November 1982 Executive Summary G. L. Henderson

ROMP 43X (Avon Park)
Surficial Aquifer Monitor

I. SITE LOCATION

ROMP Site #43X is located in the southwest corner of the Highlands County Road Maintenance yard at the intersection of State Road 17-A South and Winthrop Road in Highlands County. This site is located in the SE 1/4 of the SW 1/4 of the SW 1/4 of Section 13, Township 33 South, Range 28 East at latitude 27°36'09" North, longitude 81°28'53" West.

II. SITE EASEMENT

This site was obtained from the Highlands County Board of Commissioners. The temporary construction easement was 100 x 100 feet which contained the perpetual easement of 20 x 25 feet. Documents to this effect are recorded in the Highlands County Courthouse in O.R. Book 640 (pp. 369-373).

III. GEOLOGY

The 43X site is located on the Sunderland-Okefenokee terrace at an elevation of approximately 157 feet above mean sea level (msl). All geologic data was obtained from analysis of drill cuttings taken at five foot intervals.

LSD - 280'	UNDIFFERENTIABLE DEPOSITS = common, fine-coarse grained offwhite sands with some clayey zones interspersed throughout; abundant phosphatic sands and pebbles, some thin stringers of "hardpan" limestone; moderate-high porosity and permeability in some parts of section, with lower permeabilities occurring in the clayey zones.
280' - 380'	HAWTHORN FORMATION = mainly medium-coarse grained, offwhite quartz sands with some clayey zones; abundant phosphatized fossil remains, abundant phosphatic sands and gravels; offwhite, micritic limestone stringers are more common; generally low-moderate porosity and permeability.
380' - 400'	HAWTHORN FORMATION = top of the first consistent rock layer; offwhite, hard, micritic limestone with abundant phosphatic sands; low porosity, low-moderate permeability in parts.

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IV. HYDROLOGY

This borehole was drilled from LSD - 400 feet below land surface using the mud rotary technique. Before casing could be properly set, the borehole began to collapse, thus for that reason, no water samples were obtained for lab analysis, and the top of the unconfined water table could not accurately be ascertained during well construction.

V. WELL CONSTRUCTION

The 43X well was constructed by the District-owned Portadrill rig between February 26, 1980 and April 24, 1980. Twenty feet of 16-inch diameter steel surface casing was initially set at this wellsite. At the depth of 80 feet below LSD, it was necessary to grout 80 feet of 14-inch diameter steel casing in the well due to "slumping" of the formations. After setting the secondary surface casing, the borehole was drilled to the first consistent rock layer at the 400 feet depth so that the 400 feet of 12-inch steel casing could be set, and the lower portion of this well was to then be drilled utilizing the reverse air-rotary technique. However, before the final casing (12-inch steel) could be set, the borehole partially collapsed, wedging 150 feet of the 12-inch diameter steel casing into place. Attempts to retrieve this 12-inch casing proved to be futile. At that time, it was decided that the well would be drilled again from 150 feet to the 220 feet total depth in order to make this well a water table monitor. Approximately 200 feet of 8-inch diameter PVC casing coupled onto 20 feet of 8-inch diameter (slotted) PVC well screen was set to monitor the water table. The PVC well casing was cement grouted to the surface utilizing the tremie method. The bottom 40 feet of the PVC well casing and well screen was packed with coarse silica sand in order to ensure the free movement of ground water into the well.

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This well was then developed utilizing reverse air for approximately one hour, at which time, it pumped clear water. Approximately four feet of PVC casing, attached onto a threaded male PVC coupling with an accompanying threaded cap was left standing above the land surface so that the U.S.G.S. monitor station could be set into place later. In order to protect this well from accidental damage, a concrete culvert was cemented into place around the well's PVC casing.

VI. GEOPHYSICAL LOGS

No geophysical logs were run on this well due to the aforementioned construction problems.

VII. TYPE OF MONITOR

This well is intended to be a monitor for the unconfined water table (surficial) aquifer in this area.

VIII. U.S.G.S. NOTIFICATION

The Technical Support Division (SWFWMD) was notified that this well was completed and ready for monitoring during November, 1982.

GLH:cac

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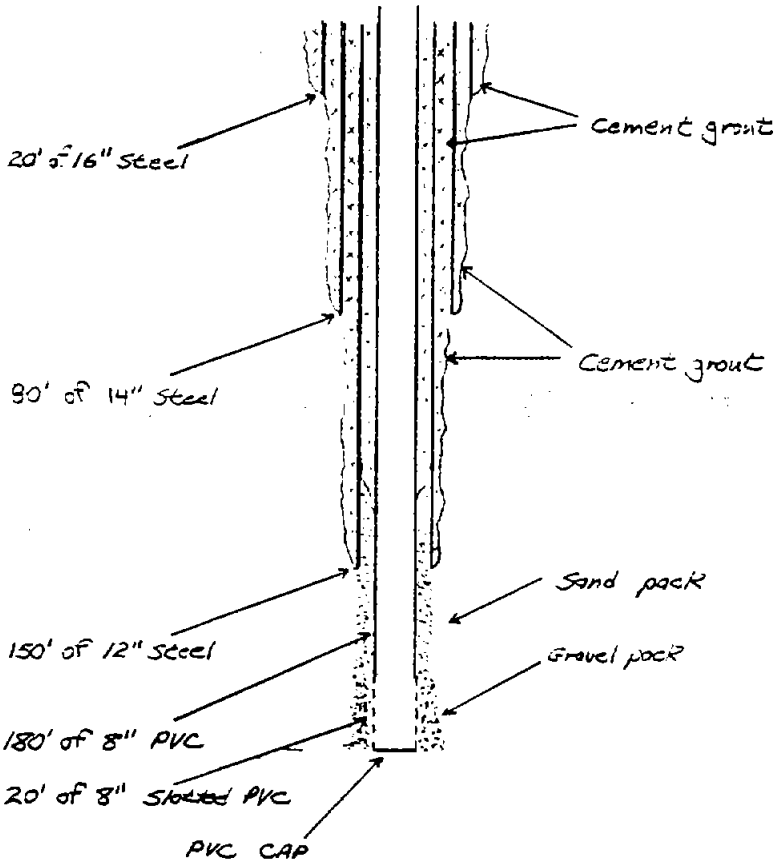
G.N.

ROMP 43x

AS BUILT WELL DIAGRAM



Elev. ≈ 165' Above M.S.L.

L.S.D.

-100'

Sand & CLAY

Recent - mid Miocene undiff.

-200'

-300'

HAWTHORN SEDIMENTS

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