

Frank F. Barlow No. 9209 Well.

Kingwood District, Preston County, W. Va.
 By Hope Natural Gas Company, Clarksburg, W. Va.
 Located 1.75 miles S. of 39° 30' and 4.38 miles W. of 79° 40'.
 Kingwood Quadrangle - NW.
 Elevation 2235' L.
 Permit, Preston - 8.
 Drilling commenced April 10, 1948; completed April 16, 1949.
 Dry hole. Show gas 3748'; gas pockets at 5265' and 7504'.
 Fresh water at 42'.
 Coal encountered at 124-126' and 285-288'.
 20" casing 39'; 16", 201'; 13", 1216'; 9-5/8" , 3815'; 7", 8060; all left in.
 Section based on sample examination from 12 to 8636 feet; examined by
 Russell R. Flowers.

Top Bottom Thickness

Pottsville Formation, 536, plus, Feet.

Top	Bottom	Thickness	Description
12	32	20	Sandstone, moderate yellowish brown, some dark yellowish brown, fine- to coarse-grained, subangular to subrounded, contains a moderate to large amount of iron oxides (from weathering of siderite); siltstone, medium to medium dark gray; much of it is stained yellowish-brown
32	50	18	Siltstone to silty clay, medium-gray; a large amount of highly sideritic siltstone to a silty siderite, dark to dusky yellowish brown
50	63	13	Sandstone, light-gray, fine- to medium-grained; some coarse grains, mostly quartz, subangular to subrounded; many of the quartz grains show secondary crystal facets; some medium- to dark-gray, shaly siltstone, much of which is dark to dusky yellowish brown and very highly sideritic
63	71	8	Clay-shale, medium- to dark-gray; some dark-gray to "coaly" shale; trace of coal; some sandstone to sandy siltstone and shale, light brownish gray to brownish-gray; some dark to dusky yellowish brown (highly sideritic)
71	94	23	Sandstone (subgraywacke), light-gray, fine- to coarse-grained, medium- to coarse-grained at the top, fine-grained at the bottom; contains much chlorite, muscovite and many shale fragments, very silty in part; some dusky yellowish brown to brownish-black, highly sideritic sandstone
94	124	30	Sandstone, very light gray, fine- to medium-grained, some coarse grains, mostly quartz, subangular to subrounded, some of the quartz grains show secondary crystal facets, contains some chlorite and muscovite, some shale grains, silty, small amount is sideritic; some of the cement is dolomitic
124	127	3	Coal (coal 124-126' from driller's log); shale, medium dark to dark-gray, soft
127	142	15	Siltstone, medium dark gray, shaly to a dark-gray, silty shale, micaceous with carbonaceous streaks; small amount of dark to dusky yellowish brown sideritic shale to shaly siderite

142	150	8	Sandstone, very light to light-gray, medium-grained, some coarse grains, mostly quartz, subrounded to rounded; some medium dark gray, silty shale; small amount of coal (probably cavings)
150	170	20	Siltstone, medium dark to dark-gray (with yellowish-brown cast), some medium dark gray to dark yellowish brown, sideritic, highly sideritic in part; small amount of sandstone, medium-gray to dark yellowish brown, fine to very fine, sideritic
170	174	4	Clay-shale, light-gray to light olive gray, olive-gray to dark-gray (spherulites of siderite to a shaly siderite, dark yellowish brown); some grayish-black to black, carbonaceous shale
174	180	6	Shale, light olive gray to olive-gray (slightly sideritic) olive-gray to dark yellowish brown (highly sideritic); siliceous, has marked conchoidal fracture (ganister?); some sandstone, very fine, silty, medium-gray to dusky-brown (sideritic) to brownish-black (somewhat calcareous)
180	194	14	Clay-shale, light-gray to medium-gray and olive-gray, slightly sideritic (few spherulites) to very highly sideritic (mostly dark yellowish brown), some medium dark to dark-gray (sideritic in part); some grayish-black to black, highly carbonaceous shale; small amount of dark to dusky yellowish brown, shaly siderite
194	201	7	Clay-shale, medium-gray to olive-gray and greenish-gray, some medium dark gray, contains many dark yellowish brown siderite spherulites
201	220	19 20	Shale, medium to medium dark gray, silty, sandy in part; a moderate to large amount of olive-gray, siliceous shale (ganister?); has a marked conchoidal fracture
220	226	6	Siltstone (shaly), medium dark gray to a very fine to fine-grained, light-gray sandstone
226	276	50	Sandstone, yellowish-gray to very light gray, fine- to medium-grained with some coarse grains in the upper part, fine- to coarse-grained in the middle, medium to very coarse grained at the bottom, mostly quartz, subrounded to rounded, many of the quartz grains show secondary facets, somewhat argillaceous
276	285	9	Sandstone, light olive gray, very fine to fine-grained, sideritic; some light olive gray to olive-gray shale (with a few sideritic spherulites); a large amount of medium dark gray to grayish-black shale, silty in part, some carbonaceous streaks
285	288	3	Coal and black "coaly" shale (thickness from driller's log)
288	296	8	Shale, dark-gray (with some black carbonaceous streaks) at the top: Siltstone, dark-gray, very shaly (with carbonaceous streaks specks and streaks)

296	301	5	Shale and siltstone to very fine sandstone, medium-dark to dark-gray (with carbonaceous specks and streaks); small amount of dusky yellowish brown siderite; sandstone, light-gray, very fine to fine-grained, some medium grains
301	354	53	Sandstone, very light to light-gray, some yellowish-gray to light olive gray (argillaceous), conglomeratic, coarse to very coarse grained with some granules, quartzose, contains spots with carbonaceous cement, very fine to coarse-grained at the top, fine- to medium-grained in part 308-328, mostly medium- to coarse-grained in the lower part
354	362	8	Sandstone, medium light to medium dark gray, very fine to fine-grained, some medium grains, very silty, some muscovite, chlorite and carbonaceous material; some fine- to coarse-grained, very light gray sandstone
362	366	4	Conglomerate, very light to light-gray, medium-grained sand to granules, quartzose, contains some shale grains
366	423	57	Sandstone, very light to light-gray, fine- to medium-grained, quartzose, subrounded, with mostly fine-grained in the lower part; contains a little chlorite and a few scattered shale grains
423	460	37	Sandstone, medium light gray to medium-gray, some light olive gray to brownish-gray (sideritic), some brownish-gray to dark yellowish brown (highly sideritic); mostly fine-grained, silty, chloritic and micaceous, some carbonaceous material and dusky-brown siderite scattered throughout the max interval, very shaly and highly carbonaceous at the top
460	466	6	Coal, 30%; sandstone, light-gray to brownish-gray, fine grained, 20%; shale, medium dark to dark gray with carbonaceous streaks, 50%
466	474	8	Shale, medium dark to dark-gray, some grayish-black to black; small amount of dark to dusky yellowish brown siderite
474	481	7	Shale, olive-gray to medium dark gray, silty in part
481	489	8	Shale, olive-gray (sideritic in part), medium dark to dark-gray, some grayish-black to black
489	527	38	Shale, grayish-black to black (highly carbonaceous), some olive-gray (with sideritic spherulites) to dark-gray; some medium dark to dark-gray clay-shale in the lower part; small amount of siderite, dark to dusky yellowish brown, some dusky-brown
527	542	15	Sandstone, very light gray, fine- to medium-grained, quartzose, 40%; sandstone, light olive gray to brownish-gray, very fine to fine-grained, sideritic, 10%; siltstone and shale, medium dark to dark-gray, speckled with carbonaceous material, 40%; shale, grayish-black to black (carbonaceous) and olive-gray (sideritic), 10%
542	548	6	Conglomerate, very light to light-gray, very coarse grained to granules with a very fine to fine-grained matrix; some medium- to dark-gray shale and siltstone

Mauch Chunk Formation, 286 Feet.

548	562	14	Clay-shale, dark greenish gray and a little medium dark gray, abundant dark to dusky yellowish brown siderite spherulites; small amount of grayish-brown to dusky-brown clay-shale
562	569	7	Siltstone, dark greenish gray, micaceous and chloritic; some grayish-brown shale; small amount of reddish-gray shale; small amount of medium dark gray to olive-gray limestone
569	590	21	Clay-shale, grayish-brown, small amount of reddish- to brownish-gray; some dark greenish gray siltstone and shale, sideritic in part; small amount of olive-gray limestone
590	611	21	Clay-shale, grayish-brown, brownish-gray to medium dark gray, sandy, sideritic in part; small amount of vari-colored limestone
611	623	12	Siltstone to sandstone (very fine), dark greenish gray, highly chloritic, micaceous; some medium dark gray to greenish-black, shaly siltstone in the lower part; some grayish-brown and dark greenish gray clay-shale in the upper part
623	641	18	Sandstone (very fine) with some siltstone, greenish-gray to medium light gray, chloritic, somewhat micaceous and kaolinitic
641	655	14	Sandstone, medium light gray, some medium light gray to greenish-gray, very fine to fine-grained, contains some chlorite, muscovite and kaolinitic material; clay-shale, grayish-brown, dark greenish gray; some medium-gray to greenish-gray shale
655	667	12	Clay-shale, grayish-brown, some reddish-gray, some medium-gray to dark greenish gray in the upper part
667	673	6	Shale, brownish-gray, some grayish-brown to dusky-brown; silty; siltstone and shale, dark greenish gray to medium dark gray
673	687	14	Siltstone, dark greenish gray, highly chloritic; micaceous; shale, grayish-brown to brownish-gray
687	693	6	Sandstone, greenish-gray with some grayish-brown shale grains; very fine grained; some fine grains, chloritic, silty in part to dark greenish gray to medium dark gray siltstone; some grayish-brown shale
693	712	19	Siltstone to sandstone (very fine); dark greenish gray to medium dark gray, some medium-gray to greenish-gray; contains grayish-brown specks (shale grains)
712	765	53	Sandstone (very fine) and some siltstone, greenish-gray, some greenish-gray to medium-gray, highly chloritic; micaceous
765	782	17	Shale, grayish-brown; shale and clay-shale, dark greenish gray to medium dark gray; some greenish-gray to medium-gray siltstone in the upper part; small amount of olive-gray to brownish-gray limestone
782	787	5	Shale, medium dark to dark-gray, fissile; some dark greenish gray to greenish-black clay-shale; small amount of grayish-black to black, shaly limestone

787	791	4	Limestone, (very shaly) to shale (highly calcareous), dark-gray, somewhat fossiliferous
791	805	14	Shale, medium dark gray with dark-gray fossiliferous, limestone spots
805	814	9	Shale, grayish-brown
814	823	9	Shale, grayish-brown; siltstone, light- to medium-gray and greenish-gray, calcareous; shale, dark greenish gray to medium dark gray
823	831	8	Shale, dark greenish gray to medium dark gray, highly calcareous; limestone, light olive gray to medium-gray, shaly
831	834	3	Shale, grayish-brown, some medium dark gray to reddish-gray
<u>Greenbrier Limestone, 208 Feet.</u>			
834	856	22	Limestone, light olive gray to olive-gray, some is streaked with grayish-brown, very shaly black
856	891	35	Limestone, grayish- black to olive-black and brownish-black, very shaly with some highly carbonaceous shale
891	902	11	Some limestone, medium to dark-gray, fine-grained, very highly calcareous; some shale, medium-gray (very sandy, highly calcareous) to dark greenish gray (sandy, calcareous); a moderate amount of dark-gray to grayish-black, very shaly limestone to calcareous shale; some grayish-red and a little brownish-gray shale
902	908	6	Limestone, light olive gray to olive-gray, very shaly
908	913	5	Limestone, light olive gray to olive-gray, shaly; a large amount of olive-gray to dark-gray, highly calcareous shale
913	922	9	Shale, medium dark gray, very sandy and silty, highly calcareous; limestone, brownish-black to grayish-black, very shaly in part, very sandy and silty in part
922	928	6	Shale (highly calcareous, sandy) to a very sandy, shaly limestone, dark greenish gray to medium-gray and olive-gray; some dark-gray to grayish- and brownish-black, very shaly limestone
928	934	6	Sandstone, light-gray to light olive gray, some greenish-gray (shaly) to dark greenish gray sandy shale, very fine to fine-grained, rounded, some well-rounded medium grains, mostly quartz, very highly calcareous; small amount of grayish-brown shale
934	942	8	Sandstone Shale, grayish-brown; sandstone, greenish-gray (shaly) to dark greenish gray sandy shale, dolomitic, very fine to fine-grained; some white to light greenish gray, somewhat dolomitic; very fine to fine sandstone; small amount of medium-gray, fine-grained sandstone containing some grayish-brown shale grains
942	955	13	Sandstone, very light gray, some light gray to light olive gray in the upper part, some light-gray to greenish-gray (shaly) in the lower part, very fine to fine-grained, rounded, many well-rounded (medium) grains, highly calcareous; some shale, grayish-brown, dark greenish gray, and dark-gray

955	964	9	Shale, grayish-brown (soft), some dark greenish gray to light gray and light olive gray, highly calcareous sandstone
964	980	16	Shale, grayish-brown, some grayish-brown to brownish-gray in the part, very sandy in part with a small amount of grayish-brown, very shaly sandstone; some medium dark gray to dark greenish gray, somewhat sandy shale, very sandy to shaly sandstone in part; sandstone, light-gray to light olive gray, highly calcareous, very fine to fine-grained
980	985	5	Sandstone, light-gray to light olive gray, some greenish-gray (shaly) to dark greenish gray (very fine) sandstone and sandy shale, very fine to fine-grained, highly calcareous; a large amount of dark-gray to greenish-black, very silty shale; small amount of grayish-brown shale (cavings?)
985	1005	20	
985	1005	20	Limestone, light olive gray to olive-gray with some very light gray spots, highly oolitic in part
1005	1016	11	Limestone, olive-gray to brownish-gray, clastic texture, mostly fine to medium-grained, oolites and rounded quartz, sandy with a very silty, somewhat shaly matrix
1016	1021	5	Shale, brownish-black to grayish-black, highly calcareous, silty
1021	1037	16	Limestone, olive-gray (with some very light gray spots), clastic texture, very highly oolitic with a good portion of quartz grains (rounded), fine- to medium-grained, somewhat silty, contains some small brachiopods; some brownish-black to grayish-black, calcareous shale at the top
1037	1042	5	Limestone, pale-brown to grayish-brown, light olive gray, clastic texture, very silty and sandy, some fine to coarse (well rounded) quartz grains, somewhat shaly; some medium-gray to olive-gray clay-shale
<u>MacGrady Formation, 25 Feet.</u>			
1042	1051	9	Siltstone, greenish-gray to dark greenish gray, shaly with some shale; shale, grayish-brown, some grayish-brown to very dusky red, silty
1051	1058	7	Shale and some siltstone, brownish-gray and reddish-gray to grayish-brown and grayish-red, some blackish-red to reddish-black; siltstone and shale, dark greenish gray to medium dark gray
1058	1067	9	Shale, medium dark to dark-gray, very silty in part; some siltstone, medium dark gray to dark greenish gray; sideritic in part; small amount of grayish-brown to brownish-gray siltstone and shale; a very small amount of very dusky red to blackish-red
<u>Pocono Formation, 524? Feet.</u>			
1067	1074	7	Sandstone, medium light to medium-gray, some medium dark gray (very silty), very fine to fine-grained; some medium dark to dark-gray shale
1074	1100	26	Shale, medium- to medium dark gray, some dark-gray, silty in part, interbedded with a medium- to medium dark gray, kaolinitic, somewhat sideritic siltstone; some of the siltstone and shale is dark to dusky yellowish brown and highly sideritic

1100	1121	21	Sandstone, light- to medium light gray, very fine to fine-grained, silty, highly kaolinitic, a little carbonaceous material and mica; some medium-gray siltstone at the top; a little medium dark to dark-gray shale at the bottom
1121	1138	17	Siltstone to sandstone (very fine), medium- to dark-gray (somewhat carbonaceous), somewhat sideritic in part; a small amount of dark yellowish brown, shaly siderite
1138	1151	13	Sandstone, medium light gray, fine to very fine grained, graywacke (with some silty and shaly, somewhat carbonaceous streaks); some medium- to dark-gray siltstone and shale
1151	1178	27	Sandstone, light- to medium light gray at the top to medium light gray and brownish-gray (sideritic) at the bottom, fine- to medium-grained, angular, hard subgraywacke, somewhat dolomitic in the lower part
1178	1189	11	Sandstone (very fine) to siltstone, medium-gray (with some black carbonaceous streaks), kaolinitic, hard, contains some dark (shaly) material
1189	1213	24	Sandstone, light-gray, some light to medium light gray, very fine to fine at the top; fine to medium at the bottom; contains mica, chlorite; kaolinitic and carbonaceous material, shale fragments; a moderate amount of very sandy, dark yellowish brown siderite and shaly siderite at 1198' to 1201'
1213	1223	10	Sandstone, very light to light-gray, fine- to medium-grained; some coarse grains; contains some chlorite and dark (shaly) material; some fine to very fine sandstone, medium-gray to greenish-gray; chloritic
1223	1228	5	Sandstone (very fine, silty), medium light to medium-gray, kaolinitic, chloritic, much dark (shaly) material; sideritic in part
1228	1246	18	Siltstone to sandstone (very fine), medium to medium dark gray, highly argillaceous
1246	1305	59	Shale, medium dark to dark-gray, silty; some medium-gray to olive-gray siltstone; small amount of dark yellowish brown siderite
1305	1320	15	Siltstone, medium dark gray, some medium to medium dark gray to dark yellowish brown (highly sideritic), very shaly with some dark-gray (silty) shale
1320	1356	36	Sandstone, light olive gray, very fine to fine-grained, very silty, conglomeratic; contains a large number of medium to coarse sand grains with some glassules, very highly argillaceous; contains a little carbonaceous material; some medium-dark to dark-gray, very silty shale in the upper part
1356	1362	6	Sandstone, light-gray to light olive gray, fine- to coarse-grained, highly argillaceous; very silty; contains chlorite, mica, and carbonaceous material
1362	1371	9	Shale, dark-gray; a large amount of siltstone, medium to medium dark gray, some olive-gray, some dark yellowish brown (sideritic)
1371	1379	8	Shale, dark-gray, some dark-gray to grayish-black, small amount of dark yellowish brown (highly sideritic); small amount of medium to medium dark gray siltstone

1379	1388	9	Siltstone, some medium dark gray (sideritic) to dark yellowish brown, shaly, sideritic
1388	1395	7	Siltstone, medium dark gray and olive-gray, sideritic to dark yellowish brown, silty siderite, some medium dark gray to dark-gray, very shaly, sandy to very sandy (very fine to fine-grained)
1395	1402	7	Siltstone to sandstone (very fine), light- to medium-gray, some medium dark to dark-gray (very shaly to sandy shale) medium dark gray to dark yellowish brown (sideritic)
1402	1408	6	Shale, grayish-black, silty; some grayish-black, silty to medium dark gray and dark-gray siltstone
1408	1419	11	Sandstone, brownish-gray to medium-gray, some medium dark gray, very silty and very shaly, mostly medium dark gray in the upper part, very fine grained, very silty, contains many fine to medium grains
1419	1429	10	Siltstone to sandstone (very fine), medium dark to dark-gray, very shaly
1429	1436	7	Siltstone to sandstone (very fine, some fine grains), brownish-gray to medium dark and dark-gray; the darker portions are very shaly; some dark-gray shale
1436	1453	17	Siltstone, brownish-gray, sandy (very fine) to a brownish-gray to medium-gray silty sandstone (very fine, some fine grains), shaly in part
1453	1457	4	Sandstone, light brownish gray to brownish-gray and medium dark gray (shaly), very fine to fine-grained, very silty, kaolinitic
1457	1465	8	Sandstone, light-gray to brownish-gray and medium-gray, some greenish-gray to dark greenish gray, fine-grained, very fine to fine in part, slightly dolomitic
1465	1478	13	Sandstone, brownish-gray to medium dark-gray, dark greenish gray to medium dark gray, some medium-gray to greenish-gray, very fine grained, very silty, argillaceous
1478	1495	17	Siltstone, medium dark to dark-gray and dark greenish gray, very shaly, very sandy (very fine) in part
1495	1509	14	Sandstone, (very fine) to siltstone, brownish-gray to medium dark gray, highly argillaceous; a very large amount of medium dark to dark-gray, sandy and silty shale (with a brownish cast) in the lower part
1509	1524	15	Siltstone to shale, medium dark gray, somewhat dark-gray, very sandy, some medium to medium dark gray, silty, very fine sandstone
1524	1541	17	Siltstone, medium light to medium dark gray, some dark-gray (with some carbonaceous material), small amount is dolomitic; some medium- to dark-gray shale
1541	1554	13	Shale and siltstone, interbedded, medium light gray to dark-gray, some medium light gray to light olive gray, small amount of medium dark gray to dark yellowish brown (sideritic), sandy in part
1554	1570	16	Siltstone and shale, medium to medium dark gray, some olive-gray to dark yellowish brown (sideritic), some of the siltstone and shale has an olive black to green cast
1570	1591	21	Siltstone, dark greenish gray to medium dark gray, some olive-gray to dark yellowish brown (sideritic); a very large amount of medium dark to dark-gray sandstone and some dark-gray to olive-black shale

Hampshire Formation, 596 Feet.

1591	1620	29	Shale and some siltstone, medium dark gray to dark greenish gray and olive-gray; small amount of brownish-gray to dusky-brown, very shaly siltstone
1620	1628	8	Shale and siltstone, dusky-brown, some grayish-brown; siltstone, medium dark gray to dark greenish gray, some medium-gray to greenish-gray (siltstone and shale)
1628	1636	8	Shale and some siltstone, medium to medium dark gray (with greenish and olive casts); siltstone and some shale, brownish-gray to dusky-brown, some grayish-brown
1636	1644	8	Siltstone and shale, brownish-gray to dusky-brown, some grayish-brown to dusky-brown; some shale and a little siltstone, medium dark gray to dark greenish-gray
1644	1651	7	Shale, medium dark gray, some dark-gray, some olive-gray to dark yellowish brown (sideritic), silty and sandy in part; some greenish-gray clay-shale
1651	1660	9	Shale and siltstone, brownish-gray to dusky-brown, some grayish-brown; some shale and siltstone, medium dark gray and medium dark gray to dark greenish gray
1660	1672	12	Shale, medium dark to dark-gray, some medium dark gray to olive-gray, some greenish-gray to dark greenish gray, very silty to siltstone in part; small amount of grayish-brown to dusky-brown medium dark gray to dark yellowish brown (highly sideritic) siltstone and shale
1672	1682	10	Shale and some shaly siltstone, grayish-brown to dusky-brown, some brownish-gray to dusky-brown, some greenish-gray to medium dark and dark-gray
1682	1690	8	Shale and some siltstone, medium dark gray, some medium dark gray to dark greenish gray, small amount of brownish-gray to grayish-red, and grayish-brown to dusky-brown
1690	1707	17	Siltstone and shale, grayish-brown to dusky-brown, some grayish-brown to grayish-red, some medium dark to dark-gray (with greenish cast), small amount of grayish-black; some medium-gray to dark greenish gray siltstone
1707	1724	17	Siltstone, brownish-gray to dusky-brown, very shaly; a very small amount of grayish-brown dolomite
1724	1733	9	Siltstone to very fine sandstone, medium-gray, kaolinitic; siltstone and shale, brownish-gray to dusky-brown, medium dark to dark-gray
1733	1742	9	Shale (silty) and some siltstone, dark greenish gray to medium dark gray and some dark-gray, some brownish-gray to dusky-brown
1742	1751	9	Shale and siltstone, grayish-brown, some brownish-gray to dusky-brown, dark greenish gray to medium dark gray
1751	1758	7	Shale, grayish-brown to dusky-brown, very shaly, small amount is dolomitic; some dark greenish gray to medium dark gray and grayish-black shale
1758	1784	26	Shale and some siltstone, brownish-gray to grayish-brown and dusky-brown, a moderate to large amount of medium dark gray to dark greenish gray, small amount is highly dolomitic

1784	1797	13	Shale, brownish-gray to dusky-brown; a large amount of dark greenish gray siltstone to silty shale; some medium dark gray shale
1797	1815	18	Siltstone to silty shale, dusky-brown to grayish-brown and brownish-gray; some medium-gray to greenish-gray and dark greenish gray siltstone in the upper part
1815	1822	7	Siltstone, brownish-gray to dusky-brown, dark greenish gray to medium dark gray
1822	1835	13	Shale, medium dark gray to dark greenish gray and olive-gray, soft
1835	1850	15	Siltstone and shale (sandy in part), medium to medium dark black gray, some greenish-gray to olive-gray and brownish-gray to grayish-brown (somewhat sideritic)
1850	1874	24	Sandstone, medium-gray to olive-gray, very fine, very silty, highly argillaceous, highly dolomitic in part; some medium dark to dark-gray shale
1874	1884	10	Shale and some siltstone, grayish-brown to brownish-gray; siltstone and shale, dark greenish gray to medium dark gray
1884	1889	5	Siltstone, brownish-gray to dusky-brown
1889	1898	9	Sandstone (very fine) to siltstone, medium and medium dark gray to olive-gray; some brownish-gray to dusky-brown siltstone and shale
1898	1908	10	Shale, grayish-brown, silty; sandstone, medium-gray to olive-gray, very fine grained, kaolinitic, silty
1908	1927	19	Siltstone, brownish-gray to dusky-brown, some dark-greenish gray to olive-gray; some grayish-brown shale
1927	1936	9	Siltstone to sandstone (very fine) medium-gray to greenish-gray (dolomitic) to olive-gray (silty dolomite), some brownish-gray to grayish-brown and dusky-brown
1936	1944	8	Siltstone to fine sandstone, medium to medium dark gray, some light-gray, contains many carbonaceous streaks, kaolinitic, micaceous and chloritic, dolomitic in part
1944	1956	12	Shale, grayish-brown to dusky-brown; siltstone, olive-gray to dark greenish gray and medium dark gray
1956	1965	9	Siltstone and shale, brownish-gray to grayish-brown and dusky-brown, olive-gray to dark greenish gray (dolomitic), medium dark to dark-gray
1965	1999	34	Siltstone (very shaly) to shale, brownish-gray to grayish-brown, brownish-gray to dusky-brown in the lower part
1999	2024	25	Sandstone, medium- to dark-gray, very fine grained, moderately carbonaceous, somewhat chloritic and kaolinitic
2024	2037	13	Sandstone, light- to medium-gray, very fine to fine-grained, very silty, contains carbonaceous streaks, kaolinitic, somewhat chloritic and micaceous
2037	2058	21	Shale (silty in part) and some sandy siltstone, brownish-gray to grayish-brown and dusky-brown, medium dark to dark-gray, some medium dark gray to dark greenish gray

2058	2067	9	Sandstone, medium light to medium-gray, some greenish-gray to olive-gray, very fine grained; contains chlorite, mica, and kaolinitic material; some brownish-gray to grayish- brown and dusky-brown siltstone and shale
2067	2083	16	Shale, medium dark gray, medium dark gray to dark greenish gray, sandy in part; sandstone, light to medium-gray, some dark greenish gray to medium dark gray, very fine to fine grained, very silty
2083	2092	9	Sandstone, very light to light-gray, very fine to fine-grained; a very large amount of medium dark gray shale
2092	2128	36	Shale, medium dark gray; siltstone, dark greenish gray to medium dark gray
2128	2159	31	Sandstone (fine) to siltstone, greenish-gray and dark greenish gray to medium-gray, medium light gray to brownish-gray, contains many coarse to very coarse quartz lakes grains; a large amount of medium dark to dark-gray shale in the upper part
2159	2165	6	Sandstone, light-gray, fine- to very coarse grained, contains many shale and siltstone grains
2165	2180	15	Sandstone, light-gray, very fine grained, some fine to medium grains in the upper part, very fine to siltstone at the bottom, some medium dark gray with a moderate amount of carbonaceous material and dolomite cement at the bottom
2180	2187	7	Shale, grayish-brown to brownish-gray, silty in part; shale and siltstone, dark greenish gray to medium dark and dark-gray
<u>Chemung, Brallier and Harrell Shales, 5432 Feet.</u>			
2187	2195	8	Siltstone to sandstone (very fine), medium dark gray to olive-gray, some dark greenish gray, highly chloritic, micaceous, very shaly in part to a sandy shale; some grayish-brown to brownish-gray shale
2195	2230	35	Shale, medium dark gray; some siltstone, medium to medium dark gray (with greenish cast)
2230	2241	11	Sandstone, light-gray (with greenish cast), some dark greenish gray, a large amount is medium- to medium dark gray (due to carbonaceous interstitial material), very fine to fine-grained
2241	2247	6	Siltstone, medium dark gray (with greenish cast), some dark-gray, sandy, very fine in part; some medium dark to dark-gray shale
2247	2252	5	Sandstone, medium dark to dark-gray, some medium dark gray to dark greenish gray, very fine grained (dark color due to very dark interstitial material)
2252	2263	11	Shale and siltstone, medium dark to dark-gray
2263	2271	8	Shale, dark-gray, some dark-gray to olive-gray, a large amount of brownish-gray to brownish-black, shaly, very fine sandstone with an occasional medium to coarse quartz grain
2271	2291	20	Shale and silty shale to siltstone, medium dark to dark-gray
2291	2300	9	Siltstone and shale, medium dark gray, some medium dark gray to dark greenish gray

2300	2317	17	Sandstone (very fine) to siltstone, mottled medium gray and dark-gray (with greenish cast), the dark-gray contains dark shaly material
2317	2395	78	Siltstone and shale, medium dark to dark-gray, some medium dark gray to dark greenish gray; a very small amount is carbonaceous
2395	2415	20	Siltstone, medium to medium dark gray, some medium dark gray to dark greenish gray, somewhat sandy; some medium dark to dark-gray shale, sandy and silty in part; a little of the shale and siltstone is carbonaceous
2415	2433	18	Sandstone (very fine) to siltstone, mottled medium gray and brownish- to grayish-black, some medium-gray to greenish-gray, some brownish-gray to brownish-black (carbonaceous), some medium dark to dark-gray shale
2433	2450	17	Sandstone, grayish-black, some dark greenish gray, very fine grained, contains some medium to very coarse quartz grains; a large amount of medium dark gray to dark greenish gray siltstone at the top; a very large amount of medium dark to dark-gray shale at the bottom
2450	2468	18	Shale, medium dark to dark-gray (with olive cast); siltstone, medium dark gray to dark greenish gray; some grayish-black (at top) to medium dark gray (at bottom), carbonaceous, shaly, very fine sandstone with an occasional coarse quartz grain
2468	2493	25	Shale, medium dark to dark-gray; siltstone, medium dark gray (with greenish cast)
2493	2503	10	Shale, medium dark gray
2503	2518	15	Siltstone, medium to medium dark gray, some medium-gray to dark greenish gray; shale, medium dark to dark-gray
2518	2536	18	Siltstone and shale, medium dark gray
2536	2550	14	Siltstone, medium to medium dark gray (with greenish cast); shale, medium dark to dark-gray
2550	2557	7	Siltstone to sandstone (very fine), medium-gray to dark greenish gray, some contains carbonaceous material giving it a much darker color, some fine to medium (quartz) grains; some medium dark to dark-gray shale
2557	2585	28	Shale, medium dark to dark-gray; siltstone, medium dark gray to dark greenish gray
2585	2599	14	Siltstone, medium-gray to dark greenish gray, some medium dark gray; some medium dark to dark-gray shale
2599	2650	51	Siltstone and shale, medium dark to dark-gray; some medium dark gray to dark greenish gray
2650	2743	93	Siltstone, medium and medium dark gray to dark greenish gray; shale, medium dark to dark-gray
2743	2790	47	Siltstone, brownish-gray to medium dark gray, some medium dark gray to dark greenish gray in the lower part, small amount of is dolomitic; some medium dark to dark-gray shale at the bottom
2790	2821	31	Sandstone, medium- to dark-gray (color due to carbonaceous material), dolomitic to highly dolomitic, very fine to medium-grained, some coarse grains at the top; some shale and siltstone, medium dark to dark-gray, some medium dark gray to dark-greenish gray

2821	2838	17	Shale, and some siltstone, medium dark to dark-gray; some medium-gray to dark greenish gray, sandy siltstone at the bottom
2838	2846	8	Siltstone, medium and medium dark gray to dark greenish gray, very sandy (fine- to coarse-grained); some medium to dark to dark-gray shale
2846	2851	5	Sandstone (very highly argillaceous) to a very sandy shale, medium-gray to dark greenish gray, very fine to fine-grained
2851	2859	8	Shale, grayish-brown to brownish-gray; shale and siltstone, medium dark gray to dark greenish gray, sandy in part
2859	2923	64	Shale, medium dark gray, some medium-gray to dark greenish gray, some dark-gray (carbonaceous) at 2876-2883' and at the bottom
2923	2956	33	Siltstone and shale, medium dark gray
2956	2962	6	Siltstone to sandstone (very fine), medium to medium dark gray and dark greenish gray, somewhat dolomitic; some medium dark to dark-gray shale
2962	3000	38	Siltstone and shale, medium to medium dark gray; some dark-gray shale
3000	3047	47	Siltstone to sandstone (very fine to fine), medium-gray to greenish-gray and brownish-gray, mostly fine-grained at 3025 to 3035', somewhat dolomitic, highly argillaceous; some medium dark to dark-gray shale
3047	3065	18	Siltstone and shale, medium dark to dark-gray
3065	3078	13	Sandstone, light- to dark-gray (carbonaceous), very fine grained with medium to very coarse grains, somewhat dolomitic; a very large amount of dark-gray shale
3078	3097	19	Shale and siltstone, medium dark to dark-gray with greenish cast
3097	3106	9	Siltstone, medium to medium dark gray, dolomitic; some medium dark to dark-gray shale
3106	3296	190	Siltstone and shale, medium to medium dark gray (with greenish cast), some dark-gray calcareous and dolomitic; somewhat fossiliferous; mostly siltstone from 3250 to the bottom
3296	3331	35	Siltstone, brownish-black to grayish-black, medium dark gray, some medium-gray to greenish-gray; small amount is highly calcareous; some medium dark to dark-gray shale
3331	3453	122	Siltstone, medium to medium dark gray; shale, medium dark gray, some dark-gray; much of the siltstone has a greenish cast
3453	3483	30	Siltstone and shale, medium dark gray with some brownish-black to black (carbonaceous) in the upper part and a little in the lower part
3483	3515	32	Shale and some siltstone, medium dark gray (with greenish cast)
3515	3523	8	Siltstone and silty shale, medium dark gray (with greenish and olive cast); some grayish-black to black siltstone
3523	3560	37	Siltstone, medium dark gray (with greenish cast); shale, medium dark gray, some dark-gray

3560	3570	10	Siltstone, brownish-black to black (very shaly), medium dark gray (with olive cast)
3570	3735	165	Siltstone and some shale, medium to medium dark gray (with greenish cast), some medium dark to dark-gray, mostly shale from 3590 to 3614, moderately to highly calcareous, mostly siltstone from 3660 to 3715'
3735	3743	8	Siltstone, medium dark gray, some medium dark gray to brownish-gray; small amount of grayish-black shale
3743	3751	8	Siltstone, brownish-black, some medium dark gray (with greenish cast), highly calcareous; some medium dark gray shale
3751	3758	7	Siltstone, brownish-black to dark-gray, shaly; a large amount of medium dark gray siltstone and shale; some of the siltstone and shale is calcareous
3758	3816	58	Shale and some siltstone, medium dark to dark-gray, some olive-gray, to dark yellowish brown (sideritic); small amount of brownish-black to grayish-black siltstone at the top
3816	3820	4	Siltstone and shale, medium dark to dark-gray, calcareous in part; some brownish-black to grayish-black, shaly siltstone
3820	3830	10	Siltstone, brownish-black, slightly calcareous; some medium to dark-gray siltstone and shale
3830	3840	10	Siltstone, medium and medium dark gray to brownish-black, some olive-gray to dark yellowish brown (highly sideritic); a large amount of medium dark to dark-gray shale
3840	3882	42	Siltstone, brownish-black to grayish-black, some medium to medium dark gray; shale, medium dark to dark-gray
3882	3982	100	Siltstone, medium to medium dark gray (with greenish and brownish casts), brownish-black to grayish-black; shale, medium dark to dark-gray
3982	3995	13	Siltstone and silty shale, grayish- grayish- and brownish-black to black; siltstone, medium dark gray, some medium dark gray to dark greenish gray; some medium dark to dark-gray shale
3995	4029	34	Siltstone, medium to medium dark gray (with greenish cast); small amount of dark-gray (to grayish-black) to grayish-black; calcareous in part; some medium dark to dark-gray shale at the top
4029	4146	117	Siltstone, medium dark to medium dark-gray (some of the siltstone has greenish cast), highly calcareous; in part dolomitic; shale, medium dark to dark-gray, silty
4146	4162	16	Siltstone, medium dark gray (with olive-gray cast), some dark-gray to grayish-black in the upper part; a large amount of brownish-gray to grayish-black in the lower part
4162	4181	19	Siltstone, brownish-gray to brownish-black; some medium dark gray, shaly
4181	4194	13	Siltstone, medium to medium dark gray (with greenish cast), calcareous and dolomitic; shale, medium dark to dark-gray
4194	4258	64	Siltstone and shale, medium dark to dark-gray; some dark-gray to grayish-black, shaly siltstone

4258	4299	41	Shale, medium dark to dark-gray
4299	4307	8	Shale, medium dark/gray to grayish-black
4307	4365	58	Siltstone, medium- to medium dark gray (with brownish and greenish casts); siltstone to silty shale, brownish-black to grayish-black
4365	4398	33	Siltstone, medium-gray (with greenish cast) to brownish-gray, calcareous in part, some dark-gray to grayish-black siltstone and shale
4398	4418	20	Siltstone and shale, medium to medium dark/gray, some dark-gray
4418	4458	40	Siltstone, olive-gray to dark greenish gray and medium dark gray, some dark-gray to grayish-black (shaly) in the upper part, small amount is calcareous, a few highly calcareous fossil fragments
4458	4475	17	Siltstone, medium-gray and greenish-gray to medium dark gray, moderately calcareous in the upper part
4475	4527	52	Siltstone and shale, medium dark gray and some medium gray (with greenish cast), some dark/gray
4527	4536	9	Siltstone, medium to medium dark gray, some dark-gray to black (very shaly)
4536	4565	29	Siltstone and shale, medium dark to dark-gray
4565	4598	33	Siltstone/medium to medium dark gray (with olive-gray and greenish-gray casts), some grayish-black to black (shaly), calcareous in part; some medium dark to dark-gray shale
4598	4639	41	Siltstone and shale, medium dark to dark-gray (with an olive cast), some grayish-black to black, shaly siltstone in the upper part
4639	4649	10	Siltstone, medium-gray (with greenish cast) to medium dark gray and brownish-gray; grayish-black to black (very shaly); some medium dark to dark-gray shale
4649	4691	42	Siltstone and shale, medium- to dark-gray
4691	4764	73	Siltstone and shale, medium to medium dark gray, much of the siltstone has greenish cast, calcareous at the bottom
4764	4774	10	Siltstone, dark greenish gray and brownish-gray to medium dark gray (sandy in part), grayish-black to black, small amount is calcareous; some medium dark to dark-gray shale
4774	4850	76	Siltstone and shale, medium to dark-gray, much of the siltstone has a greenish cast
4850	4850	40 4850	Siltstone, medium-gray (with greenish cast) to olive-gray and medium dark to dark-gray shale; some grayish-black to black, very shaly siltstone at the top
4890	4915	25	Siltstone to shale, medium dark to dark-gray
4915	4939	24	Siltstone, brownish-black to black (very shaly), a large amount of brownish-gray to medium dark and dark-gray in the lower part

4939	5252	313	Siltstone and shale, medium- to dark-gray, some of the siltstone has a greenish to olive cast, calcareous in part, some grayish-black to black 5015 to 5023', some calcareous streaks in siltstone at 5064-5070', some of the darker siltstone and shale has a brownish cast in the lower part
5252	5395	143	Siltstone and silty shale, brownish-black to black, medium dark to dark-gray, some medium-gray, mostly brownish-black to grayish-black at 5335 to 5352'
5395	5471	76	Shale and some siltstone, medium dark to dark-gray, small amount of medium dark-gray to grayish-black at the bottom
5471	6056	585	Shale, medium dark to dark-gray; siltstone, medium to medium dark gray, some of the siltstone has greenish cast; some grayish-black siltstone at 5602-5612', 5722-5735', and 6016-6036'
6056	6191	131	Siltstone, medium-gray to olive-gray and medium dark gray; shale, medium dark gray and some olive-gray to grayish-black
6191	6616	425	Shale, medium dark to dark-gray, some grayish-black; siltstone, medium dark gray (with greenish to olive cast), some medium-gray
6616	6650	34	Shale, dark-gray to grayish-black and black; some medium to medium dark gray siltstone and shale
6650	6680	30	Shale, medium dark to dark-gray, grayish-black to black; siltstone, medium dark gray (with olive cast)
6680	7095	415	Shale, medium dark to dark-gray to olive-gray, some of the siltstone has a greenish cast; some grayish-black shale from 7031 to 7095'
7095	7140	45	Shale, grayish-black to black (carbonaceous), some medium dark to dark-gray; some greenish-gray to olive-gray siltstone
7140	7177	37	Shale, dark-gray to black (carbonaceous)
7177	7210	33	Shale, grayish-black to black (carbonaceous)
7210	7215	5	Shale, grayish-black to black; siltstone, medium-gray to brownish-gray and medium dark gray, very shaly
7215	7327	112	Shale, grayish-black to black (carbonaceous), a moderate amount of medium- to dark-gray (with brownish cast), shale and siltstone
7327	7402	75	Shale, dark-gray to grayish-black; some medium dark gray siltstone and shale
7402	7438	36	Shale, dark-gray to black, some medium dark gray
7438	7474	36	Shale, medium dark to dark-gray and grayish-black; small amount of medium to medium dark gray siltstone
7474	7545	71	Shale, grayish-black to black (highly carbonaceous), some medium- to dark-gray siltstone and shale
7545	7579	34	Shale, black, very highly carbonaceous, calcareous in part; some white to gray, vein calcite
			<u>Tully Limestone, 40 Feet.</u>
7579	7594	15	Limestone (very shaly) to shale (very highly calcareous), dark-gray to brownish and and grayish-black, very finely crystalline; a very large amount of grayish-black to black, highly carbonaceous shale (cavings)

7594	7599	5	Limestone, dark-gray to brownish-black, very shaly
7599	7619	20	Shale, dark-gray to grayish-black, very highly calcareous, a moderate to large amount of grayish-black to brownish-black, very shaly limestone
7619	7668	49	Shale, grayish-black to black, highly carbonaceous, calcareous in part
7668	7676	8	Shale, grayish-black to black, carbonaceous; small amount of olive-gray to brownish-black, shaly limestone (probably nodules)
7676	7891	215	Shale, dark-gray to grayish-black, grayish-black to black (carbonaceous)
7891/7909		18	Shale, grayish-black to black, carbonaceous
7909	7975	66	Shale, black (highly carbonaceous), grayish-black to black (carbonaceous), highly calcareous in part, somewhat pyritic in the lower part; small amount of white to light-gray vein calcite
7975	7980	5	Shale, black and grayish-black to black, highly carbonaceous, calcareous; some brownish-gray to medium dark gray, highly micaceous, shaly siltstone (bentonitic)
<u>Huntersville Formation, 279 Feet.</u>			
7980 2235 5745	7987	7	Shale (very highly calcareous) and some limestone (very shaly), grayish-black to black, carbonaceous, a moderate amount of brownish-gray to medium dark gray and brownish-black, highly micaceous, shaly siltstone (bentonitic); small amount of white to light-gray vein calcite
7987	8005	18	Shale (highly calcareous) to limestone (very shaly), grayish-black to black, somewhat siliceous in the lower part; some brownish-gray to brownish-black, highly micaceous, very shaly siltstone (bentonitic) at the top
8005	8016	11	Chert, mottled light- to dark-gray and grayish-black (very shaly), highly calcareous and dolomitic in part; contains much grayish-black to black shale in the upper part (cavings?)
8016	8026	10	Chert, mottled light to medium-gray and dark-gray to grayish-black (very shaly), somewhat calcareous, somewhat dolomitic, much of this chert is brecciated, contains siliceous sponge spicules (?)
8026	8032	6	Chert, very light to medium gray (speckled with dark shaly material), some dark-gray to grayish-black (very shaly), slightly dolomitic
8032	8060	28	Chert, very light to medium-gray, mottled with dark-gray to grayish-black (very shaly), transparent to opaque; much of the chert is milky and is highly spicular, slightly calcareous in the lower part, dolomitic
8060	8064	4	Chert, medium- to dark-gray and grayish-black, opaque to "dead", very shaly, silty
8064	8068	4	Siltstone to silty chert, medium- to dark-gray (shaly) in the upper part, medium light to medium dark gray in the lower part, somewhat dolomitic; glauconitic in part
8068	8075	7	Shale (siliceous) to chert (very shaly), dark-gray; small amount of white dolomite; a very small amount of clear, glassy quartz (well terminated at one end) in the upper part; some medium dark gray somewhat glauconitic chert in the lower part

8075	8079	4	Chert, medium dark to dark-gray, shaly, with some siliceous shale
8079	8084	5	Chert to siltstone, medium to medium dark gray, some dark-gray (shaly), mostly translucent to "dead", slightly dolomitic; a very small amount of clear drusy quartz
8084	8104	9	Chert, dark gray to shale, grayish-black, very highly siliceous, slightly dolomitic; trace of clear and glassy, drusy quartz
8104	8128	24	Chert, medium to medium dark gray ("dead"), dark-gray to grayish-black (very shaly), silty in part
8128	8142	14	Chert to silicified shale, grayish-black; some dark-gray chert
8142	8175	33	Shale, grayish-black, silicified
8175	8201	26	Shale, dark-gray to grayish-black, silicified
8201	8220	20	Shale, grayish-black, silicified in part
8220	8244	24	Shale, dark-gray to grayish-black
8244	8250	6	Shale, grayish-black, some grayish-black to black, shaly chert; some medium- to dark-gray translucent chert in the lower part; the chert is pyritic and somewhat dolomitic
8250	8259	9	Shale (calcareous) to limestone (very shaly), grayish-black, silty, cherty in part
<u>Oriskany Sandstone and Helderberg Formation, 63 Feet.</u>			
8259	8261	2	Sandstone, light- to medium-gray, fine- to medium-grained, subrounded to rounded, contains many coarse (well rounded) grains; contains black interstitial material
8261	8267	6	Sandstone (very highly calcareous) to limestone (very sandy) medium- to dark-gray, contains black interstitial material, very fine to fine-grained
8267	8268	1	Sandstone, colored masked by iron rust, fine- to medium-grained, calcareous
8268	8272	4	Sandstone, medium-gray, fine- to medium-grained, highly calcareous, mostly quartz with some black (interstitial) material
8272	8274	2	Sandstone, medium-gray, fine-grained, some medium grains, highly calcareous, some black (interstitial) material
8274	8275	1	Sandstone, medium- to dark-gray, fine- to medium-grained, subangular, highly calcareous; contains a large amount of black (shaly) material, very shaly in part
8275	8278	3	Sandstone, medium light to medium-gray; fine grained, some medium grains in the lower part, subangular, highly calcareous at the bottom, contains black (interstitial) material
8278	8280	2	Sandstone, medium-gray, fine-grained, some medium grains, very highly calcareous, contains much grayish-black (shaly) material

- 8280 8284 4 Sandstone, medium-gray, some dark-gray (very shaly) at the top, very fine to fine-grained in the upper part to very fine grained at the bottom, highly calcareous, contains a large amount of grayish-black (interstitial, shaly) material
- 8284 8287 3 Sandstone, medium light to medium-gray, very fine to fine-grained, highly calcareous, very highly calcareous at the bottom, some dark (shaly) material
- 8287 8288 1 Sandstone, medium light gray, very fine grained, very highly calcareous
- 8288 8289 1 Sandstone (very highly calcareous) to limestone (very sandy), medium light to medium dark gray, very fine grained, some fine grains, very shaly in part
- 8289 8293 4 Limestone (very sandy) and some sandstone (very highly calcareous), medium light to medium-gray, the sand is very fine to medium-grained, contains some dark (shaly) material
- 8293 8299 6 Sandstone, medium-gray, some dark-gray (very shaly), very fine to fine-grained, very highly calcareous
- 8299 8304 5 Limestone (very sandy) to sandstone (very highly calcareous), medium light to medium dark gray, very fine to medium-grained, subrounded, the larger grains are rounded, shaly in spots
- 8304 8305 1 Sandstone, medium light gray, very fine to fine-grained, highly calcareous
- 8305 8318 ¹³/~~18~~ Sandstone (very highly calcareous) to limestone (very sandy), light to medium-gray, very fine to fine-grained, some medium-grained, some medium grains, contains dark (shaly) material
- 8318 8322 4 Limestone (very sandy) to sandstone (very highly calcareous), medium-gray, very fine grained, some dark (shaly) material
- Shear Zone - 1 Foot.
- 8322 8323 1 Sandstone (very highly calcareous) to limestone (very sandy), medium- to dark-gray, very fine grained: chert mostly grayish-black, with a large amount of shaly material
- 8323 8326 3 Huntersville Formation, 146 Feet.
Shale, grayish-black, silicified, small amount is dolomitic
- 8326 8330 4 Chert, argillaceous to shale (silicified), medium to dark-gray to grayish-black; trace of dolomite
- 8330 8339 9 Chert, medium dark to dark-gray, "dead", a high shale content; a large amount of grayish-black chert to silicified shale
- 8339 8346 7 Chert, medium- to dark-gray, some grayish-black, silicified shale; a very small amount of white dolomite
- 8346 8358 12 Shale, grayish-black to black, highly silicified; a moderate to large amount of medium-to dark-gray chert
- 8358 8438 20 Chert, medium dark gray, "dead" to a grayish-black, silicified shale
- 8438 8445 7 Shale, grayish-black, silicified; a very small amount of clear, glassy, dusy vein quartz

8445	8465	20	Shale, grayish-black, a small amount is glauconitic at the top bottom; a very small amount is clear (drusy) quartz
8465	8469	4	Shale, grayish black to black; some medium gray to grayish-black, highly calcareous chert and cherty shale
Oriskany Sandstone and Helderberg Formation, 167 plus Feet			
8469	8474	5	Sandstone, medium- to dark-gray, fine to very fine grained, some medium grains, very fine to medium grained at the top, contains much black (shaly) material, calcareous
8474	8476	2	Sandstone, medium- to dark-gray, very fine to fine grained, highly calcareous, contains much black, shaly material
8476	8480	4	Sandstone (very fine, very highly calcareous) to limestone (very sandy), medium-gray, some dark-gray (very shaly), very fine to very fine grained at the bottom, contains a very large amount of grayish-black (interstitial, shaly) material in the upper part
8480	8495	15	Sandstone (very highly calcareous) to limestone (very sandy), fine-grained, some medium grains, fine to medium grained at the top, medium- to dark-gray, contains a large amount of grayish-black (interstitial, shaly) material
8495	8504	9	Limestone, (very sandy) to sandstone (highly calcareous) medium to medium dark gray (with dark-gray, shaly streaks) very fine to fine-grained, some medium grains, very fine at the bottom, much grayish-black (interstitial, shaly) material
8504	8512	8	Sandstone, very fine, very highly calcareous) to limestone (very sandy), medium dark gray (shaly) to grayish-black (very shaly to shale), very silty
8512	8516	4	Sandstone (very highly calcareous) to limestone (very sandy), medium to medium dark gray, some dark-gray to grayish-black) (very shaly), very fine grained, very silty, some fine to medium grains in the upper part
8516	8519	3	Sandstone, medium- to dark-gray (shaly), very fine to very fine grained, some fine medium grains, very highly calcareous
8519	8528	9	Sandstone (highly calcareous) at top to limestone (very sandy) at bottom, medium to medium dark gray, some grayish-black (shaly), very fine grained, very fine to fine-grained at the top
8528	8531	3	Sandstone (very fine) to siltstone, medium- to dark-gray (shaly), very highly calcareous, in the lower part some fine to medium sand with limestone spots
8531	8542	11	Sandstone, light- to medium-gray, very fine grained, highly calcareous with some limestone spots, contains some dark-gray (shaly) streaks
8542	8556	14	Sandstone, medium light to medium dark gray in the upper part, light- to medium-gray in the lower part, very fine grained, some fine grains at the top, very highly calcareous, somewhat shaly at 8552 to 8555'
8556	8565	9	Sandstone, light to medium-gray, a large amount of dark-gray to grayish-black (very shaly) in the upper part, highly calcareous, very fine grained

8565	8567	2	Sandstone (very fine) to siltstone, medium light to medium-gray, highly calcareous
8567	8575	8	Sandstone (very fine) to siltstone, medium-gray, some medium- to dark-gray (shaly), very highly calcareous with limestone spots
	8587		
8575	8587	2	Siltstone to shale (somewhat cherty), dark-gray to grayish-black, highly calcareous to a silty limestone
8587	8581	4	Sandstone (very fine) to siltstone, medium- to dark-gray, very highly calcareous with some limestone spots
8581	8585	4	Shale, grayish-black to black, calcareous; some white vein calcite
8585	8588	3	Limestone (very silty and shaly), dark-gray to grayish-black (with medium gray spots)
8588	8604	16	Limestone (sandy) to sandstone (very fine, very highly calcareous), medium- to dark-gray, some medium sand at the top, silty at the top and bottom, somewhat cherty
8604	8618	14	Limestone, (very sandy and silty) to very fine, very silty, highly calcareous sandstone, medium- to dark-gray, somewhat cherty, shaly in part
8618	8624	6	Limestone (very silty) to siltstone (very highly calcareous, sandy), medium- to dark-gray with light-gray spots, some grayish-black (shaly), very cherty
8624	8628	4	Limestone (silty and sandy) to very fine sandstone and siltstone (very highly calcareous), medium-gray to grayish-black, very shaly in part
8628	8636	8	Limestone, mottled light and dark-gray, very sandy (very fine to fine-grained), contains some shaly material and a very small amount of pyrite
	8636		TOTAL DEPTH

8469

8581