Executive Summary
ROMP TR 19-3
Core and Monitor Well

Location - ROMP Site TR 19-3 can be reached by proceeding north on US 19 to Voss Lake Road which is ± 2 miles north of the intersection of US 19 and SR 50. From the intersection of US 19 and Voss Lake Road proceed west ± .95 mile to a dirt road and than proceed south for ± .25 mile to the first intersection and then head west for ± .1 mile to a trail heading northwest and proceed along this trail for approximately .6 mile to TR 19-3 which is in Hernando County. This site is located in Section 22, Township 22 South, Range 17 East and at latitude 28°32'59", longitude 82°35'19".

Site Easement - This site was obtained from Royal Palm Beach Colony, Inc. on December 29, 1977 for the sum of one dollar. The Perpetual Easement is 20 feet by 20 feet by 38.61 feet by 27.32 feet and is contained within the Temporary Construction Easement which is 40 feet by 60 feet by 95.8 feet by 82 feet. The temporary easement was obtained on December 29, 1977 for a period of six months and expired on June 28, 1978. Both of these easements are recorded in the Hernando County Courthouse in O.R. Book 418 Pages 751 through 758.

Reason for Coring - Core and water samples were obtained at this site in order to locate the freshwater-saltwater interface and to analyze the intrinsic geology in this locality.

Geology - This site is located on the Pamlico terrace at an elevation of approximately 20 feet above mean sea level (MSL). The geology of the site was described from core cuttings between land surface and 603.5 feet below

land surface datum (LSD). The general geology of the site is as follows:

0 - 20'	Sand and clay
20'-65'	Sample missing
65'-98'	Suwannee Limestone
98'-383'	Ocala group
383'-603'	Avon Park limestone

Hydrogeology - During the coring of the site the water level did not vary by more than ± .86 of a foot. This indicates that the aquifer in this area is one continuous aquifer from the Suwannee to at least 200 feet into the Avon Park limestone. The water level was generally around 4 to 5 feet below LSD.

At a depth of ± 360 feet below LSD there was a sharp rise of 3 degrees in the temperature log. This point is near the Ocala-Avon Park contact and could indicate a point of increased groundwater flow. Since the chloride levels of this site were quite low, less than 60 milligrams per liter (mg/L) at 600 feet below LSD, and the site is 3.6 miles from the Gulf with only ± 5 to ± 10 feet of head. It is being assumed that the groundwater flow in the Avon Park is strong enough to depress the freshwater-saltwater interface in this area. Under normal circumstances the interface would have been expected at ± 500 feet below LSD. This area is known for large groundwater flows ie. Weeki Wachee and other springs in the area.

Core Drilling - This well was cored by the McGregor Pump Company between October 25 and January 31, 1979 at a cost of $27.45 per foot and a total cost of $14,875.50.

Core samples of 3 inch diameter were obtained from land surface to 603 feet below LSD. These samples were described by the geologist on site and then boxed for shipment to the University of Florida for detail analysis.

Well Construction - The monitor well at TR 19-3 was constructed by McGregor Pump Company under Contract R211 between February 1 and 12, 1979 at a cost of $28.62 per foot and a total cost of $17,259.50.

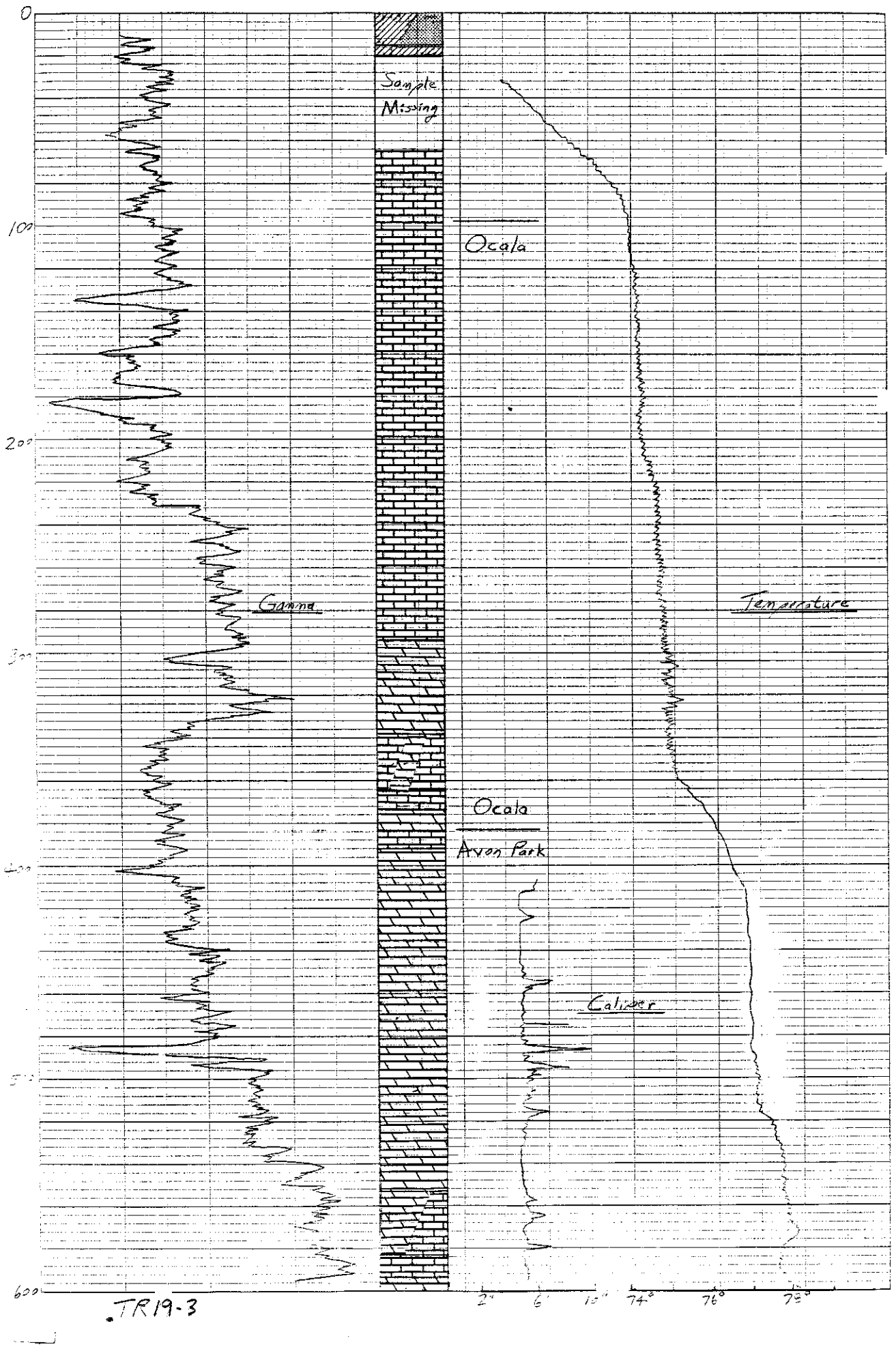
This well was constructed by reaming out the core hole and installing 61 feet of 10 inch steel work casing and 440 feet of 6 inch PVC well casing. While the 10 inch steel was grouted in place the Contractor was unsuccessful in his attempt to grout the PVC in place. Due to possible cost over-runs the grouting operation was terminated by the Contractor at 300 feet below LSD and was completed by SWFWMD personnel in April. Since the well was constructed from the core hole by reaming it out the well below 440 feet (the bottom of the casing) and down to 603 feet is already existing. SWFWMD personnel attempted to drill the cuttings out of the core hole in September, 1979 but only succeeded in getting it open to around 550 feet. Another attempt will be made to drill the well out to 603 feet in the fall of 1979.

Geophysical Logs - Electric, caliper, gamma, fluid resistivity, and temperature logs were run on the core hole at TR 19-3.

Type of Monitor - Although this well was originally designed to be a chloride monitor well it has been redesigned to monitor the potentiometric surface in the Avon Park due to the low chloride concentration.

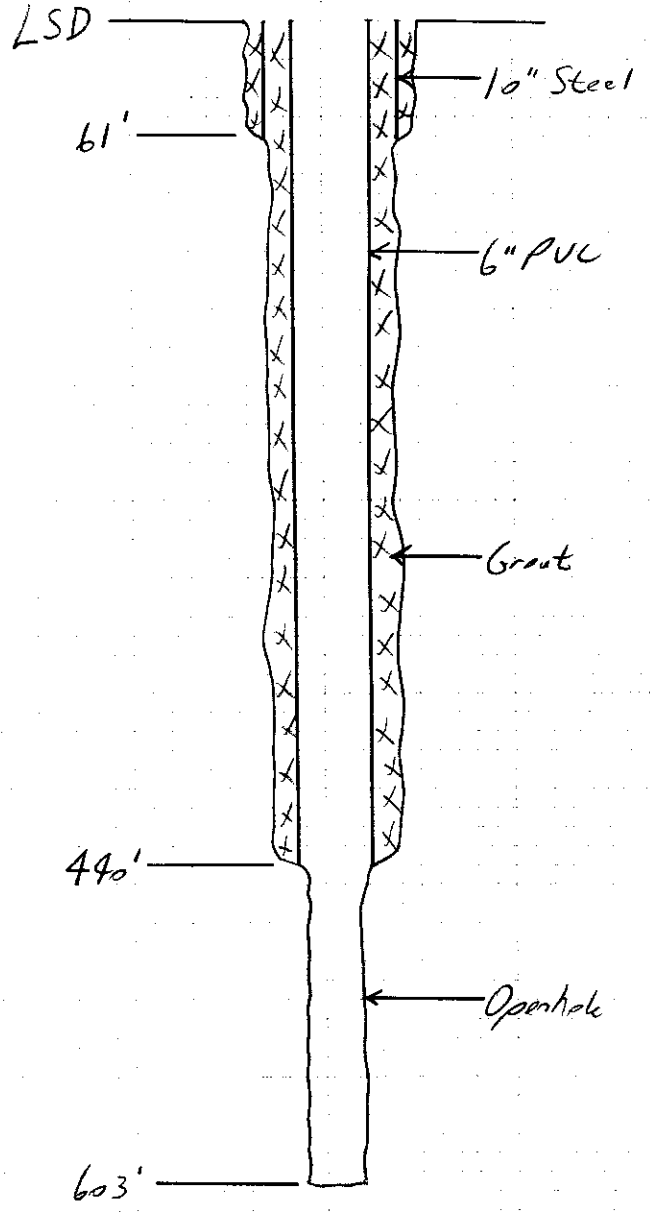
Water Quality - Approximately 49 water samples were taken at this site during the coring of the site. The chloride concentrations ranged from 10 to 140 mg/L and were around 30 mg/L at 603 feet below LSD. At the present time chlorides are not a problem at this site.

U.S.G.S. Notification - The U.S.G.S. was notified in that this well was complete and ready for monitoring.

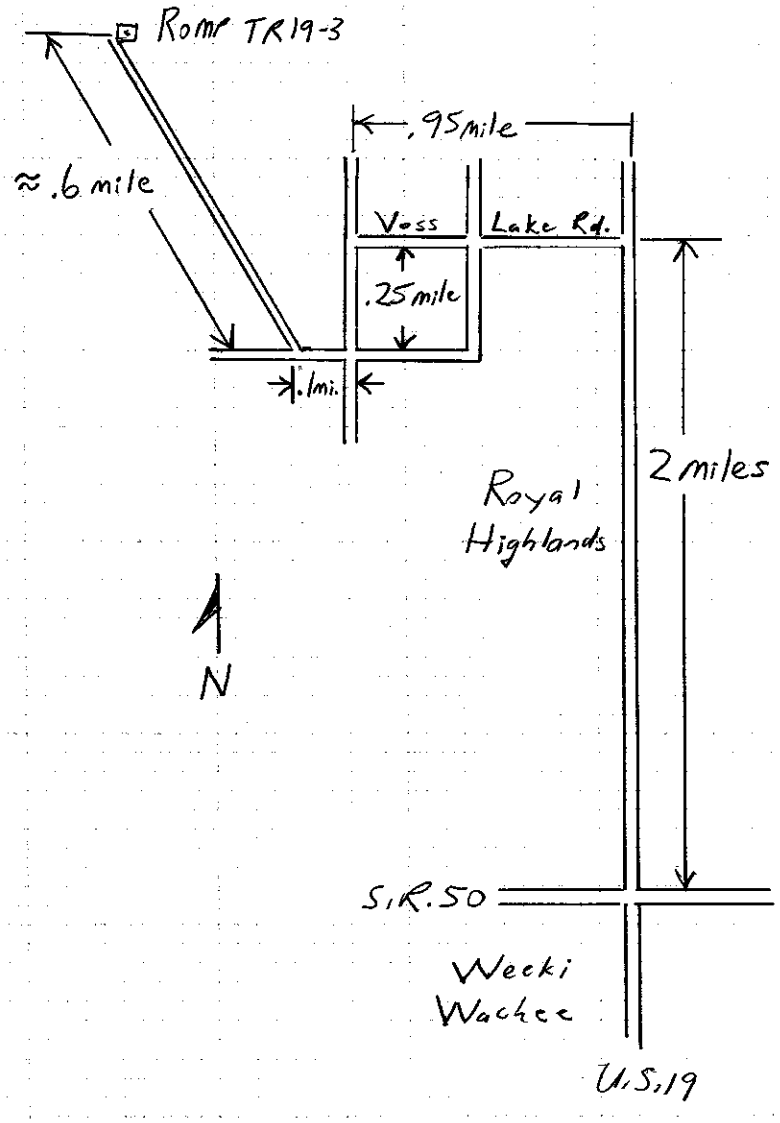


TR19-3

As Built Well Diagram



Site Location



S22, T22, R17
Hernando Co.

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14873
TOTAL DEPTH: 603.5 FT.
SAMPLES - NONE

COMPLETION DATE - 06/ /78
OTHER TYPES OF LOGS AVAILABLE -

COUNTY - HERNANDO
[redacted] T.22S R.17E S.22
LAT = N 28D 32M 59
LON = W 82D 35M 19
ELEVATION - 020 FT

OWNER/DRILLER: ROMP SITE TR 19-3 CORE AND MONITOR WELL; DRILLED BY SWFWMD.
OWNER/DRILLER: EASEMENT OBTAINED FROM ROYAL PALM BEACH COLONY INC.
OWNER/DRILLER: ON 12/29/77 FOR $1.00.

WORKED BY: CODED AND ENTERED BY RICHARD GREEN FROM GEOLOGIST'S LOG
(G. STRASSER) 8/90. GEOLOGY WAS DESCRIBED FROM CORE
CUTTINGS.
ROMP SITE TR 19-3 CAN BE REACHED BY PROCEEDING N ON US 19
TO VOSS LAKE RD WHICH IS APPX. 2 MILKES N OF THE INTER-
SECTION OF US 19 AND SR 50. FROM THE INT. OF US 19 AND
VOSS LK RD. PROCEED APPROX. .95 MILES TO A DIRT ROAD AND
THEN PROCEED SOUTH FOR 1/4 MILE TO THE FIRST INT. AND
THEN HEAD WEST FOR .1 MILE TO A TRAIL HEADING NW AND
FOLLOW THIS TRAIL FOR .6 MILE TO TR 19-3 WHICH IS IN HERNANDO COUNTY.

0.	- 98.	UNDIFFERENTIATED SAND AND CLAY
98.	- 383.	OCALA GROUP
383.	- .	AVON PARK FM.

0	-	15	CLAY; WHITE TO LIGHT BROWN; INTERGRANULAR; ACCESSORY MINERALS: QUARTZ SAND- %, ORGANICS-%; ARENACEOUS CLAY- FINE SAND, WITH BROWN-ORANGE ORGANICS.
15	-	20	CLAY; BLUISH GREEN; ARENACEOUS CLAY- STICKY BLUE-GREEN CLAY.
20	-	30	NO SAMPLES
30	-	40	NO SAMPLES
40	-	50	NO SAMPLES
50	-	60	NO SAMPLES
60	-	63.5	NO SAMPLES

63.5- 73.5 LIMESTONE; CREAM TO TAN; MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
ACCESSORY MINERALS: QUARTZ SAND- %, SPAR- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
POORLY WASHED BIOSPARITE, FRIABLE,ORANGE STAINING. LIME MUD TEXTURE, SANDY SPARRY CALCITE CEMENT, LARGE GRAINS OF CALCITE.

73.5- 83.5 LIMESTONE; WHITE TO TAN; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
POOR INDURATION;
ACCESSORY MINERALS: SPAR- %;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
PASTY,CHALKY, LIME MUD, HIGH POROSITY, LOW PERM. LARGE GRAINS OF SPARRY CALCITE. FRIABLE, CRUMBLY.

83.5- 93.5 AS ABOVE
MINOR ORANGE STAINING.

93.5- 98.5 AS ABOVE

98.5- 103.5 LIMESTONE; CREAM TO TAN; LOW PERMEABILITY, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
POOR INDURATION;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
PACKED BIOMICRITE TO POORLY WASHED BIOSPARITE. FRIABLE,LIMEY MICRITE MUD,LARGE GRAINS OF CALCITE, MINOR MOLDIC POROSITY. MOTTLED TEXTURE. LENSES OF PASTY LIME MUD, VERY FINE SANDY CALCITE.

103.5- 113.5 AS ABOVE

113.5- 123.5 AS ABOVE
BECOMING MORE LIMEY WITH DEPTH.

123.5- 133.5 AS ABOVE

133.5- 143.5 AS ABOVE
LENSES OF LARGE PELECYPODS AND GASTROPOD MOLDS, STAINED ORANGE AT 140-41', LENSES BECOMING MORE COMPETENT WITH DEPTH, WELL CEMENTED LENSES OF SPARRY CALCITE CEMENT.

143.5- 153.5 LIMESTONE; ;
SAME AS 113-123.5'.

153.5- 163.5 LIMESTONE; WHITE; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS;
POOR INDURATION;
OTHER FEATURES: FOSSILIFEROUS, CHALKY;
PASTY,CRUMBLY, ABUNDANT GRAINS OF SANDY LARGE SPARRY CALCITE, HIGH POROSITY, LENSES OF COMPETENT LIMESTONE CEMENT WITH SPARRY CALCITE.

163.5- 173.5 LIMESTONE; ;
SAME AS 153.5-163.5'. SOMEWHAT MORE COMPETENT WITH DEPTH.

173.5- 183.5 AS ABOVE

183.5- 193.5 LIMESTONE; WHITE TO CREAM; MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
POORLY WASHED TO UNSORTED BIOSPARITE, VERY FINE GRAINED SPARRY CALCITE CEMENT, VERY FINE SANDY CALCITE GRAINS.

193.5- 203.5 AS ABOVE

203.5- 213.5 LIMESTONE; WHITE; FRACTURE, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS;
RANGE: FINE TO COARSE; POOR INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
LIME MUD, PASTY, SOFT, HIGH POROSITY, LOW PERM. FINE-LARGE SANDY SPARRY CALCITE GRAINS.

213.5- 223.5 AS ABOVE

223.5- 233.5 AS ABOVE
BECOMING MORE COMPETENT W/ DEPTH, WELL CEMENTED SPARRY CALCITE.

233.5- 243.5 LIMESTONE; CREAM TO TAN; FRACTURE, MOLDIC, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CRYSTALS, BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
OTHER FEATURES: FOSSILIFEROUS;
UNSORTED BIOSPARITE, ORANGISH STAINING, VERY WELL CEMENTED SPARRY CALCITE, SECONDARY REPLACEMENT, FRIABLE ZONES, CASE HARDENED LENSES OF LS, LARGE GRAINS OF SANDY SPARRY CALCITE.

243.5- 245 LIMESTONE; DARK TAN TO BROWN; FRACTURE, LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: CHALKY;
LIME MUD, FINE SANDY SPARRY CALCITE CEMENT, ORANGISH STAINING IN LENSES, CHALKY, SOME LENSES OF CASE HARDENED LS., LENSES BECOMING LESS COMPETENT WITH DEPTH, LOW POROSITY AND PERM.

245 - 253.5 LIMESTONE; CREAM TO TAN; 0Y% POROSITY, POSSIBLY HIGH PERMEABILITY, MOLDIC, FRACTURE;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE;
GOOD INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: CHALKY, FOSSILIFEROUS;
SORTED BIOSPARITE, VERY WELL LITHIFIED CASE HARDENED LENSES, BECOMING MORE COMPETENT WITH DEPTH,MINOR LENSES OF SOFT LIME MUD, CRUMBLY, FRIABLE, FRACTURED, SOMEWHAT CHALKY, ORANGISH STAINING IN FRACTURED ZONES, LOW MOLDIC POROSITY.

253.5- 263.5 NO SAMPLES
LOST CIRCULATION IN CAVITY, SOME CUTTINGS AND LARGE ROCKS FROM ABOVE FORMATIONS.

263.5- 268.5 LIMESTONE; ;
SAME AS 245-253.5'. VUGGY POROSITY, VERY WELL LITHIFIED SPARRY CALCITE CEMENT.

268.5- 273.5 LIMESTONE; TAN; VUGULAR, FRACTURE;
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE;
GOOD INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: FOSSILIFEROUS;
SORTED BIOSPARITE, CASE HARDENED, SOME MINOR VUGS WITH GOOD POROSITY, BECOMING FRIABLE WITH DEPTH, MINOR LENSES OF VERY SOFT FRIABLE LIME MUD, FOSSIL HASH, MOLDIC POROSITY IN ZONES. MEDIUM PERM.

273.5- 283.5 AS ABOVE

283.5- 293.5 AS ABOVE

293.5- 303.5 DOLOMITE; BROWN; LOW PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: CHALKY;
FOSSILS: FOSSIL MOLDS;
FRIABLE, VERY WEAKLY LITHIFIED, LENSES OF ORGANICS, LENSES OF VERY SOFT, PASTY DOLOMITE MUD, LOW POROSITY AND PERM. LENSES OF DOLOMITE BECOMING MORE COMPETENT WITH DEPTH, FRACTURED, SOME MINOR FOSSIL REMAINS AND MOLDS.

303.5- 313.5 AS ABOVE

313.5- 323.5 AS ABOVE

323.5- 333.5 AS ABOVE
SOME MINOR VOIDS AND CAVITIES.

333.5- 338.5 SAME AS 293.5-303.5'.

338.5- 343.5 LIMESTONE; CREAM TO LIGHT TAN; FRACTURE, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC;
POOR INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: ORGANICS- %, SPAR- %;
OTHER FEATURES: CHALKY, FOSSILIFEROUS, DOLOMITIC;
UNSORTED BIOSPARITE, MINOR LENSES OF CASE HARDENED LS., FRIABLE, LENSES OF VERY SANDY GRAINS OF SPARRY CALCITE CEMENT. GOOD POROSITY AND PERM. MINOR LENSES OF DOLOMITE, SOME STREAKS OF ORGANICS.

343.5- 353.5 AS ABOVE

353.5- 363.5 AS ABOVE
MINOR ORGANIC STREAKS AND STAINING IN SOME VOIDS AND MOLDS.

363.5- 365 SAME AS 338.5-343.5'.

365 - 373.5 LIMESTONE; TAN TO LIGHT BROWN; MOLDIC, POSSIBLY HIGH PERMEABILITY, FRACTURE;
GRAIN TYPE: CRYSTALS, BIOGENIC, CALCILUTITE;
GRAIN SIZE: COARSE; MODERATE INDURATION;
CEMENT TYPE(S): SPARRY CALCITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
SORTED BIOSPARITE TO ROUNDED BIOSPARITE. CASE HARDENED TO WEAKLY LITHIFIED, FRIABLE, LARGE GRAINY PIECES OF SPARRY CALCITE CEMENT MATRIX, MINOR ORANGE STAINING IN SOME LENSES, SOMEWHAT CHALKY IN LENSES, BECOMING MORE COMPETENT WITH DEPTH.

373.5- 383.5 DOLOMITE; BROWN TO LIGHT BROWN; VUGULAR, MOLDIC,
POSSIBLY HIGH PERMEABILITY; 10-50% ALTERED; EUHEDRAL;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: SUCROSIC;
VERY HARD TO WAEKLY LITHIFIED, CRUMBLY,LENSES OF SUCROSIC DOLOMITE XLS, MINOR FOSSILS, VUGGY POROSITY IN LENSES, LENSES OF LIME MUD DOLOMITE, BECOMING LESS COMPETENT WITH DEPTH, MINOR LENSES OF CASE HARDENED LS.

383.5- 392 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC;
POOR INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
OTHER FEATURES: DOLOMITIC, SUCROSIC, FOSSILIFEROUS;
UNSORTED BIOSAPRITE, FRIABLE, ABUNDANT FOSSILS, BECOMING MORE COMPETENT W/ DEPTH, LENSES OF DOLOMITE NEAR BOTTOM, HIGH POROSITY, MINOR LENSES OF CASE HARDENED LS THROUGHOUT, ABUNDANT LENSES OF SANDY GRAINY SPARRY CALCITE CEMENT.

392 - 393.5 DOLOMITE; BROWN; FRACTURE, LOW PERMEABILITY; 50-90% ALTERED;
GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
OTHER FEATURES: SUCROSIC;
ALTERNATING LENSES OF HARD DOLOMITE AND SUCROSIC DOLOMITE, LOW POROSITY AND PERM.

393.5- 403.5 AS ABOVE
BECOMING MUCH MORE DENSE, WITH LENSES OF ORGANICS.

403.5- 407.5 SAME AS 392-393.5'.

407.5- 413.5 DOLOMITE; DARK BROWN; POSSIBLY HIGH PERMEABILITY, FRACTURE;
POOR INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
OTHER FEATURES: SUCROSIC;
HIGH POROSITY, GOOD PERM., FRIABLE, SOFT PASTY LIMEY DOLOMITE MUD IN LENSES.

413.5- 423.5 DOLOMITE; BROWN; FRACTURE, POSSIBLY HIGH PERMEABILITY;
GOOD INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: ORGANICS-%;
INTRACLASTIC DOLOSTONE. LENSES OF ORGANICS, FRIABLE LENSES OF CRUMBLY DOLOMITE, HIGH POROSITY.

423.5- 433.5 AS ABOVE

433.5- 443.5 AS ABOVE

443.5- 453.5 AS ABOVE

453.5- 463.5 AS ABOVE

463.5- 493.5 NO SAMPLES
----------MISSING PART OF DESCRIPTION----------

493.5- 503.5 AS ABOVE
SAME AS 463.5-473.5'. SOMEWHAT LESS COMPETENT IN LENSES, LT PINKISH-LT BRN.

503.5- 513.5 SAME AS 463.5-473.5'.

513.5- 523.5 DOLOMITE; LIGHT GRAY; FRACTURE, LOW PERMEABILITY;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: FOSSILIFEROUS;
INTRACLASTIC DOLOSTONE, VARIABLE INDURATION, LENSES ORGANICS, MOTTLIC TEXTURE, LARGE GRAINS OF DOLOMITE THROUGHOUT, LOW POROSITY AND PERM.

523.5- 533.5 AS ABOVE
BECOMING VERY CRUMBLY AND VERY WEAKLY LITHIFIED W/ DEPTH, FRACTURED, FRIABLE, VERY LIMEY DOLOMITE IN LENSES, SOFT, PASTY, LIGHT GRAY, VERY SANDY GRAINS OF DOLOMITE.

533.5- 543.5 AS ABOVE

543.5- 553.5 DOLOMITE; LIGHT GRAY TO LIGHT BROWN; FRACTURE, LOW PERMEABILITY;
50-90% ALTERED;
MODERATE INDURATION;
CEMENT TYPE(S): DOLOMITE CEMENT;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: SUCROSIC, CALCAREOUS;
LENSES OF VERY SOFT LIMEY DOLOMITE MUD, FRIABLE, FRACTURED IN ZONES, SOME LENSES OF COMPETENT DOLOMITE, BECOMING LESS COMPETENT WITH DEPTH,LENSES OF ORGANICS, SUCROSIC LENSES OF DOLOMITE VERY TIGHTLY CEMENTED, LOW-MED. POROSITY , LOW PERM.

553.5- 573.5 LIMESTONE; LIGHT GRAY; VUGULAR, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, INTRACLASTS, CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: ORGANICS- %, DOLOMITE- %;
OTHER FEATURES: DOLOMITIC;
INTRACLASTIC DOLOMITIC LIMESTONE. NUMEROUS VOIDS AND CAVITIES, FRIABLE, SOME ZONES OF PASTY SOFT LIME MUD, MEDIUM POROSITY, LENSES OF ORGANICS, MINOR LENSES OF COMPETENT GRAY DOLOMITE.

573.5- 583.5 AS ABOVE
BECOMING MORE COMPETENT W/ DEPTH, LENSES OF THICKER DOLOMITE REPLACEMENT.

583.5- 593.5 LIMESTONE; MODERATE GRAY TO LIGHT GRAY; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: ORGANICS- %;
OTHER FEATURES: CHALKY;
PASTY,SOFT, CRUMBLY, LENSES OF ORGANICS, HIGH POROSITY, VERY LOW PERM.

593.5- 603.5 LIMESTONE; LIGHT BROWN TO TAN; LOW PERMEABILITY;
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE;
POOR INDURATION;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: ORGANICS- %, DOLOMITE- %;
OTHER FEATURES: DOLOMITIC, CHALKY;
INTRACLASTIC DOLOMITIC LIME MUD. FRIABLE, CRUMBLY LENSES OF ORGANICS, MEDIUM POROSITY, ALTERNATING LENSES OF COMPETENT DOLOMITE, LARGE AND SMALL GRAINS OF SANDY DOLOMITE THROUGHOUT, PASTY.

603.5 TOTAL DEPTH