Executive Summary
ROMP Site TR 15-2
Core and Monitor Well

Location - ROMP Site TR 15-2 is located along the north side of a dirt road and adjacent to the railroad tracks. This dirt road is east of Alternate US 19 and .43 mile north of the intersection of Alternate US 19 and Klosterman Road in Pinellas County. The site is located in Section 24, Township 27 South, Range 15 East and at latitude $28^{o}07'47"$, longitude $82^{o}45'20"$.

Site Easement - This site was obtained from the Nixon Associates, Inc. on May 7, 1976 for a sum of one dollar. The Perpetual Easement is 21 feet by 63 feet and is recorded in O.R. Book 4422 Pages 1342 through 1344 at the Pinellas Courthouse. A Temporary Construction Easement was not obtained for this site.

Reason for Coring - This site was cored in order to obtain continuous geologic samples and water samples in order to locate and graph the chloride concentrations above and below the freshwater-saltwater interface.

Geology - This site is located on the Pamlico Terrace at an elevation of ± 15 feet above mean sea level (MSL). All geologic data was obtained from continuous core samples from land surface to 201 feet below land surface datum (LSD). The general geology of this site is as follows:

0-48'	Sand and clay
48'-100'	Tampa Limestone
100'-201'	Suwannee Limestone

Hydrogeology - Since this well is relatively shallow only one artesian pressure system was penetrated. It appears from water level data that

was collected that the Tampa and Suwannee limestones are hydraulically connected. These units are separated from the water table aquifer by approximately 30 feet of sandy clay.

Core Drilling - This well was cored by the District's CME core rig between October 25, and November 16, 1976 at a cost of $8,224.50 or $40.92 per foot.

Core samples of 1 7/8" diameter were collected from land surface to 201' below LSD and were described by a SWFWMD geologist.

Well Construction - The monitor well at this site was constructed by the District's Portadrill between June 16 and 30, 1977 at a cost of $2,250.50 or $40.92 per foot.

The well was constructed by using 20 feet of 16 inch and 29 feet of 14 inch steel work casing and 50 feet of 8 inch PVC well casing all of which were grouted in place. The well was drilled out to 55 feet below LSD and developed.

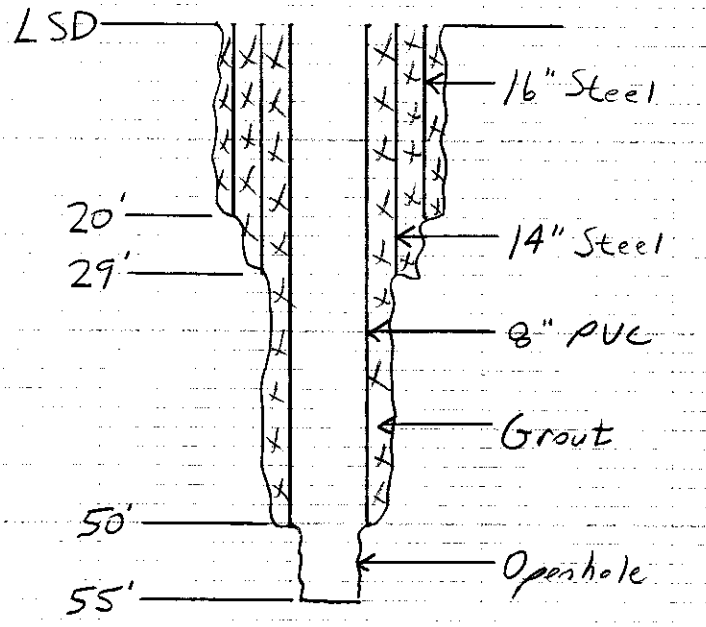
Geophysical Logs - Electric, caliper, gamma, fluid resistivity, and temperature logs were run on the core hole.

Type of Monitor - This well is a chloride monitor well designed to monitor the 250 milligram per liter (mg/L) chloride level in the freshwater-saltwater interface.

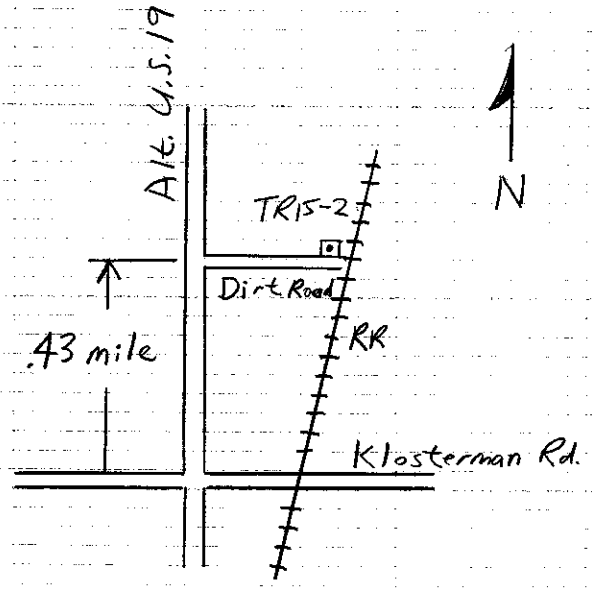
Water Quality - The quality of the groundwater below 58 feet exceeds the maximum limits for chlorides of 250 mg/L. The chlorides rise steadily to the 16,600 mg/L mark at 201 feet below LSD. This means that the interface in this area is approximately 150 feet thick.

U.S.G.S. Notification - The U.S.G.S. was notified in February, 1978 that this well was complete and ready for monitoring.

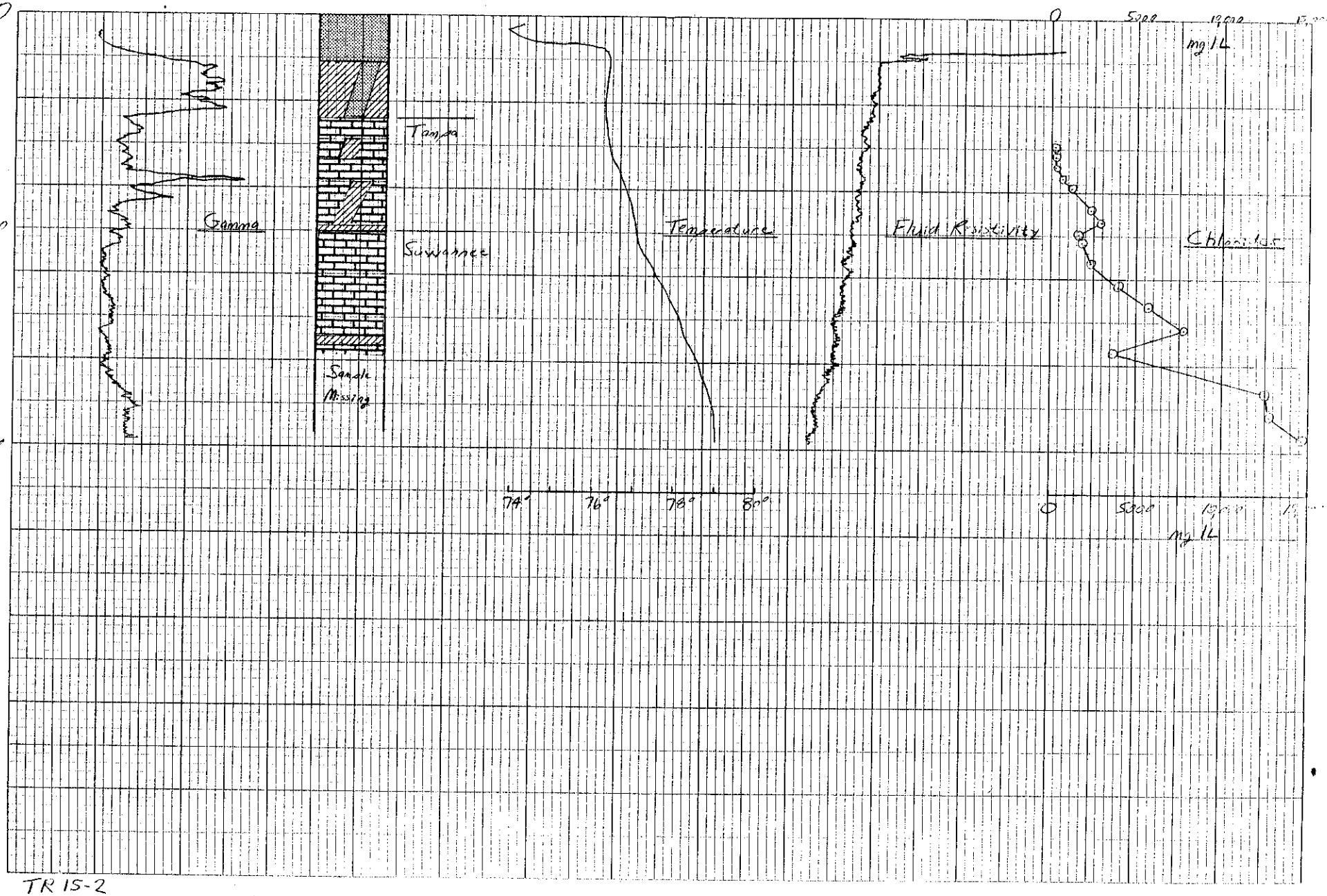
As Built Well Diagram



Site Location



S-24, T27, R15
Pinellas County



TR 15-2

47 0782

10 X 10 TO THE INCH • 10 X 15 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.

TR15-2

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14897
TOTAL DEPTH: 00202 FT.
SAMPLES - NONE

COUNTY - PINELLAS
LOCATION: T.27S R.15E S.24
LAT = N 27D 07M 47
LON = W 82D 45M 20

COMPLETION DATE - N/A
ELEVATION - 015 FT
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, TEMP, FLUID COND, FLUID COND

OWNER/DRILLER: TR-15 SITE NUMBER TWO

WORKED BY: DESCRIBED ORIGINALLY BY PREEDOM - GEOLOGIST WITH SWFWMD; NEW DESCRIPTION BY T.L. SEAL, FLORIDA GEOLOGICAL SURVEY; APRIL 1991; T.L. SEAL'S COMMENTS ADDED TO PREEDOM'S; MANY CORE SAMPLES HAVE BEEN SLABBED TO PROVIDE MUCH BETTER EXAMPLES OF TEXTURES

0. -	48.	UNDIFFERENTIATED SAND AND CLAY
48. -	100.	TAMPA MEMBER OF ARCADIA FM.
100. -	.	SUWANNEE LIMESTONE

0 - 22 SAND; LIGHT GRAY TO MODERATE YELLOWISH GREEN;
NO SAMPLE IN CORE BOX

22 - 24 NO SAMPLES

24 - 48.5 CLAY; MODERATE GRAY TO GREENISH GRAY;
ACCESSORY MINERALS: QUARTZ SAND-%;
NO SAMPLE IN CORE BOX

48.5- 58.5 LIMESTONE; WHITE TO LIGHT ORANGE; INTERGRANULAR, LOW PERMEABILITY, MOLDIC;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: OSTRACODS, FOSSIL MOLDS, MILIOLIDS, MOLLUSKS;
30% RECOVERY; ABUNDANT RIPUP CLASTS WITH DURICRUST RIMMING "CALICHE"; LIMITED MOLDIC POROSITY

58.5- 68.5 LIMESTONE; WHITE TO LIGHT ORANGE; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: IRON STAIN- %;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
CRUMBLY TEXTURE

68.5- 78.5 PACKSTONE; WHITE TO LIGHT ORANGE; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: IRON STAIN- %;
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS;
GASTROPOD MOLDS

78.5- 83.5 WACKESTONE; WHITE TO LIGHT GRAY; INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
ACCESSORY MINERALS: CLAY- %;
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;
MICRITE TO WACKSTONE FRAGMENTS WITH MINOR CLAY SEAMS; 75% RECOVERY

83.5- 88.5 AS ABOVE
5% RECOVERY; CLAY STYOLITES; SOME SECONDARY POROSITY DEVELOPED ALONG CLAY SEAMS

88.5- 98.5 WACKESTONE; WHITE TO LIGHT GRAY; INTERGRANULAR, LOW PERMEABILITY, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
CALCAREOUS CLAY SEAMS (LIGHT GRAYISH GREEN); MUDSTONE IN SOME MINERALS; 60% RECOVERY

98.5- 100 CLAY; YELLOWISH GRAY; INTERGRANULAR; POOR INDURATION;
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;
BLOCKY, CRUMBLY CLAY

100 - 103.5 WACKESTONE; WHITE TO VERY LIGHT ORANGE; INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: CALCILUTITE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
SEDIMENTARY STRUCTURES: MOTTLED,
ACCESSORY MINERALS: CHERT- %;
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;
MOTTLED APPEARANCE DUE TO BURROWING?

103.5- 113.5 PACKSTONE; WHITE TO YELLOWISH GRAY; INTERGRANULAR, PIN POINT VUGS;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: FOSSIL MOLDS;
SOME SECONDARY POROSITY DEVELOPMENT; 20% RECOVERY

113.5- 118.5 AS ABOVE
ZONE OF FOSSIL MOLDS (MOSTLY MOLLUSKS) WITH SIGNIFICANT MOLDIC POROSITY

118.5- 125.5 PACKSTONE; WHITE TO VERY LIGHT ORANGE; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
GOOD INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
VARIES BETWEEN WACKESTONE AND PACKSTONE; WACKESTONE HAS A LOW POROSITY

125.5- 138.5 AS ABOVE
EXCELLENT EXAMPLES OF MOLDIC POROSITY AFTER CORAL; 40% RECOVERY

138.5- 154 PACKSTONE; YELLOWISH GRAY; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: MOLLUSKS, FOSSIL MOLDS;
EXTREMELY POOR RECOVERY, FEW WELL-INDURATED ZONES; RECOVERED MATERIAL RESEMBLES CALCARENITE

154 - 158.5 PACKSTONE; YELLOWISH GRAY; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
POOR INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: ECHINOID, BRYOZOA, FOSSIL FRAGMENTS, FOSSIL MOLDS;

158.5- 165.5 NO SAMPLES

165.5- 173.5 PACKSTONE; YELLOWISH GRAY; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
20% RECOVERY

173.5- 178.5 PACKSTONE; YELLOWISH GRAY; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: ECHINOID, FOSSIL FRAGMENTS, FOSSIL MOLDS, BENTHIC FORAMINIFERA;
POSSIBLE PELOIDAL MATERIAL; GOOD RECOVERY; VERY FRIABLE

178.5- 183.5 AS ABOVE

183.5- 193 PACKSTONE; YELLOWISH GRAY; INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, CALCILUTITE;
MODERATE INDURATION;
CEMENT TYPE(S): CALCILUTITE MATRIX;
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS, ECHINOID;
SIMILAR FRIABLE CHARACTER FROM 178.5-198.5; FINE GRAINED FORAM SAND

193 - 201.5 AS ABOVE

201.5 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 14897
TOTAL DEPTH: 00201 FT.
SAMPLES - NONE

COUNTY - PINELLAS
LOCATION: T.27S R.15E S.24
LAT = N 28D 07M 47
LON = W 82D 45M 20

COMPLETION DATE - N/A
ELEVATION - 015 FT
OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GEOLOGIST, TEMP, FLUID COND

OWNER/DRILLER: SWFWMD; ROMP SITE TR 15-2; CORE.

WORKED BY: PREEDOM; CODED AND ENTERED BY RICHARD GREEN 12\90 FROM A
GEOLOGIST'S LOG PROVIDED BY SWFWMD.
ROMP SITE TR 15-2 IS LOCATED ALONG THE NORTH SIDE OF A DIRT ROAD AND A
ADJACENT TO THE RAILROAD TRACKS. THIS DIRT RD IS EAST OF
U.S. ALTERNATE 19 AND .43 MILE NORTH OF THE INTERSECTION
OF ALTERNATE US 19 AND KLOSTERMAN ROAD IN PINELLAS COUNTY.

0. -	48.	UNDIFFERENTIATED SAND AND CLAY
48. -	100.	TAMPA MEMBER OF ARCADIA FM.
100. -	.	SUWANNEE LIMESTONE

0 -	22	SAND; LIGHT GRAY TO TAN;
22 -	24	NO SAMPLES
24 -	48	CLAY; MODERATE GRAY TO GREENISH GRAY; ACCESSORY MINERALS: QUARTZ SAND-%; SANDY CLAY AND CLAYEY SAND; GREENISH GRAY-TANNISH GRAY
48 -	48.5	NO SAMPLES
48.5-	52	LIMESTONE; WHITE TO LIGHT ORANGE; VUGULAR, LOW PERMEABILITY; GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; FOSSILS: OSTRACODS; SPARSE BIOMICRITE, MOTTLED WHITE AND TANNISH ORANGE, SPARSE OSTRACODES, POROSITY IS GENERALLY COMPOSED OF WIDELY SPACED DRUSE-LINED PORES < CM SIZE, GIVING AN OVERALL LOW POROSITY.
52 -	58	LIMESTONE; ; POOR RECOVERY. RETAINED ONLY 3" OF HIGHLY IRON STAINED PACKED BIOMICRITE.
58 -	67	LIMESTONE; WHITE; LOW PERMEABILITY; GRAIN TYPE: CALCILUTITE; POOR INDURATION; ACCESSORY MINERALS: CLAY-%; CLAYEY, CRUMBLY.

67 - 78.5 LIMESTONE; CREAM; VUGULAR, PIN POINT VUGS;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
SPARSE BIOMICRITE, FRIABLE. MM SIZE PORES WITH SECONDARY DEVELOPMENT TO CM SIZE IN PLACES GIVING A MODERATE POROSITY.

78.5- 98 LIMESTONE; CREAM; LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
ACCESSORY MINERALS: CLAY-%;
SPARSE BIOMICRITE, WITH CM THICK STREAKS OF BLUE-GREEN CLAY, CRUMBLY, CONTAINS A SMALL WHITE CLAY FRACTION THROUGHOUT.

98 - 100 CLAY; OLIVE GRAY;
STIFF, BLOCKY, CRUMBLY.

100 - 100 CHERT; BLACK;
CM THICK LAYER OF CHERT.

100 - 113 LIMESTONE; CREAM;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
MODERATE INDURATION;
SPARSE BIOMICRITE, FAIRLY HIGH POROSITY SHOWING SECONDARY DEVELOPMENT. FAIRLY WELL LITHIFIED.

113 - 133.5 LIMESTONE; CREAM; POSSIBLY HIGH PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
POOR INDURATION;
OTHER FEATURES: COQUINA;
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
PACKED BIOMICRITE, VERY FRIABLE, COMPOSED OF MOLLUSK SHELL HASH WITH A FORAM MATRIX. EXTREMELY HIGH POROSITY WITH A HIGH DEGREE OF SECONDARY DEVELOPMENT.

133.5- 149 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
GRAIN SIZE: FINE;
FOSSILS: BENTHIC FORAMINIFERA;
PACKED BIOMICRITE, FORMED CHIEFLY OF SMALL FORAMS, CONTAINS LENSES OF WHITE CALCAREOUS CLAY AT 138' BECOMES INCREASINGLY LESS LITHIFIED WITH DEPTH.

149 - 153 CLAY; WHITE;
CALCAREOUS, PLASTIC.

153 - 158 LIMESTONE; TAN TO CREAM;
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE;
GRAIN SIZE: FINE;
PACKED BIOMICRITE, FORMED OF SMALL FORAMS.

158 - 201 NO SAMPLES
NO LOG 158-201'.

201 TOTAL DEPTH