Executive Summary ROMP Site No. 16 Three Monitor Wells

<u>Location</u> - ROMP Site No. 16 is located along the south side of SR 760 approximately 3.7 miles east of the intersection of the same highway with SR 31 in DeSoto County. The site is located in Section 12, Township 38 South, Range 25 East and at latitude 27011'16", longitude 81046'26".

Site Easement - The site was obtained from Jerrold T. and Dorothy Gaskins on July 11, 1978 for the sum of one dollar. The Perpetual Easement is 30 feet by 20 feet by 42.15 feet by 23.4 feet and is contained within the Temporary Construction Easement which is 100 feet by 100 feet by 163.62 feet by 118.53 feet. The temporary easement was also obtained on July 11, 1978 for a period of 24 months and expires on July 11, 1980. These easements are recorded in 0.R. Book 143 Pages 490 through 495 at the DeSoto County Courthouse.

Geology - This site is located on the Penholoway terrace at an elevation of  $\pm$  60 feet above mean sea level (MSL). All geologic data was obtained from drill cuttings from land surface to 942 feet below land surface datum (LSD). These cuttings were described by the field geologist and the general geology of the site is as follows:

0 - 70' Sand and clay

70'-590' Hawthorn and Tampa limestones

590'-805' Suwannee limestone

805'-942' Ocala group

Hydrogeology - There are two artesian systems at this site in addition to the water table. The water table extends down to around  $\pm$  90 feet below LSD. At this point the upper Hawthorn begins and acts as a confining bed consisting of clay and marl. The Hawthorn and upper Tampa limestones comprise the first artesian system in this locality. This system is

- B. Well No. 2 the intermediate or Tampa monitor well was constructed by the District owned Portadrill between December 13, 1978 and February 1, 1979 at a cost of \$15,990.43 or \$47.03 per foot. This well was constructed by using 40 feet of 16 inch and 100 feet of 14 inch steel work casing, both of which were grouted in place. Then 300 feet of 6 inch PVC well casing was set in the well and grouted in place. The well was then drilled out to 340 feet in total depth.
- C. Well No. 3 the shallow or water table monitor was constructed by the District owned Portadrill between December 7, 1978 and January 17, 1979 at a cost of \$5,824.09 or \$208.30 per foot. This well was constructed by installing 26 feet of 14 inch steel work casing and 17 feet of 6 inch PVC well casing with 10 feet of 6 inch PVC well screen for a total depth of 27 feet. The annular space was filled with graded sand and the 14 inch steel casing was pulled.

All three wells are encased with a 4 foot section of 18 inch concrete culvert pipe for well protection.

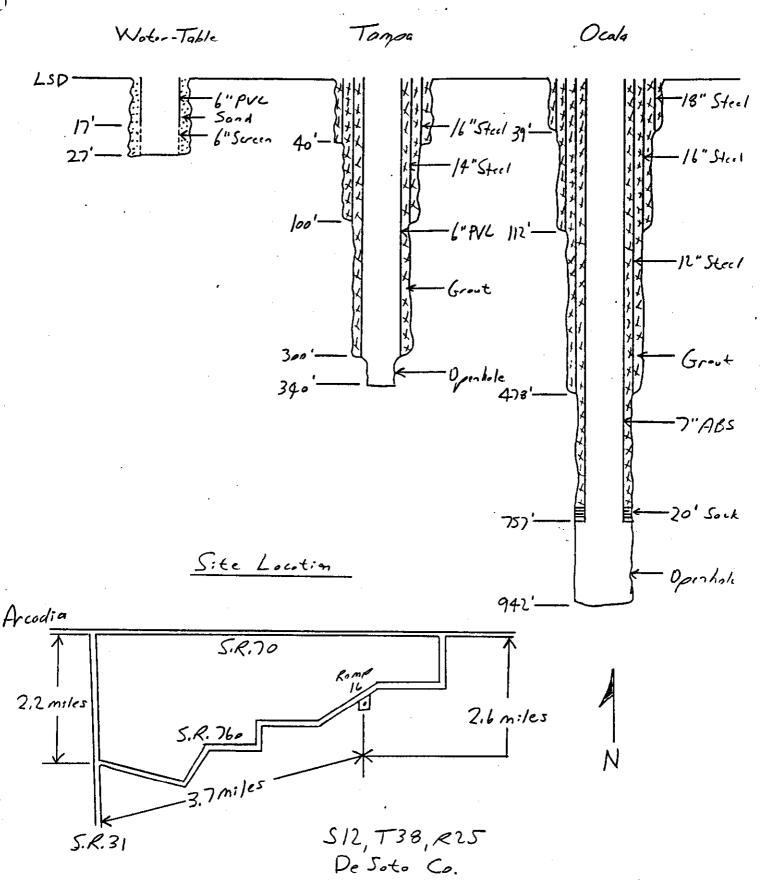
<u>Geophysical Logs</u> - Electric and gamma logs were run on the Tampa monitor and the USGS ran electric, caliper, gamma, fluid conductivity and temperature logs on the Ocala well.

<u>Type of Monitor</u> - The shallow well is a water table monitor while the two deeper wells are designed to monitor the potentiometric levels in the upper and lower areas of the Floridan aguifer.

<u>Water Quality</u> - According to the fluid conductivity log, the water between  $\pm$  400 and  $\pm$  640 feet below LSD has a conductivity from  $\pm$  10,000 to  $\pm$  1000 micromhos per centimeter (umho/cm). This would mean that the lower Tampa limestone, which falls in this general area, is generally of poor water quality. Individual water samples from  $\pm$  700 to  $\pm$  910 feet in depth show that chlorides are around 35 milligrams per liter (mg/L) and sulfates are 275 to 314 mg/L or in excess of the Drinking Water Standards.

<u>U.S.G.S. Notification</u> - The Technical Information Division of SWFWMD was notified on October 31, 1979 that this well was complete and ready for monitoring.

## As Built Well Diagrams



#2(5/5)

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-50001

TOTAL DEPTH: 942 FT.
SAMPLES - NONE

FT.

LOCATION: T.38S R.25E S.12

LAT = 27D 11M 16SLON = 81D 46M 26S

COMPLETION DATE: 11/10/79

OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION: 60 FT

COUNTY - DESOTO

OWNER/DRILLER:SWFWMD; ROMP 16; PROJECT # 20-020-51; CUTTINGS.

WORKED BY: PREEDOM. CODED BY RICHARD GREEN 1\90 FROM A GEOLOGIST'S LOG PROVIDED BY SWFWMD.

NOTE: THIS DESCRIPTION IS A COMPOSITE:  $0-400^{\circ}$  IS FROM 16-2 (W-14388) AND  $405^{\circ}-TD$  IS FROM 16-3 (W-14381).

0. - 70. 090UDSC UNDIFFERENTIATED SAND AND CLAY

70. - 590. 122HTRN HAWTHORN GROUP

590. - 805. 123SWNN SUWANNEE LIMESTONE

805. - . 1240CAL OCALA GROUP

0 - 5 SAND; BROWN

RANGE: FINE TO MEDIUM

5 - 10 AS ABOVE

10 - 15 NO SAMPLES

15 - 20 SAND; BROWN

RANGE: FINE TO MEDIUM

20 - 25 SAND; GRAYISH BROWN

GRAIN SIZE: FINE

ACCESSORY MINERALS: CLAY-%

25 - 30 SAND; GRAYISH BROWN

GRAIN SIZE: FINE

ACCESSORY MINERALS: PHOSPHATIC GRAVEL-%

CONTAINS BLACK PHOS. PEBBLES.

30 - 35 SAND;

GRAIN SIZE: COARSE

ACCESSORY MINERALS: PHOSPHATIC GRAVEL-%

35 - 40 SAND; BROWN

GRAIN SIZE: MEDIUM

40 - 45 SAND; BROWN

GRAIN SIZE: FINE

ACCESSORY MINERALS: PHOSPHATIC GRAVEL- %

PHOSPHATIC SAND-%

45 - 50 SAND; BROWN

RANGE: MEDIUM TO FINE

ACCESSORY MINERALS: CALCILUTITE- %, SHELL-% WITH SOME GREENISH AREAS. CONTAINS SMALL POCKETS OF MICRITE

AND PELECYPOD SHELLS.

50 - 55 SAND; BROWN TO GREEN

RANGE: FINE TO MEDIUM

ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- %, SHELL-% SOMEWHAT CLAYEY. CONTAINS PELECYPOD SHELLS AND PHOSPHATE.

55 - 60 AS ABOVE

WITH MORE CLAY.

60 - 65 SAND; TAN

GRAIN SIZE: COARSE ACCESSORY MINERALS: PHOSPHATIC SAND-%

- 65 70 AS ABOVE
- 70 75 LIMESTONE; CREAM
  GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL
  POOR INDURATION
  ACCESSORY MINERALS: PHOSPHATIC SAND-%
  SPARSE BIOMICRITE, FRIABLE. CONTAINS SOME BLACK PHOS.
- 75 80 CALCILUTITE; MARL- MICRITE, TANNISH OLIVE CLAY AND OTZ SAND.
- 80 85 SAND;
  GRAIN SIZE: COARSE
  ACCESSORY MINERALS: PHOSPHATIC SAND- %, SHELL-%
  QTZ AND PHOS. SAND. CONTAINS SOME LARGE PELECYPOD SHELLS.
- 85 90 LIMESTONE;
  MARL- TAN CLAY, MED. GRAINED QTZ SAND, PELECYPOD FRAGMENTS
  BLK PHOSPHATE GRAINS AND MICRITE PARTICLES.
- 90 95 AS ABOVE WITH MORE CLAY.
- 95 100 AS ABOVE SAME AS 85-90' WITH MORE MICRITE.
- 100 105 AS ABOVE
- 105 110 LIMESTONE;
  MARL- GRAYISH TAN CLAY, QTZ SAND, BLK PHOSPHATE AND MICRITE PARTICLES. VERY GUMMY.
- 110 115 LIMESTONE; CREAM
  POOR INDURATION
  ACCESSORY MINERALS: PHOSPHATIC SAND- %
  PHOSPHATIC GRAVEL-%
- 115 120 LIMESTONE; CREAM
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  ACCESSORY MINERALS: PHOSPHATIC SAND- %
  OTHER FEATURES: WEATHERED
  SPARSE BIOMICRITE, PUNKY, ABUNDANT V.F. BLK PHOSPHATE
  GRAINS.
- 120 125 LIMESTONE; LIGHT GRAY TO CREAM
  GRAIN TYPE: CALCILUTITE
  ACCESSORY MINERALS: PHOSPHATIC SAND- %, CLAY- %
  OTHER FEATURES: WEATHERED
  VERY WEATHERED AND PUNKY, ABUNDANT BLK PHOS. GRAINS.
- 125 130 LIMESTONE;
  MARL- QTZ SAND, MED-COARSE, PHOSPHATE AND MICRITE
  PARTICLES.
- 130 135 LIMESTONE;
  MARL- GRAY MICRITE, GRAY CLAY AND BLK PHOS., WITH MED. QTZ
  SAND.
- 135 140 LIMESTONE;

  MARL- GRAYISH TAN CLAY, CREAM BIOMICRITE FRAGS AND ABUNDANT FINE PHOSPHATE GRAINS. GENERALLY GUMMY.
- 140 145 AS ABOVE

145 - 150 LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- % QUARTZ SAND-% SPARSE BIOMICRITE, ABUNDANT BLK PHOSPHATE GRAINS AND SOME MED-FINE QTZ SAND. 150 - 155 LIMESTONE; MARL- CREAM MICRITE, CREAM CLAY, FINE QTZ SAND, ABUNDANT BLACK PHOSPHATE. 155 - 160 LIMESTONE; MARL- MOSTLY CREAM FRIABLE MICRITE WITH OTZ SAND AND ABUNDANT FINE PHOSPHATE. 160 - 165 LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE POOR INDURATION ACCESSORY MINERALS: CLAY- %, QUARTZ SAND- % PHOSPHATIC SAND-% SPARSE BIOMICRITE, VERY FRIABLE. MINOR CLAY AND QTZ SAND. ABUNDANT V.F. BLACK PHOSPHATE GRAINS. 165 - 170 LIMESTONE: MARL- SPARSE BIOMICRITE, TAN CLAY, MINOR QTZ SAND AND ABUNDANT BLACK PHOSPHATE GRAINS. 170 - 175 AS ABOVE 175 - 180 LIMESTONE: CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- % OTHER FEATURES: WEATHERED SPARSE BIOMICRITE, VERY PUNKY AND WEATHERED. MINOR CLAY FRACTION AND ABUNDANT BLACK PHOS. GRAINS. 180 - 185 AS ABOVE 185 - 190 AS ABOVE 190 - 195 LIMESTONE; MARL- VERY WEATHERED (PUNKY) SPARSE BIOMICRITE, CREAM WITH QTZ SAND AND ABUNDANT BLK PHOS. GRAINS W/ A CLAY FRACTION. 195 - 200 AS ABOVE WITH A HIGHER CLAY FRACTION. 200 - 205 CLAY; OLIVE TO TAN ACCESSORY MINERALS: CALCILUTITE- %, PHOSPHATIC SAND- % OTHER FEATURES: PLASTIC WITH MICRITE GRANULES AND BLK PHOS. GRAINS. VERY PLASTIC. 205 - 210 AS ABOVE 210 - 215 LIMESTONE: MARL- TANNISH OLIVE CLAY, CREAM MICRITE GRANULES, QTZ SAND AND ABUNDANT FINE PHOS. GRAINS. 215 - 220 CLAY; TAN ACCESSORY MINERALS: CALCILUTITE- % OTHER FEATURES: PLASTIC MINOR MICRITE GRANULES.

220 - 225

LIMESTONE:

PHOSPHATIC SAND- %

GRAIN TYPE: BIOGENIC, CALCILUTITE

ACCESSORY MINERALS: CLAY- %, QUARTZ SAND- %

OTHER FEATURES: WEATHERED EXTREMELY WEATHERED BIOMICRITE. PHOS. IS FINE, BLACK.

			$\cdot$
225	-	230	AS ABOVE
230	-	235	AS ABOVE
235	-	240	AS ABOVE
240	-	245	LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- % OTHER FEATURES: WEATHERED SPARSE BIOMICRITE.
245	-	250	AS ABOVE
250	-	255	AS ABOVE
255	-	260	AS ABOVE
260	-	265	LIMESTONE; MARL- CREAM TO GRAYISH CREAM MICRITE WITH TAN CLAY, QTZ SAND, AND VERY MINOR BLACK PHOSPHATE GRAINS.
265	-	270	LIMESTONE; CREAM GRAIN TYPE: CALCILUTITE ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- % OTHER FEATURES: WEATHERED, DOLOMITIC WEATHERED MICRITE AND GRAY SLIGHTLY DOLOMITIC LS. MINOR CLAY FRACTION AND BLACK PHOSPHATE.
270	-	275	LIMESTONE; MARL- SAME AS 260-265'.
275	-	280	AS ABOVE
280	-	285	LIMESTONE; GRAIN TYPE: CALCILUTITE ACCESSORY MINERALS: QUARTZ SAND- % OTHER FEATURES: WEATHERED VERY WEATHERED MICRITE. EXTREMELY PULVERIZED SAMPLE.
285	-	290	AS ABOVE
290	-	295	AS ABOVE
295	-	300	AS ABOVE
300	-	305	LIMESTONE; GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE POOR INDURATION ACCESSORY MINERALS: PHOSPHATIC SAND-% VERY SOFT SPARSE BIOMICRITE.
305	-	310	LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, CALCILUTITE POOR INDURATION VERY FRIABLE BIOMICRITE.
310	-	315	LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, CALCILUTITE GOOD INDURATION BIOMICRITE. WELL LITHIFIED.
315	-	320	AS ABOVE

320 - 325 AS ABOVE 325 - 330 AS ABOVE 330 - 340 AS ABOVE 340 - 345 LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE POOR INDURATION OTHER FEATURES: WEATHERED SPARSE BIOMICRITE, SOMEWHAT WEATHERED, FRIABLE. 345 - 350 LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE POOR INDURATION ACCESSORY MINERALS: CLAY-OTHER FEATURES: WEATHERED VERY WEATHERED SPARSE BIOMICRITE, GUMMY, FRIABLE, MINOR CLAY. 350 - 355 AS ABOVE WITH ABUNDANT FINE QTZ SAND. 355 - 360 AS ABOVE 360 - 365 LIMESTONE; MARL- M-F OTZ SAND, TAN CLAY AND CREAM MICRITE PARTICLES. 365 - 370 AS ABOVE WITH MORE OTZ SAND. 370 - 375 SAND: GRAIN SIZE: FINE ACCESSORY MINERALS: PHOSPHATIC SAND-% WHITE, VERY WELL SORTED AND VERY CLEAN. MINOR BLACK PHOS. 375 - 380AS ABOVE 380 - 385 AS ABOVE 385 - 390 AS ABOVE 390 - 395 SAND; GRAIN SIZE: FINE ACCESSORY MINERALS: CLAY- %, CALCILUTITE-% MINOR GRAY CLAY AND CREAM MICRITE GRANULES. 395 - 400 AS ABOVE 400 - 405 NO SAMPLES 0-400' DESCRIBED BY PREEDOM (ROMP 16), 405-TD DESCRIBED BY G. NEW (ROMP 16-3?). 405 - 410 CALCARENITE; VERY LIGHT GRAY GOOD INDURATION ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND-% MANY SUBANGULAR TO WELL ROUNDED QTZ AND PHOS. SANDS. GOOD SORTING. 410 - 415 CALCARENITE; LIGHT GRAY MODERATE INDURATION ACCESSORY MINERALS: QUARTZ SAND-70%, PHOSPHATIC SAND-% QTZ SAND IS SUBANGULAR-ROUNDED. 415 - 420 CALCARENITE; LIGHT GRAY POOR INDURATION

ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- %

FOSSILS: FOSSIL FRAGMENTS
SOME LEACHED PHOSPHATE PEBBLES, FRAGMENTED SHELL MATERIAL.

- 420 425 CALCARENITE; VERY LIGHT GRAY

  MODERATE INDURATION

  ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND-%

  LOTS OF SUBANGULAR QTZ AND ROUNDED PHOS. SANDS, CALCIC

  CEMENT.
- 425 430 CALCARENITE; VERY LIGHT GRAY
  POOR INDURATION
  FEWER QTZ AND PHOS. SANDS, MUCH MORE CARBONATE, MORE SHELL
  FRAGS AND TINY PELECYPODS, GOOD COMPACTION AND SORTING.
- 430 435 AS ABOVE SOME SMALL FROSTED OTZ PEBBLES.
- 435 440 CALCARENITE; LIGHT GRAY
  ACCESSORY MINERALS: SHELL- %, QUARTZ SAND- %
  PHOSPHATIC SAND-%
  MANY SMALL CALCITE SHELL FRAGS., SOME FLAT LENTICULAR QTZ
  PEBBLES.
- 440 445 NO SAMPLES
- 445 450 LIMESTONE; CREAM TO WHITE
  GRAIN TYPE: CALCILUTITE
  GOOD INDURATION
  ACCESSORY MINERALS: PHOSPHATIC GRAVEL-%
  MANY LARGE GREY-BLACK PHOS. PEBBLES, WELL COMPACTED.
- 450 455 CALCARENITE; CREAM TO LIGHT GRAY
  ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- %
  SHELL-%
  SOME SMALL SHELL FRAGS, MANY SMALL QTZ PEBBLES.
- 455 460 CALCARENITE; VERY LIGHT GRAY
  ACCESSORY MINERALS: QUARTZ SAND- %, SHELL-%
  LOTS OF QTZ BEACH SAND, SOME SMALL SHELL FRAGS., MANY SMALL
  OTZ PEBBLES.
- 460 465 CALCARENITE; LIGHT GRAY TO WHITE
  GOOD INDURATION
  ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND-%
  WELL CEMENTED AND FAIR SORTING. RELATIVELY HARD AND DENSE.
- 465 470 AS ABOVE SOME QTZ PEBBLES, SOME CORAL FOSSILS.
- 470 475 LIMESTONE; LIGHT GRAY
  GOOD INDURATION
  ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- %
  OTHER FEATURES: DOLOMITIC
  MICRITE, HARD, DENSE, GOOD COMPACTION, FOSSILS ARE RARE.
- 475 480 NO SAMPLES
- 480 485 CALCARENITE; LIGHT GRAY TO CREAM
  GOOD INDURATION
  ACCESSORY MINERALS: SPAR- %, QUARTZ SAND- %
  FOSSILS: MOLLUSKS
- 485 490 SANDSTONE;
  POOR INDURATION
  ACCESSORY MINERALS: LIMESTONE-%
  SANDSTONE-CALCARENITE. VERY LITTLE LS PRESENT, POORLY
  CEMENTED, SOME CALCIC SHELL MATERIAL.

490 - 495 LIMESTONE; CREAM GRAIN TYPE: CALCILUTITE GOOD INDURATION ACCESSORY MINERALS: QUARTZ SAND- %, SHELL- % FOSSILS: MOLLUSKS DENSE, HARD, SOME PELECYPODS AND SANDS. 495 - 500 LIMESTONE; POROSITY: LOW PERMEABILITY GRAIN TYPE: CALCILUTITE GOOD INDURATION DENSE, MUCH LESS SAND, MORE PELECYPODS, RELATIVELY LOW POROSITY. 500 - 505 LIMESTONE; GRAIN TYPE: CALCILUTITE ACCESSORY MINERALS: CHERT- %, QUARTZ SAND- %, SHELL- % CLAY-% SOME BLUE-GREEN CLAYS, SOME THIN CHERT LENSES. 505 - 510 LIMESTONE; CREAM GRAIN TYPE: CALCILUTITE GOOD INDURATION ACCESSORY MINERALS: CLAY- % OTHER FEATURES: FOSSILIFEROUS FOSSILS: MOLLUSKS, WORM TRACES CONTAINS SOME BLUE-GREEN CLAYS, PUNKY, HARD, CALCIFIED WORM HOLES. 510 - 515 CLAY; BLUE TO GREEN POROSITY: LOW PERMEABILITY VERY FINE, SOME AREAS ARE CREAMY OR "LIMEY". 515 - 520 LIMESTONE; CREAM GRAIN TYPE: CALCILUTITE ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- % FOSSILS: MOLLUSKS MINOR BLUE-GREEN CLAY, MANY PELECYPODS, GOOD POROSITY. 520 - 525 LIMESTONE; CREAM GRAIN TYPE: CALCILUTITE ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- % OTHER FEATURES: FOSSILIFEROUS FOSSILS: MOLLUSKS, CORAL NUMEROUS FOSSILS, ALMOST A FOSSIL HASH. 525 - 530 LIMESTONE; CREAM GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE FOSSILS: MOLLUSKS

GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
FOSSILS: MOLLUSKS
PACKED BIOMICRITE, FOSSILS COMMON, PELECYPODS, ETC., DENSE
MUCH LESS PHOS. MATERIAL. POROSITY IS GOOD.

530 - 535 LIMESTONE; LIGHT GRAY
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- %
CLAY- %, SPAR-%
DENSE, HARD, SMALL GASTROPODS, CONTAINS PORCELLANEOUS
CRYSTALS OF CALCITE AND SOME THIN LENSES OF CLAY.

535 - 540 CALCARENITE; LIGHT GRAY TO CREAM
ACCESSORY MINERALS: CLAY- %, QUARTZ SAND- %, SHELL- %
FOSSILS: MOLLUSKS
PUNKY, MINOR SANDS.

540 - 545 CALCARENITE; LIGHT GRAY

GOOD INDURATION
ACCESSORY MINERALS: SPAR- %
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS
RELATIVELY HARD AND DENSE, SOME SPAR AS ABOVE.

- 545 550 LIMESTONE; WHITE
  GRAIN TYPE: CALCILUTITE
  OTHER FEATURES: FOSSILIFEROUS, WEATHERED
  LS AND DK GRAY CLAY, CLAY IS FINE AND OF LOW POROSITY.
- 550 555 CLAY; DARK GRAY
  GOOD INDURATION
  ACCESSORY MINERALS: DOLOMITE-%
  FINE, SOME DK GRAY DOLOMITE, VERY HARD-LIKE A MUDSTONE.
- 555 560 CALCARENITE; LIGHT GRAY TO DARK GRAY
  POOR INDURATION
  ACCESSORY MINERALS: CLAY- %
  OTHER FEATURES: WEATHERED
  LS AND CLAY, LS IS SOFT, FRIABLE, PUNKY, POORLY CEMENTED.
- 560 565 LIMESTONE;
  GRAIN TYPE: CALCILUTITE
  ACCESSORY MINERALS: QUARTZ SAND-%
  PUNKY MICRITE, WITH SOME THIN LENSES OF GRAY CLAYS.
- 565 570 LIMESTONE; LIGHT GRAY TO WHITE
  GRAIN TYPE: CALCILUTITE
  GRAIN SIZE: FINE; GOOD INDURATION
  OTHER FEATURES: DOLOMITIC
  DENSE, SOME THIN DOLOMITIC AREAS, WELL CEMENTED AND
  COMPACTED.
- 570 575 LIMESTONE;
  GRAIN TYPE: CALCILUTITE
  ACCESSORY MINERALS: SPAR- %, CLAY- %
  OTHER FEATURES: FOSSILIFEROUS
  CLAY IS GREENISH GRAY, WAXY. PORCELLANEOUS CALCITE.
- 575 580 CALCARENITE;
  GRAIN SIZE: FINE; GOOD INDURATION
  ACCESSORY MINERALS: QUARTZ SAND-%
  HARD, DENSE, FEW FOSSILS, MODERATE POROSITY.
- 580 590 CLAY; DARK GRAY
  ACCESSORY MINERALS: CALCILUTITE- %, QUARTZ SAND- %
  OTHER FEATURES: FOSSILIFEROUS
  FOSSILS: ECHINOID
  MICRITE IS CREAM, WEATHERED.
- 590 600 LIMESTONE; WHITE
  GRAIN TYPE: CALCILUTITE
  POOR INDURATION
  OTHER FEATURES: WEATHERED
  GREENISH GRAY PUNKY, SANDY CLAY AND WHITE LS-FRIABLE.
- 600 640 NO SAMPLES
- 640 645 LIMESTONE; LIGHT GRAY TO CREAM
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  ACCESSORY MINERALS: SPAR- %
  OTHER FEATURES: FOSSILIFEROUS
  FOSSILS: CORAL, MOLLUSKS, ECHINOID
  PACKED BIOMICRITE, VERY FOSSILIFEROUS, ABUNDANT SPAR.
- 645 650 AS ABOVE

WELL LITHIFIED.

- 650 655 LIMESTONE; LIGHT GRAY TO CREAM
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  GOOD INDURATION
  OTHER FEATURES: FOSSILIFEROUS
  FOSSILS: MOLLUSKS, ECHINOID
  PACKED BIOMICRITE, VERY FOSSILIFEROUS.
- 655 660 LIMESTONE; WHITE TO CREAM
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  ACCESSORY MINERALS: QUARTZ SAND- %, SPAR- %
  OTHER FEATURES: FOSSILIFEROUS
  PACKED BIOMCRITE, ABUNDANT CALCITE SPAR.
- 660 665 LIMESTONE; CREAM
  GRAIN TYPE: BIOGENIC, CALCILUTITE
  POOR INDURATION
  ACCESSORY MINERALS: QUARTZ SAND- %, SPAR- %
  FOSSILS: BENTHIC FORAMINIFERA
  BIOMICRITE, FRIABLE, SOME SMALL FORAMS, QTZ AND CALCIC SANDS.
- 665 670 LIMESTONE; CREAM
  POROSITY: POSSIBLY HIGH PERMEABILITY
  GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL
  POOR INDURATION
  PACKED BIOMICRITE, FRIABLE, LOOSE MATERIAL, SOME FOSSILS
  RECOGNIZABLE, POROSITY IS GOOD.
- 670 675 LIMESTONE; CREAM
  POROSITY: POSSIBLY HIGH PERMEABILITY
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  PACKED BIOMICRITE, FOSSIL HASH, GOOD POROSITY. FOSSILS TOO
  WELL GROUND TO RECOGNIZE.
- 675 680 LIMESTONE; MODERATE GRAY TO CREAM
  GRAIN TYPE: CALCILUTITE
  ACCESSORY MINERALS: CLAY- %, ORGANICS- %, QUARTZ SAND- %
  PHOSPHATIC SAND-%
  CALCIC, QTZ, AND PHOS. SANDS, SOME BLACK ORGANIC CLAYS.
- 680 685 CLAY; GREEN
  ACCESSORY MINERALS: QUARTZ SAND- %, ORGANICS- %
  CALCILUTITE-%
  WAXY, CONTAINS SOME ORGANICS AND CREAM MICRITE.
- 685 690 LIMESTONE; CREAM
  GRAIN TYPE: CALCILUTITE
  MODERATE INDURATION
  ACCESSORY MINERALS: QUARTZ SAND-%
  FEW FOSSILS, MINOR QTZ SAND, FAIR-GOOD CEMENT AND COMPACTION.
- 690 695 LIMESTONE; CREAM
  GRAIN TYPE: CALCILUTITE
  ACCESSORY MINERALS: SPAR- %, QUARTZ SAND-%
  FRIABLE.
- 695 700 LIMESTONE; CREAM
  GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
  GOOD INDURATION
  OTHER FEATURES: FOSSILIFEROUS
  FOSSILS: CORAL
  PACKED BIOMICRITE, DENSE, HOMOGENEOUS, WELL CEMENTED.
- 700 705 LIMESTONE; CREAM

GRAIN TYPE: CALCILUTITE

GOOD INDURATION

ACCESSORY MINERALS: SPAR- %, QUARTZ SAND-%

PUNKY IN PLACES.

705 - 710 LIMESTONE: CREAM

GRAIN TYPE: CALCILUTITE

GRAIN SIZE: FINE; GOOD INDURATION

ACCESSORY MINERALS: CLAY-%

HARD, DENSE, FEW FOSSILS, MINOR CLAY, FRIABLE, HOMOGENEOUS.

710 - 715 LIMESTONE; CREAM

GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE

GOOD INDURATION

OTHER FEATURES: FOSSILIFEROUS

PACKED BIOMICRITE, COPROLITES, DENSE, HARD, WELL CEMENTED.

715 - 720 LIMESTONE; CREAM

GRAIN TYPE: CALCILUTITE

FRIABLE, SOME FOSSILS, SOME COPROLITES.

720 - 745 LIMESTONE; CREAM

GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE

ACCESSORY MINERALS: QUARTZ SAND- %

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: MOLLUSKS

PACKED BIOMICRITE, VERY TYPICAL SUWANNEE MATERIAL.

745 - 750 LIMESTONE; VERY LIGHT GRAY

GRAIN TYPE: CALCILUTITE

GOOD INDURATION

ACCESSORY MINERALS: SPAR- 9

OTHER FEATURES: DOLOMITIC

HARD, DENSE, FEW FOSSILS, ABUNDANT SPARITE, DOLOMITIC

OVERALL POROSITY IS MODERATE.

750 - 755 LIMESTONE: CREAM

GRAIN TYPE: CALCILUTITE

POOR INDURATION

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BENTHIC FORAMINIFERA

FRIABLE, CONTAINS CAMERINA, ETC., SOFT FOSSIL HASH, GOOD

OVERALL POROSITY.

755 - 760 LIMESTONE; CREAM

GRAIN TYPE: CALCILUTITE .

POOR INDURATION

ACCESSORY MINERALS: SPAR- %

OTHER FEATURES: FOSSILIFEROUS FRIABLE, FOSSIL HASH, GOOD POROSITY.

760 - 765 LIMESTONE; CREAM

GRAIN TYPE: CALCILUTITE

GOOD INDURATION

ACCESSORY MINERALS: SPAR-%

FRIABLE, SOFT, FAIR CEMENTATION, WELL LITHIFIED, GOOD

OVERALL POROSITY.

765 - 770 AS ABOVE

770 - 775 LIMESTONE; CREAM

GRAIN TYPE: CALCILUTITE

GOOD INDURATION

ACCESSORY MINERALS: SPAR- %

OTHER FEATURES: POOR SAMPLE

HARD, DENSE, NEARLY ALL CALCITE, SOME SPAR, ABUNDANT

CAVINGS.

775 - 780 CALCARENITE; CREAM
FOSSILS: BENTHIC FORAMINIFERA
CAMERINA ETC., SOME SAND WASHED IN.

780 - 785 LIMESTONE; CREAM TO VERY LIGHT ORANGE
GRAIN TYPE: CALCILUTITE, CRYSTALS
GOOD INDURATION
OTHER FEATURES: DOLOMITIC
MICRITE AND SPARITE, DENSE AND HARD IN SOME AREAS, OTHERS
ARE FRIABLE, PARTIALLY DOLOMITIZED ZONES.

785 - 790 LIMESTONE; CREAM
GRAIN TYPE: CALCILUTITE
POOR INDURATION
FOSSILS: BENTHIC FORAMINIFERA
SOFTER, FRIABLE, NUMEROUS FOSSIL FORAMS, ABUNDANT
CAVINGS-SAND.

790 - 795 LIMESTONE; LIGHT GRAY TO CREAM
GRAIN TYPE: CALCILUTITE
POOR INDURATION
ACCESSORY MINERALS: SPAR- %, CLAY- %
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA
DICTYOCONUS COOKEI, COSKINOLINA FLORIDANA. SOFT, FRIABLE
THERE ARE SOME DK GRAY CLAYS AND V. MINOR SPAR. GOOD
POROSITY.

795 - 800 LIMESTONE; VERY LIGHT ORANGE
GRAIN TYPE: CALCILUTITE
ACCESSORY MINERALS: SPAR- %
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, CORAL
LS AND CLAY. LS CONTAINS CAMERINA, LEPIDOCYCLINA, CORALS
AND ECHINOID SPINES, MINOR SPAR. CLAY IS DK GRAY, WELL
INDURATED, WAXY, OVERALL POROSITY IS MODERATE.

800 - 805 LIMESTONE; CREAM TO WHITE
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
ACCESSORY MINERALS: SPAR- %
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
FEW FOSSILS, MOSTLY LEPS., AND PELECYPOD FRAGMENTS
FRIABLE, SOME MINOR SPAR. SOME CLAY FRAGS-CAVINGS. OVERALL
POROSITY IS MODERATE.

805 - 810 LIMESTONE; VERY LIGHT ORANGE
GRAIN TYPE: BIOGENIC, CALCILUTITE
POOR INDURATION
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
BIOMICRITE, FRIABLE, CONTAINS NUMEROUS LEPIDOCYCLINA AND
PELECYPOD FRAGMENTS, SOME VERY MINOR SPAR AND MINOR FRAGS
OF DK BLUE-GREEN CLAYS, WELL INDURATED, WAXY, OVERALL
POROSITY IS MODERATE. TOP OF OCALA BASED ON FIRST
APPEARANCE OF LEPIDOCYCLINA.

810 - 815 LIMESTONE; CREAM TO WHITE
GRAIN TYPE: CALCILUTITE
POOR INDURATION
ACCESSORY MINERALS: SPAR- %
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
SOFT, FRIABLE, NUMEROUS LEPS, AND PELECYPOD FRAGMENTS, SOME
MINOR SPAR, WELL LITHIFIED, MOD. POROSITY OVERALL.

815 - 820 LIMESTONE; CREAM TO WHITE

GRAIN TYPE: CALCILUTITE

GOOD INDURATION

ACCESSORY MINERALS: SPAR- %, CLAY- %

FOSSILS: CORAL, BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS

BENTHIC FORAMINIFERA

NUMEROUS FOSSIL, LEPS, MINOR SPAR, SOME CLAY FRAGMENTS, DK BLUE-GREEN, WAXY, POROSITY GOOD OVERALL.

820 - 825 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

POOR INDURATION

OTHER FEATURES: FOSSILIFEROUS FOSSILS: BENTHIC FORAMINIFERA

FRIABLE, LEPS., CAMERINA, ETC., WELL COMPACTED, FAIR

CEMENTATION. OVERALL POROSITY IS GOOD.

825 - 830 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

POOR INDURATION

ACCESSORY MINERALS: SPAR-01%

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS LEPS, NUMMULITES, PELECYPOD FRAGMENTS, SOFT, FRIABLE, GOOD

COMPACTION, GOOD OVERALL POROSITY.

830 - 835 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BRYOZOA, CORAL

FAIR-GOOD SORTING AND COMPACTION, POORLY CEMENTED, GOOD

POROSITY.

835 - 840 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

POOR INDURATION

ACCESSORY MINERALS: SPAR-01%

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BENTHIC FORAMINIFERA, CORAL

LEPS. NUMMULITES, ETC., GOOD COMPACTION AND SORTING, GOOD

OVERALL POROSITY.

840 - 850 LIMESTONE; VERY LIGHT GRAY

GRAIN TYPE: CALCILUTITE

POOR INDURATION

FOSSILS: BENTHIC FORAMINIFERA

SOFT, FRIABLE, NUMEROUS LEPS., NUMMULITES. GOOD POROSITY.

850 - 855 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

POOR INDURATION

ACCESSORY MINERALS: SPAR- %

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS FAIR-GOOD COMPACTION AND SORTING, FRIABLE, MINOR SPAR. GOOD

POROSITY OVERALL.

855 - 860 AS ABOVE

EXCEPT LESS SPAR AND FEWER FOSSILS.

860 - 865 LIMESTONE; VERY LIGHT ORANGE

GRAIN TYPE: CALCILUTITE

POOR INDURATION

ACCESSORY MINERALS: SPAR-01%

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: BENTHIC FORAMINIFERA

FRIABLE, GOOD COMPACTION, FAIR SORTING.

865 - 870 LIMESTONE; VERY LIGHT ORANGE
GRAIN TYPE: BIOGENIC, CALCILUTITE
POOR INDURATION
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
BIOMICRITE, CONTAINS: LEPS, NUMMULITES, GLOBIGERINA
OPERCULINA, ETC., AND SOME PELECYPOD FRAGS, FAIR SORTING
WELL COMPACTED AND POORLY CEMENTED. GOOD OVERALL POROSITY.

870 - 875 LIMESTONE; LIGHT GRAY TO WHITE
GRAIN TYPE: CALCILUTITE
POOR INDURATION
OTHER FEATURES: FOSSILIFEROUS
FOSSILS: BENTHIC FORAMINIFERA
SOFT, FRIABLE, WELL COMPACTED, GOOD POROSITY OVERALL.

875 - 880 LIMESTONE; CREAM TO VERY LIGHT ORANGE
GRAIN TYPE: CALCILUTITE
POOR INDURATION
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
FRIABLE, NUMEROUS FORAMS AND SOME PELECYPOD FRAGMENTS, GOOD
CEMENT AND COMPACTION, GOOD OVERALL POROSITY.

880 - 890 NO SAMPLES

890 - 900 LIMESTONE; VERY LIGHT ORANGE
GRAIN TYPE: BIOGENIC, CALCILUTITE
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID
BIOMICRITE, NUMEROUS FOSSILS, THERE ARE MANY NEEDLE-LIKE
COLORLESS CRYSTALS OF CALCITE (SOME WITH TWINNING), SOME
MINOR FRAGMENTS OF BLACK, WAXY CLAY-CAVINGS?. GOOD
POROSITY.

900 - 940 NO SAMPLES CAVITY IN ROCK.

940 - 945 LIMESTONE;
LS AND DOLOMITE SANDS- BIOMICRITE LS, SOME SUBANGULAR QTZ
SANDS AS WELL, OVERALL A LT YELLOWISH GRAY COLOR, MANY
SMALL SPARRY CALCITE AND DOLOMITE CRYSTALS, LOOSELY
CEMENTED BY CALCIC CEMENT. OVERALL A FINE-MEDIUM SIZED SAND
WITH GOOD POROSITY.

945 TOTAL DEPTH