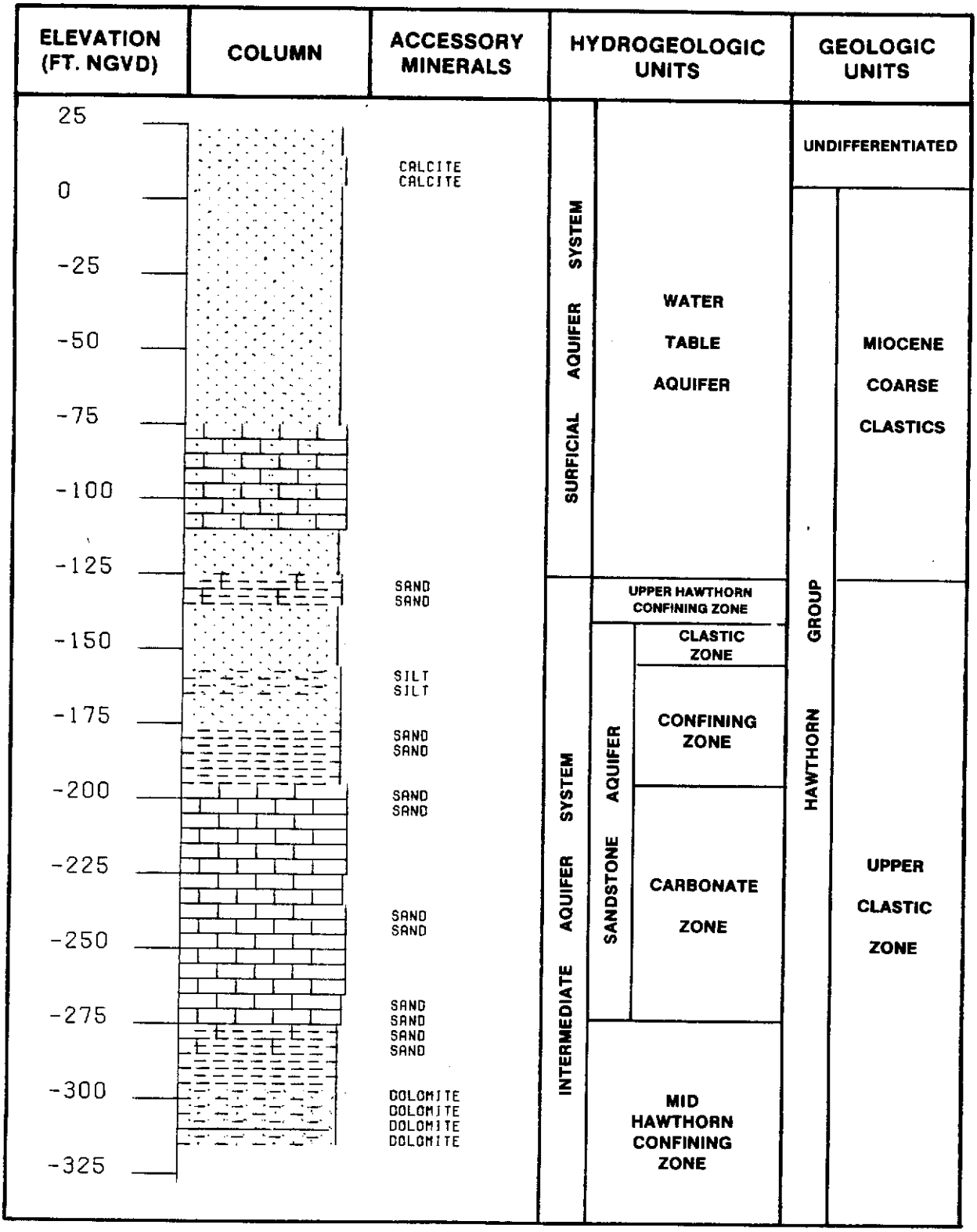
290 - 300 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

300 - 310 CLAY; LIGHT GREENISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-25%;
FOSSILS: MOLLUSKS;

310 - 320 AS ABOVE

320 - 340 SAND; LIGHT GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, DOLOMITE-25%;
FOSSILS: MOLLUSKS;

340 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
CALCITE
CALCITE
SAND
SAND
SILT
SILT
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE

C2054

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2055
TOTAL DEPTH: 00540 FT.
54 SAMPLES FROM 0 TO 540 FT.

COMPLETION DATE - 01/02/84
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.47S R.29E S.01 A
LAT = N 26D 25M 09
LON = W 81D 22M 37
ELEVATION - 030 FT

OWNER/DRILLER: USGS C681

WORKED BY: DESCRIBED BY MIKE KNAPP (2-1-84),SAMPLE QUALITY (FAIR)
HYDROGEOLOGIC UNITS
0.0 50.0 SURFICIAL AQUIFER SYSTEM
0.0 50.0 WATER TABLE AQUIFER
50.0 130.0 UPPER HAWTHORN CONFINING ZONE
130.0 160.0 CLASTIC ZONE - SANDSTONE AQUIFER
160.0 230.0 CARBONATE ZONE - SANDSTONE AQUIFER
230.0 490.0 MID-HAWTHORN CONFINING ZONE
490.0 540.0 MID-HAWTHORN AQUIFER

0.0- 30.0 122TMIM TAMIAMI FM.
30.0- 540.0 122HTRN HAWTHORN GROUP

0 - 10 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

10 - 20 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

20 - 30 AS ABOVE

30 - 40 SAND; WHITE TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
FOSSILS: MOLLUSKS;

40 - 50 AS ABOVE-SOME PHOS (02%) AND A FEW CHIPS OF S/S

50 - 60 SANDSTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

60 - 70 AS ABOVE

70 - 80 AS ABOVE WITH POOR INDURATION

80 - 90 SAND; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;

90 - 100 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
FOSSILS: DIATOMS;

100 - 110 AS ABOVE

110 - 120 SAND; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, DOLOMITE-15%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS, BRYOZOA;

120 - 130 CLAY; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

130 - 140 SAND; WHITE; 40% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-03%;
FOSSILS: MOLLUSKS;

140 - 150 AS ABOVE

150 - 160 AS ABOVE WITH POOR INDURATION-DOLOSILT (5%)

160 - 170 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

170 - 180 AS ABOVE

180 - 190 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

190 - 200 AS ABOVE

200 - 210 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

210 - 220 SANDSTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, DOLOMITE-30%;
FOSSILS: MOLLUSKS;

220 - 230 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS;

230 - 240 SANDSTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%;

240 - 250 AS ABOVE

250 - 260 AS ABOVE

260 - 270 AS ABOVE

270 - 280 AS ABOVE

280 - 290 250 TO 290 COARSE SANDS WITH DOLOSILT MATRIX (15%)

290 - 300 AS ABOVE

300 - 310 SANDSTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-02%;

310 - 320 AS ABOVE

320 - 340 AS ABOVE-POORLY INDURATED

340 - 350 AS ABOVE-SOME GRANULE SIZE QUARTZ

350 - 360 AS ABOVE

360 - 370 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

370 - 400 AS ABOVE

400 - 410 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

410 - 440 AS ABOVE

440 - 460 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

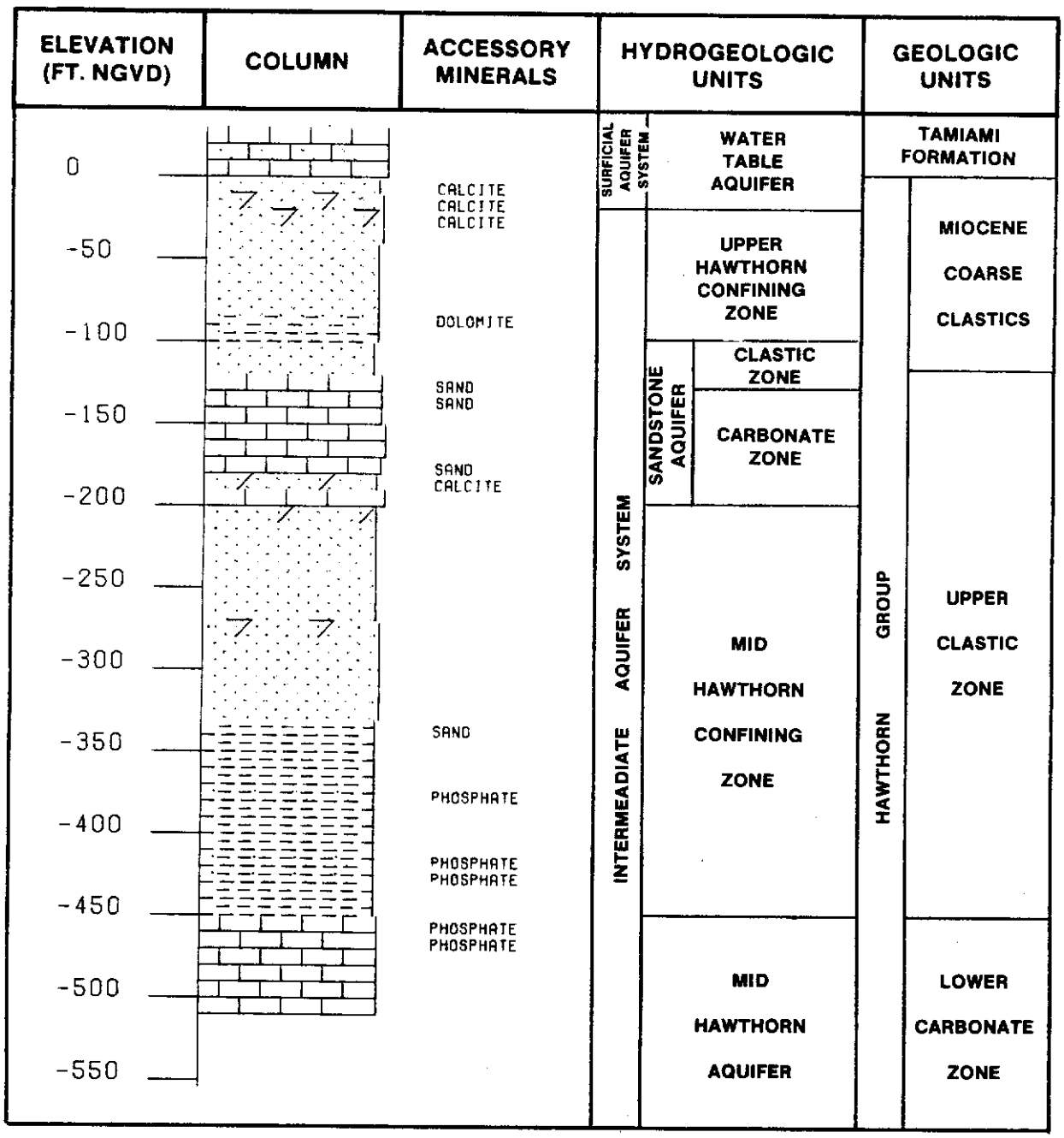
460 - 480 AS ABOVE

480 - 490 AS ABOVE-WITH PHOSPHATE RUBBLE

490 - 500 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

500 - 540 AS ABOVE

540 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
CALCITE
CALCITE
CALCITE
DOLOMITE
SAND
SAND
SAND
CALCITE
SAND
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEADIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2055

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2056
TOTAL DEPTH: 183 FT.
36 SAMPLES FROM 5 TO 180 FT.

COMPLETION DATE - 11/11/83
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.46S R.29E S.10 C
LAT = N 26D 29M 25
LON = W 81D 24M 55
ELEVATION - 30 FT

OWNER/DRILLER: MISSIMER CO-753,SILVER STRAND FARMS-NORTH

WORKED BY: DESCRIBED BY MIKE KNAPP (6-18-84), QUALITY (POOR)

HYDROGEOLOGIC UNITS

0.0 95.0 SURFICIAL AQUIFER SYSTEM
0.0 95.0 WATER TABLE AQUIFER
95.0 120.0 UPPER HAWTHORN CONFINING ZONE
120.0 140.0 CLASTIC ZONE - SANDSTONE AQUIFER
140.0 165.0 CONFINING ZONE
165.0 183.0 CARBONATE ZONE - SANDSTONE AQUIFER

0.0-	30.0	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
30.0-	45.0	122TMIM	TAMIAMI FM.
45.0-	180.0	122HTRN	HAWTHORN GROUP

0 - 5 NO SAMPLES

5 - 10 SAND; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-10%, SPAR-03%;

10 - 15 AS ABOVE

15 - 20 SANDSTONE; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%, SPAR-10%;
FOSSILS: MOLLUSKS;

20 - 25 AS ABOVE

25 - 30 AS ABOVE

30 - 35 LIMESTONE; LIGHT GRAY TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;

35 - 40 AS ABOVE

40 - 45 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;

45 - 50 SAND; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;

50 - 55 SAND; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, LIMESTONE-05%;
FOSSILS: MOLLUSKS;

55 - 60 AS ABOVE

60 - 65 AS ABOVE

65 - 70 AS ABOVE

70 - 75 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%;

75 - 80 SAND; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%;

80 - 85 AS ABOVE BECOMING SLIGHTLY CEMENTED WITH MICRITE

85 - 90 AS ABOVE

90 - 95 AS ABOVE COARSE QUARTZ (05%)

95 - 105 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-05%, DOLOMITE-20%;
FOSSILS: MOLLUSKS;

105 - 110 AS ABOVE

110 - 115 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-05%, DOLOMITE-20%;
FOSSILS: MOLLUSKS;

115 - 120 AS ABOVE

120 - 125 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

125 - 130 AS ABOVE-POORLY INDURATED

130 - 135 SANDSTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

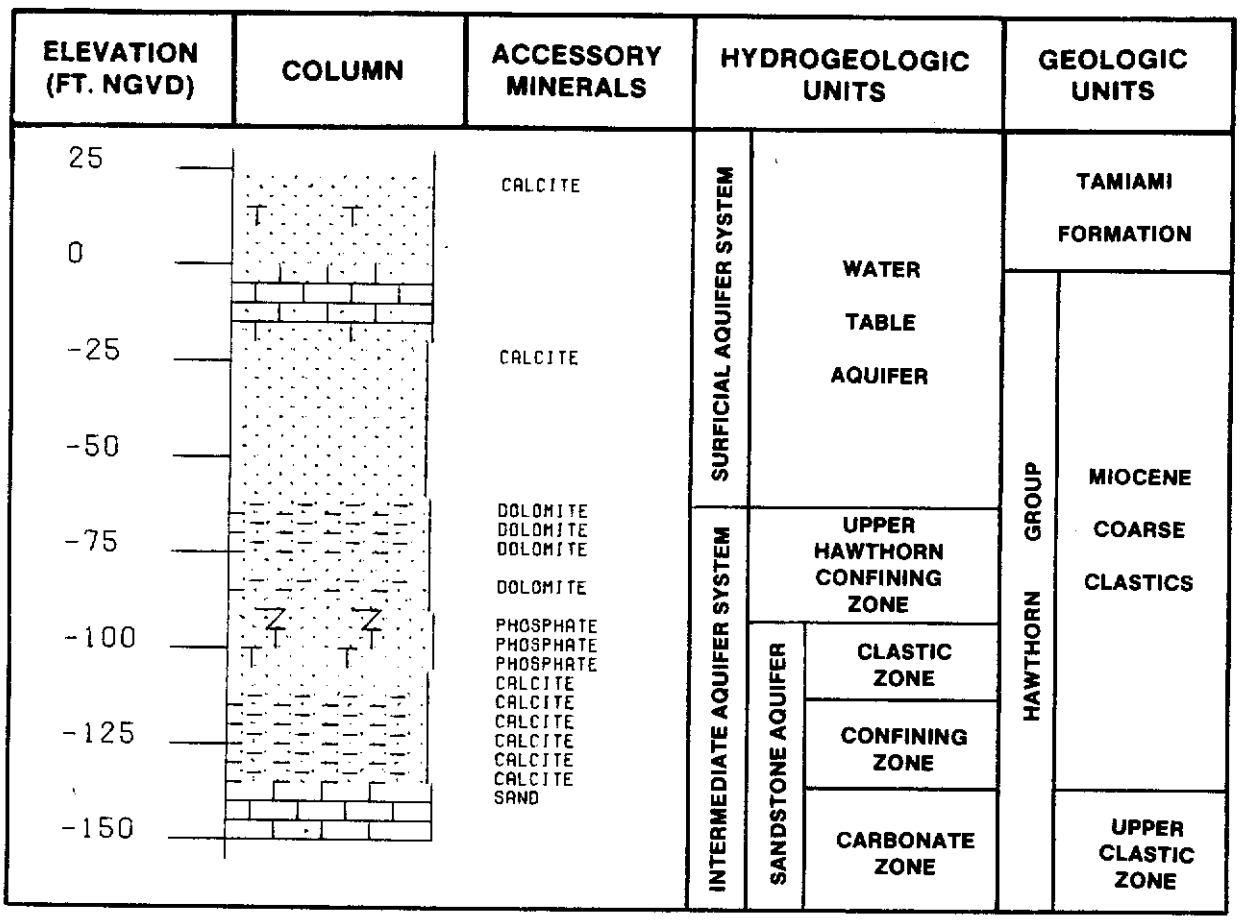
135 - 140 SAND; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;

140 - 165 SAND; VERY LIGHT ORANGE TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, DOLOMITE-15%, CLAY-02%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

165 - 170 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

170 - 180 AS ABOVE

170 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
CALCITE
CALCITE
DOLOMITE
DOLOMITE
DOLOMITE
DOLOMITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CONFINING ZONE
CARBONATE ZONE
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE

C2056

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2058 COUNTY - COLLIER
TOTAL DEPTH: 260 FT. LOCATION: T.46S R.28E S.28 B
26 SAMPLES FROM 0 TO 260 FT. LAT = N 26D 26M 40
LON = W 81D 31M 01
COMPLETION DATE - 16/01/79 ELEVATION - 21 FT
OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: USGS C578,EDDIE MILLER (DRILLER)

WORKED BY: DESCRIBED BY MIKE KNAPP (6-27-86),SAMPLE QUALITY ( )
HYDROGEOLOGICAL UNITS
0.0 100.0 SURFICIAL AQUIFER SYSTEM
0.0 55.0 WATER TABLE AQUIFER
55.0 90.0 TAMIAMI CONFINING ZONE
90.0 100.0 LOWER TAMIAMI AQUIFER
100.0 110.0 UPPER HAWTHORN CONFINING ZONE
110.0 180.0 CLASTIC ZONE - SANDSTONE AQUIFER
180.0 260.0 MID HAWTHORN CONFINING ZONE

0.0- 10.0 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
10.0- 100.0 122TMIM TAMIAMI FM.
100.0- 260.0 122HTRN HAWTHORN GROUP

0 - 5 SHELL BED; WHITE TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

5 - 10 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

10 - 20 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;
FOSSILS: MOLLUSKS;

20 - 30 SANDSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN; 15% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

30 - 40 AS ABOVE

40 - 55 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

55 - 65 CLAY; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

65 - 70 AS ABOVE

70 - 80 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

80 - 90 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

90 - 100 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

100 - 110 SANDSTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, SPAR-10%;
FOSSILS: MOLLUSKS;

110 - 140 SANDSTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

140 - 160 SAND; WHITE TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

160 - 170 AS ABOVE

170 - 180 SAND; WHITE TO LIGHT GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;
WELL INDURATED FRAGS OF S/S IN SAMPLE

180 - 200 AS ABOVE

200 - 210 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CLAY-02%;
FOSSILS: MOLLUSKS;

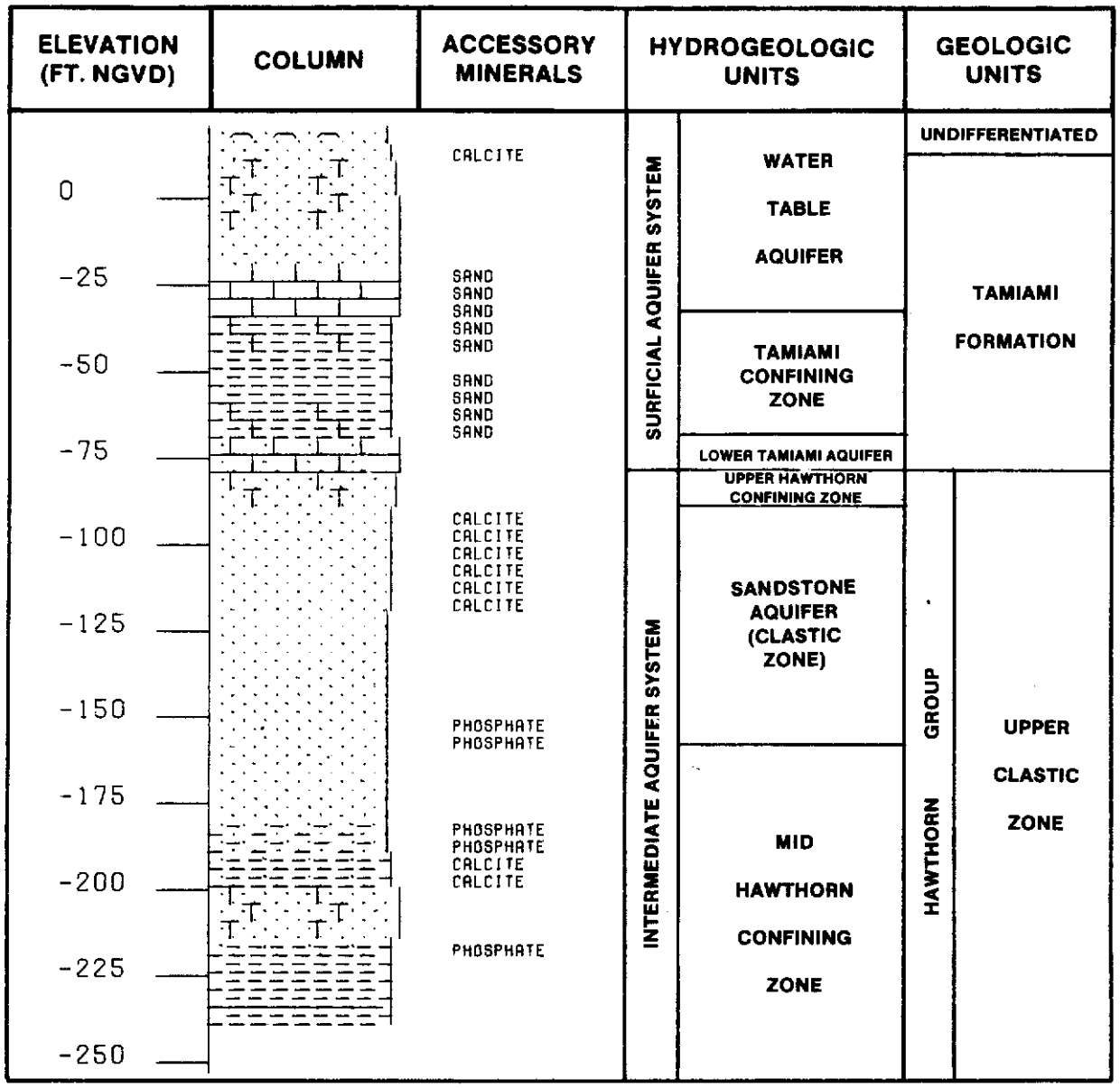
210 - 220 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, QUARTZ SAND-40%;
FOSSILS: MOLLUSKS;

220 - 235 SANDSTONE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-20%;
FOSSILS: MOLLUSKS;
SAMPLE IS A MIXTURE OF SHELL,COARSE SAND AND SS.

235 - 240 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, QUARTZ SAND-25%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;
COARSE SAND

240 - 260 AS ABOVE

260 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
CALCITE
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
SAND
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
CALCITE
CALCITE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CLASTIC ZONE)
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
UPPER CLASTIC ZONE

C2058

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2059 | COUNTY - COLLIER
TOTAL DEPTH: 410 FT. | LOCATION: T.46S R.29E S.07 A
40 SAMPLES FROM 0 TO 410 FT. | LAT = N 26D 28M 59
| LON = W 81D 27M 30
COMPLETION DATE - 22/10/75 | ELEVATION - 42 FT
OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: USGS 531,NORTH OF IMMOKALEE,DRILLER (COASTAL CAISSENS)

WORKED BY: MIKE KNAPP (06-26-84),QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0 96.0 SURFICIAL AQUIFER SYSTEM
0.0 15.0 WATER TABLE AQUIFER
15.0 35.0 TAMIAMI CONFINING ZONE
35.0 96.0 LOWER TAMIAMI AQUIFER
96.0 190.0 UPPER HAWTHORN CONFINING ZONE
190.0 250.0 CARBONATE ZONE - SANDSTONE AQUIFER
250.0 390.0 MID-HAWTHORN CONFINING ZONE
390.0 410.0 MID-HAWTHORN AQUIFER

0.0- 20.0 090UDSS UNDIFFERENTIATED SAND, CLAY, AND SHELLS
20.0- 35.0 122TMIM TAMIAMI FM.
35.0- 410.0 122HTRN HAWTHORN GROUP

0 - 5 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

5 - 10 SAND; DARK YELLOWISH ORANGE; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;

10 - 15 AS ABOVE

15 - 20 SAND; DARK GRAYISH YELLOW; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, CALCILUTITE-15%;
DOLOSILT INTERMIXED

20 - 25 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

25 - 30 AS ABOVE

30 - 35 AS ABOVE

35 - 50 SAND; WHITE TO LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;
FOSSILS: MOLLUSKS;

50 - 60 AS ABOVE

60 - 65 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-02%;

65 - 70 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;

70 - 80 SAND; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: VERY COARSE; RANGE: COARSE TO GRANULE;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;

80 - 96 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-02%;

96 - 110 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

110 - 120 AS ABOVE

120 - 130 SAND; VERY LIGHT GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-10%, CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

130 - 140 AS ABOVE

140 - 150 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, QUARTZ SAND-30%;
FOSSILS: MOLLUSKS;

150 - 160 AS ABOVE

160 - 170 SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-30%, CALCILUTITE-10%, CLAY-05%;
FOSSILS: MOLLUSKS;

170 - 180 AS ABOVE

180 - 190 SAND; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-30%, CALCILUTITE-10%, CLAY-10%;

190 - 200 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

200 - 210 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL, WORM TRACES;

210 - 220 AS ABOVE

220 - 250 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

250 - 260 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-15%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

260 - 270 AS ABOVE

270 - 280 AS ABOVE

280 - 290 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

290 - 300 AS ABOVE - COARSE SAND (CAVINGS?)

300 - 320 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

320 - 340 AS ABOVE

340 - 350 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-10%, QUARTZ SAND-25%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

350 - 360 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CLAY-05%, CALCILUTITE-05%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

360 - 370 AS ABOVE

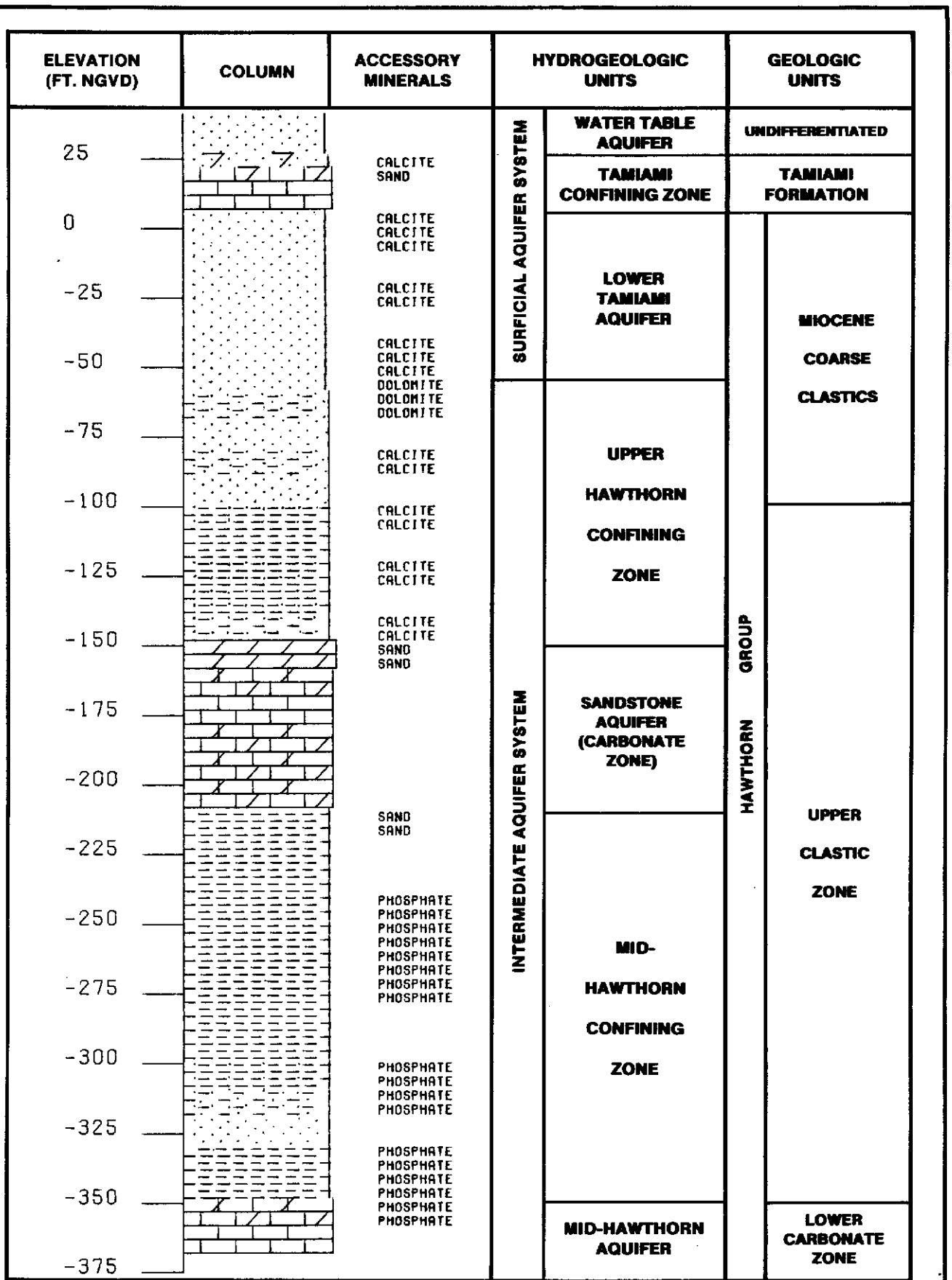
370 - 380 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-10%, QUARTZ SAND-15%;
FOSSILS: MOLLUSKS;

380 - 390 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-15%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

390 - 400 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-10%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

400 - 410 AS ABOVE

400 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
-375
CALCITE
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PHOSPHATE
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID-HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2059

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2061
TOTAL DEPTH: 498 FT.
50 SAMPLES FROM 0 TO 498 FT.

COUNTY - COLLIER
LOCATION: T.48S R.29E S.23 A
LAT = N 26D 17M 40
LON = W 81D 23M 54

COMPLETION DATE - 20/11/80
ELEVATION - 18 FT
OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: USGS C684,MIXON (DRILLER)

WORKED BY: DESCRIBED BY MIKE KNAPP (6-27-84), QUALITY (GOOD)

HYDROGEOLOGIC UNITS

0.0	160.0	SURFICIAL AQUIFER SYSTEM
0.0	30.0	WATER TABLE AQUIFER
30.0	50.0	TAMIAMI CONFINING ZONE
50.0	160.0	LOWER TAMIAMI AQUIFER
160.0	190.0	UPPER HAWTHORN CONFINING ZONE
190.0	220.0	CLASTIC ZONE - SANDSTONE AQUIFER
220.0	320.0	CARBONATE ZONE - SANDSTONE AQUIFER
320.0	400.0	MID-HAWTHORN CONFINING ZONE
400.0	498.0	MID-HAWTHORN AQUIFER

0.0-	10.0	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
10.0-	60.0	122TMIM	TAMIAMI FM.
60.0-	498.0	122HTRN	HAWTHORN GROUP

0 - 10 SAND; VERY LIGHT ORANGE TO WHITE; 32% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

10 - 15 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

15 - 20 AS ABOVE

20 - 30 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, ECHINOID, PLANT REMAINS, FOSSIL MOLDS;

30 - 40 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
FOSSILS: MOLLUSKS, ECHINOID, BRYOZOA, FOSSIL MOLDS;

40 - 50 AS ABOVE

50 - 60 LIMESTONE; VERY LIGHT ORANGE TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

60 - 70 SAND; WHITE TO LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: LIMESTONE-20%;
FOSSILS: MOLLUSKS;

70 - 100 AS ABOVE

100 - 120 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%;
OTHER FEATURES: FROSTED;

120 - 140 AS ABOVE

140 - 160 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%;
OTHER FEATURES: FROSTED;

160 - 170 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCILUTITE-02%, CLAY-05%, DOLOMITE-25%;
OTHER FEATURES: FROSTED;

170 - 180 AS ABOVE

180 - 190 AS ABOVE

190 - 200 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE;
ROUNDNESS: ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, PHOSPHATIC SAND-02%;
OTHER FEATURES: FROSTED;

200 - 220 SANDSTONE; VERY LIGHT ORANGE TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;

220 - 230 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%;

230 - 240 AS ABOVE

240 - 250 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

250 - 260 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, ECHINOID;

260 - 270 AS ABOVE

270 - 280 AS ABOVE

280 - 300 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;
COARSE QUARTZ IN SAMPLE (40%)

300 - 320 AS ABOVE

320 - 330 CLAY; VERY LIGHT ORANGE TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-25%, SILT-10%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

330 - 340 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-40%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

340 - 360 AS ABOVE

360 - 380 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

380 - 390 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-10%, PHOSPHATIC SAND-15%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

390 - 400 AS ABOVE

400 - 420 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-05%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BRYOZOA;

420 - 440 AS ABOVE

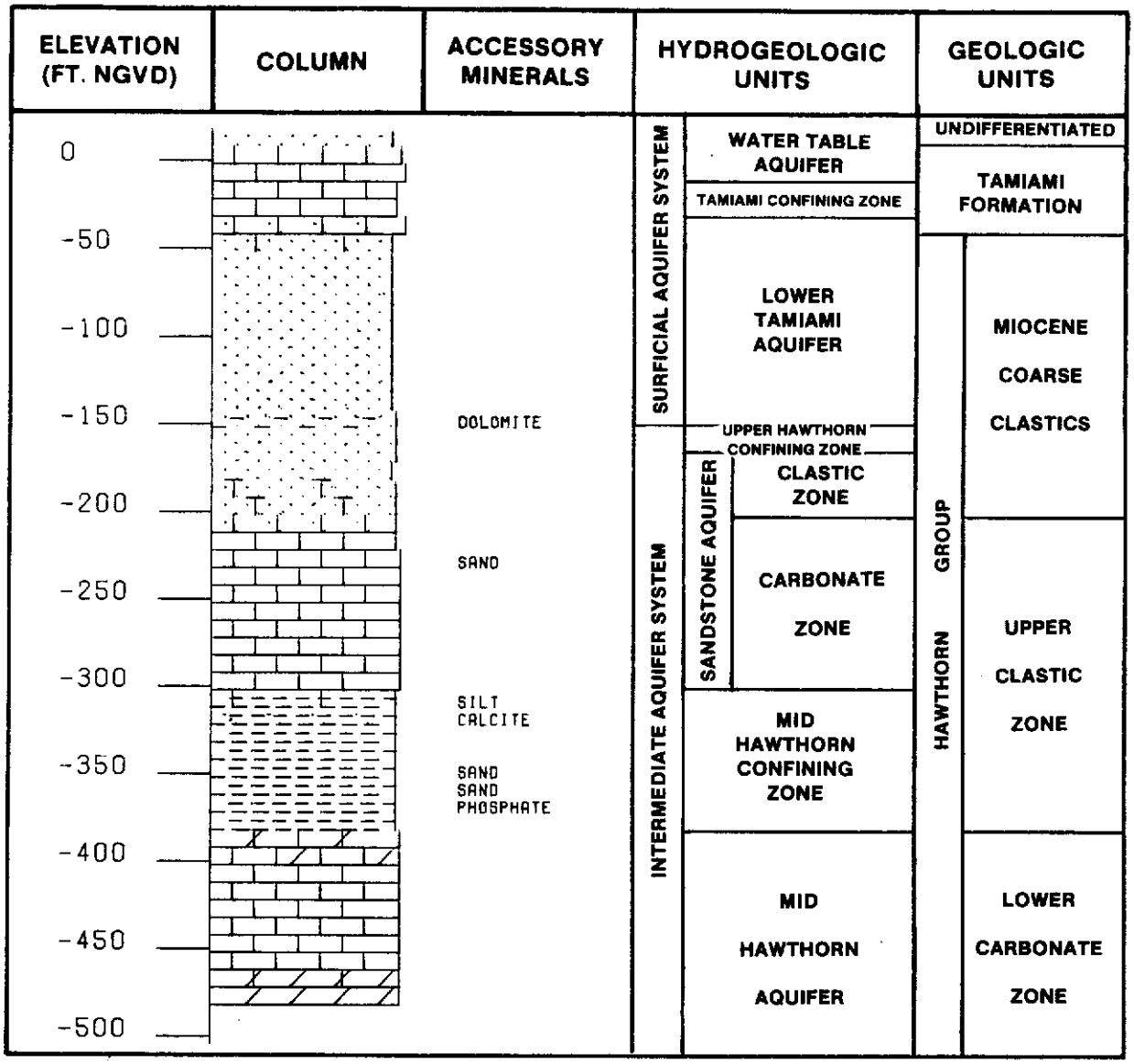
440 - 460 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS;

460 - 480 AS ABOVE

480 - 490 DOLOMITE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-08%, QUARTZ SAND-04%;
FOSSILS: MOLLUSKS;

490 - 498 AS ABOVE

498 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
DOLOMITE
SAND
SILT
CALCITE
SAND
SAND
PHOSPHATE
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER
CLASTIC ZONE
CARBONATE ZONE
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2061

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2062
TOTAL DEPTH: 460 FT.
46 SAMPLES FROM 0 TO 460 FT.

COMPLETION DATE - 20/11/80
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.48S R.28E S.17 C
LAT = N 26D 17M 36
LON = W 81D 32M 45
ELEVATION - 16 FT

OWNER/DRILLER: USGS C683,MIXSON (DRILLER)

WORKED BY: DESCRIBED BY MIKE KNAPP (6-27-84),QUALITY (GOOD)
HYDROGEOLOGIC UNITS
0.0 150.0 SURFICIAL AQUIFER SYSTEM
0.0 55.0 WATER TABLE AQUIFER
55.0 65.0 TAMIAMI CONFINING ZONE
65.0 150.0 LOWER TAMIAMI AQUIFER
150.0 360.0 MID-HAWTHORN CONFINING ZONE
360.0 460.0 MID-HAWTHORN AQUIFER

0.0-	17.0	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
17.0-	70.0	122TMIM	TAMIAMI FM.
70.0-	460.0	122HTRN	HAWTHORN GROUP

0 - 10 SAND; LIGHT BROWN; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;

10 - 17 AS ABOVE

17 - 20 LIMESTONE; GRAYISH BROWN; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

20 - 55 AS ABOVE

55 - 65 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

65 - 70 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL;

70 - 80 SANDSTONE; WHITE TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-25%;
FOSSILS: MOLLUSKS;

80 - 90 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BRYOZOA;

90 - 100 SANDSTONE; WHITE TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, DOLOMITE-10%;
FOSSILS: MOLLUSKS;

100 - 120 AS ABOVE

120 - 135 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

135 - 140 LIMESTONE; GRAYISH BROWN; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
FOSSILS: MOLLUSKS, PLANT REMAINS, FOSSIL MOLDS;

140 - 150 AS ABOVE

150 - 160 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%;

160 - 177 AS ABOVE

177 - 187 SAND; WHITE TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-03%;
FOSSILS: MOLLUSKS;

187 - 200 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

200 - 220 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-10%, QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

220 - 240 AS ABOVE

240 - 250 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, PHOSPHATIC GRAVEL-02%, QUARTZ SAND-04%,
CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

250 - 260 AS ABOVE

260 - 270 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, QUARTZ SAND-10%, CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

270 - 280 AS ABOVE

280 - 300 AS ABOVE

300 - 320 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

320 - 340 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

340 - 360 AS ABOVE

360 - 380 DOLOMITE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

380 - 385 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

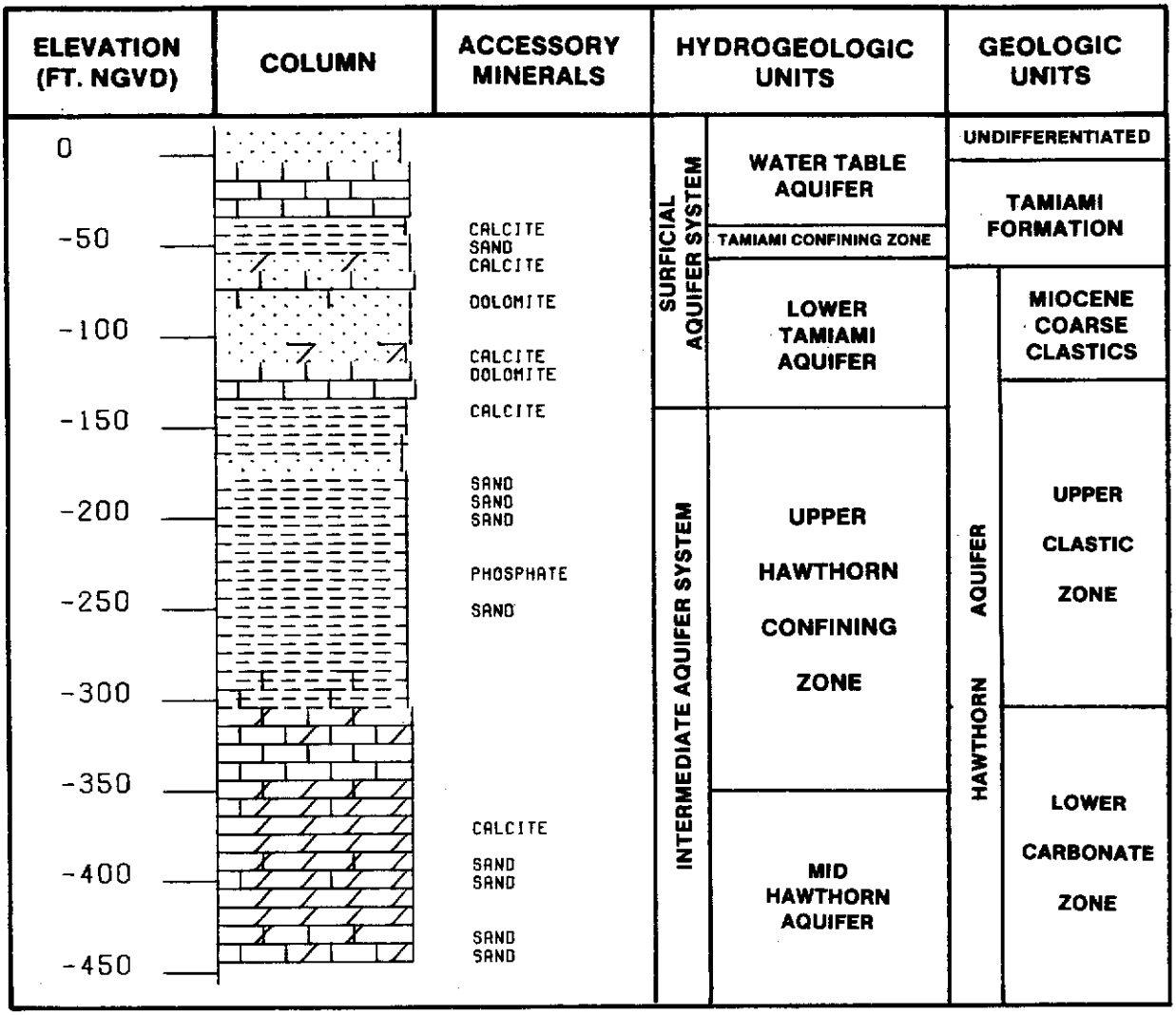
385 - 400 AS ABOVE

400 - 420 DOLOMITE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-05%, QUARTZ SAND-15%;
FOSSILS: MOLLUSKS;

420 - 440 AS ABOVE

440 - 460 LIMESTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

460 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
CALCITE
SAND
CALCITE
DOLOMITE
CALCITE
DOLOMITE
CALCITE
SAND
SAND
SAND
PHOSPHATE
SAND
CALCITE
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UPPER HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN AQUIFER
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

C2062

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2064
TOTAL DEPTH: 00245 FT.
22 SAMPLES FROM 0 TO 245 FT.

COMPLETION DATE - 28/03/86
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.46S R.30E S.18 A
LAT = N 26D 28M 55
LON = W 81D 21M 35

ELEVATION - 030 FT

OWNER/DRILLER: BIG CYPRESS BASIN BOARD WELL NO. C-2064(COLLIER COUNTY)
OWNER/DRILLER: DRILLED BY DANNY BRAWLEY

WORKED BY: SMITH AND ADAMS, SAMPLE QUALITY GOOD
HYDROGEOLOGIC UNITS

0	100	SURFICIAL AQUIFER SYSTEM
0	40	WATER TABLE AQUIFER
40	60	TAMIAMI CONFINING ZONE
60	100	LOWER TAMIAMI AQUIFER
100	160	UPPER HAWTHORN CONFINING ZONE
160	210	CLASTIC ZONE - SANDSTONE AQUIFER
210	245	MID HAWTHORN CONFINING ZONE

0. - 60.	090UDSS	UNDIFFERENTIATED SAND, CLAY, AND SHELLS
60. - 100.	122TMIM	TAMIAMI FM.
100. - 245.	122HTRN	HAWTHORN GROUP

0 - 10 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-05%;
FOSSILS: BRYOZOA;

10 - 30 SHELL BED; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-07%, PHOSPHATIC SAND-01%;
FOSSILS: BRYOZOA;
SHELL FRAGMENTS ALTERED TO CALCITE

30 - 40 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-02%, CLAY-01%;
SHELL FRAGMENTS ALTERED TO CALCITE

40 - 50 CALCILUTITE; YELLOWISH GRAY; 02% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: BRYOZOA;

50 - 60 SILT; GRAYISH OLIVE TO YELLOWISH GRAY; 03% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CALCITE-10%, CALCILUTITE-10%, PHOSPHATIC SAND-07%;
FOSSILS: SPICULES;

60 - 70 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY; 08% POROSITY, MOLDIC, PIN POINT VUGS;
50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

70 - 80 AS ABOVE

80 - 90 AS ABOVE

90 - 100 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
FOSSILS: BRYOZOA;
SHELL FRAGMENTS INCREASE WITH DEPTH, SOME COARSE FROSTED GRAINS

100 - 110 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, SILT-03%, CALCILUTITE-01%;
LARGER GRAINS FROSTED AND WELL ROUNDED

110 - 120 SAND; YELLOWISH GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: LIMESTONE-30%, PHOSPHATIC SAND-02%;
HIGH BROKEN SHELL CONTENT, SOME COARSE FROSTED GRAINS

120 - 130 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, SILT-03%, CALCILUTITE-01%;
LARGER GRAINS FROSTED AND WELL ROUNDED, SHELLS

130 - 140 SAND; LIGHT OLIVE GRAY TO MODERATE GRAYISH GREEN; 05% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;
ROUNDNESS:ROUNDED; HIGH SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC SAND-01%;
SOME COARSE FROSTED GRAINS

140 - 160 AS ABOVE

160 - 180 GRAVEL; YELLOWISH GRAY TO MODERATE GRAY; 25% POROSITY, INTERGRANULAR,
POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: GRANULE; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC GRAVEL-02%, LIMONITE-01%;
OTHER FEATURES: FROSTED;

180 - 190 AS ABOVE

190 - 200 AS ABOVE

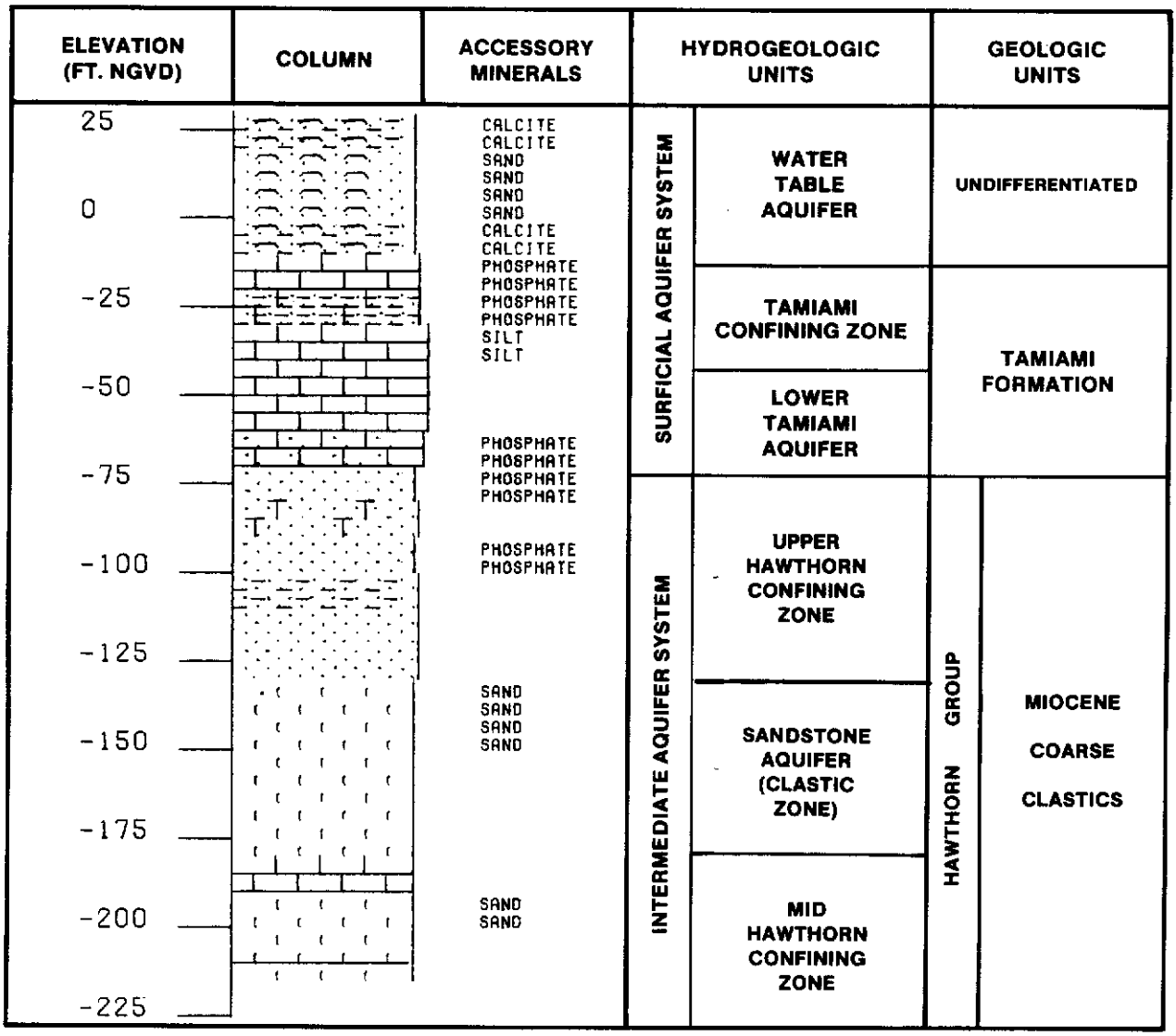
200 - 210 AS ABOVE
SAND CONTENT INCREASES WITH DEPTH FROM 160 TO 210

210 - 220 CALCILUTITE; YELLOWISH GRAY; 04% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRANULE; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%;
30% OF SAMPLE CONSISTS OF COARSE FROSTED ROUNDED GRAINS

220 - 230 GRAVEL; GRAYISH YELLOW TO LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: GRANULE; RANGE: FINE TO GRAVEL;
ROUNDNESS:ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%, PHOSPHATIC SAND-02%,
PHOSPHATIC GRAVEL-02%;
OTHER FEATURES: FROSTED;

230 - 245 AS ABOVE
WITH 30% SAND

245 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
CALCITE
CALCITE
SAND
SAND
SAND
SAND
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SILT
SILT
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
PHOSPHATE
SAND
SAND
SAND
SAND
SAND
SAND
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CLASTIC ZONE)
MID HAWTHORN CONFINING ZONE
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS

C2064

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2066
TOTAL DEPTH: 00130 FT.
13 SAMPLES FROM 0 TO 130 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - COLLIER
LOCATION: T.47S R.30E S.01 B
LAT = N 26D 25M 10
LON = W 81D 17M 05
ELEVATION - 027 FT

OWNER/DRILLER: SFWMD WELL C-2066(COLLIER COUNTY), DRILLED BY G. COOKE & D. BRAWLEY

WORKED BY: SMITH AND ADAMS, SAMPLE QUALIITY FAIR
HYDROGEOLOGIC UNITS
0 130 SURFICIAL AQUIFER SYSTEM
0 80 WATER TABLE AQUIFER
80 90 TAMIAMI CONFINING ZONE
90 130 LOWER TAMIAMI AQUIFER

0. - 20. 090UDSC UNDIFFERENTIATED SAND AND CLAY
20. - 130. 122TMIM TAMIAMI FM.

0 - 10 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

10 - 20 SAND; LIGHT OLIVE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL FRAGMENTS;

20 - 30 LIMESTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-30%, CALCITE-25%;
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;

30 - 40 LIMESTONE; LIGHT OLIVE TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-30%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

40 - 50 AS ABOVE

50 - 60 AS ABOVE

60 - 70 LIMESTONE; LIGHT OLIVE TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-30%, CALCILUTITE-25%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

70 - 80 LIMESTONE; LIGHT OLIVE TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-10%, CALCILUTITE-25%, PHOSPHATIC SAND-05%;
OTHER FEATURES: POOR SAMPLE;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

80 - 90 CLAY; OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-10%, LIMESTONE-05%, PHOSPHATIC SAND-04%;

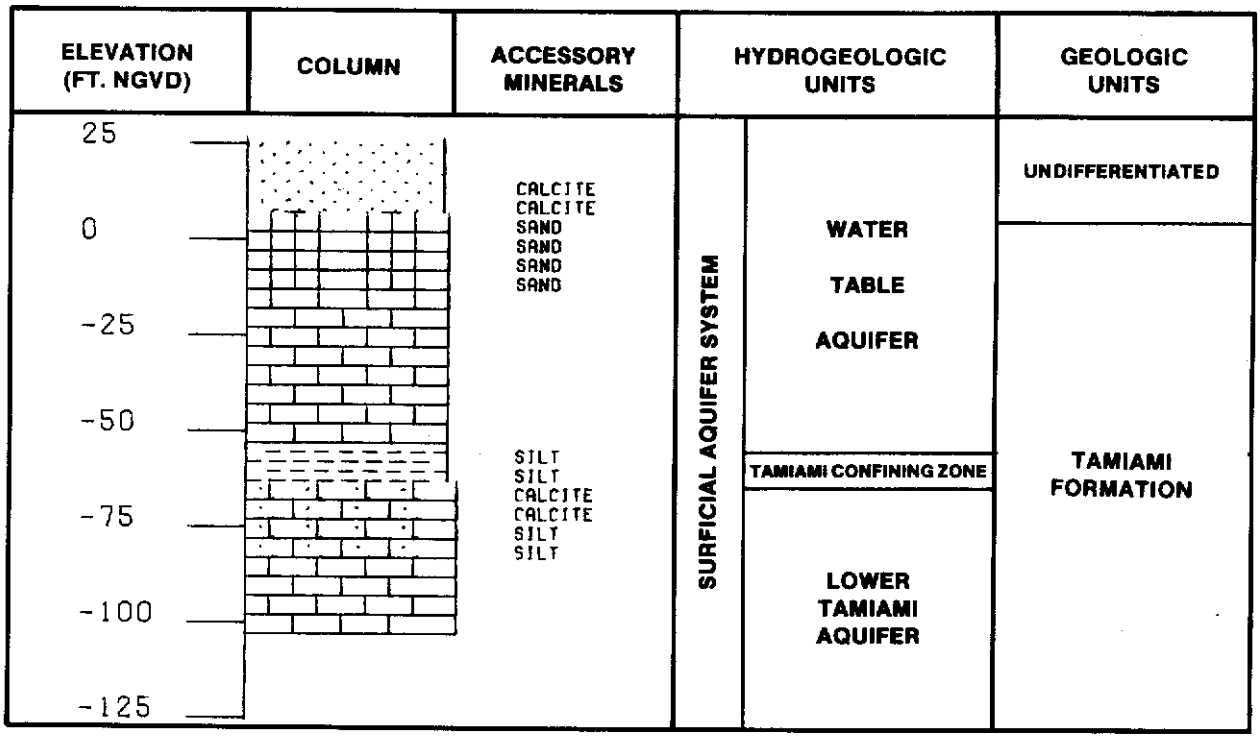
90 - 100 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-20%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;

100 - 110 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%, SILT-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;

110 - 120 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: INTRACLASTS, BIOGENIC; 85% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%, SILT-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL FRAGMENTS;
VERY POOR SAMPLE

120 - 130 AS ABOVE

130 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
CALCITE
CALCITE
SAND
SAND
SAND
SAND
SILT
SILT
CALCITE
CALCITE
SILT
SILT
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFINING ZONE
LOWER TAMIAMI AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION

C2066

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 1 COUNTY - LEE
TOTAL DEPTH: 1340 FT. LOCATION: T.45S R.27E S.33 C
90 SAMPLES FROM 0 TO 1340 FT. LAT = N 26D 30M 53
LON = W 81D 36M 37
COMPLETION DATE - 27/03/81 ELEVATION - 30 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, GAMMA, ELECTRIC, GAMMA, NEUTRON

OWNER/DRILLER: USGS WELL L2063 - ALLEN BAUM

WORKED BY: WORKED BY MIKE KNAPP,JAN.1981,SAMPLE QUAL FAIR.

HYDROGEOLOGIC UNITS

0.0- 125.0 SURFICIAL AQUIFER SYSTEM
0.0- 125.0 WATER TABLE AQUIFER
125.0- 170.0 UPPER HAWTHORN CONFINING ZONE
170.0- 330.0 CARBONATE ZONE - SANDSTONE AQUIFER
330.0- 395.0 MID-HAWTHORN CONFINING ZONE
395.0- 475.0 MID-HAWTHORN AQUIFER
680.0- 815.0 LOWER HAWTHORN / TAMPA PRODUCING ZONE
815.0- 1220.0 SUWANNEE AQUIFER

0.0-	45.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
45.0-	125.0	122TMIM	TAMIAMI FM.
125.0-	680.0	122HTRN	HAWTHORN GROUP
680.0-	815.0	122TAMP	TAMPA MEMBER OF ARCADIA FM.
815.0-	1220.0	123SWNN	SUWANNEE LIMESTONE
1220.0-	1340.0	124CLRV	CRYSTAL RIVER FM.

0 - 5 SAND; WHITE TO VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

5 - 10 AS ABOVE

10 - 17 SHELL BED; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-01%, CALCILUTITE-10%, QUARTZ SAND-35%;
FOSSILS: MOLLUSKS;

17 - 28 SHELL BED; WHITE; 20% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-01%, CALCILUTITE-10%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

28 - 39 SANDSTONE; VERY LIGHT ORANGE TO WHITE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
FOSSILS: MOLLUSKS;

39 - 45 AS ABOVE

45 - 50 LIMESTONE; VERY LIGHT ORANGE; 16% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

50 - 85 AS ABOVE

85 - 103 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-08%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

103 - 125 AS ABOVE

125 - 140 DOLO-SILT; GREENISH GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-03%, PHOSPHATIC SAND-02%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

140 - 170 AS ABOVE

170 - 180 LIMESTONE; GREENISH GRAY TO VERY LIGHT ORANGE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-06%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

180 - 190 AS ABOVE

190 - 200 SANDSTONE; VERY LIGHT ORANGE TO GREENISH GRAY; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, DOLOMITE-15%;
FOSSILS: MOLLUSKS, CORAL;

200 - 255 AS ABOVE

255 - 265 DOLOMITE; GREENISH GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

265 - 275 AS ABOVE

275 - 285 SANDSTONE; GREENISH GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%, DOLOMITE-30%;
FOSSILS: MOLLUSKS;

285 - 330 AS ABOVE

330 - 340 SAND; GREENISH GRAY; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

340 - 350 AS ABOVE

350 - 375 SAND; GREENISH GRAY TO DARK GRAYISH YELLOW; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-02%, PHOSPHATIC GRAVEL-01%, PHOSPHATIC SAND-03%, DOLOMITE-15%;
FOSSILS: MOLLUSKS;

375 - 395 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR,
MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-01%, QUARTZ SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
SAMPLE IS A MIXTURE OF SAND (50%) AND DOLOMITE

395 - 435 AS ABOVE

435 - 445 LIMESTONE; VERY LIGHT ORANGE TO GREENISH GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC SAND-01%, QUARTZ SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

445 - 475 AS ABOVE

475 - 480 DOLO-SILT; GREENISH GRAY TO DARK GRAYISH YELLOW; 12% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-01%, CALCILUTITE-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-06%;
FOSSILS: SHARKS TEETH, MOLLUSKS;

480 - 500 AS ABOVE

500 - 510 DOLOMITE; VERY LIGHT ORANGE TO WHITE; 12% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-04%, QUARTZ SAND-03%;
FOSSILS: MOLLUSKS, ECHINOID;

510 - 525 AS ABOVE

525 - 540 LIMESTONE; VERY LIGHT ORANGE TO GREENISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, PHOSPHATIC SAND-02%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS;

540 - 560 DOLO-SILT; GREENISH GRAY TO DARK GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-04%, PHOSPHATIC SAND-04%, PHOSPHATIC GRAVEL-01%;
FOSSILS: SHARKS TEETH;

560 - 570 LIMESTONE; WHITE TO GREENISH GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, PHOSPHATIC SAND-03%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS, BRYOZOA;

570 - 590 AS ABOVE

590 - 600 DOLOMITE; WHITE TO GREENISH GRAY; 12% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, PHOSPHATIC SAND-02%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS, CORAL;

600 - 645 AS ABOVE

645 - 665 DOLOMITE; VERY LIGHT ORANGE TO GREENISH GRAY; 14% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-11%;
OTHER FEATURES: SUCROSIC;
FOSSILS: MOLLUSKS;

665 - 680 AS ABOVE

680 - 695 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-04%;
FOSSILS: MOLLUSKS, ECHINOID;

695 - 704 AS ABOVE

704 - 740 LIMESTONE; WHITE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND-04%;
FOSSILS: MOLLUSKS, ECHINOID, CORAL, BENTHIC FORAMINIFERA;
SORITIES

740 - 760 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, ECHINOID, CORAL, BENTHIC FORAMINIFERA;

760 - 800 AS ABOVE

800 - 810 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%;
FOSSILS: BENTHIC FORAMINIFERA;

810 - 815 DOLO-SILT; GREENISH GRAY TO DARK GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC SAND-05%, PHOSPHATIC GRAVEL-01%;
FOSSILS: BENTHIC FORAMINIFERA, SHARKS TEETH;

815 - 820 SAMPLE IS A MIXTURE OF GREEN DOLO/CLAY AND LIMESTONE

820 - 830 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-02%;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, CORAL, BRYOZOA;
MILLIOLIDS

830 - 880 AS ABOVE

880 - 890 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, CORAL;

890 - 910 AS ABOVE WITH SOME PHOS.

910 - 920 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-06%, PHOSPHATIC SAND-01%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID;

920 - 960 AS ABOVE

960 - 1000 NO SAMPLES

1000 - 1022 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-03%;
FOSSILS: BENTHIC FORAMINIFERA;

1022 - 1060 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;

1060 - 1060 SAND; WHITE; 35% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%;
SAMPLE IS A MIXTURE OF SAND AND LIMESTONE (CAVINGS?)

1060 - 1080 AS ABOVE

1080 - 1100 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-04%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, BRYOZOA, ECHINOID;

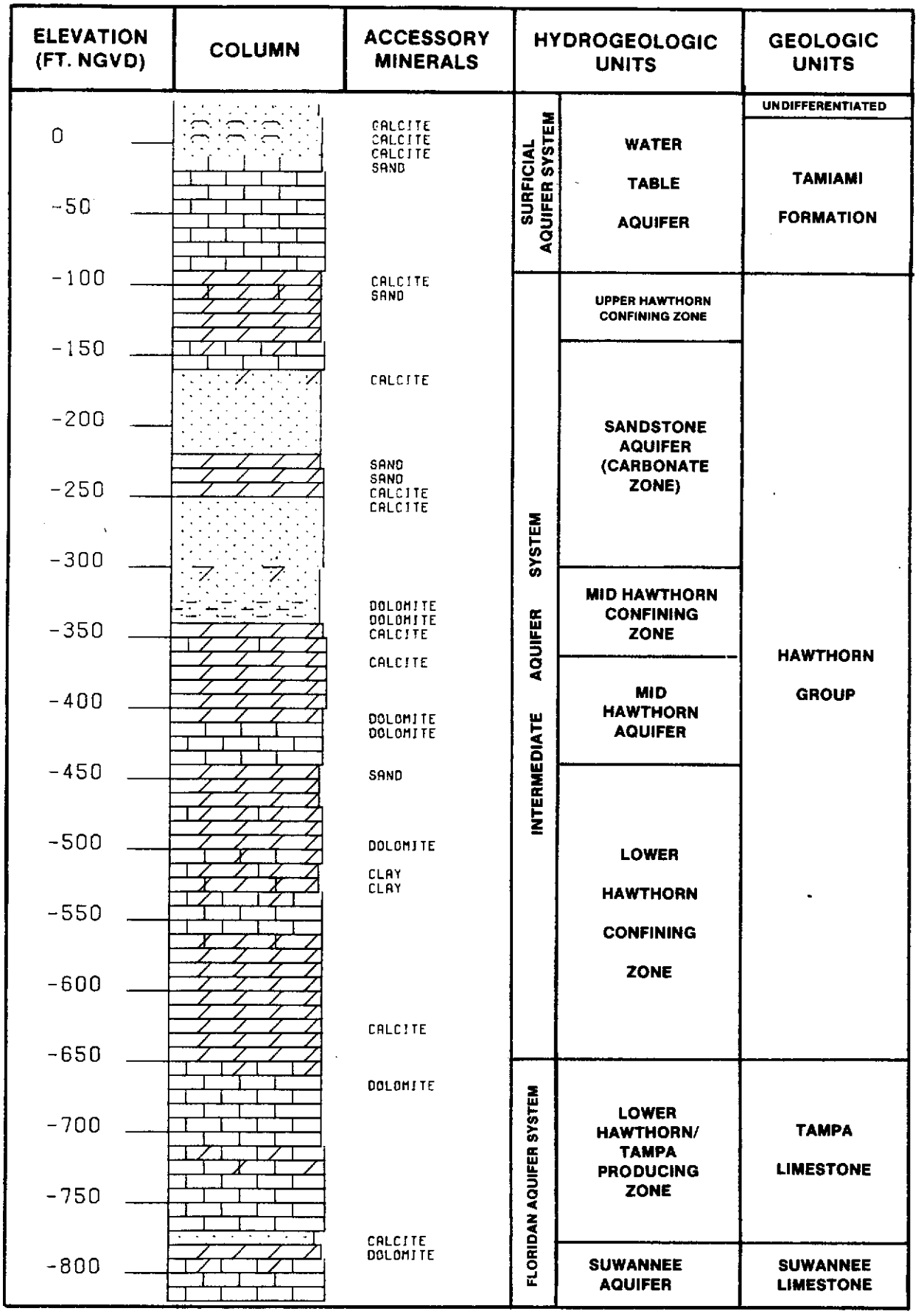
1100 - 1142 AS ABOVE WITH SOME GREEN DOLO/CLAY AND GRAVEL SIZE PHOS.

1142 - 1200 AS ABOVE

1200 - 1220 DOLO-SILT; GREENISH GRAY TO DARK GRAYISH YELLOW; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-30%, PHOSPHATIC SAND-10%, PHOSPHATIC GRAVEL-01%;
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;

1220 - 1340 AS ABOVE W/ MANY OCALA FORAMS (OPERCULINOIDES MOODYSBR.)

1340 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
-650
-700
-750
-800
CALCITE
CALCITE
CALCITE
SAND
CALCITE
SAND
CALCITE
SAND
SAND
CALCITE
CALCITE
DOLOMITE
DOLOMITE
CALCITE
CALCITE
DOLOMITE
DOLOMITE
SAND
DOLOMITE
CLAY
CLAY
CALCITE
DOLOMITE
CALCITE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
HAWTHORN GROUP
FLORIDAN AQUIFER SYSTEM
LOWER HAWTHORN/ TAMPA PRODUCING ZONE
TAMPA LIMESTONE
SUWANNEE AQUIFER
SUWANNEE LIMESTONE

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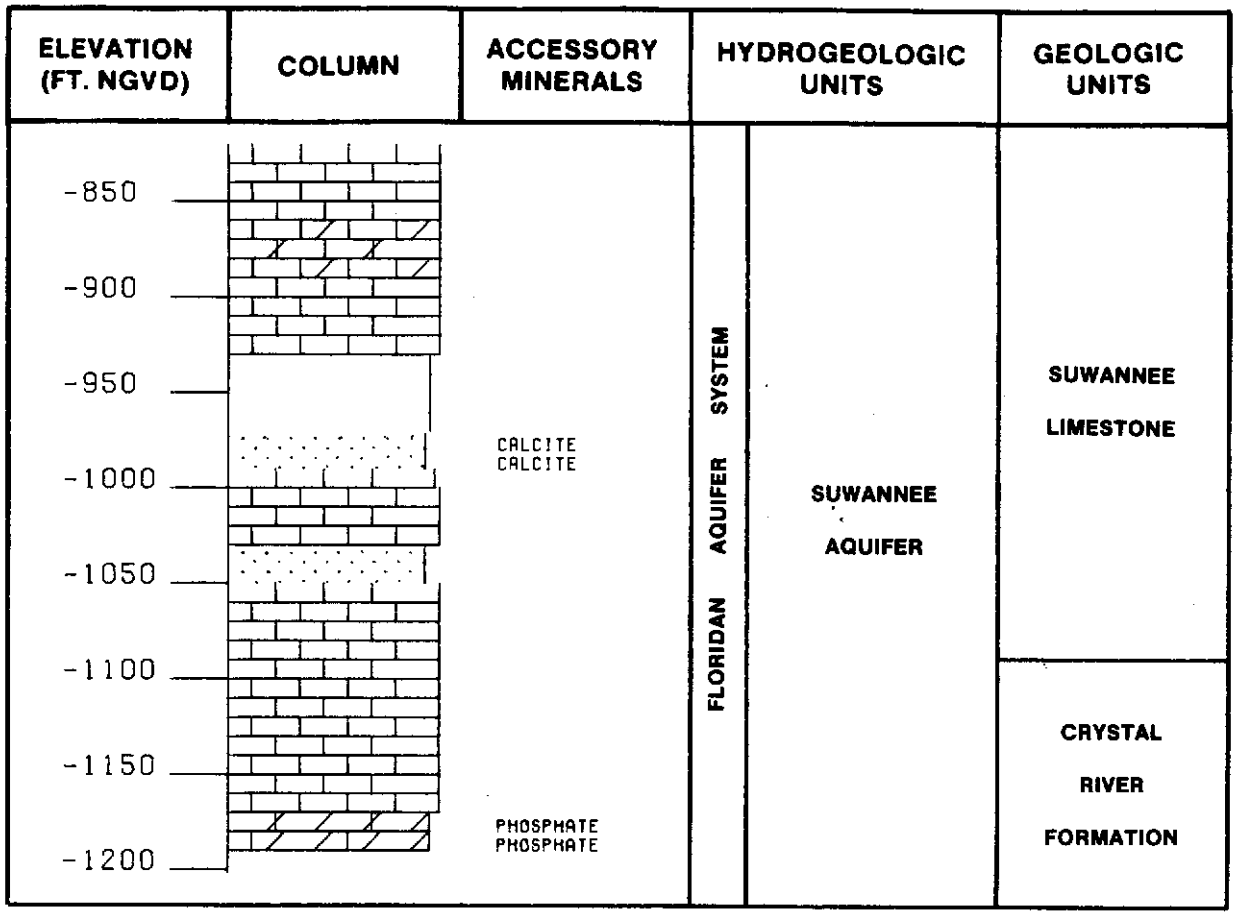

ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
-850
-900
-950
-1000
-1050
-1100
-1150
-1200
CALCITE
CALCITE
PHOSPHATE
PHOSPHATE
FLORIDAN AQUIFER SYSTEM
SUWANNEE AQUIFER
SUWANNEE LIMESTONE
CRYSTAL RIVER FORMATION

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 2
TOTAL DEPTH: 435 FT.
SAMPLES - NONE

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

COUNTY - LEE
LOCATION: T.43S R.27E S.28 A
LAT = N 26D 42M 12
LON = W 81D 37M 50
ELEVATION - 19 FT

OWNER/DRILLER: USGS L628 (MOBIL)

WORKED BY: MIKE KNAPP,12-16-80,SAMP.QUAL-GOOD.

HYDROGEOLOGIC UNITS

00.0- 30.0 SURFICIAL AQUIFER SYSTEM
00.0- 30.0 WATER TABLE AQUIFER
30.0- 65.0 UPPER HAWTHORN CONFINING ZONE
65.0- 175.0 CARBONATE ZONE - SANDSTONE AQUIFER
175.0- 240.0 MID-HAWTHORN CONFINING ZONE
240.0- 270.0 MID-HAWTHORN AQUIFER

0.0- 30.0 122TMIM TAMIAMI FM.
30.0- 435.0 122HTRN HAWTHORN GROUP

0 - 10 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-03%;

10 - 20 AS ABOVE

20 - 30 LIMESTONE; MODERATE ORANGE PINK TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, PHOSPHATIC SAND-01%, QUARTZ SAND-03%;

30 - 45 DOLO-SILT; LIGHT OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-10%, PHOSPHATIC SAND-03%, QUARTZ SAND-03%;

45 - 65 AS ABOVE WITH SOME COARSE PHOS(2%)

65 - 75 SANDSTONE; LIGHT OLIVE TO WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, CALCILUTITE-20%, CLAY-10%;

75 - 90 AS ABOVE

90 - 105 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

105 - 120 AS ABOVE

120 - 135 AS ABOVE

135 - 150 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CRYSTALS, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

150 - 175 AS ABOVE

175 - 180 LIMESTONE; WHITE TO YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN TYPE: CRYSTALS, CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-04%, QUARTZ SAND-06%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

180 - 195 SAND; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-10%, DOLOMITE-10%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

195 - 220 DOLO-SILT; LIGHT OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-10%, PHOSPHATIC SAND-03%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS;

220 - 225 AS ABOVE WITH INCREASE IN PHOS(10%)(RUBBLE ZONE)

225 - 240 RUBBLE ZONE

240 - 255 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, PHOSPHATIC SAND-06%;

255 - 270 DOLOMITE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-06%, QUARTZ SAND-03%;

270 - 285 AS ABOVE WITH FRAGS OF GREEN CLAY

285 - 330 SAMPLES AT 300,315, AND 330 SAME AS 270.

330 - 345 DOLO-SILT; LIGHT OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-10%, PHOSPHATIC SAND-08%, QUARTZ SAND-04%;
FOSSILS: MOLLUSKS;

345 - 360 AS ABOVE

360 - 375 AS ABOVE

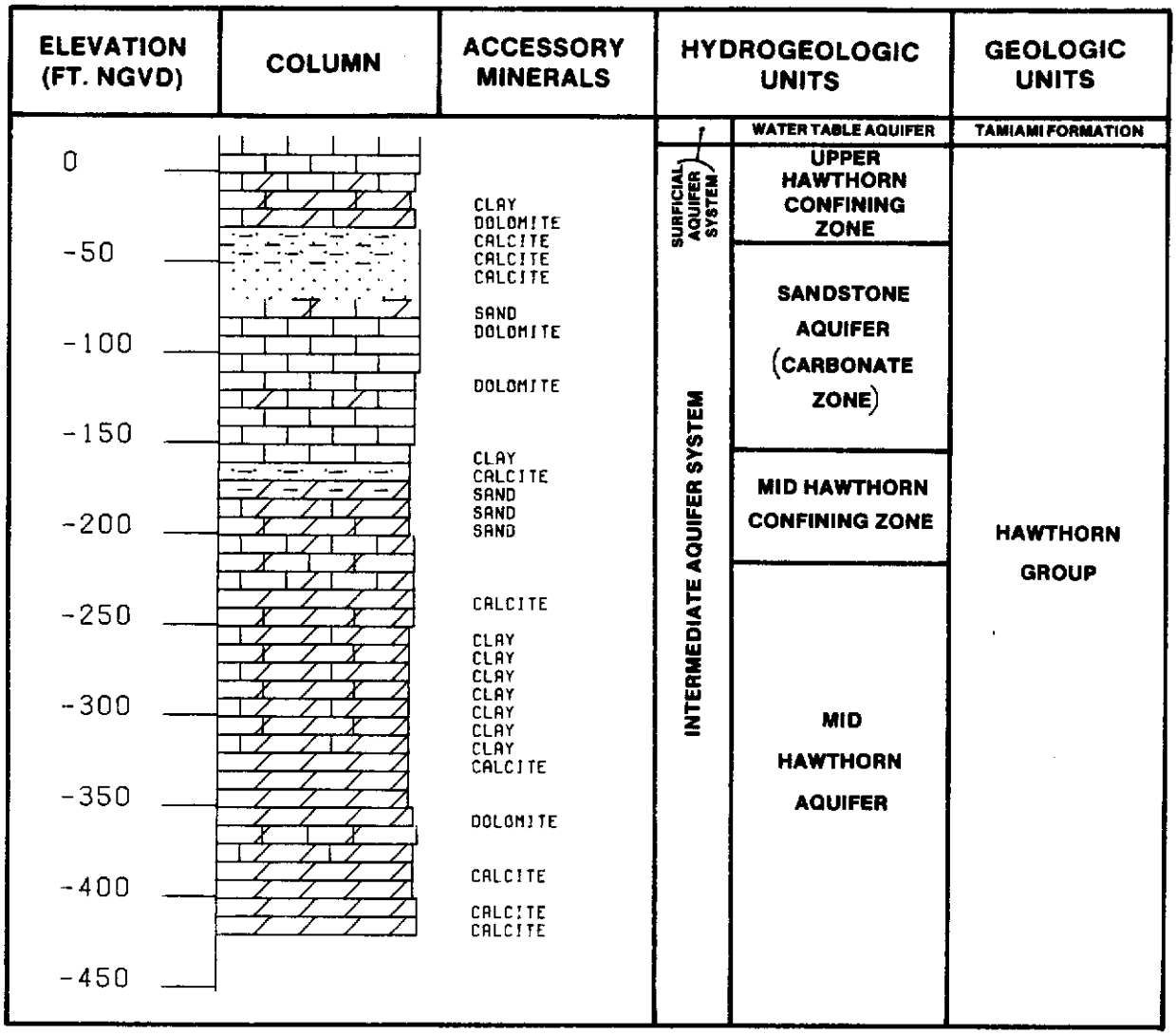
375 - 390 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CRYSTALS, CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, PHOSPHATIC SAND-03%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS;

390 - 405 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 11% POROSITY, INTERGRANULAR,
MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%;
OTHER FEATURES: SUCROSIC;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

405 - 420 AS ABOVE

420 - 435 DOLOMITE; VERY LIGHT ORANGE TO LIGHT GRAY; 09% POROSITY, INTERGRANULAR, INTERCRYSTALLINE,
LOW PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-01%;

435 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
WATER TABLE AQUIFER
TAMIAMI FORMATION
SURFICIAL AQUIFER SYSTEM
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
CLAY
DOLOMITE
CALCITE
CALCITE
CALCITE
SAND
DOLOMITE
DOLOMITE
CLAY
CALCITE
SAND
SAND
SAND
CALCITE
CLAY
CLAY
CLAY
CLAY
CLAY
CLAY
CLAY
CALCITE
DOLOMITE
CALCITE
CALCITE
CALCITE

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 9 COUNTY - LEE
TOTAL DEPTH: 540 FT. LOCATION: T.44S R.27E S.09 D
SAMPLES - NONE LAT = N 26D 39M 27
LON = W 81D 36M 50
COMPLETION DATE - 15/11/80 ELEVATION - 23 FT
OTHER TYPES OF LOGS AVAILABLE - GAMMA, ELECTRIC

OWNER/DRILLER: USGS 625,MOBIL OIL

WORKED BY: WORKED BY MIKE KNAPP, NOV.1980, SAMPLE QUAL.GOOD

HYDROGEOLOGIC UNITS

00.0- 30.0 SURFICIAL AQUIFER SYSTEM
00.0- 30.0 WATER TABLE AQUIFER
30.0- 45.0 UPPER HAWTHORN CONFINING ZONE
45.0- 135.0 CARBONATE ZONE - SANDSTONE AQUIFER
135.0- 150.0 NO SAMPLES
150.0- 240.0 MID-HAWTHORN CONFINING ZONE
240.0- 270.0 MID-HAWTHORN AQUIFER
520.0- 540.0 LOWER HAWTHORN / TAMPA PRODUCING ZONE

0.0-	10.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
10.0-	30.0	122TMIM	TAMIAMI FM.
30.0-	520.0	122HTRN	HAWTHORN GROUP
520.0-	540.0	122TAMP	TAMPA MEMBER OF ARCADIA FM.

0 - 10 DOLOMITE; GRAYISH ORANGE PINK TO GRAYISH ORANGE; 11% POROSITY,
INTERGRANULAR; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, CLAY-02%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS;

10 - 20 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE PINK; 11% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, CLAY-02%, QUARTZ SAND-02%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

20 - 30 AS ABOVE

30 - 45 CLAY; LIGHT OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-10%, DOLOMITE-10%, QUARTZ SAND-10%;
FOSSILS: MOLLUSKS;

45 - 60 DOLOMITE; GRAYISH ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

60 - 60 SANDSTONE; WHITE TO MODERATE LIGHT GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-10%, SPAR-10%, DOLOMITE-10%;
FOSSILS: FOSSIL MOLDS;

60 - 75 AS ABOVE

75 - 90 SAND; WHITE TO LIGHT OLIVE GRAY; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-02%, DOLOMITE-10%;
FOSSILS: MOLLUSKS;

90 - 105 DOLOMITE; GRAYISH ORANGE; 13% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-20%, PHOSPHATIC SAND-04%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

105 - 115 AS ABOVE WITH DECREASE IN SAND (2%)

115 - 135 DOLOMITE; GREENISH GRAY; 11% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-04%, QUARTZ SAND-03%;
OTHER FEATURES: SUCROSIC;

135 - 150 NO SAMPLES

150 - 165 CLAY; WHITE TO LIGHT GRAY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-12%, QUARTZ SAND-10%;

165 - 180 NO SAMPLES

180 - 195 SANDSTONE; LIGHT OLIVE GRAY TO LIGHT OLIVE; 11% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-05%, DOLOMITE-15%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;

195 - 210 SANDSTONE; LIGHT OLIVE TO GRAYISH OLIVE; 09% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY-10%, DOLOMITE-15%, CALCILUTITE-35%, PHOSPHATIC SAND-07%;
FOSSILS: MOLLUSKS;
SOME VERY COARSE PHOSPHATE (2%)

210 - 225 AS ABOVE RUBBLE ZONE

225 - 240 AS ABOVE

240 - 255 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-05%;

255 - 270 AS ABOVE

270 - 285 DOLOMITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-10%, PHOSPHATIC SAND-03%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS;

285 - 300 NO SAMPLES

300 - 315 LIMESTONE; YELLOWISH GRAY TO WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

315 - 330 NO SAMPLES

330 - 345 AS 315

345 - 360 NO SAMPLES

360 - 375 LIMESTONE; YELLOWISH GRAY TO WHITE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-03%, PHOSPHATIC SAND-03%, DOLOMITE-29%;
FOSSILS: MOLLUSKS;

375 - 390 CLAY; YELLOWISH GRAY; 06% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-01%, PHOSPHATIC SAND-01%;

390 - 390 DOLOMITE; GRAYISH BROWN; 08% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, LOW PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-11%, PHOSPHATIC SAND-04%, PHOSPHATIC GRAVEL-02%, QUARTZ SAND-02%;

390 - 405 DOLOMITE; YELLOWISH GRAY; 11% POROSITY, INTERGRANULAR; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, BRYOZOA;

405 - 420 AS ABOVE

420 - 435 DOLOMITE; GRAYISH BROWN; 08% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, LOW PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-11%;

435 - 450 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 11% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS; 02% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-12%, PHOSPHATIC SAND-01%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS;

450 - 465 NO SAMPLES

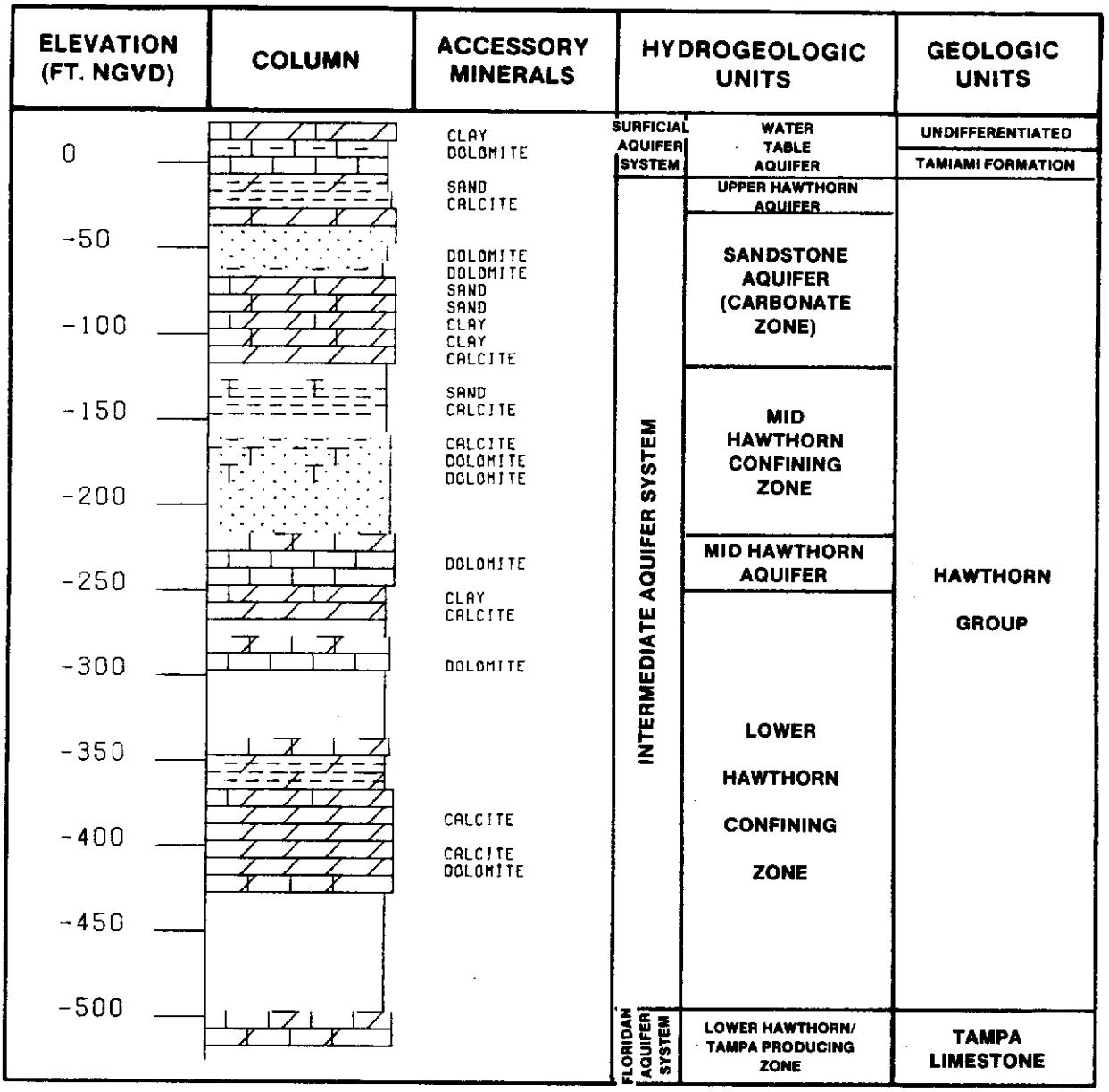
465 - 480 AS 450 WITH MORE SAND(6%) AND PHOS. (6%)

480 - 510 AS ABOVE

510 - 520 NO SAMPLES

520 - 540 LIMESTONE; VERY LIGHT ORANGE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, SPAR-05%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;

540 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
CLAY
DOLOMITE
SAND
CALCITE
DOLOMITE
DOLOMITE
SAND
SAND
CLAY
CLAY
CALCITE
SAND
CALCITE
CALCITE
DOLOMITE
DOLOMITE
DOLOMITE
CLAY
CALCITE
DOLOMITE
CALCITE
CALCITE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
UPPER HAWTHORN AQUIFER
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
HAWTHORN GROUP
INTERMEDIATE AQUIFER SYSTEM
LOWER HAWTHORN CONFINING ZONE
FLORIDAN AQUIFER SYSTEM
LOWER HAWTHORN/ TAMPA PRODUCING ZONE
TAMPA LIMESTONE

L 09

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 22 COUNTY - LEE
TOTAL DEPTH: 01200 FT. LOCATION: T.43S R.27E S.10 D
240 SAMPLES FROM 0 TO 1200 FT. LAT = N 26D 44M 33
LON = W 81D 36M 06
COMPLETION DATE - 17/11/81 ELEVATION - 019 FT
OTHER TYPES OF LOGS AVAILABLE - GAMMA, NEUTRON, ELECTRIC, TEMPERATURE

OWNER/DRILLER: GREEN'S GROVE EXPLORATION WELL (REVERSE AIR - ALVIN WOOSTER, DRILLER)

WORKED BY: MIKE KNAPP, GOOD
HYDROGEOLOGIC UNITS

0	20	SURFICIAL AQUIFER SYSTEM
0	20	WATER TABLE AQUIFER
20	90	UPPER HAWTHORN CONFINING ZONE
90	150	CLASTIC ZONE - SANDSTONE AQUIFER(POSS. UNNAMED WHITE LS AQ)
150	188	CARBONATE ZONE - SANDSTONE AQUIFER(POSS. UNNAMED WHITE LS AQ)
188	340	MID HAWTHORN CONFINING ZONE
340	400	MID HAWTHORN AQUIFER
400	620	LOWER HAWTHORN CONFINING ZONE
620	920	LOWER HAWTHORN/TAMPA PRODUCING ZONE
920	1200	SUWANNEE AQUIFER

0. -	4.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
4. -	20.	122TMIM	TAMIAMI FM.
20. -	620.	122HTRN	HAWTHORN GROUP
620. -	915.	122TAMP	TAMPA MEMBER OF ARCADIA FM.
920. -	1200.	123SWNN	SUWANNEE LIMESTONE

0 - 4 NO SAMPLES

4 - 10 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-12%;
FOSSILS: CORAL, MOLLUSKS, ECHINOID;

10 - 20 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-04%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

20 - 30 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-10%, QUARTZ SAND-07%, PHOSPHATIC SAND-01%;
FOSSILS: CORAL, MOLLUSKS;
SAMPLE IS A MIXTURE OF 75% DOLOSILT & 25% LIMESTONE

30 - 40 DOLO-SILT; OLIVE GRAY TO GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-20%, PHOSPHATIC SAND-01%, QUARTZ SAND-05%;

40 - 50 AS ABOVE

50 - 60 DOLO-SILT; OLIVE GRAY TO GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, CLAY-25%, QUARTZ SAND-10%, PHOSPHATIC SAND-05%;

60 - 70 DOLO-SILT; OLIVE GRAY TO GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-25%, CALCILUTITE-20%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: PLANKTONIC FORAMINIFERA, MOLLUSKS;

70 - 80 AS ABOVE

80 - 90 AS ABOVE

90 - 100 SAND; WHITE TO OLIVE GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-10%, CLAY-05%, PHOSPHATIC SAND-05%;

100 - 110 SAND; WHITE TO OLIVE GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, CALCILUTITE-05%, CLAY-02%, PHOSPHATIC SAND-02%;

110 - 120 SAND; WHITE TO OLIVE GRAY; 19% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-05%, CALCILUTITE-01%, CLAY-01%, PHOSPHATIC SAND-01%;

120 - 130 AS ABOVE

130 - 140 AS ABOVE

140 - 150 SANDSTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-04%;

150 - 160 LIMESTONE; VERY LIGHT ORANGE TO VERY LIGHT GRAY; 11% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, ECHINOID, CORAL;

160 - 170 DOLOMITE; GRAYISH ORANGE; 13% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

170 - 180 LIMESTONE; GRAYISH ORANGE TO VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;

180 - 188 LIMESTONE; VERY LIGHT ORANGE TO VERY LIGHT GRAY; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-40%, QUARTZ SAND-04%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, ECHINOID;

188 - 190 DOLO-SILT; LIGHT GREENISH GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-15%, CLAY-03%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

190 - 200 AS ABOVE

200 - 210 AS ABOVE

210 - 220 DOLO-SILT; LIGHT OLIVE GRAY TO LIGHT GREENISH GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-04%, CLAY-04%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

220 - 230 DOLO-SILT; GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-29%, QUARTZ SAND-15%, CLAY-05%, SILT-05%;
FOSSILS: MOLLUSKS;

230 - 240 AS ABOVE
WITH MORE PHOSPHORITE (3%)

240 - 250 AS ABOVE

250 - 260 DOLO-SILT; LIGHT GREENISH GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%, CLAY-03%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;
SMALL AMOUNT OF LIMESTONE FRAGMENTS IN SAMPLE

260 - 270 DOLO-SILT; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-12%, QUARTZ SAND-04%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

270 - 280 AS ABOVE

280 - 290 DOLO-SILT; DARK GREENISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%, QUARTZ SAND-04%, PHOSPHATIC SAND-14%;
FOSSILS: MOLLUSKS;

290 - 300 AS ABOVE

300 - 310 SAND; GRAYISH YELLOW TO YELLOWISH GRAY; 14% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-15%, PHOSPHATIC SAND-20%;
FOSSILS: MOLLUSKS;

310 - 320 DOLO-SILT; LIGHT OLIVE TO GRAYISH OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%, CLAY-03%, PHOSPHATIC SAND-20%;
FOSSILS: MOLLUSKS;
INDURATED LIMESTONE FRAGMENTS IN SAMPLE

320 - 330 LIMESTONE; LIGHT GREENISH GRAY TO YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-10%, CLAY-02%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;

330 - 340 LIMESTONE; YELLOWISH GRAY TO YELLOWISH GRAY; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 12% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-03%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, CORAL, ECHINOID;

340 - 350 AS ABOVE

350 - 360 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-03%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, CORAL, ECHINOID, CRUSTACEA;

360 - 370 AS ABOVE

370 - 380 AS ABOVE

380 - 390 LIMESTONE; WHITE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-04%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;

390 - 400 AS ABOVE

400 - 410 AS ABOVE
WITH 1% DOLOSILT

410 - 420 DOLOMITE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-08%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

420 - 430 AS ABOVE

430 - 440 DOLOMITE; YELLOWISH GRAY TO YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-05%, PHOSPHATIC SAND-07%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

440 - 450 DOLO-SILT; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR,
LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-03%, QUARTZ SAND-02%, PHOSPHATIC SAND-15%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

450 - 460 AS ABOVE

460 - 470 DOLOMITE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-02%, CLAY-01%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, ECHINOID;

470 - 480 AS ABOVE

480 - 490 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-01%, PHOSPHATIC SAND-01%;

490 - 500 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%;
FOSSILS: MOLLUSKS, ECHINOID, BRYOZOA;

500 - 510 DOLOMITE; GRAYISH ORANGE; 12% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-03%;
OTHER FEATURES: SUCROSIC;
FOSSILS: BRYOZOA, MOLLUSKS;

510 - 520 AS ABOVE

520 - 530 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-01%;

530 - 540 AS ABOVE

540 - 550 DOLOMITE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 11% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-35%, QUARTZ SAND-01%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

550 - 560 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-10%;

560 - 570 AS ABOVE

570 - 580 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-10%, PHOSPHATIC SAND-06%;
FOSSILS: MOLLUSKS;

580 - 590 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-01%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

590 - 600 AS ABOVE

600 - 610 AS ABOVE

610 - 620 AS ABOVE
WITH 2% PHOSPHATIC DOLOSILT

620 - 630 AS ABOVE

630 - 640 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, QUARTZ SAND-01%, PHOSPHATIC SAND-01%;

640 - 650 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

650 - 660 AS ABOVE

660 - 670 AS ABOVE

670 - 680 AS ABOVE

680 - 690 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

690 - 700 AS ABOVE

700 - 710 AS ABOVE

710 - 720 LIMESTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, BRYOZOA, ECHINOID, CRUSTACEA;
SORITES

720 - 730 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 14% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BENTHIC FORAMINIFERA;

730 - 735 AS ABOVE

735 - 740 AS ABOVE
WITH LESS PHOSPHATE (5%)

740 - 760 AS ABOVE

760 - 770 DOLOMITE; VERY LIGHT ORANGE; 11% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-02%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

770 - 780 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 11% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-04%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, BRYOZOA, CORAL, CRUSTACEA;
SORITES

780 - 790 AS ABOVE

790 - 795 AS ABOVE

795 - 800 DOLOMITE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-04%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL MOLDS;

800 - 805 SANDSTONE; WHITE TO LIGHT GRAY; 15% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-20%, PHOSPHATIC SAND-10%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;
SORITES

805 - 817 DOLOMITE; GRAYISH BROWN; 10% POROSITY, INTERGRANULAR, INTERCRYSTALLINE,
MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-05%, PHOSPHATIC SAND-08%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: FOSSIL MOLDS;

817 - 820 AS ABOVE

820 - 825 AS ABOVE

825 - 830 DOLOMITE; GRAYISH BROWN; 10% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-05%, PHOSPHATIC SAND-04%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: FOSSIL MOLDS;

830 - 835 DOLOMITE; GRAYISH BROWN TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: FOSSIL MOLDS;

835 - 838 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, PELLET, SKELETAL; 50% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: COARSE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-01%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, CORAL, BRYOZOA;

838 - 840 AS ABOVE

840 - 850 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: COARSE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-04%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, CORAL, BRYOZOA;
ABUNDANT SORITES

850 - 860 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-08%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID;

860 - 865 DOLOMITE; LIGHT GRAY TO MODERATE LIGHT GRAY; 12% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-20%, QUARTZ SAND-20%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;

865 - 875 AS ABOVE

875 - 880 AS ABOVE

880 - 890 AS ABOVE

890 - 900 DOLOMITE; VERY LIGHT ORANGE TO LIGHT GRAY; 16% POROSITY, INTERGRANULAR, MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-10%, PHOSPHATIC SAND-15%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS;

900 - 910 AS ABOVE

910 - 915 DOLOMITE; DARK GRAY; 10% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC SAND-10%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: FOSSIL MOLDS;

915 - 920 DOLOMITE; GRAYISH BROWN; 10% POROSITY, INTERGRANULAR; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

920 - 930 AS ABOVE

930 - 935 AS ABOVE

935 - 940 DOLOMITE; GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-10%;
FOSSILS: MOLLUSKS;

940 - 945 AS ABOVE

945 - 950 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, ECHINOID;

950 - 955 AS ABOVE

955 - 960 AS ABOVE

960 - 970 LIMESTONE; WHITE; 11% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: MOLLUSKS;

970 - 980 AS ABOVE

980 - 987 SAND; WHITE TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%;

987 - 1000 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN; 12% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-03%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

1000 - 1010 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-04%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BRYOZOA, ECHINOID;

1010 - 1020 AS ABOVE

1020 - 1025 SAND; WHITE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;

1025 - 1030 AS ABOVE

1030 - 1035 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-15%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

1035 - 1040 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-20%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID;
ROTALLIA SP.

1040 - 1045 AS ABOVE
WITH MUCH LOOSE SAND IN SAMPLE

1045 - 1050 AS ABOVE

1050 - 1055 AS ABOVE

1055 - 1060 SANDSTONE; VERY LIGHT ORANGE TO WHITE; 16% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-20%, CALCILUTITE-20%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS;

1060 - 1065 AS ABOVE

1065 - 1070 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-30%, DOLOMITE-25%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

1070 - 1075 AS ABOVE

1075 - 1080 AS ABOVE
WITH CAVINGS FROM ABOVE

1080 - 1085 SAND; WHITE TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%;
COULD BE CAVINGS FROM 1025

1085 - 1090 AS ABOVE

1090 - 1095 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, ECHINOID;

1095 - 1100 AS ABOVE

1100 - 1105 AS ABOVE

1105 - 1110 SANDSTONE; VERY LIGHT ORANGE TO WHITE; 14% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, DOLOMITE-15%;
FOSSILS: MOLLUSKS;

1110 - 1115 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, DOLOMITE-20%;
FOSSILS: MOLLUSKS, CORAL, BENTHIC FORAMINIFERA;

1115 - 1120 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-03%;
FOSSILS: DIATOMS, MOLLUSKS, BRYOZOA, ECHINOID;

1120 - 1130 CALCARENITE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, CORAL;

1130 - 1135 AS ABOVE
GOOD SUWANNEE LITHOLOGY

1135 - 1140 LIMESTONE; VERY LIGHT ORANGE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 65% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, ECHINOID, BENTHIC FORAMINIFERA, MILIOLIDS, BRYOZOA;

1140 - 1150 AS ABOVE

1150 - 1155 CALCARENITE; VERY LIGHT ORANGE; 16% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%;
FOSSILS: MOLLUSKS, ECHINOID, BENTHIC FORAMINIFERA, MILIOLIDS, BRYOZOA;

1155 - 1160 AS ABOVE

1160 - 1170 AS ABOVE

1170 - 1175 AS ABOVE

1175 - 1180 CALCARENITE; VERY LIGHT ORANGE; 17% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 75% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, MILIOLIDS;

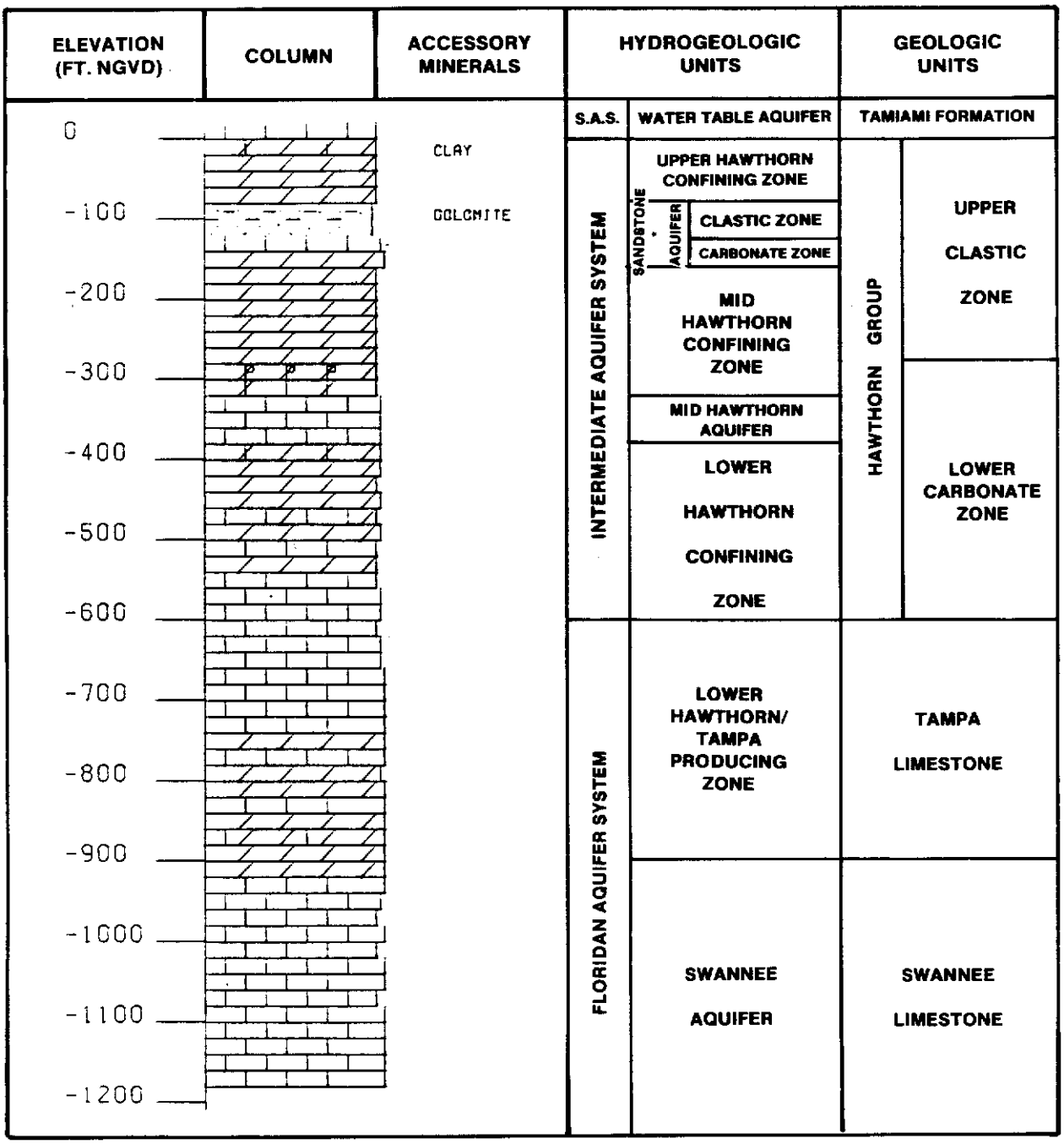
1180 - 1185 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 18% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 80% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, CRUSTACEA, BRYOZOA, MILIOLIDS;
APPEARS REWORKED AND RECRYSTALLIZED

1185 - 1190 AS ABOVE

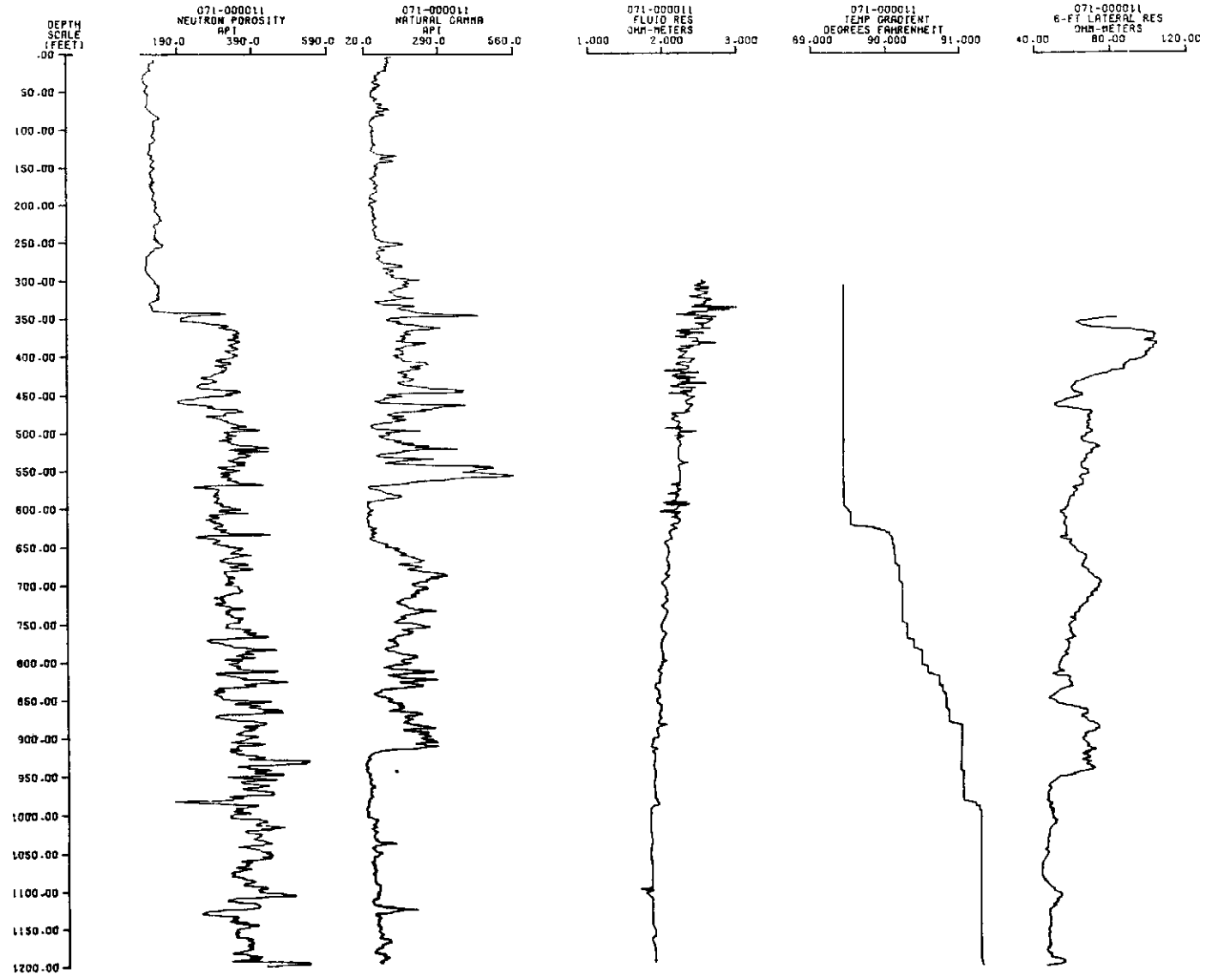
1190 - 1195 AS ABOVE

1195 - 1200 DOLOMITE; GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, LOW PERMEABILITY;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
OTHER FEATURES: HIGH RECRYSTALLIZATION;
FOSSILS: FOSSIL MOLDS;

1200 TOTAL DEPTH



*This unit may be the same as the white limestone aquifer discussed in text.



GEOPHYSICS, WELL L-22

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 25
TOTAL DEPTH: N/A FT.
37 SAMPLES FROM 0 TO 1100 FT.

COMPLETION DATE - N/A
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - LEE
LOCATION: T.44S R.27E S.29
LAT = N 26D 37M 18
LON = W 81D 38M 20
ELEVATION - 025 FT

OWNER/DRILLER: EXXON CON TOM 29-3

WORKED BY: MIKE KNAPP 11/19/81, FAIR
HYDRGEOLOGIC UNITS
0 30 SURFICIAL AQUIFER SYSTEM
0 30 WATER TABLE AQUIFER
30 60 UPPER HAWTHORN CONFINING ZONE
60 210 CARBONATE ZONE - SANDSTONE AQUIFER (QUESTIONABLE
THICKNESS DUE TO SAMPLE INTERVAL)
210 240 MID-HAWTHORN CONFINING ZONE
240 290 MID-HAWTHORN AQUIFER
290 560 LOWER HAWTHORN CONFINING ZONE
560 680 LOWER HAWTHORN/TAMPA PRODUCING ZONE
680 1030 SUWANNEE AQUIFER
1030 1100 DEEPER AQUIFER

0. -	30.	122TMIM	TAMIAMI FM.
30. -	560.	122HTRN	HAWTHORN GROUP
560. -	680.	122TAMP	TAMPA MEMBER OF ARCADIA FM.
680. -	1030.	123SWNN	SUWANNEE LIMESTONE
1030. -	1100.	124CLRV	CRYSTAL RIVER FM.

0 - 30 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

30 - 60 DOLO-SILT; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS;
LIMESTONE INTERMIXED

60 - 90 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH BROWN; 13% POROSITY, INTERGRANULAR,
MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

90 - 120 SANDSTONE; DARK RED PURPLE TO LIGHT GRAY; 13% POROSITY, INTERGRANULAR;
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-25%, DOLOMITE-25%;
FOSSILS: MOLLUSKS;

120 - 150 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH BROWN; 18% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, ECHINOID, FOSSIL MOLDS;
APPEARS REWORKED AND RECRYSTALLIZED

150 - 180 AS ABOVE

180 - 210 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
OCALA FOSSILS IN SAMPLE, DOLOSILT PRESENT

210 - 240 DOLO-SILT; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, PHOSPHATIC SAND-05%,
PHOSPHATIC GRAVEL-04%;
FOSSILS: MOLLUSKS;

240 - 260 LIMESTONE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL; 30% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;
FOSSILS: CORAL, MOLLUSKS, FOSSIL MOLDS;

260 - 290 AS ABOVE
VERY COARSE PHOSPHATIC SAND IN SAMPLE (CAVINGS?)

290 - 320 DOLO-SILT; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-25%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

320 - 350 AS ABOVE

350 - 380 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-35%, QUARTZ SAND-05%, PHOSPHATIC SAND-05%;

380 - 410 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 12% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%, CLAY-04%, PHOSPHATIC SAND-10%;

410 - 440 AS ABOVE

440 - 470 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-40%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

470 - 500 AS ABOVE
WITH SOME HIGHLY RECRYSTALLIZED DOLOMITE

500 - 530 LIMESTONE; VERY LIGHT ORANGE; 13% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-10%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;
SORITES

530 - 560 AS ABOVE

560 - 590 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 15% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-15%, DOLOMITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, MILIOLIDS;

590 - 620 AS ABOVE

620 - 660 LIMESTONE; WHITE; 14% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-15%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;

660 - 680 AS ABOVE

680 - 710 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 16% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, FOSSIL MOLDS;

710 - 740 AS ABOVE

740 - 770 AS ABOVE

770 - 800 LIMESTONE; VERY LIGHT ORANGE; 16% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-01%;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS, ECHINOID, BRYOZOA, CORAL;

800 - 820 AS ABOVE
WITH MORE SAND (8%)

820 - 850 AS ABOVE

850 - 880 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS, ECHINOID, BRYOZOA;

880 - 910 AS ABOVE

910 - 940 AS ABOVE
WITH MORE SAND(8%)

940 - 970 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, DIATOMS;

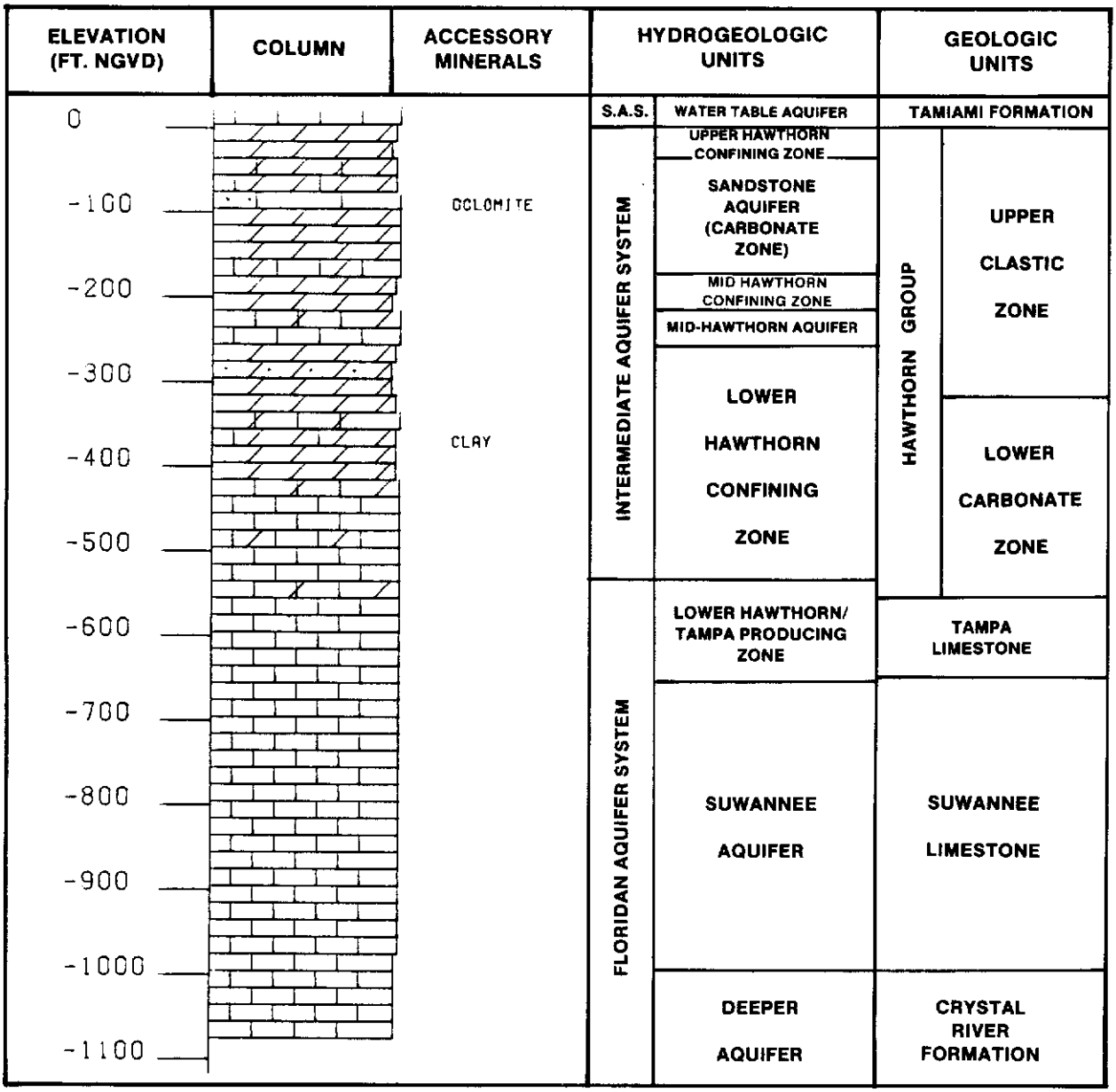
970 - 1000 AS ABOVE

1000 - 1030 LIMESTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CHERT-01%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;

1030 - 1060 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 11% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, CORAL;
LEPIDOCYCLINA OCALANA, HETERESTEGINA SP., OPERCS

1060 - 1100 AS ABOVE

1100 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1000
-1100
DOLOMITE
CLAY
S.A.S.
WATER TABLE AQUIFER
TAMIAMI FORMATION
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID-HAWTHORN AQUIFER
LOWER HAWTHORN CONFINING ZONE
HAWTHORN GROUP
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE
FLORIDAN AQUIFER SYSTEM
LOWER HAWTHORN/ TAMPA PRODUCING ZONE
TAMPA LIMESTONE
SUWANNEE AQUIFER
SUWANNEE LIMESTONE
DEEPER AQUIFER
CRYSTAL RIVER FORMATION

LITHOLOGIC WELL LOG PRINTOUT

WELL NUMBER: W- 27 COUNTY - LEE
TOTAL DEPTH: 382 FT. LOCATION: T.46S R.27E S. 8 B
20 SAMPLES FROM 0 TO 382 FT. LAT/LON - NO ENTRY
COMPLETION DATE - 08/03/82 ELEVATION - 28 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, GAMMA, ELECTRIC

OWNER/DRILLER: CORKSCREW #1,CORE,JUSTIN HODGES DRILLER,BUREAU OF GEOLOGY

WORKED BY: DESCRIBED AND CODED BY MIKE KNAPP (4-82),SAMPLE QUALITY (EXCELLENT),
X-RAY DIFFRACTOGRAM ANALYSIS CONDUCTED BY UNIVERSITY OF SOUTH FLORIDA.

HYDROGEOLOGIC UNITS

0.0 99.0 SURFICIAL AQUIFER SYSTEM
0.0- 15.0 WATER TABLE AQUIFER
15.0- 20.0 TAMIAMI CONFINING ZONE
20.0- 99.0 LOWER TAMIAMI AQUIFER
99.0- 138.0 UPPER HAWTHORN CONFINING ZONE
138.0-232.0 CARBONATE ZONE - SANDSTONE AQUIFER
232.0-246.0 NO SAMPLES
246.0-332.0 MID-HAWTHORN CONFINING ZONE
332.0-382.0 MID-HAWTHORN AQUIFER

X-RAY DIFFRACTOGRAM RESULTS (SELECTED INTERVALS)

77 FT.- %CO2 - 43.3, IF AS CACO3 = 98.6%
CALCITE/DOLOMITE RATIO 3.5:1, CALC.78% - DOLO.22%
82 FT.- %CO2 - 43.0, IF AS CACO3 = 98.0%
CALCITE/DOLOMITE RATIO 1.4:1, CALC. 55.0% - DOLO. 42.0%
110 FT.- %CO2 - 18.8%, IF AS CACO3 = 42.6%
CLAY ANALYSIS <2 MICRON FRACTION - PRINCIPAL COMPONENT IS
MONTMORILLONITE WITH MINOR (<5%) KAOLINITE AND ILLITE. A
VERY MINOR PHASE OF POSSIBLE CLINOPTILONITE IS PRESENT.
250 FT.- %CO2 - 6.2%, IF AS CACO3 14.2%
CLAY ANALYSIS <2 MICRON FRACTION - PRINCIPAL COMPONENT IS
MONTMORILLONITE WITH MINOR (<5%) KAOLINITE AND ILLITE.

0.0-	35.0	090UDSC	UNDIFFERENTIATED SAND AND CLAY
35.0-	99.0	122TMIM	TAMIAMI FM.
99.0-	382.0	122HTRN	HAWTHORN GROUP

0 - 1 SAND; MODERATE BROWN; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-01%;
FOSSILS: NO FOSSILS;

1 - 2.5 SAND; MODERATE BROWN; 20% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-02%, CLAY-01%;
FOSSILS: NO FOSSILS;

2.5- 3.5 SAND; DARK BROWN TO DARK GRAY; 30% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
FOSSILS: NO FOSSILS;

3.5- 4 SAND; GREENISH GRAY TO DARK YELLOWISH ORANGE; 12% POROSITY, INTERGRANULAR,
LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: CLAY-04%, CALCILUTITE-04%;
FOSSILS: NO FOSSILS;

4 - 4.5 SAND; GRAYISH YELLOW TO LIGHT OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: MOTTLED, STREAKED,
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-05%;
FOSSILS: NO FOSSILS;

4.5- 6 SAND; YELLOWISH GRAY TO LIGHT GRAY; 14% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CLAY-02%, CALCILUTITE-02%;
FOSSILS: NO FOSSILS;

6 - 7 SAND; YELLOWISH GRAY TO WHITE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
ACCESSORY MINERALS: CALCILUTITE-15%, HEAVY MINERALS-01%;
FOSSILS: MOLLUSKS;
INTERMIXED SHELL (15%),CHIONE CANCELATA

7 - 8 LIMESTONE; GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL; 10% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: DOLOMITE-25%, QUARTZ SAND-15%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
INTERBEDDED WITH QUARTZ SAND

8 - 9 SANDSTONE; GRAYISH ORANGE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-02%;
FOSSILS: MOLLUSKS;
BECOME LESS SANDY TOWARDS BOTTOM

9 - 10 LIMESTONE; GRAYISH ORANGE; 11% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-40%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

10 - 10.3 AS ABOVE

10.3- 11 SAND; YELLOWISH GRAY TO GRAYISH ORANGE; 14% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-02%;
FOSSILS: MOLLUSKS;

11 - 12 SANDSTONE; WHITE TO VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, MOLDIC;

12 - 15 SANDSTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 13% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-02%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
UNCONSOLIDATED MICRITIC QTZ SAND IN INTERVAL

15 - 16 SANDSTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

16 - 17 AS ABOVE

17 - 18 SAND; WHITE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

18 - 20 AS ABOVE

20 - 22 SANDSTONE; WHITE TO VERY LIGHT ORANGE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%;
OTHER FEATURES: CALCAREOUS, CHALKY;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

22 - 24 AS ABOVE

24 - 25 NO SAMPLES

25 - 29 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 16% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

29 - 30 AS ABOVE

30 - 33 SANDSTONE; VERY LIGHT ORANGE TO WHITE; 16% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-30%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

33 - 35 NO SAMPLES

35 - 36.2 DOLOMITE; GRAYISH ORANGE TO DARK YELLOWISH BROWN; 14% POROSITY, INTERGRANULAR, MOLDIC,
INTERCRYSTALLINE; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
EXTINCT PLIOCENE MOLLUSK REPORTED BY J.MEEDER AT 35FT.

36.2- 38.5 LIMESTONE; LIGHT GRAY TO VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

38.5- 42 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, CALCILUTITE, SKELETAL; 25% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
LOST CIRC.AT 41FT.DUE TO HIGH PERM.AND CHANNEL PORO.

42 - 44 LIMESTONE; VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: CALCILUTITE, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: QUARTZ SAND-05%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS;

44 - 46 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: OOLITE, CRYSTALS;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, QUARTZ SAND-05%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
VERY HIGH PERM.&POROSITY AT 46' -LARGE (30MM) MOLDS

46 - 47.5 DOLOMITE; DARK YELLOWISH BROWN; 10% POROSITY, INTERCRYSTALLINE, MOLDIC,
VUGULAR; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-10%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

47.5- 50 LIMESTONE; GRAYISH BROWN TO VERY LIGHT ORANGE; 18% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL MOLDS;
CALCITE CRYSTALS LINING FOSSIL MOLDS

50 - 51.5 LIMESTONE; GRAYISH BROWN TO VERY LIGHT ORANGE; 16% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS, SKELETAL; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT, DOLOMITE CEMENT, CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: DOLOMITE-35%;
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS;

51.5- 54 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS;

54 - 55 LIMESTONE; GRAYISH BROWN TO LIGHT OLIVE GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-35%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

55 - 56 DOLOMITE; GRAYISH BROWN; 12% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: SPAR-10%, CALCILUTITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
FRESH WATER MOLLUSKS

56 - 57 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: MOLLUSKS, BRYOZOA;

57 - 58 DOLOMITE; LIGHT GRAY TO VERY LIGHT ORANGE; 14% POROSITY, INTERGRANULAR,
MOLDIC; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

58 - 62 LIMESTONE; VERY LIGHT ORANGE;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
DOLOMITE INTERBEDDED

62 - 63 AS ABOVE WITH SAND (10%)

63 - 64 AS ABOVE

64 - 65 DOLOMITE; GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
LARGE MOLLUSK CASTS AND MOLDS

65 - 67 AS ABOVE

67 - 70.5 DOLOMITE; LIGHT OLIVE BROWN; 16% POROSITY, MOLDIC, VUGULAR,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: SPAR-15%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
PYCHNODONT OYSTER AT 68FT.

70.5- 75 AS ABOVE

75 - 77 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 18% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 45% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

77 - 79 AS ABOVE

79 - 82 DOLOMITE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 17% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; EUHEDRAL; GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT, CALCILUTITE MATRIX; ACCESSORY MINERALS: SPAR-10%, CALCILUTITE-20%, QUARTZ SAND-10%; FOSSILS: MOLLUSKS, FOSSIL MOLDS;

82 - 86 AS ABOVE WITH MANY MOLLUSKS CASTS AND MOLDS

86 - 87 AS ABOVE

87 - 88 LIMESTONE; MODERATE DARK GRAY; 12% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL; 10% ALLOCHEMICAL CONSTITUENTS; GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT; ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%; FOSSILS: MOLLUSKS, FOSSIL MOLDS;

88 - 89 AS ABOVE WITH MORE SAND (35%) - POOR INDURATION

89 - 92 AS ABOVE

92 - 95 AS ABOVE

95 - 99 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR; GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 05% ALLOCHEMICAL CONSTITUENTS; GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX; FOSSILS: MOLLUSKS; LITTLE RECOVERY

99 - 102 SAND; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX; ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%; FOSSILS: MOLLUSKS;

102 - 106 AS ABOVE

106 - 108 AS ABOVE

108 - 109 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION; CEMENT TYPE(S): CALCILUTITE MATRIX; ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-02%; FOSSILS: FOSSIL FRAGMENTS;

109 - 110 CLAY; GRAYISH OLIVE TO OLIVE GRAY; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX; ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-02%, CALCILUTITE-04%, PHOSPHATIC SAND-02%; FOSSILS: BENTHIC FORAMINIFERA; FLORILUS SP.,ELPHIDIUM SP.

110 - 116.5 AS ABOVE

116.5- 117 SAND; DARK YELLOWISH BROWN TO WHITE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-20%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS, SHARKS TEETH;

117 - 119 CLAY; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
SEDIMENTARY STRUCTURES: MASSIVE,
ACCESSORY MINERALS: CLAY-05%;
FOSSILS: DIATOMS;

119 - 119.2 SAND; DARK YELLOWISH BROWN; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: COARSE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-25%;
FOSSILS: SHARKS TEETH;

119.2- 120 CLAY; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MASSIVE,
ACCESSORY MINERALS: QUARTZ SAND-02%;
FOSSILS: DIATOMS;

120 - 122 AS ABOVE

122 - 126 AS ABOVE WITH MANY DIATOMS (DIPLONEIS SP.)

126 - 131 AS ABOVE

131 - 131.2 LIMESTONE; WHITE; 15% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, SKELETAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ SAND-02%;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS, BRYOZOA;

131.2- 135 CLAY; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MASSIVE,
ACCESSORY MINERALS: QUARTZ SAND-05%;
FOSSILS: DIATOMS, BENTHIC FORAMINIFERA;
MANY DIATOMS

135 - 136 CLAY; GRAYISH OLIVE; 09% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-05%;
FOSSILS: DIATOMS, BENTHIC FORAMINIFERA, PLANKTONIC FORAMINIFERA;

136 - 136.2 SAND; DARK YELLOWISH BROWN TO VERY LIGHT ORANGE;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-08%, LIMESTONE-04%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

136.2- 137 CLAY; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-05%, PHOSPHATIC SAND-04%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;

137 - 138 SAND; GRAYISH OLIVE; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-25%, PHOSPHATIC SAND-04%, CALCILUTITE-10%;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;

138 - 138.6 DOLOMITE; YELLOWISH GRAY TO LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, VUGULAR,
INTERCRYSTALLINE; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

138.6- 147 LIMESTONE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: COARSE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-10%, PHOSPHATIC SAND-04%, QUARTZ SAND-15%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS, BRYOZOA;

147 - 150 SANDSTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS, BENTHIC FORAMINIFERA;

150 - 151 AS ABOVE

151 - 152 AS ABOVE VERY GOOD MOLDIC POROSITY

152 - 155 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 55% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-15%, QUARTZ SAND-40%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

155 - 157 AS ABOVE

157 - 158 SANDSTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, DOLOMITE-15%, PHOSPHATIC SAND-03%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

158 - 160 AS ABOVE WITH MODERATE INDURATION

160 - 162 AS ABOVE

162 - 164 SANDSTONE; DARK GRAYISH YELLOW; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-10%, DOLOMITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS;

164 - 177 SANDSTONE; VERY LIGHT ORANGE TO WHITE;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%;
FOSSILS: FOSSIL MOLDS;
LITTLE RECOVERY DUE WEAK CEMENTATION

177 - 187 NO RECOVERY-DRILLER REPORTS CLEAN SANDS

187 - 189 SANDSTONE; VERY LIGHT ORANGE; 18% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-03%, PHOSPHATIC SAND-04%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

189 - 190 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

190 - 192 NO RECOVERY-DRILLER REPORTS SILTY SAND

192 - 194 SANDSTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-30%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

194 - 198 CLAY; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;
LARGE MOLLUSK SHELLS INTERBEDDED

198 - 199 AS ABOVE

199 - 200 DOLOMITE; LIGHT GRAY TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-35%, PHOSPHATIC SAND-03%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

200 - 202 AS ABOVE

202 - 204 AS ABOVE,SPARRY CALCITE LINING FOSSIL MOLDS.

204 - 207 SANDSTONE; LIGHT GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

207 - 211 DOLOMITE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, MOLDIC; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-30%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

211 - 213 SANDSTONE; VERY LIGHT ORANGE; 10% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-25%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

213 - 217 NO RECOVERY-DRILLER REPORTS WEAKLY CEMENTED QTZ SANDS.

217 - 221 SAND; VERY LIGHT ORANGE TO WHITE; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-05%, DOLOMITE-05%, PHOSPHATIC SAND-01%;

221 - 222 DOLOMITE; WHITE TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-20%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

222 - 227 AS ABOVE

227 - 232 SANDSTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-10%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;

232 - 246 NO RECOVERY-DRILLER REPORTS QUARTZ SANDS

246 - 249 CLAY; OLIVE GRAY; 05% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MASSIVE,
ACCESSORY MINERALS: DOLOMITE-15%, SILT-12%, PHOSPHATIC SAND-02%, QUARTZ SAND-02%;

249 - 255 AS ABOVE-THIN SEAMS OF SAND INTERBEDDED

255 - 258 SAND; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX;
ACCESSORY MINERALS: DOLOMITE-10%, CLAY-02%, PHOSPHATIC SAND-01%;

258 - 262 NO RECOVERY-DRILLER REPORTS QUARTZ SANDS

262 - 265 DOLOMITE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; 50-90% ALTERED;
EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-08%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

265 - 305 NO RECOVERY-DRILLER REPORTS SANDS AND SILTS.

305 - 308 PHOSPHATE; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR; UNCONSOLIDATED;
CEMENT TYPE(S): PHOSPHATE CEMENT;
ACCESSORY MINERALS: DOLOMITE-05%, PHOSPHATIC GRAVEL-%;
RUBBLE BED-PHOSPHATE RANGES FROM .5 TO 1.0 INCH DIAM.

308 - 310 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC GRAVEL-05%, PHOSPHATIC SAND-02%,
QUARTZ SAND-05%;

310 - 311 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-05%, QUARTZ SAND-30%;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, CORAL, FOSSIL FRAGMENTS;

311 - 313 DOLOMITE; VERY LIGHT ORANGE TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-25%, PHOSPHATIC SAND-08%;
FOSSILS: FOSSIL FRAGMENTS;

313 - 320 AS ABOVE

320 - 332 CLAY; GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC GRAVEL-05%, PHOSPHATIC SAND-05%,
QUARTZ SAND-15%;
FOSSILS: MOLLUSKS;

332 - 335 DOLOMITE; VERY LIGHT ORANGE TO WHITE; 18% POROSITY, INTERGRANULAR, MOLDIC;
50-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-15%, SPAR-05%, QUARTZ SAND-08%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

335 - 337 AS ABOVE

337 - 339 CLAY; VERY LIGHT ORANGE TO GRAYISH OLIVE; 08% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-20%, PHOSPHATIC SAND-08%;
FOSSILS: MOLLUSKS;

339 - 342 AS ABOVE WITH V.C.PHOSPHATE

342 - 347 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS; 20% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;

347 - 352 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, QUARTZ SAND-15%, PHOSPHATIC SAND-02%;
FOSSILS: MOLLUSKS;

352 - 353 AS ABOVE

353 - 355 SANDSTONE; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR;
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;
ROUNDNESS:SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: DOLOMITE-35%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;
FOSSILS: MOLLUSKS;

355 - 357 CLAY; YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-25%, PHOSPHATIC SAND-10%;
FOSSILS: MOLLUSKS;

357 - 359 AS ABOVE WITH INTERBEDDED OYSTER SHELLS

359 - 362 AS ABOVE

362 - 367 LIMESTONE; VERY LIGHT ORANGE; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 40% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-30%, PHOSPHATIC SAND-01%, QUARTZ SAND-01%;
FOSSILS: CORAL, MOLLUSKS, FOSSIL MOLDS;
MANY WELL PRESERVED CORALS

367 - 372 AS ABOVE-COQUINA OF MOLLUSKS

372 - 377 DOLOMITE; GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR, MOLDIC;
30-90% ALTERED; EUHEDRAL;
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MICROCRYSTALLINE; MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CALCILUTITE-20%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

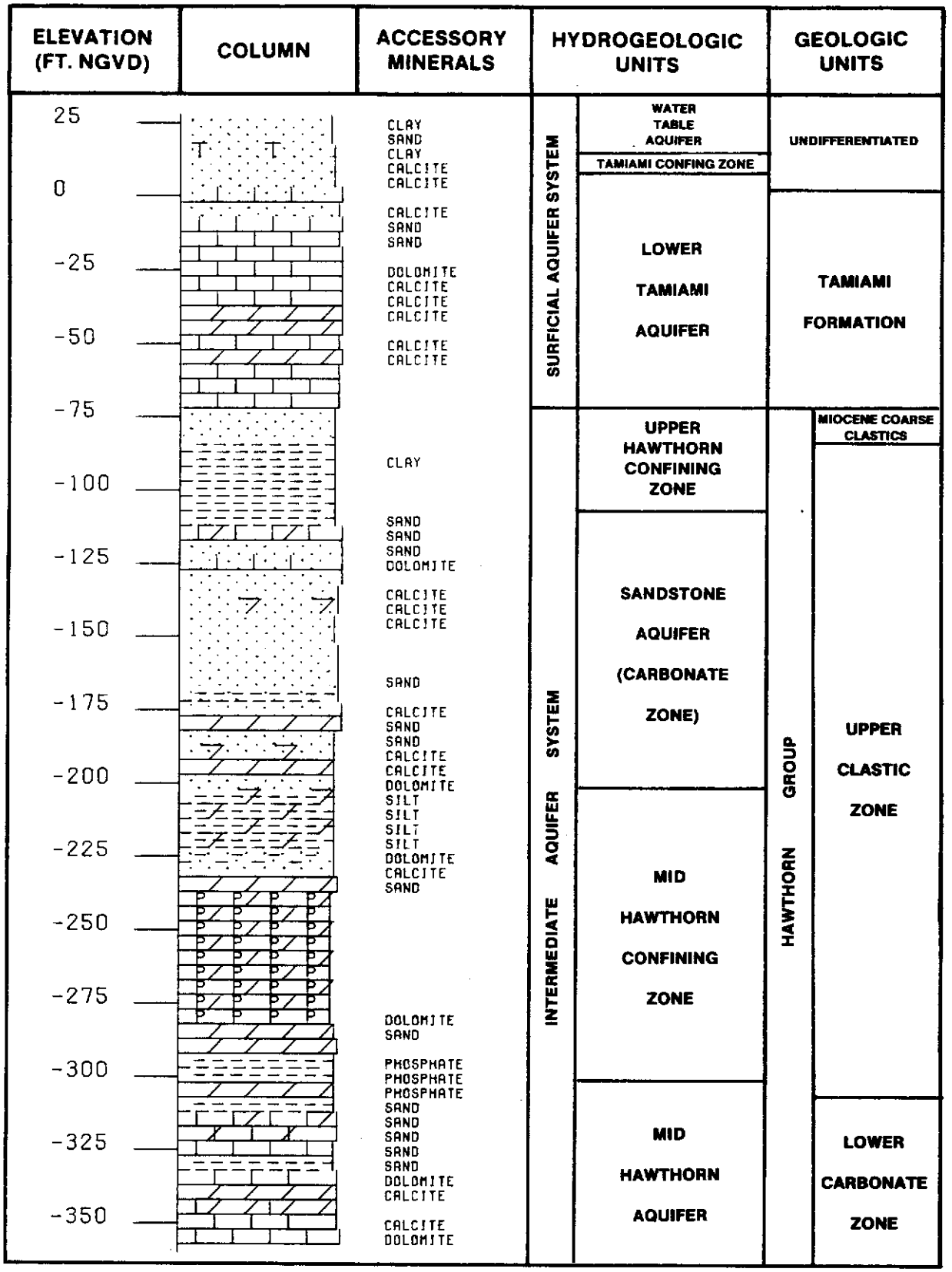
377 - 378 LIMESTONE; VERY LIGHT ORANGE; 18% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-40%;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL;

378 - 380 AS ABOVE WITH PHOSPHATE (3%)

380 - 381 LIMESTONE; VERY LIGHT ORANGE TO WHITE; 16% POROSITY, INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: DOLOMITE-40%, PHOSPHATIC SAND-01%;
OTHER FEATURES: SPECKLED;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;

381 - 382 AS ABOVE

382 TOTAL DEPTH


ELEVATION (FT. NGVD)
COLUMN
ACCESSORY MINERALS
HYDROGEOLOGIC UNITS
GEOLOGIC UNITS
25
0
-25
-50
-75
-100
-125
-150
-175
-200
-225
-250
-275
-300
-325
-350
CLAY
SAND
CLAY
CALCITE
CALCITE
CALCITE
SAND
SAND
DOLOMITE
CALCITE
CALCITE
CALCITE
CALCITE
CALCITE
CLAY
SAND
SAND
SAND
DOLOMITE
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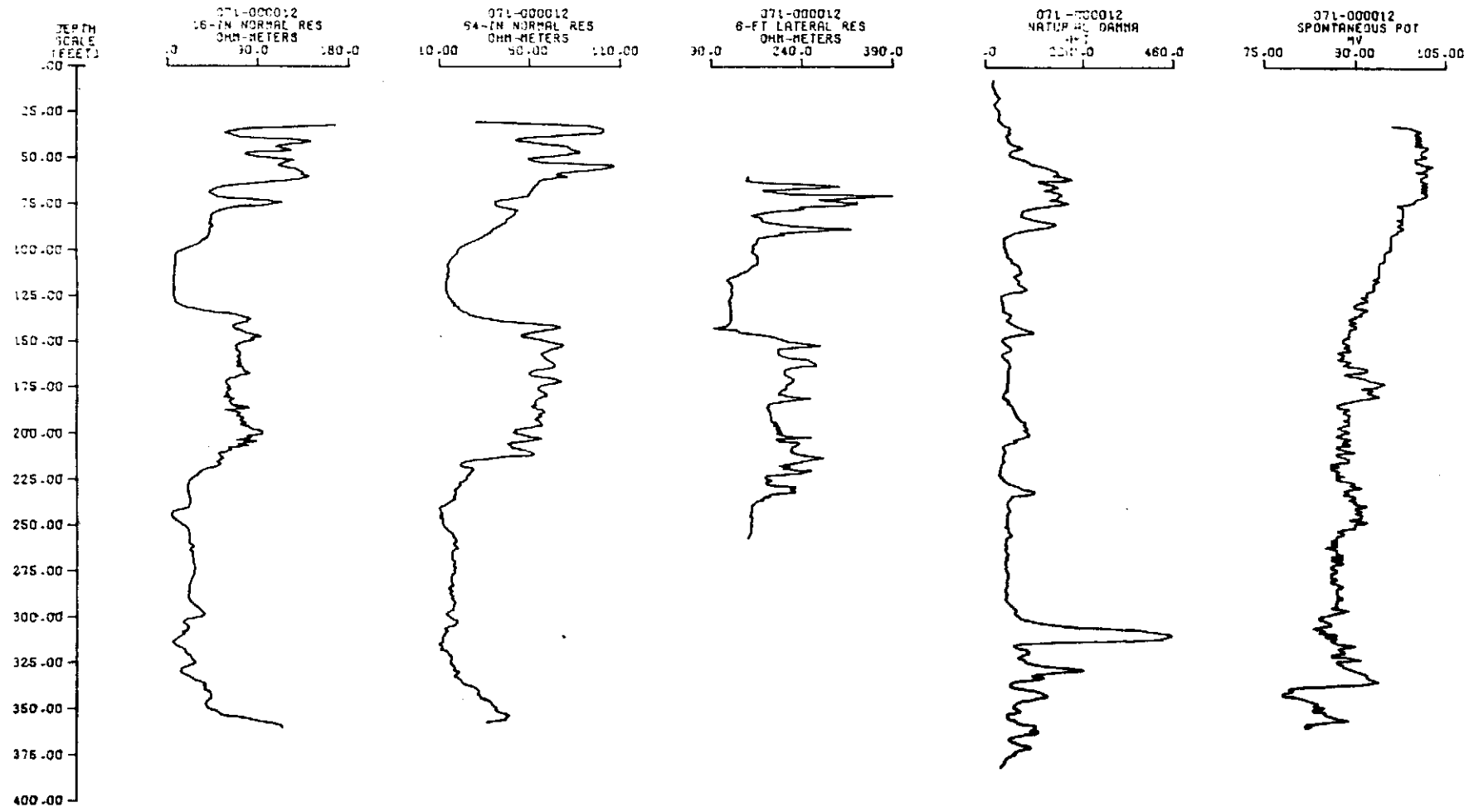
DOLOMITE
SAND
PHOSPHATE
PHOSPHATE
PHOSPHATE
SAND
SAND
SAND
SAND
SAND
DOLOMITE
CALCITE
CALCITE
DOLOMITE
SURFICIAL AQUIFER SYSTEM
WATER TABLE AQUIFER
TAMIAMI CONFING ZONE
LOWER TAMIAMI AQUIFER
INTERMEDIATE AQUIFER SYSTEM
UPPER HAWTHORN CONFINING ZONE
SANDSTONE AQUIFER (CARBONATE ZONE)
MID HAWTHORN CONFINING ZONE
MID HAWTHORN AQUIFER
UNDIFFERENTIATED
TAMIAMI FORMATION
HAWTHORN GROUP
MIOCENE COARSE CLASTICS
UPPER CLASTIC ZONE
LOWER CARBONATE ZONE

L 27



GEOPHYSICS, WELL L-27

APPENDIX B-1

INTRODUCTION

Introduction

All the water level data information was obtained from the USGS in Ft. Myers. The USGS samples the wells once a month for water levels and water quality.

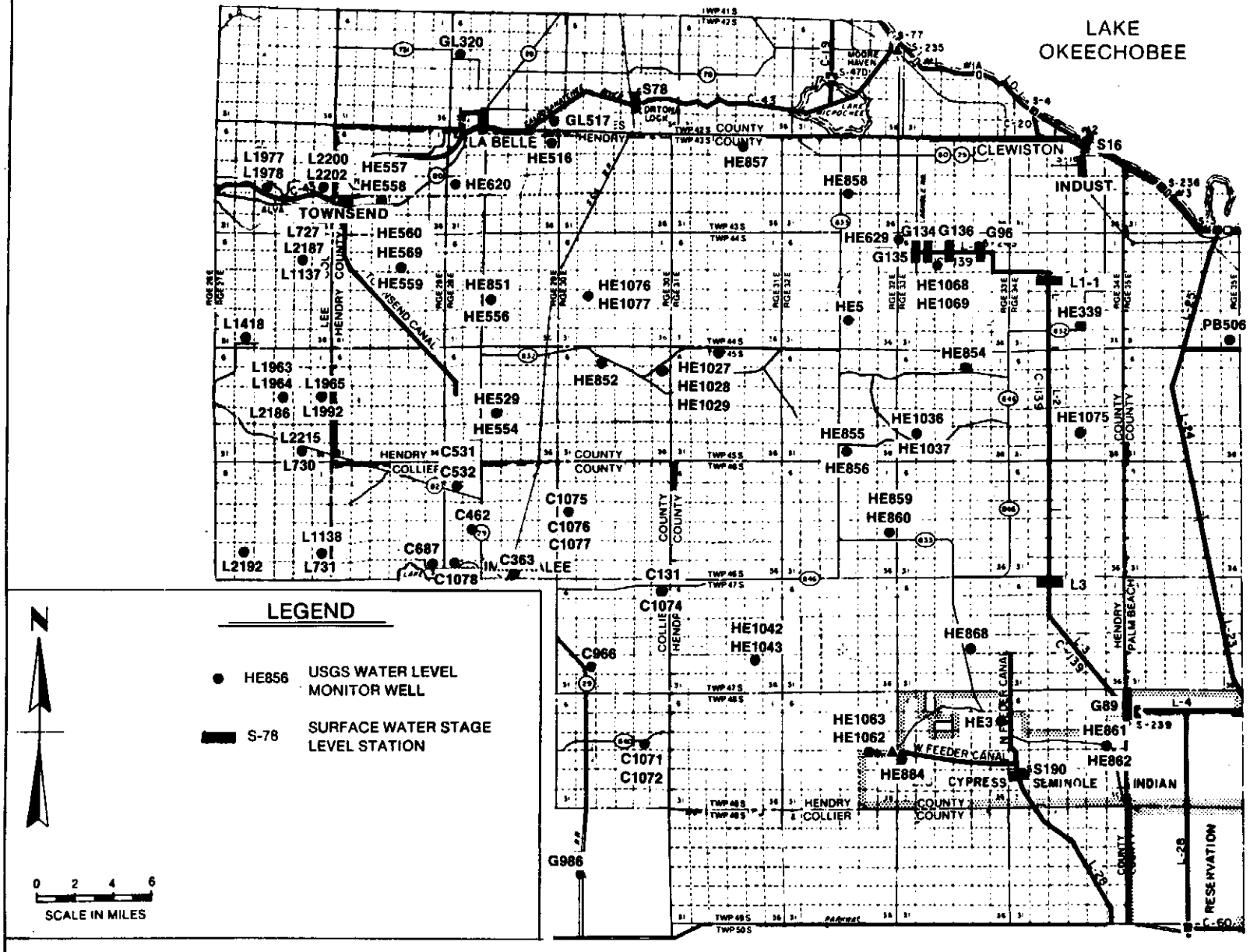
The USGS ground water monitoring network for 1988 in Hendry County is presented in Appendix B-2. Location and well construction information is provided in the subsequent tables along with the period of record for each station.

The water level hydrographs from each station are presented in Appendix B-3. Stations added to the network in October 1987 are not included. On the adjacent page is a statistical analysis of the water level data used in the hydrographs. The analysis is broken down into months. The column titled number of records indicates years of data for each month. Beginning and ending years can be obtained by looking at the hydrographs or referring to the period of record for the well as listed in Appendix B-2.

Rainfall and evaporation data are collected from several stations owned and maintained by SFWMD. Locations of these stations are presented on a map at the beginning of Appendix B-4. Rainfall data were taken from stations having at least 10 years of continuous data. These stations were also used to construct the average annual rainfall map in the text. The rainfall and evaporation data is presented as bar graphs depicting total monthly rainfall and evaporation respectively.

APPENDIX B-2

WATER LEVEL DATA AVAILABILITY



1988 USGS GROUND WATER MONITORING NETWORK AND SFWMD STAGE LEVEL STATIONS

WATER TABLE AQUIFER

WELL #	S/T/R	LAT.	LONG.	CASING		TOTAL DEPTH	PERIOD OF RECORD	ELEV. (ngvd)	RECOR -DER
				DIA.	DEP.				
HE-3	12/48/33	26 18 59	80 58 54	6	8	10	7/50 to pres.	19.14	
HE-5	27/44/32	26 37 50	81 07 40	6	8.7	13	1/41/to 10/67 8/69 to pres.	26.74	
HE-339	27/44/34	26 37 27	80 55 10	2	5	9.5	2/64 to pres.	15.69	
HE-554	21/45/29	26 33 10	81 25 09	4	5	15	10/75 to pres.	32.66	
HE-558	28/43/28	26 42 35	81 31 06	4	3	14	10/75 to pres.	17.70	
HE-569	10/44/28	26 39 30	81 30 15	4	11	17	10/75 to pres.	27.89	
HE-851	21/44/29	26 38 45	81 26 07	4	5	13	10/77 to pres.	27.55	
HE-852	4/45/30	26 35 48	81 20 06	4	9	17	9/77 to 10/79 10/86 to pres.	29.99	
HE-854	10/45/33	26 35 15	81 01 20	4	3	14	1/77 to 10/79 10/86 to pres.	21.72	
HE-856	34/45/32	26 30 35	81 07 35	4	9	11	10/79 to pres.	27.56	
HE-857	10/43/31	26 45 35	81 13 07	4	20	20	8/77 to 10/79 9/85 to pres.	19.50	
HE-858	27/43/32	26 42 35	81 07 44	4	12	20	8/77 to 9/79 10/86 to pres.	22.57	
HE-860	24/46/32	26 27 35	81 04 46	4	9	16.5	9/77 to 9/79 10/85 to pres.	26.63	
HE-862	23/48/34	26 17 35	80 53 40	4	7	11	9/77 to pres.	14.42	
HE-884	18/48/33	26 18 01	81 04 25	4	62	67	9/77 to 9/79 10/86 to pres.	19.86	
HE-1027	12/45/30	26 35 14	81 17 07	2	3	7	10/87 to pres.	30.57	
HE-1036	30/45/33	26 32 13	81 04 08	2	5	10	10/87 to pres.	26.33	
HE-1043	26/47/31	26 22 14	81 11 30	2	5	10	10/87 to pres.	23.04	
HE-1062	23/48/32	26 17 46	81 06 18	2	5	10	10/87 to pres.	18.34	
HE-1069	9/44/33	26 40 46	81 02 28	2	3	13	10/87 to pres.	20.72	
HE-1077	20/44/30	26 38 39	81 20 39	6	5	10	10/87 to pres.	27.48	
GL-320	18/42/29	26 49 10	81 28 01	6	60	80	2/85 to pres.	39.87	
L-730	35/45/27	26 31 38	81 54 58	4	18.7	19	8/68 to pres.	31.53	Yes
L-1137	11/44/27	26 39 59	81 35 54	4	15	20	6/70 to pres.	21.72	Yes
L-1138	25/46/27	26 27 03	81 34 02	4	15	20	6/70 to pres.	25.19	
L-1964	15/45/27	26 33 44	81 36 17	4	14	24	10/74 to pres.	30.6	
L-1978	21/43/27	26 43 20	81 36 57	4	7	17	10/74 to pres.	17.40	
L-1992	13/45/27	26 33 53	81 33 58	4	19	29	10/74 to pres.	29.67	

WATER TABLE AQUIFER

WELL #	S/T/R	LAT.	LONG.	CASING		TOTAL DEPTH	PERIOD OF RECORD	ELEV. (ngvd)	RECOR -DER
				DIA.	DEP.				
L-2202	24/43/27	26 43 29	81 34 04	4	7	19	8/75 to pres.	17.43	
L-5665	36/46/26	26 25 14	81 39 34	4	32	43	10/82 to pres.	20.0	
C-131	1/47/30	26 25 21	81 16 19	6	22	54	6/52 to pres.	26.71	Yes
C-363	34/46/29	26 25 55	81 24 28	2	84	119	4/81 to pres.	34.10	
C-462	20/46/29	26 27 24	81 26 12	8.6	50	99.7	6/52 to pres.	34.11	
C-532	7/46/29	26 29 28	81 27 29	4	3	12	10/75 to pres.	41.93	
C-966	29/47/30	26 21 37	81 20 43	6	30	38	10/84 to pres.	21.96	
C-986	18/49/30	26 12 00	81 20 49	6	28	42	10/84 to pres.	16.39	
C-1071	14/48/30	26 18 23	81 17 19	4	20	31	4/86 to pres.	19.29	
C-1075	18/46/30	26 28 22	81 21 32	4	8	28	4/86 to pres.	30.64	
C-1078	31/46/29	26 25 58	81 27 05	4	13	28	4/86 to pres.	31.91	
PB-506	36/43/35	26 41 53	80 47 52	4	11.4	15.3	1/64 to pres.	13.32	

LOWER TAMIAMI AQUIFER

WELL #	S/T/R	LAT.	LONG.	CASING		TOTAL DEPTH	PERIOD OF RECORD	ELEV. (ngvd)	RECOR -DER
				DIA.	DEP.				
HE-629	6/44/33	26 41 37	81 04 07	2	33	144	9/77 to 9/79 4/84 to pres.	20.81	
HE-853	32/44/31	26 36 18	81 14 30	4	17	61	8/77 to 10/79 10/86 to pres.	29.75	
HE-855	34/45/33	26 30 35	81 07 35	4	70	90	10/79 to pres.	27.56	
HE-859	26/46/32	26 27 35	81 04 46	4	58	59	9/77 to 9/79 10/85 to pres.	26.30	
HE-861	23/48/34	26 17 35	80 53 40	4	37	70	9/77 to pres.	14.51	
HE-868	27/47/ 33	26 21 18	81 00 29	4	84	97	9/77 to 10/79 10/85 to pres.	20.72	
HE-1028	12/45/30	26 35 14	81 17 07	2	20	60	10/87 to pres.	29.64	
HE-1029	12/45/30	26 35 14	81 17 07	2	92	182	10/87 to pres.	29.36	
HE-1037	30/45/33	26 32 13	81 04 08	2	70	120	10/87 to pres.	26.14	
HE-1042	26/47/31	26 22 14	81 11 30	2	40	80	10/87 to pres.	22.88	
HE-1063	23/48/32	26 17 46	81 06 18	2	78	123	10/87 to pres.	18.42	
HE-1068	9/44/33	26 40 46	81 02 28	6	60	160	10/87 to pres.	19.42	
HE-1075	27/45/34	26 32 07	80 55 31	2	135	155	10/87 to pres.	16.57	
C-1074	1/47/30	26 25 19	81 16 21	4	100	101	4/86 to pres.	21.71	Yes
C-1076	18/46/30	26 28 22	81 21 32	4	65	66	4/86 to pres.	30.64	

SANDSTONE AQUIFER

WELL #	S/T/R	LAT.	LONG.	CASING		TOTAL DEPTH	PERIOD OF RECORD	ELEV. (ngvd)	RECOR -DER
				DIA.	DEP.				
Clastic									
HE-516	1/43/29	26 46 01	81 21 31	2	270	273	1/77 to 10/79 6/86 to pres.	19.04	
HE-557	28/43/28	26 42 35	81 31 06	4	80	102	10/75 to pres.	17.71	
HE-560	10/44/28	26 39 30	81 30 15	4	70	87	10/75 to pres.	27.87	
HE-1076	20/44/30	26 38 40	81 20 39	6	300	340	10/87 to pres.	27.55	
GL-517	36/42/29	26 46 12	81 21 36	8	128	138	2/77 to pres.	16.04	Yes
L-727	11/44/27	26 39 50	81 35 54	4	67	68	1/74 to pres.	21.64	Yes
L-1418	32/44/27	26 36 30	81 37 53	8	55	62	1974 to pres.	23.47	Yes
L-1963	15/45/27	26 33 44	81 36 17	4	68	74	10/74 to pres.	31.0	
L-2192	29/46/27	26 26 59	81 38 25	4	155	184	8/75 to pres.	27.26	
L-2215	35/45/27	26 31 27	81 35 16	4	99	149	8/75 to pres.	30.23	
C-1077	18/46/30	26 28 22	81 21 32	4	170	197	4/86 to pres.	30.64	
Carbonate									
HE-529	21/45/29	26 33 10	81 25 09	4	135	155	10/75 to pres.	32.57	Yes
HE-556	21/44/29	26 38 45	81 26 07	4	135	155	10/75 to pres.	28.44	Yes
HE-559	10/44/28	26 39 30	81 30 15	4	155	165	10/75 to pres.	27.86	
HE-620	19/43/29	26 43 53	81 28 11	2	171	350	4/76 to pres.	17.13	
L-2186	15/45/27	26 33 44	81 36 17	4	133	160	8/75 to pres.	31.06	Yes
L-2187	11/44/27	26 39 50	81 35 54	4	136	154	8/75 to pres.	21.90	
L-2200	24/43/27	26 43 29	81 34 04	4	122	163	8/75 to pres.	17.4	
C-531	7/46/29	26 28 59	81 27 30	4	210	253	10/75 to pres.	41.93	Yes
C-687	36/46/28	26 25 54	81 28 38	4	290	310	9/81 to pres.	16.43	
Whole Aquifer									
L-731	25/46/27	26 27 03	81 34 02	4	165	243	1968 to pres.	25.19	Yes
L-1965	13/45/27	26 33 53	81 33 58	4	50	183	12/65 to pres.	29.67	
L-1977	21/43/27	26 43 20	81 36 57	4	65	185	10/75 to pres.	17.39	
L-5664	36/40/26	26 25 14	81 39 34	4	180	300	11/82 to pres.	20.0	
C-1072	14/48/30	26 18 23	81 17 19	4	140	224	4/86 to pres.	19.29	Yes

SURFACE WATER STATIONS

STATION NAME	S/T/R	LAT.	LONG.	PERIOD OF RECORD
G-134	8/44/33	26 39 57	81 03 52	7/86 to present
G-135	7/44/33	26 40 48	81 03 53	7/86 to present
G-136	9/44/34	26 40 00	80 57 03	7/86 to present
G-89	12/48/34	26 19 51	80 52 55	7/86 to present
G-96	11/44/33	26 40 52	81 00 25	7/86 to present
Indust.	10/43/34	26 45 14	80 55 07	1/69 to 10/87
L1-1	17/44/34	26 39 00	80 57 00	11/81 to present
L-3	4/47/34	26 25 50	80 56 50	10/69 to 12/87
S-169	10/43/34	26 45 43	80 55 24	1/85 to present
S-190	30/48/34	26 17 11	80 56 50	1/78 to present
S-78	26/42/30	26 47 22	81 18 11	1/82 to 6/87
Townsend	30/43/28	26 42 33	81 33 30	12/75 to 2/87

APPENDIX B-3

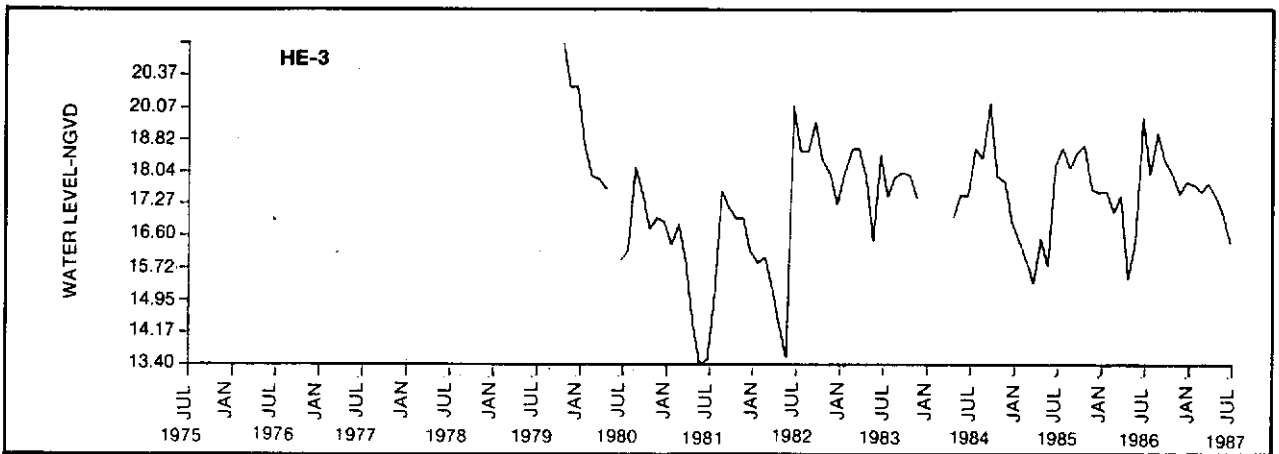
WATER LEVEL HYDROGRAPHS
AND
STATISTICAL ANALYSES

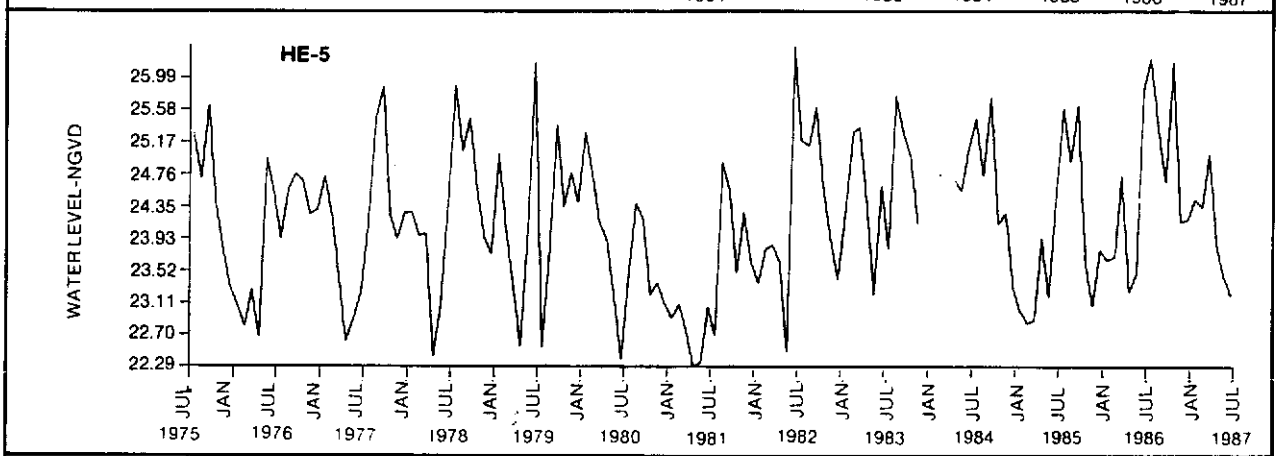
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-3	JAN	7	18.66	15.86	17.21	0.9710	0.9429	5.478
HE-3	FEB	7	18.60	15.89	17.11	0.9246	0.8549	4.996
HE-3	MAR	7	18.62	15.32	16.90	1.2389	1.5349	9.083
HE-3	APR	8	17.94	14.35	16.32	1.3443	1.8070	11.071
HE-3	MAY	7	17.48	13.40	15.72	1.4981	2.2444	14.280
HE-3	JUN	8	19.67	13.51	17.37	1.9135	3.6616	21.079
HE-3	JUL	8	18.62	15.07	17.49	1.2080	1.4593	8.343
HE-3	AUG	7	18.99	17.58	18.24	0.4185	0.1752	0.960
HE-3	SEP	7	19.72	17.18	18.36	0.8392	0.7042	3.835
HE-3	OCT	8	21.14	16.66	18.20	1.2774	1.6317	8.965
HE-3	NOV	8	20.08	16.91	17.78	0.9405	0.8846	4.975
HE-3	DEC	7	20.10	16.11	17.49	1.1800	1.3923	7.959

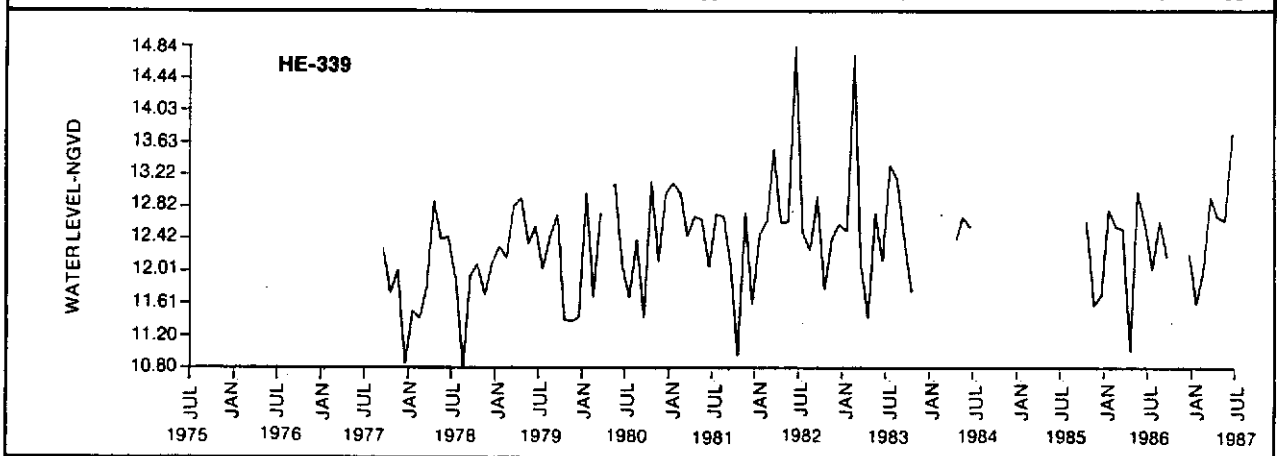
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-5	JAN	11	25.29	22.92	24.01	0.8035	0.6456	2.689
HE-5	FEB	12	25.30	22.81	23.97	0.7443	0.5539	2.311
HE-5	MAR	11	25.35	22.76	23.90	0.8134	0.6616	2.769
HE-5	APR	13	24.70	22.29	23.27	0.8118	0.6591	2.832
HE-5	MAY	13	24.96	22.34	23.42	0.7163	0.5131	2.190
HE-5	JUN	13	26.40	22.38	24.48	1.1950	1.4281	5.835
HE-5	JUL	13	26.24	22.54	24.41	1.2052	1.4526	5.950
HE-5	AUG	12	25.76	23.74	24.89	0.5098	0.2599	1.044
HE-5	SEP	12	25.87	24.19	25.23	0.5248	0.2754	1.091
HE-5	OCT	12	26.20	23.22	24.37	0.7418	0.5503	2.258
HE-5	NOV	12	24.77	23.08	23.99	0.4225	0.1785	0.744
HE-5	DEC	11	24.39	23.11	23.77	0.4342	0.1885	0.793

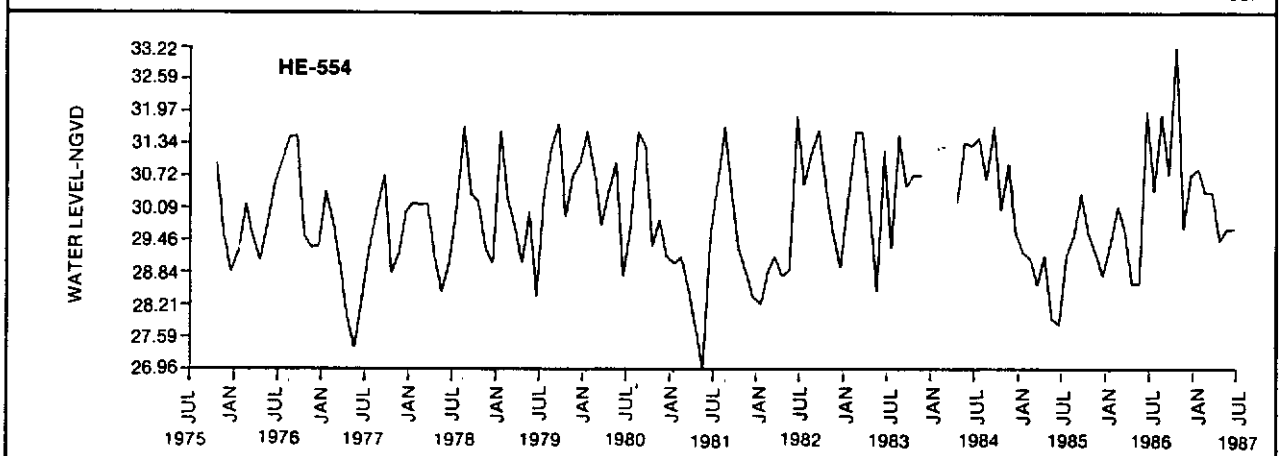
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-339	JAN	8	13.11	11.50	12.41	0.5558	0.3089	2.489
HE-339	FEB	9	14.73	11.42	12.55	0.9074	0.8233	6.560
HE-339	MAR	8	13.55	11.79	12.62	0.5012	0.2512	1.991
HE-339	APR	8	12.92	11.01	12.33	0.6686	0.4470	3.627
HE-339	MAY	9	13.09	12.35	12.69	0.2294	0.0526	0.415
HE-339	JUN	9	14.84	12.06	12.78	0.8734	0.7628	5.968
HE-339	JUL	8	13.34	11.68	12.36	0.5062	0.2562	2.074
HE-339	AUG	7	13.17	10.80	12.35	0.6852	0.4695	3.803
HE-339	SEP	8	12.95	11.42	12.25	0.4366	0.1906	1.556
HE-339	OCT	8	13.14	10.95	11.93	0.6438	0.4145	3.473
HE-339	NOV	7	12.75	11.38	12.00	0.4487	0.2014	1.678
HE-339	DEC	8	12.99	10.84	11.94	0.6404	0.4101	3.436

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-554	JAN	11	31.58	28.23	29.99	1.0289	1.0586	3.530
HE-554	FEB	12	31.56	28.88	30.13	0.7942	0.6307	2.093
HE-554	MAR	11	31.56	28.55	29.65	0.8274	0.6845	2.309
HE-554	APR	12	30.43	27.77	29.14	0.7882	0.6212	2.132
HE-554	MAY	12	31.35	26.96	29.04	1.2947	1.6761	5.772
HE-554	JUN	12	31.96	27.83	29.87	1.3972	1.9523	6.535
HE-554	JUL	12	31.44	29.10	30.08	0.7295	0.5322	1.769
HE-554	AUG	11	31.89	29.54	31.13	0.7095	0.5034	1.617
HE-554	SEP	11	31.71	30.34	30.98	0.5451	0.2972	0.959
HE-554	OCT	12	33.22	28.81	30.17	1.0976	1.2048	3.993
HE-554	NOV	12	30.94	28.83	29.74	0.6617	0.4379	1.472
HE-554	DEC	11	30.96	28.35	29.43	0.7892	0.6229	2.117









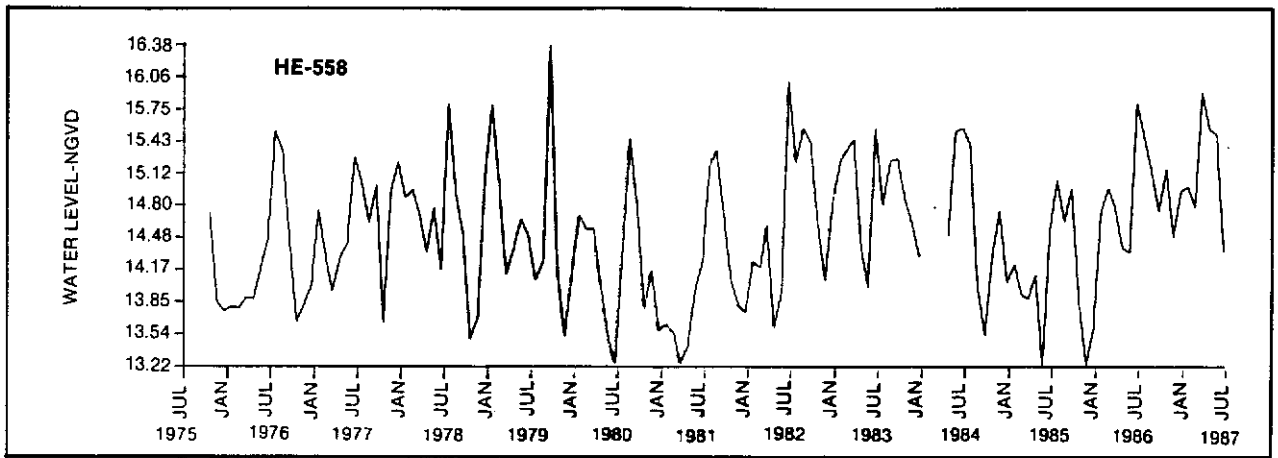
HYDROGRAPHS - WATER TABLE AQUIFER

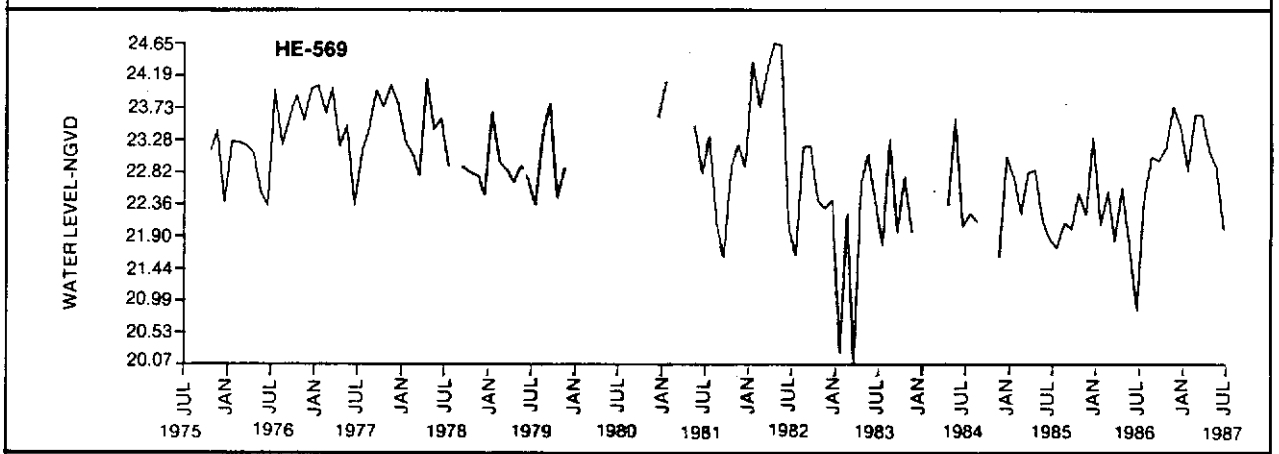
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-558	JAN	11	15.80	13.63	14.63	0.5987	0.3585	2.450
HE-558	FEB	12	15.36	13.55	14.51	0.5348	0.2860	1.971
HE-558	MAR	11	15.92	13.25	14.47	0.7273	0.5290	3.657
HE-558	APR	12	15.55	13.42	14.24	0.5131	0.2633	1.850
HE-558	MAY	12	15.53	13.22	14.34	0.6744	0.4549	3.173
HE-558	JUN	12	16.04	13.25	14.82	0.7926	0.6283	4.241
HE-558	JUL	12	15.81	14.06	15.06	0.4793	0.2297	1.525
HE-558	AUG	11	15.57	13.99	14.96	0.4948	0.2448	1.637
HE-558	SEP	11	16.38	13.52	14.88	0.6716	0.4511	3.031
HE-558	OCT	12	15.16	13.48	14.19	0.5239	0.2744	1.933
HE-558	NOV	12	14.93	13.23	14.08	0.5012	0.2512	1.784
HE-558	DEC	12	15.23	13.57	14.27	0.5704	0.3254	2.281

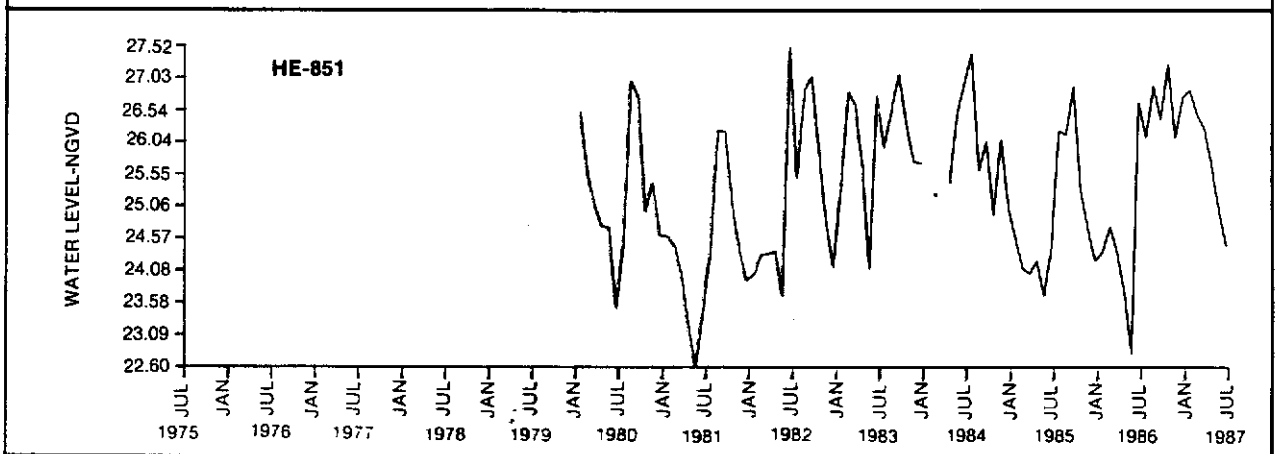
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-569	JAN	10	24.40	20.22	23.06	1.1656	1.3585	5.892
HE-569	FEB	10	23.74	22.22	22.99	0.5507	0.3032	1.319
HE-569	MAR	9	24.23	20.07	22.82	1.1915	1.4196	6.220
HE-569	APR	10	24.65	22.36	23.13	0.6884	0.4740	2.049
HE-569	MAY	11	24.62	21.78	23.09	0.7382	0.5449	2.360
HE-569	JUN	11	23.59	20.84	22.26	0.6470	0.4186	1.880
HE-569	JUL	11	24.00	21.63	22.61	0.7357	0.5412	2.393
HE-569	AUG	9	23.44	22.10	22.87	0.5535	0.3063	1.339
HE-569	SEP	9	23.99	21.60	22.89	0.8162	0.6661	2.910
HE-569	OCT	10	23.92	22.42	22.98	0.4906	0.2407	1.048
HE-569	NOV	11	24.06	21.63	22.89	0.7521	0.5656	2.471
HE-569	DEC	10	24.00	22.38	23.14	0.5577	0.3111	1.344

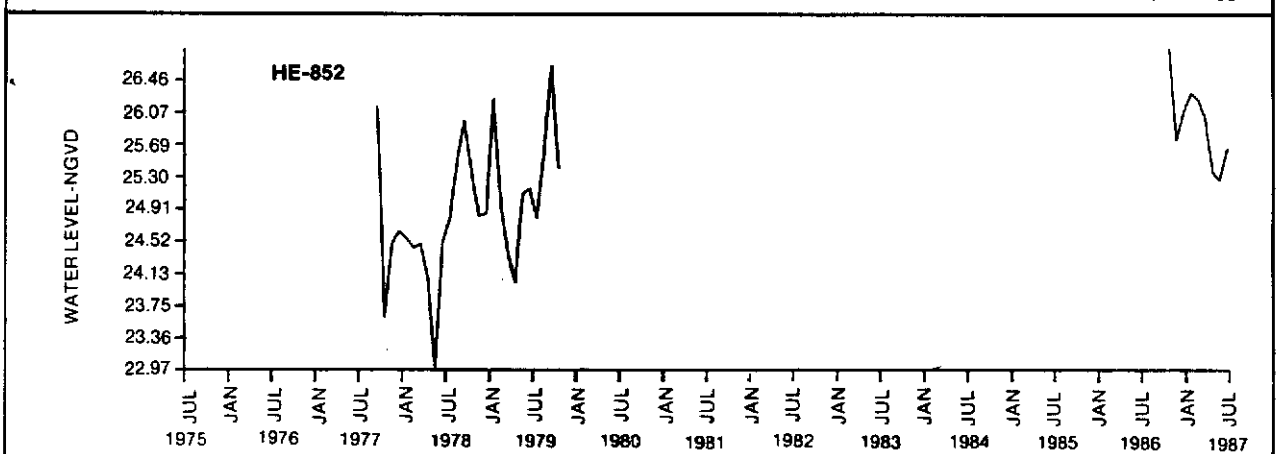
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-851	JAN	7	26.85	24.01	25.19	1.0352	1.0717	4.255
HE-851	FEB	8	26.83	24.10	25.22	0.9472	0.8972	3.557
HE-851	MAR	7	26.62	24.00	24.96	1.0036	1.0072	4.035
HE-851	APR	8	25.72	23.19	24.64	0.8645	0.7473	3.033
HE-851	MAY	8	26.48	22.60	24.14	1.1818	1.3967	5.787
HE-851	JUN	8	27.52	23.49	25.48	1.5598	2.4330	9.550
HE-851	JUL	8	27.41	24.38	25.62	0.9555	0.9130	3.564
HE-851	AUG	8	27.00	25.61	26.38	0.5097	0.2598	0.985
HE-851	SEP	7	27.10	26.07	26.64	0.3843	0.1476	0.554
HE-851	OCT	7	27.25	24.92	25.69	0.8030	0.6448	2.510
HE-851	NOV	7	26.11	24.38	25.32	0.6533	0.4268	1.686
HE-851	DEC	7	26.75	23.92	24.91	0.9433	0.8898	3.572

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-852	JAN	3	26.31	24.55	25.70	0.8159	0.6657	2.590
HE-852	FEB	3	26.23	24.44	25.22	0.7497	0.5620	2.229
HE-852	MAR	3	26.01	24.41	24.97	0.7361	0.5419	2.170
HE-852	APR	3	25.36	24.03	24.49	0.6155	0.3789	1.547
HE-852	MAY	3	25.26	22.97	24.44	1.0418	1.0853	4.441
HE-852	JUN	3	25.65	24.50	25.10	0.4712	0.2220	0.884
HE-852	JUL	3	25.91	24.80	25.17	0.5233	0.2738	1.088
HE-852	AUG	2	25.63	25.48	25.56	0.0750	0.0056	0.022
HE-852	SEP	3	26.65	25.99	26.26	0.2811	0.0790	0.301
HE-852	OCT	4	26.85	23.61	25.31	1.1481	1.3180	5.209
HE-852	NOV	3	25.74	24.49	25.02	0.5277	0.2785	1.113
HE-852	DEC	3	26.09	24.65	25.20	0.6351	0.4034	1.601









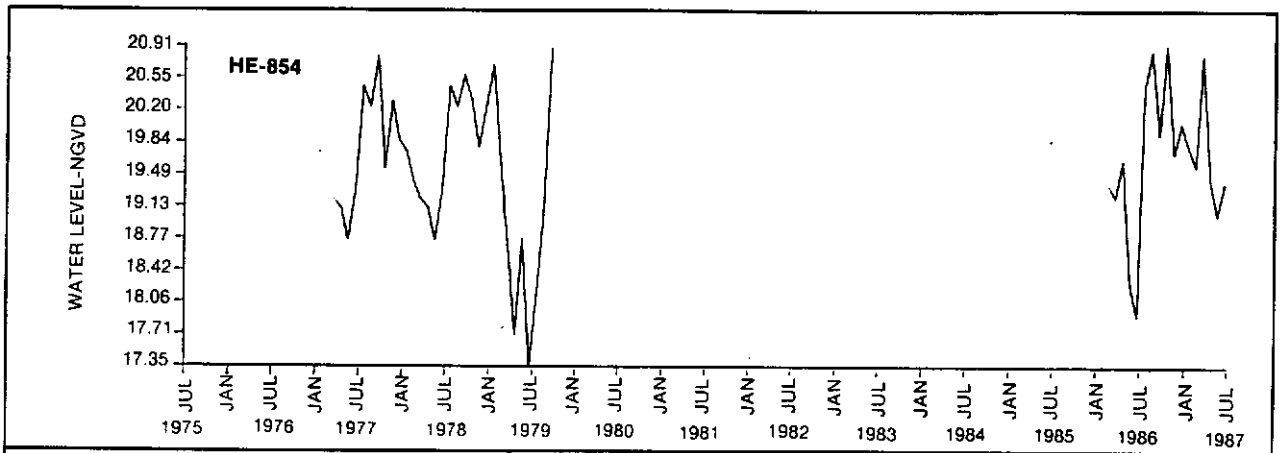
HYDROGRAPHS - WATER TABLE AQUIFER

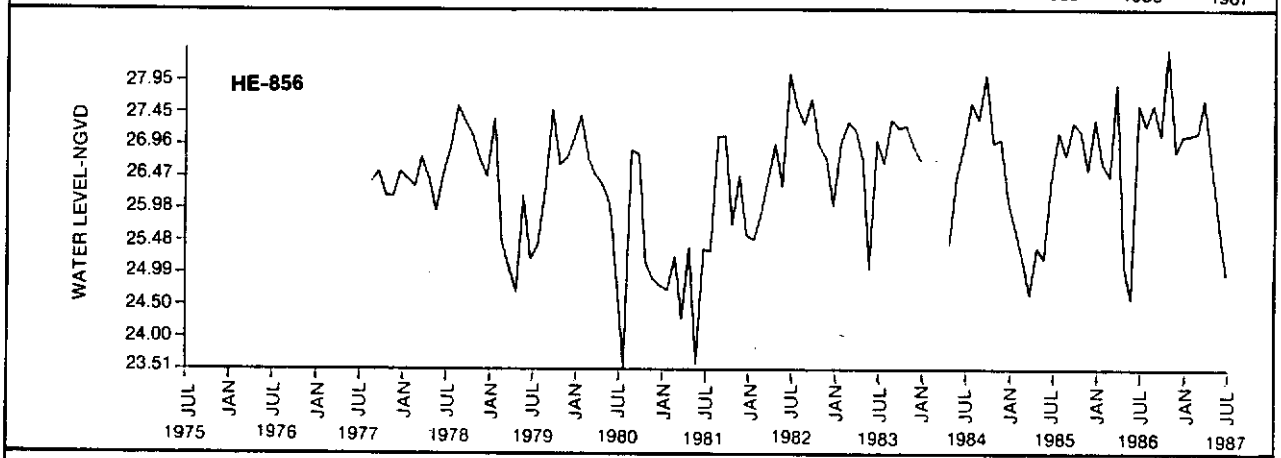
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-854	JAN	4	20.69	19.73	19.98	0.4090	0.1673	0.837
HE-854	FEB	4	19.59	19.36	19.48	0.1056	0.0111	0.057
HE-854	MAR	5	20.80	18.68	19.43	0.7178	0.5152	2.652
HE-854	APR	5	19.64	17.70	19.00	0.6808	0.4635	2.439
HE-854	MAY	5	19.03	18.26	18.71	0.2486	0.0618	0.331
HE-854	JUN	5	19.39	17.35	18.65	0.8551	0.7313	3.920
HE-854	JUL	5	20.46	18.13	19.77	0.9235	0.8528	4.313
HE-854	AUG	4	20.85	19.07	20.10	0.6436	0.4143	2.062
HE-854	SEP	4	20.88	19.93	20.54	0.3714	0.1379	0.671
HE-854	OCT	3	20.91	19.54	20.25	0.5604	0.3141	1.551
HE-854	NOV	3	20.29	19.71	19.93	0.2585	0.0668	0.335
HE-854	DEC	3	20.23	19.86	20.05	0.1511	0.0228	0.114

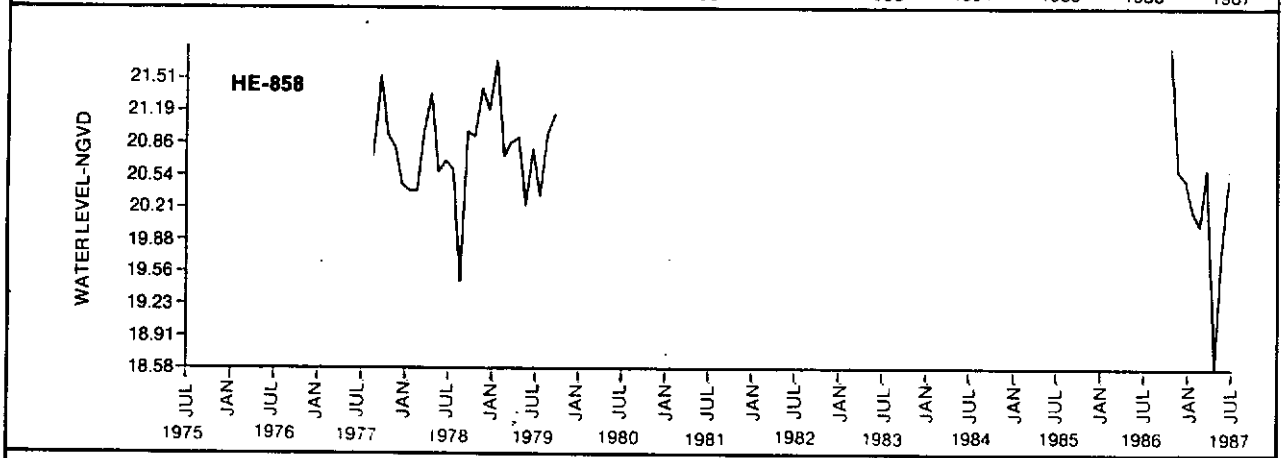
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-856	JAN	9	27.40	24.73	26.43	0.8813	0.7767	2.939
HE-856	FEB	10	27.30	25.17	26.25	0.7326	0.5367	2.045
HE-856	MAR	9	27.90	24.28	26.27	1.2337	1.5219	5.793
HE-856	APR	10	26.97	24.69	25.91	0.7612	0.5794	2.236
HE-856	MAY	10	26.46	23.60	25.52	0.8559	0.7326	2.871
HE-856	JUN	10	28.05	24.84	26.29	1.0817	1.1700	4.450
HE-856	JUL	10	27.60	23.51	26.16	1.3822	1.9103	7.304
HE-856	AUG	10	27.57	26.23	27.05	0.4423	0.1956	0.723
HE-856	SEP	10	28.03	26.54	27.25	0.3983	0.1586	0.582
HE-856	OCT	10	28.44	25.14	26.76	0.8642	0.7469	2.791
HE-856	NOV	10	27.04	24.89	26.51	0.5896	0.3477	1.311
HE-856	DEC	10	27.34	24.79	26.37	0.7340	0.5388	2.043

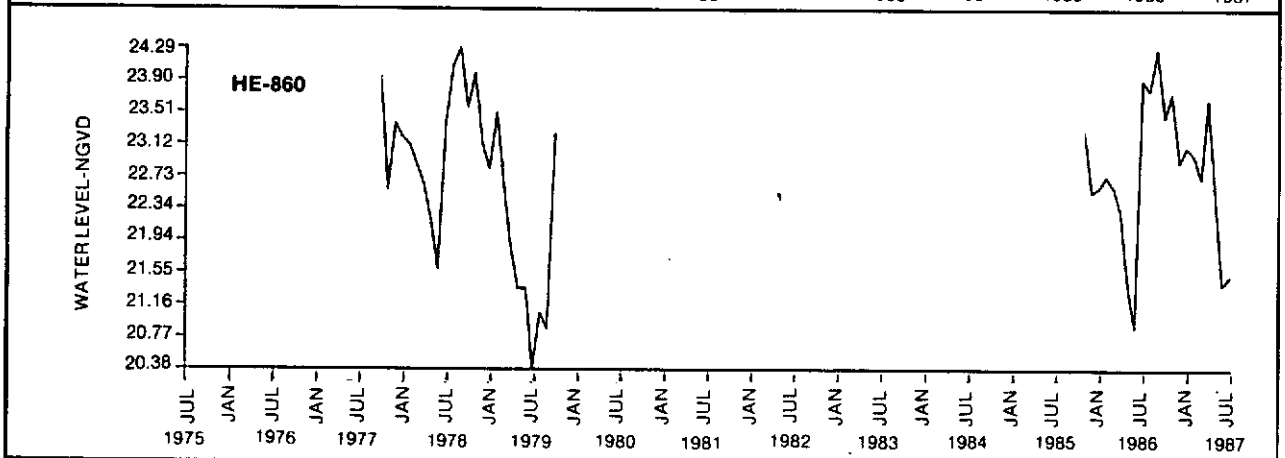
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-858	JAN	3	21.70	20.18	20.75	0.6744	0.4548	2.191
HE-858	FEB	3	20.72	20.04	20.38	0.2776	0.0771	0.378
HE-858	MAR	3	20.97	20.61	20.82	0.1517	0.0230	0.111
HE-858	APR	3	21.36	18.58	20.29	1.2201	1.4886	7.338
HE-858	MAY	3	20.57	19.72	20.17	0.3493	0.1220	0.605
HE-858	JUN	3	20.80	20.50	20.66	0.1233	0.0152	0.074
HE-858	JUL	3	20.60	20.10	20.34	0.2043	0.0418	0.205
HE-858	AUG	3	20.96	19.45	20.38	0.6643	0.4413	2.165
HE-858	SEP	3	21.54	20.98	21.22	0.2344	0.0550	0.259
HE-858	OCT	3	21.84	20.93	21.24	0.4266	0.1820	0.857
HE-858	NOV	3	21.42	20.59	20.94	0.3499	0.1224	0.585
HE-858	DEC	3	21.20	20.44	20.71	0.3450	0.1190	0.575

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-860	JAN	4	23.50	22.72	23.08	0.2812	0.0791	0.343
HE-860	FEB	3	22.70	22.58	22.62	0.0566	0.0032	0.014
HE-860	MAR	4	23.66	21.88	22.62	0.6580	0.4329	1.914
HE-860	APR	4	22.46	21.36	21.85	0.4823	0.2326	1.064
HE-860	MAY	4	21.59	20.89	21.31	0.2585	0.0668	0.314
HE-860	JUN	4	23.90	20.38	22.29	1.4175	2.0092	9.013
HE-860	JUL	4	24.08	21.06	22.91	1.1816	1.3961	6.094
HE-860	AUG	3	24.29	20.87	23.15	1.6099	2.5916	11.197
HE-860	SEP	4	23.94	23.24	23.55	0.2541	0.0646	0.274
HE-860	OCT	4	23.98	22.56	23.39	0.5412	0.2929	1.252
HE-860	NOV	4	23.37	22.53	22.98	0.3074	0.0945	0.411
HE-860	DEC	4	23.20	22.59	22.92	0.2360	0.0557	0.243







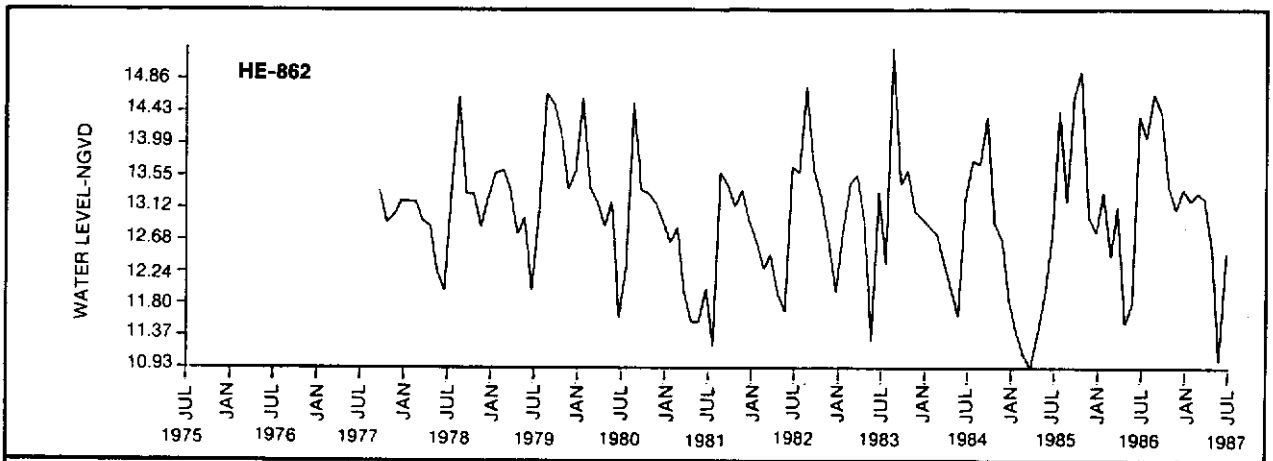


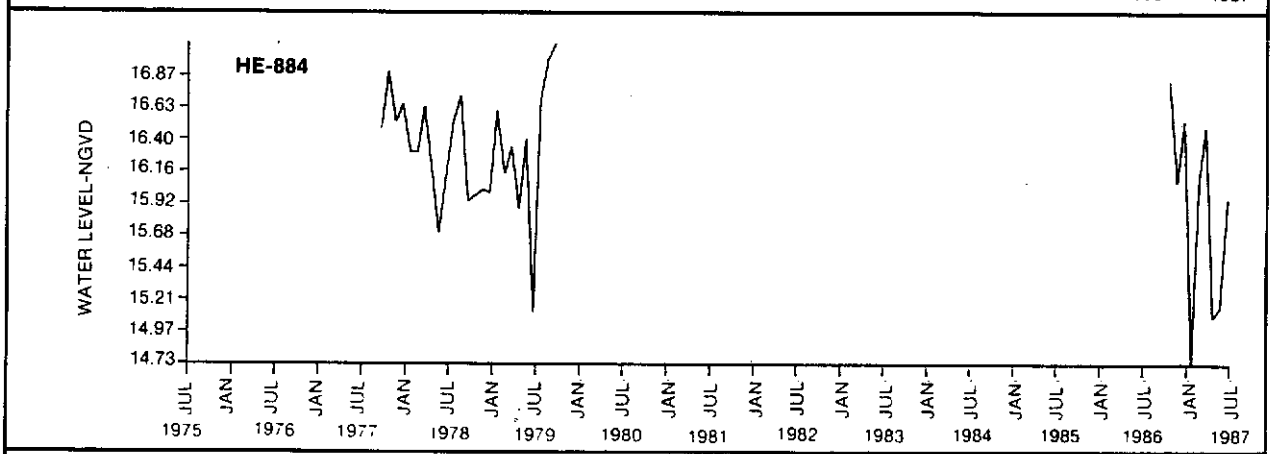
HYDROGRAPHS - WATER TABLE AQUIFER

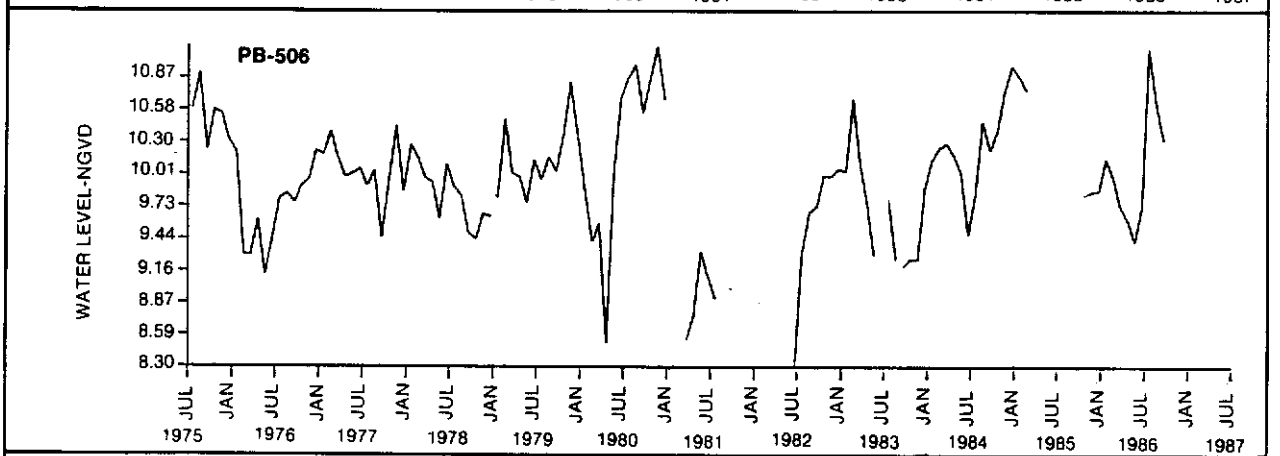
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-862	JAN	9	14.61	11.40	13.05	0.8131	0.6612	5.065
HE-862	FEB	10	13.63	11.10	12.85	0.7174	0.5146	4.006
HE-862	MAR	9	13.57	10.93	12.76	0.7980	0.6368	4.991
HE-862	APR	10	12.96	11.41	12.25	0.5933	0.3520	2.874
HE-862	MAY	10	13.20	11.03	11.94	0.6566	0.4312	3.612
HE-862	JUN	10	14.37	11.61	12.75	0.8505	0.7234	5.675
HE-862	JUL	10	14.44	11.22	13.14	0.9097	0.8276	6.300
HE-862	AUG	9	15.30	13.21	14.35	0.6378	0.4068	2.835
HE-862	SEP	10	14.65	13.31	13.85	0.5361	0.2874	2.075
HE-862	OCT	10	14.98	12.90	13.51	0.5976	0.3572	2.644
HE-862	NOV	10	13.37	12.67	13.03	0.2322	0.0539	0.414
HE-862	DEC	9	13.61	11.83	12.88	0.5766	0.3324	2.581

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-884	JAN	3	16.61	14.73	15.88	0.8230	0.6773	4.265
HE-884	FEB	3	16.30	16.10	16.18	0.0864	0.0075	0.046
HE-884	MAR	3	16.64	16.34	16.49	0.1225	0.0150	0.091
HE-884	APR	3	16.18	15.08	15.71	0.4643	0.2156	1.372
HE-884	MAY	3	16.40	15.15	15.75	0.5115	0.2617	1.661
HE-884	JUN	3	16.13	15.11	15.73	0.4445	0.1976	1.256
HE-884	JUL	3	16.70	15.66	16.30	0.4572	0.2091	1.283
HE-884	AUG	2	17.00	16.72	16.86	0.1400	0.0196	0.116
HE-884	SEP	3	17.11	15.94	16.51	0.4781	0.2286	1.385
HE-884	OCT	3	16.90	15.98	16.57	0.4182	0.1749	1.055
HE-884	NOV	3	16.53	16.02	16.21	0.2276	0.0518	0.320
HE-884	DEC	3	16.66	16.00	16.40	0.2871	0.0824	0.502

MONTHLY MEANS		# Rec	Max	Min	Mean	Std Dev	Var	CV
PB-506	JAN	10	10.88	9.73	10.13	0.3051	0.0931	0.919
PB-506	FEB	10	10.76	9.30	10.11	0.4867	0.2369	2.344
PB-506	MAR	10	10.29	8.54	9.80	0.5194	0.2698	2.752
PB-506	APR	10	10.18	8.51	9.65	0.5422	0.2940	3.048
PB-506	MAY	10	10.03	9.12	9.66	0.3304	0.1091	1.130
PB-506	JUN	10	10.70	8.30	9.74	0.6602	0.4358	4.473
PB-506	JUL	11	11.13	8.91	10.00	0.6159	0.3794	3.792
PB-506	AUG	10	10.98	9.26	10.18	0.5317	0.2827	2.777
PB-506	SEP	11	10.56	9.00	9.82	0.4764	0.2270	2.311
PB-506	OCT	10	10.86	9.26	10.06	0.4713	0.2221	2.208
PB-506	NOV	10	11.15	9.26	10.25	0.5616	0.3154	3.077
PB-506	DEC	10	10.97	9.64	10.19	0.3883	0.1507	1.480







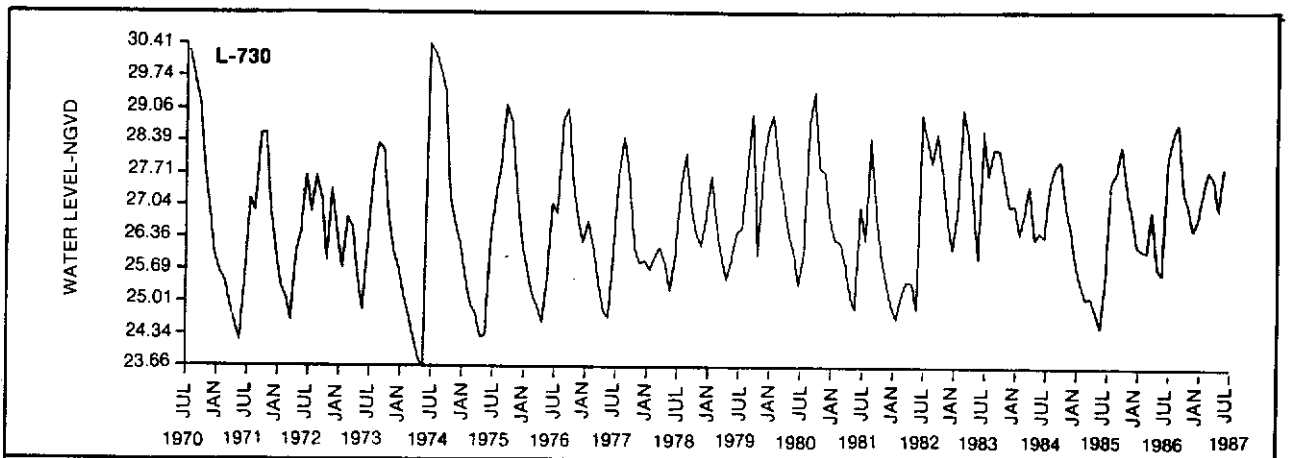
HYDROGRAPHS - WATER TABLE AQUIFER

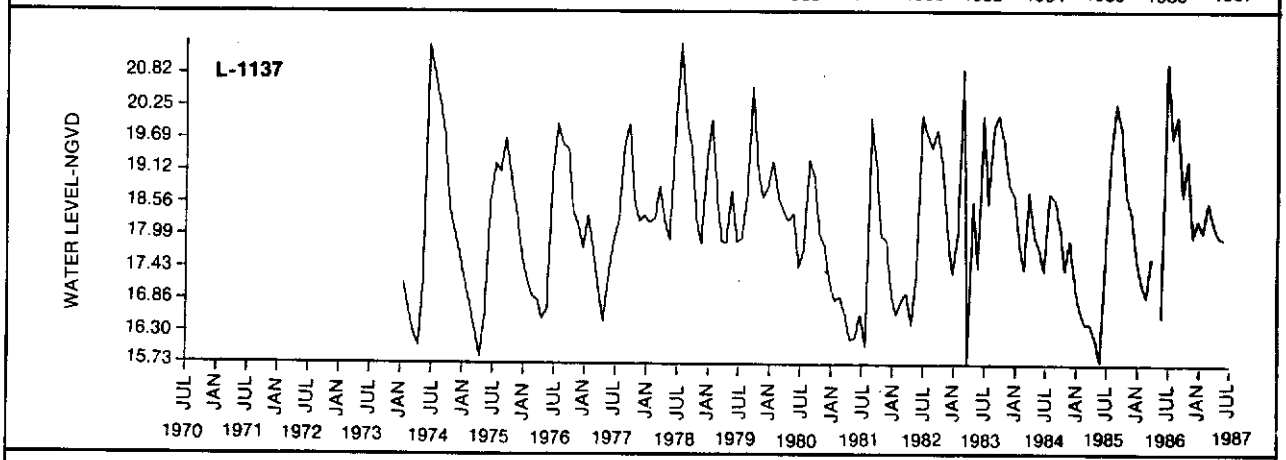
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-730	JAN	18	29.74	24.67	26.40	1.2957	1.6789	6.360
L-730	FEB	18	29.37	24.69	26.36	1.3631	1.8580	7.048
L-730	MAR	18	30.47	24.22	26.25	1.5539	2.4145	9.199
L-730	APR	18	28.92	23.78	25.65	1.1893	1.4145	5.514
L-730	MAY	18	29.08	23.66	25.56	1.3034	1.6990	6.648
L-730	JUN	17	30.41	25.37	27.17	1.4968	2.2404	8.247
L-730	JUL	17	30.25	26.05	27.64	1.1400	1.2996	4.702
L-730	AUG	17	29.87	26.91	28.32	0.7138	0.5095	1.799
L-730	SEP	17	29.45	27.01	28.32	0.8138	0.6623	2.339
L-730	OCT	17	28.81	25.85	27.19	0.8555	0.7319	2.691
L-730	NOV	17	27.81	25.46	26.76	0.6199	0.3843	1.436
L-730	DEC	10	28.63	24.98	26.52	0.9222	0.8505	3.207

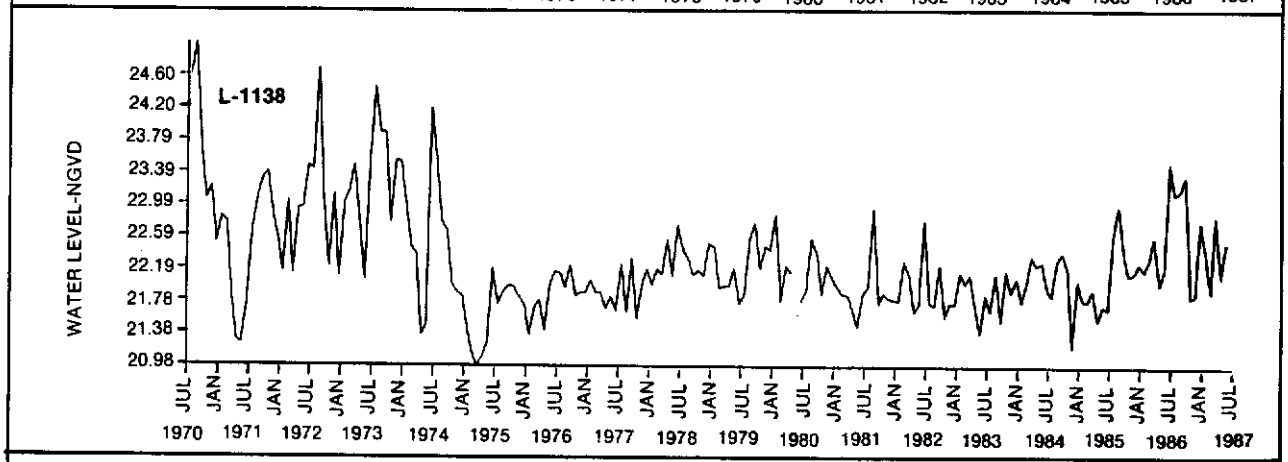
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1137	JAN	14	20.03	16.60	17.77	0.9572	0.9162	5.156
L-1137	FEB	14	20.94	16.45	17.70	1.1884	1.4123	7.979
L-1137	MAR	14	18.86	15.73	17.29	0.9775	0.9555	5.525
L-1137	APR	13	18.61	15.84	17.12	0.9903	0.9808	5.729
L-1137	MAY	14	18.78	15.78	17.29	0.8134	0.6616	3.828
L-1137	JUN	13	21.32	16.61	18.83	1.4585	2.1271	11.296
L-1137	JUL	13	21.38	16.04	19.04	1.3407	1.7974	9.439
L-1137	AUG	13	20.34	18.65	19.64	0.5510	0.3036	1.546
L-1137	SEP	13	20.61	18.17	19.55	0.6090	0.3709	1.897
L-1137	OCT	13	19.66	17.40	18.65	0.6079	0.3696	1.982
L-1137	NOV	13	18.91	17.83	18.18	0.3171	0.1006	0.553
L-1137	DEC	13	19.21	17.00	17.91	0.6799	0.4622	2.581

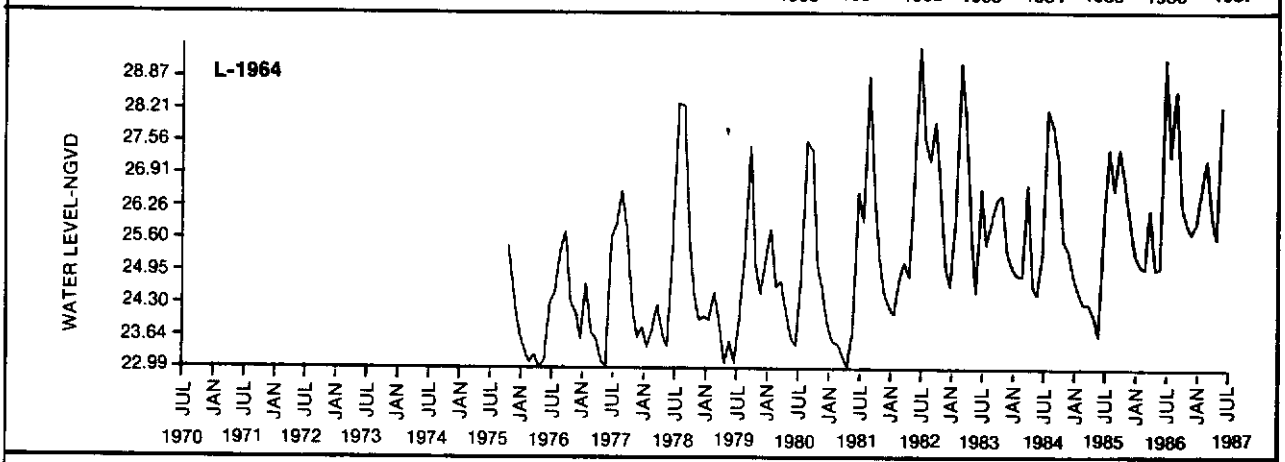
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1138	JAN	17	23.00	21.35	22.19	0.4958	0.2458	1.108
L-1138	FEB	17	23.17	21.11	22.13	0.4945	0.2445	1.105
L-1138	MAR	17	23.49	20.98	22.16	0.5091	0.2592	1.169
L-1138	APR	17	22.94	21.09	21.89	0.5058	0.2558	1.169
L-1138	MAY	16	22.95	21.25	21.90	0.4615	0.2130	0.973
L-1138	JUN	17	24.19	21.66	22.50	0.8252	0.6809	3.026
L-1138	JUL	17	24.60	21.66	22.59	0.9052	0.8195	3.628
L-1138	AUG	17	25.00	21.63	22.80	0.9380	0.8798	3.858
L-1138	SEP	17	23.89	21.53	22.59	0.6470	0.4186	1.853
L-1138	OCT	17	23.40	21.56	22.17	0.4729	0.2236	1.009
L-1138	NOV	17	23.54	21.21	22.23	0.5963	0.3556	1.600
L-1138	DEC	17	23.53	21.75	22.24	0.4414	0.1948	0.876

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1964	JAN	12	26.65	23.36	24.68	1.0370	1.0754	4.357
L-1964	FEB	12	29.19	23.10	24.89	1.6408	2.6924	10.816
L-1964	MAR	12	28.00	23.25	24.97	1.4473	2.0947	8.390
L-1964	APR	12	25.84	22.99	24.18	0.9809	0.9621	3.980
L-1964	MAY	12	28.32	23.01	24.46	1.5598	2.4329	9.947
L-1964	JUN	11	29.52	23.09	25.93	1.9706	3.8833	14.978
L-1964	JUL	11	28.35	24.04	26.35	1.4494	2.1008	7.972
L-1964	AUG	11	28.92	25.30	27.12	1.2127	1.4707	5.423
L-1964	SEP	11	27.99	25.69	26.75	0.7663	0.5872	2.195
L-1964	OCT	12	26.80	24.32	25.48	0.8139	0.6624	2.600
L-1964	NOV	12	26.03	23.61	24.79	0.7076	0.5007	2.020
L-1964	DEC	12	25.95	23.56	24.53	0.7175	0.5148	2.098









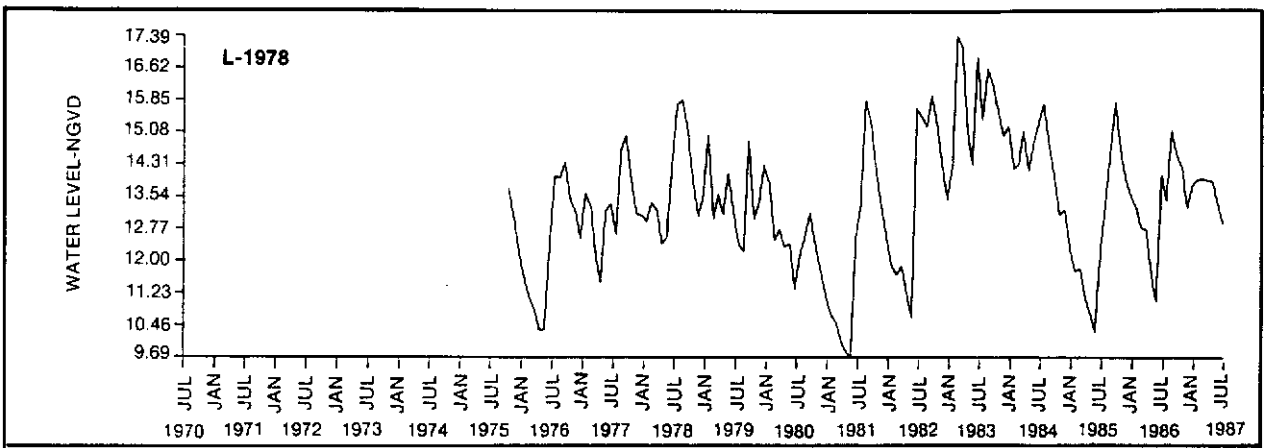
HYDROGRAPHS - WATER TABLE AQUIFER

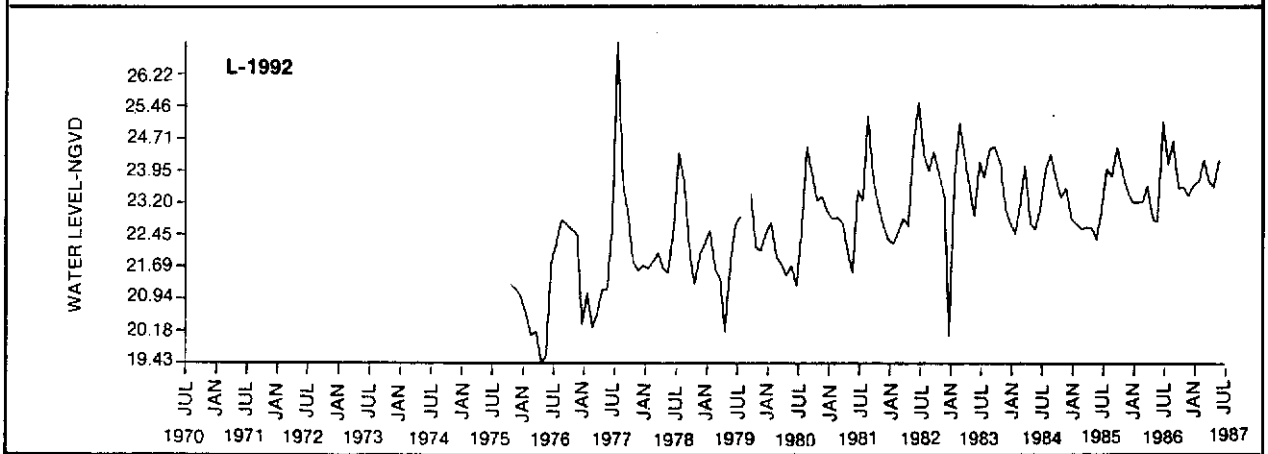
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1978	JAN	12	15.01	10.74	13.09	1.2653	1.6011	12.231
L-1978	FEB	12	17.39	10.53	12.98	1.7141	2.9383	22.637
L-1978	MAR	12	17.14	10.09	12.88	1.8583	3.4533	26.811
L-1978	APR	12	15.07	9.83	12.18	1.5531	2.4122	19.804
L-1978	MAY	12	14.82	9.69	12.23	1.6966	2.8785	23.540
L-1978	JUN	12	16.87	11.31	13.67	1.5505	2.4041	17.590
L-1978	JUL	11	15.75	12.15	13.97	1.3179	1.7369	12.437
L-1978	AUG	11	16.61	12.23	14.68	1.2726	1.6195	11.035
L-1978	SEP	11	16.20	13.16	14.93	0.8578	0.7358	4.928
L-1978	OCT	12	15.54	12.40	13.95	0.8723	0.7610	5.456
L-1978	NOV	12	14.99	11.80	13.38	0.7411	0.5493	4.105
L-1978	DEC	12	15.21	11.21	13.14	1.0238	1.0481	7.974

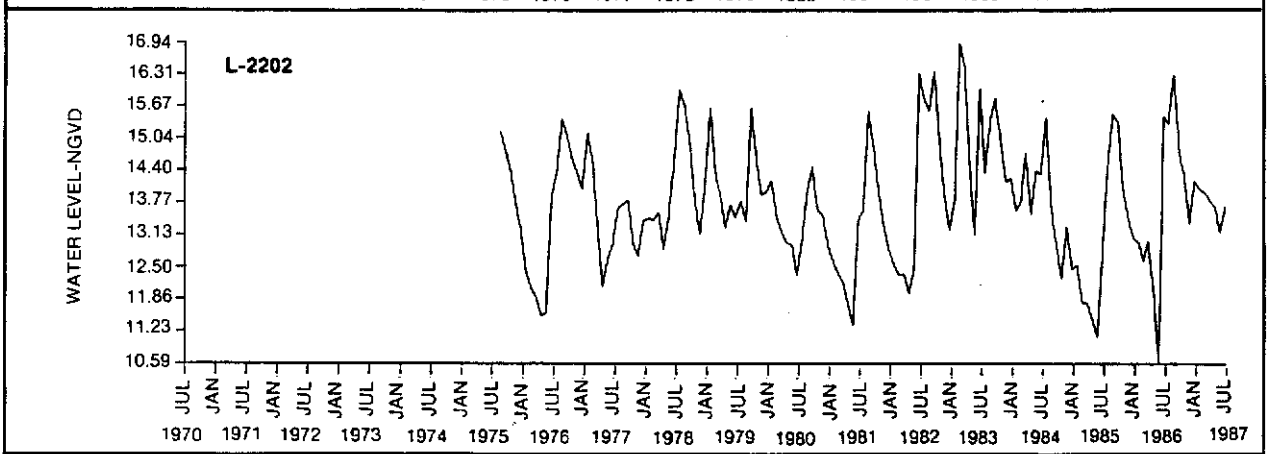
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1992	JAN	12	23.73	20.59	22.46	0.9215	0.8491	3.781
L-1992	FEB	12	25.09	20.08	22.45	1.3934	1.9415	8.647
L-1992	MAR	12	24.38	20.17	22.50	1.2942	1.6749	7.445
L-1992	APR	12	23.59	19.43	21.99	1.2322	1.5182	6.904
L-1992	MAY	12	24.56	19.59	22.21	1.2868	1.6558	7.454
L-1992	JUN	11	25.56	21.24	23.23	1.2472	1.5556	6.697
L-1992	JUL	11	26.97	22.26	23.87	1.2015	1.4437	6.048
L-1992	AUG	10	25.24	22.81	24.13	0.6396	0.4090	1.695
L-1992	SEP	11	24.53	22.05	23.59	0.7535	0.5678	2.407
L-1992	OCT	12	24.16	21.27	22.87	0.9830	0.9664	4.225
L-1992	NOV	12	23.56	21.17	22.68	0.7858	0.6174	2.722
L-1992	DEC	12	23.63	20.05	22.13	1.0903	1.1887	5.371

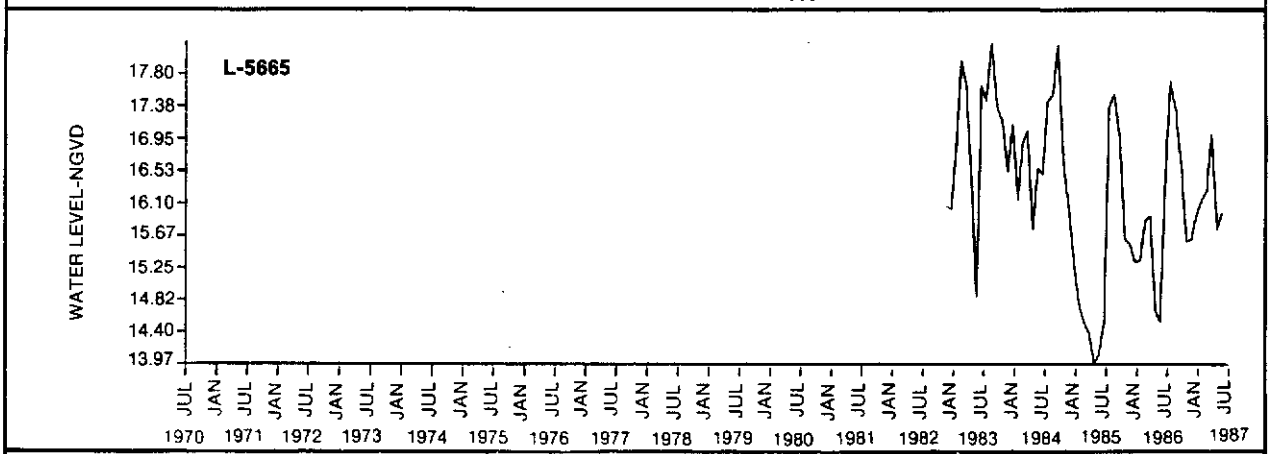
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2202	JAN	12	15.64	12.38	13.58	1.0090	1.0181	7.495
L-2202	FEB	12	16.94	11.78	13.47	1.3636	1.8594	13.803
L-2202	MAR	12	16.48	11.79	13.36	1.2733	1.6212	12.138
L-2202	APR	12	14.39	11.45	12.62	0.9238	0.8534	6.764
L-2202	MAY	12	14.40	10.59	12.55	1.1151	1.2435	9.908
L-2202	JUN	12	16.34	12.32	14.10	1.2361	1.5279	10.837
L-2202	JUL	11	16.01	13.05	14.54	0.9416	0.8867	6.100
L-2202	AUG	12	16.32	13.38	14.95	0.9412	0.8859	5.925
L-2202	SEP	12	16.38	12.90	14.90	0.8792	0.7731	5.188
L-2202	OCT	12	15.01	12.26	14.05	0.7749	0.6004	4.274
L-2202	NOV	12	14.34	12.70	13.57	0.4400	0.1936	1.426
L-2202	DEC	12	14.24	12.45	13.48	0.5875	0.3451	2.561

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-5665	JAN	5	16.89	14.76	15.86	0.7347	0.5398	3.404
L-5665	FEB	5	17.99	14.52	16.31	1.1455	1.3121	8.043
L-5665	MAR	5	17.64	14.40	16.41	1.1462	1.3137	8.004
L-5665	APR	5	16.32	13.97	15.30	0.8494	0.7215	4.717
L-5665	MAY	5	16.57	14.11	15.21	0.9206	0.8475	5.572
L-5665	JUN	4	17.66	14.53	16.31	1.1276	1.2715	7.796
L-5665	JUL	4	17.73	17.37	17.50	0.1359	0.0185	0.106
L-5665	AUG	4	18.23	17.33	17.66	0.3392	0.1151	0.651
L-5665	SEP	4	18.20	16.59	17.28	0.6017	0.3620	2.095
L-5665	OCT	4	17.20	15.60	16.27	0.6806	0.4632	2.848
L-5665	NOV	5	16.52	15.57	15.97	0.3464	0.1200	0.751
L-5665	DEC	5	17.15	15.33	15.96	0.6618	0.4380	2.744









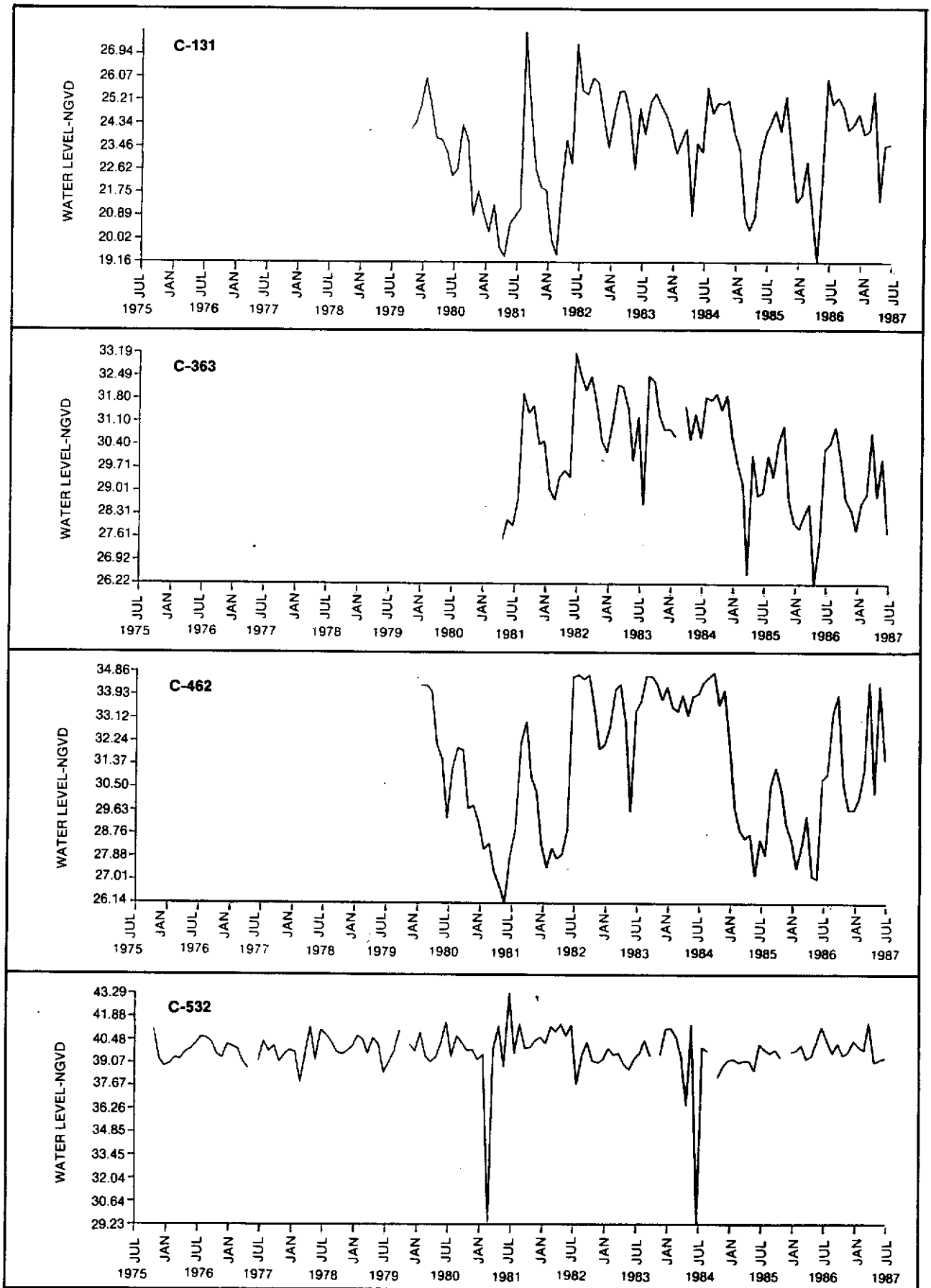
HYDROGRAPHS - WATER TABLE AQUIFER

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-131	JAN	8	26.03	20.01	22.90	1.9702	3.8817	16.949
C-131	FEB	8	25.55	19.43	22.87	2.0018	4.0073	17.522
C-131	MAR	8	25.58	19.73	22.78	2.1538	4.6388	20.365
C-131	APR	8	24.66	19.16	21.73	1.9534	3.8157	17.561
C-131	MAY	8	23.63	20.58	22.72	0.9152	0.8375	3.686
C-131	JUN	8	27.34	20.86	24.03	1.9179	3.6785	15.306
C-131	JUL	8	25.71	21.14	23.80	1.5935	2.5393	10.668
C-131	AUG	7	27.80	24.30	25.36	1.0581	1.1197	4.416
C-131	SEP	7	26.06	23.71	24.91	0.7439	0.5534	2.222
C-131	OCT	8	25.88	20.88	24.13	1.5416	2.3765	9.848
C-131	NOV	8	25.21	21.82	23.78	1.2046	1.4510	6.101
C-131	DEC	8	25.02	20.97	23.19	1.4714	2.1649	9.334

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-363	JAN	6	31.08	27.90	29.54	1.1107	1.2337	4.176
C-363	FEB	5	32.22	28.32	29.49	1.3961	1.9491	6.609
C-363	MAR	6	32.16	26.51	29.87	1.9285	3.7193	12.453
C-363	APR	7	31.54	26.22	29.20	1.7012	2.8940	9.910
C-363	MAY	7	31.34	27.48	29.32	1.1910	1.4186	4.838
C-363	JUN	7	33.19	27.77	30.02	1.7845	3.1844	10.609
C-363	JUL	7	32.54	27.11	29.91	1.7729	3.1432	10.508
C-363	AUG	6	32.50	29.45	31.45	1.0065	1.0130	3.221
C-363	SEP	6	32.48	29.99	31.44	0.9267	0.8588	2.732
C-363	OCT	6	31.63	28.78	30.96	0.9968	0.9936	3.210
C-363	NOV	6	31.92	28.47	30.16	1.2018	1.4444	4.790
C-363	DEC	6	30.89	27.84	29.69	1.2462	1.5529	5.230

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-462	JAN	8	34.34	27.46	30.46	2.5897	6.7064	22.020
C-462	FEB	8	34.34	28.22	30.88	2.5831	6.6726	21.611
C-462	MAR	8	34.52	27.33	31.29	3.0371	9.2243	29.483
C-462	APR	8	33.25	26.75	29.91	2.4544	6.0239	20.137
C-462	MAY	8	34.38	26.14	29.86	2.9599	8.7611	29.346
C-462	JUN	9	34.69	27.96	31.23	2.2780	5.1893	16.615
C-462	JUL	8	34.76	27.97	31.56	2.3840	5.6834	18.010
C-462	AUG	8	34.72	30.21	32.79	1.7063	2.9116	8.879
C-462	SEP	7	34.86	31.27	33.50	1.3574	1.8425	5.500
C-462	OCT	7	34.44	29.72	31.92	1.7488	3.0582	9.580
C-462	NOV	8	34.19	29.12	31.57	1.9314	3.7304	11.817
C-462	DEC	7	34.31	28.35	30.64	2.0947	4.3879	14.321

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-532	JAN	12	41.14	39.01	40.02	0.6165	0.3801	0.950
C-532	FEB	12	41.26	29.37	38.89	2.9845	8.9073	22.904
C-532	MAR	12	41.50	39.10	39.70	0.7209	0.5197	1.309
C-532	APR	12	41.38	36.42	39.61	1.3360	1.7849	4.506
C-532	MAY	11	41.40	38.55	39.73	0.8816	0.7772	1.956
C-532	JUN	12	43.29	29.23	39.52	3.3535	11.2457	28.454
C-532	JUL	12	40.76	37.70	39.70	0.8093	0.6549	1.650
C-532	AUG	11	41.43	39.47	40.12	0.5815	0.3382	0.843
C-532	SEP	10	41.01	39.46	40.11	0.4017	0.1614	0.402
C-532	OCT	10	41.10	38.16	39.53	0.7028	0.4939	1.249
C-532	NOV	11	40.40	38.83	39.58	0.4335	0.1880	0.475
C-532	DEC	12	41.10	38.85	39.83	0.6290	0.3957	0.993



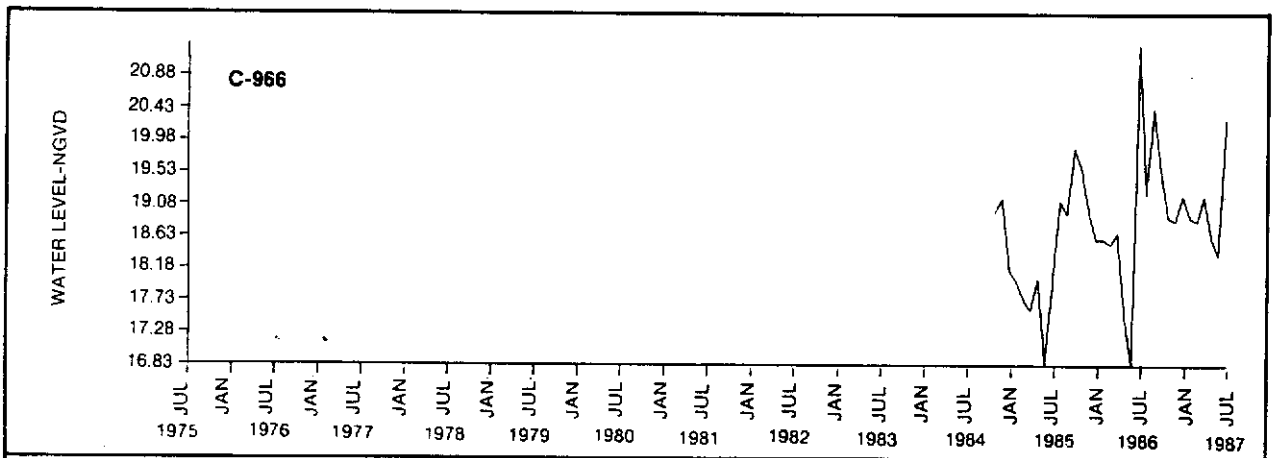
HYDROGRAPHS - WATER TABLE AQUIFER

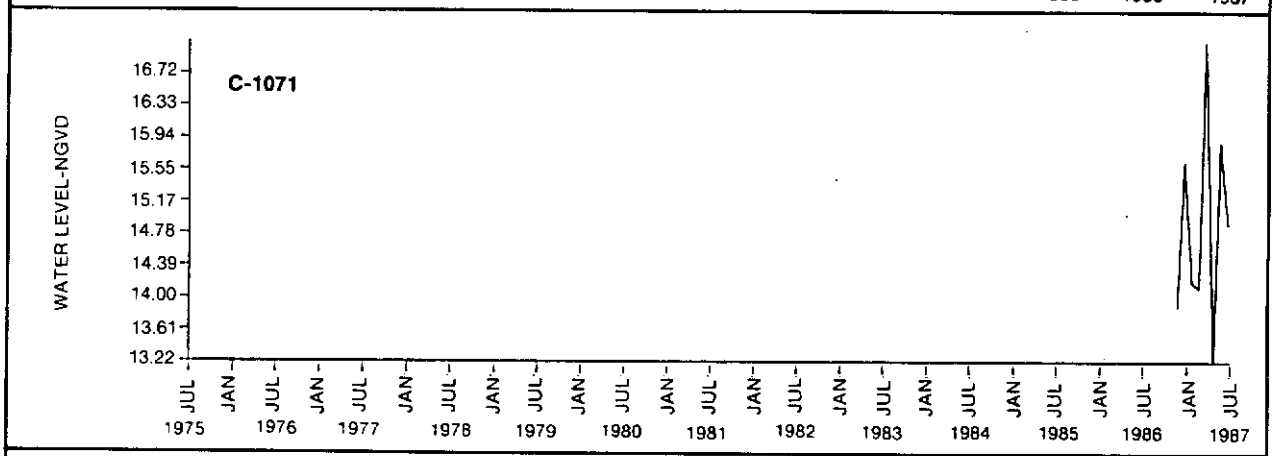
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-966	JAN	3	18.91	18.00	18.50	0.3777	0.1427	0.771
C-966	FEB	3	18.86	17.75	18.38	0.4654	0.2166	1.178
C-966	MAR	3	19.22	17.60	18.51	0.6753	0.4561	2.464
C-966	APR	3	18.63	17.51	18.06	0.4573	0.2092	1.158
C-966	MAY	3	18.38	16.83	17.35	0.7260	0.5271	3.037
C-966	JUN	3	21.33	17.97	19.87	1.4055	1.9755	9.944
C-966	JUL	3	19.24	18.01	18.80	0.5598	0.3134	1.667
C-966	AUG	3	20.45	18.70	19.37	0.7710	0.5945	3.069
C-966	SEP	3	19.89	18.59	19.35	0.5531	0.3059	1.581
C-966	OCT	4	19.60	18.91	19.16	0.2703	0.0730	0.381
C-966	NOV	3	19.18	18.86	19.01	0.1314	0.0173	0.091
C-966	DEC	3	19.22	18.17	18.66	0.4310	0.1858	0.995

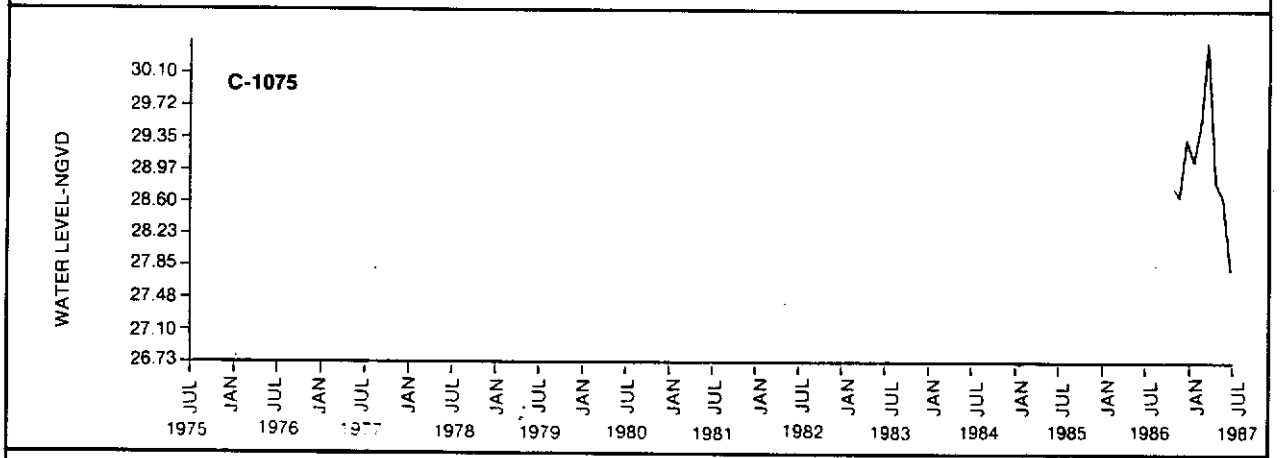
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1071	JAN	1	14.19	14.19	14.19			
C-1071	FEB	1	14.12	14.12	14.12			
C-1071	MAR	1	17.11	17.11	17.11			
C-1071	APR	2	15.01	13.22	14.12	0.8950	0.8010	5.675
C-1071	MAY	1	15.88	15.88	15.88			
C-1071	JUN	1	14.89	14.89	14.89			
C-1071	JUL	1	16.17	16.17	16.17			
C-1071	AUG	0						
C-1071	SEP	0						
C-1071	OCT	0						
C-1071	NOV	1	13.85	13.85	13.85			
C-1071	DEC	1	15.64	15.64	15.64			

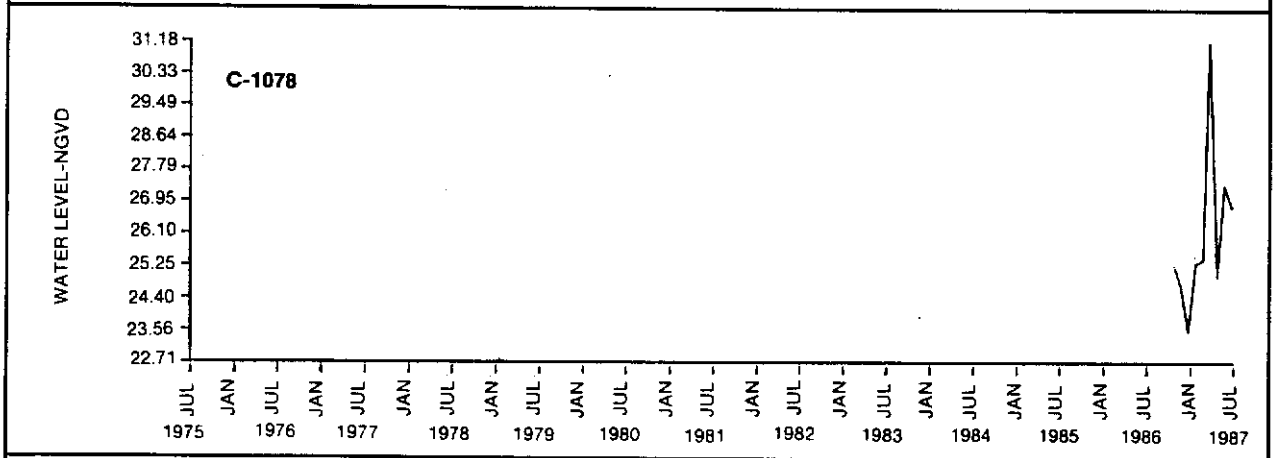
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1075	JAN	1	29.08	29.08	29.08			
C-1075	FEB	1	29.54	29.54	29.54			
C-1075	MAR	1	30.47	30.47	30.47			
C-1075	APR	2	28.84	26.73	27.79	1.0550	1.1130	4.006
C-1075	MAY	1	28.66	28.66	28.66			
C-1075	JUN	1	27.81	27.81	27.81			
C-1075	JUL	1	28.31	28.31	28.31			
C-1075	AUG	0						
C-1075	SEP	0						
C-1075	OCT	1	28.79	28.79	28.79			
C-1075	NOV	1	28.67	28.67	28.67			
C-1075	DEC	1	29.34	29.34	29.34			

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1078	JAN	1	25.33	25.33	25.33			
C-1078	FEB	1	25.42	25.42	25.42			
C-1078	MAR	1	31.18	31.18	31.18			
C-1078	APR	2	24.95	22.71	23.83	1.1200	1.2544	5.264
C-1078	MAY	1	27.39	27.39	27.39			
C-1078	JUN	1	26.81	26.81	26.81			
C-1078	JUL	1	26.30	26.30	26.30			
C-1078	AUG	0						
C-1078	SEP	0						
C-1078	OCT	1	25.29	25.29	25.29			
C-1078	NOV	1	24.70	24.70	24.70			
C-1078	DEC	1	23.53	23.53	23.53			









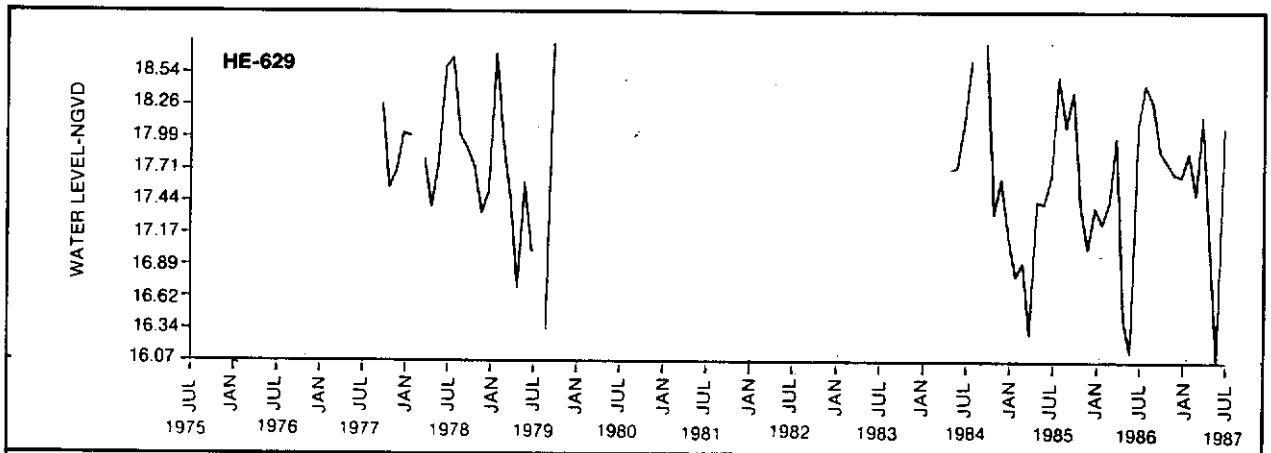
HYDROGRAPHS - WATER TABLE AQUIFER

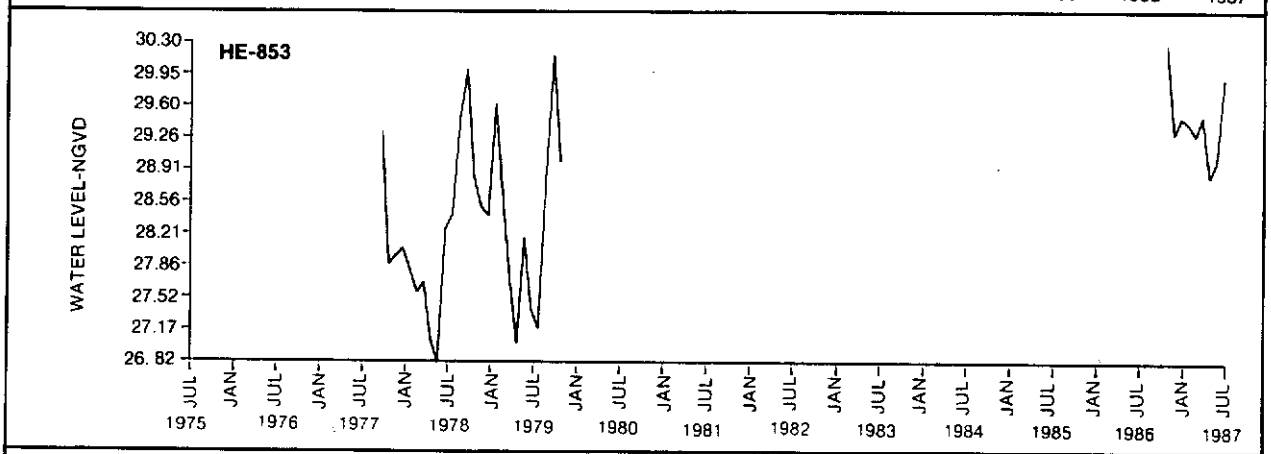
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-629	JAN	5	18.70	16.80	17.73	0.6510	0.4238	2.391
HE-629	FEB	4	17.90	16.92	17.45	0.3489	0.1217	0.698
HE-629	MAR	5	18.18	16.30	17.55	0.6675	0.4456	2.538
HE-629	APR	6	17.72	16.44	17.13	0.4442	0.1973	1.152
HE-629	MAY	6	17.78	16.07	17.13	0.7291	0.5316	3.104
HE-629	JUN	6	18.59	17.01	17.93	0.4903	0.2404	1.341
HE-629	JUL	5	18.67	16.79	18.22	0.7177	0.5150	2.827
HE-629	AUG	4	18.30	16.34	17.68	0.7827	0.6126	3.465
HE-629	SEP	6	18.81	17.88	18.34	0.3745	0.1403	0.765
HE-629	OCT	5	17.79	17.34	17.57	0.1731	0.0300	0.171
HE-629	NOV	5	17.70	17.04	17.48	0.2574	0.0663	0.379
HE-629	DEC	5	18.02	17.16	17.55	0.2866	0.0821	0.468

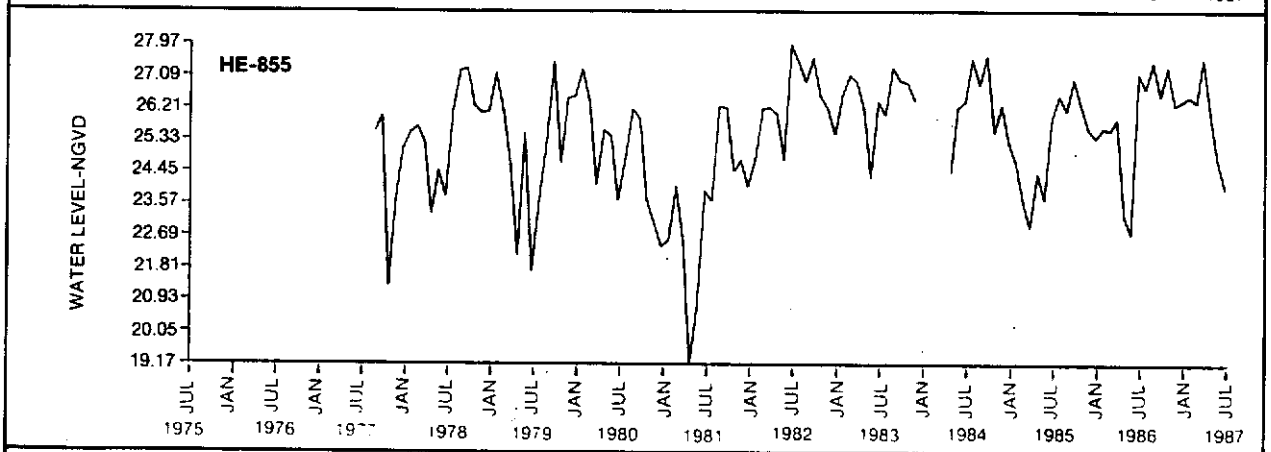
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-853	JAN	3	29.63	27.81	28.95	0.8130	0.6610	2.283
HE-853	FEB	3	29.30	27.57	28.47	0.7083	0.5018	1.762
HE-853	MAR	3	29.50	27.68	28.30	0.8464	0.7164	2.531
HE-853	APR	3	28.84	27.02	27.64	0.8510	0.7242	2.620
HE-853	MAY	3	29.01	26.82	28.00	0.9021	0.8138	2.906
HE-853	JUN	3	29.91	27.39	28.52	1.0443	1.0905	3.823
HE-853	JUL	3	28.42	27.18	27.98	0.5688	0.3235	1.156
HE-853	AUG	2	29.48	28.84	29.16	0.3200	0.1024	0.351
HE-853	SEP	3	30.16	29.32	29.83	0.3642	0.1326	0.445
HE-853	OCT	4	30.30	27.88	29.00	0.8627	0.7442	2.566
HE-853	NOV	3	29.31	27.97	28.59	0.5510	0.3036	1.062
HE-853	DEC	3	29.49	28.05	28.65	0.6119	0.3744	1.307

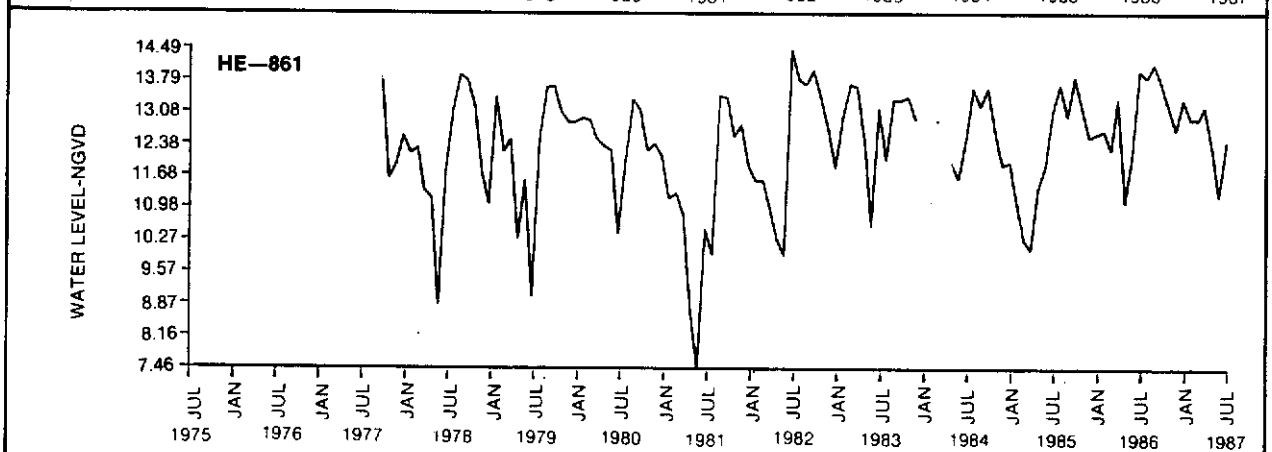
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-855	JAN	9	27.27	22.58	25.66	1.4015	1.9642	7.655
HE-855	FEB	10	27.14	23.61	25.72	1.0266	1.0539	4.098
HE-855	MAR	9	27.61	22.67	25.15	1.6121	2.5990	10.332
HE-855	APR	10	26.22	19.17	24.07	2.0987	4.4046	18.302
HE-855	MAY	10	26.25	20.70	24.28	1.5072	2.2717	9.357
HE-855	JUN	10	27.97	21.72	25.11	1.8557	3.4436	13.715
HE-855	JUL	10	27.59	22.62	25.54	1.6594	2.7536	10.784
HE-855	AUG	10	27.50	25.26	26.54	0.7266	0.5279	1.989
HE-855	SEP	10	27.66	25.92	26.88	0.6310	0.3982	1.481
HE-855	OCT	10	27.36	21.31	25.32	1.7368	3.0165	11.914
HE-855	NOV	10	26.48	23.07	25.51	1.1634	1.3536	5.306
HE-855	DEC	9	26.55	22.42	25.21	1.2195	1.4872	5.899

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-861	JAN	9	13.43	11.06	12.34	0.8230	0.6774	5.488
HE-861	FEB	10	13.72	10.26	12.24	0.9418	0.8869	7.246
HE-861	MAR	9	13.65	10.07	12.05	1.2077	1.4586	12.100
HE-861	APR	10	12.47	8.69	11.21	1.1323	1.2820	11.438
HE-861	MAY	10	12.24	7.46	10.75	1.4962	2.2387	20.817
HE-861	JUN	10	14.49	9.02	12.15	1.6392	2.6870	22.117
HE-861	JUL	10	13.87	9.95	12.75	1.1501	1.3228	10.375
HE-861	AUG	9	14.16	13.02	13.54	0.3321	0.1103	0.815
HE-861	SEP	10	14.02	13.14	13.65	0.2548	0.0649	0.476
HE-861	OCT	10	13.44	11.62	12.87	0.5587	0.3121	2.426
HE-861	NOV	10	12.95	11.74	12.46	0.4194	0.1759	1.412
HE-861	DEC	9	13.39	11.06	12.27	0.6407	0.4105	3.347







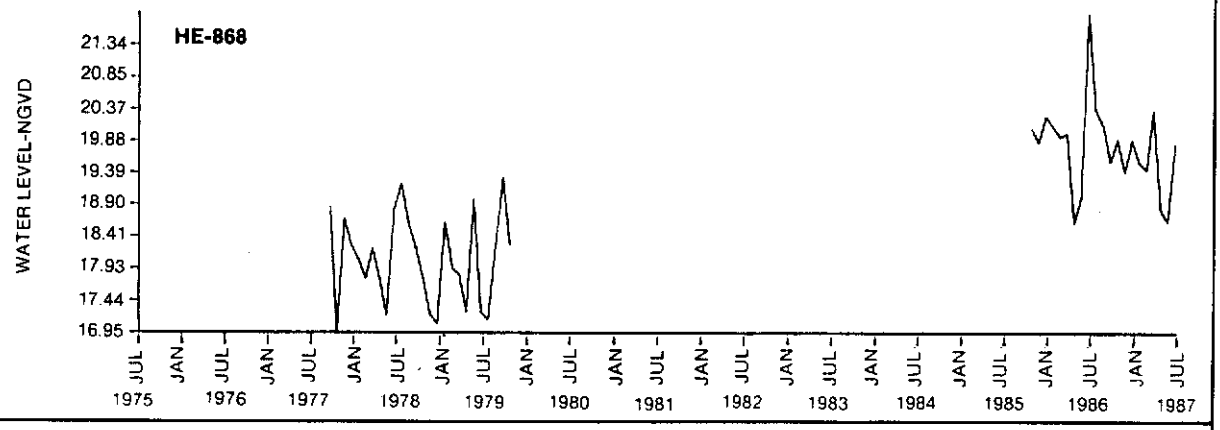


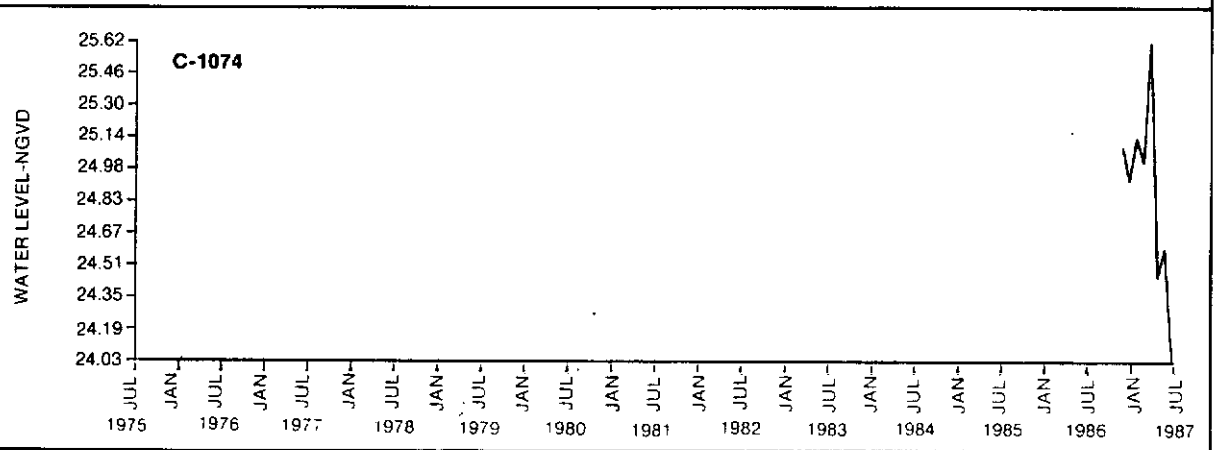
HYDROGRAPHS - LOWER TAMIAMI AQUIFER

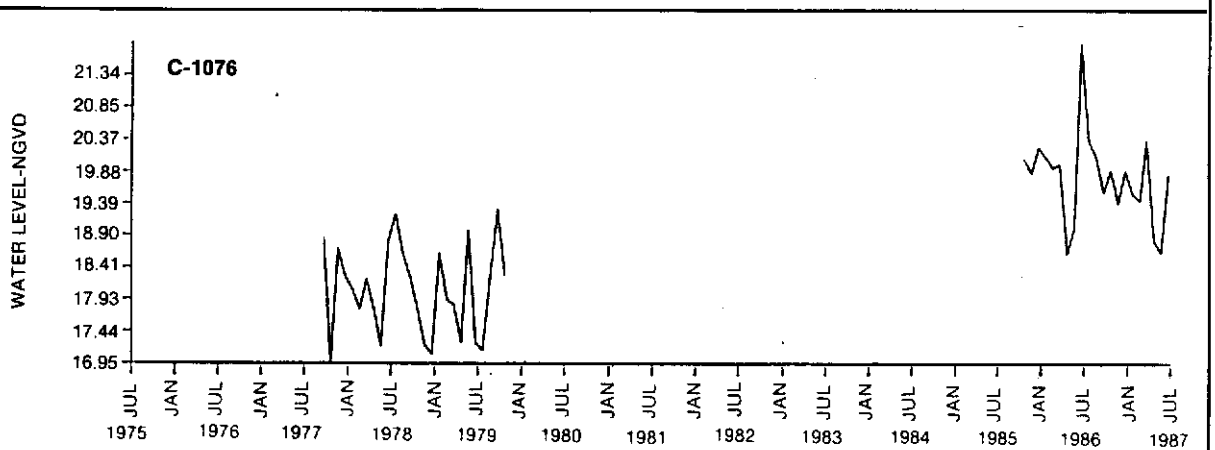
		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-868	JAN	4	20.10	18.06	19.08	0.7898	0.6237	3.269
HE-868	FEB	4	19.94	17.77	18.77	0.9430	0.8893	4.739
HE-868	MAR	4	20.35	17.84	19.11	1.0859	1.1792	6.172
HE-868	APR	4	18.82	17.26	18.12	0.6329	0.4005	2.211
HE-868	MAY	4	19.01	17.21	18.46	0.7362	0.5419	2.936
HE-868	JUN	4	21.83	17.25	19.44	1.6607	2.7581	14.191
HE-868	JUL	4	20.36	17.15	19.08	1.1856	1.4057	7.369
HE-868	AUG	3	20.11	18.27	19.00	0.7994	0.6390	3.364
HE-868	SEP	4	19.56	18.25	19.00	0.4973	0.2473	1.302
HE-868	OCT	5	20.07	16.95	18.60	1.2104	1.4651	7.877
HE-868	NOV	4	19.86	17.22	18.79	0.9990	0.9980	5.310
HE-868	DEC	4	20.25	17.09	18.88	1.2709	1.6153	8.557

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1074	JAN	1	25.14	25.14	25.14			
C-1074	FEB	1	25.02	25.02	25.02			
C-1074	MAR	1	25.62	25.62	25.62			
C-1074	APR	2	25.17	24.45	24.81	0.3600	0.1296	0.522
C-1074	MAY	1	24.59	24.59	24.59			
C-1074	JUN	1	24.03	24.03	24.03			
C-1074	JUL	1	23.71	23.71	23.71			
C-1074	AUG							
C-1074	SEP							
C-1074	OCT							
C-1074	NOV	1	25.11	25.11	25.11			
C-1074	DEC	1	24.93	24.93	24.93			

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1076	JAN	1	28.90	28.90	28.90			
C-1076	FEB	1	29.13	29.13	29.13			
C-1076	MAR	1	29.90	29.90	29.90			
C-1076	APR	2	28.45	28.36	28.41	0.0450	0.0020	0.007
C-1076	MAY	1	28.42	28.42	28.42			
C-1076	JUN	1	27.47	27.47	27.47			
C-1076	JUL	1	27.56	27.56	27.56			
C-1076	AUG							
C-1076	SEP							
C-1076	OCT	1	28.45	28.45	28.45			
C-1076	NOV	1	28.42	28.42	28.42			
C-1076	DEC	1	28.69	28.69	28.69			







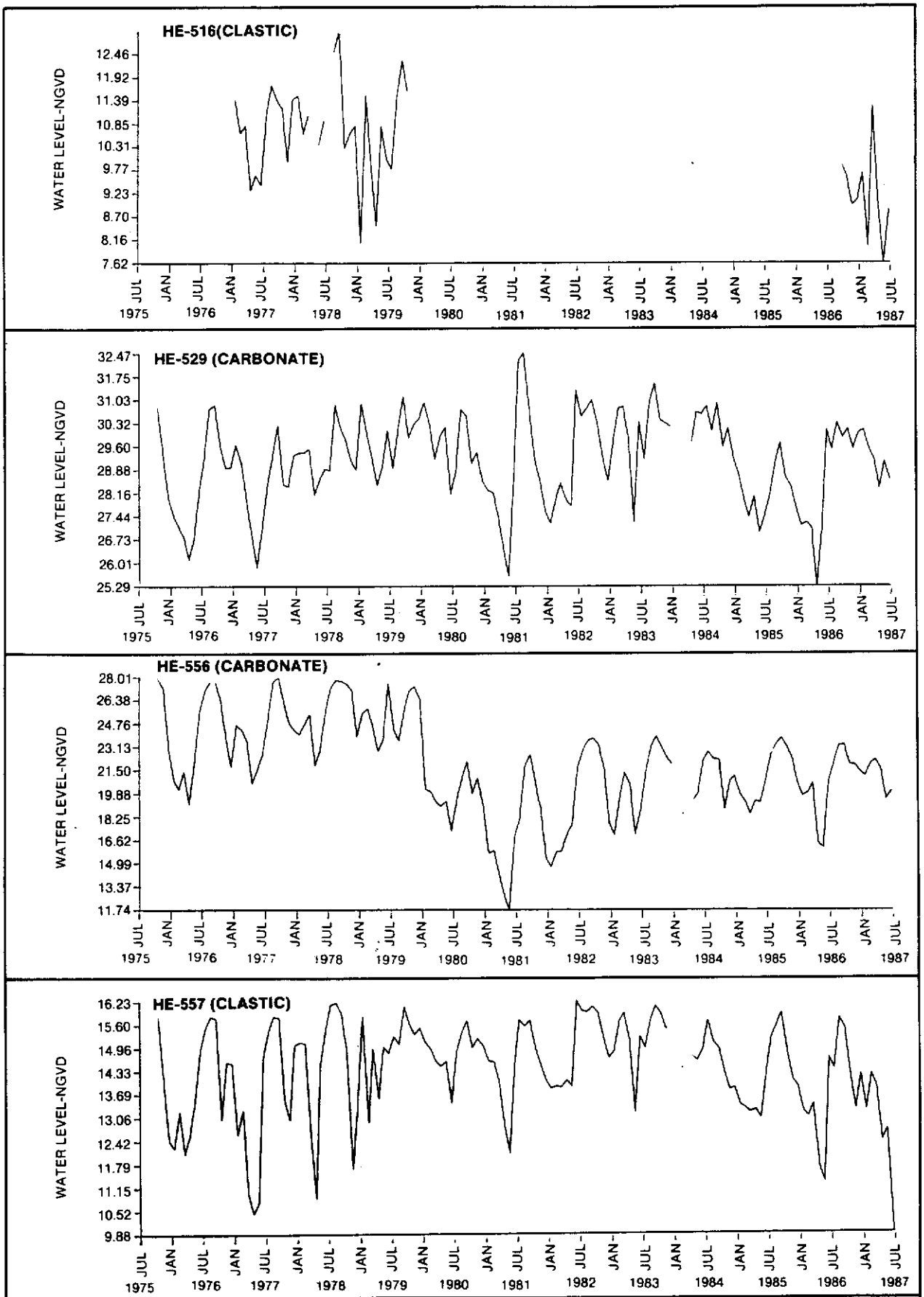
HYDROGRAPHS - LOWER TAMIAMI AQUIFER

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-516	JAN	4	11.50	8.08	10.19	1.4161	2.0053	19.689
HE-516	FEB	4	11.52	7.99	10.19	1.3209	1.7447	17.126
HE-516	MAR	4	11.24	10.01	10.78	0.4671	0.2182	2.025
HE-516	APR	3	9.29	8.47	8.91	0.3374	0.1139	1.278
HE-516	MAY	4	10.80	7.62	9.60	1.2127	1.4706	15.319
HE-516	JUN	5	10.92	8.84	9.78	0.6914	0.4780	4.890
HE-516	JUL	3	11.05	8.88	9.91	0.8893	0.7909	7.980
HE-516	AUG	3	12.51	11.48	11.91	0.4361	0.1902	1.596
HE-516	SEP	4	13.00	9.95	11.67	1.1427	1.3057	11.191
HE-516	OCT	4	11.61	9.61	10.68	0.7844	0.6154	5.762
HE-516	NOV	3	10.62	8.95	9.84	0.6867	0.4716	4.791
HE-516	DEC	3	11.42	9.07	10.43	0.9944	0.9889	9.481

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-529	JAN	11	30.95	27.14	29.05	1.3235	1.7515	6.029
HE-529	FEB	12	30.76	27.11	28.97	1.1934	1.4241	4.916
HE-529	MAR	11	30.80	26.81	28.47	1.1779	1.3874	4.873
HE-529	APR	12	29.88	25.29	27.89	1.4222	2.0228	7.252
HE-529	MAY	12	30.64	25.59	27.89	1.5468	2.3926	8.580
HE-529	JUN	12	31.32	27.08	29.11	1.2856	1.6527	5.677
HE-529	JUL	12	32.24	28.07	29.42	1.1509	1.3246	4.503
HE-529	AUG	11	32.47	29.04	30.49	0.8732	0.7625	2.501
HE-529	SEP	11	31.52	29.69	30.61	0.5406	0.2922	0.955
HE-529	OCT	12	30.86	28.42	29.66	0.6943	0.4821	1.626
HE-529	NOV	12	30.30	28.36	29.30	0.6600	0.4356	1.487
HE-529	DEC	12	30.44	27.62	28.96	0.8933	0.7981	2.756

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-556	JAN	11	25.47	14.75	20.32	3.3620	11.3029	55.634
HE-556	FEB	12	25.83	15.82	20.52	3.0715	9.4342	45.966
HE-556	MAR	11	25.40	14.30	20.65	3.3072	10.9376	52.971
HE-556	APR	12	22.83	12.74	19.20	2.6444	6.9930	36.427
HE-556	MAY	12	23.63	11.74	19.21	3.1388	9.8524	51.299
HE-556	JUN	12	27.62	16.84	21.61	3.1783	10.1017	46.740
HE-556	JUL	12	27.22	18.07	22.84	2.6296	6.9150	30.273
HE-556	AUG	11	27.80	20.89	24.09	2.3541	5.5419	23.008
HE-556	SEP	11	28.01	22.12	24.62	2.1663	4.6928	19.062
HE-556	OCT	12	27.94	18.78	23.84	3.0238	9.1435	38.360
HE-556	NOV	12	27.37	18.76	23.26	2.7121	7.3554	31.626
HE-556	DEC	12	26.52	15.37	21.41	2.8773	8.2791	38.671

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-557	JAN	11	15.81	12.23	13.99	1.1131	1.2391	8.857
HE-557	FEB	12	15.65	12.91	14.03	0.8694	0.7558	5.385
HE-557	MAR	11	15.88	10.99	13.58	1.2989	1.6872	12.421
HE-557	APR	12	15.14	10.44	12.99	1.4295	2.0434	15.734
HE-557	MAY	12	14.98	10.75	13.24	1.3098	1.7157	12.954
HE-557	JUN	12	16.23	9.88	14.39	1.5087	2.2762	15.823
HE-557	JUL	12	16.13	14.34	15.29	0.5292	0.2801	1.832
HE-557	AUG	11	16.19	15.06	15.61	0.3270	0.1069	0.685
HE-557	SEP	11	16.08	14.92	15.75	0.3198	0.1022	0.649
HE-557	OCT	12	15.89	13.01	14.82	0.8897	0.7916	5.341
HE-557	NOV	12	15.43	11.66	14.16	1.0825	1.1717	8.275
HE-557	DEC	11	15.50	12.43	14.22	0.8268	0.6836	4.807



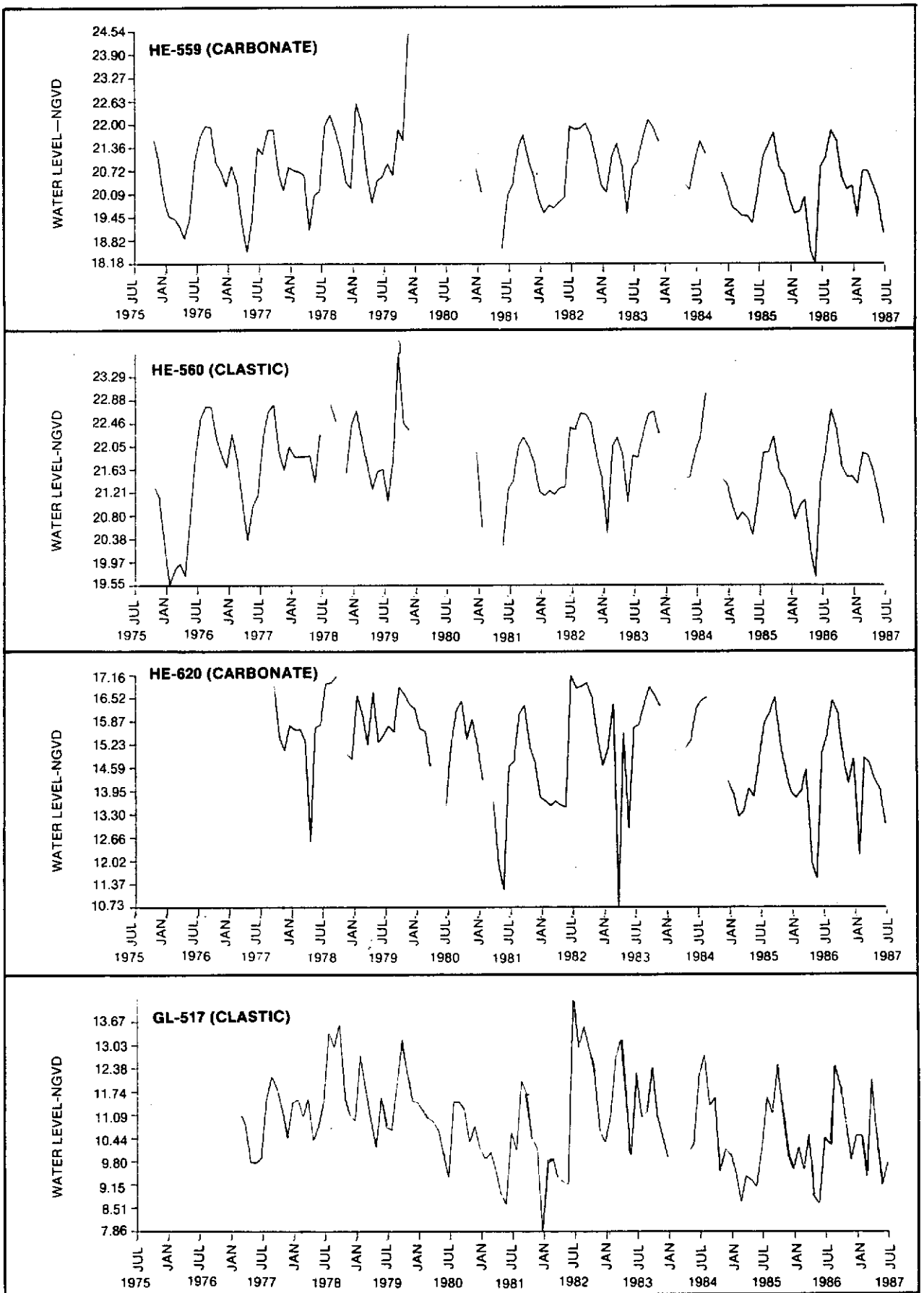
HYDROGRAPHS - SANDSTONE AQUIFER

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-559	JAN	10	22.58	19.45	20.22	0.9228	0.8515	4.211
HE-559	FEB	10	22.04	19.42	20.34	0.7814	0.6106	3.002
HE-559	MAR	9	21.47	19.23	20.14	0.7257	0.5266	2.615
HE-559	APR	10	20.83	18.50	19.58	0.7683	0.5902	3.015
HE-559	MAY	11	20.45	18.18	19.55	0.6556	0.4297	2.198
HE-559	JUN	11	21.94	19.01	20.61	0.7347	0.5398	2.619
HE-559	JUL	11	21.96	20.36	21.19	0.4939	0.2439	1.151
HE-559	AUG	10	22.26	20.61	21.59	0.4478	0.2006	0.929
HE-559	SEP	9	22.13	21.55	21.85	0.1594	0.0254	0.116
HE-559	OCT	10	21.89	20.56	21.22	0.4493	0.2019	0.951
HE-559	NOV	11	24.54	20.18	21.04	1.1666	1.3610	6.468
HE-559	DEC	10	20.82	19.96	20.30	0.2851	0.0813	0.400

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-560	JAN	10	22.69	19.55	21.16	0.8789	0.7725	3.650
HE-560	FEB	10	22.15	19.83	21.37	0.6883	0.4737	2.217
HE-560	MAR	9	22.20	19.94	21.31	0.6518	0.4249	1.994
HE-560	APR	10	21.89	19.72	21.04	0.7115	0.5062	2.406
HE-560	MAY	11	21.59	19.69	20.91	0.5567	0.3099	1.482
HE-560	JUN	11	22.38	20.65	21.59	0.5016	0.2516	1.165
HE-560	JUL	10	22.54	21.05	21.89	0.4390	0.1927	0.880
HE-560	AUG	10	22.99	21.82	22.46	0.3925	0.1540	0.686
HE-560	SEP	9	23.71	22.21	22.64	0.4290	0.1841	0.813
HE-560	OCT	9	22.67	21.36	22.05	0.4184	0.1751	0.794
HE-560	NOV	11	22.35	21.11	21.71	0.3493	0.1220	0.562
HE-560	DEC	10	22.43	20.31	21.51	0.5440	0.2959	1.375

		# Rec	Max	Min	Mean	Std Dev	Var	CV
HE-620	JAN	9	16.59	12.17	14.52	1.2723	1.6188	11.147
HE-620	FEB	9	16.35	13.23	14.92	1.0558	1.1148	7.472
HE-620	MAR	9	15.33	10.73	13.99	1.3243	1.7538	12.539
HE-620	APR	9	16.69	11.88	13.96	1.5591	2.4308	17.418
HE-620	MAY	9	15.70	11.21	13.70	1.5225	2.3180	16.924
HE-620	JUN	10	17.16	13.03	15.12	1.1674	1.3628	9.012
HE-620	JUL	10	16.93	14.76	15.82	0.6684	0.4468	2.824
HE-620	AUG	9	16.95	15.58	16.33	0.3983	0.1586	0.971
HE-620	SEP	9	17.13	16.13	16.66	0.3096	0.0958	0.575
HE-620	OCT	8	16.63	14.89	15.74	0.6693	0.4480	2.846
HE-620	NOV	9	16.35	14.14	15.27	0.7383	0.5451	3.570
HE-620	DEC	9	16.23	13.78	14.82	0.7675	0.5891	3.974

		# Rec	Max	Min	Mean	Std Dev	Var	CV
GL-517	JAN	9	12.76	9.51	10.73	0.9695	0.9400	8.758
GL-517	FEB	11	12.74	8.68	10.49	1.1171	1.2478	11.895
GL-517	MAR	10	13.20	9.38	10.85	1.1659	1.3593	12.527
GL-517	APR	11	11.56	8.84	9.94	0.7915	0.6264	6.303
GL-517	MAY	11	11.59	8.61	9.73	0.8780	0.7708	7.918
GL-517	JUN	11	14.32	9.36	11.04	1.3860	1.9210	17.408
GL-517	JUL	11	13.39	10.11	11.47	1.0890	1.1859	10.339
GL-517	AUG	10	13.57	11.16	12.04	0.7567	0.5727	4.755
GL-517	SEP	11	13.63	11.26	12.22	0.7456	0.5559	4.550
GL-517	OCT	10	12.29	9.53	11.09	0.8090	0.6545	5.901
GL-517	NOV	10	11.49	9.84	10.52	0.4912	0.2412	2.293
GL-517	DEC	10	11.45	7.86	10.23	0.9889	0.9779	9.564



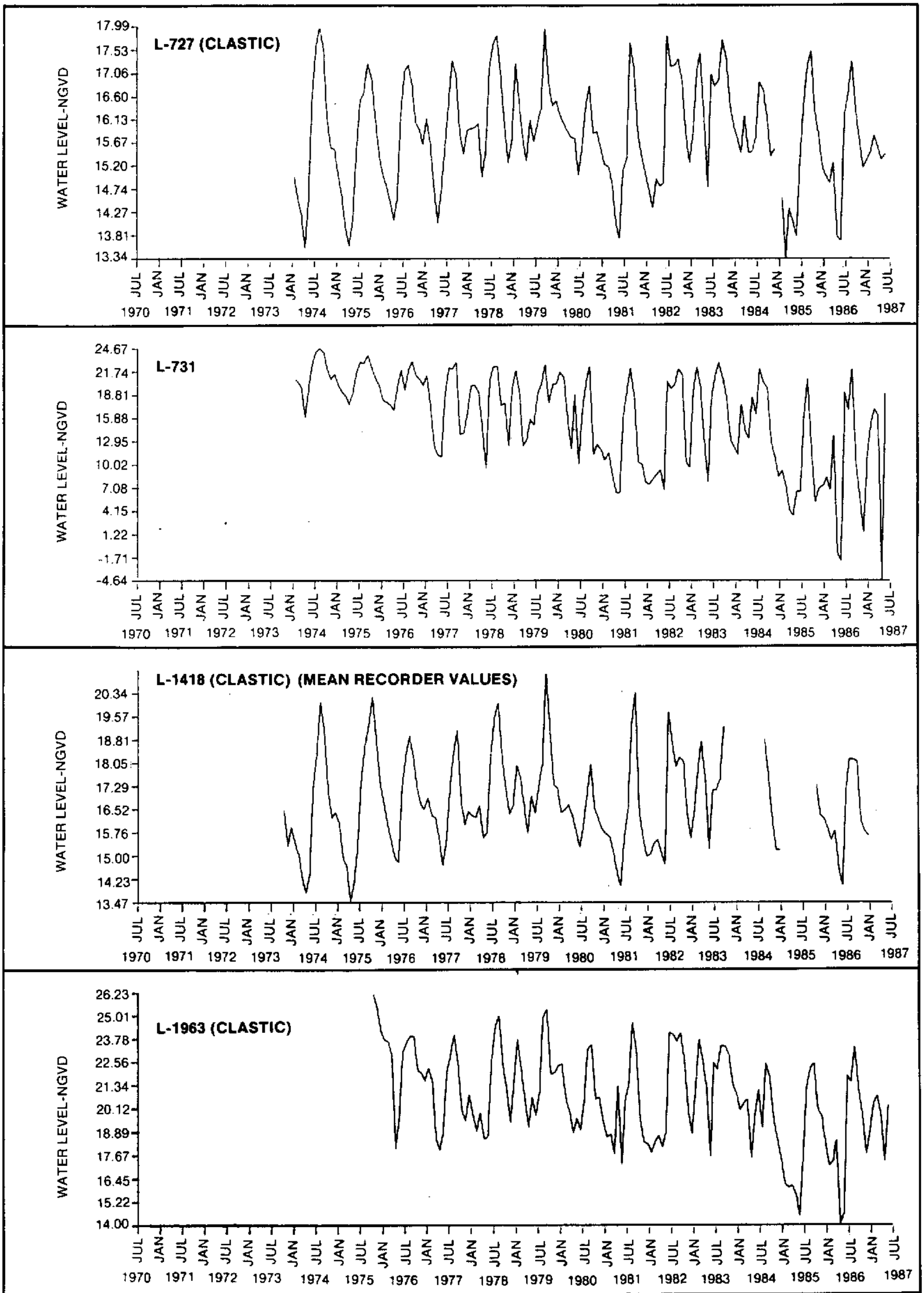
HYDROGRAPHS - SANDSTONE AQUIFER

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-727	JAN	14	17.26	14.60	15.52	0.7024	0.4933	3.179
L-727	FEB	14	17.09	13.34	15.29	0.9346	0.8735	5.712
L-727	MAR	14	17.46	13.95	15.27	0.9195	0.8454	5.537
L-727	APR	14	16.21	13.55	14.64	0.8359	0.6987	4.772
L-727	MAY	14	16.12	13.70	14.79	0.7531	0.5671	3.835
L-727	JUN	13	17.80	15.00	16.07	0.8359	0.6988	4.347
L-727	JUL	13	17.64	15.33	16.62	0.6699	0.4488	2.700
L-727	AUG	13	17.99	16.36	17.14	0.4876	0.2378	1.387
L-727	SEP	13	17.94	16.15	17.12	0.5008	0.2508	1.465
L-727	OCT	13	17.36	15.38	16.27	0.5671	0.3216	1.977
L-727	NOV	13	16.42	15.15	15.75	0.3959	0.1567	0.995
L-727	DEC	12	16.51	15.05	15.59	0.3881	0.1506	0.966

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-731	JAN	14	21.87	7.47	16.05	5.3210	28.3129	176.381
L-731	FEB	14	22.27	6.75	16.09	5.1801	26.8337	166.772
L-731	MAR	14	19.94	4.26	14.38	4.5941	21.1056	146.792
L-731	APR	14	17.62	-4.64	10.03	6.4802	41.9929	418.584
L-731	MAY	14	19.75	-2.20	12.57	6.6987	44.8727	357.064
L-731	JUN	13	22.73	6.55	17.47	4.5784	20.9619	120.009
L-731	JUL	13	24.26	16.07	20.11	2.5152	6.3264	31.465
L-731	AUG	13	24.67	20.10	21.74	1.3045	1.7018	7.828
L-731	SEP	13	24.22	9.75	19.90	4.4084	19.4342	97.656
L-731	OCT	13	22.22	5.14	15.38	5.7569	33.1420	215.423
L-731	NOV	13	20.91	1.38	13.39	5.7195	32.7128	244.322
L-731	DEC	13	21.43	7.24	14.27	5.2284	27.3361	191.626

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1418	JAN	11	17.98	15.04	16.27	0.7628	0.5818	3.577
L-1418	FEB	12	17.86	14.91	16.12	0.8777	0.7704	4.779
L-1418	MAR	11	18.76	14.21	15.99	1.1733	1.3767	8.612
L-1418	APR	12	17.44	13.47	15.23	1.0565	1.1162	7.330
L-1418	MAY	11	16.98	14.00	14.95	0.8790	0.7727	5.167
L-1418	JUN	11	19.73	15.26	16.79	1.3288	1.7656	10.517
L-1418	JUL	11	19.53	15.98	17.71	0.9835	0.9672	5.462
L-1418	AUG	12	20.07	17.04	18.58	0.8864	0.7857	4.230
L-1418	SEP	12	21.10	17.58	18.89	0.9902	0.9805	5.189
L-1418	OCT	13	20.22	16.14	17.34	1.1628	1.3522	7.798
L-1418	NOV	13	18.77	15.18	16.33	0.8941	0.7994	4.897
L-1418	DEC	13	17.42	14.98	16.16	0.6983	0.4876	3.016

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1963	JAN	12	23.75	16.16	20.26	2.4119	5.8171	28.718
L-1963	FEB	12	23.76	15.98	20.18	2.3039	5.3078	26.305
L-1963	MAR	12	22.91	16.09	19.66	1.8699	3.4963	17.780
L-1963	APR	12	21.28	14.00	18.11	1.9451	3.7835	20.891
L-1963	MAY	12	20.69	14.45	18.34	1.9439	3.7786	20.602
L-1963	JUN	11	24.12	17.59	21.27	1.8358	3.3701	15.845
L-1963	JUL	11	24.40	19.07	21.98	1.5434	2.3821	10.839
L-1963	AUG	11	25.00	22.21	23.71	0.8706	0.7579	3.196
L-1963	SEP	11	25.35	21.08	23.04	1.1318	1.2811	5.561
L-1963	OCT	12	26.23	19.53	21.39	1.8695	3.4949	16.340
L-1963	NOV	12	25.41	17.72	20.38	2.0133	4.0534	19.892
L-1963	DEC	12	24.24	17.47	20.20	1.9244	3.7033	18.332



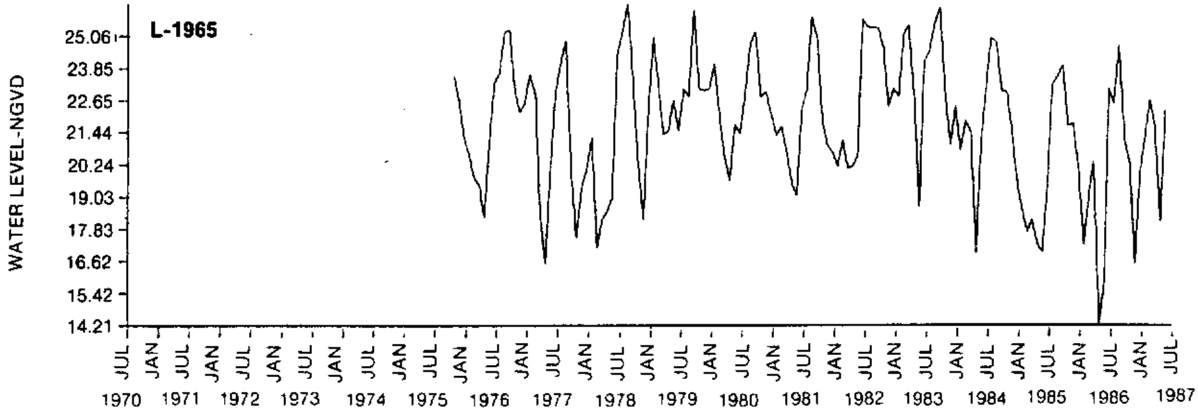
HYDROGRAPHS - SANDSTONE AQUIFER

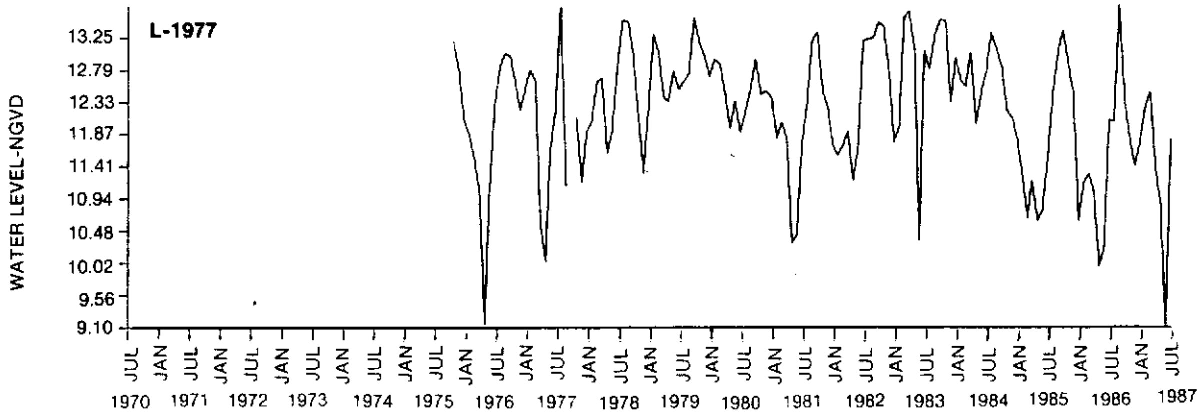
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1965	JAN	12	25.02	17.20	21.38	2.1495	4.6202	21.611
L-1965	FEB	12	25.13	17.13	21.19	2.2640	5.1257	24.191
L-1965	MAR	12	25.46	18.16	20.48	1.9213	3.6916	18.022
L-1965	APR	12	22.70	14.21	18.59	2.2093	4.8809	26.250
L-1965	MAY	12	22.66	15.77	19.88	1.9928	3.9711	19.979
L-1965	JUN	11	25.68	19.45	22.83	1.5961	2.5475	11.158
L-1965	JUL	11	25.40	22.50	23.86	0.9746	0.9499	3.981
L-1965	AUG	11	26.26	22.79	24.88	0.9336	0.8716	3.504
L-1965	SEP	11	26.12	19.94	24.04	1.9166	3.6735	15.284
L-1965	OCT	12	24.62	17.49	22.06	1.8480	3.4149	15.484
L-1965	NOV	12	23.03	16.48	21.05	1.9544	3.8198	18.150
L-1965	DEC	12	23.09	19.62	21.43	1.2609	1.5899	7.418

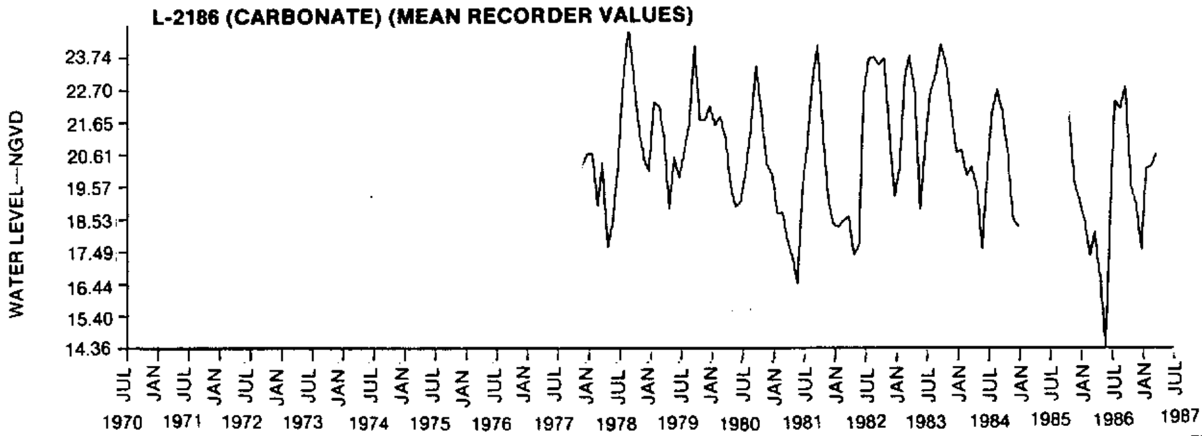
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-1977	JAN	12	13.29	11.15	12.13	0.6428	0.4132	3.407
L-1977	FEB	12	13.53	10.65	12.24	0.7865	0.6186	5.055
L-1977	MAR	12	13.62	10.59	11.93	0.8794	0.7733	6.483
L-1977	APR	12	13.09	9.15	11.09	1.0970	1.2035	10.857
L-1977	MAY	12	12.77	9.10	11.22	1.0469	1.0960	9.769
L-1977	JUN	12	13.20	11.48	12.30	0.5377	0.2892	2.350
L-1977	JUL	11	13.69	12.04	12.80	0.5357	0.2870	2.242
L-1977	AUG	11	13.71	11.12	12.94	0.6563	0.4308	3.328
L-1977	SEP	10	13.53	12.36	13.13	0.3532	0.1247	0.950
L-1977	OCT	12	13.48	11.79	12.66	0.5408	0.2925	2.310
L-1977	NOV	12	12.98	11.16	12.18	0.5771	0.3331	2.734
L-1977	DEC	12	12.96	10.61	12.03	0.5812	0.3378	2.809

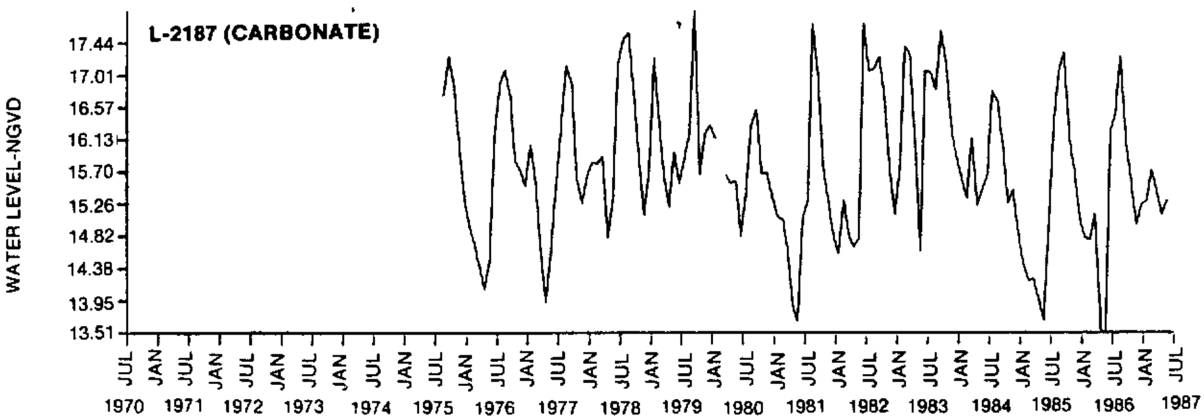
		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2186	JAN	9	22.32	18.30	20.13	1.3229	1.7501	8.695
L-2186	FEB	9	23.11	17.34	20.09	1.8220	3.3198	16.522
L-2186	MAR	9	23.83	17.86	20.22	1.7482	3.0563	15.113
L-2186	APR	8	22.62	16.56	18.69	1.8127	3.2857	17.584
L-2186	MAY	8	20.56	14.36	17.85	1.7389	3.0236	16.940
L-2186	JUN	8	22.53	18.68	20.10	1.1118	1.2361	6.150
L-2186	JUL	8	23.71	20.11	21.93	1.1527	1.3287	6.060
L-2186	AUG	8	24.78	21.54	22.85	1.0194	1.0392	4.547
L-2186	SEP	8	24.17	21.98	23.43	0.7166	0.5135	2.192
L-2186	OCT	9	23.73	19.60	21.80	1.2091	1.4618	6.706
L-2186	NOV	10	22.10	18.56	20.27	1.1198	1.2538	6.186
L-2186	DEC	10	22.20	17.53	19.62	1.3141	1.7269	8.803

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2187	JAN	12	17.24	14.42	15.48	0.7611	0.5793	3.744
L-2187	FEB	11	17.39	14.21	15.47	0.8262	0.6826	4.413
L-2187	MAR	12	17.30	14.24	15.32	0.8391	0.7040	4.595
L-2187	APR	12	16.04	13.53	14.66	0.7538	0.5682	3.876
L-2187	MAY	12	15.96	13.51	14.74	0.7766	0.6031	4.091
L-2187	JUN	11	17.71	14.81	15.98	0.9283	0.8618	5.392
L-2187	JUL	11	17.49	15.28	16.44	0.6758	0.4567	2.778
L-2187	AUG	12	17.70	16.22	16.97	0.4300	0.1849	1.090
L-2187	SEP	12	17.88	16.02	16.95	0.5366	0.2879	1.699
L-2187	OCT	12	17.14	15.25	16.01	0.5655	0.3198	1.998
L-2187	NOV	12	16.24	14.96	15.61	0.3992	0.1593	1.021
L-2187	DEC	12	16.32	14.80	15.39	0.4256	0.1811	1.177









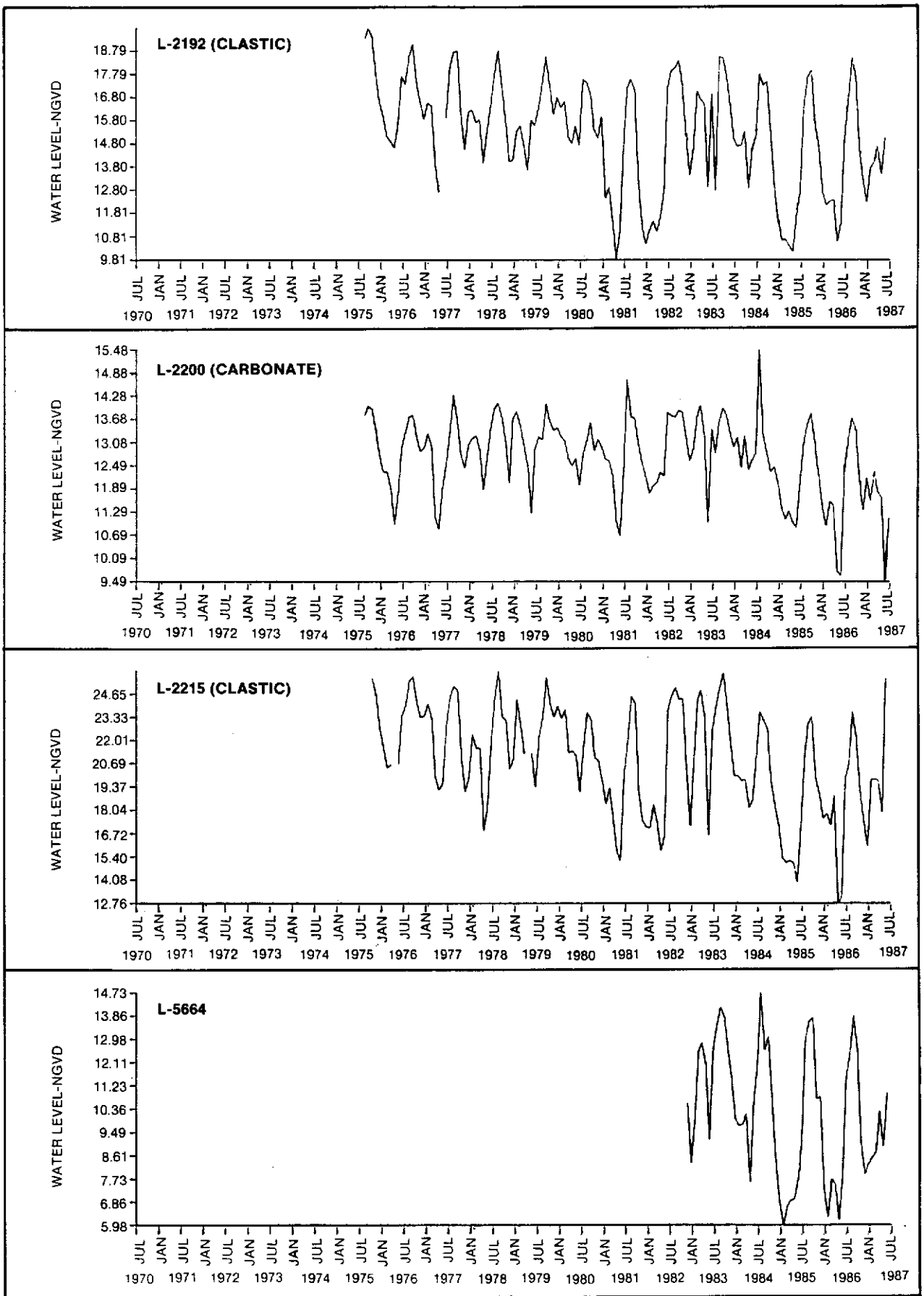
HYDROGRAPHS - SANDSTONE AQUIFER

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2192	JAN	I2	16.54	10.66	14.16	2.0207	4.0834	28.843
L-2192	FEB	12	17.06	10.68	14.39	2.0216	4.0870	28.411
L-2192	MAR	12	16.72	10.41	13.89	1.9624	3.8510	27.735
L-2192	APR	12	16.51	9.81	12.91	1.9568	3.8290	29.653
L-2192	MAY	11	15.80	11.03	13.77	1.7717	3.1391	22.792
L-2192	JUN	11	17.71	12.73	15.63	1.3639	1.8603	11.903
L-2192	JUL	11	18.08	12.79	16.90	1.4294	2.0431	12.091
L-2192	AUG	12	19.30	17.33	18.17	0.6387	0.4079	2.245
L-2192	SEP	12	19.79	16.96	18.14	0.8261	0.6825	3.762
L-2192	OCT	12	19.41	13.41	16.30	1.5552	2.4186	14.843
L-2192	NOV	12	17.75	11.21	14.82	1.7240	2.9723	20.052
L-2192	DEC	12	16.79	10.49	14.23	2.0566	4.2297	29.723

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2200	JAN	12	13.86	10.92	12.52	0.8822	0.7782	6.214
L-2200	FEB	12	13.75	11.10	12.58	0.7602	0.5779	4.594
L-2200	MAR	12	14.02	11.14	12.31	0.8357	0.6984	5.674
L-2200	APR	12	13.30	9.74	11.67	0.9448	0.8926	7.649
L-2200	MAY	12	12.66	9.49	11.40	1.0570	1.1172	9.802
L-2200	JUN	12	13.84	11.11	12.64	0.7175	0.5148	4.072
L-2200	JUL	11	15.48	12.79	13.59	0.8025	0.6440	4.740
L-2200	AUG	12	14.31	13.13	13.65	0.3395	0.1152	0.844
L-2200	SEP	12	14.07	12.80	13.70	0.3231	0.1044	0.762
L-2200	OCT	12	13.95	12.11	13.14	0.5629	0.3168	2.412
L-2200	NOV	12	13.40	11.31	12.69	0.6160	0.3794	2.989
L-2200	DEC	12	13.70	11.40	12.68	0.6141	0.3771	2.973

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-2215	JAN	12	24.36	15.30	20.41	2.7620	7.6289	37.377
L-2215	FEB	12	24.37	15.07	20.47	2.7050	7.3172	35.740
L-2215	MAR	12	24.86	15.17	19.83	2.3633	5.5850	28.163
L-2215	APR	10	23.34	12.76	17.62	2.9674	8.8054	49.980
L-2215	MAY	12	25.52	13.10	18.35	3.3867	11.4699	62.501
L-2215	JUN	11	23.80	17.04	20.98	2.0149	4.0596	19.350
L-2215	JUL	11	24.54	20.57	22.92	1.4796	2.1892	9.550
L-2215	AUG	11	25.97	22.97	24.34	0.9840	0.9683	3.978
L-2215	SEP	11	25.82	22.20	24.12	1.1991	1.4378	5.962
L-2215	OCT	12	25.55	19.08	22.11	2.2813	5.2044	23.539
L-2215	NOV	12	24.62	17.34	20.49	2.2986	5.2837	25.784
L-2215	DEC	12	23.97	16.00	19.63	2.5932	6.7247	34.263

		# Rec	Max	Min	Mean	Std Dev	Var	CV
L-5664	JAN	5	9.99	5.98	8.10	1.6913	2.8605	35.315
L-5664	FEB	5	12.55	6.70	9.10	2.0110	4.0442	44.452
L-5664	MAR	5	12.82	6.90	9.53	2.1288	4.5317	47.542
L-5664	APR	5	12.05	6.16	8.35	2.0658	4.2675	51.108
L-5664	MAY	5	10.92	7.69	9.24	1.3282	1.7640	19.083
L-5664	JUN	4	12.65	9.12	11.32	1.3296	1.7678	15.624
L-5664	JUL	4	14.73	12.38	13.38	0.8743	0.7645	5.713
L-5664	AUG	4	14.16	12.57	13.56	0.6000	0.3600	2.655
L-5664	SEP	4	13.82	12.54	13.30	0.5341	0.2852	2.145
L-5664	OCT	4	12.64	9.06	10.78	1.2681	1.6081	14.925
L-5664	NOV	5	11.53	7.91	9.82	1.4363	2.0631	21.005
L-5664	DEC	5	9.97	6.77	8.13	1.0948	1.1986	14.735



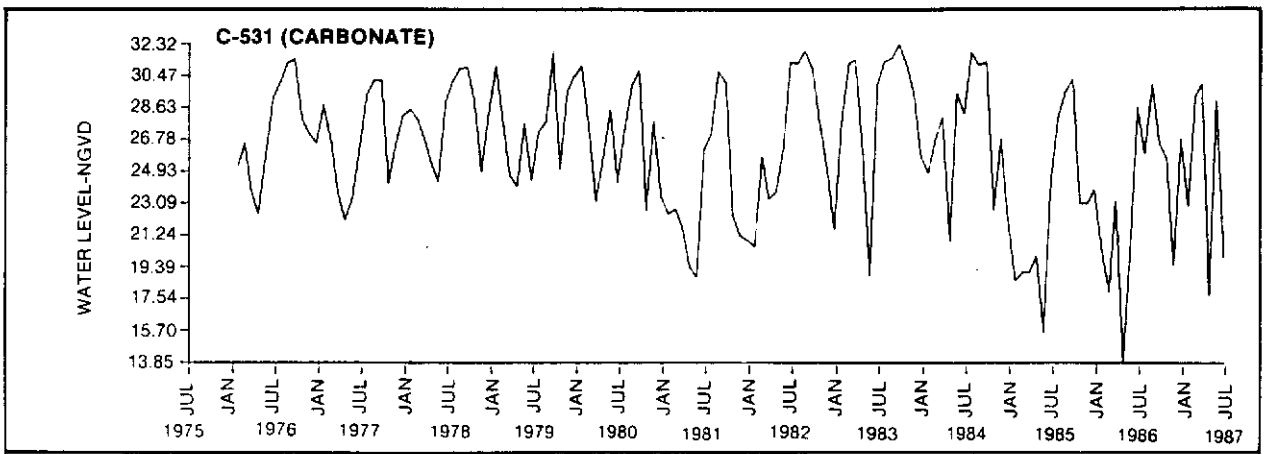
HYDROGRAPHS - SANDSTONE AQUIFER

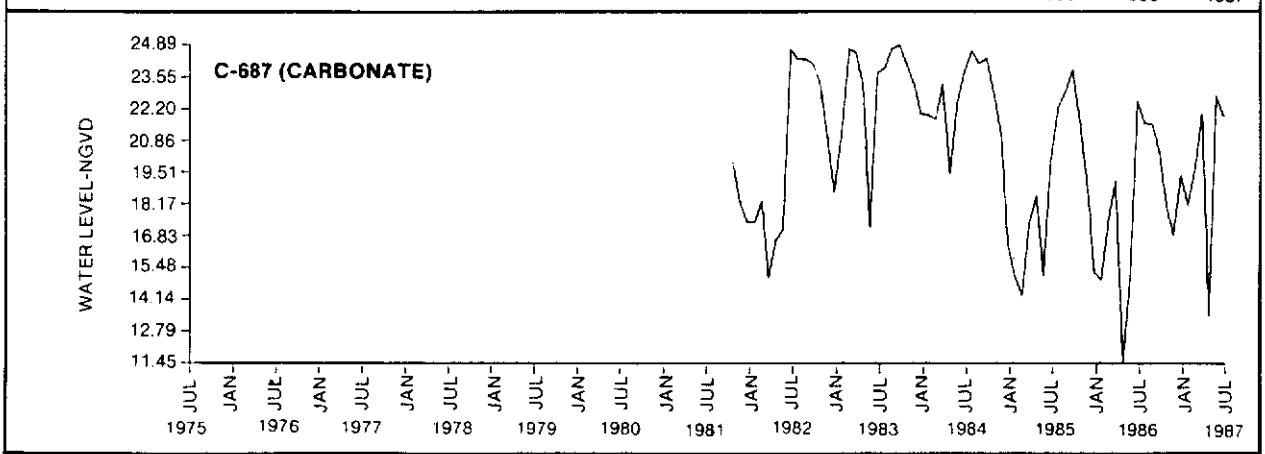
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-531	JAN	12	31.08	18.63	25.19	4.0723	16.5833	65.822
C-531	FEB	12	31.25	17.97	25.76	3.7641	14.1684	55.000
C-531	MAR	12	31.46	19.13	24.94	3.3845	11.4548	45.928
C-531	APR	12	26.01	13.85	21.80	3.4856	12.1493	55.720
C-531	MAY	12	29.50	15.63	24.02	4.4216	19.5509	81.392
C-531	JUN	12	31.29	20.01	26.84	3.0504	9.3048	34.671
C-531	JUL	12	31.87	23.72	28.64	2.3639	5.5878	19.511
C-531	AUG	11	31.94	27.83	30.46	1.0775	1.1610	3.811
C-531	SEP	11	32.32	26.56	30.62	1.4369	2.0648	6.744
C-531	OCT	11	31.21	22.37	25.64	2.8554	8.1532	31.802
C-531	NOV	11	29.60	19.50	25.56	3.0826	9.5025	37.172
C-531	DEC	11	30.48	20.98	25.28	2.9419	8.6549	34.230

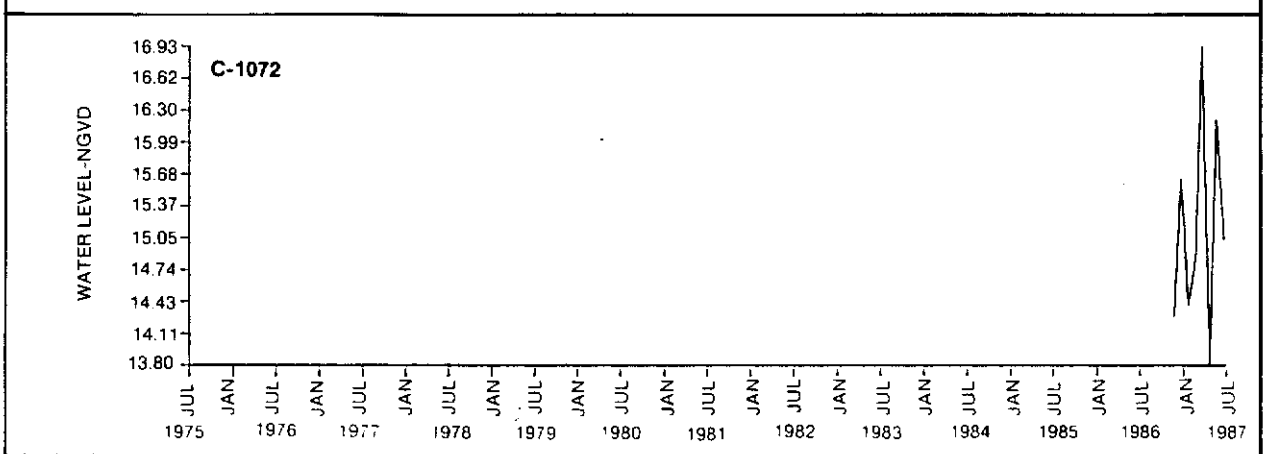
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-687	JAN	6	21.92	14.97	18.12	2.6969	7.2732	431.217
C-687	FEB	6	24.71	14.32	19.39	3.2725	10.7092	362.204
C-687	MAR	6	24.59	15.04	20.22	3.3619	11.3027	298.224
C-687	APR	6	23.21	11.45	17.12	3.8776	15.0356	2189.649
C-687	MAY	6	22.74	14.92	18.24	3.1800	10.1126	558.705
C-687	JUN	6	24.70	20.03	22.78	1.5282	2.3354	36.806
C-687	JUL	6	24.63	21.59	23.14	1.1840	1.4020	20.909
C-687	AUG	5	24.74	21.54	23.52	1.1608	1.3474	18.994
C-687	SEP	5	24.89	20.35	23.50	1.6124	2.5997	36.771
C-687	OCT	6	24.07	18.10	21.66	2.0706	4.2872	81.999
C-687	NOV	6	23.26	16.84	19.89	2.1232	4.5079	130.412
C-687	DEC	6	21.99	15.25	18.20	2.1597	4.6642	263.765

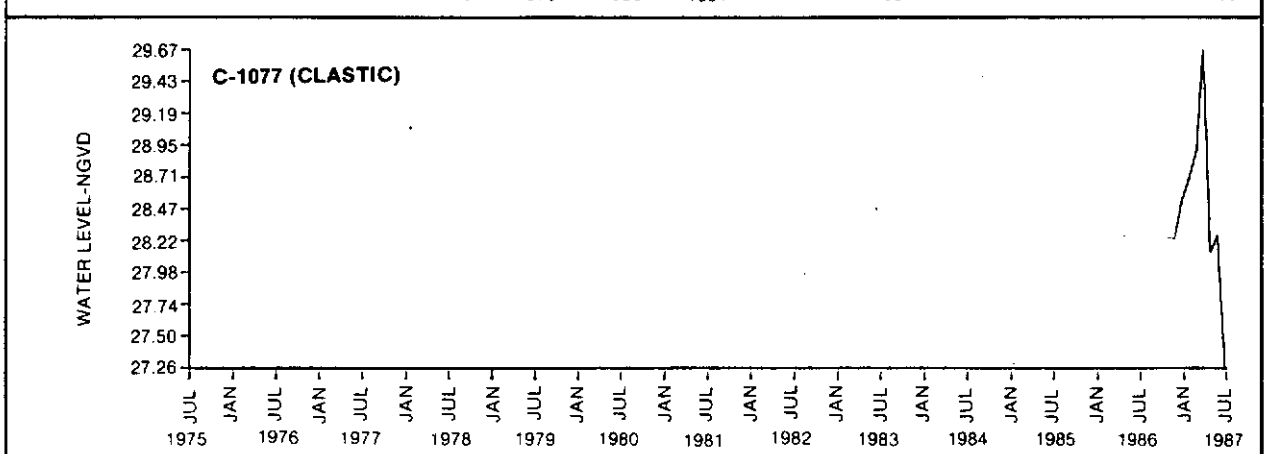
		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1072	JAN	1	14.39	14.39	14.39			
C-1072	FEB	1	14.85	14.85	14.85			
C-1072	MAR	1	16.93	16.93	16.93			
C-1072	APR	2	15.58	13.80	14.69	0.8900	0.7921	5.392
C-1072	MAY	1	16.22	16.22	16.22			
C-1072	JUN	1	15.04	15.04	15.04			
C-1072	JUL	1	16.87	16.87	16.87			
C-1072	AUG	0						
C-1072	SEP	0						
C-1072	OCT	0						
C-1072	NOV	1	14.24	14.24	14.24			
C-1072	DEC	1	15.63	15.63	15.63			

		# Rec	Max	Min	Mean	Std Dev	Var	CV
C-1077	JAN	1	28.70	28.70	28.70			
C-1077	FEB	1	28.91	28.91	28.91			
C-1077	MAR	1	29.67	29.67	29.67			
C-1077	APR	2	28.26	28.13	28.20	0.0650	0.0042	0.015
C-1077	MAY	1	28.26	28.26	28.26			
C-1077	JUN	1	27.26	27.26	27.26			
C-1077	JUL	1	27.23	27.23	27.23			
C-1077	AUG	0						
C-1077	SEP	0						
C-1077	OCT	1	28.24	28.24	28.24			
C-1077	NOV	1	28.24	28.24	28.24			
C-1077	DEC	1	28.53	28.53	28.53			





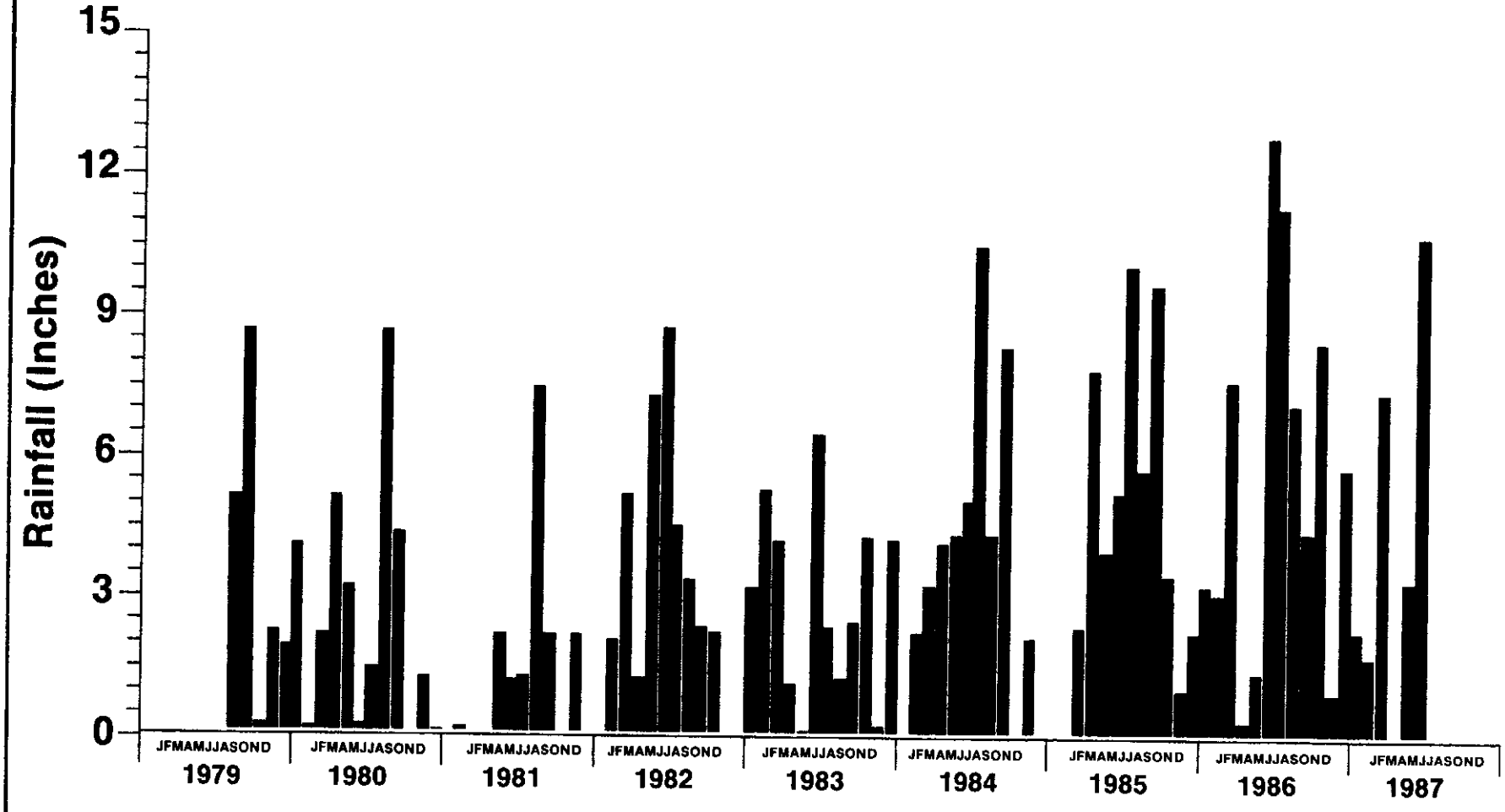




HYDROGRAPHS - SANDSTONE AQUIFER

APPENDIX B-4

RAINFALL AND EVAPORATION DATA



Monthly Rainfall MRF 247 (Girl Scout Camp, 8/79-6/87)

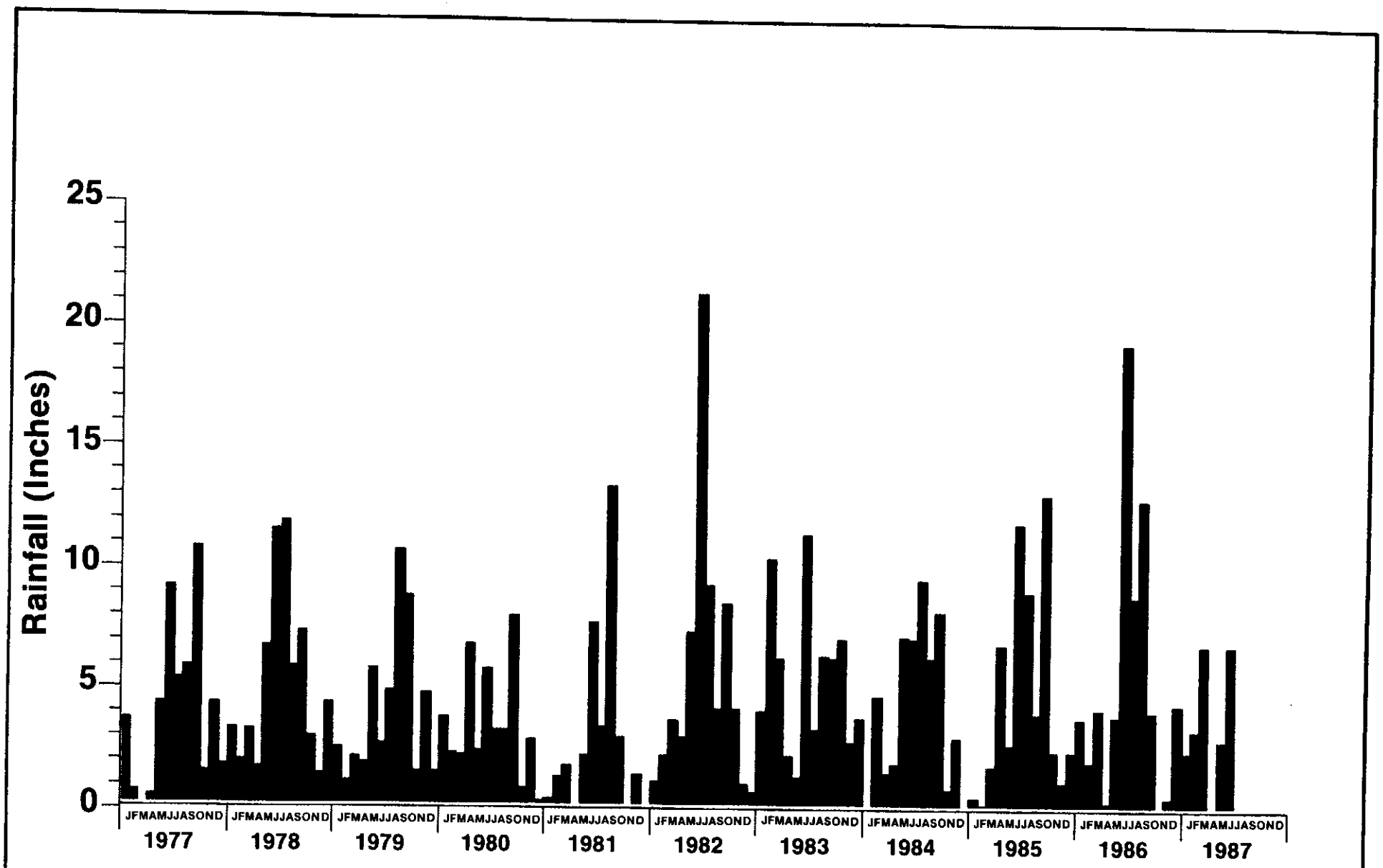
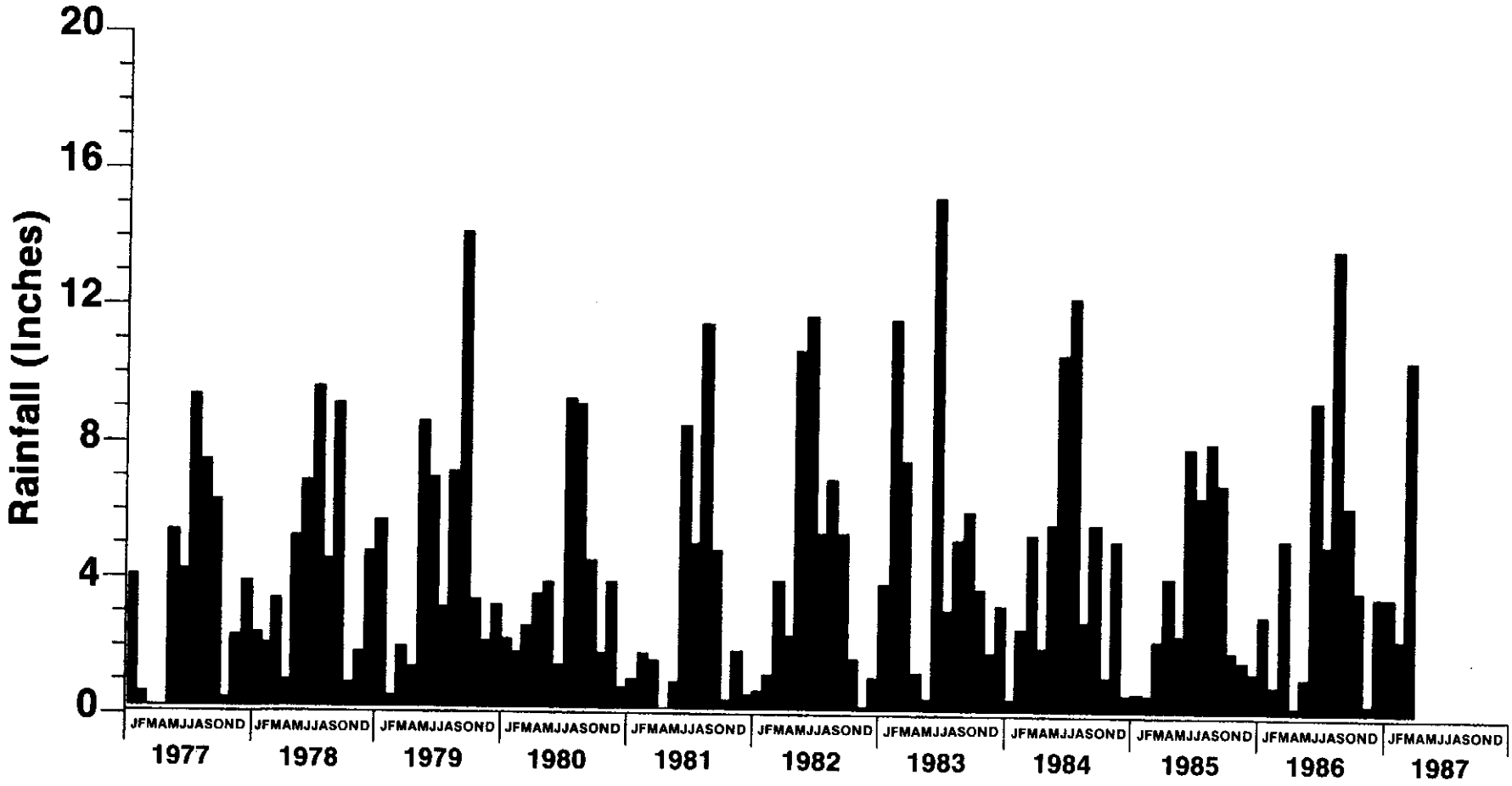
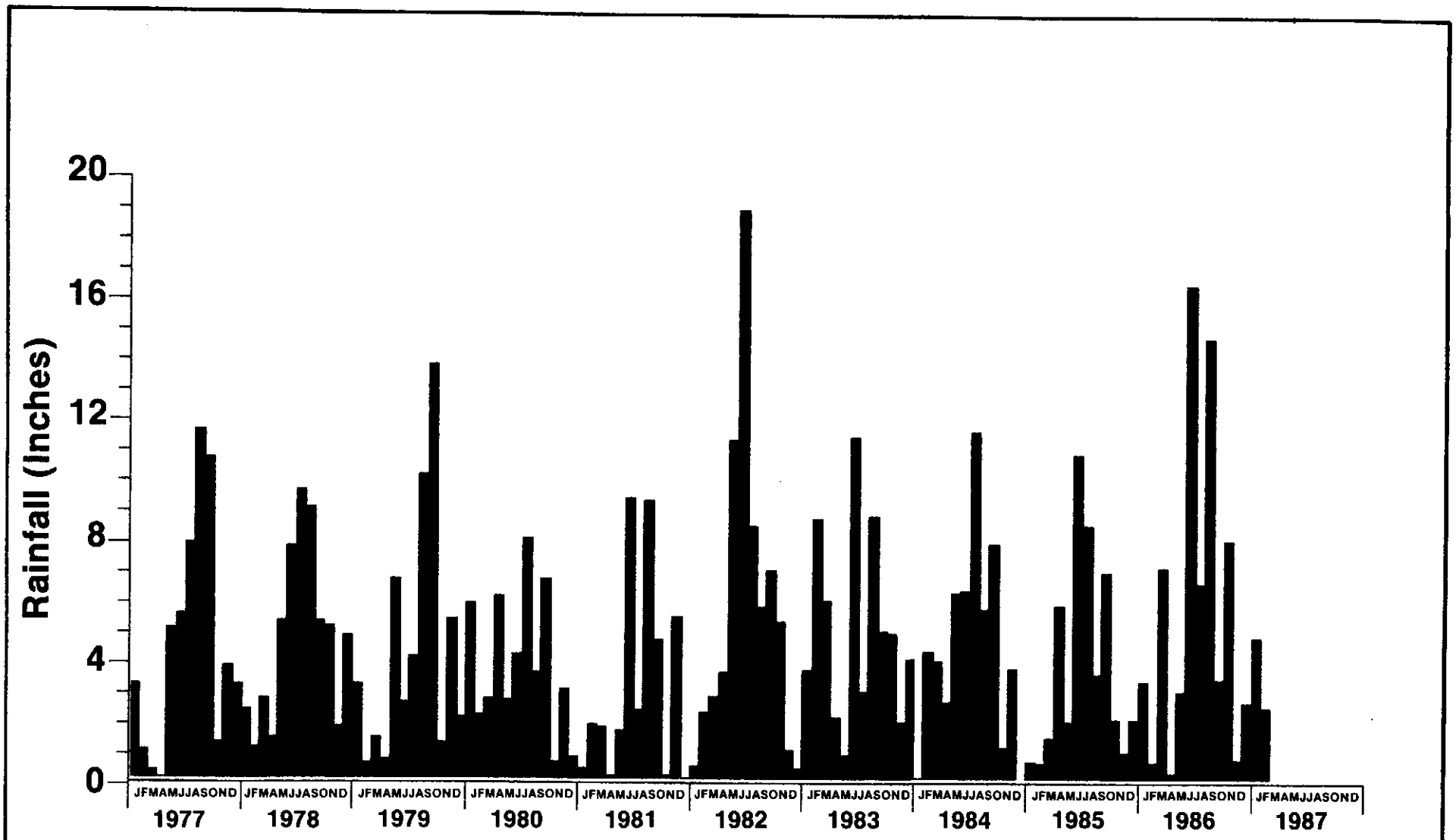


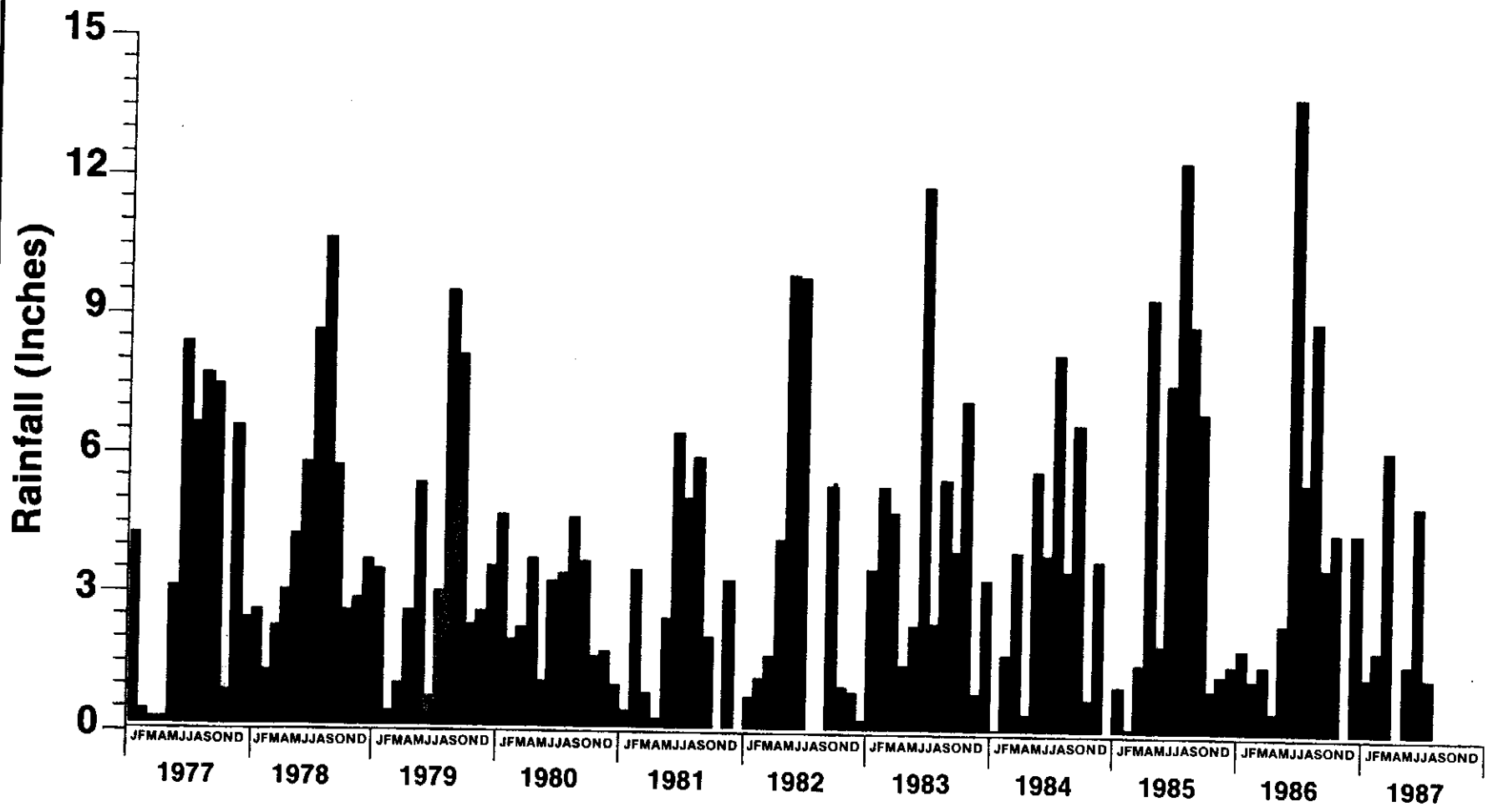
Figure **Monthly Rainfall MRF 5002 (Devil's Garden Tower, 1/77-6/87)**



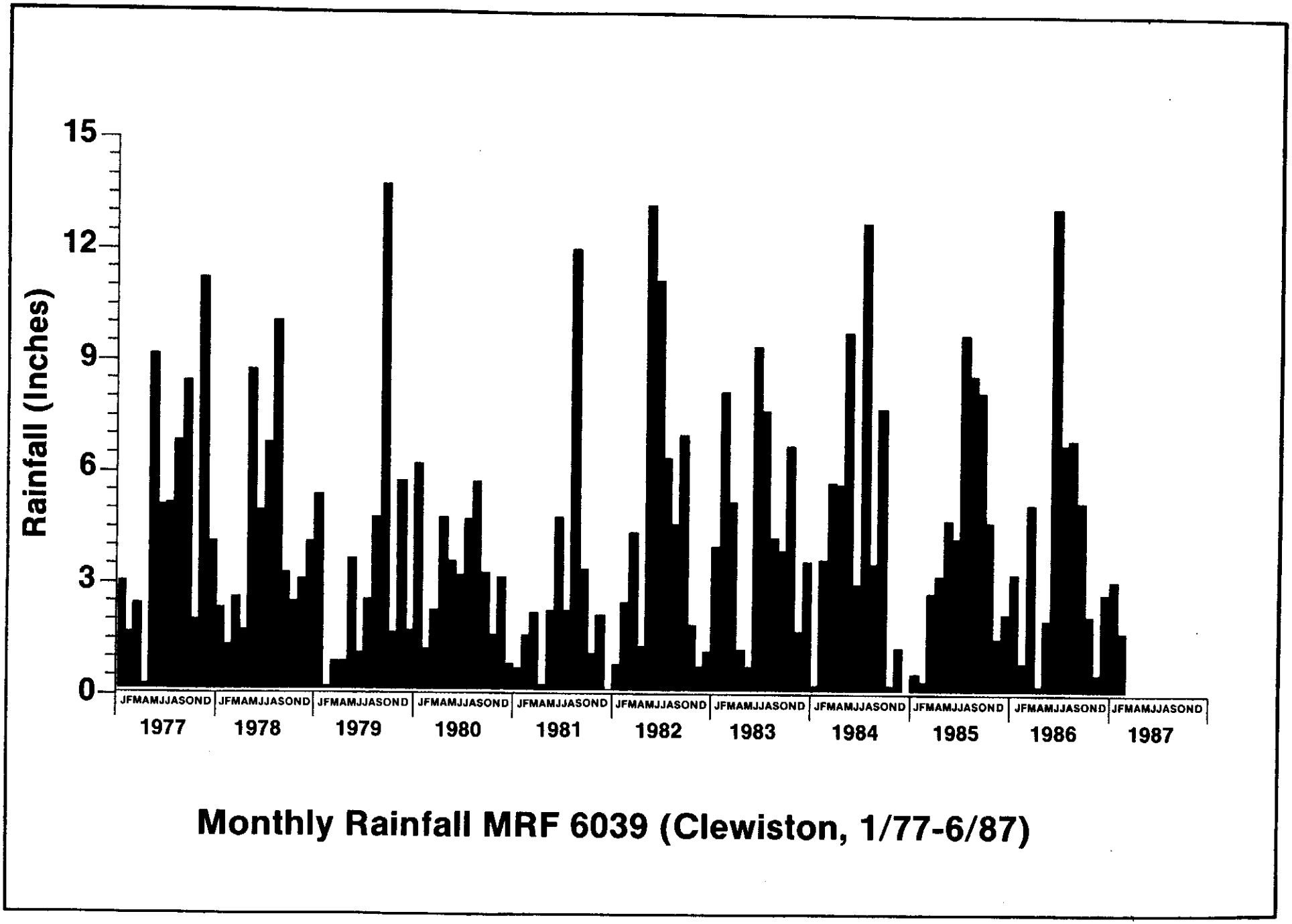
Monthly Rainfall MRF 6044 (La Belle, 1/77-6/87)



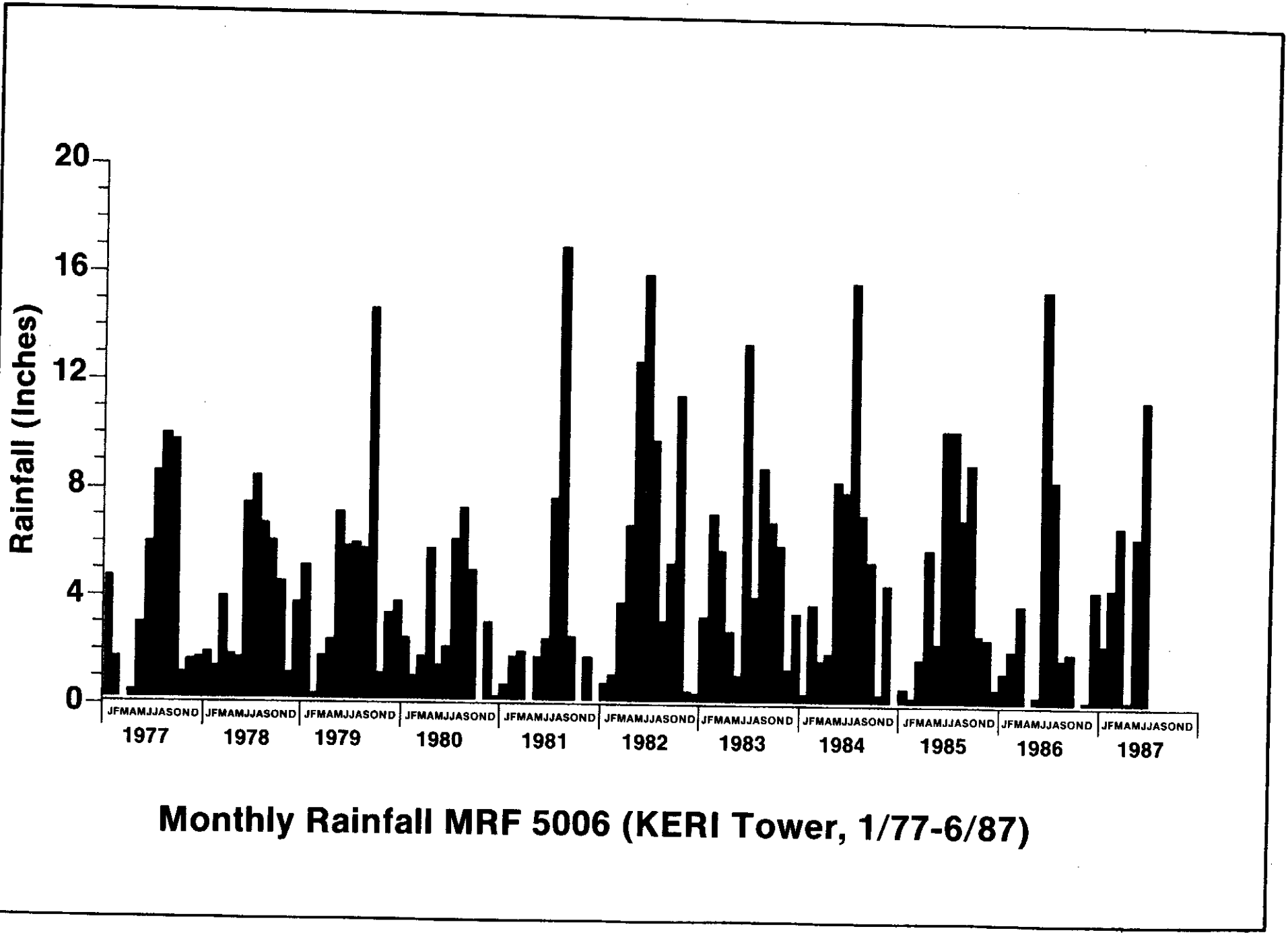
Monthly Rainfall MRF 6118 (Devil's Garden, 1/77-6/87)



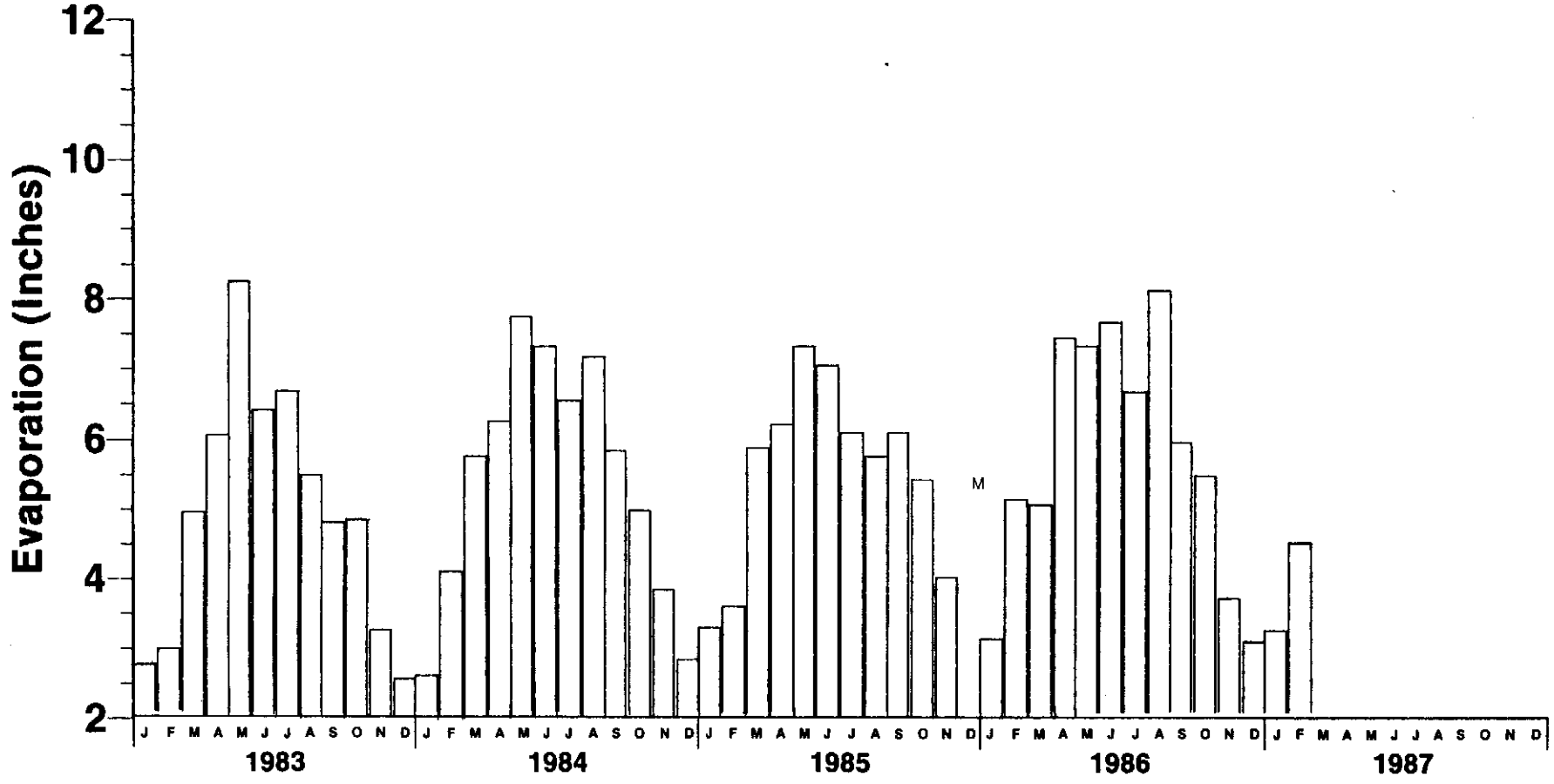
Monthly Rainfall MRF 182 (Alico, 1/77-6/87)



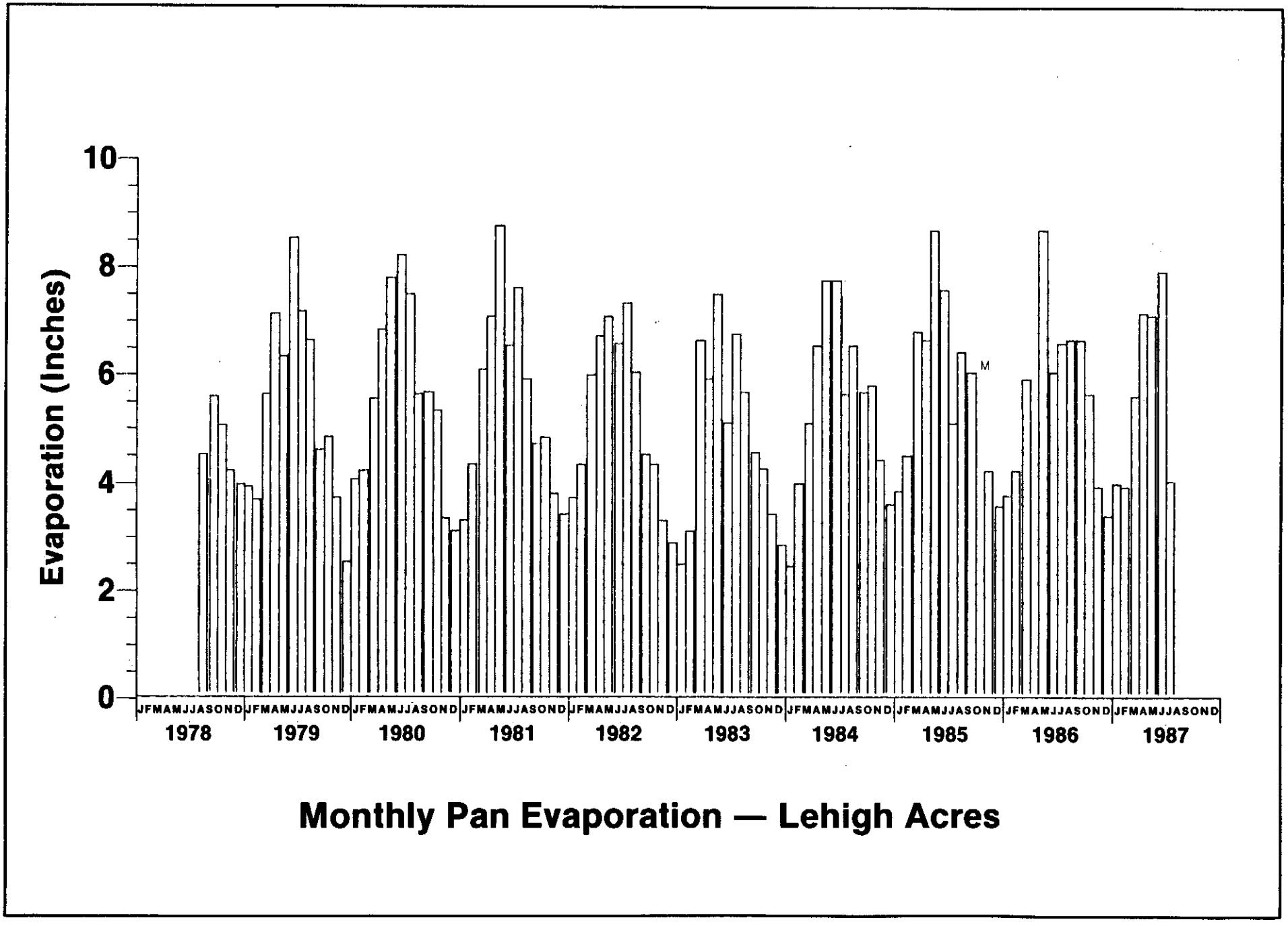
Monthly Rainfall MRF 6039 (Clewiston, 1/77-6/87)



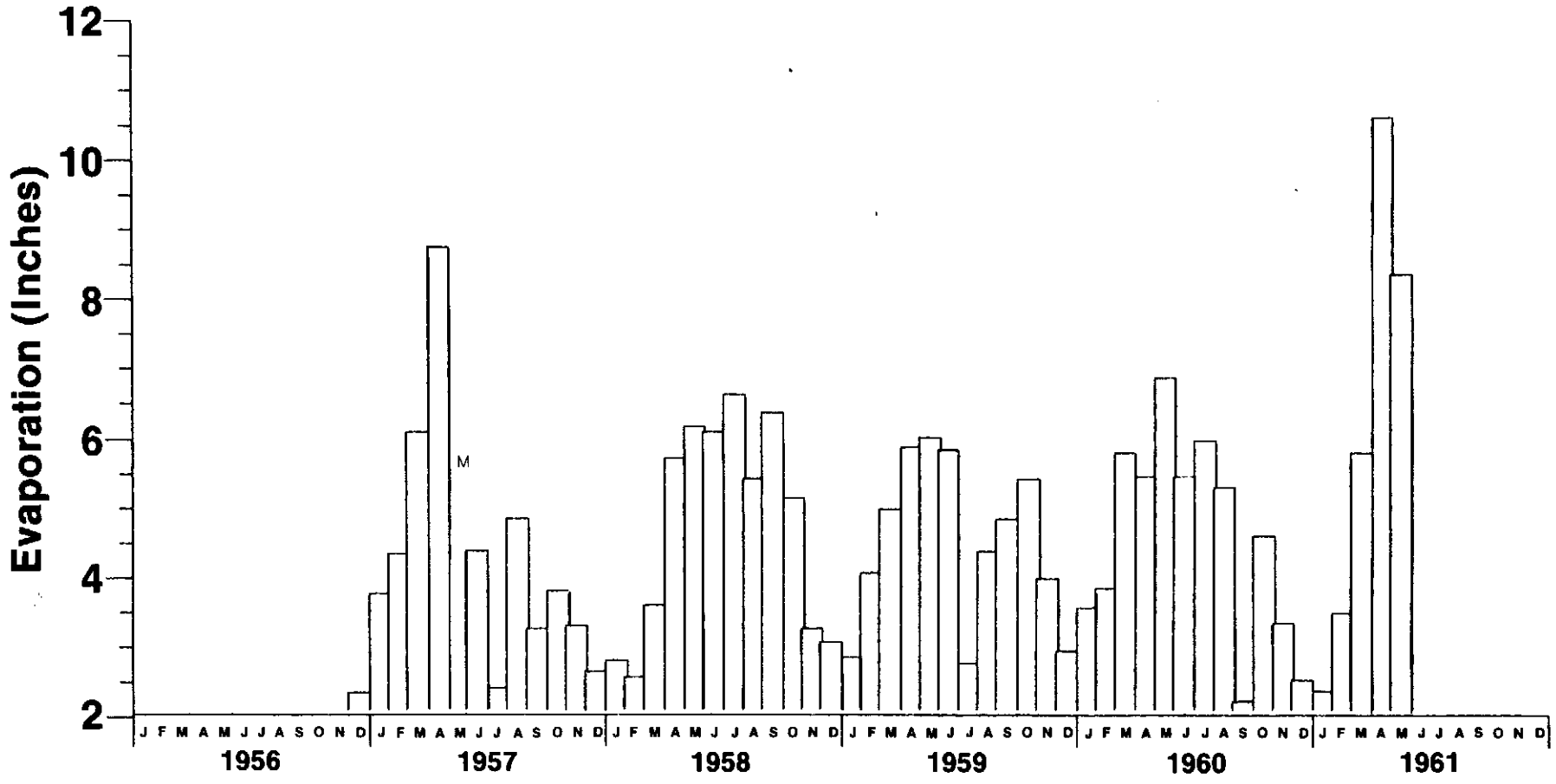
Monthly Rainfall MRF 5006 (KERI Tower, 1/77-6/87)



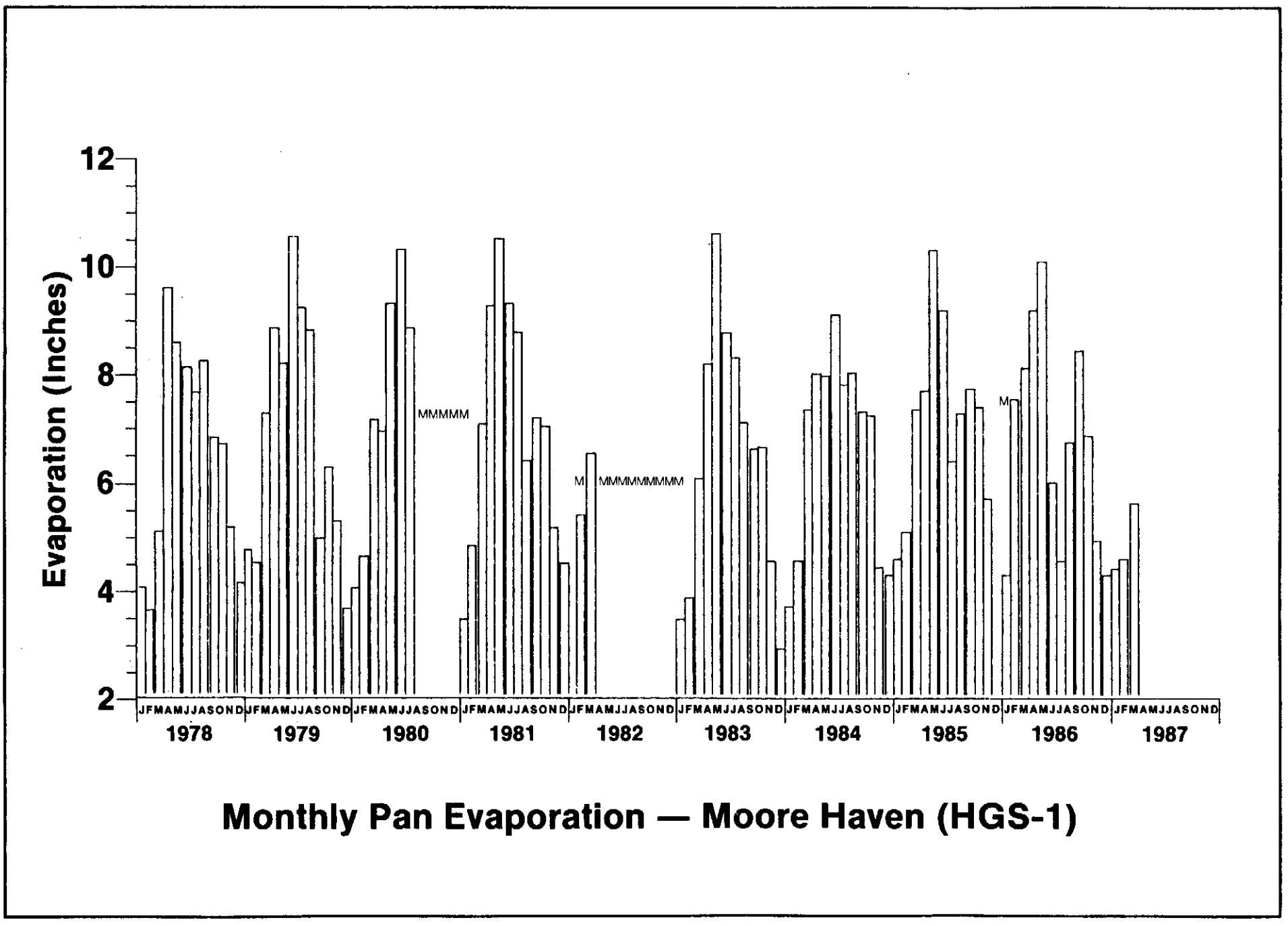
Monthly Pan Evaporation — Clewiston



Monthly Pan Evaporation — Lehigh Acres



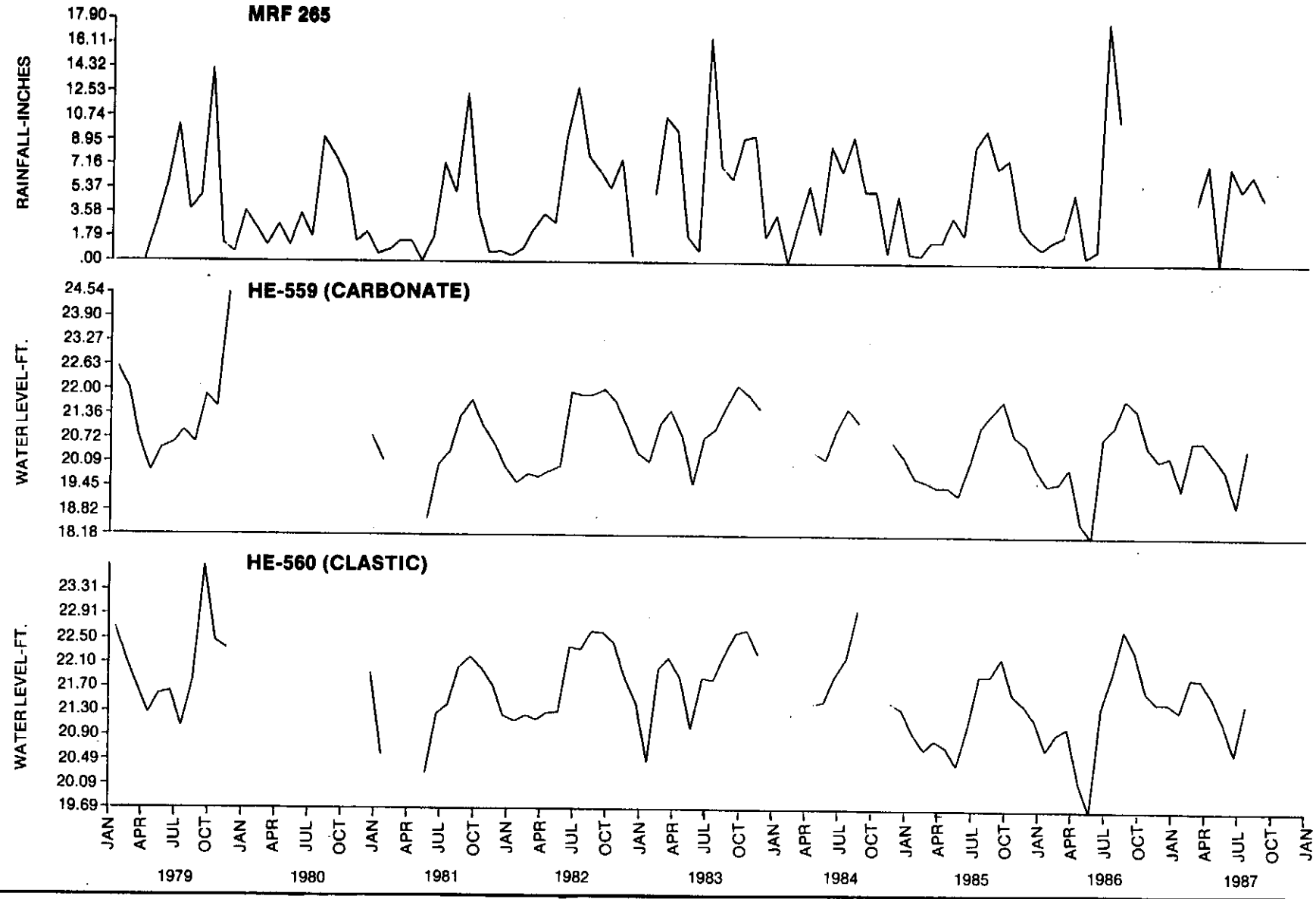
Monthly Pan Evaporation — Miles City Tower



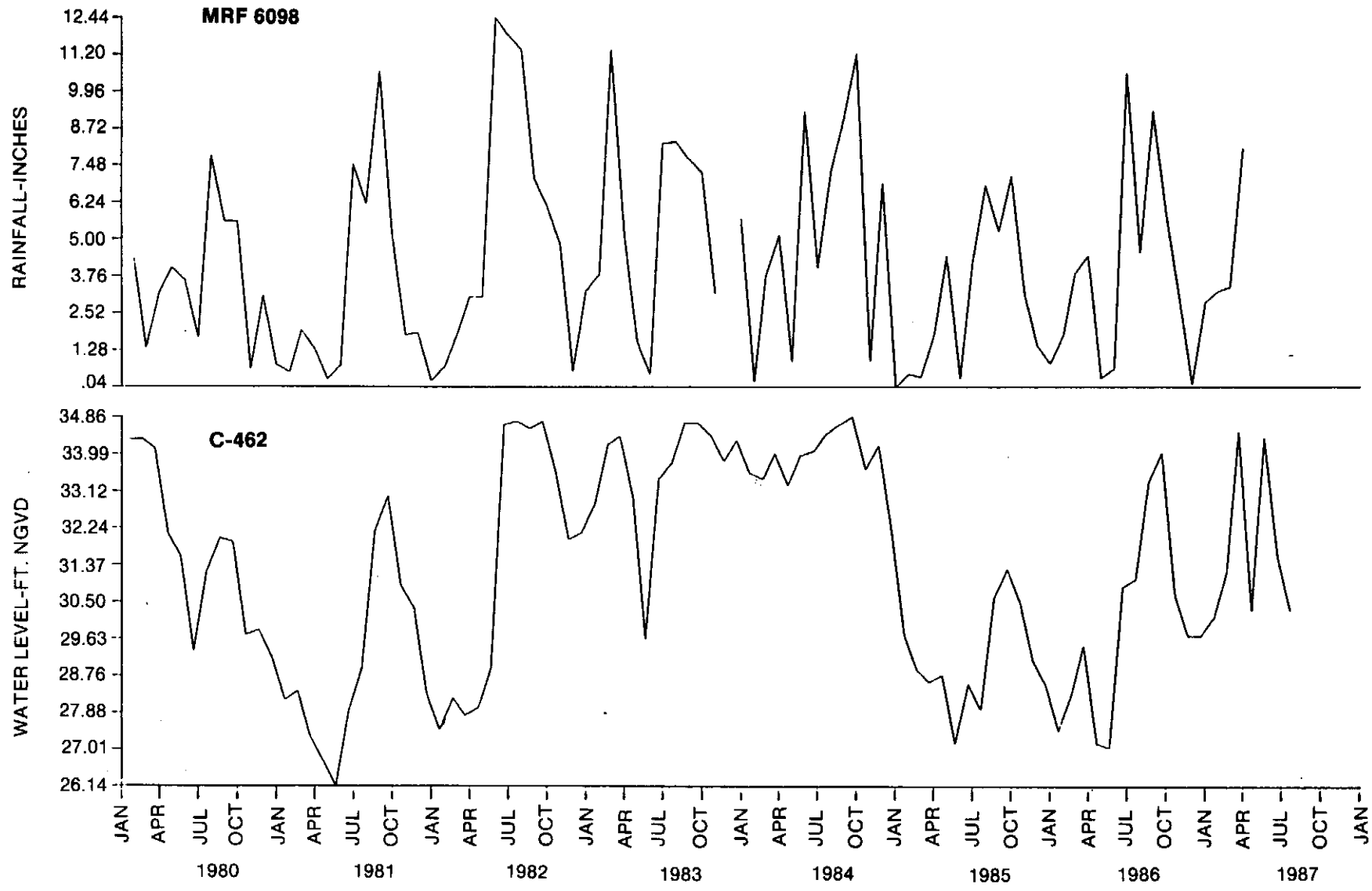
Monthly Pan Evaporation — Moore Haven (HGS-1)

APPENDIX B-5

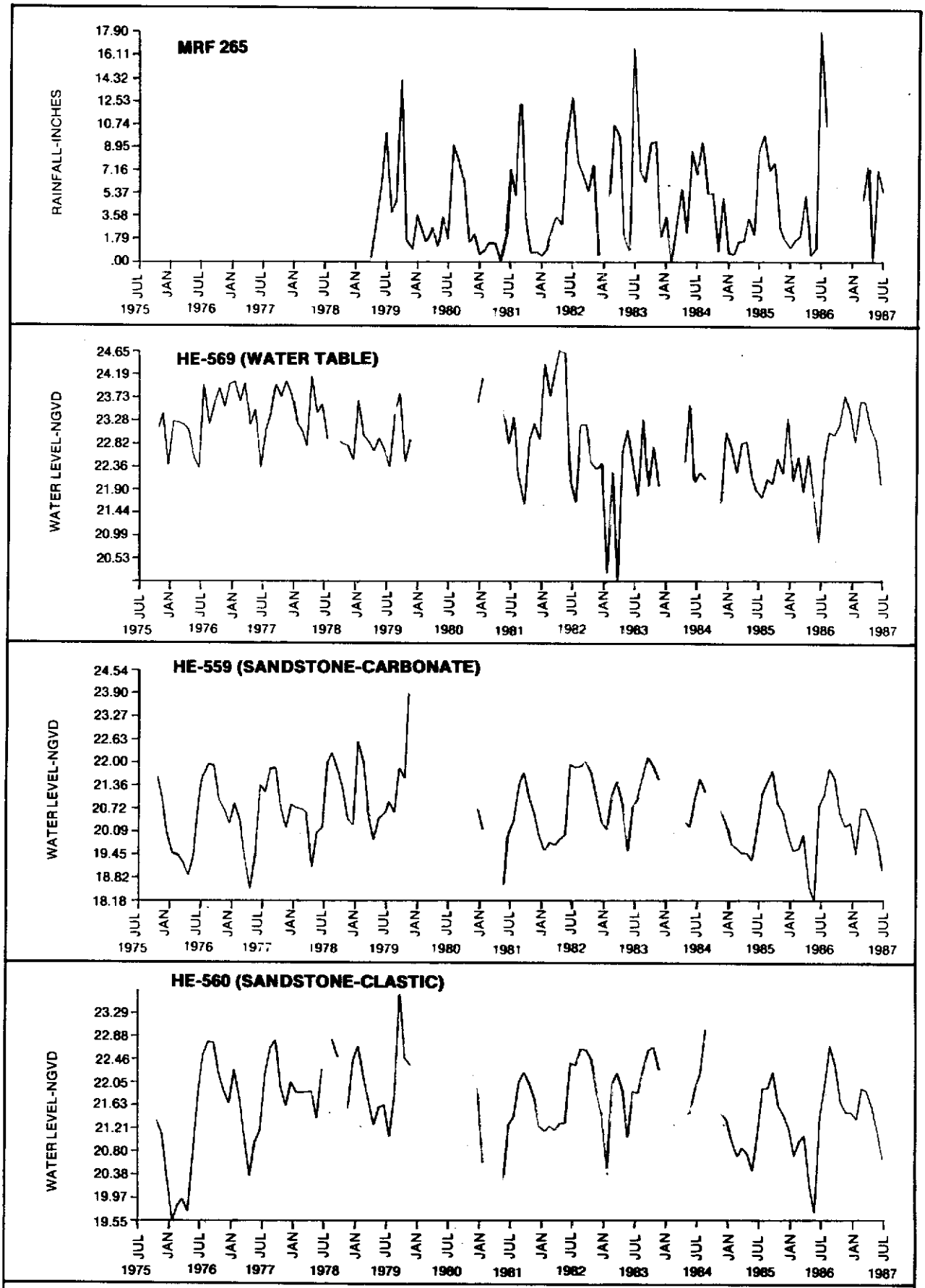
COMPARISON OF RAINFALL AND WATER LEVELS



COMPARISON OF RAINFALL AT STATION MRF-265 AND SANDSTONE AQUIFER WELLS HE-559 AND HE-560



COMPARISON OF RAINFALL AT STATION MRF-6098 AND WATER LEVELS IN LOWER TAMIAMI AQUIFER WELL C-462



COMPARISON OF RAINFALL, WATER LEVELS IN THE WATER TABLE AQUIFER AND POTENTIOMETRIC SURFACE OF THE SANDSTONE AQUIFER

APPENDIX C-1

INTRODUCTION

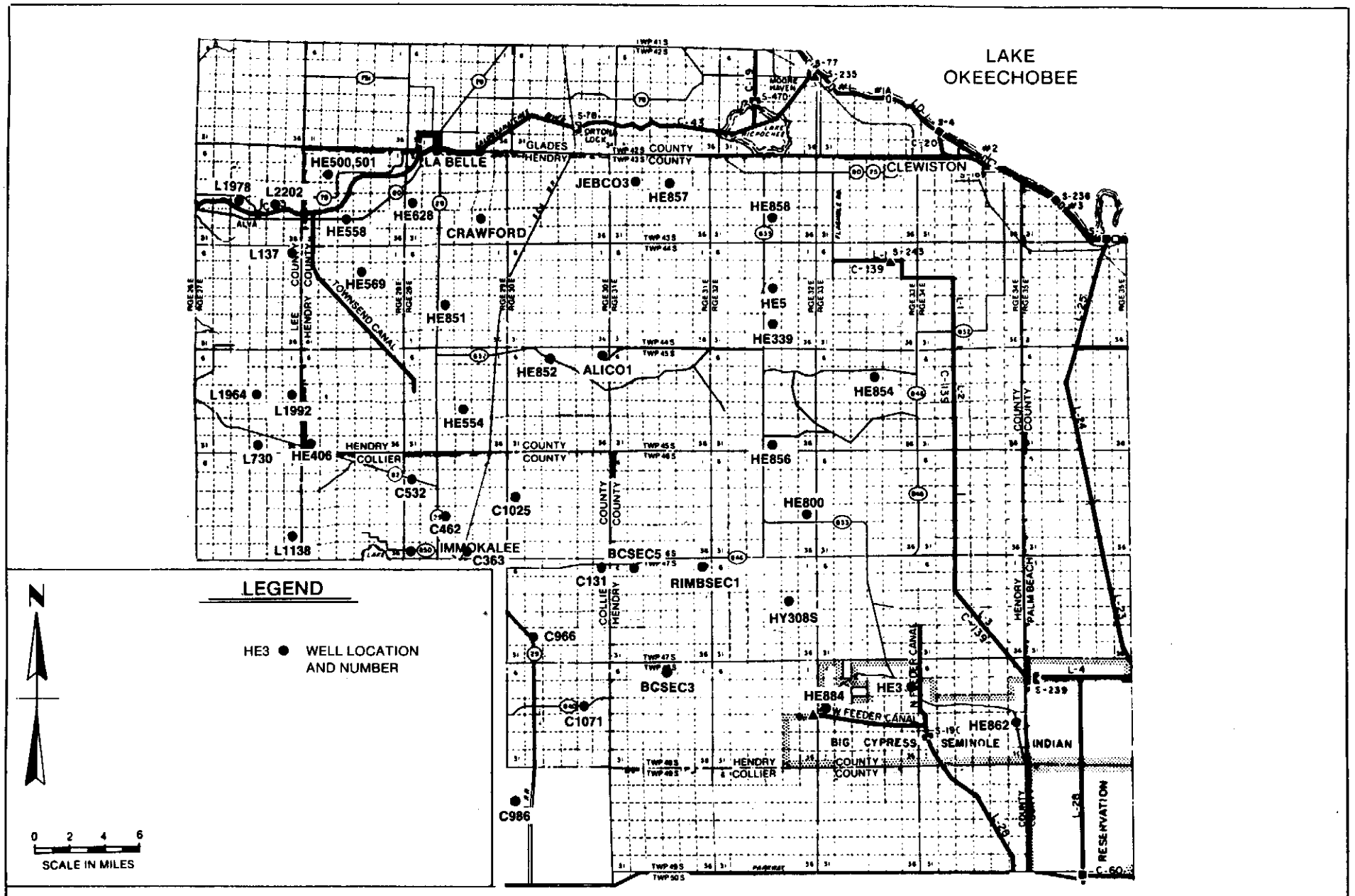
Introduction

The data used to describe the ground water quality of the study area is contained in this appendix. The data is presented in three parts. Appendix C-2 contains location maps of the water quality wells for each aquifer. Appendix C-3 contains complete analyses for selected wells. The data in 1986 and 1987 was supplied by the District's water chemistry laboratory. Data in prior years was provided by the USGS. Appendix C-4 presents the data used to construct the chloride and conductivity maps. In addition to the fall 1986 and spring 1987 values, known historical maximums and minimums are included, along with the number of records present and mean values for each well. There is little data available prior to 1982 and in most cases the wells were not regularly sampled until 1986.

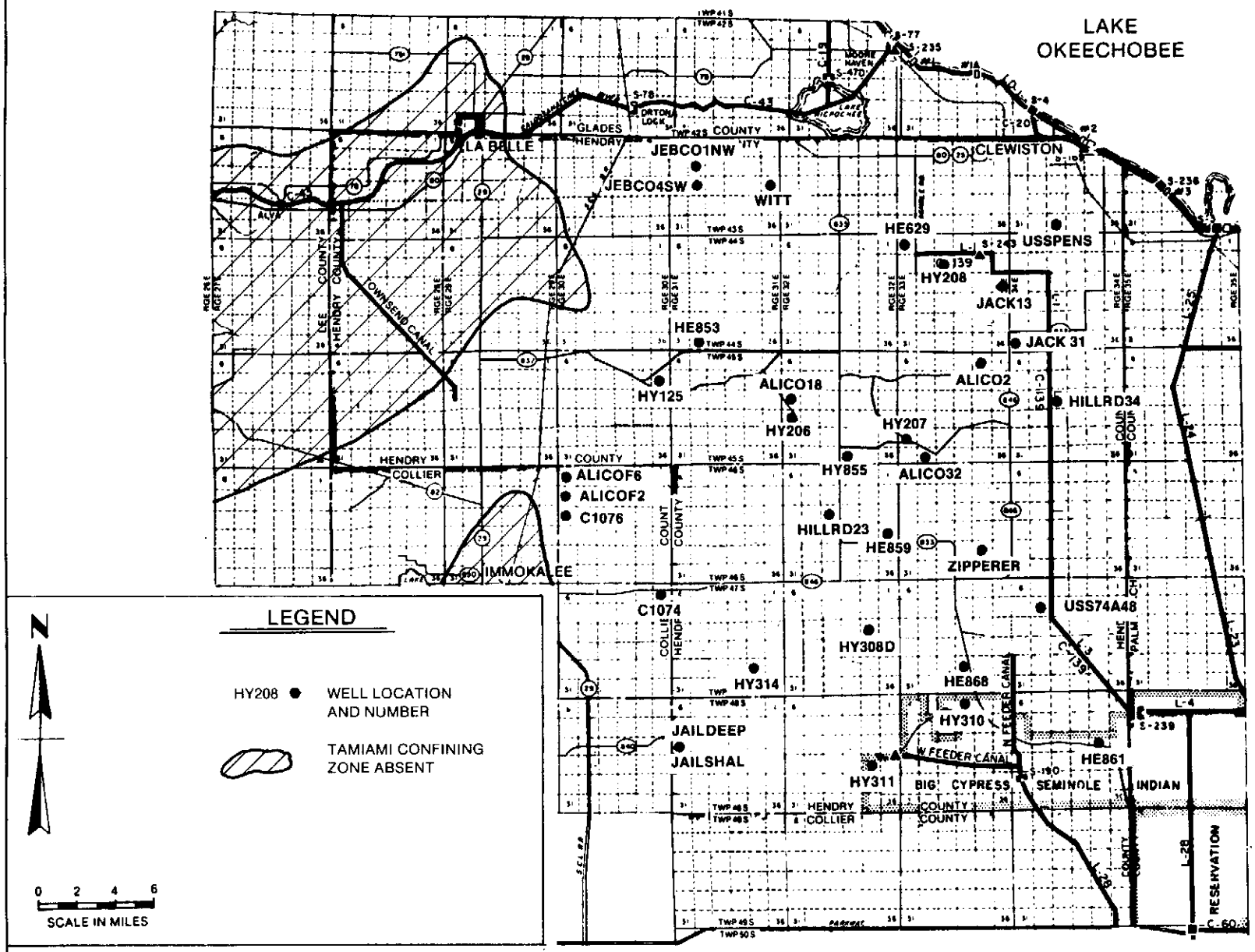
The data presented in this appendix may not represent all the available data for each well. However, all the data available at SFWMD and the USGS office in Ft. Myers is included here. Earlier data may be available from the USGS's archive files in Reston, Virginia.

APPENDIX C-2

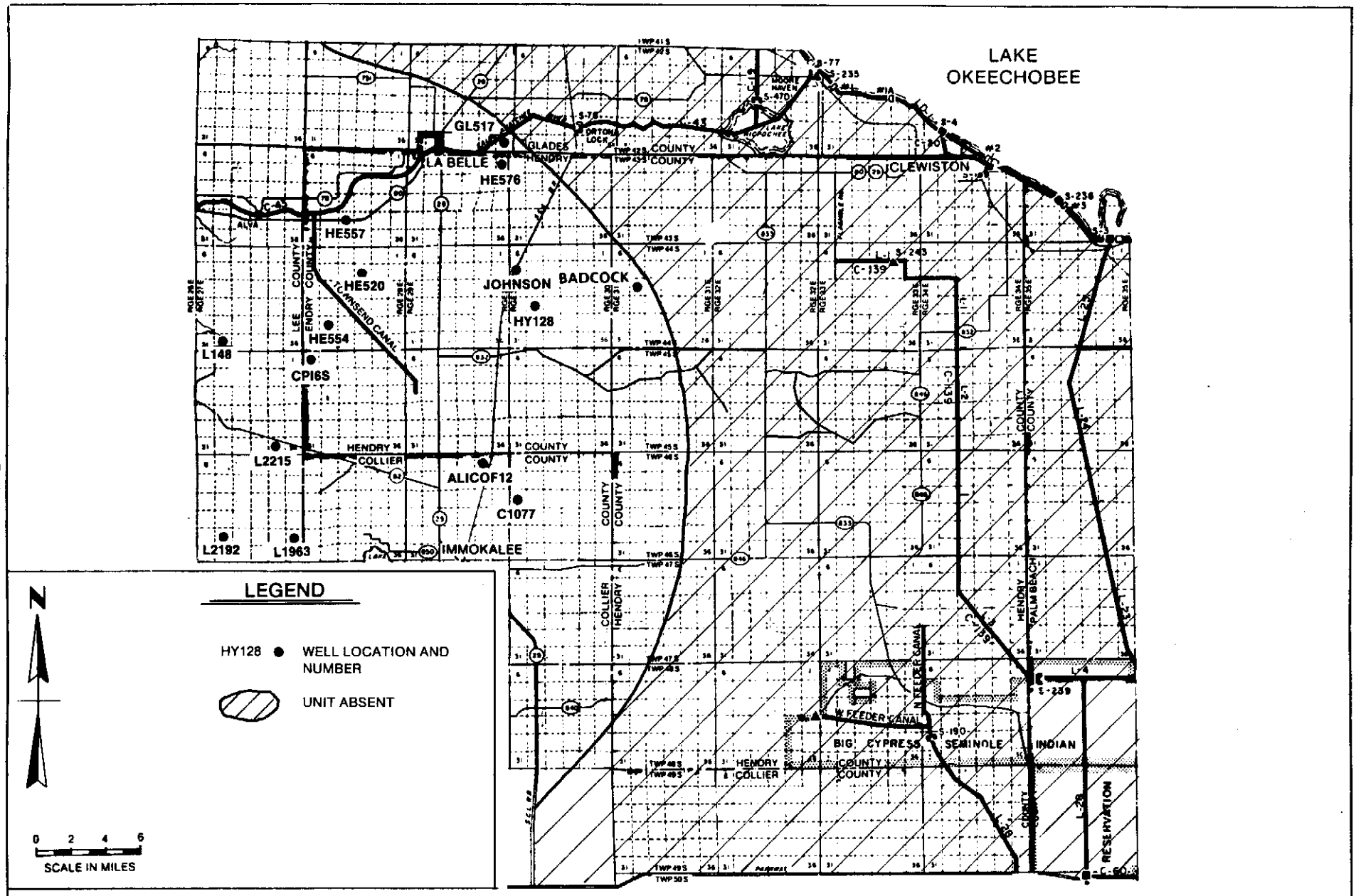
LOCATIONS OF WATER QUALITY WELLS



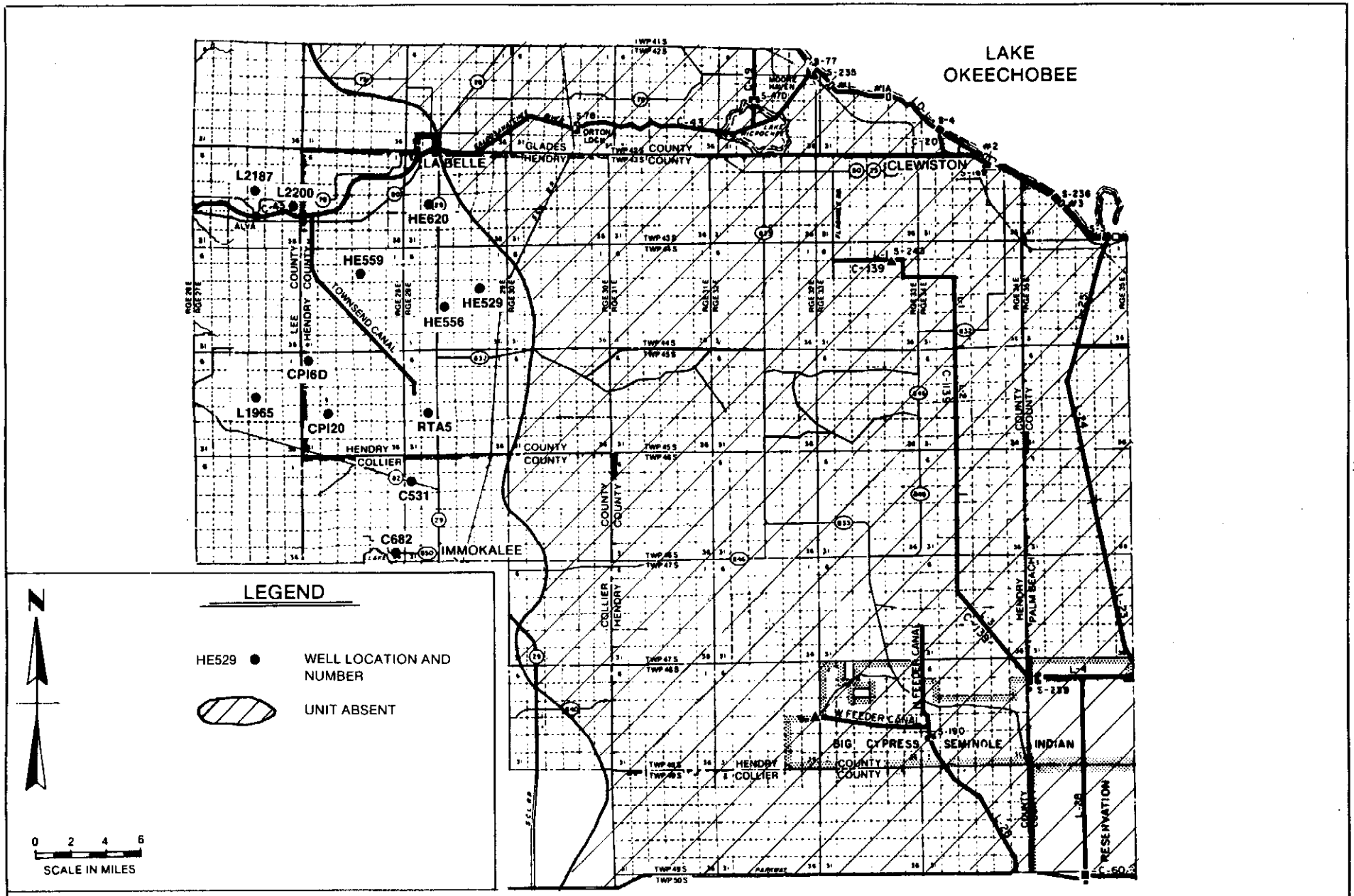
LOCATIONS OF WATER QUALITY WELLS MONITORING THE WATER TABLE AQUIFER



LOCATION OF WATER QUALITY WELLS MONITORING THE LOWER TAMIAMI AQUIFER



LOCATIONS OF WATER QUALITY WELLS MONITORING THE CLASTIC ZONE OF THE SANDSTONE AQUIFER



LOCATIONS OF WATER QUALITY WELLS MONITORING THE CARBONATE ZONE OF THE SANDSTONE AQUIFER

APPENDIX C-3

WATER QUALITY ANALYSES FOR SELECTED WELLS

WATER TABLE AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
HE 3	12 48 33	261859	805854	OCT 5 75	14	6.8	120	23	180	60	440	361	0.3	20	0.65			768	50	1360	7.9	21.96
				MAY10 76	14	6.7	100	21	180	57	429	352	0.4	17	0.95			734	50	1440	7.8	27.88
				OCT30 86	10.9	3.78	63	0.17	10.2	2.7		207	<.1	4.4	0.34	16.24	<.05	229	11	420	7.24	2.97
				APR27 87	26.1	4.37	79.8	8.79	14.8	5.9		222.3	0.11	4.4	<.5	4.18	0.07	251	26	481	7.49	8.86
HE 5	22 44 32	263750	810740	FEB22 78	12	30	21	5.6	9.6	1.6	153	120		1.5	0.6			171	20	297	7.5	0.25
				OCT31 86	11.3	10.7	24.6	5.04	4.8	2.9		115.4		1	0.18	82.1	0.06	139	19	249	7.41	1.93
				APR23 87	15.3	7.81	38.8	7.71	10	5.5		86.3	<.1	<1	<.5	23.7	0.09	95.1	31	251	7.69	35.29
HE 554	22 45 29	263310	812509	FEB22 78	34	17	45	70			230	190			1.5				100	289	7	
				OCT31 86	28.8	2.21	64.2	7.27	48.3	10.8		165.7	1.06	20.2	1.04	2.04	1.86	312	188	476	6.76	2.11
				APR21 87	30.9	1.58	46.2	7.14	37.4	12.4		100.6	0.28	11.1	0.97	2.06	1.44	242	196	407	7.8	12.54
HE 558	28 43 28	264235	813106	OCT31 86	554.5	17.7	177	112.3	1190.9	369.8		127.4	0.57	21.7	23.6	4.1	0.29	2533	62	4440	6.95	1.39
				APR24 87	560.5	17.75	219	126.2	1118	290.9		123.1	0.82	17.07	22.3	4.25	0.8	2267	49	4570	7.49	7.06
HE 569	10 44 28	263930	813015	DEC 8 75	54	1.7	86	8.6	53	56	279	229	0.4	10	0.44			410	25	750	7.3	1.08
				JAN 9 76	36	1.6	87	9.5	54	40	263	216	0.3	9.7	0.5			369	40	635	7.2	0.47
				OCT31 86	31.1	3.34	104.1	9.45	72.1	72.6		208.8	0.27	10.9	0.63	1.79	<.05	461	13	719	7.09	2.03
				APR24 87	39.4	3.4	99.3	11.98	98.4	58.8		186	0.32	11.25	0.65	1.98	<.05	467.1	29	801	7.85	5.48
HE 851	21 44 29	263845	812607	FEB27 78	120	4.1	210	13	200	51	600	490	0.6	12	0.13			916	280	1590	6.9	1.00
				OCT31 86	41.5	5.09	200	13.8	55	8.5		519.7	0.66	22.8	1.22	16.63	0.06	632.9	55	1123	7.03	3.71
				MAY 4 87	21.9	3.15	118.5	9.34	36.7	<5		349.6	0.8	14.9	0.81	6.68	0.81	370.9	83		7.1	2.60
HE 852	4 45 30	263548	812006	FEB23 78	.64	0.8	100	4.4	60	11	360	300	0.1	10	0.11			430	400	739	6.4	2.09
				OCT31 86	27.5	0.37	95.3	3.45	26.4	26.3		223.7	0.97	12.3	0.12	26.82	<.05	395.1	750	585	7.17	4.01
				APR21 87	46.7	0.58	99.5	3.86	26	<5		248.9	0.45	11.7	<.5	24.7	10.35	431.1	1010	592	7.61	11.54
HE 854	10 45 33	263515	810120	FEB25 78	15	0.7	160	8	22	4.7	510	420	0.3	6.8	0.51			470	40	810	7.3	1.28
				OCT31 86	4.8	0.86	84.4	3.73	12.5	4.4		225.5	8.24	11.4	0.35	17.99	0.15	265	45	454	7.34	2.41
				APR23 87	19.3	0.75	103.9	5.01	13.8	<5		252.2	0.6	8.5	0.61	2.17	0.17	283.1	41	535	7.55	7.68
HE 856	34 45 32	263135	810735	FEB23 78	9.1	1	57	3.8	21	12	150	120	0.1	3.7	0.1			183	90	332	6.4	3.85
				OCT31 86	<1.8	0.52	60.9	2.04	3.2	5.7		184.1	<.1	13	0.25	0.5	0.1	206	42	353	7.07	2.92
				APR23 87	15.1	0.4	75	2.22	4.2	6.8		158.6	0.21	5.5	<.5	0.49	0.23	208	50	367	7.49	14.49
HE 857	10 43 31	264535	811307	OCT31 86	<1.8	2.97	72.6	3.67	12.2	3.3		199.6	<.1	12.3	0.49	2.94	<.05	246.9	59	412	7.19	3.76
				APR22 87	12.6	3.03	72.9	4.16	13.1	<5		176.8	0.24	7.5	0.59	2.36	2.05	264	88	436	7.55	6.95
HE 858	27 43 32	264235	810744	FEB22 78	52	4.5	84	12	96	45	250	210	0.2	6.7	0.73			425	110	753	7.2	1.22
				OCT31 86	43.8	4.76	63.8	8.72	56.4	6.4		207.5	0.32	1	0.7	0.76	0.08	336.9	88	569	7.26	0.48
				APR22 87	17.8	3.42	64	9.11	20.7	<5		168.4	0.33	4.9	0.63	0.27	0.16	231	90	438	7.55	8.47
HE 860	24 46 32	202735	810426	FEB23 78	15	0.9	120	7.9	32	9.5	350	290	0.4	9.3	0.53			368	25	657	7.2	3.37
				OCT30 86	2.5	1.48	117	5.22	14.4	3.4		297.5	0.47	13.6	0.5	0.93	<.05	358.1	19	612	6.5	0.07
				APR27 87	20.9	0.74	105.9	5.16	11	<5		278.5	0.46	7.4	<.5	0.85	0.1	307	28	589	7.4	9.20

WATER TABLE AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
HE 862	24 48 34	261735	805340	FEB25 78	20	1.4	100	5.2	27	5.2	340	280	0.2	11	0.47			338	25	609	7.4	0.93
				OCT30 86	2.2	1.02	80.1	1.82	11.7	3.1		211.3	0.33	4.8	0.35	2.95	<.05	242	33	419	7.57	3.94
				APR27 87	18.6	0.98	87.4	2.54	9	<5		240	0.32	6.3	<.5	2.4	0.46	285	46	513	7.45	2.36
HE 884	18 48 33	261801	810425	FEB24 78	52	4.5	54	21	62	4.6	280	230	0.2	3.3	0.55			342	25	648	7.6	2.76
				OCT30 86	30.3	3.1	133.9	17.68	35.9	3.5		394.5	0.32	23.3	0.98	58.05	0.21	497	29	846	7.14	3.04
				APR27 87	33.3	3.04	131.5	18.42	33	<5		372	0.35	18.9	0.96	2.8	0.08	532.1	45	879	7.31	6.26
C 131	1 47 30	262521	811619	OCT27 86	64.3	2.82	113	17.3	79.6	7.6		633.2	0.37	23.5		4.31		520	36	878	7.03	20.52
				MAY 4 87	55.2	0.09	111.9	17.36	71.7	6.6		373.7	0.31	16.6	0.46	3.66	0.1	532.1	46	819	7.14	1.06
C 363	34 46 29	262555	812428	APR30 87	20.5	1.92	53.7	7.11	16.2	15.5		186.1	0.22	45.2	0.32	1.81	0.07	235.9	8	361	7.2	3.39
C 462	20 46 29	262744	812612	OCT27 86	17.1	5.43	104.4	6.94	25.4	16.2		473	0.36	14.2		17.75		391.1	167	568	7.28	22.40
				APR29 87	21.4	13.1	84.8	6.01	31.1	>5		228	0.32	5.1	0.41	7.34	3.33	354.9	172	495	7.26	3.94
C 532	7 46 29	262928	812729	OCT27 86	96.1	10.8	38.9	20.82	64.6	31		495.7	0.95	42.1		0.05		441	10	753	7.48	20.65
				APR29 87	18.9	1.31	47	8.84	20.8	6.1		126.9	0.72	15.4	0.33	0.56	0.39	255	212	307	6.78	8.64
L 1137	1 44 27	263950	813554	OCT31 86	<1.0	0.44	83.6	8.38	9.6	22.5		229.4	0.28	10.6	0.54	6.07	0.25	317.1	50	541	7.38	3.65
				APR24 87	21.1	0.59	89.4	9.92	13.2	20.4		203.7	<1	7.18	0.63	51.93	0.09	304.1	36	363	7.24	12.11
L 1138	25 46 27	262703	813420	OCT28 86	17.2	3.22	27.3	4	22.2	4.9		100.7	<.1	<1	0.39	4.82	0.39	143	8	269	7.71	4.16
				APR27 87	25.4	0.72	60.5	3.24	20.7	5.9		152.7	<.1	4.8	<.5	4.2	<.05	223.1	15	576	7.36	7.96
L 1964	15 45 27	263344	813617	OCT31 86	14.9	1.59	88.1	11.8	13.5	10.6		247.6	0.39	11.3	0.81	6.53	0.23	344.1	137	531	7.45	4.35
				APR21 86	31.8	0.97	33.4	10.64	22.6	9.4		248.5	0.36	7.9	<.5	1.79	1.8	385.9	199	613	7.26	18.97
L 1978	21 43 27	264320	813657	OCT31 86	21.5	0.64	49.6	6.22	23.3	18.2		137.1	0.19	8	2.01	1.06	0.38	244.9	122	318	7.16	2.10
				MAY 4 87	15.8	0.73	75.4	5.5	18.1	7.9		212.2	0.22	5.4	0.27	0.92	0.87	284.1	97	400	7.07	0.04
L 1992	13 45 27	263353	813358	OCT31 86	52.4	0.21	136.6	12.58	189.5	60.1		241.9		9.6	0.34	2.1	<.05	840	13	1206	6.93	6.01
				APR21 87	144.1	0.49	176.7	16.26	247.9	57.7		230.8	0.31	0.6	<.05	5.32	0.05	938	19	1580	7.1	8.32
L 2202	23 43 27	264329	813404	OCT31 86	44	2.14	108.4	13.76	60.2	13.3		291.4		19.8	1.66	4.38	0.22	453.9	131	708	7.22	4.34
				MAY 4 87	40	2	115.5	12.92	54.8	<5		337.8	0.36	14.7	1.37	2.21	0.55	472.1	151	692	7.26	1.26
BCSec5	5 47 31	262530	811436	OCT23 86	26.5	0.97	110.4	6.97	32.4	5.5			0.34	16.2		7.73		388	158	647	7.09	
				APR28 87	38.4	0.86	103.9	7.02	31.7	<5		253.9	0.28	11.8	<.5	9.51	0.1	388.9	34	709	6.38	10.22
RimSec1	1 47 31	262554	811112	OCT23 86	37.5	1.53	91.2	6.61	40.8	5.8			0.25	19.7		11.99		376.9	40	621	7.29	
				APR28 86	44.8	1.4	79.3	6.37	38.5	<5		287.6	0.17	14.9	0.56	4.03	0.31	365.1	46	680	6.83	3.53
Jebco3	8 43 31			OCT28 86	27.9	1.15	114.8	13.82	42.4	6.4		573.1	0.21	29.4		0.07		426.9	13	713	7.22	14.20
				APR27 87	49.3	2.68	117.5	13.81	75.5	17.6		308	0.31	30.2	1.66	<.05	<.05	482	22	827	7.12	3.13

WATER TABLE AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
H308S	14 47 32	262335	810554	OCT 6 86	27.4	1.01	120	9.02	44.4	4.6		399.5		26.2	0.4	2.06	<.05	442.1	40	728	6.93	8.00
				OCT23 86	31.1	1.09	121.4	9.18	48	6.6			0.34	19.9		1.9		441	43	764	7.2	8.02
				APR28 87	43	0.99	123.7	9.16	46.3	7.3		278.3	0.31	15.2	0.55	7.1	0.06	444.9	44	786	7.52	11.37
Alicol	1 45 30	263606	811706	NOV3 86	45.7	1.44	77.9	16.66	52.1	2.7		268.4	0.67	23.6	0.25	2.04	0.06	387.1	29	671	6.72	2.80
				APR28 87	47.6	1.81	82.3	18.75	69.4	5.5		250.4	0.21	18.6	0.39	2.36	<.05	421	28	788	7.42	9.96
BCSec3	3 48 31	262000	811224	OCT23 86	13.7	0.87	129.8	8.52	20.5	10.9			0.43	13.6		2.27		416	41	705	7.02	
				APR28 87	18.5	0.89	139.5	10.47	23.1	16.6		291.7	0.37	8.6	<.5	2.79	0.15	343	25	786	6.91	11.78
Crawford	26 43 29			NOV 4 86	57.6	0.92	110	5.99	57.4	4.5		288.6	0.29	16	0.62	3.98	0.96	423.9	80	691	7.5	6.43
				APR27 87	36.6	0.93	110.2	5.45	53.9	52.3		231.6	0.37	11.9	2.2	3.77	1.95	414	112	675	7.29	2.24

LOWER TAMIAMI AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
HE 629	6 44 33	264137	810407	OCT31 86	134	5.74	62.4	15.71	150.6	49		243.3	0.306	27.5		0.11	<.05	611	18	1069	7.72	1.20
				APR22 87	163.5	6.62	83	16.64	150.9	44.4		272.2	0.32	23.26	0.77	<.05	<.05	588.1	25	1114	7.8	9.26
HE 861	23 48 34	261735	805340	FEB25 78	58	2	110	12	65	3.9	430	350	0.2	25	0.7			489	20	854	7.2	0.49
				OCT30 86	60.3	2.2	114.8	11.22	63.5	3.1		237.3	0.17	28.9	0.79	0.13	<.05	486	27	850	7.24	17.20
				APR27 87	60.4	2.81	115.7	11.59	55.7	<5		303.2	0.22	18.6	0.61	0.17	0.09	490	36	852	7.42	9.82
HE 853	32 44 31	263618	811430	FEB23 78	40	0.6	150	14	78	13	440	360	0.2	16	0.44			542	450	894	6.8	3.53
				OCT31 86	40.1	0.58	135	11.96	67.6	4.6		369.7	0.32	23.3	0.44	2.03	0.2	528.9	73	855	6.93	0.45
				APR21 87	40.8	0.79	146.5	12.4	50.1	<5		346.3	0.41	17.8	0.54	10.47	0.28	477.9	56	846	7.36	9.11
HE 855	34 45 32	263135	810735	FEB23 78	62	2.1	100	17	100	4.4	380	310	0.3	24	0.42			498	40	907	7.2	0.01
				OCT31 86	51.6	1.74	89.9	14.11	73.8	4.5		255.2	0.18	<1	0.38	0.15	0.07	394	40	742	7.16	4.25
				APR23 87	69.6	2.19	199.3	17.73	90.6	9.2		290.1	0.48	24.9	<.5	0.15	0.06	484	41	885	7.49	25.78
HE 859	24 46 32	262735	810446	FEB23 78	70	23	34	0.5	6.3	90	91		0.2	20	0.37			361	30	726	11	11.08
				OCT30 86	55.2	3.01	5.9	0.58	45.6	3.2		48.5	0.24	18.7	0.48	0.07	<.05	155.9	14	300	10.02	9.73
				APR27 87	55.6	1.97	97.1	14.87	54.9	<5		322.7	<.1	25.1	<.5	3.23	0.07	446	35	804	7.4	2.57
HE 868	27 47 33			FEB 23 78	94	4	10	10	100	5.9	140	110	0.1	0.5	0.1			294	20	592	8.8	2.56
				OCT31 86	126.7	4.29	90.9	13.15	134.7	2.9		334.6	0.26	18.5	0.83	12.25	<.05	553	28	1043	7.45	3.17
				APR27 87	130.6	4.41	99.4	13.85	122.3	<5		333.2	0.51	19.3	0.71	2.31	0.08	668	56	1149	7.38	7.36
C 1074	1 47 30			OCT27 86	112.5	22.15	43.7	31.7	97.4	14.2		574.5	0.39	33.6		0.14		518	4	939	7.48	17.29
				APR29 87	106.6	21.5	44.9	34.03	95.8	18.5		371.1	0.4	27.1	0.58	<.05	<.05	502.9	8	905	7.65	1.38
Jebco4SW	17 43 31			OCT28 86	13.9	1.02	96	26.1	24	9.9		238.5	0.26	10.6		2.16		334.9	13.7	505	7.26	14.49
				APR27 87	14.4	1.11	94.6	2.33	22.2	5.8		231.1	0.22	6.9	1.32	2.34	1.99	316	147	496	7.24	1.81
Alico18	18 45 32	263342	811024	NOV 3 86	192	4.61	91.7	35.84	99.3	3.5		352.7	0.62	39.5	0.54	0.14	0.3	804	47	1310	6.98	6.93
				APR28 87	117.5	4.62	88.5	36.88	101.3	<5		462.1	0.58	34.8	0.64	0.5	0.12	753	49	1440	7.52	1.90
Alico2	2 45 33	263548	810012	NOV 3 86	91.1	3.01	111.1	12.85	94.6	3.8		358	0.23	29	0.63	3.19	<.05	562	38	940	7.05	3.56
				APR28 87	83.8	2.93	103.7	13.26	87.3	<5		433.7	0.13	20.7	0.66	9.96	0.14	432	30	936	7.28	5.60
Hitt	24 43 31			NOV 4 86	38.6	0.4	129.2	2.95	52.4	12.5		305.3	0.51	11.3	0.52	7.24	5.84	499	362	707	6.97	3.35
				APR27 87	24.1	0.43	131.8	2.89	42.1	7.1		316.2	0.35	10.8	1.16	7.36	4	462	287	686	7.12	1.36
AlicoF7	7 46 30			NOV 4 86	35.9	1.3	95.8	18.91	52.3	4.1		271.7	0.31	37.4	0.37	0.27	<.05	408.9	11	699	7.36	6.34
				APR27 87	30.2	1.44	88.6	18.86	41.8	<5		265.1	0.31	32.1	2.35	0.36	0.05	378.9	9	680	7.38	5.36
AlicoF6	6 46 30			NOV 4 86	85.7	2.19	103.4	23.7	54	3.3		378.7	0.33	45.5	0.61	0.25	<.05	511	16	848	7.26	8.62
Hillrd16	16 46 32			NOV 5 86	86.1	3.13	106.7	7.76	76	3.5		340.5	0.21	31.1	0.48	0.76	0.07	526	31	891	7.16	4.09
				MAY 4 87	120	3.85	111.8	7.99	72.8	<5		360.3	0.22	29.8	0.58	0.66	0.08	513	28	753	7.65	10.33
Hillrd23	23 46 31			NOV 5 86	72.4	5.41	78.9	27.51	63.8	3.1		362.9	0.48	33	0.44	2.24	0.08	504.9	30	846	7.22	1.95
				MAY 4 87	118.4	6.05	86.2	27.55	66.8	<5		396.4	0.43	30.5	<.5	0.59	0.37	468	29	1032	7.45	9.04
Hillrd34	16 45 34			NOV 5 86	101.6	3.13	124.9	9.74	132.9	5.7		374.2	0.2	27.1	0.83	6.07	0.46	638.1	53	1090	7.07	0.54
				MAY 4 87	120.3	3.74	1.35	9.47	125.2	13.5		391.9	0.2	24.5	0.7	0.19	0.44	612	54	1236	7.24	30.71

LOWER TAMIAMI AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
Jack13	13 44 33	263942	805948	NOV 5 86	104.6	1.54	130.8	6.29	115.3	4.5		332.4	0.19	21.2	0.72	2	0.09	595.1	47	1064	7	5.63
				APR28 87	74.3	1.22	109.8	5.11	99	<5		342.1	0.13	14.9	1.15	25.28	0.09	542	30	990	7.16	16.21
Jack31	31 44 34	263736	805824	NOV 5 86	37.1	1.61	118	3.7	64	2.9		282.6	0.13	23.4	0.82	22.32	<.05	475	35	758	7.05	2.13
				APR28 87	23	1.44	113	2.44	32.1	<5		230.6	<.1	11.1	0.5	12.74	0.1	400.1	45	653	7.04	10.09
USSPens	33 43 34	264248	805700	OCT23 86	36.8	1.83	133.5	4.82	46	14.4			0.21	21.3		3.34		488	145	783	7.12	
				APR28 87	45.2	1.05	3.2	5.5	42.9	<5		325	<.1	13.5	<.5	2.82	0.38	502	98	847	7.12	49.95
Alico32	32 45 33	263200	810248	OCT28 86	138.5	6.07	103.6	20.15	148.6	11.4		708.4	0.26	31.4		4.45		712	70	1191	7.17	17.67
				APR28 87	122.6	4.98	98.2	19.89	115	5.9		406.7	0.3	23.5	1.07	10.95	0.19	652	79	1149	7.25	2.13
JabcoINW	8 43 31			OCT28 86	47.3	2.34	119.2	17.38	56.6	10.5		617.6	0.34	40.4		0.07		514.1	13	809	7.19	19.71
				APR27 87	45.8	2.34	122	15.49	53.7	8.5		286.6	0.27	34.3	1.64	0.33	0.08	475.9	21	824	7.1	58.80
HY308B	14 47 32	262336	810554	OCT 6 86	65.1	3.1	147.3	14.75	92.5	9.4		498.6		32.7	0.77	0.12	0.1	614	80	1060	7.17	5.34
				OCT23 86	61.7	3.16	148.2	14.44	91	8			0.38	23.9		0.62		611	85	1054	7.05	
				FEB23 87	67.1	3.44	147.1	15.46	90.6	9.6		361	0.32	21	1.03	0.6	0.06	585.9	80	943	7.26	7.65
				FEB27 87	62.6	3.28	145.1	15.24	95.5	8		393	0.33	21.8	1.16	0.09	0.06	616	90	923	7.33	2.68
				APR28 87	99.4	3.83	136.8	15.99	102.6	14.9		333.1	0.11	19.5	1.01	0.12	0.22	655.1	96	1179	7.29	9.89
HY310	3 48 33	262042	810118	OCT 6 86	119.4	4.47	136.4	14.65	158.2	40.2		420.8		35	0.71	0.06	<.05	721	55	1253	7.2	1.44
				OCT23 86	94	4.51	134.6	12.79	120.3	19			0.41	25.4		0.1		654	5	1126	7.39	
				FEB 9 87	133.3	4.83	136	16.07	115.2	39.7		328.3	0.43	22.7	0.9	0.06	0.05	776.1	33	1250	6.88	13.78
				FEB11 87	120.7	4.1	131.7	14.59	129.9	24.2		314	0.42	23.2	0.81	0.05	0.05	686	46	1119	7.07	12.67
				APR28 87	81.5	3.2	134.2	12.41	82.8	12.5		322.4	0.32	19.9	1.19	0.11	0.09	97.01	71	1037		11.32
HY311	23 48 32	261806	810624	OCT 6 86	442.5	15.15	107.4	55.45	606.5	99.9		362.4		45	1.65	0.02	<.05	1565.9	18	2760	7.39	5.58
				OCT23 86	388	17.99	49.2	37.21	533.1	122.3			0.54	25.6		0.38		1148.1	13	2240	9.35	
				MAR16 87	185.5	8.8	77.6	27.52	101.7	93.2		149.3	0.544	19.6		0.1	<.05	813	29	1450	7.35	26.67
				MAR20 87	208	9.44	108.9	32.79	273	89.2		331.2	0.595	25.5		<.05	<.05	980.1	27	1670	7.33	3.69
				APR28 87	168.5	8.03	88.2	25.97	194.3	45.4		342.9	0.47	29.1	1.08	<.05	1	813.9	32	2160	7.4	2.91
HY314	26 47 31			MAY22 87	24.8	2.11	123	14.55	21.9	21		421	0.35	25.2	0.69	0.21	0.08	425.9	26	709	7.85	5.59
				MAY25 87	25.3	2.05	128.4	14.99	20.3	<5		405	0.3	22.2	0.74	0.37	0.13	427.1	25	708		0.12
USS74A48	8 47 34			OCT23 86	24.4	1.85	95.5	3.62	25.9	5.6			0.27	26.6		0.15		336	38	558	7.32	
				APR27 87	27.4	1.94	95.2	4.19	26.6	<5		258.6	0.18	20.4	<.5	0.07	0.08	343	36	560	7.33	2.53
Zipperer	26 46 33	262754	805936	OCT23 86	23.8	1.78	68	3.31	31.9	5.8			0.31	23.7		5.74		267.9	60	455	7.32	
				APR28 87	34.3	2.11	59.6	3.81	31.8	<5		167.6	0.2	12.5	<.5	4.07	0.09	240	54	473	7.47	5.25
Jaildeep	18 48 31			OCT27 86	50.9	3.06	96.4	23.26	37.1	6		650.5	0.44	31.2		0.55		434.1	13	769	7.29	22.20
				APR27 87	55.2	3.07	95.2	23.58	32.7	<5		316.9	0.42	24.6	2.56	<.05	<.05	441.9	18	773	7.4	10.94
Jailshal	18 48 31			OCT27 86	43.5	1.96	93.5	20.55	32.3	8.7		614.6	0.32	33.8		5.56		415	8	720	7.45	23.46
				APR27 87	46.3	2.55	98.6	23.54	34	<5		382.2	0.42	24.3	0.53	0.18	0.08	430.9	19	750	7.36	1.32
HY125	12 45 30	263513	811707	JAN25 88	47.7	2.24	104.2	22.58	51	6.5		451.3	0.203	26.9	0.33	0.17	<.05	515.9	17	663	7.11	7.11
				JAN28 88	42.6	1.95	100.3	20.9	55.2	5.1		433	0.214	26.8	0.31	<.05	<.05	519	15	334	7.37	8.92

LOWER TAMIAMI AQUIFER

well name	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	% error
HY206	19 45 32	263341	810006	AUG31 87	129.2	5.91	123.5	40.8	78.5	<5		574.8	0.82	42.8	1.92	0.21	0.13	784	80	1226	7.09	5.09
				SEP03 87	142.3	5.16	126.7	41.8	82.7	<5		620.4	0.54	39.5	2.02	0.11	0.07	839.1	70	1250	7.09	4.11
HY207	30 45 33	263213	810409	AUG17 87	75.4	2.54	116.5	15.23	83.4	28		249.1	0.45	28	1.19	0.14	0.11	591.1	99	971	7.47	13.62
				AUG20 87	78.6	2.66	114.3	15.4	82.3	26.5		363.5	0.46	26.5	1.26	0.12	0.08	567	94	865	7.3	1.95
HY208	9 44 33	264045	810230	OCT19 87	97.3	13.95	79.1	36.62	112	16.9		372.9	0.167	30.9	1	0.08	<.05	1230.2	23	955	7.51	2.59
				OCT22 87	93.5	13.94	74.1	38.53	112	11.1		408.2	0.24	30.2	0.9	<.05	<.05	1139.8	26	929	7.39	1.33

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well number	zone	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	error(%)
HE 516	clastic	1 43 29			OCT31 86	62.4	9.76	24.5	11.36	58.3	2.7		173.5	0.34	3.6	0.5	1.1	<.05	298.9	6	508	8.07	0.47
					APR22 86	68.4	7.57	145.8	17.91	67	22.4		198.9	0.48	32.2	<.5	0.07	0.05	438.1	23	866	8.21	30.60
HE 529	carb.	22 45 29	263310	812509	DEC 4 75	40	2	82	15	37	12	347	285	0.4	27	0.26			390	15	740	7.5	0.96
					APR19 76	41	2	85	14	42	18	351	288	0.4	28	0.58			400	10	660	7	0.58
					OCT31 86	40.7	1.8	86.6	13.75	38	7.7		293.2	0.65	36	0.42	0.15	0.07	388	23	671	7.33	1.22
					APR21 87	41	1.87	91.4	14.62	39.6	15.5		269.4	0.44	30.3	<.5	<.05	<.05	394	16	723	8.09	5.35
HE 556	carb.	21 44 29	263845	812607	APR16 76	120	12	56	44	180	65	310	254	1.7	42	1			670	10	1300	7.4	1.83
					OCT31 86	137.5	10.3	58.2	37.8	173.1	42.1		244.9	0.87	43.8	1.61	0.08	<.05	565	15	1090	7.26	7.00
					MAY 4 87	115.6	10.15	55.9	36.3	171.4	42.3		251.2	0.94	38.9	1.19	0.07	<.05	537	8	1012	7.36	1.50
HE 557	clastic	28 43 28	264235	813106	DEC 8 75	580	20	170	110	1200	370	150	123	3.8	31	8.8			2600	5	4900	7.4	0.35
					APR15 76	590	21	170	120	1200	370	152	125	1	30	13			2600	10	4600	7.1	0.58
					OCT31 86	557	19.45	175	106.75	1121.8	405		128.5	0.94	43.4	14.19	<.05	0.87	2286	8	4360	7.22	0.48
					APR24 87	656.5	19.35	187	119.75	1131.9	346.5		146.5	1.07	34.44	13.65	<.05	<.05	2182	19	4870	7.5	6.82
HE 559	carb.	10 44 28	263930	813001	DEC 8 75	470	17	130	87	880	360	160	132	1.4	20	8.6			2100	5	3900	7.5	0.26
					APR16 76	480	17	160	110	980	400	157	129	0.7	20	11			2300	10	3500	7.4	0.60
					OCT31 86	464	15.5	127.6	83.35	932.9	415.2		122.4	0.88	27.1	11.58	<.05	<.05	2054	13	3650	7.28	5.06
					APR24 87	519.5	16.6	143.5	95.1	826.3	342.4		92.6	0.82	20.64	11.49	0.09	<.05	2137	23	4600	7.66	8.13
HE 560	clastic	10 44 28	263930	813015	JUN14 76	240	7.1	160	56	490	280	260	214	1.3	60	2.3			1420	5	2300	7.1	1.49
					OCT31 86	332	6.68	174.5	54.9	696.9	338.8		187.8	0.72	46.5	2.3	46	0.11	1651.9	12	2820	6.86	4.51
					APR24 87	306.5	6.41	186	52.5	553.7	256.1		172.1	0.87	50.59	2.48	0.22	<.05	1577	13	3959	7.76	5.25
HE 620	carb.	19 43 29	264353	812811	OCT31 86	198	19.2	62.8	59.15	315	140.5		258.1	0.97	57.1	1.52	2.67	<.05	923	14	1670	7.17	0.39
					APR24 87	208	20.4	14.8	48.85	84.7	113.4		253	0.91	50.23	1.54	0.07	0.08	906.1	14	1690	7.76	18.73
GL 517	clastic	36 42 29	264612	812229	OCT31 86	20.9	1.32	98.2	6.11	23.8	2.7		257.7	0.33	26.2	0.68	20.79	<.05	334.9	17	567	7.47	3.82
					APR22 87	20	1.57	98.2	6.96	21.2	<5		258.4	0.29	17.8	0.55	9.17	<.05	347	23	624	8.21	4.21
L 731	both	25 46 27	263344	813617	OCT28 86	9.1	1	20.5	0.81	13	2.9		57.8	<.1	2.7	0.2	10.55	0.06	88	7	153	7.64	2.32
					APR27 87	37.5	3.53	36.3	5.85	36.3	6.7		79.4	0.2	4.04	<.5	21.35	<.05	168.9	17	362	7.42	18.69
L 1963	clastic	25 46 27	263344	813617	OCT31 86	102.3	4.17	84.6	26.39	75.4	71.9		241.4	0.59	32.5	3.13	0.76	0.1	675	19	1147	7.5	1.45
					APR21 87	114.9	3.54	87.1	26.47	133.3	51.2		203.2	0.59	22.7	1.52	0.15	0.12	646.1	22	1214	7.26	13.29
L 1965	both	13 45 27	263353	813358	OCT31 86	48.6	1.71	94.5	21.87	96.3	15.8		242.3	0.37	26.5	0.76	0.57	<.05	495	11	869	7.34	4.73
					APR21 87	67.7	2.45	98.1	24.86	118.3	27.2		251.6	0.47	27.3	0.51	0.55	<.05	478.1	17	1001	7.19	5.38
L 1977	both	21 43 27	264320	813657	OCT31 86	215	9.73	105.3	49.15	596	147.9		178.3	0.84	65.6		0.13	<.05	1354.11	8	2350	7.16	10.76
					MAY 4 87	498	15.65	131.8	87.95	929.7	260.4		129	0.87	33.3	18.05	<.05	<.05	1844	8	3450	7.41	2.35
L 2187	carb.	11 24 27	263950	813554	OCT31 86	171.5	9.61	99	39.78	344.6	153.7		226.1		36.1	3.27	0.07	<.05	1017.9	7	1750	7.22	4.56
					APR24 87	203.5	9.7	97	49.15	324.7	135		229.4	0.68	32.8	2.07	0.06	<.05	898.1	19	1900	7.31	4.13
L 2215	clastic	35 45 27	263127	813516	OCT31 86	14.8	1.3	73.1	7.45	23	8.9		215.2		25.8	0.41	3.22	<.05	311.9	18	554	7.69	1.96
					APR21 87	53.5	3.7	110.8	22.35	45.8	75.9		268.1	0.5	73.7	<.5	0.11	0.05	459.1	25	832	7.36	8.65

SANDSTONE AQUIFER

well number	zone	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	F1 mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. uahos/cm	pH	error(%)
CP16S	clastic	6 45 28			OCT27 86	105.3	4.03	106.1	33.33	165.8	93.8		255.7	0.59	38.1		1.87		717.9	7	1202	7.41	4.00
					APR27 87	96.9	3.92	107.3	34.15	130.7	92.5		226.2	0.57	32.4	3.85	2.97	0.05	663	11	1140	7.38	10.37
CP12O	carb.	20 45 28			OCT27 86	437	21.7	101	97.56	665.7	416.5		119	1.21	21.5		0.05		1757	0	3080	7.4	3.21
					APR27 87	443.5	22.6	99	92.9	718.8	374.5		133.2	1.25	29.6		0.06	<.05	1794	6	3110	7.34	2.72
CP16D	carb.	6 45 28			OCT27 86	138.5	14.4	31.5	27.48	193.7	34.3		206.9	1.18	29.8		<.05		565	2	1028	7.06	0.43
					APR27 87	137.1	14	32.6	27.38	172.3	23		199.8	1.19	22.4	2.96	<.05	<.05	542.1	8	1032	7.6	4.32
Johnson	clastic	7 44 30			NOV 4 86	313	33.8	34	27.81	316	71.1		333.2	0.73	62.1	0.48	0.14	<.05	1004.9	18	1830	8.07	3.80
					APR28 87	351.5	29.85	43.5	33.26	359.2	83.2		412.2	0.62	60.1	1.58	<.05	0.06	813.9	32	2040	7.4	2.08
Badcock	clastic	18 44 31	263906	811600	NOV 4 86	322	18.65	8.4	17.26	445.1	31.3		166.8	1.01	<1	0.47	12.2	<.05	863	9	1750	9.19	0.67
					APR28 87	306.5	19.8	10.2	28.09	397.3	49.4		121	0.57	1.3	0.76	0.36	<.05	895.1	11	1900	9.06	8.15
Roberts2	both	2 45 29	263954	812324	NOV 4 86	108.2	4.6	93.9	31.06	167.9	7.6		289	0.72	30.2	0.67	2.22	2.25	607	126	1133	7.16	6.13
					APR28 87	117.4	3.43	93.3	27.25	161.7	5.8		321.9	0.67	24.2	0.81	3.81	2.1	683	138	1212	7.52	4.20
AlicoFi2	clastic	2 46 29			NOV 4 86	188.5	6.69	101.6	33.3	312	97.2		237.2	0.44	4.8	1.83	1.39	0.06	884.1	18	1620	7.24	1.93
					APR27 87	27.2	1.74	81.6	10.69	12.2	<5		379.8	0.25	29.6	2.47	0.92	0.14	309.9	16	545	7.4	13.09
RTA5	carb.	20 45 29			OCT27 86	50.4	2.09	95	14.42	60	9.1		306.2	0.25	38.1		<.05		430.9	14	749	7.33	18.93
					APR27 87	46.3	2.16	96.2	12.59	59.3	6.1		306.5	0.29	31.2	1.96	0.07	0.07	430.9	22	755	7.31	0.13
HY12B	clastic	20 30 44	263813	812038	JAN11 88	720	41.45	61.7	63.65	873.6	356		519.2	0.847	41.4	1.27	1.06	<.05	2423.9	22	4050	7.26	2.1
					JAN14 88	741	41.2	60.4	65.85	1031.7	371		491.4	0.797	41.8	1.75	<.05	<.05	2496.9	9	4180	7.39	5.5

MID-HAWTHORN AQUIFER

well number	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	error(%)
GL 319	18 42 29			OCT31 86	108	8.59	26.4	21.48	106.4	91.2		180.2	2.77	27.6		0.07	<.05	476.1	6	851	7.53	3.03
				MAY 4 87	131.6	10.02	28.7	25.18	107.3	88.9		194	2.4	21.8	4.9	<.05	<.05	4880	6	832	7.57	3.99
GL 321	18 42 29			OCT31 86	149	9.38	26.6	23.95	106	89		187.6	2.65	26.8	9.16	1.08	0.08	501.1	4	885	7.57	7.66
				MAY 4 87	135.4	10.52	27.4	25.89	107.8	90.8		191.1	2.8	20.8	6.75	<.05	<.05	499	7	841	7.53	4.92
BCMHAW	26 47 31			MAY22 87	783	32.7	22.9	26.85	532	532.5		541.9	3.75	35.9	1.01	0.11	0.08	2314.9	12	3630	8.08	1.76
HE 555	21 44 29	263845	812607	JUN16 76	230	16	40	33	210	110	345	283	10	31	1			852	0	1420	7.2	4.33
				OCT31 86	193	17.1	40.1	33.28	227.2	99.9		240.4	0.94	37.4	1.59	0.06	<.05	723	13	1410	7.22	1.01
				MAY 4 87	333	19.95	40.7	37.5	370.8	200.5		326.4	1.27	36.4	1.55	<.05	<.05	1093.9	11	1940	7.36	2.54

UNNAMED WHITE LIMESTONE AQUIFER

well number	location S/T/R	location lat	location long	date sampled	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Cl- mg/l	SO4 mg/l	HCO3 mg/l	tot.alk mg/l	Fl mg/l	SiO2 mg/l	Sr mg/l	tot Fe mg/l	Tdis Fe mg/l	TDS mg/l	Color units	sp.cond. umhos/cm	pH	error(%)
GL 320	18 42 29			OCT31 86	81.9	3.1	101.9	33.7	133.7	100.3		295.5	0.775	84.4		0.14	0.05	741	20	1129	7.72	1.12
				MAY 4 87	96	3.64	104	36.79	132.8	99.3		318.6	0.67	71.5	1.11	0.18	0.16	685	12	1078	7.26	1.19
Heirs	11 43 28			OCT27 86	60	7.1	61.6	25.19	63.1	26.6		251	0.7	55		0.18		393.1	6	715	7.48	3.85
				APR27 87	53.4	6.98	65.1	22.64	58.5	27.5		265.5	0.69	49	2.37	0.12	0.09	401.9	16	715	7.45	0.52

APPENDIX C-4

HISTORICAL WATER QUALITY

WATER TABLE AQUIFER

well number	location S/T/R	location lat	location long	beg. of record	Chloride(mg/l) 8 samples	min(date)	max(date)	mean	fall86	spring87	Conductivity(uahos/cm) 8 samples	min(date)	max(date)	mean	fall86	spring87
HE 3	12 48 33	261859	805854	1982	8	8(5/86)	180(5/76)	55	10.2	14.8	8	355(11/85)	1440(10/76)	698	420	481
HE 5	12 44 32	263750	810740	1978	6	4(11/85)	26(5/82)	11	4.8	10	6	249(10/86)	300(5/86)	276	249	251
HE 339	27 44 32	263747	805510	1982	10	6(6/82)	76(5/86)	39	76	34	11	390(4/87)	1030(3/82)	776	780	390
HE 406	31 45 28	263137	813328	1976	1	9(10/76)	9(10/76)	9			1	381(10/76)	381(10/76)	381		
HE 500	8 43 29	264527	812621	1982	7	8(6/82)	16(4/84)	10			7	255(4/84)	420(1/82)	339		
HE 501	8 43 29			1984	1	16(4/84)	16(4/84)	16			1	630(4/84)	630(4/84)	630		
HE 554	22 45 29	263310	812509	1978	4	37.4(4/87)	72(5/86)	50	48.3	37.4	5	289(2/78)	476(10/86)	421	476	407
HE 558	28 43 28	264235	813106	1975	5	180(10/75)	1300(5/86)	874	1190.9	1118	5	1120(10/75)	4800(5/86)	3496	4440	4750
HE 569	10 44 28	263930	813015	1975	6	53(12/75)	98.4(4/87)	68	72.1	98.4	6	635(11/76)	801(4/87)	712	715	801
HE 628	18 43 29	264426	812749	1976	2	27(10/76)	36(12/76)	32			1	500(12/76)	500(12/76)	500		
HE 851	21 44 29	263845	812607	1978	5	30(5/86)	200(2/78)	85	55	36.7	5	675(4/87)	1590(2/78)	1012	1123	675
HE 852	4 45 30	263528	812006	1977	4	26(4/87)	60(8/77)	43	26.4	26	4	585(10/86)	739(2/78	656	585	592
HE 854	10 45 33	263515	810120	1978	4	12.5(10/86)	22(2/78)	17	12.5	13.8	4	454(10/86)	810(2/78)	587	454	535
HE 856	34 45 32	263135	810735	1978	5	3.2(10/86)	21(2/78)	8	3.2	4.2	5	325(5/86)	367(4/87)	347	353	367
HE 857	10 43 31	264535	811307	1985	4	12(10/85)	24(5/86)	15	12.2	13.1	4	410(10/85)	450(5/86)	427	412	434
HE 858	27 43 32	264235	810744	1978	3	20.7(4/87)	96(2/78)	58	56.4	20.7	3	438(4/87)	735(2/78)	587	569	438
HE 860	24 46 32	262735	810446	1978	5	11(4/87)	32(2/78)	18	14.4	11	5	560(11/85)	657(2/78)	614	612	589
HE 862	23 48 34	261735	805340	1978	7	9(4/87)	27(2/78)	16	11.7	9	7	419(10/86)	609(2/78)	521	419	513
HE 984	18 48 33	261801	810425	1978	3	33(4/87)	62(2/78)	44	35.9	33	3	648(2/78)	879(4/87)	791	846	879
C 131	1 47 30	262521	811619	1952	37	40(10/85)	92(12/86)	71	79.6	71.9	36	650(10/85)	960(12/86)	813	878	819
C 363	34 46 29	262355	812428	1966	9	6(10/84)	23(3/66)	16	20	16.2	8	130(10/84)	445(10/85)	334	390	361
C 462	20 46 29	262724	812612	1980	8	8(10/84)	32(10/85)	22	25.4	13.1	8	290(10/84)	580(10/85)	478	560	495
C 532	7 46 29	262928	912729	1981	7	8(10/84)	64.6(10/86)	34	64.6	20.8	7	307(4/87)	753(10/86)	596	753	307
C 986	29 47 30	262137	812043	1984	5	12(10/85)	20(4/86)	17	20	18	5	420(10/84)	530(4/86)	482	530	490
C 986	18 49 30	261200	812049	1984	6	32(4/87)	42(10/84)	40	38	32	6	630(4/85)	710(5/86)	678	700	650
C 1071	14 48 30	261823	811719	1986	2	8(5/87)	10(4/86)	9	10	8	2	455(10/86)	520(5/87)	488	455	520
C 1075	18 46 30	262822	812132	1986	3	70(9/86)	76(10/86)	73	76	74	3	725(4/87)	770(9/86)	748	750	725
C 1078	31 46 29	262558	812705	1986	2	10(5/87)	10(5/87)	10	10	10	2	295(10/86)	435(4/87)	365	295	435
L 730	34 45 27	263127	813516	1946	24	4(4/87)	500(4/46)	27	6	4	24	270(7/86)	2290(4/46)	387	360	328
L 1138	25 46 27	262703	813402	1975	10	21(5/81)	50(4/85)	33	26	34	9	220(5/81)	450(11/85)	333	280	348
L 1964	15 45 27	263344	813617	1975	10	12(3/86)	44(4/84)	29	20	22	10	340(3/86)	660(11/75)	576	550	475
L 1978	21 43 27	264320	813657	1974	16	8(5/75)	1000(5/81)	27	18	38	16	420(4/87)	3800(5/81)	633	320	420
L 1992	13 45 27	263353	813358	1983	9	22(4/84)	260(4/87)	102	190	260	9	530(4/84)	1480(4/87)	899	1230	1480
L 2202	24 44 27	264329	813404	1979	10	22(10/86)	65(4/79)	45	22	44	12	470(10/86)	780(6/79)	685	470	710
L 5665	34 46 26	262514	813934	1983	8	28(4/86)	32(4/85)	30	32	30	8	520(4/84)	600(4/83)	570	580	600

LOWER TAMIAMI AQUIFER

well number	location S/T/R	location lat	location long	beg. of record	Chloride(mg/l) # samples	Chloride(mg/l) min(date)	Chloride(mg/l) max(date)	Chloride(mg/l) mean	Chloride(mg/l) fall86	Chloride(mg/l) spring87	Conductivity(umhos/cm) # samples	Conductivity(umhos/cm) min(date)	Conductivity(umhos/cm) max(date)	Conductivity(umhos/cm) mean	Conductivity(umhos/cm) fall86	Conductivity(umhos/cm) spring87
HE 629	6 44 33	264137	810407	1985	4	148(5/86)	150.9(4/87)	149	150.6	150.9	4	1069(10/86)	1114(4/87)	1091	1069	1114
HE 853	32 44 31	263618	811430	1977	4	50(8/77)	78(2/78)	61	67.1	50.1	4	760(8/77)	894(2/78)	839	855	846
HE 855	34 45 32	263135	810735	1977	6	73.8(10/86)	110(8/77)	92	73.8	90.6	6	742(10/86)	940(8/77)	862	742	885
HE 859	26 46 32	262735	810446	1978	6	6.3(2/78)	80(5/86)	50	45.6	54.9	6	300(10/86)	4700(5/86)	1343	300	804
HE 861	26 48 34	261735	805340	1978	5	55.7(4/87)	65(2/78)	60	63.5	55.7	5	735(11/85)	854(2/78)	824	850	852
HE 868	27 47 33	262118	810029	1978	5	100(2/78)	145(11/85)	127	134.7	122.3	5	592(2/78)	1149(4/87)	997	1043	1149
C 1074	1 47 30	262519	811621	1986	2	95.8(4/87)	97.4(10/86)	97	97.4	95.8	2	905(4/87)	939(10/86)	922	939	905
C 1076	18 46 30	262822	812132	1986	2	78(4/87)	80(10/86)	79	80	78	2	750(4/87)	900(10/86)	825	900	750

UNNAMED WHITE LIMESTONE AQUIFER

well number	location S/T/R	location lat	location long	beg. of record	Chloride(mg/l) # samples	Chloride(mg/l) min(date)	Chloride(mg/l) max(date)	Chloride(mg/l) mean	Chloride(mg/l) fall86	Chloride(mg/l) spring87	Conductivity(umhos/cm) # samples	Conductivity(umhos/cm) min(date)	Conductivity(umhos/cm) max(date)	Conductivity(umhos/cm) mean	Conductivity(umhos/cm) fall86	Conductivity(umhos/cm) spring87
GL 320	18 42 29	264910	822801	1985	4	104(10/85)	133.7(10/86)	122	133.7	132.8	4	890(10/85)	1129(10/86)	1016	1129	1076

SANDSTONE AQUIFER

well number	zone	location S/T/R	location lat	location long	beg. of record	Chloride(mg/l) # samples	Chloride(mg/l) min(date)	Chloride(mg/l) max(date)	Chloride(mg/l) mean	Chloride(mg/l) fall86	Chloride(mg/l) spring87	Conductivity(umhos/cm) # samples	Conductivity(umhos/cm) min(date)	Conductivity(umhos/cm) max(date)	Conductivity(umhos/cm) mean	Conductivity(umhos/cm) fall	Conductivity(umhos/cm) spring87
HE 516	clastic	1 43 29	264601	812131	1986	2	58.3(10/86)	67(4/87)	62	58.3	67	2	508(10/86)	866(4/87)	687	508	866
HE 529	carb.	21 45 29	263310	812509	1975	6	37(12/75)	42(4/76)	39	38	39.6	6	675(11/85)	740(12/75)	692	671	725
HE 556	clastic	21 44 29	263845	812607	1975	6	120(10/75)	180(4/76)	163	42.1	42.3	6	1012(5/87)	1300(4/76)	1139	1090	1012
H3 557	clastic	28 43 28	264235	813106	1975	7	1120(6/86)	1200(4/76	1158	1121.8	1131.9	7	4250(6/86)	4900(8/75)	4518	4360	4870
HE 559	carb.	10 44 28	262930	813001	1975	6	826.3(4/87)	980(4/76)	899	932.9	826.3	6	3500(4/76)	4600(4/87)	3800	3650	4600
HE 560	clastic	10 44 28	263930	813015	1976	5	490(6/76)	696.9(10/	592	696.9	553.7	5	2300(6/76)	3959(4/87)	2907	2820	3959
HE 620	carb.	19 43 29	264353	812811	1976	6	84.7(4/87)	315(10/86	199	315	84.7	6	885(5/86)	1690(4/87)	1404	1670	1690
GL 317	clastic	36 42 29	264612	812136	1985	4	6(11/85)	28(5/85)	20	23.8	21.2	4	150(11/85)	624(4/87)	484	567	1076
C 531	carb.	7 46 29	262859	812838	1975	8	22(10/86)	74(4/87)	40	22	74	8	540(9/86)	840(4/87)	656	600	624
C 687	carb.	36 46 28	262554	812838	1981	8	54(10/84)	110(12/86	82	110	58	8	605(10/84)	850(12/86)	714	850	840
C 1072	both?	14 48 30	261823	811719	1986	2	128(10/86)	130(10/86	129	130	128	2	1190(4/87)	1200(10/86)	1195	1200	670
C 1077	clastic	18 46 30	262822	812132	1986	2	290(10/86)	420(4/87)	355	290	420	2	1650(10/86)	2050(4/87)	1850	1650	1190
L 731	both	25 46 27	262703	813402	1968	13	12(10/84)	110(10/81	33	12	36.3	12	150(10/86)	600(4/76)	460	150	362
L 1418	clastic	32 44 27	263630	813753	1976	18	150(4/86)	300(4/76)	179	170	162	18	810(11/85)	1510(4/76)	980	900	920
L 1963	clastic	15 42 27	263324	813617	1974	11	68(3/75)	450(8/74)	160	210	133.3	11	850(4/76)	2080(8/74)	1180	1300	1214
L 1965	both	13 42 27	263353	813358	1975	11	80(10/84)	320(3/75)	186	100	118.3	11	760(10/84)	1550(3/75)	1127	980	1001
L 1977	both	21 43 27	264320	813657	1975	9	500(10/84)	1000(4/76	751	540	929.7	9	2400(10/86)	3850(4/76)	3091	2400	3450
L 2186	carb.	15 45 27	263344	813617	1976	8	140(6/76)	480(10/86	403	480	480	8	950(6/76)	2250(10/86)	1976	2250	2350
L 2187	carb.	11 44 27	263950	813554	1977	8	320(4/85)	380(10/85	341	330	324.7	9	1530(4/85)	1800(10/80)	1679	1800	1900
L 2192	clastic	29 46 27	262659	813825	1976	11	34(4/87)	160(5/81)	73	52	34	11	590(4/87)	1600(5/81)	766	700	590
L 2200	carb.	24 43 27	264329	813404	1976	10	800(10/86)	970(6/76)	843	800	885	10	2950(5/85)	3600(6/76)	3239	3200	3200
L 2215	clastic	35 45 27	263127	813516	1976	10	32(5/86)	46(10/84)	40	34	45.8	10	580(4/85)	832(4/87)	686	650	832
L 5664	both	36 46 26	262514	813934	1983	8	32(4/87)	46(4/83)	39	36	32	8	610(4/85)	700(4183)	646	645	625

APPENDIX D-1

INTRODUCTION

Introduction

The SFWMD performed pump tests at 13 sites throughout Hendry County as part of this study. Locations and well construction details for the pump tests can be found in the Ground Water Potential section of the text.

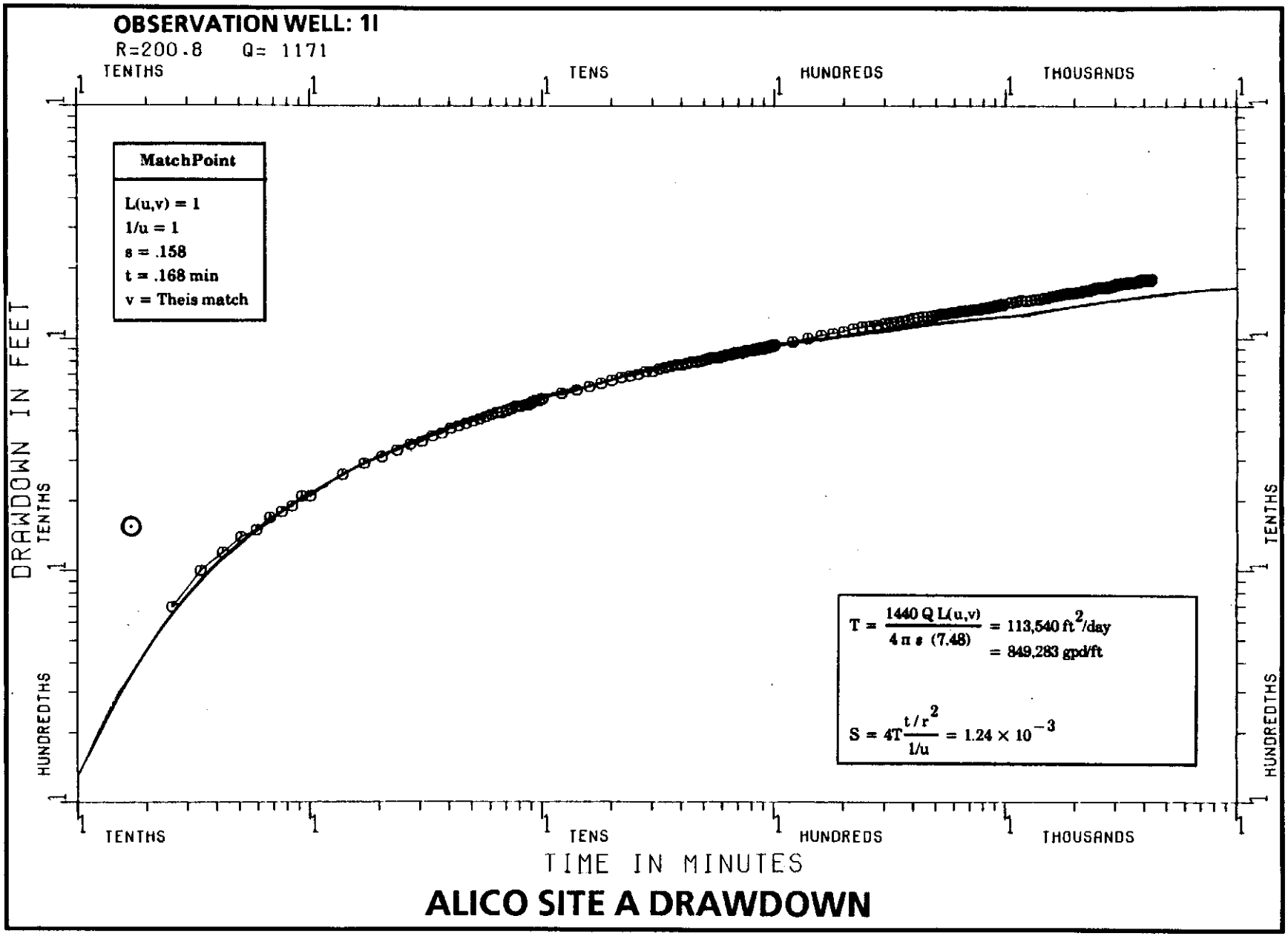
The drawdown data were analyzed using a modification of the Hantush-Jacob equation for nonsteady radial flow in an infinite leaky confined aquifer. Hilton H. Cooper, Jr. prepared two families of type curves from the Hantush-Jacob equation (Cooper, 1963) and modified the equation to include a determination of leakance through the confining bed. Cooper warns that the leakance values assume that most of the water is derived from storage in the confining bed rather than from leakage across the confining bed.

All the match points needed for the drawdown analysis are listed on the plots along with calculation results. The match point value for time was divided by 1440 min/day prior to use in the equation. The transmissivity value obtained from the equation was multiplied by 7.48 to convert the transmissivity to gpd/ft.

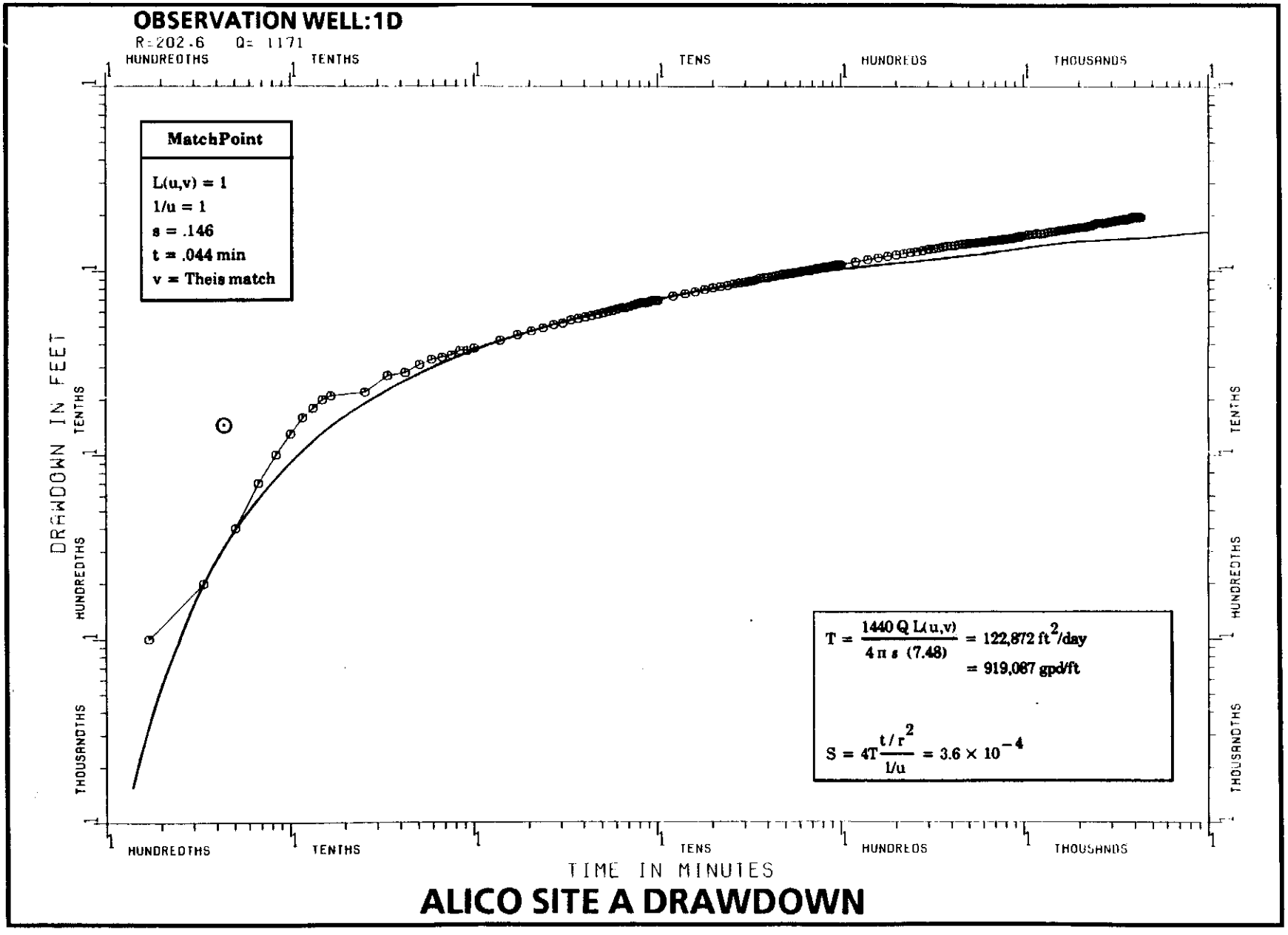
Recovery data was taken at all the sites and analyzed using the Jacob straight-line method for a fully confined aquifer. The input variables and equation results are listed on the plots.

APPENDIX D-2

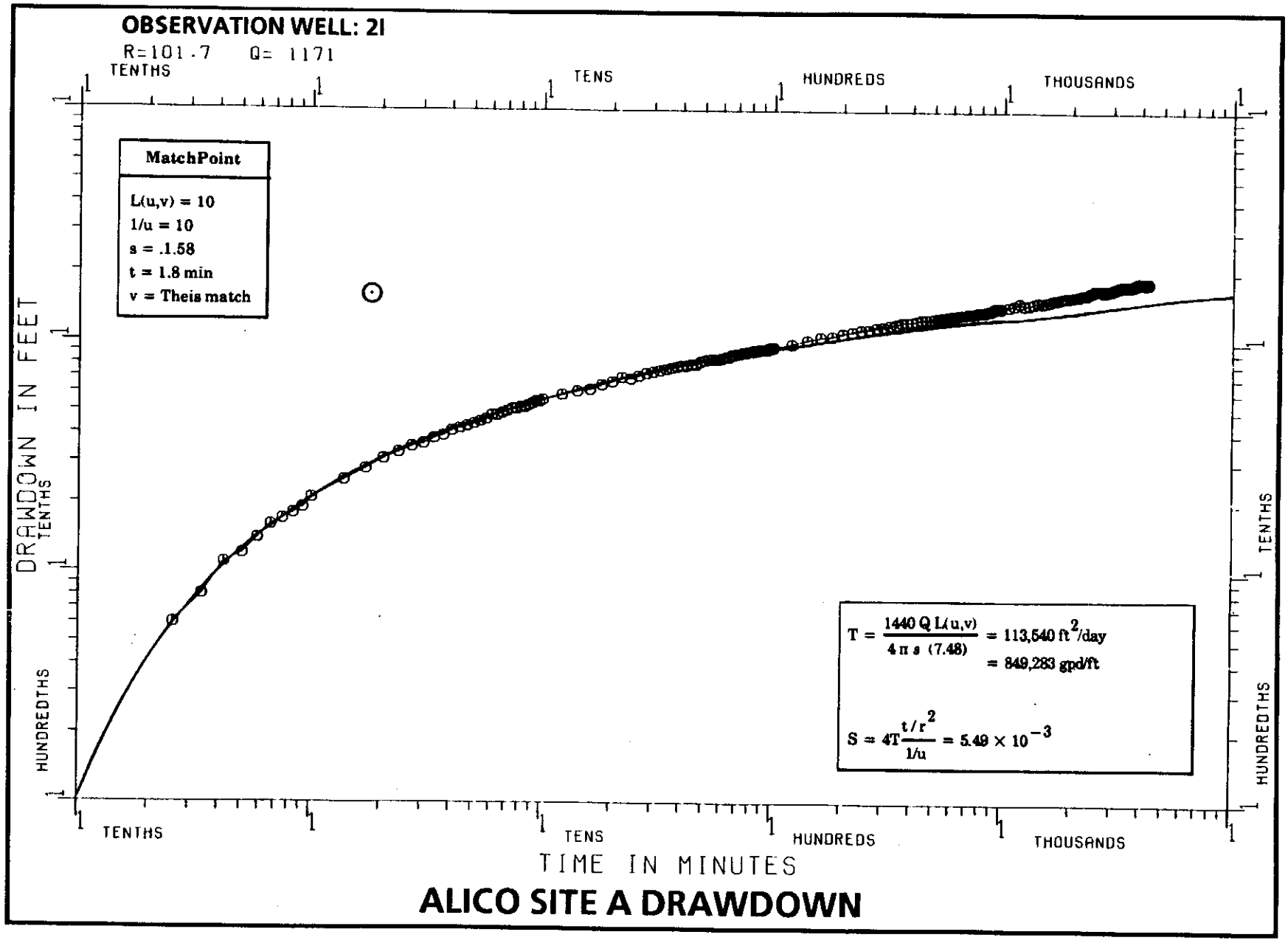
ANALYSES OF AQUIFER TEST DATA



ALICO SITE A DRAWDOWN



ALICO SITE A DRAWDOWN



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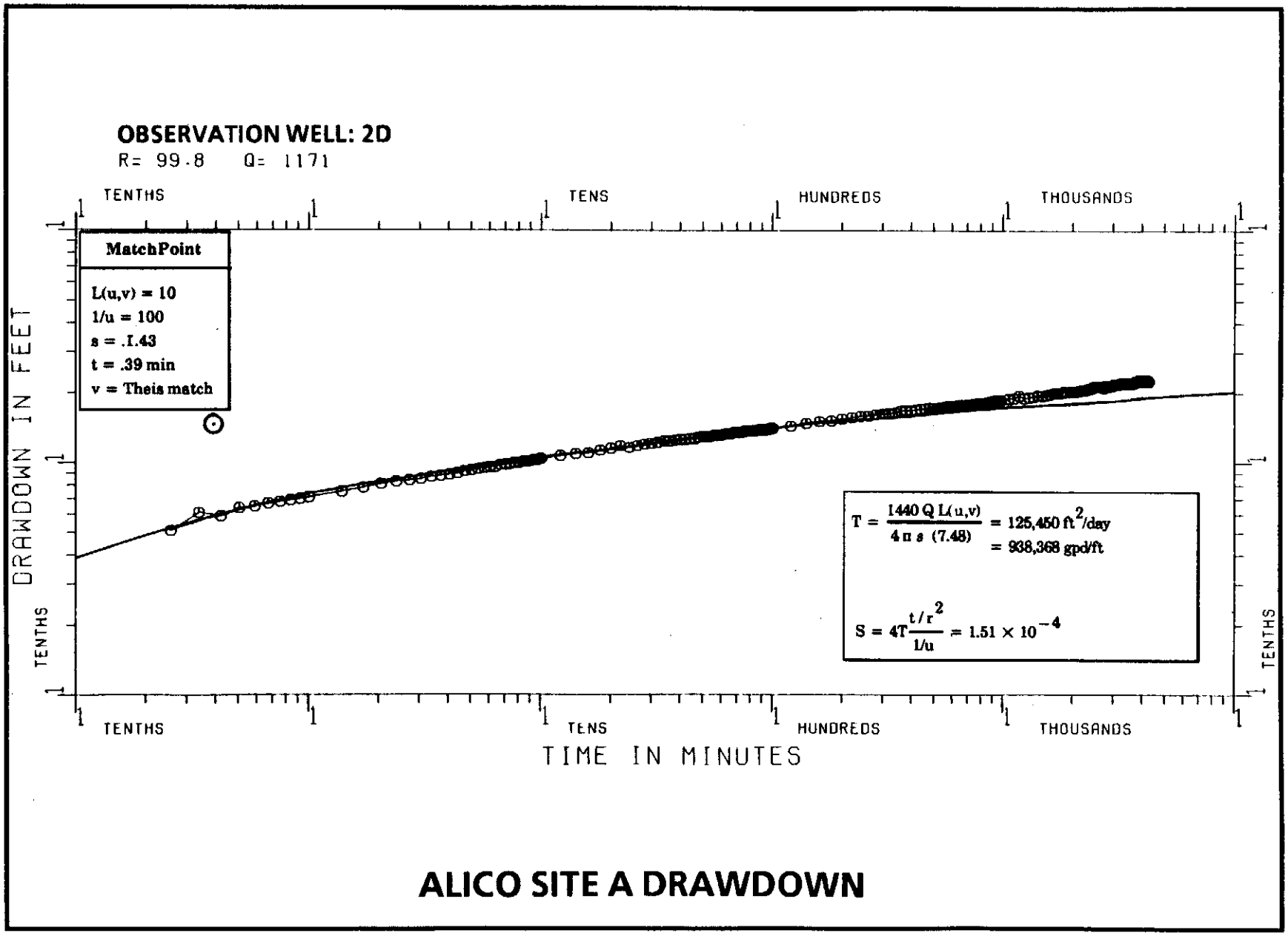
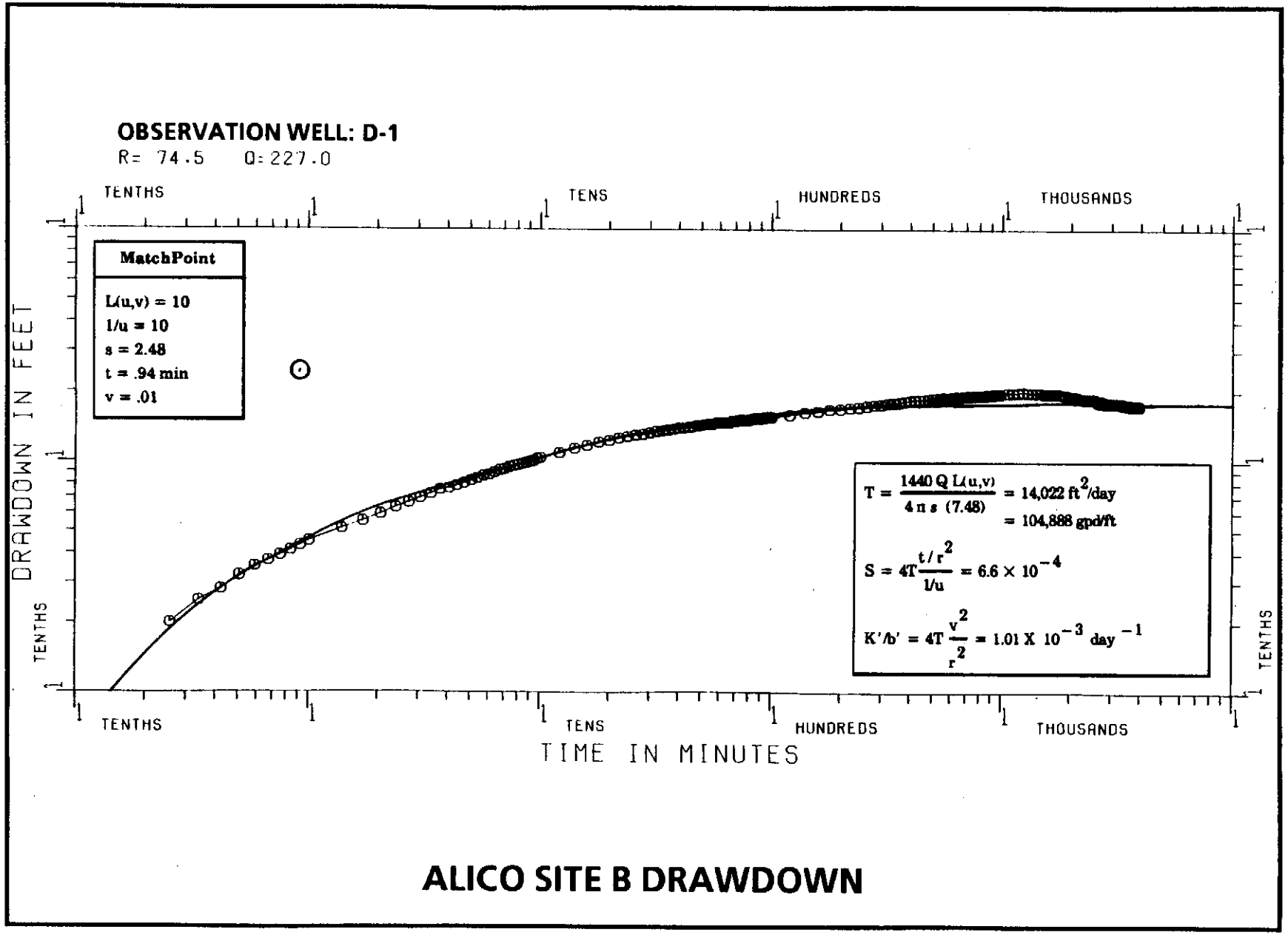
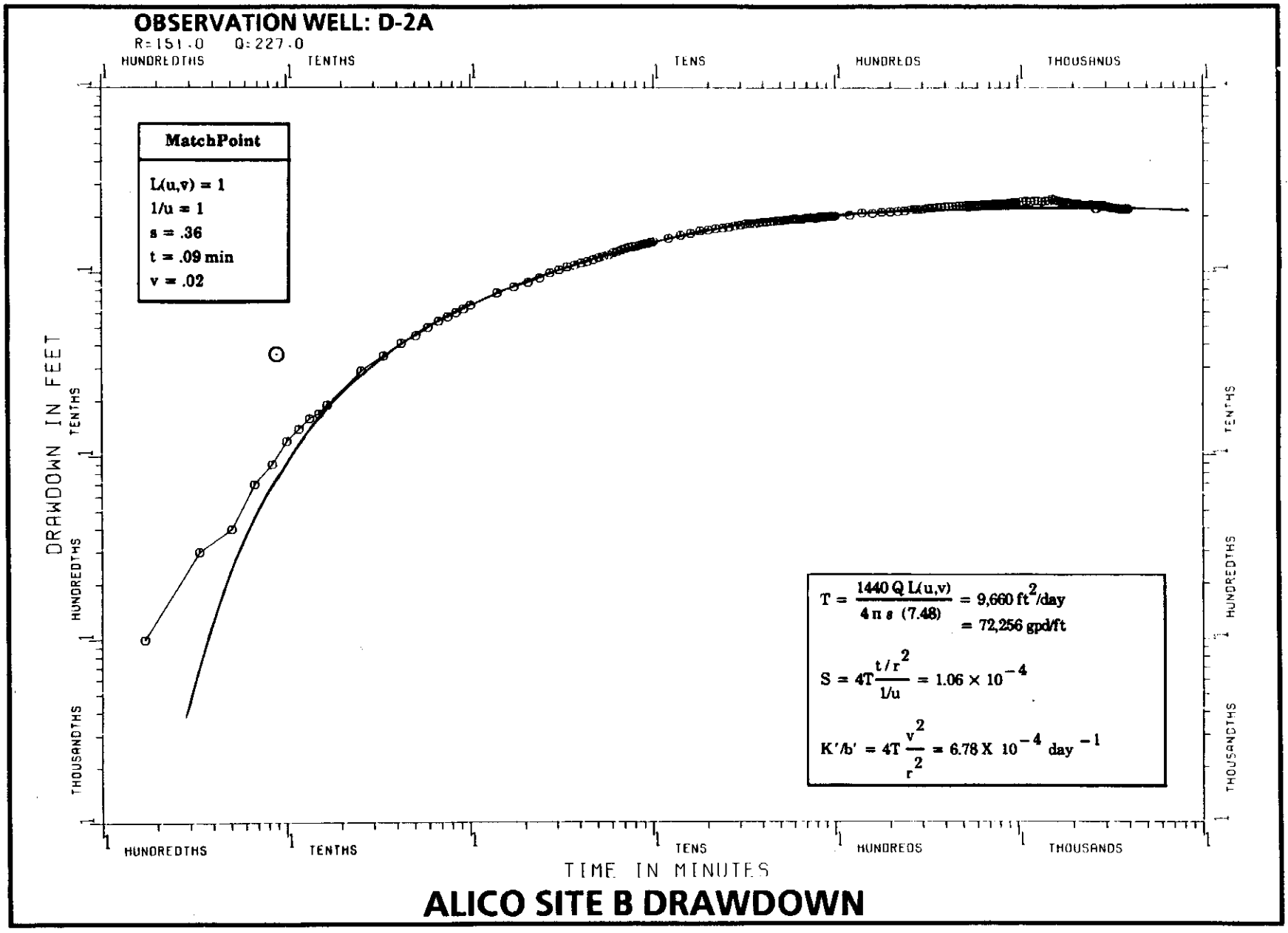


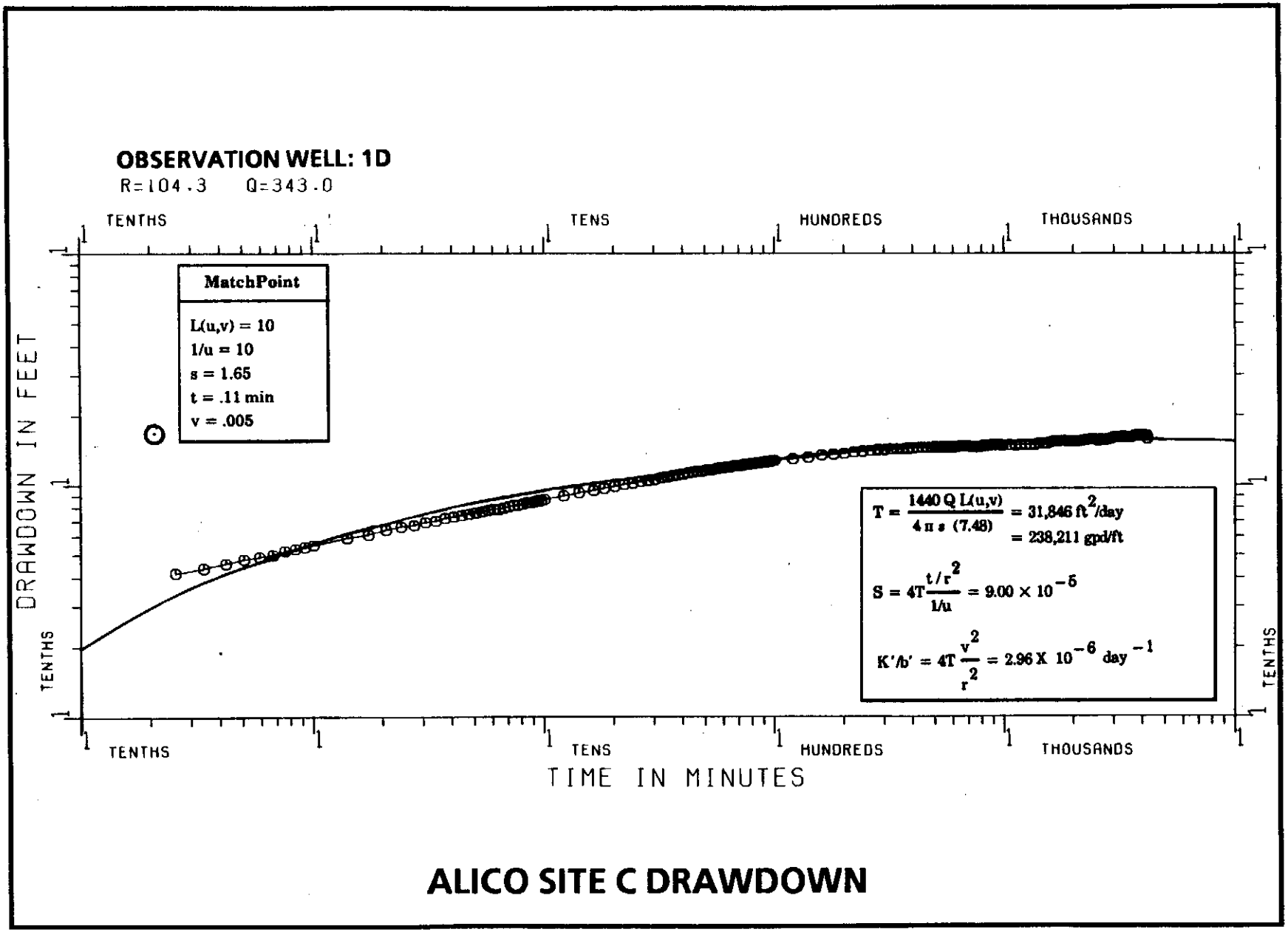
ALICO SITE A DRAWDOWN



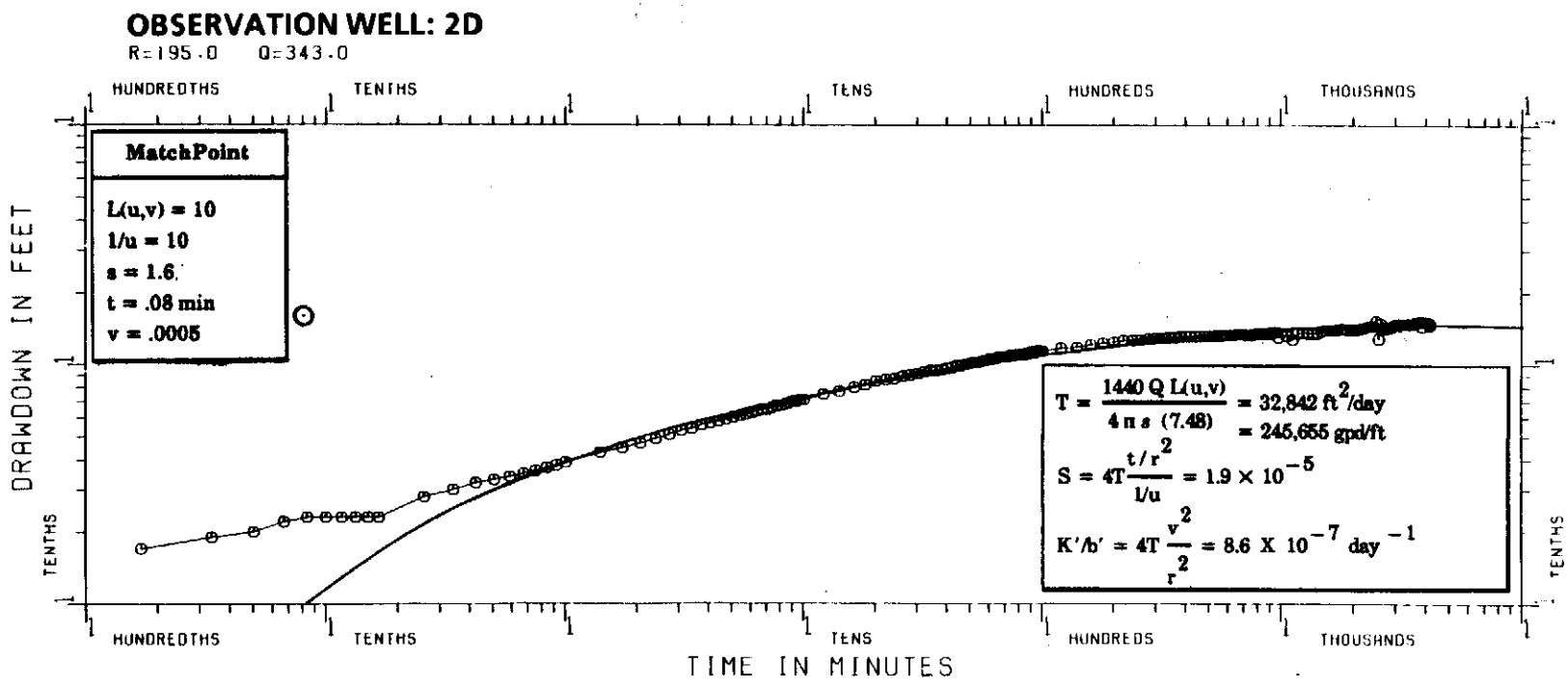
ALICO SITE B DRAWDOWN



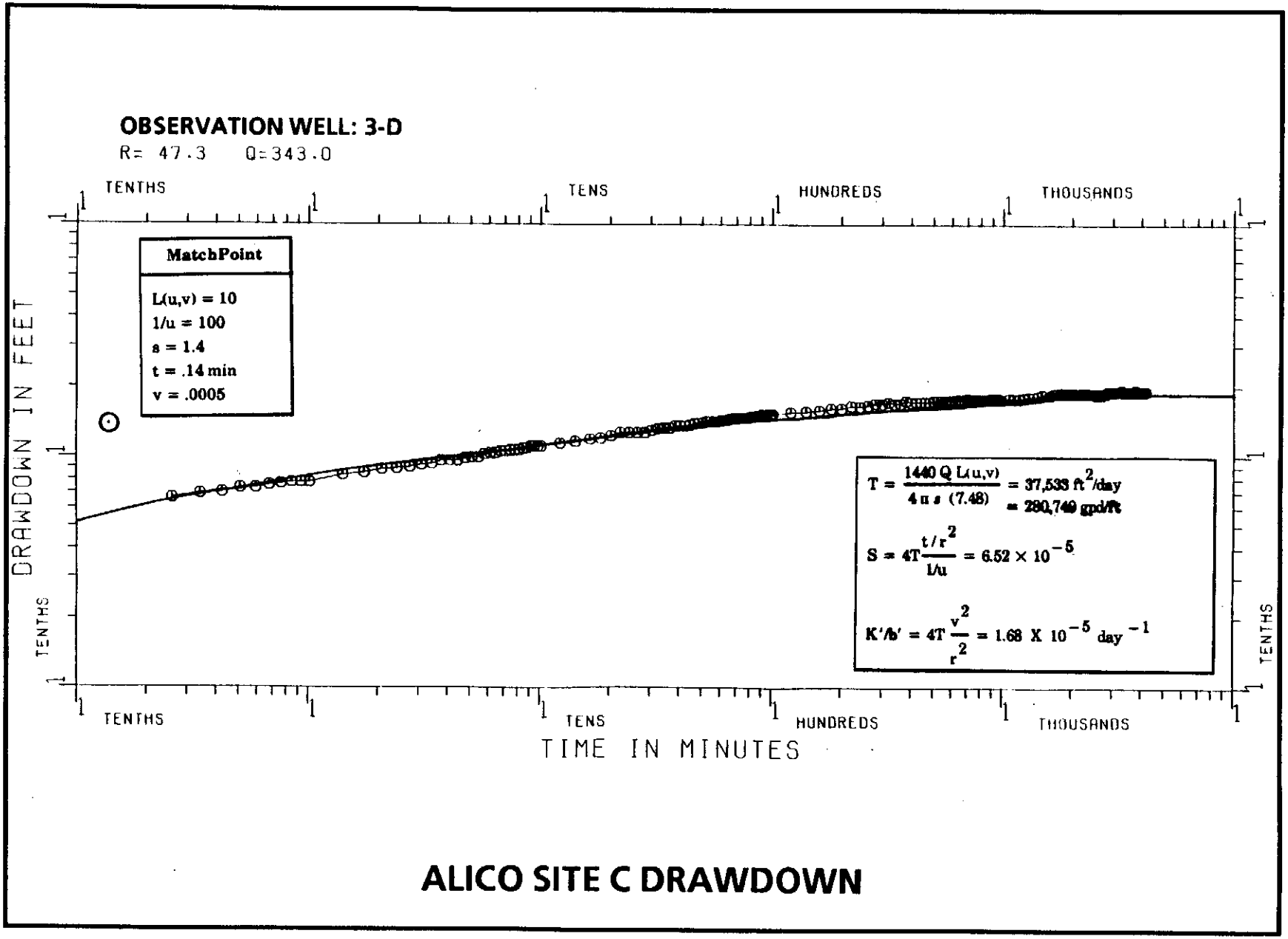
ALICO SITE B DRAWDOWN



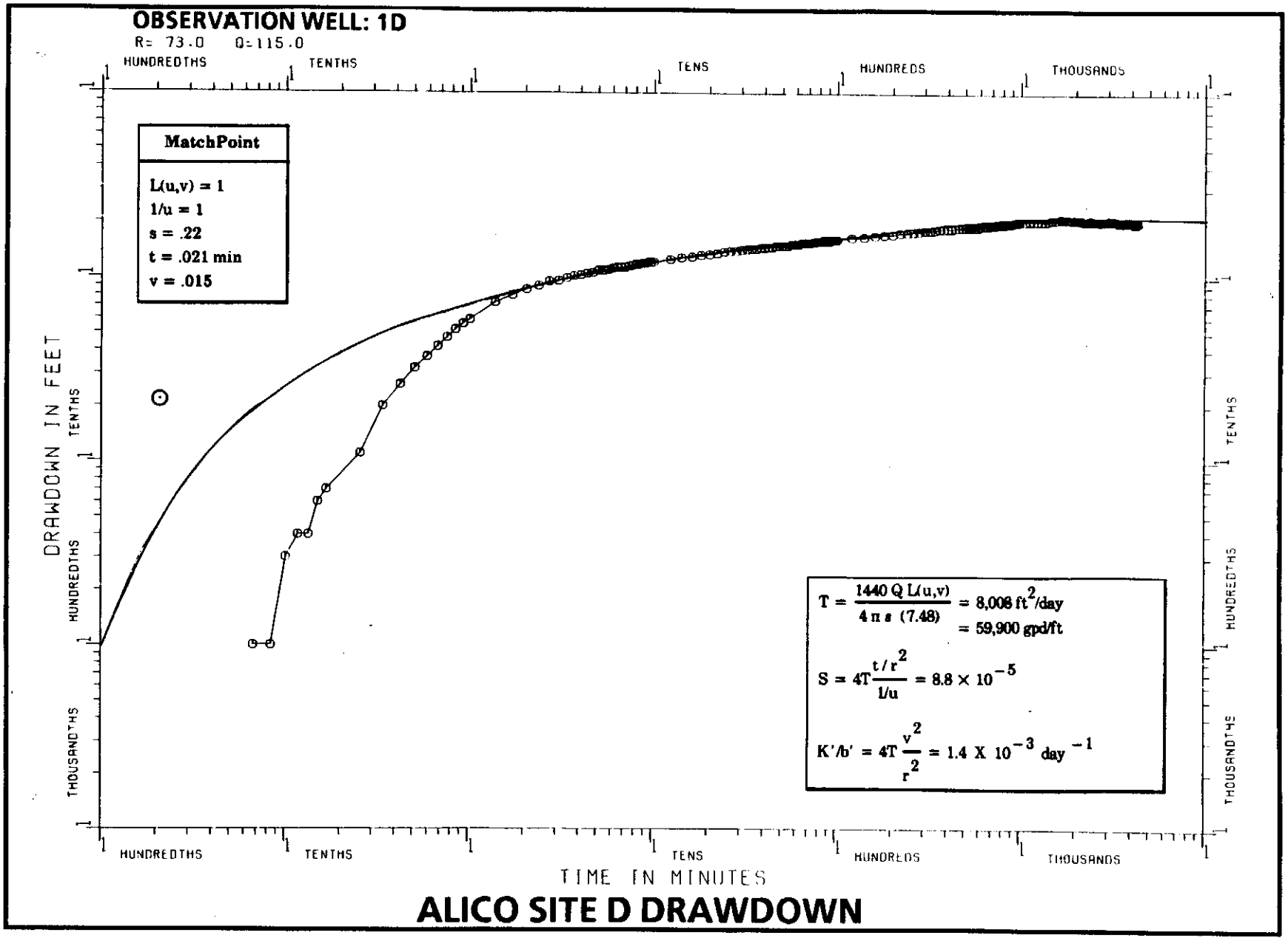
ALICO SITE C DRAWDOWN



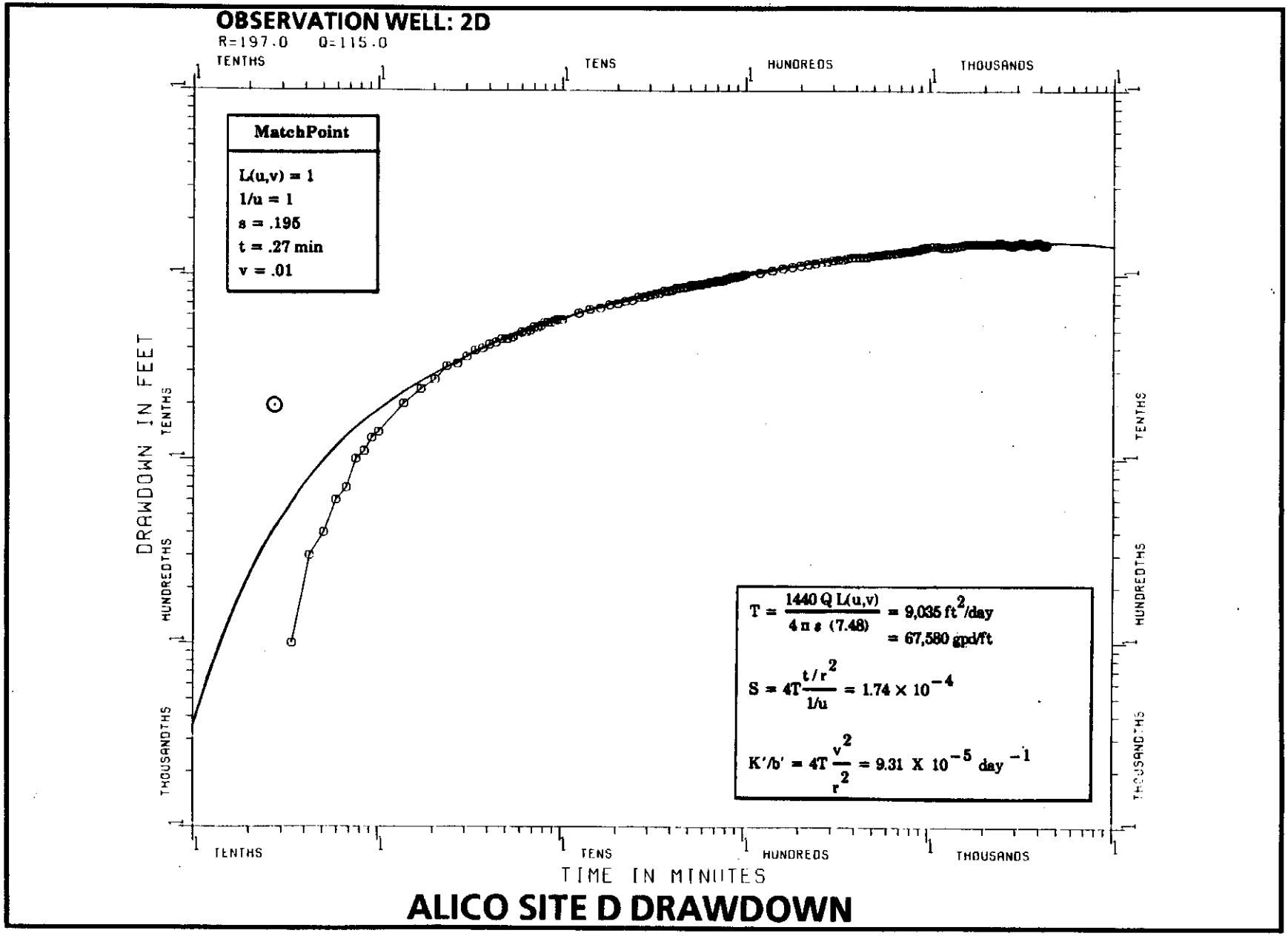
ALICO SITE C DRAWDOWN



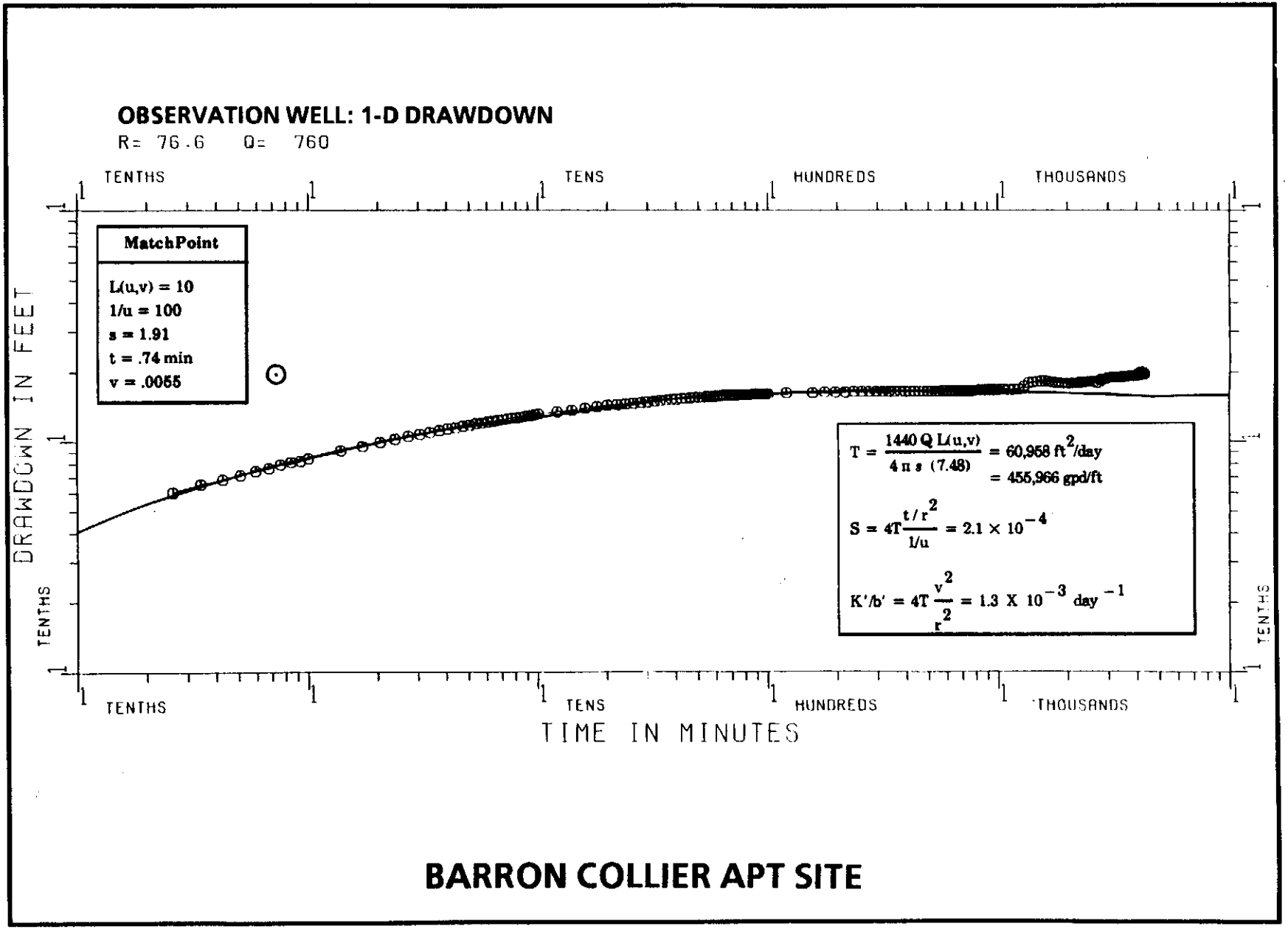
ALICO SITE C DRAWDOWN



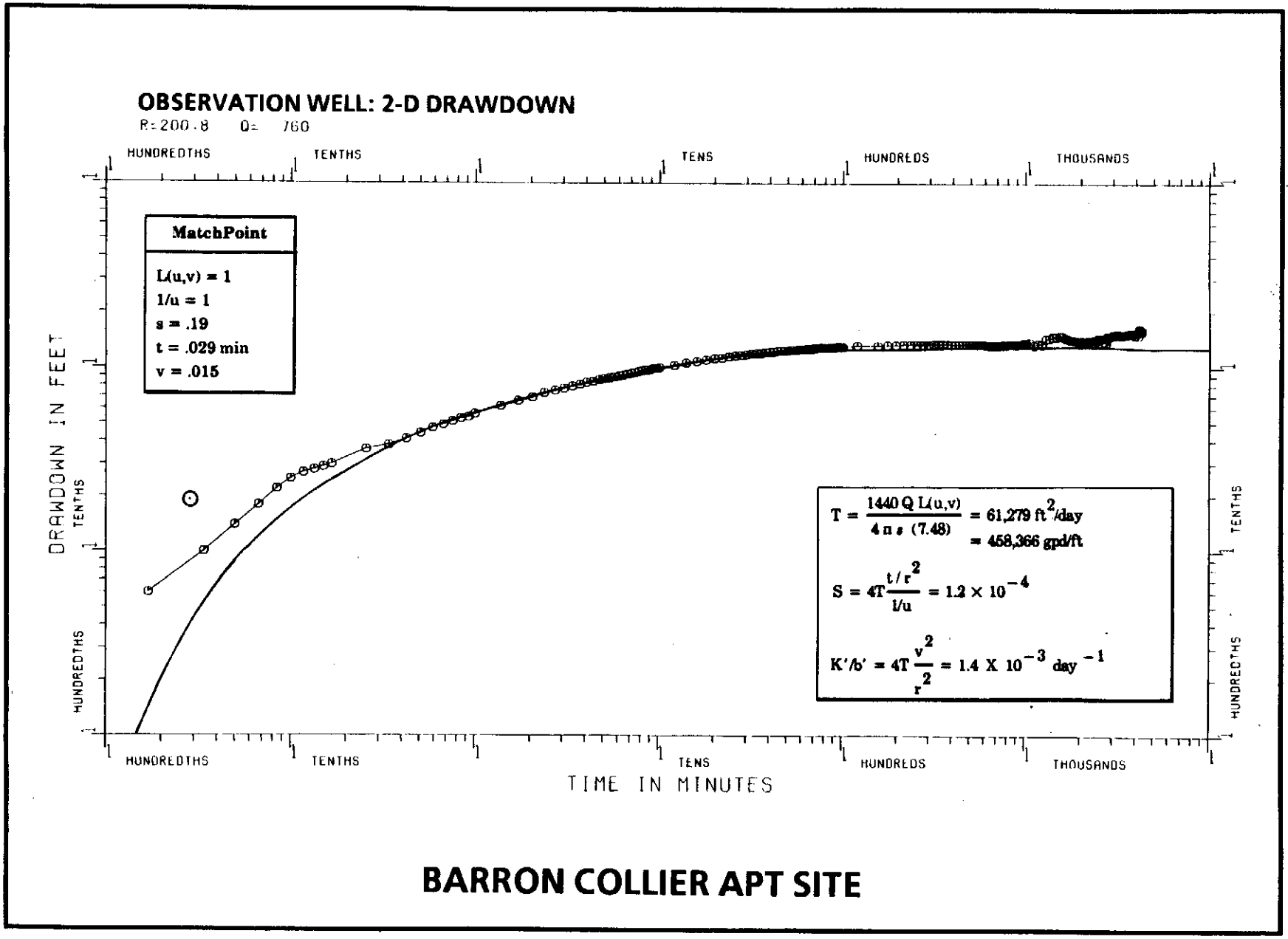
ALICO SITE D DRAWDOWN



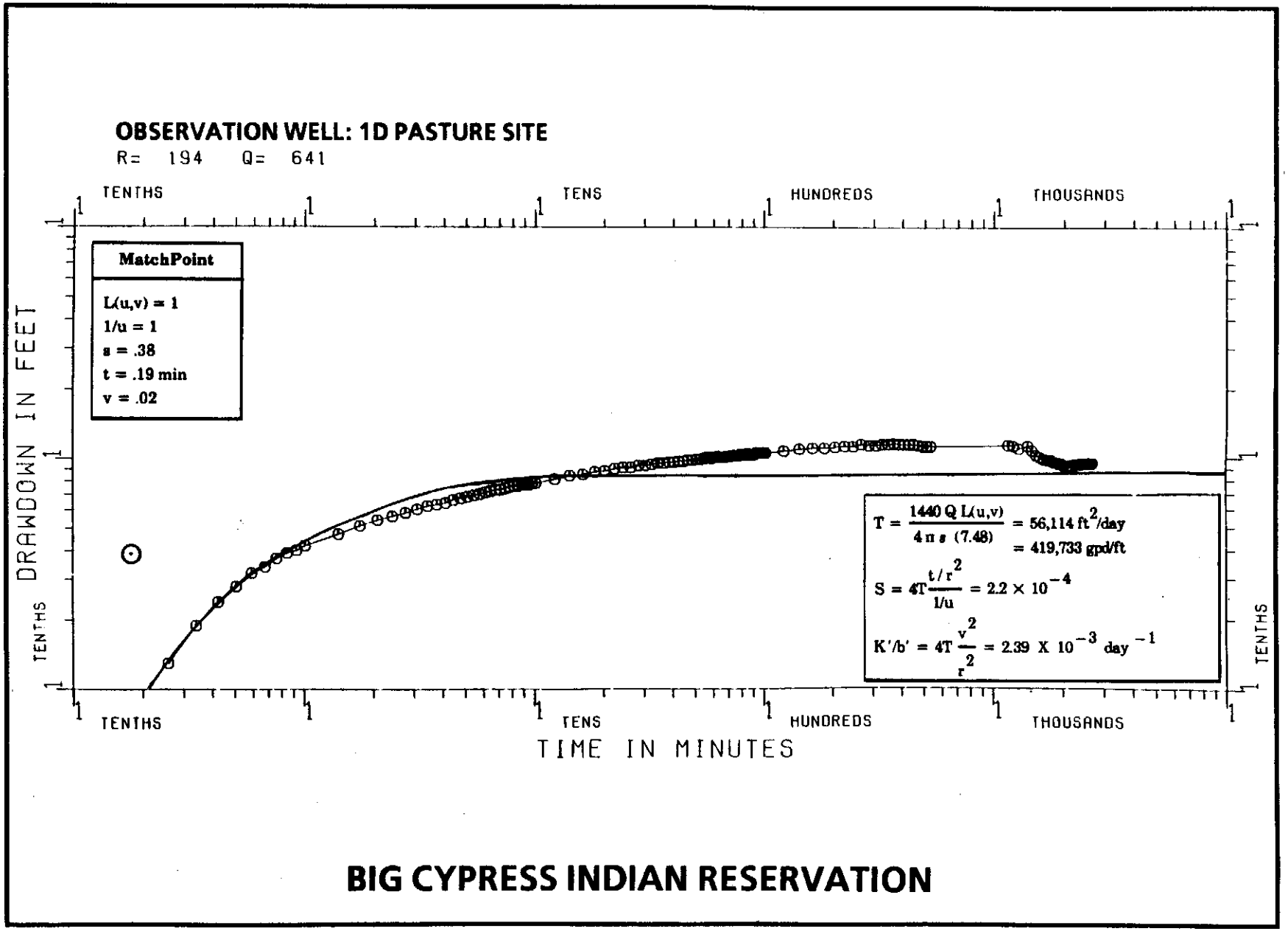
ALICO SITE D DRAWDOWN



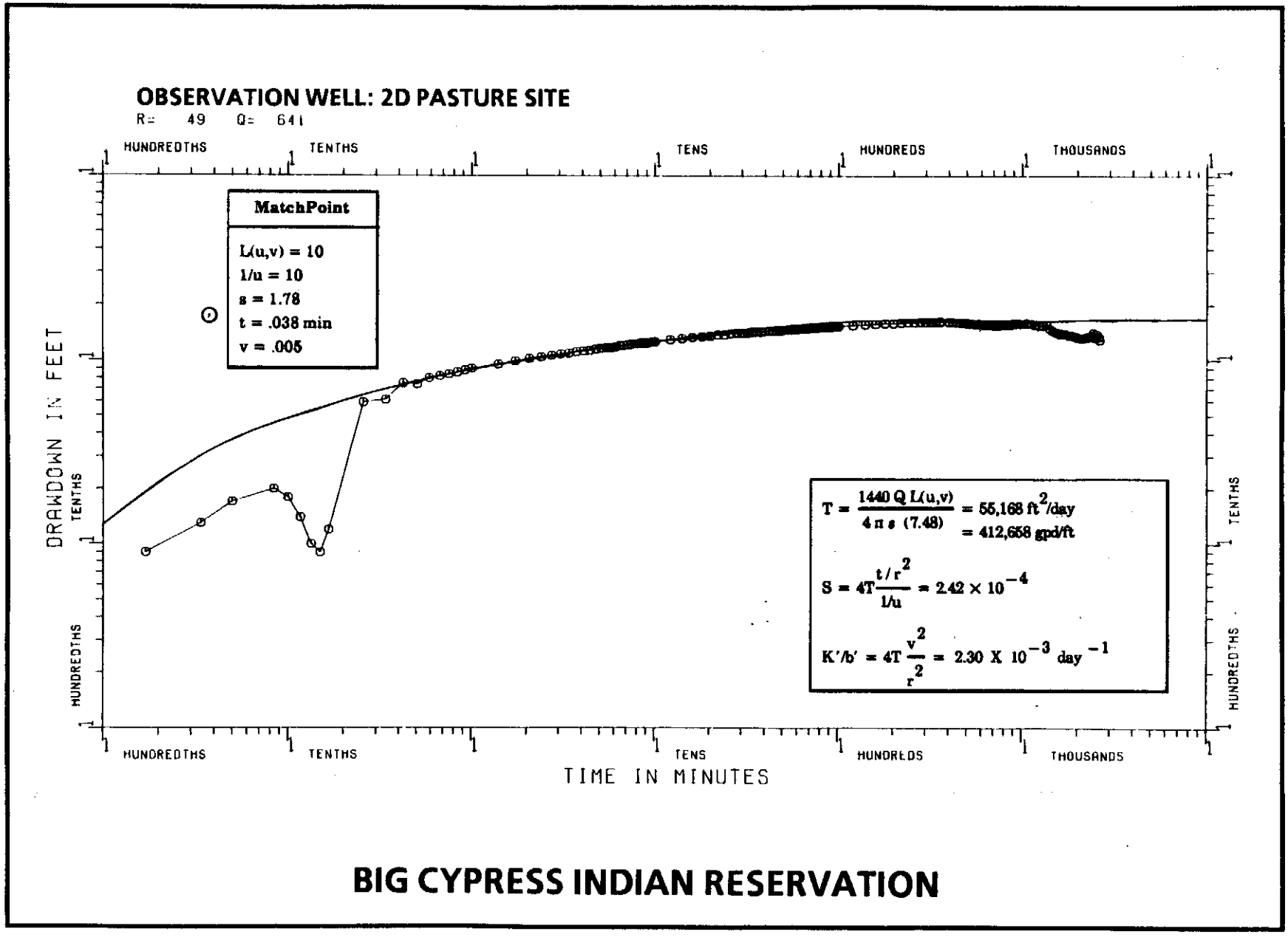
BARRON COLLIER APT SITE



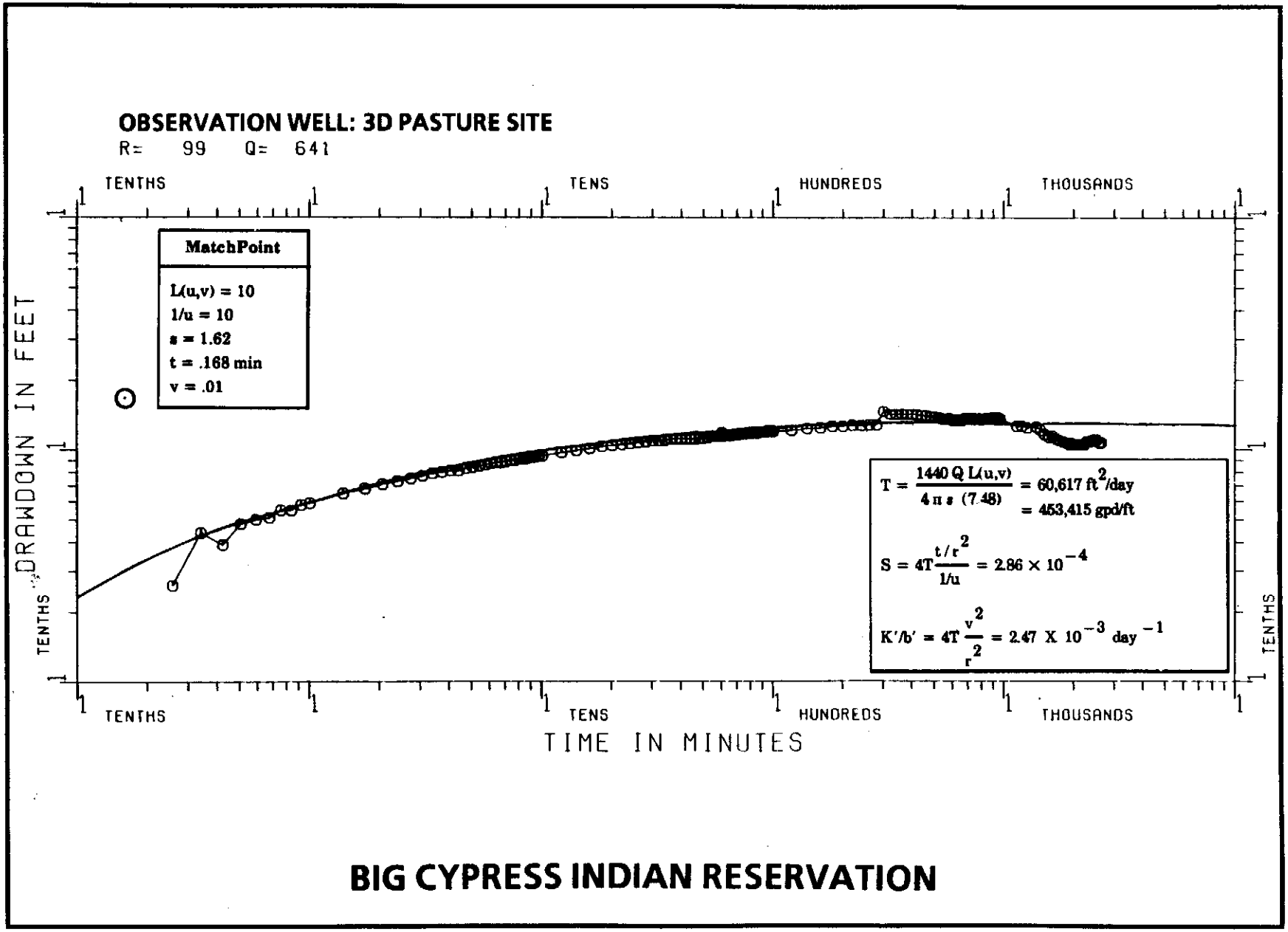
BARRON COLLIER APT SITE



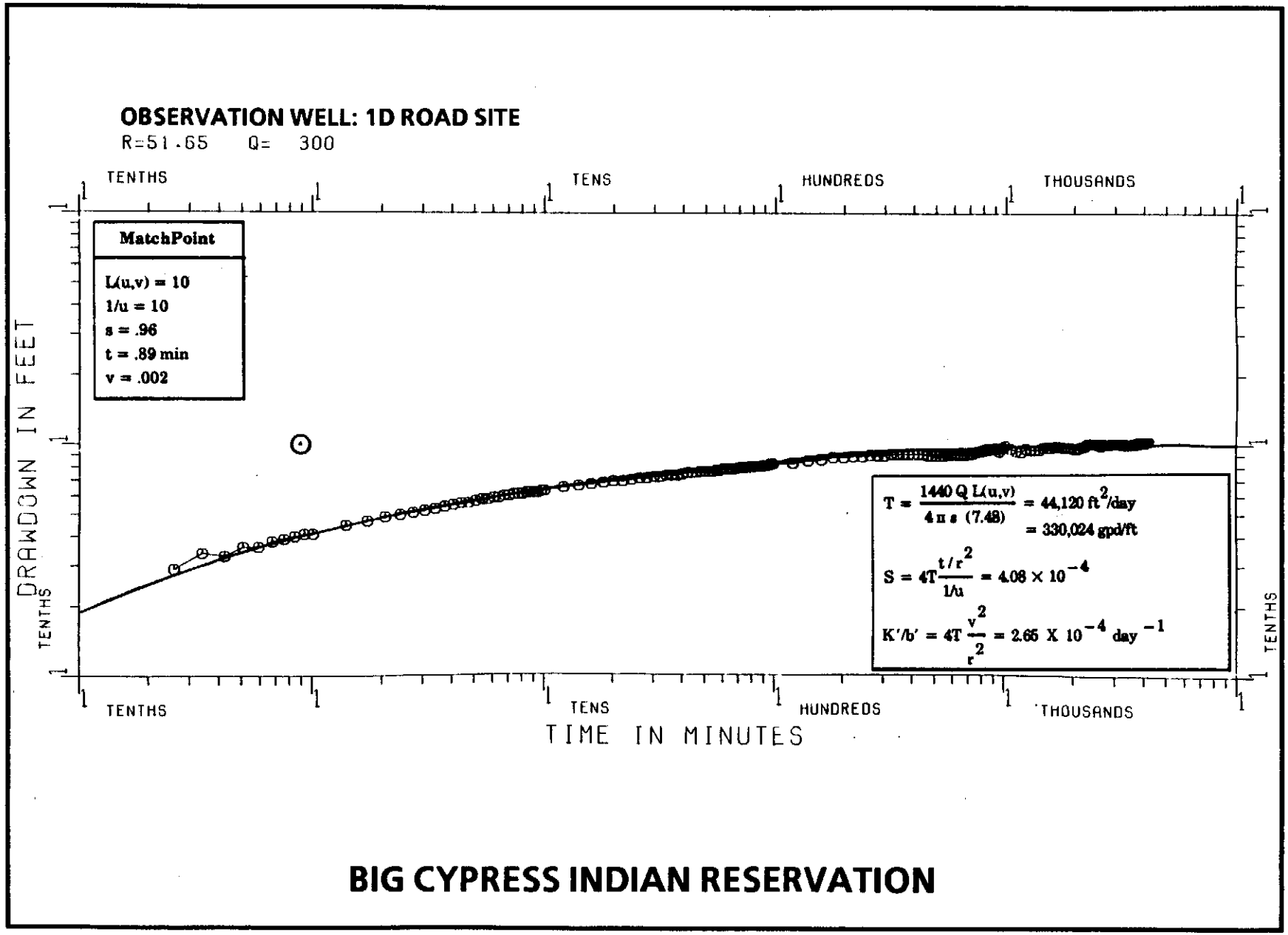
BIG CYPRESS INDIAN RESERVATION



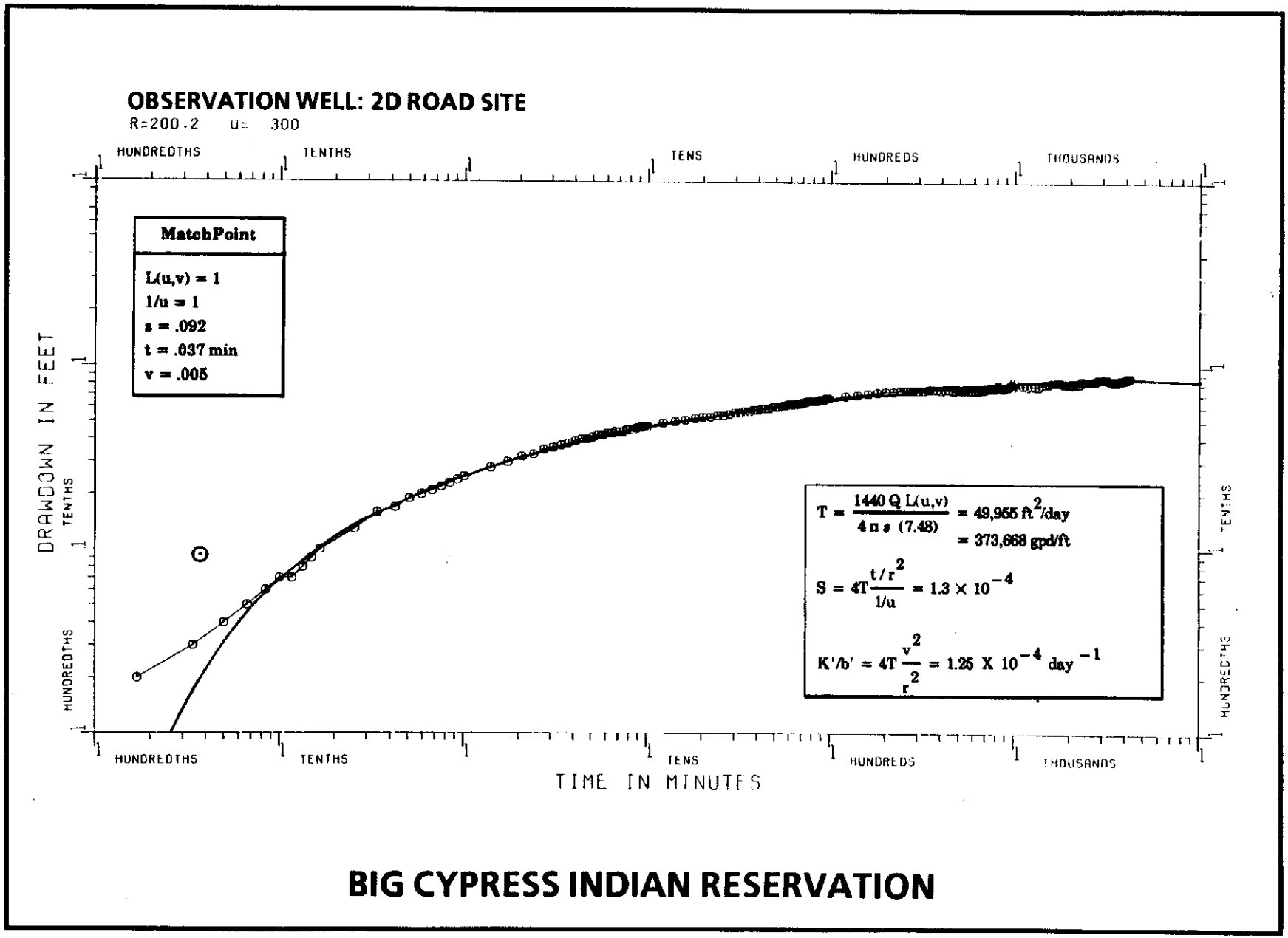
BIG CYPRESS INDIAN RESERVATION



BIG CYPRESS INDIAN RESERVATION



BIG CYPRESS INDIAN RESERVATION



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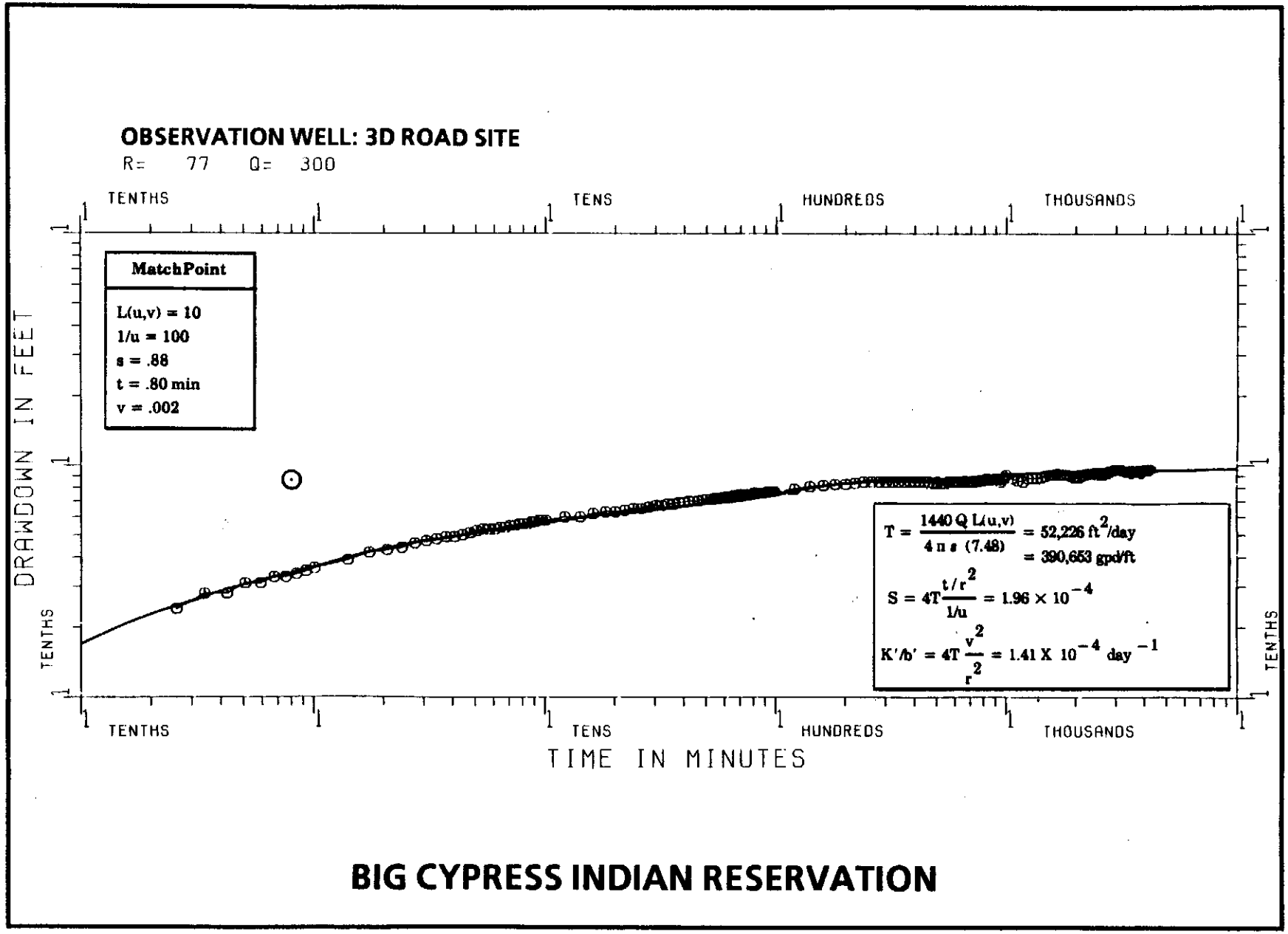
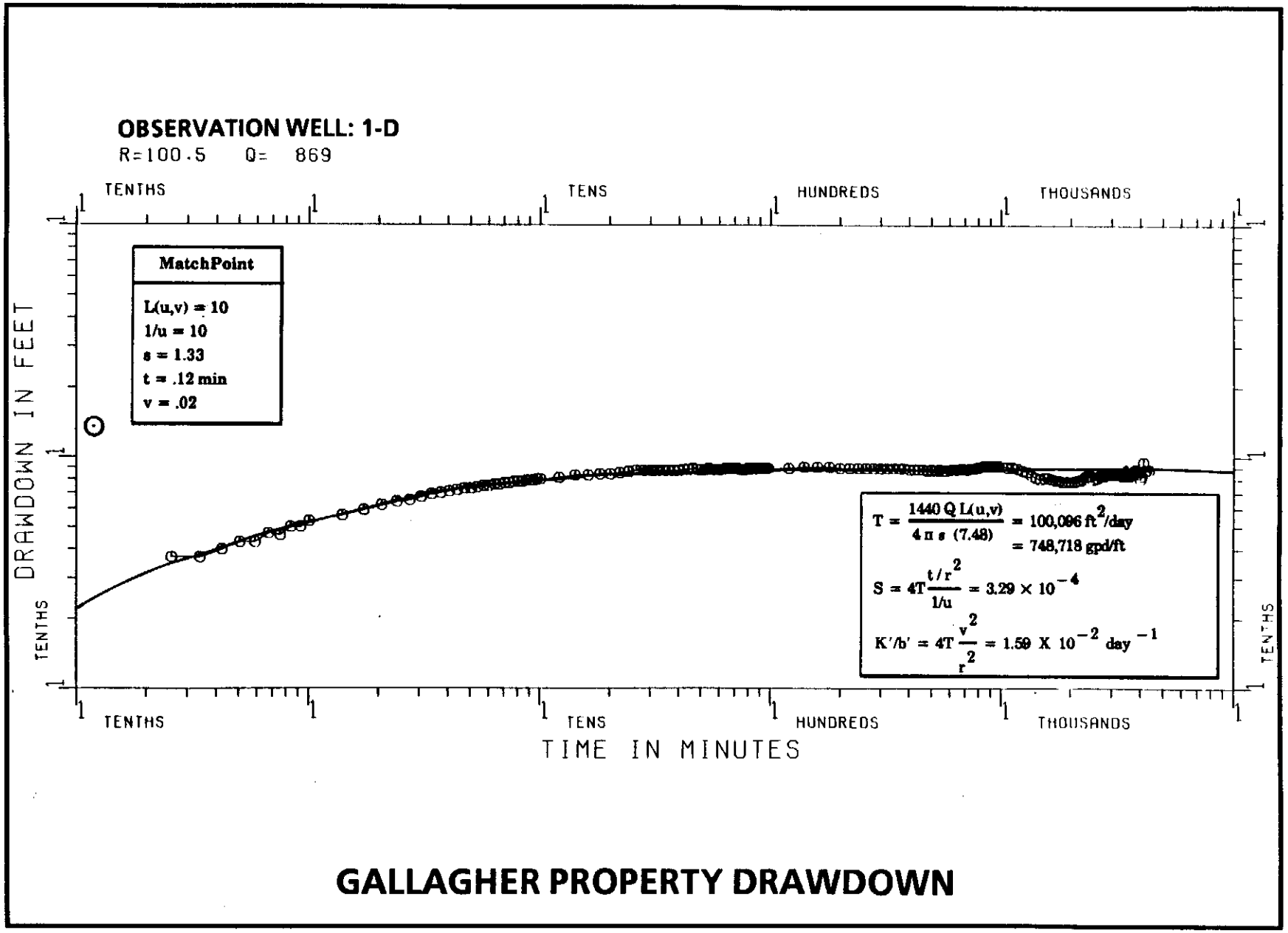
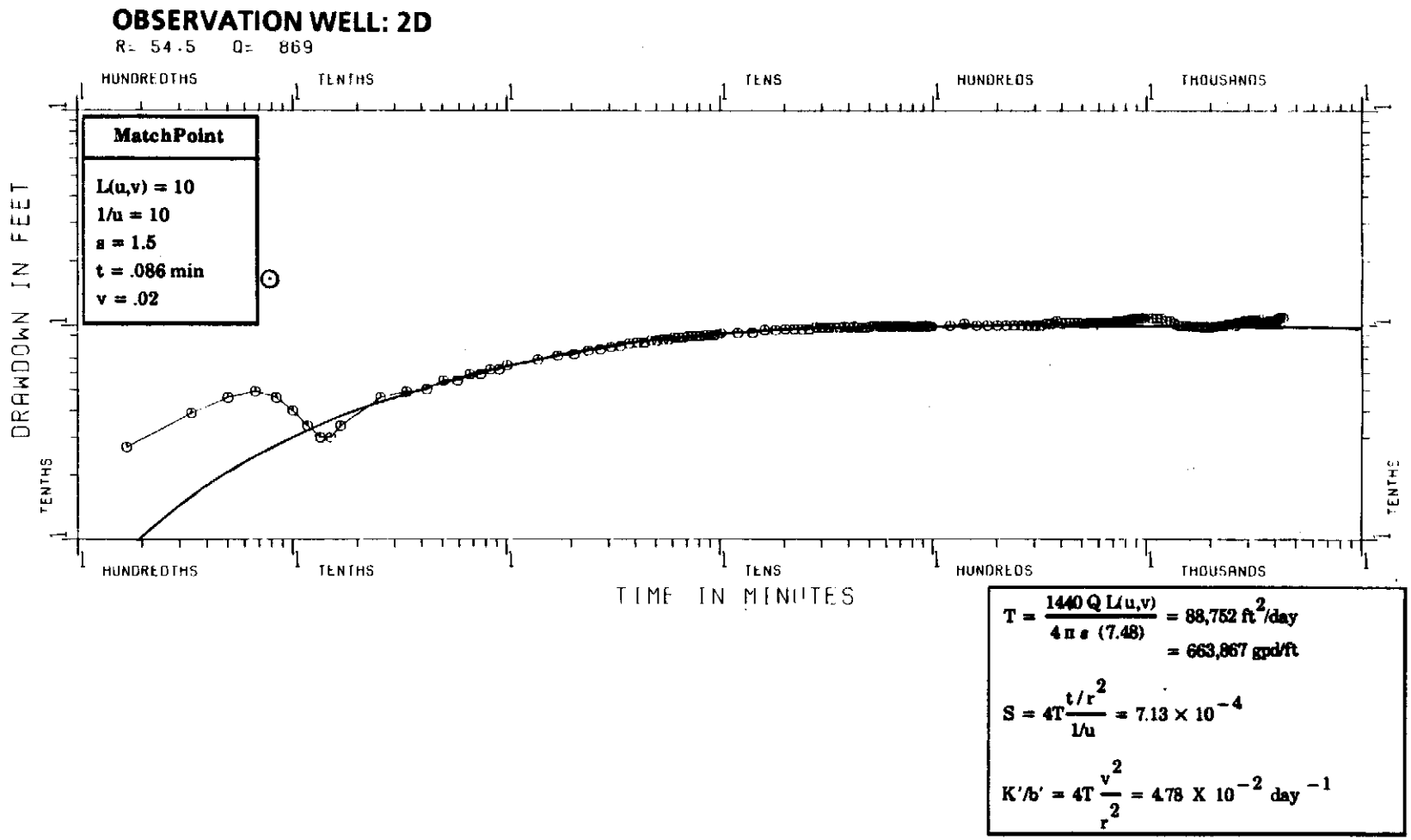


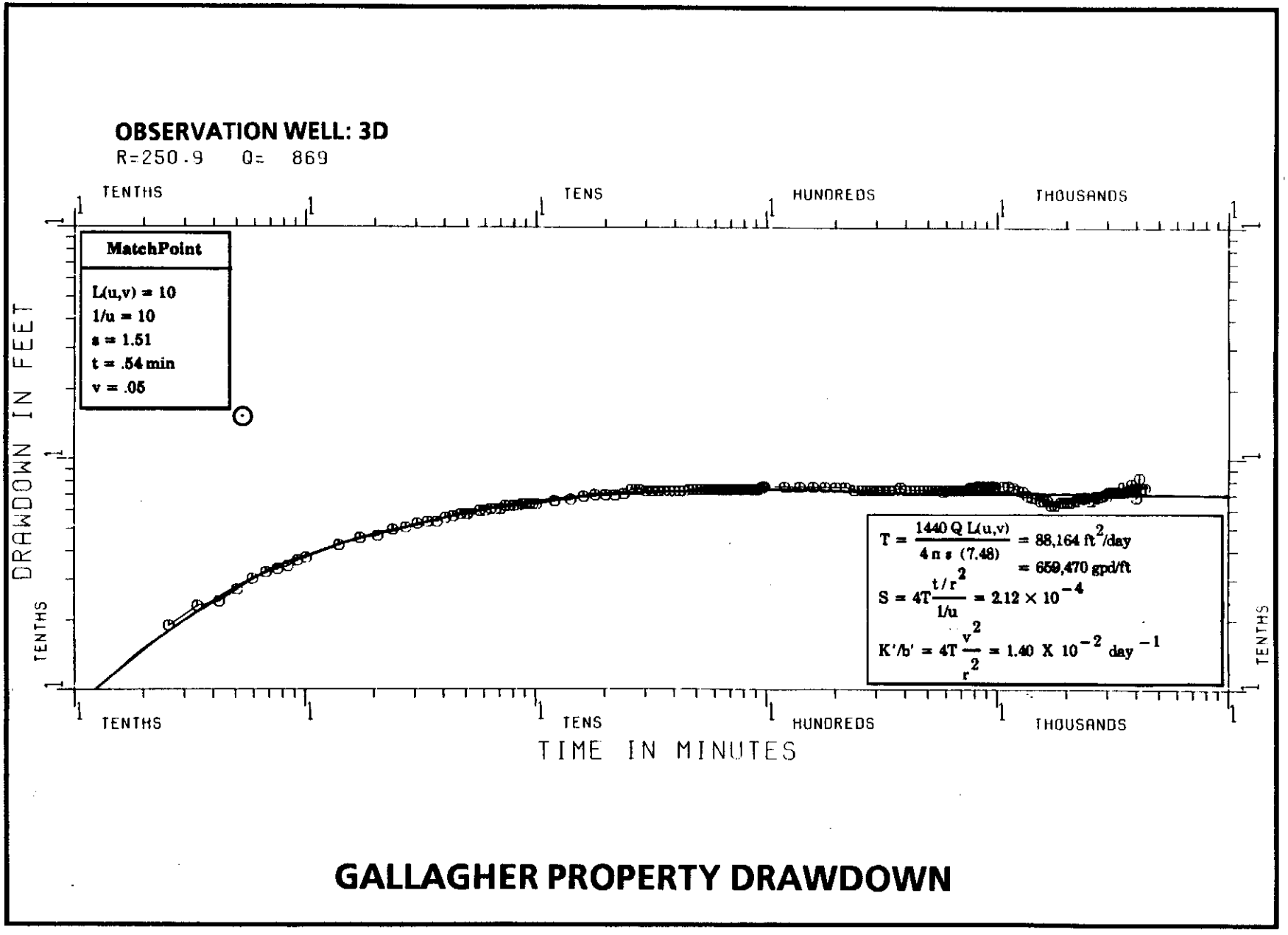
BIG CYPRESS INDIAN RESERVATION



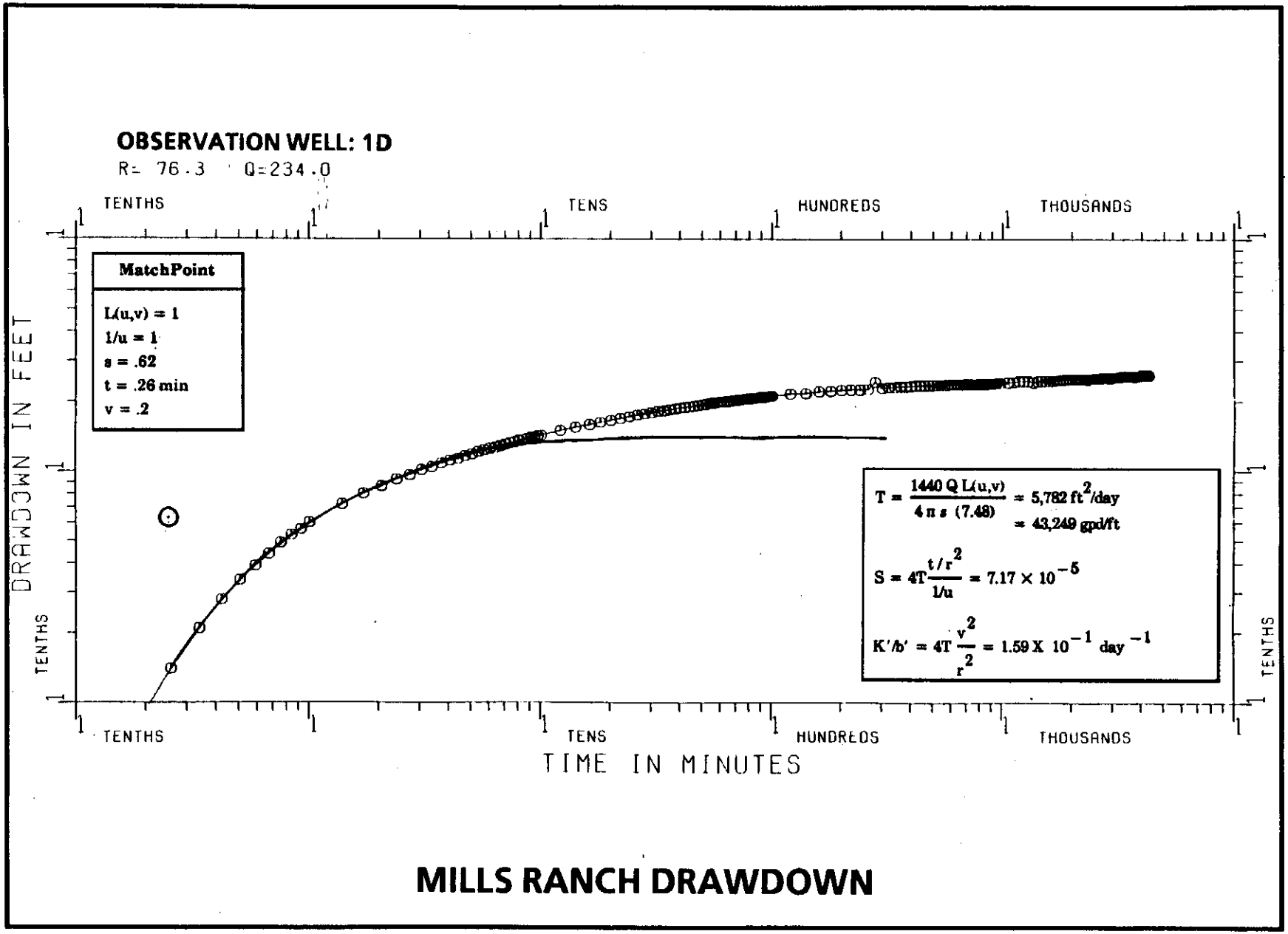
GALLAGHER PROPERTY DRAWDOWN



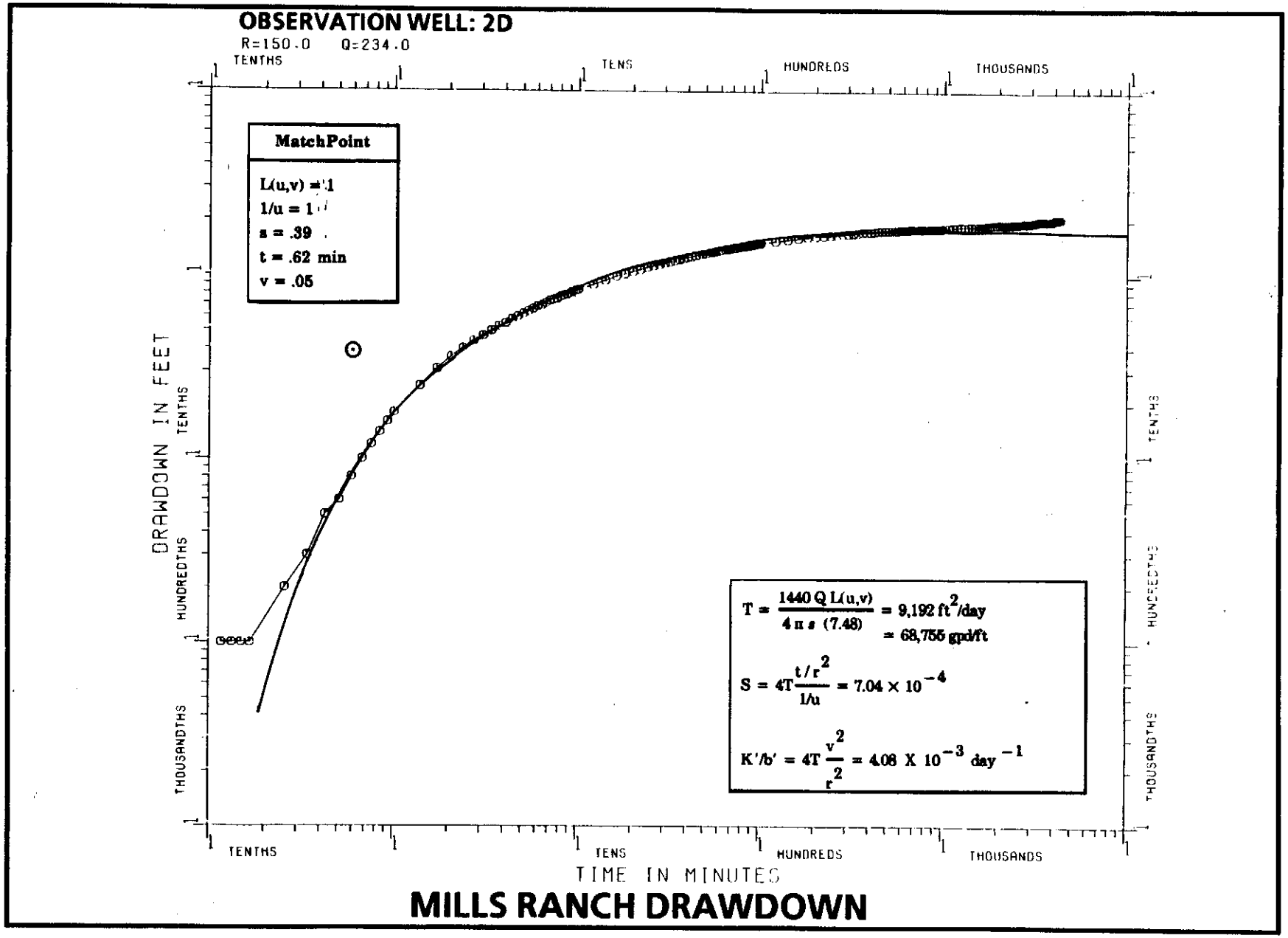
GALLAGHER PROPERTY DRAWDOWN



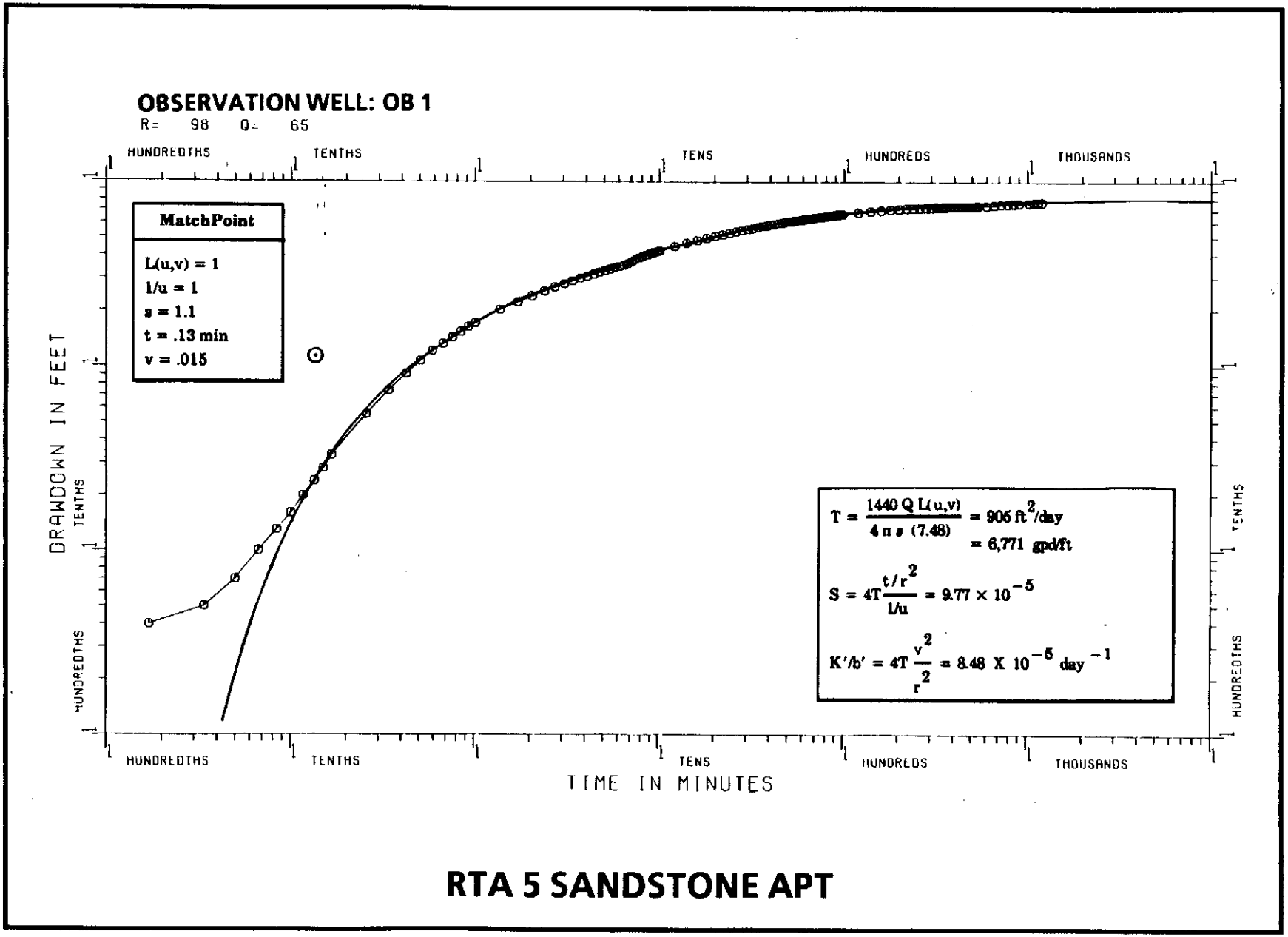
GALLAGHER PROPERTY DRAWDOWN



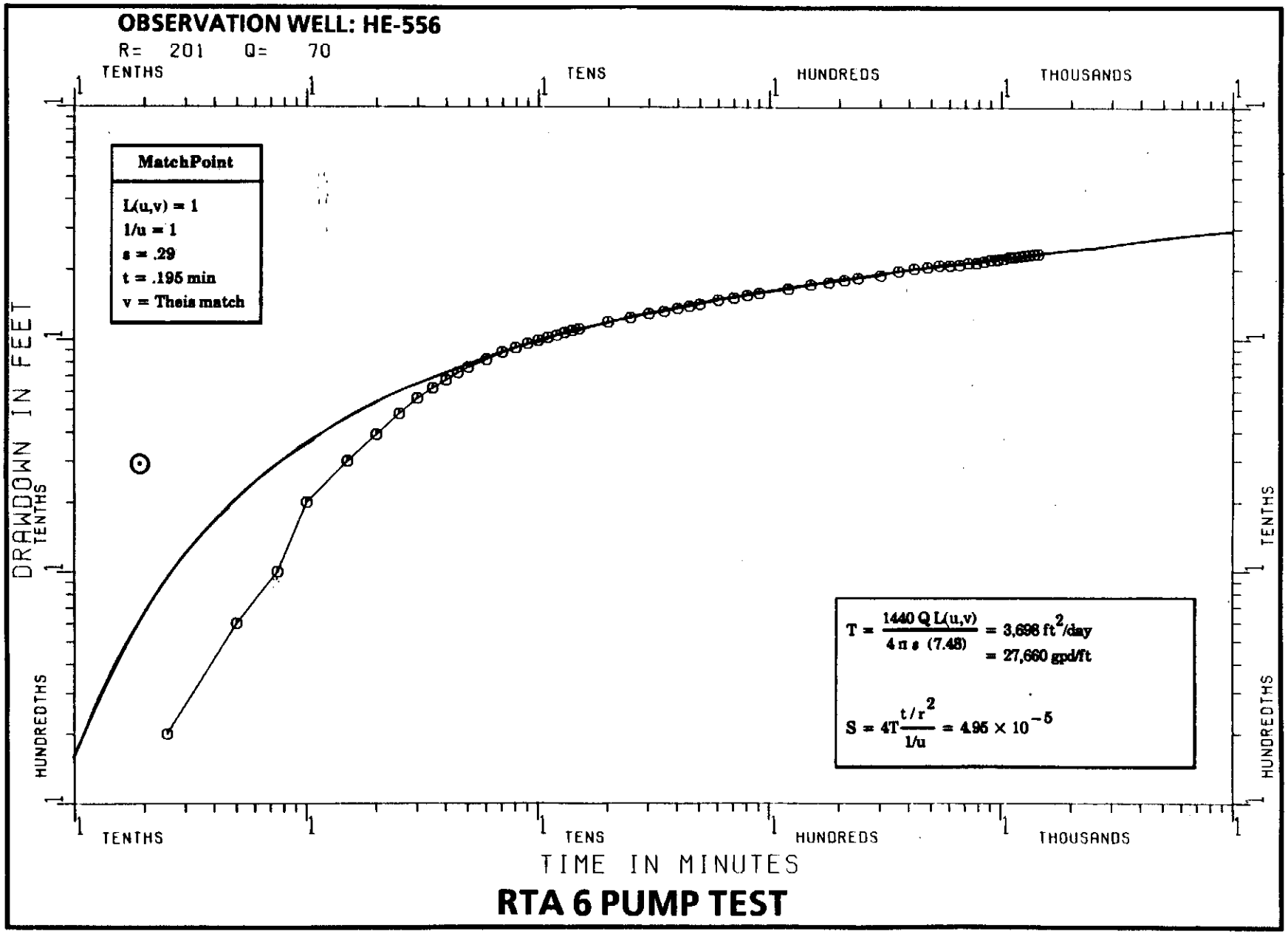
MILLS RANCH DRAWDOWN



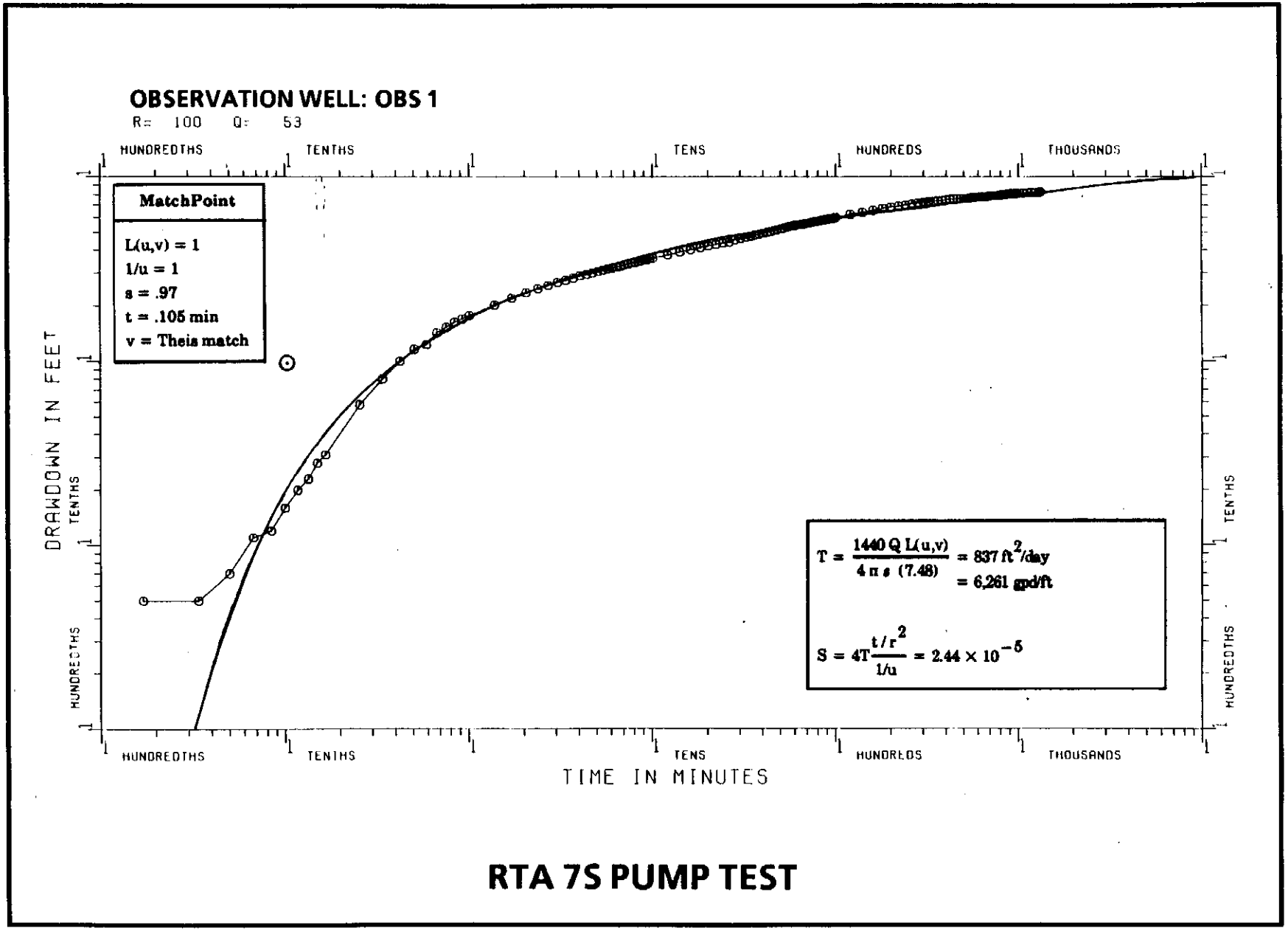
MILLS RANCH DRAWDOWN



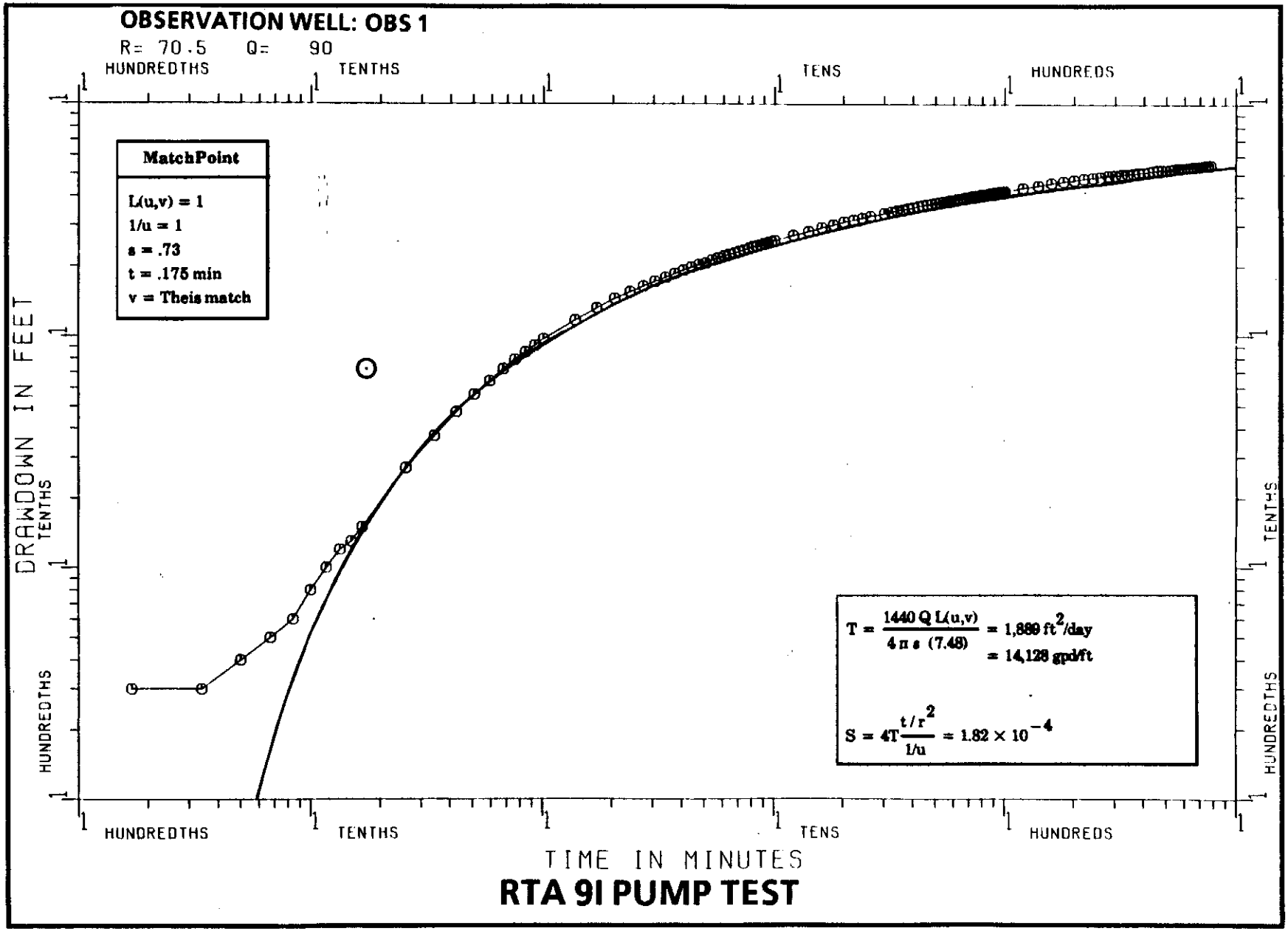
RTA 5 SANDSTONE APT

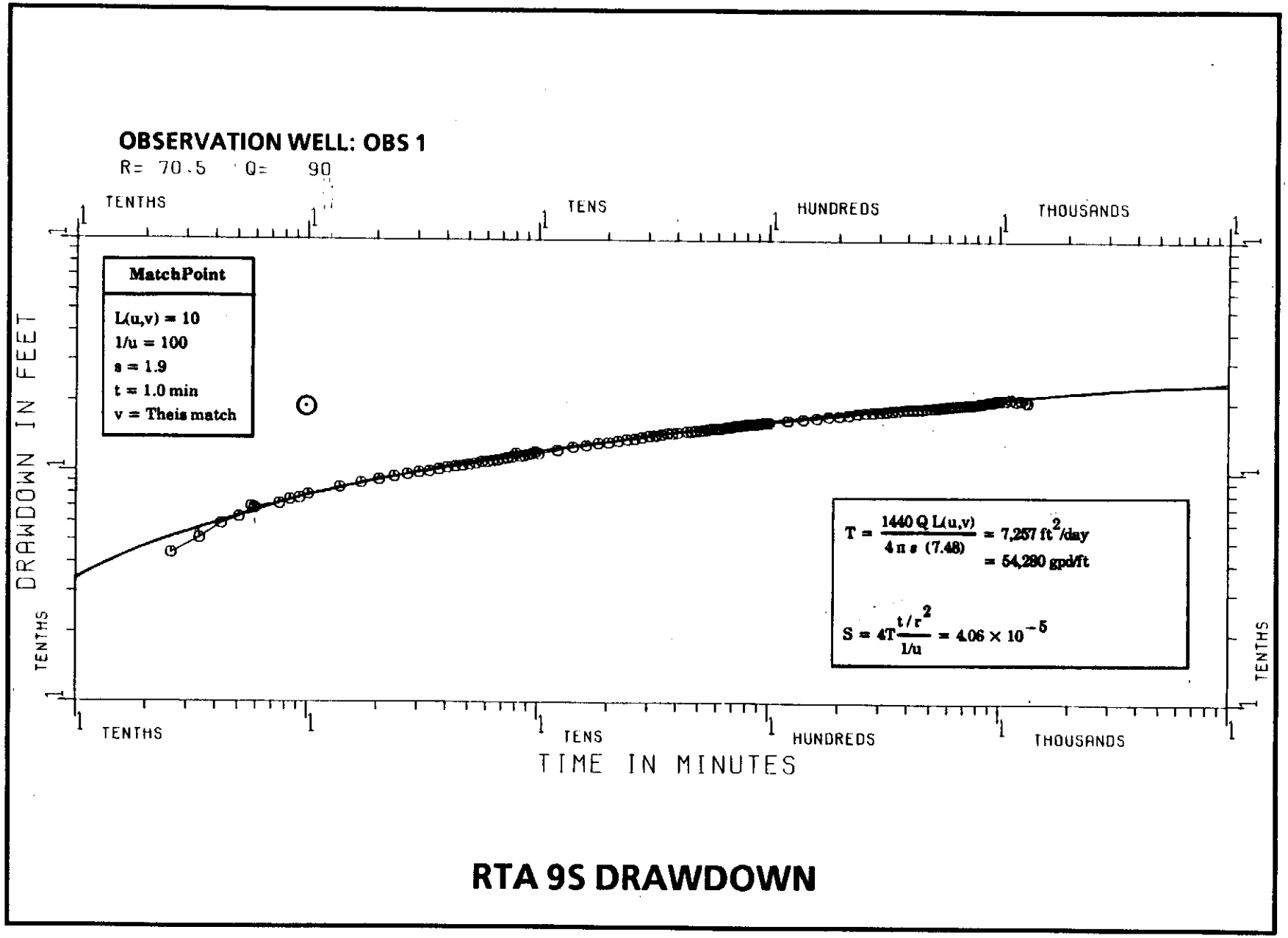


RTA 6 PUMP TEST

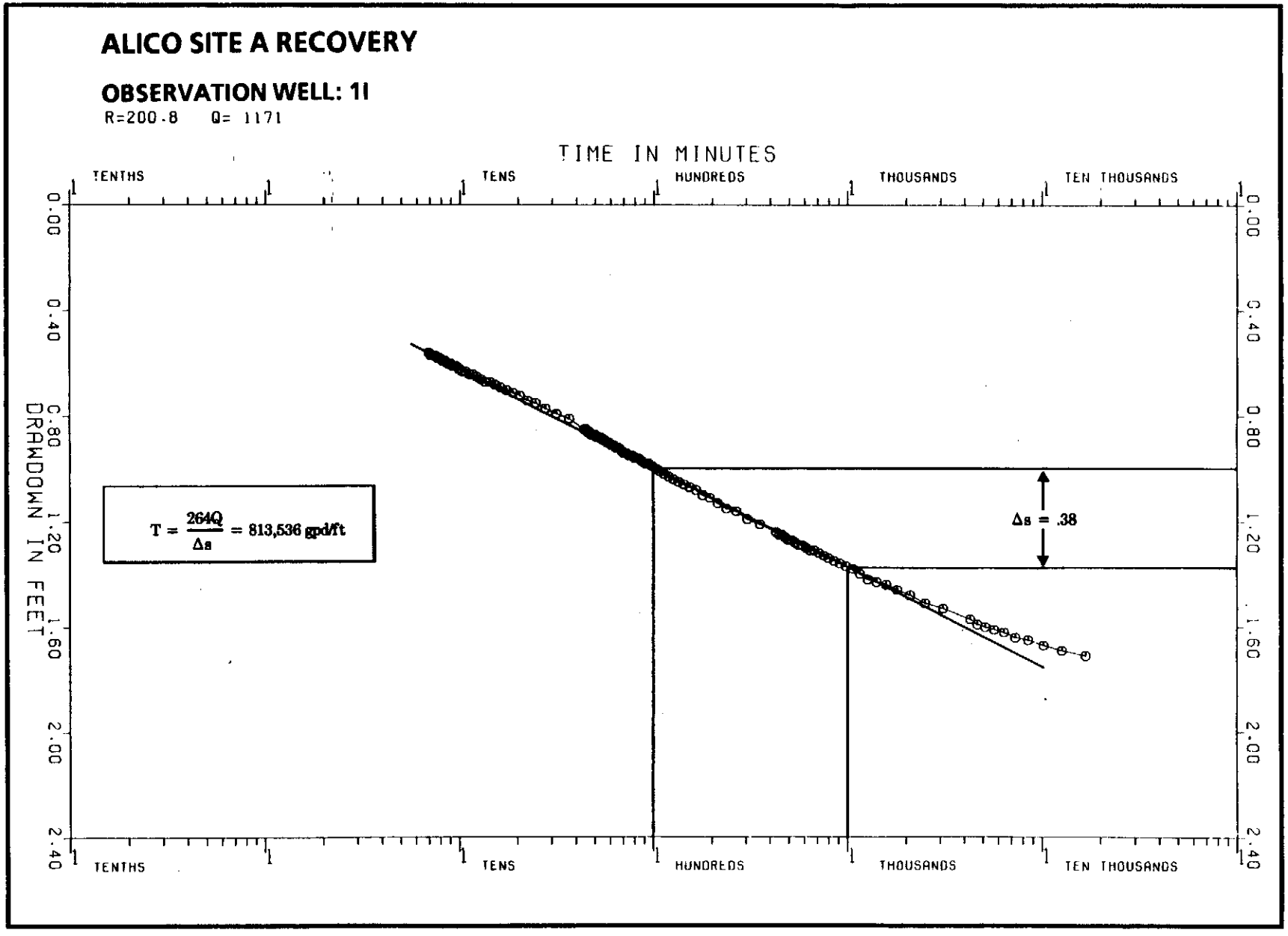


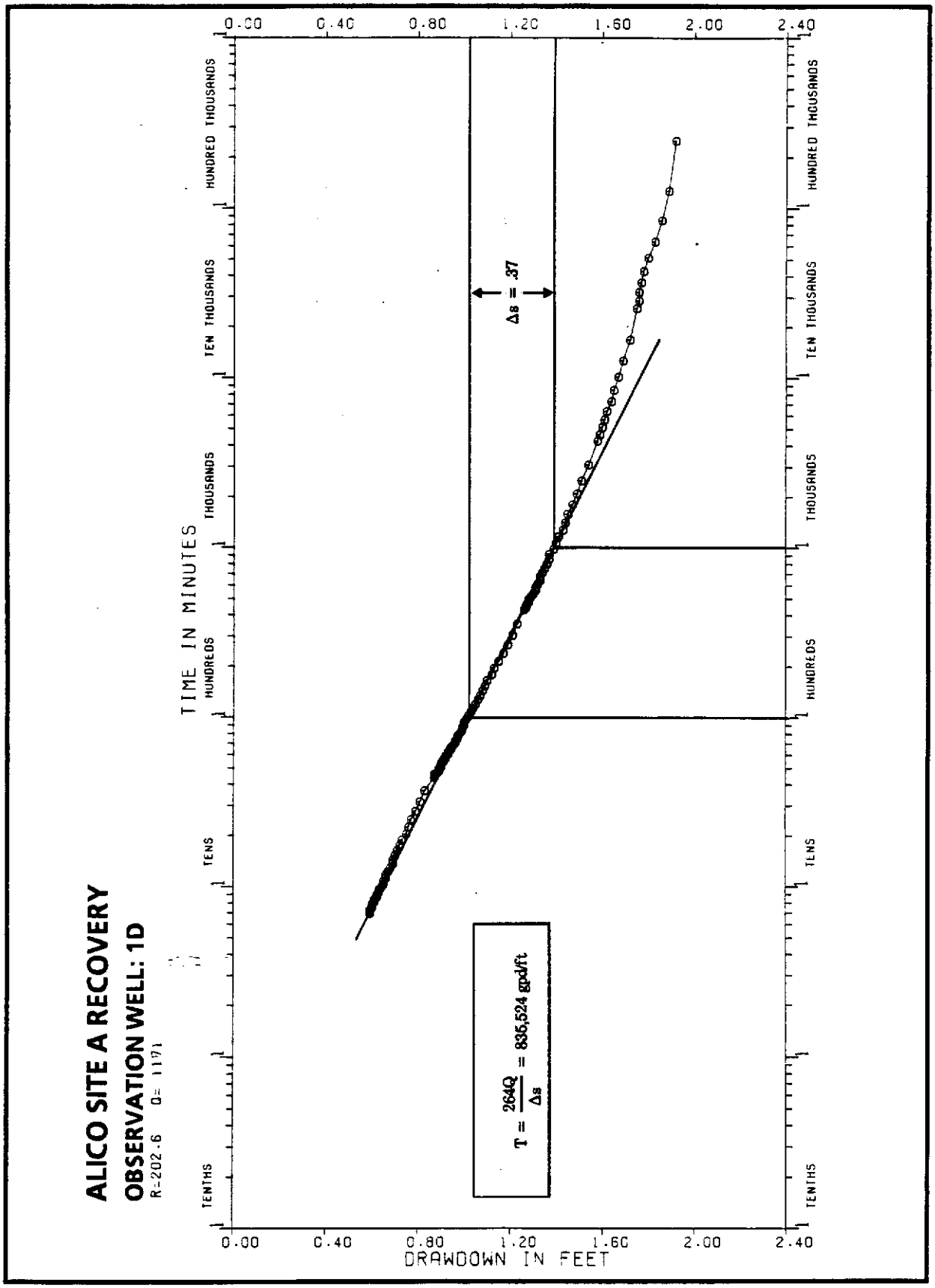
RTA 7S PUMP TEST

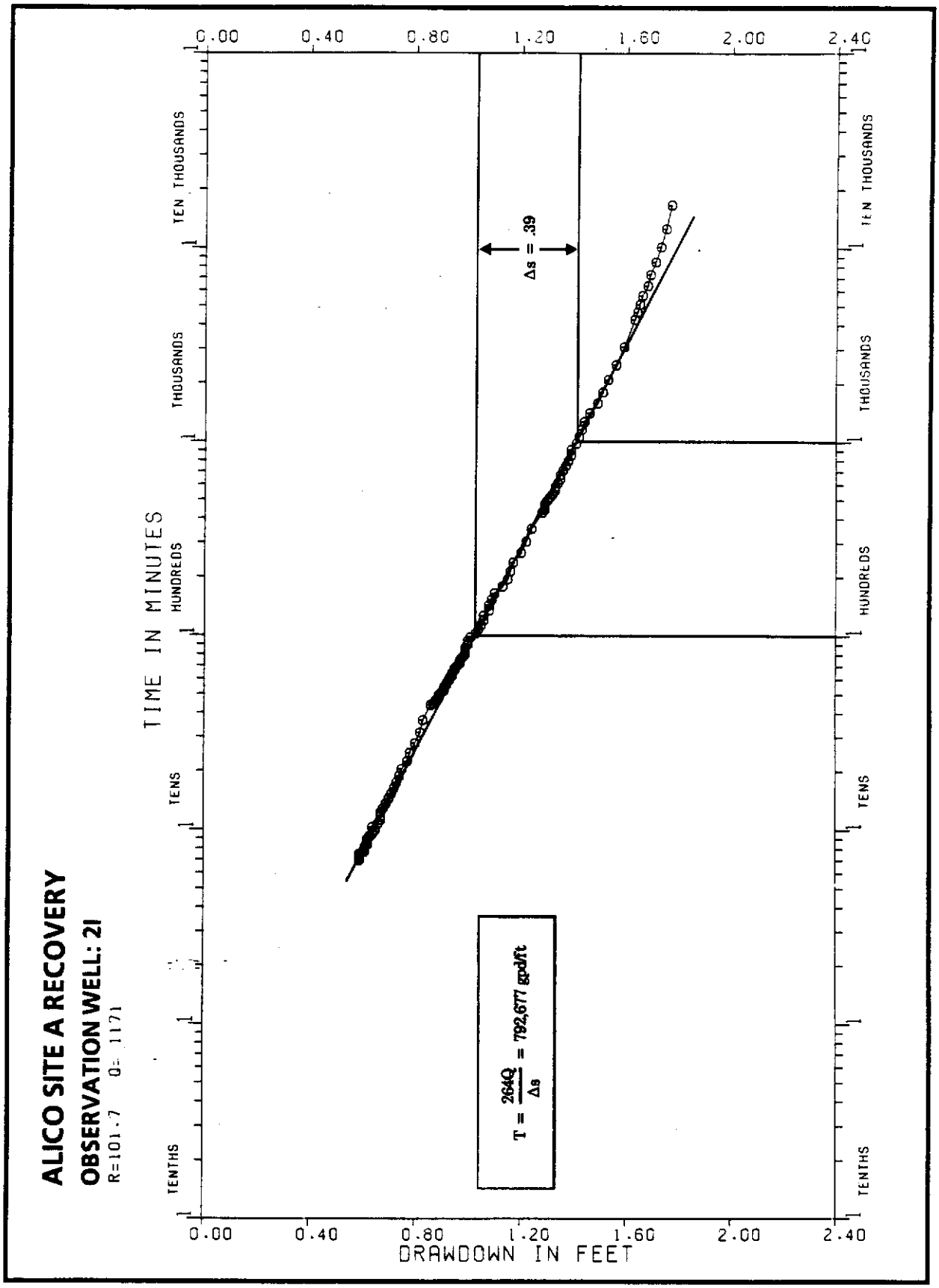

OBSERVATION WELL: OBS 1
R= 70.5 Q= 90
HUNDREDTHS
TENTHS
TENS
HUNDREDS
MatchPoint
L(u,v) = 1
1/u = 1
s = .73
t = .175 min
v = Theis match
DRAWDOWN IN FEET
TENTHS
HUNDREDTHS
$T = \frac{1440\,Q\,L(u,v)}{4\pi\,s\,(7.48)} = 1{,}889\ ft^2/day$
$= 14{,}128\ gpd/ft$
$S = 4T\frac{t/r^2}{1/u} = 1.82 \times 10^{-4}$
TIME IN MINUTES
RTA 9I PUMP TEST

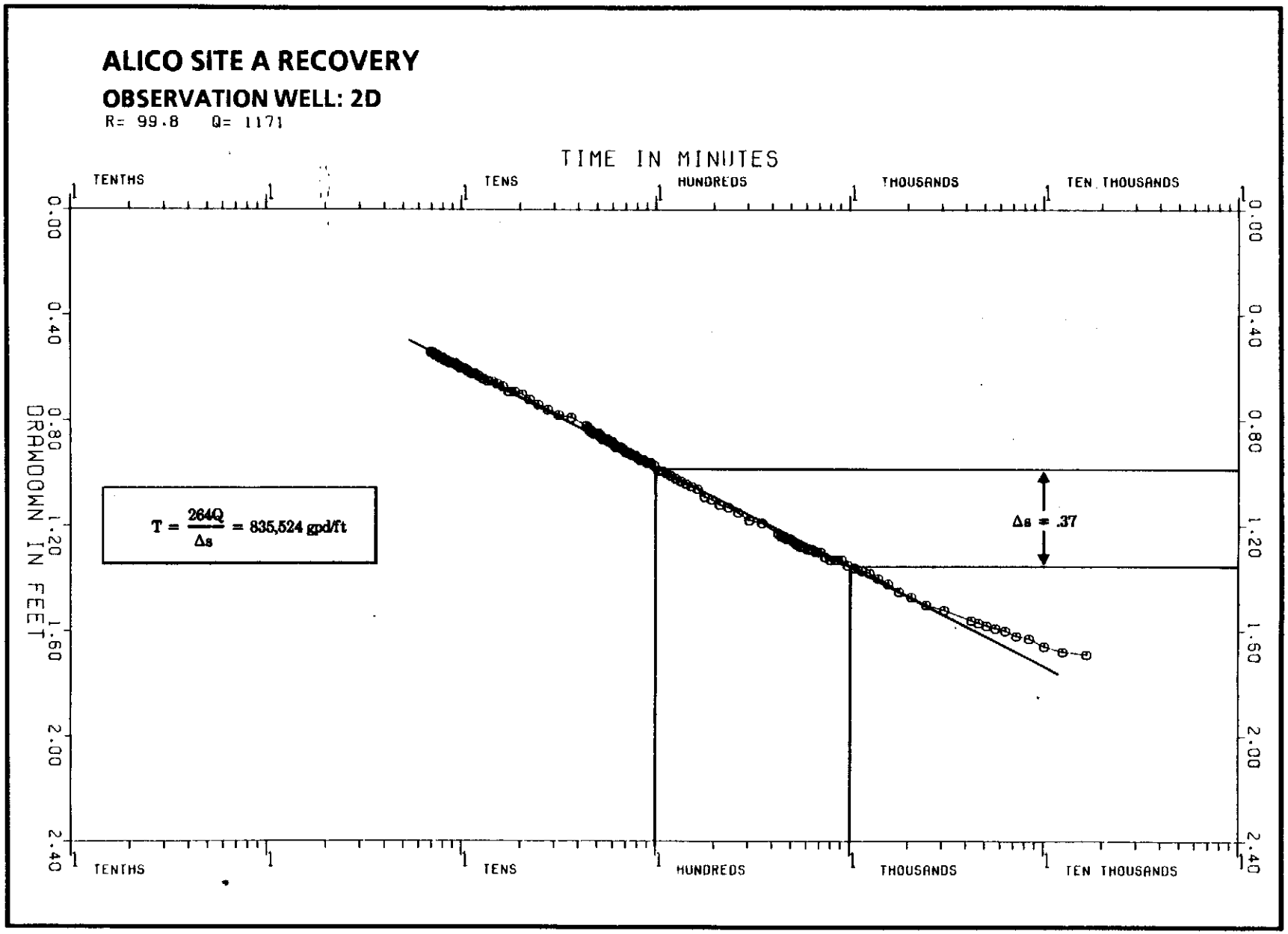


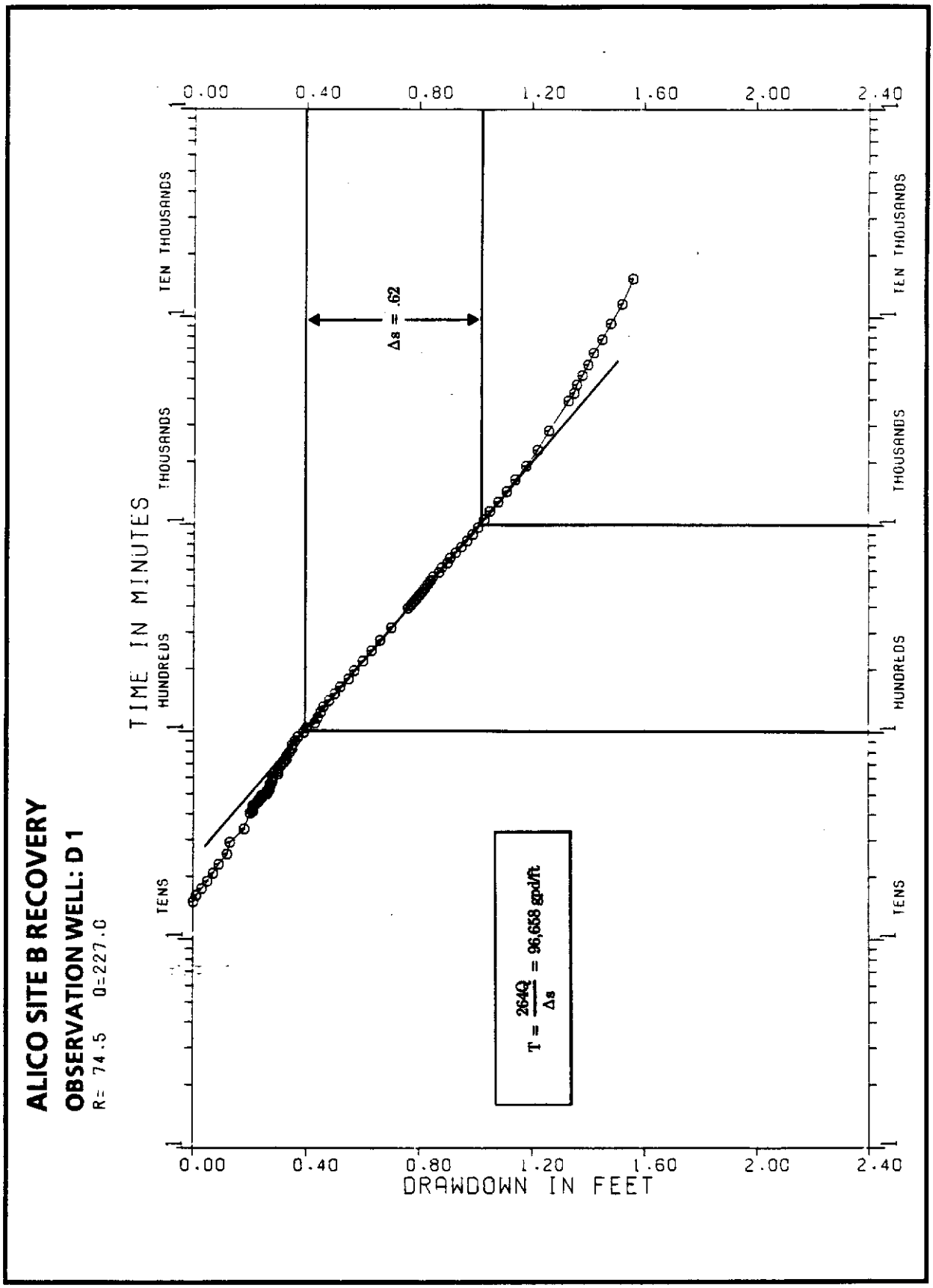
RTA 9S DRAWDOWN

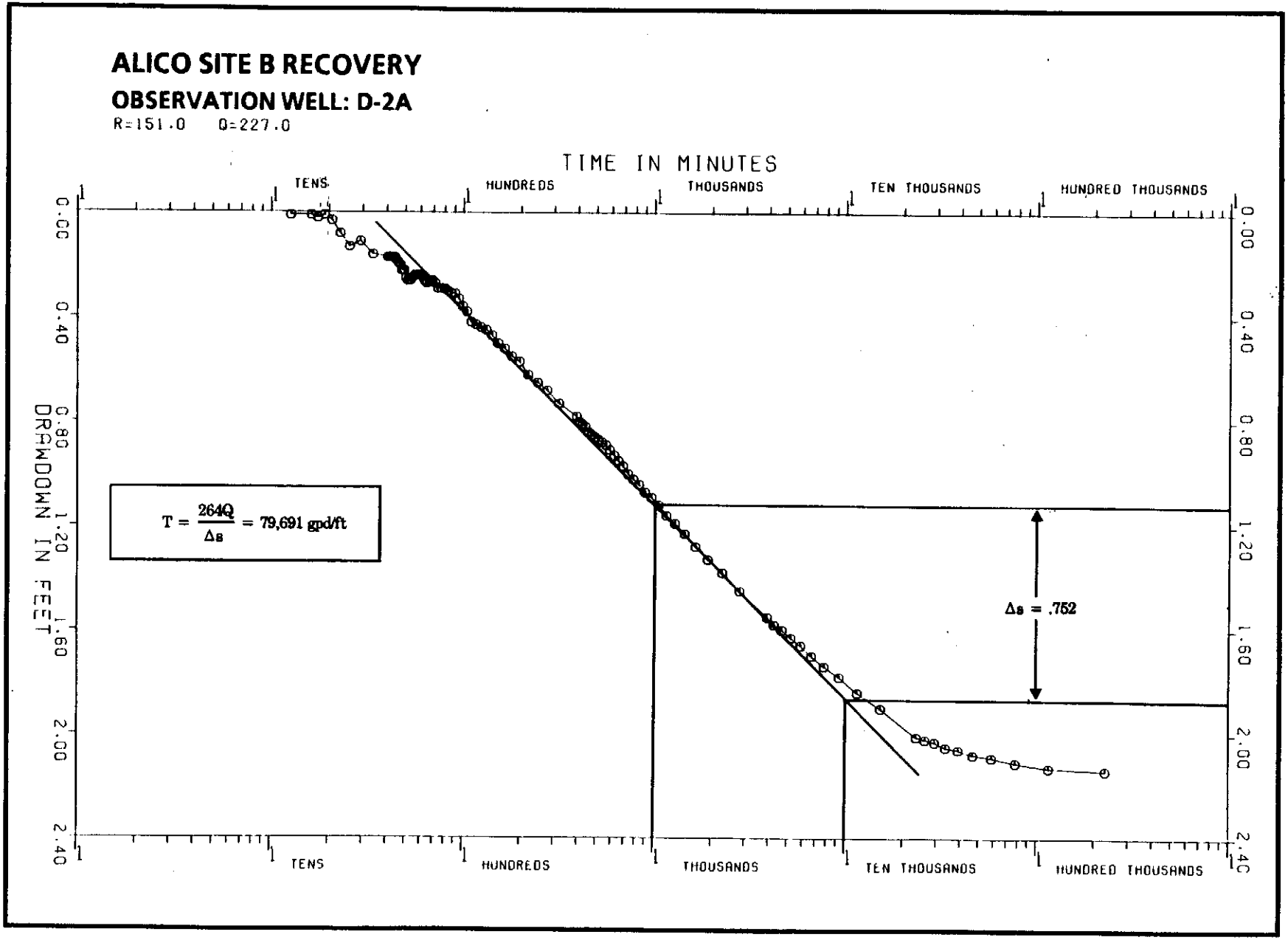

ALICO SITE A RECOVERY
OBSERVATION WELL: 11
R=200.8 Q= 1171
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
T = 264Q/Δs = 813,536 gpd/ft
Δs = .38

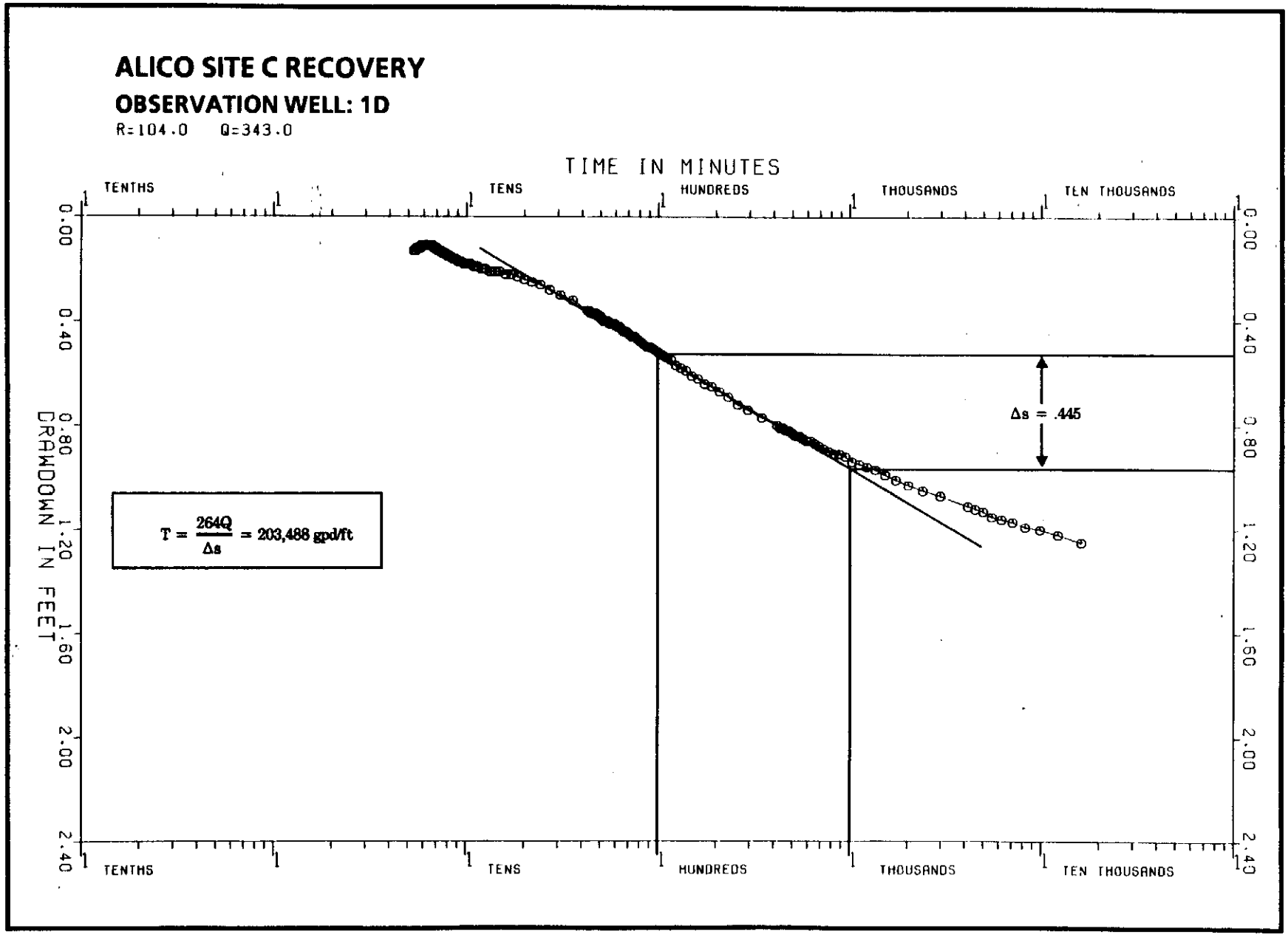

ALICO SITE A RECOVERY
OBSERVATION WELL: 1D
R=202.6 Q= 1171
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .37
$T = \frac{264Q}{\Delta s} = 836{,}524$ gpd/ft
DRAWDOWN IN FEET

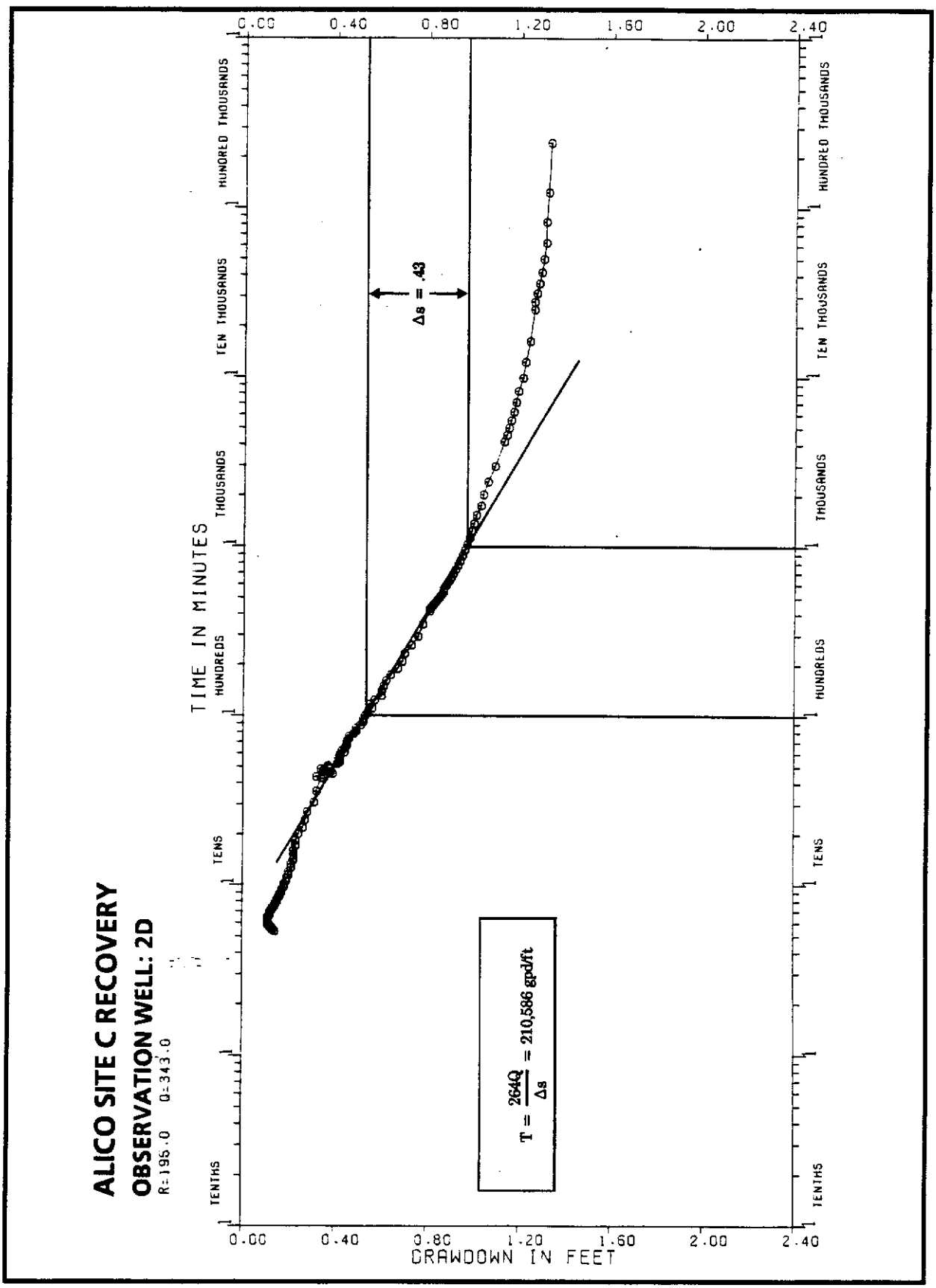

ALICO SITE A RECOVERY
OBSERVATION WELL: 2I
R=101.7 Q= 1171
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
DRAWDOWN IN FEET
Δs = .39
T = 264Q/Δs = 792,677 gpd/ft

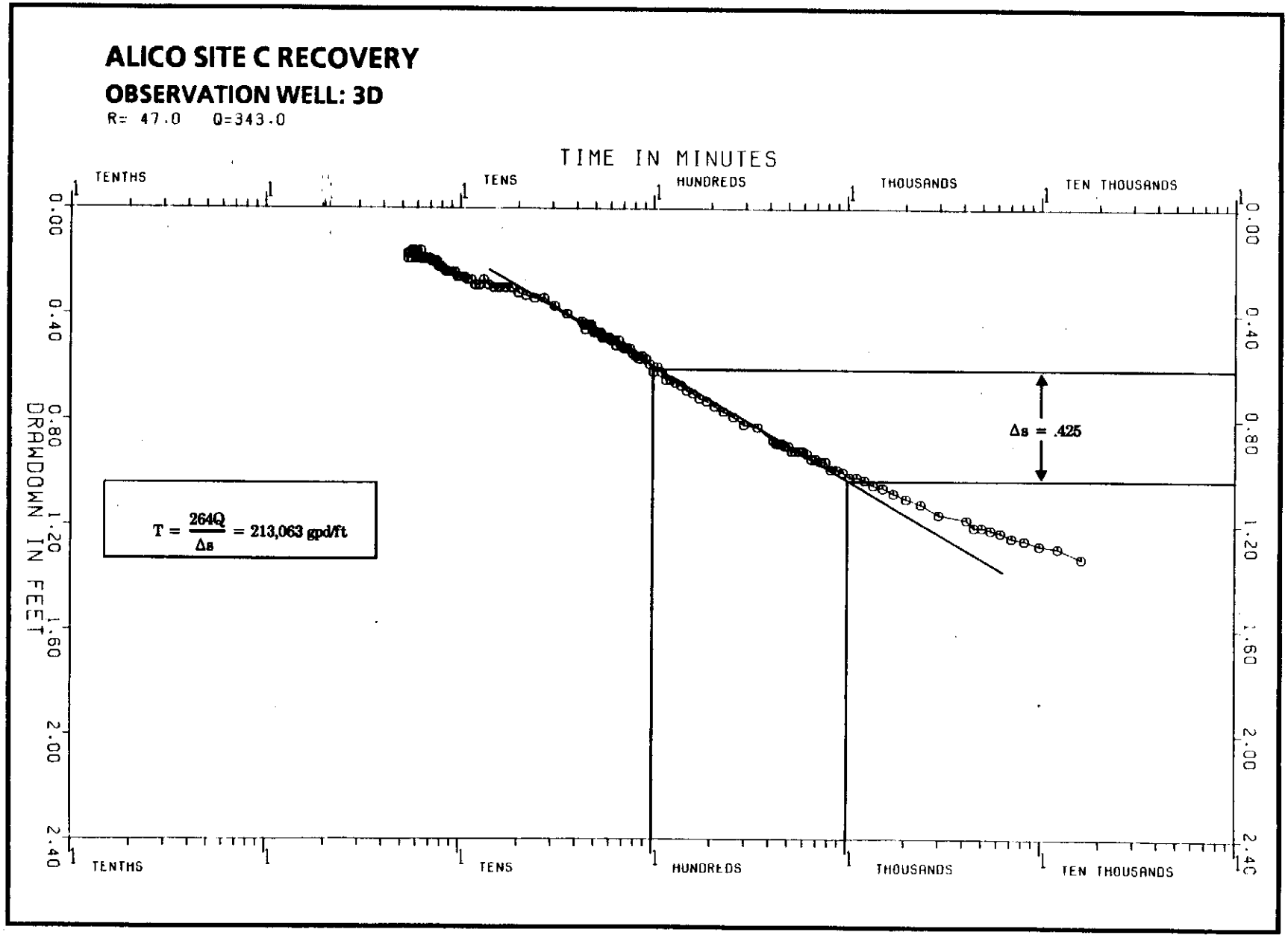

ALICO SITE A RECOVERY
OBSERVATION WELL: 2D
R= 99.8 Q= 1171
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
$T = \frac{264Q}{\Delta s} = 835{,}524$ gpd/ft
$\Delta s = .37$

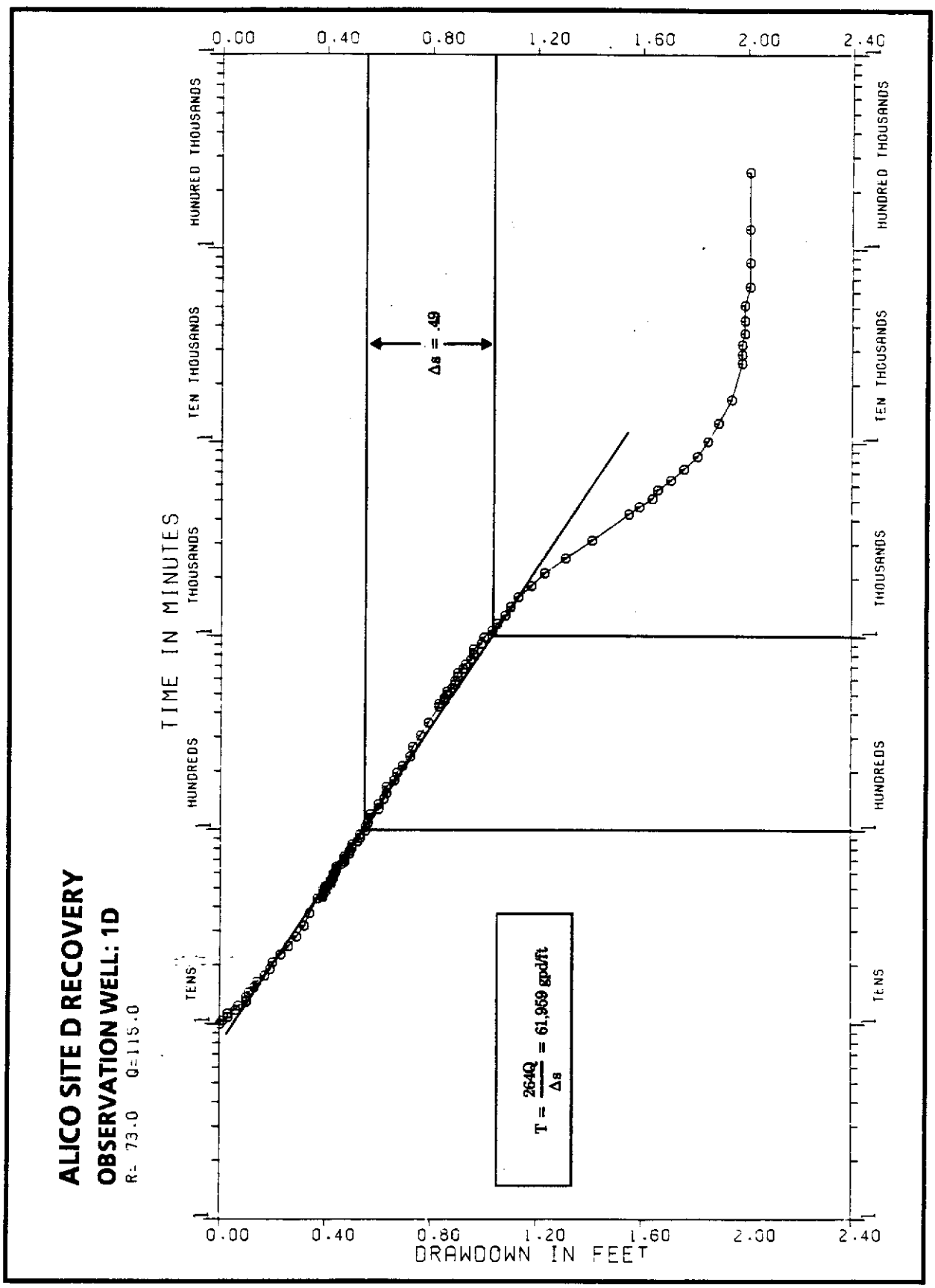

ALICO SITE B RECOVERY
OBSERVATION WELL: D 1
R= 74.5 Q=227.0
TIME IN MINUTES
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
Δs = .62
T = 264Q/Δs = 96,658 gpd/ft

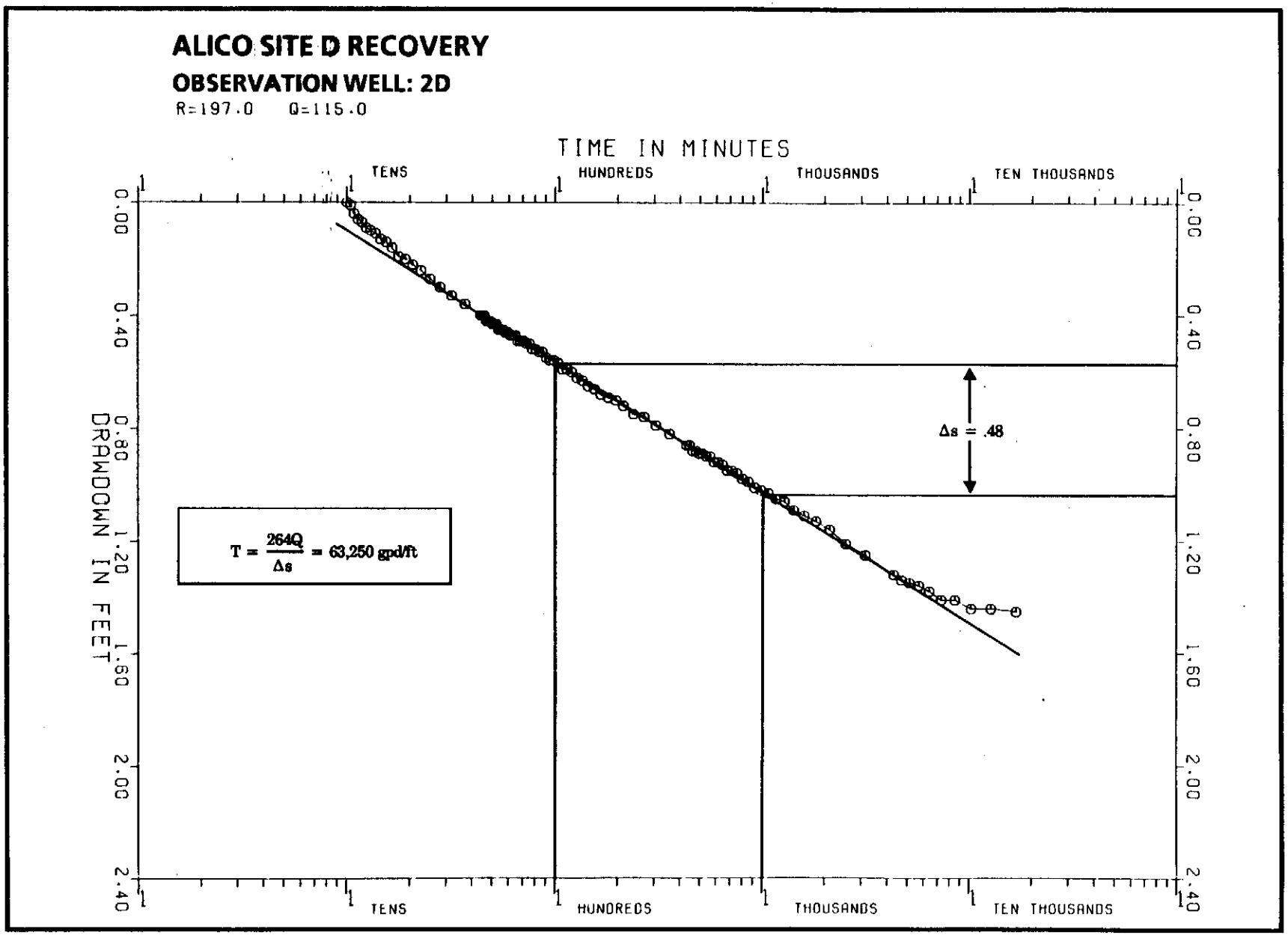

ALICO SITE B RECOVERY
OBSERVATION WELL: D-2A
R=151.0 Q=227.0
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
T = 264Q / Δs = 79,691 gpd/ft
Δs = .752

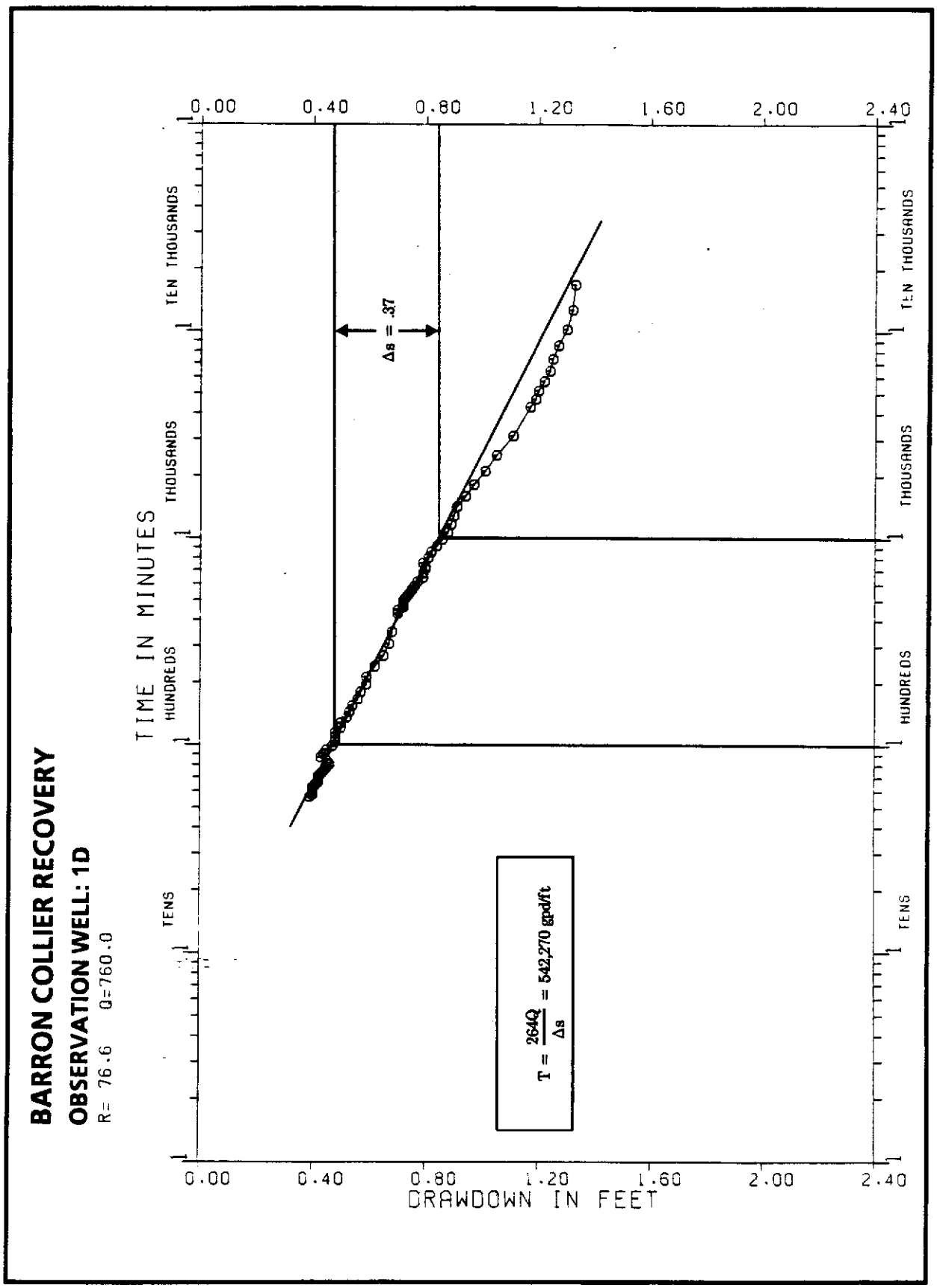

ALICO SITE C RECOVERY
OBSERVATION WELL: 1D
R=104.0 Q=343.0
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .445
T = 264Q/Δs = 203,488 gpd/ft

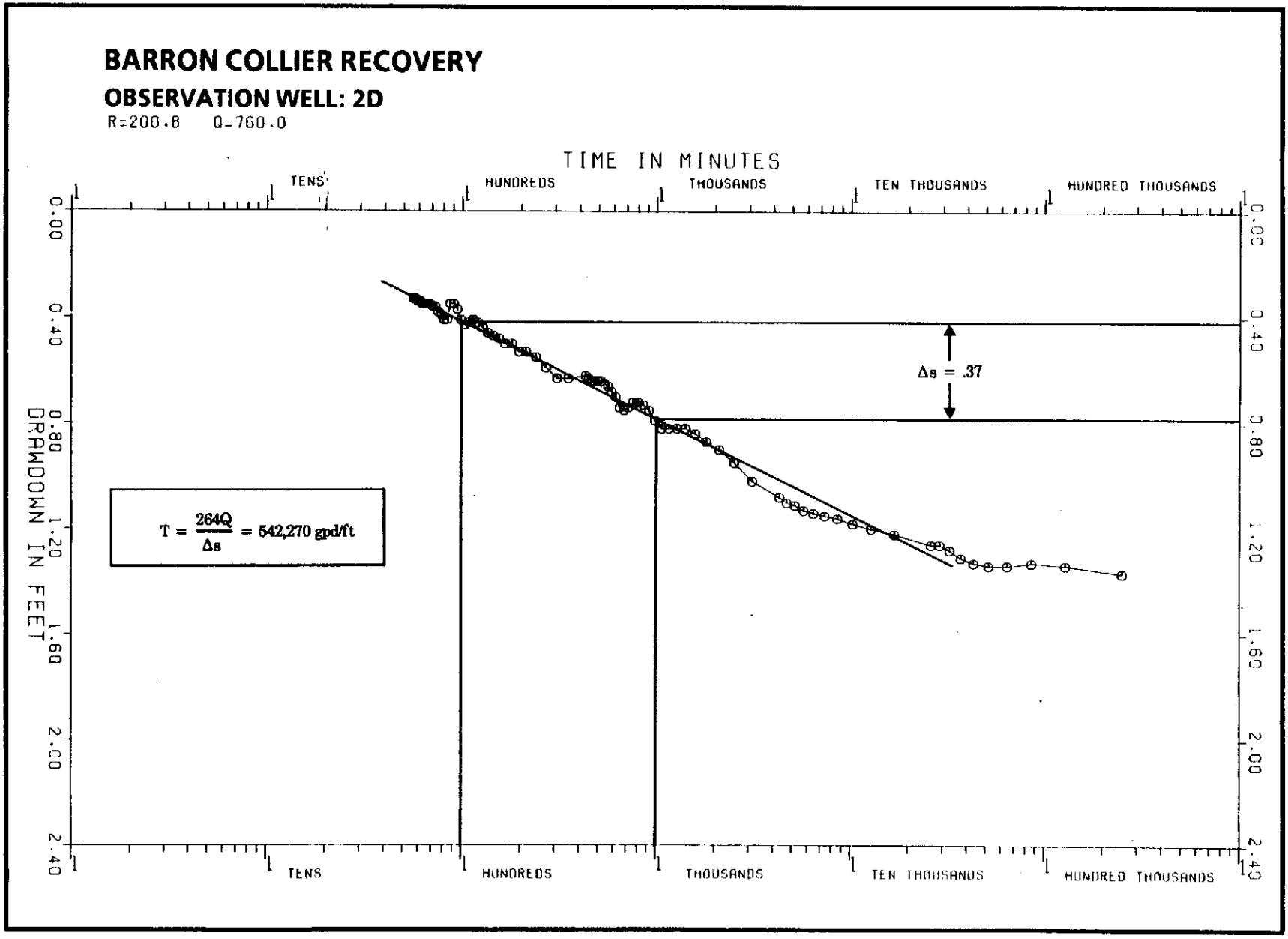

ALICO SITE C RECOVERY
OBSERVATION WELL: 2D
R=195.0 Q=343.0
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
DRAWDOWN IN FEET
Δs = .43
$T = \frac{264Q}{\Delta s} = 210{,}586$ gpd/ft

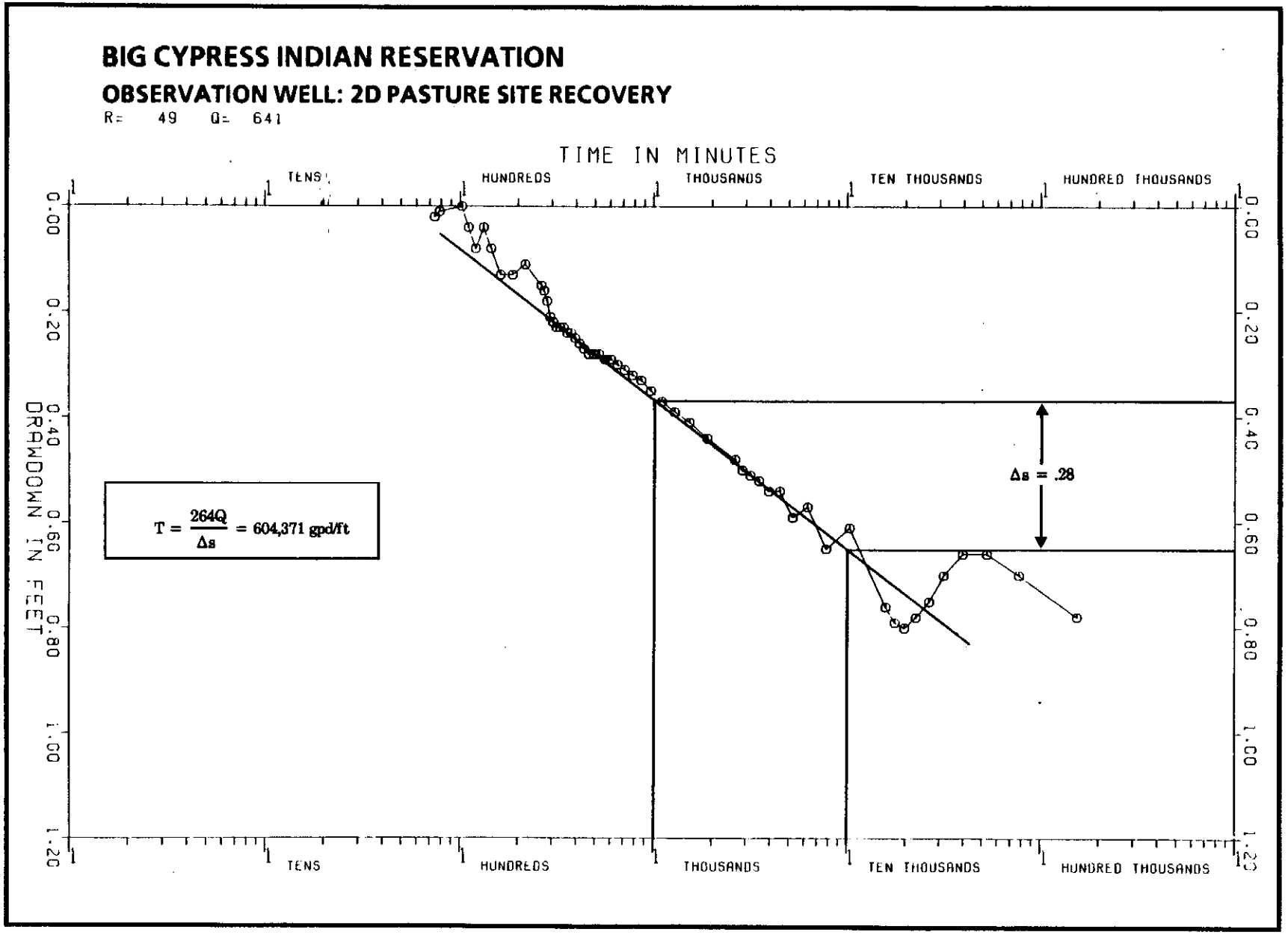

ALICO SITE C RECOVERY
OBSERVATION WELL: 3D
R= 47.0 Q=343.0
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .425
T = 264Q / Δs = 213,063 gpd/ft


ALICO SITE D RECOVERY
OBSERVATION WELL: 1D
R= 73.0 Q=115.0
TIME IN MINUTES
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
Δs = .49
T = 264Q / Δs = 61,959 gpd/ft


ALICO SITE D RECOVERY
OBSERVATION WELL: 2D
R=197.0 Q=115.0
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .48
T = 264Q/Δs = 63,250 gpd/ft


BARRON COLLIER RECOVERY
OBSERVATION WELL: 1D
R= 76.6 Q=760.0
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .37
$T = \frac{264Q}{\Delta s} = 542,270$ gpd/ft
DRAWDOWN IN FEET

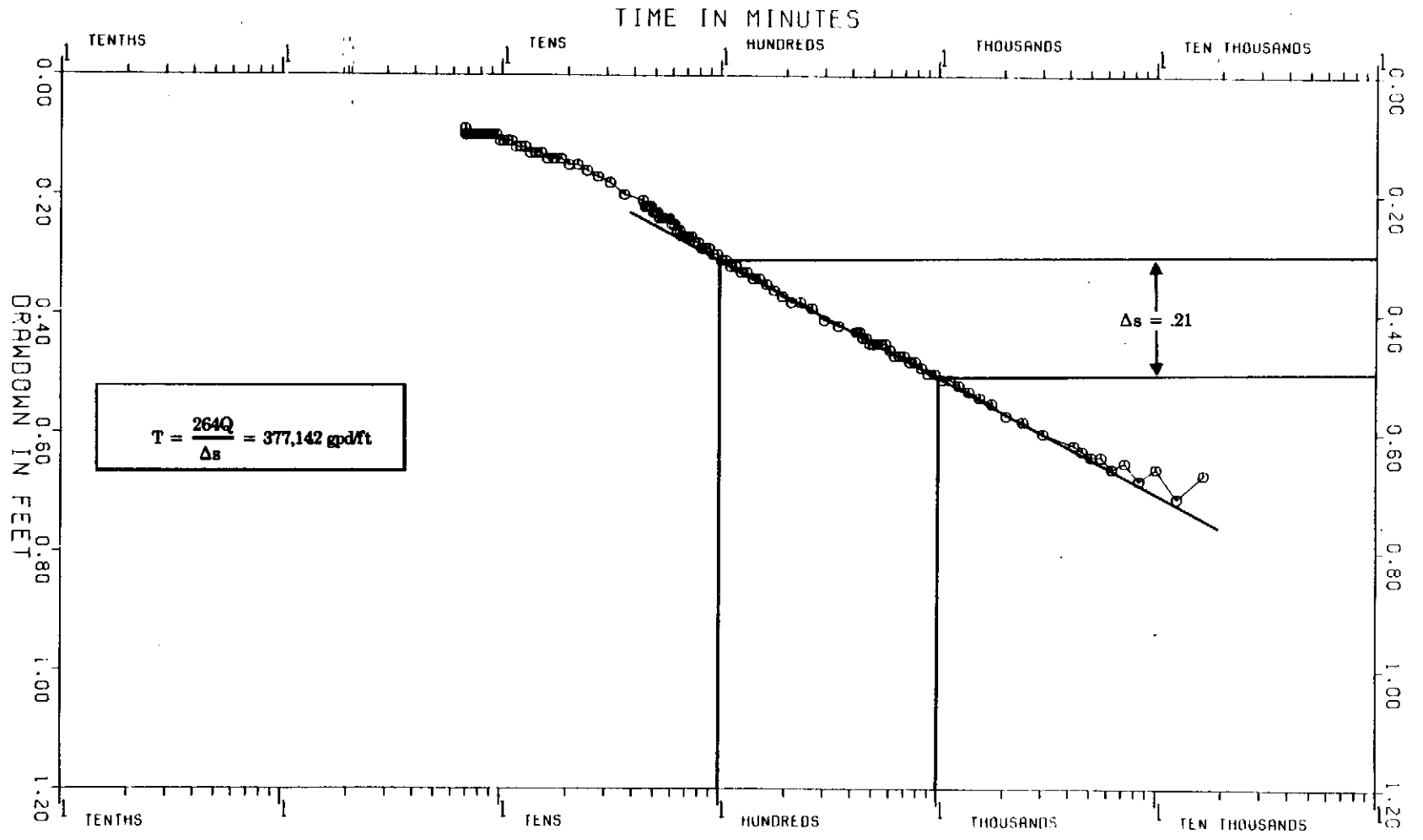

BARRON COLLIER RECOVERY
OBSERVATION WELL: 2D
R=200.8 Q=760.0
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .37
T = 264Q/Δs = 542,270 gpd/ft

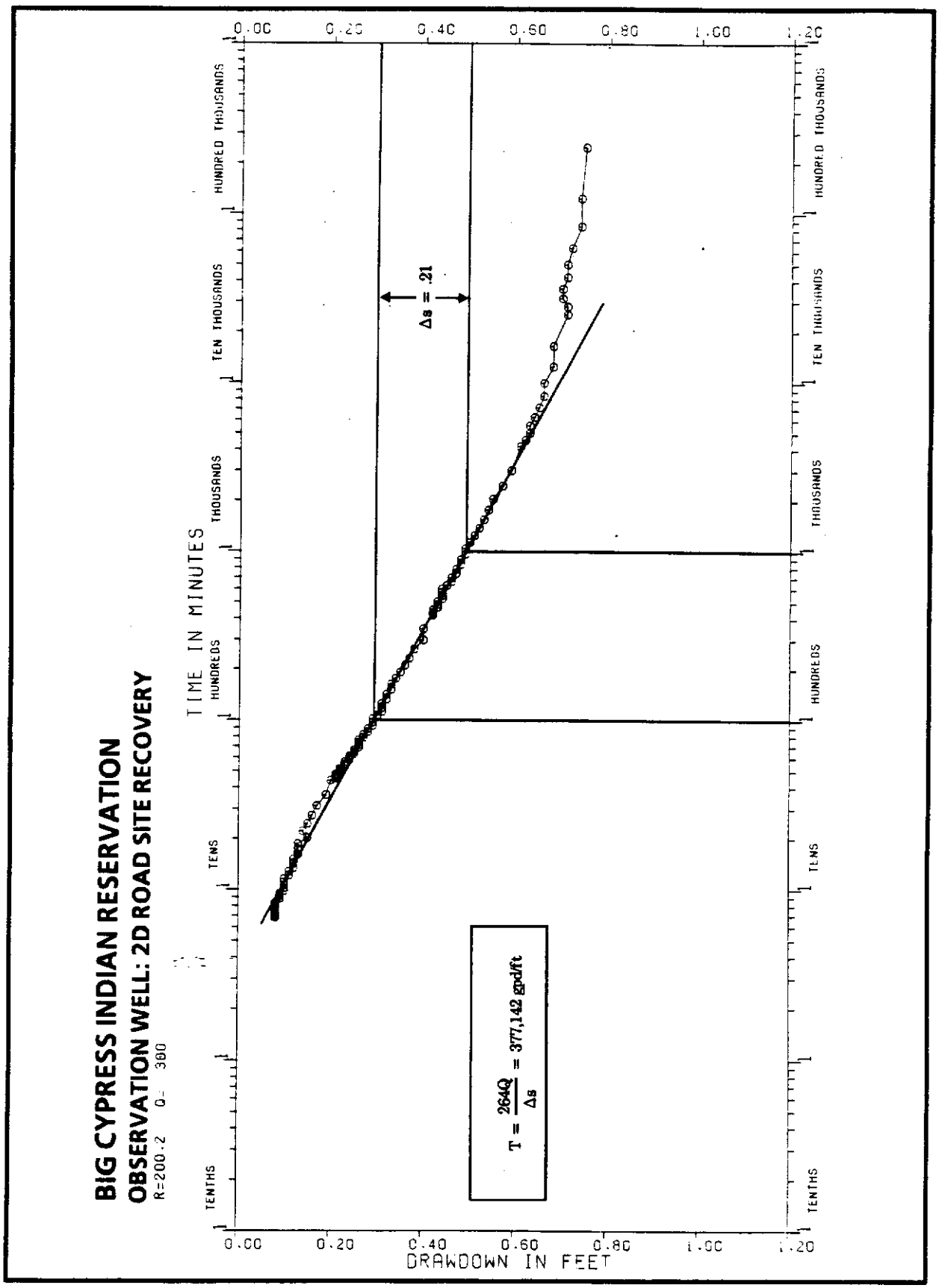

BIG CYPRESS INDIAN RESERVATION
OBSERVATION WELL: 2D PASTURE SITE RECOVERY
R= 49 Q= 641
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
DRAWDOWN IN FEET
0.00
0.20
0.40
0.60
0.80
1.00
1.20
Δs = .28
T = 264Q / Δs = 604,371 gpd/ft

BIG CYPRESS INDIAN RESERVATION

OBSERVATION WELL: 1D ROAD SITE RECOVERY

R=51.65 D= 300

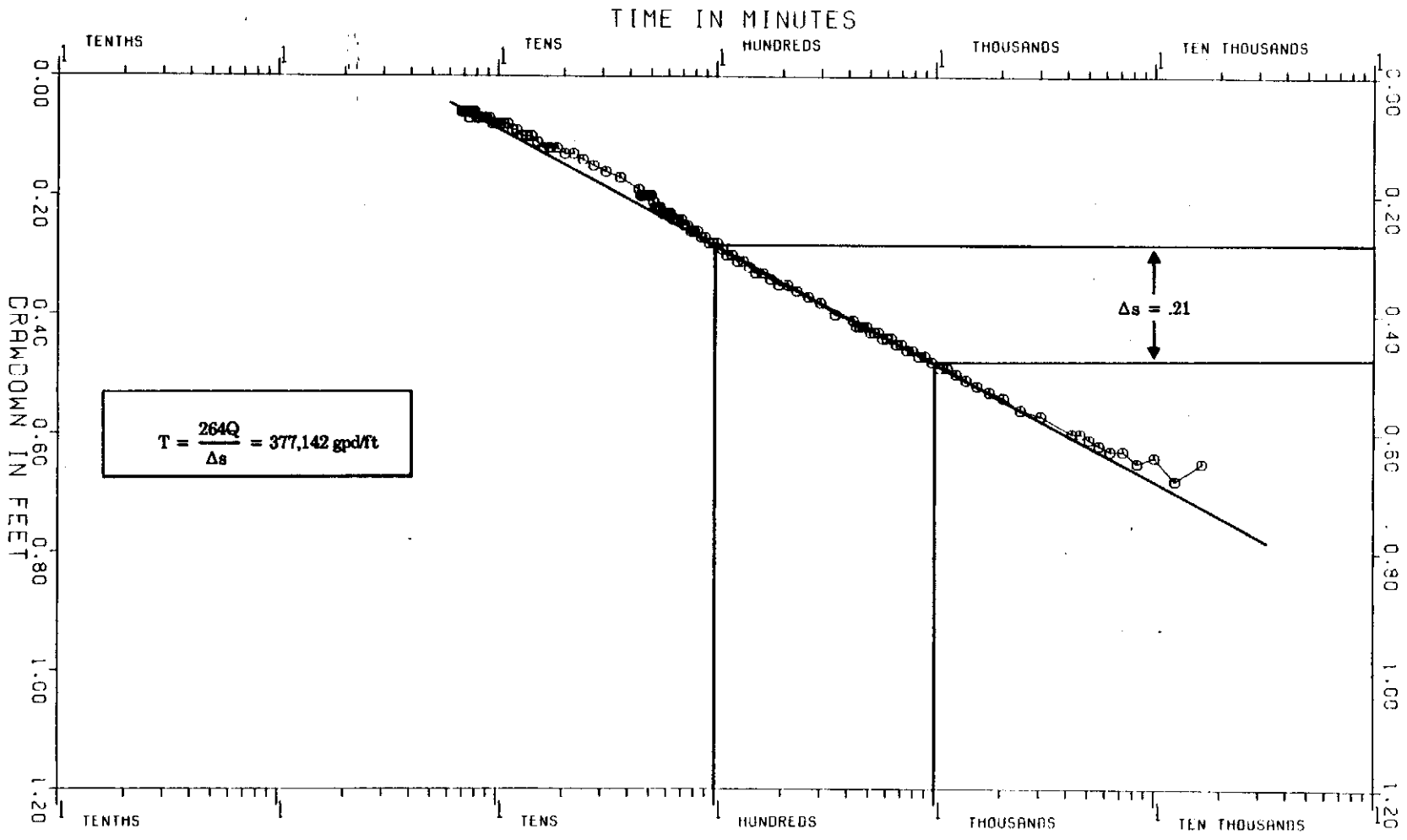


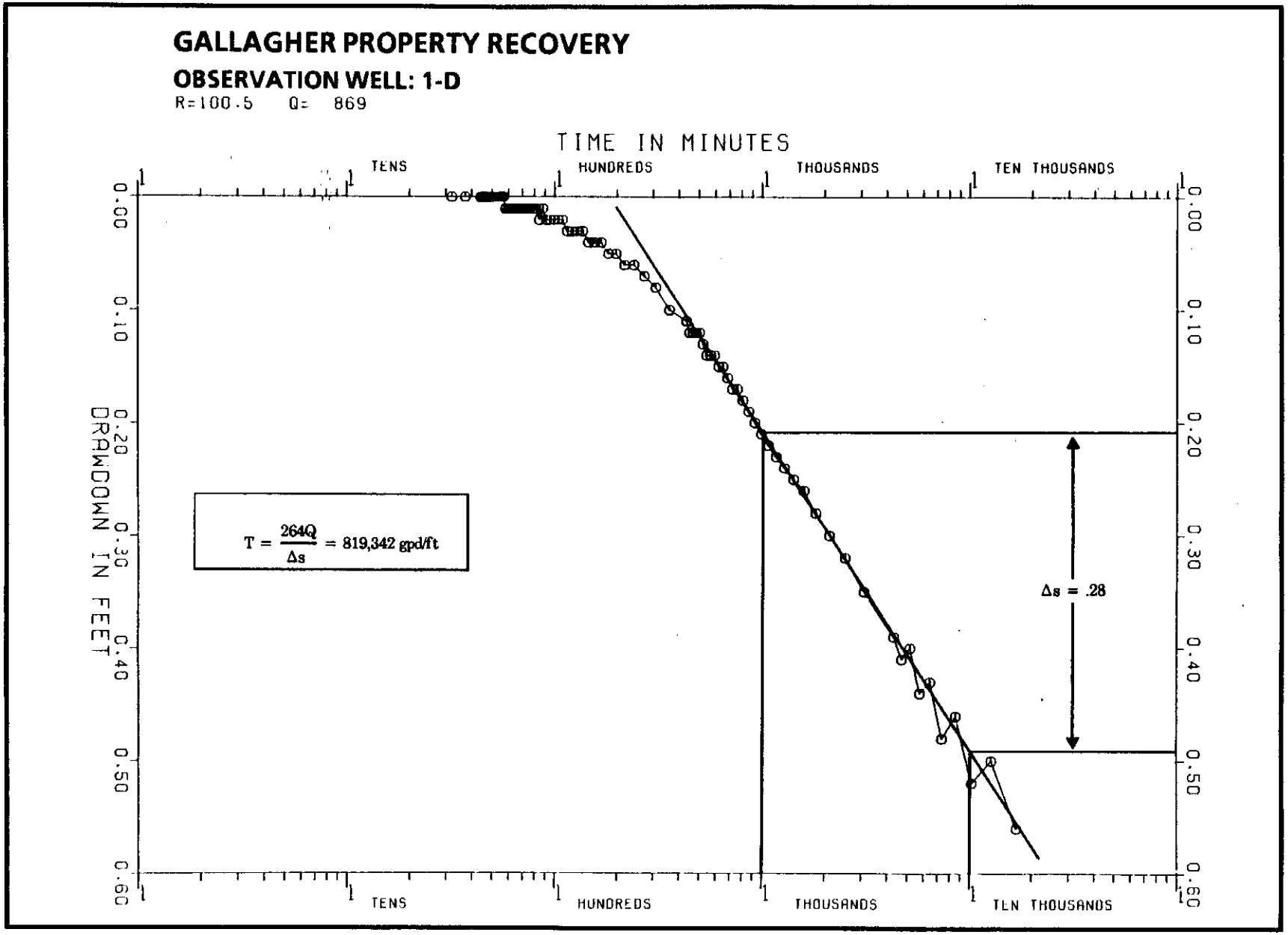

BIG CYPRESS INDIAN RESERVATION
OBSERVATION WELL: 2D ROAD SITE RECOVERY
R=200.2 Q= 300
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
0.00
0.20
0.40
0.60
0.80
1.00
1.20
Δs = .21
$T = \frac{264Q}{\Delta s} = 377{,}142$ gpd/ft
DRAWDOWN IN FEET

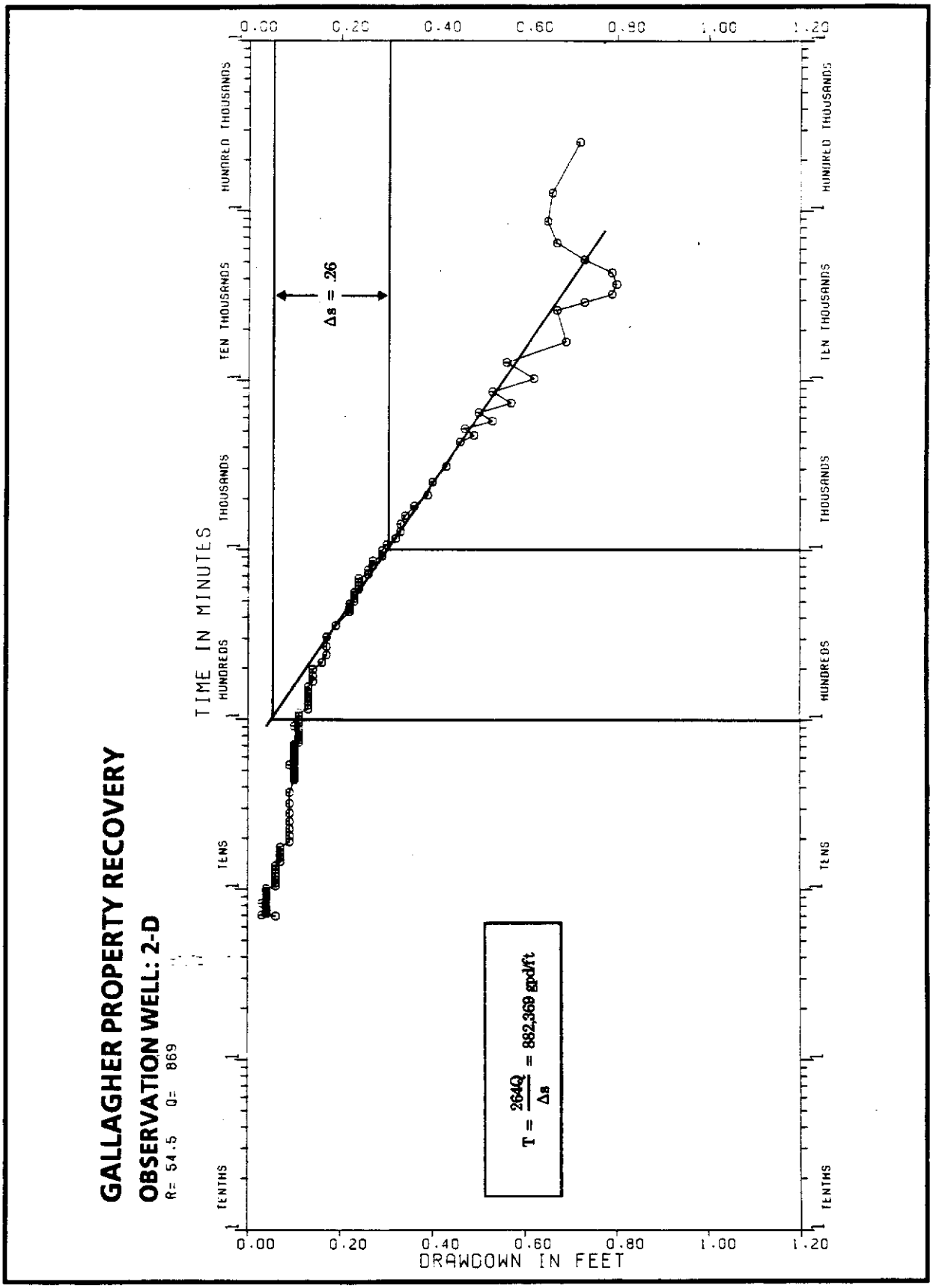
BIG CYPRESS INDIAN RESERVATION

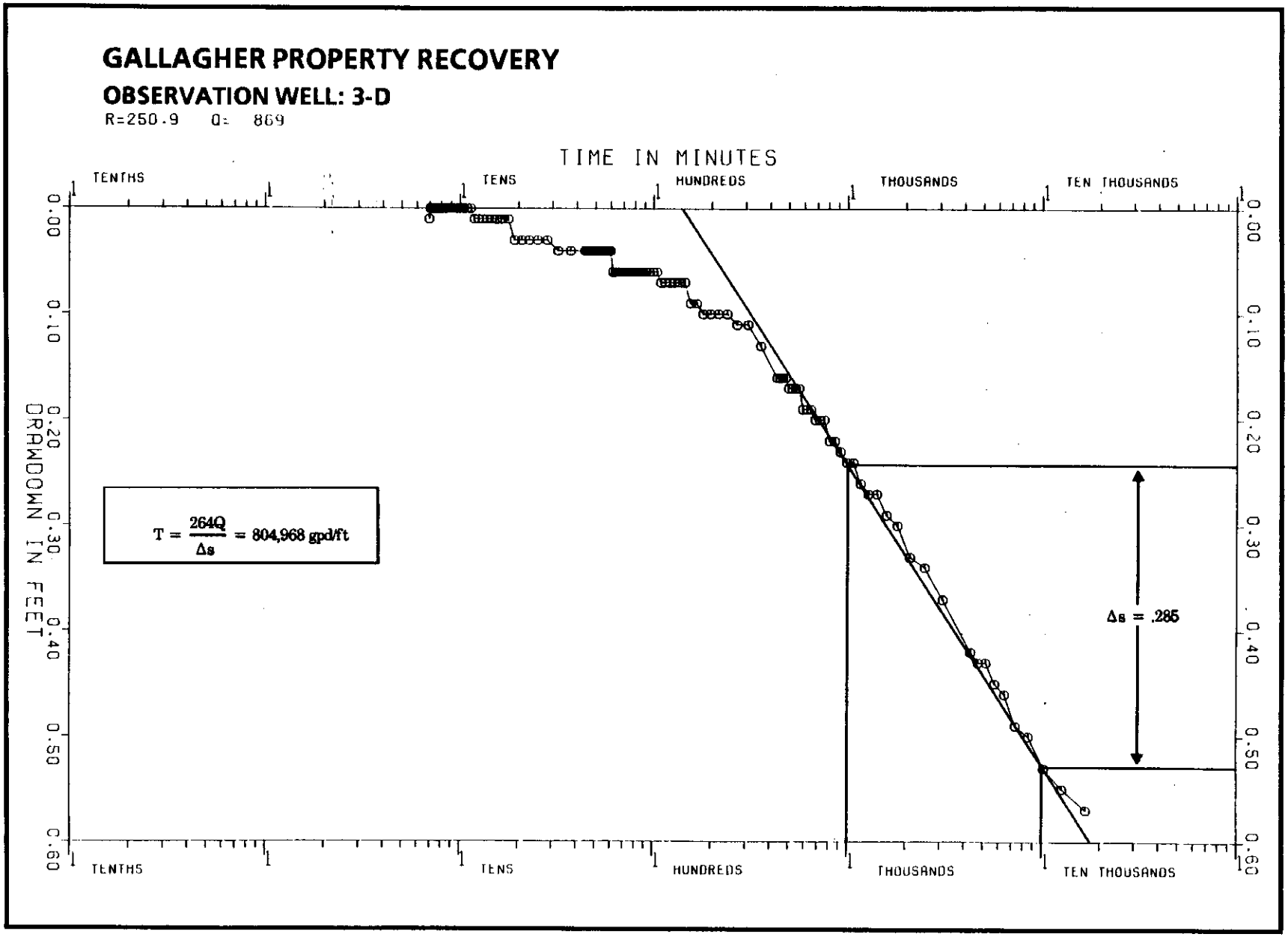
OBSERVATION WELL: 3D ROAD SITE RECOVERY

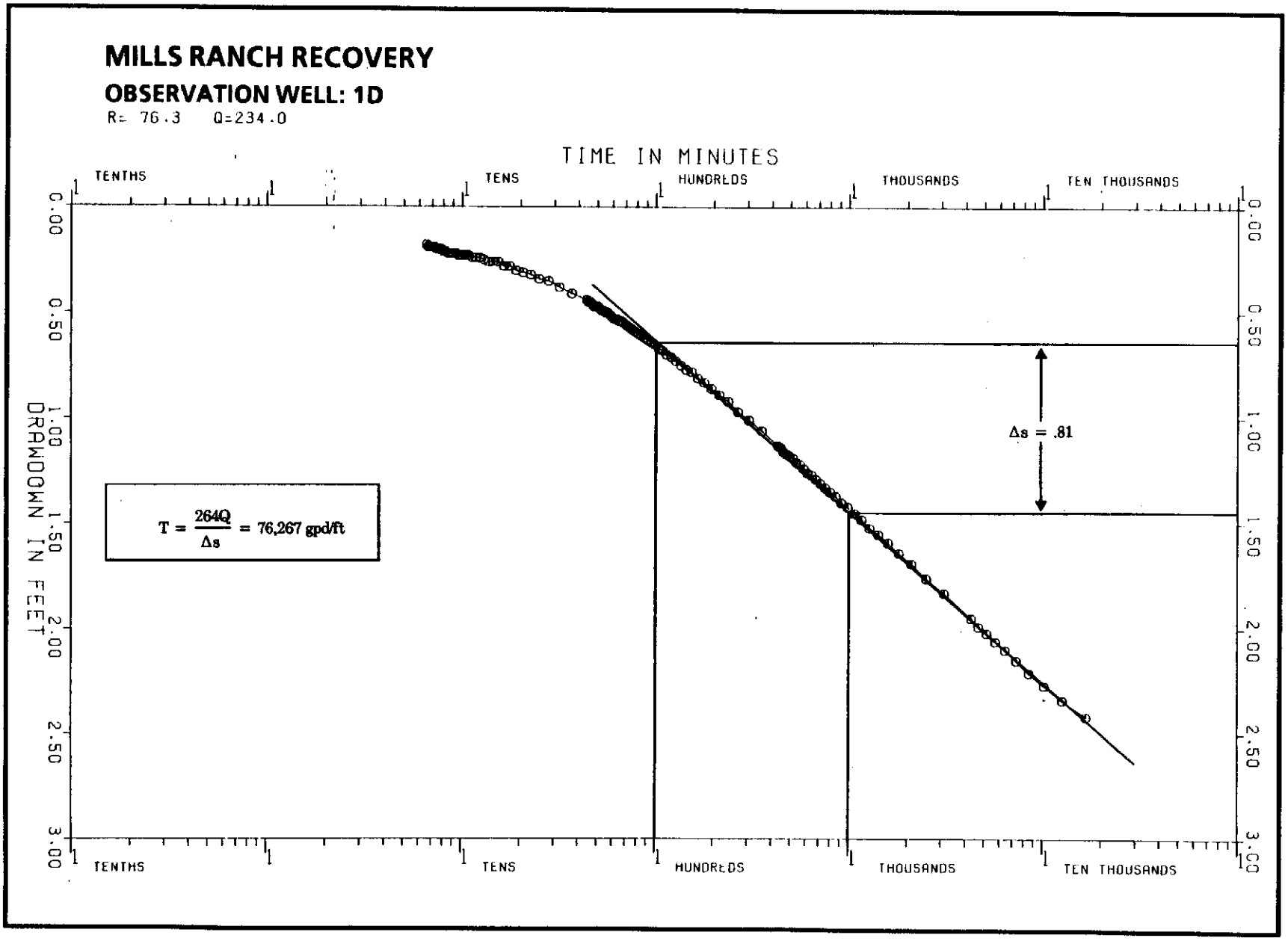
R= 77 D= 300

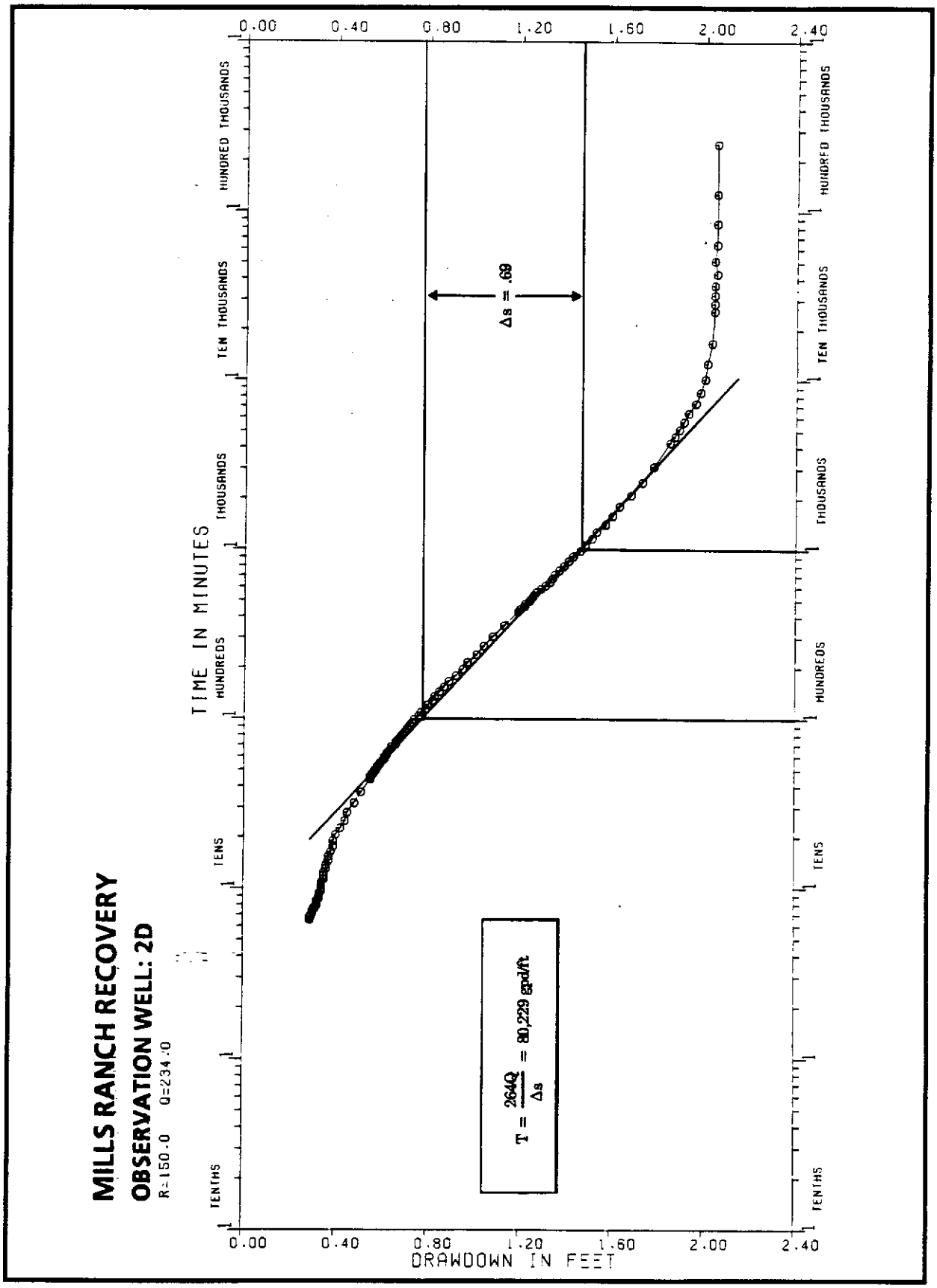


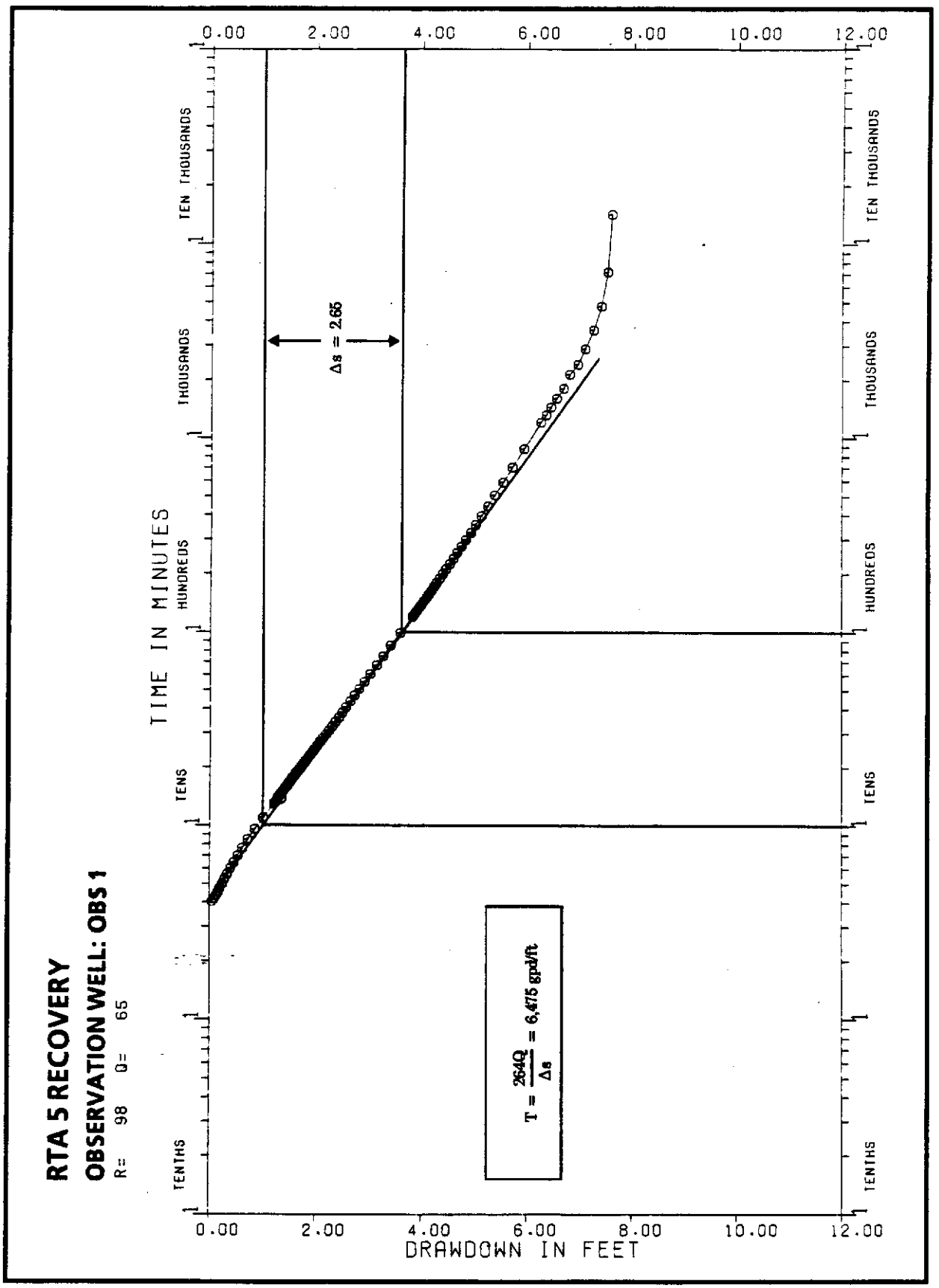

GALLAGHER PROPERTY RECOVERY
OBSERVATION WELL: 1-D
R=100.5 Q= 869
TIME IN MINUTES
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.10
0.20
0.30
0.40
0.50
0.60
$T = \frac{264Q}{\Delta s} = 819{,}342$ gpd/ft
Δs = .28

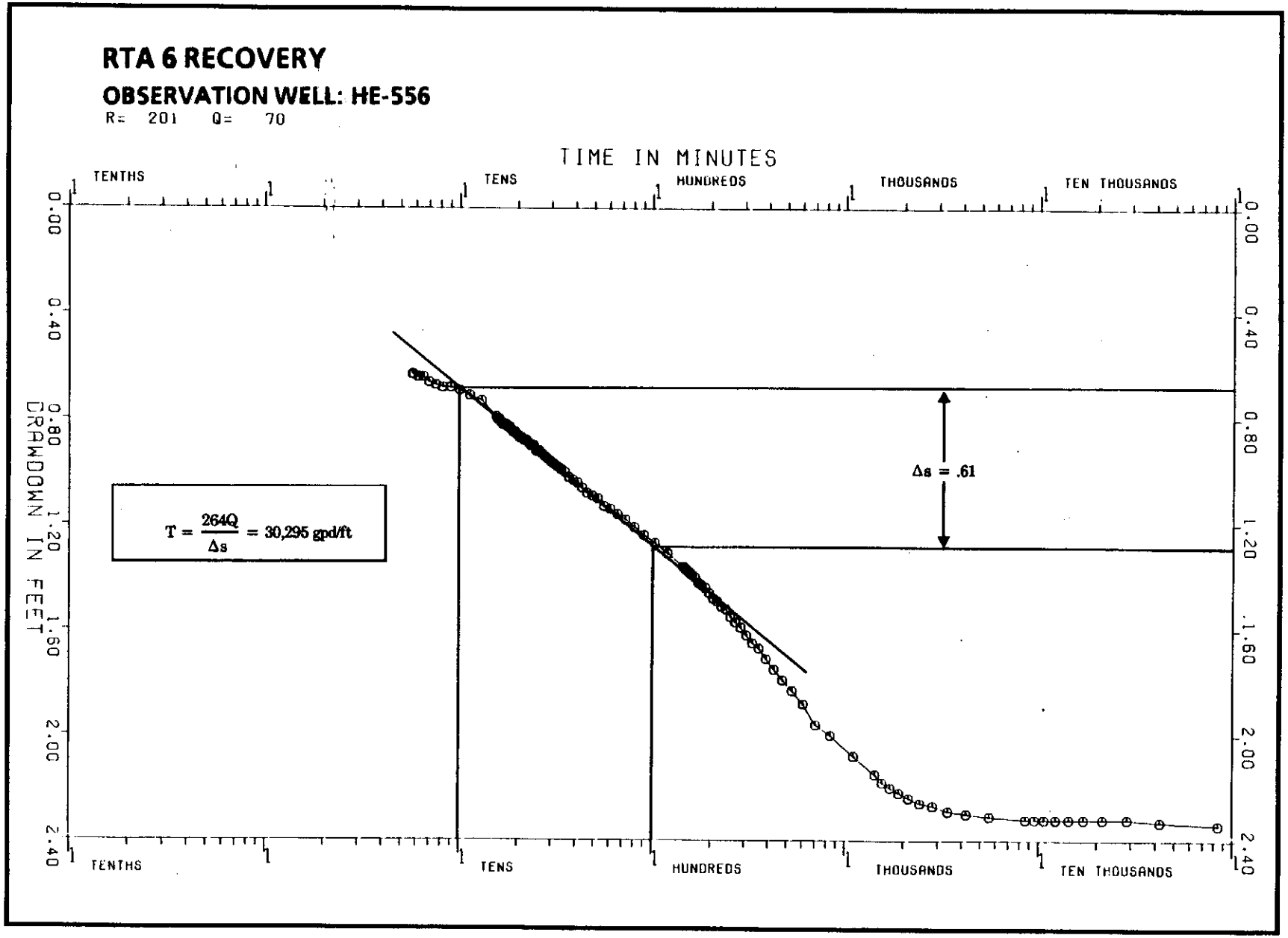

GALLAGHER PROPERTY RECOVERY
OBSERVATION WELL: 2-D
R= 54.5 Q= 869
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
Δs = .26
$T = \frac{264Q}{\Delta s} = 882.369$ gpd/ft
0.00
0.20
0.40
0.60
0.80
1.00
1.20
DRAWDOWN IN FEET

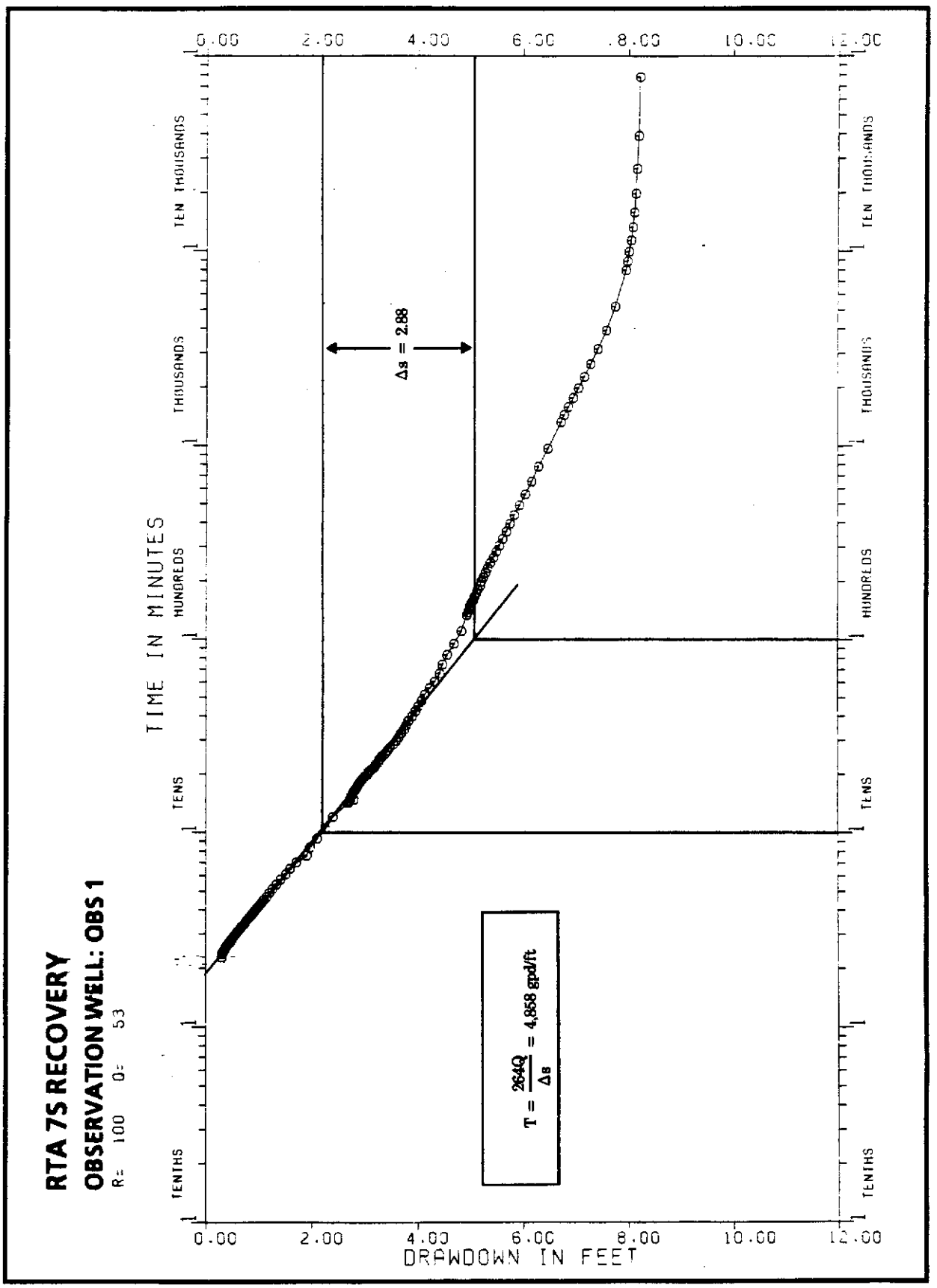

GALLAGHER PROPERTY RECOVERY
OBSERVATION WELL: 3-D
R=250.9 Q= 869
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.10
0.20
0.30
0.40
0.50
0.60
T = 264Q / Δs = 804,968 gpd/ft
Δs = .285

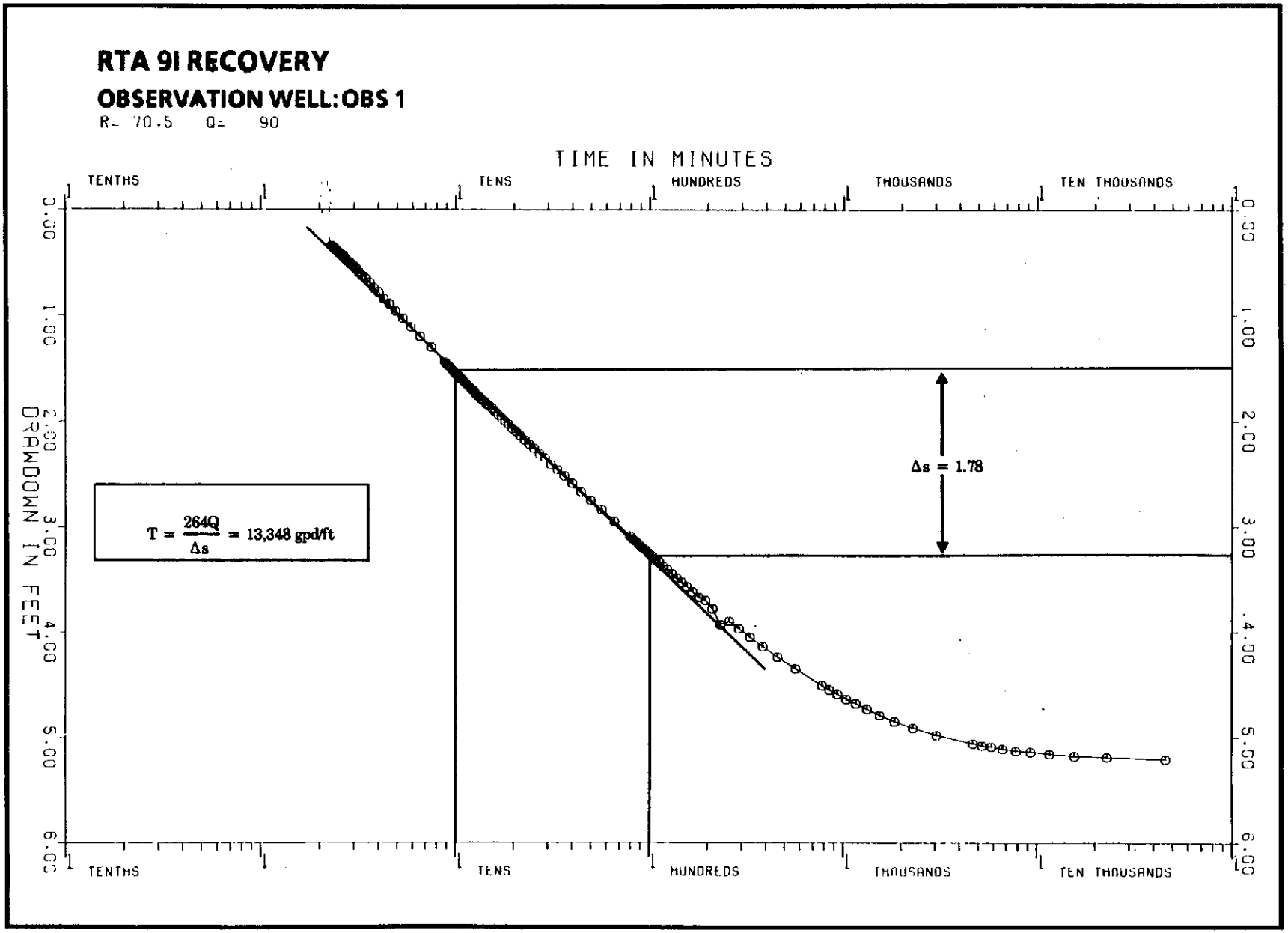

MILLS RANCH RECOVERY
OBSERVATION WELL: 1D
R= 76.3 Q=234.0
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Δs = .81
T = 264Q / Δs = 76,267 gpd/ft

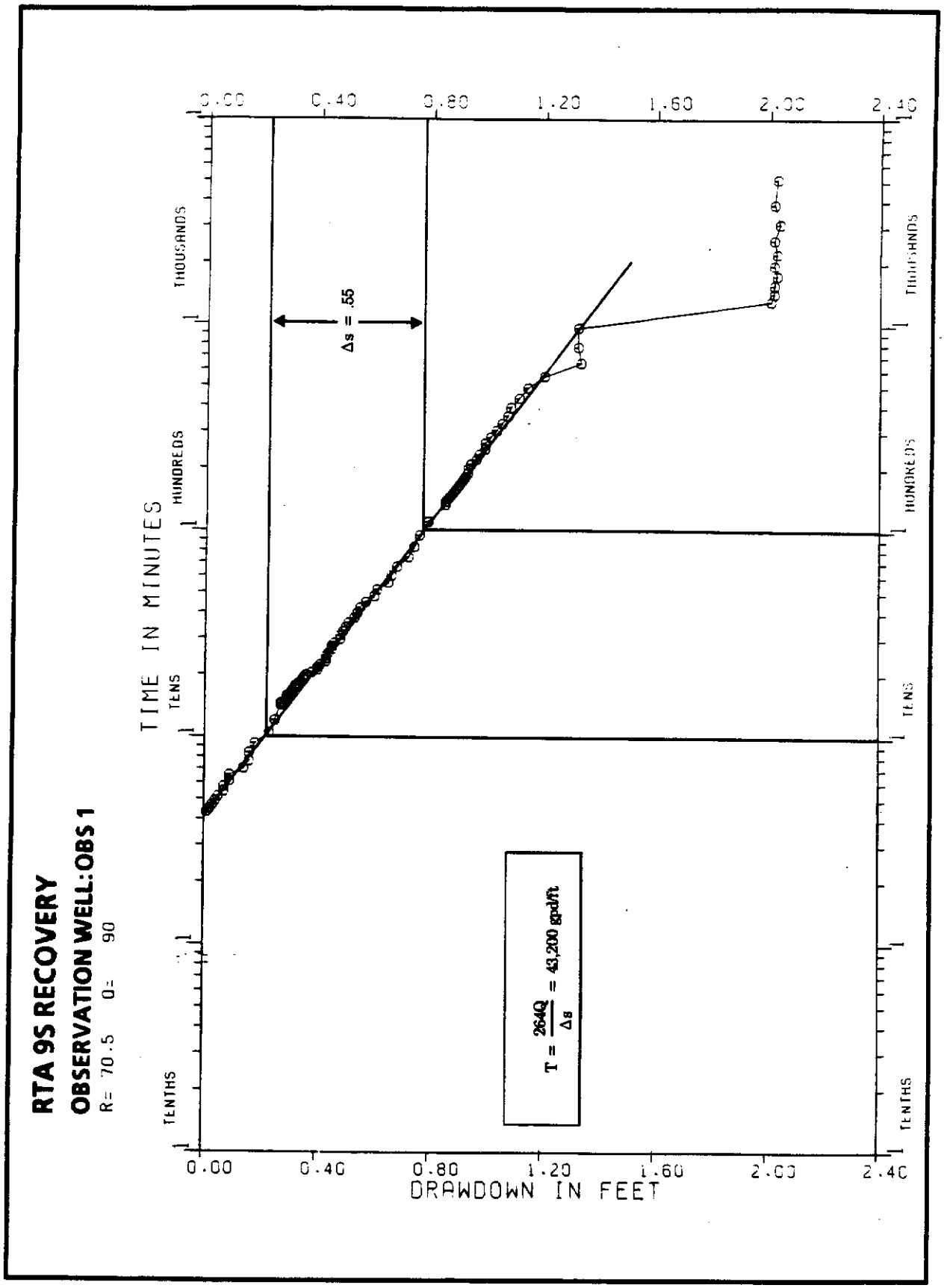

MILLS RANCH RECOVERY
OBSERVATION WELL: 2D
R=150.0 Q=234.0
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
HUNDRED THOUSANDS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
DRAWDOWN IN FEET
Δs = .69
T = 2640Q / Δs = 80,229 gpd/ft


RTA 5 RECOVERY
OBSERVATION WELL: OBS 1
R= 98 Q= 65
TIME IN MINUTES
DRAWDOWN IN FEET
Δs = 2.65
T = 264Q/Δs = 6,475 gpd/ft
0.00
2.00
4.00
6.00
8.00
10.00
12.00
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS


RTA 6 RECOVERY
OBSERVATION WELL: HE-556
R= 201 Q= 70
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
0.40
0.80
1.20
1.60
2.00
2.40
Δs = .61
T = 264Q/Δs = 30,295 gpd/ft


RTA 7S RECOVERY
OBSERVATION WELL: OBS 1
R= 100 D= 53
TIME IN MINUTES
DRAWDOWN IN FEET
Δs = 2.88
T = 264Q/Δs = 4,858 gpd/ft
0.00
2.00
4.00
6.00
8.00
10.00
12.00
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS


RTA 9I RECOVERY
OBSERVATION WELL: OBS 1
R= 70.5 Q= 90
TIME IN MINUTES
TENTHS
TENS
HUNDREDS
THOUSANDS
TEN THOUSANDS
DRAWDOWN IN FEET
0.00
1.00
2.00
3.00
4.00
5.00
6.00
Δs = 1.78
T = 264Q/Δs = 13,348 gpd/ft


RTA 9S RECOVERY
OBSERVATION WELL:OBS 1
R= 70.5 0= 90
TIME IN MINUTES
THOUSANDS
HUNDREDS
TENS
TENTHS
0.00
0.40
0.80
1.20
1.60
2.00
2.40
DRAWDOWN IN FEET
Δs = .55
T = 264Q/Δs = 43,200 gpd/ft