

Alice Francis No. 7843 Well

Sherman District, Calhoun County, W. Va.

By Hope Natural Gas Company, Clarksburg, W. Va.

Located 2.71 mi. W. of 81°00' and 5.81 mi. S. of 39°00' -NE- Arnoldsburg
Quadrangle, 2.5 mi. E.S.E. of Grantsville.

Elevation, 1026' L.

Permit, Cal-509.

Drilling commenced June 17, 1939; completed July 17, 1939.

Gas well in Big Lime; volume, 785,000 cu. ft. per day; rock pressure 425 lbs. in
24 hours. Well was not shot.

No fresh water reported. Salt water at 1350-53 and 1925'.

10" casing, 511'; 8 1/4", 1155'; 6-5/8", 2034'; all left in.

Casing not cemented. No coal was encountered.

According to geologic map of Wirt, Roane and Calhoun Counties this well starts
at about the Washington Coal Horizon.

Top	Bottom	Thickness	<u>Permian and Pennsylvanian, 1912+ feet</u>
0	20	20	Clay, yellow, sandy
20	47	27	Siltstone, grayish-green, with some gray clay and soft shale
36	85	49	Sandstone, light-gray, medium-grained
85	94	9	Siltstone, grayish-green
94	102	8	No sample
102	111	9	Clay, gray
111	130	19	Clay, red, calcareous
130	136	6	Siltstone, grayish-green
136	168	32	Sandstone, white to grayish-green, medium-grained; contains kaolin, muscovite and biotite
168	210	42	Clay and soft shale, red, calcareous
210	217	7	Siltstone, green, 60%; gray and brown limestone, 40%
217	248	31	Sandstone, nearly white, medium-grained
248	260	12	Siltstone, gray and green, shaly
248	278	30	Shale, grayish-red, partly silty
278	325	47	Clay and soft shale, red, calcareous
325	370	45	Sandstone, white, coarse, with crystal faces on many of quartz grains

Top	Bottom	Thickness	
370	393	23	Shale, grayish-green, silty
393	404	11	Sandstone, light-green, medium-grained
404	409	5	Shale, green
409	415	6	Sandstone, light-gray, fine, calcareous; also contains some limestone and green shale
415	436	21	Shale, green, calcareous, partly silty
436	495	59	Shale, red, soft, calcareous
495	544	49	Siltstone, green, 60%; green shale, 40%; some calcareous fragments throughout
544	557	13	Shale, red, soft, calcareous, with limestone nodules
557	584	27	Shale, green and gray, partly very silty; contains also some red and yellow calcareous clay or soft shale, perhaps mostly cavings
584	615	31	Sandstone, gray, fine to very fine; mostly shaly; contains large amount of muscovite and biotite and some siderite
615	635	20	Clay, gray, red and yellow, 70%; medium-grained white sandstone, mostly broken up to individual grains, 30%
635	685	50	Shale, red, soft, calcareous
685	690	5	Siltstone, green, shaly, calcareous
690	740	50	Clay and soft shale, red; with varying amounts of green shale, siltstone and fine micaceous sandstone
740	752	12	Siltstone, green, micaceous and calcareous, grading into sandstone
752	760	8	Sandstone, white, coarse, poorly sorted; contains also some fine green sandstone
760	770	10	Shale, red, soft
770	810	40	Shale, green and gray, mostly silty; samples contain large amounts of red clay, probably cavings
810	846	36	Shale, black; with traces of impure coal
846	854	8	Clay, red, and gray, calcareous
854	872	18	Limestone, gray, very fine textured, pyritic
872	880	8	Shale, gray and green, silty
880	918	38	Clay, red, calcareous
918	928	10	Siltstone, green, highly calcareous
928	935	7	No sample
935	976	31	Shale, red, soft, calcareous
976	982	6	Sandstone, green, fine, micaceous

Top	Bottom	Thickness	
982	1016	34	Shale, dark-gray, mostly silty
1016	1050	34	Shale, green and light-gray, mostly somewhat calcareous
1050	1070	20	Sandstone, light-green, very fine, micaceous and calcareous
1070	1155	85	Shale, gray and green, partly silty
1155	1217	62	Sandstone, nearly white, medium-grained; contains biotite, muscovite, kaolin, chlorite and pyrite
1217	1232	15	Shale, and siltstone, gray, with siderite spherulites
1232	1262	30	Sandstone, nearly white, medium-grained; contains kaolin, muscovite, biotite and chlorite
1262	1312	50	Sandstone, nearly white, medium-grained, calcareous
1312	1382	70	Sandstone, white to very light-gray; contains small amounts of mica, chlorite and kaolin; a little coal in last ten feet
1382	1410	28	Siltstone, gray, 60%; gray to black shale, 40%; a little coal throughout
1410	1445	35	Sandstone, white to light-gray, medium-grained; contains some mica and kaolin
1445	1472	27	Sandstone, gray, fine to very very fine, shaly
1472	1488	16	Sandstone, white, medium-grained
1488	1510	22	Shale, gray to black
1510	1534	24	Siltstone, dark-gray, shaly
1534	1551	17	Shale, black, silty, partly calcareous
1551	1559	8	Siltstone, gray, 60%; black shale, 50%
1559	1585	26	Sandstone, light-gray, fine; about 40% black silty shale from 1567 to 1575'
1585	1652	67	Shale, dark-gray to black, mostly silty
1652	1684	32	Shale, dark-gray to black, 60%; light-gray siltstone and shale with siderite spherulites, 40%
1684	1802	118	Shale and siltstone, dark-gray to black
1802	1854	52	Sandstone, nearly, white, fine, slightly calcareous; about 30% of dark-gray shale from 1838 to 1854'
1856	1880	24	Shale, dark-gray, 60%; gray siltstone, 40%
1880	1887	7	Shale, light-gray, soft, with very sandy streaks, somewhat calcareous
1887	1912	25	Sandstone, white; fine at top grading into coarse toward bottom; samples contains some soft gray shale, probably cavings
<u>Mauch Chunk Group, 66 feet</u>			
1912	1940	28	Shale, 50 to 60% red, the rest gray and green; also small amount of limestone
1940	1948	8	Shale, gray, soft 90%; brown limestone, 10%

Top	Bottom	Thickness	
1948	1967	19	Limestone, brown, fossiliferous, 60 to 70%; soft gray shale 40 to 50% ("Little Lime")
1967	1978	11	Shale, gray, soft, finely laminated, partly silty ("Pencil Cave")
<u>Greenbrier Limestone, 56+ feet</u>			
1978	1984	6	Limestone, brown, fine textured, with some shale like that above
1984	2020	36	Limestone, brown, oolitic; some fragments which are composed almost entirely of oolites show considerable pore space between the oolites; all samples show some soft gray shale, probably cavings
2020	2034	14	Limestone, light-green, oolitic, obviously porous; samples are mostly soft gray, finely laminated shale, probably cavings (gas, 2019-2024')
	2034		Total depth

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(Deepening).

Top.	Bottom.	Thick- ness.	
2036	2065	29	Limestone, light-brown
2065	2075	10	Limestone, light-brown, sandy
2075	2080	5	Sandstone, very light brown, calcareous
2080	2085	5	Limestone, light-brown, sandy
2085	2095	10	Limestone, light-gray and light-brown
2095	2110	15	Limestone, very light brown, sandy and oolitic
2110	2126	16	Sandstone, white, fine, calcareous
2126	2161	35	Limestone, nearly white, dolomitic and sandy; slightly porous, 2132-2143 and 2153-2161'

Pocono Formation, 35+ feet

2161	2196	35	Shale, gray
	2196		Total depth by samples.