Executive Summary
ROMP Site TR 10-2
Water Table and Chloride Monitor, Core

Location - ROMP Site TR 10-2 is located along SR 676A between U.S. 41 and 78th Street approximately .25 miles west of 78th Street in Hillsborough County. The site is located in Section 2, Township 30 South, Range 19 East and at latitude 27°54'01", longitude 82°22'25".

Site Easement - This site was obtained from Raymond W. Fingar, Jr. et al on November 29, 1977 for the sum of one dollar. The perpetual easement is 20 by 20 by 28.11 by 21.58 feet. A Temporary Construction Easement was also obtained on November 29, 1977 for a period of 24 months and will expire on November 28, 1979. The temporary easement contains the perpetual easement and is approximately 40 feet by 40 feet. These easements are recorded in O.R. Book 3315 Pages 1717 through 1722.

Reason for Coring - This site was cored in order to obtain water and core samples so that a chloride monitor could be designed to monitor the 250 milligram per liter (mg/l) isochlor.

Geology - This site is located on the Pamlico Terrace at an elevation of approximately 12 feet above mean sea level (MSL). All geologic information was obtained from continuous core sampling from 34.5 to 469.5 feet below land surface datum (LSD). The generalized geology at this site is as follows:

0-19' Sand and Clay
19'-25' Hawthorn Formation
25'-140' Tampa Limestone
140'-349' Suwannee Limestone
349'-469.5' Ocala Group

Hydrogeology - Coring of this site determined that at least two separate artesian systems exist above a depth of ± 469.5 feet in addition to a

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water table aquifer. The water table aquifer is approximately 19 feet in thickness and is composed of sand and clay. The permeability is quite low with a yield of around 1 gallon per minute (GPM).

A confining bed consisting of clay exists between a depth of 19 to 25 feet below LSD. The first artesian aquifer is found in this zone and extends down to a depth of ± 140 feet and consists of the entire Tampa Limestone. The water level in this zone is ± 10 feet below LSD.

The second artesian aquifer lies between ± 140 and 469.5 feet below LSD and the water level is approximately 13 feet below LSD. The second artesian aquifer is contained in the Suwannee Limestone and most if not all of the Ocala Group.

The general porosity of the formations encountered was low to moderate with the highest porosity being found in the mid to lower Suwannee Limestone where the porosity was moderate to high.

No pumping tests were conducted at this site so there is no data available on permeabilities or transmissivities.

Core Drilling - Core, water samples, and water levels were obtained during core drilling at this site which was accomplished by the District's CME core rig at a cost of $15,036 or $32.03 per foot.

Core samples of 1 7/8 inch diameter were obtained by wireline core from 34.5 to 469.5 feet below LSD. After the cores were analyzed on site by the field geologist they were boxed for shipment to the Bureau of Geology where they will undergo in-depth analysis. Upon completion of the coring of this site the core hole was grouted with a neat cement slurry.

Well Construction

A. Water table monitor - A water table monitor was installed at this site by the CME rig during coring operations. This well is 13.5 feet deep with 10 feet of .020 slotted screen. Both the pipe and screen are PVC. The cost of this well is included in the cost of core drilling at this site.

B. Chloride Monitor - The chloride monitor at TR 10-2 was constructed by the District owned Portadrill at a cost of $ 8072.75 or $64.58 per foot.

This well was constructed by reverse air and required 35 feet of 14 inch steel work casing and 115 feet of 6 inch PVC casing. After the casing was cemented in place a 5 1/8 inch diameter hole was drilled to 125 feet below LSD and the well was developed. Upon completion of the well a 4 foot section of 18 inch diameter concrete culvert pipe was installed around the 6 inch PVC pipe in order to protect it from chemical and physical damage.

Geophysical Logs - Electric, caliper, gamma, fluid resistivity, and temperature logs were made on the core hole.

Type of Monitor - the shallow well is designed to monitor the water levels in the water table aquifer while the deeper well is a chloride monitor well designed to monitor the 250 mg/l isochlor.

Water Quality - During the coring of TR 10-2, 47 water samples were obtained and analyzed on site for chlorides and conductivity. Out of the 47 samples 34 were sent to the SWFWMD lab for a standard analysis. The only potable water (less than 250 mg/l chloride) exists between a depth of 45 and 145 feet below LSD. Both the water table and the zones below 145 feet

have chlorides in excess of 250 mg/l.

USGS Notification - SWFWMD Planning Section was notified on 8/1/79 that this well was completed and ready for monitoring.

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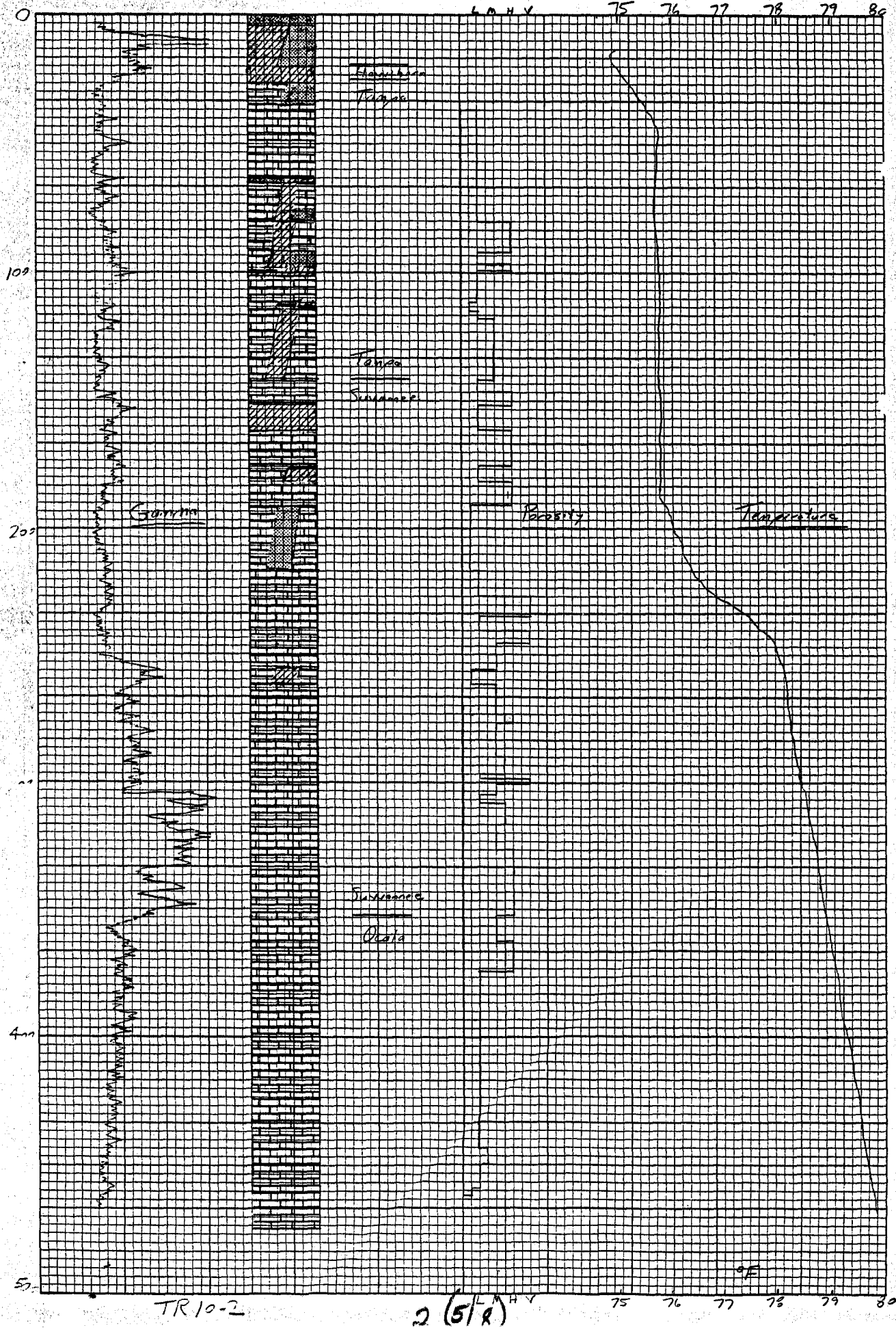
10 TO THE INCH
18 INCHES
KEUFFEL & ESSER CO.
47 0782
MADE IN U.S.A.
LMHV
75
76
77
78
79
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100
200
400
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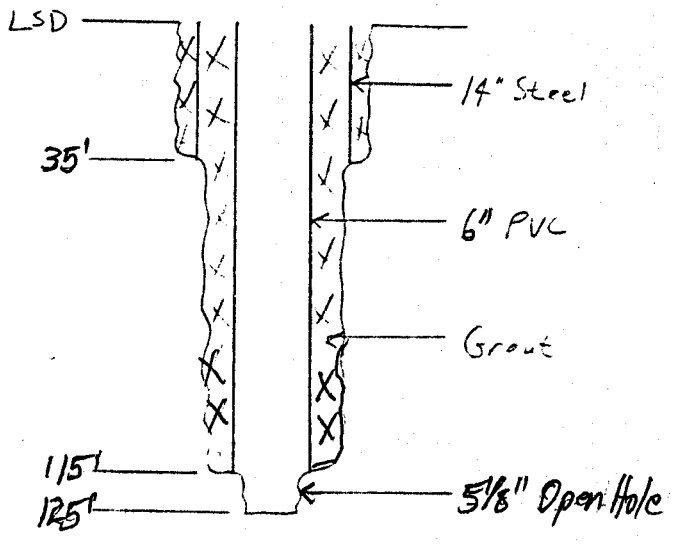
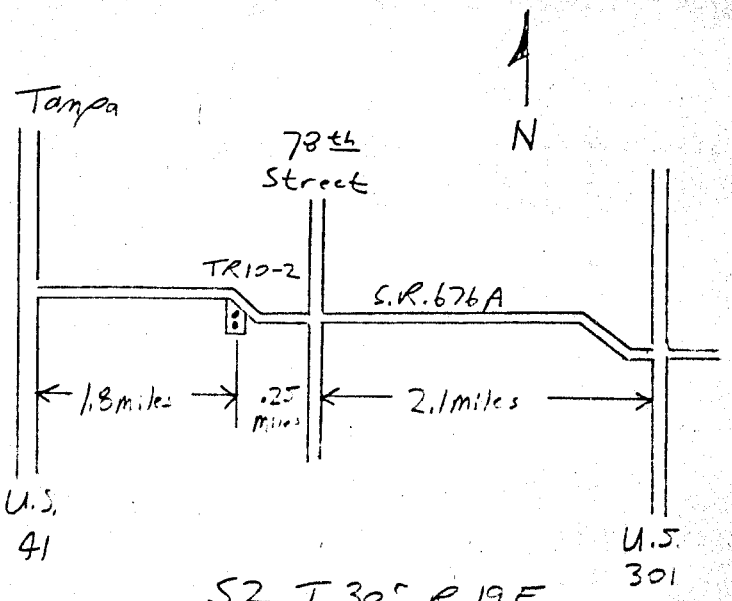
Gamma
Porosity
Temperature
°F
TR 10-2
2 (5/R)

As Built Well Diagram



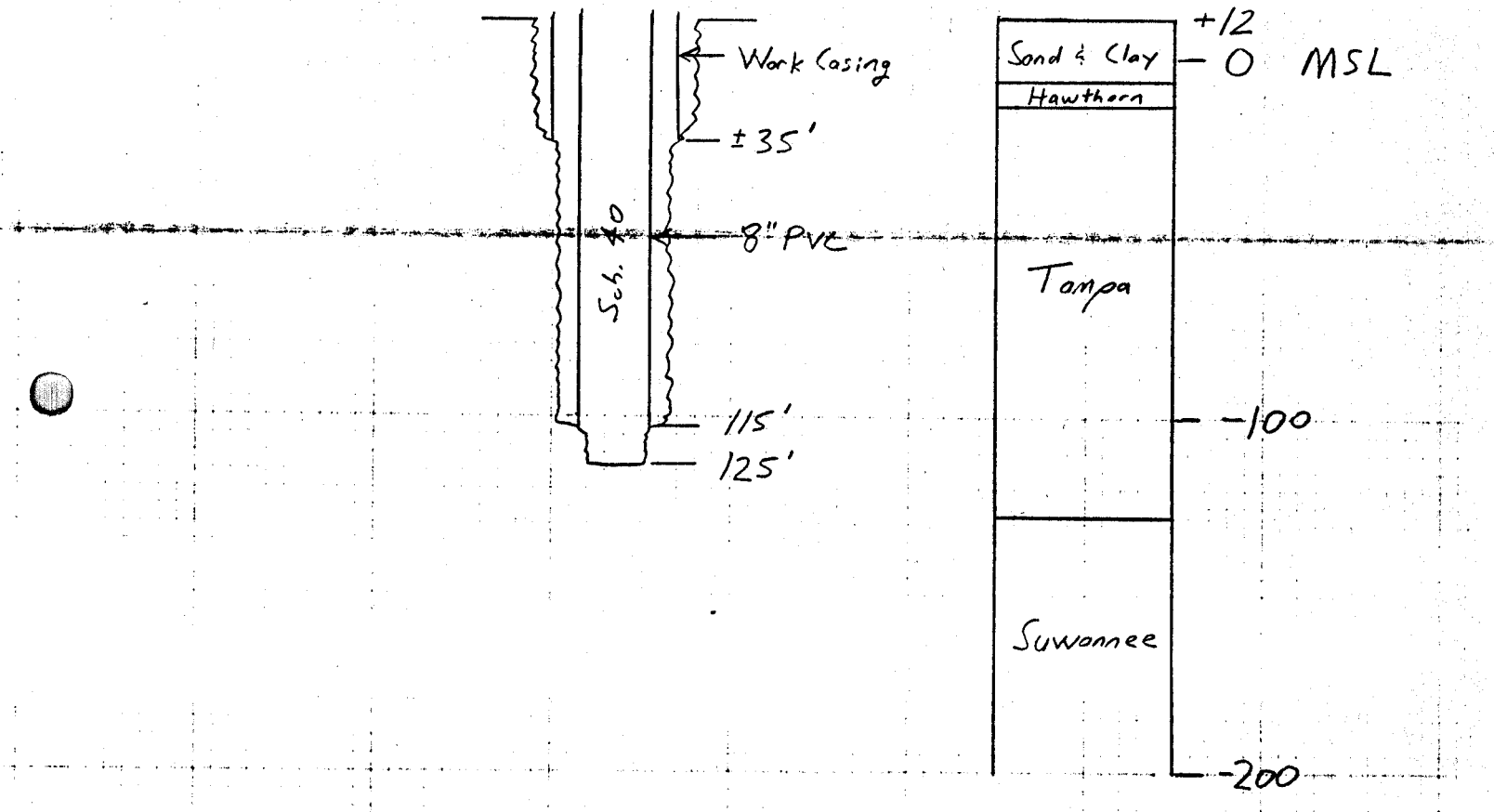
Site Location



S2, T 30S, R 19E

Hillsborough Co.

Proposed
Well Design
TR 10-2



TDS

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

30008

WELL NUMBER: W- 30102

COUNTY - HILLSBOROUGH

TOTAL DEPTH: 469.5 FT.

LOCATION: T.30S R.19E S.02

SAMPLES - NONE

LAT = N 27D 54M 01

LON = W 82D 22M 25

COMPLETION DATE - 05/15/78

ELEVATION - N/A FT 14

OTHER TYPES OF LOGS AVAILABLE - CALIPER, GEOLOGIST, FLUID CONDUCTIVITY, TEMP

OWNER/DRILLER: SWFWMD. CORE TR 10-2, PROGRESS VILLAGE.

WORKED BY: PREEDOM; CODED AND ENTERED BY RICHARD GREEN 10/90 FROM
A GEOLOGIST'S LOG PROVIDED BY SWFWMD.
THIS IS CORE ROMP TR 10-2, THIS WELL HAS BEEN ASSIGNED A
30,000 SERIES W# FOR DATA ENTRY PURPOSES.

0.	- 34.	NO SAMPLES
34.	- 140.	UNDIFFERENTIATED SAND AND CLAY
140.	- 349.	SUWANNEE LIMESTONE
349.	- .	OCALA GROUP

0 - 34.5 NO SAMPLES

34.5- 63 LIMESTONE; CREAM TO WHITE; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
ACCESSORY MINERALS: SPAR- %;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
BIOMICRITE, GRADES FROM MOD.-POOR LITHIFICATION, CRUMBLY, SOMEWHAT CHALKY, POROSITY IS GENERALLY LOW WITH MINOR SECONDARY DEVELOPMENT THROUGHOUT. LARGE MOLLUSKS.

63 - 64.5 SAND; GREENISH GRAY; LOW PERMEABILITY;
GRAIN SIZE: VERY FINE; GOOD INDURATION;
CEMENT TYPE(S): CLAY MATRIX;
CALCAREOUS CLAYEY SAND. VERY FINE SAND WITH CLAY BONDING SAND TIGHTLY.

64.5- 75.5 LIMESTONE; ;
SAME AS 34.5-63 BUT WITH POCKETS OF LT BLUE INDURATED CLAY.

75.5- 79.5 LIMESTONE; LIGHT BROWN; LOW PERMEABILITY;
GOOD INDURATION;
ACCESSORY MINERALS: CLAY-%;
LS AND CLAY- CLAY IS BROWN AND CONTAINS ABUNDANT SAND. LS IS HARD, LT BROWN. LOW POROSITY OVERALL.

79.5- 91 LIMESTONE; CREAM TO WHITE; LOW PERMEABILITY, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY-%;
SOME MOTTLING WHITE AND BROWN. CONTAINS MINOR STREAKS OF GRAY CLAY. POROSITY IS VARIABLE IN THAT THERE IS SECONDARY DEVELOPMENT IN ZONES AND IN HIGHER AND LOWER AMOUNTS. THE HIGHEST SECONDARY DEVELOPMENT IS FOUND AT 80-81' AND 87-88', GIVING IT FAIRLY HIGH POROSITY.

91 - 97.5 LIMESTONE; ; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: QUARTZ SAND- %, CLAY-%;
LS TO CLAY- VERY FRIABLE MICRITE CONTAINING CLAY AND SAND WHICH INCREASES IN CONTENT AND BECOMES THE MAJOR CONSTITUENT AT THE BOTTOM BEING LENTICULAR BEDDED GREEN CLAY AND CALCAREOUS SAND.

97.5- 99.5 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
ACCESSORY MINERALS: CLAY- %;
FOSSILS: FOSSIL MOLDS, MOLLUSKS;
BIOMICRITE, SECONDARY DEVELOPMENT OF POROSITY AROUND MOLLUSK FOSSILS YIELDING A GENERALLY HIGH POROSITY. LENSES OF BLUISH GREEN CLAY AS ABOVE, BUT MORE INDURATED.

99.5- 100.5 CLAY; MODERATE GRAY TO GREEN; LOW PERMEABILITY; GOOD INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-%;
VERY FIRM, ABUNDANT FINE QTZ SAND.

100.5- 101.5 CALCILUTITE; WHITE; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
ACCESSORY MINERALS: CLAY-%;
FINE GRAINED AND GREENISH GRAY CLAY, SOFT, VERY STICKY.

101.5- 110.5 CALCILUTITE; ; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: DOLOMITIC;
VERY DENSE, MOTTLED WITH DOLOMITIC MICRITE. LOW POROSITY.

110.5- 113.5 CALCILUTITE; ; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
MODERATE INDURATION;
ACCESSORY MINERALS: CLAY- %;
OTHER FEATURES: DOLOMITIC;
GRADING TO A VERY POORLY LITHIFIED CARBONATE WITH ENOUGH CLAY PERCENT TO CAUSE A PASTY CONSISTENCY.

113.5- 115.5 LIMESTONE; WHITE; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
ACCESSORY MINERALS: CLAY- %;
FOSSILS: MOLLUSKS;
BIOMICRITE, FAIRLY WELL LITHIFIED W/ SOME BLUE CLAY WELL INTEGRATED AND INDURATED. POROSITY IS GENERALLY LOW WITH MINOR SECONDARY DEVELOPMENT AROUND MOLLUSKS.

115.5- 140.5 CALCILUTITE; CREAM;
GRAIN TYPE: CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: SPAR- %, CLAY- %;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
CHALKY AND PUNKY IN PLACES BUT CONTAINS ZONES OF VERY HARD LITHIFICATION. CONTAINS BLUISH GREEN CLAY THAT IS MOTTLED AND WELL INTEGRATED INTO THE LS. THERE IS ONE 1" THICK LENS OF BLUE GREEN PLASTIC CLAY AT 118.5'. MANY MOLLUSKS W/ ZONES OF SECONDARY DEVELOPMENT AND DRUSY CALCITE IN THE PORES. POROSITY IS MODERATE.

140.5- 144.5 LIMESTONE; TAN; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
MODERATE INDURATION;
ACCESSORY MINERALS: QUARTZ-%;
FRIABLE, LS BECOMES HARDER WITH DEPTH. CONTAINS VERY THIN LENSES OF CRYSTALLINE BOTRYOIDAL QTZ. POROSITY IS LOW.

144.5- 150.5 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
GOOD INDURATION;
ACCESSORY MINERALS: SPAR- %;
FOSSILS: MOLLUSKS;
PACKED BIOMICRITE. ABUNDANT LARGE (1-4CM) MOLLUSKS, WITH ABUNDANT SECONDARY POROSITY DEVELOPMENT AROUND FOSSILS, YIELDING HIGH POROSITY THAT IS VERY WELL CONNECTED.

150.5- 160 CLAY; LIGHT BLUISH GRAY TO MODERATE BLUISH GRAY; LOW PERMEABILITY; GOOD INDURATION;
OTHER FEATURES: CALCAREOUS;
FIRM AND VERY WELL SEGREGATED FROM LITHOLOGY ABOVE AND BELOW.

160 - 174 LIMESTONE; ;
SAME AS 144.5-150.5'.

174 - 179.5 LIMESTONE; CREAM TO MODERATE GRAY; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;
SEDIMENTARY STRUCTURES: INTERBEDDED,
ACCESSORY MINERALS: CLAY-%;
LENSES IF CREAM MICRITE AND SOMEWHAT INDURATED TAN-GRAY CLAY.

179.5- 189 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
BIOMICRITE, VERY GRANULAR AND POORLY LITHIFIED WITH FEW 6" ZONES OF MODERATE LITHIFICATION. POROSITY APPEARS TO BE HIGH. (SECONDARY DEVELOPMENT AROUND MOLLUSKS IN FIRM LENSES.)

189 - 208.5 LIMESTONE; ; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND-30%;
SILTY TEXTURE.

208.5- 214 AS ABOVE
BUT SOMEWHAT COARSER GRAINS.

214 - 224 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE.

224 - 232 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
PACKED BIOMICRITE, FRIABLE, CONTAINS MANY LARGE WELL PRESERVED PELECYPODS WITH A GRAINY MATRIX. POROSITY IS EXTREMELY HIGH WITH MUCH SECONDARY DEVELOPMENT.

232 - 239 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
FOSSILS: MOLLUSKS;
BIOMICRITE, VERY FRIABLE AND PUNKY. POROSITY IS MOSTLY PRIMARY AND LOW. RARE MOLLUSKS.

239 - 244 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
OTHER FEATURES: CHALKY, GRANULAR;
FOSSILS: MOLLUSKS;
FRIABLE, PACKED BIOMICRITE, ABUNDANT MOLLUSKS WITH A GRAINY MATRIX. VERY HIGH POROSITY.

244 - 256 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;
BIOMICRITE, FEW MOLLUSKS, GENERALLY FRIABLE AND PUNKY. POROSITY IS PRIMARY AND MODERATE.

256 - 260 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
ACCESSORY MINERALS: CLAY-05%;
BIOMICRITE, FRIABLE, MINOR CLAY.

260 - 272 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS;
BIOMICRITE, RARE PELECYPODS, FRIABLE, POROSITY IS PRIMARY AND MODERATE.

272 - 275 LIMESTONE; TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
FRIABLE, PACKED BIOMICRITE, ABUNDANT MOLLUSKS. SECONDARY DEVELOPMENT OF PORES YIELDING HIGH POROSITY.

275 - 277 LIMESTONE; ;
SAME AS 260-272'.

277 - 279 LIMESTONE; TAN;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
PACKED BIOMICRITE, FRIABLE, GRAINY, ABUNDANT PELECYPODS.

279 - 287 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE, RARE PELECYPODS. POROSITY IS PRIMARY AND MODERATE.

287 - 294 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE, CORASER THAN ABOVE. MORE COARSE PELECYPOD FRAGMENTS, BECOMING COARSER W/ DEPTH. POROSITY IS MODERATE BUT HIGHER THAN ABOVE.

294 - 298 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: FINE;
ACCESSORY MINERALS: ORGANICS-%;
CONTAINS BLACK AND TAN ORGANIC STREAKS.

298 - 300 LIMESTONE; TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
OTHER FEATURES: GRANULAR;
PACKED BIOMICRITE, FRIABLE, POROSITY IS PRIMARY AND VERY HIGH, VERY WELL CONNECTED PORE STRUCTURE.

300 - 304 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
BIOMICRITE, FRIABLE, MODERATE POROSITY. PELECYPOD FRAGMENTS.

304 - 308 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
OTHER FEATURES: CHALKY;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE, PUNKY. CONTAINS POORLY PRESERVED MOLLUSKS. POROSITY IS GENERALLY PRIMARY AND LOW.

308 - 316.5 LIMESTONE; LIGHT TAN; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: FINE; POOR INDURATION;
ACCESSORY MINERALS: ORGANICS-%;
DISMICRITE, VERY FRIABLE, RARE FOSSILS, STREAKS OF BLACK ORGANICS BECOMING VERY ABUNDANT W/ DEPTH. POROSITY IS PRIMARY, FINE, WELL CONNECTED-YIELDING A MOD-HIGH POROSITY.

316.5- 326 LIMESTONE; ;
DISMICRITE, COARSER THAN ABOVE WITH LESS ORGANIC MATTER. POROSITY IS MODERATE.

326 - 331 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE. POROSITY IS HIGH STEMMING FROM PRIMARY PORES AND SOME SECONDARY DEVELOPMENT. ROCK IS GENERALLY VERY LIGHT WEIGHT.

331 - 337 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
BIOMICRITE. POROSITY IS MODERATE WITH LITTLE SECONDARY DEVELOPMENT AND PRIMARY POROSITY VERY SIMILAR TO ABOVE.

337 - 339 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY, INTERGRANULAR;
GRAIN TYPE: SKELETAL;
POOR INDURATION;
OTHER FEATURES: COQUINA;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;
FOSSIL HASH COMPOSED OF MOLLUSKS AND FORAMS.

339 - 349.5 LIMESTONE; CREAM TO GRAYISH BROWN; POSSIBLY HIGH PERMEABILITY;
OTHER FEATURES: GRANULAR;
FOSSILS: MOLLUSKS;
FRIABLE, GRAINY. ABUNDANT LARGE MOLLUSKS. POROSITY IS HIGH PRIMARY W/ SECONDARY DEVELOPMENT. VERY WELL CONNECTED.

349.5- 359.5 LIMESTONE; CREAM;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: GRANULAR;
FRIABLE, CRUMBLY, GRAINY IN PLACES. POROSITY IS MODERATE AND MOSTLY PRIMARY.

359.5- 367 LIMESTONE; WHITE TO CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
OTHER FEATURES: CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;
BIOMICRITE, SOMEWHAT PASTY, FRIABLE. LARGE 2-3 CM SIZE LEPIDOCYCLINA THAT ARE DARK GRAY. MANY MOLLUSKS. SOME ZONES OF HIGH POROSITY.

367 - 397.5 LIMESTONE; WHITE TO CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
BIOMICRITE, PASTY. POROSITY IS LOW TO VERY LOW AT BOTTOM.

397.5- 409 LIMESTONE; WHITE TO CREAM; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
FOSSILS: BENTHIC FORAMINIFERA;
PASTY. MANY GRAY LEPIDOCYCLINA.

409 - 444 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;
BIOMICRITE, PASTY, ABUNDANT MOLLUSKS AND NUMMULITES.

444 - 449 LIMESTONE; WHITE; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
OTHER FEATURES: CHALKY;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;
PACKED BIOMICRITE, FRIABLE, ABUNDANT MOLLUSKS AND FORAMS. POROSITY IS MODERATE TO LOW.

449 - 457 LIMESTONE; ; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: MOLLUSKS;
BIOMICRITE, PASTY, MANY MOLLUSKS. LOW POROSITY.

457 - 459 LIMESTONE; ; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
GRAIN SIZE: VERY FINE; POOR INDURATION;
FRIABLE, SILTY TEXTURE, VERY LOW POROSITY.

459 - 464 LIMESTONE; ; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: SKELETAL;
POOR INDURATION;
OTHER FEATURES: COQUINA;
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;
SHELL HASH AND FORAMS. VERY POORLY LITHIFIED. COMPOSED OF MOLLUSKS, NUMMULITES, AND LEPIDOCYCLINA.

464 - 469.5 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
POOR INDURATION;
FOSSILS: MOLLUSKS;
BIOMICRITE, FRIABLE, SOFT, SOMEWHAT PASTY. MANY GASTROPODS, PELECYPODS, AND FORAMS.

469.5 TOTAL DEPTH