

2-13-52  
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Henry A. Brockerhoff #1(6761) Well.

Holly District, Webster County, W. Va.

By United Fuel Gas Company, Charleston, W. Va.

Located 4.9 miles S. of 38 $\frac{1}{2}$  40' and 1.07 miles W. of 80° 30'

Sutton Quadrangle - EC.

Elevation 1420' L.

Permit - Webster 3.

Commenced August, 1951; completed December 1951.

Volume 1,852,000 cu. ft. after shot.

Gas at 1065-1093' Maxon Sand 1036-1093

Section based on samples from 0 to 3810'; examined by Russell R. Flowers.

Top	Bottom	Thickness	
			<u>Pottsville Formation, 473, plus, Feet.</u>
0	20	20	Sandstone, moderate yellowish brown, fine to medium-grained with many coarse grains, subangular to subrounded, contains a large amount of hydrous iron oxide (from weathering), somewhat micaceous, trace of pyrite; a large amount of dark-gray to grayish-black, silty shale in the lower part
20	33	13	Sandstone (Argillaceous) to siltstone and shale (sandy in part), light- to medium-gray; the sand grains are fine and very fine; contains streaks of dusky yellowish brown siderite
33	40	7	Sandstone, light- to medium-gray, some greenish-gray (chloritic), very fine to fine-grained, sideritic in part; some coal and black, highly carbonaceous shale
40	45	5	Shale, dark-gray to grayish-black, contains much siderite (nodules and spherulites)
45	55	10	Coal; a large amount of medium to medium dark gray siltstone interlayered with dark-gray shale
55	85	30	Shale, dark-gray to grayish-black, some dusky yellowish brown (highly sideritic); some medium dark to dark-gray siltstone
85	105	20	Sandstone, light- to medium light gray, very fine grained; chloritic; somewhat sideritic; contains many rock fragments; some dark gray shale breaks in the lower part
105	116	11	Shale, dark-gray, silty
116	152	36	Sandstone, medium-gray to grayish-black, very fine to fine-grained, very shaly to a sandy shale, a large amount of the sand is rock fragments; sideritic in part
152	193	41	Sandstone (Graywacke), light- to medium-gray; very fine grained; some fine grains; <del>sandy</del> sideritic, chloritic, kaolinitic; some mica and some carbonaceous material; contains dark-gray to grayish-black shale breaks in the upper part; a large amount of dark-gray to grayish-black, very shaly siltstone in the lower part
193	214	21	Sandstone, very light to light-gray, very fine grained, some dark-gray to grayish-black shale in the lower part, some carbonaceous streaks in the upper part
214	270	56	Shale, dark-gray to grayish-black interbedded with some medium dark to dark-gray siltstone, sideritic in part

270	303	33	Shale, dark-gray to grayish-black, silty
303	366	63	Shale, dark-gray to grayish-black with some black, highly carbonaceous shale to coal; some dusky yellowish brown, highly sideritic shale
366	397	31	Sandstone, very light to light-gray, very fine to fine-grained in the upper part, fine-grained in the lower part with some medium grains at bottom, sideritic with some dusky yellowish brown siderite at 375 to 384
397	409	12	Shale, grayish-black to black, highly carbonaceous with coal streaks and some coal; a very large amount of dark-gray, sandy siltstone and shale
409	417	8	Sandstone, light- to medium-gray, very fine grained, very silty with shaly (carbonaceous) streaks, some muscovite
417	457	40	Sandstone, very light to light-gray, fine to medium-grained, mostly subangular to subrounded quartz; contains grains of chlorite and dark shaly material
457	473	16	Sandstone, light-gray, fine- to coarse-grained, sideritic in the upper part with some dusky yellowish brown siderite; some medium dark gray to grayish-black, silty shale breaks

Mauch Chunk, 620 Feet.

473	485	12	Shale, medium dark gray to dark greenish gray; a large amount of dark yellowish brown shaly, calcareous siderite
485	495	10	Siltstone, medium dark gray (with greenish cast), some dark-gray, sideritic in part with some dark yellowish brown siderite, sandy in part
495	503	8	Shale, dark-gray to grayish-black with carbonaceous streaks and some pyrite
503	510	7	
503	510	12	Clay-shale, light- to dark-gray, very silty and sandy; a large amount of grayish-black, calcareous siderite
510	524	14	Shale and siltstone, medium dark gray to dark greenish gray, some brownish-gray to grayish-brown; some olive-gray to dark yellowish brown limestone
524	544	20	Shale, grayish-brown to grayish-red; a large amount of siltstone and shale, medium-gray to dark greenish gray
544	549	5	Clay-shale, grayish-red to grayish-brown
549	563	14	Shale, greenish-gray to medium dark gray, some brownish-gray, highly calcareous in part to limestone, olive gray; a large amount of grayish-brown clay-shale
563	593	30	Clay-shale, grayish-brown to very dusky red, some limestone nodules; some medium dark gray to dark greenish gray shale and siltstone; a large amount of medium-gray to dark greenish gray, shaly, calcareous siltstone at the bottom
593	603	10	Clay-shale, grayish-brown to very dusky red; small amount of dark greenish gray siltstone
603	615	12	Shale and siltstone, dusky-brown to very dusky red and grayish-red, some greenish-gray to dark greenish gray, some limestone nodules
615	624	9	Clay-shale, very dusky red to grayish-brown
624	622	-2	Depth correction
622	688	66	Sandstone, greenish-gray to medium and medium dark gray, silty, argillaceous, chloritic, calcareous

688	711	23	Clay-shale and shale, grayish-red and grayish-brown to brownish-gray at the top, grayish-brown to dusky-brown and very dusky red; some greenish-gray siltstone at the bottom
711	755	44	Shale, very dusky red to grayish-brown, reddish-gray to dark-gray, some dark greenish gray to olive-gray at the bottom; a moderate amount of greenish-gray siltstone
755	775	20	Siltstone to sandstone (very fine), greenish-gray to medium dark gray (shaly)
775	813	38	Sandstone, very light to light-gray, very fine grained, contains many dark-gray to grayish-black, very silty shale partings in the middle and lower part
813	857	44	Sandstone, white to very light gray, very fine to fine-grained, subrounded to subangular (many secondary crystal facets)
857	862	5	Siltstone, dark greenish gray to medium dark gray, highly chloritic and micaceous, calcareous; some shale, grayish-brown to brownish-gray, some dark-gray to grayish-black
862	875	13	Siltstone, dark greenish gray, highly calcareous in part; shale, grayish-brown to dusky-brown, silty
875	908	33	Siltstone and shale, dark greenish gray to dark-gray, grayish-brown to dusky-brown, some very dusky red, calcareous in part
908	948	40	Shale and some siltstone, grayish-brown to dusky-brown, some dark greenish gray to medium dark gray, small amount is calcareous
948	969	21	Shale and some siltstone, dark-gray to grayish-black (a large amount at the top), grayish-brown to dusky-brown, dark greenish gray to olive-gray (highly calcareous); some olive-gray limestone at the bottom
969	985	16	Clay-shale and shale, brownish-gray to grayish-brown, dark-gray to grayish-black; a small amount of olive-gray to dark yellowish brown; some dark-gray siltstone
985	1020	35	Limestone, dark gray to brownish- and olive-black, highly argillaceous, highly fossiliferous
1020	1032	12	Limestone, olive-gray (highly oolitic) to light olive gray (very sandy); some light-gray, highly calcareous, very fine sandstone; moderate amount of dark greenish gray shale, very sandy in part
1032	1059	27	Siltstone to sandstone (very fine), very light to light-gray and greenish-gray, some brownish-gray
1059	1097	38	Sandstone, very light gray, fine to fine-grained, very fine grained at the top, quartzitic (depth correction) 1097 to 1093 - Drillers log but base of sand at 1093')
<u>Greenbrier Limestone, 221 Feet.</u>			
1093	1109	16	Limestone (highly argillaceous) to shale (highly calcareous), dark-gray to grayish-black, fossiliferous
1109	1125	16	Limestone, light olive gray, oolitic, admixed with a dark greenish gray, highly calcareous shale, fossiliferous
1125	1144	19	Limestone, olive-gray to brownish-black, oolitic, silty, admixed with dark greenish gray fossiliferous, highly calcareous shale, a few rounded sand grains (medium)
1144	1183	39	Limestone oolite, pale yellowish brown to light olive gray, fine, some medium oolites, silty, fossiliferous, only partly oolitic at the bottom

1183	1198	15	Limestone, olive-gray to dark yellowish brown, silty, sandy (very fine to fine) at the bottom; some olive-gray to dark greenish gray, highly calcareous siltstone in the lower part
1198	1205	7	Limestone, olive-gray, silty, sandy (very fine to medium-grained, well rounded), very sandy in the lower part
1205	1232	27	Limestone, light olive gray to olive-gray, very silty, sandy in part, the sandy streaks are highly argillaceous (dark greenish gray with some brown)
1232	1252	20	Limestone, olive-gray, olive-gray to olive-black in the lower part, some olive-gray to dark greenish gray, some grayish-red to dark-brown, very silty, highly argillaceous
1252	1278	26	Limestone, light-gray to light olive gray, dolomitic; some olive-gray to dark greenish gray and a little grayish-red to brownish-gray, argillaceous limestone
1278	1286	8	Limestone, light-gray to light olive gray, dolomitic in part, very silty
1286	1304	18	Limestone, light olive gray to olive-gray, some olive-gray to dark-gray (argillaceous), very silty, dolomitic in part
1304	1311	7	Limestone, olive-gray to dark yellowish brown, some light olive gray, highly dolomitic in part, very silty, a small amount of fine to coarse sand

Maccrady Facies of Pocono, 46 Feet.

1311	1357	46	Siltstone, pale-brown to brownish-gray, some dark greenish gray, some very dusky red to blackish-red; a large amount of dark greenish gray to medium dark gray in the lower part, somewhat calcareous
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Pocono Formation, 43? Feet.

1357	1381	24	Siltstone, medium dark gray, some dark-gray to grayish-black (shaly) dolomitic in part
1381	1400	19	Siltstone, medium dark to dark-gray in the upper part, medium dark gray to dark greenish gray in the lower part; a moderate amount of grayish-black shale

Devonian Shales, 2410, plus, Feet.

1400	1468	68	Siltstone, medium to medium dark gray and dark greenish gray; shale medium dark to dark-gray
1468	1550	82	Siltstone to sandstone (very fine), medium-gray to dark greenish gray, some coarse grains to granules, contains chlorite, mica, kaolinitic and carbonaceous material, highly chloritic in part; shale, medium dark to dark-gray (greenish cast)
1550	1556	6	Sandstone (very fine) to siltstone, grayish-brown to brownish-gray (highly micaceous), medium dark gray to dark greenish gray, contains some fine to coarse quartz grains and a few granules; shale, medium dark to dark-gray
1556	1572	16	Shale, dusky-brown to very dusky red; siltstone and shale medium dark to dark-gray and dark greenish gray
1572	1596	24	Shale and siltstone, medium dark to dark-gray; some sandstone in the middle part, medium-gray to dark greenish gray, very fine to fine-grained

2044	2050	6	Siltstone to sandstone (very fine), brownish-gray; a large amount of dark-gray shale
2050	2071	21	Siltstone and some sandstone (very fine), medium to medium dark gray, some dark-gray, some brownish-gray to grayish-black; some dark-gray shale
2071	2176	105	Siltstone, medium dark gray (with greenish cast), some medium-gray; a large amount of dark-gray shale, some medium to medium dark gray, very fine sandstone at the bottom
2176	2197	21	Sandstone (very fine) to siltstone, medium- to medium dark gray, a large amount of brownish-gray to dark-gray; a large amount of dark-gray shale
2197	2242	45	Siltstone and shale, medium-dark to dark-gray; some medium to medium dark gray, very fine sandstone at the top
2242	2307	65	Siltstone to sandstone (very fine), medium- to medium dark gray, some brownish-gray to grayish-black, calcareous in part; a large amount of dark-gray shale
2307	2335	28	Siltstone to sandstone (very fine), medium- to medium dark gray; a large amount of dark-gray shale
2335	2380	45	Siltstone, medium dark gray, some medium-gray to medium dark gray; some dark-gray shale, calcareous and fossiliferous in part
2380	2405	25	Siltstone to sandstone (very fine), medium dark gray, a large amount of medium- to medium dark gray in the upper part, a large amount of dark-gray to grayish-black, highly calcareous in part; some dark-gray shale
2405	2656	251	Siltstone and shale, medium dark gray to dark-gray, mostly dark-gray in the upper part, small amount is highly calcareous to calcite, small amount of dark-gray to grayish-black from 2470 to 2510, mostly medium dark gray siltstone from 2544 to 2594, mostly dark-gray shale from 2605 to 2623, some grayish-black to black (carbonaceous) streaks at the bottom
2656	2672	16	Siltstone and shale, medium dark to dark-gray, some brownish-gray to grayish-black, sandy siltstone
2672	2700	28	Siltstone and shale, medium dark to dark-gray, some medium-gray (highly calcareous) spots
2700	2738	38	Siltstone and some shale, medium dark to dark-gray, a large amount of brownish-gray to grayish-black
2738	2775	37	Siltstone, mostly a medium dark gray, some dark-gray to grayish-black, small amount is highly calcareous; some dark-gray shale
2775	2891	116	Siltstone and shale, medium dark to dark-gray, many grayish-black to black streaks in the lower part
2891	2959	68	Siltstone, medium to medium dark gray; some dark-gray to grayish-black shale
2959	3178	219	Siltstone, medium to medium dark gray; a moderate amount of dark-gray shale, some dark-gray to grayish-black at 3088 to 3104; a moderate amount of dark-gray to grayish-black at 3132 to 3149
3178	3230	52	Siltstone, medium to medium dark gray; a moderate to large amount of dark-gray to grayish-black shale and some siltstone
3230	3249	19	Siltstone, medium to medium dark gray; shale, grayish-black, some dark-gray to grayish-black

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Henry A. Brinkerhoff #1 (676) Well.

Holly District, Webster County, W. Va.  
 By United Fuel Gas Company, Charleston, W. Va.  
 Located 4.9 miles S. of 38 $\frac{1}{2}$  40' and 1.07 miles W. of 80° 30'  
 Sutton Quadrangle - EC.  
 Elevation 1420' L.  
 Permit - Webster 3.  
 Commenced August, 1951; completed December 1951.  
 Volume 1,852,000 cu. ft. after shot.  
 Gas at 1065-1093' Maxon Sand 1036-1093'  
 Section based on samples from 0 to 3810'; examined by Russell R. Flowers.

Top	Bottom	Thickness	
			<u>Pottsville Formation, 475, plus, Feet.</u>
0	20	20	Sandstone, moderate yellowish brown, fine to medium-grained with many coarse grains, subangular to subrounded, contains a large amount of hydrous iron oxide (from weathering), somewhat micaceous, trace of pyrite; a large amount of dark-gray to grayish-black, silty shale in the lower part
20	33	13	Sandstone (Argillaceous) to siltstone and shale (sandy in part), light- to medium-gray; the sand grains are fine and very fine; contains streaks of dusky yellowish brown siderite
33	40	7	Sandstone, light- to medium-gray, some greenish-gray (chloritic), very fine to fine-grained, sideritic in part; some coal and black, highly carbonaceous shale
40	45	5	Shale, dark-gray to grayish-black, contains much siderite (nodules and spherulites)
45	55	10	Coal; a large amount of medium to medium dark gray siltstone interlayered with dark-gray shale
55	85	30	Shale, dark-gray to grayish-black, some dusky yellowish brown (highly sideritic); some medium dark to dark-gray siltstone
85	105	20	Sandstone, light- to medium light gray, very fine grained; chloritic; somewhat sideritic; contains many rock fragments; some dark gray shale breaks in the lower part
105	116	11	Shale, dark gray, silty
116	152	36	Sandstone, medium-gray to grayish-black, very fine to fine-grained, very shaly to a sandy shale, a large amount of the sand is rock fragments; sideritic in part
152	193	41	Sandstone (Graywacke), light- to medium-gray; very fine grained; some fine grains; <del>dark</del> sideritic, chloritic, kaolinitic; some mica and some carbonaceous material; contains dark-gray to grayish-black shale breaks in the upper part; a large amount of dark-gray to grayish-black, very shaly siltstone in the lower part
193	214	21	Sandstone, very light to light-gray, very fine grained, some dark-gray to grayish-black shale in the lower part, some carbonaceous streaks in the upper part
214	270	56	Shale, dark-gray to grayish-black interbedded with some medium dark to dark-gray siltstone, sideritic in part

270	303	35	Shale, dark-gray to grayish-black, silty
303	366	63	Shale, dark-gray to grayish-black with some black, highly carbonaceous shale to coal; some dusky yellowish brown, highly sideritic shale
366	397	31	Sandstone, very light to light-gray, very fine to fine-grained in the upper part, fine-grained in the lower part with some medium grains at bottom, sideritic with some dusky yellowish brown siderite at 375 to 384
397	409	12	Shale, grayish-black to black, highly carbonaceous with coal streaks and some coal; a very large amount of dark-gray, sandy siltstone and shale
409	417	8	Sandstone, light- to medium-gray, very fine grained, very silty with shaly (carbonaceous) streaks, selenite
417	457	40	Sandstone, very light to light-gray, fine to medium-grained, mostly subangular to subrounded quartz; contains grains of chlorite and dark shaly material
457	473	16	Sandstone, light-gray, fine- to coarse-grained, sideritic in the upper part with some dusky yellowish brown siderite; some medium dark gray to grayish-black silty shale breaks
<u>Mauch Chunk, 620 Feet.</u>			
473	485	12	Shale, medium dark gray to dark greenish gray; a large amount of dark yellowish brown shaly, calcareous siderite
485	495	10	Siltstone, medium dark gray (with greenish cast), some dark-gray, sideritic in part with some dark yellowish brown siderite, sandy in part
495	503	8	Shale, dark-gray to grayish-black with carbonaceous streaks and some pyrite
503	510	7	Clay-shale, light- to dark-gray, very silty and sandy; a large amount of grayish-black, calcareous siderite
510	524	14	Shale and siltstone, medium dark gray to dark greenish gray, some brownish-gray to grayish-brown; some olive-gray to dark yellowish brown limestone
524	544	20	Shale, grayish-brown to grayish-red; a large amount of siltstone and shale, medium-gray to dark greenish gray
544	549	5	Clay-shale, grayish-red to grayish-brown
549	563	14	Shale, greenish-gray to medium dark gray, some brownish-gray, highly calcareous in part to limestone, olive gray; a large amount of grayish-brown clay-shale
563	593	30	Clay-shale, grayish-brown to very dusky red, some limestone nodules; some medium dark gray to dark greenish gray shale and siltstone; a large amount of medium-gray to dark greenish gray, shaly, calcareous siltstone at the bottom
593	603	10	Clay-shale, grayish-brown to very dusky red; small amount of dark greenish gray siltstone
603	615	12	Shale and siltstone, dusky-brown to very dusky red and grayish-red, some greenish-gray to dark greenish gray, some limestone nodules
615	624	9	Clay-shale, very dusky red to grayish-brown
624	622	-2	Depth correction
622	688	66	Sandstone, greenish-gray to medium and medium dark gray, silty, argillaceous chloritic, calcareous

688	711	23	Clay-shale and shale, grayish-red and grayish-brown to brownish-gray at the top, grayish-brown to dusky-brown and very dusky red; some greenish-gray siltstone at the bottom
711	755	44	Shale, very dusky red to grayish-brown, reddish-gray to dark-gray, some dark greenish gray to olive-gray at the bottom; a moderate amount of greenish-gray siltstone
755	775	20	Siltstone to sandstone (very fine), greenish-gray to medium dark gray (shaly)
775	813	38	Sandstone, very light to light-gray, very fine grained, contains many dark-gray to grayish-black, very silty shale partings in the middle and lower part
813	857	44	Sandstone, white to very light gray, very fine to fine-grained, subrounded to subangular (many secondary crystal facets)
857	862	5	Siltstone, dark greenish gray to medium dark gray, highly chloritic and micaceous, calcareous; some shale, grayish-brown to brownish-gray, some dark-gray to grayish-black
862	875	13	Siltstone, dark greenish gray, highly calcareous in part; shale, grayish-brown to dusky-brown, silty
875	908	33	Siltstone and shale, dark greenish gray to dark-gray, grayish-brown to dusky-brown, some very dusky red, calcareous in part
908	948	40	Shale and some siltstone, grayish-brown to dusky-brown, some dark greenish gray to medium dark gray, small amount of calcareous
948	969	21	Shale and some siltstone, dark-gray to grayish-black (a large amount at the top), grayish-brown to dusky-brown, dark greenish gray to olive-gray (highly calcareous); some olive-gray limestone at the bottom
969	985	16	Clay-shale and shale, brownish-gray to grayish-brown, dark-gray to grayish-black; a small amount of olive-gray to dark yellowish brown; some dark-gray siltstone
985	1020	35	Limestone, dark gray to brownish- and olive-black, highly argillaceous, highly fossiliferous
1020	1032	12	Limestone, olive-gray (highly oolitic) to light olive gray (very sandy); some light-gray, highly calcareous, very fine sandstone; moderate amount of dark greenish gray shale, very sandy in part
1032	1059	27	Siltstone to sandstone (very fine), very light to light-gray and greenish-gray, some brownish-gray
1059	1097	38	Sandstone, very light gray, fine to fine-grained, very fine grained at the top, quartzitic (depth correction)
			1097 to 1093 - Drillers log but base of sand at 1093')
			<u>Greenbrier Limestone, 221 Feet.</u>
1093	1109	16	Limestone (highly argillaceous) to shale (highly calcareous), dark-gray to grayish-black, fossiliferous
1109	1125	16	Limestone, light olive gray, oolitic, admixed with a dark greenish gray, highly calcareous shale, fossiliferous
1125	1144	19	Limestone, olive-gray to brownish-black, oolitic, silty, admixed with dark greenish gray fossiliferous, highly calcareous shale, a few rounded sand grains (medium)
1144	1183	39	Limestone oolite, pale yellowish brown to light olive gray, fine, some medium oolites, silty, fossiliferous, only partly oolitic at the bottom



1183	1198	15	Limestone, olive-gray to dark yellowish brown, silty, sandy (very fine to fine) at the bottom; some olive-gray to dark greenish gray, highly calcareous siltstone in the lower part
1198	1205	7	Limestone, olive-gray, silty, sandy (very fine to medium-grained, well rounded), very sandy in the lower part
1205	1232	27	Limestone, light olive gray to olive-gray, very silty, sandy in part, the sandy streaks are highly argillaceous (dark greenish gray with some brown)
1232	1252	20	Limestone, olive-gray, olive-gray to olive-black in the lower part, some olive-gray to dark greenish gray, some grayish-red to dark-brown, very silty, highly argillaceous
1252	1278	26	Limestone, light-gray to light olive gray, dolomitic; some olive-gray to dark greenish gray and a little grayish-red to brownish-gray, argillaceous limestone
1278	1286	8	Limestone, light-gray to light olive gray, dolomitic in part, very silty
1286	1304	18	Limestone, light olive gray to olive-gray, some olive-gray to dark-gray (argillaceous), very silty, dolomitic in part
1304	1311	7	Limestone, olive-gray to dark yellowish brown, some light olive gray, highly dolomitic in part, very silty, a small amount of fine to coarse sand

Macerady Facies of Pocomo, 45 Feet.

1311	1357	46	Siltstone, pale-brown to brownish-gray, some dark greenish gray, some very dusky red to blackish-red; a large amount of dark greenish gray to medium dark gray in the lower part, somewhat calcareous
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Pocomo Formation, 43? Feet.

1357	1381	24	Siltstone, medium dark gray, some dark-gray to grayish-black (shaly) dolomitic in part
1381	1400	19	Siltstone, medium dark to dark-gray in the upper part, medium dark gray to dark greenish gray in the lower part; a moderate amount of grayish-black shale

Devenian Shales, 2410, plus, Feet.

1400	1468	68	Siltstone, medium to medium dark gray and dark greenish gray; shale medium dark to dark-gray
1468	1550	82	Siltstone to sandstone (very fine), medium-gray to dark greenish gray, some coarse grains to granules, contains chlorite, mica, kaolinitic and carbonaceous material, highly chloritic in part; shale, medium dark to dark-gray (greenish cast)
1550	1556	6	Sandstone (very fine) to siltstone, grayish-brown to brownish-gray (highly micaceous), medium dark gray to dark greenish gray, contains some fine to coarse quartz grains and a few granules; shale, medium dark to dark-gray
1556	1572	16	Shale, dusky-brown to very dusky red; siltstone and shale medium dark to dark-gray and dark greenish gray
1572	1596	24	Shale and siltstone, medium dark to dark-gray; some sandstone in the middle part, medium-gray to dark greenish gray, very fine to fine-grained

1596	1623	27	Sandstone, light- to medium-gray, very fine to fine-grained (with conglomeratic spots of medium to coarse grains and occasional granules), very fine to silty at the top
1623	1635	12	Sandstone (very fine) to siltstone, olive-gray to dark greenish gray and medium dark gray, dolomitic in part; some dark greenish gray to dark-gray clay-shale; a large amount of shale, medium dark to dark-gray; some grayish-black
1635	1657	22	Sandstone, pale-brown to grayish-red, very fine to fine-grained; a moderate amount of siltstone and shale, medium dark to dark-gray, some dusky-brown
1657	1679	22	Sandstone (very fine) to siltstone, very dusky red to dusky-brown, some grayish-red at the top; shale and siltstone, medium dark to dark-gray, highly micaceous in part, somewhat carbonaceous in part
1679	1687	8	Shale and some siltstone, medium dark to dark-gray
1687	1700	13	Sandstone (very fine) to siltstone, medium light to medium dark gray (with greenish cast), conglomeratic in the lower part (many coarse quartz grains to granules); a large amount of medium dark to dark-gray shale
1700	1729	29	Siltstone (sandy) and shale, very dusky red to dusky-brown, olive-gray to medium dark gray, micaceous and chloritic, a large amount of medium dark to dark-gray and some dark yellowish brown at the bottom
1729	1755	26	Siltstone to sandstone (very fine), olive-gray to dark greenish gray and medium dark gray, contains medium to sparse quartz grains and granules; a very large amount of medium dark to dark-gray shale
1755	1809	54	Shale and siltstone, medium dark to dark-gray, some of the siltstone is medium dark gray to dark greenish gray
1809	1878	69	Sandstone, light-gray, very fine to fine-grained, conglomeratic (many medium to very coarse quartz grains) in the upper part, some medium to coarse grains at the bottom; a large amount of dark-gray shale in the bottom 25 feet
1878	1901	23	Shale, dark-gray; some siltstone to sandstone (very fine), medium- to medium dark gray and dark greenish gray
1901	1958	57	Siltstone to sandstone (very fine), medium-gray to medium dark gray, some medium dark gray to dark greenish gray; shale, dark-gray
1958	1965	7	Sandstone, dark-gray to grayish-black, very fine, some medium grains to granules, a large amount of grayish-black interstitial material; a very large amount of dark-gray shale and siltstone
1965	1988	23	Shale and siltstone, medium dark to dark-gray
1988	2005	17	Siltstone to sandstone (very fine), medium- to medium dark gray, some medium dark gray to dark greenish gray; a very large amount of medium dark to dark-gray siltstone and shale
2005	2021	16	Siltstone and shale, medium dark to dark-gray, some medium dark gray to dark greenish gray; a large amount of dark-gray to greenish-black sandstone (very fine), very silty
2021	2030	9	Sandstone (very fine) to siltstone, light- to medium-gray; siltstone, (sandy) and some shale, medium dark to dark-gray
2030	2035	5	Sandstone, brownish-gray to grayish-black, some medium to medium dark gray, very fine, silty; some dark-gray shale

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2044	2050	6	Siltstone to sandstone (very fine), brownish-gray; a large amount of dark-gray shale
2050	2071	21	Siltstone and some sandstone (very fine), medium to medium dark gray, some dark-gray, some brownish-gray to grayish-black; some dark-gray shale
2071	2176	105	Siltstone, medium dark gray (with greenish cast), some medium-gray; a large amount of dark-gray shale, some medium to medium dark gray, very fine sandstone at the bottom
2176	2197	21	Sandstone (very fine) to siltstone, medium- to medium dark gray, a large amount of brownish-gray to dark-gray; a large amount of dark-gray shale
2197	2242	45	Siltstone and shale, medium-dark to dark-gray; some medium to medium dark gray, very fine sandstone at the top
2242	2307	65	Siltstone to sandstone (very fine), medium- to medium dark gray, some brownish-gray to grayish-black, calcareous in part; a large amount of dark-gray shale
2307	2335	28	Siltstone to sandstone (very fine), medium- to medium dark gray; a large amount of dark-gray shale
2335	2380	45	Siltstone, medium dark gray, some medium-gray to medium dark gray; some dark-gray shale, calcareous and fossiliferous in part
2380	2405	25	Siltstone to sandstone (very fine), medium dark gray, a large amount of medium- to medium dark gray in the upper part, a large amount of dark-gray to grayish-black, highly calcareous in part; some dark-gray shale
2405	2656	251	Siltstone and shale, medium dark gray to dark-gray, mostly dark-gray in the upper part, small amount is highly calcareous to calcite, small amount of dark-gray to grayish-black from 2470 to 2510, mostly medium dark gray siltstone from 2544 to 2594, mostly dark-gray shale from 2605 to 2623, some grayish-black to black (carbonaceous) streaks at the bottom
2656	2672	16	Siltstone and shale, medium dark to dark-gray, some brownish-gray to grayish-black, sandy siltstone
2672	2700	28	Siltstone and shale, medium dark to dark-gray, some medium-gray (highly calcareous) spots
2700	2738	38	Siltstone and some shale, medium dark to dark-gray, a large amount of brownish-gray to grayish-black
2738	2775	37	Siltstone, mostly a medium dark gray, some dark-gray to grayish-black, small amount is highly calcareous; some dark-gray shale
2775	2891	116	Siltstone and shale, medium dark to dark-gray, many grayish-black to black streaks in the lower part
2891	2959	68	Siltstone, medium to medium dark gray; some dark-gray to grayish-black shale
2959	3178	219	Siltstone, medium to medium dark gray; a moderate amount of dark-gray shale, some dark-gray to grayish-black at 3088 to 3104; a moderate amount of dark-gray to grayish-black at 3132 to 3149
3178	3230	52	Siltstone, medium to medium dark gray; a moderate to large amount of dark-gray to grayish-black shale and some siltstone
3230	3249	19	Siltstone, medium to medium dark gray; shale, grayish-black, some dark-gray to grayish-black

249	3358	109	Siltstone, medium to medium dark gray; a moderate amount of dark-gray to grayish-black shale, a large amount of grayish-black at 3308 to 3320
3358	3375	17	Shale, dark-gray to grayish-black; siltstone, medium- to medium dark gray
3375	3606	301	Siltstone, medium to medium dark gray; a moderate to very large amount of dark-gray to grayish-black shale; some brownish-gray siltstone from 3615 to 3622
3606	3711	35	Siltstone and shale, medium dark to dark-gray, some grayish-black
3711	3732	21	Siltstone and shale, medium dark to dark-gray, some dark-gray to brownish-black
3732	3750	18	Siltstone and shale, medium- to dark-gray, some grayish-black to black
3750	3810	60	Siltstone and some shale, medium- to medium dark gray, some dark-gray, some brownish-gray to grayish-black at 3779 to 3787
3856			TOTAL DEPTH