Water Well Log

Strata Geological Services, Inc.
Tarpley, Texas
830-562-3680

Well: Headwaters Monitor Well # 1
Location: Kerr County, Texas
Geologist: Wm Feathergail Wilson, PG # 21
Driller: Armadigger, Reed
Rig Type: Air Rotary, Reich Hdrill T-650-WII
Total Depth: 750'

Depth	Description	Comments
0 to -10	0, -10 SOIL: medium gray, dry, humic, caliche bearing, sandy loam, Holocene disconformity @ 10'	In Holocene sandy loam @ surface Elevation: 1525' 10,000 years BP
-10 to -40	-10, -40 MARL: lt tan-gray, foraminiferal weathered to 15', oxidized to 30', mega-fossil fragments, Orbitolina texana @ 35', in Upper Glen Rose Member	Top of Upper Glen Rose Member, Glen Rose Formation @ 90', 99 million year hiatus GPS Location: N 29 54' 24.6" W 98 58' 22.8" 9 7/8" to 90' 8" from 90-750'
-40 to -70	-40, -70 MARL & LIMESTONE: lt gray-cream, mega-fossil fragment, phosphatic biomicrite and poorly washed biosparite interbedded with lt gray foraminiferal marl	Dual cmpletion with two risers separated by bentonite seals. Completions in the Sligo-Hosston couplet and the Hensel sands through Lower Glen Rose carbonates.
-70 to -90	-70, -90 SABKHA: white-lt gray anhydrite and gypsum inerbedded lt tan-orange microdolomite and lt gray formainiferal marl	
-90 to -105	-90, -105 LIMESTONE: lt tan, microdolomitic phosphatic, slightly porous-porous biomicrite, Corbula bed, top of Lower Glen Rose Member	Top of Lower Glen Rose Member, Glen Rose Formation
-105 to -115	-105, -115 MICRODOLOMITE: lt tan, slightly porous, phosphatic mega-fossil fragments, slightly sandy, Orbitolina texana @ 110'	Orbitolina texana @ 110'
-115 to -120	-115, -120 LIMESTONE: lt tan, slightly sandy biomicrite	
-120 to -210	-120, -210 MICRODOLOMITE: lt tan-lt gray, slightly porous, phosphatic mega-fossil fragments, 1300 ppm, 7.8 pH @ 140', lesser amounts of microdolomitic biomicrite and biosparite, Orbitolina texana @ 205'	1300 ppm, 7.8 pH @ 140' Orbitolina texana @ 205' Water level for upper screen set at 120 - 320' Water level for lower screen set at 440 - 705'
-210 to -225	-210, -225 LIMESTONE: lt tan-cream, phosphatic mega-fossil fragments, poorly washed, slightly porous pelsparite	
-225 to -275	-225, -275 MICRODOLOMITE: lt tna, mega-fossil fragments, slightly porous, lesser amounts of biosparite and biomicrite, su-bituminous coal fragments @ 235'	Coal fragments @ 235' Orbitolina texana @ 245' Albian/Aptian boundary, 112 million years BP
-275 to -310	-275, -310 SANDSTONE: lt gray, fine-medium grained dolomitic, calcite and quartz geode fragments, porous, top of Hensel Sand Member, Pearsall Formation	Top pf Hensel Sand Member, Pearsall Formation @ 275'
-310 to -330	-310, -330 MICRODOLOMITE: lt tan, silty, geode fragments as above	
-330 to -337	-330, -337 MARL: lt gray, silty, firm, oyster shell fragments, top of Bexar Shale Member, Pearsall Formation	Top of Bexar Shale Member, Pearsall Formation @ 330'
-337 to -360	-337, -360 LIMESTONE: white-cream low energy non-porous winnowed "flour" biomicrite, abundant sub-bituminous coal fragments @ 337-345 (50%), top of Cow Creek Limestone Member, Pearsall Formation, 400 ppm, 8.2 pH @ 345'	Top of Cow Creek Member, Pearsall Formation @ 337' Abundant coal fragments 337-345' 400 ppm, 8.2 pH @ 345'
-360 to -395	-360, -395 CLAY: medium gray, stickey, bentonitic, oyster shell fragments, slightly silty near top of unit, top of Hammett Shale Member, Pearsall Formation, 375 ppm, 8.2 pH @ 385'	Top of Hammett Shale Member, Pearsall Formation @ 360' Oysrer shell fragments 375 ppm, 8.2 pH @ 385'
-395 to -423	-395, -423 MICRODOLOMITE: lt gray, very sandy, medium-coarse grained, mega-fossil fragments, lesser amounts of very sandy biomicrite, porous, top of Sligo Formation	Top of Sligo Formation @ 395', Neocomian boundary, 121 million years BP
-423 to -455	-423, -455 SAND: white-lt gray, semi-consolidated very porous, medium-coarse grained sand, top of Hosston Formation	
-455 to -503	-455, -503 MICRODOLOMITE: lt tan-cream, very sandy, micritic intramicrrudite altered to very fine grained dolomite interbedded with with lt gray dolomitic marl clasts, abundant oyster shells	
-503 to -527	-503, -527 SAND: lt gray, coarse grined, unconsolidated, interbedded with lesser amounts of lt gray sandy marl, abundant oyster shell fragments	Top of Hosston Formation @ 503'
-527 to -540	-527, -540 MARL: lt gray-lt tan-lt red, marl bearing, slightly dolomitic, oyster shell fragments	
-540 to -553	-540, -553 SAND: lt gray, medium-coarse, loose, traces of bituminous coal	Coal traces
-553 to -563	-553, -563 SILTSTONE: lt gray-white, bentonitic, lesser amounts of fine-medium grained sand, slightly porous	
-563 to -570	-563, -570 SAND: lt gray, argillaceous, porous, fine-medium grained	
-570 to -576	-570, -576 PALEOSOL: red, firm, paleosol	
-576 to -590	-576, -590 SILTSTONE: red-white, bentonitic, continental	
-590 to -612	-590, -612 SANDSTONE: lt gray-orange fine-medium grained, continental and marine	
-612 to -660	-612, -660 SILTSTONE: red-gray-orange, interbedded with lesser amounts of lt gray marl, abundant oyster shells	
-660 to -720	-660, -720 SAND & GRAVEL: white-green-gray, very coarse, milky quartz, varigated chert, metamorphic rock fragments, unconsolidated, 550 ppm, 8.0 ph @ 700'	144 million years BP
-720 to -750	-720, -750 SHALE: medium gray, organic rich, firm, traces of red weathered paleosol near the top of the section, top of Pennsylvanian Period with a major unconformity @ 720'	Top of Lower Pennsylvanian Period @ 720', Tesnus Formation (?), 320 million years BP, 176 million year hiatus at unconformity