

Letter 11-02557

Melton Blvd Center

| DEPTH (FT. NGVD) | COLUMN | ACCESSORY MINERALS | FORMATION | HYDROGEOLOGIC UNIT |
|------------------|-----------------------------------|------------------------------------------------------------------------------|--------------------------|----------------------------------|
| 0 | [Stratigraphic Column Diagram] | SAND SAND SAND SAND SAND SAND SAND SAND SAND SAND | TAMIAMI FORMATION | WATER TABLE |
| -25 | | | | AQUIFER |
| -50 | | | | TAM. CONF. BEDS. |
| -75 | | | | LOWER |
| -100 | | | | |
| -125 | | | | TAMIAMI |
| -150 | | | | AQUIFER |
| -175 | | | | MIOCENE COARSE CLASTICS |
| -200 | | | | |
| -225 | | | | U. HAW. CON. Z. SANDSTONE AQ. |
| -250 | | | | |
| -275 | UPPER | | | |
| -300 | CLASTIC | | | |
| -325 | MID-HAWTHORN CONFINING ZONE | | | |
| -350 | | | | |
| -375 | LOWER CARBONATE | MID-HAWTHORN AQUIFER | | |

WC2033

W- 2033

COLLIER CO. - LITHO LOG PRINTOUT

COLLIER CO. 1495 R28E SEC 11AB
TOTAL DEPTH- 380 FT. ELEV.- 14 FT. 26 13 46 N 81 35 28 W
COMPLETED- 03.05.01 DEPTH WORKED 38 SAMPLES- 0- 380 FT.
350 FT.

OTHER GEOPHYSICAL LOGS AVAILABLE -

GELLOGS
CALIPHER
ELECTRIC
NEUTRON

WELL NAME-
GULLEN GATE #1, SP#WU, ALVIN WOODRICK DRILLED
REMARKS-
DESCRIBED BY MIKE KNAPP (2-26-83), QUALITY (GOOD)

HYDROGEOLOGIC UNITS

- 0.0- 220.0 SURFICIAL AQUIFER SYSTEM
- 0.0- 40.0 WATER TABLE AQUIFER
- 40.0- 60.0 TAMIAHI CONFINING BEDS
- 60.0- 220.0 LOWER TAMIAHI AQUIFER
- 220.0- 240.0 UPPER HAWTHORN CONFINING ZONE
- 240.0- 250.0 SANDSTONE AQUIFER
- 250.0- 360.0 MID-HAWTHORN CONFINING ZONE
- 360.0- 1.0. MID-HAWTHORN AQUIFER

STRATIGRAPHIC FORMATIONS -

- .0- 3.0 UNDIFFERENTIATED SAND AND CLAY
- 3.0- 150.0 TAMIAHI FORMATION
- 150.0- 230.0 MIOCENE COARSE CLASTICS
- 230.0- 380.0 HAWTHORN FORMATION *

LITHOLOGIC LOG

W- 2033

COLLIER CO. 1495, R28E, SEC 11AB

- 0.0- 3.0 SAND, MODERATE YELLOWISH BROWN, 35% POROSITY, INTERGRANULAR, GRAIN SIZE MEDIUM, RANGE VERY FINE TO COARSE, SUB-ANGULAR, ANGULAR, MEDIUM SPHERICITY, UNCONSOLIDATED, ORGANIC MATRIX, MOLLUSKS,
- 3.0- 17.0 LIMESTONE, WHITE TO VERY LIGHT GRAY, 15% POROSITY, INTERGRANULAR, INTERCRYSTALLINE, MOLDIC, GRAIN TYPES CALCICITIC, CRYSTALLINE, SKELETAL, FOR ALL CHEMICAL CONSTITUENTS, GRAIN SIZE MICROCRYSTALLINE, RANGE MICROCRYSTALLINE TO MEDIUM, GOOD IMPURELY, CALCICITIC MATRIX, SPARSE CALCITE LENTILS, ONE QUARTZ SAND, MOLLUSKS, CORAL, FUSCIC FOLDS,

*THE MIOCENE COARSE CLASTIC HAWTHORN FORMATION AND TAMPA LIMESTONE ARE CONSIDERED A PART OF THE HAWTHORN GROUP IN THIS REPORT

LITHOLOGIC LOG

N- 2033 . COLLIER CO. 1495, 42NB, SEC 11AB

- 10.0- 20.0 LIMESTONE, WHITE TO VERY LIGHT ORANGE, 25% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY, GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL, 45% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO COARSE, GOOD INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 02% QUARTZ SAND, MOLLUSKS, BENTHIC FORAMINIFERA, CORAL, FOSSIL MOLDS,
- 20.0- 30.0 LIMESTONE, VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, POSSIBLY HIGH PERMEABILITY, GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL, 20% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO MEDIUM, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 2% QUARTZ SAND, MOLLUSKS, FOSSIL MOLDS,
- 30.0- 40.0 AS ABOVE,
- 40.0- 50.0 LIMESTONE, YELLOWISH GRAY, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, GRAIN TYPE: CALCILUTITE, CRYSTALS, 10% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO VERY FINE, GOOD INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 10% QUARTZ SAND, 02% CLAY, MOLLUSKS,
- 50.0- 60.0 NO SAMPLE-KILLER REPORTS SANDSTONE (SLFI)
- 60.0- 70.0 LIMESTONE, VERY LIGHT ORANGE TO YELLOWISH GRAY, 15% POROSITY, INTERGRANULAR, GRAIN TYPE: CALCILUTITE, CRYSTALS, INTRACLASTS, 5% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: FINE, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 05% QUARTZ SAND, MOLLUSKS, FOSSIL FRAGMENTS, CORAL,
- 70.0- 80.0 AS ABOVE,
- 80.0- 90.0 LIMESTONE, VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, MOLDIC, GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL, 50% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 15% QUARTZ SAND, MOLLUSKS, CORAL,
TRACE PHOSPHATIC SAND
- 90.0- 100.0 LIMESTONE, VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY, GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL, 60% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MEDIUM, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 05% QUARTZ SAND, MOLLUSKS, CORAL, FORAMINIFERA, BRIDGES,

LITHOLOGIC LOG

4-2532 LULLIER LU. 1475, W286, SEC 114N

- 130.0- 135.0 LIMESTONE, VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, MOLLIC, GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL, 65% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MEDIUM, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 0.5% QUARTZ SAND, 0.1% PHOSPHATIC SAND, BENTHONIC FORAMINIFERA, MOLLUSKS, BRYZOEA, ECHINID,
- 140.0- 145.0 AS ABOVE,
- 150.0- 155.0 LIMESTONE, VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, MOLLIC, GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL, 65% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MEDIUM, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 0.5% QUARTZ SAND, 0.1% PHOSPHATIC SAND, BENTHONIC FORAMINIFERA, MOLLUSKS, BRYZOEA, ECHINID, CORAL,
- 160.0- 165.0 AS ABOVE,
- 170.0- 175.0 AS ABOVE WITH MORE SAND (10%)
- 180.0- 185.0 SANDSTONE, WHITE TO VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, MOLLIC, GRAIN SIZE: MEDIUM, RANGE: VERY FINE TO COARSE, SUB-ANGULAR, ROUNDED, MEDIUM SPHERICITY, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 40% CALCILUTITE, 0.5% PHOSPHATIC SAND, MOLLUSKS, FOSSIL FRAGMENTS,
- 190.0- 195.0 AS ABOVE,
- 200.0- 205.0 SANDSTONE, WHITE TO VERY LIGHT ORANGE, 15% POROSITY, INTERGRANULAR, GRAIN SIZE: MEDIUM, RANGE: FINE TO COARSE, SUB-ANGULAR, ROUNDED, MEDIUM SPHERICITY, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 25% CALCILUTITE, 0.1% PHOSPHATIC SAND, MOLLUSKS, FOSSIL FRAGMENTS,
- 210.0- 215.0 AS ABOVE,
- 220.0- 225.0 SANDSTONE, VERY LIGHT ORANGE, 25% POROSITY, INTERGRANULAR, GRAIN SIZE: MEDIUM, RANGE: FINE TO COARSE, SUB-ANGULAR, ROUNDED, MEDIUM SPHERICITY, MODERATE INDURATION, CALCILUTITE MATRIX, ULTRAMITE CEMENT, 20% ULTRAMITE, 20% CALCILUTITE, 0.1% PHOSPHATIC SAND, SHARK TEETH, MOLLUSKS, FOSSIL FRAGMENTS,
- 230.0- 235.0 LIMESTONE, VERY LIGHT ORANGE TO WHITE, 15% POROSITY, INTERGRANULAR, MOLLIC, GRAIN TYPE: CALCILUTITE, CRYSTALS, BIOGENIC, 20% ALLOCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO COARSE, MODERATE INDURATION, CALCILUTITE MATRIX, SPARKY CALCITE CEMENT, 0.5% QUARTZ SAND, MOLLUSKS, BRYZOEA, ECHINID,

LITHOLOGIC LOG

2033 . COLLIER CO. T-43, F28E, SEC 11A

- 220.0- 230.0 LIMESTONE, VERY LIGHT ORANGE TO WHITE, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, GRAIN TYPE: CALCILUTE, 1% ALLUCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO FINE, POOR INDURATION, CALCILUTE MATRIX, 20% QUARTZ SAND, MOLLUSKS,
- 230.0- 240.0 SILT-SAND, YELLOWISH GRAY, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, POOR INDURATION, DOLOMITE CEMENT, CALCILUTE MATRIX, CLAY MATRIX, 0% CLAY, 30% QUARTZ SAND, 0% PHOSPHATIC SAND,
- 240.0- 250.0 LIMESTONE, VERY LIGHT ORANGE, 10% POROSITY, INTERGRANULAR, MOLDIC, GRAIN TYPE: CALCILUTE, CRYSTALS, BIOGENIC, 3% ALLUCHEMICAL CONSTITUENTS, GRAIN SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO MEDIUM, MODERATE INDURATION, CALCILUTE MATRIX, SPARKY CALCITE CEMENT, DOLOMITE CEMENT, 2% DOLOMITE, 10% QUARTZ SAND, MOLLUSKS, BRUYZOA, FOSSIL MOLDS,
- 250.0- 260.0 SILT-SAND, YELLOWISH GRAY, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, POOR INDURATION, DOLOMITE CEMENT, CALCILUTE MATRIX, 20% CALCILUTE, 30% QUARTZ SAND, 0% PHOSPHATIC SAND, MOLLUSKS, FOSSIL FRAGMENTS,
- 260.0- 270.0 AS ABOVE,
- 270.0- 280.0 AS ABOVE,
- 280.0- 290.0 SAND, YELLOWISH GRAY, 15% POROSITY, INTERGRANULAR, LOW PERMEABILITY, GRAIN SIZE: MEDIUM, RANGE: VERY FINE TO COARSE, SUB-ANGULAR, MEDIUM SPHERICITY, POOR INDURATION, CALCILUTE MATRIX, DOLOMITE CEMENT, CLAY MATRIX, 20% DOLOMITE, 10% CALCILUTE, 0% PHOSPHATIC SAND, 0% CLAY, MOLLUSKS,
- 290.0- 300.0 AS ABOVE,
- 300.0- 310.0 SILT-SAND, DARK GRAY TO YELLOW TO YELLOWISH GRAY, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, POOR INDURATION, DOLOMITE CEMENT, CALCILUTE MATRIX, CLAY MATRIX, 0% CALCILUTE, 10% CLAY, 15% QUARTZ SAND, 0% PHOSPHATIC SAND, MOLLUSKS, BIOGENIC IMPRINTS,
- 310.0- 320.0 AS ABOVE,
- 320.0- 330.0 SILT-SAND, YELLOWISH GRAY, 10% POROSITY, INTERGRANULAR, LOW PERMEABILITY, POOR INDURATION, DOLOMITE CEMENT, CALCILUTE MATRIX, 10% QUARTZ SAND, 0% PHOSPHATIC SAND, 15% CALCILUTE, MOLLUSKS,
- 330.0- 340.0 AS ABOVE WITH LTA FRAGS AND V. COARSE PHOSPHATE
- 340.0- 350.0 AS ABOVE-FLUORITE LENS

LITHOLOGIC LOG

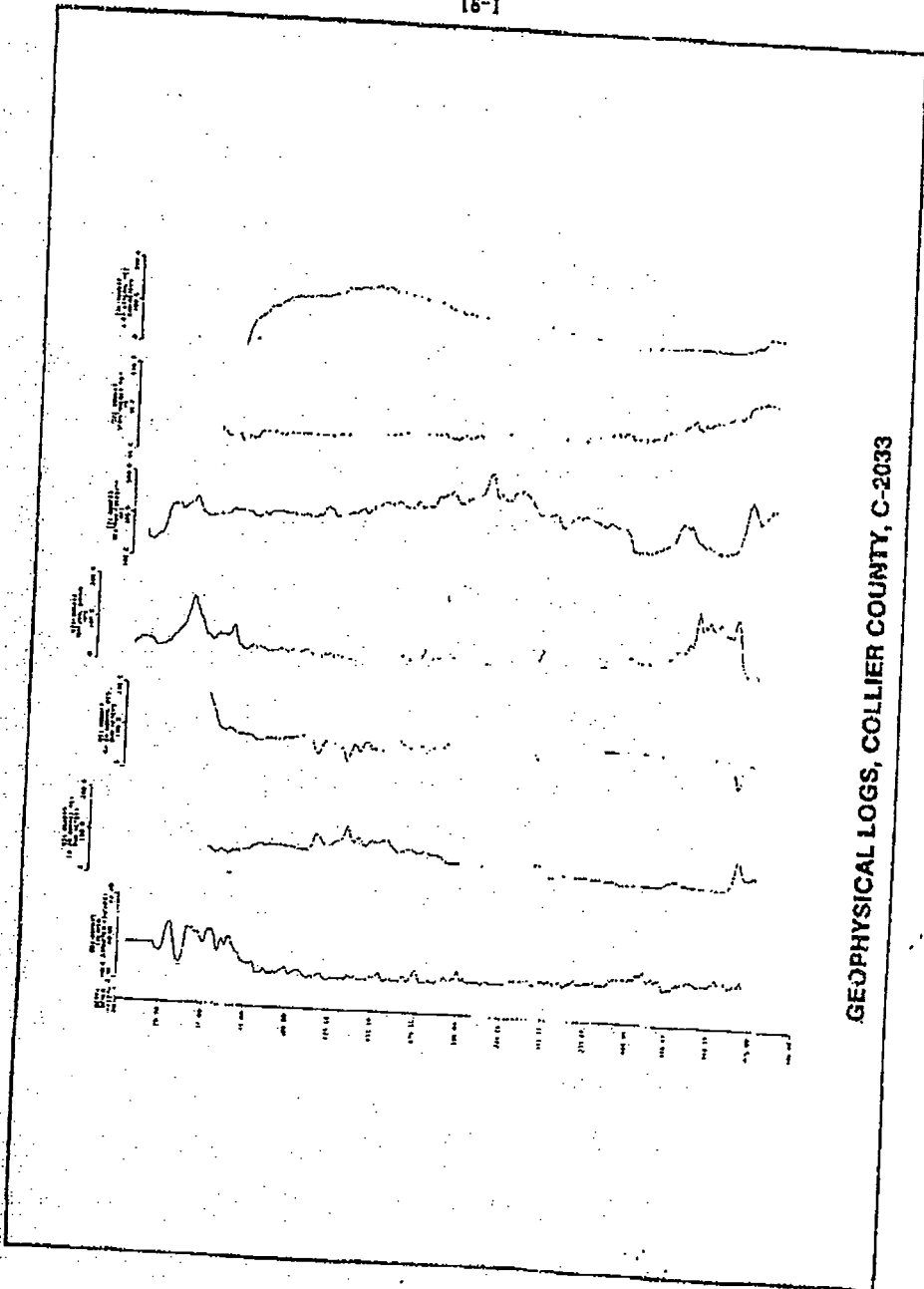
2033. COLLIER CO. T49S, R28E, SEC 11AB

350.0- 360.0 AS ABOVE,

360.0- 370.0 LIMESTONE, VERY LIGHT ORANGE, 25% POROSITY, INTERGRANULAR,
MOLDIC, POSSIBLY HIGH PERMEABILITY, GRAIN TYPE: BIOGENIC,
CALCILUITE, CRYSTALS, 40% ALLOCHEMICAL CONSTITUENTS, GRAIN
SIZE: MICROCRYSTALLINE, RANGE: MICROCRYSTALLINE TO COARSE,
GOOD INDURATION, CALCILUITE MATRIX, OOLITE CEMENT, SPARITE
CALCITE CEMENT, 20% DOLomite, 5% QUARTZ SAND, 0.4%
PHOSPHATIC SAND, MOLLUSKS, BRITOLGA, FOSSIL MOLS,

370.0- 380.0 AS ABOVE,

16-1



GEOPHYSICAL LOGS, COLLIER COUNTY, C-2033

16-1
16-2
16-3
16-4
16-5
16-6
16-7
16-8
16-9
16-10
16-11
16-12
16-13
16-14
16-15
16-16
16-17
16-18
16-19
16-20
16-21
16-22
16-23
16-24
16-25
16-26
16-27
16-28
16-29
16-30
16-31
16-32
16-33
16-34
16-35
16-36
16-37
16-38
16-39
16-40
16-41
16-42
16-43
16-44
16-45
16-46
16-47
16-48
16-49
16-50
16-51
16-52
16-53
16-54
16-55
16-56
16-57
16-58
16-59
16-60
16-61
16-62
16-63
16-64
16-65
16-66
16-67
16-68
16-69
16-70
16-71
16-72
16-73
16-74
16-75
16-76
16-77
16-78
16-79
16-80
16-81
16-82
16-83
16-84
16-85
16-86
16-87
16-88
16-89
16-90
16-91
16-92
16-93
16-94
16-95
16-96
16-97
16-98
16-99
16-100