January 1982 Executive Summary John L. Decker

ROMP 43XX - Avon Park
Floridan Aquifer Monitor Well

## SITE LOCATION

ROMP Site 43XX is located near the town of Avon Park in northwest Highlands County. The well site is located in the northeast corner of the Highlands County Transportation Yard near the intersection of S.R. 17A South and Winthrop Road. It is approximately three and one-half miles east of U.S. 27, in the SW1/4, SW1/4, SW1/4 of Section 13, Township 33 South, Range 28 East, at latitude 27°36'15"N, longitude 81°28'49".

## SITE EASEMENT

ROMP 43XX includes both a perpetual easement and a temporary construction easement for the purposes of drilling, maintaining and repairing the well for test purposes (hydrologic data measurements and observation of water levels). The perpetual easement is 20'x20' and is included as part of the temporary construction easement which is 100'x100'. The easements were granted by the Board of County Commissioners of Highlands County, Florida.



## GEOLOGY

The site is located on the Sunderland-Okefenokee Terrace at an elevation of approximately 148 feet above mean sea level. It is located on the northern portion of the Highlands Ridge which is both a topographic and physiographic land feature. The ridge consists of a generally north-south trending belt of undifferentiable Plio-Pleistocene sediments composed of quartz sand, yellow-orange clays and phosphatic sand and pebbles. Groundwater solution has created a Karst topgraphy which has developed oval lakes from sinkholes.

Geologic data was obtained from the analysis of drill cuttings taken at five-foot intervals from both 43X, a nearby shallow test monitor well, the 1,363-foot deep test monitor, ROMP 43XX, and geophysical logs.

*Generalized Geologic Section:

| | |
|---|---|
| 0 - 270' | Undifferentiated deposits, Plio-Pleistocene sediments of quartz sand, clay, phosphatic sand and pebbles with occasional thin stringers of limestone; in some sections, porosity and permeability is good while the clayey zones have low permeability. |
| 270' - 380' | Upper member - Hawthorn Formation - primarily quartz sand and clay; abundant phosphatic sand and pebbles; more limestone stringers and hard, cream to light tan, micritic limestone; low-moderate porosity. |
| 380' - 468' | Lower member - Hawthorn Formation - hard to moderately hard, gray to white dolomitic limestone and cream to light tan biomicritic limestone; contains quartz sand, phosphatic sand and pebbles; fossils - foraminifera, gastropod, pelecypod and echinoid tests and fragments; low to moderate porosity. |
| 468' - 525' | Suwannee Formation - cream to light tan, soft to moderately hard biomicritic limestone, grayish cream coquina; fossils - foraminifera, pelecypods, gastropod and echinoid tests and fragments; some organic green clay; moderate porosity. |
| 525' - 840' | Ocala Group - hard to soft, chalky, highly fossiliferous calcitic limestone; fossils - foraminifera (Lepidocyclina, Nummulites, Operculinoides), pelecypods, gastropods and echinoids (Peronella); moderate to high porosity. |
| 840' - 1135' | Avon Park Formation - dolomite and limestone, tan, light-dark brown, soft to hard chalky limestone with dolomite; fossils (Lepidocyclina, Coskinolina); low to moderate porosity. |
| 1135' - 1363' (T.D.) | Lake City Formation - hard, light brown, crystalline dolomite and hard, cream to tan porous limestone. |

* Detailed lithologic descriptions are contained in the file for ROMP 43XX.

HYDROLOGY

One of the primary objectives in drilling the test monitor ROMP 43XX well to a depth of 1,363 feet was to define the geologic formational boundaries

of the Floridan aquifer. At this site, there appears to be little differentiation of the Floridan aquifer into separate hydrologic units. The potentiometric surface never varied more than approximately six feet during the drilling of the well. This small variance can possibly be attributed to some localized zones of "tight" dolostones having low transmissitivites and moderate porosities in the borehole. The potentiometric surface was approximately 68 feet below L.S.D. (or 80 feet above M.S.L.) upon completion of this monitor well.

The ROMP 43XX and 43X monitor wells will be invaluable for this area; especially in regard to observing any changes in the potentiometric surface that may be attributed to overpumping by the larger diameter wells owned by citrus grove owners in this area.

## WATER QUALITY SAMPLING

Water samples for analysis (chloride and sulfate) from ROMP Site 43XX were taken at approximately 40-foot intervals. Water quality improved only slightly with depth, with the chlorides and sulfates remaining less than 15 mg/l throughout the drilling of the well.



## GEOPHYSICAL LOGS

A suite of geophysical logs included: a caliper, gamma ray, electric (spontaneous potential and resistivity), temperature (gradient), fluid resistivity, and flow meter were run on this well during and after completion of the well. The geophysical logs were used to determine proper construction of the well's casing borehole characteristics, correlation of lithology and geologic formational boundaries with drill cuttings, temperature, water quality and flow changes.

WELL CONSTRUCTION (Floridan Aquifer Monitor Well)

The Floridan aquifer well 43XX was constructed from October through December 1981. A 22-inch nominal diameter borehole was drilled to a depth of 40 feet using conventional mud rotary drilling techniques. At the depth of 40 feet, an 18-inch diameter steel surface casing was seated and cemented place. A 17-inch nominal diameter borehole was then drilled to a depth of 386 feet. During this initial first phase of construction, it was important to prevent the dry, undifferentiated clastic surficial deposits and clay from closing off the borehole during drilling operations. Three hundred and eighty-six (386) feet of 12-inch steel casing was seated and cement grouted from the bottom to top. The drilling of the open-hole portion of the well from 386-409 feet was completed by using a nominal 11-inch diameter bit. Drilling from 409-1363 feet was completed by means of reverse-air drilling techniques, using a 6 1/2-inch nominal diameter drill bit. An 8-inch I.D. P.V.C. casing was seated at 409 feet and cement grouted to the surface.

Pumping of the well was often performed to clear the borehole of drill cuttings which tended to choke off the borehole. The well was developed upon completion by pumping until the water became clear. The well was then disinfected by using a solution of HTH (5% chlorine).

The top of the well casing extends 5.5 feet above land surface for the purpose of monitor installation. A 4-foot cement culvert was permanently cemented around the upper portion of the 8-inch I.D. P.V.C. casing for protection.

TYPE OF MONITOR

ROMP 43XX was designed to be a potentiometric surface monitor of the Floridan aquifer. The potentiometric surface varies as to the season, rainfall cycles, and local well pumping. Water quality and other hydrological data measurements will also be taken.

USGS NOTIFICATION

The Technical Support Section was notified in February 1982 that 43XX is complete and ready for monitoring by the U. S. Geological Survey.

JLD:wp3

*Definition of Formational Boundaries--SPECIAL NOTE*

The specific definition of formations penetrated at this well site was done partially on the basis of biostratigraphic evidence and partically on the basis of lithologic evidence. Additional correlating evidence (geophysical well logs and/or hydrologic data) was also utilized in the delineation of these formation boundaries. Therefore, the chosen formational boundaries are tentative at best, according to standard stratigraphic methods.

*Utilization of Well Depths--SPECIAL NOTE*

The fractional well depths indicated in this lithologic description denotes only the relative thicknesses of the rock units described. These well depths are only roughly approximate when being used for exact depth measurements in the borehole.



ROMP 43XX (Avon Park, Florida)
Highlands County Yard
20-020-5191

* * * * * * * * * * * * * * * SIMPLIFIED LITHOLOGY * * * * * * * * * * * * * *

| BOREHOLE DEPTH (ft. below L.S.D.) | NAME OF ROCK UNIT |
|---|---|
| L.S.D. - 270 | Undifferentiable Plio-Pleistocene Sands |
| 270 - 380 | Upper Hawthorn Formation |
| 380 - 468 | Lower Hawthorn Formation |
| 468 - 525 | Suwannee Formation |
| 525 - 840 | Ocala Group |
| 840 - 1135? | Avon Park Formation |
| 1135? - 1360 (T.D.) | Lake City Formation |

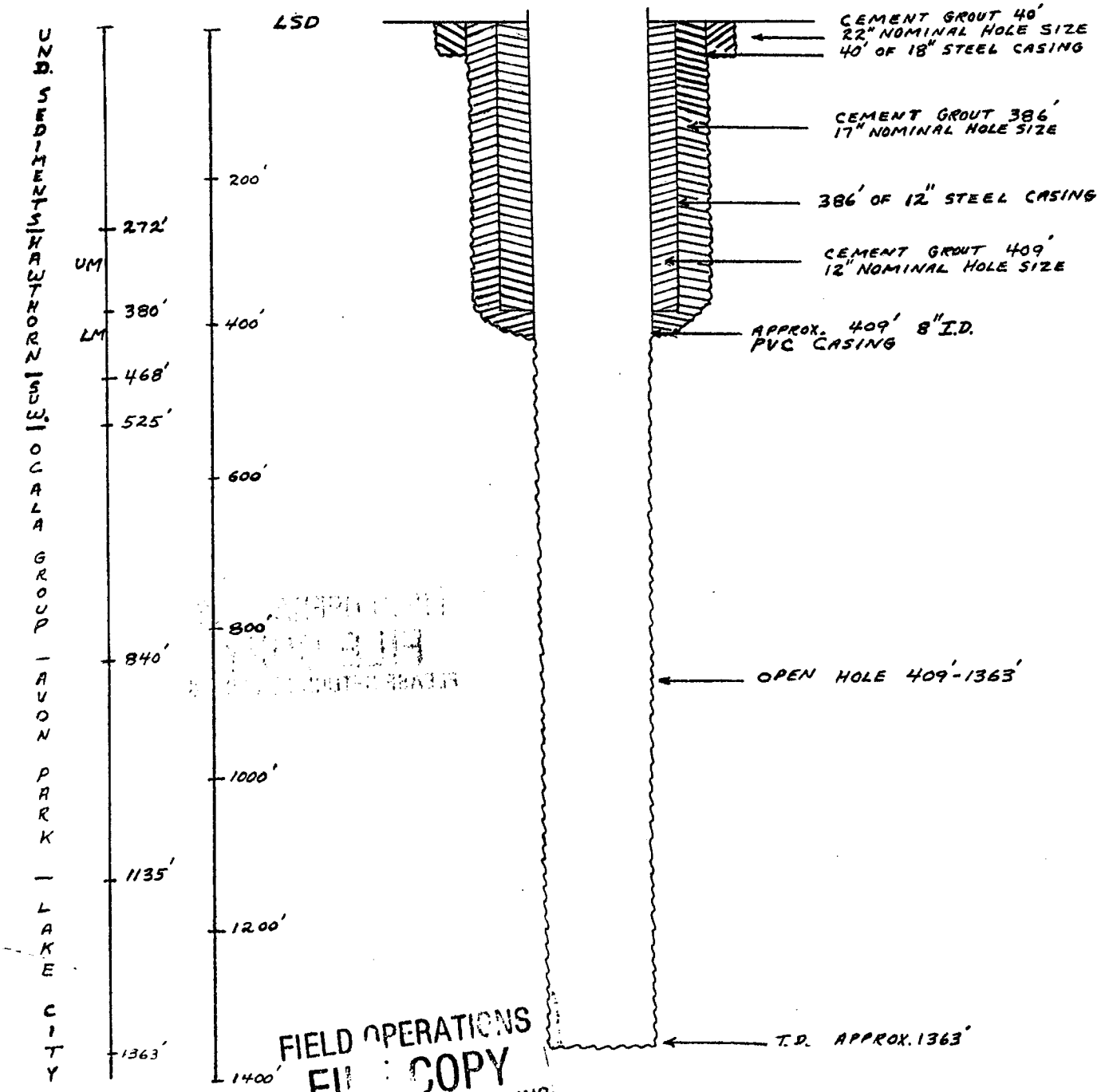
JLD:wp3



#8(6/7)

# ROMP 43XX-AVON PARK

## AS BUILT DIAGRAM



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14884
TOTAL DEPTH: 01363 FT.
SAMPLES - NONE

COUNTY - HIGHLAND
LOCATION: T.33S R.28E S.13CC
LAT = N 27D 36M 15
LON = W 81D 28M 49

COMPLETION DATE - 12/29/81
ELEVATION - 148 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, GAMMA, TEMP, FLUID COND

OWNER/DRILLER: SWFWMD; ROMP SITE NO. 43XX; SWFWMD.

WORKED BY: NEW,DECKER,HENDERSON; CODED AND ENTERED BY RICHARD GREEN
12\90 FROM A GEOLOGIST'S LOG PROVIDED BY SWFWMD. CUTTINGS.
NOTE--THIS DESCRIPTION IS TOO LONG FOR THE PROGRAM, IT HAS BEEN
SPLIT INTO TWO PARTS. THIS IS PART TWO OF TWO.
IGNORE 0-665' ON THIS DESCRIPTION.

| | | |
|---|---|---|
| 0. | 270. | UNDIFFERENTIATED SAND AND CLAY |
| 270. | 380. | PEACE RIVER FM. |
| 380. | 468. | ARCADIA FM. |
| 270. | 468. | HAWTHORN GROUP |
| 468. | 525. | SUWANNEE LIMESTONE |
| 525. | 840. | OCALA GROUP |
| 840. | 1135. | AVON PARK FM. |
| 1135. | . | LAKE CITY LIMESTONE |

0 - 665 NO SAMPLES

665 - 670 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;
BIOMICRITE, FRIABLE, SPARSE PHOSPHATE, LEPS., OPERCULINOIDES MOODY BRANCHENSIS,
NUMMULITES, MOD-HIGH POROSITY.

670 - 675 AS ABOVE

675 - 680 AS ABOVE
TRACE OF BRANCHING BRYOZOANS.

680 - 685 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: FROSTED, MEDIUM RECRYSTALLIZATION, VARVED,
BROWN ANHYDRITE CRYSTALS;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA, ECHINOID;
FORAM BIOMICRITE, HIGHLY FRIABLE, INDURATED, SANDY BLACK PHOSPHORITE, ABUNDANT
FORAMS: LEPS, OPERCS, SOME CALCITIZED PERIARCHUS? FRAGMENTS AND SPINES.
MODERATE-HIGH POROSITY.

685 - 690 AS ABOVE
NO PHOS.

690 - 695 AS ABOVE

695 - 700 AS ABOVE
PHOS. SAND AND QTZ CAVINGS.

700 - 705 AS ABOVE
EXCEPT FOR SOME HEAVILY ERODED OPERCS., AND TRACE OF LAGENA LAEVES?.

705 - 710 AS ABOVE

710 - 715 AS ABOVE
TRACE OF PHOS., NO QTZ SAND.

715 - 720 AS ABOVE

720 - 725 AS ABOVE

725 - 730 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, ECHINOID;
FORAM BIOMICRITE, SOFT, FRIABLE, SOME SANDY LT GRAY PHOSPHORITE, COMMON LT GRAY-TAN LEPS., OPERCS, SOME OF WHICH ARE PHOSPHATIZED, LIGHT GRAY, SOME ECHINOID SPINES, BRYOZOAN PAVEMENT, AND PELECYPOD SHELL FRAGS., MOD-HIGH POROSITY.

730 - 735 AS ABOVE
EXCEPT FOR ABUNDANT LEPS.

735 - 740 AS ABOVE
EXCEPT FOR TR. OF PHOS. SAND AND PHOSPHATIZED FORAMS.

740 - 745 LIMESTONE; LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
MILLIOLOIDAL BIOSPARITE, SLIGHTLY FRIABLE, SOME SANDY PHOS., TRACE OF LEPS., OPERCS., LAGENA LAEVIS; MOD-HIGH POROSITY.

745 - 750 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
FORAM BIOMICRITE, FRIABLE, SOME LT GRAY PHOS. SANDY LS FRAGS. TR. OF BLACK SANDY PHOS.; PHOSPHATIZED FOSSILS-COMMON FORAMS, ABUNDANT LEPS., COMMON OPERCS., SOME NUMMULITES -CAVINGS?, PECTEN SHELL FRAGMENTS. MOD-HIGH POROSITY.

750 - 755 AS ABOVE
COMMON LEPS, OPERCS., SOME CALCITIZED ECHINOID SPINES.

755 - 760 AS ABOVE

760 - 765 LIMESTONE; ;

765 - 765 LIMESTONE; LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: SKELETAL, CRYSTALS, BIOGENIC;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
FORAMINIFERAL BIOSPARITE. SLIGHTLY FRIABLE, SOME LT GRAY-BLK SANDY PHOS. LS FRAGMENTS; OPERCS., NUMMULITES., TRACE OF LAGENA LAEVIS, MOD-HIGH POROSITY.

765 - 770 AS ABOVE
TR. OF LT BRN DOLOMITIC FRAGMENTS AND PERIARCHUS LYELLI FLORIDANUS? FRAGMENTS. MOD-HIGH POROSITY.

770 - 775 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
FORAM BIOMICRITE. FRIABLE, TR. OF PHOS SAND. COMMON LEPS., OPERCS., SOME CALCITIZED ECHINOID SPINES. MOD-HIGH POROSITY.

775 - 780 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS, MOLLUSKS;
FORAM BIOMICRITE. SLIGHTLY FRIABLE, INDURATED; TRACE OF LT GRAY PSHOPHATIZED LS AND SAND; COMMON LEPS., OPERCS., SOME LAGENA; SOME OSTREA? SHELL FRAGS AND PERIARCHUS TEST FRAGMENTS AND SPINES. MOD-HIGH POROSITY.

780 - 785 NO SAMPLES

785 - 790 LIMESTONE; ;
SAME AS 775-780'.

790 - 795 AS ABOVE
LESS OPERCS., TR. OF LAGENA LAEVES, TRACE OF PECTIN FRAGS, ABUNDANT ECHINOID TEST FRAGS ALTERED TO SPARRY CALCITE.

795 - 800 LIMESTONE; LIGHT TAN TO TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS;
MODERATE INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
ECHINOIDAL BIOSAPRITE. SLIGHTLY FRIABLE, QTZ AND PHOS CAVINGS, LEPS., OPERCS., SOME PERONELLA, CRUSTULOIDES? FRAGMENTS AND SPINES. MODERATE-HIGH POROSITY.

800 - 805 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
FORAM BIOMICRITE. FRIABLE. SOME LT GRAY PHOS. LS FRAGS, PHOS. SAND AND GRAVEL, QTZ SAND-CAVINGS?. ABUNDANT LT GRAY-TAN LEPS., SOME OPERCS, TRACE NUMMULITES-CAVINGS?, ALTERED ECHINOID FRAGMENTS (PERONELLA CRUSTULOIDES OR PERIARCHUS LYELLI). MODERATE TO HIGH POROSITY.

805 - 810 AS ABOVE
BUT GRADES TO A BIOSPARITE.

810 - 815 LIMESTONE; LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
BIOSPARITE, SLIGHTLY-HIGHLY FRIABLE. TRACE LEPS., MILLIOLIDS, AND ECHINOID FRAGMENTS. HIGH POROSITY.

815 - 820 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS;
ECHINOIDAL BIOSPARITE, FRAIBLE, TRACE OF SANDY PHOS., SOME LEPS., OPERCS., AND LAGENA, COMMON SMALL ECHINOID TESTS AND FRAGMENTS (PERONELLA, CRUSTULOIDES) AND SPINES; SOME CALCITIZED GASTROPOD CASTS AND TR. OF BRANCHING BRYOZOANS. MOD-HIGH POROSITY.

820 - 825 AS ABOVE
EXCEPT NO PHOSPHATIC SANDS.

825 - 830 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS;
FORAM BIOMICRITE. FRIABLE, TR. OF PHOS., ABUNDANT LT GRAY-TAN LEPS., OPERCS., LAGENA, TRACE OF PECTEN FRAGS; MOD-HIGH POROSITY.

830 - 835 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ECHINOID, BRYOZOA, FOSSIL FRAGMENTS;
BIOMICRITE, FRIABLE, SOME QTZ SAND-CAVINGS?, COQUINAL CHUNKS, AND SPARRY CALCITE REPLACEMENT OF SOME FOSSILS, SPARSE PHOS., LEPS., NUMMULITES., ECHINOID TESTS (PERONELLA, CRUSTULOIDES?, PERIARCHUS LYELLI FLORIDANUS?), BRYOZOAN PAVEMENT, ODERATE TO HIGH POROSITY

835 - 840 AS ABOVE
HIGHLY WEATHERED, FEWER FOSSILS.

840 - 845 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA;
FORAM BIOMICRITE, FRIABLE, SOME TANOBRN DOLOMITIC LS, ABUNDANT PHOS., SPARSE QTZ SSAND. LEPS., NUMMULITES, PECTEN FRAGS, BRYOZOAN PAVEMENT AND BRANCHES, MOD-HIGH POROSITY.

845 - 850 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
ACCESSORY MINERALS: SPAR- %;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS;
FORAM BIOMICIRTE, FRIABLE. LEPS., DICTYOCONUS COOKEI, PERONELLA DALLI, CASSIDULUS GOULDII. MOD-HIGH POROSITY.

850 - 855 AS ABOVE
EXCEPT FOR PHOS, GASTROPOD FRAGS, AND NUMMULITES-CAVINGS?

855 - 860 AS ABOVE
EXCEPT FOR PERIARCHUS LYELLI FLORIDANUS FRAGS AND SPINES, AND COSKINOLINA FLORIDANA.

860 - 865 AS ABOVE
MORE PHOS., SOME COSKINOLINA FLORIDANA, DICTY. COOKEI.

865 - 870 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS;
FORAM BIOMICRITE, SOFT, FRIABLE, SOME COSKINOLINA FLORIDANA, D. COOKEI, NUMMULITES, LEPS., PERONELLA DALLI. MOD-HIGH POROSITY.

870 - 875 AS ABOVE
HIGHLY WEATHERED; SOME CALCITIZED GASTROPOD FRAGMENTS.

875 - 880 AS ABOVE
NO ECHINOIDS.

880 - 890 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS;
FORAM BIOMICRITE, SOFT, FRIABLE, SOME LEPS., DICTY. COOKEI. MODERATE TO HIGH POROSITY.

890 - 900 AS ABOVE
COMMON DICTYOCONUS, TRACE LEPS.

900 - 920 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA;
FORAM BIOMICRITE, SOME LT GRAY, HARD, DOLOMITIC STREAKS. SOME LEPS., TRACE DICTYOCONUS. MOD-HIGH POROSITY.

920 - 925 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
MODERATE INDURATION;
FOSSILS: BENTHIC FORAMINIFERA;
MOD. SOFT-SLIGHTLY HARD, FORAM BIOMICRITE, COMMON SMALL (SADDLE SHAPED) LEPS., SOME SMALL D. COOKEI, TRACE OF NUMMULITES?. MOD-HIGH POROSITY.

925 - 940 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;
MOD. SOFT-SLIGHTLY HARD IN LT TANNISH GRAY, SLIGHTLY DOLOMITIC SECTIONS, FRIABLE. FORAM BIOMICRITE. SOME TAN-LT GRAY SMALL LEPS., AND LARGER LEP. FRAGMENTS, SOME DICTYOCONUS.

940 - 950 AS ABOVE
EXCEPT TRACE OF ECHINOID TEST FRAGMENTS.

950 - 960 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA;
FRIABLE, FORAM BIOMICRITE, SOME SMALL LEPS., TR. OF NUMMULITES, MODERATE TO HIGH POROSITY.

960 - 970 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, FOSSIL FRAGMENTS;
FRIABLE MILLIOLOIDAL BIOMICRITE, SOME LT TANNISH GRAY, DOLOMITIC STREAKS, TR. PHOS.-CAVINGS?, SOME SMALL LEPS., AND SMALL DICTYOCONUS, TR. OF TAN PERONELLA DALLI TESTS. MODERATE-HIGH POROSITY.

970 - 980 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA;
SOME LT TANNISH GRAY, HARDER DOLOMITIC STREAKS, FRIABLE, FORAM BIOMICRITE, SOME SMALL IMMATURE DICTY., TRACE OF COSKINOLINA FLORIDANA, MOD-HIGH POROSITY.

980 - 993 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
MODERATELY SOFT, FRIABLE, MILLIOLOIDAL BIOMICRITE, COMMON SMALL LEPS., TRACE COSKINOLINA, TR. VF PHOS, MOD-HIGH POROSITY.

993 - 1000 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
MODERATE INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, CORAL;
SLIGHTLY HARD BUT FRIABLE, MILLIOLOIDAL BIOMICRITE, SOME SMALL LEPS., COSKINOLINA, AND DICTYOCONUS. TRACE OF CORALLINE MATERIAL.

1000 - 1003 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS, MILIOLIDS;
SOFT, FRIABLE, MILLIOLOIDAL BIOMICRITE; SOME LT GRAY, HARD DOLOMITIC MICRITE FRAGS. SOME SMALL LEPS., TR. COSKINOLINA, MOD-HIGH POROSITY. LOW POROSITY IN DOLOMITIC MICRITE.

1003 - 1013 NO SAMPLES

1013 - 1014 DOLOSTONE; TAN TO BROWN; LOW PERMEABILITY, VUGULAR;
GOOD INDURATION;
OTHER FEATURES: FOSSILIFEROUS, SUCROSIC;
SLIGHTLY VUGGY, MODERATE POROSITY.

1014 - 1020 LIMESTONE; ;
SAME AS 1000-1013', EXCEPT ONLY TRACE OF LT GRAY, DOLOMITIC MICRITE.

1020 - 1047 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS, ECHINOID;
FRIABLE, MILLIOLOIDAL BIOMICRITE, SOME SMALL LEPS., TRACE OF SMALL COSKINOLINA, SOME PERONELLA DALLI? TEST FRAGMENTS. SOME LT GRAY, HARD, DOLOMITIC STREAKS, TR. OF TAN-BRN SUCROSIC DOLOMITE, TR. OF PHOS.-CAVINGS?. MOD-HIGH POROSITY.

1047 - 1052 LIMESTONE; ;
LS AS ABOVE INTERMIXED WITH BUFF, DK BRN-DK GRAY, HARD, SUCROSIC, CRYSTALLINE, VUGGY DOLOMITE; FOSSILS AND LS -CAVINGS? MODERATE POROSITY IN DOLOMITE. MOD-HIGH POROSITY IN LS.

1052 - 1060 AS ABOVE
EXCEPT FOR MORE LS. SOFT, HIGHLY WEATHERED.

1060 - 1068 AS ABOVE
FRAGMENTS APPEAR TO BE HARDER, MORE PHOSPHATE.

1068 - 1075 DOLOSTONE; BUFF TO TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
60% CAVINGS--LS, PHOS, FOSSILS.

1075 - 1080 LIMESTONE; CREAM TO BUFF; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
MILLIOLOIDAL BIOMICRITE, FRIABLE, PHOSPHATE, SMALL LEPS., NUMMULITES-CAVING?.
MOD-HIGH POROSITY.

1080 - 1085 LIMESTONE; ;
LS AS ABOVE INTERMIXED WITH BUFF-GRAYISH BRN, HARD, SUCROSIC, CRYSTALLINE
DOLOMITE; SPARSE PHOSPHATE. MOD-HIGH POROSITY.

1085 - 1090 LIMESTONE; CREAM TO TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: CHALKY;
FOSSILS: BENTHIC FORAMINIFERA;
SPARSE BIOMICRITE, SOFT, FRIABLE, COSKINOLINA, HIGH POROSITY.

1090 - 1095 AS ABOVE
SPARSE DK BRN PHOSPHATE.

1095 - 1100 LIMESTONE; ;
LS AS ABOVE INTERMIXED WITH GRAYISH BRN-DK REDDISH BRN DOLOMITE. SPARSE PHOS.,
LEPS, NUMMULITES, MOD. POROSITY IN DOLOMITE, MOD-HIGH POROSITY IN LS.

1100 - 1110 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
FRIABLE, MILLIOLOIDAL BIOMICRITE, COMMON SMALL LEPS, TRACE OF NUMMULITES?.
MOD-HIGH POROSITY.

1110 - 1115 AS ABOVE
EXCEPT SOME LT GRAY, MOD. HARD, DOLOMITIC SPARSE BIOMICRITE.

1115 - 1120 LIMESTONE; ;
LS AS ABOVE. SOME TAN-MOTTLED CHOCOLATE BRN-REDDISH BRN, HARD, CRYPTOCRYSTALLINE
DOLOMITE LEDGES. MOD. POROSITY IN DOLOMITE, MOD-HIGH POROSITY IN LS.

1120 - 1125 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
FRIABLE, MILLIOLOIDAL BIOMICRITE, SOME LEPS., TRACE OF TAN DOLOMITE. MOD-HIGH POROSITY.

1125 - 1127 AS ABOVE
W/O DOLOMITE.

1127 - 1128 DOLOSTONE; TAN TO BROWN; LOW PERMEABILITY, VUGULAR;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,

1128 - 1130 CLAY; DARK BROWN; LOW PERMEABILITY;
LS AS 1125-1127' MIXED WITH SOFT, STICKY, ORGANIC CLAY.

1130 - 1130.5 DOLOSTONE; ;
SAME AS 1127-1128'.

1130.5- 1135 LIMESTONE; CREAM TO LIGHT GRAY; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
MODERATE INDURATION;
FOSSILS: BENTHIC FORAMINIFERA;
MILLIOLOIDAL BIOMICRITE, SOME LEPS., SOME LT GRAY DOLOMITE STREAKS, COLOR CHANGE IN DRILLING FLUID INDICATES SOME LT BRN CLAY HAVING HIGH POROSITY PRESENT;
MOD-HIGH POROSITY.

1135 - 1140 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS;
SOFT, MILLIOLOIDAL BIOMICRITE INTERMIXED WITH LT GRAY, MODERATELY SOFT, SLIGHTLY DOLOMITIC SPARSE BIOMICRITE; TRACE OF HEAVILY ERODED DICTYOCONUS AMERICANUS, MOD-HIGH POROSITY IN TAN LS, MODERATE POROSITY IN LT GRAY LS.

1140 - 1160 AS ABOVE
EXCEPT SOME MOTTLED CHOCOLATE BRN, HARD, CRYPTOCRYSTALLINE DOLOMITE LEDGES HAVING LOW POROSITY.

1160 - 1165 LIMESTONE; ;
LS AS ABOVE INTERMIXED WITH TAN-MOTTLED CHOCOLATE BRN, VERY HARD, CRYPTOCRYSTALLINE-SUCROSIC, VUGGY DOLOMITE, IMPREGNATED BY BLK, LIGNITIC PEAT BLEBS OR STRINGERS; MOD-HIGH POROSITY IN LS, LOW-MOD. POROSITY IN DOLOMITE.

1165 - 1169 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: DOLOMITIC;
FOSSILS: MILIOLIDS;
GRADING TO LT GRAY, DOLOMITIC, SPARSE BIOMICRITE, INTERMIXED WITH TAN-LT BRN, HARD, SUCROSIC, SOME CRYPTOCRYSTALLINE, HIGHLY VUGGY DOLOMITE; OSME POCKETS OF TAN, DOLOMITE SANDS THROUGHOUT SECTION. HIGH POROSITY OVERALL.

1169 - 1171 DOLOSTONE; TAN TO LIGHT BROWN; VUGULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
HIGHLY VUGULAR.

1171 - 1171.5 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: MILIOLIDS;
SOFT, MILLIOLOIDAL BIOMCIRITE; SOME LT GRAY, MODERATELY SOFT, SLIGHTLY DOLOMITIC, SPARSE BIOMICRITE; MOD-HIGH POROSITY.

1171.5- 1172.5 DOLOSTONE; CREAM TO LIGHT BROWN; POSSIBLY HIGH PERMEABILITY, LOW PERMEABILITY, VUGULAR;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC, FOSSILIFEROUS;
HIGHLY VUGULAR (MILLIOLID MOLDS?). GRADING TO VERY HARD, CRYPTOCRYSTALLINE DOLOMITE. SOME CARBONACEOUS STREAKS THROUGHOUT SECTION, SOME VUGS PARTIALLY LINED BY QTZ OR BLEBS OF GREEN, WAXY, MONTMORILLINITC CLAY; MOD-HIGH POROSITY IN VUGGY DOLOMITE. LOW POROSITY IN OTHER DOLO. EXCEPT FOR TRACE FRACTURING.

1172.5- 1174.5 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
ACCESSORY MINERALS: SILT- %;
OTHER FEATURES: CHALKY;
FOSSILS: MILIOLIDS;
VERY SILTY-CHALKY, FRIABLE, MILLIOLOIDAL BIOMICRITE.

1174.5- 1180 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: MILIOLIDS, BENTHIC FORAMINIFERA;
FRIABLE, MILLIOLOIDAL BIOMICRITE, SOME SMALL LEPS MODERATE TO HIGH POROSITY

1180 - 1189 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
FOSSILS: MILIOLIDS;
SOFT-MOD. HARD, SLIGHTLY COARSER, FRIABLE.

1189 - 1190 DOLOSTONE; TAN;
GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
MODERATE POROSITY.

1190 - 1191 DOLOSTONE; TAN TO LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
VERY HARD. LOW-MODERATE POROSITY.

1191 - 1192.5 DOLOSTONE; TAN; VUGULAR, POSSIBLY HIGH PERMEABILITY;
GOOD INDURATION;
OTHER FEATURES: SUCROSIC, FOSSILIFEROUS;

1192.5- 1198 DOLOSTONE; TAN; FRACTURE, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
LOW TO MODERATE POROSITY, TRACE OF HIGH FRACTURE POROSITY--NOTE--CUTTINGS FROM 1195-1200' ARE 75% LS CAVINGS

1198 - 1198.5 NO SAMPLES
CAVITY.

1198.5- 1200 DOLOSTONE; TAN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;

1200 - 1206 DOLOSTONE; TAN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;

1206 - 1208 CLAY; DARK BROWN; LOW PERMEABILITY;
SEDIMENTARY STRUCTURES: MASSIVE,
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: VARIEGATED;
VARIEGATED BY BROWNISH OLIVE STREAKS, SOFT, EARTHY-WAXY IN PARTS, IMPREGNATED BY TAN, DOLOMITE SANDS AND CREAM COLORED NEARLY MICRITE FRAGMENTS.

1208 - 1220 DOLOSTONE; LIGHT YELLOW TO LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;

1220 - 1226 DOLOSTONE; LIGHT BROWN; POSSIBLY HIGH PERMEABILITY, VUGULAR;
MODERATE INDURATION;
OTHER FEATURES: SUCROSIC;
W/ SOME TAN-BUFF, HARD, CRYPTOCRYSTALLINE, DOLOMITE STREAKS; TRACE OF DK BRN, SOFT, EARTHY CLAY POCKETING SECTION; MOD. POROSITY IN TAN DOLOMITE. HIGH POROSITY IN BRN DOLOMITE.

1226 - 1227 DOLOSTONE; TAN TO DARK BROWN; LOW PERMEABILITY, VUGULAR;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;

1227 - 1228 DOLOSTONE; TAN TO DARK BROWN; POSSIBLY HIGH PERMEABILITY, VUGULAR;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
SOME TAN-LT BRN, MOD. HARD, SUCROSIC DOLOMITE, SOME TAN- DK BRN, SOFT, EARTHY CLAY BLEBS; LOW TO MODERATE POROSITY IN VERY HARD DOLOMITE, HIGH POROSITY IN HARD DOLOMITE

1228 - 1230 DOLOSTONE; ;

AS ABOVE, AND LS: OFFWHITE-LT GRAY, MODERATELY HARD, HIGHLY DOLOMITIC BIOMICRITE; TRACE OF LT GRAY MARL IMPREGNATED BY SOME BLK PHOS. PEBBLES; M-H POROSITY IN LS.

1230 - 1231 DOLOSTONE; TAN TO LIGHT BROWN; POSSIBLY HIGH PERMEABILITY;
MODERATE INDURATION;
OTHER FEATURES: SUCROSIC;

1231 - 1233 DOLOSTONE; TAN TO LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
MOTTLED CHOCOLATE BRN-BLK, HARD, SUCROSIC, HIGHLY VUGULAR, ;SOME LT GRAY, SOFT, EARTHY-SANDY MARL INTERMIXED W/ SOME DK BRN, SOFT, EARTHY ORGANIC CLAY;
LOW-MODERATE POROSITY.

1233 - 1236 DOLOSTONE; LIGHT BROWN TO DARK BROWN; VUGULAR, LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
SEDIMENTARY STRUCTURES: STREAKED,
ACCESSORY MINERALS: ORGANICS-%;

1236 - 1241 DOLOSTONE; TAN TO LIGHT BROWN; VUGULAR, POSSIBLY HIGH PERMEABILITY;
GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
TR. OF OFFWHITE-TAN DOLOMITE BRECCIATING LT BRN DOLOMITE; SOME LT TAN-BRN, THIN, PEAT SEAMS STREAKING THROUGHOUT DOLOMITE, SOME OFFWHITE-LT GRAY, SOFT, STICKY, MARLY CLAY, SOME DK BRN, SOFT, ERATHY ORGANIC CLAYS; SOME LIGNITIC (PROBABLY FOSSIL SEDGE REMAINS?) MATERIAL IMPREGNATING THE DK BRN CLAY, CLAYS POCKETING ENTIRE SECTION. MOD-HIGH POROSITY IN DOLOMITE. LOW POROSITY AND PERM. IN CLAY.

1241 - 1245 DOLOSTONE; TAN TO DARK BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
ACCESSORY MINERALS: CLAY-01%;

1245 - 1253 DOLOSTONE; TAN TO DARK BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
ACCESSORY MINERALS: CLAY- %, ORGANICS- %;
OTHER FEATURES: SUCROSIC;
SOME DK BRN, SOFT, EARTHY-STICKY ORGANIC CLAY POCKETING SECTION.

1253 - 1257 DOLOSTONE; LIGHT BROWN TO DARK BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
LOW POROSITY.

1257 - 1258 DOLOSTONE; LIGHT BROWN TO DARK BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,

1258 - 1260 DOLOSTONE; TAN TO LIGHT BROWN; VUGULAR, LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
SLIGHTLY VUGULAR. LOW-MODERATE POROSITY.

1260 - 1264 DOLOSTONE; TAN TO LIGHT BROWN; LOW PERMEABILITY;
GOOD INDURATION;
OTHER FEATURES: SUCROSIC;

1264 - 1269 DOLOSTONE; TAN TO LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;

1269 - 1276 DOLOSTONE; TAN TO LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
SOME DK BRN, EARTHY PEAT OR ORGANIC CLAY. TRACE OF LS-CAVINGS? LOW-MODERATE
POROSITY IN DOLOMITE.

1276 - 1280 DOLOSTONE; TAN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;

1280 - 1282 DOLOSTONE; TAN; POSSIBLY HIGH PERMEABILITY;
MODERATE INDURATION;
OTHER FEATURES: SUCROSIC;
FRIABLE, MODERATELY HARD. HIGH POROSITY.

1282 - 1285 DOLOSTONE; TAN TO LIGHT BROWN; POSSIBLY HIGH PERMEABILITY, VUGULAR;
MODERATE INDURATION;
OTHER FEATURES: SUCROSIC;
HIGHLY VUGULAR. MOD-HIGH POROSITY.

1285 - 1320 DOLOSTONE; TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
ALTERNATING W/ SEAMS OF TAN, MODERATELY HARD, FRIABLE, SUCROSIC DOLOMITE. M-H
POROSITY IN HARD DOLOMITE, HIGH POROSITY IN OTHER DOLOMITE.

1320 - 1329 DOLOSTONE; ; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
ALTERNATING WITH TAN-LT BRN, HARD, SUCROSIC, VUGULAR DOLOMITE HAVING M-H
POROSITY. POSSIBLE CAVITY? AT BOTTOM OF SECTION.

1329 - 1330 DOLOSTONE; LIGHT BROWN; POSSIBLY HIGH PERMEABILITY;
POOR INDURATION;
OTHER FEATURES: SUCROSIC;
SOFT, FRIABLE.

1330 - 1336 DOLOSTONE; LIGHT BROWN; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
L-MODERATE POROSITY.

1336 - 1343 DOLOSTONE; LIGHT BROWN TO DARK BROWN; VUGULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
MODERATE-HIGH POROSITY.

1343 - 1350 DOLOSTONE; LIGHT BROWN; POSSIBLY HIGH PERMEABILITY;
POOR INDURATION;
OTHER FEATURES: SUCROSIC;
SOFT, FRIABLE, HIGH POROSITY.

1350 - 1360 DOLOSTONE; LIGHT BROWN; VUGULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION;
OTHER FEATURES: SUCROSIC;
SLIGHTLY VUGULAR IN PARTS. MOD-HIGH POROSITY.

1360 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14884
TOTAL DEPTH: 01363 FT.
SAMPLES - NONE

COUNTY - HIGHLAND
LOCATION: T.33S R.28E S.13CC
LAT = N 27D 36M 15
LON = W 81D 28M 49

COMPLETION DATE - 12/29/81
ELEVATION - 148 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, GAMMA, TEMP, FLUID COND

OWNER/DRILLER: SWFWMD; ROMP SITE NO. 43XX; SWFWMD.

WORKED BY: NEW,DECKER,HENDERSON; CODED AND ENTERED BY RICHARD GREEN
12\90 FROM A GEOLOGIST'S LOG PROVIDED BY SWFWMD. CUTTINGS.
NOTE--THIS DESCRIPTION IS TOO LONG FOR THE PROGRAM, IT HAS BEEN
SPLIT INTO TWO PARTS. THE SECOND PART FOLLOWS THIS ONE ON THE DISK.

| | | |
|---|---|---|
| 0. | 270. | UNDIFFERENTIATED SAND AND CLAY |
| 270. | 380. | PEACE RIVER FM. |
| 380. | 468. | ARCADIA FM. |
| 270. | 468. | HAWTHORN GROUP |
| 468. | 525. | SUWANNEE LIMESTONE |
| 525. | 840. | OCALA GROUP |
| 840. | 1135. | AVON PARK FM. |
| 1135. | . | LAKE CITY LIMESTONE |

0 - 5 SAND; TRANSPARENT; LOW PERMEABILITY;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY-%;
SOME ORANGE CLAY, FAIR-GOOD SORTING.

5 - 10 SAND; ORANGE; LOW PERMEABILITY;
ROUNDNESS:ROUNDED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-30%;

10 - 15 AS ABOVE
SLIGHTLY LESS CLAY.

15 - 20 SAND; ORANGE; LOW PERMEABILITY;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY-%;
ORANGE CLAY AND QTZ SAND, FAIR-GOOD SORTING.

20 - 25 SAND; TRANSPARENT;
ROUNDNESS: SUB-ANGULAR TO ROUNDED;
ACCESSORY MINERALS: CLAY-%;
POORLY SORTED, SOME MINOR WHITE CLAYS.

25 - 30 SAND; ORANGE;
ROUNDNESS:ROUNDED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-30%;
RUST OR ORANGE COLOR, 60-80% QTZ SAND, POOR SORTING.

30 - 35 SAND; TRANSPARENT;
ROUNDNESS:SUB-ANGULAR;
ACCESSORY MINERALS: CLAY-%;
MUCH LESS ORANGE CLAY THAN ABOVE. POORLY SORTED.

35 - 40 AS ABOVE

40 - 45 SAND; ORANGE TO WHITE; LOW PERMEABILITY;
ROUNDNESS:SUB-ANGULAR;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-%;
TRANSLUCENT SAND WITH SOME ORANGE AND WHITE CLAY, POOR SORTING, AND ROUNDING.

45 - 50 AS ABOVE
SAND IS MORE ROUNDED.

50 - 55 AS ABOVE

55 - 60 AS ABOVE
MORE STRINGERS OF STICKY WHITE CLAY.

60 - 65 SAND; TRANSPARENT;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY-%;
FAIR-GOOD SORTING, MINOR AMOUNTS OF CLAY.

65 - 70 AS ABOVE
SLIGHTLY MORE CLAY (LT ORANGE).

70 - 75 AS ABOVE
LESS CLAY.

75 - 80 SAND; ;
AS ABOVE, CONTAINS SOME PEBBLES OF WHITE CLAY.

80 - 85 SAND; TRANSPARENT TO WHITE; LOW PERMEABILITY;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-20%;
CLAY IS WHITE AND LIMEY.

85 - 90 SAND; WHITE TO TRANSPARENT;
ROUNDNESS:SUB-ANGULAR;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-%;
FAIR-GOOD SORTING, CONTAINS SOME WHITE, LIMEY CLAYS.

90 - 95 CLAY; WHITE TO VERY LIGHT ORANGE; LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-60%;

95 - 100 NO SAMPLES

100 - 105 SAND; TRANSPARENT; LOW PERMEABILITY;
ROUNDNESS:ROUNDED;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-10%;
OTHER FEATURES: CALCAREOUS;
CLAY IS WHITE, LIMEY. SAND IS POORLY SORTED.

105 - 110 SAND; TRANSPARENT;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY- %;
OTHER FEATURES: CALCAREOUS;
WELL ROUNDED AND SORTED, MINOR LIMEY CLAY.

110 - 115 SAND; TRANSPARENT;
GRAIN SIZE: COARSE;
ROUNDNESS:SUB-ANGULAR;
ACCESSORY MINERALS: CLAY-%;
BEACH SAND, WITH SOME BLEBS OF LT ORANGE CLAY.

115 - 120 SAND; TRANSPARENT;
GRAIN SIZE: COARSE;
ACCESSORY MINERALS: CLAY-%;
POORLY SORTED, COARSE BEACH SAND, MINOR PALE YELLOWISH CLAY.

120 - 125 SAND; ; POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE- %, PHOSPHATIC SAND-%;
QTZ SAND WITH SOME SANDY, LS, MARL-VERY LIGHT GRAY, POORLY LITHIFIED, CONTAINS SOME VERY MINOR PHOSPHATIC SANDS AND STRINGERS OF CALCARENITE, MODERATE POROSITY.

125 - 130 AS ABOVE

130 - 135 SAND; LIGHT GRAY; LOW PERMEABILITY; POOR INDURATION;
ACCESSORY MINERALS: CLAY-%;
LOW-MODERATE POROSITY. FAIR LITHIFICATION.

135 - 140 LIMESTONE; LIGHT GRAY; LOW PERMEABILITY;
MODERATE INDURATION;
OTHER FEATURES: DOLOMITIC;
CALCARENITE MARL, HIGH PERCENTAGE OF QTZ SAND, SOME DOLOMITIC ZONES, FAIR-GOOD LITHIFICATION, LOW-MODERATE POROSITY.

140 - 145 SAND; TRANSPARENT; POSSIBLY HIGH PERMEABILITY;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY-%;
FAIR SORTING, SOME BLEBS OF CLAY.

145 - 150 SAND; TRANSPARENT TO LIGHT BROWN; POSSIBLY HIGH PERMEABILITY;
ROUNDNESS:ROUNDED;
SOME STRINGERS OF SANDY LS, SAND IS POORLY SORTED.

150 - 155 SAND; LIGHT GRAY; LOW PERMEABILITY;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: PHOSPHATIC SAND-%;
QTZ SAND AND KAOLINITIC CLAY WHICH CONTAINS PHOSPHATE SANDS, MODERATE-LOW POROSITY.

155 - 160 CLAY; LIGHT OLIVE GRAY TO TRANSPARENT; LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND-%;
SANDY CLAY, CLAY CONSTITUTES A SMALL FRACTION WHICH IS SPREAD EVENLY THROUGHOUT, SAND IS WELL ROUNDED AND SORTED. LOW POROSITY.

160 - 165 CLAY; ;
SANDY CLAY, 90% QTZ SAND, LT YELLOWISH, GREY-BROWN, WITH SOME STICKY CLAY THROUGHOUT, MODERATE-LOW POROSITY.

165 - 170 AS ABOVE

170 - 175 AS ABOVE

175 - 180 SAND; LIGHT ORANGE; LOW PERMEABILITY;
SOME MINOR STICKY CLAYS, AND BLEBS OF PHSOPHATE SAND, LS STRINGERS, POORLY LITHIFIED, MODERATE-LOW POROSITY.

180 - 185 SAND; VERY LIGHT ORANGE; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: CLAY-%;
90% SAND WITH SOME MARL AND CLAY, SOME SMALL BLEBS OF WHITE, LIMEY CLAY.

185 - 190 CLAY; MODERATE YELLOWISH BROWN; LOW PERMEABILITY; MODERATE INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: QUARTZ SAND- %, LIMESTONE- %;
OTHER FEATURES: CALCAREOUS;
VERY SANDY CLAY, HIGH PERCENTAGE OF QTZ SAND, W/ 15-20% LIMEY CLAYS, STICKY, SOME STRINGERS OF HARD PHOSPHATIC LS, LOW POROSITY.

190 - 195 NO SAMPLES

195 - 200 SAND; TRANSPARENT TO LIGHT YELLOWISH ORANGE; POSSIBLY HIGH PERMEABILITY;
POOR INDURATION;
ACCESSORY MINERALS: LIMESTONE- %, CLAY-%;
90% QTZ WITH SOME LS AND CLAYS. MODERATE POROSITY AND PERM.

200 - 205 SAND; TRANSPARENT;
ROUNDNESS:ROUNDED; UNCONSOLIDATED;
WELL SORTED.

205 - 210 AS ABOVE

210 - 215 AS ABOVE
SLIGHTLY FINER PARTICLE SIZE.

215 - 220 AS ABOVE
ALSO CONTAINS SOME PEBBLES OF SANDY DOLOMITE AND WHITE CLAY.

220 - 225 AS ABOVE

225 - 230 SAND; TRANSPARENT; POSSIBLY HIGH PERMEABILITY;
ROUNDNESS:ROUNDED; POOR INDURATION;
GOOD SORTING, GOOD POROSITY.

230 - 235 AS ABOVE
ALSO SOME SANDY DOLOMITIC PEBBLES WHICH CONTAIN MINOR PHOS SANDS.

235 - 240 SAND; TRANSPARENT;
NOT WELL SORTED, CONTAINS SOME PEBBLE SIZE QTZ AS WELL.

240 - 245 SAND; LIGHT YELLOWISH ORANGE;
ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND-%;
SMALL PERCENTAGE OF STICKY, GUMMY, CLAY, AND MINOR PHOS. SANDS.

245 - 250 AS ABOVE
CLAY FRACTION IS APPROX. 5-10%.

250 - 255 SAND; ;
LESS CLAY, SOME MINOR PHOSPHATICS.260

255 - 260 SAND; TRANSPARENT;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%, IRON STAIN- %, CLAY-02%;

260 - 265 SAND; ; POSSIBLY HIGH PERMEABILITY;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: PHOSPHATIC SAND- %, HEAVY MINERALS-%;
WELL SORTED AND ROUNDED,CONTAINS PHOS.SANDS- ORANGE TO BLACK, LESS ROUNDED AND MORE
CONCHOIDAL FRACTURED, UNCEMENTED, OVERALL HIGH POROSITY.

265 - 270 AS ABOVE

270 - 275 AS ABOVE
EXCEPT MORE PHOSPHATE SANDS, BROWN-BLACK.

275 - 280 SAND; TRANSPARENT; POSSIBLY HIGH PERMEABILITY;
ACCESSORY MINERALS: LIMESTONE-%;
SOME STRINGERS OF SOFT, FRIABLE LS, VERY PALE ORANGE.

280 - 285 SAND; TRANSPARENT; LOW PERMEABILITY;
ACCESSORY MINERALS: CLAY- %, PHOSPHATIC GRAVEL- %, LIMESTONE- %;
OTHER FEATURES: FOSSILIFEROUS;
FOSSILS: SHARKS TEETH;
SAND AND CLAY, CLAY-YELLOWISH ORANGE, NUMEROUS PHOS. PEBBLES, FROM WHITE-GRAY, SOME SOFT FRIABLE STRINGERS OF LS, MODERATE-LOW POROSITY.

285 - 290 CLAY; ORANGE TO YELLOW; LOW PERMEABILITY;
ACCESSORY MINERALS: LIMESTONE- %, PHOSPHATIC GRAVEL-%;
SOME STRINGERS OF HARD, WHITE LS. PHOS. IS BLK-BRN.

290 - 295 SAND; ; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
ACCESSORY MINERALS: LIMESTONE- %, CLAY- %, PHOSPHATIC SAND-%;
SAND, CLAY AND LS, SAND IS PHOSPHATIC AND QTZ, GRAY CLAYS, SOME THIN BEDS OF HARD, WHITE, SOMEWHAT DOLOMITIC LS.

295 - 300 SAND; ;
GRAIN SIZE: FINE;
LOOSE SAND AND PHOS. SAND HELD IN PLACE BY DK GRAY CLAY. SAND IS WELL SORTED.

300 - 305 LIMESTONE; ;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL- %, PHOSPHATIC SAND- %, QUARTZ SAND- %, CLAY-%;
LS CONTAINS PROBABLY IN EXCESS OF 30% PHOS. PEBBLES AND SANDS, SOME MINOR GRAY CLAY. BONE VALLEY MATERIAL???

305 - 310 SAND; ;
ACCESSORY MINERALS: LIMESTONE-15%, PHOSPHATIC SAND-15%, PHOSPHATIC GRAVEL-%;
LS IS PHOSPHATIC MICRITE, POORLY LITHIFIED MATERIAL, MODERATE POROSITY.

310 - 315 AS ABOVE

315 - 320 SAND; TRANSPARENT; POSSIBLY HIGH PERMEABILITY;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: PYRITE-01%, ORGANICS- %, PHOSPHATIC SAND- %, LIMESTONE-01%;
FAIR SORTING, MINOR PYRITE CRYSTALS IN ORGANIC LENSES, GOOD OVERALL POROSITY.

320 - 325 SAND; TRANSPARENT; POSSIBLY HIGH PERMEABILITY;
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, LIMESTONE-05%;

325 - 330 SAND; TRANSPARENT TO BLACK;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-%;

330 - 335 SAND; ;
GRAIN SIZE: VERY FINE;
ROUNDNESS:ROUNDED;
ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND- %, PHOSPHATIC GRAVEL-%;
MINOR PHOS. SAND AND PEBBLES, VERY MINOR BLEBS OF CLAY, LOST CIRCULATION ZONE, VERY LOW RETURNS.

335 - 340 AS ABOVE

340 - 345 AS ABOVE
WITH GOOD RETURNS.

345 - 350 SAND; ; LOW PERMEABILITY;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL- %, LIMESTONE-%;
SOME STRINGERS OF WHITE DOLOMITIC LS. MOD-LOW POROSITY.

350 - 380 NO SAMPLES
THE TOP OF THE FIRST CONSISTENT ROCK LAYER AT THIS SITE IS APPROXIMATELY 380' BELOW LSD.

380 - 385 DOLOSTONE; WHITE TO MODERATE GRAY; LOW PERMEABILITY;
GRAIN SIZE: FINE;
ACCESSORY MINERALS: PHOSPHATIC GRAVEL- %, QUARTZ SAND- %;
OTHER FEATURES: CALCAREOUS;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
CLAY, WHITE, LITHOCLASTIC; ABUNDANT FINE BRN AND BLK PHOSPHATE PEBBLES AND QTZ SAND. LOW POROSITY.

385 - 390 AS ABOVE

390 - 395 LIMESTONE; CREAM TO WHITE; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, SKELETAL;
POOR INDURATION;
ACCESSORY MINERALS: DOLOMITE- %, PHOSPHATIC GRAVEL- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
FOSSILIFEROUS MICRITE, SOFT, CHALKY, MARLY, MIXED WITH DOLOSTONE, WHITE-GRAY, F-C CRYSTALLINE; L-M POROSITY.

395 - 400 AS ABOVE
SOME SPARRY CALCITE REPLACED PELECYPOD FRAGS AND WITH CALCAREOUS CLAY.

400 - 405 LIMESTONE; WHITE TO CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
MODERATE INDURATION;
ACCESSORY MINERALS: CLAY- %, QUARTZ SAND- %, PHOSPHATIC SAND- %, LIMESTONE- %;
OTHER FEATURES: DOLOMITIC;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
BIOMICRITE, PASTY, SOME HARD DOLOMITIC LS,CREAM-TAN. MODERATE POROSITY.

405 - 410 LIMESTONE; ; LOW PERMEABILITY;
INTRACLASTIC BIOSPARITE FRAGMENTS, QTZ SAND-CAVING?.

410 - 415 LIMESTONE; WHITE; LOW PERMEABILITY;
ACCESSORY MINERALS: QUARTZ SAND- %, IRON STAIN- %;
OTHER FEATURES: DOLOMITIC;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
LITHOCLASTIC BIOSPARITE, HIGH PERCENTAGE OF QTZ SAND- CAVINGS?, IRON STAINED.

415 - 420 AS ABOVE
CONTAINS PHOSPHATE SAND.

420 - 425 LIMESTONE; LIGHT GRAY;
OTHER FEATURES: DOLOMITIC;
DOLOMITE-MEDIUM GRAY, FINELY CRYSTALLINE, LITHOCLASTIC, ABUNDANT QTZ SAND--CAVING?

425 - 430 DOLOSTONE; LIGHT GRAY TO MODERATE GRAY; LOW PERMEABILITY;
GRAIN SIZE: CRYPTOCRYSTALLINE;
APHANITIC TO FINELY CRYSTALLINE, LITHOCLASTIC DOLOMITE AND MICRITE, LT GRAY, SOFT, INTERMIXED WITH BIOMICRITE- OFFWHITE-LT GRAY, AND DK GRAY-BLK PHOSPHATE SANDS, TRACE OF CHERT LT-DK GRAY.

430 - 435 LIMESTONE; LIGHT GRAY TO DARK GRAY; LOW PERMEABILITY;
RANGE: FINE TO CRYPTOCRYSTALLINE;
OTHER FEATURES: WEATHERED;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
DOLOMITIC, QTZ SAND-CAVINGS?, SOME DK REDDISH BRN TO DK GRAY PHOSPHATE. LOW POROSITY.

435 - 440 LIMESTONE; CREAM TO LIGHT TAN; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
MIXED WITH A HARD DOLOMITE, LT-DK , WEATHERED, VUGULAR, ABUNDANT QTZ SAND-CAVINGS? AND PHOS. AS ABOVE. L-M POROSITY.

440 - 445 LIMESTONE; CREAM TO LIGHT TAN; LOW PERMEABILITY;
GOOD INDURATION;
OTHER FEATURES: WEATHERED, DOLOMITIC;
FOSSILS: SHARKS TEETH;
LT-DK GRAY, DOLOMITIC, SOME SAND AND PHOS AS ABOVE.

445 - 450 AS ABOVE
MORE DOLOMITIC, ECHINOID FRAGMENTS.

450 - 455 CLAY; LIGHT GRAY TO BROWNISH GRAY; LOW PERMEABILITY;
ACCESSORY MINERALS: CALCILUTITE- %, QUARTZ SAND- %, LIMESTONE- %, PHOSPHATIC SAND-%;

MARLY, SANDUY, MIXED WITH A LS-SPARSE BIOMICRITE, CREAM-LT TAN AND GRAY DOLOMITIC LS; SOME PHOS. AS ABOVE, VERY LOW TO MODERATE POROSITY.

455 - 460 AS ABOVE
LESS CLAY- MEDIUM GRAY,SEMI-WAXY; SWELLS AS IT TAKES ON WATER; QTZ SAND-CAVINGS?, LOW PERMEABILITY.

460 - 465 AS ABOVE
MORE CLAY MIXED W/SAND AND PHOS. LOW POROSITY.

465 - 468 AS ABOVE
CONTIANS SOME HARD LS, CREAM TO LT TAN; LOW POROSITY.

468 - 470 LIMESTONE; LIGHT TAN; MOLDIC, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS, MILIOLIDS, MOLLUSKS;
BIOMICRITE, PASTY, SOFT, MODERATE POROSITY.

470 - 475 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: FINE;
ACCESSORY MINERALS: CLAY- %, QUARTZ SAND- %, PHOSPHATIC SAND- %, SPAR- %;
OTHER FEATURES: WEATHERED, CHALKY;
SOFT, WELL WEATHERED,SPARSE CALCITE SPAR, PHOS. SAND AND QTZ SAND-CAVINGS?, MINOR DK GREEN ORGANIC CLAY PARTICLES. MODERATE POROSITY.

475 - 480 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM;
ACCESSORY MINERALS: SPAR- %, QUARTZ SAND- %, PHOSPHATIC SAND- %;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL MOLDS, SHARKS TEETH, CRUSTACEA;
SPARSE BIOMICRITE, SOFT, HIGHLY WEATHERED, ABUNDANT SPAR, SPARSE DK GRAY PHOS. GRANULES AND CLEAR QTZ-CAVINGS?, MODERATE POROSITY.

480 - 485 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
GRAIN SIZE: FINE;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA;
SPARSE BIOMICRITE, SOFT, HIGHLY WEATHERED, SPARSE CALCITE SPAR, SPARSE COQUINA, LEPIDOCYCLINA?, MODERATE POROSITY.

485 - 490 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: FINE; POOR INDURATION;
ACCESSORY MINERALS: SPAR- %;
OTHER FEATURES: CHALKY, WEATHERED;
HIGHLY WEATHERED; SPARSE CALCITE SPAR, DK DRAY-BLACK PHOS. GRANULES AND QTZ SAND-CAVINGS?, MODERATE POROSITY.

490 - 495 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE; POOR INDURATION;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
SPARSE BIOMICRITE, HIGHLY WEATHERED; SOME SPAR, DK GRAY-BLACK PHOS. GRANULES; LEPIDOCYCYLINA. MODERATE POROSITY.

495 - 500 AS ABOVE
EXCEPT FOR SPARSE COQUINA, SLIGHTLY LARGER GRAINS.

500 - 505 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: ECHINOID, CRUSTACEA;
SPARSE BIOMICRITE, HIGHLY WEATHERED, SOME SPAR AND COQUINA, PHOS. AND SAND AS ABOVE, ABUNDANT GREEN ORGANIC CLAY; LOW-MODERATE POROSITY. CRAB CLAW.

505 - 510 AS ABOVE
FINER GRAINED. PELECYPOD FRAGMETNS. MODERATE POROSITY.

510 - 515 LIMESTONE; WHITE TO CREAM;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS, MOLLUSKS;
SPARSE BIOMICRITE; SPAR AND COQUINA, SPARSE PHOSPHATE; LEPS, OPERCS, CHIONE?, MODERATE POROSITY.

515 - 520 LIMESTONE; WHITE TO CREAM;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: CHALKY, WEATHERED;
SPARSE BIOMICRITE, SOME SPAR, COQUINA, AND GREEN ORGANIC CLAY, PYRITE CRYSTAL; MODERATE POROSITY.

520 - 525 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: ECHINOID, FOSSIL FRAGMENTS, MOLLUSKS;
SPARSE BIOMICRITE, SOFT TO MODERATELY HARD, SOME SPAR, COQUINA, QTZ SAND, PHOS., AND GREEN ORGANIC CLAY, MODERATE POROSITY.

525 - 530 NO SAMPLES

530 - 535 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
SPARSE BIOMICRITE, SOFT-MODERATELY HARD, HIGHLY WEATHERED, SPARSE SPAR, QTZ SAND, PHOS., CLAY, PYRITE, AND COQUINA; LAGENA; MODERATE POROSITY.

535 - 540 LIMESTONE; LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; POOR INDURATION;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, FOSSIL FRAGMENTS;
SPARSE BIOMICRITE, HIGHLY WEATHERED, SPAR, SPARSE QTZ SAND, PHOS., AND GREEN ORGANIC SAND; LAGENA; MODERATE POROSITY.

540 - 545 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
SPARSE BIOMICRITE, SPARSE PHOS., AND GREEN ORGANIC SANDY CLAY, QTZ SAND, F-M GRAINED, WELL ROUNDED; LEPS., PELECYPOD FRAGMENTS, MOD-HIGH POROSITY.

545 - 550 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; POOR INDURATION;
ACCESSORY MINERALS: SPAR- %;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
SPARSE BIOMICRITE, HIGHLY WEATHERED, SOME SECONDARY CALCITE REPALCEMENT AND PHOS., ABUNDANT QTZ SAND-CAVINGS?, LAGENA, MODERATE POROSITY.

550 - 555 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
SP. BIOMICRITE, SOFT-MODERATELY HARD, HIGHLY WEATHERED, SOME SECONDARY CALITE REPLACEMENT, QTZ SAND, PHOS., AND ORGANIC GREEN CLAY, LEPIDOCYCLINA, LAGENA. MOD-HIGH POROSITY.

555 - 560 AS ABOVE
FEWER FOSSILS.

560 - 565 LIMESTONE; CREAM TO LIGHT GRAYISH BROWN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
RANGE: FINE TO MEDIUM; MODERATE INDURATION;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: FOSSIL MOLDS, MOLLUSKS, CORAL, ECHINOID, FOSSIL FRAGMENTS;
SPARSE BIOMICRITE, SOFT-MODERATELY HARD, HIGHLY WEATHERED, SOME SECONDARY CALCITE, ABUNDANT QTZ SAND, PHOS., MOD-HIGH POROSITY.

565 - 570 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM; POOR INDURATION;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, FOSSIL FRAGMENTS;
BIOMICRITE, HIGHLY WEATHERED; SOME SECONDARY CALCITE REPLACEMENT, ABUNDANT QTZ SAND, SPARSE PHOS., LEPS AND NUMMULITES. MOD-HIGH POROSITY.

570 - 575 AS ABOVE
SPARSE BIOMICRITE, HIGHLY WEATHERED, FEW FOSSILS.

575 - 580 AS ABOVE
BIOMICRITE, MORE FORAMS (LEPS, NUMMULITES SPP., LAGENA).

580 - 585 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, CORAL, ECHINOID, FOSSIL FRAGMENTS;
BIOMICRITE, SOME SECONDARY CALCITE, SPARSE GRAY DOLOMITIC LS FRAGMENTS, PHOS., ABUNDANT QTZ SAND; LEPS, LAGENA, NUMMULITES, MODERATE TO HIGH POROSITY.

585 - 590 AS ABOVE
MORE QTZ SAND AND FEWER FOSSILS; HIGH POROSITY.

590 - 595 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
BIOMICRITE, HIGHLY WEATHERED, SOME SEOCNDARY CALCITE REPLACEMENT, ABUNDANT QTZ SAND AND PHOS.; LEPS., NUMMULITES, MOD-HIGH POROSITY.

595 - 600 AS ABOVE
ECHINOID SPINES.

600 - 605 AS ABOVE
NUMEROUS NUMMULITES, LEPS., SPARSE DK GRY GREEN ORGANIC CLAY.

605 - 610 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
BIOMICRITE, HIGHLY WEATHERED, SOME SECONDARY CALCITE REPLACEMENT, QTZ SAND, PHOS., AND CLAY AS ABOVE. LEPS., NUMMULITES, MODERATE-HIGH POROSITY.

610 - 615 AS ABOVE
SLIGHTLY MORE WEATHERED FORAMS (LAGENA), BRYOZOAN FRAGS.

615 - 620 AS ABOVE
SOME SPAR, PELECYPOD, CORAL AND BRYOZOAN FRAGS.

620 - 625 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
BIOMICRITE, ABUNDANT PHOS. FEWER FOSSILS THAN ABOVE.

625 - 630 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, FOSSIL FRAGMENTS;
BIOMICRITE, HIGHLY WEATHERED, SPARSE CALCITE SPAR, QTZ SAND, PHOS., AND GRAYISH GREEN CLAY, NUMMULITES, LEPS., LAGENA, MODERATE-HIGH POROSITY.

630 - 635 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: CHALKY, WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;
COMMENTS AS ABOVE. OPERCULINOIDES.

635 - 640 NO SAMPLES

640 - 645 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: WEATHERED, CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;
BIOMICRITE, SOME SECONDARY CALCITE REPLACEMENT; SOME QTZ, PHOS., AND CLAY AS ABOVE. LEPS., NUMMULITES, OPERCULINOIDES?, LAGENA, MODERATE TO HIGH POROSITY.

645 - 650 LIMESTONE; WHITE TO CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: MEDIUM;
ACCESSORY MINERALS: PHOSPHATIC SAND- %, SPAR- %;
OTHER FEATURES: WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
BIOMICRITE. LEPS., NUMMULITES SPP., LAGENA.

650 - 655 AS ABOVE
MORE WEATHERED THAN ABOVE, SPARSE SPARRY CALCITE, FEWER FOSSILS. INTACT PERIARCHUS LYELLI?.

655 - 660 AS ABOVE
PELECYPOD FRAGMENTS. IRON STAINED QTZ SAND.

660 - 665 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
RANGE: FINE TO MEDIUM;
OTHER FEATURES: WEATHERED;
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;
BIOMICRITE, HIGHLY WEATHERED, SECONDARY CALCITIC REPLACEMENT, ABUNDANT CAVINGS- PHOS. AND QTZ SAND. LEPS., NUMMULITES, MODERATE-HIGH POROSITY.

665 TOTAL DEPTH