

Garnet Wisman et al No. 1 (551) Well

Washington District, Kanawha County, W. Va.

By The Owens, Libbey-Owens Gas Department, Charleston, W. Va.

Located 0.07 mi. W. of 81°50' and 5.78 mi. S. of 38°25' -C- Saint Albans Quadrangle;
3.5 mi. S. of Saint Albans.

Elevation, 639.7' L.

Permit, Kan-575.

Drilling commenced October 24, 1938; completed, January 18, 1939.

Shot January 5, 1939, at 3546-3809'.

Volume, 43,000 cu. ft.; rock pressures, 550 lbs. in 72 hours.

Fresh water at 50 and 85'.

Salt water at 425, 990 and 1708'.

13" casing, 38 1/2'; 10", 178'; 8 1/4", 1484' (pulled); 6-5/8", 2149'; 3" tubing, 2172'.

Heater disc wall packer, 6-5/8 x 16, set at 2170'.

Coal was encountered at 146-149 and 321-324'.

Samples start at 1433'.

Top	Bottom	Thickness	
<u>Mauch Chunk Group, 26+ feet</u>			
1433	1454	24	Limestone, dark-brown ("Little Lime")
1454	1459	5	Limestone, brown, 80%; shale, gray, soft, 20%
<u>Greenbrier Limestone, 205 feet</u>			
1459	1464	5	Limestone, nearly white, oolitic, 60%; soft gray and green shale, 20%; brown limestone as above, 20%
1464	1516	52	Limestone, light-brown, very fine textured
1516	1558	42	Limestone, light-brown to nearly white; contains some oolites, mostly rather indistinct
1558	1571	13	Limestone, nearly white, oolitic and sandy; the sand apparently occurs in streaks since only a portion of the fragments are sandy
1571	1586	15	Limestone, brown, partly oolitic; contains a little sand and a little dolomite

Top	Bottom	Thickness	
1586	1620	34	Limestone, light-brown to nearly white; also some light-green; moderately dolomitic
1620	1664	44	Limestone, white to light-brown, dolomitic; contains some indistinct oolites and a little sand
<u>Pocono Formation, 504 feet</u>			
1664	1679	15	Sandstone, light-gray to light-green, very fine; much of it is almost siltstone; also contains much brown limestone, probably all from above
1679	1689	10	Shale, gray silty
1689	1710	21	Sandstone, light-gray, fine; samples actually contain 50 to 75% of light-brown, partly oolitic limestone and a little gray shale, but these are believed to be due to accidental contamination (gas, 1689-1708'; salt water, 1708', 4 bailers per hour)
1710	1793	83	Shale, dark-gray to medium-gray, silty and micaceous; interstratified with some lighter gray siltstone and very fine sandstone
1793	1814	21	Shale, gray, silty, 60%; lighter-gray siltstone and very fine sandstone, 40%
1814	1826	12	Sandstone, light-gray, very fine, 60%; gray shale and siltstone, 40%
1826	1832	6	Shale and siltstone, gray
1832	1863	31	Sandstone, light-gray, very fine, 60 to 80%; gray shale and siltstone, 40 to 20%
1863	2056	193	Shale, gray, with some silty streaks
2056	2109	53	Siltstone, light-gray and light-brown, 60%; gray shale 40%
2109	2125	16	Shale, gray, 60%; dark-gray shale, 30%; light-gray siltstone, 20
2125	2145	20	Shale, very dark gray to black (Sunbury Shale)
2145	2168	23	Sandstone, white to light grayish yellow, fine to very fine, slightly calcareous; highly pyritic at top (Berea Sandstone)

Top	Bottom	Thickness	
<u>Devonian Shales, 2257 feet</u>			
2168	2404	236	Shale and siltstone, gray; both shale and siltstone are laminated and most of shale is silty so no clear distinction can be made between the two kinds of rock
2404	2429	25	Siltstone, light-gray, 60 to 80%; gray shale, 40 to 20%
2429	2488	59	Shale and siltstone, gray
2488	2510	22	Siltstone, gray, 90%; gray shale, 10%
2510	2741	231	Shale and siltstone, gray; considerable variation in individual samples but average is about 50% shale; the siltstone is shaly and micaceous
2741	2955	214	Shale, gray, partly silty; interstratified with varying amounts of gray siltstone; for ^{the} most part this interval has less siltstone than the next one above and is a little darker
2955	3067	112	Shale, gray, interstratified with small amounts of lighter-gray siltstone; shale contains a few very small spherical pyrite concretions
3067	3077	10	Shale, dark-gray
3077	3355	278	Shale, gray, with small amounts of lighter gray, micaceous siltstone; about 10 to 20% of very dark gray shale; there are rather scarce small spherical pyrite concretions and a few dark brown spores
3355	3384	29	Shale, very dark gray, 50%; medium-gray, 50%
3384	3592	208	Shale, gray; most samples contain about 20% to 30% of light-gray shaly siltstone and 10 to 20% of very dark gray shale, the rest being medium-gray
3592	3609	17	Shale, very dark gray
3609	3614	5	No sample
3614	3689	75	Shale, medium-gray; about 10 to 20% of very dark gray fragments; a few very small spherical pyrite concretions
3689	3796	107	Shale, very dark gray to black; contains many small spores
3796	3831	35	Shale, gray
3831	3840	9	Shale, dark-gray
3840	3917	77	Shale, gray, slightly calcareous

Top	Bottom	Thickness	
3917	3937	20	Shale, medium-gray to dark-gray; average color is much darker than the shales above and below; some fragments are calcareous
3937	4176	239	Shale, gray to light grayish green, partly silty, very slightly calcareous; several samples contain some dark-gray shale
4176	4192	16	Shale, dark-gray
4192	4209	17	Shale, medium-gray
4209	4425	216	Shale, black and dark-gray, some parts slightly brownish; mostly contains a very little calcareous material; somewhat more calcareous from 4401 to 4425'
<u>Huntersville Chert, 69 feet</u>			
4425	4429	4	Limestone, brown; very small amount of biotite-rich siltstone at top
4429	4449	20	Limestone, brown, very cherty; some samples may be more chert than limestone
4449	4481	32	Limestone, very light brown, cherty; contains some silt and very fine sand, a little dolomite and very little glauconite
4481	4490	9	Limestone, very light brown, cherty and sandy; some of sand grains are rounded and frosted; contains a little glauconite
4490	4492	2	Limestone, light-brown, cherty, silty and glauconitic
4492	4494	2	No sample (apparent gap may be due to depth correction)
<u>Ordinary Sandstone, 12 feet</u>			
4494	4506	12	Sandstone, light-gray, fine, calcareous; some of larger grains are rounded
<u>Helderberg Limestone, 41+ feet</u>			
4506	4531	25	Limestone, brown to brownish-gray, very cherty and silty
4531	4547	16	Limestone, dark-brown, cherty, somewhat dolomitic; large insoluble residue, mostly leached impure chert, with some shaly and silty material
4547			Total depth