Executive Summary
ROMP Site TR 17-1
Chloride Monitor and Core

Location - ROMP Site TR 17-1 is located approximately 880 feet west of the centerline of U.S. 19 and 100 feet north of Sandra Drive which is approximately 1100 feet south of the intersection of San Marco Drive and U.S. 19. The site is located in Pasco County in Section 9, Township 25 South, Range 16 East and at latitude 28°19'16", longitude 82°42'06".

Site Easement - The site was obtained from the Times Publishing Company on January 16, 1978 for the sum of one dollar. The Perpetual Easement is 20 feet by 20 feet and is contained in the Temporary Construction Easement which was 40 feet by 60 feet. The Temporary Easement was obtained on January 23, 1978, for a period of 4 months and expired on May 22, 1978.

Reason for Coring - Core and water samples were obtained at this site in order to locate and define the freshwater-saltwater interface and to finalize the design for a chloride monitor at this site.

Geology - The site is located in the Pamlico Terrace at an elevation of approximately 10 feet above mean sea level (MSL). The geology of the site was described from analysis of core samples which were collected to a depth of 303.5 feet below land surface datum (LSD) and boxed up for shipment to the Bureau of Geology for in-depth analysis. The generalized geology of the site is as follows:

0-20' Sand

20'-263.5' Tampa-Suwannee Limestones

263.5'-303.5' Ocala Group

Hydrogeology - The water levels of this site ranged from 4.80 to 5.89 feet below LSD. These changes in water levels seem to follow a cyclic rise and fall during the day and from day to day which strongly suggests that the aquifer is hydraulically connected with the Gulf of Mexico. This site

is located less than 2 miles east of the Gulf. The porosity on the formations drilled during coring operations ranged from low to medium. At least two possible cavities were penetrated at this site at depths of ± 176 and ± 230 feet below LSD. Both cavities appear to be hydraulically connected with the Gulf since chloride levels show a large increase opposite both points. Since pumping tests were not conducted at this site, an estimate for either permeability or transmissivity is not available.

Core Drilling - Core and water samples were obtained at this site by the McGregor Pump Company, Inc. under Contract R171 at a cost of $7,078.00 or $23.32 per foot.

Core samples of 3 inch diameter were obtained at 5 foot intervals from 20 to 303.5 feet below LSD. These samples were described by the field geologist and will be sent to the Bureau of Geology for in-depth analysis. Upon completion of coring operations the core hole was grouted with a neat cement slurry from 303.5 to 139 feet below LSD.

Well Construction - The chloride monitor was constructed by McGregor Pump Company, Inc., under Contract R171 at a cost of $3,597.50 or $25.88 per foot.

The well was constructed by reaming the core hole out to approximately 13 inches in diameter and setting 20 feet of PVC surface casing. The hole from this point downward to 131.5 feet was reamed to a nominal 12 inch diameter to install 131.5 feet of 6 inch PVC casing. This casing was then cemented in place and the hole was drilled out to 139 feet and developed.

Geophysical Logs - Electric, caliper, gamma, temperature, and fluid resistivity logs were made on the core hole from the surface to 300 feet below LSD.

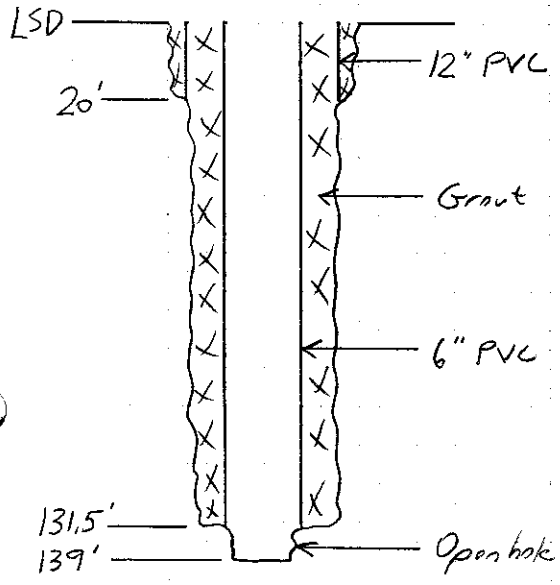
Type of Monitor - This well is designed to monitor the freshwater-saltwater interface at a point near the 250 milligram per liter (mg/l) isochlor.

Water Quality - The potable water zone extends down to around 139 feet below LSD at this site. From 139 feet on to the total core depth of 303.5 feet the chlorides range from 145 to 18,250 mg/l. Of the eleven parometers that were tested for in the 29 water samples that were submitted for testing, chlorides and sulfates appear to be the only objectionable constituents. As previously stated the chlorides are less than 145 mg/l above 139 feet while the sulfates exceed the 250 mg/l mark below 173.5 feet and rise to as high as 2800 mg/l. As a result the total hardness of the water exceeds 2000 mg/l at a depth below 173.5 feet whereas it is in the range of 200 to 400 mg/l above 173.5 feet.

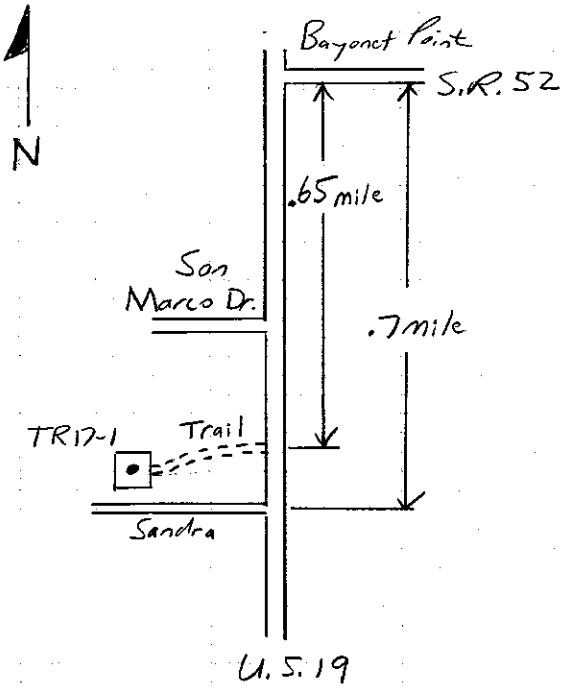
USGS Notification - SWFWMD Planning Section was notified on 5-15-79 that this well was completed.

ROMP TR17-1

As Built Well Diagram

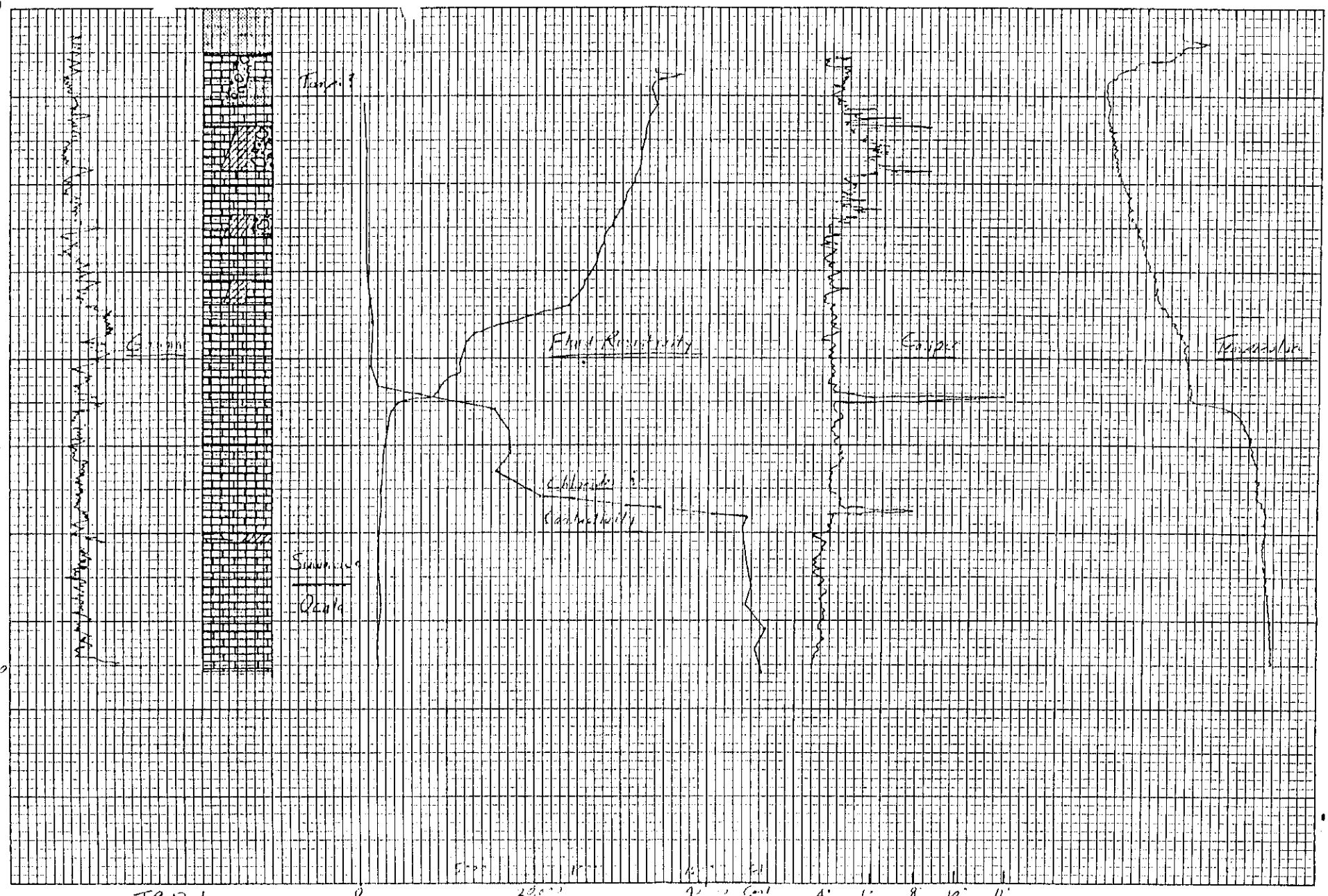


Site Location



S9, T25S, R16E

Pasco Co.



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14674
TOTAL DEPTH: 00304 FT.
SAMPLES - NONE

COUNTY - PASCO
LOCATION: T.25S R.16E S.09
LAT = N 28D 19M 16
LON = W 82D 42M 06

COMPLETION DATE - 09/25/78
ELEVATION - 010 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, GAMMA, TEMP

OWNER/DRILLER: MCGREGOR PUMP COMPANY COMPLETED CORE AND WATER SAMPLING

WORKED BY: ROMP TR 17-1, BAYONET POINT, PORT RICHEY QUAD, 3" CORE
WELL LOCATED APPROXIMATELY 880 FEET WEST OF THE CENTERLINE OF U.S.19
AND 100 FEET NORTH OF SANDRA DRIVE WHICH IS APPROXIMATLEY 1100 FEET
SOUTH OF THE INTERSECTION OF SAN MARCO DRIVE AND U.S.19.
WELL CODED BY T.L.SEAL OF THE FLORIDA GEOLOGICAL SURVEY FROM FIELD
DESCRIPTION BY G.STASSER OF THE SWFWMD,
SOME SUWANNEE LIMESTONE MAY BE PRESENT IN TOP OF TAMPA SECTION, AND
THE OCALA-TAMPA CONTACT NEEDS TO BE REEXAMINED BY FGS GEOLOGISTS AT A
LATER TIME

0. - 20. NO SAMPLES
20. - 263. TAMPA MEMBER OF ARCADIA FM.

0 - 20.3 NO SAMPLES

20.3- 25.3 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC, VUGULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
OTHER FEATURES: FOSSILIFEROUS;
MEDIUM TO LOW POROSITY, FRACTURES, LENSES OF RECRYSTALLIZED CALCITE, VUGS FILLED WITH
DRUSY CALCITE

25.3- 33.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC, VUGULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: FOSSILIFEROUS;
MARLY ARGILLACEOUS LIMESTONE, MEDIUM TO LOW POROSITY

33.5- 43.5 AS ABOVE
SOMEWHAT PASTY, WITH LENSES OF COMPETENT LIMESTONE, MINOR ORANGE STAINING, MINOR SAND
LENSES

43.5- 53.5 LIMESTONE; LIGHT ORANGE TO TAN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
ARGILLACEOUS LIMESTONE, MEDIUM TO LOW POROSITY, 40% RECOVERY

53.5- 63.5 LIMESTONE; WHITE TO TAN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %, CLAY- %;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
LOW TO MEDIUM POROSITY, FRACTURED, ARGILLACEOUS LIMESTONE, LENSES OF GRAY-TAN CLAYEY MARL ALTERNATING WITH LIMESTONE, 60% RECOVERY

63.5- 73.5 AS ABOVE
SOMEWHAT MORE LITHIFIED WITH DEPTH, 30% RECOVERY

73.5- 83.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
MEDIUM POROSITY, FRACTURED, 50% RECOVERY

83.5- 93.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
OTHER FEATURES: FOSSILIFEROUS;
FOSSILS: CORAL;
MEDIUM TO HIGH MOLDIC POROSITY, 50% RECOVERY

93.5- 103.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %, CLAY- %;
OTHER FEATURES: FOSSILIFEROUS;
MINOR MARLY CLAYS INTERLAYERED WITH LIMESTONE AND LENSES OF VERY SANDY SPARRY CALCITE (ALMOST A FOSSIL HASH), LOW TO MEDIUM POROSITY, 50% RECOVERY, MORE LITHIFIED WITH DEPTH.

103.5- 123.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: INTERBEDDED,
OTHER FEATURES: CHALKY;
HIGH POROSITY, FRACTURED, ORANGE STAINING, INTERLAYERED LENSES OF PURE FOSSIL HASH AND PASTY MICRITE

123.5- 133.5 LIMESTONE; TAN TO CREAM; MOLDIC, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: CLAY- %;
OTHER FEATURES: FOSSILIFEROUS;
HIGH POROSITY, MINOR ORANGE STAINING

133.5- 134.5 AS ABOVE

134.5- 138.5 LIMESTONE; LIGHT BROWN TO BROWN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, ORGANIC MATRIX;
ACCESSORY MINERALS: ORGANICS-%;
MINOR POROSITY, CRUMBLY EARTHY TEXTURE, ARGILLACEOUS LIMESTONE

138.5- 143.5 LIMESTONE; BROWN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: FOSSILIFEROUS;
MEDIUM TO HIGH POROSITY

143.5- 146.5 AS ABOVE

146.5- 153.5 LIMESTONE; WHITE TO CREAM; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: FOSSILIFEROUS;
LOW TO MEDIUM POROSITY, FRACTURED

153.5- 163.5 LIMESTONE; BROWN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: FOSSILIFEROUS;
SOFT PASTY SOMEWHAT CHALKY MICRITIC TEXTURE

163.5- 173.5 LIMESTONE; TAN TO LIGHT BROWN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND- %, CLAY- %, ORGANICS-%;
ARGILLACEOUS LIMESTONE, LOW POROSITY, FRACTURED

173.5- 183.5 LIMESTONE; TAN TO LIGHT BROWN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
MEDIUM TO HIGH POROSITY, FRACTURED, 55% RECOVERY

183.5- 193.5 AS ABOVE

193.5- 203.5 AS ABOVE
45% RECOVERY

203.5- 213.5 LIMESTONE; TAN TO LIGHT BROWN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %, CLAY- %;
OTHER FEATURES: FOSSILIFEROUS;
LOW POROSITY, BIOSPARITE, MICRITIC TEXTURE, LENSES OF FOSSIL HASH, INTRACLASTS OF LIMESTONE 60% RECOVERY, ARGILLACEOUS LIMESTONE IN PARTS

213.5- 223.5 LIMESTONE; TAN TO LIGHT BROWN; MOLDIC, INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %, ORGANICS- %;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
MEDIUM POROSITY, 65% RECOVERY

223.5- 224.5 LIMESTONE; LIGHT BROWN; INTERGRANULAR;
POOR INDURATION;
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: FOSSILIFEROUS;
LOW POROSITY

224.5- 233.5 LIMESTONE; LIGHT BROWN TO TAN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %, ORGANICS- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
BECOMING MORE COMPETENT WITH DEPTH, MEDIUM POROSITY, 50% RECOVERY

233.5- 241 AS ABOVE
MINOR LENSES OF PASTY MICRITE

241 - 243.5 DOLOSTONE; BROWN; INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY- %, ORGANICS- %;
FOSSILS: FOSSIL MOLDS;
LOW TO MEDIUM POROSITY, DOLOMITE CONTAINS NUMEROUS VUGS (FOSSIL MOLDS)

243.5- 244.5 AS ABOVE
VERY DARK BROWNISH CLAY AT BOTTOM OF DOLOMITE

244.5- 253.5 LIMESTONE; TAN TO LIGHT BROWN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: CHALKY;
MEDIUM POROSITY, BIOMICRITE, BECOMES MORE COMPETENT WITH DEPTH, LENSES OF PASTY MICRITE,
55% RECOVERY, ARGILLACEOUS LIMESTONE IN PART

253.5- 258.5 AS ABOVE
BIOSPARITE, HIGH MOLDIC POROSITY WITH BETTER LITHIFICATION

258.5- 263.5 LIMESTONE; CREAM TO TAN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %, SILT- %;
OTHER FEATURES: FOSSILIFEROUS;
LOW TO MEDIUM POROSITY, FRACTURED, THIS INTERVAL PICKED AS THE TOP OF THE OCALA GROUP

224.5- 233.5 LIMESTONE; LIGHT BROWN TO TAN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %, ORGANICS- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
BECOMING MORE COMPETENT WITH DEPTH, MEDIUM POROSITY, 50% RECOVERY

233.5- 241 AS ABOVE
MINOR LENSES OF PASTY MICRITE

241 - 243.5 DOLOSTONE; BROWN; INTERGRANULAR, MOLDIC;
GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: CLAY- %, ORGANICS- %;
FOSSILS: FOSSIL MOLDS;
LOW TO MEDIUM POROSITY, DOLOMITE CONTAINS NUMEROUS VUGS (FOSSIL MOLDS)

243.5- 244.5 AS ABOVE
VERY DARK BROWNISH CLAY AT BOTTOM OF DOLOMITE

244.5- 253.5 LIMESTONE; TAN TO LIGHT BROWN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %;
OTHER FEATURES: CHALKY;
MEDIUM POROSITY, BIOMICRITE, BECOMES MORE COMPETENT WITH DEPTH, LENSES OF PASTY MICRITE,
55% RECOVERY, ARGILLACEOUS LIMESTONE IN PART

253.5- 258.5 AS ABOVE
BIOSPARITE, HIGH MOLDIC POROSITY WITH BETTER LITHIFICATION

258.5- 263.5 LIMESTONE; CREAM TO TAN; INTERGRANULAR, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: QUARTZ SAND- %, SILT- %;
OTHER FEATURES: FOSSILIFEROUS;
LOW TO MEDIUM POROSITY, FRACTURED, THIS INTERVAL PICKED AS THE TOP OF THE OCALA GROUP

263.5- 272.5 LIMESTONE; CREAM TO TAN; INTERGRANULAR;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;
ACCESSORY MINERALS: QUARTZ SAND- %, SILT- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
LOW POROSITY, 30% RECOVERY, ARGILLACEOUS LIMESTONE IN PART

272.5- 282.5 AS ABOVE
SOMEWHAT MORE FOSSILIFEROUS THAN ABOVE INTERVAL, MOTTLED TEXTURE

282.5- 293.5 AS ABOVE
50% RECOVERY

293.5- 303.5 AS ABOVE

303.5 TOTAL DEPTH