North Collier County WTP. (NCCWTP)

CO-2317 (IW) & CO-2318 (DMW)

Digitized Geophysical Log Data Available.

CO-2317 = W-16884

IW-1 Digitized Data from EnviroData (ASCII)
IW-2 Electronic Data from Florida Geophysical Logging

W-16884

[redacted]

JUN 92

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-16884
TOTAL DEPTH: 3380 FT.
249 SAMPLES FROM 0 TO 3380 FT.

COUNTY - COLLIER3
LOCATION: T.48S R.26E S.35
LAT = 26D 15M 00S
LON = 81D 35M 00S

COMPLETION DATE: 10/20/92
ELEVATION: 18 FT

OTHER TYPES OF LOGS AVAILABLE - OTHER

NCCWTP-IW?

OWNER/DRILLER:YOUNGQUIST BROS., DRILLERS

WORKED BY: JOE AYLOR (0-580'), M. BALINSKY (580'-2050'), LI LI (2050'-3380')
SFWMD COLLIER COUNTY.
LOCATED IN SEC35, T48S, R26E
WELL IS LOCATED IN THE CORKSCREW SE 7.5 MINUTE QUADRANGLE.
BOUNDARIES BETWEEN STRATIGRAPHIC UNITS ARE VERY OBSCURE AND UNCERTAIN.
BOUNDARIES BETWEEN THE SUWANNEE/OCALA AND OCALA/AVON PARK ARE BASED ON
VERY SUBTLE LITHOLOGIC DIFFERENCES THAT MAY NOT BE REPRESENTATIVE OF
TRUE FORMATIONAL BREAKS. THIS COULD BE DUE TO POOR OR BAD SAMPLES, OR
COULD REFLECT UNINTERRUPTED DEPOSITION ACROSS THESE "TIME" BOUNDARIES.

0.	-	290.	121PCPC	PLIOCENE-PLEISTOCENE
290.	-	~~1240.~~ 825	122HTRN	HAWTHORN GROUP
1240.	-	~~1510.~~ 1290	123SWNN	SUWANNEE LIMESTONE 825
1510.	-	~~1880.~~ 1550	124OCAL	OCALA GROUP 1270 (1290) MIA
1880.	-	2580.	124AVPK	AVON PARK FM. 1540 (1550) MIA
2580.	-	3360.	124OLDM	OLDSMAR LIMESTONE
3360.	-	3380.	125CDRK	CEDAR KEYS LIMESTONE
10.	-	20.	000NOSM	NO SAMPLES
340.	-	350.	000NOSM	NO SAMPLES
380.	-	390.	000NOSM	NO SAMPLES
430.	-	440.	000NOSM	NO SAMPLES
760.	-	770.	000NOSM	NO SAMPLES
2940.	-	2970.	000NOSM	NO SAMPLES

3300'

0 - 10 LIMESTONE; GRAYISH BROWN
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-30%
FOSSILS: MOLLUSKS
GASTROPODS, PLIO-PLEISTOCENE

10 - 20 NO SAMPLES

20 - 40 LIMESTONE; LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-30%, SPAR-10%
FOSSILS: MOLLUSKS, ECHINOID
GASTROPODS

40 - 80 LIMESTONE; VERY LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-30%
FOSSILS: MOLLUSKS
TURRITELLA SP.

80 - 100 LIMESTONE; VERY LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%
FOSSILS: MOLLUSKS, CORAL, ECHINOID

100 - 120 LIMESTONE; LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%
FOSSILS: MOLLUSKS
TURRITELLA SP. AND OTHER GASTROPODS

120 - 140 LIMESTONE; WHITE
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%, SPAR-10%
PHOSPHATIC SAND- %
FOSSILS: MOLLUSKS, ECHINOID

140 - 180 LIMESTONE; VERY LIGHT ORANGE TO LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-25%, SPAR-10%
PHOSPHATIC SAND-01%, CALCILUTITE-10%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, CORAL
CORALS (?)

180 - 200 LIMESTONE; MODERATE LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-10%, SHELL-10%
PHOSPHATIC SAND-01%
FOSSILS: MOLLUSKS

200 - 220 LIMESTONE; VERY LIGHT GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-30%
FOSSILS: ECHINOID

220 - 230 LIMESTONE; VERY LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-10%, QUARTZ SAND-30%
SHELL-15%
FOSSILS: MOLLUSKS, ECHINOID

230 - 240 LIMESTONE; LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%
FOSSILS: MOLLUSKS
MEDIUM GRAY LIMESTONE 30%

240 - 290 LIMESTONE; LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRAVEL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%
FOSSILS: MOLLUSKS

290 - 310 SILT; LIGHT OLIVE TO LIGHT OLIVE GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND-10%, SHELL-10%
FOSSILS: MOLLUSKS
TOP OF HAWTHORN GROUP AT 290 FEET

310 - 320 SILT; LIGHT OLIVE GRAY TO GREENISH GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
UNCONSOLIDATED
FOSSILS: FOSSIL FRAGMENTS

320 - 330 SILT; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND-05%
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS

330 - 340 SILT; LIGHT OLIVE GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND-10%

340 - 350 NO SAMPLES

350 - 380 SAND; MODERATE GRAYISH GREEN
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY
UNCONSOLIDATED
ACCESSORY MINERALS: GYPSUM- %, PHOSPHATIC SAND- %
HEAVY MINERALS-%

380 - 390 NO SAMPLES

390 - 400 SAND; LIGHT OLIVE GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY
UNCONSOLIDATED
ACCESSORY MINERALS: PHOSPHATIC SAND-%

400 - 410 LIMESTONE; VERY LIGHT GRAY
15% 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: SILT-30%, SHELL-10%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS

410 - 430 LIMESTONE; VERY LIGHT GRAY
15% 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: SILT-10%, QUARTZ SAND-10%
PHOSPHATIC SAND- %
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA
MINOR DARK-GRAY DOLOSTONE.

430 - 440 NO SAMPLES

440 - 460 LIMESTONE; VERY LIGHT GRAY
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-50%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS

460 - 480 LIMESTONE; VERY LIGHT GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-30%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS

480 - 510 LIMESTONE; VERY LIGHT GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-20%, SILT-20%
PHOSPHATIC SAND- %, HEAVY MINERALS- %
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS

510 - 540 LIMESTONE; VERY LIGHT GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SILT-30%, QUARTZ SAND-05%
PHOSPHATIC SAND- %, HEAVY MINERALS- %
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, BRYOZOA

540 - 570 LIMESTONE; VERY LIGHT GRAY TO YELLOWISH GRAY
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SILT-30%, SPAR-10%, SHELL-20%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, BRYOZOA, FOSSIL MOLDS

570 - 580 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SILT-30%, SPAR-10%
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ECHINOID, BRYOZOA

580 - 590 CALCILUTITE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, DOLOMITE-25%
OTHER FEATURES: DOLOMITIC

590 - 600 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, DOLOMITE-40%
OTHER FEATURES: DOLOMITIC, CHALKY

600 - 610 SAND; LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCITE-35%
DOLOMITE-10%
OTHER FEATURES: CALCAREOUS
A CONSIDERALY DARKER COLOR; A SANDY LAYER.

610 - 620 SAND; LIGHT OLIVE GRAY TO WHITE
30% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCITE-25%
DOLOMITE-10%
OTHER FEATURES: CALCAREOUS
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA
ANOTHER SANDY SECTION WITH LESS CALCITE.

620 - 630 DOLOSTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCITE-10%
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

630 - 640 DOLOSTONE; LIGHT OLIVE TO MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY; 50-90% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CALCITE-15%
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

640 - 680 CALCILUTITE; VERY LIGHT ORANGE TO MODERATE YELLOWISH BROWN
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, SKELETAL
30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: DOLOMITIC, CHALKY
FOSSILS: CORAL

680 - 700 DOLOSTONE; GRAYISH BROWN
20% POROSITY: INTERGRANULAR; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
ACCESSORY MINERALS: CALCITE-30%
FOSSILS: CORAL

700 - 710 CALCILUTITE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
ACCESSORY MINERALS: DOLOMITE-40%
OTHER FEATURES: DOLOMITIC

710 - 720 DOLOSTONE; MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-35%
OTHER FEATURES: CALCAREOUS

720 - 730 DOLOSTONE; MODERATE LIGHT GRAY TO WHITE
50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-40%
OTHER FEATURES: CALCAREOUS
FOSSILS: CORAL
TWO GRAIN AGGREGATE TYPES--ONE DARKER AND MORE DOLOMITIC
AND ONE LIGHTER AND MORE CALCAREOUS.

730 - 740 DOLOSTONE; MODERATE LIGHT GRAY TO WHITE
15% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
ACCESSORY MINERALS: CALCITE-30%
OTHER FEATURES: CALCAREOUS

740 - 750 DOLOSTONE; MODERATE GRAY
50-90% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-10%

750 - 760 DOLOSTONE; MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-10%

760 - 770 NO SAMPLES

770 - 820 DOLOSTONE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-05%, PHOSPHATIC SAND-01%

820 - 830 DOLOSTONE; LIGHT GREENISH YELLOW TO GRAYISH OLIVE
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-30%, PHOSPHATIC SAND-05%
OTHER FEATURES: CALCAREOUS

830 - 840 DOLOSTONE; YELLOWISH GRAY TO MODERATE GRAY
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; ANHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-25%, PHOSPHATIC SAND-03%
OTHER FEATURES: CALCAREOUS
DOLOMITE WITH CHALK COVER ON OUTSIDE.

840 - 860 DOLOSTONE; LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-10%
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

860 - 870 DOLOSTONE; LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY; 10-50% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
ACCESSORY MINERALS: CALCITE-30%
OTHER FEATURES: CALCAREOUS
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

870 - 880 LIMESTONE; PINKISH GRAY TO VERY LIGHT GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, SKELETAL, CALCILUTITE
20% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-25%
OTHER FEATURES: DOLOMITIC
FOSSILS: MOLLUSKS
POSSIBLE TOP OF SUWANNEE LIMESTONE

880 - 920 LIMESTONE; LIGHT GRAY TO WHITE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, CALCILUTITE
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: DOLOMITIC

920 - 940 LIMESTONE; VERY LIGHT GRAY TO MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-35%
OTHER FEATURES: DOLOMITIC

940 - 950 LIMESTONE; WHITE TO MODERATE LIGHT GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, CALCILUTITE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-35%
OTHER FEATURES: DOLOMITIC
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

950 - 960 LIMESTONE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: SKELETAL, CRYSTALS, CALCILUTITE
15% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
ACCESSORY MINERALS: DOLOMITE-10%
FOSSILS: MOLLUSKS, BRYOZOA, ECHINOID
PROBABLY 35% OF THIS DEPOSIT CONSISTS OF SPIRAL SHAPED GASTROPOD SHELLS. THERE IS A GOOD AMOUNT OF RECRYSTALLIZATION PRESENT. A HIGHLY FOSSILIFEROUS SECTION IN GENERAL.

960 - 1030 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-10%

1030 - 1060 LIMESTONE; WHITE TO MODERATE GRAY
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
ACCESSORY MINERALS: DOLOMITE-40%
OTHER FEATURES: DOLOMITIC

1060 - 1080 LIMESTONE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: DOLOMITIC

1080 - 1090 LIMESTONE; WHITE TO LIGHT GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-25%
OTHER FEATURES: DOLOMITIC

1090 - 1100 LIMESTONE; VERY LIGHT GRAY TO BROWNISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
GOOD INDURATION
ACCESSORY MINERALS: DOLOMITE-45%, PHOSPHATIC SAND-05%
OTHER FEATURES: DOLOMITIC
SOME VERY CHALKY AGGREGATES; AND SOME AGGREGATES OF
DOLOMITE ARE DARKER IN COLOR.

1100 - 1130 LIMESTONE; LIGHT GRAY TO WHITE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
ACCESSORY MINERALS: DOLOMITE-35%
FOSSILS: MOLLUSKS
THERE ARE BOTH CRYSTALS AND CALCILUTITE PRESENT IN
SIGNIFICANT AMOUNT ACROSS THE LAST FORTY FEET OF SECTION.

1130 - 1140 LIMESTONE; WHITE TO MODERATE DARK GRAY
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, CALCILUTITE, SKELETAL
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-25%
OTHER FEATURES: DOLOMITIC
FOSSILS: MOLLUSKS
SAMPLE CONTAINS BOTH CHALKY AGGREGATES AND WELL INDURATED
MORE DOLOMITIC AGGREGATES.

1140 - 1170 CALCILUTITE; LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, CALCILUTITE, SKELETAL
15% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, DOLOMITE-30%
OTHER FEATURES: DOLOMITIC
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA

1170 - 1230 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: PHOSPHATIC SAND-01%, DOLOMITE-05%
FOSSILS: MOLLUSKS, CORAL

1230 - 1240 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS, CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: PHOSPHATIC SAND-01%
A SIGNIFICANT AMOUNT (70%) OF RECRYSTALLIZATION.

1240 - 1290 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-05%
FOSSILS: ECHINOID
POSSIBLE TOP OF SUWANNEE LIMESTONE.

1290 - 1340 CALCILUTITE; GRAYISH ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-05%

1340 - 1360 CALCILUTITE; WHITE TO LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-30%
FOSSILS: BENTHIC FORAMINIFERA

1360 - 1420 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-03%

1420 - 1450 CALCILUTITE; VERY LIGHT ORANGE
20% POROSITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1450 - 1460 CALCILUTITE; YELLOWISH GRAY
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1460 - 1510 CALCILUTITE; VERY LIGHT ORANGE
20% POROSITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ESSENTIALLY PURE CALCILUTITE.

1510 - 1520 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-10%
FOSSILS: BENTHIC FORAMINIFERA
LEPIDOCYCLINA sp. PRESENT. POSSIBLE TOP OF UPPER EOCENE
OCALA LIMESTONE.

1520 - 1540 CALCILUTITE; VERY LIGHT ORANGE
20% POROSITY: POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1540 - 1640 CALCILUTITE; VERY LIGHT ORANGE
20% POROSITY: POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: BENTHIC FORAMINIFERA

1640 - 1690 CALCILUTITE; VERY LIGHT ORANGE
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1690 - 1700 CALCILUTITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1700 - 1750 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1750 - 1770 CALCILUTITE; GRAYISH ORANGE TO VERY LIGHT ORANGE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 03% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SAMPLE CONTAINS DARK AGGREGATES WHICH ARE PROBABLY CAVINGS.

1770 - 1780 CALCILUTITE; GRAYISH BROWN
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1780 - 1790 CALCILUTITE; GRAYISH ORANGE
20% POROSITY: POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE; 02% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1790 - 1800 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
MODERATE INDURATION

1800 - 1820 CALCILUTITE; GRAYISH ORANGE
20% POROSITY: POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE; 02% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1820 - 1830 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1830 - 1880 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX

1880 - 1900 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
POSSIBLE TOP OF AVON PARK FORMATION

1900 - 1910 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: MOLLUSKS

1910 - 1930 CALCILUTITE; LIGHT OLIVE GRAY TO WHITE
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO VERY FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

1930 - 1940 CALCILUTITE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
05% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

1940 - 1960 CALCILUTITE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
FOSSILS: MOLLUSKS

1960 - 1970 CALCILUTITE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
FOSSILS: ECHINOID

1970 - 2010 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: DOLOMITE-10%
FOSSILS: BENTHIC FORAMINIFERA
NUMMULITES sp. PRESENT.

2010 - 2020 CALCILUTITE; YELLOWISH GRAY
10% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CRYSTALS; 10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: DOLOMITIC

2020 - 2030 DOLOSTONE; LIGHT GRAYISH BROWN TO DARK BROWN
10% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
ACCESSORY MINERALS: CALCITE-40%
OTHER FEATURES: CALCAREOUS

2030 - 2040 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
10% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
ACCESSORY MINERALS: CALCITE-35%
OTHER FEATURES: CALCAREOUS

2040 - 2050 CALCILUTITE; VERY LIGHT ORANGE
15% POROSITY: LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE; 40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM
MODERATE INDURATION
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: DOLOMITIC

2050 - 2070 WACKESTONE; WHITE
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC; 25% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: BENTHIC FORAMINIFERA, CONES
DICTYOCONUS cookei, NUMMULITES sp.

2070 - 2130 PACKSTONE; PINKISH GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: BENTHIC FORAMINIFERA, CONES, MILIOLIDS

2130 - 2180 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-40%
FOSSILS: BENTHIC FORAMINIFERA, CONES
DICTYOCONUS americanus

2180 - 2220 PACKSTONE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO GRAVEL; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA, CONES, MILIOLIDS

2220 - 2250 DOLOSTONE; GRAYISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-20%
OTHER FEATURES: CALCAREOUS
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2250 - 2270 WACKESTONE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-03%
FOSSILS: BENTHIC FORAMINIFERA, CONES

2270 - 2280 DOLOSTONE; DARK YELLOWISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2280 - 2300 PACKSTONE; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN
20% POROSITY: INTERGRANULAR, INTERCRYSTALLINE
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-20%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2300 - 2330 DOLOSTONE; DARK YELLOWISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; FIBROUS
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2330 - 2360 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
25% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
50-90% ALTERED; EUHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
ACCESSORY MINERALS: CALCILUTITE-20%

2360 - 2380 PACKSTONE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-05%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2380 - 2390 DOLOSTONE; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
50-90% ALTERED; EUHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
ACCESSORY MINERALS: CALCILUTITE-10%

2390 - 2410 WACKESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
15% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-20%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2410 - 2420 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
15% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
ACCESSORY MINERALS: CALCILUTITE-20%

2420 - 2430 PACKSTONE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2430 - 2480 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
15% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS
LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2480 - 2490 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
15% POROSITY: INTERGRANULAR, INTERCRYSTALLINE
LOW PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: LIMESTONE-20%

2490 - 2510 WACKESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
15% POROSITY: INTERGRANULAR, INTERCRYSTALLINE
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC; 30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-20%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

2510 - 2560 DOLOSTONE; GRAYISH BROWN
15% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS
LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2560 - 2580 DOLOSTONE; GRAYISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2580 - 2670 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
VERY FINE CRYSTALLINE, DENSE DOLOSTONE. POSSIBLE ODLSMAR
FORMATION.

2670 - 2680 DOLOSTONE; DARK YELLOWISH BROWN
25% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
OTHER FEATURES: SUCROSIC

2680 - 2740 DOLOSTONE; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; ANHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2740 - 2770 DOLOSTONE; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2770 - 2810 DOLOSTONE; DARK YELLOWISH BROWN TO BROWNISH GRAY
05% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2810 - 2830 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
20% POROSITY: INTERCRYSTALLINE, POSSIBLY HIGH PERMEABILITY
90-100% ALTERED; EUHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
OTHER FEATURES: SUCROSIC

2830 - 2910 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2910 - 2940 DOLOSTONE; DARK YELLOWISH BROWN TO BROWNISH GRAY
05% POROSITY: LOW PERMEABILITY; 90-100% ALTERED; ANHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

2940 - 2970 NO SAMPLES

2970 - 3000 DOLOSTONE; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN
15% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3000 - 3060 DOLOSTONE; GRAYISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3060 - 3100 DOLOSTONE; DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3100 - 3140 DOLOSTONE; VERY LIGHT ORANGE
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3140 - 3210 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3210 - 3240 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
15% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; SUBHEDRAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3240 - 3300 DOLOSTONE; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT

3300 - 3330 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
90-100% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
ACCESSORY MINERALS: LIMESTONE-??%
ABOUT 10% LIMESTONE FRAGMENTS IN THE SAMPLES. NUMMULITES AND CONES ARE NOTED WITH THE LIMESTONE. THEREFORE, AT LEAST SOME OF THE LIMESTONE FRAGMENTS ARE CAVINGS.

3330 - 3360 PACKSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC; 80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-30%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
PARTIALLY DOLOMITIZED PELOID PACKSTONE AND GRAINSTONE. A FEW THIN LAYERS OF MUDSTONE WITH DARK CARBONACEOUS MATERIAL ON BEDDING SURFACES.

3360 - 3380 GYPSUM; WHITE TO VERY LIGHT ORANGE
10% POROSITY: INTERCRYSTALLINE, LOW PERMEABILITY
GOOD INDURATION
ACCESSORY MINERALS: LIMESTONE-20%, DOLOMITE-10%
WHITE FINE CRYSTALLINE GYPSUM OR ANHYDRITE AND DOLOMITIZED LIMESTONE (OR CALCAREOUS DOLOSTONE) SIMILAR TO THOSE OF OVERLYING INTERVAL.

3380 TOTAL DEPTH

FLORIDA GEOPHYSICAL LOGGING

Company: MISSIMER INTERNATIONAL
Well: NCRWTP IW #3
Field: NORTH COLLIER
County: COLLIER **State:** FLORIDA **Country:** USA

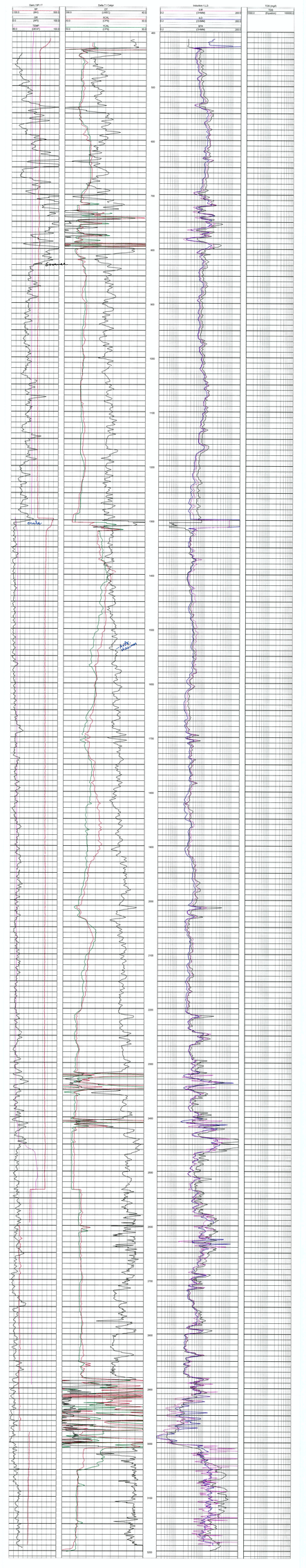
Location:
Section: **Township:** 48S **Range:** 26E
Permanent Datum: Ind Elevation: **Elevation:**
Log Measured From: P.L. **Above Perm. Datum**
Drilling Measured From: P.L.

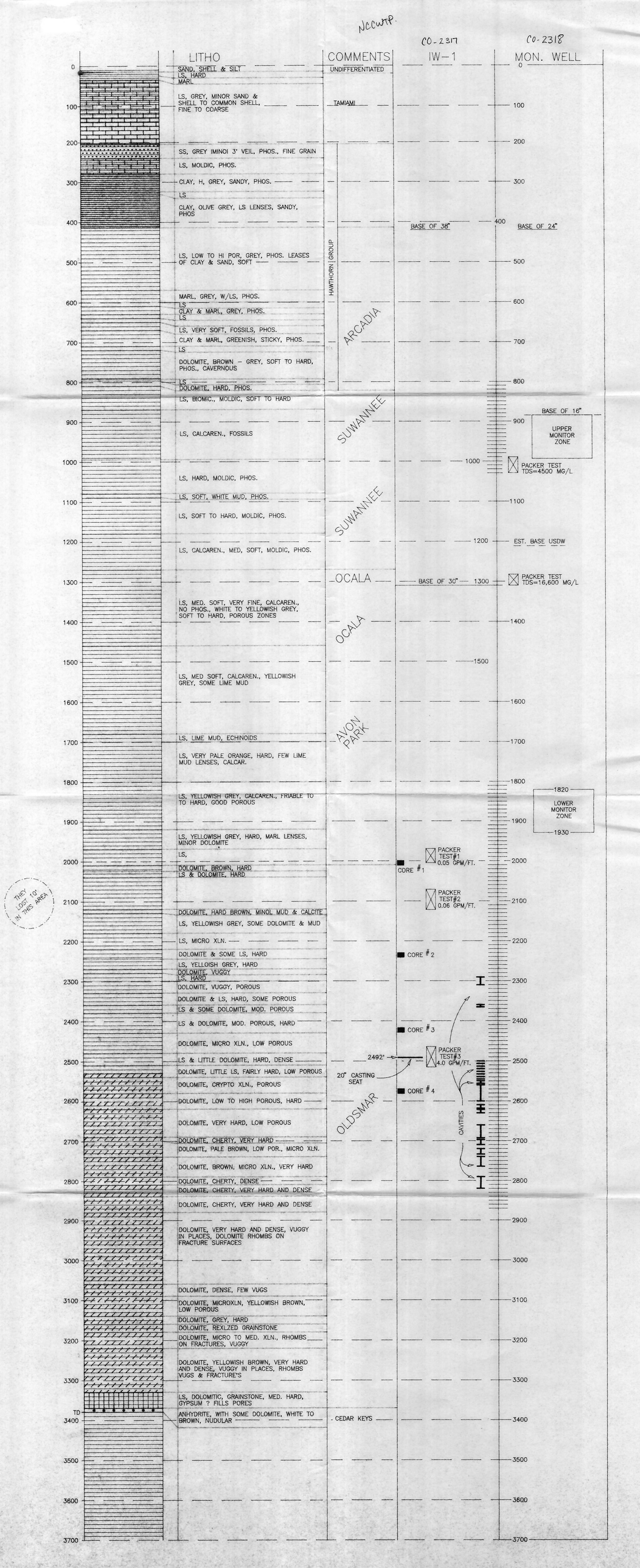
API No.:
Lat:
Elev:
Long:

Description	Run 1	Run 2	Run 3	Run 4
Date	12/03/95	12/07/95	1/15/96	2/12/96
Run Number	ONE	THREE	NINE	TEN
Bit Size	40"	12.25	12.25	13.5
Type Fluid	WATER	WATER	WATER	WATER
Top Log Interval	0	420	1310	2490
Bottom Log Interval	435	1308	2475	3210
HHT	N/A	N/A	N/A	89°
Truck	101	102	101	101
Engineer	JONES	WILLEE	WILLIAMS	WILLJONES
Witness	B.MALIVA	TATUBOME	E.MAWKEY	SHAMAUT

Remarks:
RUN # 10 DEPTH SHIFTED -9 FEET TO MATCH DIL RECORDED ON RUN #9.

Disclaimer:
Interpretations are opinions based upon inferences from electrical or other measurements and algorithms, empirical relationships, and assumptions which are not infallible and with respect to which log analysts may differ. Accordingly, <Company Name> cannot and does not guarantee the accuracy or correctness of any interpretation and shall not be liable or responsible for any losses, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents, or employees.




NCCWTP
CO-2317
CO-2318
LITHO
COMMENTS
IW-1
MON. WELL
SAND, SHELL & SILT
LS, HARD
MARL
UNDIFFERENTIATED
LS, GREY, MINOR SAND & SHELL TO COMMON SHELL, FINE TO COARSE
TAMIAMI
SS, GREY IMINOI 3' VEIL, PHOS., FINE GRAIN
LS, MOLDIC, PHOS.
CLAY, H, GREY, SANDY, PHOS.
LS
CLAY, OLIVE GREY, LS LENSES, SANDY, PHOS
BASE OF 38"
BASE OF 24"
LS, LOW TO HI POR, GREY, PHOS. LEASES OF CLAY & SAND, SOFT
HAWTHORN GROUP
MARL, GREY, W/LS, PHOS.
LS
CLAY & MARL, GREY, PHOS.
LS
LS, VERY SOFT, FOSSILS, PHOS.
CLAY & MARL, GREENISH, STICKY, PHOS.
LS
DOLOMITE, BROWN – GREY, SOFT TO HARD, PHOS., CAVERNOUS
ARCADIA
LS
DOLOMITE, HARD, PHOS.
LS, BIOMIC., MOLDIC, SOFT TO HARD
SUWANNEE
BASE OF 16"
UPPER MONITOR ZONE
LS, CALCAREN., FOSSILS
PACKER TEST TDS=4500 MG/L
LS, HARD, MOLDIC, PHOS.
LS, SOFT, WHITE MUD, PHOS.
SUWANNEE
LS, SOFT TO HARD, MOLDIC, PHOS.
EST. BASE USDW
LS, CALCAREN., MED, SOFT, MOLDIC, PHOS.
OCALA
BASE OF 30"
PACKER TEST TDS=16,600 MG/L
LS, MED. SOFT, VERY FINE, CALCAREN., NO PHOS., WHITE TO YELLOWISH GREY, SOFT TO HARD, POROUS ZONES
OCALA
LS, MED SOFT, CALCAREN., YELLOWISH GREY, SOME LIME MUD
LS, LIME MUD, ECHINOIDS
AVON PARK
LS, VERY PALE ORANGE, HARD, FEW LIME MUD LENSES, CALCAR.
LS, YELLOWISH GREY, CALCAREN., FRIABLE TO TO HARD, GOOD POROUS
1820
LOWER MONITOR ZONE
1930
LS, YELLOWISH GREY, HARD, MARL LENSES, MINOR DOLOMITE
LS,
DOLOMITE, BROWN, HARD
LS & DOLOMITE, HARD
PACKER TEST#1 0.05 GPM/FT.
CORE #1
PACKER TEST#2 0.06 GPM/FT.
DOLOMITE, HARD BROWN, MINOL MUD & CALCITE
LS, YELLOWISH GREY, SOME DOLOMITE & MUD
LS, MICRO XLN.
DOLOMITE & SOME LS, HARD
CORE #2
LS, YELLOISH GREY, HARD
DOLOMITE, VUGGY
LS, HARD
DOLOMITE, VUGGY, POROUS
DOLOMITE & LS, HARD, SOME POROUS
LS & SOME DOLOMITE, MOD. POROUS
LS & DOLOMITE, MOD. POROUS, HARD
CORE #3
DOLOMITE, MICRO XLN., LOW POROUS
LS & LITTLE DOLOMITE, HARD, DENSE
2492'
PACKER TEST#3 4.0 GPM/FT.
20" CASTING SEAT
DOLOMITE, LITTLE LS, FAIRLY HARD, LOW POROUS
DOLOMITE, CRYPTO XLN., POROUS
CORE #4
DOLOMITE, LOW TO HIGH POROUS, HARD
DOLOMITE, VERY HARD, LOW POROUS
OLDSMAR
CAVITIES
DOLOMITE, CHERTY, VERY HARD
DOLOMITE, PALE BROWN, LOW POR., MICRO XLN.
DOLOMITE, BROWN, MICRO XLN., VERY HARD
DOLOMITE, CHERTY, DENSE
DOLOMITE, CHERTY, VERY HARD AND DENSE
DOLOMITE, CHERTY, VERY HARD AND DENSE
DOLOMITE, VERY HARD AND DENSE, VUGGY IN PLACES, DOLOMITE RHOMBS ON FRACTURE SURFACES
DOLOMITE, DENSE, FEW VUGS
DOLOMITE, MICROXLN, YELLOWISH BROWN, LOW POROUS
DOLOMITE, GREY, HARD
DOLOMITE, REXLZED GRAINSTONE
DOLOMITE, MICRO TO MED. XLN., RHOMBS ON FRACTURES, VUGGY
DOLOMITE, YELLOWISH BROWN, VERY HARD AND DENSE, VUGGY IN PLACES, RHOMBS VUGS & FRACTURE'S
LS, DOLOMITIC, GRAINSTONE, MED. HARD, GYPSUM ? FILLS PORES
ANHYDRITE, WITH SOME DOLOMITE, WHITE TO BROWN, NUDULAR
CEDAR KEYS
TD
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
THEY LOST 10' IN THIS AREA

COLLIER COUNTY NCRWTP -- INJECTION AND MONITOR WELL SUMMARY DATA