Farm J.R. Morris - Gil No. 3 Company Quaker State Oil Refining Corp., Parkersburg, West Virginia Permit <u>Gilmer 1741</u> Glenville, Gilmer Co., West Virginia Burnsville WC District Quadrangle Location 3.9 mi W of 80°40'; 3.75 mi S of 38°55' Dusk Camp Run Elevation 1047.7 feet Commence drilling 7/15/65, C Complete drilling 8/21/65 Gas, Volume: 582 MCFGPD, 730# 16 hrs. Well type Well not completely examined. Examined descriptively by Tom W. Carpenter All percentages are visual estimates; all depths are feet. Top Bottom Thickness MAUCH CHUNK GROUP, 66+ feet 1973 1978 5 Shale, 100%, black, bryozoan fragment. pyrite; Limestone, trace Limestone, 50%, dark gray, tan, biomic-6 1978 1984 rite, very silty, pyrite; Siltstone. 50%, medium gray, pyrite 1984 1987 Siltstone, 55%, as above; Limestone. 3 45%, as above Limestone, 75%, brown, spicules, very 1987 1994 7 silty; Siltstone, 25%, medium to light gray, pyrite Limestone, 75%, brachiopod fragment, as above; Siltstone, 25%, as above 1994 1998 4 1998 2003 5 Siltstone, 75%, gray, some slightly calcareous; Sandstone, 25%, gray, very calcareous, VF; Limestone, trace, as above Siltstone, 50%, gray, calcareous, fossil fragments; Sandstone, 45%, light gray, 2003 2010 7 quartz graywacke; Limestone, 5%, much quartz 2010 2015 5 Sandstone, 50%, white, VF, slightly calcareous, quartz arenite; Shale, 50%, black 2015 2021 Sandstone, 50%, white, as above but 6 possibly some Fine grained quartz as well; Shale, 50%, black

2021	2025	4	Sandstone, 75%, as above; Shale, 25%, black
2025	2030	5	Sandstone, 50%, white, Fine grained, very angular, very clean; Shale, 50%, black
2030	2031	1	Shale, 100%, black, some silt
2031	2033	2	Shale, 100%, black, some silt
2033	2039	6	Shale, 100%, dark gray to black, almost a siltstone, pyrite
			GREENBRIER LIMESTONE, 180 feet
2039	2041	2	Limestone, 40%, tan, micrite, silty; Siltstone, 60%, gray, pyrite
2041	2043	2	Limestone, 60%, tan, as above; Siltstone, 40%, gray
2043	2048	5	Limestone, 75%, tan wet, gray dry, oomicrite; Siltstone, 25%, gray, cal- careous
2048	2053	5	Limestone, 95%, tan to white, oosparite, slightly dolomitic (maybe 3 to 5% dolomite); Siltstone, 5%, gray
2053	2060	7	Limestone, 100%, tan to white, oosparite, some forams, slightly dolomitic (5%); Siltstone, trace
2060	2064	4	Limestone, 100%, tan, white, few visible allochems, dolomitic (5%)
2064	2070	6	Limestone, 100%, tan, white, biomicrite, forams, slightly dolomitic, mudstone to wackestone
2070	2076	б	Limestone, 100%, tan, white, very silty, slightly dolomitic
2076	2085	9	Limestonė, 100%, tan, white, brown, very silty, mudstone
2085	2090	5	Limestone, 100%, tan, brown, biomicrite, silty, mudstone

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2090	2096	6	Limestone, 100%, brown, biomicrite, wackestone to packstone, spicules, forams, silty
2096	2101	5	Limestone, 100%, brown, biomicrite, very silty, some VF quartz
2101	2106	5	Dolomite, 75%, white, slightly calcare- ous; Limestone, 25%, brown, as above
2106	2111	5	Dolomite, 70%, white, calcareous, some VF quartz; Limestone, 30%, brown, dolo- mitic, silty
2111	2115	4	Dolomite, 75%, white, calcareous, forams; Limestone, 25%, brown, white, dolomitic, fossil fragments not replaced by dolomite, silty
2115	2116	1	Limestone, 85%, tan, forams, VF quartz, dolomitic; Dolomite, 15%, as above Calcite/dolomite/quartz = 75/15/10
2116	2119	3	Limestone, 70%, tan, pseudoolitic, VF quartz; Quartz grains, 20%, loose; Dolomite, 10%, white
2119	2120	1	Limestone, 65%, tan, pseudoolitic, VF quartz; Quartz, 30%, VF, loose grains; Dolomite, 5%, white
2120	2123	3	As above
2123	2127	4	Dolomite, 50%, brown to tan, calcareous, some VF quartz; Limestone, 50%, tan to brown, slightly dolomitic, VF quartz Calcite/dolomite/quartz = 45/45/10
2127	2129	2	Limestone, 100%, brown to tan, pseudo- osparite, dolomitic, VF quartz Calcite/dolomite/quartz = 45/35/20
2129	2130	1	Limestone, 100%, brown to tan, biosparite, grainstone, foraminifera, no quartz, no dolomite
2130	2134	4	Limestone, 100%, tan to brown, white, grainstone, sparite, pellets and forams (?), slightly dolomitic

Top Bottom Thickness Gilmer 1741 2134 2137 Limestone, 100%, tan, white, as above 3 2137 2141 4 Limestone, 100%, tan, light gray, dolomitic, VF quartz Calcite/dolomite/quartz = 82/15/3 2141 2148 7 Limestone, 100%, light gray to tan, dolomitic, VF quartz Calcite/dolomite/quartz = 72/25/3Limestone, 83%, tan, pseudoosparite, 2148 2152 4 dolomitic, VF quartz Calcite/dolomite/quartz = 60/15/25Sandstone, 10%, white, VF and Medium rounded, very calcareous; Siltstone, 7%, light gray, calcareous, VF and Medium quartz Limestone, 85%, tan, possible ooids, VF quartz, much VF and Coarse loose quartz 2152 2158 6 Calcite/dolomite/quartz = 60/0/40Sandstone, 15%, white, VF, very calcareous Sandstone, 45%, white to tan, VF, very 2158 2163 5 calcareous; Siltstone, 20%, light gray, some VF quartz, slightly calcareous; Dolomite, 20%, white, some VF quartz; Limestone, 15%, tan, oolitic, much quartz 2163 2167 4 Limestone, 85%, tan, cosparite, slightly dolomitic, VF quartz; Sandstone, 15%. VF to Fine, calcareous Calcite/dolomite/quartz = 84/1/152167 2169 2 Limestone, 100%, tan, oosparite, dolomitic, VF quartz Calcite/dolomite/quartz = 70/15/15 2169 2173 4 Limestone, 30%, tan to white, dolomitic, VF quartz; Dolomite, 70%, white, cal-careous, VF quartz Calcite/dolomite/quartz = 25/70/5 2173 2179 6 Dolomite, 100%, white to brown, sucrosic. very slightly calcareous, no quartz Calcite/dolomite/quartz = <1/100/0

2179	2186	7	Dolomite, 99%, white, tan, calcareous, can not distinguish original grains; Limestone, 1%, tan to white, very dolo- mitic Calcite/dolomite/quartz = 10/90/0
2186	2191	5	Dolomite, 97%, white, calcareous, VF quartz; Limestone, 3%, tan, VF quartz, pyrite Calcite/dolomite/quartz = 17/80/3
2191	2194	3	Limestone, 85%, tan, oosparite, much VF and Fine quartz, dolomitic; Dolomite, 15%, white, calcareous, VF to Fine quartz Calcite/dolomite/quartz = 78/15/7
2194	2200	6	Limestone, 95%, tan, oosparite, VF and Medium subrounded quartz, dolomitic; Dolomite, 5%, white, calcareous, VF and Medium quartz Calcite/dolomite/quartz = 77/13/10
2200	2203	3	Limestone, 100%, tan, pseudoosparite, dolomitic, VF and Medium rounded quartz Calcite/dolomite/quartz = 75/15/10
2203	2206	3	Limestone, 100%, tan, as above
2206	2207	1	Limestone, 100%, tan, as above Calcite/dolomite/quartz = 76/12/12
2207	2212	5	Dolomite, 100%, white, unaltered pseudo- oids, all matrix is dolomite, some VF and Coarse quartz Calcite/dolomite/quartz = 47/47/6
2212	2219	7	Dolomite, 100%, white, calcareous pseu- dooids as above, some chips are all dolomite, some VF and Medium quartz Calcite/dolomite/quartz = 25/68/7
			POCONO GROUP, 151+ feet
2219	2225	6	Sandstone, 85%, white, VF and Coarse grains, dolomitic cement up to 20% of volume; Limestone, 10%, white, VF and Medium quartz, pyrite; Dolomite, 5%, white, very finely crystalline Calcite/dolomite/quartz = 8/22/70

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2225	2232	7	Sandstone, 100%, white, VF and rounded Coarse sand, dolomitic cement up to 20%
2232	2242	10	Sandstone, 77%, white, Fine and Coarse grains, dolomitic cement up to 20%; Sandstone, 20%, white, VF, slightly calcareous, no dolomite cement; Siltstone, 3%, dark gray
2242	2245	3	Sandstone, 100%, white, VF grained, slightly calcareous, no dolomite cement, quartz arenite
2245	2251	6	Sandstone, 100%, light gray, VF, not as clean as above (quartz wacke), trace of calcite
2251	2255	4	Sandstone, 100%, white to light gray, VF, quartz wacke
2255	2261	6	Sandstone, 100%, light gray, VF, slightly calcareous, quartz wacke
2261	2267	6	Sandstone, 97%, as above; Siltstone, 3%, red
2267	2272	5	Sandstone, 95%, light gray to gray, VF, lithic greywacke; Siltstone, 5%, red, dark gray
2272	2276	4	Sandstone, 80%, light grey to white, VF, quartz arenite-wacke; Sandstone, 20%, VF, light gray, lithic greywacke
2276	2283	7	Sandstone, 80%, light gray, VF, lithic greywacke; Sandstone, 20%, medium gray, VF, lithic greywacke ("Blue Possum Sand")
2283	2290	7	Sandstone, 97%, medium and light gray, white, VF; Siltstone, 3%, light gray
2290	2298	8	Sandstone, 100%, light gray, lithic grey- wacke, VF
2298	2305	7	Sandstone, 72%, light gray, as above; Sandstone, 25%, light gray, lithic grey- wacke, VF; Siltstone, 3%, light gray
2305	2310	5	Sandstone, 100%, light gray, VF

Top Bottom Thickness Gilmer 1741 Sandstone, 95%, as above; Shale, 5%, medium gray Sandstone, 100%, medium gray, VF Sandstone, 80%, lithic greywacke, VF; Sandstone, 10%, quartz arenite, VF; Siltstone, 10%, gray, black Sandstone, 50%, light gray, VF; Sand-stone, 25%, light to medium gray, VF; Sandstone, 15%, medium gray, VF; Shale Shale, 10%, dark gray Sandstone, 75%, light gray, VF; stone, 25%, medium gray, VF Sand-Siltstone, 100%, dark gray As above As above Siltstone, 100%, medium gray