

G. W. Lathey et al No. 1 Well

Ripley District, Jackson County, N. Va.

By Columbian Carbon Company, Charleston, W. Va.

Located 1.1 mi. W. of 81°45' and 0.9 mi. S. of 38°45' -NE- Winfield Quadrangle, 6 mi. S. 20° W. of Ripley.

Elevation, 810' L.

Permit, Jac-42.

Drilling commenced Jan. 25, 1939; completed, April 26, 1939.

Well was not shot; dry hole.

Fresh water at 119', 2 -14" bailers per hour; 1189', 12-14" bailers per hour.

Salt water, 1660', hole full; 2055'; 2093'; and 2490'. 21 1/2" casing, 40' 11"; 18 5/8", 189' 11"; 16", 1120' 9"; 13 3/8", 1227' 6"; 8 5/8", 2543' 9"; 7", 4869' 5".

Samples start at 41' and are practically continuous to the total depth reached.

Top	Bottom	Thickness	Permian and Pennsylvanian, 1878 feet
0	12	12	Soil
12	43	31	Clay, red, calcareous (only sample 15 from 41 to 43')
43	50	7	Sandstone, green, fine, micaceous, calcareous
50	62	12	Shale, grayish-red
62	79	17	Sandstone, grayish-green, fine, calcareous
79	89	10	Clay, red, calcareous
89	109	20	Sandstone, green, fine, micaceous; contains much biotite as well as muscovite
109	131	22	Sandstone, white, medium-grained, micaceous, calcareous (water at 119')
131	155	24	Clay, red and yellow
155	181	26	Siltstone and shale, grayish-green, micaceous
181	189	8	Sandstone, green, very fine, micaceous, slightly calcareous
189	238	49	Clay and soft shale, red, calcareous
238	248	10	Siltstone, gray, calcareous; also large amount of red clay
248	258	10	Clay, red, calcareous
258	291	33	Shale and siltstone, green, micaceous; has streaks or nodules of highly calcareous material
291	306	15	Sandstone, nearly white, medium-grained, slightly calcareous
306	318	12	Shale, red, soft
318	342	24	Shale and siltstone, green, 60 to 80% red clay and shale 40 to 20%

Top	Bottom	Thickness	
342	373	31	Shale, red, soft, calcareous; contains many small limestone nodules
373	399	22	Sandstone, light-green to white, fine, micaceous
399	435	36	Shale, red, soft, calcareous
435	445	10	Sandstone, light-green, very fine, calcareous, 70%; green shale and siltstone, 30%
445	460	15	Siltstone and shale, green, calcareous
460	482	22	Shale, red, soft
482	506	24	Siltstone, green, micaceous; has calcareous streaks or nodules
506	525	19	Sandstone, light-gray, medium-grained, micaceous; contains much biotite as well as muscovite
525	531	6	Shale, gray, soft; small amount of coal and black shale; base of overlying sandstone is in this interval and some fragments show strong concentration of pyrite
531	551	20	Siltstone and silty shale, grayish-green
551	556	5	Shale, gray, soft
556	562	6	Limestone, grayish-yellow, 70%; fine, gray, micaceous sandstone, 30%
562	602	40	Sandstone, white, coarse
602	620	18	Sandstone, gray, very fine, shaly; samples also include large amounts of gray siltstone and various kinds of shale, perhaps partly savings
620	632	12	Shale, greenish-gray, silty
632	642	10	Shale, red soft, 50%; gray shale and siltstone, 50%
642	647	5	Shale, grayish-green, silty
647	657	10	Sandstone, gray, fine, calcareous
657	667	10	Shale, red, soft
667	722	55	Clay, red and yellow, calcareous; contains many small limestone nodules
722	735	13	Siltstone, green, micaceous, calcareous; contains limestone nodules
735	748	13	Sandstone, white, medium-grained
748	758	10	Shale, red, soft
758	763	5	Clay, gray, with small limestone nodules
763	783	20	Clay and soft shale, red, calcareous
783	789	6	Clay, light-gray, 70%; light-gray to greenish limestone, 30%
789	794	5	Clay, red
794	814	20	Sandstone, white with green specks, medium-grained

Top	Bottom	Thickness	
814	824	10	Clay, gray, with small limestone nodules
824	829	5	Clay, red, gray, and yellow
829	839	10	Shale, green
839	845	6	Sandstone, light-green, medium-grained
845	851	6	Siltstone, gray; also traces of black shale and impure coal
851	863	12	Clay, gray; small amounts of coal, black shale, pyrite, and limestone nodules
863	898	35	Clay, red, with small limestone nodules
898	909	11	Shale and siltstone, green, with streaks or nodules of limestone
909	926	17	Clay, green, with much smaller amounts of white and bright-red; the clay is hard, which breaks with conchoidal fracture and does not slake on addition of water; it looks like chert or compact limestone but is too soft for chert and contains only moderate amount of calcareous material
926	930	4	Clay, gray, soft, with small limestone nodules
930	940	10	Sandstone, light-gray to light-green, fine, calcareous
940	968	28	Sandstone, light-gray to nearly white, medium- to fine-grained, finer parts contain much mica
968	973	5	Siltstone, gray, sandy, micaceous; contains siderite spherulites
973	978	5	Sandstone, gray, very fine, micaceous
978	983	5	Sandstone, white, medium-grained
983	994	11	Clay, gray, soft
994	999	5	Clay, grayish-red, soft
999	1003	4	Shale, green, with many siderite spherulites
1003	1021	8	Clay and soft shale, gray and red
1011	1056	45	Siltstone and shale, green; a little limestone, 1019 to 1023'
1056	1061	5	Shale, red, gray, and green, soft
1061	1078	17	Siltstone, green, shaly, with streaks or nodules of limestone
1078	1098	20	Shale and siltstone, gray
1098	1190	92	Sandstone, white to light-gray with some green specks medium-grained; slight amount of rust stain, 1114 to 1135' (water at 1138')
1190	1238	48	Shale, gray, partly silty
1238	1265	27	Siltstone, light-gray, with siderite spherulites
1265	1292	27	Sandstone, white, medium-grained
1292	1298	6	Shale, light-gray, with siderite spherulites, 80%; black shale and impure coal, 20%

Top	Bottom	Thickness	
1298	1340	42	Sandstone, nearly white, fine; siderite spherulites in upper part
1340	1365	25	Shale and siltstone, gray
1365	1445	80	Sandstone, light-gray, fine; contains carbonaceous matter, kaolin, mica, and siderite
1445	1463	18	Shale and siltstone, gray; some fine shaly sandstone, 1450 to 1456'
1463	1478	15	Shale, dark-gray
1478	1489	11	Siltstone, gray
1489	1531	42	Sandstone, light-gray, fine to very fine, with streaks of mica and carbonaceous material
1531	1548	17	Shale and siltstone, dark-gray
1548	1560	12	Shale and siltstone, gray
1560	1578	18	Shale, dark-gray, silty
1578	1601	23	Siltstone, gray; includes considerable amount of very fine shaly sandstone
1601	1613	12	Shale, dark-gray, silty
1613	1619	6	Sandstone, gray, very fine
1619	1639	20	Siltstone, dark-gray, shaly; nearly coarse enough to be called sandstone
1639	1760	121	Sandstone, white, fine-to medium-grained; some gray silty shale from 1639 to 1650' and a thin streak of light-gray, soft shale between 1713 and 1720' (hole full of water, 1660')
1760	1773	13	Shale, dark-gray, with siderite concretions
1773	1778	5	Shale, gray; a little nearly white shale, 1775 to 1778'
1778	1813	40	Sandstone, white, mostly fine; contains some coarse grains, 1812 to 1818'
1813	1821	8	Shale, gray, silty, 50%; white sandstone, 50%
1821	1870	67	Sandstone, white, coarse, nearly all quartz
<u>Greenbrier Limestone, 114 feet</u>			
1878	1885	7	Dolomite, light-brown; small amount of green shale
1885	1887	2	Limestone, light-brown (SIL at 1887')
1887	1992		Bottom of "Big Line" from drillers' record; no samples, 1887 to 2150'

Top	Bottom	Thickness	
<u>Pocono Formation, 514 feet</u>			
1992	1996	4	Slate
1996	2011	15	"Keener Sand"
2011	2016	5	Slate
2016	2143	127	"Big Injun Sand" (water, 2055 and 2093'; show of gas, 2093')
2143	2150	7	Slate and shells
2150	2158	8	Shale, gray
2158	2198	40	Sandstone, gray, very fine, 60%; gray shale, 40%; much of the sandstone is so fine that it could just as well be called siltstone
2198	2253	55	Sandstone, light-gray, very fine; up to 20% of darker gray shale and siltstone in some samples
2253	2293	40	Siltstone, gray; only slightly darker and finer than the sandstone of the interval above
2293	2334	41	Shale, gray
2334	2386	52	Shale and siltstone, gray; some samples contain up to 60% of siltstone and very fine sandstone
2386	2445	59	Shale, gray, interstratified with thin streaks of siltstone
2445	2456	11	No sample
2456	2486	30	Shale, dark-gray to black (Sunbury Shale)
2486	2506	20	Sandstone, nearly white with small amount of rust stain; medium-grained; contains pyrite (Berea Sandstone; water 2490')
<u>Devonian Shales, 2448 feet</u>			
2506	2564	58	Siltstone, gray, slightly calcareous; small amounts of gray shale
2564	3133	569	Siltstone and shale, gray; there is considerable variation in relative amounts of siltstone and shale but the rock in all the samples is laminated in structure; some of siltstone is slightly calcareous
3133	3430	307	Shale, gray, interstratified with small to moderate amount of gray siltstone; not sharply separated from interval above, which has more shale toward bottom
3430	3705	275	Shale, gray, silty; average color is a little darker than in the interval above; there are a few small spherical pyrite concretions and darker shale fragments contain small brown spores
3705	3775	70	Shale, gray; contains about 30% of very dark shale and also considerable lighter gray siltstone

Top	Bottom	Thickness	
3775	3950	175	Shale, gray; about 10% of very dark shale and considerable amounts of light-gray to brownish shaly siltstone
3950	4205	255	Shale, dark-gray to black; considerable amount of medium-gray shale in lower part; some dark fragments contain spores (3950' in this well corresponds to 3975' in John L. Parsons well and 3799' in Chancey Well; show of gas, 4171')
4230	4607	404	Shale, medium-gray to grayish-green; most samples contain some siltstone and a little very dark shale
4607	4822	215	Shale, dark-gray to black; contains some pyrite concretions; thin streak of siltstone containing much biotite at base.
<u>Huntersville Chert, 87 feet</u>			
4822	4835	13	Limestone, brown, cherty (SLM at top)
4835	4858	23	Limestone, light-brown, very cherty
4858	4909	51	Limestone, light-brown, cherty; contains moderate to large amount of silt and very fine sand and from 4886 to 4897' some medium-grained sand with grains rounded; first glauconite seen at 4865' and very small amounts in most samples from there to 4909' where there is a slightly greater concentration of it; some dolomite is also present
<u>Criskany Sandstone, 43 feet</u>			
4909	4916	7	Sandstone, light-brown, fine, slightly calcareous
4916	4931	15	Sandstone, brownish-gray, fine, highly calcareous; sample from 4926 to 4931 contains some very dark fragments and slight traces of chert; sample missing from 4921 to 4926'
4931	4946	15	Sandstone, light-gray to nearly white, fine, moderately calcareous
4946	4952	6	Sandstone, gray, fine to very fine, highly calcareous; sample from 4949 to 4949½' contains some chert and a little glauconite
<u>Helderberg Limestone, 101+ feet</u>			
4952	4977	25	Limestone, brownish-gray, cherty and silty
4977	5012	35	Limestone, dark-brown to brownish-gray; insoluble residue is nearly as large as original sample; it contains a small amount of solid light-gray chert, but consists mostly of brown porous masses which are probably partly fine detrital material and partly chalcedony; this limestone is somewhat dolomitic throughout and contains some fossil fragments

Top Bottom Thickness

5012	5033	21	Limestone, gray with some white spots, silty and cherty; contains glauconite, dolomite and pyrite; some biotite in sample from 5016 to 5020'
5033	5053	20	Chert, very silty, highly calcareous; contains some dolomite and glauconite and a little pyrite
	5053		Total depth