

Located on map.

W. F. Chantry No. 1 Well

Jack-31

SW Ripley Quad

Ripley District, Jackson County, W. Va.

By New Penn Development Corporation, Fort Allegheny, Pa.

About 1 1/2 miles southeast of Ripley.

1.29 mi. N. of 81° 40' and 1.56 mi. S. of 39° 30' - SW-Ripley Quadrangle

Elevation 633 feet, L.

Some gas in Huntersville shert and Oriskany sandstone; maximum gauge about 100,000 cu. ft. per day.

The nearly complete set of samples from this well makes it possible to prepare a very detailed section from the lower part of the Duhard group down to the upper part of the Helderberg limestone. On account of the variability of the Permian and Pennsylvanian formations and the considerable distance from any similarly detailed section based on examination of samples it has not seemed advisable to indicate the position of the formation boundaries above the Greenbrier limestone. The Kanab Chuck seems to be lacking completely, and the coarse Pottsville sandstone rests directly upon the Greenbrier limestone.

There was some limestone in the sample from 4787 to 4743 but this is assumed to be merely concretions or thin streaks in the shale rather than a definite part of the limestone and shert body below. The base of the Oriskany could be taken at 4878 feet but it is considered better to assign the twenty feet of sandstone below this to the Oriskany.

Depth, feet from	to	Thickness, feet	
<u>Permian and Pennsylvanian Systems 1704 feet</u>			
0	100	100	Not sampled
100	110	10	Shale, red and gray, with a little light gray limestone
110	192	82	Sandstone, light-gray to white, medium-to coarse-grained, containing considerable muscovite and some small lumps of kaolite
192	200	8	Shale, red, calcareous; some green, sandy, non-calcareous shale in lower part
200	205	5	Sandstone, green, very fine
205	210	5	Shale, grayish-green, sandy
210	215	5	Shale, red and gray, calcareous
215	237	22	Sandstone, light-gray to green, fine to very fine
237	249	12	Shale, gray

Depth, from	feet to	Thickness, feet	
249	292	33	Shale, red, soft, calcareous
292	322	40	Sandstone, gray to green, fine, with considerable amount of grayish-green sandy shale
322	351	29	Shale, red, calcareous; probably includes some impure limestone
351	363	12	Shale, grayish-green, very sandy, micaceous
363	375	12	Shale, red and green, partly calcareous
375	381	6	Sandstone, grayish-green, very fine, shaly, micaceous
381	393	12	Shale, red and green, sandy
393	399	6	Sandstone, green, very fine, shaly, micaceous
399	417	18	Shale, greenish-gray, sandy with small amount of impure limestone
417	434	17	Sandstone, white, medium-grained, soft
434	470	36	Shale, gray, mostly sandy, partly calcareous
470	498	18	Shale, green, with considerable clayey limestone in upper part and red shale in lower part
498	542	54	Shale, gray to grayish-green, mostly very sandy, with some streaks of lighter gray sandstone; samples also contain some red shale and gray clayey limestone, perhaps mostly savings
542	572	30	Sandstone, light-gray to white, medium-grained, fairly soft, containing some kaolin and mica
572	573	6	Clay, grayish-green, calcareous
573	587	9	Shale, grayish-green, sandy
587	621	34	Clay or very soft shale, mixed red, yellow and gray; shales rapidly when wet; some fragments are highly calcareous
621	630	9	Sandstone, light-green, fine
630	641	11	Shale, red, very soft, calcareous
641	653	12	Shale, grayish-green, mostly sandy
653	659	6	Shale, grayish-green; and fine gray micaceous sandstone containing muscovite, biotite and chlorite
659	665	5	Sandstone, light-gray, fine, micaceous; and nearly equal amount of very soft red shale
665	671	6	Sandstone, white, coarse; and about equal amount of very soft red shale

Depth, feet from	to	Thickness, feet	
671	689	18	Clay or very soft shale, red, calcareous; slakes rapidly when wet
689	707	18	Shale, red and green, very soft, with some impure limestone
707	731	24	Sandstone, light-gray, fine
731	737	6	Shale, red and yellow, calcareous; less strongly calcareous fragments are soft and slake on addition of water
737	755	18	Shale, gray, very sandy
755	767	12	Shale, gray, fine
767	779	12	Clay or very soft shale, gray, with limestone nodules
779	794	5	Shale, red, very soft, highly calcareous
794	811	27	Shale, red, gray, yellow and green, very soft, mostly calcareous; contains small nodules of calcium carbonate; some white sandstone from 795 to 800 feet
811	815	4	Limestone, gray to light-green, very clayey, with some soft red shale
815	825	10	Shale, green, silty; much of it is coarse enough to be classed as siltstone
825	837	12	Shale, red, yellow, gray and green, very soft, partly calcareous; most of fragments slake on addition of water
837	849	12	Sandstone, green, very fine, shaly
849	855	6	Shale, grayish-green
855	875	20	Clay or very soft shale, red, yellow and gray; slakes rapidly on addition of water
875	880	11	Shale, gray
886	892	8	Shale, black
892	904	12	Clay, gray, with a little coal and black shale; the coal is probably at the top of this interval
904	921	17	Clay or very soft shale, grayish-red
921	931	10	Clay or very soft shale, gray
931	947	16	Sandstone, white, medium-grained, rather clayey; samples contain also much soft red and gray shale, perhaps mostly coverings
947	980	33	Shale, gray to grayish-green, partly silty; samples also contain some softer red and gray shale, probably coverings

Depth, feet from	to	Thickness, feet	
980	1000	20	Sandstone, light-gray to greenish, fine, shaly; some streaks contain much muscovite and biotite and some chlorite; samples also contain considerable soft red and gray shale, probably savings
1000	1005	5	Shale, gray, with a little black shale and impure coal
1005	1020	15	Shale, gray, with some streaks of micaceous, shaly sandstone
1020	1040	20	Shale, gray, with some red, mostly rather soft; and some clayey limestone
1040	1046	6	Coal, pyritic; and soft gray and red shale
1046	1062	16	Shale, gray, green and red, soft, partly calcareous, with some white sandstone
1062	1084	22	Shale, gray; and micaceous shaly sandstone
1084	1090	6	Sandstone, fine, light-gray, micaceous
1090	1132	42 →	Shale, dark-gray to medium-gray with streaks of lighter gray sandstone
1132	1138	6	Shale, black with some gray
1138	1144	6	Shale, gray
1144	1150	6	Coal, shaly, with gray shale (fire clay) and white sandstone
1150	1186	36	Sandstone, white, medium-grained; contains some mica and kaolin
1186	1198	12	Sandstone, gray, fine, micaceous, with carbonaceous streaks
1198	1204	6	Shale, dark-gray, very sandy
1204	1210	6	Sandstone, mixed light- and dark-gray, fine, shaly, micaceous
1210	1234	24	Sandstone, light-gray to white, fine- to medium-grained; contains mica and kaolin
1234	1258	24	Sandstone, gray, fine, micaceous, with much darker gray, sandy shale; some coal between 1234 and 1240 feet
1258	1266	8	Sandstone, light-gray, fine, with a little coal
1266	1302	36	Sandstone, gray, micaceous; very fine and shaly at top, becoming a little coarser and lighter colored toward bottom
1302	1330	28	Shale, dark-gray to black, with sandy, lighter gray streaks
1330	1375	45	Sandstone, light-gray, medium-grained; contains some mica and kaolin and a little chlorite

Depth, feet from	to	Thickness, feet	
1375	1394	19	Sandstone, gray, fine to very-fine, mixed with considerable darker gray sandy, micaceous, shale
1394	1415	21	Shale, dark-gray to black
1415	1449	34	Sandstone, gray, fine, shaly, micaceous, with some coal and black shale between 1442 and 1449 feet
1449	1472	23	Shale, gray, silty, micaceous, interbedded with lighter gray, very fine, shaly sandstone
1472	1527	55	Shale, very dark gray, sandy, micaceous; sample from 1503 to 1507 feet is about half light-gray very fine sandstone and other samples show thin streaks of sandstone
1527	1623	96	Sandstone, white, medium-grained, nearly all quartz; some of quartz grains have crystal faces; contains a little muscovite
1623	1650	27	Shale, dark-gray, very sandy
1650	1668	18	Sandstone, nearly white, fine, interbedded with dark-gray very sandy shale
1668	1704	36	Sandstone, white to light-gray, medium- to coarse-grained, nearly all quartz; some grains show crystal faces; texture is coarsest at bottom
1704	1735	31	<u>Greenbrier Limestone</u> 110 * Limestone, light-gray to light-brown, very fine textured; bottom four feet contains some fine rounded and frosted sand grains
1735	1739	4	Sandstone, very light gray, highly calcareous; sand is fine with many of grains rounded and frosted
1739	1750	11	Limestone, light-gray, moderately sandy; sand is mostly fine, with a considerable proportion of rounded and frosted grains
1750	1774	24	Limestone, light-gray, oolitic, very sandy; sand is medium- to fine-grained, with many of grains rounded and frosted; samples from 1764 to 1774 feet are probably at least half sand
1774	1894	30	Limestone, light-gray, fine-textured but not quite so fine as the overlying limestones; contains some sand throughout, and near the bottom a rather large amount of very fine sand and silt; somewhat dolomitic below 1785 feet

Depth, feet from	to	Thickness, feet	
1804	1814	10	Limestone, nearly white, dolomitic, silty; besides silt and very fine sand, contains a few larger rounded sand grains
<u>Pocahontas formation 497 feet</u>			
1814	1828	14	Siltstone, grayish-green
1828	1838	8	Sandstone, gray, coarse
1838	1841	6	Siltstone, dark-gray, pyritic, micaceous
1841	1892	51	Sandstone, light greenish-gray, fine, with a little dark-gray shale between 1880 and 1886 feet
1892	1937	45	Sandstone, gray, fine to very fine, with streaks of darker gray silty, carbonaceous, shale
1937	2010	73	Shale, gray, with large amount of lighter gray siltstone and very fine sandstone; average color is lighter toward bottom; some samples are less than half shale, although much of the siltstone and sandstone breaks like shale; there is some mica and pyrite throughout
2010	2099	89	Siltstone, gray, shaly micaceous, interbedded with large amount of dark gray shale; in a few samples there is more than siltstone shale
2099	2289	180	Shale, gray silty, micaceous, with some gray laminated siltstone; below 2185 feet color is a little darker and texture finer
2289	2300	41	Shale, dark-gray to nearly black, with much pyrite (Sunbury shale)
2300	2311	11	Sandstone, very light gray, very fine, strongly cemented; contains many small pyrite crystals and an especially large concentration of pyrite at contact with the overlying shale; near the bottom there is small amount of medium-grained sandstone, with rounded and frosted grains and calcareous cement (Seren Sandstone)
<u>Devonian Shales 2432 feet</u>			
2311	2582	271	Shale, gray to grayish-green, with large amount of interbedded gray, green and light-brown siltstone; both shale and siltstone contain mica and pyrite throughout and except for a very few fragments are non-calcareous

Depth, feet from	to	Thickness, feet	
2582	2678	96	Siltstone, gray, grayish-green and brown, with much interbedded shale of somewhat darker gray color; the siltstone is slightly calcareous and contains some fossil fragments; all of this interval might be called "silty shale" since the siltstone is laminated and breaks like shale
2678	3104	426	Shale, gray, silty, micaceous
3104	3799	695	Shale, dark-gray, silty, micaceous; average color darker than between 2678 and 3104 feet; most samples show a considerable range of color and texture; contains some finely disseminated pyrite, and from 3297 feet down, very small spherical concretions of pyrite
3799	4060	261	Shale, very dark gray, with some medium-gray; not sharply separated from the overlying shale but is mostly darker and finer; contains some pyrite, partly in very small spherical concretions
4060	4057	3	Shale, medium-gray, with some very dark gray
4057	4066	9	Shale, about half medium-gray and half very dark gray
4066	4485	419	Shale, medium-gray with thin streaks of very dark gray (less than 20% of all except two or three samples from this interval); some fragments are silty but most have very fine texture; mostly not calcareous but in each sample at least a few fragments effervesce with acid
4485	4525	40	Shale, dark-gray; similar to last but average amount of nearly black fragments is much higher
4525	4506	19	Shale, black, containing pyrite
4506	4605	99	Shale, dark-gray, slightly calcareous; containing pyrite
4605	4763	158	Shale, mostly black, with some dark-gray, slightly calcareous, contains abundant pyrite; between 4611 and 4637 feet are a few fragments of siltstone or very fine sandstone rich in biotite

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1.29 mi. W. of 81°40' and 1.86 mi. S. of 38°50' -SW-Ripley Quadrangle

Elevation 633 feet, L.

Some gas in Huntersville chert and Oriskany sandstone; maximum gauge about 100,000 cu. ft. per day.

Depth, feet from	to	Thickness, feet	<u>Huntersville chert 97 feet</u>
4745	4750	7	Limestone, gray to brown 30% of sample; dark-gray shale 50%; brown siltstone containing much biotite, 20%
4750	4754	4	Limestone, gray to brownish, cherty, fossiliferous, 50% of sample; siltstone with biotite 10%; shale oavings 40%
4754	4773	19	Limestone, mixed light- and dark-gray, very cherty; contains a little dolomite; some fossils; insoluble residue from limestone is brown, porous; much of chert is white to light-gray translucent
4773	4777	4	Limestone, gray, very cherty; contains some dolomitic siltstone and a very little glauconite but is otherwise similar to 4754-4773
4777	4792	15	Chert, light-gray, highly calcareous, with a little calcareous, dolomitic, siltstone; very little sphalerite and glauconite.
4792	4811	19	Limestone, medium-gray to light-gray, very cherty, dolomitic; these are a few fragments of siltstone and also some silt embedded in chert and limestone
4811	4829	18	Limestone, gray, very cherty, sandy; contains some dolomite and glauconite; sample from 4818 to 4821 feet contains some medium-grained well rounded sand
4829	4840	11	Limestone, gray, very cherty; contains a little silt, dolomite and glauconite

Depth, feet
from to Thickness,
feet

Oriskany Sandstone 61 feet

4840	4852	12	Sandstone, white, medium- to fine-grained, hard, slightly calcareous; some grains rounded but most of them are either broken or so tightly cemented that little can be seen of original shape
4852	4869	17	Sandstone, light-gray, slightly to moderately calcareous, mostly fine to very fine
4869	4875	6	Sandstone, gray, calcareous, mostly very fine; contains a little glauconite
4875	4881	6	Limestone, gray to dark-gray, very sandy; varies from almost a sandstone at top to moderately sandy at bottom; contains a little chert and a few grains of glauconite
4881	4896	15	Sandstone, gray (mostly very light) fine to very fine, moderately calcareous, not cherty
4896	4901	5	Sandstone, gray, very fine, highly calcareous, with many small specks of pyrite

Halderberg limestone 94 feet

4901	4922	21	Limestone, gray, (mixed light and dark), siliceous; contains large amount of silt and fine sand at top, decreasing to rather little at bottom; some chert throughout
4922	4954	32	Limestone, dolomitic, very dark gray, fine textured, somewhat cherty, fossiliferous; residue from acid treatment consists mostly of brown, porous fragments with abundant casts of fossils and small specks of pyrite
4954	4970	16	Limestone, gray, cherty, fossiliferous; insoluble residue contains solid gray chert, silt with a little glauconite and very porous brown masses containing considerable pyrite
4970	4995	25	Chert and cherty siltstone, gray, calcareous, with some dolomite and many small particles of pyrite and glauconite

There was some limestone in the sample from 4737 to 4743 but this is assumed to be merely concretions or thin streaks in the shale rather than a definite part of the limestone and chert body below. The base of the Oriskany could be taken at 4875 feet but it is considered better to assign the twenty feet of sandstone below this to the Oriskany.