March 1983 Executive Summary J. L. Decker

ROMP # 109
"Old Story Mine"
19-020-51XX

I. General Description

The ROMP Site #109 is located approximately 12 miles north of Brooksville in south Citrus County. The well site lies approximately one-half mile west of State Road 581, adjacent to Hammock Road in Heatherwood Subdivision. ROMP Site #109 is in the SW1/4 of SE1/4 of SW1/4 of Section 24, Township 20 South, Range 19 East at latitude $28^{o}43'30"$ and longitude $82^{o}21'54"$.

II. Site Easement

The ROMP Site #109 easement was granted by H. K. Brooks and Susan Brooks to the Southwest Florida Water Management District for the purpose of drilling, maintaining, performing hydrologic data measurements, and the observation of water levels. The perpetual permanent easement is 20'x20'.

III. Geology

ROMP Site #109 is located on the Tertiary Highlands physiographic land feature. These highlands are erosional-remnant hills and ridges. The Tertiary Highlands appear to merge with a high, rolling sand ridge, named the Coharie-Okefenokee Sand Ridge, near the vicinity of the site.

The following geologic data was obtained from the examination of drill cuttings:

Borehole Depth (ft. below LSD)	Name of Rock Unit
LSD - 10'	Alachua Formation = yellowish tan-reddish brown sand; fine-medium frosted quartz sand, limonite pebbles and black phosphatic sands; high porosity and permeability.
10' - 25'	Hawthorn Formation = light gray-light greenish gray, montmorillonite clay, stained by yellowish orange, sandy limonite pebbles; low permeability, moderate porosity.
25' - 54'	Suwannee Formation = cream-offwhite, fossiliferous, micritic limestone; traces of clay layers and chert fragments; fossils-foraminifera (Coskinolina floridana), echinoids (Cassidulus gouldii); low-moderate porosity.
54' - 260' TD	Ocala Group = offwhite-cream-light tan, massive fossiliferous biomicritic limestone; (215'-260') tan-brown, dolomitic limestone containing several interspersed layers of soft, highly permeable white limestone; fossils-foraminifera (Operculinoides, Lepidocyclina), echinoids (Periarchus); moderate-high porosity.

Detailed lithologic descriptions are contained in the file for ROMP Site #109.

IV. Hydrologeology and Water Quality

One monitor well was drilled on the ROMP Site #109 for determining potentiometric surface level. The elevation at this site is approximately 158' above msl. Water level in the well was measured at 138.35' above msl.

A pump test was completed on 12/10/79. The well was air lift pumped at 150 gpm. Specific conductivity was measured at 230 umhos, total hardness as to

$CaCO_3$-121 mg/l; iron-0.10 mg/l. A 210 gpm pump test was conducted between 1/10/80 and 1/13/80 with minor drawdown. Another pump test was conducted between 1/17/80 and 1/20/80. Approximately 6" of drawdown was measured during this test. Water quality analysis for one water sample was completed by Thornton Laboratories of Tampa.

V. Type of Monitor

The ROMP Site #109 well was constructed mainly as a potentiometric surface monitor. Observing seasonal changes, effects of withdrawal by local pumping and local mining operations, water quality data acquisition, identification of upper confiners in the Floridan Aquifer and identification of the upper geologic formations (Alachua, Hawthorn, Suwannee and Ocala Groups) were objectives accomplished.

VI. Well Construction and Design

Well construction on ROMP Site #109 was completed 12/14/79. The well was drilled to 260' and then cased to a depth of 189.5' below lsd with a 6" steel casing. ROMP Site #109 was constructed in the following steps:

A. A 17-1/2" nominal borehole was drilled to 48'. Forty-nine (49) feet of 12" steel casing was then seated and cement grouted from bottom to top.

B. Reverse air drilling continued from 48'-190'. One hundred eighty-nine point five (189.5') feet of 6" steel casing was then seated and cement grouted from bottom to land surface.

#2 (3/4)

C. Drilling to 260' (TD) was then completed by using reverse air drilling techniques.

During drilling operations solution cavities, sand and clay or clay-filled sinkholes contributed to slumping conditions.

Drill cuttings were collected every 5' for analysis and interpretation.

The drilling of ROMP Site #109 was contracted out ahd completed by Mixon Foundation and Drilling, Inc. on December 10, 1979.

JLD:wp5/3
03/22/83

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LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W- 15645
TOTAL DEPTH: 00260 FT.
SAMPLES - NONE

COMPLETION DATE - 12/10/79
OTHER TYPES OF LOGS AVAILABLE - NONE

COUNTY - CITRUS
LOCATION: T.20S R.19E S.24 D
LAT = N 28D 43M 30
LON = W 82D 21M 54
ELEVATION - 158 FT

OWNER/DRILLER: SWFWMD; CUTTINGS; ROMP #109; "OLD STORY MINE"; 19-020-51XX.

WORKED BY: DESCRIBED BY
G.L. HENDERSON, CODED AND ENTERED BY RICHARD GREEN 8/90.

SITE IS LOCATED APPROX. 12 MILES NORTH OF BROOKSVILLE
IN SOUTH CITRUS COUNTY. THE WELL SITE LIES APPROXIMATELY 1/2 MILE
WEST OF S.R. 581, ADJACENT TO HAMMOCK ROAD IN HEATHERWOOD
SUBDIVISION. FORMATION PICKS WERE MADE FROM CUTTINGS.

0.	- 10.	ALACHUA FM.
0.	- 25.	HAWTHORN GROUP
25.	- 54.	SUWANNEE LIMESTONE
54.	- 260.	OCALA GROUP

0	- 5	SAND; VERY LIGHT GRAY TO TRANSPARENT; POSSIBLY HIGH PERMEABILITY, INTERGRANULAR; RANGE: FINE TO MEDIUM; UNCONSOLIDATED; ACCESSORY MINERALS: ORGANICS- %, PHOSPHATIC SAND-01%, LIMONITE-%; COMMONLY STAINED YELLOWISH TAN-REDDISH BROWN BY LIMONITE, SANDS FROSTED, HEAVY CONCENTRATIONS OF SANDY LIMONITE NODULES OR PEBBLES THROUGHOUT.
5	- 10	AS ABOVE GREATER ABUNDANCE OF LIMONITE NODULES OR PEBBLES. HIGH POROSITY.
10	- 15	CLAY; VERY LIGHT GRAY TO LIGHT GREENISH GRAY; LOW PERMEABILITY; ACCESSORY MINERALS: LIMONITE- %; OTHER FEATURES: PLASTIC; VERY PLASTIC, MONTMORILLONITIC, SOME CLAY STAINED YELLOWISH ORANGE BY PRESENCE OF SANDY LIMONITE NODLUES SCATTERED THROUGHOUT SECTION. MODERATE POROSITY.
15	- 20	AS ABOVE
20	- 25	AS ABOVE

25 - 30 LIMESTONE; CREAM TO WHITE; MOLDIC, LOW PERMEABILITY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
GOOD INDURATION;
ACCESSORY MINERALS: CLAY- %, CHERT- %;
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA;
CLAYEY LS. TO FOSSILIFEROUS MICRITE, PASTY, SILICEOUS IN PART, TRACE OF POORLY PRESERVED AND UNIDENTIFIABLE PELECYPOD (OSTREA?) MOLD FRAGMENTS. TRACE OF HEAVILY ALTERED FORAM CASTS, "THIS SECTION KARRENFELDIC (HUTCHINSON, 1950) IN NATURE", WITH DEPRESSIONS FILLED IN BY LIGHT GREENISH GRAY CLAY OF OVERLYING ROCK UNIT, TRACE OF TAN OPALINE SILICA OR CHERT EXHIBITING WEATHERING RINDS ASSOCIATED WITH THE AFOREMENTIONED CLAY.

30 - 40 LIMESTONE; CREAM TO TAN; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC;
GOOD INDURATION;
ACCESSORY MINERALS: CLAY- %, LIMONITE- %, CHERT- %;
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID;
MAINLY SUB GRANULAR-LITHOGRAPHIC MICRITE WITH RARE FOSSIL MOLDS (TR. OF HEAVILY ERODED COSKINOLINA FLORIDANA) SOME PARTIALLY SILICIFIED, TAN, FORAMINIFERAL BIOMICRITE FRAGMENTS FOUND, TR. OF HEAVILY ALTERED (SILICIFIED IN PART) ECHINOID (CASSIDULUS GOULDII?) TEST FRAGMENTS FOUND, SOME WAXY, LT GRN GRY CLAY AND REDDISH BROWN LIMONITE NODULES FOUND, TR. OF ISOLATED TAN-BROWN SILICIFIED LS OR CHERT FRAGS. LOW-MOD. POROSITY.

40 - 48 AS ABOVE

48 - 54 AS ABOVE
SAMPLE CUTTINGS ARE FINER THAN ABOVE, SOME HEAVILY ALTERED (CALCITIZED) ECHINOID FRAGS AND SPINES. TRACE OF CLAY.

54 - 60 LIMESTONE; CREAM TO LIGHT TAN; LOW PERMEABILITY;
GRAIN TYPE: CALCILUTITE, BIOGENIC, SKELETAL;
GOOD INDURATION;
ACCESSORY MINERALS: CHERT- %, CLAY- %, LIMONITE- %, QUARTZ SAND- %;
OTHER FEATURES: MEDIUM RECRYSTALLIZATION;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, FOSSIL MOLDS;
FOSSILIFEROUS MICRITE, SANDY-PASTY IN PARTS,MAINLY A LIGHT TAN "CASE HARDENED" (DUE TO EXPOSURE AND WEATHERING), FOSSILIFEROUS MICRITE WITH RARE FOSSIL MOLDS.(TR. OF HEAVILY ALTERED OPERCULINOIDES SP.) SOME PARTIALLY SILICIFIED, TAN, FORAMINIFERAL BIOMICRITE FRAGS FOUND. LOW POROSITY.

60 - 189 LIMESTONE; CREAM TO LIGHT TAN; POSSIBLY HIGH PERMEABILITY, VUGULAR;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
BIOMICRITE. PASTY-MASSIVE, COQUINAL LS THAT HAS BEEN EXTENSIVELY SOLUTION RIDDLED DUE TO PAST KARSTIC WEATHERING PROCESSES, ENTIRE SEQUENCE PROBABLY REPRESENTS A SKELETAL NETWORK OF INTERCONNECTED SOLUTION PIPES AND/OR SOLUTION CAVITIES THAT HAVE BEEN AUGMENTED IN PART BY LOCALIZED SLUMPING OR FAULTING. MOD-HIGH POROSITY. --------NOTE: ALTHOUGH NO CUTTINGS WERE RECOVERED FOR THIS INTERVAL, A BRIEF BUT GENERALIZED DESCRIPTION OF THE ROCK SEQUENCE FROM 60-189' IS GIVEN ON THE BASIS OF 1)THE DRILLER'S REPORT ON WATER WELLS STORY 1&2, 2) THE HYDROGEOLOGIC REPORT ON WATER WELLS STORY 1,2,&3,(ROMP#109), PRESENTED BY G.C. PARKER, SR. AND ASSOCIATES.

189 - 200 LIMESTONE; CREAM TO LIGHT TAN;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
OTHER FEATURES: DOLOMITIC;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MILIOLIDS;
SPARSE BIOMICRITE, PASTY-MASSIVE, SMALL FORAMINIFERAL BIOMICRITE COMPOSED OF SOME TAN DETRITAL CALCITE, NUMEROUS MILLIOLIDS, SOME ECHINOID TESTS (LAGANUM OCALANUM?) AND SPINES, SOME HEAVILY ERODED FORAMS (OPERCS, AND LEPS.) FOUND, TRACE OF PELECYPOD MOLDS, SOME GRAY SLIGHTLY DOLOMITIC NODULES OR CONCRETIONS SCATTERED THROUGHOUT THE SECTION. MOD-HIGH POROSITY.

200 - 210 LIMESTONE; TAN TO CREAM;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
OTHER FEATURES: DOLOMITIC;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, FOSSIL MOLDS, MOLLUSKS;
SPARSE BIOMICRITE, TR. OF GRAY, DOLOMITIC LS (AS ABOVE) FINELY CRYSTALLINE-MASSIVE, SLIGHTLY DOLOMITIZED FORAMINIFERAL BIOMICRITE, TR. OF HEAVILY ERODED FORAMS (SOME OPERCULINOIDES JACKSONENSIS??) FOUND, TR OF PELECYPOD MOLDS. MOD-HIGH POROSITY.

210 - 220 LIMESTONE; TAN TO CREAM;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
OTHER FEATURES: DOLOMITIC;
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, BARNACLES, MOLLUSKS, FOSSIL MOLDS;
BIOMICRITE, TRACE OF GRAY LS. (DESCRIBED ABOVE) FINELY CRYSTALLINE-MASSIVE, SLIGHTLY DOLOMITIZED FORAMINIFERALBIOMICRITE, SOME ECHINOID TEST (PERIARCHUS LYELLIFLORIDANUS??) FRAGS AND SPINES FOUND, SOME HEAVILY ERODED FORAMS (OPERCS AND TRACE OF LEPS.) FOUND, MOD-HIGH POROSITY.

220 - 230 LIMESTONE; CREAM TO VERY LIGHT GRAY;
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE;
ACCESSORY MINERALS: LIMONITE-01%;
OTHER FEATURES: DOLOMITIC;
FOSSILS: MILIOLIDS, ECHINOID, MOLLUSKS, FOSSIL MOLDS;
BIOMICRITE, TRACE OF TAN-GRAY DOLOMITIC MICRITE, PASTY-MASSIVE, SMALL FORAMINIFERAL BIOMICRITE COMPOSED OF HEAVILY CALCITIZED BUT ABUNDANT FORAMS (ABUNDANT MILIOLIDS, SOME SPIROLINA, SOME OPERCS.) SOME PELECYPOD (CHIONE SP.) MOLDS FOUND. TRACE OF LIMONITE STAINED BIOMICRITE. MOD-HIGH POROSITY. SOME BARNACLE MOLDS OR PLATES

230 - 240 AS ABOVE
SLIGHT INCREASE IN AMOUNT OF LIMONITE-STAINED BIOMICRITE.

240 - 250 AS ABOVE
NO LIMONITIC STAINING, NO BARNACLE MOLDS OR PLATES, ABUNDANT SPARRY CALCITE (PROBABLY PERIARCHUS TEST FRAGMENTS), MOD-HIGH POROSITY.

250 - 260 AS ABOVE

260 TOTAL DEPTH