

Henry Morrison No. 1 Well

Grant District, Jackson County, W. Va.

By Joe Rubin et. al., 1900 19th Street, Parkersburg, W. Va.

Located 3.1 mi. W. of 81°35' and 1.92 mi. S. of 39°00' -NC- Ripley Quadrangle,
5½ mi. N. E. of Silverton.

Elevation, 795'.

Permit, Mac-62.

Commenced November 13, 1939; completed March 16, 1940.

Shot, February 28, 1940.

Volume after shot, 337,000 cu. ft. per day.

Rock pressure 1600 lbs. in 48 hrs.

Water, 6 bailers at 535', 1 bailer at 1090', 6 bailers at 1122 to 1135',
1½ bailers at 1410'; hole full of water at 1605'.

16" drive pipe, 18'; 14" casing, 347'; 10", 778'; 8½", 1293'; 7", 1960'.

Top Bottom Thickness

Permian and Pennsylvanian, 1683 feet

0	10	10	Soil (descriptions based on drillers' record from 0 to 90')
10	20	10	Rock
20	90	70	Clay, sandy
90	121	31	Sandstone, nearly white with small amount of green, medium-grained; some red clay oavings
121	127	6	Siltstone, green
127	137	10	Clay, red, calcareous, 60%; green siltstone, 40%
137	167	30	Clay, red, calcareous
167	178	11	Sandstone; green, very fine, grading into siltstone, 70% red calcareous clay, 30%
178	200	22	Clay, red, calcareous; with up to about 40% other materials, mostly impure limestone and gray to green micaceous siltstone
200	210	10	Siltstone, green, shaly, micaceous, partly calcareous
210	215	5	Sandstone, green, fine, micaceous
215	246	31	No samples; report ^{ed} as sand from 215 to 225' and slate from 225 to 246'

Top	Bottom	Thickness	
246	251	5	Clay, red, calcareous, 50%; green micaceous siltstone, 50%
251	270	19	Siltstone, green, shaly, micaceous, strongly calcareous
270	287	17	Sandstone, light-green, fine, micaceous and calcareous; contains biotite
287	292	5	Siltstone, green, shaly, micaceous
292	312	20	Sandstone, nearly white, fine
312	322	10	Shale, red, soft, calcareous
322	334	12	Siltstone, green, micaceous, highly calcareous
334	342	8	Shale, red, soft, calcareous
342	347	5	Siltstone, green, calcareous
347	361	14	Sandstone, light-green, fine; with much shaly siltstone
361	367	6	Siltstone, gray and green, micaceous, calcareous
367	377	10	Clay, yellow and red, containing many small limestone modules
377	395	18	Shale, red, soft, calcareous
395	400	5	Siltstone, green, shaly, calcareous
400	433	33	Clay and soft shale, red, calcareous
433	456	23	Sandstone, light-green, fine, micaceous, calcareous; top is actually somewhat above 433
456	487	31	Shale, red, soft, calcareous
487	492	5	Siltstone, green, micaceous, 70%; red shale, 20%; impure gray to light-brown limestone, 10%; some aggregates of pyrite crystals (corresponds to interval 390 to 396' in D. P. Curry No. 1 Well)
492	500	8	Clay, red, calcareous
500	588	88	Sandstone, white, medium-grained; some of quartz grains have crystal faces; a little coal between 582 and 588'
588	594	6	Siltstone, gray, shaly, 80%; light-brown limestone, 20% many small pyrite concretions
594	600	6	Shale, grayish-green, silty
600	606	6	Siltstone, gray, with some sandstone, limestone and red clay, perhaps mostly cavings

Top	Bottom	Thickness	
606	618	12	Shale, red, soft, calcareous
618	628	10	Shale, green
628	670	42	Shale and siltstone; green, partly calcareous
670	680	10	Shale, green and red, calcareous
680	690	10	Sandstone, grayish-green, fine, micaceous
690	698	8	Siltstone, gray, micaceous
698	703	5	Clay, gray, with small limestone nodules (corresponds to 611 to 615' in D. P. Curry No. 1 well)
703	711	8	Siltstone, green, calcareous, 50%; fine-textured yellow to gray limestone, 30%; gray clay with traces of red, 20%
711	726	15	Siltstone, green, micaceous, shaly; with some yellow limestone and gray clay as above
726	746	20	Sandstone, light-gray, medium-grained, containing some mica and kaolin
746	758	12	Clay, red, calcareous; some gray shale and limestone in lower part
758	763	5	Siltstone, gray, shaly, micaceous
763	812	49	Clay and soft shale, red, calcareous
812	820	8	Limestone, gray, very fine textured
820	828	8	Shale, red, soft, calcareous
828	845	17	Shale, grayish-green, silty, micaceous
845	853	8	Shale, red and yellow, soft, calcareous
853	866	13	Shale, gray, silty, 60%; yellow to gray limestone, 20% red and yellow clay, 20%
866	872	6	Clay, gray, with small limestone nodules
872	906	34	Clay and soft shale, red calcareous; also some gray and yellow clay and considerable impure limestone
906	911	5	Siltstone, light-green, calcareous
911	930	19	Clay and soft shale, red, calcareous; also some gray and yellow clay
930	950	20	Siltstone, grayish-green, shaly, micaceous
950	955	5	Shale, red, soft, 50%; green shaly siltstone, 30%; the rest red and yellow clay and white to light-brown limestone

Top	Bottom	Thickness	
955	963	8	Sandstone, grayish-green, very fine, shaly, calcareous
963	970	7	Limestone, nearly white; with large proportion of green siltstone and some red, yellow, and green shale (corresponds to sample from 882 to 889 in D. P. Curry No. 1 Well)
970	978	8	Shale, green to gray, silty; with some limestone
978	987	9	Siltstone, gray, 60%; gray fossiliferous limestone, 20%; dark-gray shale, 20%; many aggregates of small pyrite crystals
987	992	5	Clay, light-gray, with small limestone nodules; also a little dark-gray shale and impure coal
992	1008	16	Clay, gray, yellow, and red; contains small limestone nodules and siderite spherulites
1008	1015	7	Siltstone, gray to green, grading into shaly sandstone
1015	1155	140	Sandstone, light-gray with streaks of green, medium-grained; contains small amounts of mica, chlorite and kaolin and near the top some pyrite and siderite
1155	1170	15	Shale, gray, silty; top of underlying sandstone is a little above 1170'
1170	1186	16	Sandstone, fine, light-gray, micaceous; contains siderite
1186	1207	21	Shale and siltstone, gray; many siderite spherulites from 1191 to 1198' and a little coal between 1198 and 1207'
1207	1241	34	Sandstone, light-gray, fine, micaceous; samples also contains much shale of various color ^s , probably cavings
1241	1283	42	Sandstone, light-gray, medium-to fine-grained; contains some mica, chlorite and kaolin
1283	1288	5	Clay, gray, somewhat calcareous; with large amount of sandstone
1288	1308	17	Shale and siltstone, dark-gray; a little coal between 1298 and 1305'
1305	1374	69	Sandstone, light-gray, fine, with small amounts of mica, chlorite and kaolin
1374	1382	8	Shale, gray, silty

Top	Bottom	Thickness	
1382	1392	10	Shale, dark-gray; with a little coal
1392	1410	18	Shale, dark-gray, 50%; gray, fine, micaceous sandstone 50%
1410	1419	9	Shale, gray, with a little coal; sample is much contaminated by cavings
1419	1429	10	Shale, dark-gray
1429	1446	17	Sandstone, light-gray, fine, micaceous
1446	1466	20	Shale, dark-gray, very silty
1466	1520	54	Sandstone, light greenish gray, fine; contains biotite, muscovite, chlorite, siderite, pyrite and carbonaceous matter
1520	1577	57	Shale and siltstone, dark-gray, micaceous
1577	1601	34	Sandstone, white, medium-to fine-grained
1601	1683	82	Sandstone, white, medium-grained, with small amount of rust stain; nearly all quartz, with crystallfaces on many grains

Mauch Chunk Group, 12 feet (?)

1683	1688	5	Shale, mostly dark-gray with small amount of red
1688	1695	7	Shale, dark-gray and brown; the brown shale is very soft and falls to pieces when the fragments are wet; sample also contains a little coal and a little soft green shale

Greenbrier Limestone, 122 feet

1695	1708	13	Limestone, nearly white, somewhat oolitic, 80%; gray and green shale containing siderite spherulites, 20%
1708	1771	63	Limestone, light-brown to nearly white, very fine textured
1771	1776	5	Limestone, nearly white, oolitic and somewhat sandy
1776	1791	15	Limestone, very light grayish-yellow, oolitic, very sandy; larger sand grains are rounded and frosted
1791	1804	13	Limestone, light-brown, dolomitic
1804	1811	7	Limestone, light-gray, dolomitic, containing large amount of silt and fine to very fine sand
1811	1817	6	Sandstone, nearly white, dolomitic, coarse, poorly sorted

Top	Bottom	Thickness	
<u>Pocono Formation, 465 feet</u>			
1817	1866	49	Siltstone, gray, shaly, micaceous
1866	1888	22	Sandstone, nearly white, medium-to fine-grained, almost all quartz; some pyrite at top
1888	1895	7	Sandstone, gray, fine
1895	1900	5	Shale, dark-brown and gray, 60%; light-gray siltstone and very fine sandstone, 40%
1900	1924	24	Sandstone, gray, fine to very fine, calcareous
1924	1985	61	Siltstone, gray, slightly calcareous, 60 to 70%; darker gray shale, 40 to 30%
1985	1993	10 ⁸	Siltstone, gray, with fossil shells
1993	2011	18	Shale, gray, 50%; lighter gray, calcareous siltstone, 50%
2011	2028	17	Siltstone, gray, calcareous; with about 10% of darker gray shale
2028	2234	206	Shale, gray, silty, interstratified with gray to greenish-gray siltstone, which decreases in amount toward bottom of the interval; about half siltstone near the top and nearly all shale near the bottom
2234	2270	36	Shale, dark-gray to black (Sunbury Shale)
2270	2272	2	Sandstone, gray, very fine, pyritic (Berea Sandstone)
<u>Devonian Shales, 2407 feet</u>			
2272	2533	261	Shale, gray to grayish-green, silty, interstratified with siltstone of about the same color
2533	2570	37	Siltstone, gray, somewhat calcareous, 70%; gray shale, 30%
2570	3419	849	Shale, gray to slightly greenish, with varying but generally much subordinate amounts of gray siltstone; a little limestone in sample from 3252 to 3262'
3419	3710	291	Shale, gray, with some dark-gray to black in most samples; some siltstone throughout; first of small spherical pyrite concretions seen at 3485
3710	4012	302	Shale, dark-gray to black, with considerable amount of lighter gray in most samples; about 10% of gray and brown limestone in sample from 3761 to 3776'
4012	4372	360	Shale, gray to slightly greenish; most samples contain little if any very dark shale; partly calcareous

Top	Bottom	Thickness	
4372	4488	108	Shale, medium-to dark-gray; average color only a little darker than the interval above; partly calcareous
4488	4679	191	Shale, very dark gray to black, with small proportion of calcareous fragments; a very few pieces of siltstone containing biotite between 4578 and 4605'
<u>Huntersville Chert, 103 feet</u>			
4679	4682	3	Limestone, dark-brown, cherty; contains no pure solid chert
4682	4686	4	Limestone, gray to brown, very cherty; with about 5% of brown siltstone rich in biotite; some of chert is gray and translucent
4686	4718	32	Limestone, gray to brown, very cherty; contains a little dolomite
4718	4724	6	Limestone, like that above but much browner, due to stain on surface of fragments
4724	4742	18	Limestone, light-gray, cherty, silty, and somewhat dolomitic; contains a little glauconite
4742	4761	19	Limestone, light-gray, very cherty; mostly contains some silt or fine sand
4761	4762	1	Sandstone, gray, very fine, cherty and calcareous; contain some glauconite and is darker than the rock above and below
4762	4773	11	Limestone, gray, very cherty, somewhat dolomitic; mostly contains some silt and a little glauconite
4773	4777	4	Sandstone, gray, very fine, cherty and calcareous
4777	4791	14	Limestone, light-gray very cherty; contains small amount of silt and a very little glauconite (SLM at 4791, correcting depth to 4782' at top of Oriskany)
<u>Oriskany Sandstone, 45 feet</u>			
4782	4785	3	Sandstone, light-gray, fine, moderately calcareous; on and between the sand grains are many small pieces of a black material with a pitchy luster; many of the sand grains have crystal faces
4785	4807	22	Sandstone, light-gray, fine, slightly calcareous; many of sand grains are broken

Top	Bottom	Thickness	
4807	4815	8	Sandstone, gray, very fine; slightly to moderately calcareous except for thin highly calcareous streak at 4807'
4815	4820	5	Sandstone, gray, very fine, highly calcareous and fossiliferous
4820	4827	7	Sandstone, light-gray, fine to very fine, calcareous; more highly calcareous streak from 4823 to 4824'
<u>Helderberg Limestone, 14 feet</u>			
4827	4828	1	Limestone, gray, silty and cherty
4828	4830	2	Sandstone, gray very fine, calcareous
4830	4841	11	Limestone, gray, cherty and silty; contains many small specks of pyrite
	4841		Total depth