

**(WRE #336)**  
**TECHNICAL PUBLICATION 96-02**

**HYDROGEOLOGIC DATA AND INFORMATION  
COLLECTED FROM THE  
SURFICIAL AND FLORIDAN AQUIFER SYSTEMS,  
UPPER EAST COAST PLANNING AREA**

**PART 2**  
**Appendices**

by

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Department of Water Resources Evaluation  
South Florida Water Management District  
West Palm Beach, Florida**

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**LITHOLOGIC DESCRIPTIONS**



## APPENDIX A

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**APPENDIX A-1**

**MARTIN COUNTY WELL CUTTINGS  
DESCRIBED BY THE  
FLORIDA GEOLOGICAL SURVEY**





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**TABLE A-1.1 Index of Martin County Well Cuttings Described by the Florida Geological Survey**

Martin County								
PAGE No.	FGS WELL NAME	* MAP No.	TOTAL DEPTH FEET (BLS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	SPWMD GEOPHYS I.D.#	GEOPHYS. AVAILABLE
A-13	W-16283	65	182	16	748140	1059146	085000078	E, EL, G
A-19	W-16284	63	148	24	646058	980698	085000076	E, EL, G
A-25	W-16287	64	157	17	749150	1014020	085000077	E, EL, G
A-31	W-16290	62	480	30	670019	1044203	085000075	C, D, E, EL, G, N
A-39	W-16397	67	242	12	771772	979521	085000080	D, E, EL, G, N, SP
A-49	W-16398	68	130	22	728055	986525	085000081	C, E, EL, G, SP
A-55	W-16400	66	155	30	685153	1032152	085000079	C, D, E, EL, G, N, SP
A-61	W-16460	69	100	13	751003	1003826	085000082	C, D, E, EL, G, N, SP
A-65	W-16963	80	1290	17	739926	1056975		N/A
A-73	W-50067	47	170	9	776688	962387	085000061	E, EL, G
A-79	W-50068	48	180	9	786328	964574		N/A
A-85	W-50069	49	182	22	740620	954284	085000062	E, EL, G
A-91	W-50070	50	160	17	754551	985772	085000063	E, EL, G
A-97	W-50071	51	140	25	723287	995991	085000064	E, EL, G
A-103	W-50072	52	162	27	684323	996504	085000065	E, EL, G
A-109	W-50073	53	122	27	684269	1010942	085000066	E, EL, G
A-113	W-50074	54	130	23	725760	990955	085000067	E, EL, G
A-119	W-50075	55	130	30	668575	1043491	085000068	E, EL, G
A-125	W-50076	56	162	34	695320	982418	085000069	E, EL, G
A-131	W-50077	57	170	25	679628	972349	085000070	E, EL, G
A-137	W-50078	58	155	22	715979	1043916	085000071	E, EL, G
A-145	W-50079	59	162	32	697920	1044027	085000072	E, EL, G
A-151	W-50080	60	158	45	651983	1013839	085000073	E, EL, G
A-157	W-50081	61	142	31	619002	1016658	085000074	E, EL, G

\*: Map Number as it appears in Figure A-1.1

GEOPHYSICS ABBREVIATIONS: C=CALIPER/D=DENSITY/DI=DUAL INDUCTION/E=ELOG/EL=6' LAT/F=FLOWMETER/G=GAMMA FR=FLUID RESISTIVITY/N=NEUTRON/S=SONIC/T=TEMPERATURE



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFUMD

WELL NUMBER: W- 16283

COUNTY - MARTIN

TOTAL DEPTH: 00182 FT.

LOCATION: T.37S R.41E S.22AA

44 SAMPLES FROM 0 TO 182 FT.

LAT = N 27D 14M 44

LOH = W 80D 14M 11

COMPLETION DATE - 08/11/88

ELEVATION - 016 FT

OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: OWNER: U.S.G.S. DRILLER: T. LUBRANO [WELL #M-1254]

WORKED BY: K. ADAMS AND E. HOPKINS

SAVANNAH RD. & JENSEN BCH. BLVD.

- 0 - 2 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-02%, PLANT REMAINS- %, ORGANICS-20%;  
OTHER FEATURES: FROSTED;  
FOSSILS: FOSSIL FRAGMENTS;
- 2 - 5 SAND; LIGHT OLIVE; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO VERY COARSE;  
ROUNDNESS: ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PLANT REMAINS-25%;  
OTHER FEATURES: FROSTED;
- 5 - 8 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-02%;  
DESANDER SAMPLE
- 8 - 10 SAND; MODERATE BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-30%, IRON STAIN- %;  
SAND CONSOLIDATED IN SMALL ROUNDED LUMPS
- 10 - 15 SAND; MODERATE BROWN TO MODERATE REDDISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %;  
IN LUMPS AS ABOVE, NO ORGANICS, SEVERE IRON-STAIN

- 15 - 20 SAND; DARK GRAYISH YELLOW; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-01%, LIMESTONE-01%;  
OTHER FEATURES: FROSTED;  
COMBINATION DESCRIPTION OF CATCH & DESANDER SAMPLES
- 20 - 25 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: HEAVY MINERALS-01%;  
DESANDER SAMPLE
- 25 - 30 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO VERY COARSE;  
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;
- 30 - 35 AS ABOVE  
15% OF GRAINS IRON-STAINED
- 35 - 36 75% PLANT MATERIAL, 25% MED.-COARSE SAND
- 36 - 40 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %;
- 40 - 45 AS ABOVE  
70% OF SHELL DK. GREY REPLACED, MOSTLY FRAGMENTS
- 45 - 55 SHELL BED; MODERATE GRAY TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
WHOLE & BROKEN 70% DK GREY REPLACED
- 55 - 60 SHELL BED; MODERATE GRAY TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-02%, SILT-01%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;  
WHOLE & BROKEN, MAINLY BIVALVES
- 60 - 65 AS ABOVE  
3% LIMESTONE PIECES
- 65 - 80 AS ABOVE



- 80 - 83 SHELL BED; MODERATE GRAY TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-01%;  
FOSSILS: FOSSIL FRAGMENTS;  
80% DK. GREY, HIGHLY WEATHERED SHELL FRAGMENTS
- 83 - 90 AS ABOVE  
5% LIMESTONE, 3% SILTY SAND
- 90 - 95 AS ABOVE
- 95 - 98 SHELL BED; LIGHT OLIVE GRAY TO MODERATE GRAY; 40% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-15%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
LG. REPLACED SHELL FRAGMENTS W/HOLES, ADDED WATER TO MUD PIT
- 98 - 100 LIMESTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-40%, CALCILUTITE-30%, SHELL-15%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;  
10% ROUNDED, SANDY, MICRITIC LIMESTONE PIECES; SHELL UNCONSOLIDATED
- 100 - 105 AS ABOVE
- 105 - 108 LIMESTONE; LIGHT OLIVE GRAY TO MODERATE GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCITE-30%, QUARTZ SAND-30%, CALCILUTITE-30%, SHELL-10%;  
SAND GRAINS PARTIALLY FUSED, SHELL FRAGMENTS. UNCONSOLIDATED
- 108 - 115 SHELL BED; MODERATE GRAY TO VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN-30%, QUARTZ SAND-02%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, WORM TRACES;
- 115 - 120 SHELL BED; YELLOWISH GRAY TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-10%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES;  
40% SANDSTONE & 2% PHOSPHATE

- 120 - 125 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, PIM POINT VUGS;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-30%, CALCILUTITE-20%, CALCITE-30%;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS;
- 125 - 130 AS ABOVE  
50% UNCONSOLIDATED SHELL
- 130 - 135 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-15%, CALCILUTITE-10%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES, BARNACLES;  
15% SANDSTONE
- 135 - 140 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-30%, SHELL-25%, PHOSPHATIC SAND-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 140 - 145 AS ABOVE  
40% MICRITE, 10% SHELL
- 145 - 150 LIMESTONE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: BIOGENIC, INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-02%, SHELL-02%;
- 150 - 155 LIMESTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-50%, CALCITE-10%, QUARTZ SAND-30%, PHOSPHATIC SAND-01%;
- 155 - 158 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, CRYSTALS; 35% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-45%, CALCILUTITE-20%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;

- 158 - 165 LIMESTONE; LIGHT OLIVE GRAY TO MODERATE GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-30%, CALCILUTITE-20%, QUARTZ SAND-40%;
- 165 - 168 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-02%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 168 - 175 SAND; MODERATE GRAYISH GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-02%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 175 - 182 SAND; MODERATE GRAYISH GREEN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-20%, CLAY-05%, PHOSPHATIC SAND-02%, SHELL-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 182 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W- 16284

COUNTY - MARTIN

TOTAL DEPTH: 00148 FT.

LOCATION: T.39S R.38E S.32DD

44 SAMPLES FROM 1 TO 148 FT.

LAT = N 27D 01M 52

LOX = W 80D 33M 05

COMPLETION DATE - 01/11/88

ELEVATION - 024 FT

OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: OWNER: U.S.G.S. DRILLER: T. LUBRANO [WELL #M-1252]

WORKED BY: K. ADAMS AND E. HOPKINS

- 0 - 1 NO SAMPLES
- 1 - 2 SAND; OLIVE GRAY TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-05%, SHELL-10%, CALCILUTITE-10%, SILT-05%;
- 2 - 3 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-50%, IRON STAIN- %, CLAY-02%;
- 3 - 4 CALCILUTITE; VERY LIGHT ORANGE TO GRAYISH ORANGE; 10% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-40%, IRON STAIN- %;
- 4 - 5 AS ABOVE  
SAME AS INTERVAL 2-3'
- 5 - 7 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, LIMESTONE-02%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 7 - 9 SANDSTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, CALCILUTITE-25%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

- 9 - 10 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-10%, LIMESTONE-02%, SHELL-03%;  
OTHER FEATURES: FROSTED;  
FOSSILS: FOSSIL FRAGMENTS;
- 10 - 12 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%, SILT-05%;
- 12 - 17 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: HEAVY MINERALS-01%;  
COARSE GRAINS ARE FROSTED
- 17 - 18 30% CALCITE CRYSTALS, 10% GREY SANDSTONE, 50% MICRITE? (WHITE)  
CRYSTALLINE FACES, VITREOUS LUSTER
- 18 - 19 LIMESTONE; MODERATE GRAY; 18% POROSITY, PIN POINT VUGS, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-40%, CALCILUTITE-20%;  
FOSSILS: FOSSIL MOLDS;  
LOST CIRCULATION
- 19 - 20 AS ABOVE  
INCREASING POROSITY, MORE MOLD CAVITIES, LOST 4 PITS OF MUD
- 20 - 22 LIMESTONE; MODERATE DARK GRAY; 15% POROSITY, INTERGRANULAR, PIN POINT VUGS,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, CRYSTALS; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-45%, CALCILUTITE-25%, QUARTZ SAND-25%;
- 22 - 28 LIMESTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, OOLITE CAST, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-20%, QUARTZ SAND-40%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 28 - 29 AS ABOVE  
40/10% MICRITE TO CALCITE CEMENT

- 29 - 33 LIMESTONE; LIGHT OLIVE GRAY TO MODERATE LIGHT GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO VERY FINE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-30%, CALCILUTITE-20%, QUARTZ SAND-50%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS;
- 33 - 38 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-25%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
CHIONE CANCELLATA MOST PROMINATE MOLLUSC
- 38 - 40 SANDSTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, SHELL-15%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 40 - 42 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-20%;  
FOSSILS: BARNACLES, MOLLUSKS, FOSSIL FRAGMENTS;
- 42 - 45 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-05%, SILT-02%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES;  
SMALL WHOLE SHELL & SHELL FRAGM.
- 45 - 50 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-05%, CLAY-02%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;
- 50 - 55 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND-02%;  
FOSSILS: BARNACLES, FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;  
2% SANDSTONE, HIGHLY WEATHERED REPLACED SHELL FRAGMENTS 20% DK. GREY REPLACED SHELL FRAGM.
- 55 - 57 SHELL BED; VERY LIGHT ORANGE TO DARK GRAY; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA, SPICULES;  
35% DK. GREY REPLACED SHELL
- 57 - 62 AS ABOVE

- 62 - 65 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-02%, PHOSPHATIC SAND-02%;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS;
- 65 - 70 AS ABOVE  
20% SAND, 10% SILT
- 70 - 75 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
FOSSILS: BRYOZOA, WORM TRACES, FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES;  
50% DK. GREY REPLACED SHELL
- 75 - 82 AS ABOVE
- 82 - 85 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-07%, SILT-02%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS;
- 85 - 90 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-02%, QUARTZ SAND-02%, SILT-01%;  
FOSSILS: MOLLUSKS, BRYOZOA;  
20% TURRITELLA
- 90 - 95 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%;  
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS;
- 95 - 100 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;  
CHARACTERIZED BY LG. THIN BIVALVE FRAGMENTS
- 100 - 103 SHELL BED; LIGHT OLIVE GRAY TO GRAYISH ORANGE; 20% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, CLAY-01%, CALCILUTITE-15%, SILT-05%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, BRYOZOA, SPICULES;
- 103 - 105 AS ABOVE  
20% MICRITE
- 105 - 110 AS ABOVE



- 110 - 115 CALCILUTITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 35% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-35%, PHOSPHATIC SAND-01%, LIMESTONE-02%;  
FOSSILS: MOLLUSKS, SPICULES, FOSSIL FRAGMENTS, BRYOZOA;
- 115 - 120 CALCILUTITE; LIGHT OLIVE GRAY TO GRAYISH ORANGE; 15% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%, QUARTZ SAND-20%, LIMESTONE-02%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 120 - 122 LIMESTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-10%, SHELL-15%, QUARTZ SAND-20%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, WORM TRACES;
- 122 - 125 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-15%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, FOSSIL MOLDS;
- 125 - 130 CALCILUTITE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-01%, SHELL-10%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES;
- 130 - 137 AS ABOVE
- 137 - 142 LIMESTONE; YELLOWISH GRAY TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SHELL-10%, CALCILUTITE-35%, CALCITE-10%, QUARTZ SAND-40%;  
FOSSILS: WORM TRACES, MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;

- 142 - 145 SANDSTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC SAND-02%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 145 - 148 SAND; MODERATE GRAYISH GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, SILT-25%, CALCILUTITE-10%;
- 148 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W- 16287

COUNTY - MARTIN

TOTAL DEPTH: 00157 FT.

LOCATION: T.38S R.41E S.34BC

36 SAMPLES FROM 2 TO 157 FT.

LAT = N 27D 07M 20

LOW = W 80D 14M 02

COMPLETION DATE - 07/11/88

ELEVATION - 017 FT

OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: OWNER: U.S.G.S. DRILLER: TONY LUBRANO [WELL #M-1253]

WORKED BY: K. ADAMS AND E. HOPKINS

SAMPLE QUALITY-GOOD

- 0 - 2 NO SAMPLES
- 2 - 4 PEAT; DARK BROWN TO BLACK; 20% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, PLANT REMAINS-10%;
- 4 - 10 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-01%;  
OTHER FEATURES: UNWASHED SAMPLE;  
SAMPLE TAKEN FROM DESANDER
- 10 - 15 SAND; DARK BROWN; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: ORGANICS-03%, SILT-05%, IRON STAIN- %;  
OTHER FEATURES: UNWASHED SAMPLE;  
SAMPLE TAKEN FROM DESANDER
- 15 - 18 SAND; DARK YELLOWISH BROWN; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SILT-05%, IRON STAIN- %;  
OTHER FEATURES: UNWASHED SAMPLE;  
SAMPLE TAKEN FROM DESANDER
- 18 - 22 SAND; DARK YELLOWISH BROWN; 18% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SILT-05%, IRON STAIN- %;

- 22 - 25 SAND; DARK YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
OTHER FEATURES: FROSTED;  
SAMPLE TAKEN FROM DESANDER
- 25 - 32 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%;  
SAMPLE TAKEN FROM DESANDER
- 32 - 35 SAND; GRAYISH BROWN; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-07%, CLAY-01%;
- 35 - 40 SAND; DARK BROWN; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, SILT-07%, IRON STAIN- %;
- 40 - 42 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT- %;  
FOSSILS: MOLLUSKS, SPICULES;  
2% SANDSTONE PIECES T
- 42 - 45 SHELL BED; YELLOWISH GRAY TO MODERATE BLUISH GRAY; 30% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%, LIMESTONE-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
5% SANDSTONE PIECES, WHOLE & BROKEN SHELLS
- 45 - 50 SHELL BED; WHITE TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-03%, LIMESTONE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
5% SANDSTONE PIECES, WHOLE & BROKEN SHELLS
- 50 - 55 LIMESTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: CRYSTALS, BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SPAR-25%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
USED PULLDOWN ON DRILL RIG; WELL CONSOLIDATED

- 55 - 59 AS ABOVE  
LESS CONSOLIDATED
- 59 - 62 AS ABOVE  
SAME AS 50'-55' ABOVE
- 62 - 65 CALCILUTITE; LIGHT OLIVE GRAY TO OLIVE GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;  
GRAIN TYPE: INTRACLASTS, CALCILUTITE, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%, CALCITE-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 65 - 70 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: BRYOZOA, WORM TRACES, FOSSIL FRAGMENTS, SPICULES, MOLLUSKS;  
WHOLE & BROKEN SHELLS, MAINLY BIVALVES
- 70 - 75 AS ABOVE  
WITH 5% LT GRAY LIMESTONE, CALCITE CEMENTED
- 75 - 80 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-05%;  
FOSSILS: BRYOZOA, SPICULES, FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
MAINLY BIVALVES, MOST BROKEN; ADDED WATER TO MUD PIT
- 80 - 85 SANDSTONE; LIGHT OLIVE GRAY; POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; HIGH SPHERICITY; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-10%, SHELL-25%, CALCILUTITE-05%;  
FOSSILS: BARNACLES, FOSSIL FRAGMENTS;  
MARGINELLA SHELLS, SANDSTONE PIECES ROUNDED, CONSOLIDATED
- 85 - 90 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-07%, CALCITE-01%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, SPICULES, BARNACLES;  
10% GRAY CALCITE & PHOSPHATE REPLACED SHELL FRAGS, 2% SANDSTONE
- 90 - 95 AS ABOVE  
SHELLS MOSTLY BROKEN, 5% SANDSTONE, 1% LIMESTONE

- 95 - 100 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-15%, PHOSPHATIC SAND-01%, CALCILUTITE-05%, PHOSPHATIC GRAVEL-01%;  
FOSSILS: MOLLUSKS, SPICULES, BENTHIC FORAMINIFERA, BRYOZOA, WORM TRACES;  
35% TAN TO GRAY SANDSTONE W/ PHOSPHATIC SAND, ADDED WATER TO MUDPIT; 7% GRAY CALCITE & PHOSPHATE REPLACED SHELL FRAGMENTS
- 100 - 105 AS ABOVE  
25% GRAY LIMESTONE, 25% TAN SANDSTONE, NO WHOLE SHELLS
- 105 - 110 GRAVEL; VERY LIGHT ORANGE TO DARK GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: GRANULE; RANGE: MEDIUM TO GRAVEL;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, SHELL-40%, LIMESTONE-05%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, WORM TRACES, SPICULES;  
15% REPLACED SHELL FRAGMENTS
- 110 - 115 SAND; VERY LIGHT ORANGE TO DARK GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-01%, LIMESTONE-01%;  
FOSSILS: BRYOZOA, WORM TRACES, SPICULES, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
30% GRAY REPLACED SHELL, SANDSTONE STRINGERS
- 115 - 120 SHELL BED; LIGHT OLIVE GRAY TO MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-01%, LIMESTONE-02%;  
FOSSILS: BARNACLES, SPICULES, BRYOZOA, FOSSIL FRAGMENTS;  
5% SANDSTONE (STRINGERS); 35% OF SHELLS CALCITE REPLACED, PINK BARNACLES, WATER ADDED
- 120 - 125 SAND; YELLOWISH GRAY TO MODERATE GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO GRANULE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, SHELL-40%, PHOSPHATIC GRAVEL-01%;  
MOST SHELL FRAGM. CALCITE REPLACED, 3% SANDSTONE (STRINGERS)
- 125 - 130 SAND; YELLOWISH GRAY TO MODERATE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, SHELL-15%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, BARNACLES, SPICULES;
- 130 - 135 AS ABOVE

- 135 - 140 SANDSTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 18% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-25%, SHELL-30%, PHOSPHATIC SAND-01%;  
FOSSILS: WORM TRACES, BARNACLES, SPICULES, BRYOZOA, FOSSIL FRAGMENTS;
- 140 - 145 SANDSTONE; OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%, MICA-01%, SILT-20%;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, SPICULES;  
SOME WELL CONSOLIDATED LIMESTONE PIECES
- 145 - 150 LIMESTONE; LIGHT OLIVE GRAY; 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC, CALCILUTITE; 55% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, SHELL-10%, QUARTZ SAND-40%;  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BARNACLES;
- 150 - 155 SAND; GRAYISH OLIVE GREEN; 07% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: ROUNDED TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SILT-30%, SHELL-10%, CALCILUTITE-05%, LIMESTONE-05%;  
FOSSILS: MOLLUSKS;
- 155 - 157 AS ABOVE
- 157 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W- 16290

COUNTY - MARTIN

TOTAL DEPTH: 00480 FT.

LOCATION: T.38S R.39E S.06BA

78 SAMPLES FROM 0 TO 480 FT.

LAT = N 27D 12M 20

LON = W 80D 28M 37

COMPLETION DATE - 26/10/88

ELEVATION - 030 FT

OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: OWNER: ALLAPATAN PROP. DRILLER: T. LUBRANO [WELL #2]

WORKED BY: J. LUKASIEWICZ AND K. ADAMS

SAMPLE QUALITY GOOD

- 0 - 2 SANDSTONE; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-10%, CALCITE-15%, PHOSPHATIC SAND-01%, LIMESTONE-10%;  
CANAL SPOIL BANK
  
- 2 - 5 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-10%, IRON STAIN- %;  
CANAL SPOIL BANK
  
- 5 - 7 AS ABOVE
  
- 7 - 10 AS ABOVE
  
- 10 - 13 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-03%, CLAY-03%;
  
- 13 - 14 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: FOSSIL FRAGMENTS;  
30% SANDSTONE, SOME WITH INTERBEDDED SHELL MICRITE REPLACED
  
- 14 - 19 LIMESTONE; YELLOWISH GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS;  
GRAIN TYPE: BIOGENIC; 05% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-02%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS;

- 19 - 22 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-50%, CALCILUTITE-20%, CALCITE-25%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS;  
MED SIZED MICRITE SHELL FRAG. IN SANDSTONE
- 22 - 28 AS ABOVE
- 28 - 32 LIMESTONE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-50%, QUARTZ SAND-15%, CALCILUTITE-25%;  
FOSSILS: FOSSIL MOLDS;
- 32 - 35 AS ABOVE  
SAME AS 19'-22' INTERVAL
- 35 - 40 LIMESTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, MOLDIC,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 15% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: CRYPTOCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION;  
CEMENT TYPE(S): ANHYDRITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS;
- 40 - 42 AS ABOVE  
ADDED WATER TO MUD PIT
- 42 - 45 SANDSTONE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS;
- 45 - 50 AS ABOVE  
INTERBEDDED FINE SAND & SANDSTONE BEDS
- 50 - 55 AS ABOVE  
50% WHOLE & BROKEN MICRITE REPLACED BIVALVES
- 55 - 62 SAND; LIGHT OLIVE GRAY TO YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-20%, SHELL-40%;  
FOSSILS: FOSSIL FRAGMENTS, SPICULES;

- 62 - 64 AS ABOVE
- 64 - 70 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-04%;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES;
- 70 - 75 AS ABOVE
- 75 - 80 SAND; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-20%, SHELL-40%;  
FOSSILS: FOSSIL FRAGMENTS;
- 80 - 83 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-10%;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
MOSTLY BROKEN FRAGMENTS; 30% OF SHELL IS DK GRAY REPLACED FORAMS LOOK LIKE RECORD DISKS
- 83 - 85 SHELL BED; YELLOWISH GRAY TO MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-02%, SILT-02%;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES, WORM TRACES;
- 85 - 90 AS ABOVE  
WITH 3% MICRITE CEMENTED LIMESTONE PIECES
- 90 - 95 SHELL BED; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA, BARNACLES, WORM TRACES;
- 95 - 97 AS ABOVE  
WITH SAND INCREASES TO 10%
- 97 - 102 AS ABOVE  
LARGE THIN FLAT SHELL FRAGMENTS
- 102 - 105 AS ABOVE  
10% LIMESTONE WITH MICRITE FRAGMENTS IN IT
- 105 - 110 SHELL BED; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-10%, LIMESTONE-05%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL MOLDS, BARNACLES, BRYOZOA, FOSSIL FRAGMENTS;

- 110 - 116 SHELL BED; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-10%, LIMESTONE-02%;  
FOSSILS: BRYOZOA, BARNACLES, FOSSIL FRAGMENTS;
- 116 - 122 SHELL BED; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, PLANT REMAINS, BARNACLES;
- 122 - 126 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-10%;  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA;
- 126 - 130 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-03%, SHELL-03%, LIMESTONE-05%;  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, WORM TRACES;
- 130 - 135 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-03%, SHELL-05%, LIMESTONE-03%;  
FOSSILS: FOSSIL FRAGMENTS, SPICULES;
- 135 - 138 SAND; GRAYISH OLIVE GREEN; 18% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-07%, PHOSPHATIC SAND-03%, CALCILUTITE-10%, SILT-05%;  
FOSSILS: FOSSIL FRAGMENTS, SPICULES;
- 138 - 142 AS ABOVE
- 142 - 150 SAND; MODERATE GRAYISH GREEN TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-15%, CLAY-02%, PHOSPHATIC SAND-03%;
- 150 - 160 SAND; MODERATE GRAYISH GREEN TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%, SILT-05%, PHOSPHATIC SAND-04%;
- 160 - 190 AS ABOVE  
3% PHOSPHATIC SAND

- 190 - 200 AS ABOVE
- 200 - 210 SAND; MODERATE GRAYISH GREEN TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-03%, CLAY-05%;
- 210 - 220 SAND; GRAYISH OLIVE GREEN TO MODERATE GRAYISH GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-05%, CLAY-05%, SILT-05%;  
FOSSILS: SPICULES;
- 220 - 230 CLAY; GRAYISH OLIVE; LOW PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-15%;
- 230 - 240 AS ABOVE  
15% SAND
- 240 - 250 SAND; GRAYISH OLIVE GREEN TO MODERATE GRAYISH GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-03%, SILT-10%, CLAY-02%, SHELL-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 250 - 260 SAND; OLIVE GRAY; 18% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-15%, CLAY-05%;
- 260 - 270 SAND; OLIVE GRAY TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE;  
ROUNDNESS: SUB-ANGULAR; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-15%, CLAY-05%;
- 270 - 280 2% PHOSPHATIC SAND
- 280 - 310 NO PHOSPHATIC SAND
- 310 - 340 AS ABOVE
- 340 - 350 CLAY; OLIVE GRAY TO GRAYISH OLIVE GREEN; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-15%;
- 350 - 360 AS ABOVE

- 360 - 362 SAND; OLIVE GRAY TO GRAYISH OLIVE GREEN; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-10%, SILT-10%, PHOSPHATIC SAND-01%;  
AQUA-GREEN COATING ON SOME SAND GRAINS
- 362 - 365 SAND; GRAYISH OLIVE GREEN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-07%, SILT-10%, PHOSPHATIC SAND-01%, SHELL-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 365 - 370 SAND; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-15%, CLAY-05%, SILT-05%, PHOSPHATIC SAND-01%;
- 370 - 380 SAND; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-01%, CLAY-02%;
- 380 - 390 AS ABOVE
- 390 - 400 SAND; MODERATE OLIVE BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-15%, CALCILUTITE-10%, CLAY-05%, SILT-10%;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, SPICULES;
- 400 - 405 SAND; GRAYISH OLIVE TO PINKISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRANULE;  
ROUNDNESS: ROUNDED TO SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-15%, PHOSPHATIC SAND-50%, SILT-15%, CALCILUTITE-05%;  
GRANULES ARE PHOSPHATIC, SILT SPARKLES (DOLO-SILT)
- 405 - 410 SILT-SIZED DOLOMITE; GRAYISH OLIVE TO PINKISH GRAY; 20% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%, PHOSPHATIC GRAVEL-25%, CLAY-10%;

- 410 - 420 SAND; GRAYISH OLIVE TO PINKISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL;  
ROUNDNESS: ROUNDED; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-20%, CLAY-05%;  
ALL SAND IS PHOSPHATIC
- 420 - 422 GRAVEL; LIGHT OLIVE GRAY TO PINKISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRAVEL;  
ROUNDNESS: ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-10%, SILT-20%;  
GRAVEL IS PHOSPHATIC
- 422 - 425 SILT-SIZED DOLOMITE; LIGHT OLIVE GRAY; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-10%, PHOSPHATIC GRAVEL-01%;
- 425 - 430 SILT-SIZED DOLOMITE; LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-01%, SHELL-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 430 - 440 CALCILUTITE; LIGHT OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%, LIMESTONE-01%;
- 440 - 450 AS ABOVE  
SAME AS 430'
- 450 - 460 SILT-SIZED DOLOMITE; LIGHT OLIVE; 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-03%, PHOSPHATIC SAND-03%, SHELL-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 460 - 470 CALCILUTITE; LIGHT OLIVE; 12% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, LIMESTONE-02%, SILT-15%, QUARTZ SAND-15%;  
FOSSILS: FOSSIL FRAGMENTS;

470 - 482 CALCILUTITE; LIGHT OLIVE TO LIGHT OLIVE GRAY; 12% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY;  
GRAIN TYPE: INTRACLASTS, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-07%, SILT-05%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;

482 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16397

COUNTY - MARTIN

TOTAL DEPTH: 174 FT.

LOCATION: T.40S R.42E S.05AB

55 SAMPLES FROM 0 TO 174 FT.

LAT = N 27D 01M 34

LOX = W 80D 09M 55

COMPLETION DATE - N/A

ELEVATION - 12 FT

OTHER TYPES OF LOGS AVAILABLE - ELECTRIC, GAMMA

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: S. CAMPBELL (8/92)

WELL IS REPRESENTED BY CUTTINGS FROM 0-76' AND CORE FROM 76-174'.

THE SFWMD ID# FOR THE CUTTINGS IS: 085-32-SS (HOLE#:JDSP-APT(M1281)).

THE SFWMD ID# FOR THE CORE IS: 085-1C (HOLE#: J.D.S.P. #1).

THE PLIO-PLAISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION

S.F.W.M.D. GEOPHYSICAL LOG # 085-000080 IS AVAILABLE FOR THIS WELL.

THIS WELL IS LOCATED IN THE GOMEZ QUADRANGLE (110).

IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

NO HAWTHORN GROUP PICK WAS MADE, HOWEVER, THERE ARE SEVERAL

INTERVALS WITH SIGNIFICANT PHOSPHATE PRESENT. NO DIAGNOSTIC LITHOLOGIC

PICK WAS OBSERVED.

- 0. - 11. UNDIFFERENTIATED SAND AND CLAY
- 11. - . PLIOCENE-PLAISTOCENE

0 - 3.5 SAND; VERY LIGHT ORANGE TO LIGHT GRAY; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-02%, PLANT REMAINS-01%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

3.5- 4 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-03%, CLAY-02%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

4 - 5 SAND; VERY LIGHT ORANGE; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-02%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

- 5 - 11.5 SAND; DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-03%, CLAY-02%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 11.5- 27.5 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: -07%, CLAY-01%, PHOSPHATIC SAND-01%, HEAVY MINERALS-01%;  
OTHER FEATURES: FROSTED;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 27.5- 28 SAND; GRAYISH BROWN; 10% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, PHOSPHATE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-25%, -05%, PHOSPHATIC SAND-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
POORLY DEFINED AND IRREGULAR DARK GRAY BANDS ARE HIGHLY PHOSPHATIC. CEMENT/MATRIX IS A MIXTURE OF CALCILUTITE AND PHOSPHATE.
- 28 - 33 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -08%, PHOSPHATIC SAND-01%, HEAVY MINERALS-01%;  
OTHER FEATURES: FROSTED, CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 33 - 39 SAND; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: -03%, PHOSPHATIC SAND- %, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED, CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;

- 39 - 65.5 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -20%, PHOSPHATIC SAND-03%, HEAVY MINERALS-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA, BRYOZOA, ECHINOID;  
THIS INTERVAL IS REASONABLY CONSISTENT IN COMPOSITION. UNIT BECOME SLIGHTLY COARSER AND SHELLIER DOWNSECTION, HOWEVER, NO OBVIOUS BREAK OCCURS.
- 65.5- 70 SAND; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-03%, PHOSPHATIC SAND-02%, -02%, HEAVY MINERALS-01%;  
OTHER FEATURES: SUCROSIC, CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
A VERY WELL SORTED QUARTZ SAND.
- 70 - 71 SILT; LIGHT OLIVE GRAY; INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -07%, CLAY-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: PLANT REMAINS, FOSSIL FRAGMENTS;  
A CALCAREOUS SILT CONTAINING NUMEROUS FORMAS.
- 71 - 73.5 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -30%, SILT-03%, PHOSPHATIC SAND-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
THE QUARTZ SAND COMPONENT IS WELL SORTED, HOWEVER, THE SHELL DEBRIS VARIES FROM FINE SAND TO GRANULE SIZE.
- 73.5- 74 SAND; VERY LIGHT GRAY; 28% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -30%, SILT-05%, PHOSPHATIC SAND-03%, HEAVY MINERALS-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
A VERY WELL SORTED QUARTZ SAND.

- 74 - 76 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -30%, SILT-03%, PHOSPHATIC SAND-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;
- 76 - 77 SANDSTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, SILT-07%, HEAVY MINERALS-01%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
SAMPLE IS COMPOSED OF IRREGULAR 1-4 cm NODULES OF SANDSTONE. THE NODULES PRESUMABLY REPRESENT LOCALIZED CEMENTATION AND INCREASED INDURATION. THE HOST "MATRIX" TO THE NODULES MAY BE A POORLY CONSOLIDATED SAND (MINOR AMOUNTS WERE IN THE BOTTOM OF THE CORE BOX).
- 77 - 78 SHELL BED; YELLOWISH GRAY; 42% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
INTERVAL IS COMPOSED OF 100% UNCONSOLIDATED BIVALVE FRAGMENTS AND TWO WHOLE GASTROPOD SHELLS. BIVALVES APPEAR TO BE DOMINATED BY ROBUST SPECIES (MERCENARIA?).
- 78 - 83.5 SAND; YELLOWISH GRAY; 37% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, SILT-10%, HEAVY MINERALS-01%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
A WELL SORTED QUARTZ SAND. DRILLERS REPORT 20% RECOVERY FROM 76-83.5'.
- 83.5- 86.5 NO SAMPLES
- 86.5- 89 SANDSTONE; YELLOWISH GRAY TO GRAYISH PURPLE RED; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, CALCILUTITE-15%, SILT-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
A MIXTURE OF LARGE MOLLUSCAN SHELL FRAGMENTS, QUARTZ SANDSTONE, AND MINOR CALCARENITE AND/OR CALCILUTITE-DOMINATED LIMESTONE. THE MOST ABUNDANT MATERIAL IS DESCRIBED ABOVE. THE SAMPLES APPEAR TO HAVE BEEN MIXED DURING DRILLING.

- 89 - 94 CALCARENITE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%, PHOSPHATIC SAND-08%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
INDURATION RANGES FROM POOR TO GOOD, WITH THE LOCAL DEVELOPMENT OF MOLDIC POROSITY.  
BEDDING IS LOCALLY DEFINED BY PHOSPHATE-RICH (>30%), POORLY-INDURATED BEDS ONLY 2 OR 3 GRAINS IN THICKNESS. PHOSPHATE RANGES BETWEEN A MEDIUM TO VERY COARSE SAND, WITH COARSE BEING THE MOST COMMON.
- 94 - 95 CALCARENITE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 65% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-08%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;
- 95 - 96.5 CALCARENITE; LIGHT GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
A MIXTURE OF CALCARENITE AND NEARLY CALCILUTITE, WITH QUARTZ SAND CONTENT VARYING BETWEEN 15-40%. DRILLERS REPORT 35% RECOVERY FROM 86.5-96.5'.
- 96.5- 99 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -15%, SILT-06%, PHOSPHATIC SAND-01%, HEAVY MINERALS-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
MODERATELY SORTED QUARTZ SAND, WITH THE COARSE TO VERY COARSE SAND GRAINS BEING MODERATELY ROUNDED. PHOSPHATE IS PRIMARILY A FINE TO VERY FINE SAND WITH MINOR AMOUNTS OF COARSE-SAND SIZE GRAINS ALSO PRESENT. MODERATELY INDURATED QUARTZ SANDSTONE NODULES OCCUR LOCALLY. THESE ARE SIMILAR TO THOSE DESCRIBED FOR THE 76-77' INTERVAL, AND AGAIN THEY APPARENTLY RESULT FROM AN INCREASE IN THE DEGREE OF CEMENTATION.

- 99 - 100.5 SANDSTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM;  
 ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: -15%, PHOSPHATIC SAND-01%, HEAVY MINERALS- %;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: FOSSIL FRAGMENTS;  
 SAMPLE IS SIMILAR TO THE OVERLYING UNIT WITH THE EXCEPTION THAT IT HAS MUCH BETTER  
 INDURATION IMPARTED BY A CLEAR SPARRY CALCITE CEMENT RATHER THAN CALCILUTITE.
- 100.5- 106.5 CALCARENITE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
 ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
 FOSSILS: FOSSIL FRAGMENTS;  
 DEGREE OF INDURATION VARIES FROM MODERATE AT THE TOP OF THE INTERVAL TO POOR IN THE MIDDLE  
 AND BACK TO MODERATE AT THE BOTTOM OF THE INTERVAL. DRILLERS REPORT 25% RECOVERY FROM  
 96.5-106.5'.
- 106.5- 108 NO SAMPLES
- 108 - 112 CALCARENITE; YELLOWISH GRAY; 38% POROSITY, MOLDIC, INTERGRANULAR,  
 POSSIBLY HIGH PERMEABILITY;  
 GRAIN TYPE: SKELETAL, BIOGENIC; 95% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRAVEL; GOOD INDURATION;  
 CEMENT TYPE(S): , CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-05%, LIMESTONE-05%, PHOSPHATIC SAND-02%;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
 A VERY SANDY, HIGHLY MOLDIC, WELL INDURATED, VERY COARSE GRAINED CALCARENITE. THE  
 LIMESTONE ACCESSORY MINERAL REFERS TO ROUNDED AND REWORKED FRAGMENTS OF INDURATED  
 LIMESTONE. FOSSILS ARE PRIMARIALLY BIVALVE FRAGMENTS, WITH LOCAL CONCENTRATIONS OF  
 GASTROPOD DEBRIS. DRILLERS REPORT 40% RECOVERY FROM 108-112'.
- 112 - 118 CALCARENITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
 POSSIBLY HIGH PERMEABILITY;  
 GRAIN TYPE: BIOGENIC, SKELETAL; 95% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE; GOOD INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: PHOSPHATIC SAND-22%, QUARTZ SAND-20%, HEAVY MINERALS-01%;  
 OTHER FEATURES: LOW RECRYSTALLIZATION;  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
 A LARGE QUANTITY OF FORAM TESTS ARE PRESENT. PHOSPHATE IS PRIMARIALLY OF A COARSE SAND  
 SIZE AND VERY ABUNDANT THROUGHOUT THIS INTERVAL. DRILLERS REPORT <1% RECOVERY FROM  
 112-118', HOWEVER, IT APPEARS TO BE CLOSER TO 5% RECOVERY.
- 118 - 138 NO SAMPLES

- 138 - 148 SAND; VERY LIGHT ORANGE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -15%, SILT-03%, PHOSPHATIC SAND-01%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
DRILLERS REPORT <1% RECOVERY FROM 138-148'.
- 148 - 158 SAND; VERY LIGHT ORANGE; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: -25%, CALCILUTITE-10%, SILT-05%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
IT IS DIFFICULT TO DIFFERENTIATE BETWEEN CLAY AND CALCILUTITE, HOWEVER, IT APPEARS THAT  
CLAY IS MUCH LESS ABUNDANT. THIS INTERVAL IS WELL SORTED AND THE PERCENTAGE OF ALLOCHEMS,  
CALCILUTITE, AND PHOSPHATE APPEARS TO BE CONSISTENT. DRILLERS REPORT 18% RECOVERY FROM  
148-158'.
- 158 - 158.3 CALCILUTITE; LIGHT GRAY; 28% POROSITY, MOLDIC, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRANULE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -35%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%, HEAVY MINERALS- %;  
OTHER FEATURES: FOSSILIFEROUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, FOSSIL MOLDS;  
MUCH OF WHAT IS CLASSIFIED AS CALCILUTITE HAS APPARENTLY BEEN RECRYSTALLIZED TO A WHITE OR  
LIGHT TAN, SILT-SIZED CRYSTALLINE MATRIX CARBONATE. IT IS ALMOST CERTAINLY OF CALCILUTITE  
ORIGIN.
- 158.3- 161.5 CALCILUTITE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR, MOLDIC;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -43%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%, CLAY- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;  
AS IN THE OVERLYING INTERVAL THE CALCILUTITE MATRIX HAS BEEN PARTIALLY RECRYSTALLIZED TO A  
HONEY-COLORED, SILT-SIZED, CRYSTALLINE CARBONATE MATRIX. LARGE DIAMETER (1 mm) QUARTZ  
GRAINS ARE MODERATELY ROUNDED AND APPEAR TO BE FROSTED. THE CONTACTS WITH BOTH THE  
OVERLYING AND UNDERLYING UNITS ARE SHARP AND WELL DEFINED.

- 161.5- 163 CALCILUTITE; VERY LIGHT GRAY; 35% POROSITY, MOLDIC, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, BIOGENIC; 48% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -30%, QUARTZ SAND-25%, PHOSPHATIC SAND-02%, CLAY- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS;  
RECRYSTALLIZATION OF THE CALCILUTITIC MATRIX IS LESS DEVELOPED THAN THE TWO OVERLYING UNITS. THE RELATIVE PERCENTAGE OF MOLDIC POROSITY INCREASES DOWNSECTION. DRILLERS REPORT 85% RECOVERY FROM 158-163'.
- 163 - 164 NO SAMPLES
- 164 - 171 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, MOLDIC, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL CAST; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, QUARTZ SAND-25%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, FOSSIL MOLDS;  
POROSITY IS PRIMARIALLY A NEARLY EQUAL MIXTURE OF MICROMOLDIC AND INCOMPLETE INFILLING OF CALCILUTITE MATRIX AROUND SAND-SIZED SHELLY DEBRIS. THE DESCRIBED LITHOLOGY IS DOMINANT, HOWEVER, IN SOME SMALL INTERVALS CALCILUTITE IS THE MAIN LITHOLOGY, AND RARELY QUARTZ SAND. THE TOTAL LACK OF BEDDING OR CLEAR SEPARATION BETWEEN CALCILUTITE AND CALCARENITE APPEARS TO INDICATE THAT EXTENSIVE REWORKING AND/OR BIOTURBATION HAS OCCURRED. IN GROSS APPEARANCE THIS UNIT RESEMBLES A CALCARENITE, AND SHOULD BE CONSIDERED TRANSITIONAL BETWEEN CALCARENITE AND CALCILUTITE.
- 171 - 174 SAND; YELLOWISH GRAY; 27% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, SILT-05%, PHOSPHATIC SAND-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 60% RECOVERY FROM 164-174'. THE INTERVAL FROM 171-174' IS RELATIVELY CARBONATE-RICH.
- 174 - 184 NO SAMPLES



- 184 - 193 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, PHOSPHATIC SAND-05%, SILT-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, ECHINOID, BRYOZOA, BENTHIC FORAMINIFERA;  
THE DESCRIBED SAMPLE IS REPRESENTATIVE, HOWEVER, THIS UNIT IS VARIABLE IN CALCARENITE  
COMPONENT (20-45%). MUCH OF THE PHOSPHATE IS OFF WHITE TO LIGHT GRAY IN COLOR, WELL  
ROUNDED, AND OF A COARSE SAND TO SMALL GRANULE SIZE.
- 193 - 194 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, CALCILUTITE-10%, PHOSPHATIC SAND-02%, SILT-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 15% RECOVERY FROM 184-194'.
- 194 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FWMD

WELL NUMBER: W-16398  
TOTAL DEPTH: 00130 FT.  
33 SAMPLES FROM 0 TO 130 FT.

COUNTY - MARTIN  
LOCATION: T.39S R.40E S.25 CC  
LAT = 27D 02M 46S  
LON = 80D 17M 58S

COMPLETION DATE: 08/15/89

ELEVATION: 22 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA, CALIPER

OWNER/DRILLER: MONREVE RANCH APT SITE; DRILLER: SFWMD

WORKED BY: E. HOPKINS & K. ADAMS; SAMPLE QUALITY: GOOD  
SFWMD 085-33; W-33

- 0 - 2 SAND; YELLOWISH GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-01%  
OTHER FEATURES: FROSTED
  
- 2 - 3 SAND; BLACK  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-01%  
OTHER FEATURES: FROSTED
  
- 3 - 4 SAND; DARK YELLOWISH BROWN  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-10%, IRON STAIN-%
  
- 4 - 5 SAND; DARK YELLOWISH BROWN  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-10%, IRON STAIN-%  
COARSE GRAINS FROSTED
  
- 5 - 7 SAND; OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-15%, IRON STAIN-%

- 7 - 10 SANDSTONE; LIGHT OLIVE GRAY TO LIGHT OLIVE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%  
FOSSILS: FOSSIL FRAGMENTS
  
- 10 - 12 SHELL BED; VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY,  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA
  
- 12 - 14 AS ABOVE  
WITH 5% SANDSTONE PIECES
  
- 14 - 20 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
FOSSILS: SPICULES, FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS  
WITH 10% SANDSTONE PIECES, DRILL BIT GRINDING SLOWER
  
- 20 - 25 SAND; GRAYISH BROWN  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-15%
  
- 25 - 30 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
LOW SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-40%  
OTHER FEATURES: FROSTED  
FOSSILS: FOSSIL FRAGMENTS
  
- 30 - 32 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-20%, CALCILUTITE-02%  
WITH 20% DARK GRAY SANDSTONE
  
- 32 - 35 SANDSTONE; YELLOWISH GRAY TO MODERATE GRAY  
15% POROSITY: INTERGRANULAR, PIN POINT VJGS  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MEDIUM SPHERICITY  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-20%, SHELL-05%  
SAND GRAINS APPEAR FUSED, SOME SANDSTONE CONTAINS FINE  
SHELL FRAG

- 35 - 40 LIMESTONE; MODERATE GRAY TO YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-50%, CALCITE-20%  
 CALCILUTITE-20%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 40 - 45 AS ABOVE
- 45 - 51 SANDSTONE; YELLOWISH GRAY TO MODERATE GRAY  
 15% POROSITY: INTERGRANULAR, PIN POINT VUGS  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MEDIUM SPHERICITY  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-20%  
 FOSSILS: FOSSIL MOLDS
- 51 - 54 AS ABOVE  
 WITH 30% LOOSE SHELL FRAGM, 1% PHOSP GRANULES
- 54 - 59 SHELL BED; GRAYISH ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%, QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS  
 WITH 5% SANDSTONE PIECES
- 59 - 62 SHELL BED; GRAYISH ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 WITH 10% SANDSTONE, MOSTLY WHOLE TELLINA BIVALVES
- 62 - 66 SANDSTONE; MODERATE GRAY TO GRAYISH ORANGE  
 15% POROSITY: INTERGRANULAR, PIN POINT VUGS  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MEDIUM SPHERICITY  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-15%, SHELL-15%  
 PHOSPHATIC SAND-01%
- 66 - 71 LIMESTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-50%, SHELL-30%  
 CALCILUTITE-15%, CALCITE-05%  
 FOSSILS: FOSSIL FRAGMENTS

- 71 - 74 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, PIN POINT VUGS  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 MEDIUM SPHERICITY; GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 74 - 80 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-15%, SILT-07%, SHELL-05%
- 80 - 85 SAND; GREENISH GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-20%, SILT-05%, SHELL-05%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, MOLLUSKS
- 85 - 91 LIMESTONE; MODERATE GRAY  
 12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: FINE TO COARSE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-40%, CALCILUTITE-40%  
 QUARTZ SAND-20%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES
- 91 - 95 LIMESTONE; YELLOWISH GRAY  
 12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: FINE TO COARSE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-40%, CALCILUTITE-40%  
 QUARTZ SAND-20%  
 FOSSILS: BENTHIC FORAMINIFERA, BARNACLES, BRYOZOA  
 SPICULES, FOSSIL FRAGMENTS
- 95 - 100 AS ABOVE
- 100 - 105 SHELL BED; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, SPICULES  
 WORM TRACES

- 105 - 111 SHELL BED; LIGHT GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES, MOLLUSKS  
 BENTHIC FORAMINIFERA
- 111 - 115 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 55% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-45%, QUARTZ SAND-30%  
 SHELL-25%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BENTHIC FORAMINIFERA  
 SPICULES, BRYOZOA
- 115 - 120 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-60%, QUARTZ SAND-30%  
 SHELL-10%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 120 - 124 AS ABOVE
- 124 - 132 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%  
 PHOSPHATIC SAND-03%  
 FOSSILS: FOSSIL FRAGMENTS
- 132 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FWMD

WELL NUMBER: W-16400  
TOTAL DEPTH: 00155 FT.  
37 SAMPLES FROM 0 TO 155 FT.

COUNTY - MARTIN  
LOCATION: T.38S R.39E S.15 CA  
LAT = 27D 10M 20S  
LON = 80D 25M 50S

COMPLETION DATE: 07/26/89

ELEVATION: 30 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA, CALIPER, NEUTRON

OWNER/DRILLER:USGS WELL M-1280, ALLAPATAH RANCH; DRILLED BY SFWMD

WORKED BY:K. ADAMS AND E. HOPKINS; SAMPLE QUALITY: GOOD  
SFWMD 085-31; W-31

- 0 - 1 SAND; LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: PLANT REMAINS-10%, IRON STAIN- %  
OTHER FEATURES: FROSTED
- 1 - 2 SAND; DARK YELLOWISH BROWN TO DARK YELLOWISH ORANGE  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
LOW SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-05%, IRON STAIN- %
- 2 - 3 AS ABOVE
- 3 - 4 SANDSTONE; YELLOWISH GRAY  
18% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-20%, LIMESTONE-05%  
IRON STAIN- %
- 4 - 5 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-02%, LIMESTONE-02%
- 5 - 10 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-02%

- 10 - 12 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE GRAY  
01% POROSITY  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-01%  
OTHER FEATURES: FROSTED
- 12 - 15 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED
- 15 - 20 SHELL BED; VERY LIGHT ORANGE  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-01%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
APPROX. 75% MICRITE REPLACED
- 20 - 22 SHELL BED; VERY LIGHT ORANGE TO DARK GRAY  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-01%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
15% DARK GREY REPLACED SHELL FRAGMENTS
- 22 - 27 AS ABOVE
- 27 - 32 AS ABOVE  
MORE WHOLE SHELLS
- 32 - 35 AS ABOVE
- 35 - 42 SHELL BED; YELLOWISH GRAY TO VERY LIGHT ORANGE  
35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-03%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES  
25% WHOLE TELLINA BIVALVES
- 42 - 60 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-07%  
PHOSPHATIC SAND-01%, CLAY-02%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

- 60 - 65 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-07%, SILT-05%, CLAY-02%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 65 - 71 SAND; OLIVE GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-30%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 71 - 75 CALCILUTITE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 25% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 75 - 77 SAND; LIGHT OLIVE GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SILT-10%, CALCILUTITE-05%  
 LIMESTONE-05%, CLAY-03%  
 FOSSILS: FOSSIL FRAGMENTS
- 77 - 82 SAND; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, SHELL-10%, SILT-05%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 82 - 87 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 HIGH SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-03%, SHELL-02%  
 DESANDER SAMPLE

- 87 - 92 SAND; LIGHT OLIVE GRAY TO GREENISH GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-10%, SILT-05%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 92 - 97 SHELL BED; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-10%  
 SILT-05%, CLAY-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 97 - 102 SHELL BED; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-03%, QUARTZ SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA, MOLLUSKS  
 WORM TRACES
- 102 - 105 AS ABOVE
- 105 - 110 SHELL BED; LIGHT OLIVE TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-03%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, SPICULES, MOLLUSKS  
 BRYOZOA
- 110 - 115 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-03%, PHOSPHATIC SAND-01%  
 QUARTZ SAND-03%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, BARNACLES  
 10% THIN, FLAT SHELL FRAGMENTS
- 115 - 120 AS ABOVE  
 10% POORLY CONSOLIDATED MICRITE AND SAND
- 120 - 122 SAND; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-20%, SHELL-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS

- 122 - 125 CALCILUTITE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: FINE TO COARSE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-15%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 125 - 133 AS ABOVE
- 133 - 137 SANDSTONE; LIGHT OLIVE  
 18% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, SHELL-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 137 - 142 SAND; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS
- 142 - 145 LIMESTONE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%  
 SHELL-10%, CALCITE-05%
- 145 - 150 CALCILUTITE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-50%, SILT-05%  
 PHOSPHATIC SAND-01%

150 - 155 SAND; MODERATE YELLOWISH GREEN TO OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-04%  
CLAY-03%

155 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16460  
TOTAL DEPTH: 100 FT.  
57 SAMPLES FROM 0 TO 182 FT.

COUNTY - MARTIN  
LOCATION: T.39S R.41E S.10AD  
LAT = N 27D 05M 36  
LON = W 80D 13M 43

COMPLETION DATE - 29/89/08  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 13 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL (7/92); ENTERED BY S. CAMPBELL (7/92)  
WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-100'.  
THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 085-34-SS (HOLE#: MOBIL APT (M1283)) THE S.F.W.M.D. ID# FOR THE CORE IS 085-2C, WHICH WILL BE DESCRIBED AT A LATER DATE (61-136 FEET).  
S.F.W.M.D. GEOPHYSICAL LOG # 085-000082 IS AVAILABLE FOR THIS WELL.  
THIS WELL IS LOCATED IN THE GOMEZ QUADRANGLE (110).  
THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

- 0. - 33. UNDIFFERENTIATED SAND AND CLAY
- 33. - . PLIOCENE-PLEISTOCENE
  
- 0 - 1 SAND; LIGHT BROWNISH GRAY; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-10%, PLANT REMAINS-02%;  
OTHER FEATURES: FROSTED;
  
- 1 - 4 SAND; GRAYISH BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS- %, PHOSPHATIC SAND-%;
  
- 4 - 4.5 SAND; BROWNISH GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-15%, SILT-05%;
  
- 4.5- 5.5 SAND; MODERATE YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-12%, CLAY-07%, PLANT REMAINS-01%;

- 5.5- 10 SAND; LIGHT GRAYISH BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-15%, SILT-05%;
- 10 - 21 SAND; MODERATE BROWN TO MODERATE YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: CLAY-05%, SILT-05%, ORGANICS-01%;  
COLOR CHANGES DOWNSECTION AS A RESULT OF A SLIGHT DECREASE IN ORGANIC CONTENT. SAMPLE ALSO  
EXHIBITS SLIGHT VARIATION IN SORTING, BUT NOT ENOUGH TO EFFECT POROSITY. THE INTERVAL FROM  
15.1-16' IS ALMOST EXCLUSIVELY COMPOSED OF FINE-GRAINED SAND WITH A MINIMUM OF SILT AND  
CLAY.
- 21 - 22 SAND; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-10%, SILT-05%, CLAY-02%;  
OTHER FEATURES: FROSTED;  
INTERVAL CONTAINS A LARGE QUANTITY OF BLACK ORGANIC PARTICLES THAT SUPERFICIALLY RESEMBLE  
COAL.
- 22 - 27 SAND; DARK YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-03%, SILT-02%, CLAY-01%;
- 27 - 30 SAND; MODERATE YELLOWISH BROWN; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-02%, CLAY-01%, ORGANICS-01%;
- 30 - 33 SAND; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-07%, SILT-02%, CLAY-01%;
- 33 - 36 CALCILUTITE; YELLOWISH GRAY; 22% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE; 5% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-07%, -04%;



- 36 - 52 SAND; LIGHT OLIVE GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 52 - 53.5 CALCARENITE; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 7% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: ; RANGE: FINE TO VERY FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, CALCILUTITE-20%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 53.5- 55 CALCARENITE; LIGHT GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 9% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: ; RANGE: COARSE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-08%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 55 - 56 CALCARENITE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 9% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: ; RANGE: GRAVEL TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, QUARTZ SAND-15%, CALCILUTITE-05%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SAMPLE CONTAINS A COMBINATION OF POORLY LITHIFIED SHELL FRAGMENTS AND GRAVEL-SIZED NODULES  
OF HIGHLY INDURATED AND REWORKED LIMESTONE.
- 56 - 58 SAND; LIGHT GRAY; 38% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -45%, PHOSPHATIC SAND-03%, CALCILUTITE-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 58 - 60 CALCARENITE; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-03%, CALCILUTITE-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 60 - 90 NO SAMPLES

- 90 - 91 CALCARENITE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRAVEL; RANGE: GRAVEL TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, QUARTZ SAND-15%, CALCILUTITE-05%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, BRYOZOA;
- 91 - 92 SAND; LIGHT GRAY; 38% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -45%, CALCILUTITE-03%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 92 - 96.7 CALCARENITE; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-15%, PHOSPHATIC SAND- %;  
OTHER FEATURES: FOSSILIFEROUS, LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, ECHINOID;  
ECHINOID SPINES ONLY.
- 96.7- 100 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, LIMESTONE-10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
SAMPLE IS COMPOSED OF SHELLS, CALCARENITE, AND LIMESTONE CLASTS IN A FINE-GRAINED QUARTZ SANDY MATRIX. THE LIMESTONE CLASTS ARE HIGHLY INDURATED AND RECRYSTALLIZED, AND ARE APPARENTLY REWORKED. THE SHELL DEBRIS IS FOUND IN UNCONSOLIDATED SANDS AND AS MODERATELY INDURATED AND MODERATELY RECRYSTALLIZED VERY COARSE SANDS AND GRAVELS.
- 100 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16963

COUNTY - MARTIN

TOTAL DEPTH: 1290 FT.

LOCATION: T.37S R.41E S.20

129 SAMPLES FROM 0 TO 1290 FT.

LAT = N 27D 14M 23

LON = W 80D 15M 42

COMPLETION DATE - 01/90/12

ELEVATION - 17 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL (8/92); ENTERED BY S. CAMPBELL (8/92)

WELL IS REPRESENTED BY CUTTINGS FROM 0-1290'.

THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 085-35 (HOLE#:M-R.O.-1).

THIS WELL IS LOCATED IN PALM CITY QUADRANGLE (96).

THIS WELL WAS DRILLED BY GERAGHTY & MILLER IN PALM BEACH GARDENS.

THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION

IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

NOTE THAT ALL PICKS BELOW THE TOP OF THE HAWTHORN ARE TENTATIVE,

AND WILL BE REEXAMINED AT A FUTURE DATE.

ALSO NOTE THAT NO SUWANNEE HAS INITIALLY BEEN RECOGNIZED.

- 0. - 10. UNDIFFERENTIATED SAND AND CLAY
- 10. - 190. PLIOCENE-PLEISTOCENE
- 190. - 890. HAWTHORN GROUP
- 890. - 1010. OCALA GROUP
- 1010. - . AVON PARK FM.

- 0 - 10 SAND; MODERATE BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-10%, PLANT REMAINS-02%;
- 10 - 30 SAND; GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -10%, PHOSPHATIC SAND-01%, ORGANICS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;

- 30 - 50 SAND; GRAYISH BROWN; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-25%, ORGANICS-05%;  
OTHER FEATURES: CALCAREOUS;  
THIS UNIT CONTAINS NODULES OF A POORLY, REWORKED CARBONATE MUD. THE NODULES PRIMARIALLY OCCUR IN THE 30-40' INTERVAL, BUT ALSO APPEAR TO A LESSER EXTENT BETWEEN 40-50'. THE LITHOLOGY DESCRIBED IS THE QUARTZ SAND COMPONENT, WITH THE CARBONATE MATERIAL INCLUDED WITH THE ACCESSORY MINERALS.
- 50 - 60 SAND; OLIVE GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -45%, CALCILUTITE- %, CLAY- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
THIS UNIT IS A TRANSITION ZONE BETWEEN THE OVERLYING SANDS AND THE CALCARENITES BELOW.
- 60 - 150 LIMESTONE; YELLOWISH GRAY; 15% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 55% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FOSSILIFEROUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
THIS UNIT IS COMPOSED OF LIMESTONE MIXED WITH UNCONSOLIDATED SHELL FRAGMENTS. BETWEEN 130'-140' LIMESTONE AND SHELL FRAGMENTS APPEAR SUBEQUAL.
- 150 - 160 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%, CLAY- %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 160 - 170 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 55% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

- 170 - 190 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND- %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 190 - 220 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-45%, PHOSPHATIC SAND-02%, CLAY- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 220 - 250 CALCILUTITE; VERY LIGHT ORANGE; 15% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -08%, QUARTZ SAND-05%, PHOSPHATIC SAND- %;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
THERE IS A UNIFORM GRADATIONAL CHANGE IN COLOR BETWEEN 190-250'. THE CALCILUTITE IS INTERBEDDED WITHIN THE GREENISH HAWTHORN QUARTZ SANDS.
- 250 - 580 SAND; MODERATE OLIVE BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-05%, CLAY-05%, PHOSPHATIC SAND-03%, CALCILUTITE-%;  
THICK SEQUENCE OF HAWTHORN SAND THAT VARIES SLIGHTLY BETWEEN FINE AND VERY FINE SAND GRAINS.
- 580 - 600 SILT; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-35%, CHERT-10%, QUARTZ SAND-05%;  
FOSSILS: BENTHIC FORAMINIFERA;  
THERE IS APPARENTLY A SINGLE UNIT BETWEEN 580-670'. THE INTERVAL BETWEEN 580-600 CONTAINS CHERT NODULES SCATTERED THROUGHOUT. CHERT CONTAINS AN ABUNDANCE OF FORAM TESTS AND SOME PHOSPHATE GRAINS. THE DEGREE OF SILICIFICATION INCREASES DOWNWARD.
- 600 - 670 SILT; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-35%, QUARTZ SAND-05%;  
FOSSILS: BENTHIC FORAMINIFERA;  
THE INTERVAL CONTAINS 3% CHERT, WHICH IS PROBABLY CAVINGS.

- 670 - 730 CLAY; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR; POOR INDURATION;  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-05%, PHOSPHATIC SAND-05%, CALCILUTITE- %;  
 OTHER FEATURES: LOW RECRYSTALLIZATION, CALCAREOUS, DOLOMITIC;  
 MATRIX IS PRIMARILY A PHOSPHATIC CLAY. INTERVAL CONTAINS COARSE, SAND-SIZED LIMESTONE  
 GRAINS, QUARTZ SAND, PHOSPHATE, AND CHERT WHICH ARE PROBABLY CAVINGS MIXED WITH CLAY  
 DURING DRILLING. CLASTS ARE WELL-ROUNDED AND NEARLY SPHERICAL. 1% CHERT PRESENT.
- 730 - 810 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;  
 GRAIN TYPE: CALCILUTITE, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: COARSE; RANGE: GRANULE TO FINE; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: QUARTZ SAND-07%, LIMESTONE-05%, PHOSPHATIC SAND-05%;  
 OTHER FEATURES: LOW RECRYSTALLIZATION;  
 FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, SHARKS TEETH, MOLLUSKS;  
 LIMESTONE ALLOCHEMS ARE MODERATELY INDURATED AND RECRYSTALLIZED. INTERVAL CONTAINS 7-8%  
 SILTS AND CLAYS. PHOSPHATE APPEARS AS WORN NODULES AND PHOSPHATIZED SHELL FRAGMENTS.
- 810 - 890 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR;  
 GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: COARSE; RANGE: GRANULE TO FINE; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: LIMESTONE-05%, PHOSPHATIC SAND-05%, CLAY- %;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
 FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
 LIMESTONE ALLOCHEMS ARE MODERATELY INDURATED.
- 890 - 1010 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
 GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
 MODERATE INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: LIMESTONE-05%, CLAY- %;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
 FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, MOLLUSKS;  
 PACKSTONE CONTAINING AN ABUNDANCE OF OPERCULINOIDES AS DOMINANT GRAIN TYPE. INDICATIVE OF  
 OCALA LIMESTONE. ALSO CONTAINS BRYOZOAN FRAGMENTS. QUARTZ SAND CAVINGS PRESENT.
- 1010 - 1040 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;  
 GRAIN TYPE: CALCILUTITE, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: GRANULE; RANGE: COARSE TO VERY COARSE; MODERATE INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: LIMESTONE-02%, PHOSPHATIC SAND-01%;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, CHALKY;  
 FOSSILS: BENTHIC FORAMINIFERA;  
 APPROXIMATELY 37% OF THE UNIT IS COMPOSED OF FORAM TESTS, PRIMARILY OPERCULINOIDES AND  
 DICTYCONUS (americanus?). POSSIBLY AVON PARK.

- 1040 - 1060 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, PIN POINT VUGS, MOLDIC;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CLAY-15%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA;  
CLAY COMPONENT OCCURS PRIMARILY AS PIECES OF SILICLASTIC MATERIAL, POSSIBLY INDICATING A  
THIN CLAY BED INTERBEDDED. QUARTZ AND PHOSPHATE CAVINGS PRESENT.
- 1060 - 1070 LIMESTONE; LIGHT GRAY; 8% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE;  
GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
THIS INTERVAL CONTAINS A SIGNIFICANT QUANTITY OF VERY-FINE SAND-SIZED PHOSPHATE GRAINS.  
THE SAMPLE BAG ALSO CONTAINS PIECES OF MODERATELY INDURATED BIOLOGIC DEBRIS. BOTH APPEAR  
TO BE CAVINGS FROM THE OVERLYING UNITS.
- 1070 - 1100 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 5% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA;
- 1100 - 1110 LIMESTONE; LIGHT BLUISH GRAY; 8% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE;  
GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%;  
OTHER FEATURES: GRANULAR;  
MATRIX CONTAINS A SIGNIFICANT AMOUNT OF PHOSPHATE SAND. ALSO CONTAINS LESS INDURATED,  
CHALKY LIMESTONE AND FOSSIL FRAGMENTS, WHICH ARE PROBABLY CAVINGS.
- 1110 - 1120 LIMESTONE; WHITE; 10% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 5% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
CONTAINS CAVINGS OF HIGHLY INDURATED PHOSPHATIC SAND.
- 1120 - 1160 LIMESTONE; VERY LIGHT ORANGE; 12% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE, CRYSTALS;  
MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: DOLOMITIC, CHALKY, MEDIUM RECRYSTALLIZATION;  
MICRITE WITH VERY FINE, RHOMBIC CALCIT CRYSTALS LINING SMALL VUGS.

- 1160 - 1170 DOLOSTONE; GRAYISH BROWN; 20% POROSITY, PIN POINT VUGS, , INTERGRANULAR;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: CALCITE-03%, ORGANICS-02%, CALCILUTITE- %;  
OTHER FEATURES: CALCAREOUS, HIGH RECRYSTALLIZATION;  
FOSSILS: ALGAE;  
THIS INTERVAL CONTAINS APPROXIMATELY 5% ALGAL-LAMINATED LIMESTONE. INTERVAL ALSO CONTAINS  
CAVINGS OF CHALKY LIMESTONE, PHOSPHATIC LIMESTONE, AND CLAY.
- 1170 - 1180 DOLOSTONE; GRAYISH BROWN TO WHITE; 18% POROSITY, MOLDIC, PIN POINT VUGS,  
VUGULAR; 50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MOTTLED, INTERBEDDED,  
OTHER FEATURES: CALCAREOUS, HIGH RECRYSTALLIZATION;  
PROBABLY INTERBEDDED WITH MODERATELY INDURATED, CHALKY MICRITE WITH EUHEDRAL DOLOMITE  
CRYSTALS LINING VUGS.
- 1180 - 1190 LIMESTONE; YELLOWISH GRAY; 8% POROSITY, INTERGRANULAR, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE;  
GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;
- 1190 - 1200 LIMESTONE; WHITE TO LIGHT GRAY; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS, VUGULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 3% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
INTERVAL CONSISTS OF A CHALKY, MODERATELY INDURATED LIMESTONE AND A DARKER, HIGHLY  
RECRYSTALLIZED LIMESTONE. PROBABLY A TRANSITION ZONE.
- 1200 - 1210 NO SAMPLES
- 1210 - 1220 LIMESTONE; WHITE TO LIGHT GRAY; 8% POROSITY, INTERGRANULAR, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 3% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
VARIABLY COLORED LIMESTONE, RANGING FROM WHITE TO LIGHT GRAY TO GRAYISH YELLOW. ALLOCHEMS  
CONSIST OF SKELETAL DEBRIS.
- 1220 - 1250 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS, VUGULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: LOW RECRYSTALLIZATION, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA;  
NUMEROUS DICTYCONUS AND OPERCULINOIDES.



- 1250 - 1260 LIMESTONE; WHITE TO LIGHT GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, VUGULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 2% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: VERY COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: LOW RECRYSTALLIZATION, HIGH RECRYSTALLIZATION, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA;  
THIS INTERVAL IS A TRANSITION ZONE BETWEEN THE OVERLYING CHALKY, MODERATELY INDURATED  
LIMESTONES AND THE UNDERLYING, HIGHLY INDURATED, LIMESTONES.
- 1260 - 1270 LIMESTONE; LIGHT GRAY; 12% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE;  
GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: DOLOMITIC;  
PHOSPHATE GRAINS PRESENT IN MATRIX ARE CAVINGS.
- 1270 - 1280 LIMESTONE; WHITE TO LIGHT GRAY; 10% POROSITY, INTERGRANULAR, PIN POINT VUGS, VUGULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 5% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; RANGE: COARSE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: DOLOMITIC, MEDIUM RECRYSTALLIZATION;
- 1280 - 1290 LIMESTONE; WHITE; 12% POROSITY, INTERGRANULAR, PIN POINT VUGS, VUGULAR;  
GRAIN TYPE: CALCILUTITE;  
MODERATE INDURATION;  
OTHER FEATURES: DOLOMITIC, MEDIUM RECRYSTALLIZATION;
- 1290 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50067  
 TOTAL DEPTH: 00170 FT.  
 35 SAMPLES FROM 0 TO 170 FT.

COUNTY - MARTIN  
 LOCATION: T.40S R.42E S.21 DA  
 LAT = 26D 58M 44S  
 LON = 80D 09M 02S

COMPLETION DATE: 04/18/88

ELEVATION: 10 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL NO. M-1229; TRAPPER NELSON'S JDSP; DRILLED BY SFWMD

WORKED BY:K. ADAMS & E. HOPKINS; NEAR W-14150  
 SFWMD W-12

- 0 - 2 SAND; MODERATE DARK GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: PLANT REMAINS-02%, ORGANICS-02%
- 2 - 3 NO SAMPLES
- 3 - 5 SAND; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE  
 ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: PLANT REMAINS-02%
- 5 - 12 AS ABOVE  
 10% MED. SIZE GRAINS
- 12 - 16 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-02%, IRON STAIN- %  
 OTHER FEATURES: FROSTED
- 16 - 18 SAND; LIGHT OLIVE GRAY  
 35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED
- 18 - 22 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-07%, IRON STAIN- %

- 22 - 30 SAND; LIGHT OLIVE GRAY  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED
- 30 - 35 SAND; LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
5% FROSTED MEDIUM SIZE IRON-STAINED SAND GRAINS
- 35 - 38 SAND; LIGHT OLIVE GRAY  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-01%
- 38 - 40 SAND; OLIVE GRAY TO VERY LIGHT ORANGE  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-30%, PHOSPHATIC SAND-02%  
35'-40' SHELL IN SAND-SIZED FRAGMENTS
- 40 - 42 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-01%  
GRANULES SIZE SHELL FRAGMENTS
- 42 - 45 SAND; LIGHT OLIVE GRAY  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, SHELL-20%  
50% OF SHELL FRAG. DK. GRAY TO BLACK, GRANULES SIZED
- 45 - 50 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-05%, PHOSPHATIC SAND-02%  
PHOSPHATIC GRAVEL-02%, QUARTZ SAND-30%  
LOST CIRCULATION DURING DRILLING
- 50 - 57 SHELL BED; DARK GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND-05%  
SILT-02%, PHOSPHATIC GRAVEL-04%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

- 57 - 60 SANDSTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; LOW SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-05%, SHELL-05%  
 PHOSPHATIC SAND-02%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS
- 60 - 62 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 LOW SPHERICITY; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCITE-15%  
 CALCILUTITE-05%, SHELL-05%
- 62 - 65 AS ABOVE  
 SAND GRAINS BECOMING INDISTINGUISHABLE IN CALCITE MATRIX
- 65 - 70 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS  
 25% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCITE-50%, CALCILUTITE-10%  
 PHOSPHATIC SAND-01%, QUARTZ SAND-15%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 70 - 73 LIMESTONE; MODERATE LIGHT GRAY  
 10% POROSITY: INTERGRANULAR, PIN POINT VUGS  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 20% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCITE-60%, CALCILUTITE-10%  
 QUARTZ SAND-20%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS  
 2% YELLOWISH CALCITE CRYSTALS, 1% WELL ROUNDED PEBBLES
- 73 - 75 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-05%, LIMESTONE-25%  
 QUARTZ SAND-10%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 GRANULE SIZED SHELL FRAGMENTS

- 75 - 82 SAND; VERY LIGHT ORANGE TO DARK GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE  
 LOW SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-15%, SHELL-15%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS  
 COARSE SAND IS DK. GRAY
- 82 - 85 LIMESTONE; DARK GRAY TO VERY LIGHT ORANGE  
 15% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCITE-10%  
 CALCILUTITE-15%, QUARTZ SAND-40%  
 FOSSILS: FOSSIL FRAGMENTS
- 85 - 91 SAND; DARK GRAY TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE  
 LOW SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-05%, SHELL-15%  
 CALCILUTITE-05%  
 FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS, BRYOZOA  
 SPICULES  
 DK. GRAY COARSE GRAINS & FOSSIL CASTS
- 91 - 100 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-25%, CALCITE-10%  
 PHOSPHATIC SAND-02%, SHELL-02%
- 100 - 102 AS ABOVE  
 20% COARSE SAND SIZED CALCITE CRYSTALS & 10% SHELL FRAG.
- 102 - 105 SAND; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-25%, CALCITE-15%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BENTHIC FORAMINIFERA  
 25% SAND SIZED SANDSTONE PIECES

- 105 - 115 SANDSTONE; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 LOW SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-15%, CALCITE-05%  
 SHELL-25%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA
- 115 - 122 LIMESTONE; MODERATE LIGHT GRAY TO VERY LIGHT ORANGE  
 12% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCITE-25%, CALCILUTITE-35%  
 QUARTZ SAND-35%, SHELL-07%  
 FOSSILS: FOSSIL FRAGMENTS
- 122 - 125 SAND; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 ROUNDNESS: SUB-ROUNDED TO ROUNDED; LOW SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-10%, SHELL-40%  
 PHOSPHATIC GRAVEL-02%  
 FOSSILS: SPICULES, FOSSIL FRAGMENTS  
 25% DK. GRAY GRAINS
- 125 - 130 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-25%, PHOSPHATIC GRAVEL-01%  
 CALCILUTITE-10%  
 FOSSILS: WORM TRACES, FOSSIL FRAGMENTS, MOLLUSKS
- 130 - 142 AS ABOVE  
 INTERBEDDED LIMESTONE & SHELL
- 142 - 152 AS ABOVE
- 152 - 162 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SILT-15%, CALCILUTITE-15%  
 PHOSPHATIC SAND-02%
- 162 - 170 AS ABOVE  
 50% MICRITE/SILT
- 170 TOTAL DEPTH





## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50068

COUNTY - MARTIN

TOTAL DEPTH: 00180 FT.

LOCATION: T.40S R.42E S.14 DC

31 SAMPLES FROM 0 TO 180 FT.

LAT = 26D 59M 05S

LON = 80D 07M 15S

COMPLETION DATE: 04/14/88

ELEVATION: 9 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1230; CAMP WELAKA,JDSP;DRILLED BY: SFWMD

(SFWMD)

WORKED BY:K. ADAMS &amp; E. HOPKINS

SFWMD W-13

- 0 - 6 SAND; WHITE  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: HEAVY MINERALS-01%  
 3% COARSE GRAINS, FROSTED
- 6 - 8 SAND; GRAYISH BROWN  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: IRON STAIN- X
- 8 - 10 SAND; GRAYISH BROWN  
 25% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: IRON STAIN- X
- 10 - 20 SAND; YELLOWISH GRAY  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED
- 20 - 25 AS ABOVE  
 WITH IRON STAIN
- 25 - 36 SAND; YELLOWISH GRAY  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
 ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: IRON STAIN- X

- 36 - 40 AS ABOVE  
WITH 15% SHELL FRAGMENTS, LOST CIRCULATION ON DRILL RIG
- 40 - 42 SHELL BED; VERY LIGHT ORANGE TO GRAYISH BROWN  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-05%  
CALCILUTITE-05%, IRON STAIN- X  
FOSSILS: FOSSIL FRAGMENTS
- 42 - 62 SHELL BED; GRAYISH ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-10%  
CALCILUTITE-15%, LIMESTONE-10%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
LOST CIRCULATION
- 62 - 70 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-10%  
CALCILUTITE-15%, PHOSPHATIC SAND-02%  
FOSSILS: MOLLUSKS  
CHIONE CANCELLATA
- 70 - 77 SHELL BED; VERY LIGHT ORANGE TO GRAYISH BROWN  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-05%  
CALCILUTITE-15%  
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS
- 77 - 79 SAND; LIGHT OLIVE GRAY TO BLACK  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: PLANT REMAINS-15%, SHELL-15%  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS  
7% DK GRAY REPLACED SHELL FRAGMENTS
- 79 - 82 SAND; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-40%, PHOSPHATIC SAND-01%  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS, BRYOZOA  
SPICULES  
20% OF SHELL DK GRAY, WELL ROUNDED, REPLACED; ADDED WATER  
TO PIT

- 82 - 95 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, SPICULES  
 50% OF SHELL DK. GRAY, REPLACED
- 95 - 100 SHELL BED; YELLOWISH GRAY TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: BRYOZOA, BARNACLES, FOSSIL FRAGMENTS, MOLLUSKS  
 50% DK GRAY REPLACED SHELL FRAG & GRANULES, GASTROPODS
- 100 - 102 SHELL BED; LIGHT OLIVE GRAY TO MODERATE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%  
 CALCILUTITE-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 MANY SMALL GASTROPODS
- 102 - 108 SAND; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-40%, SILT-10%, CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS
- 108 - 115 LIMESTONE; YELLOWISH GRAY  
 15% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, BIOGENIC, INTRACLASTS  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCITE-15%, CALCILUTITE-50%  
 SHELL-25%  
 FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS  
 BARNACLES  
 INTERBEDDED L.STONE & SHELL, 5% SANDSTONE, LOST CIRCULATION
- 115 - 120 CALCILUTITE; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRANULE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: LIMESTONE-40%, QUARTZ SAND-03%  
 SHELL-30%, SPAR-05%  
 FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS  
 BARNACLES

- 120 - 122 LIMESTONE; MODERATE LIGHT GRAY  
 12% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 20% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO GRANULE; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-15%, CALCITE-60%  
 SHELL-10%, QUARTZ SAND-05%
- 122 - 130 LIMESTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: BIOGENIC, INTRACLASTS, CRYSTALS  
 45% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO GRANULE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-25%, SHELL-30%  
 QUARTZ SAND-15%, CALCITE-30%  
 FOSSILS: FOSSIL FRAGMENTS
- 130 - 134 AS ABOVE  
 SAME AS 120- 122' ABOVE, HARD DRILLING
- 134 - 138 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-03%, CALCILUTITE-10%  
 SILT-20%, SHELL-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 138 - 142 SAND; OLIVE GRAY TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-25%, ORGANICS-10%  
 CALCILUTITE-10%, SILT-10%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES
- 142 - 150 SHELL BED; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-25%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 150 - 155 AS ABOVE  
 10% LIMESTONE PIECES

- 155 - 160 SAND; MODERATE GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 HIGH SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-20%, CALCITE-05%  
 CALCILUTITE-25%, SILT-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 2% PHOSPHATIC SAND
- 160 - 162 AS ABOVE  
 MICRITE CONTENT INCREASED TO 30%
- 162 - 170 SAND; MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-30%  
 SILT-05%, SHELL-15%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 170 - 175 AS ABOVE  
 WITH 15% CALCITE CEMENTED LIMESTONE PIECES, 5% SPARRY  
 CALCITE
- 175 - 180 CALCILUTITE; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRANULE  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-05%, SHELL-20%  
 QUARTZ SAND-40%  
 FOSSILS: FOSSIL FRAGMENTS
- 180 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50069  
 TOTAL DEPTH: 00182 FT.  
 32 SAMPLES FROM 0 TO 182 FT.

COUNTY - MARTIN  
 LOCATION: T.40S R.41E S.29 DB  
 LAT = 26D 57M 26S  
 LONG = 80D 15M 41S

COMPLETION DATE: 04/21/88

ELEVATION: 22 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1231, OLD INDIANTOWN RD.;DRILLED BY: SFWMD

WORKED BY:K. ADAMS & E. HOPKINS, SAMPLE QUALITY- GOOD  
 SFWMD W-14

- 0 - 2 SAND; GRAYISH ORANGE TO DARK BROWN  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: ORGANICS-10%  
 CANAL SPOIL
- 2 - 7 SAND; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-20%, ORGANICS-05%, IRON STAIN- %  
 PLANT REMAINS- %  
 CANAL SPOIL
- 7 - 10 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-03%  
 FOSSILS: FOSSIL FRAGMENTS  
 CANAL SPOIL
- 10 - 16 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-05%, IRON STAIN- %
- 16 - 18 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS  
 ALL MICRITE REPLACED LARGE FRAGMENTS, MANY CHIONE  
 CANCELLATA

- 18 - 20 AS ABOVE  
WITH 15% SANDY FOSSILIFEROUS CALCITE CEMENTED LIMESTONE
- 20 - 25 SHELL BED; GRAYISH ORANGE TO MODERATE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-05%  
FOSSILS: FOSSIL FRAGMENTS  
LARGE BIVALVE FRAGMENTS
- 25 - 32 SHELL BED; MODERATE DARK GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-02%  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, BARNACLES  
MOSTLY GRANULE SIZED WELL WORN FRAGMENTS; 50% DK. GRAY  
REPLACED 15% SANDSTONE PIECES
- 32 - 34 LIMESTONE; MODERATE DARK GRAY TO OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCITE-35%, CALCILUTITE-15%  
QUARTZ SAND-40%  
FOSSILS: FOSSIL FRAGMENTS  
5% LOOSE SHELL
- 34 - 36 LIMESTONE; MODERATE DARK GRAY  
12% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: CRYPTOCRYSTALLINE  
RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCITE-60%, CALCILUTITE-20%  
QUARTZ SAND-20%
- 36 - 40 LIMESTONE; LIGHT OLIVE GRAY TO OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCITE-20%, CALCILUTITE-40%  
15% LIMESTONE LIKE 34'-36'; MICRITE REPLACED SHELL FRAG IN  
LSTONE



- 40 - 42 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-50%, QUARTZ SAND-30%  
 CALCITE-20%  
 50% OF GRAINS ARE MICRITE SHELL FRAGMENTS (GRAIN SIZE  
 MEDIUM)
- 42 - 45 SHELL BED; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-50%, PHOSPHATIC SAND- %  
 FOSSILS: FOSSIL FRAGMENTS  
 5% LOOSE SHELL FRAG; MICRITE FRAG IN SANDSTONE AS DESCR.  
 ABOVE
- 45 - 50 SHELL BED; MODERATE DARK GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES  
 ALL COARSE SIZED WEATHERED FRAGMENTS; 20% SANDSTONE AS  
 ABOVE
- 50 - 54 SHELL BED; MODERATE DARK GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BENTHIC FORAMINIFERA  
 SPICULES  
 50% DK. GRAY REPLACED; ALL SHELL FRAGMTS. COARSE SIZE
- 54 - 62 LIMESTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 65% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-30%  
 CALCITE-10%, SHELL-07%  
 FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, BRYOZOA, CORAL
- 62 - 72 AS ABOVE  
 SAME AS 50'-54' ABOVE, 25% DK GRAY FRAGMENTS
- 72 - 80 AS ABOVE

- 80 - 82 SHELL BED;  
OTHER FEATURES: POOR SAMPLE  
DRILLERS LOG NOTED LT. GREEN CLAY STRINGER, SANDY
- 82 - 92 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%  
LIMESTONE-15%, CLAY-03%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES
- 92 - 102 SHELL BED; YELLOWISH GRAY TO MODERATE DARK GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-07%, QUARTZ SAND-10%  
LIMESTONE-05%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, CORAL  
BARNACLES
- 102 - 110 SHELL BED; YELLOWISH GRAY TO MODERATE DARK GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-02%  
OTHER FEATURES: FROSTED  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA
- 110 - 115 AS ABOVE  
FRAG SIZE INCREASE FROM GRANULE TO GRAVEL; ADDED LOTS OF  
WATER
- 115 - 122 AS ABOVE  
WITH 10% SANDY, MOLDIC MICRITE CEMENTED LIMESTONE; ADDED  
WATER
- 122 - 130 SANDSTONE; YELLOWISH GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-25%, SHELL-07%  
PHOSPHATIC SAND-01%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA
- 130 - 137 AS ABOVE
- 137 - 142 SANDSTONE; YELLOWISH GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%  
SHELL-15%  
OTHER FEATURES: FROSTED  
FOSSILS: SPICULES, FOSSIL FRAGMENTS

- 142 - 150 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-07%, PHOSPHATIC SAND-02%  
SILT-02%
- 150 - 155 SANDSTONE; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
HIGH SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-05%  
PHOSPHATIC SAND-01%  
CEMENT SPARKLES LIKE DOLOSILT
- 155 - 162 SILT-SIZE DOLOMITE; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-50%, SHELL-30%  
PHOSPHATIC SAND-01%, CLAY-02%
- 162 - 172 AS ABOVE  
5% SHELL FRAGMENTS
- 172 - 182 SAND; GRAYISH OLIVE GREEN  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-15%, CALCILUTITE-05%, CLAY-05%  
PHOSPHATIC SAND-02%
- 182 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFUMD

WELL NUMBER: W-50070

COUNTY - MARTIN

TOTAL DEPTH: 00160 FT.

LOCATION: T.39S R.41E S.27 CC

28 SAMPLES FROM 4 TO 160 FT.

LAT = 27D 02M 37S

LOW = 800 14M 05S

COMPLETION DATE: 07/26/88

ELEVATION: 17 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1235; BRIDGE RD.(708) & I-95; DRILLED BY: SFUMD

WORKED BY:E. HOPKINS & K. ADAMS; SAMPLE QUALITY GOOD

SFUMD W-15

- 0 - 4 NO SAMPLES
  
- 4 - 6 SAND; YELLOWISH GRAY  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
ROUNDNESS: SUB-ROUNDED TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: PLANT REMAINS-01%, IRON STAIN- %  
COARSE GRAINS FROSTED
  
- 6 - 8 SAND; GRAYISH BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
ROUNDNESS: SUB-ROUNDED TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-03%, IRON STAIN- %
  
- 8 - 10 SHELL BED; VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, HEAVY MINERALS- %
  
- 10 - 17 AS ABOVE
  
- 17 - 20 AS ABOVE  
INCREASE SAND TO 15%; 20% OF SHELL IS DK GRAY REPLACED  
FRAGM.
  
- 20 - 23 SHELL BED; VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
SEDIMENTARY STRUCTURES: STREAKED  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-03%  
SILT-02%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES, CRUSTACEA  
1% SANDSTONE PIECES

- 23 - 27 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%  
 SILT-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES
- 27 - 30 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CLAY-05%, SILT-15%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 30 - 33 SAND; OLIVE GRAY TO VERY LIGHT ORANGE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-10%, SILT-15%, SHELL-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 33 - 38 SAND; OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-15%, SILT-10%  
 SHELL-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, CRUSTACEA
- 38 - 41 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-10%  
 LIMESTONE-05%  
 FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS  
 20% DK GRAY SANDSTONE PIECES W/MICRITE CEMENT; NO BIT  
 CHATTER
- 41 - 48 SHELL BED; MODERATE GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-10%  
 PHOSPHATIC GRAVEL-01%  
 FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, SPICULES  
 50% DK GRAY REPLACED SHELL FRAGM; SHELL HASH-GRANULE SIZE

- 48 - 51 LIMESTONE; LIGHT OLIVE GRAY TO LIGHT GRAYISH RED  
 01% POROSITY: MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-05%, CALCITE-50%  
 CALCILUTITE-20%, QUARTZ SAND-20%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 51 - 55 LIMESTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 12% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-35%  
 CALCITE-20%, CALCILUTITE-30%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 SHELL IS LOOSE, WHOLE & BROKEN; 10% SANDSTONE PIECES
- 55 - 62 LIMESTONE; MODERATE LIGHT GRAY TO LIGHT OLIVE GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-40%, CALCITE-50%  
 SHELL-05%  
 FOSSILS: WORM TRACES, FOSSIL FRAGMENTS  
 FUSED SAND GRAINS & TINY MICRITE SHELL FRAG. 15% SANDSTONE  
 PCS.
- 62 - 65 CLAY; OLIVE GRAY  
 POROSITY: INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: LIMESTONE-50%, SHELL-03%  
 QUARTZ SAND-05%, SILT-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 65 - 76 SHELL BED; VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-40%, QUARTZ SAND-10%  
 SILT-10%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, ECHINOID  
 SHELLS ARE WHOLE BIVALVES (TELLINA)

- 76 - 82 SAND; OLIVE GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-25%, CLAY-15%, CALCILUTITE-05%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS  
 BENTHIC FORAMINIFERA
- 82 - 91 SANDSTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 HIGH SPHERICITY; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: LIMESTONE-20%, SHELL-10%  
 CALCILUTITE-20%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 91 - 98 SILT; GREENISH GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-02%  
 QUARTZ SAND-02%, SHELL-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 98 - 110 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 HIGH SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-10%, SILT-30%  
 SHELL-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 110 - 119 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES  
 COARSE SAND FROSTED; 30% DK GRAY REPLACED SHELL; ALL  
 FRAGMENTS
- 119 - 122 AS ABOVE  
 WITH PHOSPHATE GRANULES & PHOSPHATE REPLACED SHELL; ADDED  
 WATER



- 122 - 130 SANDSTONE; MODERATE LIGHT GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-25%, LIMESTONE-10%  
 CALCILUTITE-20%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA, MOLLUSKS  
 WORM TRACES  
 DRILL BIT CHATTER
- 130 - 138 SHELL BED; LIGHT OLIVE GRAY TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%  
 QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 5% SANDSTONE; 15% DK GRAY REPLACED SHELL FRAGMENTS
- 138 - 142 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, SILT-10%  
 CALCILUTITE-05%, SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS
- 142 - 150 SAND; OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-05%, SILT-10%, SHELL-20%  
 PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS, BARNACLES
- 150 - 160 SAND; OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-10%, SILT-15%  
 PHOSPHATIC SAND-03%, SHELL-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 160 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50071

COUNTY - MARTIN

TOTAL DEPTH: 00140 FT.

LOCATION: T.39S R.40E S.23 BA

28 SAMPLES FROM 3 TO 140 FT.

LAT = 27D 04N 25S

LOW = 800 18N 46S

COMPLETION DATE: 07/27/88

ELEVATION: 25 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL NO. M1236; BESSEMER, CITRUS BLVD; DRILLED BY;SFWMD

WORKED BY:E. HOPKINS AND K. ADAMS; SAMPLE QUALITY GOOD

SFWMD W-17

0 - 3 NO SAMPLES

3 - 5 SAND; LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-03%, SHELL-01%  
IRON STAIN- %

5 - 6 SAND; GRAYISH BROWN  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SILT-03%  
PLANT REMAINS-01%

6 - 10 SAND; LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SHELL-01%

10 - 12 AS ABOVE

12 - 15 SAND; DARK YELLOWISH BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SILT-03%

15 - 18 SAND; OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-07%, PHOSPHATIC SAND-01%

- 18 - 20 SHELL BED; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-15%  
 CALCILUTITE-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 20 - 22 SHELL BED; GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%  
 FOSSILS: MOLLUSKS, BARNACLES, FOSSIL FRAGMENTS  
 15% SANDSTONE WITH MICRITE CEMENT, 80% SHELLS MICRITE  
 REPLACED
- 22 - 25 AS ABOVE  
 LARGER SHELL FRAGMENTS
- 25 - 30 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: LIMESTONE-10%, SILT-15%  
 QUARTZ SAND-15%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 SANDY, BIOGENIC LIMESTONE PIECES, LG BIVALVE PIECES W/EATEN  
 HOLES
- 30 - 34 LIMESTONE; OLIVE GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-25%  
 CALCILUTITE-35%, SHELL-10%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS  
 HARD, SLOW DRILLING
- 34 - 42 LIMESTONE; LIGHT OLIVE GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-40%  
 SPAR-15%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BARNACLES  
 VERY SLOW DRILLING; USED PULLDOWN ON RIG, MICRITE REPLACED  
 SHELL
- 42 - 50 AS ABOVE

- 50 - 55 AS ABOVE  
WITH 50% MICRITE REPLACED CRUSHED SHELL FRAG.
- 55 - 62 LIMESTONE; LIGHT OLIVE GRAY  
10% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: CRYPTOCRYSTALLINE  
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: SPAR-50%, CALCILUTITE-35%  
PHOSPHATIC SAND-01%, SHELL-02%  
FOSSILS: FOSSIL FRAGMENTS  
CALCITE LOOKS LIKE FUSED SAND GRAINS
- 62 - 65 SHELL BED; GRAYISH ORANGE TO LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, MOLDIC; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-45%, QUARTZ SAND-05%  
PHOSPHATIC SAND-02%, CALCILUTITE-03%  
FOSSILS: MOLLUSKS, BRYOZOA, SPICULES, WORM TRACES  
SHELL AND LIMESTONE STRINGERS 62'-82'
- 65 - 70 SHELL BED; GRAYISH ORANGE TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-30%, CALCILUTITE-05%  
PHOSPHATIC SAND-01%, QUARTZ SAND-03%  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
TELLINA SHELLS MAKE UP LARGEST % OF WHOLE SHELLS
- 70 - 75 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-20%, CALCILUTITE-10%  
PHOSPHATIC SAND-01%, PHOSPHATIC GRAVEL-01%  
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, WORM TRACES  
SPICULES  
ALMOST ALL SHELL IS BROKEN, SOME DRILL RIG BIT CHATTER
- 75 - 82 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-30%, CALCILUTITE-10%  
OTHER FEATURES: POOR SAMPLE  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES  
EQUAL THIRDS MOLDIC LIMESTONE, SANDSTONE, SHELL

- 82 - 85 LIMESTONE; LIGHT GRAY  
 10% POROSITY: INTERGRANULAR, VUGULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-05%  
 CALCITE-45%, SHELL-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 SOME L.S. PIECES ROUNDED, AS IF NOT RECENTLY BROKEN
- 85 - 95 SAND; LIGHT GRAYISH GREEN  
 12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-10%, CALCILUTITE-10%, SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 95 - 100 SHELL BED; LIGHT GRAYISH GREEN  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-10%, CALCILUTITE-15%  
 LIMESTONE-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, SPICULES  
 BARNACLES
- 100 - 105 LIMESTONE; YELLOWISH GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: SILT-10%, CALCILUTITE-30%, SHELL-40%  
 QUARTZ SAND-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, SPICULES  
 BRYOZOA
- 105 - 110 SHELL BED; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-20%  
 QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, BRYOZOA  
 MAINLY CRUSHED REPLACED BIVALVES
- 110 - 117 SHELL BED; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-20%  
 PHOSPHATIC SAND-01%, SILT-03%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA  
 LOST CIRCULATION WHILE DRILLING, SAND SIZED SHELL FRAGM.

- 117 - 120 SANDSTONE; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%  
SHELL-02%  
FOSSILS: FOSSIL FRAGMENTS
- 120 - 130 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
HIGH SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, SHELL-07%  
PHOSPHATIC SAND-02%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, WORM TRACES
- 130 - 140 SAND; OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
HIGH SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-05%, SILT-20%  
PHOSPHATIC SAND-03%, SHELL-05%  
FOSSILS: FOSSIL FRAGMENTS
- 140 TOTAL DEPTH





## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50072

COUNTY - MARTIN

TOTAL DEPTH: 00160 FT.

LOCATION: T.39S R.39E S.16 DD

29 SAMPLES FROM 3 TO 160 FT.

LAT = 27D 04M 27S

LON = 80D 25M 59S

COMPLETION DATE: 08/04/88

ELEVATION: 27 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1237; COCA COLA GROVES SOUTH SITE; DRILLED BY: SFW

WORKED BY:K.ADAMS AND E.HOPKINS

SFWMD W-17

- 0 - 30 NO SAMPLES
- 30 - 5 SAND; DARK YELLOWISH BROWN  
 12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-17%, IRON STAIN- %, SHELL-01%  
 PLANT REMAINS- %  
 FOSSILS: MOLLUSKS
- 5 - 7 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %, SILT-15%
- 7 - 15 SAND; MODERATE LIGHT GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: IRON STAIN- %, SILT-20%
- 15 - 17 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-01%  
 FOSSILS: MOLLUSKS  
 SHELLS MICRITE REPLACED, MOSTLY BROKEN BIVALVES
- 17 - 20 SHELL BED; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-01%  
 FOSSILS: MOLLUSKS  
 WHOLE & BROKEN BIVALVES, 10% DK. GRAY SHELLS

- 20 - 25 AS ABOVE  
3% PHOSPHATE GRANULES
- 25 - 30 SHELL BED; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC GRAVEL-02%  
MOSTLY WHOLE BIVALVES
- 30 - 35 SHELL BED; VERY LIGHT ORANGE TO GRAYISH BROWN  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-05%  
80% TELLINA PELECYPODS, MOSTLY WHOLE SHELLS
- 35 - 40 SHELL BED; VERY LIGHT ORANGE TO GRAYISH BROWN  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-05%, CLAY-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA  
50% TELLINA, 50/50 WHOLE TO BROKEN SHELLS
- 40 - 60 NO SAMPLES  
DRILLERS LOG SAYS SHELL BEDS
- 60 - 65 SHELL BED; MODERATE BLUISH GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, LIMESTONE-10%  
SILT-05%, PHOSPHATIC SAND-02%  
FOSSILS: MOLLUSKS, BRYOZOA, SPICULES, FOSSIL FRAGMENTS  
35% DK. GRAY REPLACED SHELL FRAG., MOSTLY FRAGMENTED SHELL
- 65 - 70 SHELL BED; MODERATE BLUISH GRAY TO VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN-20%, QUARTZ SAND-02%  
PHOSPHATIC GRAVEL-01%  
FOSSILS: BRYOZOA, SPICULES, MOLLUSKS, FOSSIL FRAGMENTS
- 70 - 75 SHELL BED; MODERATE BLUISH GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-10%, SILT-05%  
PHOSPHATIC GRAVEL-02%  
FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL MOLDS, FOSSIL FRAGMENTS
- 75 - 80 SHELL BED; VERY LIGHT ORANGE TO MODERATE BLUISH GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%, SILT-05%  
FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL FRAGMENTS  
2% HIGHLY PHOSPHATIC SANDSTONE, 25% GRAY REPLACED SHELL  
FRAGMENTS

- 80 - 90 SHELL BED; YELLOWISH GRAY TO MODERATE BLUISH GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-01%  
 FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, SPICULES  
 BARNACLES  
 MOSTLY SHELL FRAG., APPROX. 5% LARGE FLAT BIVALVE FRAG.
- 90 - 98 SHELL BED; MODERATE BLUISH GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-03%  
 FOSSILS: BRYOZOA, MOLLUSKS, SPICULES, BARNACLES  
 BENTHIC FORAMINIFERA  
 MOSTLY CRUSHED SHELL
- 98 - 100 SHELL BED; MODERATE BLUISH GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-05%, SILT-05%  
 FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL FRAGMENTS
- 100 - 105 SANDSTONE; LIGHT BLUISH GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-35%, SHELL-15%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS, BARNACLES
- 105 - 110 AS ABOVE
- 110 - 115 SHELL BED; LIGHT BLUISH GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-20%  
 FOSSILS: SPICULES, FOSSIL FRAGMENTS, WORM TRACES, BRYOZOA  
 CRUSHED, REPLACED SHELL FRAGMENTS
- 115 - 118 LIMESTONE; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-10%  
 QUARTZ SAND-15%, SHELL-25%  
 FOSSILS: MOLLUSKS, SPICULES, WORM TRACES, BARNACLES

- 118 - 122 SHELL BED; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-25%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 122 - 127 CALCILUTITE; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-30%  
 PHOSPHATIC SAND-01%  
 FOSSILS: SPICULES, BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS
- 127 - 135 AS ABOVE
- 135 - 140 LIMESTONE; YELLOWISH GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-30%  
 SHELL-10%, CALCILUTITE-30%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA
- 140 - 145 AS ABOVE  
 SAME AS 127-135' ABOVE
- 145 - 150 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, CALCILUTITE-05%  
 SILT-10%, SHELL-03%  
 FOSSILS: FOSSIL FRAGMENTS
- 150 - 155 AS ABOVE  
 15% SILT, 10% MICRITE

155 - 160 SAND; LIGHT OLIVE GRAY  
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
HIGH SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCILUTITE-15%  
SILT-10%, CLAY-05%  
FOSSILS: FOSSIL FRAGMENTS

160 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50073  
 TOTAL DEPTH: 00122 FT.  
 28 SAMPLES FROM 0 TO 122 FT.

COUNTY - MARTIN  
 LOCATION: T.39S R.39E S.04 DB  
 LAT = 27D 06M 50S  
 LONG = 80D 26M 00S

COMPLETION DATE: 08/08/88  
 ELEVATION: 27 FT  
 OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1238: COCA-COLA GROVES (NORTH SITE), DRILLED BY: SF

WORKED BY:K. ADAMS & E. HOPKINS; SAMPLE QUALITY GOOD  
 SFWMD W-18

- 0 - 2 NO SAMPLES
- 2 - 3 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: ORGANICS-15%
- 3 - 5 SAND; LIGHT OLIVE TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: ORGANICS-05%, SILT-03%
- 5 - 6 SAND; LIGHT OLIVE BROWN TO OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-25%, ORGANICS-04%
- 6 - 11 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED
- 11 - 13 SHELL BED; VERY LIGHT ORANGE  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS  
 WELL ROUNDED REPLACED SHELL FRAGMENTS
- 13 - 17 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%  
 MOSTLY ORIGINAL SHELL FRAGMENTS

- 17 - 22 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-07%, PHOSPHATIC GRAVEL-02%  
20% GRAY REPLACED SHELL FRAGMENTS
- 22 - 24 AS ABOVE  
ROUNDED SHELL FRAG. VERY COARSE SAND-SIZED, 30% DK GRAY  
REPLACED
- 24 - 30 SAND; LIGHT OLIVE GRAY TO MODERATE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-30%, ORGANICS-02%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES
- 30 - 35 SHELL BED; VERY LIGHT ORANGE TO GRAYISH ORANGE  
30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA  
WHOLE & BROKEN SHELLS, WHOLE SHELLS MOSTLY TELLINA BIVALVES
- 35 - 40 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-20%  
FOSSILS: SPICULES, FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA  
MOST OF SHELL IN GRANULE SIZED PIECES
- 40 - 45 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-02%
- 45 - 55 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY  
30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-02%, LIMESTONE-07%  
LIMESTONE APPEARS IN SANDY, MICRITIC, WELL-ROUNDED PEBBLES
- 55 - 56 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CLAY-05%, CALCILUTITE-15%  
QUARTZ SAND-10%
- 56 - 57 AS ABOVE  
30% DK GRAY LIMESTONE & REPLACE SHELL GRANULES



- 57 - 62 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-10%  
 CALCILUTITE-10%  
 FOSSILS: FOSSIL FRAGMENTS
- 62 - 65 AS ABOVE
- 65 - 68 CLAY; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-15%
- 68 - 75 SHELL BED; YELLOWISH GRAY TO PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-10%, QUARTZ SAND-05%  
 LIMESTONE-02%  
 FOSSILS: FOSSIL FRAGMENTS
- 75 - 82 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, BARNACLES  
 SHELL BROKEN TO GRANULE SIZE; 50% GRAY REPLACED; ADDED  
 WATER 86'
- 82 - 86 AS ABOVE  
 SAND INCREASED TO 20%, MEDIUM GRAINS; MANY BARNACLE  
 FRAGMENTS
- 86 - 91 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: BRYOZOA, BARNACLES, WORM TRACES, FOSSIL FRAGMENTS  
 SPICULES  
 50% GRAY REPLACED SHELL FRAGMENTS
- 91 - 95 SANDSTONE; LIGHT OLIVE GRAY TO MODERATE DARK GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-02%  
 SHELL-15%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BARNACLES  
 SHELL MOSTLY LOOSE FRAGMENTS

- 95 - 102 AS ABOVE  
50% LOOSE SHELL, MANY BARNACLE FRAGMENTS
- 102 - 111 SHELL BED; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-20%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA
- 111 - 116 AS ABOVE  
MICRITE INCREASE TO 40%, 5% LIMESTONE PIECES
- 116 - 119 CALCILUTITE; YELLOWISH GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
35% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-10%  
PHOSPHATIC SAND-02%  
FOSSILS: FOSSIL FRAGMENTS
- 119 - 122 SAND; LIGHT OLIVE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-35%, SHELL-07%
- 122 TOTAL DEPTH

## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50074  
 TOTAL DEPTH: 00130 FT.  
 34 SAMPLES FROM 3 TO 130 FT.

COUNTY - MARTIN  
 LOCATION: T.39S R.40E S.23 DD  
 LAT = 27D 03M 32S  
 LONG = 80D 18M 53S

COMPLETION DATE: 08/09/88 ELEVATION: 23 FT  
 OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL-1239; SR76 AND CR708; DRILLED BY: SFWMD

WORKED BY:K.ADAMS &amp; E.HOPKINS

SFWMD W-19

- 0 - 3 NO SAMPLES
- 3 - 4 SAND; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX  
 ACCESSORY MINERALS: SILT-20%, LIMONITE-10%, IRON STAIN- %  
 SHELL-01%  
 FOSSILS: FOSSIL FRAGMENTS
- 4 - 5 NO SAMPLES
- 5 - 6 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, IRON STAIN- %  
 SILT-05%, LIMESTONE-03%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 6 - 10 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
 LOW SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-02%  
 IRON STAIN- %, SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS  
 15% SANDY MICRITE CEMENTED LIMESTONE PIECES
- 10 - 15 SAND; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-20%, SILT-10%, SHELL- %  
 OTHER FEATURES: FROSTED

- 15 - 16 SAND; DARK YELLOWISH BROWN TO LIGHT OLIVE BROWN  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: IRON STAIN- %, SILT-10%, CALCITE-05%  
 HEAVY MINERALS- %  
 MANY GRAINS IRON-STAINED DK. REDDISH BROWN GRAINS CLUMPED  
 IN SMALL ROUNDED BALLS
- 16 - 22 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-01%  
 CALCITE-05%
- 22 - 24 AS ABOVE  
 GRAINS LOOK PARTIALLY FUSED
- 24 - 26 LIMESTONE; LIGHT GRAY  
 12% POROSITY: INTERGRANULAR, MOLDIC  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CRYSTALS, BIOGENIC, INTRACLASTS  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND-05%  
 SHELL-07%  
 FOSSILS: FOSSIL FRAGMENTS  
 MANY WELL FORMED CALCITE CRYSTALS
- 26 - 29 LIMESTONE; LIGHT OLIVE GRAY TO LIGHT GRAY  
 15% POROSITY: INTERGRANULAR, PIN POINT VUGS  
 GRAIN TYPE: INTRACLASTS, CRYSTALS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-07%  
 PLANT REMAINS-10%, CALCITE-40%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, WORM TRACES

- 29 - 32 SANDSTONE; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-15%, SILT-15%  
 SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS  
 USED PULLDOWN ON RIG, 31'-32', VERY HARD
- 32 - 35 LIMESTONE; LIGHT OLIVE GRAY  
 12% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-25%
- 35 - 40 LIMESTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%  
 CALCITE-20%  
 USED PULLDOWN ON DRILL RIG, 30% MICRITE REPLACED SHELL HASH
- 40 - 45 AS ABOVE  
 GRAIN SIZE-FINE, 15% MICRITE CEMENT
- 45 - 50 AS ABOVE
- 50 - 55 AS ABOVE  
 ADDED WATER TO MUDPIT
- 55 - 57 SHELL BED; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-25%, QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 57 - 62 SHELL BED; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 SEDIMENTARY STRUCTURES: STREAKED, STREAKED  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA  
 40% DK GRAY REPLACED SHELL HASH, ADDED THICKENING AGENT TO  
 MUD

- 62 - 64 SHELL BED; LIGHT OLIVE GRAY TO PINKISH GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): ORGANIC MATRIX, CLAY MATRIX  
ACCESSORY MINERALS: LIMONITE-15%, SILT-10%  
QUARTZ SAND-10%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 64 - 72 SHELL BED; LIGHT OLIVE GRAY TO GRAYISH ORANGE  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-05%  
LIMESTONE-45%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES, BRYOZOA  
LIMESTONE PIECES ROUNDED & VARY IN ALLOCHEMICAL  
CONSTITUENTS
- 72 - 76 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-10%, QUARTZ SAND-10%  
PHOSPHATIC SAND-01%, LIMESTONE-15%  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, CORAL  
INTERBEDDED LIMESTONE & SANDY SHELL
- 76 - 82 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: CLAY-05%, SILT-15%  
PHOSPHATIC SAND-01%, SHELL-20%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 82 - 85 AS ABOVE  
10% CLAY, 25% SILT
- 85 - 91 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-15%  
LIMESTONE-05%  
FOSSILS: SPICULES, BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS
- 91 - 95 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, WORM TRACES, BRYOZOA  
MOLLUSKS  
MOST SHELL FRAGMENTS ARE CALCITE REPLACED

- 95 - 102 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-10%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS  
SPICULES
- 102 - 105 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%  
LIMESTONE-10%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS
- 105 - 110 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-05%, LIMESTONE-05%  
QUARTZ SAND-02%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BARNACLES
- 110 - 114 SANDSTONE; LIGHT OLIVE TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-25%, SHELL-20%  
PHOSPHATIC SAND-01%  
FOSSILS: SPICULES, BRYOZOA, FOSSIL FRAGMENTS, BARNACLES  
MOLLUSKS  
86'-114' SHELL BROKEN & REPLACED
- 114 - 122 LIMESTONE; YELLOWISH GRAY  
12% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
GRAIN TYPE: BIOGENIC, INTRACLASTS  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-30%  
SHELL-02%
- 122 - 124 SAND; YELLOWISH GRAY TO LIGHT OLIVE  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-05%  
PHOSPHATIC SAND-02%, SHELL-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA

124 - 127 SAND; GRAYISH OLIVE  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, LIMESTONE-10%  
SHELL-05%, SILT-10%  
FOSSILS: FOSSIL FRAGMENTS

127 - 130 AS ABOVE  
4% PHOSPHATIC SAND, 20% SILT

130 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50075  
 TOTAL DEPTH: 00130 FT.  
 35 SAMPLES FROM 2 TO 130 FT.

COUNTY - MARTIN  
 LOCATION: T.38S R.39E S.06 AA  
 LAT = 27D 12M 13S  
 LONG = 80D 28M 53S

COMPLETION DATE: 08/16/88

ELEVATION: 30 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1240; SR609 &amp; MT/STL COUNTY LINE; DRILLED BY: SFWMD

WORKED BY:E. HOPKINS & K. ADAMS; SAMPLE QUALITY GOOD  
 SFWMD W-20

- 0 - 2 NO SAMPLES
- 2 - 3 SAND; DARK YELLOWISH BROWN  
 25% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: ORGANICS-01%
- 3 - 4 SAND; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-10%, SILT-10%, HEAVY MINERALS-03%
- 4 - 5 SAND; OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-15%, IRON STAIN- %
- 5 - 8 SAND; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-02%  
 COARSE GRAINS FROSTED
- 8 - 11 SAND; LIGHT OLIVE GRAY TO MODERATE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-07%, IRON STAIN- %, SILT-02%
- 11 - 14 AS ABOVE

- 14 - 17 SANDSTONE; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; LOW SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCITE-05%, CALCILUTITE-03%  
PHOSPHATIC SAND-01%
- 17 - 20 SANDSTONE; MODERATE GRAY TO MODERATE DARK GRAY  
25% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-01%  
FOSSILS: FOSSIL MOLDS
- 20 - 21 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%  
FOSSILS: FOSSIL FRAGMENTS  
WELL-ROUNDED, REPLACED SHELL, ALL FRAGMENTS; 3% SANDSTONE  
PCS. ADDED WATER TO MUDPIT
- 21 - 23 AS ABOVE  
SANDSTONE INCREASED TO 15%; PROBABLE STRINGERS
- 23 - 25 AS ABOVE  
5% SANDSTONE PIECES
- 25 - 28 SANDSTONE; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
HIGH SPHERICITY; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-01%  
SHELL-03%, SILT-02%
- 28 - 35 SANDSTONE; OLIVE GRAY  
25% POROSITY: INTERGRANULAR, VUGULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
HIGH SPHERICITY; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-25%, PHOSPHATIC SAND-02%  
FOSSILS: FOSSIL MOLDS
- 35 - 40 AS ABOVE
- 40 - 42 AS ABOVE
- 42 - 44 AS ABOVE

- 44 - 50 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-02%  
CALCILUTITE-10%  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS  
WHOLE & BROKEN; MOSTLY BIVALVES
- 50 - 56 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%  
SILT-05%
- 56 - 59 SAND; OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
HIGH SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-05%, CLAY-10%, CALCILUTITE-05%  
SILT-05%
- 59 - 62 SHELL BED; VERY LIGHT ORANGE TO GRAYISH ORANGE  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-05%  
PHOSPHATIC SAND-01%  
MANY WHOLE TELLINA BIVALVES
- 62 - 69 SAND; LIGHT OLIVE GRAY TO MODERATE DARK GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; HIGH SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-15%, PHOSPHATIC SAND-02%  
SILT-02%, SHELL-03%  
FOSSILS: FOSSIL FRAGMENTS
- 69 - 75 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-02%  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS
- 75 - 78 SAND; MODERATE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: VERY FINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; HIGH SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-05%, CALCILUTITE-15%, SILT-05%  
PHOSPHATIC SAND-01%  
FOSSILS: FOSSIL FRAGMENTS

- 78 - 79 SHELL BED; LIGHT OLIVE GRAY TO MODERATE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, MOLLUSKS  
BRYOZOA, SPICULES  
MANY FLAT WHITE DISK SHAPED BENTHIC FORAMS (LOOK LIKE RECORDS)
- 79 - 82 AS ABOVE  
SAME AS 75'-78' ABOVE
- 82 - 85 SHELL BED; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-15%, SILT-02%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES  
25% GRAY REPLACED SHELL; ALL FRAGMENTS
- 85 - 90 AS ABOVE
- 90 - 97 SHELL BED; YELLOWISH GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-02%, CALCILUTITE-15%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, WORM TRACES, BARNACLES  
SPICULES  
15% GRAY REPLACED SHELL; SOME PINK BARNACLE FRAGMENTS
- 97 - 102 SHELL BED; YELLOWISH GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: LIMESTONE-05%, CALCILUTITE-10%  
FOSSILS: SPICULES, FOSSIL FRAGMENTS, BARNACLES
- 102 - 105 AS ABOVE  
MOSTLY LARGE FLAT SHELL PIECES; POROSITY 30%
- 105 - 115 SHELL BED; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-02%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES, SPICULES
- 115 - 122 LIMESTONE; YELLOWISH GRAY  
12% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: SHELL-25%, QUARTZ SAND-20%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES
- 122 - 125 AS ABOVE  
SOME BIT CHATTER; ADDED WATER TO MUD PIT

- 125 - 127 LIMESTONE; YELLOWISH GRAY  
12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
45% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: SHELL-03%, QUARTZ SAND-40%  
PHOSPHATIC SAND-02%, SILT-02%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES
- 127 - 130 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, CALCILUTITE-05%  
SILT-10%, SHELL-02%  
FOSSILS: FOSSIL FRAGMENTS
- 130 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFLMD

WELL NUMBER: W-50076  
TOTAL DEPTH: 00162 FT.  
38 SAMPLES FROM 1 TO 162 FT.

COUNTY - MARTIN  
LOCATION: T.39S R.39E S.36 AC  
LAT = 27D 02M 07S  
LON = 80D 24M 00S

COMPLETION DATE: 08/24/88  
ELEVATION: 34 FT  
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1241; CITRUS BLVD. ACROSS FROM CAULKINS; DRILLED BY

WORKED BY:SFLMD W-21

E. HOPKINS & K. ADAMS: SAMPLE QUALITY GOOD

- 0 - 1 NO SAMPLES
- 1 - 8 SHELL BED; VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-03%  
  
2% SANDSTONE PIECES; MOST SHELL NOT REPLACED; WHOLE &
- 8 - 11 SAND; GRAYISH ORANGE TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SHELL-30%  
ORGANICS-01%, PLANT REMAINS- %
- 11 - 13 LIMESTONE; GRAYISH ORANGE TO LIGHT YELLOWISH ORANGE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-50%, QUARTZ SAND-30%  
SHELL-10%, IRON STAIN- %  
FOSSILS: FOSSIL FRAGMENTS
- 13 - 15 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-20%, SHELL-02%  
FOSSILS: FOSSIL FRAGMENTS
- 15 - 17 AS ABOVE

- 17 - 20 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 20 - 22 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-07%, CALCILUTITE-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 ALL GRANULE SIZE MICRITE REPLACED SHELL FRAGMENTS, WELL  
 ROUNDED
- 22 - 25 AS ABOVE  
 12% SAND; 50/50 ORIGINAL/REPLACED SHELL FRAGMENTS
- 25 - 30 SHELL BED; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES  
 1% VERY FINE BLACK MATERIAL THROUGHOUT SAMPLE; 1% GRAY  
 REPL. SHELL
- 30 - 35 SHELL BED; VERY LIGHT ORANGE  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS  
 30% REPLACED SHELL, 50% OF REPLACED IS GRAY; ADDED WATER TO  
 PIT
- 35 - 40 SHELL BED; GRAYISH ORANGE TO LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%, CALCILUTITE-02%  
 PHOSPHATIC GRAVEL-01%  
 30% GRAY REPLACED SHELL; WHOLE & BROKEN; MOST WHOLE SHELL  
 TELLINA



- 40 - 48 LIMESTONE; OLIVE GRAY  
 30% POROSITY: INTERGRANULAR, MOLDIC  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-20%, CALCITE-20%  
 QUARTZ SAND-50%, SHELL-10%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BARNACLES
- 48 - 53 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-02%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS  
 7% SANDSTONE; WHOLE & BROKEN SHELL; WHOLE SHELL MOSTLY  
 TELLINA 20% GRAY REPLACED SHELL FRAGMENTS
- 53 - 56 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 50% DK GRAY REPLACED FRAGMENTS; SAMPLE MOSTLY FRAGMENTS
- 56 - 60 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-05%  
 CALCILUTITE-02%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, SPICULES  
 30% GRAY REPLACED SHELL FRAGMENTS
- 60 - 62 LIMESTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 18% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 75% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-70%, CALCILUTITE-25%  
 SHELL-05%, PHOSPHATIC SAND-01%  
 MED. SIZE MICRITE SHELL FRAGMENTS IN LIMESTONE
- 62 - 70 SAND; LIGHT OLIVE GRAY TO MODERATE DARK GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
 ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-45%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS  
 SHELL IS COARSE SIZED FRAGMENTS

- 70 - 75 AS ABOVE
- 75 - 78 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-01%  
PHOSPHATIC SAND-02%, QUARTZ SAND-10%, SILT-15%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, MOLLUSKS  
BARNACLES
- 78 - 82 SHELL BED; YELLOWISH GRAY TO MODERATE DARK GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-02%, CALCILUTITE-01%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES  
30% GRAY REPLACED SHELL FRAG., MOSTLY FRAGMENTS-COARSE TO  
GRAVEL LOST WATER QUICKLY FROM MUDPIT
- 82 - 87 AS ABOVE
- 87 - 90 SHELL BED; YELLOWISH GRAY TO VERY LIGHT DRANGE  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-02%  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA, BARNACLES
- 90 - 95 SHELL BED; YELLOWISH GRAY TO MODERATE DARK GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-02%  
FOSSILS: BRYOZOA, BARNACLES, SPICULES, FOSSIL FRAGMENTS  
LARGE THIN FLAT FRAGMENTS
- 95 - 100 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCILUTITE-02%  
FOSSILS: BRYOZOA, WORM TRACES, BARNACLES, SPICULES  
FOSSIL FRAGMENTS
- 100 - 103 AS ABOVE  
MANY 2MM DIAMETER WORM TUBES IN SAMPLE
- 103 - 107 SHELL BED; YELLOWISH GRAY TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-02%  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES, WORM TRACES  
SPICULES, BENTHIC FORAMINIFERA
- 107 - 110 SHELL BED; VERY LIGHT ORANGE TO MODERATE DARK GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%  
QUARTZ SAND-02%  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES

- 110 - 118 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-15%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, WORM TRACES
- 118 - 122 SHELL BED; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES
- 122 - 124 LIMESTONE; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-20%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BARNACLES
- 124 - 129 AS ABOVE
- 129 - 132 AS ABOVE
- 132 - 138 LIMESTONE; YELLOWISH GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: FINE TO FINE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-01%  
 QUARTZ SAND-30%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, WORM TRACES
- 138 - 142 SANDSTONE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: LIMESTONE-10%, PHOSPHATIC SAND-02%  
 CALCILUTITE-15%, SHELL-02%  
 FOSSILS: FOSSIL FRAGMENTS
- 142 - 145 AS ABOVE  
 SHELL INCREASE TO 10%; NO LIMESTONE PIECES

- 145 - 150 SAND; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-05%, SILT-15%  
PHOSPHATIC SAND-02%, SHELL-02%  
FOSSILS: FOSSIL FRAGMENTS, SPICULES, BARNACLES
- 150 - 156 AS ABOVE
- 156 - 162 SAND; OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-03%  
SHELL-01%  
FOSSILS: FOSSIL FRAGMENTS
- 162 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFLMD

WELL NUMBER: W-50077

COUNTY - MARTIN

TOTAL DEPTH: 00170 FT.

LOCATION: T.40S R.39E S.09 AC

43 SAMPLES FROM 0 TO 170 FT.

LAT = 27D 00M 28S

LOX = 80D 26M 54S

COMPLETION DATE: 08/25/88

ELEVATION: 25 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1242; SR76 AND SR710; DRILLED BY: SFLMD

WORKED BY:K.ADAMS & E.HOPKINS

SFLMD W-22

- 0 - 2 SAND; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, ORGANICS-03%  
PLANT REMAINS- %  
OTHER FEATURES: FROSTED  
FOSSILS: FOSSIL FRAGMENTS  
5% SANDSTONE PIECES WITH MICRITE CEMENT
- 2 - 4 SAND; DARK GRAY TO BLACK  
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: PLANT REMAINS- %, CLAY-30%, SILT-10%  
ORGANICS-03%  
OTHER FEATURES: FROSTED
- 4 - 7 SAND; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-15%, IRON STAIN- %  
PLANT REMAINS- %, ORGANICS-03%
- 7 - 8 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-10%, QUARTZ SAND-20%  
PLANT REMAINS- %  
OTHER FEATURES: FROSTED  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
WHOLE & BROKEN MICRITE REPLACED BIVALVES

- 8 - 12 SAND; LIGHT OLIVE GRAY  
18% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-15%  
OTHER FEATURES: FROSTED
- 12 - 16 AS ABOVE
- 16 - 17 SAND; GRAYISH BROWN TO LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-40%, MICA-02%, ORGANICS-03%
- 17 - 22 SAND;  
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-01%  
FAST DRILLING, UNABLE TO CATCH FINE SAND; CLEAN SAND
- 22 - 30 SAND; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRANULE  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-30%, LIMONITE-01%
- 30 - 37 SAND; OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-30%, IRON STAIN- %  
PHOSPHATIC GRAVEL-01%, CLAY-05%  
22'-37' EXTREMELY FAST DRILLING
- 37 - 38 LIMESTONE; LIGHT OLIVE GRAY  
12% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
15% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%  
CALCITE-02%  
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS  
HARD SLOW DRILLING
- 38 - 39 AS ABOVE

- 39 - 42 LIMESTONE; MODERATE LIGHT GRAY  
 15% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, CRYSTALS  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-15%  
 SPAR-25%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 42 - 45 LIMESTONE; MODERATE LIGHT GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, MOLDIC  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-40%  
 SHELL-40%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS
- 45 - 48 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-20%, CALCILUTITE-10%  
 SPAR-05%, PHOSPHATIC SAND-01%  
 FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS
- 48 - 50 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-25%, QUARTZ SAND-03%  
 CALCILUTITE-05%  
 FOSSILS: BRYOZOA, MOLLUSKS  
 PLANORBIS AND OTHER GASTROPODS, HARD LIMESTONE BED
- 50 - 55 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-15%, LIMESTONE-05%  
 QUARTZ SAND-02%  
 FOSSILS: BRYOZOA, MOLLUSKS, BARNACLES, SPICULES  
 10% GRAY REPLACED SHELL FRAGMENTS, SHELL MOSTLY BROKEN
- 55 - 62 SHELL BED; MODERATE LIGHT GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-03%, LIMESTONE-02%  
 PHOSPHATIC SAND-01%, CALCILUTITE-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, SPICULES  
 MORE WHOLE SHELL, 2% PHOSPHATE REPLACED SHELL LIMESTONE  
 STRINGERS

- 62 - 65 SHELL BED; GRAYISH ORANGE TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-10%  
 CALCILUTITE-10%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS, BRYOZOA  
 5% LIMESTONE, PROBABLY INTERBEDDED
- 65 - 70 AS ABOVE  
 INCREASED MICRITE TO 15%, SILT TO 10%
- 70 - 75 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-05%  
 CALCILUTITE-15%, LIMESTONE-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA  
 SPICULES, BRYOZOA
- 75 - 80 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%  
 PHOSPHATIC GRAVEL-01%, LIMESTONE-03%  
 OTHER FEATURES: FROSTED  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS  
 30% OF SHELL FRAG. ARE GRAY, REPLACED
- 80 - 82 SHELL BED; DARK GRAY TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-05%, QUARTZ SAND-02%  
 CALCILUTITE-05%  
 FOSSILS: BARNACLES, BRYOZOA, MOLLUSKS, SPICULES  
 65% GRAY REPLACED SHELL, SHELL, FRAGMENTS, ALL REPLACED
- 82 - 85 AS ABOVE
- 85 - 90 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%, SILT-05%  
 CALCILUTITE-10%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, BRYOZOA  
 BARNACLES, MOLLUSKS  
 2% SANDSTONE PIECES
- 90 - 95 SHELL BED; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-07%, CALCILUTITE-15%  
 FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, SPICULES  
 WORM TRACES, BARNACLES  
 SHELL HASH



- 95 - 100 SHELL BED; YELLOWISH GRAY TO DARK GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-05%, CALCILUTITE-20%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA, SPICULES  
 30% GRAY REPLACED SHELL
- 100 - 102 SHELL BED; YELLOWISH GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-10%, CALCILUTITE-15%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA, MOLLUSKS  
 SPICULES
- 102 - 107 AS ABOVE
- 107 - 112 SHELL BED; LIGHT OLIVE TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-03%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, BARNACLES  
 BENTHIC FORAMINIFERA, MOLLUSKS  
 SHELL WASH
- 112 - 115 AS ABOVE  
 25% MICRITE
- 115 - 118 AS ABOVE
- 118 - 122 SHELL BED; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-20%, SILT-10%  
 QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES
- 122 - 126 AS ABOVE  
 5% MICRITE LIMESTONE PIECES
- 126 - 130 LIMESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-05%  
 SILT-05%, SHELL-50%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES
- 130 - 135 AS ABOVE

- 135 - 143 LIMESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 50% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-50%, QUARTZ SAND-20%  
 SHELL-30%, PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, MOLLUSKS
- 143 - 149 AS ABOVE  
 20% SHELL
- 149 - 155 AS ABOVE  
 SAME LIMESTONE, LG PROPORTION OF BIOGENIC MATERIAL BEING  
 CORAL
- 155 - 162 LIMESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, SILT-10%  
 QUARTZ SAND-40%  
 FOSSILS: FOSSIL FRAGMENTS
- 162 - 164 SANDSTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-10%, SILT-20%  
 PHOSPHATIC SAND-03%, SHELL-01%
- 164 - 166 5% PHOSPHATIC SAND, 5% SHELL FRAG.
- 166 - 170 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-05%, SILT-25%  
 PHOSPHATIC SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, CORAL
- 170 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50078  
TOTAL DEPTH: 00155 FT.  
49 SAMPLES FROM 1 TO 155 FT.

COUNTY - MARTIN  
LOCATION: T.38S R.40E S.04 BB  
LAT = 27D 12M 15S  
LON = 80D 20M 08S

COMPLETION DATE: 09/02/88  
ELEVATION: 22 FT  
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS M-1246, BOAT RAMP ROAD; DRILLED BY: SFWMD

WORKED BY:SFWMD W-23

- 0 - 1 NO SAMPLES
- 1 - 3 SAND; BLACK  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): ORGANIC MATRIX  
ACCESSORY MINERALS: ORGANICS-15%, CALCILUTITE-05%  
PLANT REMAINS- %, SHELL-05%  
OTHER FEATURES: FROSTED  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA
- 3 - 4 SAND; LIGHT OLIVE GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED
- 4 - 5 AS ABOVE
- 5 - 6 SAND; PINKISH GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; LOW SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS-01%  
ORGANICS-02%, PLANT REMAINS- %
- 6 - 7 AS ABOVE
- 7 - 8 SAND; DARK YELLOWISH BROWN  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO COARSE  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX  
ACCESSORY MINERALS: SILT-20%, ORGANICS-05%, IRON STAIN- %  
ALL COARSE GRAINS ARE FROSTED

- 8 - 10 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-25%, IRON STAIN- X
- 10 - 12 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-30%
- 12 - 16 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: FINE TO VERY COARSE  
 ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-10%, ORGANICS-02%  
 OTHER FEATURES: FROSTED
- 16 - 18 SAND; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-05%, PHOSPHATIC SAND-01%
- 18 - 20 SHELL BED; VERY LIGHT ORANGE  
 30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-05%  
 FOSSILS: BRYOZOA, MOLLUSKS, SPICULES  
 WHOLE & BROKEN SHELLS, MICRITE REPLACED
- 20 - 22 AS ABOVE
- 22 - 24 SHELL BED; VERY LIGHT ORANGE  
 30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-05%, LIMESTONE-02%  
 QUARTZ SAND-05%  
 FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS
- 24 - 25 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-03%, QUARTZ SAND-10%  
 OTHER FEATURES: FROSTED  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA  
 2% SANDSTONE WITH MICRITE CEMENT, APPROX. 30%DK. GRAY  
 REPLACED SHELL FRAGMENTS

- 25 - 27 SHELL BED; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-30%, SILT-05%, CLAY-02%  
 CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS
- 27 - 29 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%  
 LIMESTONE-15%, CLAY-02%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS
- 29 - 32 AS ABOVE  
 WITH 2% SILT, NO CLAY, SHELL FRAGM. MICRITE REPLACED
- 32 - 34 AS ABOVE  
 MANY FRAGM. OF LG. BIVALVES FULL OF HOLES
- 34 - 36 SHELL BED; YELLOWISH GRAY TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-10%, CLAY-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 36 - 38 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: LIMESTONE-05%, QUARTZ SAND-05%  
 SILT-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 38 - 42 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-10%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES  
 10% SANDSTONE PIECES
- 42 - 45 SANDSTONE; OLIVE GRAY TO VERY LIGHT ORANGE  
 15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 MOLDIC  
 GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MEDIUM SPHERICITY  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-40%, CALCITE-15%  
 CALCILUTITE-10%  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
 SHELL FRAG. FULL OF HOLES. SHELL UNCONSOL. POSSIBLY  
 STRINGERS

- 45 - 50 AS ABOVE  
SHELL POORLY CONSOLIDATED WITH SANDY SILT
- 50 - 53 SHELL BED; OLIVE GRAY TO MODERATE BLuish GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-05%  
PHOSPHATIC GRAVEL-02%  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
MOST SHELL FRAG. CALCITE REPLACED, 75% DK. GRAY PIECES
- 53 - 55 SHELL BED; OLIVE GRAY TO LIGHT OLIVE  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
APPROX. 50/50 WHOLE TO BROKEN SHELL, MOST WHOLE SHELLS  
TELLINA
- 55 - 57 SHELL BED; GRAYISH ORANGE TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-10%  
SHELLS ALMOST ALL TELLINA (<10MM)
- 57 - 60 AS ABOVE  
TELLINA GETTING LARGER
- 60 - 62 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-10%, CLAY-05%
- 62 - 65 SANDSTONE; DARK GRAY TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: SHELL-50%, SILT-05%  
FOSSILS: SPICULES, MOLLUSKS, FOSSIL FRAGMENTS
- 65 - 70 SANDSTONE; DARK GRAY TO GRAYISH ORANGE  
12% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
LOW SPHERICITY; GOOD INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCITE-10%, CALCILUTITE-10%  
SHELL-20%, PHOSPHATIC GRAVEL-02%  
ADDED LOTS OF WATER TO MUD PIT

- 70 - 74 AS ABOVE  
25% MICRITE SHELL FRAGM. (SAND SIZED) IN SANDSTONE, 5%  
LOOSE SHELL
- 74 - 77 AS ABOVE  
50% LOOSE WHOLE & BROKEN SHELL
- 77 - 82 AS ABOVE  
DEPTHS 74'-95' CONTAIN ALTERNATING LAYERS OF SAND VS.  
SANDSTONE 25% SHELL
- 82 - 85 AS ABOVE  
75% MOSTLY REPLACED SHELL, 5% SANDY SILT
- 85 - 90 AS ABOVE  
40% LOOSE SHELL
- 90 - 95 AS ABOVE  
1% PHOSPHATIC SAND, 45% LOOSE, MOSTLY BROKEN SHELL
- 95 - 100 SHELL BED; VERY LIGHT ORANGE TO DARK GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-02%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, SPICULES, WORM TRACES  
15% SANDSTONE PIECES
- 100 - 103 SANDSTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
12% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
LOW SPHERICITY; GOOD INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT  
ACCESSORY MINERALS: CALCITE-05%, CALCILUTITE-30%  
SHELL-10%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
SANDSTONE CLAST 50/50 SAND TO MICRITE SHELL FRAGM.
- 103 - 105 SANDSTONE; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
15% POROSITY: INTERGRANULAR, MOLDIC  
POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: CALCILUTITE-15%, SHELL-07%  
CALCITE-07%, PHOSPHATIC SAND-01%  
FOSSILS: BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS, SPICULES

- 105 - 110 LIMESTONE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-10%  
 PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 110 - 115 LIMESTONE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, CALCITE-05%  
 PHOSPHATIC SAND-01%, SHELL-02%  
 FOSSILS: FOSSIL FRAGMENTS
- 115 - 122 AS ABOVE
- 122 - 125 LIMESTONE; LIGHT OLIVE TO VERY LIGHT ORANGE  
 12% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 35% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-15%  
 PHOSPHATIC SAND-02%, CALCITE-35%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 WHOLE SHELLS, MOSTLY TURRETELLA; 103'-125' BIT CHATTERED
- 125 - 130 SHELL BED; LIGHT OLIVE TO YELLOWISH GRAY  
 30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-03%, QUARTZ SAND-02%  
 PHOSPHATIC SAND-02%  
 FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, MOLLUSKS, SPICULES
- 130 - 135 AS ABOVE  
 5% SILT
- 135 - 142 SHELL BED; LIGHT OLIVE TO YELLOWISH GRAY  
 30% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-03%, QUARTZ SAND-02%  
 PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, MOLLUSKS, SPICULES



- 142 - 145 SHELL BED; LIGHT OLIVE TO YELLOWISH GRAY  
35% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%  
QUARTZ SAND-03%  
FOSSILS: BRYOZOA, FOSSIL FRAGMENTS, SPICULES  
SHELL MAINLY CRUSHED, REPLACED BY CALCITE
- 145 - 151 LIMESTONE; LIGHT OLIVE  
15% POROSITY: INTERGRANULAR  
GRAIN TYPE: BIOGENIC, INTRACLASTS  
75% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
ACCESSORY MINERALS: CALCILUTITE-35%, PHOSPHATIC SAND-03%  
QUARTZ SAND-25%, CALCITE-05%  
FOSSILS: FOSSIL FRAGMENTS  
5% SANDSTONE, CLASTS 50/50 SAND & MICRITE REPLACED SHELL
- 151 - 155 SAND; GRAYISH OLIVE GREEN  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-04%, SILT-15%  
CLAY-10%, SHELL-02%

155 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50079

COUNTY - MARTIN

TOTAL DEPTH: 00162 FT.

LOCATION: T.38S R.39E S.01 AB

40 SAMPLES FROM 10 TO 162 FT.

LAT = 27D 12M 17S

LON = 80D 23M 28S

COMPLETION DATE: 10/04/88

ELEVATION: 32 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER: USGS WELL M-1248, STUART WEST DEV.; DRILLED BY: SFWMD

WORKED BY: E. HOPKINS &amp; M. BENNETT

SFWMD W-24

- 0 - 10 NO SAMPLES  
CANAL SPOIL
- 10 - 13 SAND; BLACK  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): ORGANIC MATRIX  
ACCESSORY MINERALS: ORGANICS-30%, SILT-07%, IRON STAIN- %  
PLANT REMAINS-15%
- 13 - 15 SAND; GRAYISH BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SILT-03%, LIMONITE-05%  
OTHER FEATURES: FROSTED
- 15 - 18 SAND; DARK YELLOWISH BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SILT-03%, LIMONITE-05%
- 18 - 20 SAND; DARK BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: IRON STAIN- %, SILT-05%, CLAY-02%
- 20 - 22 SAND; OLIVE GRAY  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-30%, HEAVY MINERALS-01%

- 22 - 25 SAND; PINKISH GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-30%, HEAVY MINERALS-03%, MICA-01%
- 25 - 30 SAND; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO VERY COARSE  
 MEDIUM SPHERICITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-05%, HEAVY MINERALS-01%, CLAY-02%  
 IRON STAIN- X  
 OTHER FEATURES: FROSTED
- 30 - 33 AS ABOVE
- 33 - 37 SHELL BED; GRAYISH ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-03%  
 LIMONITE-01%  
 OTHER FEATURES: FROSTED  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 37 - 39 SHELL BED; GRAYISH ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-03%  
 OTHER FEATURES: FROSTED  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 30% DK. REPLACED SHELL
- 39 - 42 LIMESTONE; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-55%  
 CALCILUTITE-10%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

- 42 - 45 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-40%  
 CALCITE-25%, PHOSPHATIC SAND-03%  
 FOSSILS: FOSSIL FRAGMENTS  
 INTERCLAST APPROX. 65/35 SAND VS MICRITE REPLACED SHELL  
 FRAG.
- 45 - 50 AS ABOVE
- 50 - 55 AS ABOVE  
 MORE WHOLE AND LARGER SHELL FRAGMENTS
- 55 - 60 AS ABOVE
- 60 - 62 SHELL BED; GRAYISH ORANGE TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-02%, QUARTZ SAND-05%  
 FOSSILS: MOLLUSKS, SPICULES, FOSSIL FRAGMENTS  
 MOST WHOLE SHELLS TELLINA, 5% LIMESTONE PIECES AS SEEN  
 45'-60'
- 62 - 64 SHELL BED; GRAYISH ORANGE TO VERY LIGHT ORANGE  
 01% POROSITY, UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-03%, QUARTZ SAND-03%  
 FOSSILS: SPICULES, MOLLUSKS, FOSSIL FRAGMENTS  
 MOSTLY CRUSHED SHELL FRAGMENTS
- 64 - 67 LIMESTONE; OLIVE GRAY TO GRAYISH ORANGE  
 12% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 25% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: CALCILUTITE-05%, HEAVY MINERALS-07%  
 QUARTZ SAND-25%, CALCITE-55%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED, PLASTIC  
 5% SHELLS CALCITE REPLACED
- 67 - 69 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-02%, QUARTZ SAND-03%  
 LIMESTONE-35%  
 OTHER FEATURES: VARVED, MEDIUM RECRYSTALLIZATION

- 69 - 72 SHELL BED; GRAYISH ORANGE TO OLIVE GRAY  
 30% POROSITY: INTERGRANULAR, MOLDIC  
 POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-45%  
 OTHER FEATURES: VARVED, MEDIUM RECRYSTALLIZATION  
 APPROX. 50/50 SHELL TO LIMESTONE, PROBABLY STRINGERS, WHOLE  
 SHELL MOSTLY TELLINA
- 72 - 74 SHELL BED; OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-02%  
 CALCILUTITE-05%, LIMESTONE-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 50/50 DK. REPLACED SHELL FRAG. TO PALE
- 74 - 77 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY  
 35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-20%  
 HAD TO ADD WATER & MIX MUD AT 75'
- 77 - 82 LIMESTONE; DARK GRAY TO GRAYISH PURPLE  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 25% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: CRYPTOCRYSTALLINE TO FINE; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-05%  
 CALCILUTITE-30%, CALCITE-20%  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
 10% SANDSTONE PIECES, PROBABLY LAYERED W/L.STONE & UNCONS  
 SHELL BED 60/40 FINE SAND TO FINE SHELL FRAG., 2% PHOSP  
 SAND-DESANDER SAMPLE
- 82 - 90 SILT; LIGHT OLIVE GRAY  
 10% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%
- 90 - 95 SHELL BED; LIGHT OLIVE GRAY  
 12% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-20%, CALCILUTITE-10%  
 QUARTZ SAND-08%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

- 95 - 100 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-15%, CALCILUTITE-10%  
 QUARTZ SAND-05%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, MOLLUSKS
- 100 - 102 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-10%, QUARTZ SAND-10%  
 PHOSPHATIC SAND-03%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, BARNACLES  
 15% WHOLE BIVALVES, UNREPLACED; PROBABLY SILT STRINGERS  
 95'-102'
- 102 - 105 SHELL BED; VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%  
 SILT-03%, CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA, MOLLUSKS  
 2% LIMESTONE, 3% SANDSTONE PIECES, SHELL IS CRUSHED  
 FRAGMENTS
- 105 - 109 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND- %  
 FOSSILS: MOLLUSKS, CORAL, FOSSIL FRAGMENTS  
 BENTHIC FORAMINIFERA, BARNACLES  
 45% LIMESTONE WITH 25% MICRITE, 75% CLAST (25% SAND, 75%  
 SHELL)
- 109 - 115 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS  
 LIMESTONE CLASTS ARE 80% REPLACED SHELL HASH, 20% SAND
- 115 - 122 AS ABOVE

- 122 - 125 SHELL BED; LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-05%  
 SILT-02%, PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES, SPICULES  
 WORM TRACES  
 SHELL MOSTLY BROKEN, ALL REPLACED BY MICRITE; CALCITE  
 PHOSPHATE
- 125 - 130 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-20%, QUARTZ SAND-05%  
 CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, BRYOZOA
- 130 - 135 LIMESTONE; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: BIOGENIC, INTRACLASTS  
 75% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-08%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS, BRYOZOA  
 CRUSTACEA  
 MANY BARNACLES, SHELL BEDS LOOSELY CEMENTED INTO LIMESTONE
- 135 - 142 SHELL BED; YELLOWISH GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-07%, CALCILUTITE-10%  
 QUARTZ SAND-03%, PHOSPHATIC SAND-01%  
 FOSSILS: BARNACLES, BRYOZOA, MOLLUSKS, SPICULES
- 142 - 150 SHELL BED; YELLOWISH GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-01%, QUARTZ SAND-05%  
 CALCILUTITE-05%  
 FOSSILS: BRYOZOA, CORAL, FOSSIL FRAGMENTS, BARNACLES  
 MOLLUSKS  
 MAINLY CRUSHED FOSSIL FRAGMENTS, ADDED WATER TO MUD PIT
- 150 - 157 AS ABOVE
- 157 - 162 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 HIGH SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-05%  
 SHELL-03%  
 FOSSILS: FOSSIL FRAGMENTS

162 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFUMD

WELL NUMBER: W-50080

COUNTY - MARTIN

TOTAL DEPTH: 00158 FT.

LOCATION: T.38S R.38E S.34 CB

40 SAMPLES FROM 1 TO 158 FT.

LAT = 27D 07M 20S

LON = 80D 31M 20S

COMPLETION DATE: 10/05/88

ELEVATION: 45 FT

OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1250; FOX BROWN RD.; DRILLED BY: SFUMD

WORKED BY:E. HOPKINS &amp; K. ADAMS; SAMPLE QUALITY GOOD

SFUMD W-25

- 0 - 3 SAND; LIGHT GRAY  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-01%
- 3 - 5 AS ABOVE  
60% IRON STAINED GRAINS
- 5 - 7 SAND; DARK BROWN  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO VERY COARSE  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: CLAY-05%, SILT-25%, ORGANICS-02%  
PLANT REMAINS- %
- 7 - 8 SAND; DARK YELLOWISH BROWN  
25% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-05%  
30% IRON STAINED GRAINS
- 8 - 15 SAND; DARK BROWNISH RED  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
VERY IRON STAINED, LOOSELY CONSOL. IN SMALL ROUND CLUMPS
- 15 - 22 SAND; DARK YELLOWISH BROWN  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: FINE TO FINE  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; HIGH SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: HEAVY MINERALS-01%, IRON STAIN- %
- 22 - 25 AS ABOVE

- 25 - 30 SAND; DARK YELLOWISH BROWN  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-20%, IRON STAIN- %  
 COARSE GRAINS FROSTED
- 30 - 32 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: VERY COARSE  
 RANGE: MICROCRYSTALLINE TO VERY COARSE; LOW SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-10%, CLAY-05%, HEAVY MINERALS-02%  
 OTHER FEATURES: FROSTED
- 32 - 35 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE  
 RANGE: MICROCRYSTALLINE TO VERY COARSE; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-40%, HEAVY MINERALS-01%  
 COARSE GRAINS FROSTED
- 35 - 40 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: VERY COARSE  
 RANGE: MICROCRYSTALLINE TO VERY COARSE  
 ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC GRAVEL-02%  
 SILT-02%  
 OTHER FEATURES: FROSTED
- 40 - 46 SAND; OLIVE GRAY  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-10%, HEAVY MINERALS-02%  
 ORGANICS-02%  
 FOSSILS: CRUSTACEA  
 50% PARTIALLY FOSSILIZED PLANT REMAINS; ADDED H2O TO MUD  
 PIT
- 46 - 50 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-02%, SILT-02%  
 FOSSILS: MOLLUSKS, BRYOZOA, FOSSIL FRAGMENTS, BARNACLES

- 50 - 56 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%  
 PHOSPHATIC SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, SPICULES
- 56 - 62 AS ABOVE
- 62 - 70 SHELL BED; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-01%, SILT-02%  
 CALCILUTITE-08%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES, SPICULES  
 WORM TRACES  
 MOSTLY SHELL FRAGMENTS
- 70 - 75 AS ABOVE
- 75 - 77 SHELL BED; VERY LIGHT ORANGE TO OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%  
 CALCILUTITE-10%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, MOLLUSKS  
 BARNACLES
- 77 - 82 SHELL BED; VERY LIGHT ORANGE TO LIGHT YELLOWISH ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SILT-02%, CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, BARNACLES, BRYOZOA  
 SPICULES
- 82 - 87 AS ABOVE
- 87 - 94 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-03%  
 FOSSILS: WORM TRACES, SPICULES, FOSSIL FRAGMENTS, BRYOZOA  
 BARNACLES  
 30% GRAY REPLACED SHELL FRAGMENTS
- 94 - 96 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: BARNACLES, MOLLUSKS, FOSSIL FRAGMENTS, SPICULES  
 WHOLE & BROKEN LARGE FRAGMENTS; ADDED WATER TO MUD PIT

- 96 - 98 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-02%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BARNACLES, SPICULES  
 BENTHIC FORAMINIFERA  
 35% GRAY REPLACED SHELL; SAMPLE MOSTLY SMALL FRAGMENTS
- 98 - 100 SHELL BED; LIGHT OLIVE GRAY TO MODERATE LIGHT GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-05%  
 QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, MOLLUSKS, BRYOZOA  
 ECHINOID
- 100 - 104 SHELL BED; VERY LIGHT ORANGE TO MODERATE LIGHT GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, BARNACLES  
 SPICULES
- 104 - 110 SHELL BED; LIGHT OLIVE GRAY  
 35% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 FOSSILS: MOLLUSKS, SPICULES, FOSSIL FRAGMENTS, BRYOZOA  
 MANY LARGE FLAT FRAGMENTS; OYSTER SHELLS
- 110 - 115 SHELL BED; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, MOLLUSKS  
 WORM TRACES
- 115 - 120 AS ABOVE  
 ADDED WATER TO MUD PIT
- 120 - 122 SHELL BED; LIGHT OLIVE GRAY  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%  
 SILT-02%  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA, BARNACLES  
 MANY LARGE FLAT FRAGMENTS
- 122 - 130 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-10%, LIMESTONE-03%  
 QUARTZ SAND-02%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BRYOZOA  
 BENTHIC FORAMINIFERA, MOLLUSKS

- 130 - 135 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-10%  
 SILT-02%  
 FOSSILS: FOSSIL FRAGMENTS, SPICULES, BARNACLES, MOLLUSKS
- 135 - 139 SHELL BED; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: LIMESTONE-25%, CALCILUTITE-15%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BARNACLES, BRYOZOA, MOLLUSKS  
 20% SANDSTONE PIECES WITH MICRITE CEMENT
- 139 - 142 LIMESTONE; LIGHT OLIVE GRAY TO LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-10%  
 PHOSPHATIC SAND-01%  
 FOSSILS: BARNACLES, FOSSIL FRAGMENTS, FOSSIL MOLDS  
 SPICULES
- 142 - 145 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 20% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-20%  
 PHOSPHATIC SAND-01%  
 FOSSILS: BARNACLES, BRYOZOA, FOSSIL FRAGMENTS, SPICULES
- 145 - 147 LIMESTONE; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-35%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BRYOZOA, SPICULES  
 CORAL

- 147 - 151 LIMESTONE; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
45% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-45%  
PHOSPHATIC SAND-02%  
FOSSILS: BARNACLES, FOSSIL FRAGMENTS
- 151 - 158 SAND; LIGHT OLIVE GRAY TO OLIVE GRAY  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%  
SILT-15%, SHELL-01%  
FOSSILS: FOSSIL FRAGMENTS
- 158 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - SFWMD

WELL NUMBER: W-50081  
TOTAL DEPTH: 00142 FT.  
34 SAMPLES FROM 0 TO 142 FT.

COUNTY - MARTIN  
LOCATION: T.38S R.37E S.33 AB  
LAT = 27D 07M 50S  
LON = 80D 38M 03S

COMPLETION DATE: 06/10/88  
ELEVATION: 31 FT  
OTHER TYPES OF LOGS AVAILABLE - GEOLOGIST, ELECTRIC, GAMMA

OWNER/DRILLER:USGS WELL M-1251 E.C. MATTSOM DAIRY, DRILLED BY: SFWMD

WORKED BY:K. ADAMS & E. HOPKINS, SAMPLE QUALITY: GOOD  
SFWMD W-26

- 0 - 5 SAND; LIGHT OLIVE GRAY TO MODERATE BROWN  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-20%, PLANT REMAINS- %  
SHELL-01%
- 5 - 15 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: FINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: ORGANICS-20%, PLANT REMAINS- %  
SHELL-01%  
DESANDER SAMPLE
- 15 - 23 SAND; LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
MEDIUM SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-15%, HEAVY MINERALS-01%
- 23 - 27 SHELL BED; VERY LIGHT ORANGE  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-02%  
FOSSILS: FOSSIL FRAGMENTS  
ALL MICRITE REPLACED, WHOLE & BROKEN PIECES
- 27 - 31 AS ABOVE  
20% MICRITE SANDSTONE PIECES
- 31 - 33 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY  
35% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, PLANT REMAINS  
LG. WHOLE & BROKEN SHELLS, 25% FOSSILIZED WOOD FRAG.

- 33 - 35 SAND; OLIVE GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-10%, SILT-10%, CALCILUTITE-03%  
 SHELL-20%  
 FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS  
 WHOLE & BROKEN SHELL, LG. BIVALVES MOSTLY CHIONE
- 35 - 37 AS ABOVE
- 37 - 42 SHELL BED; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-01%  
 15% GRAY REPLACED SHELL, MOSTLY GRANULES SIZED FRAG.
- 42 - 45 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-05%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, SPICULES, BARNACLES  
 WHOLE & BROKEN PIECES, MOSTLY BIVALVES
- 45 - 50 AS ABOVE
- 50 - 55 SAND; LIGHT OLIVE GRAY TO VERY LIGHT ORANGE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-10%, CLAY-15%  
 PHOSPHATIC SAND-01%, SILT-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 55 - 60 AS ABOVE  
 5% SHELL
- 60 - 62 SAND; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
 ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY  
 ACCESSORY MINERALS: SHELL-01%, CALCILUTITE-05%, CLAY-05%  
 SILT-20%  
 FOSSILS: FOSSIL FRAGMENTS
- 62 - 65 AS ABOVE
- 65 - 70 SHELL BED; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-02%, SILT-02%  
 FOSSILS: FOSSIL FRAGMENTS



- 70 - 73 SHELL BED; LIGHT OLIVE GRAY TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: SILT-05%  
FOSSILS: FOSSIL FRAGMENTS
- 73 - 80 SHELL BED; VERY LIGHT ORANGE TO MODERATE GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, BARNACLES  
20% GREY REPLACED SHELL, MOSTLY FRAGMENTS
- 80 - 82 SHELL BED; YELLOWISH GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-07%, CLAY- %  
FOSSILS: FOSSIL FRAGMENTS, BARNACLES  
WHOLE & BROKEN, MOSTLY BIVALVES
- 82 - 85 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, CLAY-05%  
FOSSILS: FOSSIL FRAGMENTS, CORAL, MOLLUSKS  
WHOLE & BROKEN SHELLS
- 85 - 90 SAND; GRAYISH OLIVE TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY  
UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-10%, SILT-20%  
PHOSPHATIC SAND-01%, CALCILUTITE-05%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
- 90 - 98 LIMESTONE; LIGHT OLIVE GRAY  
15% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
25% ALLOCHEMICAL CONSTITUENTS  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-30%  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 98 - 102 LIMESTONE; LIGHT OLIVE  
15% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
45% ALLOCHEMICAL CONSTITUENTS  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-45%, SHELL-15%  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, FOSSIL MOLDS
- 102 - 104 AS ABOVE

- 104 - 110 CALCILUTITE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-10%  
 FOSSILS: FOSSIL FRAGMENTS
- 110 - 114 AS ABOVE
- 114 - 118 SAND; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: CALCILUTITE-40%, PHOSPHATIC SAND-01%  
 SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 118 - 122 CALCILUTITE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-02%  
 SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS
- 122 - 125 AS ABOVE  
 20% SHELL 25% SAND
- 125 - 131 LIMESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 20% ALLOCHEMICAL CONSTITUENTS  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-20%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, BRYOZOA, CORAL, FOSSIL MOLDS
- 131 - 134 CALCILUTITE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-02%  
 SHELL-05%  
 FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 134 - 138 LIMESTONE; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY, MOLDIC  
 GRAIN TYPE: INTRACLASTS, BIOGENIC  
 30% ALLOCHEMICAL CONSTITUENTS  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SHELL-05%, QUARTZ SAND-30%  
 PHOSPHATIC SAND-01%  
 FOSSILS: FOSSIL FRAGMENTS, WORM TRACES, FOSSIL MOLDS

114 - 142 SAND; GRAYISH OLIVE  
20% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
HIGH SPHERICITY; UNCONSOLIDATED  
ACCESSORY MINERALS: SHELL-01%, SILT-20%  
PHOSPHATIC SAND-03%  
FOSSILS: FOSSIL FRAGMENTS

142 TOTAL DEPTH



**APPENDIX A-2**

**ST. LUCIE COUNTY WELL CUTTINGS  
DESCRIBED BY THE  
FLORIDA GEOLOGICAL SURVEY**



## LIST OF FIGURES - APPENDIX A-2

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TABLE A-2.1

## Index of St. Lucie County Well Cuttings Described by the Florida Geological Survey

St. Lucie County								
PAGE No.	FGS WELL NAME	* MAP No.	TOTAL DEPTH FEET (BLS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	SFWD GEOPHYS I.D. #	GEOPHYS. AVAILABLE
A-171	W-16288	18	142	17	702639	1109788	111000055	C, E, G, N, SP
A-175	W-16289	1	134	22	657595	1102620	111000056	C, D, E, EL, G, N
A-179	W-16371	5	110	26	646957	1127218	111000062	C, D, G, N
A-183	W-16372	6	115	25	646998	1140447	111000063	C, D, G, N
A-187	W-16373	7	113	30	616302	1102581	111000064	C, D, E, G, N, S P
A-191	W-16374	8	120	30	612626	1095300	111000065	C, D, E, G, N, S P
A-195	W-16375	9	153	27	720126	1126642	111000066	C, E, G, SP
A-197	W-16376	10	115	24	671191	1128122	111000067	D, E, G, SP, N
A-201	W-16377	11	119	33	604850	1103559	111000068	C, D, E, G, N, SP
A-205	W-16383	23	142	25	654904	1098673	111000059	C, D, EL, G, N, SP
A-209	W-16384	3	122	26	647013	1111870	111000060	D, G, N
A-213	W-16385	4	112	26	647078	1118737	111000061	C, D, G, N
A-217	W-16386	2	120	22	706690	1146162	111000069	C, D, E, G, N, SP
A-219	W-16389	24	122	29	620726	1100574	111000070	EL, G, N, SP
A-223	W-16390	12	130	17	724089	1110709	111000071	D, E, G, N, SP
A-227	W-16525	19	125	18	702643	1109788		N/A
A-235	W-16530	14	140	14	709240	1105984	111000073	C, D, E, EL, G, SP
A-239	W-16542	20	128	22	683162	1130901		N/A
A-249	W-16543	44	1540	25	667466	1091955	111000077	C, D, DI, F, FR G, N, S, T
A-277	W-16931	16	322	32	622280	1063621	111000074	C, D, E, G, N, S P
A-281	W-16932	15	116	25	627736	1164515		N/A
A-287	W-16933	25	126	30	620738	1100574	111000070	EL, G, N, SP
A-293	W-16935	26	125	25	659808	1044364		N/A

**TABLE A-2.1 Index of St. Lucie County Well Cuttings Described by the Florida Geological Survey**

St. Lucie County								
PAGE No.	FGS WELL NAME	* MAP No.	TOTAL DEPTH FEET (BLS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	SFWD GEOPHYS I.D.#	GEOPHYS. AVAILABLE
A-299	W-16936	21	137	23	683162	1130901	111000058	C, D, E, EL, G, N, SP
A-303	W-16957	27	120	27	628608	1062732		N/A
A-305	W-16964	17	142	22	692937	1159222	111000075	C, E, EL, G, SP
A-309	W-17023	42	1260	28	599083	1144542		N/A
A-317	W-17024	43	1220	30	599293	1131314		N/A
A-323	W-17025	13	130	24	663136	1159191	111000072	C, D, E, EL, G, SP
A-327	W-17136	38	1000	25	662866	1092240	111000050	C, E, F, G, N, T

\* Map Number as it appears in Figure A-2.1

GEOPHYSICS ABBREVIATIONS: C=CALIPER/D=DENSITY/DI=DUAL INDUCTION/E=ELOG/EL=6' LAT/F=FLOWMETER/G=GAMMA FR=FLUID RESISTIVITY/N=NEUTRON/S=SONIC/T=TEMPERATURE

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16288  
TOTAL DEPTH: 142 FT.  
38 SAMPLES FROM 0 TO 142 FT.

COUNTY - ST LUCIE  
LOCATION: T.35S R.40E S.31  
LAT = N 27D 23M 08  
LON = W 80D 22M 36

COMPLETION DATE - N/A  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 017 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: LI LI (8/30/93)

SFUMD ID# FOR CUTTINGS IS 111-16 (HOLE #STLAPT1PW1), ST. LUCIE COUNTY.  
LOCATED IN THE SE 1/4, NE 1/4, SW 1/4, SEC 9, T36S, R37E.

SFUMD GEOPHYSICAL LOG #110000055.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=702283; PLANAR Y=1109786  
WELL IS LOCATED IN THE FORT PIERCE NW 7.5 MINUTE QUADRANGLE.

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 20. UNDIFFERENTIATED SAND AND CLAY
- 20. - 130. PLIOCENE-PLEISTOCENE
- 130. - 142. HAWTHORN GROUP
- 0. - 4. NO SAMPLES
- 20. - 28. NO SAMPLES
  
- 0 - 4 NO SAMPLES
  
- 4 - 5 SAND; DARK BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%, ORGANICS-10%;  
FOSSILS: PLANT REMAINS;
  
- 5 - 20 SAND; DARK YELLOWISH BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%;
  
- 20 - 28 NO SAMPLES
  
- 28 - 37 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD

- 37 - 40 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD
- 40 - 44 SHELL BED; MODERATE DARK GRAY; 40% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD
- 44 - 55 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD
- 55 - 64 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 64 - 66 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 66 - 79 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 79 - 87 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 87 - 100 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 100 - 102 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 102 - 115 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 115 - 125 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 125 - 130 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 130 - 142 SANDSTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC SAND-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 142 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16289  
TOTAL DEPTH: 135 FT.  
45 SAMPLES FROM 0 TO 135 FT.

COUNTY - ST LUCIE  
LOCATION: T.36S R.38E S.10  
LAT = N 27D 21M 59  
LON = W 80D 30M 52

COMPLETION DATE - 04/01/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 025 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: LI LI (8/30/93)

SFWM ID# FOR CUTTINGS IS 111-21 (HOLE #STL-MW-1), ST. LUCIE COUNTY.

LOCATED IN THE NE 1/4, NE 1/4, NE 1/4, SEC 10, T36S, R38E.

SFWM GEOPHYSICAL AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=657602.6; PLANAR Y=1102684.5

UTM ZONE 17 PLANAR X=548018.6; Y=3026941.9

WELL IS LOCATED IN THE OKEECHOBEE 1 SE 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLleistocene INTERVAL

(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 10. UNDIFFERENTIATED SAND AND CLAY
- 10. - 128. PLIOCENE-PLleistocene
- 128. - 135. HAWTHORN GROUP
- 0. - 3. NO SAMPLES

0 - 3 NO SAMPLES

3 - 10 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, CLAY-05%;  
FOSSILS: FOSSIL FRAGMENTS, PLANT REMAINS;

10 - 18 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

18 - 25 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;

- 25 - 35 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 35 - 50 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 50 - 58 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 58 - 62 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 62 - 75 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 75 - 85 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 85 - 100 LIMESTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 100 - 105 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 105 - 112 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 112 - 120 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 120 - 122 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-10%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 122 - 126 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-05%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 126 - 128 LIMESTONE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-05%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 128 - 135 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-15%, CALCILUTITE-20%, PHOSPHATIC SAND-04%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;

135 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16371  
TOTAL DEPTH: 110 FT.  
32 SAMPLES FROM 0 TO 110 FT.

COUNTY - ST LUCIE  
LOCATION: T.35S R.38E S.17  
LAT = N 27D 26M 03  
LON = W 80D 32M 49

COMPLETION DATE - 02/05/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 022 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRARO

WORKED BY: \_\_JOE AYLOR (8/23/93), 2' to 5' SAMPLE INTERVALS.  
SFWM ID# FOR CUTTINGS IS 111-34 (HOLE #SLMW-7D), ST. LUCIE COUNTY.  
LOCATED IN THE NE 1/4, NE 1/4, SE 1/4, SEC 17, T35S, R38E.  
FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=646958; PLANAR Y=1127218.  
SFWM GEOPHYSICAL #110000062 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
WELL IS LOCATED IN THE OKEECHOBEE 1 NE 7.5 MINUTE QUADRANGLE  
THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 15. UNDIFFERENTIATED SAND AND CLAY
- 15. - 109. PLIOCENE-PLEISTOCENE
- 109. - . HAWTHORN GROUP

- 0 - 5 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;
- 5 - 15 SAND; LIGHT BROWNISH GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS;
- 15 - 20 SAND; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-20%;  
OTHER FEATURES: CALCAREOUS;
- 20 - 25 LIMESTONE; LIGHT GRAY; 20% POROSITY, FRACTURE, INTRAGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO GRAVEL; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: FOSSIL MOLDS;  
TRANSLUCENT CALCITE CRYSTALS CONTAINING QUARTZ.

- 25 - 35 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, FRACTURE, INTERCRYSTALLINE, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: MEDIUM TO GRAVEL; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-02%, QUARTZ SAND-05%, SHELL- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 35 - 54 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC, SKELETAL CAST; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-02%, QUARTZ SAND-20%, SHELL-30%;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
FOSSIL FRAGMENTS INCREASE DOWNWARD AS QUARTZ DECREASES DOWNWARD IN SECTION.
- 54 - 73 LIMESTONE; LIGHT OLIVE GRAY TO MODERATE LIGHT GRAY; 30% POROSITY, INTERGRANULAR, MOLDIC,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-30%, SHELL-30%, PHOSPHATIC SAND-01%, SPAR-02%;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
GASTROPODS, TURRITELLA SP.
- 73 - 79 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 79 - 82 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-40%, SHELL-30%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 82 - 87 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
ACCESSORY MINERALS: SILT-30%, SHELL-40%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
TRANSITION.

- 87 - 95 SILT; LIGHT OLIVE TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; MODERATE INDURATION;  
ACCESSORY MINERALS: LIMESTONE-30%, SHELL-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
SIMILAR TO 54 TO 73 FEET.
- 95 - 108 LIMESTONE; VERY LIGHT GRAY TO YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, SKELETAL CAST; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SPAR-10%, PHOSPHATIC SAND-01%, SHELL-25%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 108 - 109 LIMESTONE; GRAYISH OLIVE TO LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
TRANSITION OF 40% OLIVE GRAY CALCAREOUS SILTSTONE WITH SANDSTONE AS IN NEXT INTERVAL.
- 109 - 110 SAND; GRAYISH OLIVE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
TOP OF HAWTHORN GROUP AS DESCRIBED FOR THE PEACE RIVER FORMATION (SCOTT, 1988, P. 79).
- 110 TOTAL DEPTH





## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16372

COUNTY - ST LUCIE

TOTAL DEPTH: 115 FT.

LOCATION: T.35S R.38E S.32

37 SAMPLES FROM 0 TO 115 FT.

LAT = N 27D 28M 14

LONG = W 80D 32M 48

COMPLETION DATE - 04/05/89

ELEVATION - 024 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: JOE AYLOR (8/24/93), 2' to 5' SAMPLE INTERVALS.  
 SFMD ID# FOR CUTTINGS IS 111-35 (HOLE #SLMW-8D), ST. LUCIE COUNTY.  
 LOCATED IN THE CENTER OF THE SW 1/4, SEC 17, T35S, R38E.  
 FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=646992; PLANAR Y=1140447.  
 SFMD GEOPHYSICAL #110000063 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
 WELL IS LOCATED IN THE OKEECHOBEE 1 NE 7.5 MINUTE QUADRANGLE  
 THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
 (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 7. UNDIFFERENTIATED SAND AND CLAY
  - 7. - 106. PLIOCENE-PLEISTOCENE
  - 106. - 115. HAWTHORN GROUP
- 
- 0 - 4 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
 ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: SHELL-25%, CALCITE-10%, PHOSPHATIC SAND- %;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  - 4 - 7 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;  
 ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  - 7 - 10 LIMESTONE; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-35%, PHOSPHATIC SAND- %;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 10 - 13.5 SAND; MODERATE DARK GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY;
- 13.5- 19 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS;
- 19 - 39 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, FRACTURE, INTERCRYSTALLINE, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%, SHELL-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA, FOSSIL MOLDS;  
TRANSPARENT CALCITE CRYSTALS.
- 39 - 47 LIMESTONE; MODERATE LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%, SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
MIXED FINE AND VERY COARSE CALCITE CRYSTALS.
- 47 - 57 SILT; MODERATE LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: IRON STAIN-20%, LIMESTONE-25%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 57 - 64 SILT; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: IRON STAIN-30%, LIMESTONE-10%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 64 - 75 SILT; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS, ECHINOID;  
GASTROPODS

- 75 - 85 SHELL BED; WHITE TO LIGHT OLIVE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-30%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 85 - 99 SILT; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 99 - 106 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-30%, PHOSPHATIC SAND-01%, QUARTZ SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 106 - 115 SAND; LIGHT OLIVE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
HORTHORN GROUP (PEACE RIVER FORMATION) AT 106'.
- 115 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16373

COUNTY - ST. LUCIE

TOTAL DEPTH: 115 FT.

LOCATION: T.36S R.37E S.09

22 SAMPLES FROM 0 TO 113 FT.

LAT = N 27D 22M 00

LONG = W 80D 38M 30

COMPLETION DATE - 09/05/89

ELEVATION - 030 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: LI LI (8/24/93)

SFWMD ID# FOR CUTTINGS IS 111-36 (HOLE #SLMW-9D), ST. LUCIE COUNTY.

LOCATED IN THE NE 1/4, NW 1/4, NW 1/4, SEC 9, T36S, R37E.

SFWMD GEOPHYSICAL #110000064 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

FLORIDA POLYCONIC EAST ZONE IN FEET; PLANAR X=616308.4, Y=1102645.6

UTM ZONE 17, PLANAR X=535436.9, Y=3026930.1

WELL IS LOCATED IN THE OKEECHOBEE 1 SW 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 8. UNDIFFERENTIATED SAND AND CLAY
- 8. - 104. PLIOCENE-PLEISTOCENE
- 104. - 113. HAWTHORN GROUP
- 0. - 4. NO SAMPLES
- 40. - 43. NO SAMPLES
- 62. - 63. NO SAMPLES
- 82. - 82. NO SAMPLES
  
- 0 - 4 NO SAMPLES
  
- 4 - 8 SAND; LIGHT OLIVE GRAY TO GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-10%, CALCITE-10%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
- 8 - 22 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, ECHINOID;
  
- 22 - 31 LIMESTONE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 31 - 36 SHELL BED; LIGHT GRAY TO PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 36 - 40 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 40 - 43 NO SAMPLES
- 43 - 62 SHELL BED; LIGHT OLIVE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 62 - 63 NO SAMPLES
- 63 - 66 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS;
- 66 - 82 LIMESTONE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 82 - 83 NO SAMPLES
- 83 - 93 LIMESTONE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ORGANICS;
- 93 - 100 LIMESTONE; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC; 85% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 100 - 102 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 102 - 104 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%, QUARTZ SAND-20%;  
FOSSILS: FOSSIL FRAGMENTS;
- 104 - 113 SANDSTONE; GREENISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%, CALCILUTITE-20%;  
FOSSILS: FOSSIL FRAGMENTS;
- 113 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16374  
TOTAL DEPTH: 120 FT.  
22 SAMPLES FROM 0 TO 120 FT.

COUNTY - STLUCIE  
LOCATION: T.36S R.37E S.17  
LAT = N 27D 20M 47  
LON = W 80D 38M 53

COMPLETION DATE - 10/05/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 032 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TOMY LUBRANO

WORKED BY: LI LI (8/25/93)

SFWM ID# FOR CUTTINGS IS 111-37 (HOLE #SLMW-10D), ST. LUCIE COUNTY.  
LOCATED IN THE SE 1/4, NE 1/4, SEC 17, T36S, R37E.  
FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=671191; PLANAR Y=1128122.  
SFWM GEOPHYSICAL #110000067 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
WELL IS LOCATED IN THE OKEECHOBEE 1 SW 7.5 MINUTE QUADRANGLE  
THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 4. NO SAMPLES
- 4. - 11. UNDIFFERENTIATED SAND AND CLAY
- 11. - 111. PLIOCENE-PLEISTOCENE
- 111. - 120. HAWTHORN GROUP
- 0. - 4. NO SAMPLES
- 20. - 23. NO SAMPLES
- 42. - 43. NO SAMPLES
- 93. - 102. NO SAMPLES
  
- 0 - 4 NO SAMPLES
  
- 4 - 8 SAND; YELLOWISH GRAY TO YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
  
- 8 - 11 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SAMPLE 10-11 FT WAS MARKED 9-22 FT
  
- 11 - 20 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 20 - 23 NO SAMPLES
- 23 - 35 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 35 - 42 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 42 - 43 NO SAMPLES
- 43 - 51 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 51 - 62 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 62 - 63 NO SAMPLES
- 63 - 82 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 82 - 93 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
OLIVA SP., TURRITELLA SP.
- 93 - 102 NO SAMPLES

- 102 - 105 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SHELL-25%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
OLIVA SP.
- 105 - 111 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 111 - 120 SANDSTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 120 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16375  
 TOTAL DEPTH: 153 FT.  
 33 SAMPLES FROM 0 TO 153 FT.

COUNTY - ST. LUCIE  
 LOCATION: T.35S R.40E S.15  
 LAT = N 27D 25M 54  
 LON = W 80D 19M 15

COMPLETION DATE - 16/05/89  
 OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 027 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: JOE AYLOR (8/24/93)

SFWMD ID# FOR CUTTINGS IS 111-38 (HOLE #SLMW-11D), ST. LUCIE COUNTY.  
 LOCATED IN THE NE 1/4, NW 1/4, SE 1/4 SEC 15, T35S, R40E.  
 FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=720306; PLANAR Y=1126643.  
 SFWMD GEOPHYSICAL #110000066 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
 WELL IS LOCATED IN THE FORT PIERCE 7.5 MINUTE QUADRANGLE.  
 THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
 (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 10. UNDIFFERENTIATED SAND AND CLAY
- 10. - 142. PLIOCENE-PLEISTOCENE
- 142. - . HAWTHORN GROUP

- 0 - 10 SAND; LIGHT BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN-%;
- 10 - 55 SAND; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
PROBABLE LOST CIRCULATION PROBLEMS, SAMPLING CONFUSION.
- 55 - 57 NO SAMPLES
- 57 - 59 SAND; DARK GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;
- 59 - 73 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
OLIVA SP.
- 73 - 75 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRAVEL; MODERATE INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-20%;

- 75 - 94 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 94 - 104 SHELL BED; MODERATE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPODS, OLIVA SP., CONUS SP.
- 104 - 122 SAND; LIGHT GREENISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 122 - 134 SHELL BED; LIGHT GRAYISH GREEN TO YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;  
TURRETELLA SP.
- 134 - 142 SAND; LIGHT GREENISH YELLOW; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-20%, SHELL-20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 142 - 153 SAND; LIGHT OLIVE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-20%, SHELL-05%, PHOSPHATIC SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;  
TOP OF HAWTHORN GROUP AT 142 FEET, BUT PREVIOUS SAMPLE CONTAINS SIMILAR SANDSTONE.
- 153 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16376

COUNTY - ST LUCIE

TOTAL DEPTH: 115 FT.

LOCATION: T.35S R.39E S.18

21 SAMPLES FROM 0 TO 115 FT.

LAT = N 27D 26M 11

LOW = W 80D 28M 20

COMPLETION DATE - 17/05/89

ELEVATION - 022 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: LI LI (8/26/93)

SFWMD ID# FOR CUTTINGS IS 111-39 (HOLE #SLMW-12D), ST. LUCIE COUNTY.

LOCATED IN THE NW 1/4, NE 1/4, SEC18, T35S, R39E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=671191; PLANAR Y=1128122.

SFWMD GEOPHYSICAL #110000067 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE FORT PIERCE NW 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 10. UNDIFFERENTIATED SAND AND CLAY
- 10. - 101. PLIOCENE-PLEISTOCENE
- 101. - 115. HAWTHORN GROUP

- 0 - 9 SAND; DARK GRAYISH YELLOW TO LIGHT OLIVE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, CALCITE-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 9 - 10 SAND; DARK GRAYISH YELLOW; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-40%, CALCITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 10 - 22 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 22 - 24 SANDSTONE; DARK BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, ORGANICS-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 24 - 33 SANDSTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, CALCILUTITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 33 - 52 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 52 - 57 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-05%, SHELL-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 57 - 69 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 69 - 78 LIMESTONE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 78 - 101 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 101 - 108 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-15%, CALCILUTITE-10%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;



108 - 115 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

115 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16377

COUNTY - ST. LUCIE

TOTAL DEPTH: 119 FT.

LOCATION: T.36S R.37E S.06

39 SAMPLES FROM 0 TO 119 FT.

LAT = N 27D 22M 10

LOX = W 80D 40M 37

COMPLETION DATE - 14/06/89

ELEVATION - 032 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: JOE AYLER (8/26/93)

SFWMD ID# FOR CUTTINGS IS 111-40 (HOLE #SLMW-13D), ST. LUCIE COUNTY.

LOCATED IN THE SW 1/4, SW 1/4, SW 1/4 SEC 6, T36S, R37E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=604850; PLANAR Y=1103559.

SFWMD GEOPHYSICAL #110000068 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE OKEECHOBEE 1 SW 7.5 MINUTE QUADRANGLE.

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 5. UNDIFFERENTIATED SAND AND CLAY
- 5. - 115.5 PLIOCENE-PLEISTOCENE
- 115.5- . HAWTHORN GROUP
- 52. - 57. NO SAMPLES
- 110. - 112. NO SAMPLES
  
- 0 - 4 SAND; DARK YELLOWISH ORANGE TO GRAYISH ORANGE PINK; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %;  
FOSSILS: NO FOSSILS;
  
- 4 - 5 SAND; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
FOSSILS: NO FOSSILS;
  
- 5 - 8 LIMESTONE; GRAYISH BROWN TO LIGHT BROWNISH GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, ORGANIC MATRIX;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: QUARTZ SAND-15%;  
FOSSILS: FOSSIL MOLDS;  
TOP OF THE OKEECHOBEE FORMATION.

- 8 - 27 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 27 - 35 SHELL BED; MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 35 - 36 SHELL BED; MODERATE DARK GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 36 - 40 SHELL BED; MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
PLANORBELLA SP.
- 40 - 41 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 41 - 45 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
CONUS SP.
- 45 - 52 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 52 - 57 NO SAMPLES
- 57 - 75 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 75 - 78 SAND; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 78 - 82 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS, ECHINOID;  
EPITONIUM SP., TRANSITION BETWEEN SHELL BEDS AND SANDSTONE, JAW BONE AND TEETH.
- 82 - 93 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TURRITELLA SP. AND BUSYCON SP.
- 93 - 97 SHELL BED; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: IRON STAIN-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS, ECHINOID;
- 97 - 99 SAND; LIGHT OLIVE GRAY; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 99 - 102 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;  
OLIVA SP.
- 102 - 110 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR GASTROPODS
- 110 - 112 NO SAMPLES
- 112 - 115.5 SAND; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 115.5- 119 SAND; GREENISH GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-15%, PHOSPHATIC SAND-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TOP OF HAWTHORN GROUP AT 115.5 FEET.
- 119 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16383  
TOTAL DEPTH: 142 FT.  
44 SAMPLES FROM 0 TO 142 FT.

COUNTY - ST LUCIE  
LOCATION: T.36S R.38E S.10  
LAT = N 27D 21M 22  
LON = W 80D 31M 22

COMPLETION DATE - 07/03/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 020 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: \_\_LI LI (8/26/93)

SFWD ID# FOR CUTTINGS IS 111-28 (HOLE #STLAPT3-PW1), ST. LUCIE COUNTY.  
LOCATED IN THE NE 1/4, SE 1/4, SW 1/4, SEC10, T36S, R38E.  
FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=654904; PLANAR Y=1098873.  
SFWD GEOPHYSICAL #110000059 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
WELL IS LOCATED IN THE OKEECHOBEE 1 SE 7.5 MINUTE QUADRANGLE  
THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 18. UNDIFFERENTIATED SAND AND CLAY
- 18. - 135. PLIOCENE-PLEISTOCENE
- 135. - 142. HAWTHORN GROUP
- 4. - 5. NO SAMPLES
- 13. - 15. NO SAMPLES
- 33. - 40. NO SAMPLES
- 43. - 44. NO SAMPLES
- 73. - 74. NO SAMPLES
- 127. - 129. NO SAMPLES
  
- 0 - 4 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%, ORGANICS-05%;  
FOSSILS: PLANT REMAINS;
  
- 4 - 5 NO SAMPLES
  
- 5 - 10 SAND; DARK GRAYISH YELLOW; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-10%, HEMATITE-02%;

- 10 - 13 SAND; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: ANHYDRITE-25%, CLAY-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 13 - 15 NO SAMPLES
- 15 - 18 SAND; DARK YELLOWISH BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-05%, CLAY-10%;  
FOSSILS: FOSSIL FRAGMENTS, PLANT REMAINS;
- 18 - 21 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS;  
TOP OF OKEECHOBEE FORMATION AT 18 FEET.
- 21 - 23 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 23 - 33 LIMESTONE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 33 - 40 NO SAMPLES
- 40 - 43 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 43 - 44 NO SAMPLES



- 44 - 53 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SHELL-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SIMILAR TO 40-43 FT
- 53 - 57 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 57 - 70 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 70 - 73 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SIMILAR TO 53-57 FT, TRANSITION
- 73 - 74 NO SAMPLES
- 74 - 82 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCITE-30%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 82 - 108 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 108 - 118 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 118 - 125 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 125 - 127 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-30%, SHELL-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 127 - 129 NO SAMPLES
- 129 - 133 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-30%, SHELL-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 133 - 135 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-10%, PHOSPHATIC SAND-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 135 - 137 SILT; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-10%, CALCITE-20%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 137 - 142 SILT; OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-05%, CALCITE-20%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 142 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16384  
TOTAL DEPTH: 122 FT.  
28 SAMPLES FROM 0 TO 122 FT.

COUNTY - ST LUCIE  
LOCATION: T.35S R.38E S.32  
LAT = N 27D 23M 31  
LON = W 80D 32M 49

COMPLETION DATE - 12/04/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 024 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: \_\_JOE AYLROR (8/27/93)

SFWMD ID# FOR CUTTINGS IS 111-32 (HOLE #SLMW-5D), ST. LUCIE COUNTY.  
LOCATED IN THE THE SE 1/4, SE 1/4, NE 1/4 SEC 32, T35S, R38E.  
FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=647023; PLANAR Y=1111868.  
SFWMD GEOPHYSICAL #110000060 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
WELL IS LOCATED IN THE OKEECHOBEE 1 NE 7.5 MINUTE QUADRANGLE.  
THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 5. UNDIFFERENTIATED SAND AND CLAY
- 5. - 108. PLIOCENE-PLEISTOCENE
- 108. - . HAWTHORN GROUP

- 0 - 5 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %, QUARTZ SAND-20%;  
FOSSILS: NO FOSSILS;
- 5 - 10 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: NO FOSSILS;  
TOP OF OKEECHOBEE FORMATION.
- 10 - 14 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCITE-05%;  
OTHER FEATURES: COQUINA;  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 14 - 16 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-02%, CALCITE-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 16 - 25 SHELL BED; MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 25 - 50 SHELL BED; GRAYISH ORANGE PINK TO VERY LIGHT ORANGE; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR GASTROPODS.
- 50 - 62 SHELL BED; MODERATE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 62 - 70 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 70 - 82 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 82 - 85 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 85 - 90 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SIMILAR TO 70-82 FEET.
- 90 - 105 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 105 - 108 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-01%, CALCITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

108 - 122 SANDSTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, SHELL-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TOP OF HAWTHORNE AT 108 FEET.

122 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16385

COUNTY - ST LUCIE

TOTAL DEPTH: 112 FT.

LOCATION: T.35S R.38E S.29

34 SAMPLES FROM 0 TO 112 FT.

LAT = N 27D 24M 39

LON = W 80D 32M 48

COMPLETION DATE - 20/04/89

ELEVATION - 024 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/PAUL BENTON

WORKED BY: LI LI (8/27/93)

SFWD ID# FOR CUTTINGS IS 111-33 (HOLE #SLMW-6D), ST. LUCIE COUNTY.

LOCATED IN THE NE 1/4, NE 1/4, NE 1/4, SEC29, T35S, R38E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=646717; PLANAR Y=1118735.

SFWD GEOPHYSICAL #110000061 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE OKEECHOBEE 1 NE 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL

(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

0. - 20. UNDIFFERENTIATED SAND AND CLAY
20. - 108. PLIOCENE-PLEISTOCENE
108. - 112. HAWTHORN GROUP
98. - 102. NO SAMPLES
- 0 - 5 SAND; DARK BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-10%, ORGANICS-20%;  
FOSSILS: FOSSIL FRAGMENTS, PLANT REMAINS;
- 5 - 15 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-15%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 15 - 20 SAND; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-50%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TRANSITIONAL
- 20 - 22 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 22 - 23 SHELL BED; MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%, ORGANICS-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 23 - 30 SANDSTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, CALCITE-25%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 30 - 45 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 45 - 50 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 85% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
OLIVA SP. CERITHIUM SP.
- 50 - 60 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 60 - 70 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 70 - 74 LIMESTONE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;



- 74 - 77 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 77 - 90 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 90 - 98 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 98 - 102 NO SAMPLES
- 102 - 108 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 108 - 112 SAND; MODERATE OLIVE BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 112 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16386

COUNTY - ST LUCIE

TOTAL DEPTH: 120 FT.

LOCATION: T.34S R.40E S.29

16 SAMPLES FROM 0 TO 120 FT.

LAT = N 27D 29M 08

LON = W 80D 21M 45

COMPLETION DATE - 21/06/89

ELEVATION - 024 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: \_\_JOE AYLOR (8/27/93)

SFWMD ID# FOR CUTTINGS IS 111-41 (HOLE #SLMW-4D), ST. LUCIE COUNTY.

LOCATED IN THE THE SW 1/4, SW 1/4 SEC 29, T34S, R40E.

FLOIRIDA POLYCONIC EAST ZONE IN FEET PLANAR X=706690; PLANAR Y=1146162.

SFWMD GEOPHYSICAL #110000069 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE FORT PIERCE 7.5 MINUTE QUADRANGLE.

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 22. UNDIFFERENTIATED SAND AND CLAY
- 10. - 110. PLIOCENE-PLEISTOCENE
- 110. - . HAWTHORN GROUP
- 22. - 36. NO SAMPLES
  
- 0 - 22 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: PHOSPHATIC SAND- %, IRON STAIN- %, PLANT REMAINS- %;  
FOSSILS: NO FOSSILS;
  
- 22 - 36 NO SAMPLES
  
- 36 - 37 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS; :
  
- 37 - 42 SAND; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, SHELL-30%, CALCITE-10%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
- 42 - 62 SHELL BED; DARK GREENISH YELLOW; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 62 - 85 SHELL BED; MODERATE DARK GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR CONUS SP.
- 85 - 102 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 102 - 110 SHELL BED; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 110 - 115 SILT; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL-40%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR EPITONIUM SP., TOP OF HAWTHORN GROUP ? AT 110 FEET.
- 115 - 118 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 118 - 120 SAND; LIGHT GREENISH GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-25%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 120 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16389

COUNTY - ST LUCIE

TOTAL DEPTH: 122 FT.

LOCATION: T.36S R.37E S.10

37 SAMPLES FROM 0 TO 122 FT.

LAT = N 27D 21M 40

LON = W 80D 37M 41

COMPLETION DATE - 27/06/89

ELEVATION - 030 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: LI LI (8/30/93)

SFWMD ID# FOR CUTTINGS IS 111-42 (HOLE #STLAPT4-PW-1), ST. LUCIE COUNTY.

LOCATED IN THE SW 1/4, NW 1/4, SW 1/4, SEC 10, T36S, R37E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=620738; PLANAR Y=1100574.

SFWMD GEOPHYSICAL #110000070 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE OKEECHOBEE 1 SW 7.5 MINUTE QUADRANGLE.

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 17. UNDIFFERENTIATED SAND AND CLAY
- 17. - 117. PLIOCENE-PLEISTOCENE
- 117. - 122. HAWTHORN GROUP
- 10. - 13. NO SAMPLES
- 37. - 38. NO SAMPLES

0 - 2 SAND; LIGHT GRAYISH BROWN TO DARK BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-20%;  
FOSSILS: PLANT REMAINS, ORGANICS;

2 - 3 SAND; DARK BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-20%, CLAY-10%;  
FOSSILS: PLANT REMAINS, ORGANICS;

3 - 10 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%;

10 - 13 NO SAMPLES

- 13 - 17 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 17 - 37 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, ECHINOID;
- 37 - 38 NO SAMPLES
- 38 - 43 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD
- 43 - 68 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD
- 68 - 80 SHELL BED; LIGHT OLIVE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 80 - 91 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 91 - 102 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD

- 102 - 113 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 113 - 117 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
BOTTOM OF PLIOCENE-PLEISTOCENE
- 117 - 122 SANDSTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-30%, CALCILUTITE-20%, PHOSPHATIC SAND-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 122 TOTAL DEPTH





## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16390  
 TOTAL DEPTH: 130 FT.  
 28 SAMPLES FROM 0 TO 130 FT.

COUNTY - ST. LUCIE  
 LOCATION: T.35S R.40E S.35  
 LAT = N 27D 23M 16  
 LONG = W 80D 18M 35

COMPLETION DATE - 06/07/89  
 OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 015 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: JOE AYLOR (8/28/93)

SFWD ID# FOR CUTTINGS IS 111-43 (HOLE #SLMW-14D), ST. LUCIE COUNTY.  
 LOCATED IN THE THE NW 1/4, NW 1/4, SE 1/4 SEC 35, T35S, R40E.  
 FLORIDA POLYCOMIC EAST ZONE IN FEET PLANAR X=723999; PLANAR Y=1110708.  
 SFWD GEOPHYSICAL #110000071 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.  
 WELL IS LOCATED IN THE FORT PIERCE 7.5 MINUTE QUADRANGLE.  
 THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
 (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 37. UNDIFFERENTIATED SAND AND CLAY
- 37. - 122. PLIOCENE-PLEISTOCENE
- 122. - . HAWTHORN GROUP
- 0. - 5. NO SAMPLES
- 67. - 68. NO SAMPLES
- 84. - 89. NO SAMPLES
  
- 0 - 5 NO SAMPLES
  
- 5 - 22 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 ACCESSORY MINERALS: SHELL-10%, IRON STAIN- %;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
- 22 - 35 NO SAMPLES
  
- 35 - 37 SAND; DARK GRAY TO BROWNISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 ACCESSORY MINERALS: SHELL-10%, IRON STAIN- %, PLANT REMAINS- %;  
 OTHER FEATURES: STROMATAL;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
- 37 - 57 SHELL BED; VERY LIGHT GRAY TO LIGHT TAN; 40% POROSITY, INTERGRANULAR,  
 POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
 TOP OF OKEECHOBEE FORMATION AT 37 FEET.

- 57 - 67 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 67 - 68 NO SAMPLES
- 68 - 74 SHELL BED; MODERATE LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 74 - 76 SHELL BED; MODERATE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 76 - 83 LIMESTONE; MODERATE LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SHELL-30%, CALCITE-10%, PHOSPHATIC SAND-01%, CLAY- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
MINOR CONUS SP.
- 83 - 84 SHELL BED; MODERATE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: LIMESTONE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 84 - 89 NO SAMPLES
- 89 - 95 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
MINOR CONUS SP., OLIVA SP., AND JAW AND TEETH.
- 95 - 101 SHELL BED; GRAYISH BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR GASTROPODS.
- 101 - 117 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;

- 117 - 122 LIMESTONE; LIGHT GREENISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 122 - 125 SAND; LIGHT OLIVE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TOP OF HAWTHORN AT 122 FEET.
- 125 - 130 SAND; LIGHT OLIVE GRAY TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: LIMESTONE-20%, SHELL-20%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 130 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16525  
TOTAL DEPTH: 00123 FT.  
55 SAMPLES FROM 0 TO 125 FT.

COUNTY - STLUCIE  
LOCATION: T.35S R.40E S.31  
LAT = N 27D 23M 08  
LON = W 80D 22M 32

COMPLETION DATE - N/A  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 018 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: S. CAMPBELL AND A. HOWELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-56', AND CORE FROM 56'-125'.

THE SFWMD ID# FOR THE CUTTINGS IS: 111-51 (HOLE#: SLC-1).

THE SFWMD ID# FOR THE CORE SAMPLES IS: 111-2C (HOLE#: STL APT #1 H-2).

THE WELL IS LOCATED IN THE FORT PEIRCE N.W. QUADRANGLE (72).

THE PLIO-PLleistocene UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

- 0. - 29. UNDIFFERENTIATED SAND AND CLAY
- 29. - 46. PLIOCENE-PLEISTOCENE
- 46. - 56. NO SAMPLES
- 56. - . PLIOCENE-PLEISTOCENE

- 0 - 0.5 SAND; MODERATE GRAY TO LIGHT YELLOWISH ORANGE; 38% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO VERY FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-05%, PLANT REMAINS-02%, SILT-01%;
- 0.5- 2.7 SAND; GRAYISH BROWN; 33% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-01%;
- 2.7- 3.2 SAND; DARK BROWNISH RED; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-08%, CLAY-03%, PLANT REMAINS-02%, SILT-0 %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: PLANT REMAINS;
- 3.2- 4 SAND; BROWNISH GRAY; 22% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-02%, ORGANICS-01%;

- 4 - 8 SAND; LIGHT BROWN; 22% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-01%;
- 8 - 9 SAND; MODERATE BROWN; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-01%, PLANT REMAINS-01%;
- 9 - 27 SAND; MODERATE YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-02%, HEAVY MINERALS-%;
- 27 - 27.9 SAND; MODERATE YELLOWISH BROWN; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-01%, ORGANICS-01%, HEAVY MINERALS-%;
- 27.9- 29 SAND; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-03%, SILT-01%, MICA-%;
- 29 - 29.7 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -40%;  
OTHER FEATURES: CALCAREOUS, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 29.7- 33.6 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -50%, PHOSPHATIC SAND-01%, SHELL- %;  
OTHER FEATURES: CALCAREOUS, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPODS AND RARE ECHINOID SPINES ARE PRESENT.

- 33.6- 38 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: -05%, CLAY-03%, PHOSPHATIC SAND- %, MICA- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 38 - 41 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -04%, PHOSPHATIC SAND- %, MICA-%;
- 41 - 46 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -04%, PHOSPHATIC SAND-01%;
- 46 - 56 NO SAMPLES
- 56 - 58 SHELL BED; MODERATE GRAY TO LIGHT OLIVE GRAY; 22% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
OTHER FEATURES: COQUINA, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
CORE SAMPLES BEGIN AT 56'. DRILLER REPORTS 10% RECOVERY FROM 56-58'. UPPERMOST 1 CM  
SURFACE OF CORE IS HEAVILY IRON STAINED (ABUNDANT HEMATITE CEMENT IS ALSO PRESENT).  
PROBABLY REPRESENTS A PERIOD OF EROSION AND EXPOSURE AT THE SURFACE.
- 58 - 59.8 SAND; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, HEAVY MINERALS-01%, MICA- %;  
OTHER FEATURES: CALCAREOUS, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
VERY GOOD SORTING IS EVIDENT.
- 59.8- 60 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC; 67% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-45%, SPAR-45%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLER REPORTS 75% RECOVERY FROM 58-60'.

- 60 - 61 CALCARENITE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 67% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-45%, -10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MIXED CARBONATE SILICICLASTIC ROCK WITH ABUNDANT QUARTZ SAND; A VERY TYPICAL LITHOLOGY FROM THIS CORE.
- 61 - 65 CALCARENITE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-05%, SHELL-01%, PHOSPHATIC SAND-0 %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
DRILLERS REPORT 60% RECOVERY FROM 60-65'. IS A FINING UPWARD TREND FROM 60-65'.
- 65 - 75 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC; 75% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
DRILLERS REPORT 63% RECOVERY FROM 65-69.75' AND 60% RECOVERY FROM 69.75-74.75'. QUARTZ GRAINS TEND TO BE FROSTED.
- 75 - 80 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -20%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 80 - 82 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 10% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-10%, -01%, PHOSPHATIC SAND- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 43% RECOVERY FROM 75-82'. ROCK IS VARIABLY RECRYSTALLIZED AND INDURATED FROM 65-82'.



- 82 - 84 CALCILUTITE; VERY LIGHT GRAY; 30% POROSITY, MOLDIC, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 78% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-35%, -25%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS, LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 25% RECOVERY FROM 82-84'.
- 84 - 87 CALCILUTITE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: COARSE TO MICROCRYSTALLINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
IS AN INCREASE IN SAND CONTENT UPWARD FROM 87' TO 84'.
- 87 - 89 CALCARENITE; VERY LIGHT GRAY; 12% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
DRILLERS REPORT 60% RECOVERY FROM 84-89'.
- 89 - 90 CALCARENITE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-28%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;
- 90 - 96 CALCARENITE; VERY LIGHT GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-40%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;

- 96 - 98 LIMESTONE; MODERATE LIGHT GRAY TO YELLOWISH GRAY; 08% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -10%, QUARTZ SAND-03%, PHOSPHATIC SAND- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 33% RECOVERY FROM 89-98'. SAMPLE IS A MIXTURE OF SHELL FRAGMENTS, CALCARENITE, AND PURE CALCILUTITE. THIS MIXTURE INDICATES POSSIBLE THIN, INDIVIDUAL LAYERS OF EACH THAT WERE BROKEN AND MIXED DURING DRILLING.
- 98 - 98.5 CALCARENITE; LIGHT GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 98.5- 100 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
DRILLERS REPORT 100% RECOVERY FROM 98-100'.
- 100 - 109 SAND; LIGHT GRAY; 24% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
DRILLERS REPORT 25% RECOVERY FROM 100-109'. QUARTZ SAND CONTENT INCREASES UPWARD. SAMPLE IS UNCONSOLIDATED IN THE CENTER OF THE INTERVAL AND APPEARS TO BE THE INTERVAL MOST LIKELY TO HAVE POOR RECOVERY. THE UNCONSOLIDATED INTERVAL CONTAINS A RELATIVELY HIGHER MACROFOSSIL CONTENT. ONLY THE ECHINOID SPINES ARE REPRESENTED IN THIS INTERVAL.
- 109 - 111 SAND; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-25%, -15%, PHOSPHATIC SAND-05%, SHELL-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
DRILLERS REPORT 75% RECOVERY FROM 109-110'.

- 111 - 112.3 LIMESTONE; YELLOWISH GRAY; 40% POROSITY, MOLDIC, INTRAGRANULAR, INTERGRANULAR;  
 GRAIN TYPE: BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE; GOOD INDURATION;  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%;  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
 FOSSILS: FOSSIL MOLDS, MOLLUSKS;  
 CONTACT WITH OVERLYING UNIT IS AT 111' AND IS SHARP AND IRREGULAR. THE CONTACT IS DEFINED  
 BY A RAPID INCREASE IN HARDNESS AND RECRYSTALLIZATION AND THE PRESENCE OF MOLDIC  
 MACROFOSSILS BELOW 111'. THE CONTACT MAY BE EROSIONAL. FOSSIL MOLDS INCLUDE BIBALVES,  
 GASTROPODS, ECHINOID SPINES AND SMALL PIECES OF "DELAMINATED" MOLLUSK FRAGMENTS.
- 112.3- 112.5 SANDSTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%, SILT-02%, -02%, SHELL-02%;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 112.5- 118 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR, FRACTURE;  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: SHELL-15%, -10%, PHOSPHATIC SAND-04%, SILT-02%;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
 DRILLERS REPORT 100% RECOVERY FROM 110-116'.
- 118 - 120 SAND; YELLOWISH GRAY; 27% POROSITY, INTERGRANULAR, MOLDIC;  
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: -15%, PHOSPHATIC SAND-05%, SHELL-04%, SILT-02%;  
 OTHER FEATURES: CALCAREOUS;  
 FOSSILS: MOLLUSKS, ECHINOID, BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
 DRILLERS REPORT 92% RECOVERY FROM 116-120'. SMALL (<0.5 mm) TRANSLUCENT NEEDLES OF CALCITE  
 FOUND INDIVIDUALLY AND IN "BUNDLES" ARE IDENTIFIED AS BEING DERIVED BY "DELAMINATION" OF  
 THE INTERIOR OF MOLLUSK SHELLS.
- 120 - 125 NO SAMPLES  
 DRILLERS REPORT 0% RECOVERY FROM 120-125'.
- 125 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16530

COUNTY - ST. LUCIE

TOTAL DEPTH: 140 FT.

LOCATION: T.36S R.40E S.05

24 SAMPLES FROM 0 TO 140 FT.

LAT = N 27D 22M 30

LON = W 80D 21M 19

COMPLETION DATE - / /89

ELEVATION - 014 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

WORKED BY: LI LI (8/31/93)

SFWD ID# FOR CUTTINGS IS 111-44 (HOLE SLMW-21), ST. LUCIE COUNTY.

LOCATED IN SEC 5, T36S, R40E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=709255; PLANAR Y=1105984.

SFWD GEOPHYSICAL #110000073.

WELL IS LOCATED IN THE ANKONA 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 40. UNDIFFERENTIATED SAND AND CLAY
- 40. - 131. PLIOCENE-PLEISTOCENE
- 131. - 140. HAWTHORN GROUP
- 0. - 5. NO SAMPLES
- 20. - 32. NO SAMPLES
- 40. - 44. NO SAMPLES
- 100. - 105. NO SAMPLES
- 120. - 121. NO SAMPLES
  
- 0 - 5 NO SAMPLES
  
- 5 - 10 SAND; MODERATE BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CLAY-10%, ORGANICS-10%, SHELL-03%;  
FOSSILS: FOSSIL FRAGMENTS;
  
- 10 - 20 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, CLAY-10%;  
FOSSILS: FOSSIL FRAGMENTS;
  
- 20 - 32 NO SAMPLES

- 32 - 40 SAND; DARK BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-15%, CLAY-10%, SHELL-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 40 - 44 NO SAMPLES
- 44 - 49 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%;  
FOSSILS: MOLLUSKS, BARNACLES, FOSSIL FRAGMENTS;
- 49 - 64 SHELL BED; MODERATE DARK GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 64 - 80 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 80 - 100 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 100 - 105 NO SAMPLES
- 105 - 120 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCITE-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, SPICULES;  
GASTROPOD
- 120 - 121 NO SAMPLES
- 121 - 131 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-05%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, SPICULES;  
GASTROPOD

131 - 140 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-30%, CALCILUTITE-10%, PHOSPHATIC SAND-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD

140 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16542  
TOTAL DEPTH: 128 FT.  
43 SAMPLES FROM 0 TO 128 FT.

COUNTY - ST. LUCIE  
LOCATION: T.35S R.39E S.09BD  
LAT = N 27D 26M 38  
LON = W 80D 26M 07

COMPLETION DATE - 09/10/89  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 22 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: S. CAMPBELL AND A. HOWELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-44 AND CORE FROM 44'-128'.  
THE SFWMD ID# FOR THE CUTTINGS IS: 111-54 (HOLE#: STL-APT-2-CH2).  
THE SFWMD ID# FOR THE CORE SAMPLES IS: 111-1C (HOLE#: STL APT #2 H-1).  
THIS WELL IS LOCATED IN THE FORT PIERCE N.W. QUADRANGLE (72).  
THE PLIO-PLAISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

0. - 20.5 UNDIFFERENTIATED SAND AND CLAY  
20.5- 94. PLIOCENE-PLAISTOCENE  
94. - 106. NO SAMPLES  
106. - 124. PLIOCENE-PLAISTOCENE  
124. - . HAWTHORN GROUP

- 0 - 1 SAND; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-05%, ORGANICS-05%, PLANT REMAINS-02%, -01%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 1 - 2 SAND; GRAYISH ORANGE PINK; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-03%, ORGANICS-02%, - %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 2 - 2.5 SAND; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-04%, ORGANICS-04%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

- 2.5- 3.5 SAND; GRAYISH ORANGE PINK; 37% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-02%, ORGANICS-01%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 3.5- 4 SAND; DARK YELLOWISH BROWN; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: ORGANICS-05%, PLANT REMAINS-02%, SILT-02%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 4 - 4.3 SAND; DARK YELLOWISH BROWN; 26% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: SILT-02%, ORGANICS-01%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 4.3- 6 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-02%, ORGANICS-01%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 6 - 8 SAND; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN; 27% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: SILT-02%, ORGANICS-01%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 8 - 20 SAND; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-02%, ORGANICS-01%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 20 - 20.5 NO SAMPLES

- 20.5- 23.5 CALCARENITE; VERY LIGHT ORANGE; 23% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND-01%, HEAVY MINERALS- %;  
FOSSILS: FOSSIL FRAGMENTS;
- 23.5- 40 SAND; YELLOWISH GRAY TO VERY LIGHT GRAY; 26% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: MEDIUM TO VERY FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, CALCILUTITE-03%, PHOSPHATIC SAND-01%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
THIS UNIT IS VARIABLE. CALCILUTITE CEMENT RANGES FROM APPROXIMATELY 1-5% AND CALCARENITE RANGES FROM 10-35%. COLOR TENDS TO BE SLIGHTLY LIGHTER IN THE MORE CARBONATE-RICH ZONES. UNIT IS RELATIVELY MORE CALCAREOUS BETWEEN APPROXIMATELY 32-37'.
- 40 - 43 SAND; VERY LIGHT ORANGE; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, CALCILUTITE-05%, SHELL-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS, FROSTED;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
THIS UNIT IS A POORLY-SORTED, SHELLY, QUARTZ SAND CONTAINING A VARIABLE AMOUNT OF CALCILUTITE CEMENT MATRIX.
- 43 - 44 SAND; YELLOWISH GRAY; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MEDIUM TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, SILT-03%, PHOSPHATIC SAND-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 44 - 45 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, PHOSPHATIC SAND-03%, SILT-02%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;

- 45 - 46 SAND; YELLOWISH GRAY; 15% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -03%, PHOSPHATIC SAND-02%, MICA- %;  
OTHER FEATURES: CALCAREOUS;  
DRILLERS REPORT 40% RECOVERY FROM 44-46'.
- 46 - 48 SAND; LIGHT OLIVE GRAY; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-10%, -03%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 50% RECOVERY FROM 46-48'. POORLY SORTED.
- 48 - 49.5 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-07%, PHOSPHATIC SAND-02%, -02%, MICA- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
VERY WELL SORTED FINE SAND.
- 49.5- 50 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-08%, -05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 85% RECOVERY FROM 48-50'.
- 50 - 50.5 SAND; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-15%, -05%, MICA-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS, MUDDY;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 50.5- 55 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -06%, PHOSPHATIC SAND-02%, SILT-01%, MICA-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
DRILLERS REPORT 60% RECOVERY FROM 50-55'. MOLLUSCAN SHELL BED BED BETWEEN 53.5 AND 54'.

- 55 - 56.3 CALCILUTITE; VERY LIGHT ORANGE; 30% POROSITY, INTRAGRANULAR, INTERGRANULAR, VUGULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 58% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -26%, QUARTZ SAND-10%, SILT-05%;  
OTHER FEATURES: FOSSILIFEROUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 56.3- 56.5 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-26%, -07%, SILT-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 56.5- 57.3 LIMESTONE; VERY LIGHT GRAY; 15% POROSITY, INTRAGRANULAR, MOLDIC, INTERGRANULAR;  
GRAIN TYPE: CRYSTALS, BIOGENIC, CALCILUTITE; 65% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, QUARTZ SAND-07%, SILT-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
CONTACT WITH THE UNDERLYING SAND IS MARKED BY SHELL EXTENDING DOWNWARD AND DECREASING IN  
CONTENT OVER AN INTERVAL OF 0.3'.
- 57.3- 58.5 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -15%, SHELL-05%, SILT-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 100% RECOVERY FROM 55-58.5'. POORLY SORTED.
- 58.5- 60.7 CALCILUTITE; LIGHT OLIVE GRAY; 33% POROSITY, INTERGRANULAR, PIN POINT VUGS,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 15% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
SEDIMENTARY STRUCTURES: BIOTURBATED, MOTTLED,  
ACCESSORY MINERALS: QUARTZ SAND-35%, -15%, SHELL-07%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
EXTENSIVE BURROWING IS EVIDENT. BURROWS ARE COMMONLY FILLED WITH A 50/50 MIXTURE OF QUARTZ  
SAND AND SHELL FRAGMENTS. BURROWS ARE OFTEN SEVERAL CENTIMETERS IN LENGTH AND ONE OR TWO  
CENTIMETERS IN DIAMETER.

- 60.7- 61 CALCARENITE; VERY LIGHT GRAY; 22% POROSITY, MOLDIC, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL; 65% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-30%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 80% RECOVERY FROM 58.5-61'.
- 61 - 63.5 CALCARENITE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-45%, -43%, PHOSPHATIC SAND-03%, SHELL-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 63.5- 65 CALCILUTITE; LIGHT OLIVE GRAY; 33% POROSITY, INTERGRANULAR, PIN POINT VUGS,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL; 15% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
SEDIMENTARY STRUCTURES: BIOTURBATED, MOTTLED,  
ACCESSORY MINERALS: QUARTZ SAND-35%, -15%, SHELL-07%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 65 - 66 CALCARENITE; VERY LIGHT GRAY; 22% POROSITY, MOLDIC, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL; 65% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRAVEL; RANGE: MEDIUM TO GRAVEL; GOOD INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-30%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 40% RECOVERY FROM 61-66'.
- 66 - 68.5 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MEDIUM TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -45%, SHELL-01%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS;

- 68.5- 73.5 SAND; LIGHT OLIVE GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -35%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPT 40% RECOVERY FROM 66-73.5'. VERY POORLY SORTED, WITH SHELL SIZE AND FREQUENCY INCREASING DOWNWARD.
- 73.5- 79 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 35% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: -30%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%, MICA- %;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
DRILLERS REPORT 58% RECOVERY FROM 73.5-79'.
- 79 - 83.5 CALCILUTITE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: -10%, QUARTZ SAND-02%, SILT-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 50% RECOVERY FROM 79-83.5'. INTERVAL AT 79-79.5' AND AT 82-83.5' ARE ESSENTIALLY THE SAME AS THE ABOVE DESCRIPTION EXCEPT THAT THEY HAVE A COARSER GRAIN SIZE WITH AN ABUNDANCE OF SHELL FRAGMENTS AND QUARTZ SAND. PHOSPHATE INCREASES TO APPROXIMATELY 3%.
- 83.5- 88 CALCILUTITE; YELLOWISH GRAY; 14% POROSITY, INTERGRANULAR, MOLDIC;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, -10%, PHOSPHATIC SAND- %;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 89% RECOVERY FROM 83.5-88'. SAMPLES HAS MINOR MICROMOLDIC POROSITY PRESENT.
- 88 - 90.5 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, CALCILUTITE-15%, SILT-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;

- 90.5- 94 CALCARENITE; YELLOWISH GRAY; 27% POROSITY, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 63% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-02%, PHOSPHATIC SAND- %;  
FOSSILS: PLANT REMAINS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 85% RECOVERY FROM 88-94'.
- 94 - 106 NO SAMPLES  
DRILLERS REPORT 0% RECOVERY FROM 94-100' AND 100-106'.
- 106 - 111 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, CALCILUTITE-07%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
GRAIN SIZE APPEARS TO BE FINING UPWARD. A MINOR INCREASE IN CALCILUTITE INCREASING UPWARD.
- 111 - 114 CALCILUTITE; WHITE; 18% POROSITY, MOLDIC, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 35% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;  
DRILLERS REPORT 50% RECOVERY FROM 106-114'.
- 114 - 116 SAND; YELLOWISH GRAY; 35% POROSITY, MOLDIC, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; LOW SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -15%, CALCILUTITE-05%, PHOSPHATIC SAND-03%, SILT-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;  
DRILLERS REPORT 75% RECOVERY FROM 114-116'. INTERVAL FROM 114-114.5' IS A WELL INDURATED,  
HIGHLY MOLDIC SANDSTONE. INTERVAL FROM 114.5-115.5' IS POORLY INDURATED AND GENERALLY  
LACKS MOLDIC POROSITY. INTERVAL FROM 115.5-116' HAS MODERATE INDURATION WITH SOME MOLDIC  
POROSITY PRESENT.



- 116 - 124 CALCILUTITE; YELLOWISH GRAY; 30% POROSITY, MOLDIC, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS;  
NO DRILLERS REPORT ON THE PERCENT RECOVERY. INTERVAL FROM 124-124.5' APPEARS TO BE  
SOMEWHAT SANDIER AND IS APPARENTLY GRADING UPWARD INTO THE OVERLYING UNIT. THE INTERVAL  
FROM 123.8-124' IS SLIGHTLY MORE GREEN IN COLOR AND APPEARS TO BE GRADING INTO THE  
UNDERLYING UNIT (BASED ONLY ON COLOR).
- 124 - 126 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-07%, CALCILUTITE-03%, -03%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: CALCAREOUS;
- 126 - 128 CALCARENITE; LIGHT OLIVE GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 98% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%;  
FOSSILS: FOSSIL FRAGMENTS;  
NO DRILLERS REPORT ON THE PERCENT RECOVERY, BUT IT APPEARS TO BE APPROXIMATELY 40%. THE  
LOWER PORTION OF THE UNIT APPEARS TO BE GRADATIONAL WITH AND INTERFINGERING INTO THE  
UNDERLYING UNIT OVER AN INTERVAL OF 0.3'.
- 128 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16543

COUNTY - ST LUCIE

TOTAL DEPTH: 1540 FT.

LOCATION: T.36S R.38E S.24

262 SAMPLES FROM 0 TO 1540 FT.

LAT = N 27D 20M 17

LON = W 80D 29M 01

COMPLETION DATE - 00/07/90

ELEVATION - 025 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/HYDROWELL TECH.

WORKED BY: \_\_JOE AYLOR (7/93), 10' INTERVALS TO 590', THEN 5' INTERVALS.

SFWMD ID# FOR CUTTINGS IS 111-55 (HOLE #SLF-73), ST. LUCIE COUNTY.

LOCATED IN THE NE 1/4, NE 1/4, NE 1/4, SEC 24, T36S, R38E.

FLORIDIA POLYCONIC EAST ZONE IN FEET PLANAR X=667652; PLANAR Y=1092360.

SFWMD GEOPHYSICAL LOG #1110000077 BY SCHLUMBERGER FOR THIS MONITOR WELL.

INJECTION WELL IS LOCATED IN THE FORT PIERCE S.W. 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL

(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

THE SUWANNEE FORMATION WAS NOT RECOGNIZED.

0. - 15. UNDIFFERENTIATED SAND AND CLAY  
 15. - 120. PLIOCENE-PLEISTOCENE  
 120. - 560. HAWTHORN GROUP  
 560. - 707. OCALA GROUP  
 707. - 1540. AVON PARK FM.  
 500. - 510. NO SAMPLES  
 1260. - 1265. NO SAMPLES  
 1285. - 1300. NO SAMPLES  
 1385. - 1390. NO SAMPLES

0 - 15 SAND; DARK YELLOWISH ORANGE; 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN SIZE: COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
 ACCESSORY MINERALS: SHELL-05%;  
 FOSSILS: MOLLUSKS;

15 - 40 LIMESTONE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
 GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
 GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; POOR INDURATION;  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
 ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-01%;  
 OTHER FEATURES: HIGH RECRYSTALLIZATION, CALCAREOUS;  
 FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
 TOP OF OKEECHOBEE FORMATION AT 15 FEET.

- 40 - 80 LIMESTONE; MODERATE LIGHT GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT, CLAY MATRIX;  
SEDIMENTARY STRUCTURES: FISSILE,  
ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-01%, SHALE-20%, PYRITE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 80 - 100 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-50%, CLAY-10%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 100 - 120 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-20%, CLAY-20%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 120 - 140 SANDSTONE; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-01%, SPAR-20%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TRANSITION, TOP OF HAWTHORN AT 120 FEET.
- 140 - 310 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, SPAR-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
POOR SORTING

- 310 - 340 CALCILUTITE; LIGHT GREENISH GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, CRYSTALS; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, SILT- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 340 - 360 CALCILUTITE; LIGHT GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, CRYSTALS; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, SILT- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
GASTROPOD, LOST CIRCULATION GRASS AT 340-360'
- 360 - 370 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, QUARTZ SAND-10%, SPAR-05%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 370 - 380 CALCILUTITE; LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-03%, SPAR-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
LOST CIRCULATION GRASS AND STICKS
- 380 - 420 CALCILUTITE; VERY LIGHT GRAY TO LIGHT GRAY; 20% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-10%, DOLOMITE-10%, PHOSPHATIC SAND-02%, SPAR-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, PLANKTONIC FORAMINIFERA;

- 420 - 430 CALCILUTITE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-50%, PHOSPHATIC SAND-02%, QUARTZ SAND-05%, SPAR-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
LOST CIRCULATION GRASS AND STICKS
- 430 - 440 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-25%, PHOSPHATIC SAND-05%, SPAR-01%, QUARTZ SAND-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 440 - 490 CALCILUTITE; GREENISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 20% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-15%, PHOSPHATIC SAND-02%, QUARTZ SAND-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 490 - 500 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, MOLDIC, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-02%, SPAR-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 500 - 510 NO SAMPLES
- 510 - 520 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, MOLDIC, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-05%, PHOSPHATIC SAND-02%, SPAR-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;

- 520 - 530 CALCILUTITE; VERY LIGHT GRAY; 20% POROSITY, MOLDIC, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%, SPAR-02%, SHELL-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 530 - 560 CALCILUTITE; YELLOWISH GRAY; 30% POROSITY, MOLDIC, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: LIMESTONE-10%, PHOSPHATIC SAND- %, SPAR-20%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;  
PECTEN
- 560 - 564 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 5% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-05%, SPAR-10%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BRYOZOA;  
1% MEDIUM LIGHT GRAY LIMESTONE, TOP OF OCALA GROUP AT 560'.
- 564 - 590 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, SPAR-20%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BARNACLES, ECHINOID, BRYOZOA;  
PACKSTONE, LEPIDIOCYCLINA, OPERCULINOIDES IN OCALA GROUP CALCARENITIC LIMESTONE BELOW.
- 590 - 595 CALCARENITE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, SPAR-05%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BARNACLES, ECHINOID, FOSSIL FRAGMENTS;  
LEPIDIOCYCLINA, OPERCULINOIDES, 20% LIGHT GRAY LIMESTONE WITH SECONDARY POROSITY FILLING  
OF YELLOWISH GRAY CALCITE

- 595 - 600 CALCARENITE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-60%, SPAR-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
LEPIDOCYCLINA 50%, OPERCULINOIDES 10%, NUMMULITES, CRIBROBULIMINA, 5% LIGHT GRAY  
LIMESTONE, 5% COQUINA
- 600 - 645 CALCARENITE; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-90%, SPAR-10%;  
OTHER FEATURES: COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, FOSSIL FRAGMENTS, BARNACLES;  
ONE CENTIMETER LEPIDOCYCLINA 50%, OPERCULINOIDES 10%, BRYOZOANS 5%, MINOR GRAY LIMESTONE,  
MOLLUSKS, GYPSINA GLOBULA, DICTYCONUS COOKEI, ECHINOIDS 5%, EPONIDES (?)
- 645 - 660 CALCARENITE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, SPAR-20%, LIMESTONE- %;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
LEPIDOCYCLINA 40%, ECHINOIDS 5%, MOLLUSKS 5%, DICTYCONUS COOKEI, NUMMULITES, 50% COQUINA
- 660 - 665 CALCARENITE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, LIMESTONE- %;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION, SUCROSIC;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
30% (37) SUCROSIC, RECRYSTALLIZED LIMESTONE, LEPIDOCYCLINA 30%, ECHINOIDS, GYPSINA  
GLOBULA, 10% COQUINA
- 665 - 670 CALCARENITE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, SPAR-10%, LIMESTONE- %;  
OTHER FEATURES: COQUINA, CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
LEPIDOCYCLINA 40%, NUMMULITES, 10% LIGHT GRAY LIMESTONE, 20% COQUINA



- 670 - 685 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, SPAR-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
LEPIDOCYCLINA 40%, MUMMULITES 5%, ECHINOIDS 3%, BRYOZOANS 1%, DICTYCONUS COOKEI, COQUINA  
40%, COSKINOLINA FLORIDANA(?).
- 685 - 690 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-70%, SPAR-20%;  
OTHER FEATURES: COQUINA, CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS, BARNACLES;  
LEPIDOCYCLINA 60%
- 690 - 705 CALCARENITE; WHITE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, SPAR-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS, FOSSIL MOLDS;  
LEPIDOCYCLINA 20%, MUMMULITES 2%, DICTYCONUS COOKEI, 60% COQUINA MEDIUM-GRAINED SAND SIZE  
IN LIMESTONE.
- 705 - 707 CALCARENITE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 707 - 710 DOLOSTONE; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION, SUCROSIC;  
FOSSILS: FOSSIL FRAGMENTS;  
REFERENCE W-4086, SEVEN MILES EAST LOGGED BY CHEN, 1965, P. 59. CONTACT IS ALSO SIMILAR TO  
W-16951. SEE ALSO USGS PROFESSIONAL PAPER 1403-B, 1986, FOR AVON PARK CONTACT.

- 710 - 715 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-25%, DOLOMITE-05%;  
OTHER FEATURES: COQUINA, CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
DICTYOCONUS COOKEI, LEPIDOCYCLINA, MILIOLID FORAMS
- 715 - 720 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, SPAR-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, ECHINOID;  
  
DICTYOCONUS COOKEI 2%, SCALENOHEDRAL CALCITE IN ECHINOID DISKS ONE X 0.5 CM, COQUINA  
LIMESTONE AND MILIOLID FORAMS 80%.
- 720 - 725 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-15%, SPAR-20%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
RECRYSTALLIZED DOLOSTONE SIMILAR TO 707'-710' 35%, LEPIDOCYCLINA 10%, 50% COQUINA
- 725 - 730 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: ECHINOID;  
RECRYSTALLIZED LIMESTONE IS 20% MIXED WITH COQUINA 60%.
- 730 - 740 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-50%, - X;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
LEPIDOCYCLINA 30%, NUMMULITES 10%, RECRYSTALLIZED LIMESTONE.

- 740 - 750 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, CRYSTALS; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, -50%;  
OTHER FEATURES: COQUINA, CALCAREOUS, MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
LEPIDOCYCLINA 10%, COQUINA 30%, DICTYOCONUS COOKEI.
- 750 - 755 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS AND PELLETAL STRUCTURES.
- 755 - 760 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORMAS, COSKINOLINA, LITUONELLA FLORIDANA, PELLETAL SEDIMENTS
- 760 - 770 LIMESTONE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY,  
MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, MUDDY, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, ECHINOID;  
MILIOLID FORAMS, PELLETAL SEDIMENTS, NUMMULITES.
- 770 - 780 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-05%, -10%, SPAR-01%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, MUDDY, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BRYOZOA;  
LEPIDOCYCLINA 5%, NUMMULITES, MILIOLID FORAMS, PELLETAL SEDIMENTS, DICTYOCONOUS COOKEI.

- 780 - 785 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE- %, SPAR-05%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORMAS, DICTYOCONUS COOKEI, CRIBROBULIMINA
- 785 - 790 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE- %, SPAR-10%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, CHALKY;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
MUMMULITES, DICTYOCONUS COOKEI.
- 790 - 795 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, CLAY-05%, SPAR-20%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, SUCROSIC;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS, RECRYSTALLIZED VERY PALE ORANGE DOLOSTONE, RHOMBS VISIBLE.
- 795 - 800 CALCARENITE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY,  
MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-20%, CLAY-02%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
10% PINKISH GRAY AND LIGHT GRAY RECRYSTALLIZED DOLOSTONE, DICTYOCONUS COOKEI, MILIOLID  
FORAMS.
- 800 - 808 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-30%;  
OTHER FEATURES: CALCAREOUS, DOLOMITIC;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
PINKISH GRAY AND LIGHT GRAY RECRYSTALLIZED DOLOSTONE, MUMMULITES, MILIOLID FORAMS,  
LEPIDOCYCLINA, DICTYOCONUS COOKEI.

- 808 - 810 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-80%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA;  
20% MILIOLID FORAMS 2 1/2 PHI IN SIZE IN LIMESTONE, 20% MEDIUM LIGHT GRAY DOLOSTONE.
- 810 - 815 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-25%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
25% VERY PALE ORANGE RECRYSTALLIZED DOLOSTONE AND MINOR MEDIUM GRAY DOLOSTONE, CRINOID,  
LEPIDOCYCLINA.
- 815 - 825 DOLOSTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; EUHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-30%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, BRYOZOA;  
MILIOLID FORAMS, PELLETAL SEDIMENTS 1 1/2 PHI IN SIZE, LEPIDOCYCLINA.
- 825 - 830 LIMESTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
MILIOLID FORAMS
- 830 - 835 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
  
20% VERY LIGHT ORANGE DOLOSTONE, MILIOLID FORAMS, DICTYOCONUS COOKEI, NUMMULITES,  
LEPIDOCYCLINA, CRIBROBULINA (?), COSKINOLINA.

- 835 - 840 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, ECHINOID;  
CRIBROBULIMINA (?), COSKINOLINA, DICTYOCONUS AMERICANUS, 10% VERY LIGHT ORANGE DOLOSTONE,  
MILIOLID FORAMS, LITUONELLA FLORIDANA.
- 840 - 850 LIMESTONE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;  
LIGHT GRAY NONFOSSILIFEROUS LIMESTONE 20%, MILIOLID FORAMS IN LIMESTONE 60%,  
NONRECRYSTALLIZED DOLOSTONE 20%.
- 850 - 855 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-02%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, MOLLUSKS;  
MILIOLID FORAMS, PELLETAL SEDIMENTS.
- 855 - 860 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
MILIOLID FORAMS, DICTYOCONUS COOKEI, CRIBROBULIMINA CUSHMANT (?), ECHINOID 2%.
- 860 - 870 CALCARENITE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS.

- 870 - 875 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-35%, SPAR-02%, SHELL-10%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
MILIOLID FORAMS, PELETAL SEDIMENTS, CRIBROBULIMINA CUSHMANI(?), FORAMS AND ECHINOIDS 10%,  
DICTYOCONUS COOKEI, LIGHT GRAY LIMESTONE, 2%, SPIROLINA CORYENSIS.
- 875 - 890 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-15%, SPAR-05%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
MILIOLID FORAMS, 30% MASSIVE DOLOSTONE, PELETAL SEDIMENTS, SPIROLINA CORYENSIS, AND IN  
ADDITION FROM 885-890' DICTYOCONUS COOKEI, PLENTIFUL ECHINOIDS, AND LITUONELLA FLORIDANA.
- 890 - 895 DOLOSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; EUHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-10%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
MILIOLID FORAMS IN WHITE LIMESTONE, DICTYOCONUS COOKEI
- 895 - 900 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE, PELLET; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SPAR-02%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS, CRIBROBULIMINA CUSHMANI(?).
- 900 - 910 DOLOSTONE; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-10%, SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
IN WHITE LIMESTONE, CRIBROBULIMINA CUSHMANI, MILIOLID FORAMS, COSKINOLINA FLORIDANA,  
CRIBROSPIRA (?) BUSHNELLENSIS, DICTYOCONUS COOKEI, BULIMINELLA ELEGANTISGIMA (?).

- 910 - 915 DOLOSTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-40%, SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS IN WHITE LIMESTONE
- 915 - 925 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-25%, SPAR-05%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
MILIOLID FORAMS, PELETAL SEDIMENTS IN WHITE LIMESTONE, VERY PALE ORANGE DOLOSTONE, GUNTERIA FLORIDANA.
- 925 - 928 LIMESTONE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-05%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
30% PALE YELLOWISH BROWN DOLOSTONE, MILIOLID FORAMS, CRIBROSPIRA (?) BUSHNELLENSIS, 20% MASSIVE WHITE DOLOSTONE, 10% MEDIUM LIGHT GRAY LIMESTONE, CRIBROBULIMINA CUSHMANI, LITUONELLA FLORIDANA.
- 928 - 930 DOLOSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; EUHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-20%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
IN WHITE LIMESTONE, MILIOLID FORAMS, PELETAL SEDIMENTS.



- 930 - 935 LIMESTONE; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, CLAY- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
MILIOLID FORAMS, 10% MEDIUM LIGHT GRAY LIMESTONE, 20% PALE YELLOWISH BROWN RECRYSTALLIZED DOLOSTONE.
- 935 - 945 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, MOLLUSKS;  
WHITE LIMESTONE 20%, MILIOLID FORAMS, NUMMULITES, DICTYOCONUS COOKEI, CRIBROBULIMINA CUSHMANI, VERY LIGHT GRAY, MASSIVE DOLOSTONE 5%, AMPHISTEGINA SP., FOSSILS PLENTIFUL.
- 945 - 950 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-05%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
  
5% VERY LIGHT GRAY LIMESTONE, 2% PALE YELLOWISH BROWN DOLOSTONE, MILIOLID FORAMS, CRIBROBULIMINA CUSHMANI, SPIROLINA CORYENSIS, AMPHISTEGINA SP., NUMMULITES, COSKINOLINA ELONGATA, LITUONELLA FLORIDANA, AND GUNTERIA FLORIDANA.
- 950 - 960 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-10%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
5% WHITE MASSIVE DOLOSTONE, COSKINOLINA ELONGATA, SPIROLINA CORYENSIS, NUMMULITES SP., MILIOLID FORAMS, PELETAL SEDIMENTS, DICTYOCONUS COOKEI, AND AMPHISTEGINA SP.

- 960 - 965 LIMESTONE; WHITE; 20% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-05%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
25% LIGHT GRAY MASSIVE DOLOSTONE, 10% WHITE MASSIVE DOLOSTONE, MICRO-COQUINA LIMESTONE  
40%, NUMMULITES, AND AMPHISTEGINA SP.
- 965 - 975 LIMESTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY,  
MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-05%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
20% MEDIUM LIGHT GRAY MASSIVE DOLOSTONE, MILIOLID FORAMS, CRIBROSPIRA (?) BUSHNELLENSIS,  
AND DICTYOCONUS COOKEI.
- 975 - 985 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-05%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
MILIOLID FORAMS, NUMMULITES SP., DICTYOCONUS COOKEI 3MM DIAMETER X 2MM HEIGHT WITH DOMED  
TOPS, SOME NORMAL 1MM CONES, LITUENELLA FLORIDANA, AND AMPHISTEGINA SP.
- 985 - 1000 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY,  
MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-05%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
SOME NORMAL 2 MM AND SOME 2 X 3MM DICTYOCONUS COOKEI 5%, SOME HAVE DOMED TOPS, SOME HAVE  
DIMPLES (INVERTED): URCHINS (?), MILIOLID FORAMS, NUMMULITES SP., AMPHISTEGINA SP. 2MM,  
COSKINOLINA

- 1000 - 1005 LIMESTONE; PINKISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-25%, SPAR-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
20% LIGHT GRAY DOLOSTONE, 5% WHITE MASSIVE DOLOSTONE, MILIOLID FORAMS, LITUENDELLA FLORIDANA.
- 1005 - 1010 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%, SPAR- %;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
10% LIGHT GRAY DOLOSTONE, 10% WHITE MASSIVE DOLOSTONE, MILIOLID FORAMS, NUMMULITES SP.
- 1010 - 1015 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%, SPAR-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
30% 6MM DIAMETER DICTYOCONUS SPP., SOME ELONGATE AND SOME FLAT 2MM HIGH WITH INVERTED TOPS, MILIOLID FORAMS, COSKINOLINA ELONGATA.
- 1015 - 1025 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%, SPAR-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;  
MILIOLID FORAMS, DICTYOCONUS COOKEI, D. SPP. MINOR, PELETAL SEDIMENTS, 5% LIGHT GRAY MASSIVE DOLOSTONE, MACRO FOSSILS 1%.

- 1025 - 1030 LIMESTONE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-40%, SPAR-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
30% LIGHT GRAY MASSIVE DOLOSTONE, 10% WHITE DOLOSTONE, WHITE MILIOLID LIMESTONE, DICTYOCONUS COOKEI, D. SPP., ALGAL SPINE (?).
- 1030 - 1035 LIMESTONE; WHITE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-05%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BRYOZOA;  
UP TO 6 MM IN DIAMETER DICTYOCONUS SPP. 30%, MILIOLID FORAMS,
- 1035 - 1040 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-05%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
UP TO 8 MM IN DIAMETER DICTYOCONUS SPP. 30%, D. COOKEI, D. AMERICANUS, FABULARI VAUGHANI.
- 1040 - 1085 LIMESTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, SPAR-02%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA;  
FOSSILS: BENTHIC FORAMINIFERA;  
10% WHITE MASSIVE DOLOSTONE, DICTYOCONUS COOKEI, D. SPP., 5% LIGHT GRAY MASSIVE DOLOSTONE, MILIOLID FORAMS, PELETAL SEDIMENTS.
- 1085 - 1100 DOLOSTONE; DARK YELLOWISH BROWN TO MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: PEAT-01%, LIMESTONE-10%;  
OTHER FEATURES: REEFAL;  
FOSSILS: NO FOSSILS;  
10% PINKISH GRAY MICROQUINA LIMESTONE, DICTYOCONUS COOKEI 1085- 1090, BLACK ORGANICS.

- 1100 - 1110 DOLOSTONE; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-10%;  
OTHER FEATURES: REEFAL;  
FOSSILS: NO FOSSILS;  
20% MASSIVE, VERY PALE ORANGE DOLOSTONE, REMAINDER IS VUGGY DOLOSTONE.
- 1110 - 1130 DOLOSTONE; LIGHT GRAYISH BROWN TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: LIMESTONE-10%;  
OTHER FEATURES: REEFAL;  
FOSSILS: NO FOSSILS;  
  
20% PALE BROWN, MASSIVE DOLOSTONE, REMAINDER IS VUGGY DOLOSTONE.
- 1130 - 1140 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: LIMESTONE-10%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS, ECHINOID;  
MILIOLID FORAMS, PELETAL SEDIMENTS, AND 20% MASSIVE DOLOSTONE.
- 1140 - 1150 DOLOSTONE; GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, MOLDIC; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: LIMESTONE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
MILIOLID FORAMS, PELETAL SEDIMENTS, AND 10% MASSIVE DOLOSTONE.
- 1150 - 1155 DOLOSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
ABOUT 70-30 PALE YELLOW BROWN AND MEDIUM GRAY DOLOSTONE, AND 30% MASSIVE DOLOSTONE.

- 1155 - 1160 DOLOSTONE; MODERATE DARK GRAY; 25% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
ABOUT 20-80 PALE YELLOW BROWN AND MEDIUM GRAY DOLOSTONE MOSTLY MASSIVE DOLOSTONE.
- 1160 - 1165 DOLOSTONE; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: LIMESTONE-20%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
MILIOLID FORAMS, PELETAL SEDIMENTS, AND 20% MASSIVE YELLOW BROWN DOLOSTONE.
- 1165 - 1168 DOLOSTONE; MODERATE YELLOWISH BROWN; 25% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;
- 1168 - 1170 DOLOSTONE; MODERATE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
SAMPLE MARKED 1160-1170, MOSTLY MASSIVE DOLOSTONE.
- 1170 - 1235 DOLOSTONE; GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: LIMESTONE-02%, CALCITE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
MILIOLID FORAMS AND PELETAL SEDIMENTS, 20% MASSIVE DOLOSTONE.

- 1235 - 1250 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; POOR INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: LIMESTONE- %; OTHER FEATURES: MEDIUM RECRYSTALLIZATION, SUCROSIC; PORES SMALLER THAN PREVIOUS INTERVAL, PUNKY, 20% MASSIVE DOLOSTONE.
- 1250 - 1260 DOLOSTONE; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: LIMESTONE-05%; OTHER FEATURES: HIGH RECRYSTALLIZATION; PELETAL SEDIMENT, AND 10% VERY PALE ORANGE MASSIVE DOLOSTONE.
- 1260 - 1265 NO SAMPLES
- 1265 - 1270 LIMESTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: DOLOMITE-30%, CALCITE- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; 2% DARK GRAY DOLOMITE.
- 1270 - 1285 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; MODERATE INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: LIMESTONE-05%; OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC; MILIOLID FORAMS.
- 1285 - 1300 NO SAMPLES
- 1300 - 1303 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; GRAIN TYPE: BIOGENIC; 95% ALLOCHEMICAL CONSTITUENTS; GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE; ACCESSORY MINERALS: DOLOMITE- %, CALCITE-10%; OTHER FEATURES: MEDIUM RECRYSTALLIZATION; FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA; DICTYOCONUS COOKEI, D. AMERICANUS, 20% 3 MM FLATTENED CONES WITH MINOR SADDLE AND SOMBRERO SHAPES, 10% NORMAL SHAPED CONES.

- 1303 - 1305 DOLOSTONE; MODERATE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; SEDIMENTARY STRUCTURES: MASSIVE, ACCESSORY MINERALS: LIMESTONE-20%, CALCITE- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: NO FOSSILS; 20% VERY PALE ORANGE LIMESTONE WITH MILIOLID FORAMS AND PELETAL SEDIMENTS.
- 1305 - 1345 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: SPAR- %, CALCITE- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: FOSSIL MOLDS; 20% MASSIVE DOLOSTONE, 40% MASSIVE DOLOSTONE AT 1315-1320'.
- 1345 - 1360 DOLOSTONE; TAN TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: FOSSIL MOLDS;
- 1360 - 1363 DOLOSTONE; VERY LIGHT ORANGE TO VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; SEDIMENTARY STRUCTURES: MASSIVE, ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; 30% PALE YELLOW BROWN, 40%VERY LIGHT GRAY, 30% VERY PALE ORANGE DOLOSTONE.
- 1363 - 1365 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: FOSSIL MOLDS; 20% MASSIVE WHITE AND PALE YELLOWISH BROWN DOLOSTONE, MINOR 1/4 MM LAMINATIONS.



- 1365 - 1375 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
MINOR ½ MM ALGAE LAMINATED AND ALTERNATING WITHH DOLOSTONE, 10% LIGHT GRAY DOLOSTONE.
- 1375 - 1380 PACKSTONE; DARK GREENISH YELLOW; 45% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY;  
GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
5% LIGHT GRAY, VASSIVE DOLOSTONE, 2 MM VUGS.
- 1380 - 1385 DOLOSTONE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
5% MEDIUM DARK GRAY VUGGY DOLOSTONE, 10% LIGHT BROWN VUGGY DOLOSTONE.
- 1385 - 1390 NO SAMPLES
- 1390 - 1395 DOLOSTONE; LIGHT BROWNISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
  
20% PALE YELLOWISH BROWN MASSIVE DOLOSTONE, 10% PALE YELLOWISH BROWN VUGGY DOLOSTONE.

- 1395 - 1398 DOLOSTONE; LIGHT GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
30% VERY PALE ORANGE MASSIVE DOLOSTONE.
- 1398 - 1415 DOLOSTONE; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
15% MEDIUM LIGHT GRAY FROM 1398-1400' AND 30% FROM 1400-1405' MASSIVE DOLOSTONE.
- 1415 - 1420 DOLOSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
15% VUGGY DOLOSTONE, MINOR ½ MM LAMINATIONS OF ALGAE ALTERNATING WITH DOLOSTONE.
- 1420 - 1430 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
40% DARK YELLOWISH-ORANGE, VUGGY DOLOSTONE AND MEDIUM LIGHT GRAY MASSIVE DOLOSTONE.
- 1430 - 1432 DOLOSTONE; DARK YELLOWISH ORANGE; 40% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;

- 1432 - 1435 DOLOSTONE; LIGHT GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED, ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: NO FOSSILS; MINOR ½ MM LAMINATIONS OF ALTERNATING ALGAE AND DOLOSTONE, 5% MEDIUM LIGHT GRAY DOLOSTONE, 20% VUGS.
- 1435 - 1440 DOLOSTONE; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; SEDIMENTARY STRUCTURES: MASSIVE, ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: NO FOSSILS; 20% DARK YELLOWISH ORANGE VUGGY DOLOSTONE, 30% WHITE MASSIVE DOLOSTONE AND 50% GRAYISH ORANGE MASSIVE DOLOSTONE.
- 1440 - 1445 DOLOSTONE; MODERATE YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL; GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: FOSSIL MOLDS; 35% PALE YELLOWISH BROWN MASSIVE DOLOSTONE AND 65% MODERATE YELLOWISH BROWN BUGGY DOLOSTONE, AND MINOR WHITE MASSIVE DOLOSTONE.
- 1445 - 1450 DOLOSTONE; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, LOW PERMEABILITY; SUBHEDRAL; GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION; CEMENT TYPE(S): DOLOMITE CEMENT; SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED, ACCESSORY MINERALS: SPAR- %; OTHER FEATURES: HIGH RECRYSTALLIZATION; FOSSILS: NO FOSSILS; 10% VERY PALE ORANGE, MASSIVE DOLOSTONE.

- 1450 - 1455 DOLOSTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, FRACTURE, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
30% GRAYISH ORANGE SLIGHTLY VUGGY AND MASSIVE DOLOSTONE.
- 1455 - 1460 DOLOSTONE; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY;  
SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
SEDIMENTARY STRUCTURES: MASSIVE,  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: NO FOSSILS;  
50% PALE YELLOWISH BROWN MASSIVE DOLOSTONE, 10% VERY PALE ORANGE MASSIVE DOLOSTONE, AND  
40% GRAYISH ORANGE VUGGY DOLOSTONE.
- 1460 - 1465 DOLOSTONE; MODERATE LIGHT GRAY; 35% POROSITY, INTERGRANULAR, VUGULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
20% PALE YELLOWISH BROWN, VUGGY DOLOSTONE.
- 1465 - 1470 DOLOSTONE; MODERATE YELLOWISH BROWN TO DARK YELLOWISH ORANGE; 40% POROSITY, INTERGRANULAR,  
VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %, SILT-SIZED DOLOMITE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS, ECHINOID;  
10% MOTTLED DOLOSTONE, 20% MASSIVE DOLOSTONE.
- 1470 - 1485 DOLOSTONE; GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR, VUGULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC;  
FOSSILS: FOSSIL MOLDS, ECHINOID;  
20% MASSIVE DOLOSTONE.

- 1485 - 1500 DOLOSTONE; GRAYISH BROWN; 40% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %, SILT-SIZED DOLOMITE-10%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC;  
FOSSILS: FOSSIL MOLDS;  
10% LIGHT GRAY DOLOSTONE, 10% SUCROSIC DOLOSILTSTONE.
- 1500 - 1505 DOLOSTONE; MODERATE YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %, SILT-SIZED DOLOMITE-02%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
10% VERY LIGHT GRAY MASSIVE DOLOSTONE.
- 1505 - 1508 DOLOSTONE; MODERATE LIGHT GRAY TO LIGHT BROWNISH GRAY; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
20% PALE YELLOWISH BROWN DOLOSTONE, AND 20% LIGHT GRAY MASSIVE DOLOSTONE.
- 1508 - 1510 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %, SILT-SIZED DOLOMITE-05%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
SIMILAR TO 1500-1505', 20% MASSIVE DOLOSTONE, 5% VERY LIGHT GRAY DOLOSTONE.
- 1510 - 1515 DOLOSTONE; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, VUGULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: SPAR- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS;  
20% PALE YELLOWISH BROWN DOLOSTONE AND 20% MASSIVE DOLOSTONE.



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16931  
TOTAL DEPTH: 322 FT.  
68 SAMPLES FROM 0 TO 322 FT.

COUNTY - ST. LUCIE  
LOCATION: T.36S R.37E S.15AD  
LAT = N 27D 15M 34  
LON = W 80D 37M 25

COMPLETION DATE - 24/90/04  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 33 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL (7/92); ENTERED BY S. CAMPBELL (7/92)  
WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-322'.  
THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 111-52 (HOLE#: SLW-23-D).  
S.F.W.M.D. GEOPHYSICAL LOG # 111-0000074 IS AVAILABLE FOR THIS WELL.  
THIS WELL IS LOCATED IN OKEECHOBEE 1 S.E. QUADRANGLE (82).  
THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

0. - 23. UNDIFFERENTIATED SAND AND CLAY  
23. - 140. PLIOCENE-PLEISTOCENE  
140. - . HAWTHORN GROUP

0 - 2 NO SAMPLES

2 - 5 SAND; MODERATE BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-30%, PLANT REMAINS-20%;

5 - 12.5 NO SAMPLES

12.5- 21 SAND; PINKISH GRAY; 32% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: PLANT REMAINS-25%, SILT-07%, CLAY-07%, MICA-01%;

21 - 22 SAND; LIGHT OLIVE GRAY; 28% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY COARSE; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: -20%, SILT-15%, CLAY-07%, PHOSPHATIC SAND-04%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SAMPLE CONTAINS VERY COARSE SAND-SIZED PHOSPHATE GRAINS.

- 22 - 34 SHELL BED; VERY LIGHT ORANGE; 35% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SILT-05%, CALCILUTITE-05%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 34 - 55 SHELL BED; OLIVE GRAY; 32% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 55 - 85 SHELL BED; YELLOWISH GRAY; 32% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, SILT-05%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
AT THE INTERVAL 65-70' THE UNIT CONSISTS ALMOST ENTIRELY OF OYSTER SHELL FRAGMENTS. THE BED GRADES UPWARD AND DOWNWARD INTO UNITS CONTAINING MIXTURES OF BIVALVE AND GASTROPOD DEBRIS. NO SAMPLES FROM 80-82'.
- 85 - 95 SHELL BED; YELLOWISH GRAY; 30% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-10%, SILT-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA, BRYOZOA;
- 95 - 102 SHELL BED; VERY LIGHT ORANGE; 28% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 102 - 105 SHELL BED; VERY LIGHT ORANGE; 25% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-07%, SILT-03%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 105 - 115 SHELL BED; VERY LIGHT ORANGE; 28% POROSITY, INTRAGRANULAR, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-05%, CLAY- %;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES;



- 115 - 129 CALCILUTITE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -28%, QUARTZ SAND-10%, PHOSPHATIC SAND- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES;
- 129 - 135 CALCILUTITE; VERY LIGHT ORANGE; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -24%, QUARTZ SAND-05%, PHOSPHATIC SAND- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BARNACLES, CORAL, ECHINOID;  
ECHINOID SPINES ONLY.
- 135 - 140 CALCILUTITE; YELLOWISH GRAY; 22% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, QUARTZ SAND-15%, CLAY-07%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, BENTHIC FORAMINIFERA;  
ECHINOID SPINES ONLY.
- 140 - 145 SAND; YELLOWISH GRAY TO WHITE; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-25%, -10%, SILT-05%, PHOSPHATIC SAND-03%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, BENTHIC FORAMINIFERA;
- 145 - 190 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, -10%, SILT-10%, PHOSPHATIC SAND-08%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
COLOR GRADES FROM YELLOWISH GRAY TO LIGHT OLIVE GRAY DOWNSECTION. COLOR RANGE IS  
PRIMARILY A FUNCTION OF INCREASING PHOSPHATE CONTENT, WHICH VARIES FROM 3% UP TO 15%,  
AND THEN BACK DOWN TO 8% AT THE BOTTOM OF THE INTERVAL. MOST PHOSPHATE GRAINS ARE FINE TO  
MEDIUM SAND-SIZED, WITH INTERSPERSED GRANULE-SIZED GRAINS.

- 190 - 205 CLAY; OLIVE GRAY; 18% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-10%, -05%, PHOSPHATIC SAND-04%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 205 - 235 SAND; LIGHT OLIVE GRAY; 22% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-20%, SILT-15%, -05%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 235 - 265 CLAY; LIGHT OLIVE GRAY; 18% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-15%, QUARTZ SAND-10%, -02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 265 - 322 SAND; MODERATE OLIVE BROWN; 22% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-15%, SILT-10%, PHOSPHATIC SAND-%;  
SAND GRAIN SIZE IS UNIFORM EXCEPT IN THE INTERVAL FROM 282-305', WHERE LARGER QUARTZ  
GRAINS OCCUR. THE LARGER GRAINS RANGE FROM MEDIUM- TO COARSE-SAND IN SIZE, AND CONSTITUTE  
UP TO 30% OF THE SAMPLE. THE FINAL SAMPLE BAG WAS LABELED "322-??". THIS SAMPLE CONSISTS  
OF WELL-CONSOLIDATED QUARTZ SANDSTONE CEMENTED WITH A SPARRY CALCITE. THE ACTUAL DEPTH OF  
THIS SAMPLE IS NOT KNOWN, BUT IS PROBABLY NOT MUCH DEEPER THAN 322'.
- 322 TOTAL DEPTH

## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16932  
 TOTAL DEPTH: 116 FT.  
 38 SAMPLES FROM 0 TO 116 FT.

COUNTY - STLUCIE  
 LOCATION: T.34S R.37E S.11AD  
 LAT = N 27D 32M 13  
 LON = W 80D 36M 21

COMPLETION DATE - N/A  
 OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 25 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: S. CAMPBELL AND A. HOWELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-50' AND CORE FROM 50-116'.

THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 111-50 (HOLE#: SLMW22D).

THE S.F.W.M.D. ID# FOR THE CORE SAMPLES IS: 111-4C (HOLE#: SLMW22D).

THIS WELL IS LOCATED IN THE FELLSMERE 4 S.E. QUADRANGLE (60).

THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION

IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

0. - 10.5 UNDIFFERENTIATED SAND AND CLAY  
 10.5- 106. PLIOCENE-PLEISTOCENE  
 106. - . HAWTHORN GROUP

0 - 2 SAND; GRAYISH BROWN; 35% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
 ACCESSORY MINERALS: ORGANICS-07%, PLANT REMAINS-03%;  
 OTHER FEATURES: FROSTED;

2 - 5 SAND; MODERATE BROWN; 32% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
 ACCESSORY MINERALS: ORGANICS-12%, PLANT REMAINS-01%;  
 OTHER FEATURES: FROSTED;

5 - 7.3 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX, ORGANIC MATRIX;  
 ACCESSORY MINERALS: CLAY-10%, CALCILUTITE-05%, ORGANICS- %, PLANT REMAINS-%;

7.3- 7.7 SAND; MODERATE BROWN; 35% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): ORGANIC MATRIX;  
 ACCESSORY MINERALS: ORGANICS-10%, CLAY-01%, PLANT REMAINS-%;  
 SMALL PIECES OF CARBONATE ARE PRESENT BUT NOT HOMOGENOUSLY MIXED IN THE SAMPLE. CARBONATE  
 PROBABLY ORIGINATED FROM THE UNDERLYING UNIT.

- 7.7- 8 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE;  
GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-07%;
- 8 - 9.5 SAND; MODERATE BROWN; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-10%, CLAY-01%, PLANT REMAINS-%;
- 9.5- 10 CALCILUTITE; YELLOWISH GRAY; 22% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE;  
GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-SIZED DOLOMITE-07%;
- 10 - 10.5 SAND; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CLAY-02%, PHOSPHATIC SAND-%;
- 10.5- 12 CALCILUTITE; VERY LIGHT ORANGE; 22% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, -12%, PLANT REMAINS- %, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 12 - 13 SAND; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -12%, CALCILUTITE-05%, CLAY-02%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 13 - 14 SAND; VERY LIGHT ORANGE; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: COARSE; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, CALCILUTITE-20%, CLAY-02%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 14 - 18 SAND; VERY LIGHT ORANGE; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -40%, CALCILUTITE-07%, CLAY-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 18 - 25 CALCARENITE; LIGHT OLIVE GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-05%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 25 - 33 CALCARENITE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 33 - 38 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: -20%, CALCILUTITE-03%, CLAY-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 38 - 50 SAND; YELLOWISH GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: -30%, CALCILUTITE-04%, PHOSPHATIC SAND-03%, CLAY-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 50 - 60 SAND; LIGHT OLIVE GRAY; 22% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, CALCILUTITE-15%, SILT-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
ESTIMATED RECOVERY IS 60% FROM 50-55'. CALCILUTITE MATRIX INCREASES TO APPROXIMATELY 30%  
DOWNSECTION. THE DEGREE OF SORTING BECOMES POORER DOWNSECTION. A VERY SHELLY SECTION  
BETWEEN 54-54.5'.
- 60 - 65 CLAY; OLIVE GRAY; LOW PERMEABILITY; MODERATE INDURATION;  
ACCESSORY MINERALS: SILT-35%, -08%, QUARTZ SAND-04%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
ESTIMATED RECOVERY IS 30% FROM 55-65'. A CALCAREOUS CLAY CONTAINING AN UNKNOWN QUANTITY OF  
CARBONATE MUD.
- 65 - 67 CLAY; YELLOWISH GRAY; LOW PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: SILT-30%, -03%, QUARTZ SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
A CALCAREOUS CLAY CONTAINING AN UNKNOWN QUANTITY OF CARBONATE MUD. SMALL (<1 cm) ROUNDED  
ZONES CONTAINING HEMATITIC STAIN ARE PRESENT IN THIS INTERVAL.
- 67 - 68 CLAY; OLIVE GRAY; LOW PERMEABILITY; MODERATE INDURATION;  
ACCESSORY MINERALS: SILT-35%, -08%, QUARTZ SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
A CALCAREOUS CLAY CONTAINING AN UNKNOWN QUANTITY OF CARBONATE MUD. NO HEMATITIC ZONES WERE  
NOTED IN THIS INTERVAL.
- 68 - 75 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION;  
ACCESSORY MINERALS: -45%, SILT-05%, CLAY-05%, QUARTZ SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
ESTIMATED RECOVERY IS 60% FROM 65-75'. CONTACT WITH THE OVERLYING UNIT CALCAREOUS CLAY  
OCCURS OVER AN INTERVAL OF APPROXIMATELY 0.7'. IN THIS TRANSITIONAL ZONE THERE IS A  
NOTICEABLE DARKENING OF COLOR, A MARKED REDUCTION IN CALCARENITE CONTENT (TO APPROXIMATELY  
10%), AND A STRONG FAUNAL DOMINANCE BY SMALL (<1.5 mm) WHOLE GASTROPOD SPECIES AND LARGER  
FRAGMENTS FROM LARGER GASTROPODS. BIVALVE FRAGMENTS ARE RELATIVELY RARE. INTERVAL  
REPRESENTS A FRESH WATER ENVIRONMENT, BASED ON THE GASTROPODS.

- 75 - 80 CALCARENITE; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-25%, QUARTZ SAND-05%, SILT-02%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SHELLY MATERIAL IS NOTICEABLY COARSER THAN THE OVERLYING INTERVAL, AND BIVALVE MATERIAL  
DOMINATES OVER GASTROPOD DEBRIS. CONTACT WITH THE UNDERLYING SAND IS GRADATIONAL OVER AN  
INTERVAL OF SEVERAL INCHES.
- 80 - 81 SAND; LIGHT OLIVE; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-15%, -05%, CLAY- %, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 81 - 85 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -25%, SILT-05%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
ESTIMATED RECOVERY IS 20% FROM 75-85'.
- 85 - 95 SAND; YELLOWISH GRAY; 32% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, SILT-05%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
ESTIMATED RECOVERY IS 30% FROM 85-92', THE INTERVAL FROM 92-92.5' IS MISSING, AND 100%  
RECOVERY FROM 92.5-95'. THE SANDS OCCURRING BETWEEN 80-95' ARE RELATIVELY WELL SORTED, BUT  
CONTAIN AN AVERAGE OF ABOUT 2% VERY COARSE, WELL ROUNDED QUARTZ SAND GRAINS. THICK, SHELLY  
BEDS APPROXIMATELY 0.25' THICK OCCUR AT 87', 92', AND 94.5'. FRAGMENTS OF BLADED SEA GRASS  
IS PRESENT AT 95'.
- 95 - '102 CALCARENITE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-10%, SILT-02%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
ESTIMATED RECOVERY IS 40% FROM 95-100' AND 50% RECOVERY FROM 100-102'. IN GENERAL THIS IS  
A VERY SHELLY CALCARENITE CONTAINING A LARGE QUANTITY OF BIVALVE FRAGMENTS.

102 - 106 NO SAMPLES

106 - 116 SAND; LIGHT OLIVE; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-15%, PHOSPHATIC SAND-03%, CLAY-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BRYOZOA, BENTHIC FORAMINIFERA;  
ESTIMATED RECOVERY IS 30% FROM 106-116'. NO NOTICEABLE VARIATION IS PRESENT IN GRAIN SIZE,  
DEGREE OF SORTING, OR PHOSPHATE CONTENT. SMALL (<0.5 mm) NEEDLES OF CLEAR CLACITE MAY BE  
DERIVED FROM "DELAMINATED" MOLLUSK SHELL, ALTHOUGH NO SHELLS WERE OBSERVED IN THIS  
INTERVAL.

116 TOTAL DEPTH



LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16933  
TOTAL DEPTH: 126 FT.  
40 SAMPLES FROM 0 TO 128 FT.

COUNTY - STLUCIE  
LOCATION: T.36S R.37E S.10CA  
LAT = N 27D 21M 40  
LON = W 80D 37M 41

COMPLETION DATE - N/A  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 30 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: S. CAMPBELL (8/92)

WELL IS REPRESENTED BY CUTTINGS FROM 0-56 AND CORE FROM 0-128'.  
THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 111-46 (HOLE#: STL-APT-4-SS).  
THE S.F.W.M.D. ID# FOR THE CORE IS: 111-5C (HOLE#: STL-D4).  
THE S.F.W.M.D. GEOPHYSICAL LOG # 111-000070 IS AVAILABLE FOR THIS WELL.  
THIS WELL IS LOCATED IN THE OKEECHOBEE 1 S.W. QUADRANGLE (81).  
THE PLIO-PLleistocene UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

- 0. - 21. UNDIFFERENTIATED SAND AND CLAY
- 21. - . PLIOCENE-PLleistocene

0 - 1.8 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-07%, PLANT REMAINS-05%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

1.8- 2 SAND; DARK YELLOWISH BROWN; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-18%, PLANT REMAINS-12%;  
FOSSILS: PLANT REMAINS;

2 - 2.5 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-07%, PLANT REMAINS-02%, HEAVY MINERALS- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;

2.5- 3.8 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-12%, PLANT REMAINS-07%;  
FOSSILS: PLANT REMAINS;

- 3.8- 10 SAND; DARK YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: SILT-01%, CLAY-01%;  
OTHER FEATURES: FROSTED;
- 10 - 21 SAND; VERY LIGHT ORANGE TO GRAYISH BROWN; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SILT-01%, ORGANICS-01%;  
OTHER FEATURES: FROSTED;  
GRAIN SIZE AND DEGREE OF ROUNDING IS CONSISTENT THROUGHOUT THIS INTERVAL EXCEPT BETWEEN  
18-19' WHERE GRAINS ARE AS LARGE AS SMALL GRANULE IN SIZE. IN GENERAL THERE APPEARS TO BE  
A NEARLY BIMODAL SIZE DISTRIBUTION WITH THE LARGEST GRAINS BEING SUBROUNDED AND FROSTED.
- 21 - 26 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -35%, SILT-01%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS, FROSTED;  
FOSSILS: FOSSIL FRAGMENTS;  
A RELATIVELY CLEAN (<3% CARBONATE), UNCONSOLIDATED, MEDIUM TO COARSE-GRAINED QUARTZ SAND  
OCCURS BETWEEN 24-24.5'. MANY OF THE GRAINS ARE MODERATELY ROUNDED AND FROSTED.
- 26 - 30 SAND; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -28%, CALCILUTITE-03%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
A VERY SHELLY BED (TO 80% SHELL) OCCURS AT 28-29.8'.
- 30 - 36 SAND; VERY LIGHT ORANGE; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;

- 36 - 45 SAND; GRAYISH BROWN; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -40%, CALCILUTITE-06%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;
- 45 - 50 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -17%, CALCILUTITE-05%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;  
INTERVAL BECOMES MORE CALCAREOUS WITH DEPTH AS A FUNCTION OF INCREASING CALCILUTITE  
CONTENT (TO 8%) DOWNSECTION.
- 50 - 56 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -10%, CALCILUTITE-09%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BENTHIC FORAMINIFERA;
- 56 - 66 NO SAMPLES
- 66 - 69.5 CLAY; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-35%, -07%, CALCILUTITE-02%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 69.5- 71 SAND; LIGHT OLIVE GRAY; 28% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, -10%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 71 - 72.5 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, CALCILUTITE-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;

- 72.5- 74 CALCARENITE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 96% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-45%, CALCILUTITE-02%, PHOSPHATIC SAND-02%;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
ESTIMATED RECOVERY IS 50% FROM 66-74'.
- 74 - 76 NO SAMPLES
- 76 - 84.5 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -30%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 84.5- 89.7 CALCARENITE; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 75% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-40%, CALCILUTITE-15%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 89.7- 91 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, MOLDIC, PIN POINT VUGS;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 45% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, -30%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;
- 91 - 93 LIMESTONE; VERY LIGHT GRAY; 12% POROSITY, MOLDIC, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-40%, -20%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS;

- 93 - 97 CALCILUTITE; VERY LIGHT GRAY; 32% POROSITY, MOLDIC, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 48% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, QUARTZ SAND-20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;  
MOLDIC POROSITY IS MUCH BETTER DEVELOPED FROM 93-97'. ESTIMATED RECOVERY IS 60% FROM 91-96'.
- 97 - 99 CALCILUTITE; VERY LIGHT GRAY; 28% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 46% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -35%, QUARTZ SAND-25%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;  
THIS UNIT GRADES DOWNWARD INTO THE UNDERLYING UNIT. THE CONTACT IS GRADATIONAL OVER AN INTERVAL OF APPROXIMATELY 0.5'.
- 99 - 101 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO VERY FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -40%, CALCILUTITE-05%, SILT-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, CORAL, BENTHIC FORAMINIFERA;  
A GRADATIONAL CONTACT WITH THE UNDERLYING UNIT. ESTIMATED RECOVERY IS 60% FROM 96-101'.
- 101 - 106 SAND; YELLOWISH GRAY; 32% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -47%, CALCILUTITE-02%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, ECHINOID, BENTHIC FORAMINIFERA;  
UNIT BECOMES DISTINCTLY MORE CALCAREOUS AND HAS COARSER GRAINED SHELL FRAGMENTS FROM 102-104.5' AND FROM 105.5-106'. ESTIMATED RECOVERY IS 85% FROM 101-106'. ARTHROPOD DEBRIS (MAINLY CRAB CLAW FRAGMENTS) IS SCATTERED THROUGHOUT THE UNIT BETWEEN 101-106'. WHOLE AND FRAGMENTAL GASTROPOD SHELLS ARE ABUNDANT AND DIVERSE.

- 106 - 108 SAND; VERY LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA, ECHINOID, BENTHIC FORAMINIFERA;  
HIGH POROSITY RESULTS FROM INCOMPLETE INFILLING BY THE CALCILUTITE MATRIX.
- 108 - 114 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -17%, CALCILUTITE-02%, PHOSPHATIC SAND-01%, HEAVY MINERALS- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA;
- 114 - 116 CALCILUTITE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -15%, QUARTZ SAND-08%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS;
- 116 - 126 NO SAMPLES
- 126 TOTAL DEPTH

## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16935  
 TOTAL DEPTH: 125 FT.  
 52 SAMPLES FROM 0 TO 12 FT.

COUNTY - ST. LUCIE  
 LOCATION: T.37S R.38E S.35  
 LAT = N 27D 12M 22  
 LON = W 80D 30M 30

COMPLETION DATE - 21/69/50  
 OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 27 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL AND S. CAMPBELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-54' AND 72-80', AND CORE FROM 54-72' AND 80-125'. THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 111-49 (HOLE#: CH-5). THE SFWMD ID# FOR THE CORE SAMPLE IS: 111-3C (HOLE#: CH-5). THIS WELL IS LOCATED IN THE OKEECHOBEE 4 N.E. QUADRANGLE. THE PLIO-PLleistocene UNIT WILL BE NAMED THE OKEECHOBEE FORMATION IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

- 0. - 10.7 UNDIFFERENTIATED SAND AND CLAY
- 10.7- . PLIOCENE-PLleistocene
- 0 - .5 SAND; DARK YELLOWISH BROWN; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
 ACCESSORY MINERALS: SHELL-05%, ORGANICS-05%, PLANT REMAINS- %;  
 FOSSILS: FOSSIL FRAGMENTS;
- .5- 1.5 SAND; GRAYISH BROWN; 33% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
 ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
 ACCESSORY MINERALS: ORGANICS-03%, PLANT REMAINS-02%;  
 FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 1.5- 5 SAND; DARK YELLOWISH ORANGE; 35% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
 ACCESSORY MINERALS: CLAY-07%, PLANT REMAINS-01%, PHOSPHATIC SAND-%;  
 CLAY MAY BE IRON RICH. HOWEVER, THIS MAY ALSO BE DRILLING STRING SCALE; IRON OXIDE DERIVED FROM THE DRILLING PIPE.
- 5 - 10 SAND; LIGHT OLIVE GRAY; 35% POROSITY, INTERGRANULAR;  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
 CEMENT TYPE(S): CLAY MATRIX;  
 ACCESSORY MINERALS: IRON STAIN-02%, SILT-02%, PHOSPHATIC SAND-%;

- 10 - 10.7 SAND; GRAYISH ORANGE; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: -05%, SILT-02%, IRON STAIN-01%, PHOSPHATIC SAND- %;  
FOSSILS: FOSSIL FRAGMENTS;
- 10.7- 14 CALCARENITE; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO VERY COARSE; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-45%, CALCILUTITE-03%, SILT-02%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 14 - 15 NO SAMPLES
- 15 - 17 SHELL BED; GRAYISH ORANGE; 35% POROSITY, INTRAGRANULAR, INTERGRANULAR; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-03%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 17 - 27 CALCARENITE; YELLOWISH GRAY; 30% POROSITY, INTRAGRANULAR, INTERGRANULAR;  
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: GRANULE TO VERY FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-45%, CALCILUTITE-07%, SILT-03%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 27 - 40 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -45%, SILT-04%, CALCILUTITE-04%, MICA-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
SAMPLE HAS NEARLY EQUAL QUANTITIES OF QUARTZ SAND AND CALCARENITE AND COULD EASILY BE CALLED CALCARENITE.
- 40 - 44 CALCILUTITE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -10%, QUARTZ SAND-05%, PHOSPHATIC SAND- %;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
SOME PYRITE COATINGS (<1%) WERE FOUND ON SHELL FRAGMENTS; INDICATIVE OF REDUCING CONDITIONS.
- 44 - 45 SAND; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -25%, CALCILUTITE-20%, SILT-15%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;



- 45 - 45.8 CALCILUTITE; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -18%, QUARTZ SAND-15%, SILT-03%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 45.8- 47.9 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-10%, SILT-10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 47.9- 48 CALCILUTITE; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 15% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, -10%, SILT-03%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 48 - 53.8 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -35%, CALCILUTITE-05%, SILT-03%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;
- 53.8- 54 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 20% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -18%, QUARTZ SAND-10%, SILT-02%, PHOSPHATIC SAND- %;  
FOSSILS: FOSSIL FRAGMENTS;  
CUTTINGS BETWEEN 0-54'.
- 54 - 58 SAND; OLIVE GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -20%, SILT-20%, PHOSPHATIC SAND-02%, MICA-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;

- 58 - 64 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-15%, -10%, PHOSPHATIC SAND-01%, MICA- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
DRILLERS REPORT 10% RECOVERY FROM 54-64'. TRACE OF HEAVY MINERALS. SAND IS WELL SORTED.
- 64 - 65.4 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-18%, -10%, PHOSPHATIC SAND-01%, GYPSUM- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, SPICULES;  
TRACE OF HEAVY MINERALS AND MICA. SAND IS WELL SORTED.
- 65.4- 66 DRILLERS REPORT 100% RECOVERY FROM 64-66'.
- 66 - 69 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -15%, SILT-10%, CLAY-02%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
TRACE OF HEAVY MINERALS, INCLUDING KYANITE.
- 69 - 71 SAND; LIGHT BROWNISH GRAY; 25% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -10%, CALCILUTITE-08%, SILT-05%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
TRACE OF HEAVY MINERALS.
- 71 - 72 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -40%, SILT-05%, CALCILUTITE-03%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
DRILLERS REPORT 30% RECOVERY FROM 66-72'. TRACE OF HEAVY MINERALS.

- 72 - 77.2 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCILUTITE-20%, -15%, SILT-10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 77.2- 78 CALCARENITE; MODERATE GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: GRANULE TO FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%, CALCILUTITE-03%, SILT-02%;  
FOSSILS: FOSSIL FRAGMENTS;
- 78 - 78.8 SHELL BED; LIGHT OLIVE GRAY; 40% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-01%;  
OTHER FEATURES: FOSSILIFEROUS, LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 78.8- 80 CALCARENITE; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: GRANULE TO FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-25%, CALCILUTITE-04%, SILT-01%, PHOSPHATIC SAND- %;  
FOSSILS: FOSSIL FRAGMENTS;  
CUTTINGS BETWEEN 72-80'.
- 80 - 96 CALCARENITE; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, SILT-02%, PHOSPHATIC SAND-02%, HEAVY MINERALS- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BENTHIC FORAMINIFERA;  
DRILLERS REPORT 90% RECOVERY FROM 80-85' AND 45% FROM 85-95'. VERY SHELLY BED  
APPROXIMATELY 0.5' THICK LOCATED AT 96-96.5'. ALSO ARE SOME RELATIVELY FINER AND COARSER  
BEDS PRESENT, HOWEVER, THE MAJORITY OF THE UNIT IS AS DESCRIBED ABOVE.
- 96 - 105 CALCILUTITE; VERY LIGHT ORANGE; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 33% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-25%, -23%, PHOSPHATIC SAND-01%;  
DRILLERS REPORT 30% RECOVERY FROM 95-105'.

- 105 - 116 CALCARENITE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 65% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, SILT-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
DRILLERS REPORT 100% RECOVERY FROM 105-115'. LARGE PECTEN SHELLS OCCUR RANDOMLY THROUGHOUT  
THE INTERVAL OF 96-115'.
- 116 - 125 CALCILUTITE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 40% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -38%, QUARTZ SAND-05%, SILT-01%;  
FOSSILS: FOSSIL FRAGMENTS, ECHINOID;  
DRILLERS REPORT 30% RECOVERY FROM 115-125'. ECHINOID SPINES ONLY.
- 125 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16936  
TOTAL DEPTH: 137 FT.  
35 SAMPLES FROM 0 TO 137 FT.

COUNTY - ST. LUCIE  
LOCATION: T.35S R.39E S. 9  
LAT = N 27D 26M 38  
LONG = W 80D 26M 07

COMPLETION DATE - 22/89/02  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 023 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL AND S. CAMPBELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-137'. THE S.F.W.M.D.  
ID# FOR THE CUTTINGS IS: 111-26 (HOLE#: STL APT #2 PW-1).  
S.F.W.M.D. GEOPHYSICAL LOG #111-0000058 IS AVAILABLE FOR THIS WELL.  
THIS WELL IS LOCATED IN THE FORT PEIRCE N.W. QUADRANGLE (72).  
THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

- 0. - 8. UNDIFFERENTIATED SAND AND CLAY
- 8. - 18. NO SAMPLES
- 18. - 125. PLIOCENE-PLEISTOCENE
- 125. - . HAWTHORN GROUP

- 0 - 4 SAND; DARK BROWN; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-40%, PLANT REMAINS-07%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 4 - 8 SAND; GRAYISH ORANGE; 32% POROSITY, INTERGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; LOW SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, ORGANIC MATRIX;  
ACCESSORY MINERALS: ORGANICS-10%, SILT-05%, PLANT REMAINS-02%;  
OTHER FEATURES: FROSTED;  
FOSSILS: PLANT REMAINS;
- 8 - 18 NO SAMPLES
- 18 - 53 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED TO ANGULAR; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -35%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS, FOSSILIFEROUS, LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, BARNACLES;

- 53 - 55 SAND; OLIVE GRAY; 23% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -40%, MICA-01%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 55 - 65 LIMESTONE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 27% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-20%, -20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: LOW RECRYSTALLIZATION, FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 65 - 66 SAND; MODERATE LIGHT GRAY; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: -15%, CALCILUTITE-12%, PHOSPHATIC SAND-01%, PYRITE- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 66 - 81 SAND; ; 18% POROSITY, INTERGRANULAR, INTRAGRANULAR;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, -10%, PHOSPHATIC SAND- %, PYRITE- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 81 - 110 CALCILUTITE; YELLOWISH GRAY; 18% POROSITY, INTERGRANULAR;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 8% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -10%, QUARTZ SAND-05%, PHOSPHATIC SAND- %;  
OTHER FEATURES: LOW RECRYSTALLIZATION;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 110 - 125 CALCILUTITE; YELLOWISH GRAY; 25% POROSITY, MOLDIC, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: MICROCRYSTALLINE TO VERY COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: QUARTZ SAND-35%, -20%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: FOSSIL MOLDS, MOLLUSKS;  
THE DOMINANT LITHOLOGY WAS DESCRIBED. ABUNDANT CALCAREOUS QUARTZ SAND IS ALSO PRESENT.  
INTERVAL APPEARS TO BE A TRANSITION BETWEEN THE UPPER AND LOWER UNIT. SAMPLE CONTAINS  
MICROMOLDIC POROSITY AND MAY HAY HIGH PERMEABILITY. TOP OF HAWTHORN IDENTIFIED AT 125'.
- 125 - 133 SAND; YELLOWISH GRAY; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-40%, PHOSPHATIC SAND-05%, -02%, CLAY-02%;  
OTHER FEATURES: CALCAREOUS, SUCROSIC;  
FOSSILS: MOLLUSKS;
- 133 - 137 SAND; LIGHT OLIVE GRAY; 23% POROSITY, INTERGRANULAR;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-35%, PHOSPHATIC SAND-05%, -02%, CLAY-02%;  
OTHER FEATURES: CALCAREOUS, SUCROSIC;  
FOSSILS: MOLLUSKS;
- 137 TOTAL DEPTH





LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16957  
TOTAL DEPTH: 116 FT.  
24 SAMPLES FROM 0 TO 120 FT.

COUNTY - ST. LUCIE  
LOCATION: T.37S R.37E S.14AD  
LAT = N 27D 15M 25  
LON = W 80D 36M 15

COMPLETION DATE - N/A  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 27 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: A. HOWELL (7/92)

WELL IS REPRESENTED BY WELL CUTTINGS FROM 0-120'.  
THE S.F.W.M.D. ID# FOR THE CUTTINGS IS: 111-9 (HOLE#: EP).  
THIS WELL IS LOCATED IN THE OKEECHOBEE 1 S.E. QUADRANGLE (82).  
THE PLIO-PLEISTOCENE UNIT WILL BE NAMED THE OKEECHOBEE FORMATION  
IN THE NEAR FUTURE (T. SCOTT, PERSONAL COMMUNICATION, 7/92).

0. - 60. UNDIFFERENTIATED SAND AND CLAY  
60. - 120. PLIOCENE-PLEISTOCENE

0 - 5 SAND; DARK YELLOWISH BROWN; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY COARSE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-05%, -02%, PHOSPHATIC SAND- %;  
OTHER FEATURES: FROSTED;  
FOSSILS: FOSSIL FRAGMENTS;

5 - 10 SAND; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -01%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FROSTED;  
VERY CLEAN SAND.

10 - 30 SAND; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: COARSE TO FINE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -01%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FROSTED;  
SAND COLOR LIGHTENS DOWNWARD. THE DARKER COLORING AT THE TOP OF THE INTERVAL MAY BE DUE TO  
MINOR STAINING OR VARYING QUARTZ GRAIN TYPES.

- 30 - 60 SAND; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ROUNDED TO SUB-ANGULAR; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: -35%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 60 - 70 CALCARENITE; YELLOWISH GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 99% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: GRAVEL TO FINE; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-01%, CALCILUTITE- %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
SAMPLE CONTAINS ABUNDANT BROKEN AND HIGHLY REWORKED BIVALVES AND GASTROPODS.
- 70 - 90 CALCARENITE; MODERATE LIGHT GRAY; 32% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 95% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: GRAVEL TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCILUTITE-05%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 90 - 115 CALCARENITE; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: GRAVEL TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-15%, PHOSPHATIC SAND- %;  
OTHER FEATURES: FOSSILIFEROUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 115 - 120 CALCILUTITE; YELLOWISH GRAY; 28% POROSITY, INTERGRANULAR, INTRAGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 10% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY COARSE; RANGE: FINE TO GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: -08%, QUARTZ SAND-08%, PHOSPHATIC SAND- %;  
FOSSILS: FOSSIL FRAGMENTS;  
INDURATION IS BORDERLINE POOR-MODERATE. A DISTINCT GREENISH COLOR MAY INDICATE THE HAWTHORN IMMEDIATELY UNDERLIES 120'; THAT DEPTH WOULD BE CONSISTENT WITH OTHER WELLS IN THE AREA.
- 120 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 16964

COUNTY - ST. LUCIE

TOTAL DEPTH: 142 FT.

LOCATION: T.34S R.39E S.14

36 SAMPLES FROM 0 TO 142 FT.

LAT = N 27D 31M 18

LONG = W 80D 24M 17

COMPLETION DATE - 01/05/90

ELEVATION - 022 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/TONY LUBRANO

WORKED BY: \_\_JOE AYLER (8/30/93)

SFWMD ID# FOR CUTTINGS IS 111-53 (HOLE #SLMW-24D), ST. LUCIE COUNTY.

LOCATED IN THE SE 1/4, SW 1/4, NE 1/4 SEC 14, T34S, R39E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=692937; PLANAR Y=1159222.

SFWMD GEOPHYSICAL #110000075 AND GEOLOGIST LOGS FOR THIS MONITOR WELL.

WELL IS LOCATED IN THE OSLO 7.5 MINUTE QUADRANGLE.

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL (SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 12. UNDIFFERENTIATED SAND AND CLAY
- 12. - 112. PLIOCENE-PLEISTOCENE
- 112. - . HAWTHORN GROUP
- 2. - 3. NO SAMPLES
- 30. - 32. NO SAMPLES
- 33. - 38. NO SAMPLES
  
- 0 - 1.5 SAND; MODERATE LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
FOSSILS: NO FOSSILS;
  
- 1.5- 2 SAND; DARK GRAY TO BLACK; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PLANT REMAINS- %;  
OTHER FEATURES: ;  
FOSSILS: NO FOSSILS;
  
- 2 - 3 NO SAMPLES
  
- 3 - 6 SAND; DARK YELLOWISH BROWN TO BROWNISH GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %;  
FOSSILS: NO FOSSILS;

- 6 - 10 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 10 - 12 SAND; MODERATE YELLOWISH BROWN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-10%, PHOSPHATIC SAND-01%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS;
- 12 - 19 SHELL BED; WHITE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 19 - 23 SAND; GRAYISH OLIVE TO OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
ACCESSORY MINERALS: SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
MINOR CONUS SP., CERITHIUM SP.
- 23 - 33 SHELL BED; VERY LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 33 - 38 NO SAMPLES
- 38 - 58 SHELL BED; MODERATE GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 58 - 75 SHELL BED; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;  
MINOR GASTROPODS, SOME BORED MOLLUSKS.
- 75 - 80 SHELL BED; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND- %;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;

- 80 - 97 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS;
- 97 - 107 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-20%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, ECHINOID;
- 107 - 112 SHELL BED; YELLOWISH GRAY TO LIGHT GRAYISH GREEN; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; POOR INDURATION;  
ACCESSORY MINERALS: QUARTZ SAND-20%, LIMESTONE-10%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;
- 112 - 115 SANDSTONE; LIGHT GRAYISH GREEN; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
ACCESSORY MINERALS: LIMESTONE-10%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 115 - 122 SANDSTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
ACCESSORY MINERALS: SHELL-15%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 122 - 142 SANDSTONE; LIGHT OLIVE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
ACCESSORY MINERALS: SHELL-10%, PHOSPHATIC SAND-02%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS, ECHINOID;  
TOP OF HAWTHORN GROUP AT 112 FEET.
- 142 TOTAL DEPTH



## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 17023

COUNTY - ST LUCIE

TOTAL DEPTH: 1260 FT.

LOCATION: T.34S R.37E S.36

62 SAMPLES FROM 0 TO 1260 FT.

LAT = N 27D 28M 56

LON = W 80D 41M 40

COMPLETION DATE - 23/02/85

ELEVATION - 028 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/MCCOLLERS AND HOWARD

WORKED BY: \_\_JOE AYLOR (8/31/93), 20' SAMPLE INTERVALS.

SFUMD ID# FOR CUTTINGS IS 111-4 (HOLE #SLF-55), ST. LUCIE COUNTY.

LOCATED IN THE SE 1/4, SW 1/4, NE 1/4, SEC 36, T34S, R37E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=599083; PLANAR Y=1144542.

UTM ZONE 17 PLANAR X=530186; PLANAR Y=3039715.4.

WELL IS LOCATED IN THE OKEECHOBEE 1 N.W. 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL

(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

THE SUWANNEE FORMATION WAS NOT RECOGNIZED.

- 0. - 20. UNDIFFERENTIATED SAND AND CLAY
- 20. - 100. PLIOCENE-PLEISTOCENE
- 100. - 500. HAWTHORN GROUP
- 500. - 680. OCALA GROUP
- 680. - . AVON PARK FM.
- 252. - 260. NO SAMPLES

0 - 20 SAND; PINKISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: IRON STAIN- %;  
FOSSILS: NO FOSSILS;

20 - 40 SANDSTONE; MODERATE GRAYISH GREEN TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
TOP OF OKEECHOBEE FORMATION AT 20 FEET, MINOR OLIVA SP.

40 - 80 SHELL BED; LIGHT OLIVE GRAY TO LIGHT GREENISH GRAY; 40% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID;  
SNAILS, CORITHIUM SP., MEDIUM TO PEBBLE SIZED SAND.

- 80 - 100 SAND; LIGHT GREENISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-10%, SHELL-30%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 100 - 120 SANDSTONE; LIGHT OLIVE TO MODERATE GRAYISH GREEN; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-25%, SHELL-10%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;  
TOP OF HAWTHORN GROUP AT 100 FEET.
- 120 - 140 SAND; LIGHT OLIVE GRAY TO LIGHT OLIVE; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-25%, SHELL-20%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 140 - 160 SILT; DARK GRAYISH YELLOW TO MODERATE YELLOWISH GREEN; 25% POROSITY, INTERGRANULAR,  
LOW PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, SHELL- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: NO FOSSILS;
- 160 - 205 SAND; MODERATE GRAYISH GREEN TO LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, SILT-05%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 205 - 252 SAND; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%;  
FOSSILS: NO FOSSILS;
- 252 - 260 NO SAMPLES



- 260 - 360 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;
- 360 - 400 LIMESTONE; VERY LIGHT GRAY; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%;
- 400 - 440 SAND; LIGHT OLIVE GRAY TO LIGHT OLIVE; 25% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SILT-20%, PHOSPHATIC SAND-05%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 440 - 460 SILT; LIGHT GRAYISH GREEN; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: FOSSIL FRAGMENTS;
- 460 - 480 LIMESTONE; WHITE; 25% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND- %;  
OTHER FEATURES: CALCAREOUS;
- 480 - 500 LIMESTONE; YELLOWISH GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, FOSSIL MOLDS, FOSSIL FRAGMENTS;

- 500 - 580 CALCARENITE; VERY LIGHT ORANGE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-40%;  
OTHER FEATURES: CALCAREOUS;  
FOSSILS: BENTHIC FORAMINIFERA;  
TOP OF OCALA GROUP AT 500 FEET, LEPIDOCYCLINA SP. 60%.
- 580 - 620 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CRYSTALS, CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MICROCRYSTALLINE; RANGE: CRYPTOCRYSTALLINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-05%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%, CALCITE- %;  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS;  
DICTYOCONUS COOKEI, GYPSINA GLOBULA.
- 620 - 640 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-05%, PHOSPHATIC SAND-01%, CHERT- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
LEPIDOCYCLINA SP. 5%, DICTYOCONUS COOKEI, GYPSINA GLOBULA. PHOSPHATE SAND PROBABLY FROM  
HOLE CAVING. FOLLOWIN EXAMINED SEPTEMBER 1, 1993.
- 640 - 680 LIMESTONE; VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-05%, CHERT- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, BARNACLES, BRYOZOA, ECHINOID;  
LEPIDOCYCLINA SP. 30%, DICTYOCONUS COOKEI, NUMMULITES SP., GUNTERIA FLORIDANA.  
LEPIDOCYCLINA SP. 30%, QUARTZ SAND 10%, AND PHOSPHATIC SAND ARE SUSPECTED CAVINGS.
- 680 - 700 CALCARENITE; VERY LIGHT ORANGE TO LIGHT TAN; 35% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-05%;  
OTHER FEATURES: POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
UP TO 1 CM. LEPIDOCYCLINA SP. 10%, 10% DICTYOCONUS COOKEI, 10% LIGHT GRAY MASSIVE  
DOLOMITE, DICTYOCONUS AMERICANUS, COSKINOLINA ELONGATA, AND CRIROBULIMINA CUSHMANI. TOP  
OF AVON PARK AT 680 FEET. QUARTZ SAND 5% AND LEPIDOCYCLINA SP. 10% PROBABLY CAVED

- 700 - 740 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-10%, CHERT- %, PHOSPHATIC SAND- %;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
DICTYOCONUS COOKEI, LEPIDOCYCLINA SP., AND HETEROSTEGINA SP., PHOSPHATIC SAND AND  
LEPIDOCYCLINA SP. PROBABLY CAVED.
- 740 - 800 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-10%;  
OTHER FEATURES: POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
20% MEDIUM LIGHT GRAY DOLOMITE, LEPIDOCYCLINA SP. 20%, HETEROSTEGINA SP., DICTYOCONUS SP.,  
GYPSINA GLOBULA, CRIBROBULIMINA CUSHMANI. QUARTZ SAND 5%, PHOSPHATIC SAND, AND  
LEPIDOCYCLINA SP. 20% PROBABLY CAVED.
- 800 - 820 LIMESTONE; LIGHT GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCITE-05%;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;  
LIGHT GRAY DOLOMITE 20%, DICTYOCONUS COOKEI.
- 820 - 880 DOLOSTONE; GRAYISH ORANGE TO LIGHT TAN; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-45%, PHOSPHATIC SAND- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
LEPIDOCYCLINA SP. 30%, HETEROSTEGINA SP. PHOSPHATIC SAND AND LEPIDOCYCLINA SP. 30%  
PROBABLY CAVED.
- 880 - 900 LIMESTONE; WHITE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-05%, CALCITE- %;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS;  
HETEROSTEGINA SP., DICTYOCONUS COOKEI, GUNTERIA FLORIDANA, 5% LIGHT GRAY MASSIVE DOLOMITE.

- 900 - 920 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, CALCITE-10%, CHERT- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS;  
LEPIDOCYCLINA SP., HETEROSTEGINA SP., GYPSINA GLOBULA. LEPIDOCYCLINA SP. PROBABLY CAVED.
- 920 - 980 LIMESTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%, CALCITE-10%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS;  
AMPHISTEGINA SP., NUMMULITES SP., DICTYOCONUS COOKEI (FORAMS 25%).
- 980 - 1040 DOLOSTONE; GRAYISH BROWN; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-45%, CALCITE- %;  
OTHER FEATURES: POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS, BRYOZOA;  
NUMMULITES SP, COSKINOLINA ELONGATA, LEPIDOCYCLINA SP. (CAVINGS ?), FORAMS 20%.
- 1040 - 1060 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY;  
SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, CALCITE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS;  
LEPIDOCYCLINA SP. (CAVINGS ?), DICTYOCONUS COOKEI, FORAMS 10%.
- 1060 - 1080 DOLOSTONE; VERY LIGHT ORANGE; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, CALCITE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
LEPIDOCYCLINA SP. (CAVINGS ?), NUMMULITES SP., GYPSINA GLOBULA.

- 1080 - 1100 DOLOSTONE; MODERATE LIGHT GRAY TO LIGHT BROWNISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, CALCITE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA;  
20% MEDIUM DARK GRAY MASSIVE DOLOMITE, PALE YELLOW AND RECRYSTALLIZED DOLOMITE 60%, WHITE LIMESTONE AND LEPIDOCYCLINA SP. 20%, GUNTERIA FLORIDANA. PHOSPHATIC SAND PROBABLY CAVED.
- 1100 - 1140 LIMESTONE; VERY LIGHT ORANGE; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-20%, CALCITE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, POOR SAMPLE;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
NUMMULITES SP., LEPIDOCYCLINA SP. 30%, AND GUNTERIA FLORIDANA. LEPIDOCYCLINA SP. 30% PROBABLY CAVED.
- 1140 - 1160 DOLOSTONE; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-30%, CALCITE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA;  
LEPIDOCYCLINA SP. AND CRIBROBULIMINA CUSHMANI. PHOSPHATIC SAND LEPIDOCYCLINA SP. PROBABLY CAVED.
- 1160 - 1180 LIMESTONE; VERY LIGHT ORANGE; 4 % POROSITY,  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ACCESSORY MINERALS: DOLOMITE-10%, CALCITE- %;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA, FOSSIL MOLDS;  
CRIBROBULIMINA CUSHMANI, NUMMULITES SP. (FORAMS 30%), AND GASTROPODS.
- 1180 - 1200 DOLOSTONE; GRAYISH ORANGE; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-20%, CALCITE- %;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
SIMILAR TO 1140-1160 FEET, FORAMS 10%.

- 1200 - 1240 LIMESTONE; WHITE TO VERY LIGHT ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 90% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM;  
ACCESSORY MINERALS: DOLOMITE-20%;  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA;  
LIGHT GRAY AND GRAYISH-ORANGE DOLOMITE, LEPIDOCYCLINA SP. (CAVINGS ?) AND NUMMULITES SP. (FORAMS 30%).
- 1240 - 1260 DOLOSTONE; GRAYISH ORANGE; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: LIMESTONE-10%;  
OTHER FEATURES: HIGH RECRYSTALLIZATION;  
FOSSILS: BENTHIC FORAMINIFERA;  
DICTYOCONUS COOKEI, AMPHISTEGINA SP., LEPIDOCYCLINA SP., AND WHITE LIMESTONE 10%. QUARTZ AND LEPIDOCYCLINA SP. PROBABLY CAVED.
- 1260 TOTAL DEPTH

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 17024  
TOTAL DEPTH: 1220 FT.  
61 SAMPLES FROM 0 TO 1220 FT.

COUNTY - ST. LUCIE  
LOCATION: T.35S R.37E S.12  
LAT = N 27D 26M 45  
LON = W 80D 41M 38

COMPLETION DATE - 08/03/85  
OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION - 030 FT

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT/MCCULLER & HOWARD

WORKED BY: LI LI (9/01/93)

SFWM ID# FOR CUTTINGS IS 111-5 (HOLE SLF-56), ST. LUCIE COUNTY.  
LOCATED IN SE 1/4, SW 1/4, NE 1/4, SEC 12, T35S, R37E.  
FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=599293; PLANAR Y=1131314.  
WELL IS LOCATED IN THE OKEECHOBEE 1 NW 7.5 MINUTE QUADRANGLE  
THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLleistocene INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 21. UNDIFFERENTIATED SAND AND CLAY
  - 21. - 84. PLIOCENE-PLEISTOCENE
  - 84. - 480. HAWTHORN GROUP
  - 480. - 620. Ocala GROUP
  - 620. - 1220. AVON PARK FM.
- 
- 0 - 21 SAND; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-15%, CALCITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
  - 21 - 63 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, CALCITE-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
  - 63 - 84 LIMESTONE; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-10%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
BOTTOM OF PLIOCENE-PLEISTOCENE

- 84 - 105 SAND; GRAYISH OLIVE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-15%, SHELL-05%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 105 - 147 SAND; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%, CLAY-10%, PHOSPHATIC SAND-01%;  
FOSSILS: FOSSIL FRAGMENTS;
- 147 - 168 SILT; MODERATE OLIVE BROWN; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX;  
ACCESSORY MINERALS: CLAY-20%;
- 168 - 231 SAND; OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-10%, CLAY-10%, PHOSPHATIC SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 231 - 252 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO ROUNDED; HIGH SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%;  
FOSSILS: SHARKS TEETH, FOSSIL FRAGMENTS;
- 252 - 260 SAND; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; HIGH SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, SHELL-05%, PHOSPHATIC SAND-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 260 - 300 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-05%, PHOSPHATIC SAND-02%;  
FOSSILS: FOSSIL FRAGMENTS;



- 300 - 320 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-05%, PHOSPHATIC SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 320 - 380 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 380 - 400 SAND; GRAYISH OLIVE; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: FINE TO VERY COARSE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CLAY-20%, CALCILUTITE-10%, PHOSPHATIC SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 400 - 420 SILT; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CLAY-20%, CALCILUTITE-10%, QUARTZ SAND-10%;  
FOSSILS: FOSSIL FRAGMENTS;
- 420 - 440 SILT; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY; MODERATE INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, CLAY-10%, QUARTZ SAND-05%;  
FOSSILS: FOSSIL FRAGMENTS;
- 440 - 480 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, CRYSTALS; 60% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-02%, PHOSPHATIC SAND-02%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;  
BOTTOM OF HAWTHORN FM.
- 480 - 520 LIMESTONE; PINKISH GRAY; 35% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: GRANULE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, HETENSTEGINA, NUMMULITES SP.

- 520 - 560 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO GRAVEL; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, HETENSTEGINA, NUMMULITES SP. BOTTOM OF OCALA FM.(GROUP)
- 560 - 620 LIMESTONE; WHITE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-05%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, DICTYOCONUS COOKEI, CRIBROBULIMINA
- 620 - 720 LIMESTONE; WHITE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: FINE TO GRANULE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, NUMMULITES SP., DICTYOCONUS COOKEI
- 720 - 740 LIMESTONE; PINKISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS, CALCILUTITE; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT;  
ACCESSORY MINERALS: DOLOMITE-15%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, NUMMULITES SP., DICTYOCONUS COOKEI
- 740 - 780 LIMESTONE; WHITE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 50% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: VERY FINE; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, DICTYOCONUS COOKEI
- 780 - 820 LIMESTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-30%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
LEPIDOCYCLINA, NUMMULITES SP., CRIBROBULIMINA, SPIROLINA

- 820 - 860 DOLOSTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES;  
NUMMULITES SP., HETENSTEGINA, COSKMOLINA, CRIBROBULIMINA
- 860 - 960 LIMESTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CALCILUTITE, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: DOLOMITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA;  
DICTYOCONUS COOKEI, AMPHISTEGINA, NUMMULITES SP.
- 960 - 980 DOLOSTONE; LIGHT OLIVE GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
10-50% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-40%, QUARTZ SAND-05%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES, MOLLUSKS;  
LEPIDOCYCLINA, HETENSTEGINA, NUMMULITES SP.
- 980 - 1000 DOLOSTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR,  
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; GOOD INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES, MOLLUSKS;  
LEPIDOCYCLINA
- 1000 - 1020 DOLOSTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-20%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES, FOSSIL FRAGMENTS;  
LEPIDOCYCLINA, NUMMULITES SP., DICTYOCONUS COOKEI
- 1020 - 1040 DOLOSTONE; YELLOWISH GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; ANHEDRAL;  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA, SHARKS TEETH;  
HETENSTEGINA, LEPIDOCYCLINA

- 1040 - 1120 DOLOSTONE; GRAYISH ORANGE; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS;  
LEPIDOCYCLINA, SPIROLINA
- 1120 - 1160 DOLOSTONE; YELLOWISH GRAY; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%, PHOSPHATIC SAND-01%;  
FOSSILS: BENTHIC FORAMINIFERA, SPICULES, MOLLUSKS;  
LEPIDOCYCLINA, NUMMULITES SP., HETENSTEGINA
- 1160 - 1220 DOLOSTONE; GRAYISH BROWN; 25% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
50-90% ALTERED; SUBHEDRAL;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; MODERATE INDURATION;  
CEMENT TYPE(S): DOLOMITE CEMENT;  
ACCESSORY MINERALS: CALCILUTITE-10%;  
FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA;  
NUMMULITES SP., LEPIDOCYCLINA
- 1220 TOTAL DEPTH

## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 17025

COUNTY - STLUCIE

TOTAL DEPTH: 130 FT.

LOCATION: T.36S R.40E S.05

33 SAMPLES FROM 0 TO 130 FT.

LAT = N 27D 31M 19

LON = W 80D 29M 48

COMPLETION DATE - / /89

ELEVATION - 024 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGER DISTRICT/TONY LUBRANO.

WORKED BY: LI LI (8/31/93)

SFWD ID# FOR CUTTINGS IS 111-47 (HOLE SLMW-20), ST. LUCIE COUNTY.

LOCATED IN SEC 5, T36S, R40E.

FLORIDA POLYCONIC EAST ZONE IN FEET PLANAR X=663143; PLANAR Y=1159191.

SFWD GEOPHYSICAL #110000073.

WELL IS LOCATED IN THE OSLO 7.5 MINUTE QUADRANGLE

THE OKEECHOBEE FORMATION IS PROPOSED FOR THE PLIO-PLEISTOCENE INTERVAL  
(SCOTT, 1992, P. 23, FLORIDA GEOLOGICAL SURVEY SPECIAL PUBLICATION 36).

- 0. - 14. UNDIFFERENTIATED SAND AND CLAY
- 14. - 120. PLIOCENE-PLEISTOCENE
- 120. - 130. HAWTHORN GROUP
- 0. - 3. NO SAMPLES
  
- 0 - 3 NO SAMPLES
  
- 3 - 4 SAND; DARK BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: ORGANICS-10%, CALCITE-05%;  
FOSSILS: FOSSIL FRAGMENTS;
  
- 4 - 14 SAND; LIGHT BROWN; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE;  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; UNCONSOLIDATED;  
ACCESSORY MINERALS: SHELL-05%, CLAY-05%;  
FOSSILS: FOSSIL FRAGMENTS;
  
- 14 - 32 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
  
- 32 - 33 SHELL BED; PINKISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 33 - 40 SHELL BED; PINKISH GRAY; 50% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: CALCITE-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 40 - 50 LIMESTONE; LIGHT GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 50 - 62 SHELL BED; YELLOWISH GRAY; 40% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
UNCONSOLIDATED;  
ACCESSORY MINERALS: QUARTZ SAND-15%, CALCITE-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 62 - 79 LIMESTONE; LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-40%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 79 - 85 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 85% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; MODERATE INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-05%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 85 - 87 LIMESTONE; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-10%, QUARTZ SAND-10%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 87 - 97 SHELL BED; YELLOWISH GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: CALCILUTITE-30%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;

- 97 - 113 LIMESTONE; VERY LIGHT GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN TYPE: BIOGENIC, CRYSTALS; 80% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX;  
ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-05%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 113 - 120 LIMESTONE; LIGHT OLIVE GRAY; 20% POROSITY, INTERGRANULAR, LOW PERMEABILITY;  
GRAIN TYPE: CRYSTALS, BIOGENIC; 70% ALLOCHEMICAL CONSTITUENTS;  
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION;  
CEMENT TYPE(S): CALCILUTITE MATRIX;  
ACCESSORY MINERALS: QUARTZ SAND-30%, SHELL-10%, PHOSPHATIC SAND-01%;  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS;
- 120 - 130 SAND; LIGHT OLIVE GRAY; 30% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY;  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM;  
ROUNDNESS: ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY; POOR INDURATION;  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX;  
ACCESSORY MINERALS: SHELL-05%, CALCILUTITE-10%, PHOSPHATIC SAND-03%;  
FOSSILS: FOSSIL FRAGMENTS;
- 130 TOTAL DEPTH





## LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-17136  
 TOTAL DEPTH: 01000 FT.  
 100 SAMPLES FROM 0 TO 1000 FT.

COUNTY - ST. LUCIE  
 LOCATION: T.36S R.38E S.14  
 LAT = 27D 20M 16S  
 LONG = 80D 29M 54S

COMPLETION DATE: N/A  
 OTHER TYPES OF LOGS AVAILABLE - NONE

ELEVATION: 32 FT

OWNER/DRILLER: WELL NAME RTW-1 (SLF-50)  
 SFWD Cutting ID Number 111-1

WORKED BY: Stephen L. Palmes  
 WELL LOCATED AT SE 1/4 OF SE 1/4 OF SE 1/4 OF  
 SEC. 14, TWP. 36S, RGE. 38E, FT. PIERCE QUADRANGLE, ST. LUCIE COUNTY  
 UTM PLANAR X=662866, Y=1092240  
 ALL FOSSILS HAVE BEEN OBSERVED IN MATRIX UNLESS NOTED OTHERWISE

0. - 100. 121PCPC PLIOCENE-PLEISTOCENE  
 100. - 660. 122HTRN HAWTHORN GROUP  
 660. - 775. 124OCAL OCALA GROUP  
 775. - 1000. 124AVPK AVON PARK FM.

0 - 10 SAND; DARK YELLOWISH ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; LOW SPHERICITY  
 UNCONSOLIDATED  
 OTHER FEATURES: VARVED

10 - 20 SAND; DARK YELLOWISH ORANGE TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; LOW SPHERICITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-40%, PLANT REMAINS-01%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 SAMPLE CONTAINS 60% QUARTZ SAND AND 40% ABRADED FOSSIL  
 FRAGMENTS

20 - 30 SANDSTONE; GRAYISH BROWN  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL; LOW SPHERICITY  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SHELL-35%, PLANT REMAINS-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: MOLLUSKS

- 30 - 40 SANDSTONE; GRAYISH BROWN  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; LOW SPHERICITY  
MODERATE INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT  
ACCESSORY MINERALS: SHELL-15%, PHOSPHATIC SAND-01%  
OTHER FEATURES: VARVED
- 40 - 50 CALCARENITE; GRAYISH BROWN  
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN TYPE: CRYSTALS; 05% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; MODERATE INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT  
ACCESSORY MINERALS: QUARTZ SAND-10%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED  
SAMPLE IS PREDOMINANTLY RECRYSTALLIZED LIMESTONE AND SPARRY  
CALCITE
- 50 - 70 SAND; GRAYISH BROWN  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE  
LOW SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CLAY MATRIX  
CALCILUTITE MATRIX  
ACCESSORY MINERALS: SHELL-30%, MICA-01%  
OTHER FEATURES: VARVED  
FOSSILS: MOLLUSKS
- 70 - 80 SHELL BED; VERY LIGHT GRAY  
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: SILT-20%, QUARTZ SAND-05%  
OTHER FEATURES: VARVED  
FOSSILS: MOLLUSKS
- 80 - 100 SHELL BED; VERY LIGHT GRAY  
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: SILT-02%, QUARTZ SAND-01%  
OTHER FEATURES: POOR SAMPLE  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS  
TURRITELLA PRESENT, SHELL BED WITH 40% LIME MUD

- 100 - 110 WACKESTONE; VERY LIGHT GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-02%, SILT-01%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS
- 110 - 120 WACKESTONE; VERY LIGHT GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 35% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SILT-10%, PHOSPHATIC SAND-02%  
 QUARTZ SAND-02%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
 FOSSILS: ECHINOID
- 120 - 130 WACKESTONE; VERY LIGHT GRAY  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SILT-05%, QUARTZ SAND-02%  
 PHOSPHATIC SAND-01%  
 OTHER FEATURES: VARVED  
 PHOSPHATIC SILT
- 130 - 140 SILT; MODERATE OLIVE BROWN  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: MICA-02%, HEAVY MINERALS-01%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 SOME ABRADED AND BROKEN MOLLUSC SHELLS PRESENT. PHOSPHATIC  
 SILT (10%)
- 140 - 150 SILT; MODERATE OLIVE BROWN  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-15%, PLANT REMAINS-02%  
 HEAVY MINERALS-02%, MICA-01%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 PHOSPHATIC SILT (5%)

- 150 - 160 SILT; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-05%, MICA-02%  
 HEAVY MINERALS-02%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 PHOSPHATIC SILT (3%)
- 160 - 170 SILT; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: SHELL-10%, MICA-02%  
 HEAVY MINERALS-02%  
 OTHER FEATURES: CALCAREOUS, VARVED
- 170 - 180 SILT; DARK YELLOWISH BROWN  
 20% POROSITY: INTERGRANULAR; UNCONSOLIDATED  
 ACCESSORY MINERALS: LIMESTONE-10%, SHELL-05%  
 HEAVY MINERALS-02%, MICA-01%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 PHOSPHATIC SILT (5%)
- 180 - 190 CLAY; LIGHT OLIVE BROWN  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-05%, HEAVY MINERALS-02%  
 MICA-02%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 FOSSILS; BENTHIC FORAMINIFERA  
 PHOSPHATIC SILT (2%)
- 190 - 200 CLAY; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-05%, MICA-02%  
 HEAVY MINERALS-02%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 PHOSPHATIC SILT (2%)
- 200 - 220 CLAY; LIGHT OLIVE  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-03%, MICA-02%  
 HEAVY MINERALS-02%, QUARTZ SAND-01%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 PHOSPHATIC SILT (3%)
- 220 - 230 CLAY; LIGHT OLIVE GRAY  
 15% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: LIMESTONE-02%, HEAVY MINERALS-01%  
 MICA-01%, QUARTZ SAND-01%  
 OTHER FEATURES: CALCAREOUS, VARVED

- 230 - 240 SILT; MODERATE OLIVE BROWN  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-03%, HEAVY MINERALS-01%  
 MICA-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: BENTHIC FORAMINIFERA
- 240 - 250 SILT; MODERATE OLIVE BROWN  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: CLAY-05%, MICA-02%, SHELL-02%  
 HEAVY MINERALS-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: BENTHIC FORAMINIFERA
- 250 - 320 CLAY; MODERATE OLIVE BROWN  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: SHELL-05%, QUARTZ SAND-02%, MICA-01%  
 OTHER FEATURES: VARVED  
 PHOSPHATIC SILT (<5%)
- 320 - 330 CLAY; MODERATE OLIVE BROWN  
 15% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-05%, SHELL-02%, MICA-02%  
 OTHER FEATURES: CALCAREOUS  
 ROUNDED MEDIUM GRAINED QUARTZ SAND
- 330 - 340 SAND; GRAYISH OLIVE  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 ROUNDNESS: SUB-ANGULAR TO ROUNDED; MEDIUM SPHERICITY  
 POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-15%, LIMESTONE-05%  
 PHOSPHATIC GRAVEL-02%, PHOSPHATIC SAND-02%  
 OTHER FEATURES: CALCAREOUS, VARVED
- 340 - 350 SILT; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%  
 MICA-01%  
 OTHER FEATURES: CALCAREOUS, VARVED
- 350 - 360 SILT; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC GRAVEL-02%  
 PHOSPHATIC SAND-02%  
 OTHER FEATURES: CALCAREOUS

- 360 - 370 SAND; GRAYISH OLIVE  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-20%, CALCILUTITE-10%  
 PHOSPHATIC GRAVEL-05%, SPAR-05%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 FOSSILS: MOLLUSKS
- 370 - 380 SAND; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MEDIUM SPHERICITY; POOR INDURATION  
 CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, LIMESTONE-05%  
 PHOSPHATIC SAND-02%, SPAR-02%  
 OTHER FEATURES: CALCAREOUS, VARVED  
 FOSSILS: SHARKS TEETH
- 380 - 390 CALCARENITE; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC GRAVEL-02%  
 OTHER FEATURES: VARVED  
 FOSSILS: CORAL, SHARKS TEETH, ECHINOID
- 390 - 400 CALCARENITE; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, QUARTZ SAND-05%  
 SPAR-02%, PHOSPHATIC SAND-02%  
 OTHER FEATURES: VARVED  
 FOSSILS: MOLLUSKS, SHARKS TEETH  
 PHOSPHATIC SILT (<2%)

- 400 - 410 CALCARENITE; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%  
 SPAR-05%, CLAY-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: ECHINOID
- 410 - 420 CALCARENITE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 15% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%, QUARTZ SAND-02%  
 SPAR-02%, CLAY-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: MOLLUSKS, SHARKS TEETH
- 420 - 430 CALCARENITE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 15% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: QUARTZ SAND-03%, SPAR-03%  
 PHOSPHATIC GRAVEL-02%  
 OTHER FEATURES: VARVED  
 FOSSILS: SHARKS TEETH, MOLLUSKS
- 430 - 460 WACKESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%, QUARTZ SAND-02%, CLAY-02%  
 PHOSPHATIC SILT (5%)

- 460 - 470 WACKESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 10% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%, QUARTZ SAND-02%, MICA-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: MOLLUSKS  
 PHOSPHATIC SILT (5%)
- 470 - 490 WACKESTONE; LIGHT OLIVE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-03%, QUARTZ SAND-02%  
 PHOSPHATIC GRAVEL-02%, CLAY-02%  
 OTHER FEATURES: VARVED  
 PHOSPHATIC SILT (3%)
- 490 - 500 WACKESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%, PHOSPHATIC GRAVEL-02%  
 QUARTZ SAND-02%, CLAY-02%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, MUDDY, VARVED  
 FOSSILS: MOLLUSKS  
 PHOSPHATIC SILT (2%)
- 500 - 510 WACKESTONE; LIGHT OLIVE  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%, PHOSPHATIC GRAVEL-03%  
 PHOSPHATIC GRAVEL-02%, CLAY-02%  
 OTHER FEATURES: MUDDY, VARVED  
 FOSSILS: CORAL, MOLLUSKS  
 PHOSPHATIC SILT (5%)



- 510 - 520 WACKESTONE; LIGHT OLIVE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-03%, CLAY-02%, QUARTZ SAND-02%  
 OTHER FEATURES: MUDDY, VARVED  
 PHOSPHATIC SILT (5%)
- 520 - 540 WACKESTONE; MODERATE OLIVE BROWN  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 10% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO MEDIUM; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-15%, CLAY-02%, QUARTZ SAND-02%  
 OTHER FEATURES: MUDDY, VARVED  
 FOSSILS: MOLLUSKS, CORAL  
 PHOSPHATIC SILT (2%)
- 540 - 550 WACKESTONE; LIGHT OLIVE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%, CLAY-02%  
 PHOSPHATIC GRAVEL-01%, QUARTZ SAND-01%  
 OTHER FEATURES: MUDDY  
 PHOSPHATIC SILT (2%)
- 550 - 570 WACKESTONE; MODERATE OLIVE BROWN TO YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%, PHOSPHATIC GRAVEL-02%  
 CLAY-01%, QUARTZ SAND-01%  
 OTHER FEATURES: VARVED  
 PHOSPHATIC SILT (2%)

- 570 - 580 MUDSTONE; YELLOWISH GRAY  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%, PHOSPHATIC GRAVEL-02%  
 CLAY-01%, QUARTZ SAND-01%  
 OTHER FEATURES: MUDDY, VARVED  
 PHOSPHATIC SILT (2%)
- 580 - 600 MUDSTONE; YELLOWISH GRAY  
 25% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MICROCRYSTALLINE; POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-10%, PHOSPHATIC SAND-02%  
 OTHER FEATURES: VARVED  
 FOSSILS: CONES  
 PHOSPHATIC SILT (2%)
- 600 - 610 CALCARENITE; YELLOWISH GRAY TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: CRYSTALS, CALCILUTITE  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 UNCONSOLIDATED  
 ACCESSORY MINERALS: SPAR-30%, PHOSPHATIC SAND-20%  
 QUARTZ SAND-20%, LIMESTONE-20%  
 OTHER FEATURES: VARVED  
 FOSSILS: BENTHIC FORAMINIFERA  
 FOSSIL FRAGMENTS ARE HIGHLY RECRYSTALLIZED
- 610 - 620 CALCARENITE; YELLOWISH GRAY TO MODERATE GRAY  
 25% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: CRYSTALS, CALCILUTITE  
 05% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 ACCESSORY MINERALS: SPAR-20%, QUARTZ SAND-10%  
 PHOSPHATIC SAND-05%, PHOSPHATIC GRAVEL-05%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED

- 620 - 630 PACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-10%, QUARTZ SAND-02%  
 PHOSPHATIC GRAVEL-02%, PHOSPHATIC SAND-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: BENTHIC FORAMINIFERA
- 630 - 640 PACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%, PHOSPHATIC SAND-02%  
 PHOSPHATIC GRAVEL-01%, QUARTZ SAND-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: BENTHIC FORAMINIFERA  
 PHOSPHATES, WHERE PRESENT, LIE ISOLATED OR IN A HIGHLY  
 RECRYSTALLIZED MATRIX. THE REMAINDER OF THE SAMPLE IS A  
 FORAM GRAINSTONE.
- 640 - 650 WACKESTONE; VERY LIGHT ORANGE TO MODERATE GRAY  
 15% POROSITY: MOLDIC, INTERCRYSTALLINE, LOW PERMEABILITY  
 GRAIN TYPE: SKELETAL, CRYSTALS  
 20% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, DOLOMITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%, PHOSPHATIC GRAVEL-02%  
 PHOSPHATIC SAND-01%, QUARTZ SAND-01%  
 OTHER FEATURES: VARVED  
 FOSSILS: CORAL, BRYOZOA, MOLLUSKS  
 20% OF SAMPLE IS DOLOMITIZED AND CONTAINS PHOSPHATES
- 650 - 660 LIMESTONE; VERY LIGHT ORANGE  
 15% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY  
 GRAIN TYPE: SKELETAL, CRYSTALS  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-20%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED  
 FOSSILS MODERATELY RECRYSTALLIZED AND BROKEN PRIOR  
 TO RECRYSTALLIZATION

- 660 - 670 PACKSTONE; VERY LIGHT ORANGE  
 20% POROSITY: INTERCRYSTALLINE, INTERGRANULAR  
 LOW PERMEABILITY  
 GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-15%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED  
 FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA  
 LEPIDOCYCLINA COMMON, NUMMULITES OPERCULINOIDESPRESENT
- 670 - 690 GRAINSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL; 85% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-05%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARVED  
 FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, BRYOZOA  
 LEPIDOCYCLINA ABUNDANT, NUMMULITES OPERCULINOIDESPRESENT
- 690 - 700 PACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL; 90% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: FINE TO GRAVEL; POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CALCILUTITE-02%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID, BRYOZOA  
 LEPIDOCYCLINA ABUNDANT, NUMMULITES OPERCULINOIDESCOMMON
- 700 - 712 GRAINSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, VUGULAR  
 GRAIN TYPE: SKELETAL, BIOGENIC  
 95% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS, BRYOZOA  
 LEPIDOCYCLINA ABUNDANT, ORBULINA COMMON
- 712 - 720 AS ABOVE

- 720 - 730 GRAINSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, VUGULAR  
 GRAIN TYPE: SKELETAL, BIOGENIC  
 90% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS, BRYOZOA  
 LEPIDOCYCLINA ABUNDANT, ORBULINA COMMON 20 % OF SAMPLE IS A  
 MILLIOLID GRAINSTONE
- 730 - 740 GRAINSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, VUGULAR  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, BIOGENIC  
 85% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRAVEL; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS, BRYOZOA  
 30% OF SAMPLE IS A MILLIOLID GRAINSTONE SPECIAL SAMPLE  
 735-740 FEET- DOMINANTLY A MILLIOLIDGRAINSTONE
- 740 - 750 PACKSTONE; VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS  
 LEPIDOCYCLINA COMMON
- 750 - 760 PACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL, BIOGENIC, CRYSTALS  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-15%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, UNWASHED SAMPLE  
 FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS, CONES, MOLLUSKS  
 LEPIDOCYCLINA COMMON

- 760 - 770 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE  
 25% POROSITY: MOLDIC, INTERCRYSTALLINE, LOW PERMEABILITY  
 10-50% ALTERED; EUHEDRAL  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
 MODERATE INDURATION  
 CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT  
 CALCILUTITE MATRIX  
 ACCESSORY MINERALS: LIMESTONE-35%  
 OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC, FROSTED  
 FOSSILS: ECHINOID, FOSSIL FRAGMENTS, CONES  
 LEPIDOCYCLINA COMMON SPECIAL SAMPLE 760-775 FEET- PALE  
 ORANGE COLORED WACKESTONE, PARTIALLY DOLOMITIZED SPECIAL  
 SAMPLE 765-767 FEET- GREYISH ORANGE DOLOMITE, PARTIALLY  
 RECRYSTALLIZED LEPIDOCYCLINA PRESENT- NOT IN MATRIX, MOLDIC  
 AND INTERCRYSTALLINE POROSITY (25%)
- 770 - 775 DOLOSTONE; GRAYISH ORANGE  
 20% POROSITY: MOLDIC, INTERCRYSTALLINE, LOW PERMEABILITY  
 50-90% ALTERED; EUHEDRAL  
 GRAIN SIZE: VERY FINE; GOOD INDURATION  
 CEMENT TYPE(S): DOLOMITE CEMENT  
 ACCESSORY MINERALS: LIMESTONE-20%, SPAR-05%  
 OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC  
 POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS  
 LEPIDOCYCLINA COMMON, NOT IN MATRIX
- 775 - 780 WACKESTONE; VERY LIGHT GRAY  
 20% POROSITY: INTERGRAMULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: UNWASHED SAMPLE, MUDDY, SPLINTERY  
 FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, FOSSIL FRAGMENTS  
 LEPIDOCYCLINA COMMON, NOT IN MATRIX. DICTYOCONUS AMERICANUS  
 COMMON PARTIALLY RECRYSTALLIZED. CONTACT BETWEEN OCALA  
 AND AVON PARK BASED ON LITHOLOGY CHANGE AND ABUNDANCE OF  
 DICTYOCONUS AMERICANUS.

- 780 - 790 PACKSTONE; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, BIOGENIC, CALCILUTITE  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: GRANULE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%  
 OTHER FEATURES: POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, CONES, CORAL, MOLLUSKS  
 LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON SOME  
 FOSSILS HAVE BEEN COMPLETELY RECRYSTALLIZED
- 790 - 800 PACKSTONE; VERY LIGHT GRAY  
 20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE  
 75% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: FROSTED  
 FOSSILS: ECHINOID, BRYOZOA, CONES  
 LEPIDOCYCLINA COMMON
- 800 - 810 PACKSTONE; VERY LIGHT GRAY TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 DOLOMITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%  
 OTHER FEATURES: DOLOMITIC, LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: CONES, ECHINOID  
 40% OF SAMPLE IS COMPLETELY DOLOMITIZED, LEPIDOCYCLINA  
 COMMON

- 810 - 820 PACKSTONE; VERY LIGHT GRAY TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 75% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 DOLOMITE CEMENT  
 ACCESSORY MINERALS: SPAR-20%  
 OTHER FEATURES: DOLOMITIC, LOW RECRYSTALLIZATION  
 SPLINTERY  
 FOSSILS: ECHINOID, BENTHIC FORAMINIFERA  
 LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON; 30 %  
 OF SAMPLE IS COMPLETELY DOLOMITIZED
- 820 - 840 PACKSTONE; VERY LIGHT GRAY TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRANULE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 DOLOMITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC  
 SPLINTERY  
 FOSSILS: BRYOZOA, ECHINOID, BENTHIC FORAMINIFERA  
 LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON 10 % OF  
 SAMPLE IS COMPLETELY DOLOMITIZED
- 840 - 850 PACKSTONE; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE  
 85% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%, DOLOMITE-05%, CHERT-01%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, CORAL, CONES  
 LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON



- 850 - 860 PACKSTONE; PINKISH GRAY  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA, CONES
- 860 - 870 WACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, SPLINTERY  
 FOSSILS: ECHINOID, BRYOZOA, BENTHIC FORAMINIFERA  
 DICTYOCONUS AMERICANUS COMMON, LEPIDOCYCLINA COMMON
- 870 - 910 WACKSTONE; VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 65% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: FROSTED  
 FOSSILS: CONES, ECHINOID, MOLLUSKS, BRYOZOA  
 DICTYOCONUS AMERICANUS COMMON, LEPIDOCYCLINA COMMON
- 910 - 915 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE  
 20% POROSITY: INTERCRYSTALLINE, MOLDIC, LOW PERMEABILITY  
 50-90% ALTERED; EUHEDRAL  
 GRAIN SIZE: FINE; GOOD INDURATION  
 CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
 SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: LIMESTONE-25%, CALCILUTITE-05%  
 OTHER FEATURES: POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, BRYOZOA  
 LEPIDOCYCLINA COMMON

- 915 - 920 PACKSTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE  
 25% POROSITY: INTERGRANULAR, INTERCRYSTALLINE, MOLDIC  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 ACCESSORY MINERALS: DOLOMITE-20%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, POOR SAMPLE  
 FOSSILS: BENTHIC FORAMINIFERA, CONES  
 DICTYOCONUS AMERICANUS COMMON, CRIBROBULIMINACUSHMANI  
 PRESENT
- 920 - 930 PACKSTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE, WUGULAR  
 GRAIN TYPE: SKELETAL, CRYSTALS, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, DOLOMITE CEMENT  
 CALCILUTITE MATRIX  
 ACCESSORY MINERALS: DOLOMITE-35%, SPAR-05%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, POOR SAMPLE  
 FOSSILS: BRYOZOA, BENTHIC FORAMINIFERA, CONES  
 LEPIDOCYCLINA COMMN
- 930 - 940 PACKSTONE; VERY LIGHT GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-10%, DOLOMITE-05%  
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID
- 940 - 950 WACKSTONE; VERY LIGHT GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, INTRAGRANULAR  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 65% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: BRYOZOA, CONES  
 DICTYOCONUS AMERICANUS COMMON, LEPIDOCYCLINA COMMON

- 950 - 956 LIMESTONE; VERY LIGHT GRAY  
 15% POROSITY: VUGULAR, LOW PERMEABILITY  
 GRAIN TYPE: CRYSTALS, SKELETAL, CALCILUTITE  
 30% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: CRYPTOCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO GRAVEL; GOOD INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-30%, CALCILUTITE-05%  
 OTHER FEATURES: HIGH RECRYSTALLIZATION, FROSTED  
 FOSSILS: BRYOZOA, CONES, ECHINOID
- 956 - 960 PACKSTONE; VERY LIGHT ORANGE TO VERY LIGHT GRAY  
 20% POROSITY: INTERGRANULAR, INTRAGRANULAR  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
 65% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-05%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: CONES, ECHINOID, BRYOZOA  
 LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON
- 960 - 970 WACKESTONE; VERY LIGHT GRAY TO VERY LIGHT ORANGE  
 25% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 POSSIBLY HIGH PERMEABILITY  
 GRAIN TYPE: SKELETAL, CALCILUTITE  
 75% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 ACCESSORY MINERALS: SPAR-04%, DOLOMITE-03%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, CHALKY, SPLINTERY  
 FOSSILS: CORAL, BRYOZOA, MOLLUSKS, FOSSIL FRAGMENTS  
 DICTYOCONUS AMERICANUS ABUNDANT
- 970 - 980 WACKESTONE; VERY LIGHT GRAY TO VERY LIGHT ORANGE  
 20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
 GRAIN TYPE: CALCILUTITE, SKELETAL  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL  
 POOR INDURATION  
 CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
 ACCESSORY MINERALS: SPAR-15%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
 FOSSILS: ECHINOID

980 - 1000 WACKESTONE; VERY LIGHT GRAY TO VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE  
GRAIN TYPE: SKELETAL, CALCILUTITE, CRYSTALS  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL  
POOR INDURATION  
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX  
ACCESSORY MINERALS: SPAR-20%  
OTHER FEATURES: LOW RECRYSTALLIZATION, FROSTED  
FOSSILS: ECHINOID, BRYOZOA, FOSSIL FRAGMENTS  
LEPIDOCYCLINA COMMON, DICTYOCONUS AMERICANUS COMMON

1000 TOTAL DEPTH

**APPENDIX A-3**

**UECPA WELL CUTTINGS DESCRIBED BY THE  
SFWMD, USGS, AND OTHERS**



## LIST OF FIGURES - APPENDIX A-3

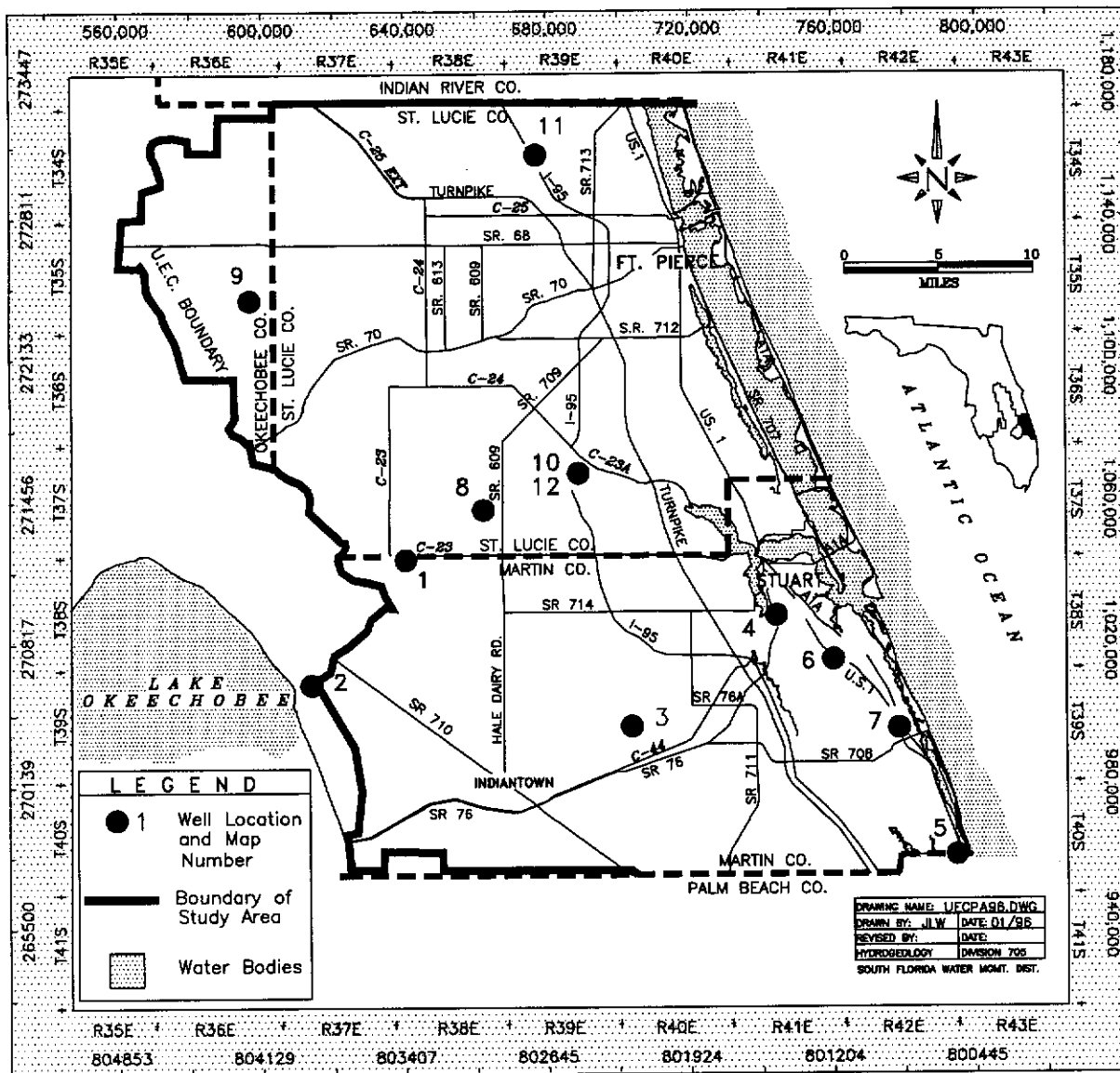
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**FIGURE A-3.1** Locations of UECPA Wells with Cuttings Described by the SFWMD, USGS, and Others



**TABLE A-3.1 Index of UECPA Well Cuttings Described by the SFWMD, the USGS and Others**

Upper East Coast Planning Area						
PAGE No.	SFWMD WELL NAME	* MAP #	TOTAL DEPTH FEET NGVD	STATE PLANARS EAST NORTH (Feet)		GEOPHYS. AVAILABLE
<b>Martin County</b>						
A-355	C-23 Well #1	1	180	641000	1043900	No
A-356	L-65 Well #2	2	180	614400	1008600	No
A-357	Caulkin's Grove	3	160	704550	996900	No
A-358	State Route 76 Well #3	4	240	745300	1028000	No
A-359	PB-3	5	80	795900	960400	No
A-360	VS-PW2 (Vista Salerno)	6	110	761400	1015600	No
A-361	HSBC 32W (M-1120)	7	215	779850	996200	No
<b>St. Lucie County</b>						
A-362	STL-185	8	118	662913	1058109	No
A-363	STL-213	9	115	597159	1117373	No
A-364	STL-214 (PSL-125N)	10	134	689672	1068323	No
A-365	STL-264-75N	11	125	678000	1158042	No
A-366	PSLW	12	130	689672	1068323	No

\* Map Number as it appears in Figure A-3.1



C-23 - Well #1

Depth	
0-10	sand, medium grain, dusky brown; shells, white
10-20	calcareous sandstone, sparry calcite, triable, white
20-30	calcareous sandstone, sparry calcite, coquinoid, light to medium gray
30-40	calcareous sandstone, sparry calcite, coquinoid, light to medium gray
40-50	calcareous sandstone, sparry calcite, coquinoid, light to medium gray
50-60	calcareous sandstone, sparry calcite, coquinoid, light to medium gray
60-70	calcareous sandstone, sparry calcite, coquinoid, light to medium gray
70-80	calcareous sandstone, sparry calcite, coquinoid, light to medium gray, fine sand
80-90	calcareous sandstone, sparry calcite, coquinoid, light to medium gray, fine sand
90-100	calcareous sandstone, sparry calcite, coquinoid, medium gray; fine grain sand; dark green clay
100-110	calcareous sandstone, sparry calcite, coquinoid, medium gray; very fine grain sand
110-120	calcareous sandstone, sparry calcite, coquinoid, medium gray; very fine grain sand
120-130	calcareous sandstone, sparry calcite, medium gray; increasing amount of broken shells; very fine grain sand
130-140	calcareous sandstone, sparry calcite, medium gray; dark green clay, broken shell
140-150	dark green clay, broken shell
150-160	dark green clay, broken shell
160-170	dark green clay
170-180	dark green clay

## L-65 - Well #2

### Depth

0-10	sand, medium grain; light brown
10-20	shell, broken, white; sand medium grain, brown
20-30	shell, broken, white to gray; calcareous sandstone, light brown
30-40	shell, broken, white to gray, calcareous sandstone, coquinoid, gray
40-50	shell, broken, white to gray, calcareous sandstone, gray
50-60	shell, broken, white to gray; calcareous sandstone, gray; sandy limestone, white to light brown
60-70	sand, medium grain, olive gray, broken shells
70-80	shells, broken, light to dark gray; fine sand
80-90	shells, broken, light to dark gray; sand fine to medium grain
90-100	shells, broken, light gray; calcareous sandstone, gray; green clay
100-110	clay green; shells; calcareous sandstone
110-120	clay green; shells; calcareous sandstone
120-130	clay green; broken shell
130-140	shells, broken; sand, fine grain; calcareous sandstone
140-150	sand, fine grain, greenish gray; broken shell
150-160	green clay
160-170	green clay
170-180	green clay

## Caulkins Grove - Well #4

### Depth

0-10	sand, medium grain, moderate brown
10-20	shell, light gray to brown; medium grain sand; 10% limestone
20-30	shell, broken, very light gray to dark gray
30-40	shell, broken, very light gray to dark gray; medium grain sand
40-50	shell, light brown, light gray to dark gray; fine grain sand
50-60	shell, light brownish gray; fine grain sand
60-70	shell, broken, light gray to dark gray; fine grain sand
70-80	shell, brown, light gray to dark gray; fine grain sand, silt
80-90	shell, broken, light gray to dark gray; fine to medium grain sand
90-100	shell, broken, light gray to dark gray; fine grain sand
100-110	limestone, medium gray; shells, light to dark gray; white silt
110-120	shell, broken, brown, light to dark gray, limestone medium gray; fine grain sand
120-130	shell, broken, brown, light to dark gray, limestone medium gray; fine grain sand
130-140	shell, broken, light to dark gray; fine grain sand, silt
140-150	clay, green
150-160	clay, green

### State Route 76 - Well #3

Depth

0-10	sand, fine grain, light gray		
10-20	sand, medium brown, fine grain		
20-30	sand, medium brown, fine grain and silt		
30-40	clay, greenish black; shells, light gray to light brown		
40-50	calcareous sandstone, sparry calcite, greenish gray; shells light to dark gray		
50-60	calcareous sandstone, sparry calcite, coquinoid; light gray		
60-70	calcareous sandstone, sparry calcite, coquinoid; light gray; sandy limestone		
70-80	calcareous sandstone, sparry calcite, coquinoid; light gray; sandy limestone		
80-90	calcareous sandstone, coquinoid; light gray; sandy limestone, broken shells		
90-100	calcareous sandstone, sparry calcite, coquinoid, light gray, sandy limestone		
100-110	calcareous sandstone, sparry calcite, light gray; shells broken, light to dark gray		
110-120	calcareous sandstone, sparry calcite, light to medium gray; sandy limestone		
120-130	calcareous sandstone, sparry calcite, coquinoid, light to medium gray		
130-140	calcareous sandstone, sparry calcite, coquinoid, light to medium gray; shells broken, pinkish gray		
140-150	calcareous sandstone, sparry calcite, coquinoid, light to medium gray; shells broken, pinkish gray		
150-160	calcareous sandstone, sparry calcite, coquinoid, light to medium gray; shells broken, pinkish gray		
160-170	calcareous sandstone, sparry calcite, coquinoid, medium gray; green clay		
170-180	calcareous sandstone, sparry calcite, coquinoid, medium gray; green clay		
180-190	green clay	210-220	green clay
190-200	green clay	220-230	green clay
200-210	green clay	230-240	green clay



Test Site: Tequesta Park

WELL LOG

Well: PB-3

Location: 200 foot south of the Northeast corner of Tequesta Park,  
near Tequesta, Florida.

Date: Mar 1974

Driller: Alsay - Pippin Drilling Co.

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Depth (feet)	Description of Material
0-15	White sand
15-26	Yellow sand
26-36	Yellow sand with some shell
36-41	Sand and streaks of sandstone
41-46	Fine sand and hard sandstone
46-51	Fine to coarse sand
51-56	Sand and streaks of sandstone
56-60	Sandstone with layers of sand
60-75	Sandstone, fine to very coarse grained, hard
75-80	Sandstone with shells, hard.

INTRACOASTAL UTILITIES  
 AQUIFER TESTING PROGRAM  
 PUMPED WELL LOG  
 VS-PW2

DEPTH (feet)	DESCRIPTION
0-10	Dark brown sand and hardpan
10-20	Same as above
20-30	Fine gray sand and some clay
30-40	Gray sand with fine broken shell
40-50	Same as above
50-60	Same as above with coarser shell
60-70	Very fine light gray sand with broken shell and clay
70-80	Same as above
80-90	Very fine gray sand with clay. Formation soupy
94	Sandstone, cemented shell and limestone to 110'

Casing of black, schedule 40 steel installed to 90 feet.  
 Producing zone from 94 feet to 110 feet.

Identification No. Hobe Sound Office No. HSBC 32W

County Martin Lat-Long 270418 0800824.02

Twp Gomez Grant Rg \_\_\_\_\_ Sec \_\_\_\_\_ Date 8/27/79

Location Hobe Sound pump test on property of 1st Baptist Church.

Driller P&W Drilling Owner USGS Log by W.A. Long

Depth	Time	Hardness	Description of Formation
0-6	0945	Soft	Sand, fine to medium, white.
6-12		Soft	Sand, fine to medium, rust orange.
12-22	0914	Med. Soft	Sand, fine to coarse 10%, slightly cemented, rust orange.
22-40	0919	Med. Soft	Sand, fine to coarse 20%, slightly cemented, rust orange.
40-43	0927	Hard	Sandstone, limey, cemented, cuttings angular, white.
43-48	0940	Hard	Sandstone, limey, cemented, cuttings angular, clear with shell 10%.
48-53	1010	Med. Hard	Sandstone, clear, cemented in nodule buckshot size with shell 10%.
53-63	1027	Hard	Sandstone, clear with 20% shell cuttings irregular, angular to nodular.
63-75	1033	Hard	Sandstone, as above. .5 to 1 cm diameter.
75-84	1048	Hard	Sandstone, clear to gray calcite cemented cuttings are irregular to angular with some round nodules .5 cm to 1.5 cm, looks to be good water bearing mixed mud.
		Very Hard	
		75-77 FT)	
84-89	1105	Hard	As above (bones).
89-93		Med. Soft	Clay, gray, sandy.
93-99		Hard	Limestone, cemented, sandy and shells, gray.
99-103	1120	Med. Soft	Clay, gray, sandy, tough.
103-105		Med.	Sand and shell, gray, fine to medium, sand, small broken shell, stopped, mixed mud.
105-118	1220	Hard	Shell, broken, small with fine sand cemented, tan to light gray.
118-125	1235	Hard	Shell, broken, small with fine sand cemented, gray.
	1241		
125-143	1300	Hard	As above, a little gray clay, very thin streaks.
143-153	1305	Hard	Sandstone, with little shell and marl.
153-163	1330	Hard	Shell, broken small, with thin lenses of sandstone and marl.
163-175	1340	Med.	Shell, marl, sand, streaks of sandstone, gray.
175-183	1404	Med. to Hard in SS	Sandstone, gray and marl (gray, sandy clay to white sandy clay).
183-195	1510	Very Hard	Sandstone 70%, and clay, sandy, gray.
195-203	1553	XX Hard	Sandstone, gray and green, calcite cemented? with thin marly clay streaks, cuttings flat, angular.
203-205	1600	X Hard	As above.
205-210		Med.	Clay, light gray to light green and silt, sandy green.
210-215	1610	Med. Soft	Clay, sandy, dark gray green, balls in sieve.

**SITE:** McCarty Ranch, Lat. 27 14 38, Long. 80 29 55  
**REPORT:** McCarty Ranch Aquifer Performance Test, Unpublished USGS Rpt.  
**WELL #:** STL 185

DEPTH (LSD)	LITHOLOGIC DESCRIPTION
0'-3'	Sand, organics, trace of clay
3'-6'	Clay and fine sand
6'-15'	Limestone, sandy, some shell clay and sand
15'-35'	Shell
35'-40'	Fine sand
40'-50'	Shell and limestone, sandy
50'-103'	Fine sand, scattered shell layers, trace of clay
103'-118'	Shell, lost circulation, some sand
118'-TD	

**SITE:** Ft. Pierce Interchange, Lat. 27 24 27, Long. 80 42 2  
**REPORT:** Ft. Pierce Interchange Aquifer Test Report, Unpublished USGS  
**WELL #:** PW (STL 213)

DEPTH (LSD)	LITHOLOGIC DESCRIPTION
0'-29'	Sand fine at top grading down to fine to coarse
19'-25'	Muck, black, clayey with fine to coarse sand
25'-32'	Shell, small whole and broken fragments with sand
32'-51'	Limestone, loosely cemented with broken shell
51'-54'	As above with clayey sand and whole shell
54'-85'	Sand and shell interbedded with 30%-50% gray clay stringers
85'-102'	Sand and shell, hard, cemented, trace of gray clay near base
102'-112'	Sand, shell and sandstone, gray very fine to fine grain
112'-115'	Clay sandy, greenish, dry

**SITE:** Savage Road, St. Lucie County, Lat. 27 16 18, Long. 80 24 57  
**REPORT:** Port St. Lucie Aquifer Test Report, Unpublished USGS Report  
**WELL #:** STL 214 (PSL -125N)

DEPTH (LSD)	LITHOLOGIC DESCRIPTION
0'-4'	Sand gray, dark brown organic layer 3'-4'
4'-11'	Sand and clay, blue gray
11'-35'	Sand, fine brown w/streaks of clayey sd and organics
35'-39'	Sand with some shell fragments
39'-70'	SS with soln features near top, clay streaks near base with thick beds of sand and shell
70'-75'	Clay, silty with whole shells, phosphatic
75'-130'	Interbedded sand, sandstone, shell limestone and clay, cream colored to gray
130'-134'	Marl
@134'	Dark green sandy clay

**SITE:** Indrio Road, USGS, Lat. 27 31 7, Long. 80 27 03  
**REPORT:** Indrio Aquifer Test Report, USGS, George W. Hill, Unpubl. Report  
**WELL #:** STL 264

DEPTH (LSD)	LITHOLOGIC DESCRIPTION
0'-8'	Fine sand with clay
8'-12'	Clay with 40% sand, blue-green
12'-39'	Shell, small broken, with fine sand, gray to black
39'-42'	Sandstone, silty
42'-58'	Clay, blue gray
59'-63'	Limestone, green-gray with clay streaks
63'-89'	Sandstone and sand, interbedded with broken shell
89'-103'	Clay, light gray-green phoshatic
103'-105'	Shell gastropods and bivalues
105'-125'	Clay, light gray-green with green increasing with depth

**APPENDIX B**

**GEOPHYSICAL LOGS**





## LIST OF FIGURES - APPENDIX B

<b>Figure</b>		<b>Page</b>
B.1	Locations of Martin County Wells with Geophysical Logging Information as Listed in Table B.1 .....	B-5
B.2	Locations of St. Lucie County Wells with Geophysical Logging Information as Listed in Table B.1 .....	B-7

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
B.1	Index of Geophysically Logged Wells in the UECPA .....	B-9











**TABLE B.1 Index of Geophysically Logged Wells in the UECPA**

PAGE No.	SPYMD GEOPHYS I.D.#	* MAP #	TOTAL DEPTH FEET (BLS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	FGS WELL NAME	GEOPHYS. AVAILABLE
<b>Martin County</b>								
B-13	085000045	71	991	15	755137	1033035		C, E, EL, F, G, T, FR, SP
B-14	085000046	72	1088	27	760322	1041348		C, E, F, N, G, FR, T, SP
B-15	085000052	70	1220	28	647112	984337		C, E, T, SP
B-16	085000053	73	1157	16	758942	1031140		C, E, G, T, SP
B-17	085000054	74	1091	05	767575	1023218		C, E, EL, F, NG, T, FR, SP
B-18	085000056	76	1200	12	632994	1015995		C, E, ELF, N, G, FR, T, SP
B-19	085000057	75	1100	20	633253	1019631		C, E, ELF, N, G, FR, T, SP
B-20	085000058	77	1340	20	668237	970484		C, EL, FG, FR, T
B-21	085000059	78	1021	20	761509	1025199		C, G, T, E, SP
B-22	085000060	79	1243	20	658684	984784		C, EL, FG, N, FR, T, SP
B-23	085000061	47	170	9	776688	962387	W-50067	E, EL, G
B-24	085000062	49	182	22	740620	954284	W-50069	E, EL, G
B-25	085000063	50	160	17	754551	985772	W-50070	E, EL, G
B-26	085000064	51	140	25	723287	995991	W-50071	E, EL, G
B-27	085000065	52	162	27	684323	996504	W-50072	E, EL, G
B-28	085000066	53	122	27	684269	1010942	W-50073	E, EL, G
B-29	085000067	54	130	23	725760	990955	W-50074	E, EL, G
B-30	085000068	55	130	30	668575	1043491	W-50075	E, EL, G
B-31	085000069	56	162	34	695320	982418	W-50076	E, EL, G
B-32	085000070	57	170	25	679628	972349	W-50077	E, EL, G
B-33	085000071	58	155	22	715979	1043916	W-50078	E, EL, G
B-34	085000072	59	162	32	697920	1044027	W-50079	E, EL, G
B-35	085000073	60	158	45	651983	1013839	W-50080	E, EL, G



TABLE B.1

Index of Geophysically Logged Wells in the UECPA  
(Continued)

PAGE No.	SPWMD GEOPHYS I.D.#	* MAP #	TOTAL DEPTH FEET (BLS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	FGS WELL NAME	GEOPHYS. AVAILABLE
B-36	085000074	61	142	31	619002	1016658	W-50081	E, EL, G
B-37	085000075	62	480	30	670019	1044203	W-16290	C, D, E, EL, G, N
B-38	085000076	63	148	24	646058	980698	W-16284	E, EL, G
B-39	085000077	64	157	17	749150	1014020	W-16287	E, EL, G
B-40	085000078	65	182	16	748140	1059146	W-16283	E, EL, G
B-41	085000079	66	155	30	685153	1032152	W-16400	C, D, E, EL, G, N, SP
B-42	085000080	67	242	12	771772	979521	W-16397	D, E, ELG, N SP
B-43	085000081	68	130	22	728055	986525	W-16398	C, E, EL, G, SP
B-44	085000082	69	182	13	751003	1003826	W-16460	C, D, E, EL, G, N, SP
<b>Okeechobee County</b>								
B-45	093000029	85	1039	67	551354	1129710		C, F, E, N, G FR, T, SP
B-46	093000042	84	962	51	569511	1102271		EL, N, G, T, SP
B-47	093000052	83	1181		562688	1083782		C, E, EL, G, F, FR, F, S, T, SP
<b>St. Lucie County</b>								
B-48	111000040	28	786	20	662479	1121219		C, E, EL, N, F, G, FR, T, SP
B-49	111000041	29	1272		623023	1056656		C, E, EL, SP
B-50	111000042	30	1060	5	722662	1156952		C, E, F, N, G T, SP
B-51	111000043	31	863		754880	1073931		C, E, ELF, N G, FR, T, SP
B-52	111000044	32	876	5	754882	1073628		C, E, F, G, T
B-53	111000045	33	1100	5	721463	1162095		C, E, G, FR, T, SP

TABLE B.1

Index of Geophysically Logged Wells in the UECPA  
(Continued)

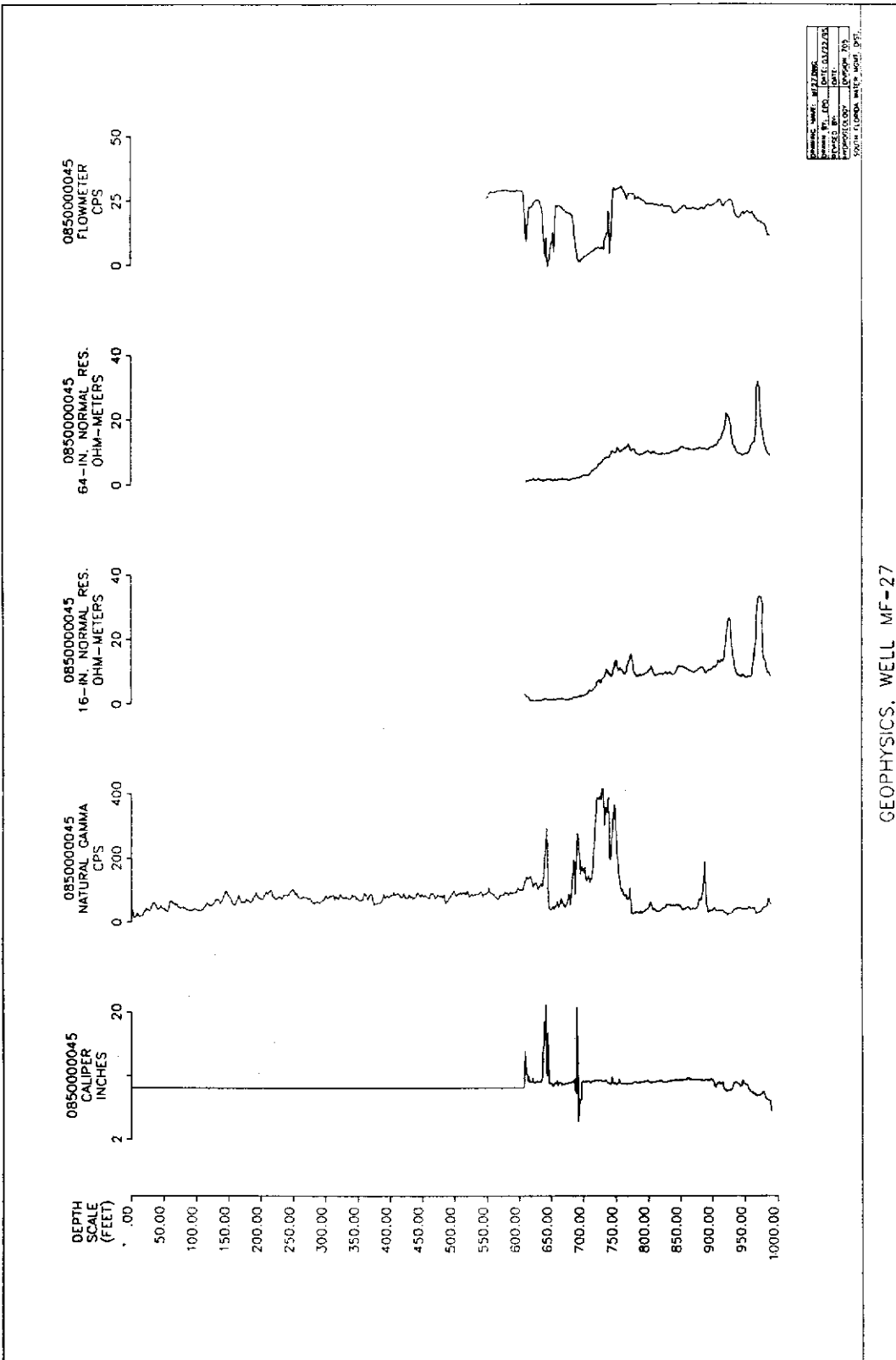
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B-54	111000046	34	1100	5	724669	1152217		C, EL, NG, T SP
B-55	111000047	35	1230	5	749646	1088844		C, E, ELN, G FR, T, SP
B-56	111000048	36	800	25	687102	1077803		G, T
B-57	111000049	37	893		662774	1092542		C, F, G, FR, T
B-58	111000050	38	1000	25	662866	1092240	W-17136	C, E, F, G, N T
B-59	111000052	39	1262		740646	1088743		C, E, EL, F, FR, G, N, T
B-60	111000053	40	911		647754	1130958		C, E, EL, F, FR, G, N, T
B-61	111000054	41	1304		606948	1059741		C, E, EL, FR G, N, T
B-62	111000055	18	142	17	702639	1109788	W-16288	C, E, G, N, SP
B-63	111000056	1	134	22	657595	1102620	W-16289	C, D, E, EL, G, N
B-64	111000057	22	134	23	682982	1130900		C, D, EL, G, N, SP
B-65	111000058	21	137	23	683162	1130901	W-16936	C, D, E, EL, G, N, SP
B-65	111000059	23	142	25	654904	1098673	W-16383	C, D, EL, G, N, SP
B-66	111000060	3	122	26	647013	1111870	W-16384	D, G, N
B-66	111000061	4	112	26	647078	1118737	W-16385	C, D, G, N
B-67	111000062	5	110	26	646957	1127218	W-16371	C, D, G, N
B-67	111000063	6	115	25	646998	1140447	W-16372	C, D, G, N
B-68	111000064	7	122	30	616302	1102581	W-16373	C, D, E, G, N SP
B-69	111000065	8	120	30	612626	1095300	W-16374	C, D, E, G, N SP
B-70	111000066	9	154	27	720126	1126642	W-16375	C, E, G, SP
B-71	111000067	10	115	24	671191	1128122	W-16376	D, E, G, SP, N

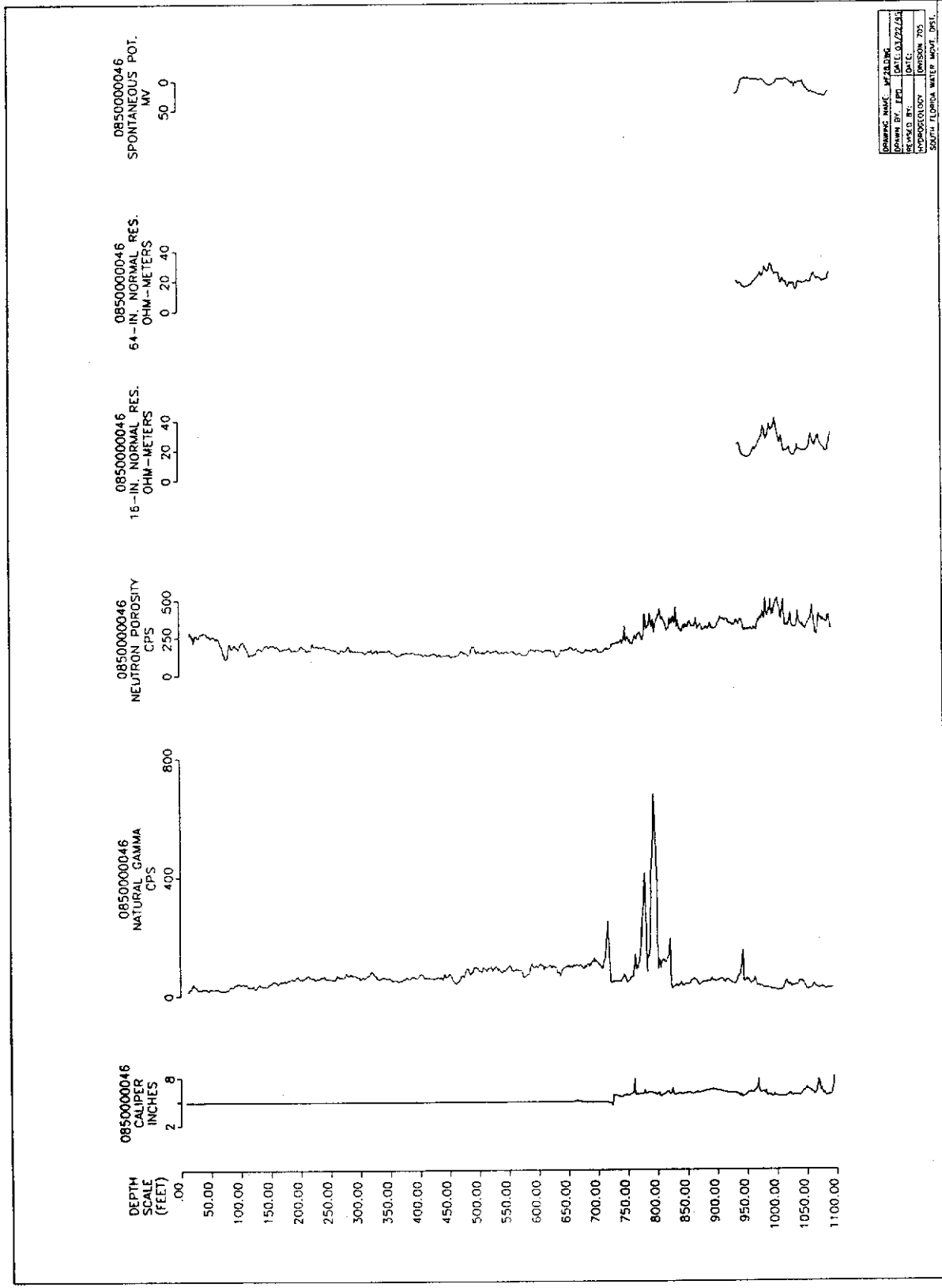
**TABLE B.1 Index of Geophysically Logged Wells in the UECPA  
(Continued)**

PAGE No.	SFMD GEOPHYS I.D.#	* MAP #	TOTAL DEPTH FEET (ELS)	G.L. FEET NGVD	STATE EAST (FEET)	PLANARS NORTH (FEET)	FGS WELL NAME	GEOPHYS. AVAILABLE
B-72	111000068	11	119	33	604850	1103559	W-16377	C, D, E, G, N SP
B-73	111000069	2	118	22	706690	1146162	W-16386	C, D, E, G, N SP
B-74	111000070	25	115	30	620738	1100574	W-16933	EL, G, N, SP
B-75	111000071	12	130	17	724089	1110709	W-16390	D, E, G, N, SP
B-76	111000072	13	130	24	663136	1159191	W-17025	C, D, E, EL, G, SP
B-77	111000073	14	140	14	709240	1105984	W-16530	C, D, E, EL, G, SP
B-78	111000074	16	320	32	622280	1063621	W-16931	C, D, E, G, N SP
B-79	111000075	17	142	22	692937	1159222	W-16964	C, E, EL, G, SP
B-80	111000076	46	402		642376	1123062		C, D, E, EL, F, G, N, S, T
B-81	111000077	44	1540	25	667466	1091955	W-16543	C, D, DI, FR G, N, S, T, F

\* Map Number as it appears in Figures B.1 and B.2

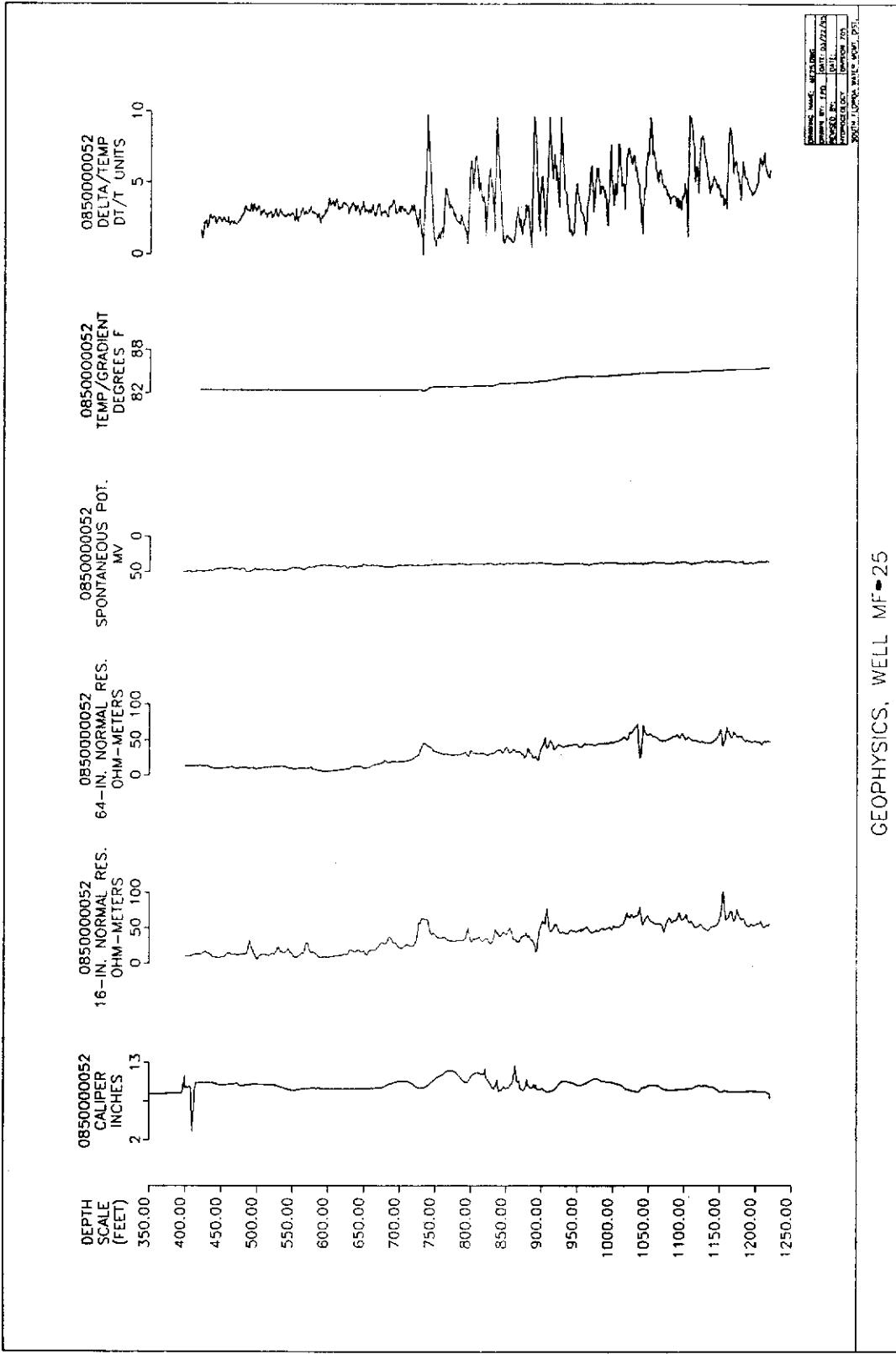
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INDUCTION/E=ELOG/EL=6' LAT/F=FLOWMETER/G=GAMMA  
FR=FLUID RESISTIVITY/N=NEUTRON/S=SONIC/T=TEMPERATURE





COMPANY NAME	WFAIRING
WELL NO.	MF-28
DATE	03/22/54
LOGGED BY	DATE
INTERPRETER	WILSON JDS
SCALE	100% FLUIDS WATER 100% OIL

GEOPHYSICS, WELL MF-28



GEOPHYSICS, WELL MF-25

DEPTH SCALE (FEET)  
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 50.00  
 100.00  
 150.00  
 200.00  
 250.00  
 300.00  
 350.00  
 400.00  
 450.00  
 500.00  
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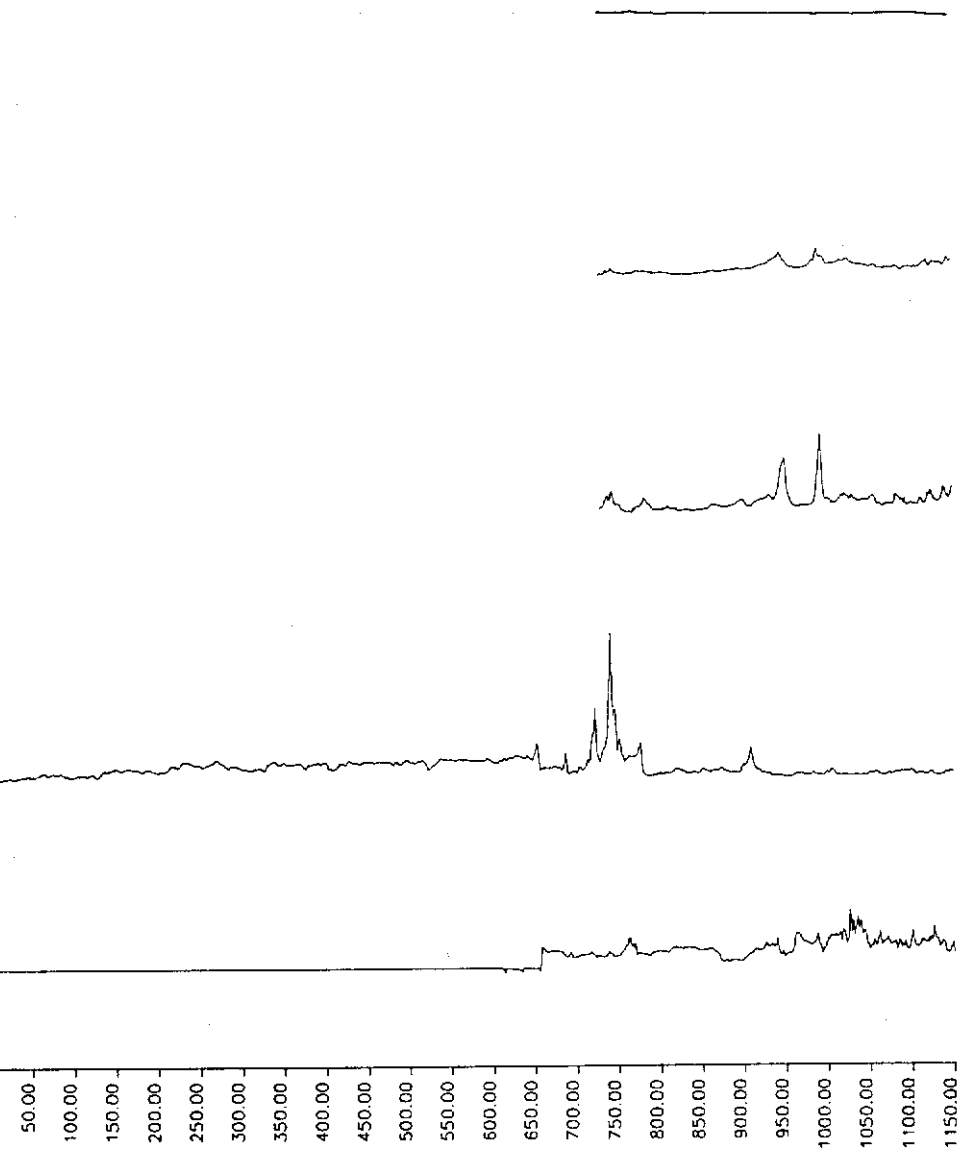
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 OHM-METERS  
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0850000053  
 64-IN. NORMAL RES.  
 OHM-METERS  
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0850000053  
 SPONTANEOUS POT.  
 MV  
 0 50



FRANCIS NAME: JF ALDRIDGE	WELL NO: 0850000053
FRANCIS NO: 101	DATE: 01/22/24
SYNOPSIS BY: JF ALDRIDGE	HYDROLOGIST: DANSON ZIS
SOUTH FLORIDA WATER MGMT. DIST.	

GEOPHYSICS, WELL MF-30

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SPONTANEOUS POT.  
MV

0850000054  
64-IN. NORMAL RES.  
OHM-METERS

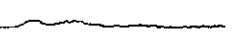
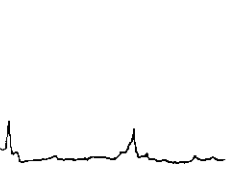
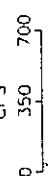
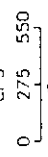
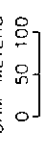
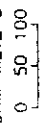
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16-IN. NORMAL RES.  
OHM-METERS

0850000054  
NEUTRON POROSITY  
CPS

0850000054  
NATURAL GAMMA  
CPS

0850000054  
CALIPER  
INCHES

DEPTH SCALE (FEET)  
00 50.00 100.00 150.00 200.00 250.00 300.00 350.00 400.00 450.00 500.00 550.00 600.00 650.00 700.00 750.00 800.00 850.00 900.00 950.00 1000.00 1050.00 1100.00



FORMING NAME: M-31 DWG  
DRAWN BY: ERM DATE: 03/24/05  
REUSED BY: DATE:  
HYDROGEOLOGY DIVISION 703  
SOUTH FLORIDA WATER MGMT. DIST.

GEOPHYSICS, WELL MF-31



DEPTH SCALE (FEET)  
 .00  
 50.00  
 100.00  
 150.00  
 200.00  
 250.00  
 300.00  
 350.00  
 400.00  
 450.00  
 500.00  
 550.00  
 600.00  
 650.00  
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 750.00  
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 850.00  
 900.00  
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 1200.00

0850000056  
 CALIPER  
 INCHES  
 2 14

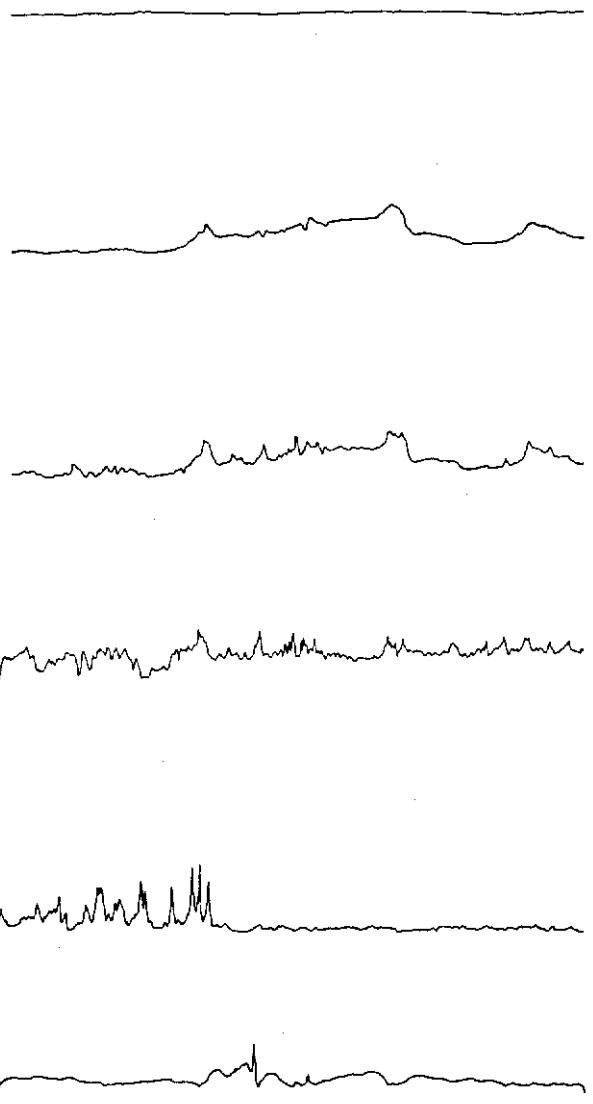
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 CPS  
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0850000056  
 NEUTRON POROSITY  
 CPS  
 0 250 500

0850000056  
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 OHM-METERS  
 0 50 100

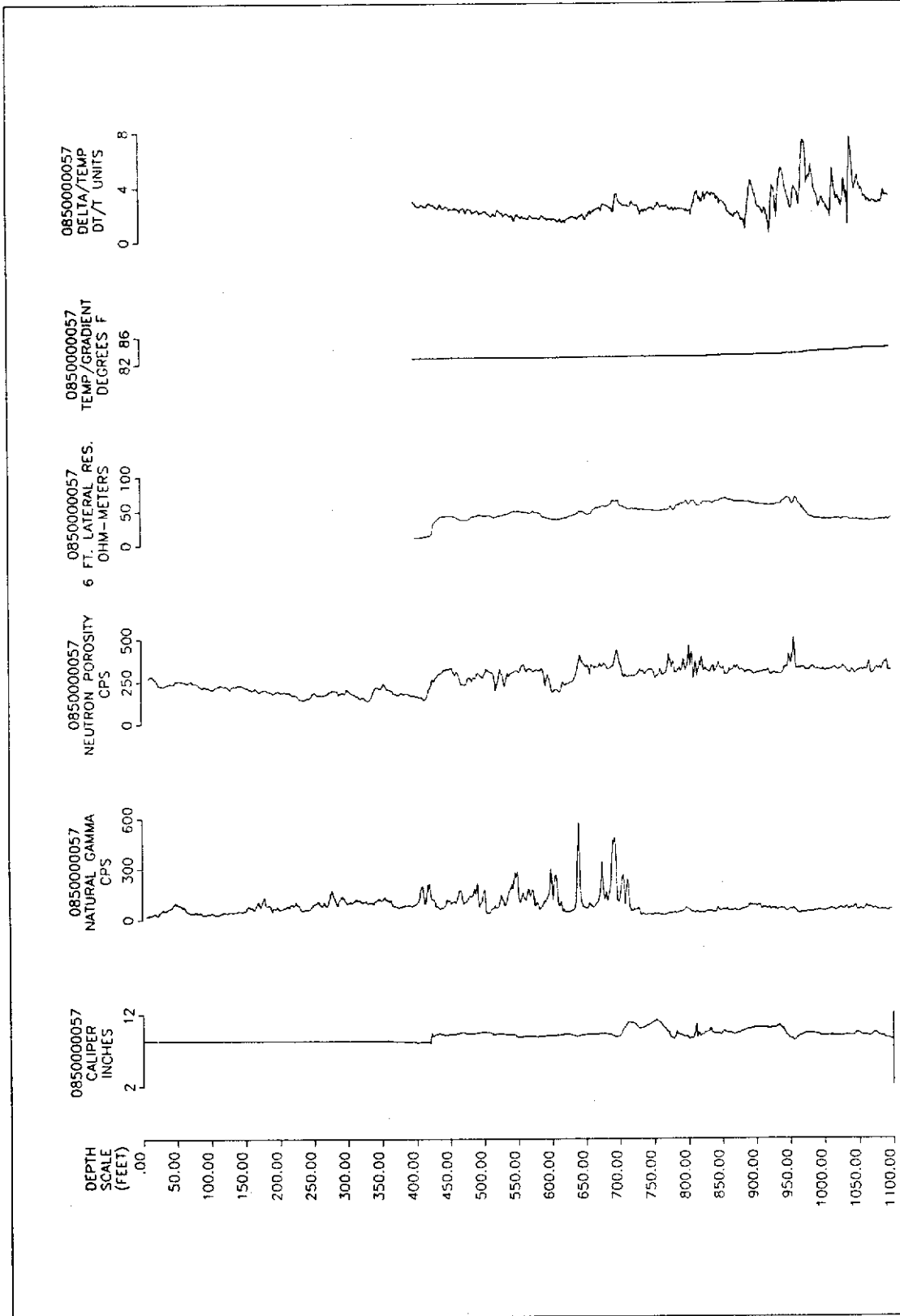
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 64-IN. NORMAL RES.  
 OHM-METERS  
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0850000056  
 SPONTANEOUS POT.  
 OHM-METERS  
 0 50 0



FORMER NAME	WELLING
WELL NO.	MF-33
LOG NO.	0850000056
LOG DATE	1958
LOG TIME	10:00 AM
LOG LOCATION	WELL 205
LOG TYPE	SPONTANEOUS POT.

GEOPHYSICS. WELL MF-33



DRAWING NAME: MF-32 LOG	DATE: 03/23/55
DRAWN BY: JPD	CART:
REVISIONS BY:	DWSPOR 705
SHEET: FLORIDA WELLS LOGS, 057	

GEOPHYSICS, WELL MF-32

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FLOWMETER  
CPS  
0 25 50

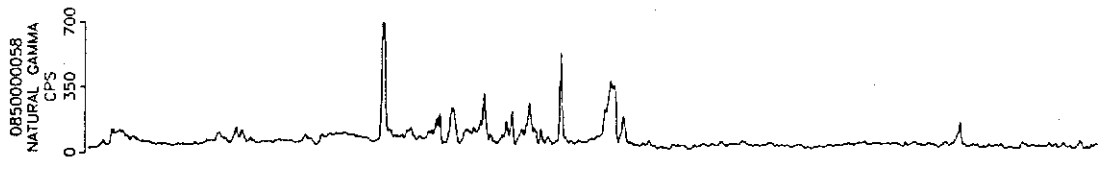
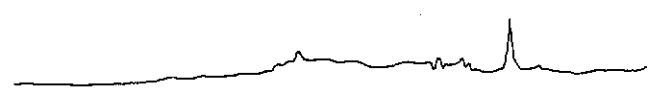
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OHM-METERS  
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CPS  
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0850000058  
NATURAL GAMMA  
CPS  
0 350 700

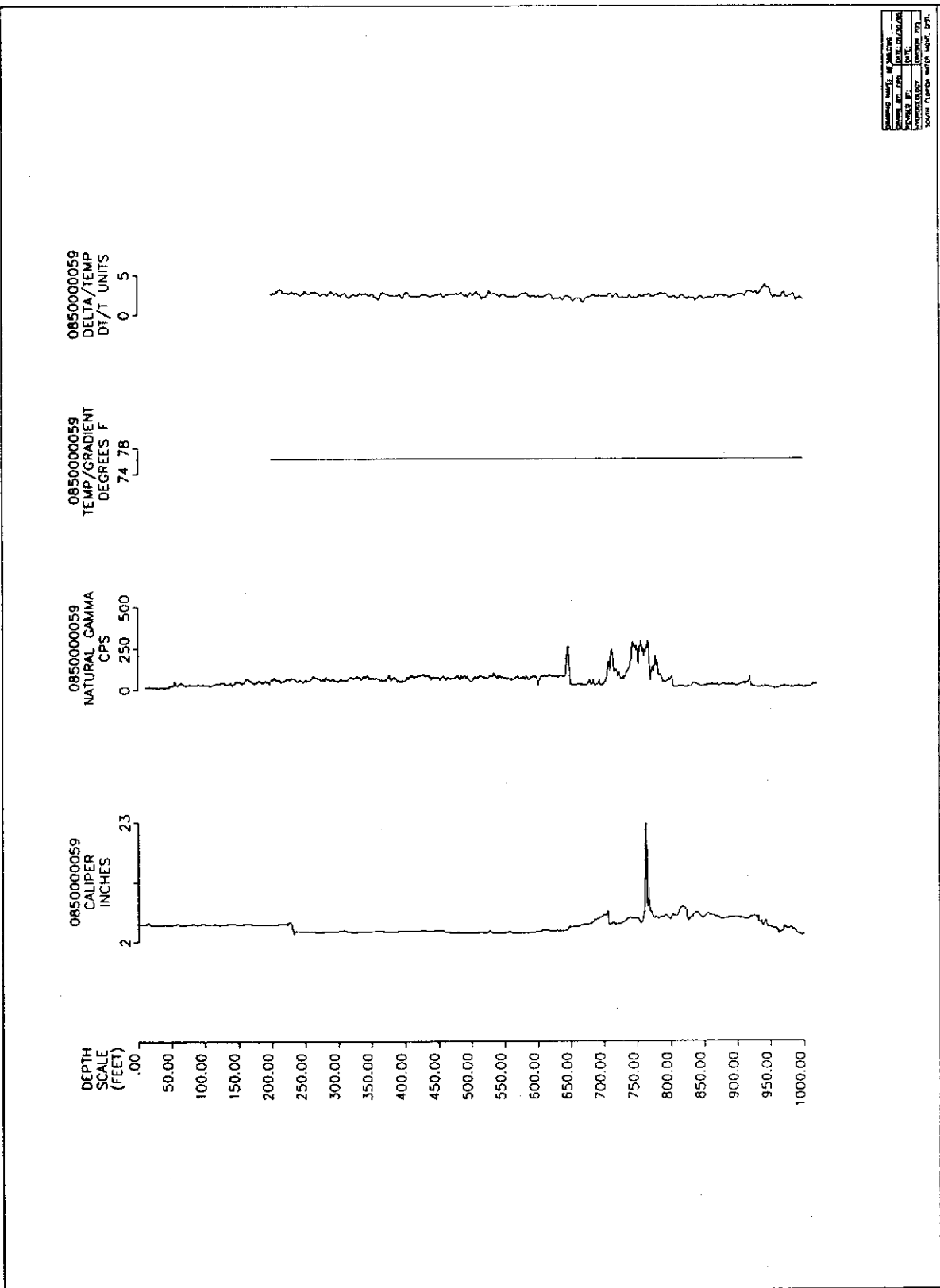
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INCHES  
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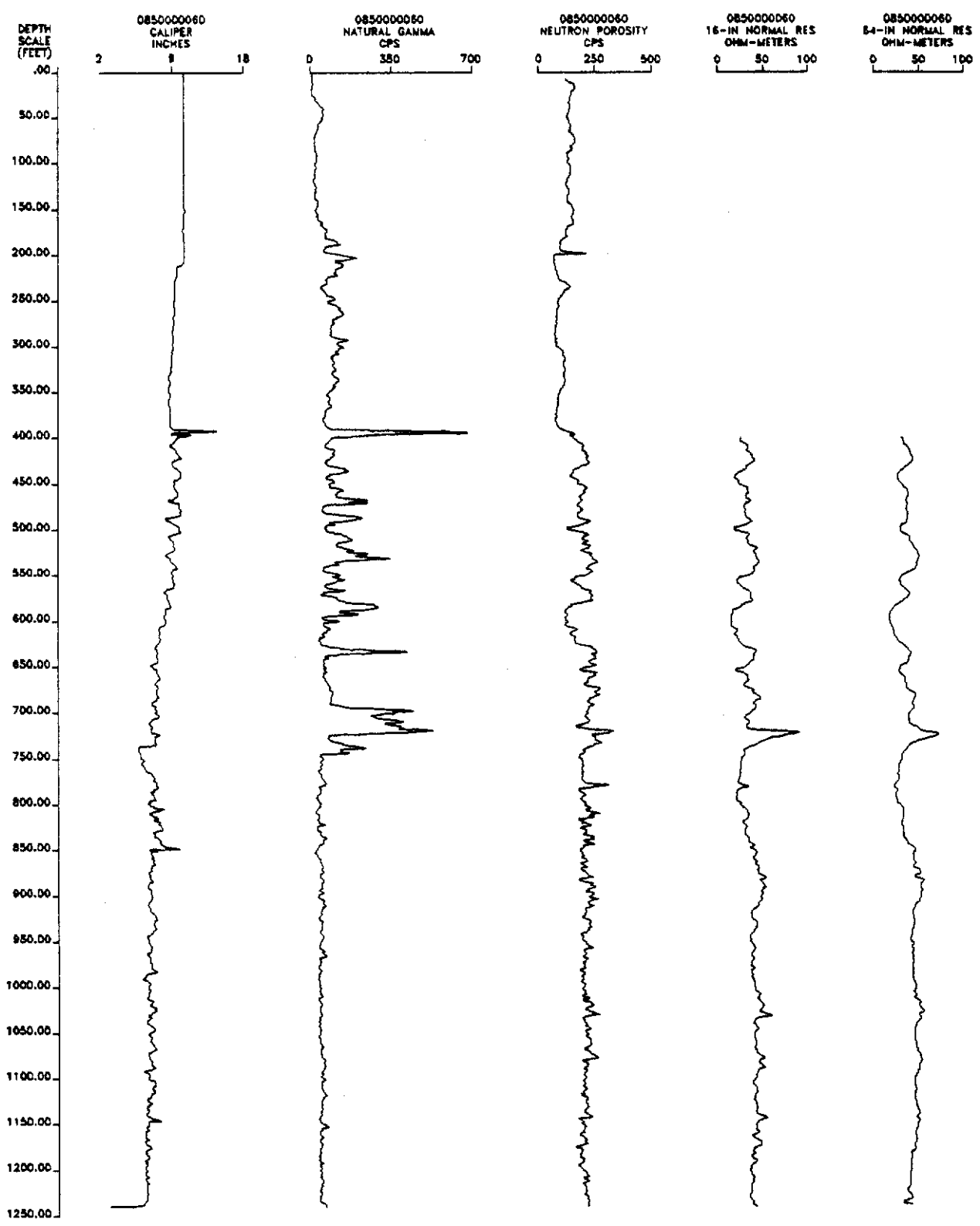
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SCALE  
(FEET)  
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100.00  
150.00  
200.00  
250.00  
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400.00  
450.00  
500.00  
550.00  
600.00  
650.00  
700.00  
750.00  
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850.00  
900.00  
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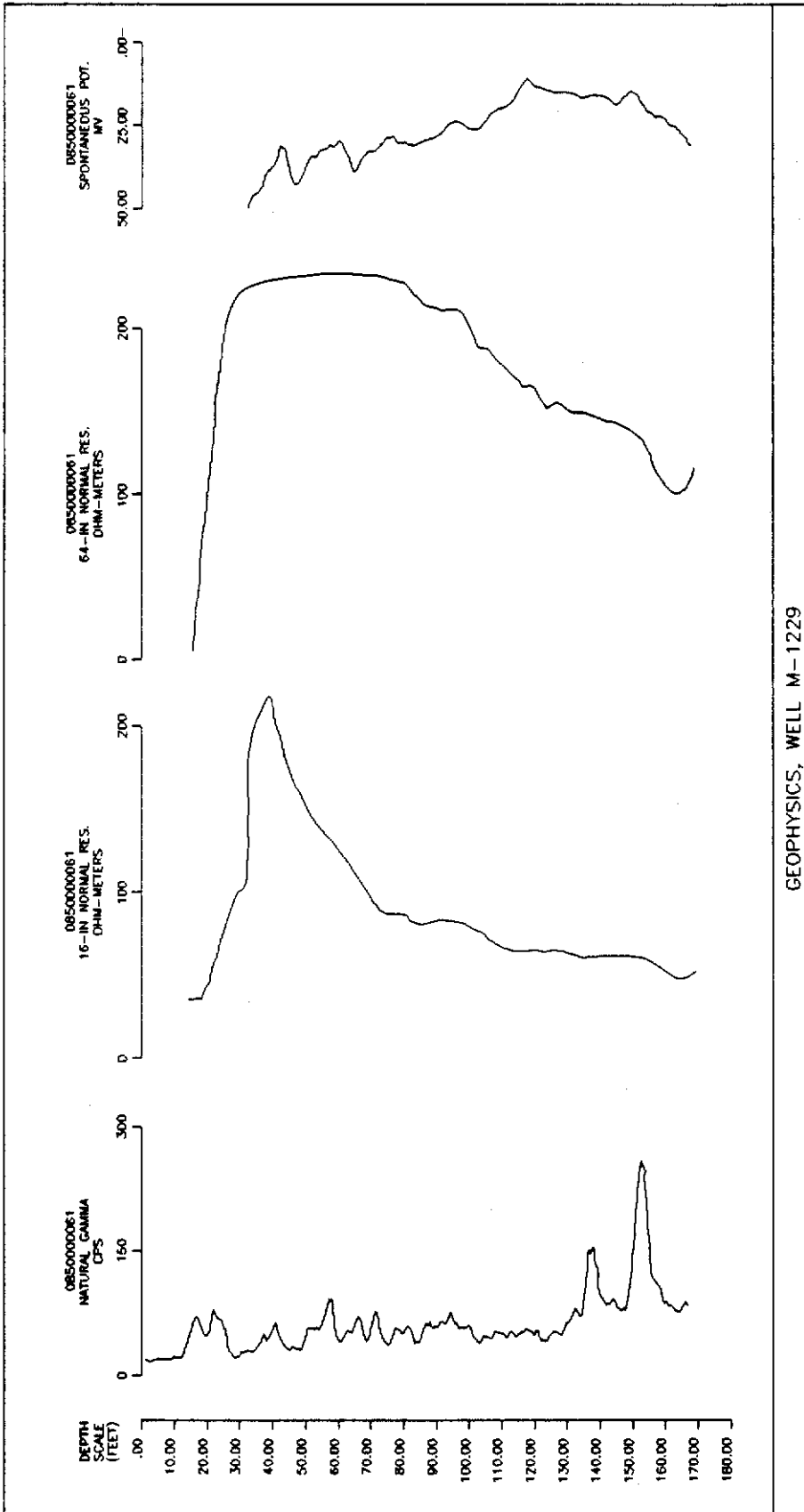
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DRAWN BY	FDL
DATE	03/23/79
PROJECT NO.	1416
LOG NO.	1416-105
WELL NO.	0850000058

GEOPHYSICS, WELL MF-35

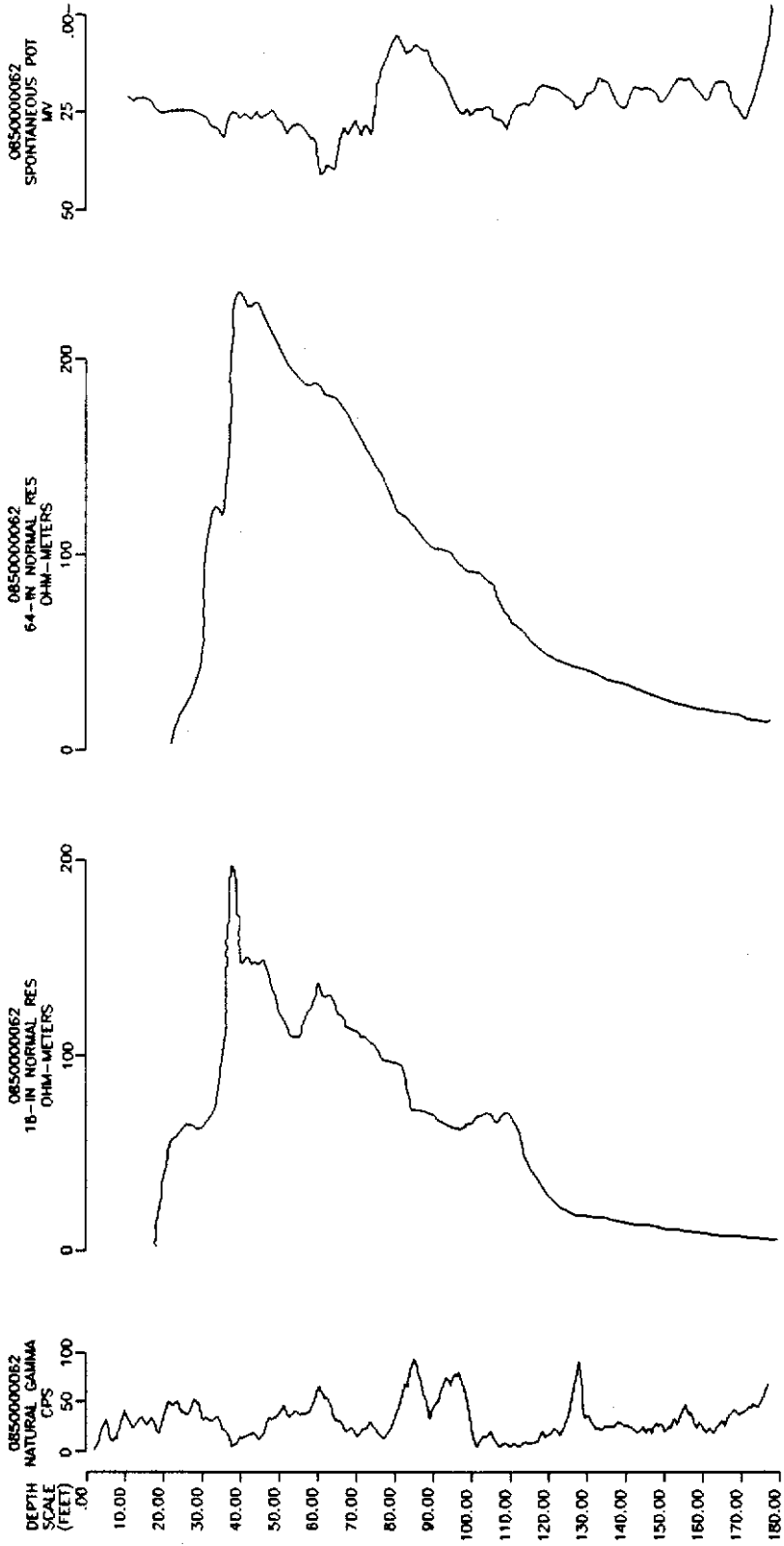




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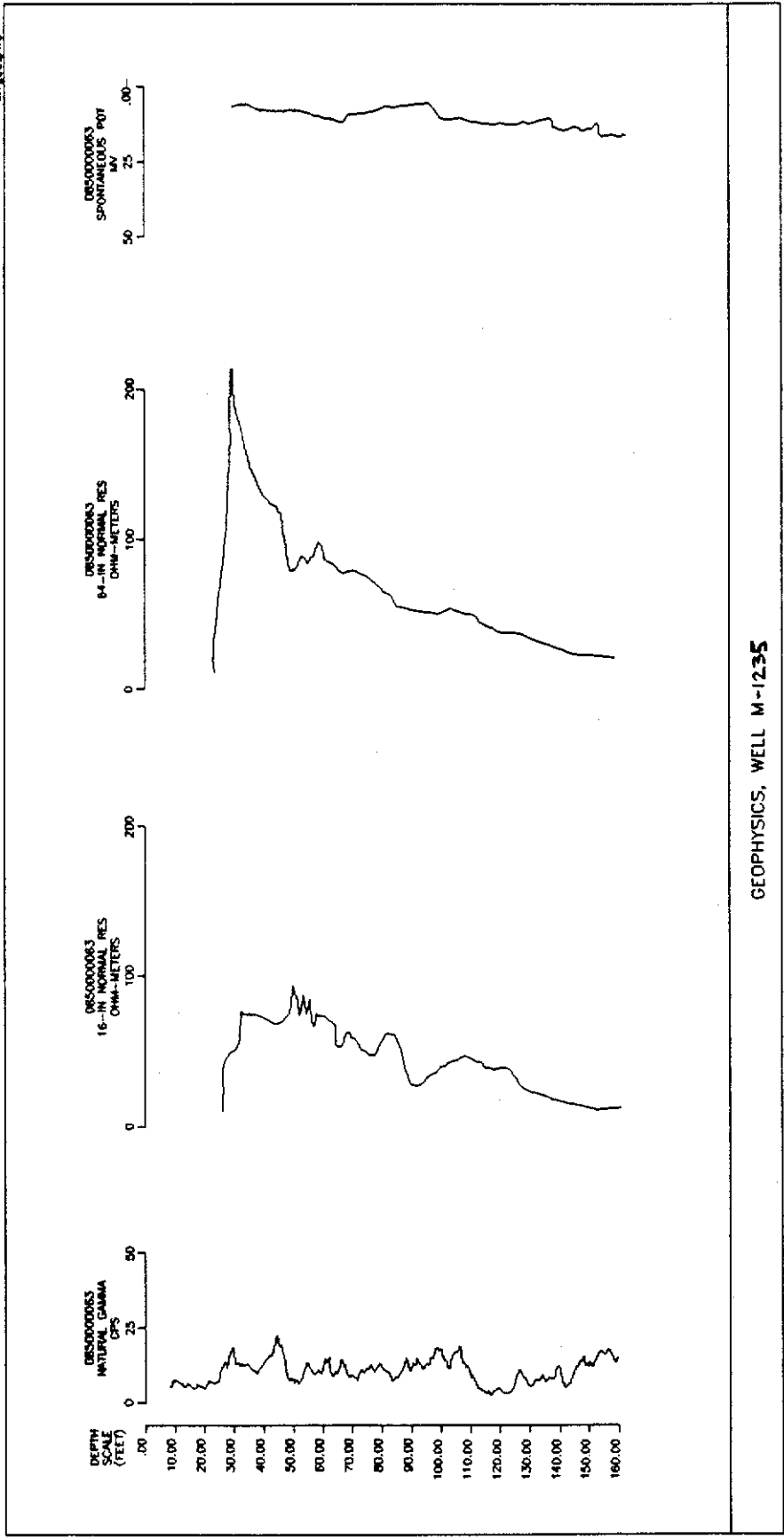


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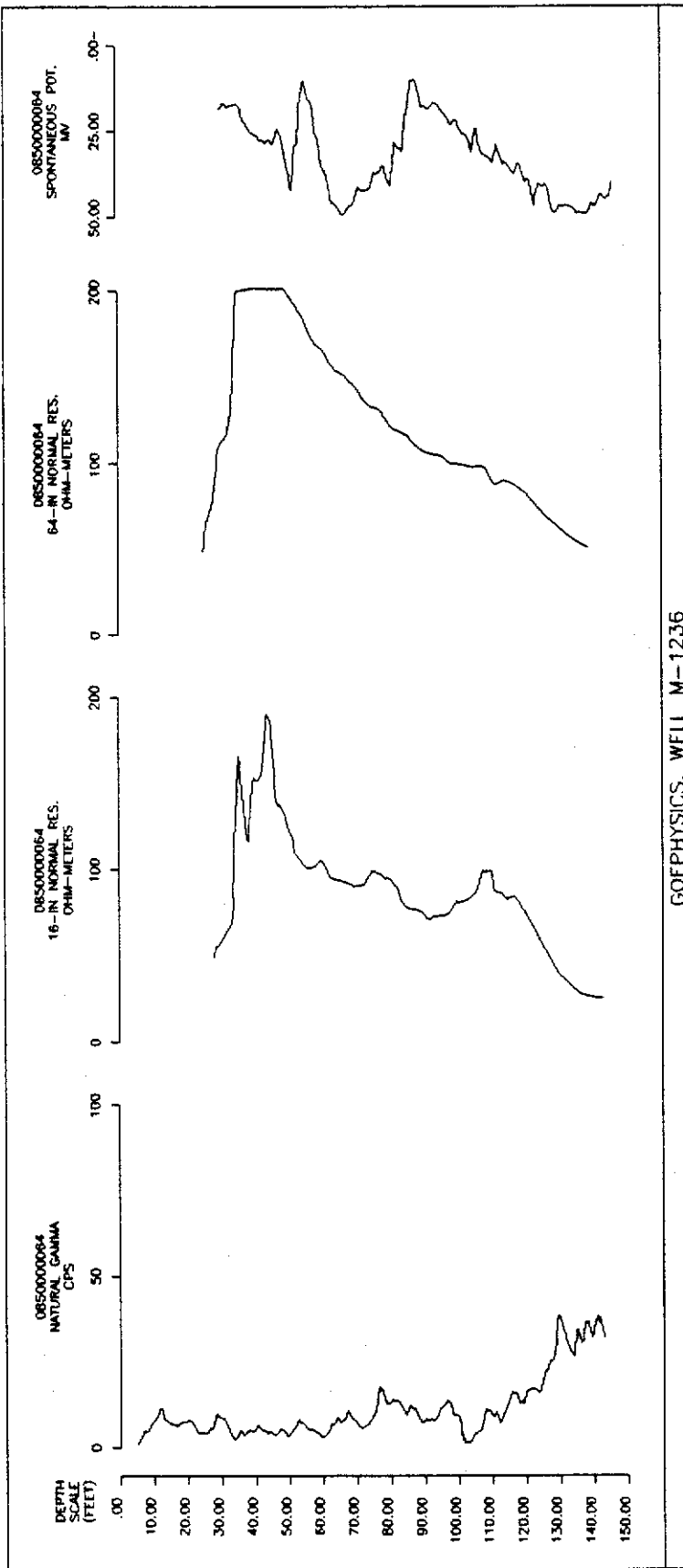
GEOPHYSICS, WELL MI-231

M1235.DWG



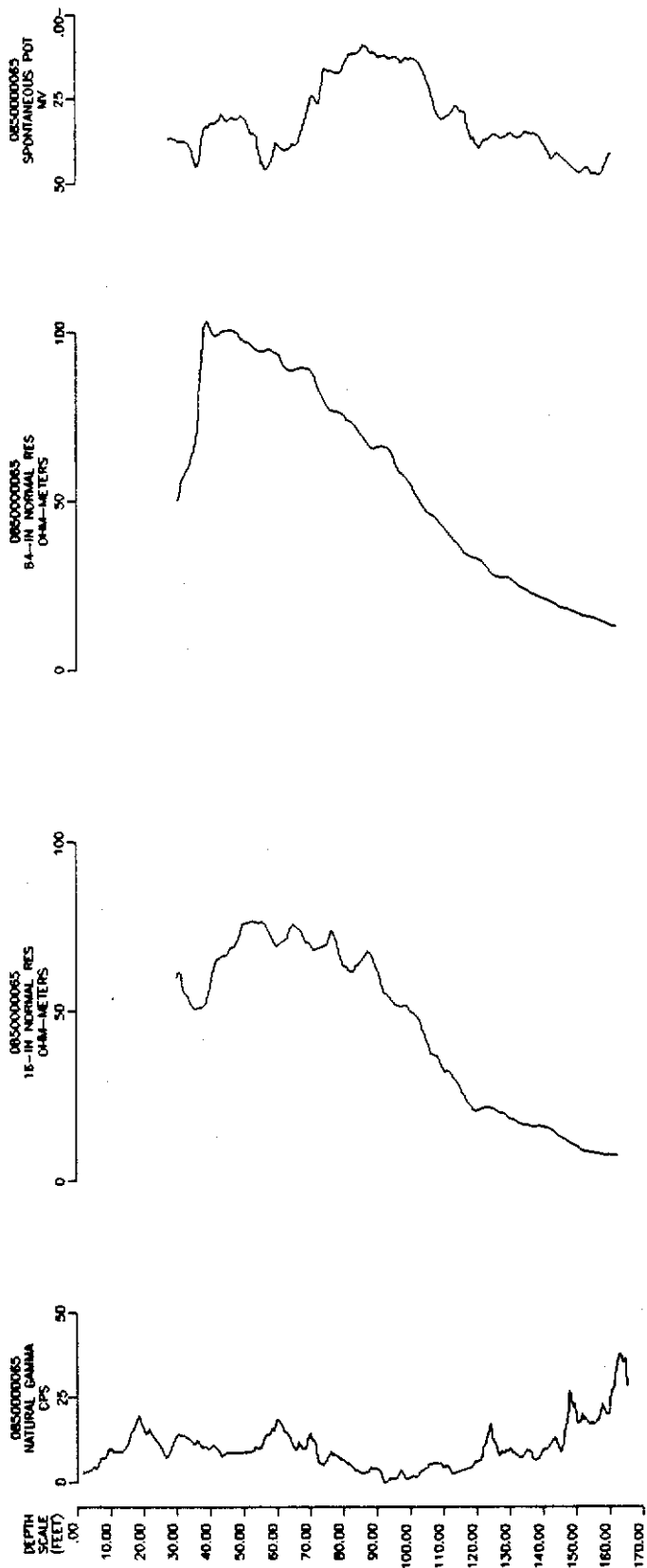
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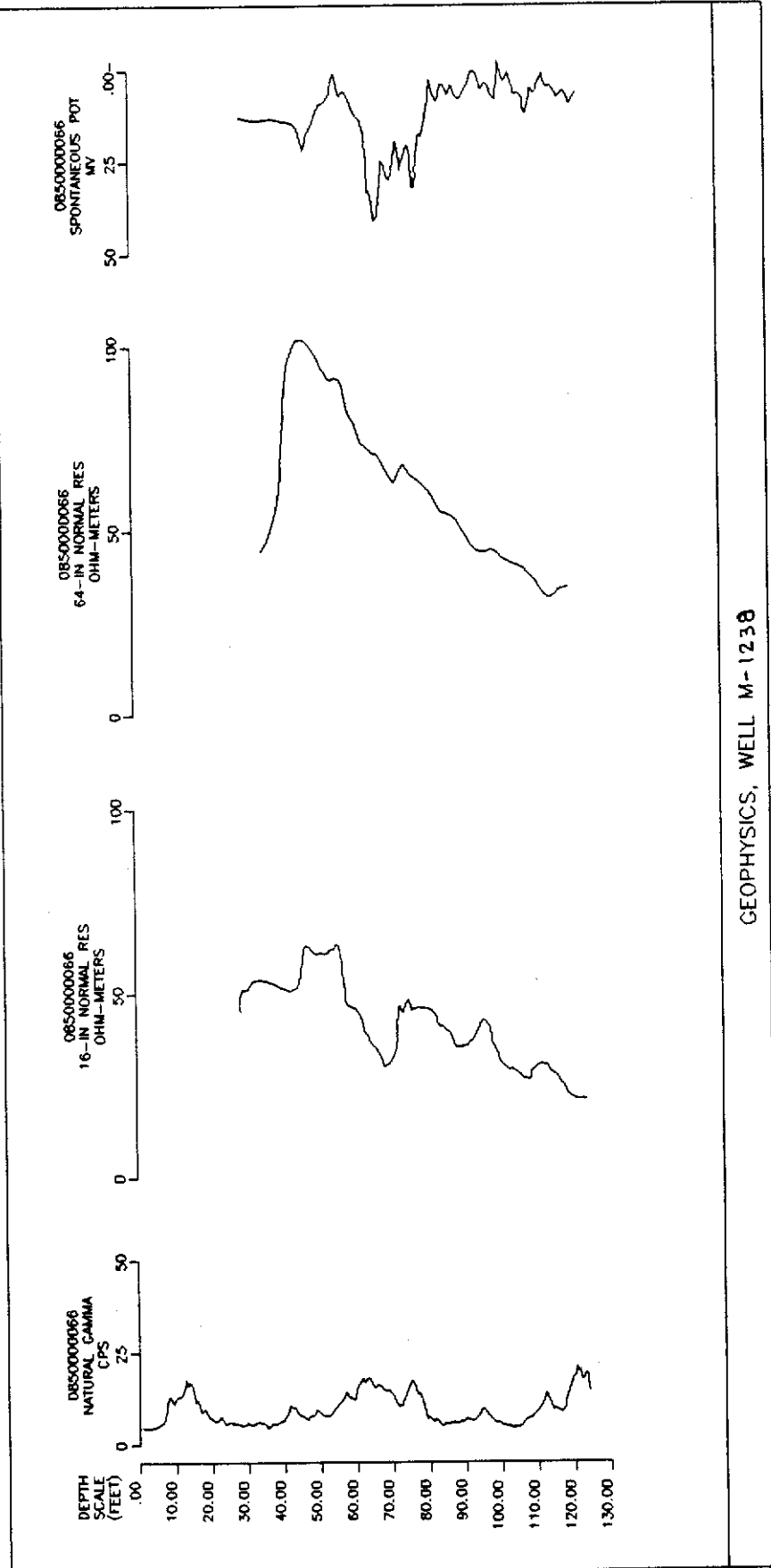


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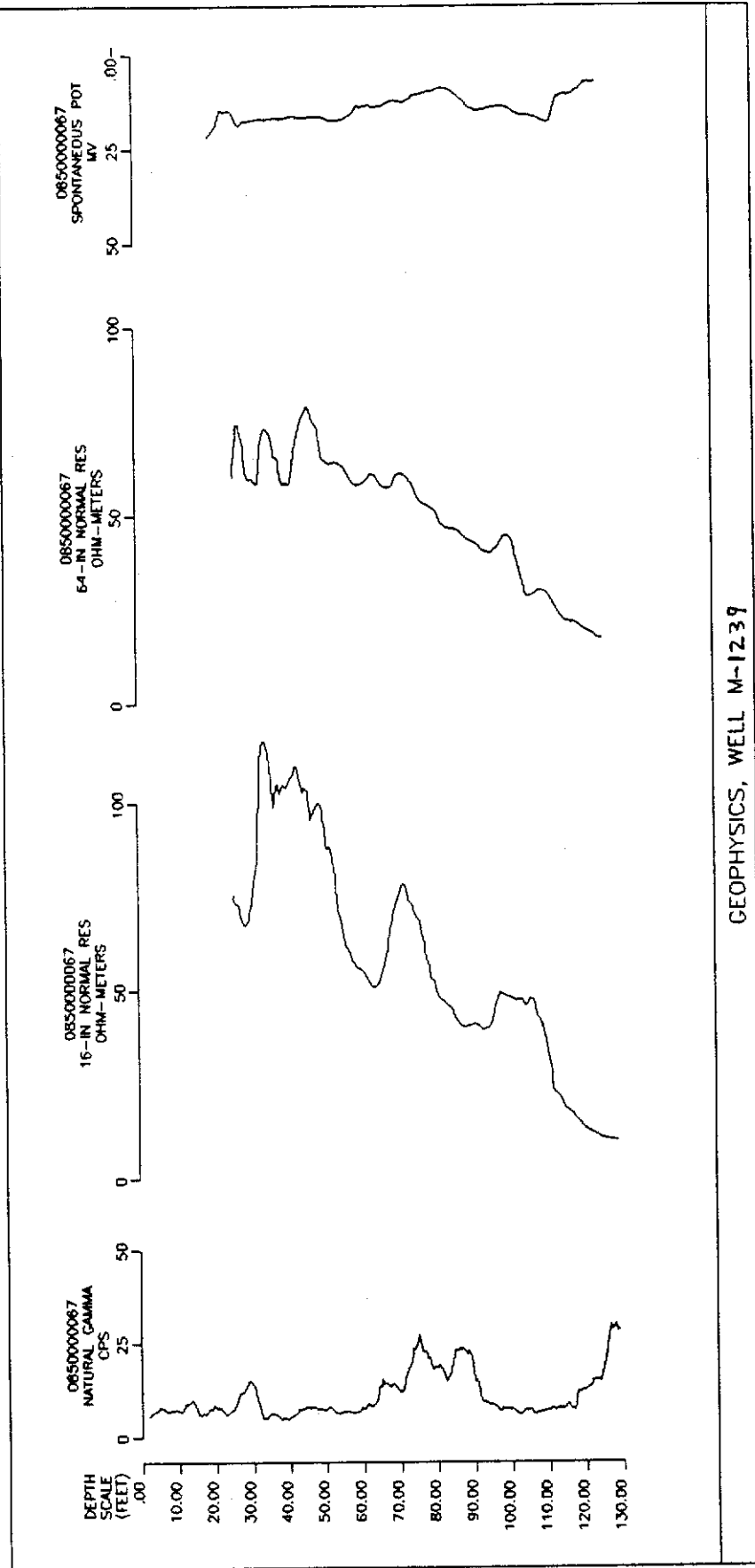
M1237.DWG



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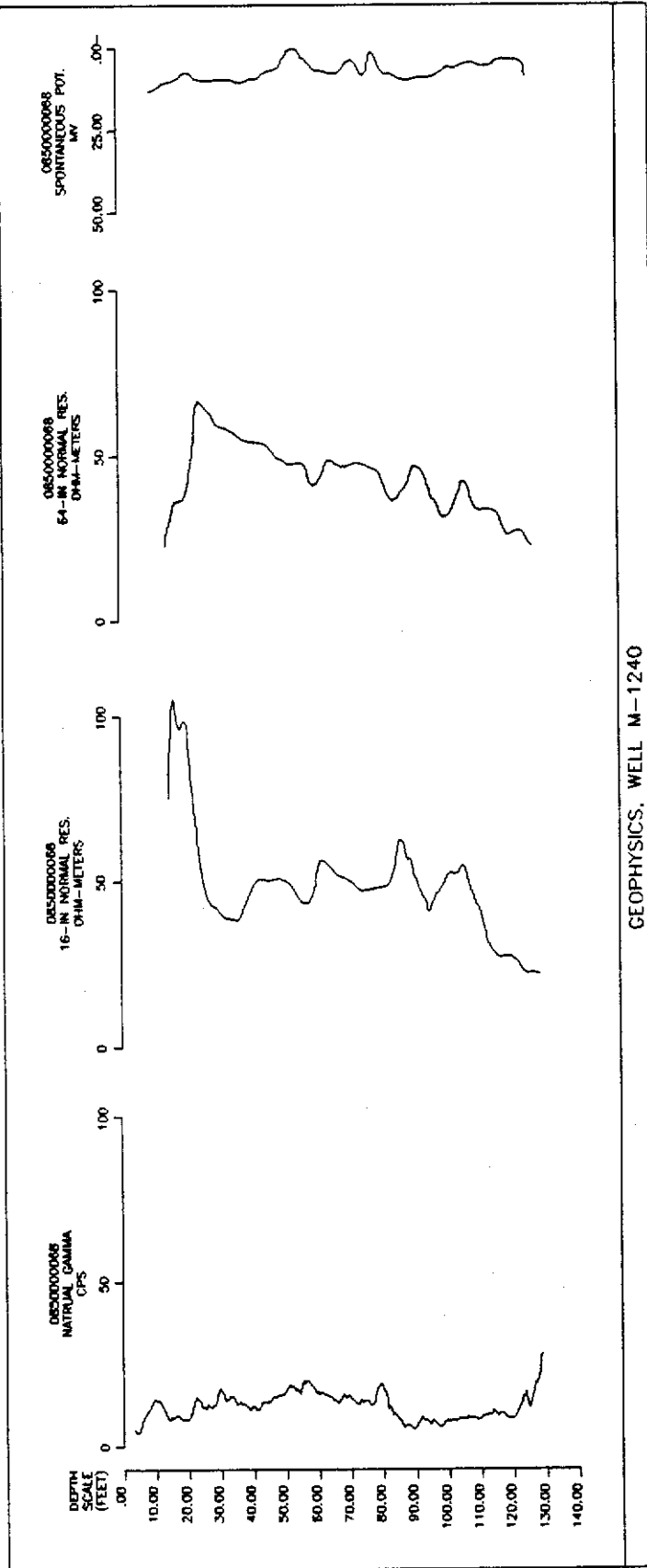


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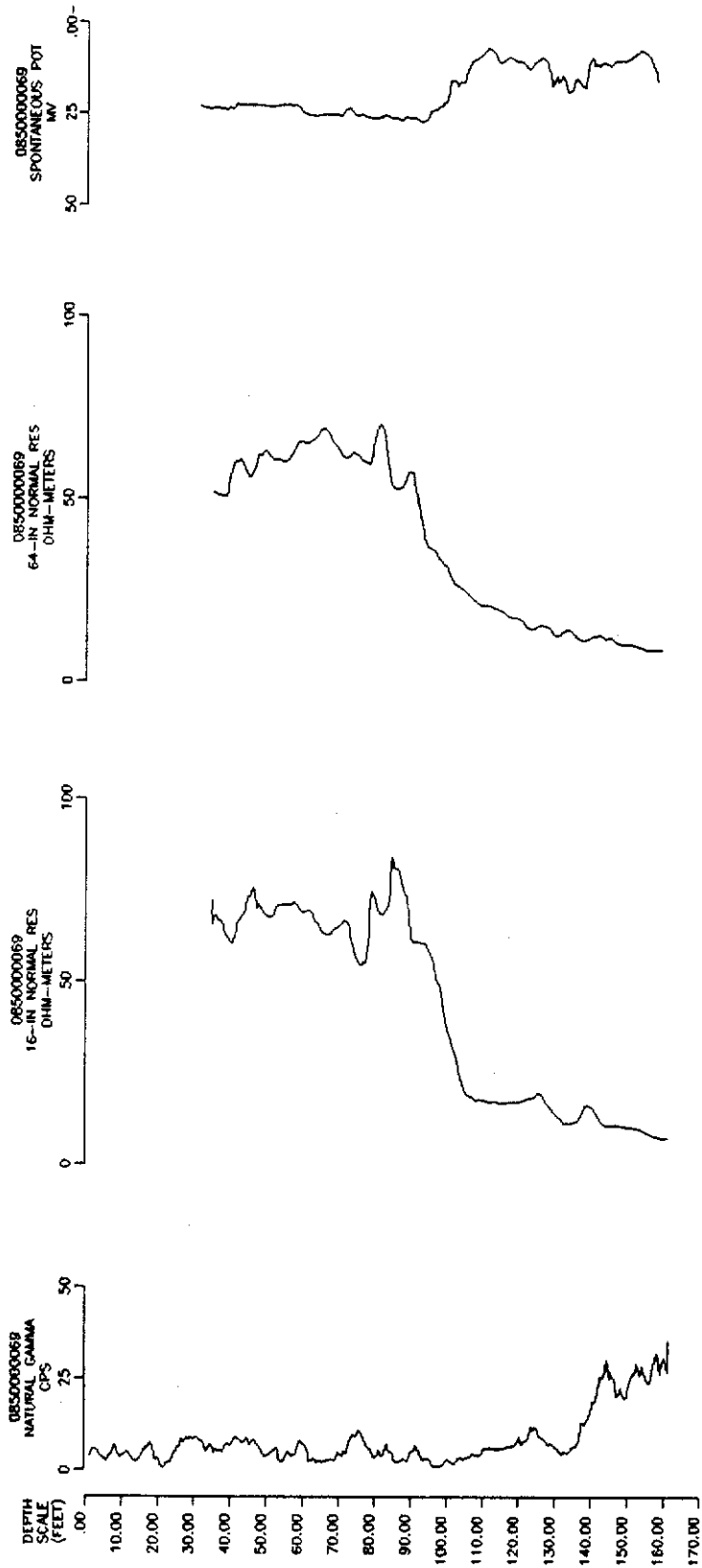


GEOPHYSICS, WELL M-1239

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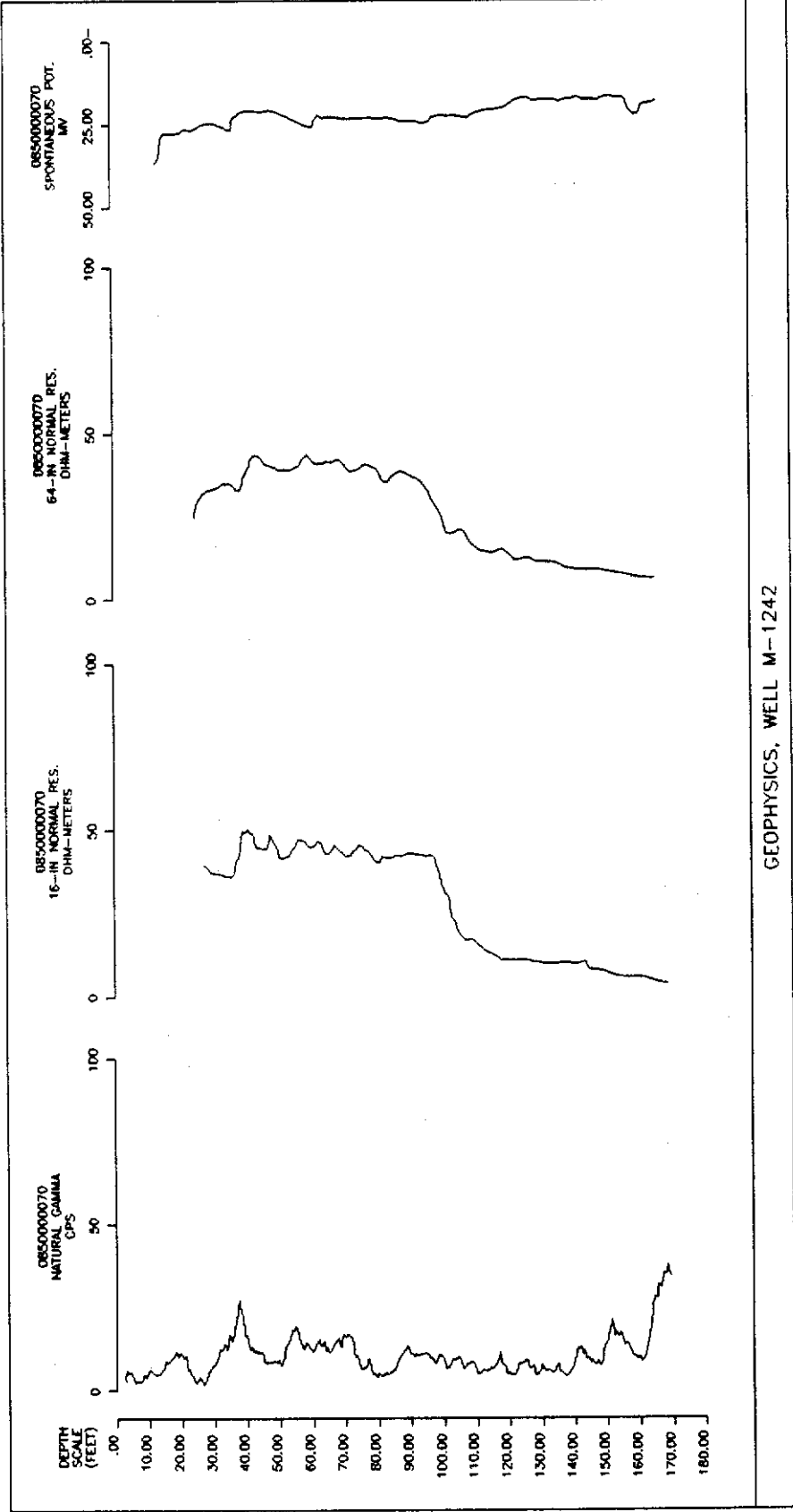


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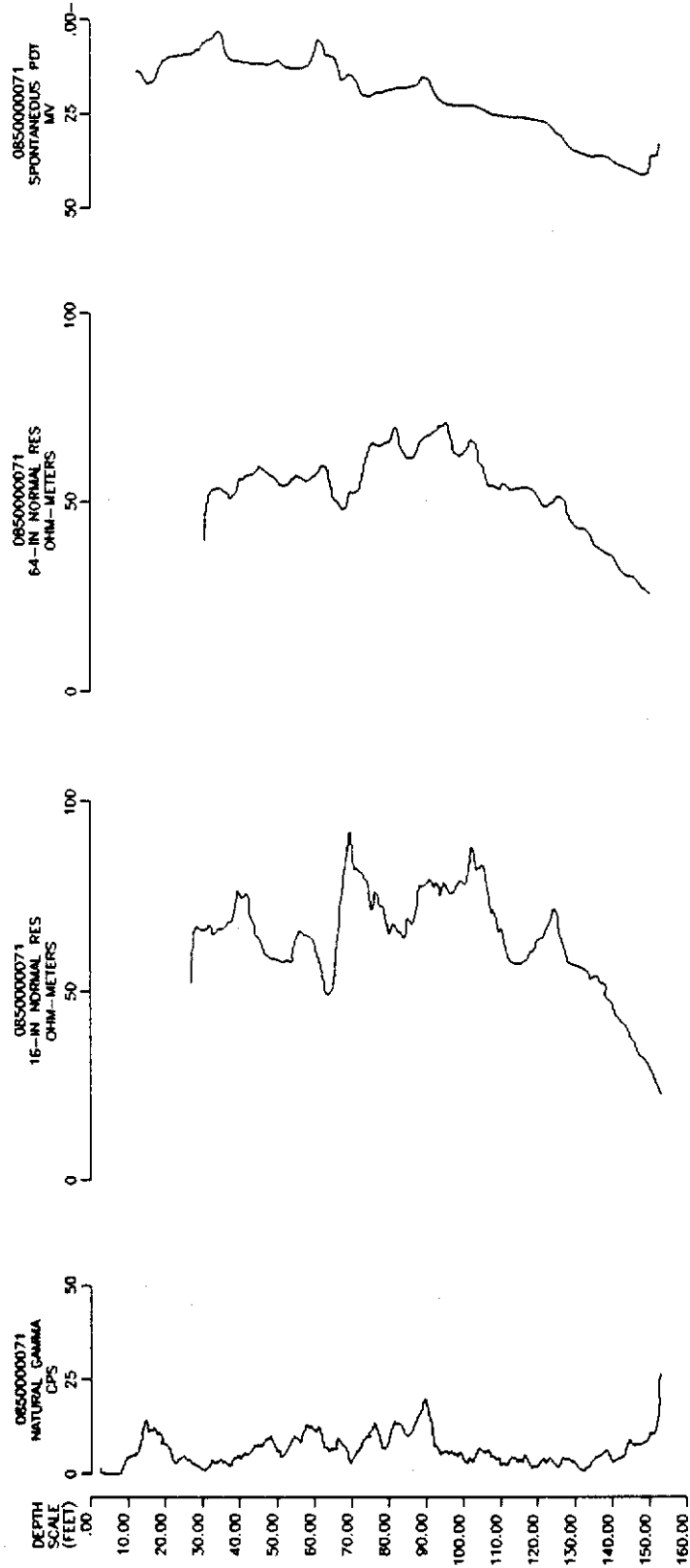


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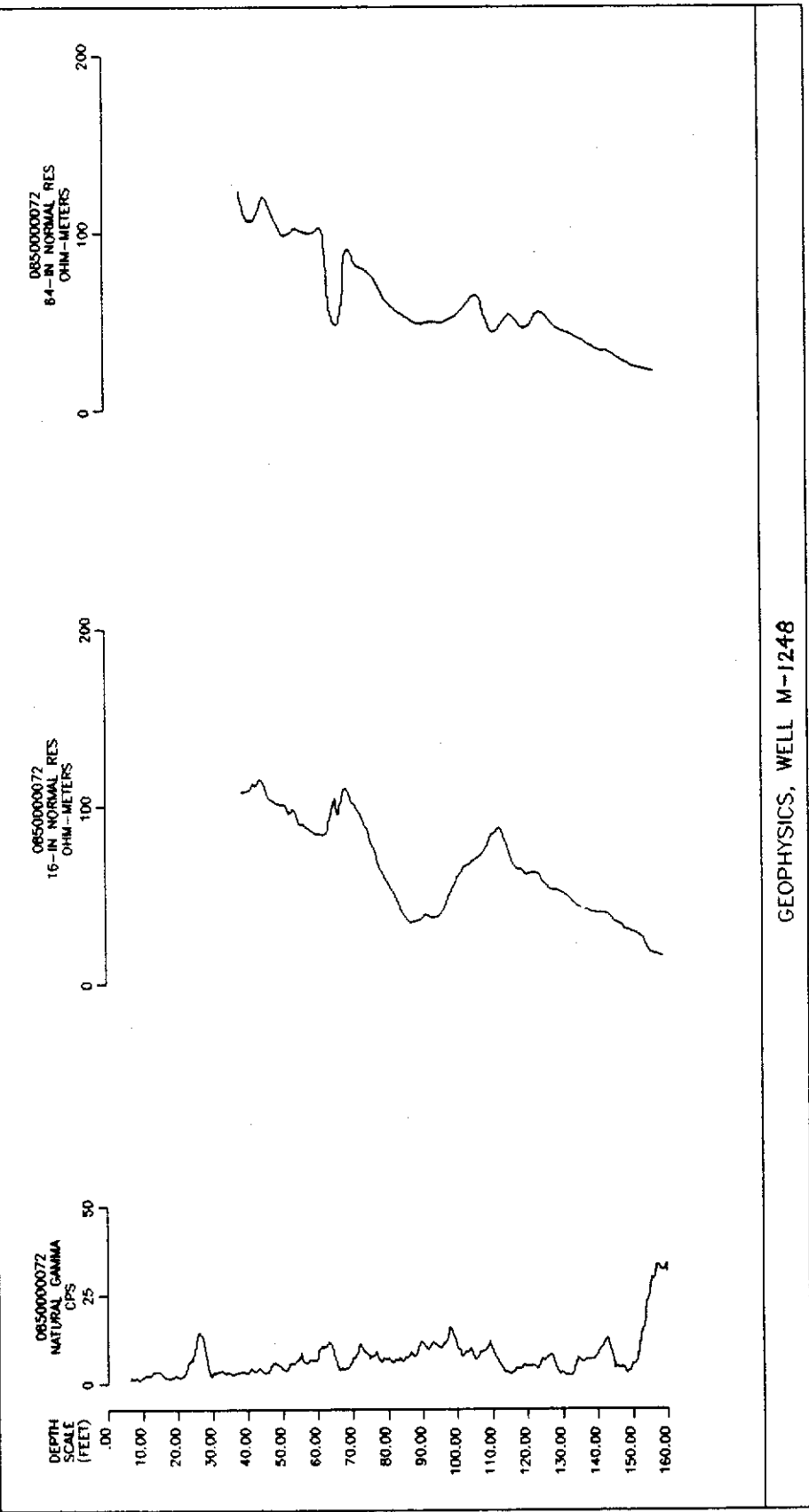
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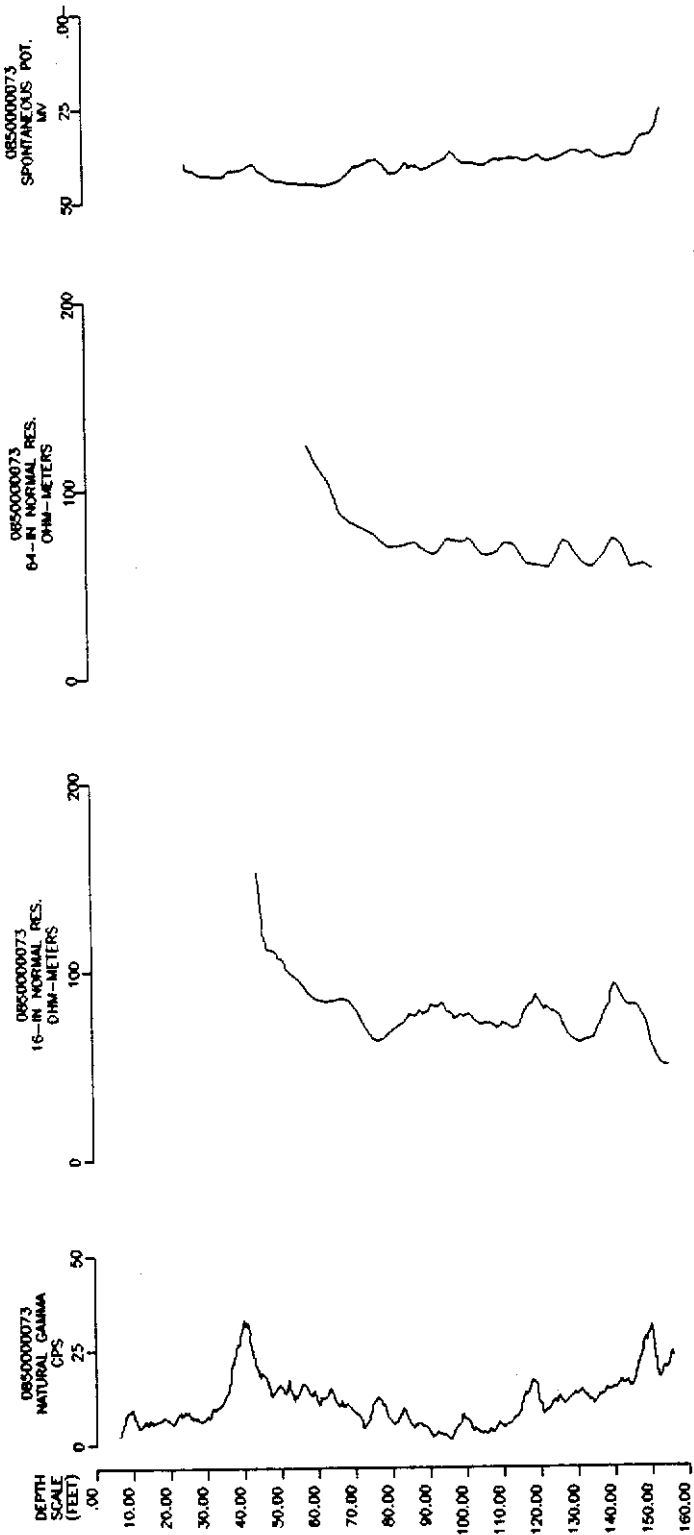
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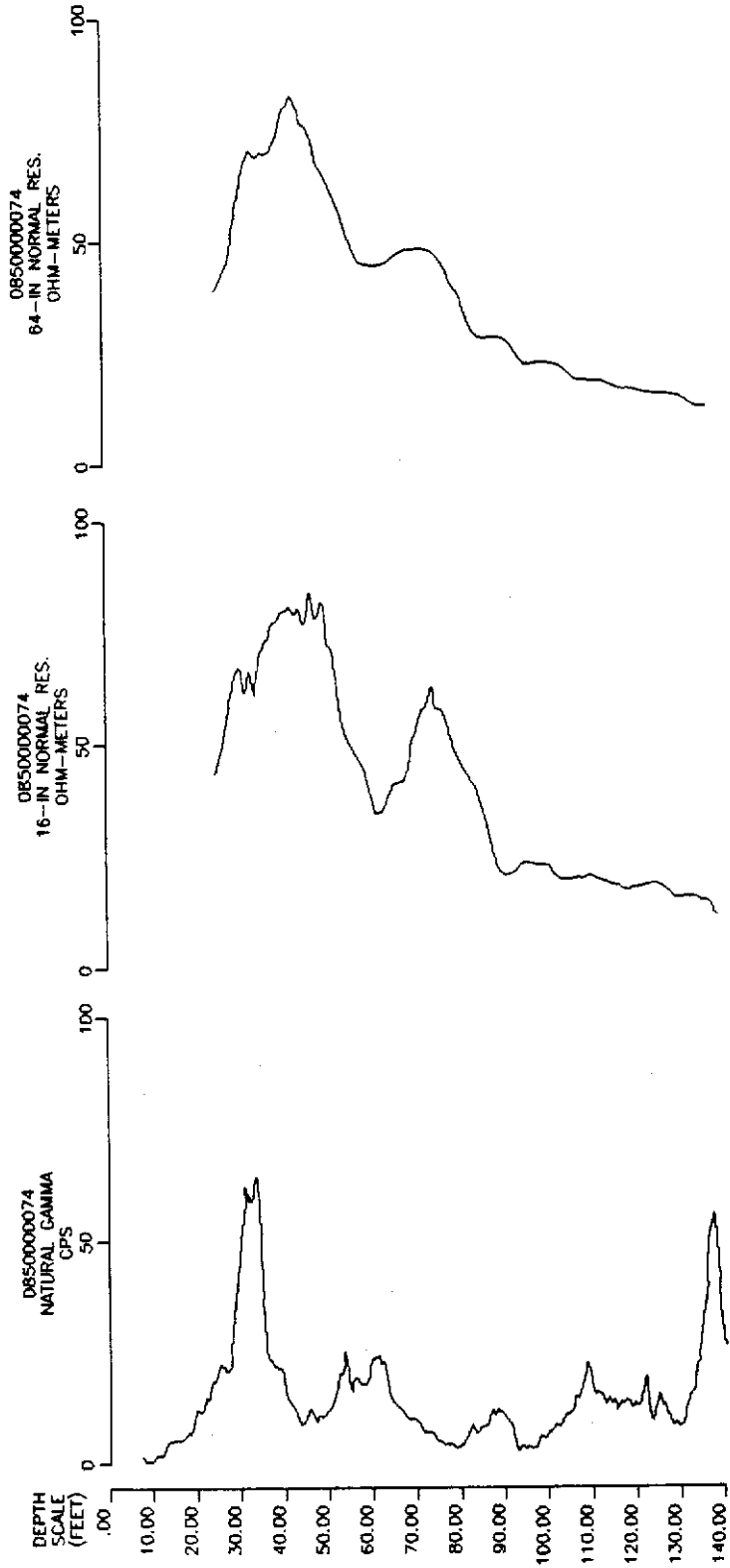
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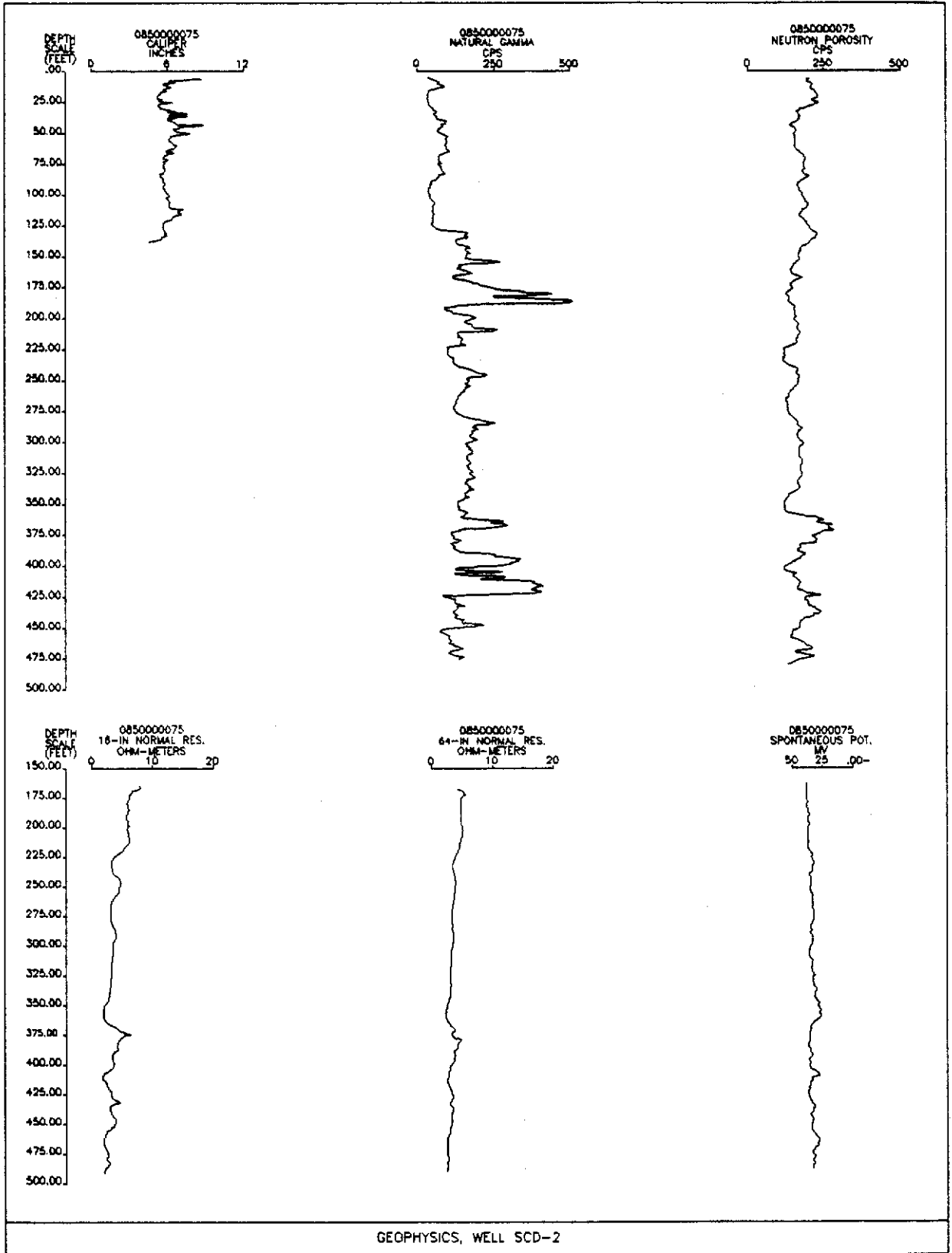
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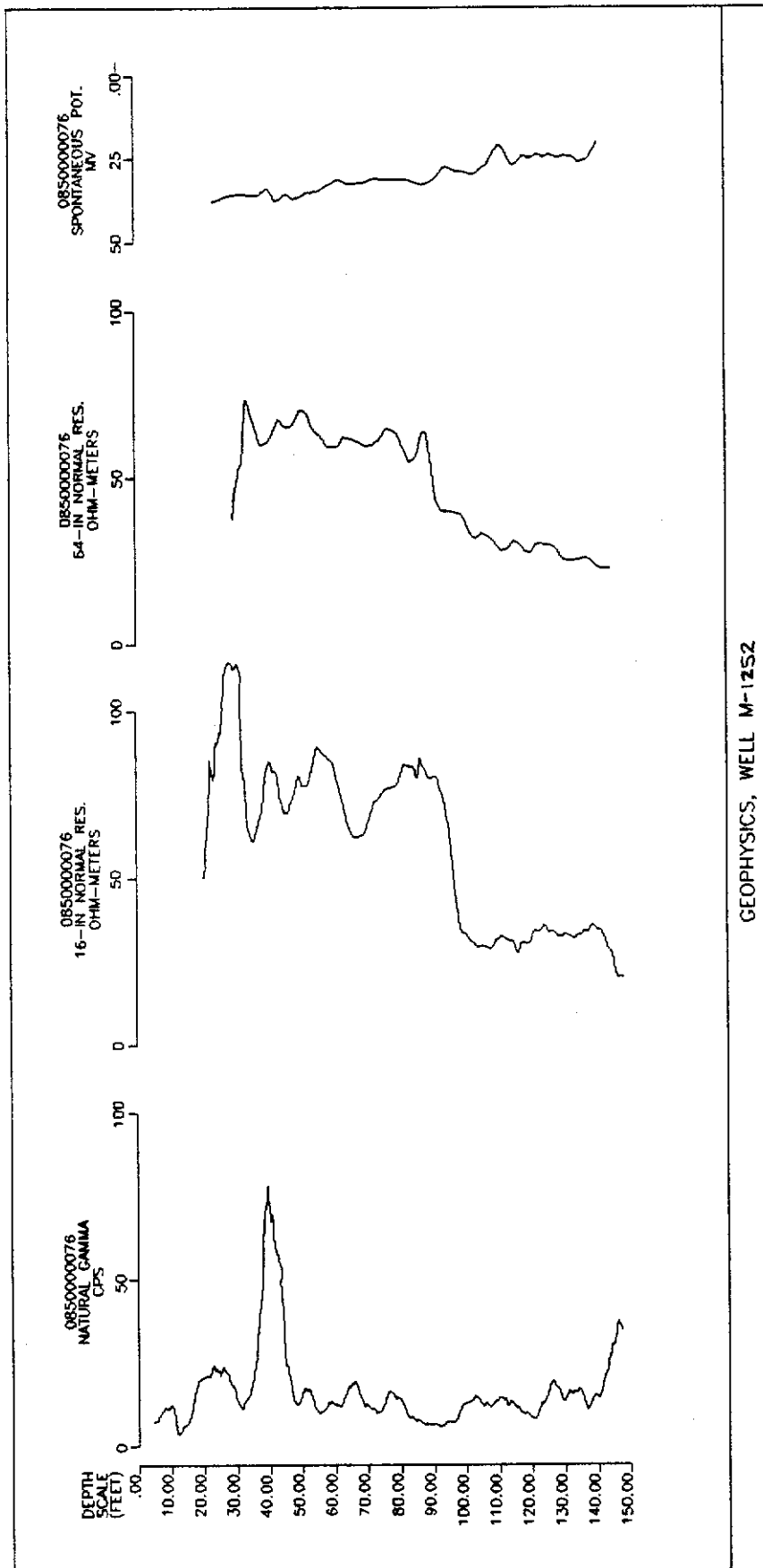
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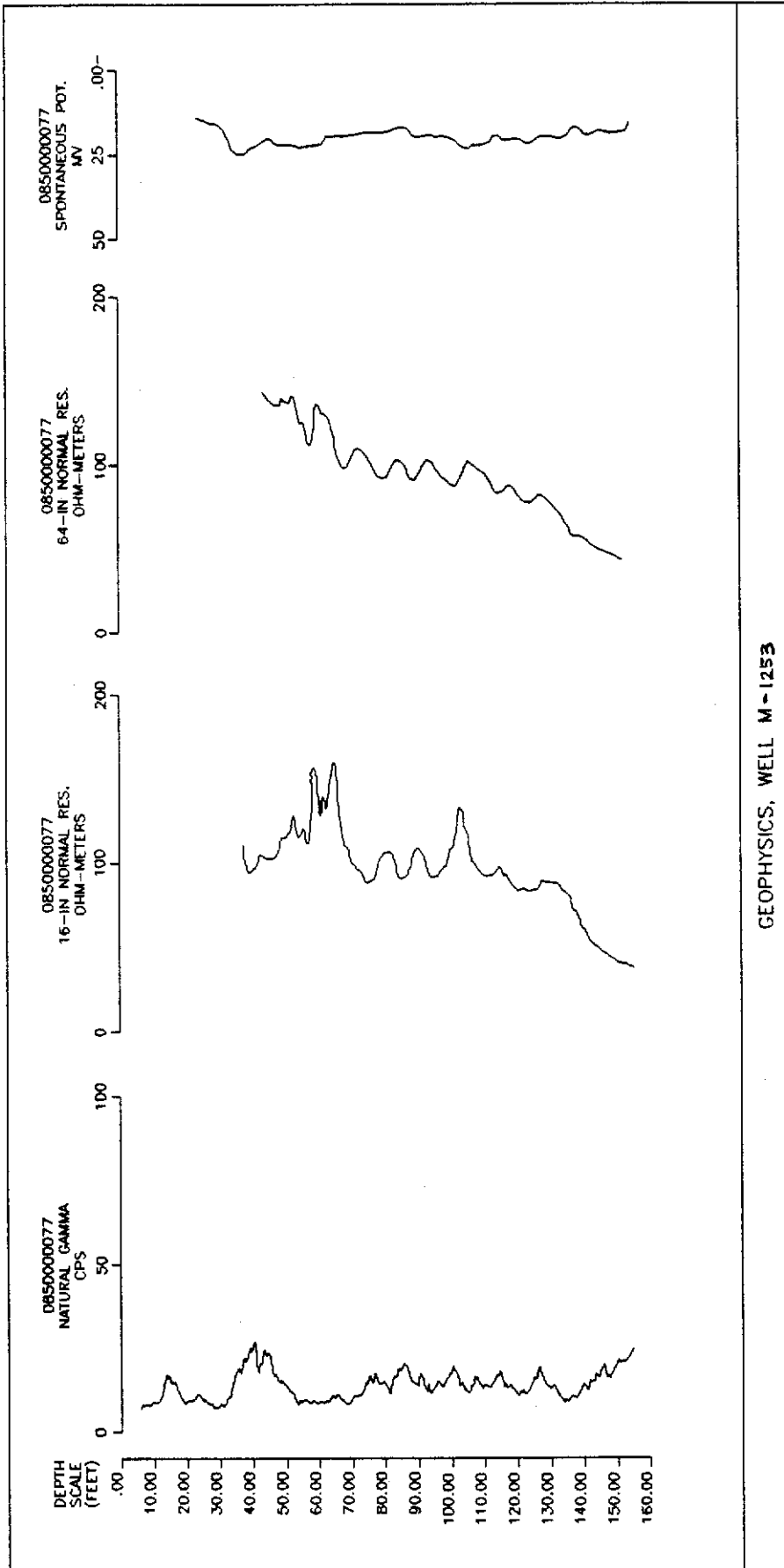
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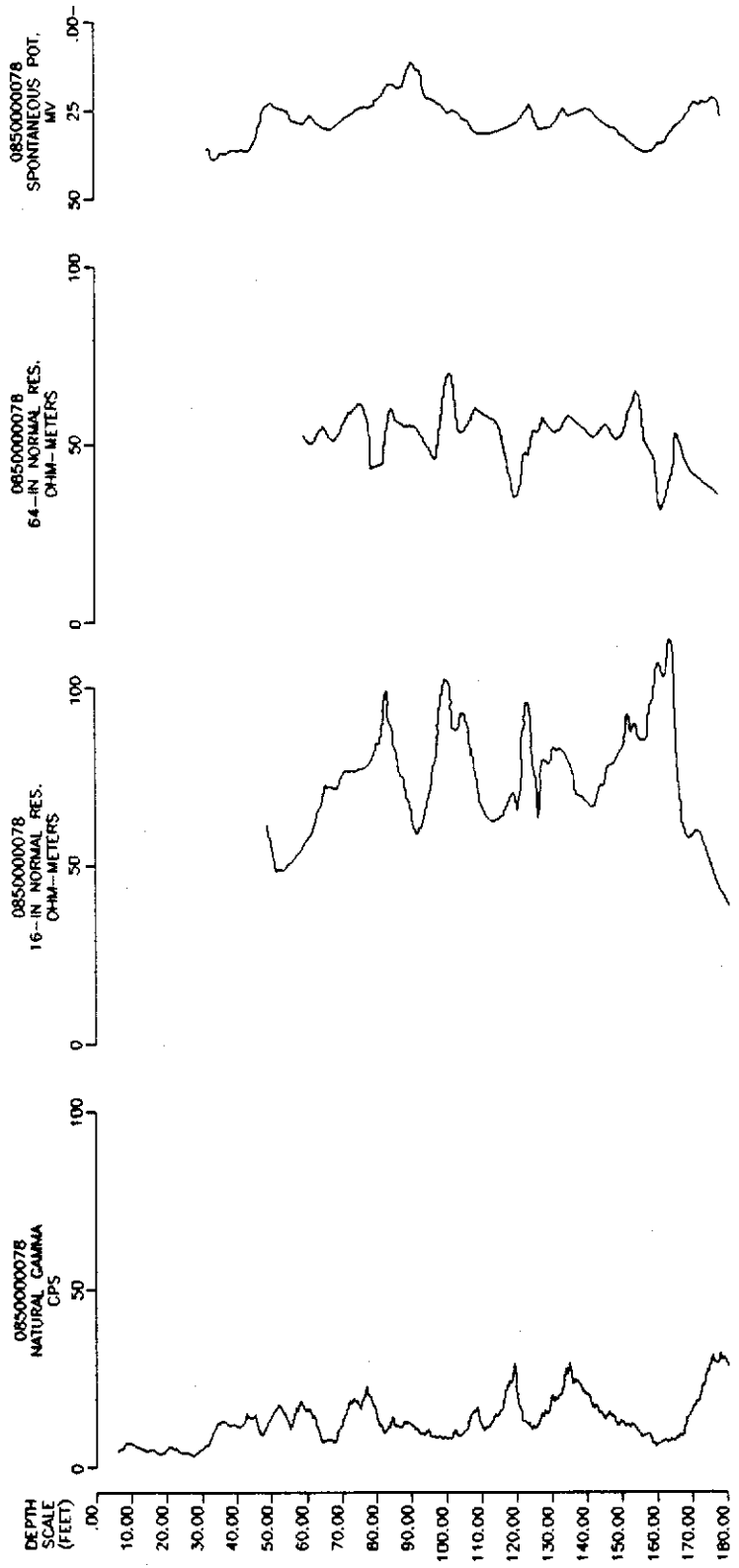


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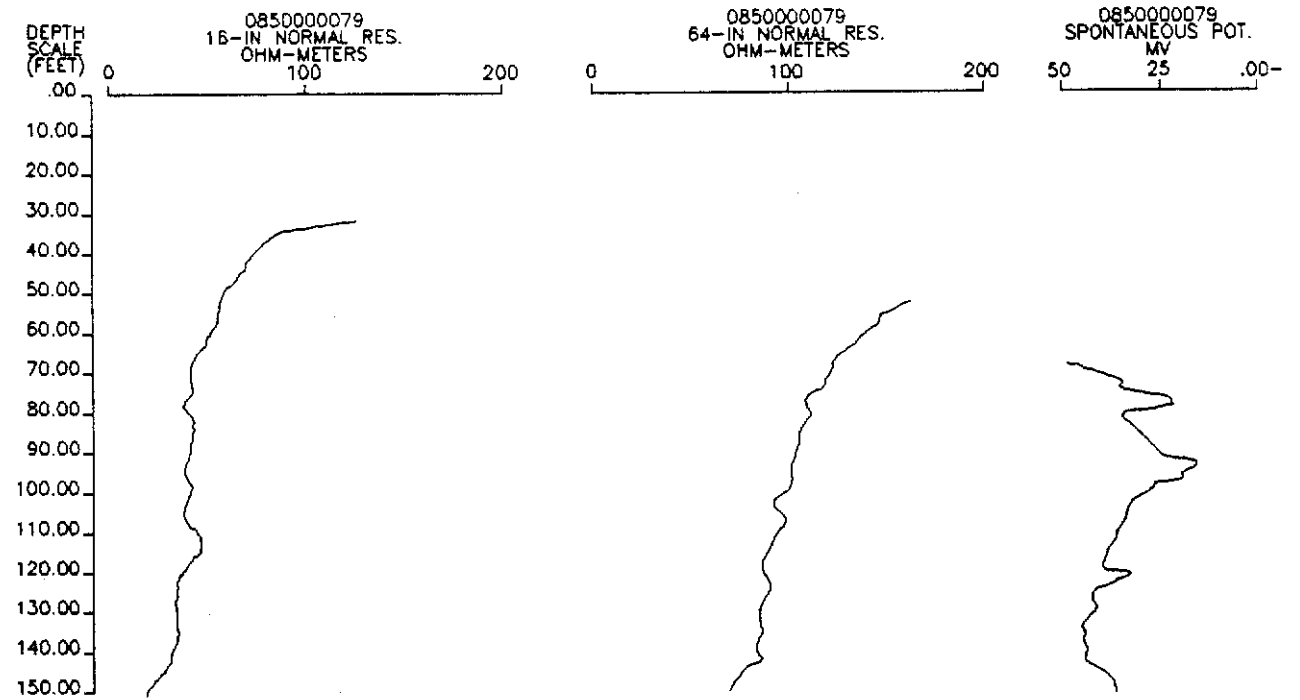
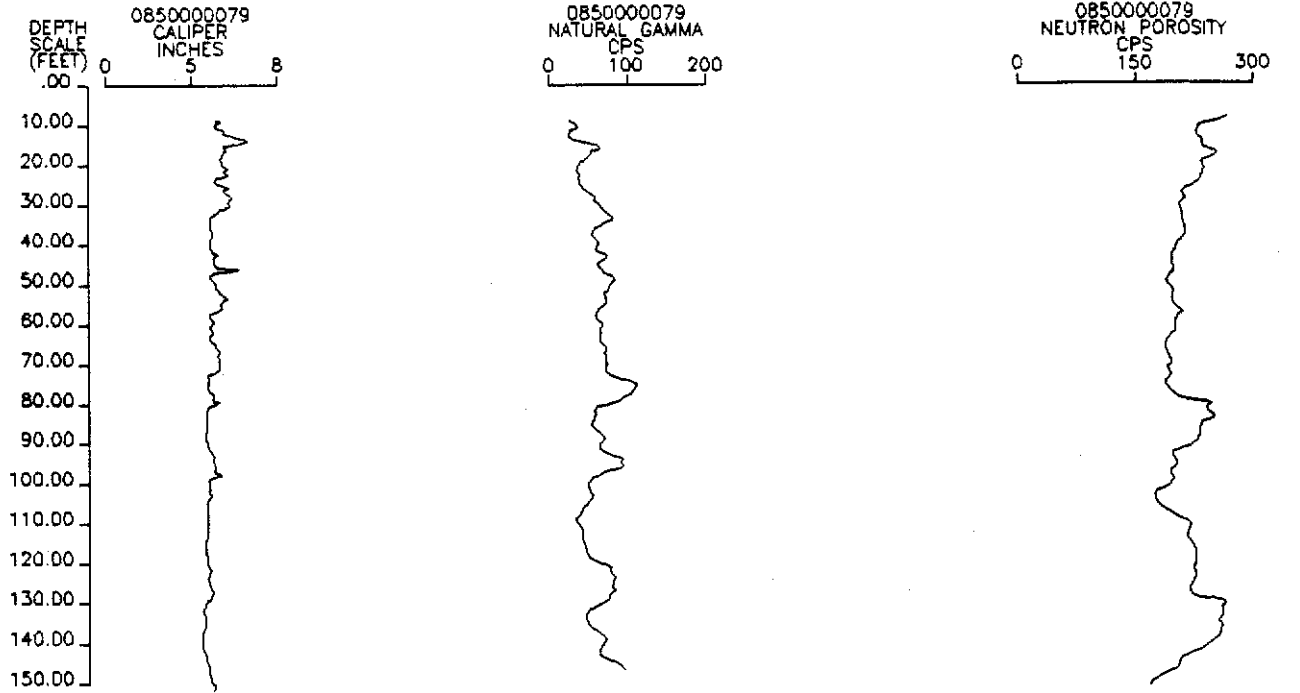


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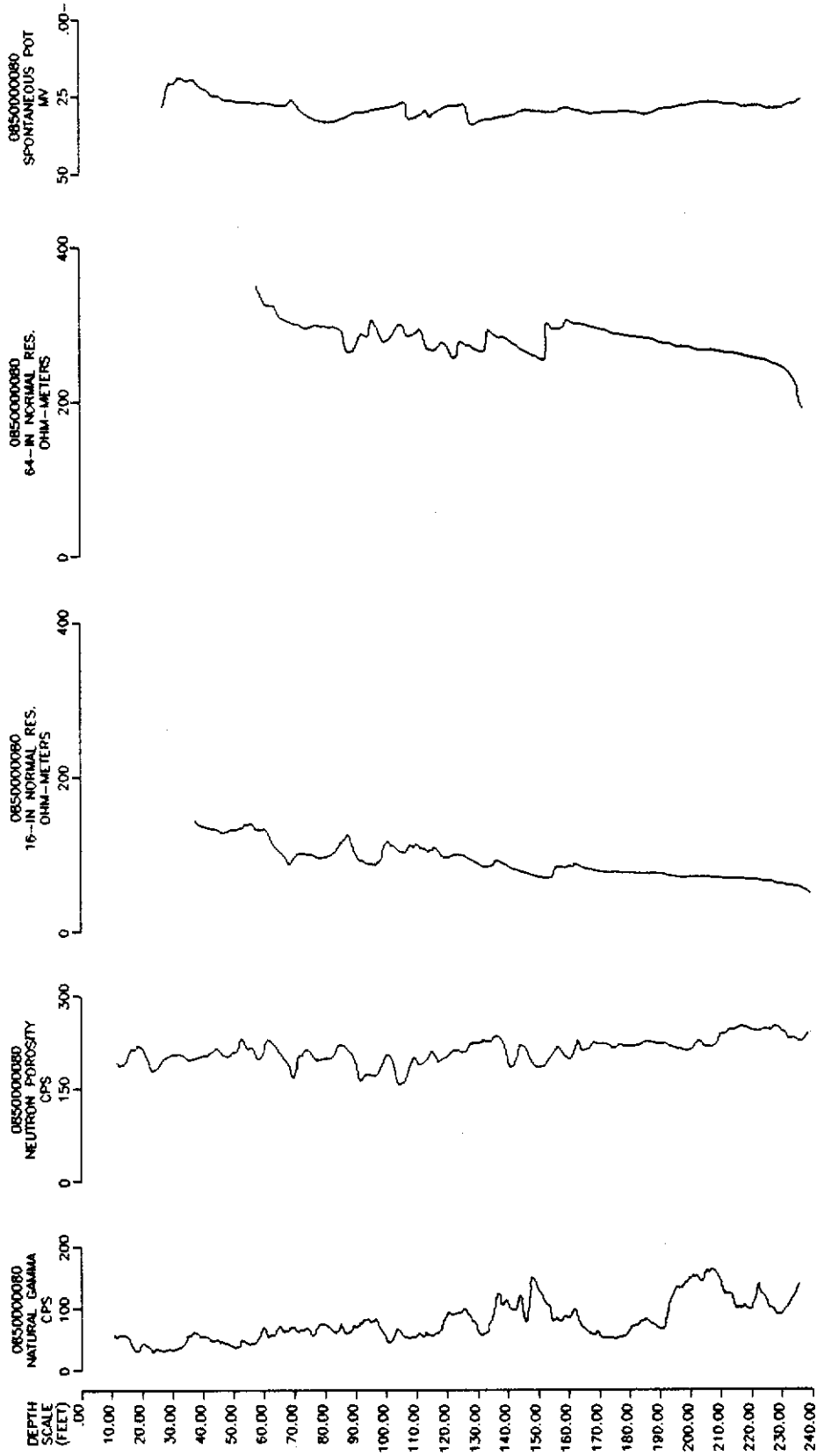
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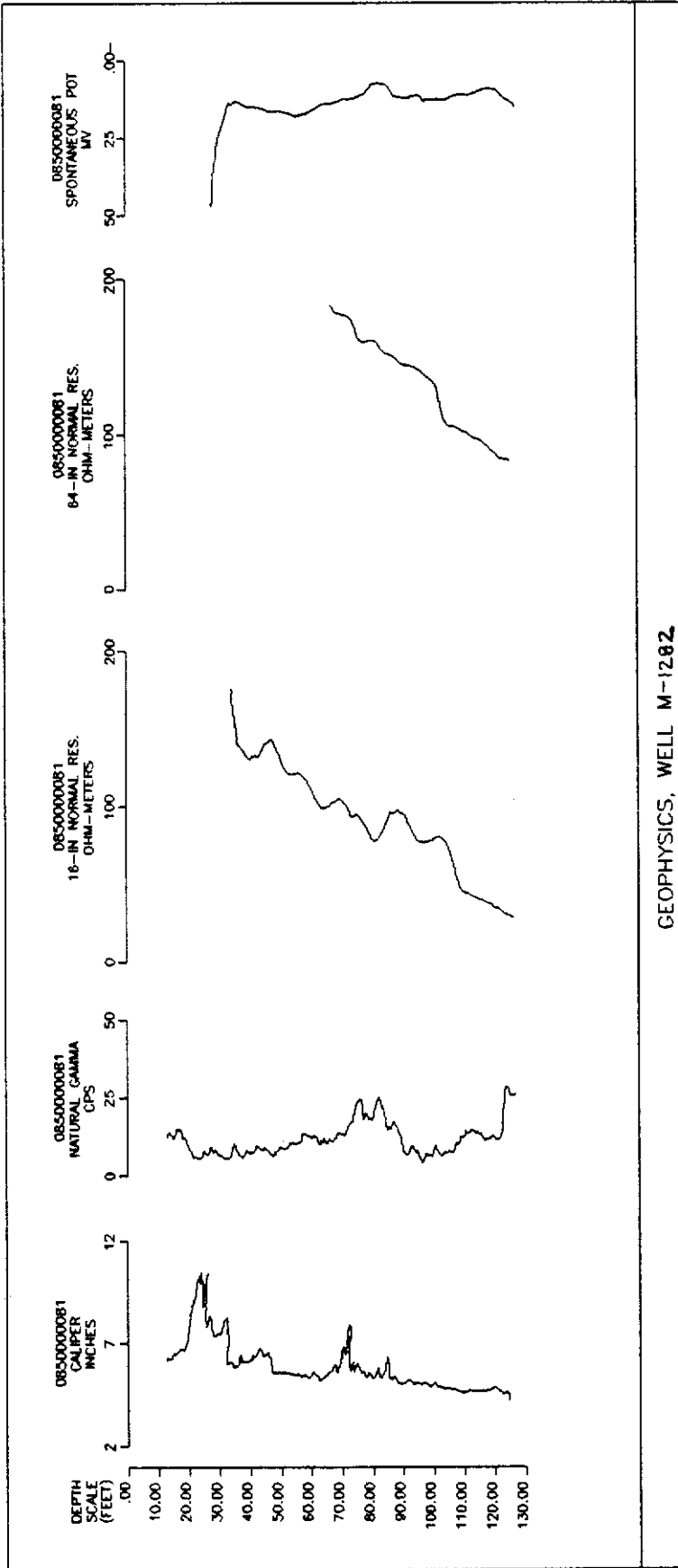
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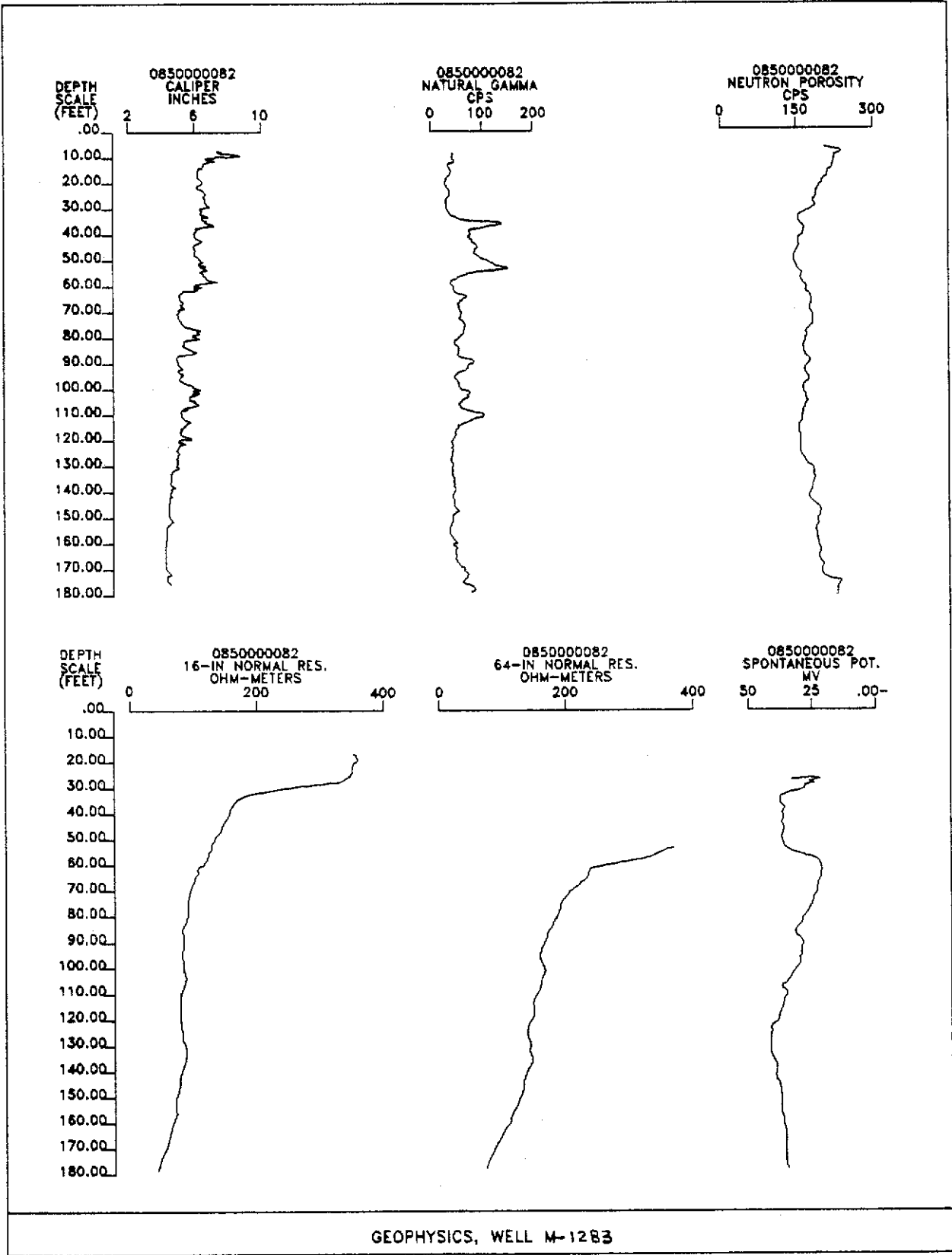
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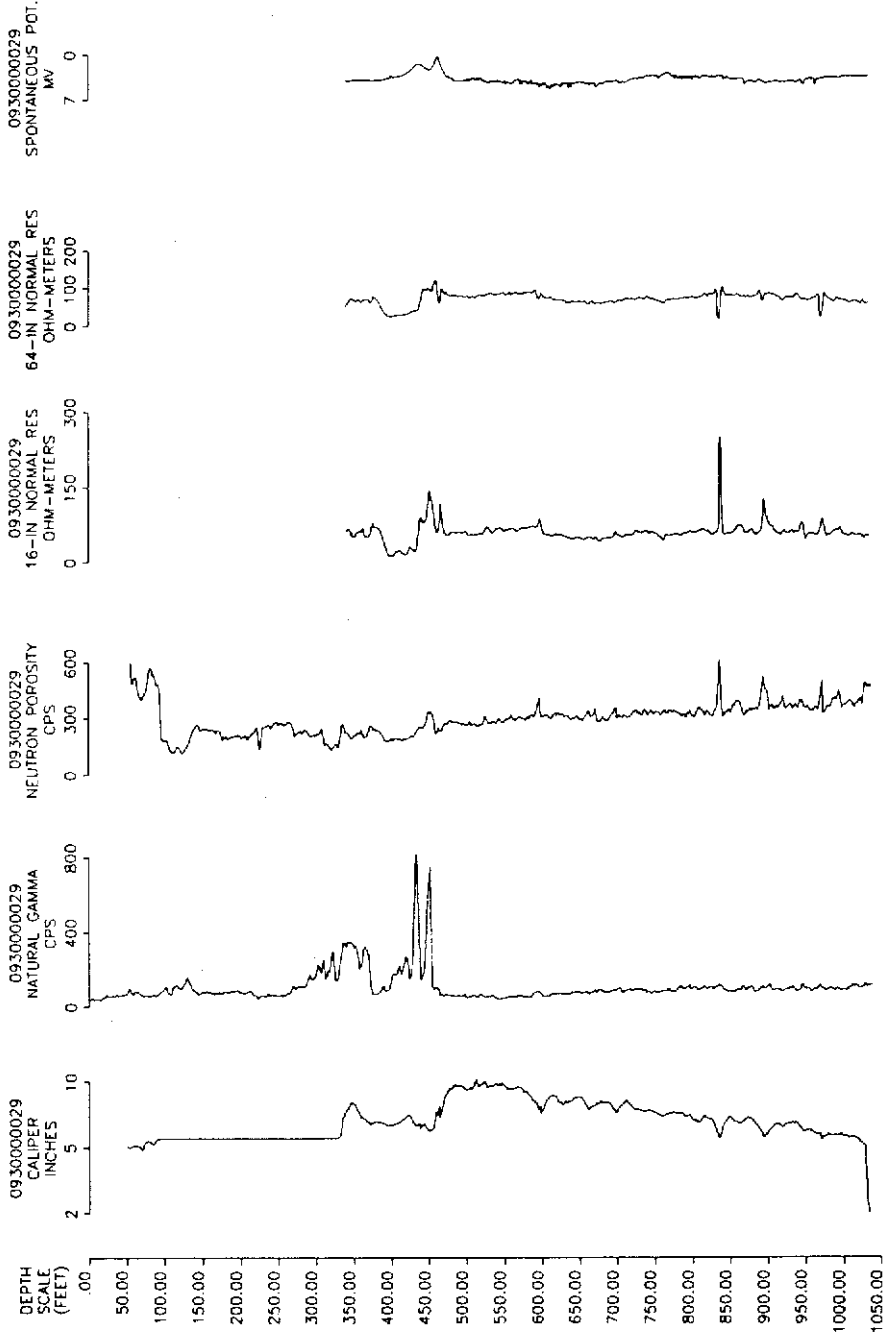
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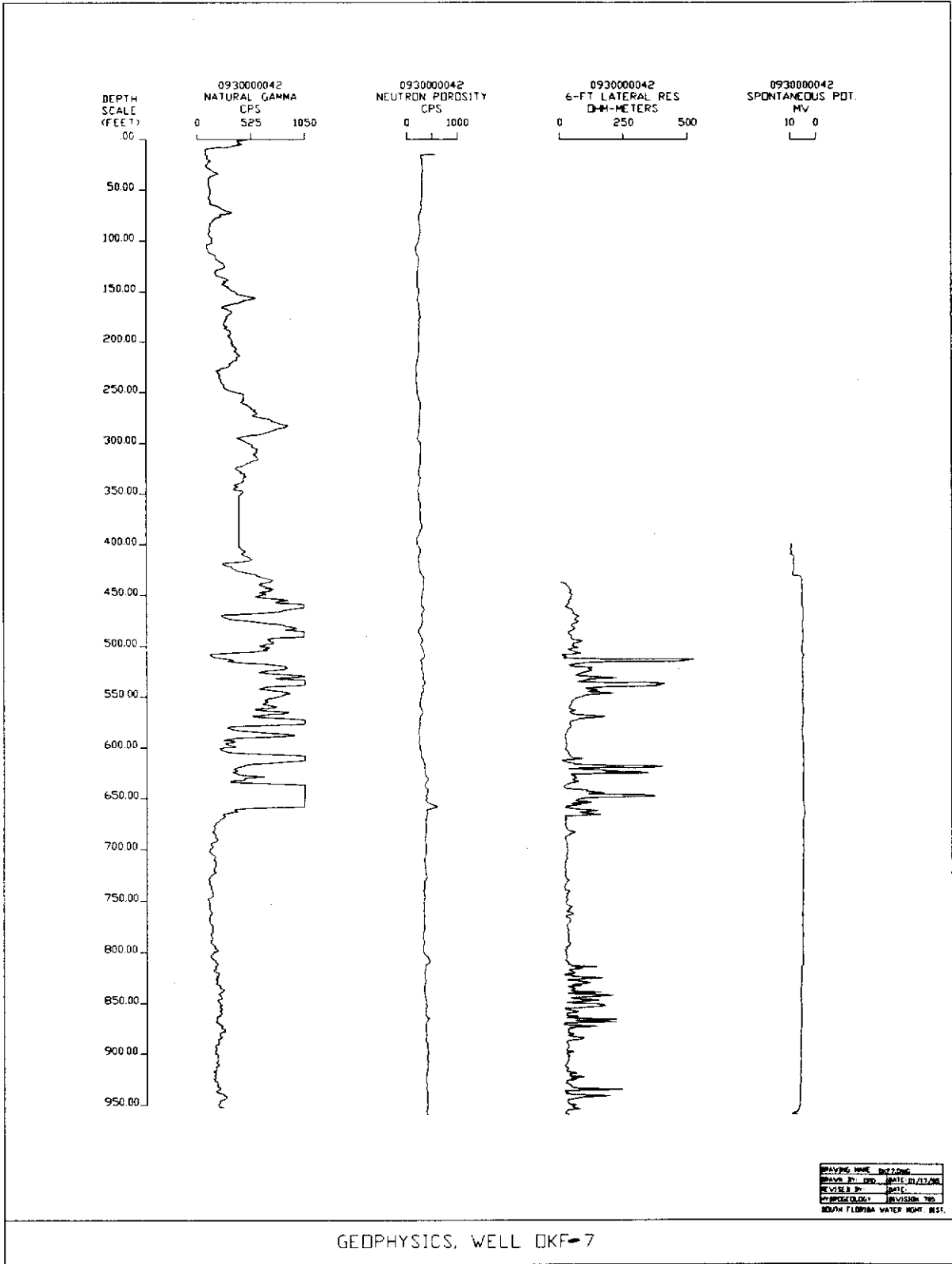
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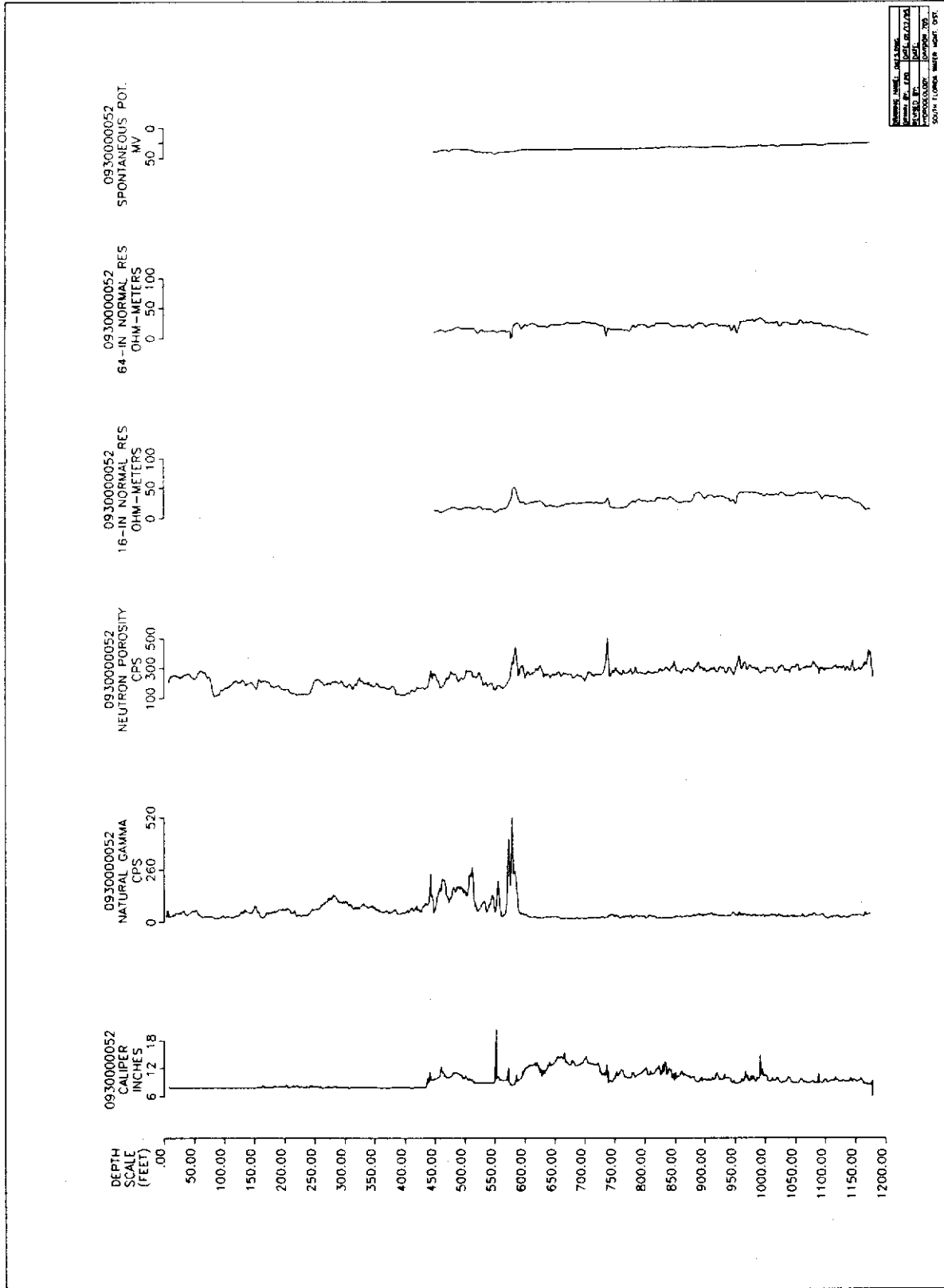


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WELL STATUS	WELL
WELL DATE	10/15/50

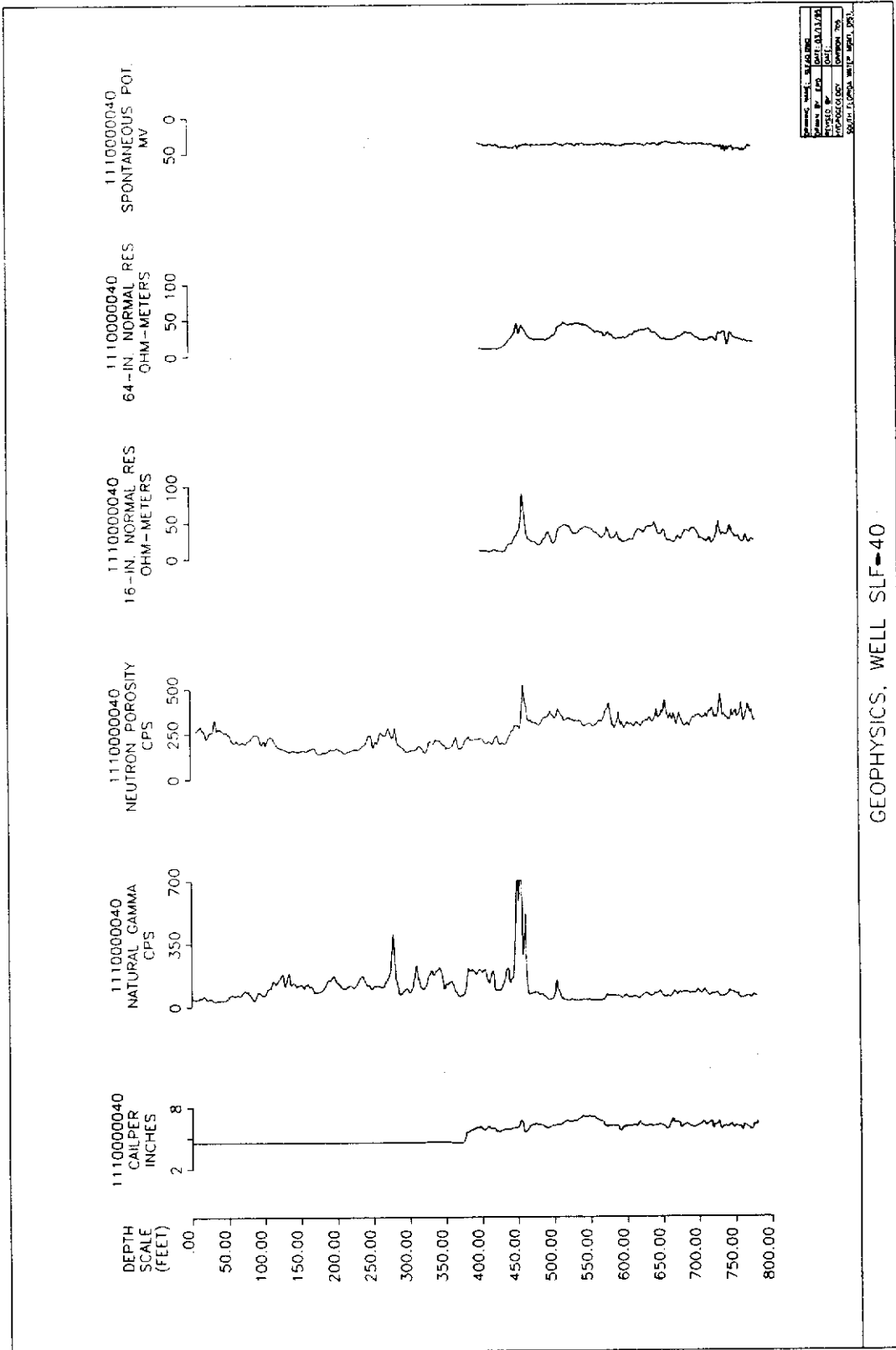


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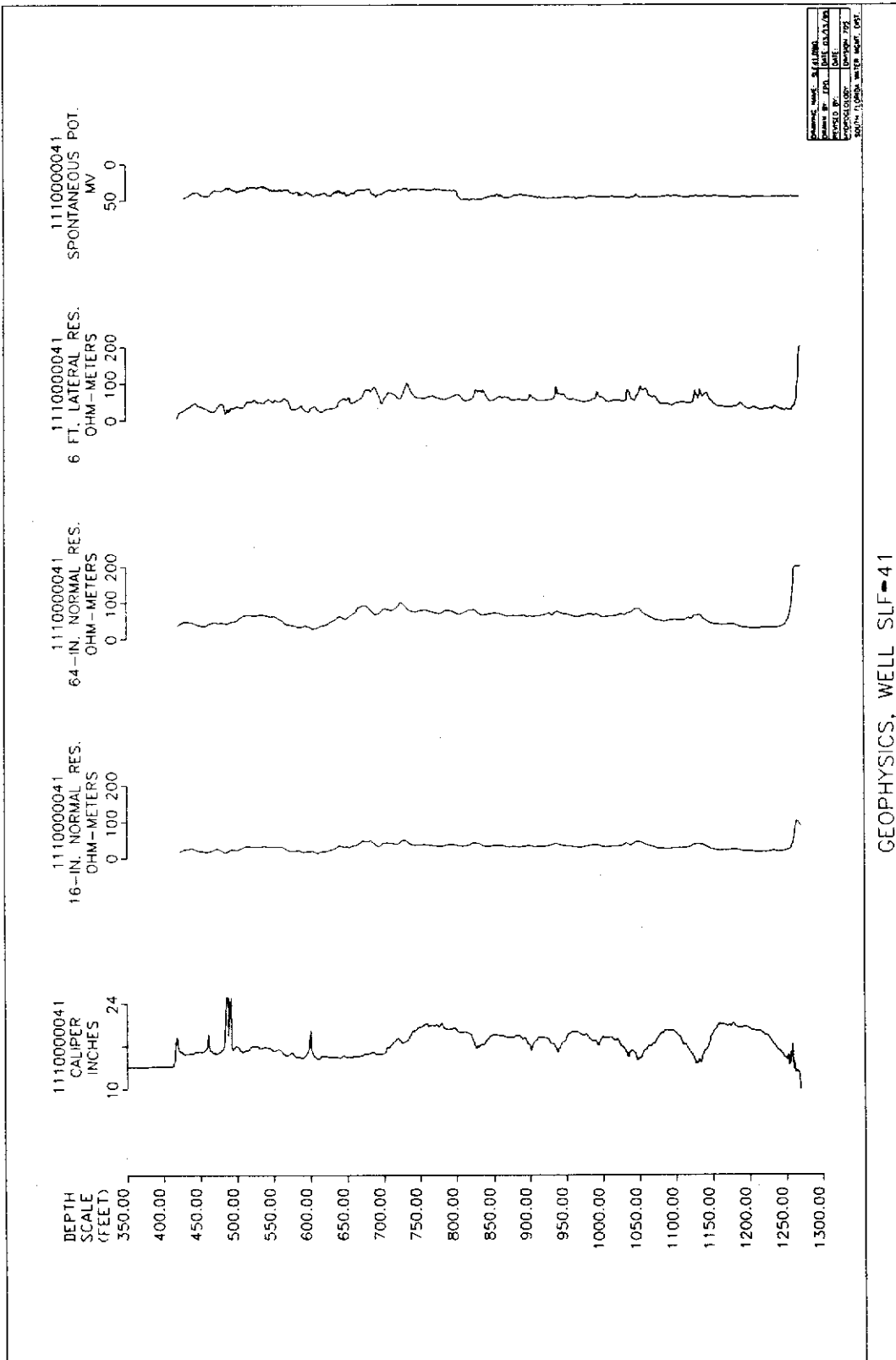




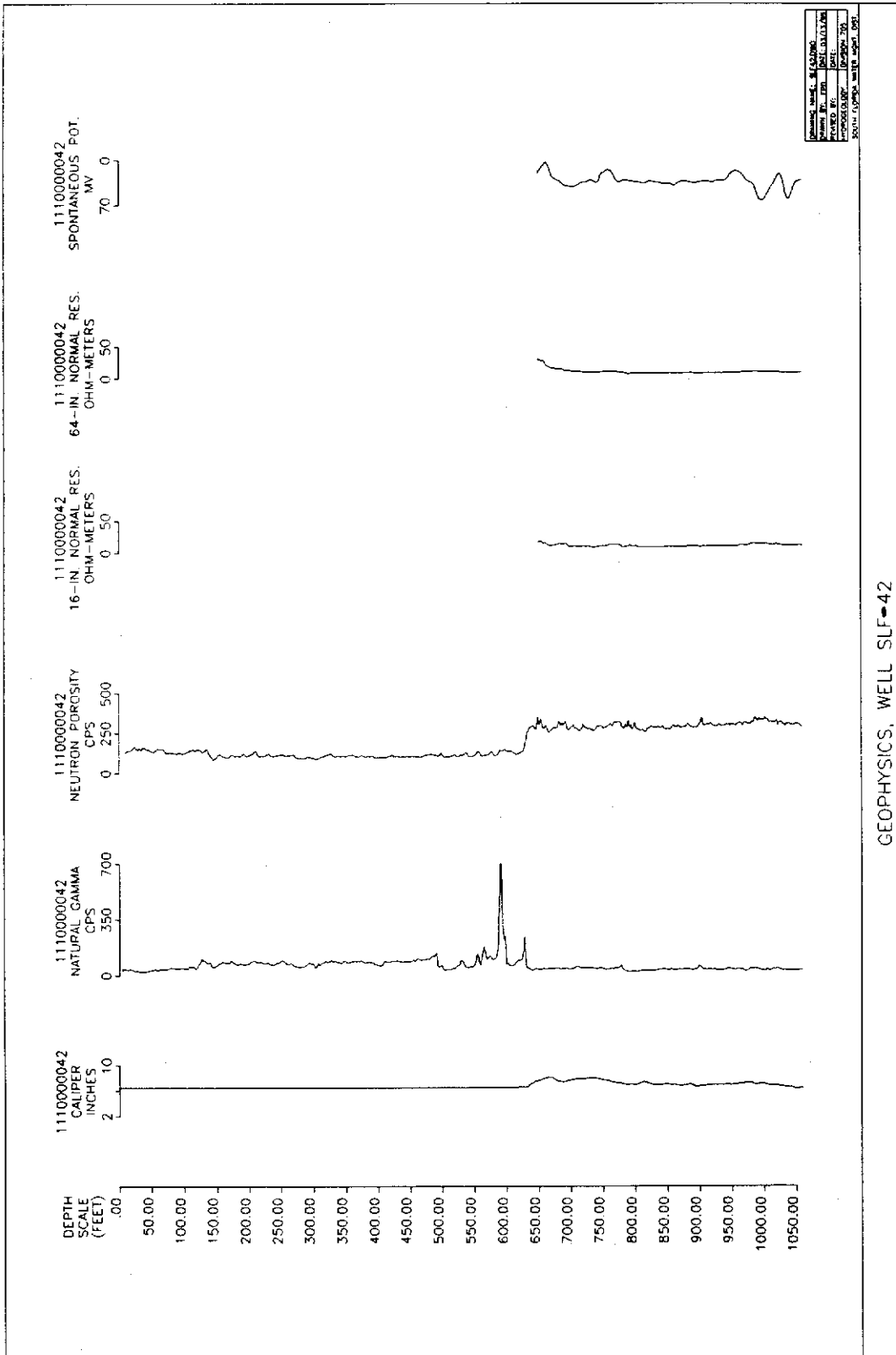
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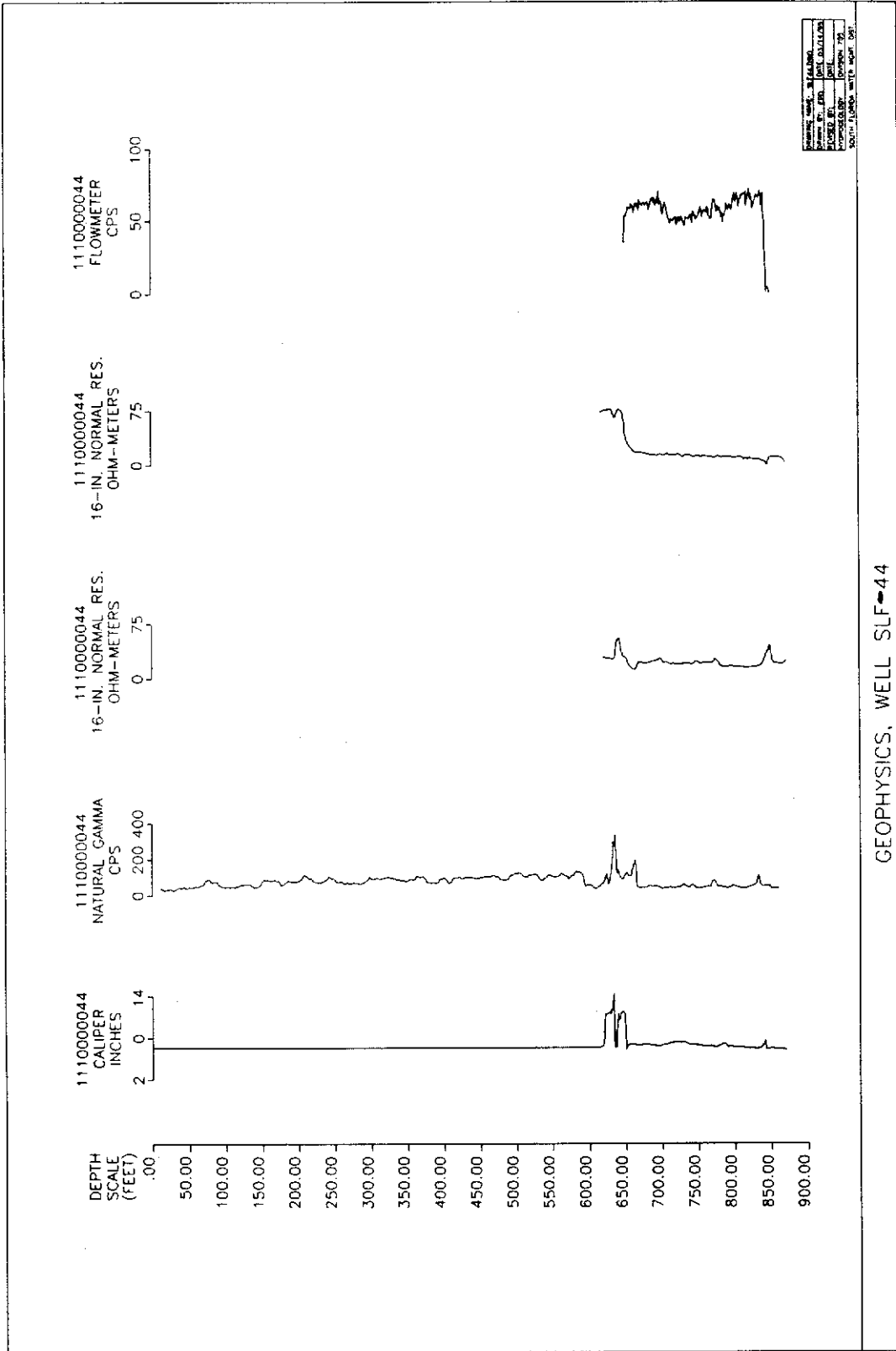


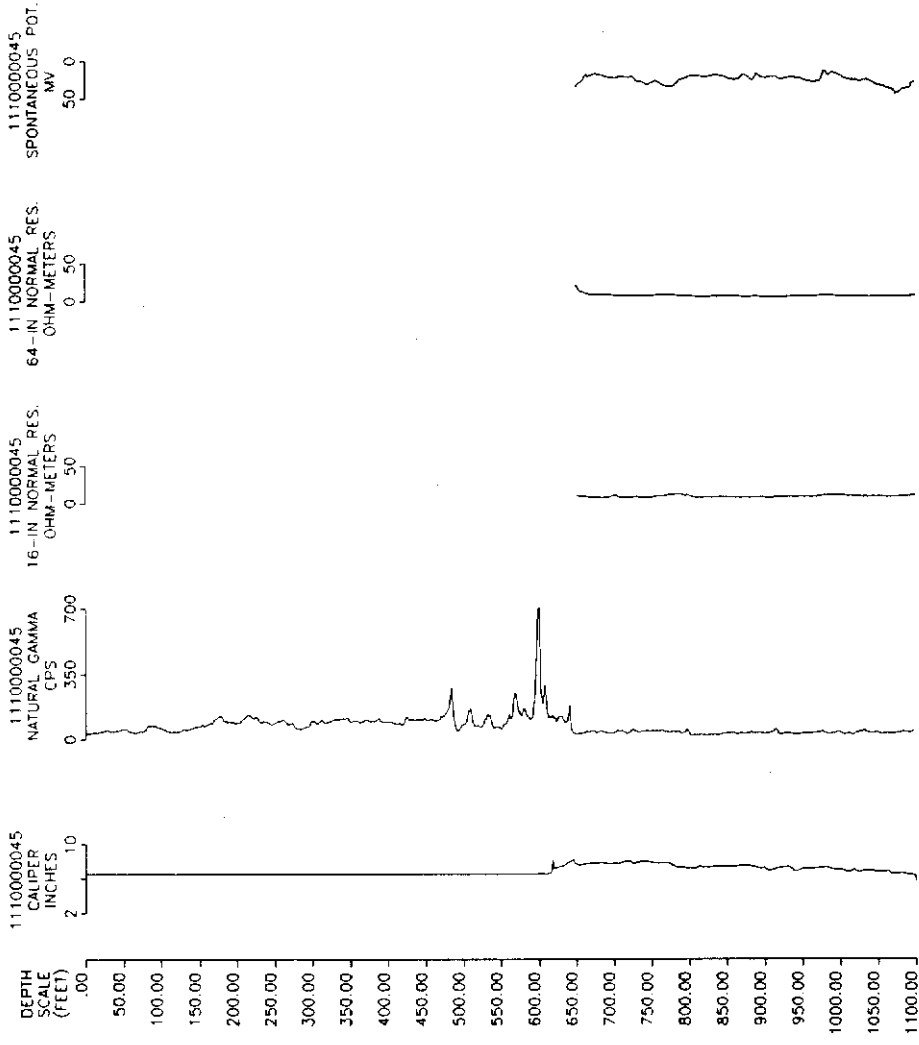




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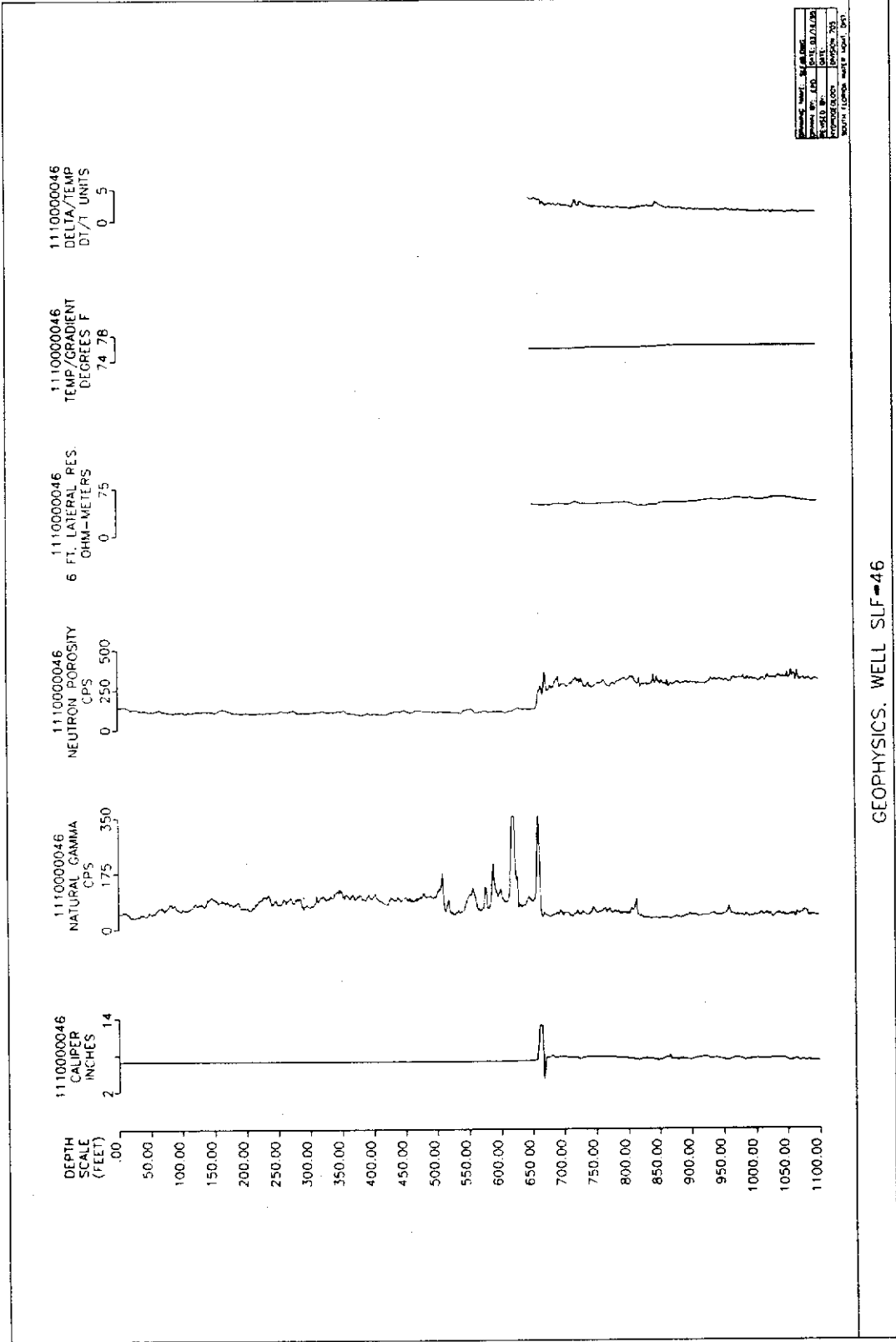




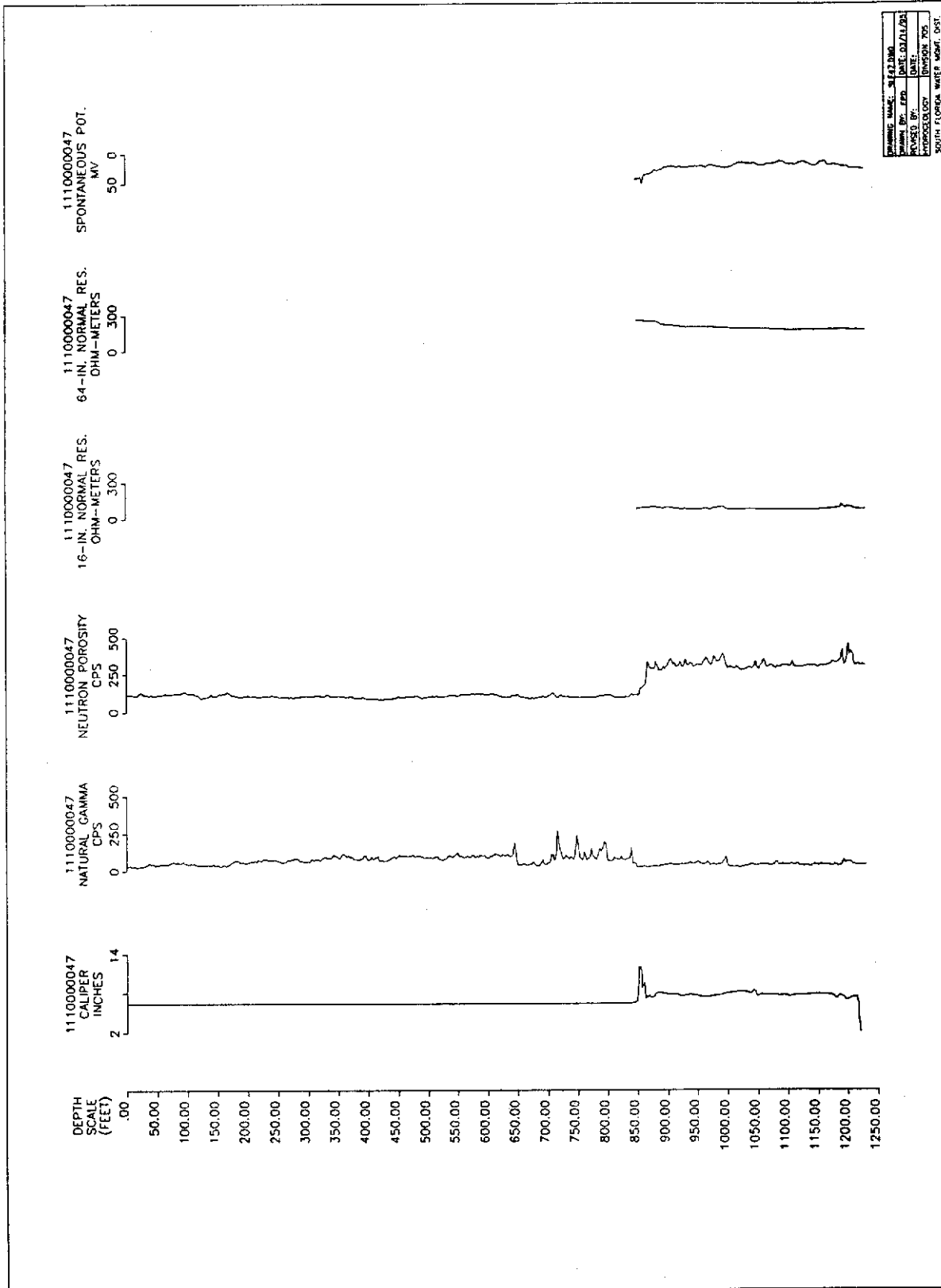


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 COMPANY: GEOPHYSICS, WELL SLF-45  
 DATE: 11/11/73  
 LOCATION: SOUTH FLORIDA WTP, WPT, 1973

GEOPHYSICS, WELL SLF-45

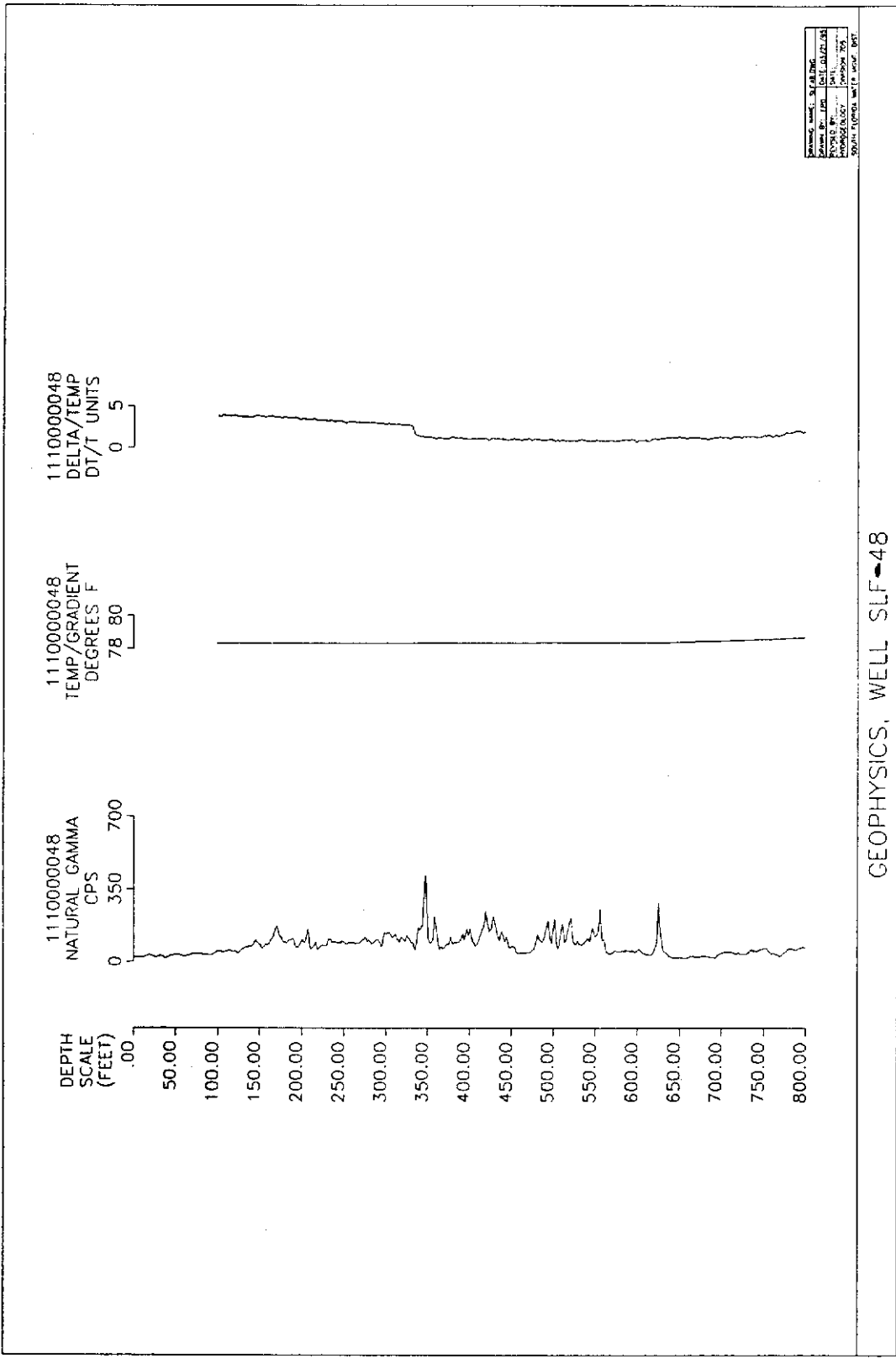


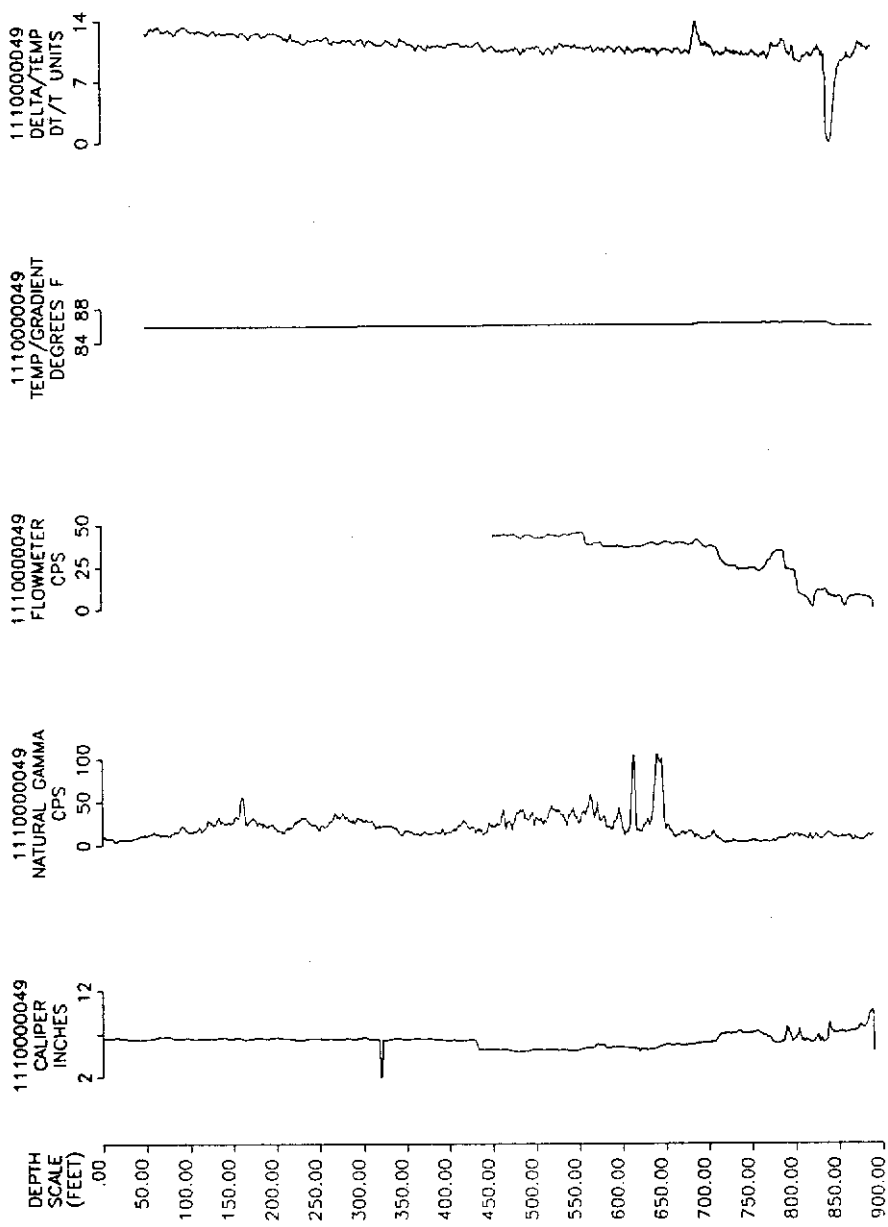
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PLANNING NAME: 8147.040	DATE: 01/11/83
DESIGNED BY: JPD	DATE:
REVIEWED BY:	DATE:
PROCESSED BY:	DATE:
SOUTH FLORIDA WATER MGMT. DIST.	

GEOPHYSICS. WELL SLF-47

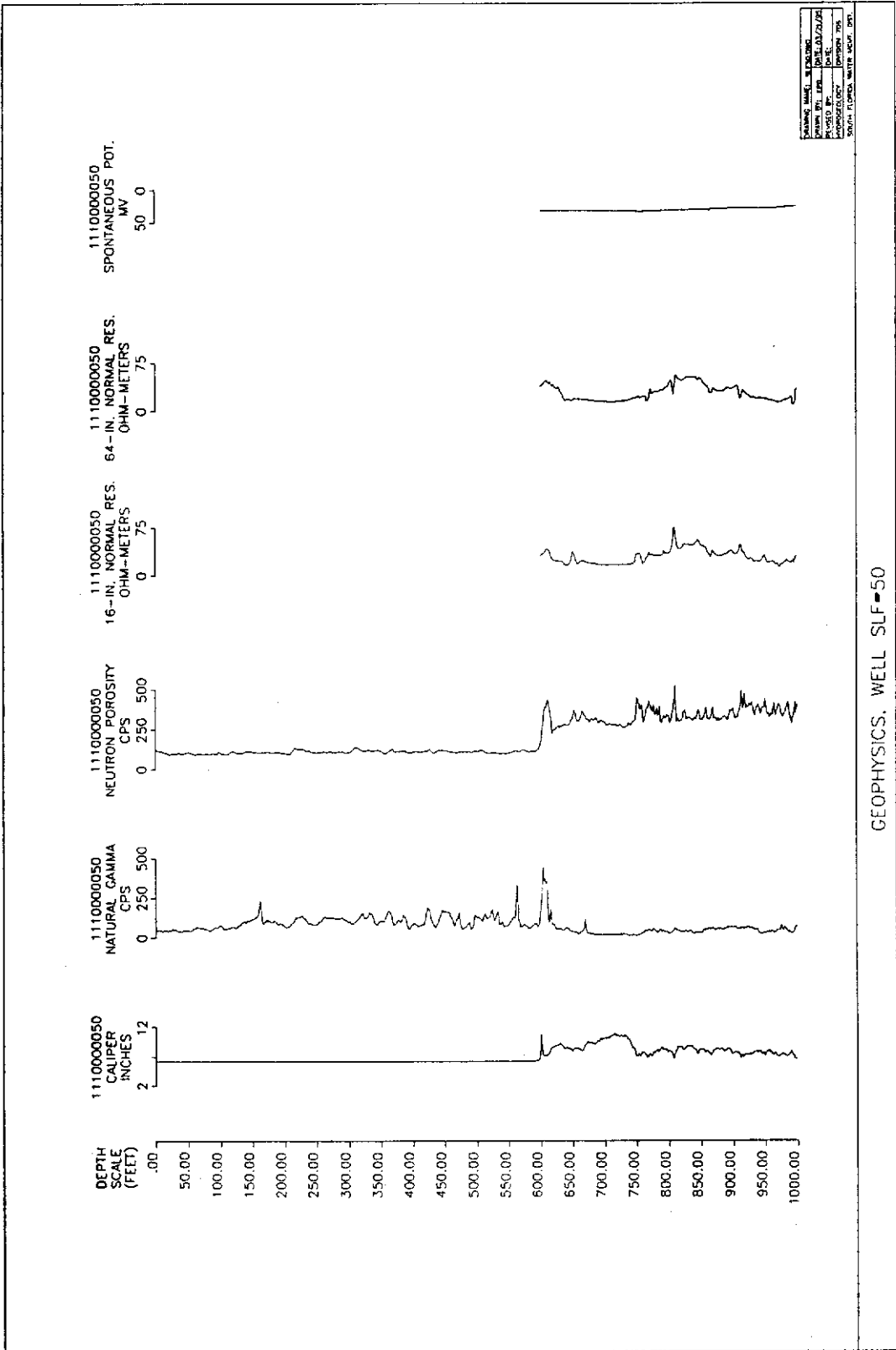


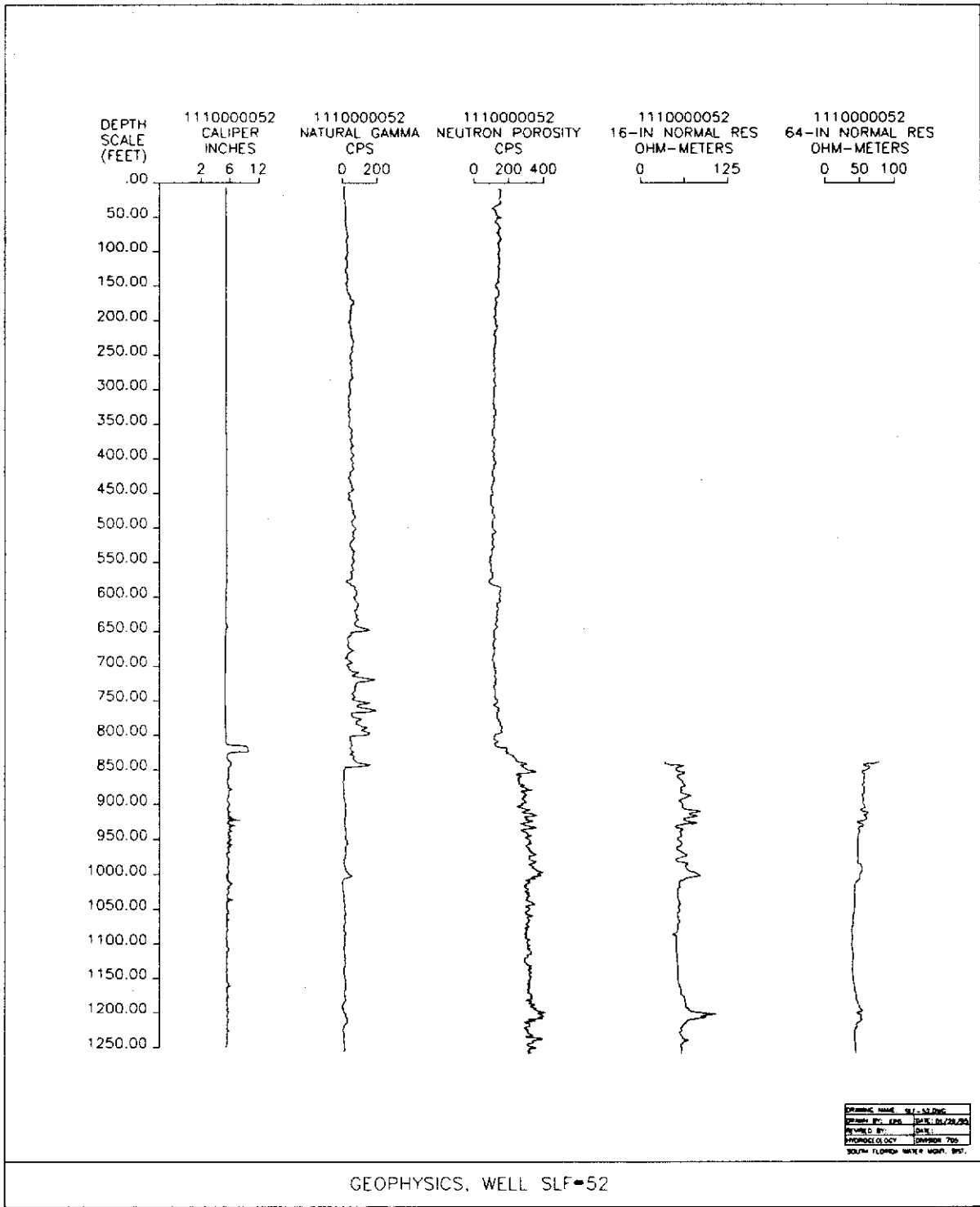


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WELL TYPE	
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GEOPHYSICS, WELL SLF-49

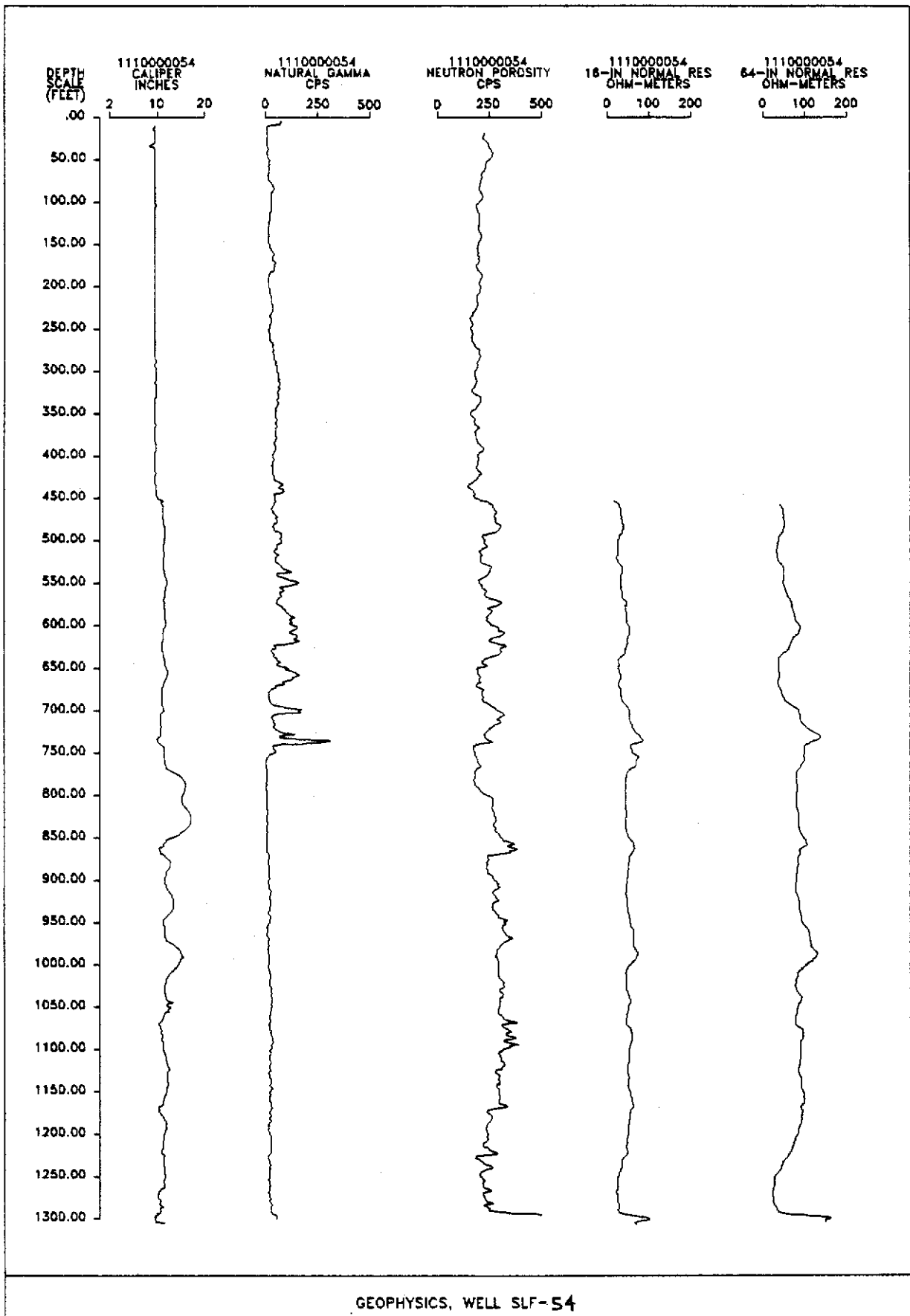


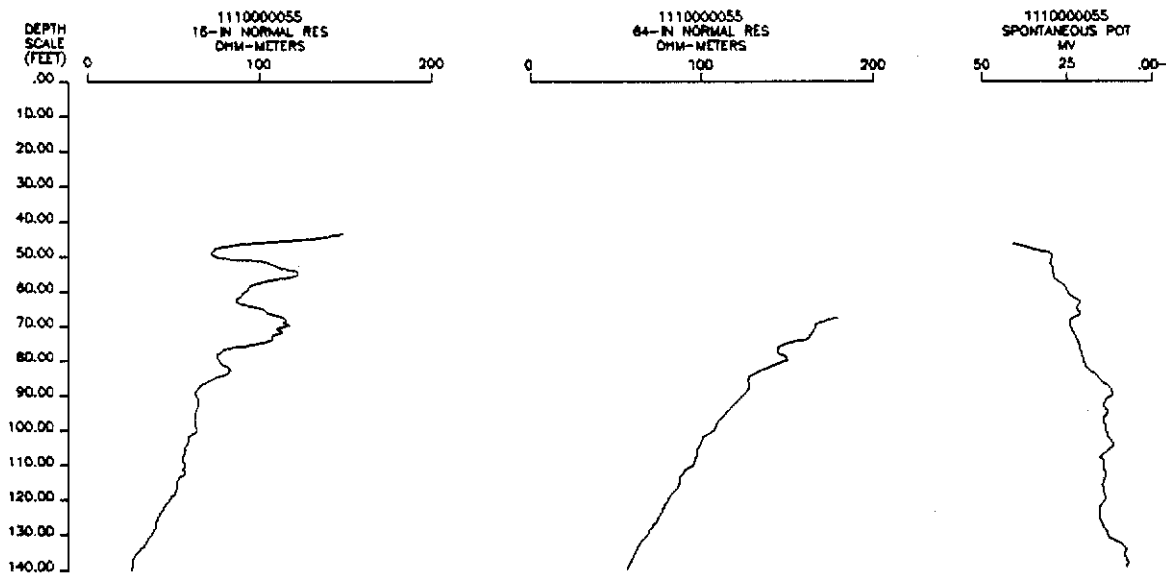
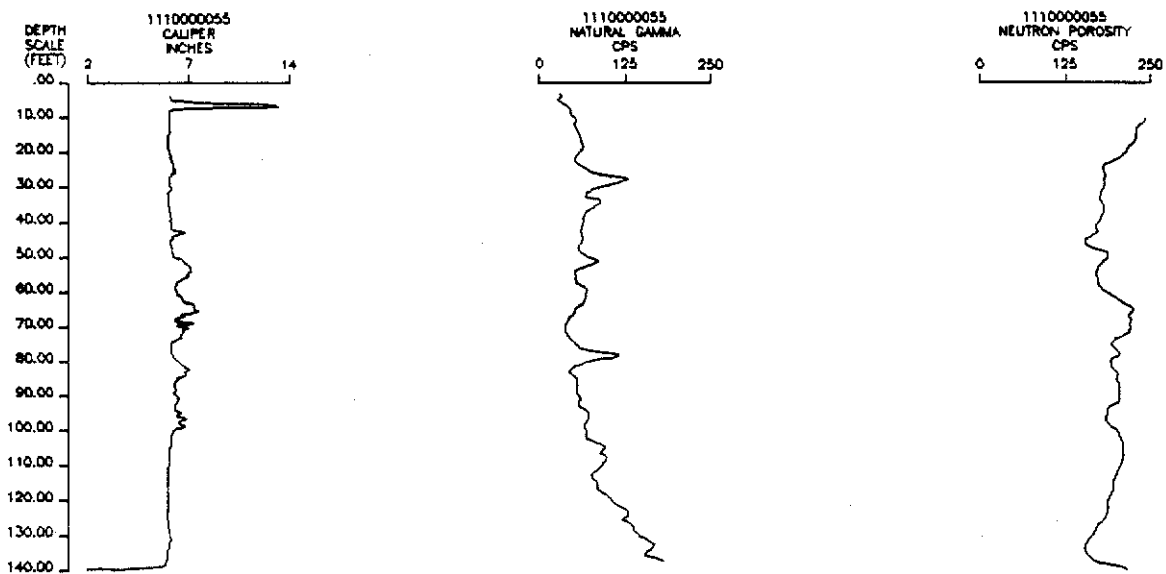




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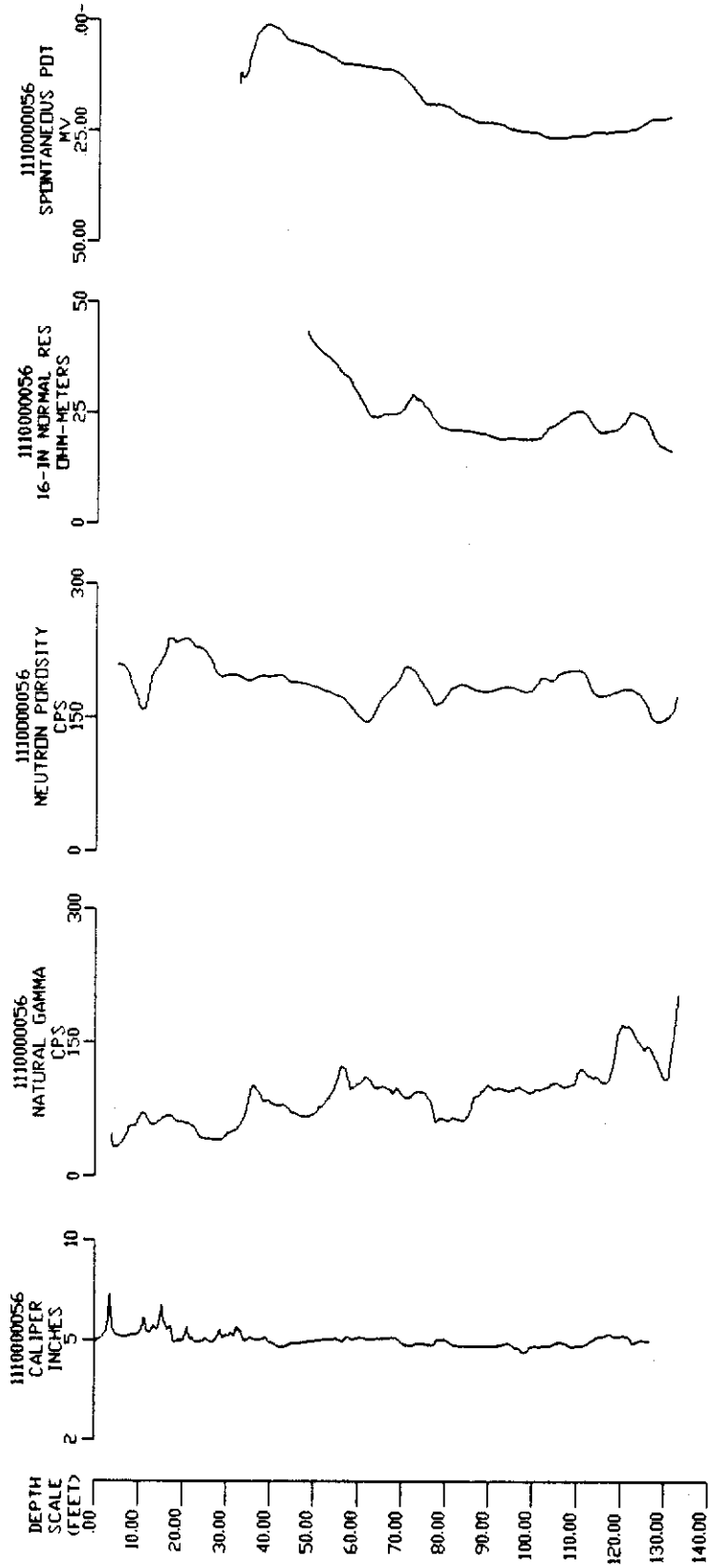




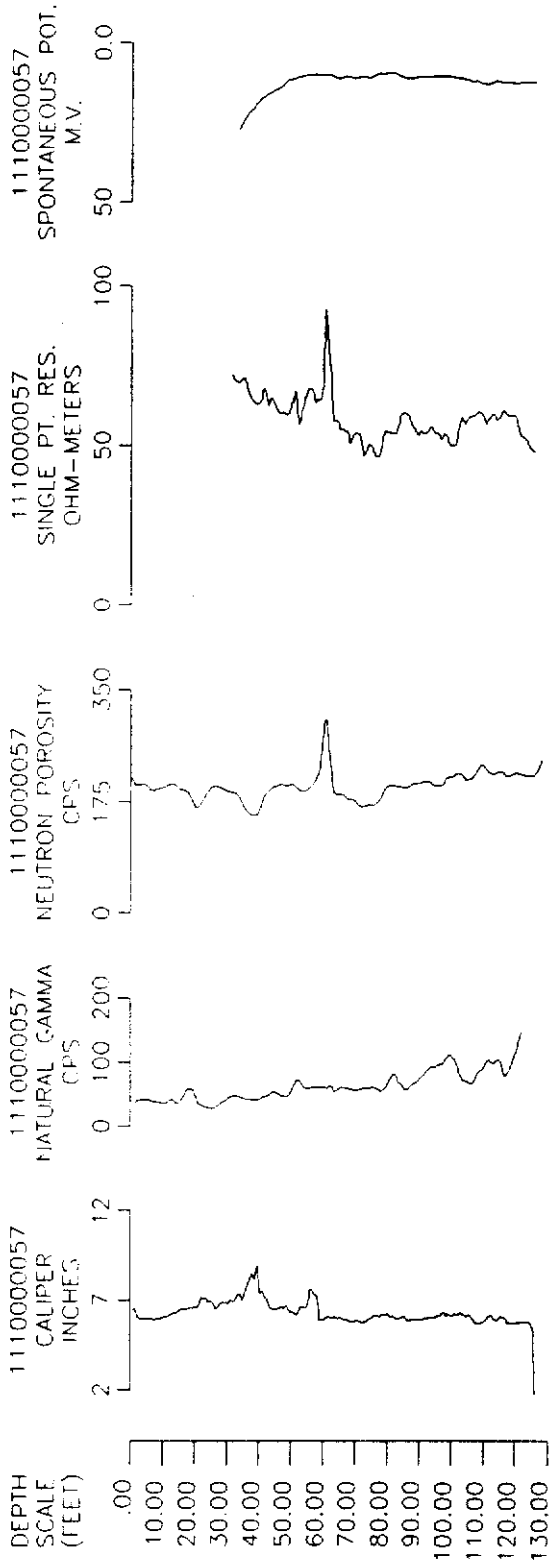


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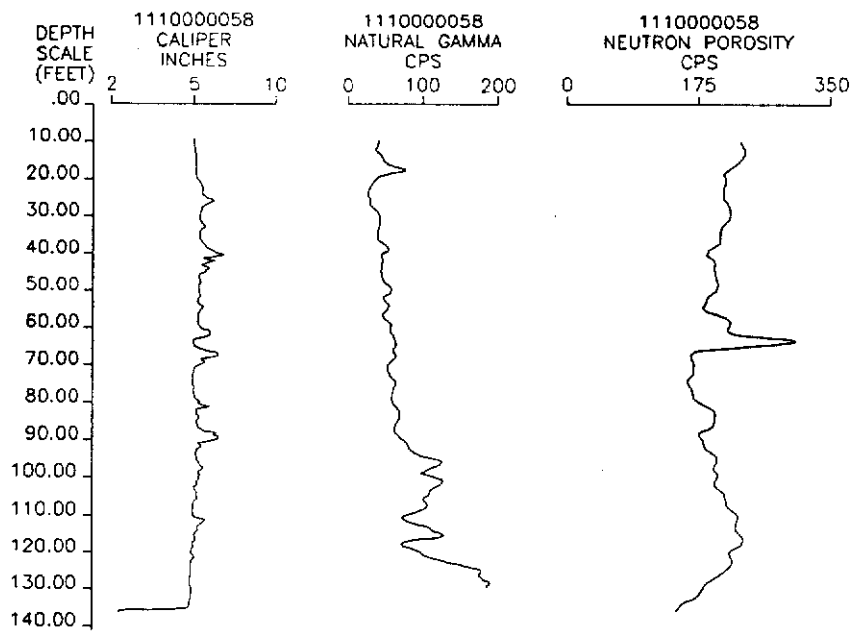


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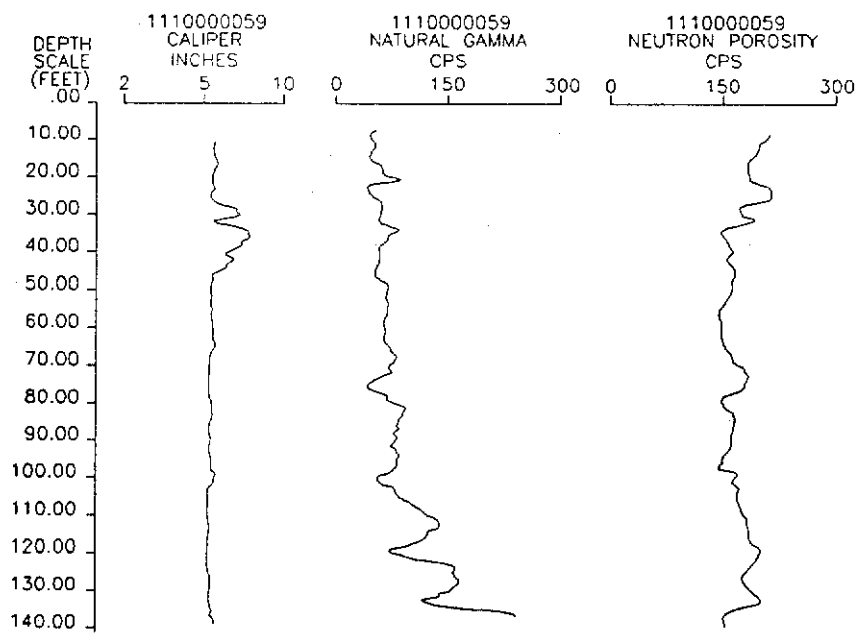


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DATE	
LOGGERS	
SPON. POT. M.V. (M.V.)	

GEOPHYSICS, WELL STLAPT2-TW



GEOPHYSICS, WELL STLAPT 2 - PW1

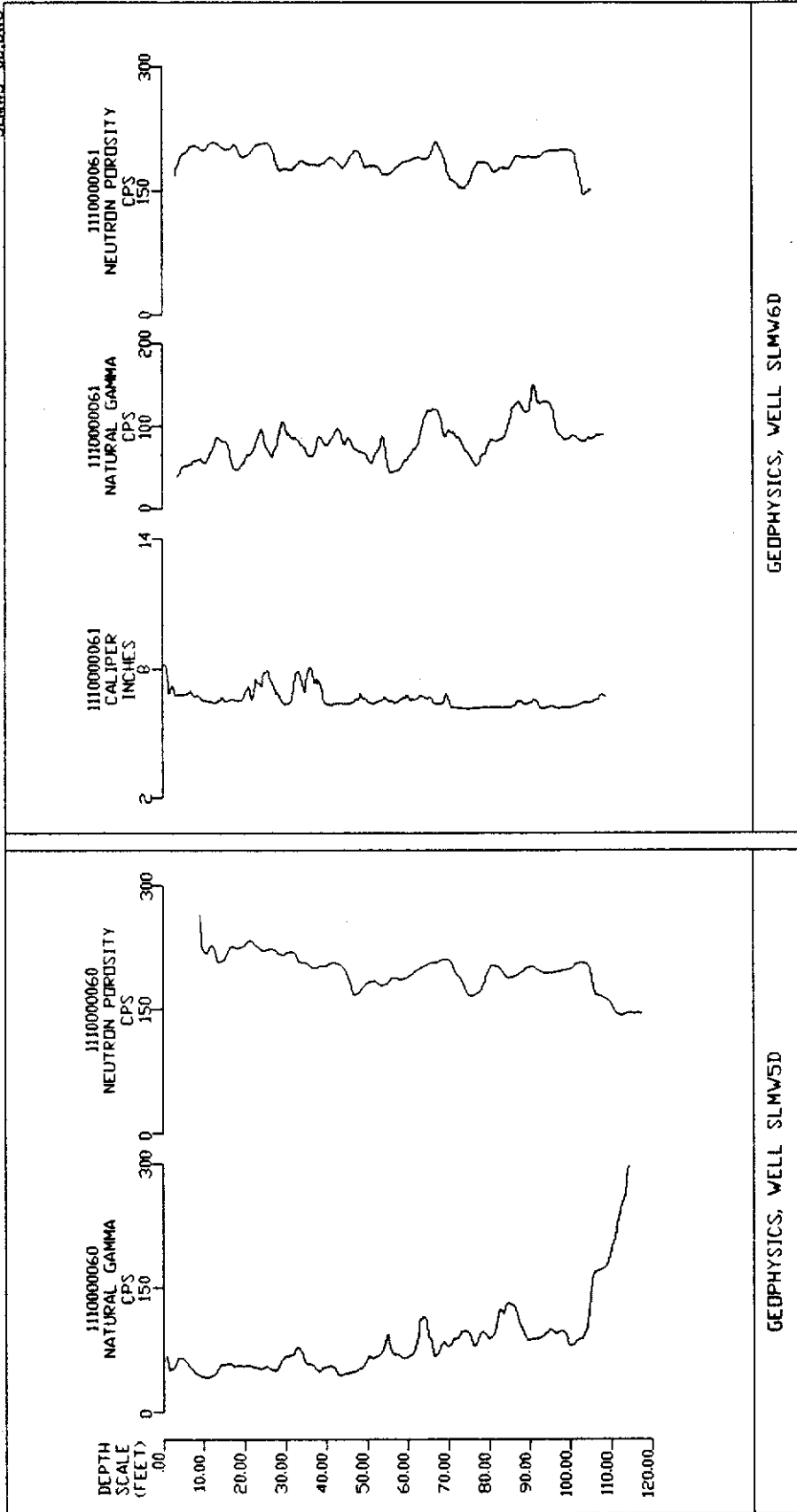


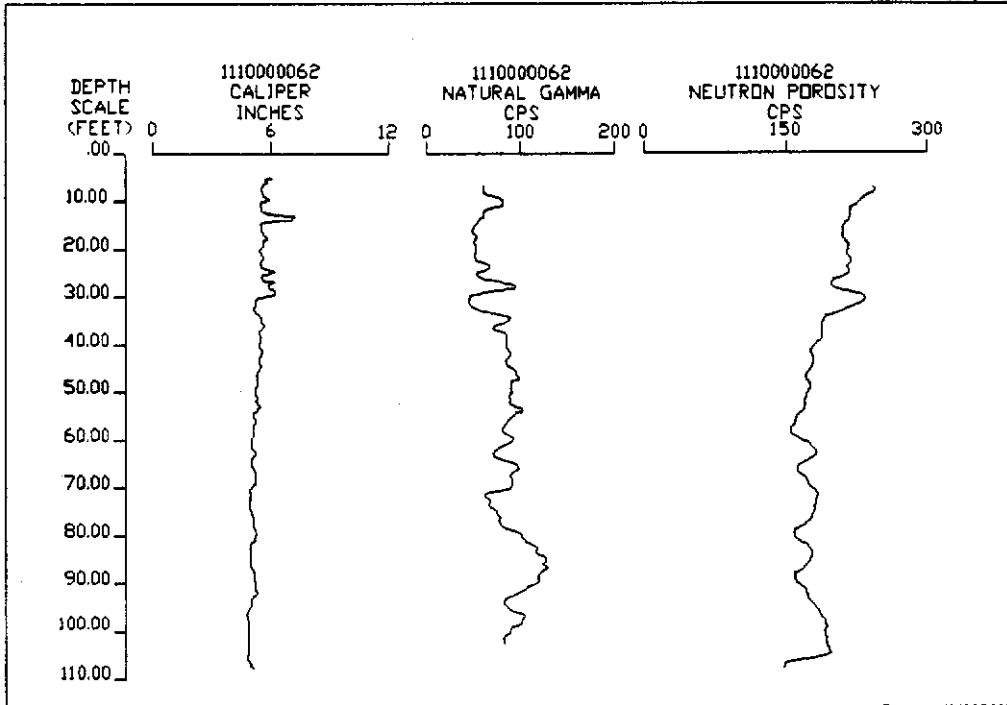
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DATE:	
HYDROLOGIST:	DAVID A. BROWN
CONTRACT NO.:	

SOUTH FLORIDA WATER MGMT. DIST.

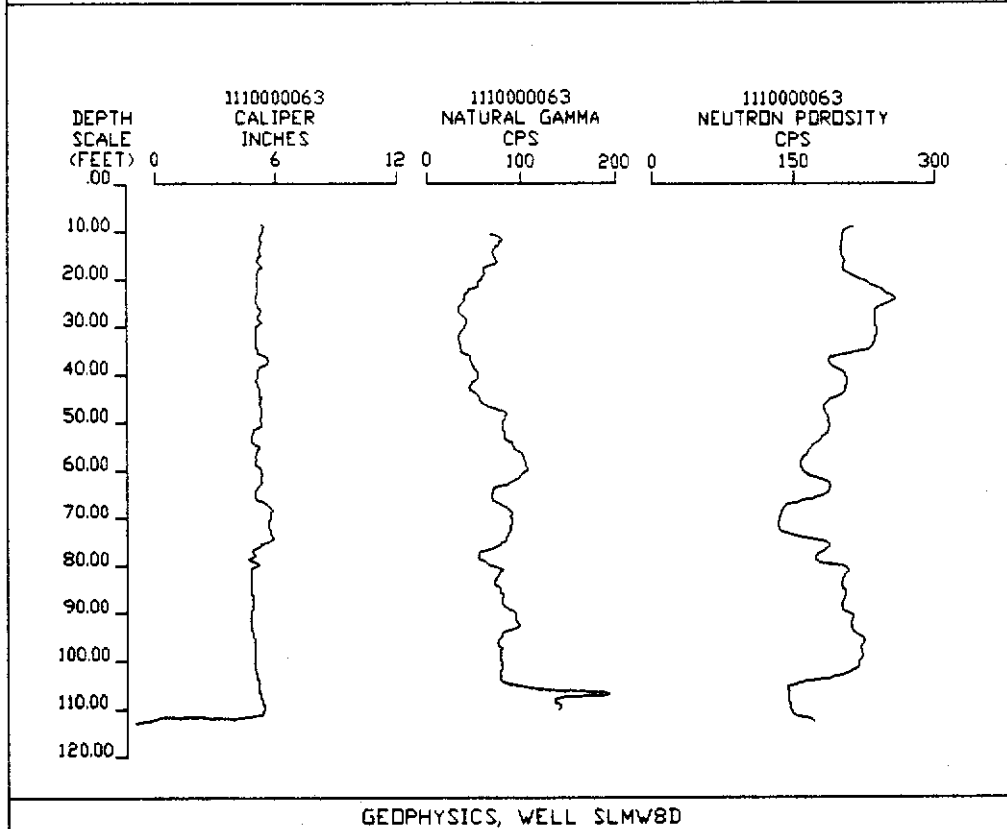
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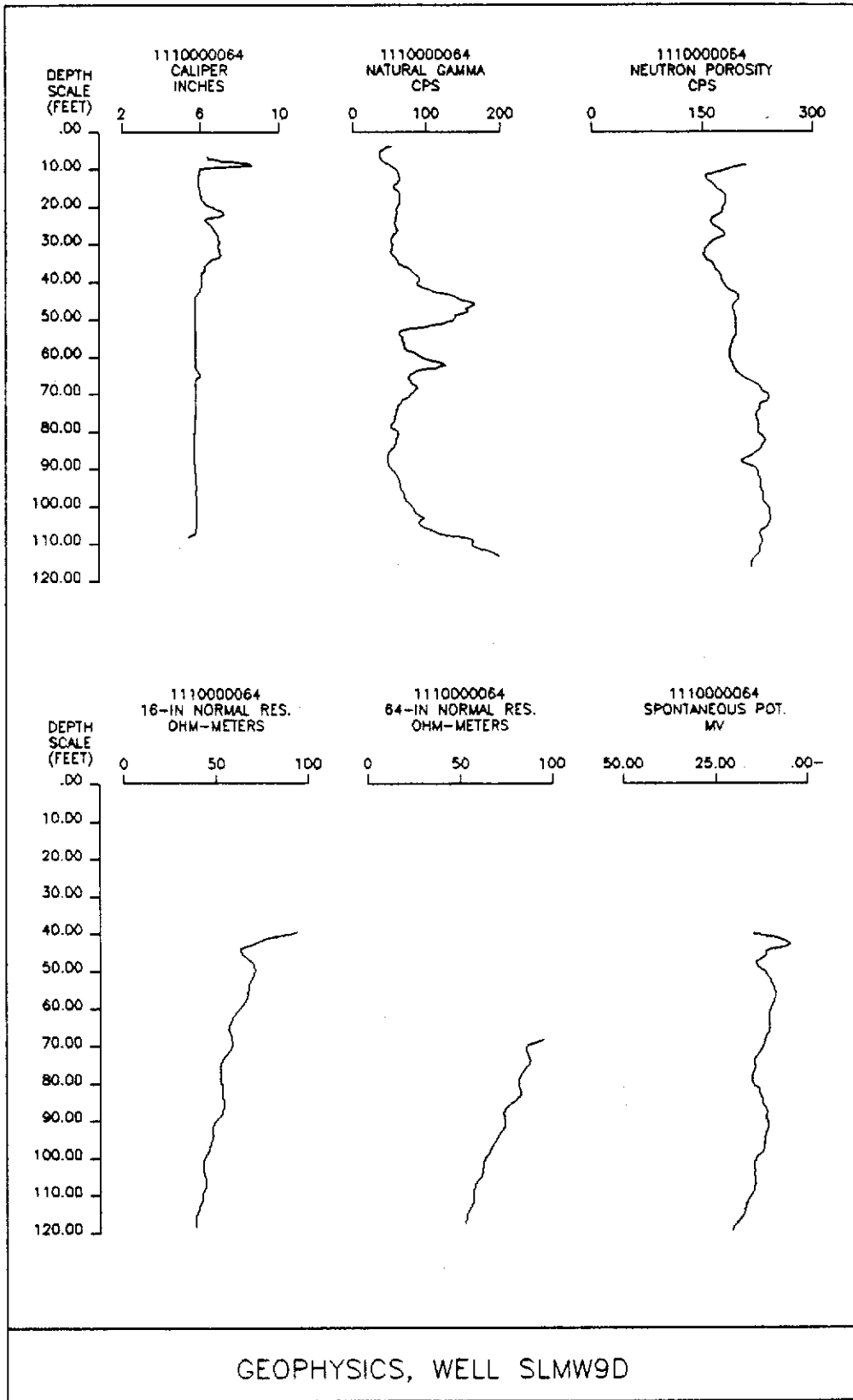


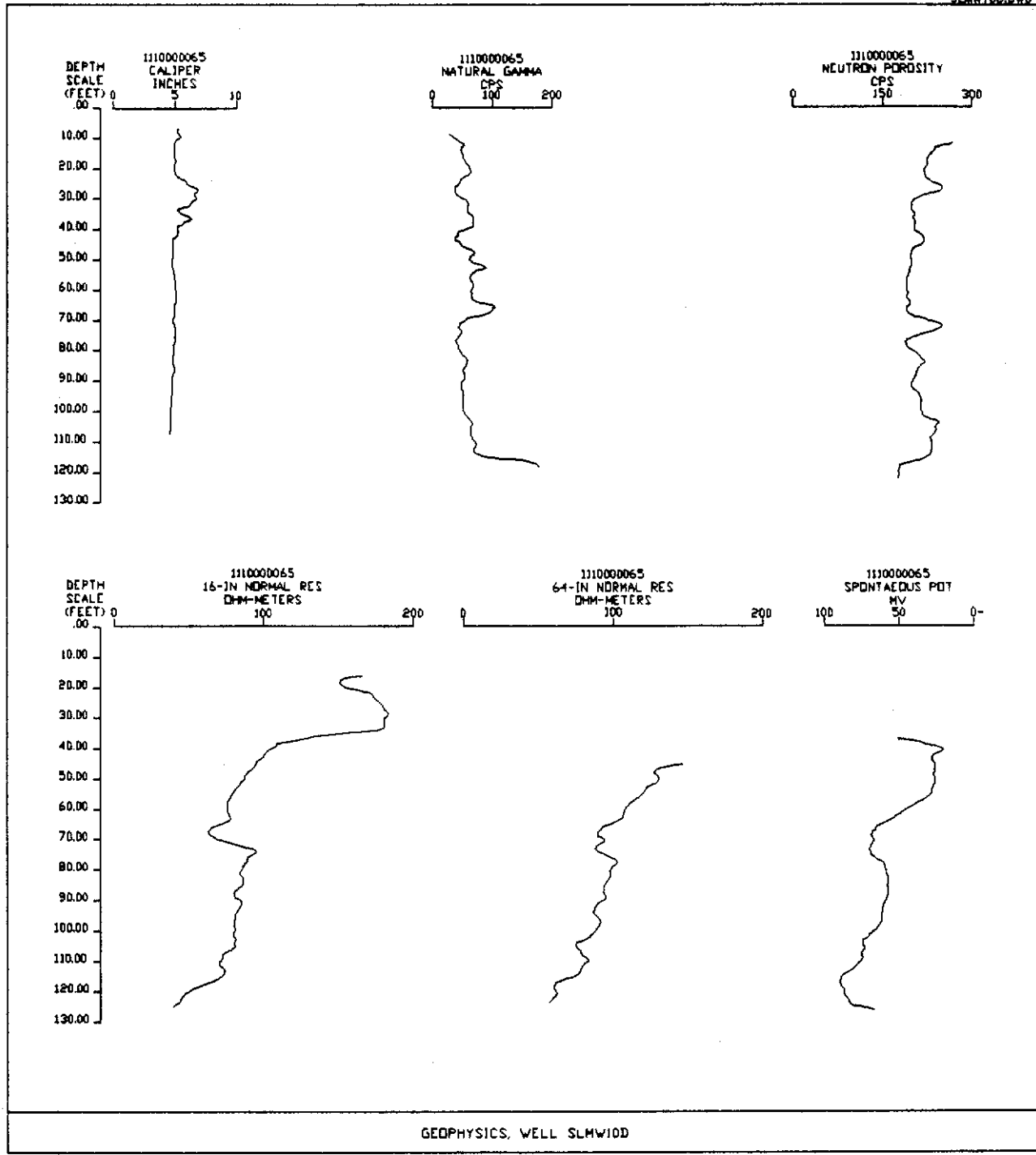


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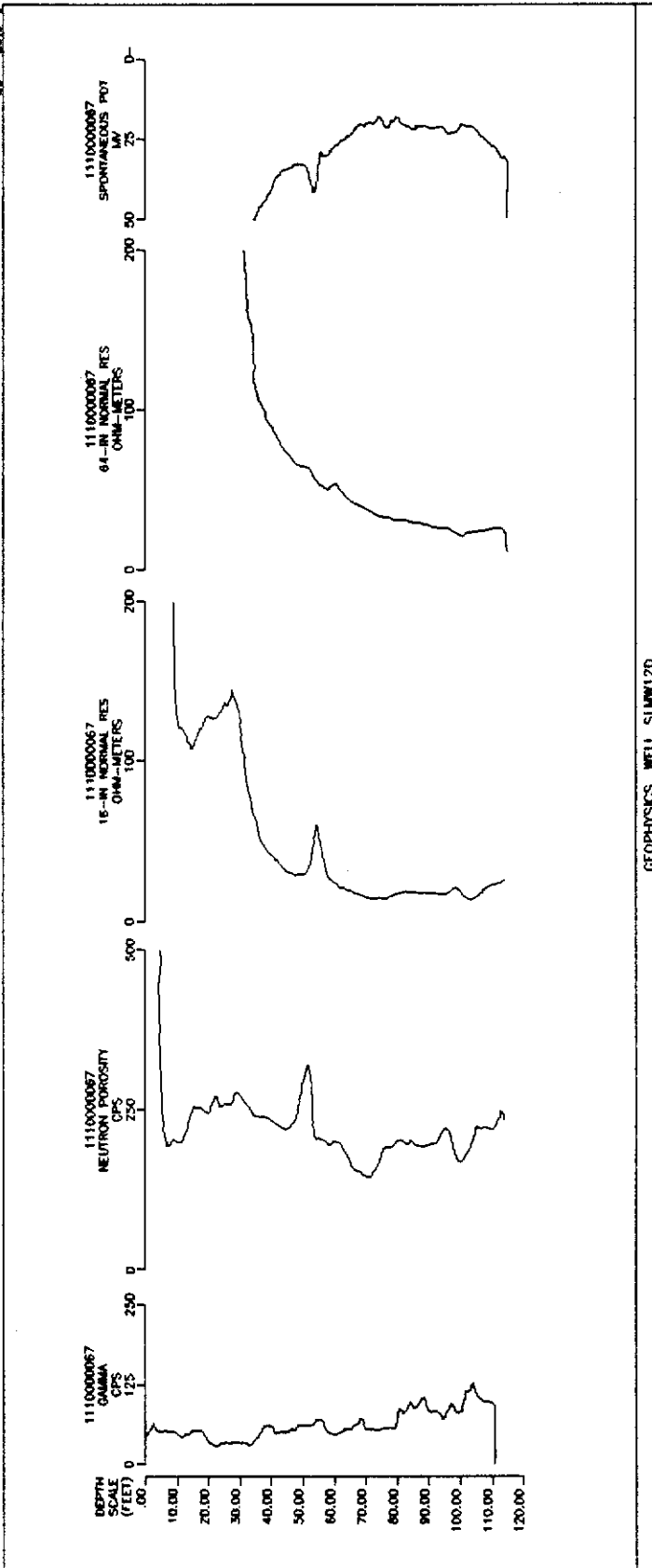




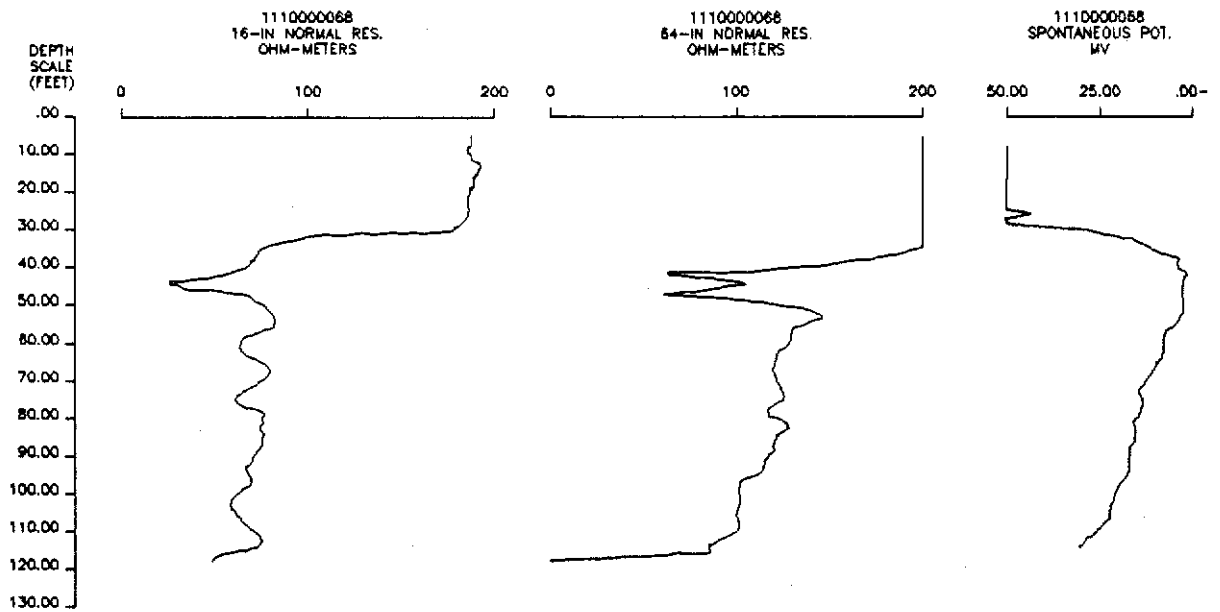
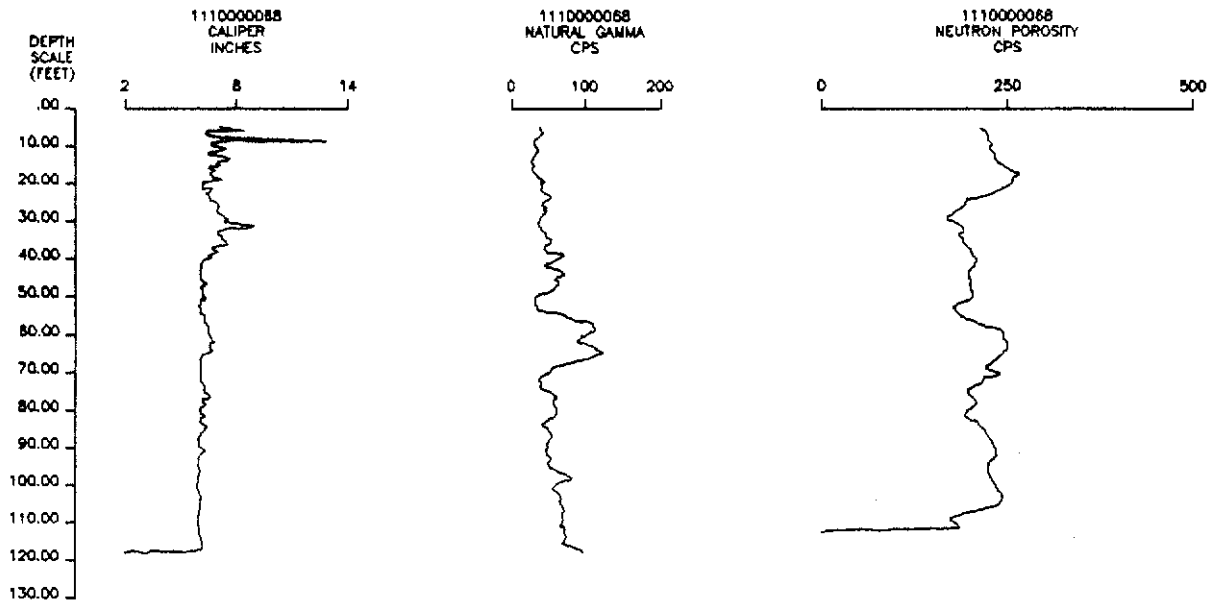
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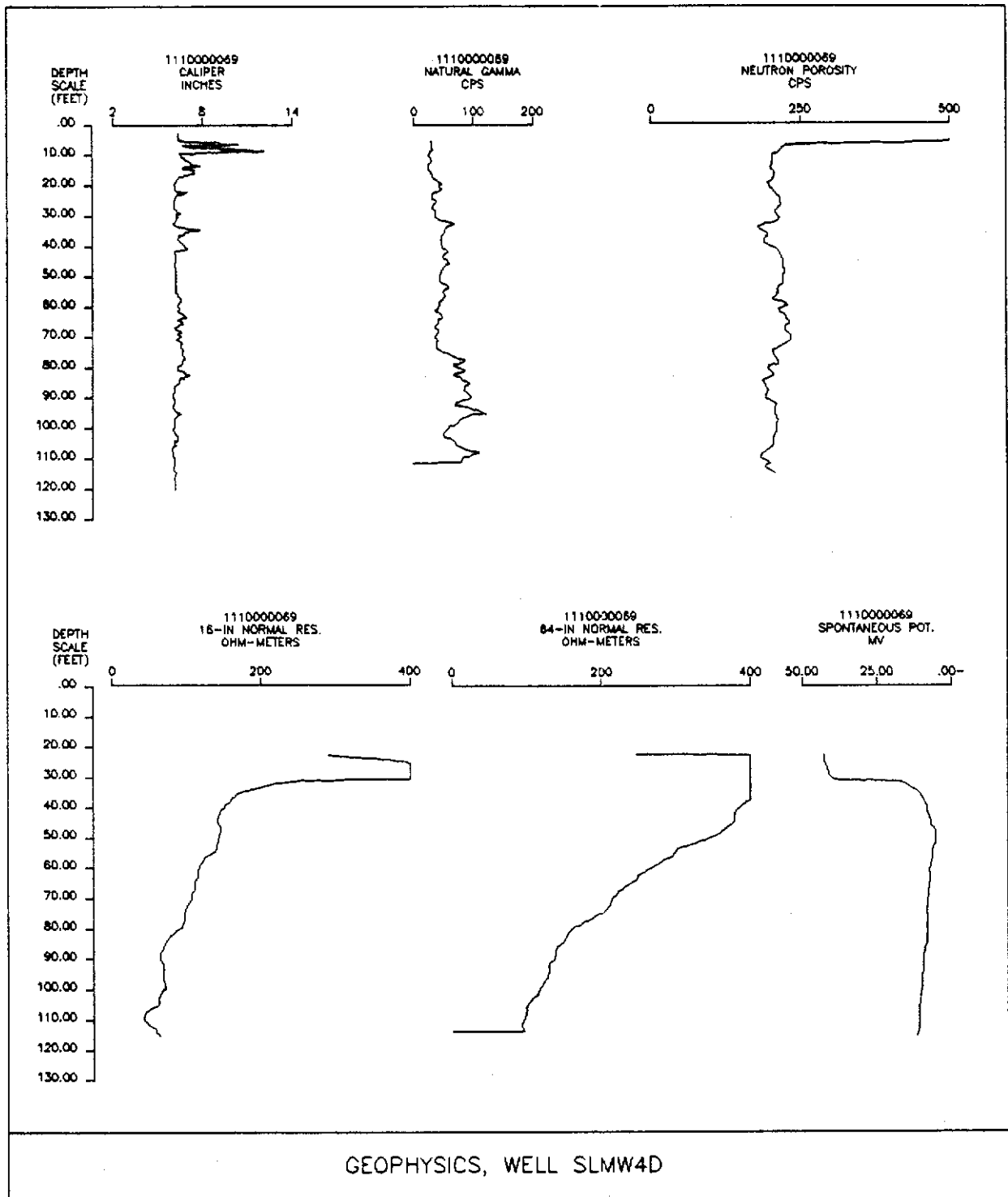
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GEOPHYSICS, WELL SUMW120

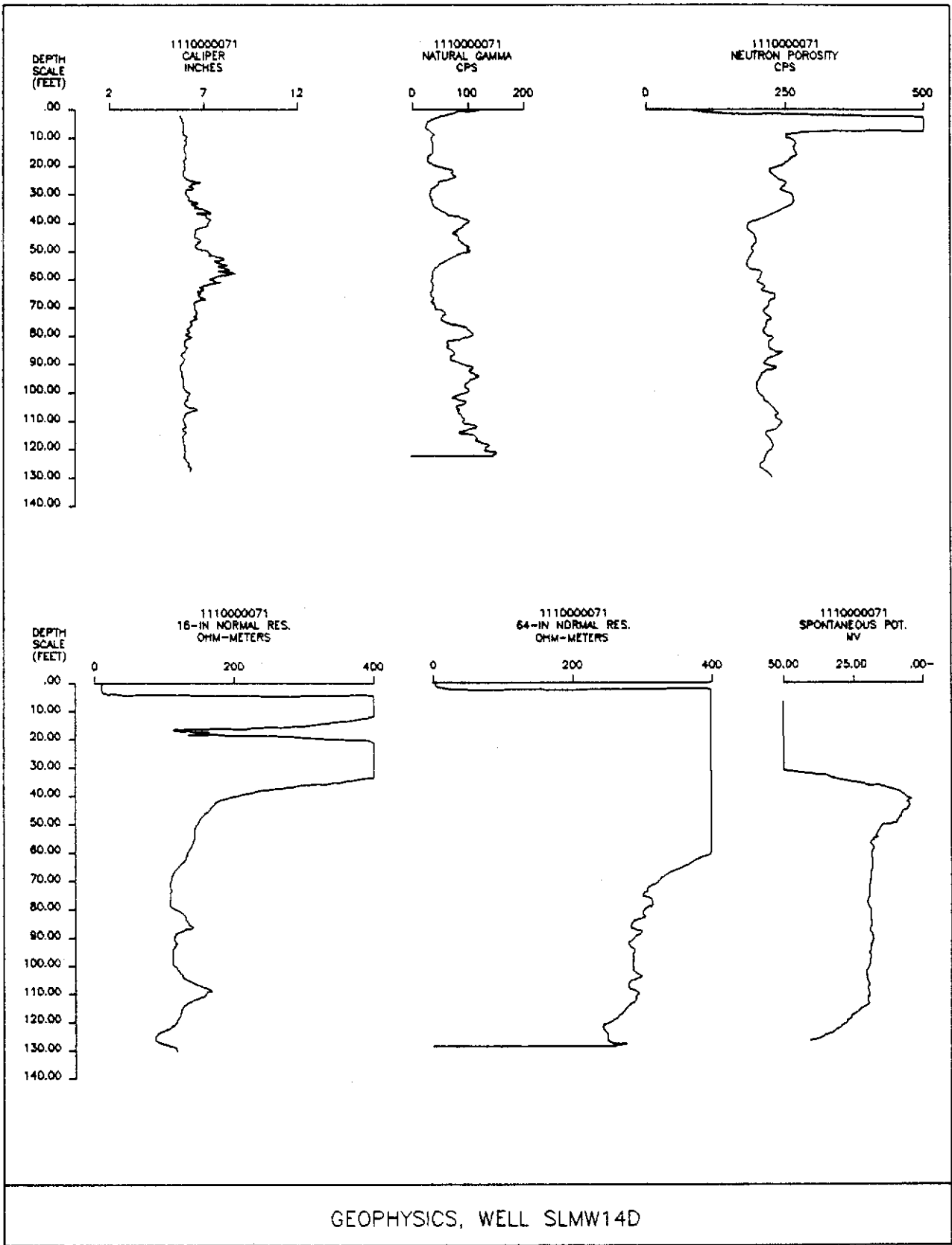


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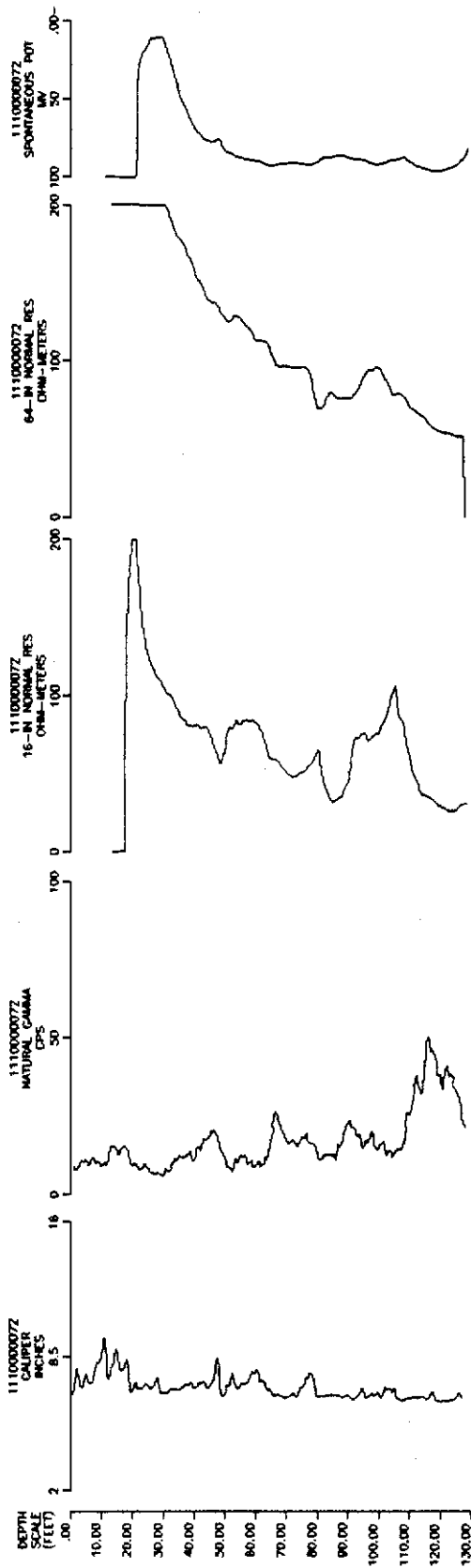




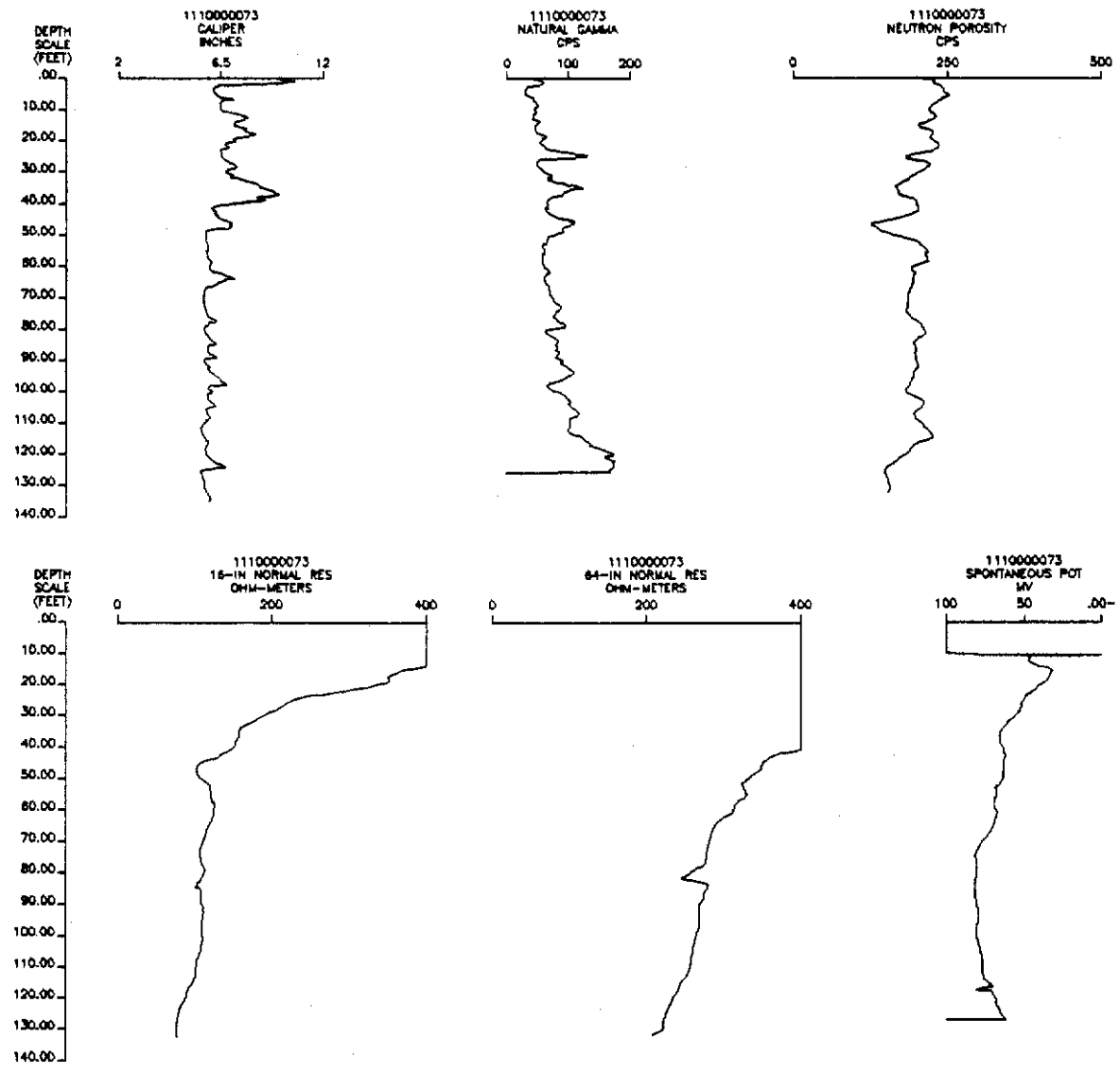




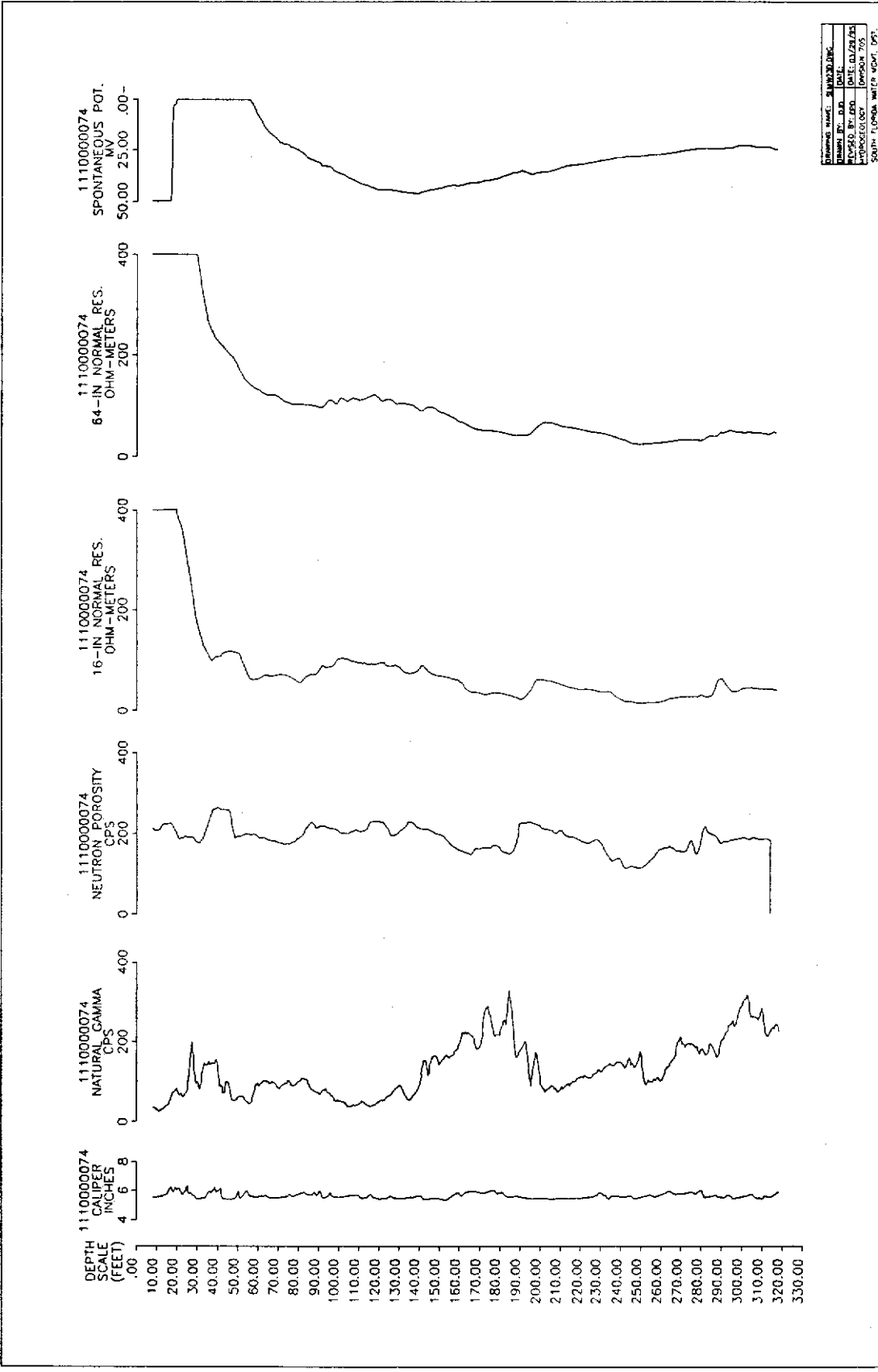
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GEOPHYSICS, WELL SLURWZOLINE

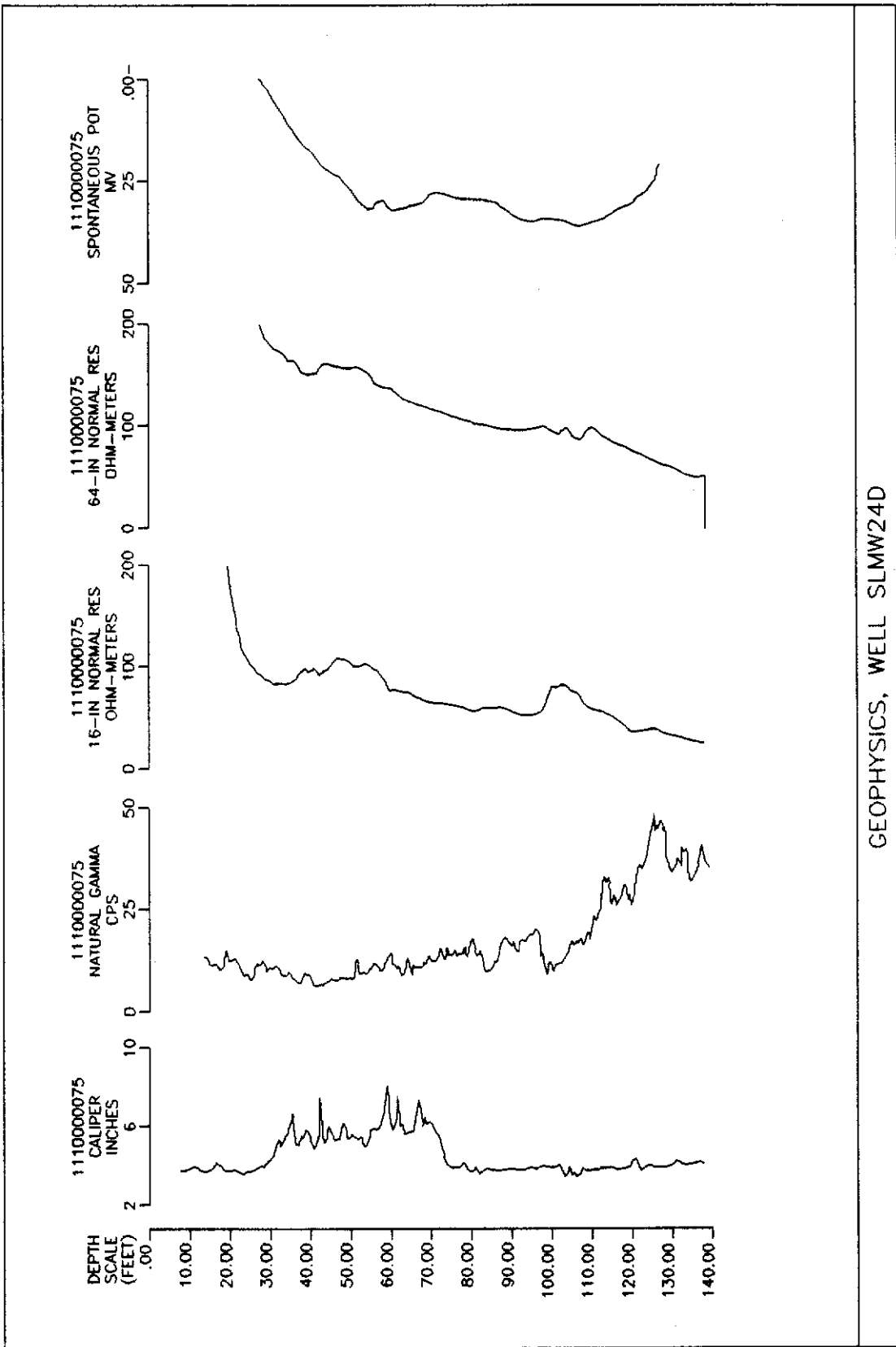


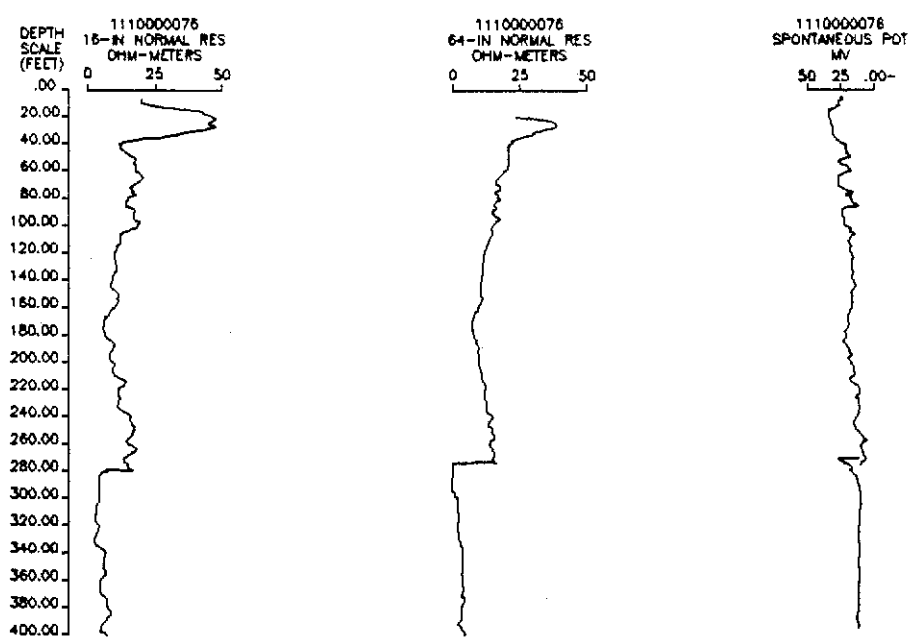
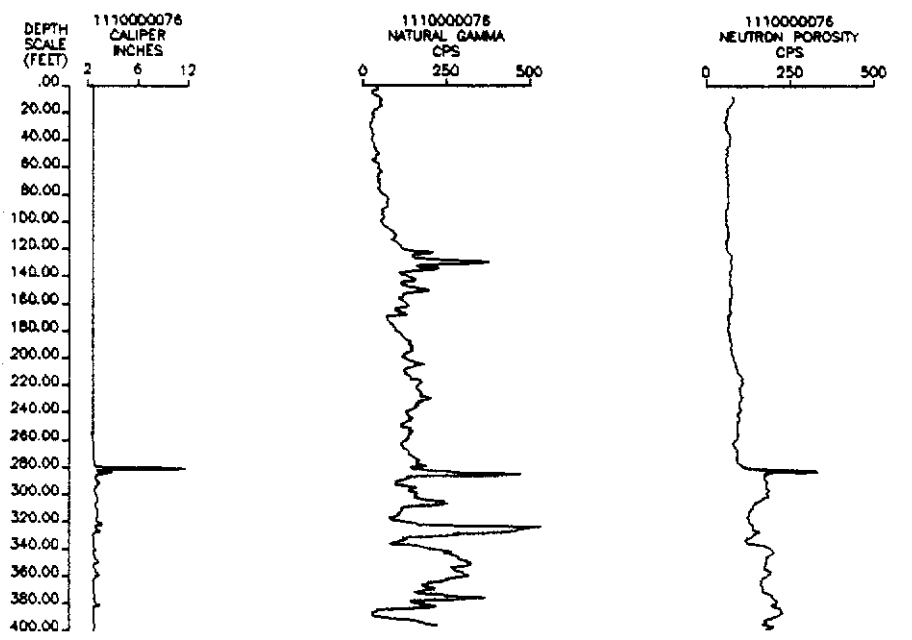
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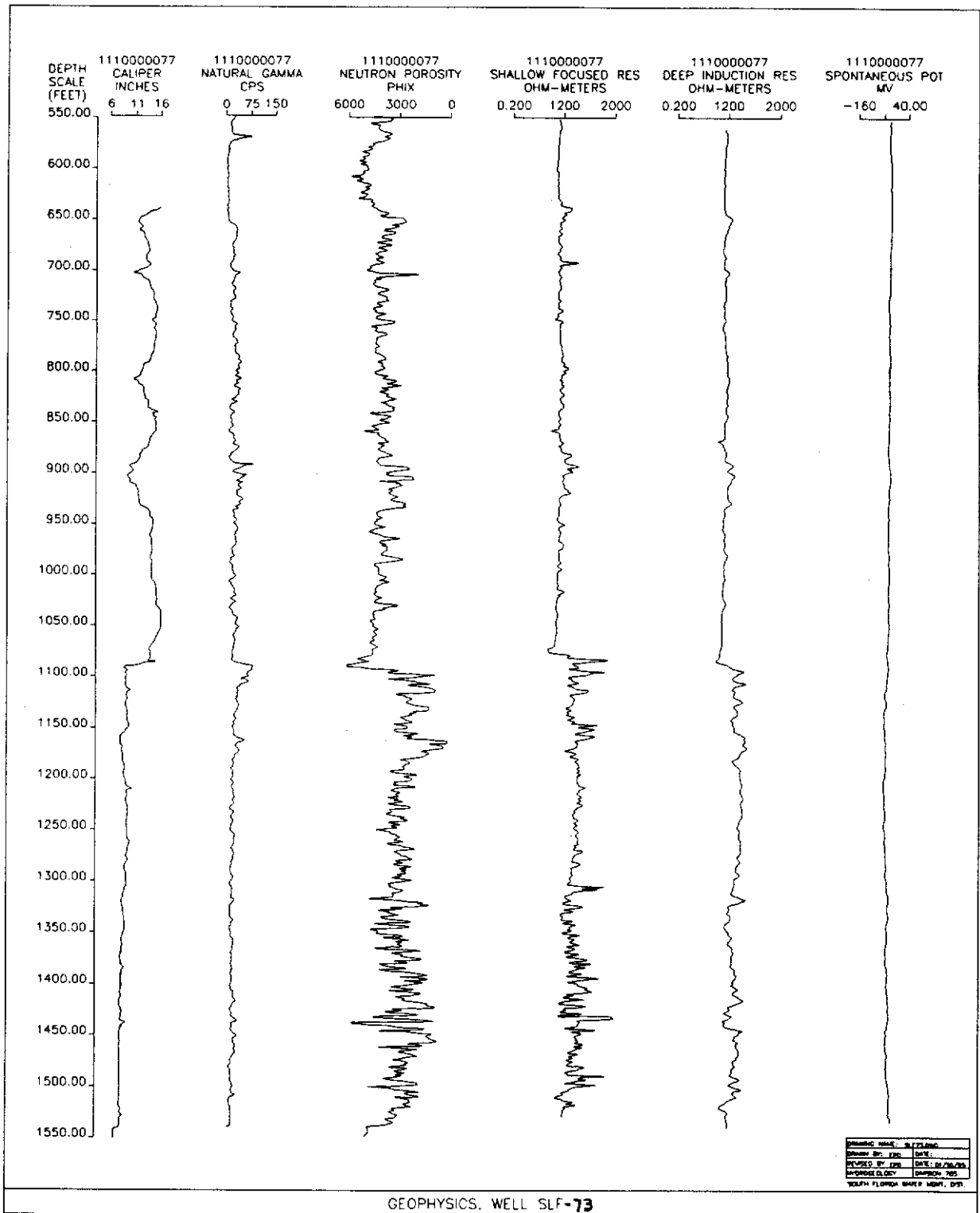
Well Name:	SLMW23D
Company:	BP
Project No.:	01/28/75
Geophysicist:	Donna R. 795
SOUTH TEXAS WATER SUPPLY	

GEOPHYSICS, WELL SLMW23D





GEOPHYSICS, WELL SCD-PW







**APPENDIX C**

**TABLES OF WATER LEVELS**



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**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
M-140	14.33	13.84	14.94	14.88	14.19	14.03	15.23	17.44	17.34				15.14	13.84	17.44	3.60
M-933				20.27						20.56	21.30	20.69	20.71	20.27	21.30	1.03
M-1004	4.46	4.54	4.77	4.39	3.78	2.87	2.59	3.17	3.57	2.89	3.73	3.41	3.68	2.59	4.77	2.18
M-1037	24.78	23.74	24.59	25.87	24.05	26.27	25.18	26.27	24.81	25.56	24.71	25.62	25.12	23.74	26.27	2.53
M-1041	21.91	21.59	21.70	21.75	21.17	22.31	22.23	23.77	24.57	24.14	23.20	23.51	22.65	21.17	24.57	3.40
M-1045	23.62	23.72	23.59	24.76	23.11	24.71	24.66	25.01	25.06		24.86	24.81	24.36	23.11	25.06	1.95
M-1046	20.28	20.06	20.75	20.28	19.17	22.16	20.37	23.50	23.19		22.11	22.02	21.26	19.17	23.50	4.33
M-1048	27.59	26.98	27.08	27.01	26.55	26.06	26.31	27.75	29.25	31.01	29.60	28.52	27.81	26.06	31.01	4.95
M-1066	27.94	27.41	28.18	28.52	26.84	29.84	28.49	29.48	28.61	29.79	28.67	29.05	28.57	26.84	29.84	3.00
M-1072	1.91	1.68	2.52	2.72	1.82	1.85	1.89	2.24	1.71	1.87	1.70	2.27	2.02	1.68	2.72	1.04
M-1081	15.28	14.97	14.95	14.69	14.05	13.49	13.40	13.99	14.52	15.14	14.52	14.17	14.43	13.40	15.28	1.88
M-1083	19.80	19.09	19.70	20.76	18.76	20.64	20.98	21.13	21.31	21.85	20.77	21.11	20.49	18.76	21.85	3.09
M-1179	6.37	5.68	5.41	4.71	4.39	3.94	3.88	4.57	4.99	4.65	4.71	4.10	4.78	3.88	6.37	2.49
M-1183	9.35	8.61	8.77	8.87	9.01	8.67	8.62	8.94	8.56	7.98	8.19	7.15	8.56	7.15	9.35	2.20
M-1232	4.06	3.87	4.20	5.05	3.83	4.96	5.81	5.67	4.40	4.37	4.13	4.99	4.61	3.83	5.81	1.98
M-1233	2.60	1.10	3.15	3.79	2.80	3.00	3.62	3.92	3.16	1.59	2.90	3.54	2.93	1.10	3.92	2.82
M-1234	13.68	13.49	14.33	14.67	13.36	14.89	15.87	16.89	16.82	16.71	16.23	15.70	15.22	13.36	16.89	3.53
M-1244	15.52	15.46	15.24	14.92	14.38	13.96	14.03	14.22	14.79	15.26	14.26	13.91	14.66	13.91	15.52	1.61
M-1249	29.77	29.29	29.56	29.72	28.53	30.37	30.15	31.04	30.87	31.38	30.84	30.89	30.20	28.53	31.38	2.85
M-1256	3.30	2.68	1.84	2.58	3.00	4.51	3.33	3.96	3.96	4.08	3.54	3.90	3.39	1.84	4.51	2.67
M-1257	12.88	12.37	12.92	13.52	12.25	11.70	13.54	14.24	13.20	12.77	13.11	13.11	12.97	11.70	14.24	2.54
M-1258	1.16	1.08	1.39	1.18	0.57	0.80	0.80	1.69	1.77	1.20	1.14	1.28	1.17	0.57	1.77	1.20
M-1260	11.19	10.98	11.30	10.99	9.75	10.24		12.16	10.73	10.73	10.87	11.45	10.94	9.75	12.16	2.41
M-1261	7.54	7.03	8.25	9.31	7.12	7.11	9.20	10.23	9.28	9.71	8.64	8.60	8.50	7.03	10.23	3.20
M-1262	20.98	21.90	21.45	20.69	21.15	22.01	20.59	21.22	20.25	20.41	20.74	20.08	20.96	20.08	22.01	1.93
M-1263	23.69	23.99	22.82	22.60	22.50	22.97	22.47	22.94	22.89	22.74	22.40	23.63	22.97	22.40	23.99	1.59
M-1264				22.73	22.88	22.62		22.47	22.60	22.50	22.46		22.61	22.46	22.88	0.42
M-1265	25.41	25.44	25.97	26.42	24.65	27.33	27.13	28.15	28.62	28.54	27.58	28.08	26.94	24.65	28.62	3.97

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
M-1266				0.89	0.35	1.24	2.00	1.42	1.45	2.46	1.05	1.27	1.35	0.35	2.46	2.11
M-1268				6.54	6.04	5.59	5.65	5.33	4.99	4.78	5.06	5.73	5.52	4.78	6.54	1.76
M-1269				12.16	10.77	10.31	10.67	11.62	10.50	10.29	10.49	11.05	10.87	10.29	12.16	1.87
M-1270				12.15	10.37	11.16	13.14	13.97	11.80	12.14	11.59	12.30	12.07	10.37	13.97	3.60
M-1273				19.96	19.21	20.24	19.46	20.03	19.69	20.04	19.45	19.64	19.75	19.21	20.24	1.03
M-1274				19.02			18.59	19.73	19.80	20.35	18.92	18.95	19.34	18.59	20.35	1.76
M-1275				7.68	7.22	7.55	7.69	8.34	8.60	9.18	8.13	8.41	8.09	7.22	9.18	1.96
LOXR3	3.13	3.13	3.13	3.26	3.12	3.12	3.41	4.15	4.12	4.41	3.42	3.17	3.46	3.12	4.41	1.29
LOXR4	1.41	1.36	1.49	1.36	1.36	1.36	1.44	1.81	1.97	2.15	1.63	1.46	1.57	1.36	2.15	0.79
PB-565	1.07	0.73	1.18	1.79	1.99	1.31	1.31	1.38	1.24	1.15	1.35	1.17	1.31	0.73	1.99	1.26
PB-689			23.09	24.08	22.29	24.15	23.85	24.35	24.18	24.50	24.02	24.17	23.87	22.29	24.50	2.21
PB-711			7.97	8.44	7.77	7.67	8.41	8.43	7.55	7.29	7.06	7.91	7.85	7.06	8.44	1.38
PB-717				20.45						22.05			21.25	20.45	22.05	1.60
PB-875				11.32		11.58	12.88	13.33	12.92	13.00	12.49	12.92	12.56	11.32	13.33	2.01
PB-1520			12.07	12.35	11.42	12.03	12.45	12.89	12.25		11.69	12.11	12.14	11.42	12.89	1.47
PB-1521				13.27	12.43		12.85	13.68	13.46	13.34	12.78	12.46	13.03	12.43	13.68	1.25
PB-1524			16.31	16.84	16.07	17.90	17.79	18.60	18.14	18.26	17.23	17.32	17.45	16.07	18.60	2.53
PB-1548			14.70	15.08	14.28	16.50	16.72	16.93	16.37	16.17	15.60	16.01	15.84	14.28	16.93	2.65
PB-1615				23.99	21.71	24.13	23.60	24.21		24.42	23.94	23.98	23.75	21.71	24.42	2.71
PB-1648			9.85	10.44	9.55	10.12	11.69	11.79	10.96	11.14	10.59	11.28	10.74	9.55	11.79	2.24
STL-41	23.58	23.32	23.88	22.73	22.25	22.61	24.49	26.71	26.17	26.63	24.90	25.13	24.37	22.25	26.71	4.46
S-1A	1.26	0.42	1.59	0.17	0.09	0.09	1.09	0.42	1.92	1.34	1.67	1.09	0.93	0.09	1.92	1.83
S-2B				-0.66	0.42	0.64	0.12	0.67	0.67	0.75	0.34	0.25	0.36	-0.66	0.75	1.41
S-3B	2.28	1.99	2.16	1.74	1.82	1.99	1.84	1.74	2.32	1.99	2.24	1.07	1.93	1.07	2.32	1.25
S-4B	1.32	1.49	1.20	1.28	0.70	0.78	0.63	1.36	1.36	1.20	1.03	1.20	1.13	0.63	1.49	0.86
S-5B				2.92	3.01	3.98	2.09	2.59	2.76	3.01	2.09	2.09	2.81	2.09	3.98	1.89
W1-B				8.12	8.13	7.28	7.41	6.91	6.66	6.83	7.15	5.83	7.15	5.83	8.13	2.30
W-2S	7.25	6.66	5.16	3.16	6.49	6.63	7.06	-0.76	DRY	4.24	4.74	4.08	4.56	-0.76	7.25	8.01

TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)

Month/Year Well Name	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
W-3B	7.05	6.34	6.55	6.05	6.05	6.05	5.05	5.17	4.30	3.47	4.13	4.22	5.37	3.47	7.05	3.58
W-4B		6.53		5.75	6.21	6.18	5.33	5.13					5.86	5.13	6.53	1.40
W-6B	12.03	11.11	11.44	11.53	10.48	10.61	9.61	9.60	9.61		8.61	8.86	10.32	8.61	12.03	3.42
W-7B	5.19	4.36	4.44	3.86	4.28	4.11	3.26	3.86	3.86	3.19	2.69	2.69	3.82	2.69	5.19	2.50
3S	11.57			10.92									11.25	10.92	11.57	0.65
6S	6.68			5.81			10.98				8.24		7.93	5.81	10.98	5.17
S-2	1.45	1.05	1.08	0.89	0.83	0.58	0.80	1.18		2.40	1.48		1.17	0.58	2.40	1.82
S-3	2.40	1.94	2.36	2.10	1.38	1.16	1.46	1.78		2.45	1.85	2.01	1.90	1.16	2.45	1.29
S-4	2.72	2.06		2.18	1.83	1.68	1.44	1.89		2.63	1.89	2.09	2.04	1.44	2.72	1.28
S-5	2.60	1.99	2.24	2.05	1.60	1.23	1.39	1.84		2.58	1.74	2.13	1.94	1.23	2.60	1.37
S-6	3.05	3.33	3.53	3.35	2.78	2.12	2.19	2.85		3.42	2.79	3.32	2.98	2.12	3.53	1.41
S-7	6.83	2.89	3.37	3.07	2.75	2.26	2.23	2.63		3.09	2.43	2.79	3.12	2.23	6.83	4.60
S-8	0.67	1.63	1.95	1.69	1.47	1.20	1.29	1.75		2.69	1.61	1.52	1.59	0.67	2.69	2.02
S-10	2.73	0.12	0.42	1.06	1.03	0.71	0.94	1.09		1.41	1.19	1.68	1.13	0.12	2.73	2.61
8A	8.48							9.83					9.16	8.48	9.83	1.35
9A	6.41				6.45			7.61					6.82	6.41	7.61	1.20
10A	2.03				2.27	5.97		3.57					3.46	2.03	5.97	3.94
11	6.05							4.34					5.20	4.34	6.05	1.71
13A	1.18				1.12			1.55					1.28	1.12	1.55	0.43
14A	1.83				1.94			2.42					2.06	1.83	2.42	0.59
45W3	1.34							3.74					2.54	1.34	3.74	2.40
2-1	6.41	6.49	6.49										6.46	6.41	6.49	0.08
T	1.14	0.74	0.44	0.99	-0.06	0.64	-0.43	0.40	0.59	0.16	-0.40		0.38	-0.43	1.14	1.57
V	0.99	1.47	1.19	0.79	0.19	1.04	0.54	1.44	1.17	1.64	0.85		1.03	0.19	1.64	1.45
X	3.13			2.53			1.13			1.86			2.16	1.13	3.13	2.00
C	-1.93			-0.86			-1.84			-1.09			-1.43	-1.93	-0.86	1.07
K-2	-3.63			-4.51			-6.53			-8.58			-5.81	-8.58	-3.63	4.95
K-3	-0.66			-2.01			-4.54			-5.95			-3.29	-5.95	-0.66	5.29



**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
L-2	-2.62			-3.26			-6.04			-7.72			-4.91	-7.72	-2.62	5.10
L-3	-2.35			-3.08			-6.03			-7.51			-4.74	-7.51	-2.35	5.16
R	-0.30			-0.50			-0.83			-1.78			-0.85	-1.78	-0.30	1.48
PB-927	3.79			6.83			4.71			4.74			5.02	3.79	6.83	3.04
PB-731	1.31	0.35	1.35	1.70	1.32	2.34	1.09	1.46	1.58	1.09	1.57	1.36	1.38	0.35	2.34	1.99
T-1	1.66	1.60	1.67	2.64	1.78	1.23	1.34	1.56	1.80	1.92	1.62	1.64	1.71	1.23	2.64	1.41
T-2	1.30	1.32	1.52	2.32	1.64	1.30	1.19	1.40	1.55	1.98	1.67	1.68	1.57	1.19	2.32	1.13
T-3	0.96	0.69	1.44	0.20	1.65	1.09	1.36	1.05	1.17	1.74	1.32	1.72	1.20	0.20	1.74	1.54

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year Well Name	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
M-933	18.35	20.35	20.00	19.65	19.45	19.75	20.20			21.65	20.52	20.32	20.02	18.35	21.65	3.30
M-1004	4.38	4.29	3.58	3.41	2.44	2.60	2.91	4.38	5.46	5.25	4.86	4.60	4.01	2.44	5.46	3.02
M-1037	24.78	24.59	23.48	23.01	24.32	25.94		25.48	27.29	25.84	25.00	24.32	24.91	23.01	27.29	4.28
M-1041	23.16	22.88	22.16	20.42	21.64	21.55		24.10	25.34	23.67	23.15	22.69	22.80	20.42	25.34	4.92
M-1045	24.57	24.84	24.38	24.77	24.71	24.90		25.24	25.17	24.98	24.67	24.52	24.80	24.38	25.24	0.86
M-1046	21.13	21.67	20.52	19.71				24.17	24.30	22.98	22.10	21.54	22.01	19.71	24.30	4.59
M-1048		28.30	27.11	26.36	25.87	25.79	25.93	29.62	30.26	29.99	28.54	27.81	27.78	25.79	30.26	4.47
M-1066	28.44	29.05	28.54	27.18	26.53	27.58		29.59	30.17	29.24	28.54	28.13	28.45	26.53	30.17	3.64
M-1072	1.83	1.72	1.44	1.65	1.68	1.51		2.05	1.48	2.46	2.04	1.84	1.79	1.44	2.46	1.02
M-1081	13.61	14.03	13.74	12.96	12.83	13.58		15.56	16.30	15.67	14.59	14.01	14.26	12.83	16.30	3.47
M-1083	20.94	21.32	20.73	20.92	21.71	21.15		21.51	21.97	21.40	20.85	20.52	21.18	20.52	21.97	1.45
M-1179	3.64	3.71	3.14	2.89	2.31	1.81	1.67	2.47	7.54	7.97	6.94	6.94	4.25	1.67	7.97	6.30
M-1183	6.96	6.60	5.94	5.50	4.73	4.50	4.88	5.14	11.30	11.30	10.10	9.30	7.19	4.50	11.30	6.80
M-1232	4.13	3.80	3.51	4.02	4.57	4.95		4.70	5.12	6.20	5.22	4.83	4.64	3.51	6.20	2.69
M-1233	2.88	2.79	2.72	2.89	3.18	3.49		4.14	5.23	4.18	3.75	3.36	3.51	2.72	5.23	2.51
M-1234				13.59	12.85	13.29	14.65	15.51		15.76	15.38	15.08	14.51	12.85	15.76	2.91
M-1244	13.46	14.13	13.39	12.72	12.82	13.41							13.32	12.72	14.13	1.41
M-1249	30.43	30.95	30.56	29.37	29.65	28.57		30.15	30.84	30.61	30.23	29.80	30.11	28.57	30.95	2.38
M-1256	3.79	3.91	3.50	2.86	3.96	4.47		4.35	5.01	3.72	3.38	3.48	3.86	2.86	5.01	2.15
M-1257	12.80	12.74	12.18	11.67	11.12	10.85		11.48	12.08	14.61	13.33	13.28	12.38	10.85	14.61	3.76
M-1258	1.31	1.59	1.23	1.23	1.24	0.67		0.94	1.25	1.54	1.28	1.05	1.21	0.67	1.59	0.92
M-1260	11.22	11.73		10.76	11.06	10.56		10.25	under h2o	11.60	10.88	10.68	9.87	0.00	11.73	11.73
M-1261	7.90	8.63	7.37	7.12	6.42	7.53		9.35	11.35	10.88	9.76	8.48	8.62	6.42	11.35	4.93
M-1262	20.96	20.44	21.45	19.81	20.31	22.13		20.27	20.81	19.89	20.11	19.27	20.50	19.27	22.13	2.86
M-1263	23.25	23.64	22.63	22.56	23.25	21.96		22.66	23.24	22.32	22.98	23.00	22.86	21.96	23.64	1.68
M-1264		23.88	23.26	22.96	23.57	22.79		22.94	22.90	23.35	23.33	23.75	23.27	22.79	23.88	1.09
M-1265	27.58	27.45	26.02	25.03	24.74	24.78		28.36	28.51	28.15	27.50	26.77	26.81	24.74	28.51	3.77
M-1266	1.23	1.15	0.80	0.80	0.72	0.78		1.36					0.98	0.72	1.36	0.64

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
M-1268	4.69	4.99	4.66	4.15	4.38	4.62		5.39		8.79	8.39	8.09	5.82	4.15	8.79	4.64
M-1269	11.31	11.70	11.04	10.50	10.36	10.14		10.78	13.08	12.68	11.80	11.35	11.34	10.14	13.08	2.94
M-1270	12.93	13.72	12.65	11.56	12.50	12.38		12.84	14.57	13.53	12.64	12.01	12.85	11.56	14.57	3.01
M-1273	18.72	19.41	18.98	19.85	19.57	20.83		19.68	20.16	20.64	20.81	19.98	19.88	18.72	20.83	2.11
M-1274	18.24	18.15	17.34	16.70	16.30	17.06		20.20	21.13	19.91	18.80	17.89	18.34	16.30	21.13	4.83
M-1275	8.52	7.70	7.28	6.34	6.89	7.49		8.23	9.87	destroyed			6.92	0.00	9.87	9.87
LOX.R3	3.17	3.18		0.48									2.28	0.48	3.18	2.70
LOX.R4	1.40	1.36		0.92									1.23	0.92	1.40	0.48
PB-565	1.26								2.04	2.54	1.75	1.35	1.79	1.26	2.54	1.28
PB-689	24.01	24.21	23.87	24.21	24.37	24.14		24.76	24.82	24.40	23.94	23.73	24.22	23.73	24.82	1.09
PB-711	7.93	7.75	7.48	7.62				7.20	9.23	8.88	8.41	8.44	8.10	7.20	9.23	2.03
PB-717				3.50									3.50	3.50	3.50	0.00
PB-875	12.62	12.42	12.14	12.45	12.48	13.19		13.58	14.01	14.18	13.37	12.74	13.02	12.14	14.18	2.04
PB-1520	11.64	11.45	11.33	11.68	11.91	12.02		12.53	13.99	13.05	12.54	12.27	12.22	11.33	13.99	2.66
PB-1521	11.87	11.80	11.46	11.72	11.31	11.47		13.05	13.51	13.36	12.60	12.07	12.20	11.31	13.51	2.20
PB-1524	16.97	17.01	16.72	16.81	17.60	17.24		17.62	18.78	17.43	16.88	16.71	17.25	16.71	18.78	2.07
PB-1548	15.39	15.81	15.29	15.23	16.46	16.18		16.31	16.87	16.74	15.98	15.44	15.97	15.23	16.87	1.64
PB-1615	23.70			23.76	23.77	24.20		24.31	24.08	24.15	23.73	23.22	23.88	23.22	24.31	1.09
PB-1648	10.79	10.45	10.57	10.35	11.08	12.07		12.26	13.53	11.85	10.84	10.54	11.30	10.35	13.53	3.18
STL-41	24.18	26.09	25.21	25.65				23.74					24.97	23.74	26.09	2.35
S-1A	0.88	0.59											0.74	0.59	0.88	0.29
S-2B	0.21	-0.41											-0.10	-0.41	0.21	0.62
S-3B	0.61	0.74											0.68	0.61	0.74	0.13
S-4B	1.45	0.95											1.20	0.95	1.45	0.50
S-5B	2.09	3.42											2.76	2.09	3.42	1.33
WJ-B	6.62	6.22											6.42	6.22	6.62	0.40
WJ-2S	4.95	4.66											4.81	4.66	4.95	0.29
WJ-3B	3.61	4.38											4.00	3.61	4.38	0.77

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
Well Name																
W-4B		5.88											5.88	5.88	5.88	0.00
W-6B	8.86	9.28											9.07	8.86	9.28	0.42
W-7B	2.65	2.44											2.55	2.44	2.65	0.21
3S																
6S																
S-2																
S-3																
S-4																
S-5																
S-6																
S-7																
S-8																
S-10																
8A	9.32															
9A	6.81															
10A	2.90															
11	5.81															
13A	0.84															
14A	3.36															
45W3	5.65															
2-1																
T	-0.95															
V	0.69															
X	2.81															
C	-0.11															
K-2	-9.38															
K-3	-6.66															
L-2	-8.05															

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
Well Name																
L-3	-8.22															
R	-3.55															
PB-927	10.99															
PB-731																
T-1																
T-2																
T-3																

**TABLE C.1 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, Martin County (1989-1991)**

Month/Year	1/91	2/91
Well Name		
M-933	20.99	20.63
M-1004	5.11	5.27
M-1037	26.35	25.98
M-1041	22.93	22.85
M-1045	25.24	24.94
M-1046	22.36	22.68
M-1048	28.77	
M-1066	29.09	29.24
M-1072	3.25	3.31
M-1081	14.70	14.64
M-1083	21.80	21.68
M-1179	7.12	7.66
M-1183	10.40	10.67
M-1232	6.32	6.25
M-1233	5.77	5.06
M-1234	15.69	15.82
M-1244		
M-1249	30.64	30.46
M-1256	5.32	4.63
M-1257	14.19	14.26
M-1258	2.15	2.17
M-1260	13.52	13.27
M-1261	10.66	10.04
M-1262	19.86	20.26
M-1263	23.16	23.13
M-1264	23.82	23.70
M-1265	27.64	27.02
M-1266		
M-1268	8.89	8.79
M-1269	15.00	13.98
M-1270	13.41	13.14
M-1273	19.43	19.86
M-1274	19.28	18.92
M-1275		
LOX.R3		
LOX.R4		
PB-565	3.17	3.26
PB-689	24.68	24.56
PB-711	10.51	10.48
PB-717		
PB-875		13.66

Month/Year	1/91	2/91
Well Name		
PB-1520	15.46	14.66
PB-1521	15.10	14.44
PB-1524	18.34	17.61
PB-1548	16.15	16.29
PB-1615	23.95	23.85
PB-1648	13.89	12.54



**TABLE C.2 Sand/Soil Unit Monitor Well Construction and Other Information, Martin and Northern Palm Beach Counties**

Sand/Soil Zone	Wells		Screened	Interval	M.P.	
Well	State	Planars	Top	Bottom	Elev. (Ft.)	Data
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src.
M-140	747027	954927	20.00	31.00	22.89	R
M-933	711085	1028340	13.00	14.00	26.25	R
M-1004	765776	1021995	17.00	17.00	10.76	R
M-1037	689316	1028334	9.00	28.00	33.00	D
M-1041	604957	1023919	21.00	22.00	27.43	D
M-1045	703864	954590	22.00	23.00	25.90	D
M-1046	640401	963614	15.00	15.10	25.85	D
M-1048	673452	977978	21.00	26.00	35.61	R
M-1066	644262	997757	25.00	30.00	34.20	D
M-1072	790174	970356	30.00	34.00	12.97	D
M-1081	704353	983775	24.00	24.00	29.13	D
M-1083	735291	965764	24.00	24.00	24.03	D
M-1179	747380	1031169	15.00	20.00	18.74	R
M-1183	750009	1029671	16.00	21.00	19.10	R
M-1232	776658	962487	13.00	18.00	9.72	D
M-1233	786233	964674	12.00	17.00	8.81	D
M-1234	748350	954150	15.00	18.00	23.65	R
M-1244	695767	982723	20.00	30.00	33.70	D
M-1249	655409	1013852	13.00	23.00	34.72	D
M-1256	734585	1041495	15.00	20.00	8.12	D
M-1257	749150	1014450	16.00	20.00	19.78	D
M-1258	784518	990311	15.00	18.00	10.44	D
M-1260	772250	985886	20.00	23.00	14.73	D
M-1261	735506	1007066	17.00	23.00	18.47	D
M-1262	646312	980598	15.00	18.00	24.44	D
M-1263	685227	993882	12.00	15.00	26.32	D
M-1264	683704	1011041	13.00	15.00	27.20	D
M-1265	618987	1016759	18.00	21.00	30.96	D
M-1266	741000	1029472	17.00	20.00	4.48	D
M-1268	748113	1059146	21.00	24.00	15.44	D
M-1269	770837	1008193	20.00	23.00	19.54	D
M-1270	750277	985847	18.00	21.00	15.60	D
M-1273	721553	996890	17.00	20.00	25.01	D
M-1274	721731	1014158	20.00	23.00	22.47	D
M-1275	732765	1028256	20.00	23.00	16.30	D
LOX.R3	771517	954682				DR
LOX.R4	772103	958421				DR
PB-565	795048	959283		22.00	17.24	NPB
PB-689	714482	948787	17.00	17.00	27.43	NPB
PB-711	779338	940795	23.00		16.84	NPB



TABLE C.2

**Sand/Soil Unit Monitor Well Construction and Other  
Information, Martin and Northern Palm Beach Counties**

Sand/Soil Zone	Wells		Screened	Interval	M.P.	
Well	State	Planars	Top	Bottom	Elev. (Ft.)	Data
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src.
PB-717	731903	940914	20.00	25.00	24.51	NPB
PB-731	798235	956579	21.00	21.00	17.76	TQ
PB-875	768948	937595	20.00	24.00	18.46	NPB
PB-927	780600	940700		13.00	15.79	JU
PB-1520	774579	934906	20.00	22.00	18.23	NPB
PB-1521	779100	927200	20.00	22.00	17.62	NPB
PB-1524	742603	937836	17.00	19.00	21.51	NPB
PB-1548	750247	946263	12.00	20.00	19.19	NPB
PB-1615	694400	936150	15.00	20.00	25.45	NPB
PB-1648	768437	946680	17.00	20.00	15.47	NPB
STL-41	623813	1064030	12.00	17.00	31.19	SL
S-1A	731152	1057733	5.00	70.00	5.09	J
S-2B	734600	1050600		68.00	5.42	J
S-3B	736872	1052010	5.00	65.00	6.99	J
S-4B	740593	1048699		39.00	6.03	J
S-5B	751300	1058250		63.00	17.09	J
W1-B	735550	1060100		61.00	14.58	J
W-2S	742830	1052045		68.00	12.16	J
W-3B	745599	1057010	5.00	70.00	12.05	J
W-4B	739809	1059197	5.00	60.00	17.13	J
W-6B	745934	1061253	5.00	70.00	19.61	J
W-7B	736855	1054938	5.00	70.00	12.86	J
3S	726983	1028425	10.00	60.00	16.40	MD
6S	725394	1038009	10.00	60.00	11.07	MD
S-2	767656	1024632		20.00	15.78	MG
S-3	764409	1023904		25.00	20.20	MG
S-4	765588	1023205		25.00	21.28	MG
S-5	765048	1022899		20.00	8.02	MG
S-6	765594	1022195		15.00	7.05	MG
S-7	766947	1022507		20.00	17.38	MG
S-8	768298	1023122			16.02	MG
S-10	767749	1024330		15.00	14.49	MG
8A	735229	1023827		30.00	14.36	PL
9A	737748	1025659		30.00	12.61	PL
10A	737858	1022327		30.00	10.72	PL
11	736144	1021913		30.00	14.07	PL
13A	740100	1025168	20.00	31.00	9.40	PL
14A	739835	1024056	20.00	30.00	9.52	PL
45W3	737215	1024040	20.00	30.00	11.79	PL
2-1	761500	1015100		12.00	18.49	MCVS

**TABLE C.2 Sand/Soil Unit Monitor Well Construction and Other Information, Martin and Northern Palm Beach Counties**

Sand/Soil Zone	Wells		Screened	Interval	M.P.	
Well	State	Planars	Top	Bottom	Elev. (Ft.)	Data
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src.
T	784643	945981	20.00	23.00	10.04	JU
V	782281	947278	20.00	23.00	13.49	JU
X	787729	944892	20.00	23.00	8.58	JU
C	782250	946850	20.00	23.00	10.64	JU
K-2	782750	943400	60.00	63.00	15.82	JU
K-3	782800	943400	20.00	23.00	15.79	JU
L-2	783350	943400	60.00	63.00	14.06	JU
L-3	783400	943400	20.00	23.00	13.52	JU
R	782150	945450	20.00	23.00	13.20	JU
T-1	796750	957300		45.00	19.90	TQ
T-2	796550	953000		45.00	9.20	TQ
T-3	794650	957100		45.00	10.05	TQ



**TABLE C.3      Key to Abbreviations Identifying Data Sources in Tables C.2  
and C.5**

D=SFWMD  
NPB=North P.B. Co. (SFWMD)  
PL=Pipers  
DR=Recorder (SFWMD)  
H=Hobe Sound Salinity (USGS)  
MCVS=So.  
R=Recorder (USGS)  
S=Stuart Salinity (USGS)  
MCYCC=So.  
JU=Jupiter SWIM  
T=Tequesta Salinity (USGS)  
JUHIL=Jup  
MD=Martin Downs SWIM  
J=No. Martin Co. SWIM  
LOB=Loblo  
HR=Harbour Ridge SWIM  
G=Miles Grant SWIM  
HY=Hydratech SWIM  
TQ=Tequesta SWIM



**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year Well Name	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
	M-147	-0.05	-0.36	-0.31	-0.24	-0.15	-0.20	-0.09	0.48	1.41	1.44	1.76	1.41	0.43	-0.36	1.76
M-1010	3.18	2.63	2.68	2.78	2.49	2.44	3.33	3.57	3.11	3.05	3.20	3.30	2.98	2.44	3.57	1.13
M-1011	1.86	1.37	1.65	1.35	1.86	1.25	1.93	1.95	2.12	1.88	2.09	1.83	1.76	1.25	2.12	0.87
M-1039	0.35	0.15	0.78	1.19	0.92	0.28	0.45	0.67	0.86	0.58	0.41	0.35	0.58	0.15	1.19	1.04
M-1042	30.82	30.37	30.28	29.91	28.77	30.48	30.40	31.87	31.26	32.50	31.82	32.01	30.87	28.77	32.50	3.73
M-1044	2.22	2.16	2.34	2.36	1.47	1.76	1.75	2.50	2.74	3.48	3.08	2.35	2.35	1.47	3.48	2.01
M-1049	19.05	18.73	19.31	20.54	18.68	19.51	18.83	20.55	20.58	20.97	20.02	19.95	19.73	18.68	20.97	2.29
M-1052	4.46	4.12	4.16	4.33	4.16	3.43	3.43	4.11	3.72	3.76	4.03	4.40	4.01	3.43	4.46	1.03
M-1055	4.80	3.84	5.04	5.03	4.54	4.49	5.14	5.41	5.05	4.70	4.98	4.95	4.83	3.84	5.41	1.57
M-1057	5.41	4.82	4.27	3.95	3.29	3.47	3.07	3.81	3.20	3.08	3.09	3.43	3.74	3.07	5.41	2.34
M-1070	0.89	0.90		1.27	1.04	0.82	0.88	1.00	1.09	1.02	1.02	0.94	0.99	0.82	1.27	0.45
M-1071	1.86	1.68	2.51	2.70	1.78	1.80	1.87	2.23	1.70	1.86	1.69	2.28	2.00	1.68	2.70	1.02
M-1073	3.72	3.53	4.20	4.05	3.47	2.64	3.57	4.24	3.95	3.76	3.65	3.95	3.73	2.64	4.24	1.60
M-1079	24.24	23.99	24.76	25.28	22.45	25.21	25.15	24.92	25.50	25.57	25.14	25.28	24.79	22.45	25.57	3.12
M-1085	22.71	22.69	21.92	22.46	22.60	22.67	22.55	23.06	22.76	22.51	22.61		22.59	21.92	23.06	1.14
M-1086	19.19	18.44	18.62	18.82	18.04	20.02	19.18	21.87	21.81	22.43	21.29	20.89	20.05	18.04	22.43	4.39
M-1088	19.12	18.76	19.34	18.75	18.02	19.98	19.09	21.83	21.60	22.44	21.11	20.68	20.06	18.02	22.44	4.42
M-1090	2.63	1.89	2.10	1.69	2.24	2.51	3.11	3.14	3.18	2.65	2.80	1.61	2.46	1.61	3.18	1.57
M-1091	1.53	0.59	1.48	1.07	0.95	0.43	1.57	1.74	1.97	1.76	1.69	1.88	1.39	0.43	1.97	1.54
M-1092	1.43	1.38		1.61	1.27	0.94	1.09	1.87	2.11	1.77	1.74	1.72	1.54	0.94	2.11	1.17
M-1093	2.24	2.05	2.71	2.87	1.99	2.25	2.20	2.57	2.26	2.56	2.10	2.65	2.37	1.99	2.87	0.88
M-1094	2.14	1.91	2.78	2.95	2.10	1.95	2.03		1.80		1.87	2.42	2.20	1.80	2.95	1.15
M-1095	1.46	1.35		1.53	1.43	1.33	1.27	1.53	1.66	1.60	1.51	1.41	1.46	1.27	1.66	0.39
M-1096	19.80	19.07	19.77	20.09	18.70	20.01	20.84	21.20	21.35	21.65	21.04	21.15	20.39	18.70	21.65	2.95
M-1132	2.07	1.08	1.31	1.44	1.29	0.81	1.65	1.46	1.44	1.19	1.46	0.79	1.33	0.79	2.07	1.28
M-1141	8.94	8.14	8.26	8.30	8.41	8.03	8.04	8.40	7.97	7.51	7.71	6.74	8.04	6.74	8.94	2.20
M-1146	1.87	1.70	2.41	2.56	0.66	1.74	2.70	2.42	3.38	2.40	1.35	2.16	2.11	0.66	3.38	2.72
M-1147	3.21	0.15	2.61	2.78	2.28	2.54	3.10	3.27	3.65	3.18	2.74	2.13	2.64	0.15	3.65	3.50

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
M-1158	1.75	0.77	1.27	1.15	1.05	0.97	1.61	1.45	1.75	1.54	1.58	3.53	1.54	0.77	3.53	2.76
M-1161	3.21	2.64	2.70	2.84	2.54	2.46	3.36	3.51	3.11	3.06	3.21	3.29	2.99	2.46	3.51	1.05
M-1165	2.98	1.91	2.37	2.30	2.02	1.73	2.43	2.48	2.36	2.10	2.44	1.54	2.22	1.54	2.98	1.44
M-1229	3.56	3.36	3.59	4.16	3.15	5.28	4.72	4.59	3.63	3.55	3.48	4.08	3.93	3.15	5.28	2.13
M-1230	1.70	1.30	1.80	2.65	1.24	1.82	2.45	2.34	1.98	3.48	1.93	2.15	2.07	1.24	3.48	2.24
M-1231	13.76	13.40	14.11	14.35	13.28	14.95	16.15	17.12	16.13	16.42	15.15	15.08	14.99	13.28	17.12	3.84
M-1235	8.98	9.71	9.25	10.70	8.70	10.18	11.58	12.12		11.23	10.37	11.34	10.38	8.70	12.12	3.42
M-1236	17.98	17.80	17.85	18.43	17.39	18.44	17.71	18.31	18.08	18.60	17.69	17.77	18.00	17.39	18.60	1.21
M-1237	23.63	23.81	22.30	21.95	21.93	21.96		21.97	22.03	21.74	21.64	23.39	22.40	21.64	23.81	2.17
M-1238	24.03	23.95	23.60	23.73	23.44	23.62		23.58	23.59		23.57	24.32	23.74	23.44	24.32	0.88
M-1239	18.76	18.43	19.00	20.14	18.31	19.15	18.49	20.20	20.24	20.46	19.70	18.36	19.27	18.31	20.46	2.15
M-1240	21.20	19.60	21.25	21.06	18.75	20.61	21.29	21.14	20.40	21.87	21.24	21.39	20.82	18.75	21.87	3.12
M-1243	20.30	20.46	20.51	21.01	19.83	21.19	20.55	20.99	21.46	21.90	20.87	20.89	20.83	19.83	21.90	2.07
M-1245	15.70	15.67	15.42	15.11	14.60	15.18	14.20	14.45	15.00	15.46	14.45	14.09	14.94	14.09	15.70	1.61
M-1247	9.66	9.91	9.82	11.07	9.96	11.39	11.08	11.94	11.77	11.92	9.52	10.55	10.72	9.52	11.94	2.42
M-1248	21.90	20.07	21.13	22.45	17.34	20.99	22.85	22.23	21.21	22.86	22.21	22.74	21.50	17.34	22.86	5.52
M-1250	29.65	29.07	29.45	29.67	28.49	30.37	30.10	31.15	30.92	31.69	30.93	31.03	30.21	28.49	31.69	3.20
M-1251	25.96	24.90	25.21	25.26	24.19	26.18	25.93	27.76	27.92	27.65	26.57	27.20	26.23	24.19	27.92	3.73
M-1252	20.94	21.83	21.31	20.69	20.97	22.11	20.61	21.43	20.35	20.54	20.74		21.05	20.35	22.11	1.76
M-1253	12.21	11.73	12.40	12.99	11.33	11.08	13.14	13.24	12.44	12.00	12.41	12.52	12.29	11.08	13.24	2.16
M-1254	7.14	6.38	6.08	6.16	5.57	5.34	5.40	5.15	4.58	4.36	4.82	4.65	5.47	4.36	7.14	2.78
M-1255	24.95	24.69	24.69	24.72	24.79	24.33	24.12	24.36	24.22	24.31	25.85	24.43	24.62	24.12	25.85	1.73
M-1259	11.48	10.96	11.27	10.98	9.75	10.39	11.21	12.23	10.88	10.70	10.87	11.45	11.01	9.75	12.23	2.48
M-1267				1.15	0.29	0.38	1.40	1.21	1.84	2.21	0.96	1.35	1.20	0.29	2.21	1.92
JDSPMW1	2.22	1.87	2.44	2.55	2.33	1.95	1.78	1.71	1.54	1.64	1.84	1.84	1.98	1.54	2.55	1.01
JDSPMW3	0.45	-0.07	0.68	0.70	0.51	-0.04	-0.04	-0.21	-0.46	-0.18	0.16	0.25	0.15	-0.46	0.70	1.16
PB-595	0.66	-2.42	0.92	3.24	0.78	0.25	0.38	0.65	0.83	1.04	0.44	0.99	0.65	-2.42	3.24	5.66
PB-746	1.91	0.09	2.21	2.09	1.27	1.45	1.58	1.84	2.02			1.64	1.61	0.09	2.21	2.12

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
PB-832	0.18	-0.39	-0.35		-0.42	-1.00	0.63	0.14	0.02	-0.07	-1.33	-0.63	-0.29	-1.33	0.63	1.96
PB-789			2.27	2.44	1.83	1.46	1.69	1.71	1.25	0.78	0.43	0.26	1.41	0.26	2.44	2.18
PB-880				11.25			12.76	13.25	12.83	12.92	12.38	12.86	12.61	11.25	13.25	2.00
PB-928			7.46	7.77	7.06	6.98	7.34	7.66	6.94	6.72	6.41	7.52	7.19	6.41	7.77	1.36
PB-1547			14.68	14.51	13.90	17.52	17.45	17.57	16.88	16.58	15.78	16.24	16.11	13.90	17.57	3.67
PB-1552			16.46	16.96	16.08	17.95	17.96	18.69	18.33	18.42	17.30	17.37	17.55	16.08	18.69	2.61
PB-1613				23.41	21.54	23.95	23.44	24.10		24.34	23.83	23.88	23.56	21.54	24.34	2.80
PB-1649			9.20	10.37	9.40	9.87	11.57	11.50	10.65	10.67	10.26	10.64	10.41	9.20	11.57	2.37
S-1B	0.97	0.97	1.47	0.72	0.63	0.76	0.60	0.05	1.55	1.38	1.05	1.05	0.93	0.05	1.55	1.50
S-1C	0.77	1.06	1.64	0.89	1.06	1.02	0.46	0.39	1.89	1.39	1.31	1.06	1.08	0.39	1.89	1.50
S-2A				-1.16	0.01	0.05	0.34	0.34	0.59	0.76	0.92	0.34	0.24	-1.16	0.92	2.08
S-3A	2.84	1.51	1.78	1.28	1.01	1.09	2.09	2.09	2.76	2.34	2.26	1.67	1.89	1.01	2.84	1.83
S-4A	1.60	1.93	1.27	1.02	0.85	0.85	1.10	1.43	1.52		1.02	1.10	1.24	0.85	1.93	1.08
S-4C	0.87	1.18	2.12	0.87	0.95	0.95	0.85	1.95	2.03		1.12	1.37	1.30	0.85	2.12	1.27
S-5A					3.78	4.03	2.31	-1.56	3.44	3.03	3.44	2.94	2.68	-1.56	4.03	5.59
W-1A					8.05	8.09	7.31	7.34	6.84	6.84	7.26	6.09	7.23	6.09	8.09	2.00
W-2D	7.58	6.54	6.00	6.38	6.33	6.45	7.03	5.83	4.33	3.75	3.83	3.66	5.64	3.66	7.58	3.92
W-3A	7.42	7.00	6.38	6.54	5.92	5.96	5.82	4.59	5.09	4.59	4.92	3.84	5.67	3.84	7.42	3.58
W-4A				4.53	6.82	6.78	3.88	3.28					5.06	3.28	6.82	3.54
W-5A					5.56	5.36	6.46	5.73	3.98				5.80	3.98	7.69	3.71
W-6A	11.70	11.32	10.65	11.07	9.74	9.95	9.27	9.07	8.82	8.15	8.65	7.24	9.64	7.24	11.70	4.46
W-7A	2.41	1.74	1.82	1.41	1.41	1.49	1.29	1.66	1.49	1.52	1.99	0.57	1.57	0.57	2.41	1.84
R-1	3.43	3.90	3.60	3.79	2.65	3.15	2.80	3.40	3.88	4.61	3.52	3.57	3.53	2.65	4.61	1.96
R-2	3.46	4.04	3.71	3.90	3.41	3.33	2.85	3.47	3.99	4.73	3.66	3.79	3.70	2.85	4.73	1.88
R-3	2.53	2.65	2.30	2.61	1.43	2.00	1.48	2.28	2.88	3.49	2.48	2.35	2.37	1.43	3.49	2.06
R-4	2.28	2.87	2.43	2.48	2.08	1.61	1.03	2.06	2.62	2.76	2.17	2.05	2.20	1.03	2.87	1.84
1	4.78	4.88	4.66	3.86	5.08	3.78	2.46	2.88	3.08	4.08	3.48	3.23	3.86	2.48	5.08	2.60
2	4.27	4.37	3.97	3.67	4.27	2.87	2.37	2.57	3.07	4.07	2.87	3.37	3.48	2.37	4.37	2.00



**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
Well Name																
3	3.79	4.19	3.99	2.79	3.69	3.49	3.29	2.79	2.89	3.89	2.69	3.29	3.40	2.69	4.19	1.50
6	7.02	7.32	7.32	5.42	8.22	7.12	5.82	6.62	2.67	2.72	4.12	2.82	5.60	2.67	8.22	5.55
7	10.70	10.30	8.30	8.25	8.90	6.40	5.60	6.00	5.45	5.70	6.20	5.10	7.24	5.10	10.70	5.60
8	9.84	9.44	8.24	6.79	8.44	3.84	3.44	4.24	3.29	4.44	4.43	3.64	5.84	3.29	9.84	6.55
3D	7.14			5.47			7.11				8.64		7.09	5.47	8.64	3.17
6D	6.00			4.50			6.28				6.92		5.93	4.50	6.92	2.42
OW-3D	10.82			4.63			10.98				11.92		9.59	4.63	11.92	7.29
D-1	2.27	1.56	1.78	1.56	1.46	1.10	1.44	1.83		2.48	4.40	4.40	2.21	1.10	4.40	3.30
D-2	1.21	1.21	1.31	1.10	1.09	0.76	1.03	1.33		2.37	9.98	9.61	2.82	0.76	9.98	9.22
D-4	3.39	2.73	3.01	2.95	2.49	1.48	1.59	1.72		2.83	4.99	4.80	2.91	1.48	4.99	3.51
D-5						1.98	2.05	2.69		3.57	2.60	2.30	2.53	1.98	3.57	1.59
6					2.38			5.54					3.96	2.38	5.54	3.16
8	7.14				10.40			9.22					8.92	7.14	10.40	3.26
9	2.00				0.92			3.40					2.11	0.92	3.40	2.48
10	0.59				0.91			2.79					1.43	0.59	2.79	2.20
13	0.79				0.28			1.32					0.80	0.28	1.32	1.04
14	0.99				0.48			1.86					1.11	0.48	1.86	1.38
40B3	5.58				1.17			6.63					4.46	1.17	6.63	5.46
1	0.96	1.21	1.71	1.46	0.96	1.46	1.21	2.13	1.71	2.21	2.21	1.55	1.57	0.96	2.21	1.25
2	-1.41	-0.83	0.42	1.44	0.67	1.17	0.67	0.42	0.25	3.50	1.67	1.92	0.82	-1.41	3.50	4.91
SW-1					4.25	2.55	2.45		3.25	3.35	2.75	3.24	3.12	2.45	4.25	1.80
SW-3					4.31	1.16	0.86		1.16	1.36	0.86	1.10	1.54	0.86	4.31	3.45
SW-1					4.93				4.40				4.67	4.40	4.93	0.53
D1-3	1.46	1.25	1.39	0.01	-1.01	-1.62	-0.46	1.28	1.56	1.41	1.35	1.29	0.66	-1.62	1.56	3.18
D1-4	2.33		1.95		2.23	1.76	1.79	1.86	1.94	2.29	1.72	2.11	2.00	1.72	2.33	0.61
D2-5	1.59	1.42	1.74	2.61	1.85	1.42	1.53	1.56	1.72		1.37	1.68	1.68	1.37	2.61	1.24
D3-5	1.47	1.33	1.80	2.36	1.79	1.55	1.59	1.70	1.88	2.23	1.58	1.66	1.75	1.33	2.36	1.03
RD-1	1.07	1.04	1.31	1.92	1.46	1.18	1.09	1.14	1.36	1.96	1.43	1.42	1.37	1.04	1.96	0.92

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
Well Name																
S1-2	1.33	0.22	-0.37	1.83	-1.02	0.35	0.96	-0.28	-0.13	-0.21	-0.31	-0.18	0.18	-1.02	1.83	2.85
S1-3	1.46	1.25	-0.70	0.56	-0.54	-1.07	-0.04	1.26	1.53	1.37	1.34	1.30	0.64	-1.07	1.53	2.60
S1-4	2.61		2.02		2.56	1.76	1.83	1.94	1.94	2.27	1.70	2.18	2.08	1.70	2.61	0.91
PB-720	1.34	1.34	1.40	2.06	1.16	1.18	1.18	1.17	1.36	2.97	1.69	1.65	1.54	1.16	2.97	1.81
PB-721	1.11	1.27	1.17	1.55	1.09	1.18	0.94	1.24	1.52	2.02	1.50	1.35	1.33	0.94	2.02	1.08
PB-722	1.08	1.08	1.28	1.81	1.33	1.18	1.05	1.23	1.42	2.02	1.43	1.39	1.36	1.05	2.02	0.97
PB-727	2.26	1.47	1.44	1.93	2.29	1.41	1.82	2.10	1.88	1.61	1.49	1.42	1.76	1.41	2.29	0.88
PB-872	0.52	0.61	0.60	1.37	0.77	0.45	0.29	0.54	0.76	1.14	0.56	0.51	0.68	0.29	1.37	1.08
PB-890	1.68	1.88	2.62	3.10	2.71	2.35	2.51	2.37	2.51	3.01	2.49	2.80	2.50	1.68	3.10	1.42
PB-891	1.31	1.28	1.47	2.08	1.22	1.22	1.18	1.31	1.51	1.85	1.63	1.50	1.46	1.18	2.08	0.90
PB-892	1.17	1.33	1.24	1.56	1.15	1.27	0.99	1.40	1.49	2.06	1.53	1.37	1.38	0.99	2.06	1.07
PB-932	1.55	1.42	1.34	2.06	0.99	0.70	1.19	1.48	1.72		1.62	1.85	1.45	0.70	2.06	1.36
M-1024	1.43	1.27	1.74	2.46	1.78	1.46	1.57	1.65	1.83	2.12	1.50	1.66	1.71	1.27	2.46	1.19
M-1025	1.48	1.35	1.78	2.42	1.82	1.57	1.61	1.73	1.90	2.22	1.58	1.71	1.76	1.35	2.42	1.07
M-1028	1.60	1.46	1.72	2.64	1.87	1.43	1.50	1.58	1.73	1.99	1.25	1.72	1.71	1.25	2.64	1.39
T-7R-1	1.37	-1.36	-2.49	1.87	-3.45	0.39	1.02	-2.49	-2.45	-2.50	-2.66	-2.10	-1.24	-3.45	1.87	5.32
T-23-1	-1.94	-3.12	1.57	-0.73	1.92	1.32	1.56	0.86	0.91	1.81	1.10	1.91	0.60	-3.12	1.92	5.04
T-4	0.92	0.83	1.32	1.97	1.64		1.30	1.13	1.31	1.96	1.33	1.56	1.39	0.83	1.97	1.14
T-5	1.12	1.06	1.56	2.17	1.25	1.40	1.36	1.33	1.41	1.98	1.45	1.60	1.47	1.06	2.17	1.11
B	-0.09	0.61	-0.54	-1.14	-1.69	0.21	-0.49	0.87	-0.94	0.11	-0.72		-0.35	-1.69	0.87	2.56
Q	-9.98			-4.83			-3.73			-5.13			-5.92	-9.98	-3.73	6.25
S	-1.05			-1.15			-2.58			-2.60			-1.85	-2.60	-1.05	1.55
U	0.18			-0.87			-0.22			0.18			-0.18	-0.87	0.18	1.05
W	1.68	1.51	1.18	1.73	0.28	1.38	0.08	1.30	1.00	0.94	0.10		1.02	0.08	1.73	1.65
Y	-0.68			-2.66			-0.80			-1.02			-1.29	-2.66	-0.68	1.98
K-1	-27.67			-27.72			-29.33			-31.18			-28.98	-31.18	-27.67	3.51
L-1	-4.42			-5.22			-7.01			-9.57			-6.56	-9.57	-4.42	5.15
N	1.89			-6.64			-6.14			-6.82			-4.43	-6.82	1.89	8.71

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/89	2/89	3/89	4/89	5/89	6/89	7/89	8/89	9/89	10/89	11/89	12/89	1989 Mean	1989 Min.	1989 Max.	Max-Min Diff.
Z	2.17	1.37	0.77	1.55	0.77	0.47	0.42	0.57	0.24	-0.49	-0.39		0.68	-0.49	2.17	2.66
PB-926	4.54			6.25			4.49			4.24			4.88	4.24	6.25	2.01
RM-1A							2.56	3.28	3.33	3.63	2.93	3.04	3.13	2.56	3.63	1.07
RM-2							1.34	3.22	3.16	3.37	3.72	3.07	2.98	1.34	3.72	2.38
RM-3							1.75	2.60	2.75	2.45	3.35	2.35	2.54	1.75	3.35	1.60

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
M-147	1.22	-1.08	-2.79	-3.36	-4.30	-3.98	-1.51		2.64	1.54	0.99	0.99	-0.88	-4.30	2.64	6.94
M-1010	3.38	2.75	2.29	2.03	1.99	1.75	2.01	2.94	4.52	4.26	3.26	2.00	2.77	1.75	4.52	2.77
M-1011	1.53	1.99	1.61	1.03	1.43	1.26	2.07	2.46	4.02	4.73	4.80	3.15	2.51	1.03	4.80	3.77
M-1039	0.22	1.05	-0.06	0.64	0.60	0.61	0.87	1.11		1.26	0.82	0.47	0.69	-0.06	1.26	1.32
M-1042	31.60	31.94	30.62	29.93	29.62	29.21		31.26	32.65	32.07	31.50	31.14	31.05	29.21	32.65	3.44
M-1044	2.07	2.44	2.51	2.22	2.02	1.88	2.05	3.20	2.44	2.63	2.39	2.10	2.33	1.88	3.20	1.32
M-1049	19.69	20.68	20.75	19.68	20.64	21.50		21.12	21.97	21.06	19.99	19.27	20.58	19.27	21.97	2.70
M-1052	4.88	4.51	4.32	4.05	3.82	3.75	4.20	4.54	5.79	6.30	4.94	4.45	4.63	3.75	6.30	2.55
M-1055	4.65	4.93	4.70	4.40	3.95	3.79	4.05	5.15	6.67	6.60	5.53	5.05	4.96	3.79	6.67	2.88
M-1057	3.00	3.19	3.71	3.09	3.06	3.01	2.93	3.47	4.21	4.36	3.79	3.43	3.44	2.93	4.36	1.43
M-1070	0.83	0.90	0.79	1.04	0.69	0.62	0.58	0.74		1.29	1.90	1.74	1.01	0.58	1.90	1.32
M-1071	1.82	1.73	1.43	1.59	1.70	1.59	1.97	1.47	1.47	2.36	2.04	1.84	1.78	1.43	2.36	0.93
M-1073	3.50	3.37	3.12	3.20	3.04	2.78		3.49	4.37	4.31	3.89	3.61	3.52	2.78	4.37	1.59
M-1079	24.70	25.57	24.44	22.84	23.77	23.47		25.07	25.60	24.95	24.48	24.45	24.49	22.84	25.60	2.76
M-1085	22.08		22.17	22.07	21.95	21.88		22.36	22.85	22.58	22.57	22.48	22.30	21.88	22.85	0.97
M-1086	20.04	20.15	19.14	18.32				23.01	22.88	23.21	21.60	21.00	21.04	18.32	23.21	4.89
M-1088	19.85	20.03	19.03	18.25				23.02	22.93	23.35	21.48	20.81	20.97	18.25	23.35	5.10
M-1090	2.02	2.26	2.23	1.91	1.96	1.64	3.29	3.51	4.87	5.34	4.54	3.89	3.12	1.64	5.34	3.70
M-1091	1.63	1.78	1.51	1.46	1.53	1.14	1.31	1.89		4.31	3.44	2.78	2.07	1.14	4.31	3.17
M-1092	1.41	3.88	1.80	1.80	1.67	1.52	1.27	1.56		2.17	1.79	1.79	ERR	ERR	ERR	ERR
M-1093	2.17	2.11	1.78	1.83	1.94	1.96		2.51	3.40	2.70	2.35	2.20	2.27	1.78	3.40	1.62
M-1094	1.93	1.81	1.65	1.84	1.78	1.54		2.02	2.81	2.57	2.24	2.03	2.02	1.54	2.81	1.27
M-1095	1.25	2.50	1.27	1.45	1.33	1.25	1.10	1.35	1.65	2.05	1.75	1.56	1.54	1.10	2.50	1.40
M-1096	21.03	21.31	20.81	20.81	21.35	21.18		21.56	21.91	21.30	20.90	20.61	21.16	20.61	21.91	1.30
M-1132	0.02	1.34	1.11	1.19	0.88	0.88	0.80	1.54		2.20	1.51	1.19	1.15	0.02	2.20	2.18
M-1141	6.45	4.34	3.60	3.29	2.71	3.12	2.55	4.36		8.96	7.57	7.57	4.96	2.55	8.96	6.41
M-1146	0.67	2.48	1.08	1.90	1.59	1.09	1.78	2.48		4.56	3.46	3.32	2.22	0.67	4.56	3.89
M-1147	2.03	2.19	1.71	2.07	1.78	1.63	1.84	2.61		4.54	3.59	3.25	2.48	1.63	4.54	2.91

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
M-1158	1.18	1.32	1.40	1.30	1.29	1.17	1.46	1.79	3.45	3.30	2.40	2.12	1.85	1.17	3.45	2.28
M-1161	3.40	2.89	2.35	1.97	1.95	1.78	1.94	2.98	4.50	4.26	3.30	2.90	2.85	1.78	4.50	2.72
M-1165	2.03	2.16	1.98	1.93	1.53	1.46	1.54	2.53		3.66	2.68	2.29	2.16	1.46	3.66	2.20
M-1229	3.40	3.25	3.23	3.35	3.80	4.06		3.84	4.20	4.97	4.28	3.96	3.85	3.23	4.97	1.74
M-1230	2.03	1.76	1.74	1.74	2.06	2.40		2.67	3.60	3.18	2.57	2.25	2.36	1.74	3.60	1.86
M-1231	14.19	14.25	13.51	13.01	13.07	14.32		16.17	18.04	16.63	15.95	15.61	14.98	13.01	18.04	5.03
M-1235	11.89	12.57	11.35	11.34	11.71	11.34		11.76	13.31	12.54	11.02	1.88	10.97	1.88	13.31	11.43
M-1236	17.05	18.07	17.33	17.38	17.61	18.91		18.47	18.85	19.36	18.47	17.84	18.12	17.05	19.36	2.31
M-1237		23.34	22.62	22.62	22.96	21.51		21.80	22.84	21.91	22.79	23.28	22.57	21.51	23.34	1.83
M-1238		24.25	23.83	23.48	23.87	23.36		23.68	23.86	24.06	23.86	24.13	23.84	23.38	24.25	0.87
M-1239	19.35	20.29	19.36	19.26	20.15	21.09		20.78	21.61	20.06	19.66	18.94	20.05	18.94	21.61	2.67
M-1240	20.73	21.40	19.60	18.04	20.96	21.12		21.56	21.84	22.22	21.17	20.03	20.79	18.04	22.22	4.18
M-1243	20.16	21.11	20.27	19.83	19.63	19.28		21.65	21.89	21.18	20.28	20.07	20.49	19.28	21.89	2.61
M-1245	13.66	14.33	13.63	12.94	13.10	13.68		24.24	15.49	15.79	14.44	14.01	15.03	12.94	24.24	11.30
M-1247	10.11	11.18	9.57	8.54	10.26	11.22		12.35		12.61	11.24	9.72	10.68	8.54	12.61	4.07
M-1248	21.46	22.92	20.16	16.89	22.32	21.02		21.09	20.18	22.65	22.41	19.54	20.97	16.89	22.92	6.03
M-1250	30.38	31.09	30.53	29.32	29.39	28.54		30.18	31.08	30.79	30.24	29.85	30.13	28.54	31.09	2.55
M-1251	26.54	26.47	25.42	24.57	24.45	24.35		27.48	27.77	27.43	26.52	24.98	26.00	24.35	27.77	3.42
M-1252				19.67	20.29	22.22		20.44	21.05	19.85	20.23	20.06	20.48	19.67	22.22	2.55
M-1253	12.36	12.25	11.71	10.82	10.41	10.44		11.21	12.19		12.74	12.34	11.65	10.41	12.74	2.33
M-1254	4.24	4.80	4.45	3.75	3.80	4.39		5.15	6.89	8.90	8.25	7.89	5.68	3.75	8.90	5.15
M-1255	24.60	24.52	25.07	24.14	24.25	24.25		24.50	25.08	24.59	25.23	24.85	24.64	24.14	25.23	1.09
M-1259	11.19	11.73	10.90	10.77	12.16	10.91		10.27	12.34	11.62	10.91	10.72	11.23	10.27	12.34	2.07
M-1267	1.59	1.64	0.92	0.62	1.04	0.84		1.18	1.29	1.38	1.37	1.17	1.19	0.62	1.64	1.02
JDSPMW1				0.85									0.85	0.85	0.85	0.00
JDSPMW3	0.35	-0.09		2.01									0.76	-0.09	2.01	2.10
PB-595	0.13	0.43	0.69	0.61	1.00	0.83	1.03	1.46	1.31	1.47	0.99	0.73	0.89	0.13	1.47	1.34
PB-746	1.41	1.58	1.66	1.95	2.13	2.01	2.23	2.63	2.44	2.64	2.17	1.87	2.08	1.41	2.64	1.23

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
PB-832	-0.88	0.75	-0.65	-0.48	-1.18	-1.58	-1.81	-1.57	-1.05	-0.73	-1.20	-6.46	-1.40	-6.46	0.75	7.21
PB-789	0.10	0.32	0.77	0.92	1.07	0.40		1.09	2.06	3.87	3.31	2.87	1.53	0.10	3.87	3.77
PB-880	12.52	12.31	12.22	12.34	12.38	13.13		13.54	13.91	14.13	13.32	12.67	12.95	12.22	14.13	1.91
PB-928	7.47	7.26	6.93	7.11	6.62	6.33		6.72	8.52	8.43	8.04	8.05	7.41	6.33	8.52	2.19
PB-1547	15.46	15.98	15.33	14.97	16.74	16.34		16.54	17.21	17.02	16.03	15.45	16.10	14.97	17.21	2.24
PB-1552	16.99	17.05	16.78	16.72	17.57	17.22		17.71	18.95	17.49	16.95	16.72	17.29	16.72	18.95	2.23
PB-1613	23.49			23.63	23.63	24.03		23.84	23.91	23.97	23.55	23.09	23.68	23.09	24.03	0.94
PB-1649	10.47	10.04	9.97	10.15	10.96	11.76		11.58	13.06	11.90	10.25	10.03	10.92	9.97	13.06	3.09
S-1B	0.84	0.55											0.70	0.55	0.84	0.29
S-1C	0.98	0.52											0.75	0.52	0.98	0.46
S-2A	0.17	-0.66											-0.25	-0.66	0.17	0.83
S-3A	1.76	1.42											1.59	1.42	1.76	0.34
S-4A	1.10	1.10											1.10	1.10	1.10	0.00
S-4C	0.95	0.95											0.95	0.95	0.95	0.00
S-5A	2.86	2.78											2.82	2.78	2.86	0.08
W-1A	6.26	6.18											6.22	6.18	6.26	0.08
W-2D	3.91	3.83											3.87	3.83	3.91	0.08
W-3A	4.84	3.84											4.34	3.84	4.84	1.00
W-4A		1.28											1.28	1.28	1.28	0.00
W-5A	5.39	5.31											5.35	5.31	5.39	0.08
W-6A	8.12	8.36											8.24	8.12	8.36	0.24
W-7A	2.51	-3.51											-0.50	-3.51	2.51	6.02
R-1	3.30															
R-2	3.53															
R-3	2.17															
R-4	2.09															
1																
2																

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
Well Name																
3																
6																
7																
8																
3D																
6D																
OW-3D																
D-1																
D-2																
D-4																
D-5																
6	3.48															
8	8.12															
9	1.90															
10	0.62															
13	4.28															
14	0.95															
40B3	1.86															
1																
2																
SW-1																
SW-3																
SW-1																
D1-3																
D1-4																
D2-5																
D3-5																
RD-1																

**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1990)**

Month/Year	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	1990 Mean	1990 Min.	1990 Max.	Max-Min Diff.
S1-2																
S1-3																
S1-4																
PB-720																
PB-721																
PB-722																
PB-727																
PB-872																
PB-890																
PB-891																
PB-892																
PB-932																
M-1024																
M-1025																
M-1028																
T-7R-1																
T-23-1																
T-4																
T-5																
B	-0.64															
Q	-6.33															
S	-2.45															
U	-0.57															
W	0.43															
Y	-1.71															
K-1	-30.97															
L-1	-9.17															
N	-8.49															





**TABLE C.4 Monthly Water Level Elevations (NGVD) in the Production Unit, Martin and Northern Palm Beach Counties (1989-1991)**

Month/Year	1/91	2/91
Well Name		
M-147	4.96	1.94
M-1010	4.07	3.66
WELL NO.	3.96	4.06
M-1039	1.71	1.51
M-1042	31.87	31.54
M-1044	3.19	2.25
M-1049	21.56	21.16
M-1052	5.56	5.51
M-1055	6.04	5.76
M-1057	5.04	5.16
M-1070	2.8	2.54
M-1071	3.26	3.3
M-1073	5.21	5.21
M-1079	25.18	25.18
M-1085	22.54	22.62
M-1086	21.19	20.56
M-1088	21.02	20.35
M-1090	4.67	6.77
M-1091	3.91	4.01
M-1092	2.38	2.02
M-1093	4.07	3.78
M-1094	4.06	3.95
M-1095	2.16	2.03
M-1096	21.55	21.58
M-1132	2.21	1.53
M-1141	8.24	8.07
M-1146	3.96	3.26
M-1147	3.85	3.39
M-1158	2.82	2.6
M-1161	4.09	3.7
M-1165	3.42	2.78
M-1229	5.13	4.7
M-1230	4.22	3.6
M-1231	17.56	17.06
M-1235	12.53	7.37
M-1236	18.27	17.77
M-1237	23.29	22.84
M-1238	24.38	24.22
M-1239	21.16	20.78
M-1240	21.76	21.57
M-1243	20.9	21.05

Month/Year	1/91	2/91
Well Name		
M-1245	14.63	14.59
M-1247	11.75	10.22
M-1248	23.14	23
M-1250	30.74	30.54
M-1251	26.89	26.07
M-1252	19.99	20.41
M-1253	13.69	13.58
M-1254	8.67	8.73
M-1255	24.51	24.36
M-1259	13.53	13.63
M-1267	2.28	0.95
JDSPMW1		
JDSPMW3		
PB-595	1.89	1.68
PB-746	3.08	2.93
PB-832	1.31	-0.04
PB-789	4.64	4.36
PB-880	13.84	13.67
PB-928	10.29	10.28
PB-1547	16.29	16.51
PB-1552	18.34	17.66
PB-1613	23.67	23.69
PB-1649	13.59	12.52



**TABLE C.5 Production Unit Monitor Well Construction and Other Information, Martin County**

Deeper Wells			Screened	Interval	M.P.		Apndx
Well	State	Planars	Top	Bottom	Elev. (Ft.)	Dia	L.Litho
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src	G.Geophys
M-147	748147	1038848	73.00	74.00	17.34	R	
M-1010	755109	1037478		126.00	9.04	S,D	
M-1011	748131	1041373		128.00	8.11	S	
M-1039	796398	960302	123.00	180.00	24.21	H	
M-1042	641351	1029048	41.00	46.00	37.35	D	
M-1044	784518	990311	158.00	163.00	10.71	H,D	
M-1049	725834	991057	63.00	68.00	22.92	D	
M-1052	763889	1020468	118.00	123.00	8.40	D	
M-1055	755502	1032330	91.00	100.00	13.05	S	
M-1057	777729	1004705	69.00	75.00	15.93	D	
M-1070	792971	971386	120.00	310.00	21.04	H	
M-1071	790174	970356	114.00	118.00	12.01	D	
M-1073	787317	977910	50.00	54.00	20.49	D	
M-1079	668567	1000475	51.00	51.00	29.62	D	
M-1085	668259	964930	78.00	83.00	27.44	D	
M-1086	639394	967044	40.00	45.00	25.61	D	
M-1088	639304	967144	100.00	105.00	26.13	D	
M-1090	744984	1039233	123.00	200.00	11.94	S	
M-1091	750043	1038860	118.00	200.00	12.88	S	
M-1092	785520	989207	155.00	260.00	7.12	H	
M-1093	789161	972975	70.00	90.00	7.55	D	
M-1094	790912	968342	89.00	109.00	13.64	D	
M-1095	791774	974407	155.00	240.00	30.75	H	
M-1096	735291	965764	100.00	105.00	22.48	D	
M-1132	758127	1031539		104.00	4.94	S	
M-1141	750009	1029671		109.00	17.35	R	
M-1146	744143	1028726		110.00	8.56	S	
M-1147	744143	1028726		146.00	8.59	S	
M-1158	748126	1042181		128.00	11.15	S	
M-1161	755109	1037478		120.00	8.84	D	
M-1165	756948	1032239		106.00	5.38	S	
M-1229	776748	962488	140.00	150.00	9.80	D	L,G
M-1230	786233	964674	125.00	135.00	8.90	D	L,G
M-1231	748150	954250	105.00	115.00	21.62	D	L,G
M-1235	750277	985847	105.00	115.00	17.22	D	L,G
M-1236	721553	996890	105.00	115.00	24.82	D	L,G
M-1237	684311	996504	105.00	115.00	26.84	D	L,G
M-1238	684246	1010943	80.00	90.00	27.18	D	L,G
M-1239	725834	991057	97.00	107.00	22.99	D	L,G
M-1240	668568	1043894	90.00	100.00	29.82	D	L,G

**TABLE C.5 Production Unit Monitor Well Construction and Other Information, Martin County**

Deeper Wells			Screened	Interval	M.P.		Apndx
Well	State	Planars	Top	Bottom	Elev. (Ft.)	Dta	L:Litho
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src	G:Geophys
M-1243	679626	972350	48.00	58.00	26.20	D	
M-1245	695767	982723	86.00	96.00	34.79	D	
M-1247	716250	1043800	100.00	110.00	21.76	D	
M-1248	697980	1044050	50.00	60.00	31.72	D	L,G
M-1250	655300	1013870	37.00	47.00	34.51	D	L,G
M-1251	619000	1016650	75.00	85.00	30.87	D	L,G
M-1252	646150	980450	78.00	88.00	24.29	D	L,G
M-1253	749150	1014400	102.00	111.00	16.84	D	L,G
M-1254	747550	1059150	95.00	105.00	15.70	D	L,G
M-1255	669006	1025317	34.00	39.00	31.06	D	
M-1259	772250	985886	35.00	38.00	14.87	D	
M-1267	741000	1029472		110.00	6.12	D	
JDSPMW1	791422	967558	59.00	64.00	9.21	DR	
JDSPMW3	792038	964176	59.00	64.00	10.07	DR	
PB-595	796415	957980		114.00	19.93	T	
PB-746	796321	958383		82.00	18.83	T	
PB-832	781288	946968	141.00	153.00	13.72	T	
PB-789	786190	944881	112.00	113.00	6.86	NPB	
PB-880	768948	937595	90.00	118.00	17.06	NPB	
PB-928	779430	940593	110.00	115.00	16.69	NPB	
PB-1547	750246	946262	75.00	115.00	19.54	NPB	
PB-1552	742602	937836	90.00	100.00	20.84	NPB	
PB-1613	694400	936150	110.00	120.00	25.07	NPB	L,G
PB-1649	768437	946680		165.00	18.31	NPB	
S-1B	731152	1057733	155.00	175.00	5.05	J	
S-1C	731152	1057733	120.00	140.00	5.06	J	
S-2A	734600	1050600		108.00	5.34	J	
S-3A	736872	1052010	108.00	128.00	7.09	J	
S-4A	740593	1048699	120.00	140.00	6.10	J	
S-4C	740593	1048699		189.00	5.95	J	
S-5A	751300	1058250		104.00	17.11	J	
W-1A	735550	1060100		134.00	14.51	J	
W-2D	742830	1052045		141.00	12.33	J	
W-3A	745599	1057010	120.00	140.00	12.42	J	
W-4A	739809	1059197	120.00	140.00	16.28	J	
W-5A	742603	1059819	50.00	140.00	18.06	J	
W-6A	745934	1061253	120.00	140.00	19.07	J	
W-7A	736855	1054938	130.00	140.00	12.99	J	
R-1	722863	1054859	146.00	149.00	12.20	HR	
R-2	723048	1054153	146.00	149.00	9.45	HR	

**TABLE C.5 Production Unit Monitor Well Construction and Other Information, Martin County**

Deeper Wells			Screened	Interval	M.P.		Apndx
Well	State	Planars	Top	Bottom	Elev. (Fl.)	Dta	L:Litho
Name	X (ft.)	Y (ft.)	Fl. BLS	Fl. BLS	NGVD	Src	G:Geophys
R-3	728112	1052566	126.00	129.00	12.30	HR	
R-4	730660	1048945	128.00	131.00	9.78	HR	
1	777712	1007229	147.00	200.00	6.78	HY	
2	779065	1007643	189.00	260.00	4.37	HY	
3	778974	1007642	147.00	200.00	4.39	HY	
6	776822	1005103	132.00	136.00	21.22	HY	
7	775466	1005195	42.00	50.00	37.30	HY	
8	775550	1006205	60.00	60.00	28.54	HY	
3D	723525	1033051	70.00	150.00	17.66	MD	
6D	725394	1038110	70.00	150.00	10.99	MD	
OW-3D	721793	1035869	80.00	140.00	16.23	MD	
D-1	769198	1023734	50.00	110.00	6.11	MG	
D-2	768653	1024134	5.00	150.00	11.29	MG	
D-4	765592	1022498	130.00	140.00	7.02	MG	
D-5	763974	1021276	125.00	135.00	5.30	MG	
6	736495	1023632		100.00	12.56	PL	
8	735138	1024028		100.00	14.50	PL	
9	737747	1025760		100.00	12.85	PL	
10	737767	1022327		100.00	9.44	PL	
13	740100	1025067		100.00	11.32	PL	
14	739745	1023954	105.00	110.00	9.74	PL	
40B3	737035	1024040	105.00	115.00	12.08	PL	
1	759900	1025350			10.71	MCYCC	
2	758100	1026350			8.67	MCYCC	
SW-1	794200	966800		157.00	17.35	JUHIL	
SW-3	795750	962650		161.00	16.36	JUHIL	
SW-1			140.00	145.00	16.29	LOB	
D1-3	796339	955859	80.00	97.00	15.24	TQ	
D1-4	796232	958282	80.00	121.00	14.03	TQ	
D2-5	796042	959492	40.00	126.00	19.49	TQ	
D3-5	796033	960704	100.00	125.00	30.44	TQ	
RD-1	793528	956747	20.00	127.00	6.71	TQ	
S1-2	795529	955247	15.00	58.00	12.92	TQ	
S1-3	796338	956061	15.00	60.00	16.03	TQ	
S1-4	795960	958280	15.00	65.00	14.12	TQ	
PB-720	794635	953726	63.00	63.00	5.09	TQ	
PB-721	793089	954826	63.00	63.00	5.70	TQ	
PB-722	793171	956038	63.00	63.00	7.00	TQ	
PB-727	794603	958270	63.00	63.00	11.09	TQ	
PB-872	797133	958793	63.00	63.00	24.49	TQ	

**TABLE C.5 Production Unit Monitor Well Construction and Other Information, Martin County**

Deeper Wells	State	Planars	Screened	Interval	M.P.		Apndx
Well	X (ft.)	Y (ft.)	Top	Bottom	Elev. (Ft.)	Dta	L:Litho
Name	X (ft.)	Y (ft.)	Ft. BLS	Ft. BLS	NGVD	Src	G:Geophys
PB-890	794603	958270	171.00	175.00	10.98	TQ	
PB-891	794262	955339	138.00	142.00	6.98	TQ	
PB-892	793089	954826	80.00	85.00	5.53	TQ	
PB-926	780650	940700		115.00	15.69	JU	
PB-932	796797	955155	63.00	63.00	15.14	TQ	
M-1024	796127	960300	80.00	83.00	25.93	TQ	
M-1025	796250	960350		74.00	30.98	TQ	
M-1028	796600	959500	63.00	63.00	19.94	TQ	
T-7R-1	795300	955400		112.00	12.37	TQ	
T-23-1	793750	958500		100.00	10.14	TQ	
T-4	793000	957600		65.00	7.03	TQ	
T-5	791100	959200		65.00	10.14	TQ	
B	782283	946975		132.00	10.99	JU	
Q	782203	945459	185.00	198.00	13.12	JU	
S	784553	945980	273.00	282.00	10.05	JU	
U	782100	947276	168.00	189.00	13.58	JU	
W	787589	951959	231.00	252.00	8.28	JU	
Y	782193	946873	189.00	210.00	11.94	JU	
K-1	782800	943400		160.00	15.58	JU	
L-1	783400	943400		145.00	14.08	JU	
N	784200	943400		145.00	13.46	JU	
Z	785700	939150		160.00	15.67	JU	
RM-1A	802800	932750			14.68	RIV	
RM-2	802800	934350	55.00	60.00	15.92	RIV	

**TABLE C.6 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, St. Lucie County (1989-90)**

Water Table Aquifer	7/89	8/89	9/89	10/89	11/89	12/89	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	
Well Name																			
FPWT1	8.19	7.39	8.39	9.49	8.49	7.39	8.39	8.09	7.59	6.49	7.39	8.69							
FPWT2	6.83	6.83	6.83	6.03	7.03	6.63	6.93	6.73	6.43	6.63	6.43								
FPWT3	1.61	1.61	1.71	2.61	1.81	1.81	1.61	1.91	0.71	1.01	0.41	0.91							
FPWT4	0.28	0.38	0.48	0.58	0.38	0.48	-0.42	-0.62	-0.22	-0.12	-0.42								
FPWT5	2.73	2.23	2.63	2.33	2.93	2.83	3.13	3.13	1.43	1.73	1.93	1.73							
FPWT6	5.51	5.81	5.81	6.61	6.51	5.51	4.81	4.41											
FPWT7	5.16	3.26	7.16	5.46	4.26	5.36	5.36	6.06	6.06	2.96	4.06	7.46							
FPWT8	5.10	4.76	4.86	5.46	4.56	4.66	4.66	4.66	3.66	4.46	3.86	4.76							
FPWT9	-2.52	-2.32	-2.32	-0.52	-1.62	-1.32	-2.52	-1.32	-3.22	-2.52	-3.12								
FRIM1					19.62		20.32	20.22				20.02							
FRIM2					19.48		19.48	19.68				19.78							
FRIM3					19.96		19.86	19.86				19.96							
FRIPIT				13.90	14.40	14.50	15.00	15.00				14.30							
GDUSW4M	0.36	0.78	1.44	5.11		0.94	1.11	1.36	0.78		0.69	-1.64							
GDUSW4S	0.33	0.08	0.83	0.85		-0.34	-0.17	-1.34	0.66		0.33	-0.67							
GDUWT02	11.38	12.21	8.88	15.30		11.13		14.55	12.88		8.38	5.88							
GDUWT05	1.80	1.80	1.30	2.30		0.98		0.13	-1.03		-1.45	-1.20							
GDUWT17	6.69	7.27	7.19	8.35		7.77	7.85	7.77	7.10		6.35	7.19							
GDUWT18	9.71	10.38	10.46	11.54		10.63	10.54	10.29	10.29		8.71	9.63							
PG1	4.82	5.68	5.71	5.52		5.21	5.22	4.98	4.03	4.15	3.57	4.57	6.45	7.00	35.41	7.44	31.67	35.41	
PG6	9.20	9.44	9.29		9.17	9.26	9.26	9.37	9.15	8.97	9.05	9.00	9.14	9.36	17.81	9.98	9.68	9.36	
PG7	2.87	3.33	4.31	4.61	4.19	4.14	3.80	3.72	3.28	2.77	2.88	3.40	4.80	4.81	17.18	7.41	6.37	5.43	
PG10	11.75	11.40	12.33	12.30	12.03	12.61	12.40	12.28	11.71	10.66	12.25	14.76	14.87	14.13	19.88	14.49	13.68	12.80	
PG16	19.61	19.16	19.28	19.37	19.28	19.67	19.57	19.56	19.46	18.50	19.57	20.26	20.14	18.21	22.77	18.33	19.08	18.82	
PG23		5.59	5.34	5.57	5.84	5.75	5.84	5.59	5.03	4.37	5.18	5.58	5.82	6.71	12.69	7.92	7.04	6.43	
PG25	7.68	8.73	8.56	8.94	8.85	8.45	8.87	8.91	8.06	7.31	8.34	9.59	9.47	9.41	12.10	9.42	8.78	8.17	
PG26	11.70	12.90	12.61	13.09	12.54	12.46	12.23	12.11	11.69	11.34	11.46	11.77	11.98	13.65	21.91	13.64	12.89	12.36	



**TABLE C.6 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, St. Lucie County (1989-90)**

Water Table Aquifer	7/89	8/89	9/89	10/89	11/89	12/89	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	
Well Name																			
STL41	23.29	26.40	25.61	26.41			23.88		24.67	23.16	22.98	22.88	22.56	23.40	31.19	24.00	24.23	23.46	
STL42				26.47	25.68	25.67	25.55	25.98	25.71	25.12	25.21	27.11	26.24	26.42	30.67	25.94	25.59	25.70	
STL123				20.36			20.64	19.99	18.79	18.32	18.93	20.48	20.43	20.79	26.61	21.28	21.13	20.33	
STL125				16.94	17.00	17.74	17.53	17.29	16.68	13.85		17.68	18.75	18.70	23.16	17.48	17.03	16.41	
STL130	18.94	20.07	20.02	20.21	17.97	18.86	18.99	19.00	18.99	18.94	19.03	19.25	19.52	19.65	24.73	19.70	19.71	19.69	
STL136	4.23	4.57	5.83	5.99	5.34	4.95	4.55	4.74	4.06	3.22	4.53	5.57	7.46	7.83	17.00	9.68	8.74	7.57	
STL161				25.43			24.49	24.75	24.50	23.39	24.86	25.61	25.53	25.40	29.58	25.51	25.18	24.69	
STL172				11.90			11.94	11.90	11.21	10.47	10.63	10.97	11.55	11.93	20.38	20.38	6.28	20.38	
STL174	10.85	11.32	11.58	11.69	12.03	11.76	11.99	11.93	11.39	10.88	11.72	12.21	12.60	13.11	18.76	18.76	6.79	18.76	
STL176	11.53	12.15		12.04	12.33	12.26	12.27	12.14	11.77	10.67	11.99	12.00	12.27	11.96	22.60	13.60	13.19	12.85	
STL266				9.68	9.14	9.01	8.60	8.62	8.43	8.24	8.30	8.37	9.26	9.78	35.64	10.50	10.16	9.75	
STL268	7.18	7.96	7.98	8.28	9.04	9.43	9.34	9.44	8.58	7.73	7.73	7.73	8.74	8.83	14.19	10.80	9.80	9.23	
STL269	16.43	17.76	17.67	16.84	17.21	17.69	17.10	17.40	16.51	15.76	17.08	18.16	20.43	20.46	21.52	21.52	17.50	17.17	
STL270	3.09	3.13	3.49	3.41	3.33	3.41	3.40	3.50	3.02	2.61	3.53	3.76	3.35	3.70	7.58	3.91	3.51	3.20	
STL271	10.18	10.86	10.30	9.15	10.31	10.31	10.27	10.22	9.76	9.57	10.03	10.49	16.81	11.81	16.81	12.97	12.08	11.51	
STL272	20.52	21.54	20.12	20.09	19.55	19.39	19.63	19.69	18.91	18.39	19.13	19.80	26.66	19.04	26.66	21.51	5.98	26.66	
STL274	8.63	8.44	9.29	9.56	9.03	8.79	9.72						13.76	13.76	13.76	13.76	13.76	13.76	
STL276	9.87	10.52	10.50	10.81	11.19	11.31	11.76	11.84	10.75	9.94	11.47	11.54	12.04	12.35	14.27	12.74	11.83	11.25	
STL277	12.57	12.78	12.52	12.64	12.86	12.76	13.16	13.33	12.35	11.72	12.65	12.75	13.20	13.90	19.30	13.31	13.07	13.00	
STL278	11.52	13.04	13.59	13.91	13.57	13.24	13.57	13.35	12.17	11.03	11.47	11.64	11.70	13.31	16.96	13.56	13.00	12.41	
US1	10.76	13.26		13.67		12.47		12.59			11.79								

**TABLE C.6 Monthly Water Level Elevations (NGVD) in the Sand/Soil Unit, St. Lucie County (1989-90)**

Water Table Aquifer	1/91	2/91	4/91	5/91	6/91	7/91	8/91	9/91
Month/Year								
Well Name								
PG1	32.49	35.41	35.41	35.41	35.41	35.41	35.41	35.41
PG6	12.18	10.94	10.44	10.48	11.40	11.56	11.87	12.01
PG7	7.36	8.11	6.74	6.56	7.79	7.43	7.70	7.33
PG10	15.35	14.52	13.45	12.69	13.25	12.81	14.20	15.14
PG16	19.17	19.50	19.14	19.09	19.00	19.35	18.02	18.89
PG23	8.99	7.75	8.00	9.07	9.04	8.62	7.89	8.50
PG25	11.47	9.49	9.60	12.10	10.79	11.21	11.47	10.84
PG26	14.65	13.80	14.00	13.67	13.91	14.31	14.04	14.19
STL41	25.19	26.01	26.27	25.88	25.89	26.19	25.46	26.47
STL42	25.93	26.21	25.99	25.75	25.79	27.25	25.52	25.15
STL123	21.49	21.71	21.54	20.91	22.13	23.06	21.27	21.31
STL125	18.75	18.16	17.07	17.78	18.18	17.85	18.19	18.18
STL130	19.70	19.73	19.82	20.06	20.52	20.67	20.94	21.45
STL136	9.62	9.93	9.82	9.61	10.28	10.45	10.23	10.80
STL161	25.91	25.54	26.18	25.36	25.41	26.52	25.98	26.10
STL172	14.12	13.72	13.76	14.14	14.93	14.88	14.71	15.09
STL174	5.84	19.85	19.85	19.85	19.85	19.85	19.85	19.85
STL176	6.50	26.66	26.66	26.66	26.66	26.66	26.66	26.66
STL266	11.64	11.33	11.04	10.79	11.19	11.69	11.58	11.77
STL268	5.05	4.08	4.31	5.47	4.76	4.40	4.61	4.39
STL269	13.69	12.70	13.91	13.55	14.52	13.99	14.18	13.06
STL270	21.91	21.44	22.00	21.32	21.11	21.16	21.06	21.37
STL271	1/91	2/91	4/91	5/91	6/91	7/91	8/91	9/91
STL272	10.86	11.08	12.70	12.43	12.44	12.28	12.80	12.80
STL274	13.76	13.76	13.76	13.76	13.76	13.76	13.76	13.76
STL276	13.58	12.67	12.41	13.58	13.15	9.70	12.10	11.84
STL277	13.72	13.43	13.49	14.35	13.57	13.53	13.62	13.77



**TABLE C.7 Sand/Soil Unit Monitor Well Construction and Other Information, St. Lucie County**

Water Table Well Name	State X (ft.)	Planars Y (ft.)	TD Fl. BLS	Screened Interval		MP (ft) NGVD	Dta Src
				Top Fl. BLS	Bottom Fl. BLS		
FPWT1	717177	1122183				18.89	S
FPWT2	705899	1124750	25.00	20.00	25.00	19.23	S
FPWT3	715710	1126821	25.00	20.00	25.00	19.31	S
FPWT4	709553	1132443	25.00	20.00	25.00	20.98	S
FPWT5	713698	1132465	25.00	20.00	25.00	20.23	S
FPWT6	709444	1136179	25.00	20.00	25.00	22.21	S
FPWT7	710862	1140630	25.00	20.00	25.00	18.86	S
FPWT8	713377	1141956	25.00	20.00	25.00	10.26	S
FPWT9	711395	1124778				20.08	S
FRIM1	686560	1094200	35.00	30.00	35.00	28.72	S
FRIM2	684960	1090600	35.00	30.00	35.00	28.48	S
FRIM3	685225	1087800	35.00	30.00	35.00	28.66	S
FRIPIT	686560	1092540				24.45	S
GDU5W4M	717000	1086600	28.00	25.00	28.00	9.36	S
GDU5W4S	717000	1086600	16.00	13.00	16.00	9.33	S
GDUWT02	703217	1084546	20.00	17.00	20.00	23.38	S
GDUWT05	713427	1081367	20.00	17.00	20.00	18.80	S
GDUWT17	718492	1078869	20.00	17.00	20.00	15.02	S
GDUWT18	710841	1075496	20.00	17.00	20.00	18.96	S
PG1	720126	1126642	37.00	28.50	37.00	35.41	D
PG6	704973	1129592	30.00	16.60	24.60	17.81	D
PG7	705664	1117781	30.00	16.40	24.40	17.18	D
PG10	681618	1113626	30.00	18.00	26.00	19.88	D
PG16	657650	1134630	30.00	17.50	25.50	22.77	D
PG23	732471	1063799	30.00	19.40	27.40	12.69	D
PG25	718327	1075940	30.00	19.50	27.50	12.10	D
PG26	706853	1096682	30.00	19.40	23.40	21.91	D
STL41	623813	1064030	17.00	12.00	17.00	31.19	D
STL42	606667	1132343	18.00	13.00	18.00	30.67	D
STL123	648105	1084307	13.28	13.28	14.00	26.61	D
STL125	692117	1123470	11.77	11.77	12.00	23.16	D
STL130	687425	1105372	14.81	12.80	14.81	24.73	D
STL136	702150	1117561	14.00	12.22	14.00	17.00	D
STL161	662811	1060936	20.00		20.00	29.58	D
STL172	724089	1110709	30.00	26.00	30.00	20.38	D
STL174	732118	1078238	30.00	26.00	30.00	18.76	D
STL176	740959	1078390	30.00	26.00	30.00	22.60	D
STL266	704040	1171293	42.00	38.50	41.50	35.64	D
STL268	709240	1105984	22.00	19.00	22.00	14.19	D
STL269	698696	1105123	22.00	19.00	22.00	21.52	D
STL270	721841	1060307	24.00	20.00	23.00	7.58	D
STL271	709650	1061454	24.00	20.00	23.00	16.81	D
STL272	689762	1068324	23.00	20.00	23.00	26.66	D
STL274	729324	1045807	25.00	21.20	24.20	13.76	D
STL276	733239	1071579	23.00	19.50	22.50	14.27	D
STL277	738379	1072215	21.50	18.50	21.50	19.30	D
STL278	728397	1098110	28.00	23.50	26.50	16.96	D
STLAPT2S4	682982	1130900	45.00	35.00	45.00	23.03	D
US1	723800	1084600	10.00	10.00	10.00	17.09	S
D=SFWMD Monitor Well Network							
S=SALT Network							



**TABLE C.8 Monthly Water Level Elevations (NGVD) in the Production Unit, St. Lucie County (1989-90)**

Month/Year	7/89	8/89	9/89	10/89	11/89	12/89	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	
Well Name																			
GDPHTWT	7.02	6.94		7.02		7.02	10.96	12.09			7.02	7.19							
GDUSW2S	0.20	1.28	2.03	2.12		1.87	2.12	2.28	0.85		0.70	1.62							
GDUSW3S	0.76	0.42	1.01	1.26		0.59	0.51	0.84	1.09		0.51	0.43							
PG5	15.73	17.36	16.95	16.78	16.76	17.16	16.88	17.41	16.49	15.89	16.25	16.55	17.23	17.24	22.90	18.04	5.10	22.90	
PG12	14.37	14.48	14.28	14.34	14.56	14.50	14.69	14.45	15.24	14.87	16.27	15.78	14.41	14.58	21.04	14.22	15.37	14.72	
PG13N	19.05	19.38	19.29	19.13	19.50	19.56	20.50	19.03	19.41	19.50	19.46	20.06	18.82	18.66	26.78	26.78	26.78	26.78	
PG15E	18.90	18.85	19.04	18.83	18.81	19.09	19.02	18.96	18.69	17.88	19.26	19.56	19.25	18.49	26.57	18.14	17.44	17.73	
PG18		18.80	18.90	18.72	19.18	19.20	18.82	18.91	18.32	19.19	19.12	19.14	17.99	17.85	22.15	18.19	19.01	18.45	
PG35N	28.29	29.73	29.59		30.36	30.93	30.67	30.75					32.77	32.77	32.77	32.77	32.77	32.77	
SLMW5S	20.46	19.70	19.74	20.57	19.75	20.29	20.42	20.27	15.31	14.28	20.21	20.65	20.12	19.49	26.29	20.52	19.75	16.09	
SLMW6S	20.29	19.67	19.82	20.54	19.82	20.45	20.38	20.36	16.32	15.35	19.98	21.18	20.25	19.62	26.56	20.48	19.89	17.07	
SLMW7S	20.89	19.94	20.21	20.89	20.15	20.47	20.24	20.41			20.27	20.84	20.65	19.47	26.46	20.39	19.76	16.32	
SLMW8S	20.64	19.16	20.30	21.79	20.44	21.18	20.15	21.25	17.75	14.96	21.48	21.46	21.10	19.88	25.68	21.02	18.18	16.44	
SLMW9S	25.96	27.33	27.39	28.22	27.58	28.04	27.85						30.15	30.15	30.15	30.15	30.15	30.15	
SLMW10S	28.24	30.54	30.46	30.79	30.16	30.54	30.24	30.49					31.39	31.39	31.39	31.39	31.39	31.39	
SLMW11D	4.49	5.32	5.27	5.18		4.59	4.86	4.59	2.71	3.57	2.49	4.63	5.24	6.22	32.58	32.58	32.58	32.58	
SLMW13S	30.63		31.37	31.70	31.23	31.63	30.76	31.14	30.08	28.85	30.02	32.03	31.11	32.26	33.68	31.47	30.91	30.46	
STL175	6.78	7.13	7.32	7.36	7.66	7.40	7.52	7.37	6.98	6.54	7.07	7.60	7.29	7.44	21.97	8.82	8.27	7.85	
STL214	20.51	21.56	20.22	19.71	19.62	19.43	19.67	19.73	19.05	18.41	19.18	19.96	28.27	21.00	28.27	28.27	7.55	28.27	
STL265	8.93	10.23	10.77	9.73	10.00	10.89	10.39	10.12	9.47	8.91	10.19	12.24	13.84	13.41	19.85	19.85	5.75	19.85	
STL267	21.03	21.93	22.18	21.86	21.29	21.61	21.55	21.46	21.03	20.89	21.45	22.59	21.51	22.65	26.62	22.03	21.42	21.19	
STL273	21.18	21.40	20.66	21.11	20.80	20.87	20.68	20.70	19.78	18.69	19.57	20.36	22.54	21.29	22.54	21.41	20.76	19.60	
STL275	4.38	4.50	4.89	4.67	4.06	4.22	4.46						16.59	16.59	16.59	16.59	16.59	16.59	
STLAPT112				9.77	9.34	9.38	8.99	9.31	8.81	7.82	8.26	8.77	9.78	10.35	18.68	10.96	10.25	9.79	
STLAPT1S	12.02	13.06	13.65	14.78	13.64	14.07	13.74	14.33	13.28	12.61	12.40	12.66	15.01	15.91	18.58	15.77	14.84	14.08	
STLAPT2S	19.43	20.43	20.85	20.47	19.70	19.91	19.93	19.94	19.33	18.84		20.93	21.00	21.73	23.03	20.55	20.07	19.55	
STLAPT4S	25.02	26.07	26.32	27.13	26.26	26.84	26.55	26.99	25.78	24.79	25.29	27.17	26.19	27.02	29.41	29.41	29.41	29.41	
STLMW1S	20.04	20.36	20.01	20.30	20.62	20.25	19.94	19.88	19.46	19.04	20.15	20.85	19.70	19.75	22.77	22.77	20.05	19.99	

**TABLE C.8 Monthly Water Level Elevations (NGVD) in the Production Unit, St. Lucie County (1989-90)**

Month/Year	1/91	2/91	4/91	5/91	6/91	7/91	8/91	9/91
Well Name								
PG5	4.54	22.90	22.90	22.90	22.90	22.90	22.90	22.90
PG12	14.96	14.54	14.22	14.09	14.44	16.08	13.87	13.79
PG13N	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78
PG15E	17.87	17.99	18.28	18.00	18.32	19.55	18.06	18.35
PG18	19.26	19.30	18.91	18.07	18.36	18.18	17.24	18.08
PG35N	32.77	32.77	32.77	32.77	32.77	32.77	32.77	32.77
SLMW5S	20.73	20.58	20.57	19.05	18.85	19.79	19.31	18.65
SLMW6S	20.79	20.56	20.59	19.82	18.99	20.27	19.34	18.79
SLMW7S	20.74	20.61	20.56	19.00	18.79	19.83	19.30	18.66
SLMW8S	20.92	21.03	21.40	20.65	19.59	20.69	19.92	19.74
SLMW9S	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15
SLMW10S	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39
SLMW11D	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58
SLMW13S	32.14	31.74	31.67	30.41	30.43	32.78	31.40	31.08
STL175	8.55	8.40	8.38	9.02	9.99	9.63	9.15	9.42
STL214	8.10	28.27	28.27	28.27	28.27	28.27	28.27	28.27
STL265	19.83	19.49	19.19	19.22	19.54	20.09	18.14	19.16
STL267	18.64	18.27	17.67	17.66	18.74	18.46	18.31	17.92
STL273								
STL275	16.59	16.59	16.59	16.59	16.59	16.59	16.59	16.59
STLAPT1I2	11.01	11.63	11.45	11.07	11.66	11.74	11.54	11.76
STLAPT1S2	17.31	16.75	15.96	15.27	16.72	16.43	16.46	16.45
STLAPT2S4	21.23	20.75	20.35	20.58	21.09	21.34	20.88	20.97
STLAPT4S3	29.41	29.41	29.41	29.41	29.41	29.41	29.41	29.41
STLMW1S	20.46	20.47	20.36	20.11	20.02	20.02	19.91	19.73

**TABLE C.9 Production Unit Monitor Well Construction and Other Information, St. Lucie County**

Prod. Zone Well Name	State X (ft.)	Planars Y (ft.)	TD Ft. BLS	Screened Interval			MP (ft) NGVD	Dta Src
				Top Ft. BLS	Bottom Ft. BLS			
GDPHTWTP2	713334	1081770					18.19	S
GDUSW2S	715100	1088800	25.00	20.00	25.00		5.95	S
GDUSW3S	712300	1096800	43.00	38.00	43.00		13.84	S
PG5	706690	1146162	30.00	17.10	25.10		22.90	D
PG12	678934	1169962	30.00	18.40	22.40		21.04	D
PG13N	646984	1169024	58.00	50.00	58.00		26.78	D
PG15E	671191	1128122	105.00	50.20	58.20		26.57	D
PG18	670786	1096008	30.00	16.30	24.30		22.15	D
PG35N	608478	1095087	30.00	19.70	27.70		32.77	D
SLMW5S	647013	1111870	35.00	25.00	35.00		26.29	D
SLMW6S	647078	1118737	112.00	30.00	18.10		26.56	D
SLMW7S	646957	1127218	35.00	25.00	35.00		26.46	D
SLMW8S	646998	1140447	35.00	25.00	35.00		25.68	D
SLMW9S	616302	1102581	35.00	25.00	35.00		30.15	D
SLMW10S	612626	1095300	35.00	25.00	35.00		31.39	D
SLMW11D	720126	1126642	153.00	80.00	100.00		32.58	D
SLMW13S	604850	1103559	30.00	20.00	30.00		33.68	D
STL175	740959	1078390	200.00	68.00			21.97	D
STL214	689762	1068324	63.00	33.00	63.00		28.27	D
STL265	694488	1117725	28.00	27.00	28.00		19.85	D
STL267	663136	1159191	20.00	17.00	20.00		26.62	D
STL273	703953	1045672	20.50	17.50	20.50		22.54	D
STL275	729324	1045807	136.00				16.59	D
STLAPT1I2	702370	1109585	75.00	64.20	74.20		18.68	D
STLAPT1S2	702370	1109585	45.00	33.76	43.76		18.58	D
STLAPT2S4	682982	1130900	45.00	35.00	45.00		23.03	D
STLAPT4S3	620726	1100372	40.00	20.00	40.00		29.41	D
STLMW1S	657595	1102620	18.10	13.10	18.10		22.77	D
D=SFWMD Monitor Well Network								
S=SALT Network								





**TABLE C.10 Monthly Water Level Elevations (NGVD) in the Granular Limestone Unit, St. Lucie County (1989-90)**

Month/Year	7/89	8/89	9/89	10/89	11/89	12/89	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	
Well Name																			
FPMW1	3.30	4.20	4.44	5.10	4.16	3.20	4.20	4.00	4.00	2.90	3.80	3.80							
FPMW2	3.82	5.02	5.62	5.82	4.92	4.62	4.62	4.82	4.92	3.92	4.82	5.12							
FPMW3	6.29	6.99	7.09	7.29	7.09	7.19	6.19	5.99	5.99	6.29	6.29	6.39							
FPMW4	4.10	5.00	4.90	5.00	4.80	4.80	4.80	3.70	3.70	3.20	3.10	4.80							
FPMW5	-4.10	-4.30	-4.20	-1.30	-2.40	-2.30	-3.30	-2.30	-3.90	-4.20	-3.10								
FPTW1	13.73	15.23	15.03	15.93	14.93	14.73	15.13	15.03	13.93	14.13	13.73								
FPTW2	14.42	15.42	15.42	16.42	15.32	15.42	15.22	15.12	14.32	14.52	14.22								
FPTW4	-8.01	-8.11	-8.11	-2.11	-8.21	-3.11	-8.31	-7.31	-4.11	-8.61	-3.31								
FPTW5	6.55	7.65	7.55	8.45	7.55	7.65	6.75	6.55	6.55	6.65	6.45								
FPTW7	-5.93	-3.13	-7.93	-7.23	-5.13	-7.93	-5.13	-3.83	-5.23	-7.63	-8.23								
FPTW8	13.60	13.60	13.80	13.70	13.60														
GDU80-7	14.64	15.81		16.31		14.98	14.56	16.48	14.73		11.89	12.01							
GDU8W2D	-2.05	-0.63	0.45	0.62		-0.05	0.20	0.02	-1.05		-0.63	-0.13							
GDU8W3D	2.17	2.59	3.09	2.50		2.84	2.67	3.00	2.84		2.25	2.25							
GDU8W4D	-1.08	0.25	0.83	2.42		0.92	0.92	-1.58	-0.50		-0.25	-2.00							
HRR1	2.80	3.40	3.88	4.61	3.52	3.57	3.30	3.44	3.16	2.51	3.35	3.05							
HRR2	2.85	3.47	3.99	4.73	3.66	3.79	3.53	3.59	3.26	1.76	3.60	3.25							
HRR3	1.48	2.28	2.88	3.49	2.48	2.35	2.17	2.60	3.27	1.66	2.40	1.90							
HRR4	1.03	2.06	2.62	2.76	2.17	2.05	2.09	2.50	2.03	1.03	1.88	1.93							
PG13M	20.24	20.33	20.50	20.61	19.40	19.80	19.82	19.68	19.48	19.56	19.69	19.85	19.17	19.28	26.92	26.92	26.92	26.92	26.92
SLMW10D	27.99	30.17	30.07		30.06	30.44	30.15	30.43					30.85	30.85	30.85	30.85	30.85	30.85	30.85
SLMW12D	18.87	18.90	19.08	18.87	18.86	19.10	19.02	19.01	18.69	17.97	19.28	19.53	19.20	18.57	27.41	18.26	17.72	17.82	17.82
SLMW13D	30.72		31.80	32.23	31.74	31.99	31.42	31.86	30.53	29.15	29.92	32.09	31.55	32.42	33.63	32.23	31.51	30.90	30.90
SLMW14D	10.59	11.32	10.73		11.85	11.77	11.91	11.83	11.17	10.42	10.59	10.70	11.44	11.74	19.98	19.98	19.98	19.98	19.98
SLMW4D	15.55	17.21	16.78	16.64	16.66	17.05	16.71	17.26	16.37	15.73	16.02	16.25	17.04	17.05	25.35	25.35	25.35	25.35	25.35
SLMW5D	20.40	19.59	19.68	20.49	19.73	20.24	20.32	20.24	15.44	14.40	20.19	20.65	20.06	19.46	26.13	20.48	19.70	16.20	16.20
SLMW6D	20.20	19.77	19.80	20.44	19.81	20.49	20.29	20.45	17.32	16.48	19.81	21.29	20.33	19.81	26.61	20.34	20.46	18.06	18.06
SLMW7D	21.56	20.34	20.63	20.76	19.74	20.59	20.34	20.57	18.31	17.90	20.15	21.05	20.80	20.15	26.51	20.44	20.30	19.30	19.30

**TABLE C.10 Monthly Water Level Elevations (NGVD) in the Granular Limestone Unit, St. Lucie County (1989-90)**

Month/Year	7/89	8/89	9/89	10/89	11/89	12/89	1/90	2/90	3/90	4/90	5/90	6/90	7/90	8/90	9/90	10/90	11/90	12/90	
Well Name																			
SLMW8D	20.16	19.57	20.05	20.74	19.99	20.34	19.81	20.17	18.91	17.87	19.80	20.42	20.02	19.56	25.12	19.79	19.16	18.58	
SLMW9D	26.60	28.04	28.07	28.91	28.21	28.86	28.57						30.51	30.51	30.51	30.51	30.51	30.51	
STL173	6.04	7.41	7.33	7.62	7.45	7.15	7.76	7.59	6.76	6.39	7.71	8.22	8.19	10.27	10.27	10.27	10.27	10.27	
STL177	3.71	4.15	4.42	4.47	4.87	4.10	5.25	4.29	3.89	3.60	4.06	4.08	4.15	4.38	38.37	5.65	4.46	4.66	
STL185				25.30			24.17	24.48	24.41	23.35	24.52	25.25	25.33	25.30	30.20	25.54	25.11	24.75	
STL191	4.43	5.27	4.89	5.08	4.88	4.97	4.95	5.03	4.80	5.37	4.50	4.78							
STL213	9.13	10.04	10.58	10.38	10.10	10.78	10.41	10.14	9.67	9.15	10.11	11.52	11.79	11.33	20.26	20.26	8.62	20.26	
STL264	19.77	19.40	19.38	19.51	19.16	19.42	19.69	19.35	19.27	19.22	19.94	20.37	19.20	19.12	23.90	19.05	18.99	19.11	
STLAPT1D	7.74	8.61	9.13	9.78	9.35	9.41	8.99	9.34	8.83	7.83	8.29	8.79	9.74	10.35	18.77	10.98	10.28	9.79	
STLAPT2D	19.22	20.24	20.63	20.24	19.19	19.84	19.23	19.67	19.18	18.33		20.58	20.80	22.68	22.68	20.67	20.14	19.55	
STLAPT4D	24.94	26.12	26.28	27.04	26.21	26.76	26.48	26.83	25.76	24.79	25.35	27.02	26.17	26.96	29.14	29.14	29.14	29.14	
STLMW1D	20.14	20.43	20.09	20.30	20.54	20.52	20.22	20.14	19.82	19.44	20.03	20.52	19.90	19.67	22.75	22.75	19.99	20.02	

**TABLE C.10 Monthly Water Level Elevations (NGVD) in the Granular Limestone Unit, St. Lucie County (1989-90)**

Month/Year	1/91	2/91	4/91	5/91	6/91	7/91	8/91	9/91
Well Name								
PG13M	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92
SLMW10D	30.85	30.85	30.85	30.85	30.85	30.85	30.85	30.85
SLMW12D	17.92	18.01	18.30	18.04	18.37	18.81	18.16	18.46
SLMW13D	32.52	32.24	32.29	30.93	30.98	33.07	32.01	31.73
SLMW14D	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98
SLMW4D	25.35	25.35	25.35	25.35	25.35	25.35	25.35	25.35
SLMW5D	20.64	20.48	20.59	18.99	18.84	19.78	19.25	18.65
SLMW6D	20.72	20.55	20.54	19.24	19.31	20.58	19.39	19.14
SLMW7D	20.81	20.81	20.55	19.61	19.65	20.74	20.00	19.86
SLMW8D	19.89	20.01	20.06	19.85	19.41	20.14	19.36	19.42
SLMW9D	30.51	30.51	30.51	30.51	30.51	30.51	30.51	30.51
STL173	10.27	10.27	10.27	10.27	10.27	10.27	10.27	10.27
STL177	4.97	4.86	4.84	5.56	6.71	6.10	5.47	5.78
STL185	25.58	25.25	25.76	25.14	25.21	26.19	25.68	25.93
STL191								
STL213	7.84	20.26	20.26	20.26	20.26	20.26	20.26	20.26
STL264	21.91	21.42	20.92	20.98	21.09	22.10	26.62	21.09
STLAPT1D2	12.01	11.67	11.46	11.08	11.66	11.74	11.55	11.76
STLAPT2D4	21.20	20.78	20.31	20.52	20.82	21.23	20.93	21.08
STLAPT4D3	29.14	29.14	29.14	29.14	29.14	29.14	29.14	29.14
STLMW1D	20.36	20.36	20.21	20.06	20.07	20.35	19.93	19.94



