

h-27-51
 (C)

West Virginia and Pittsburgh Railroad Co. (9227)

Glade District, Webster County, W. Va.
 By Hope Natural Gas Co., Clarksburg, W. Va.
 Located 0.22 mile South of 39° 20' and 1.94 miles W. of 80° 25'.
 Webster Springs Quadrangle, - SW
 Elevation 2521' L.
Permit, Webster - 2
 Drilling commenced June 16, 1948; completed Sept. 17, 1949.
 Fresh water at 15' and 30'.
 Salt water at 980' and 1120', 7300'.
 20" casing 40'; 15", 1389'; 8-5/8", 2739'; 7", 7128'; all left in; 7" casing set in cement
 No coal recorded.
 Dry hole.
 Show gas, 955'; show gas, 1458'; show gas 2116'; show gas, 2589'; show gas 2405'.
 Section based on samples from 0 to 7448 feet; examined by Russell R. Flowers.

Top Bottom Thickness

New River Group, 20, plus, Feet.

0	20	20	Sandstone, very light gray to yellowish-gray brown; conglomeratic; fine to coarse-grained with many very coarse grains to granules of quartz and possibly pebbles of rock fragments; contains considerable limonite due to weathering
<u>Mauch Chunk Series, 1001 Feet.</u>			
20	30	10	Clay-shale, brownish-gray to brownish-black, some dark greenish gray
30	37	7	Siltstone, medium dark gray to dark greenish gray, some dark-gray, highly micaceous (muscovite and biotite)
37	65	28	Clay and clay-shale, dusky-brown to very dusky black red, some dark greenish gray to medium dark gray in the upper part, a very large amount of medium- to dark-gray with some dark greenish-gray in the middle and lower parts
65	85	20	Clay-shale, grayish-brown
85	103	18	Clay-shale, grayish-brown to dusky-brown, silty and sandy in part; some medium-gray siltstone to dark greenish gray, very silty and very sandy clay, slightly dolomitic
103	124	21	Shale, (very silty and sandy) to siltstone and sandstone (very shaly), dusky-brown, some medium dark gray to dark greenish gray; calcareous in part
124	139	15	Sandstone, light-gray to greenish-gray (chloritic), fine-grained, some medium grains, argillaceous to a medium dark gray, very sandy, soft shale, calcareous in at top to highly calcareous in the lower part
139	150	11	Clay-shale, grayish-brown, some dark greenish-gray, some limestone fragments
150	165	15	Shale, dark-gray with light- to medium-gray, fossiliferous limestone spots
165	243	78	Shale, grayish-brown, some dusky-brown, silty; mostly dusky-brown siltstone to fine sandstone at 182' to 194'
243	252	9	Sandstone, greenish-gray to light-gray, very fine grained, highly calcareous, chloritic; some greenish-gray to medium-gray siltstone

252	273	21	Clay-shale, grayish-brown, some dusky-brown to brownish-gray; some yellowish-brown limestone nodules
273	278	5	Clay, grayish-brown to reddish-gray
278	288	10	Shale and siltstone, dusky-brown to brownish-gray; some greenish-gray to medium dark gray siltstone
288	301	13	Siltstone, dark greenish gray to medium dark gray with carbonaceous specks and streaks
301	311	10	Limestone, gray to greenish-gray and olive-gray, nodular, highly argillaceous; some grayish-brown to very dusky red clay-shale
311	321	10	Clay-shale, grayish-brown to very dusky red with limestone nodules
321	327	6	Sandstone, greenish-gray to light-gray, very fine grained, calcareous; some dusky-brown, very silty shale
327	393	66	Clay-shale, grayish-brown, some dusky-brown, some medium dark gray to dark greenish gray at the top, mostly dusky-brown siltstone to very fine sandstone at the bottom
393	423	30	Clay-shale, grayish-brown to very dusky red, some dusky-brown, some medium-gray to dark greenish gray at the top
423	445	22	Siltstone to sandstone (very fine), dusky-brown, very shaly, micaceous, calcareous in part; mostly silty shale at the bottom
445	455	10	Sandstone, pale-brown to greenish-gray, very fine grained, highly calcareous, micaceous and chloritic; some dusky-brown to very dusky red, silty shale
455	476	21	Shale, grayish-brown and dusky-brown to very dusky red, silty in part
476	493	17	Clay-shale, medium dark to dark-gray, dark greenish gray; some grayish-brown to grayish-red shale in the upper part; a large amount of, olive-gray, silty, highly fossiliferous limestone in the lower part
493	508	15	Shale, brownish-gray to grayish-brown (silty), some dark greenish gray to dark-gray and grayish-black
508	520	12	Siltstone and sandstone (very fine), dusky-brown, very shaly to a grayish-brown, silty shale, some dark greenish gray to dark-gray and grayish-black, highly calcareous in part
520	525	5	Shale, grayish-brown to grayish-red, some dark greenish gray to dark-gray
525	550	25	No sample
550	577	27	Shale, very dusky red to grayish-brown
577	582	5	Shale, grayish-brown to dusky-brown, silty
582	626	44	Siltstone and sandstone (very fine), dusky-brown to very dusky red, very to a shaly and sandy shale <small>SHALY TO A SILTY</small>
626	670	44	Shale, grayish-brown to very dusky red, mostly dusky-brown to very dusky red at 634 to 650', silty in part
670	690	20	No sample

690	696	6	Siltstone to sandstone (very shaly) to shale (silty and sandy), dusky-brown, some brownish-gray; some grayish-brown to very dusky red shale
696	702	6	Shale, medium dark to dark-gray with limestone nodules
702	711	9	Shale, grayish-red to grayish-brown, some medium dark gray to dark greenish gray
711	718	7	No sample
718	723	5	Shale, grayish-brown to very dusky red
723	728	5	Siltstone, dusky-brown, very shaly, micaceous
728	759	31	Shale, dusky-brown to grayish-red, silty
759	762	3	Shale, medium dark gray to dark greenish gray, sandy in part with some greenish-gray, very fine sandstone; some limestone, olive-gray to greenish-black
762	770	8	Sandstone, light- to medium-gray, very fine grained, argillaceous, calcareous in part
770	775	5	Shale, dark-gray to medium dark gray and dark greenish gray, small amount of grayish-black to black
775	782	7	Shale, grayish-red to grayish-brown and brownish-gray, some medium dark to dark-gray (silty)
782	792	10	Shale and siltstone, medium dark to dark-gray
792	798	6	Siltstone, medium to medium dark gray, micaceous, chloritic and kaolinitic, calcareous
798	820	22	Shale, medium dark to dark-gray, very silty; contains highly fossiliferous limestone nodules at the bottom
820	879	59	Limestone, dark-gray to grayish-black, very highly argillaceous, with some calcareous shale, highly fossiliferous (crinoidal)
879	891	12	Shale, dark-gray with fossiliferous limestone nodules
891	896	5	Limestone, light olive gray to olive-gray, oolitic
896	902	6	Sandstone, greenish-gray to dark greenish gray, very fine to fine-grained, argillaceous, calcareous in part
902	906	4	Shale, dark-gray to grayish-black, silty and sandy
906	984	78	Sandstone, very light to light-gray, very fine to fine-grained, quartzose, subrounded; some dark-gray to grayish-black shale streaks at the top
984	1006	22	Limestone (highly argillaceous) to a xxx calcareous shale, dark-gray to grayish-black and olive-black, highly fossiliferous (crinoidal)
1006	1016	10	Shale, darkgray, highly calcareous, silty, highly calcareous (limestone oolites) to a shaly limestone, oolitic at the bottom
1016	1021	5	Limestone, medium-gray to brownish-gray, very silty and sandy (very fine), highly argillaceous oolite (appears to be derived from the erosion of the underlying oolite); some medium dark gray to dark greenish gray, highly calcareous, fossiliferous shale at the bottom

Greenbrier Limestone, 350 Feet.

1021	104	20	Limestone, oolite, light olive gray to olive-gray, fine to coarse, mostly medium to very coarse at 1023 to 1029'; much of this oolite is friable, contains a little silt (quartz crystals), some fossil fragments
1041	1050	9	Shale, medium dark to dark-gray and grayish-black to black, highly calcareous at the top to a brownish-black and grayish-black, and very shaly limestone and calcareous shale at the bottom
1050	1055	5	Limestone, olive-black to brownish-black, very shaly
1055	1058	3	Limestone oolite, brownish-gray to olive-black; oolites are mostly fine-grained, somewhat silty and sandy (very fine to fine), somewhat argillaceous
1058	1063	5	Limestone oolite, dark-gray to olive-black, very sandy (fine), shaly and silty in part
1063	1069	6	Siltstone, dark-gray, very highly calcareous (mostly oolites) in the upper part to a calcareous (oolites), very argillaceous siltstone with some silty shale in the lower part
1069	1074	5	Limestone oolite, light-gray to light olive gray, some olive-gray to dark-gray, mostly tightly cemented, somewhat silty and sandy (very fine)
1074	1076	2	Limestone, olive-gray to medium-gray, shaly and silty
1076	1084	8	Limestone oolite, light-gray to light olive gray, some olive-gray, fossiliferous, many of the oolites are flattened and distorted, slightly silty (quartz crystals)
1084	1090	6	Siltstone and shale, dark greenish gray to dark-gray, highly calcareous
1090	1110	20	Limestone oolite, olive-gray, light-gray to olive-gray and fossiliferous at the top
1110	1119	9	Limestone, olive-gray to brownish-black, dolomitic, somewhat shaly
1119	1134	15	Limestone oolite, olive-gray; at the bottom, olive-gray to dark-gray, somewhat oolitic, shaly limestone
1134	1159	25	Limestone (very shaly) and some shale (highly calcareous), olive-gray to grayish-black
1159	1165	6	Limestone, olive-gray to brownish-black, shaly, silty, highly oolitic
1165	1172	7	Limestone oolite, light-gray to light olive gray, shaly oolites are medium to coarse grained
1172	1195	23	Limestone, olive-gray, very shaly, dolomitic in the lower part
1195	1207	12	Shale to siltstone, olive-gray to dark greenish gray, very highly calcareous, fossiliferous; some light-gray limestone oolite in the middle part; mostly siltstone in the lower part
1207	1217	10	Limestone oolite, olive-gray to medium-gray, very silty and ^{VERY} sandy (very fine) with some highly calcareous sandstone
1217	-1225	8	Limestone; olive-gray, shaly, very shaly at the bottom; dolomitic
1225	1236	11	Limestone, olive-gray, silty

1236	1246	10	Limestone oolite, olive-gray, argillaceous and silty, with a large amount of medium dark gray to dark greenish gray, calcareous siltstone in the lower part
1246	1253	7	Limestone oolite, olive-gray to medium dark gray, very silty to sandy (very fine), argillaceous
1253	1259	6	Limestone, olive-gray, silty and sandy (very fine), oolitic at the bottom
1259	1271	12	Limestone oolite, light-gray
1271	1281	10	Limestone, very light to light-gray, highly dolomitic, silty
1281	1287	6	Limestone, light olive gray to greenish-gray, dolomitic, argillaceous
1287	1295	8	Limestone (very shaly) to shale (highly calcareous), olive-gray and dark greenish gray to dark-gray, some brownish-gray to grayish-brown at the top, dolomitic in part
1295	1304	9	Limestone, light olive gray to olive-gray at the top to olive-gray and some olive-gray to dark-gray at the bottom, silty and shaly, somewhat dolomitic in part
1304	1313	9	Limestone, olive-gray; some fine- to coarse-grained, subrounded, very light gray sandstone; many of the grains have crystal facets (cavings?)
1313	1325	12	Shale, brownish-black to black, highly calcareous; limestone oolite, olive-gray to brownish-gray, very silty; some dark-gray to olive-gray calcareous, dolomitic siltstone at the top
1325	1332	7	Limestone, light olive gray to olive-gray, silty (very fine)
1332	1336	4	Siltstone (highly dolomitic) and some dolomite (very silty), medium to medium dark gray (with greenish cast), calcareous
1336	1351	15	Siltstone to shale, dark-gray to brownish-black, highly calcareous, dolomitic
1351	1358	7	Limestone (very shaly), olive-gray to dark-gray, highly dolomitic; dolomite (silty) to siltstone (highly dolomitic) medium-gray to brownish-gray, calcareous, argillaceous
1358	1363	5	Dolomite (very silty, shaly) to siltstone and shale (highly dolomitic), medium dark gray to dark greenish gray, olive-gray to dark-gray; a large amount of white anhydrite
1363	1371	8	Dolomite, dark-gray to brownish-black, silty and shaly, calcareous; some anhydrite
<u>MacGrady Facies of Peconog, 16 Feet.</u>			
1371	1379	8	Siltstone and some shale, medium dark gray to dark greenish gray and some grayish-red at the top; brownish-gray to grayish-red and some dark greenish gray at bottom
1379	1383	4	Siltstone, brownish-gray, some grayish-red, very shaly; some medium dark to dark-gray and dark greenish gray siltstone and shale
1383	1387	4	Shale and siltstone, medium dark to dark-gray; some dark greenish gray, some brownish-gray to grayish-red

Pocono Formation, 215 Feet.

1387	1394	7	Sandstone (very fine to siltstone), medium- to medium dark gray, contains many fine to coarse sand (quartz) grains in the lower part, small amount of dark-gray shaly to shale; trace of calcite
1394	1414	20	Siltstone, medium dark gray to dark greenish gray; some dark-gray shale; some light- to dark-gray, very fine to siltstone at the bottom sandstone
1414	1459	45	Siltstone, brownish-gray to medium- and medium dark gray, coarse; mostly brownish-gray at 1414 to 1421, 1427 to 1429, 1434 to 1443
1459	1476	17	Siltstone, medium to medium dark gray, some dark-gray (shaly)
1476	1482	6	Siltstone, medium dark gray, some grayish-black, (pyritic), coarse
1482	1488	6	Siltstone, medium and medium dark gray; some dark gray, silty shale
1488	1502	14	Siltstone and shale, medium dark to dark-gray, some medium-gray; some grayish-black to black, pyritic, very shaly siltstone in the upper part
1502	1514	12	Siltstone, medium dark gray
1514	1528	14	Siltstone, medium dark gray, some brownish-gray, a large amount of grayish-black to black at the top, coarse siltstone
1528	1570	42	Siltstone, medium dark gray; some dark-gray to grayish-black, shaly siltstone to shale, a large amount at 1551 to 1560
1570	1577	7	Shale, dark-gray to grayish-black, silty
1577	1589	12	Shale, grayish-black to black, somewhat pyritic (Sunbury shale?); small amount of light-gray, very fine sandstone to siltstone
1589	1600	11	Siltstone to sandstone (very fine), dark-gray, shaly, pyritic, slightly calcareous (Berea?)

Devonian Shales, 5523 Feet.

1600	1625	25	Shale and siltstone, medium dark to dark-gray; some light-gray to light olive gray, kaolinitic siltstone to, very fine sandstone at 1608 to 1614'
1625	1633	8	Siltstone to sandstone (very fine), light- to medium-gray and olive-gray, some dark greenish gray, grayish-black to black (shaly); some medium dark to dark-gray shale
1633	1647	14	Siltstone, dark greenish gray, chloritic, micaceous; a large amount of medium dark to dark-gray shale
1647	1652	5	Sandstone, light-gray, conglomeratic, very fine to fine-grained with coarse quartz grains to pebbles
1652	1662	10	Sandstone, light-gray to brownish-gray, very fine to fine-grained, some coarse grains, argillaceous
1662	1673	11	Sandstone, light- to medium light gray, very fine to fine-grained; some medium-gray to dark-gray sandstone (very fine) to siltstone (very shaly); a large amount of medium dark to dark-gray shale

1673	1719	46	Shale, dark-gray, some olive-gray to dark-gray; some medium-gray sandstone (very fine) to medium dark gray and olive-gray siltstone
1719	1726	7	Sandstone, brownish-gray, some medium dark gray at the top, very fine to medium-grained (with some coarse quartz grains to pebbles), subangular
1726	1728	2	Shale, medium dark to dark-gray
1728	1735	7	Shale, (very sandy) to sandstone (very highly argillaceous, very fine to fine grained), dark-gray, some medium dark gray to dark greenish gray, contains "red" sand grains
1735	1745	10	Shale, mottled dark greenish gray with some grayish-red, sandy in part to a highly argillaceous sandstone (very fine to fine), many of the sand grains are "red", some medium dark to dark-gray shale and sandstone in the lower part
1745	1755	10	Sandstone, light- to medium-gray, very fine grained, some carbonaceous material in the upper part, kaolinitic in the lower part
1755	1862	7	Sandstone (very fine) to siltstone, medium- to medium dark gray, some light-gray; shale, medium dark to dark-gray, silty; some dark greenish gray shale (sandy in part) to sandstone (very fine, highly argillaceous)
1862	1784	22	Sandstone, medium-gray (argillaceous and somewhat carbonaceous) in the upper part, light-gray (slightly carbonaceous) in the lower part, very fine grained
1784	1789	5	Sandstone, greenish-gray to dark greenish gray, some dark gray to grayish black, very fine, highly argillaceous; some light- to medium-gray, fine to coarse sandstone with moderate yellowish brown spots of dolomite
1789	1796	7	Shale, (sandy) to siltstone and sandstone (very fine), highly argillaceous, medium- to dark-gray, some grayish-black, highly dolomitic in part
1796	1803	7	Sandstone (very fine) to siltstone, brownish-gray to medium dark gray, highly dolomitic, argillaceous; some grayish-black shale
1803	1812	9	Shale and siltstone, medium dark to dark gray, some of the dark-gray shale has "red" sand grains, some dark yellowish brown (sideritic)
1812	1846	34	Siltstone to sandstone (very fine), medium-gray, contains kaolinitic material and black carbonaceous specks, somewhat micaceous and chloritic
1846	1856	10	Shale and some siltstone, medium dark to dark-gray
1856	1859	3	Siltstone, brownish-gray to dark-gray, sandy (fine to coarse-grained, some quartz granules)
1859	1870	11	Siltstone, medium- to medium dark gray and dark greenish gray
1870	1886	16	Shale, medium ^{DARK} to dark-gray; some olive-gray to medium dark gray siltstone in the lower part
1886	1893	7	Siltstone, brownish-gray (shaly), dark greenish gray to medium dark gray, some olive-gray
1893	1924	31	Siltstone, olive-gray to medium-gray, some medium dark gray to dark greenish gray, some brownish-gray at the top; some medium dark to dark-gray shale

1924	1966	42	Shale and some siltstone, medium dark to dark-gray
1966	1981	15	Sandstone, light-gray, very fine grained, fine-to medium-grained and some very coarse quartz grains in part at the top, silty and somewhat argillaceous
1981	2009	28	Sandstone, (very fine, very silty), greenish-gray to olive-gray and some medium-gray in the upper part, medium- TO MEDIUM DARK GRAY IN THE MIDDLE PART. MEDIUM-GRAY brownish-gray in the lower part, light- to medium-gray at the bottom
2009	2030	21	Shale, dark-gray, silty
2030	2041	11	Sandstone, medium- to dark-gray, very fine grained, some light- to medium-gray, fine-to very coarse-grained at the top; some dark greenish-gray to medium dark gray, very fine sandstone to sandy siltstone
2041	2066	25	Shale and siltstone, medium dark to dark-gray SOME MEDIUM DARK GRAY TO DARK GREENISH GRAY
2066	2084	18	Sandstone, brownish-gray to dark-gray, very fine grained
2084	2091	7	Shale, medium dark to dark-gray
2091	2115	24	Sandstone, light-gray, very fine grained, fine to very coarse with granules at the bottom
2115	2124	9	Siltstone to very fine sandstone, light- to medium-gray, some medium dark gray to olive-gray and dark greenish gray in the upper part
2124	2141	17	Shale and some siltstone, dark-gray
2141	2153	12	Shale and siltstone, dark-gray; some light- to medium-gray, very fine sandstone
2153	2162	9	Shale, dark-gray, silty; some medium dark gray to dark greenish gray siltstone
2162	2170	8	Sandstone, dark-gray, some light-gray, very fine grained, argillaceous
2170	2217	47	Siltstone to very fine sandstone, light-gray to medium dark gray and dark greenish gray; shale, dark-gray
2217	2231	14	Siltstone and shale, medium dark to dark-gray
2231	2256	25	Sandstone (very fine) to siltstone, medium-gray to grayish-black, a large amount of medium- to medium dark gray and some dark greenish gray in the lower part, highly argillaceous in part; shale, dark-gray, sandy and silty
2256	2296	40	Siltstone, medium- to medium dark gray and dark greenish gray; a large amount of dark-gray shale
2296	2309	13	Sandstone, brownish-gray to dark-gray, very fine, very silty; some dark-gray shale
2309	2329	20	Sandstone, light- to medium-gray, some medium dark gray to dark greenish gray, very fine grained; and a large amount of medium dark to dark-gray shale
2329	2351	22	Siltstone to very fine sandstone, medium- to medium dark gray to dark greenish gray; shale, medium dark to dark-gray
2351	2367	16	Siltstone, medium dark gray to dark greenish gray; some dark-gray shale in the lower part

4367	2383	16	Siltstone to sandstone (very fine), light- to dark-gray, dolomitic, mostly light-gray in the upper part; a large amount of dark-gray shale
2383	2405	22	Siltstone and shale, medium dark to dark-gray, some medium-gray at the bottom
2405	2537	132	Siltstone, medium- to medium dark gray (with greenish cast); some dark-gray shale, calcareous and dolomitic in part; at 2441 to 2450 some dark-gray siltstone; a large amount of shale at 2466 to 2473; some dark-gray to grayish-black and highly calcareous shale at the bottom
2537	2542	5	Siltstone, light- to medium-gray, coarse, calcareous
2542	2558	16	Siltstone, medium to dark-gray
2558	2629	71	Siltstone, olive-gray and dark greenish gray to medium dark gray; some interbedded medium dark to dark-gray shale
2629	2645	16	Siltstone, medium dark gray, some medium dark gray to dark greenish gray, some grayish-black, calcareous in part
2645	2771	126	Siltstone and some shale, medium dark gray (with greenish cast), some dark-gray, calcareous in part; a large amount of dark-gray to grayish-black siltstone to very fine sandstone at 2655 to 2661
2771	2847	76	Siltstone, medium dark gray to dark greenish gray, some medium dark to dark-gray (mostly shale), calcareous,, highly calcareous (fossil fragments) at 2771 to 2791 and 2825 to 2847
2847	2858	11	No sample
2858	2871	13	Siltstone and shale, medium dark to dark-gray, calcareous in part; some dark-gray to grayish-black, very shaly siltstone
2871	2913	42	Siltstone and some shale, medium dark gray to dark greenish gray, some brownish-gray to brownish-black and grayish-black, calcareous and dolomitic in part
2913	2953	40	Siltstone, medium dark to dark-gray, shaly, highly calcareous in part (fossil fragments), slightly dolomitic
2953	3002	49	Siltstone and some shale, medium- to medium dark gray (with greenish and olive casts); some dark-gray to grayish-black
3002	3209	207	Siltstone and shale, medium dark to dark-gray, a moderate to large amount of dark-gray to grayish-black from 3117 to 3170, some dark-gray at the bottom
3209	3248	39	Siltstone, medium- to medium dark gray, some brownish-gray; moderate to large amount of dark-gray to black shale
3248	3360	112	Siltstone, medium to medium dark gray, dolomitic in part; some dark-gray to grayish-black shale, some of the darker fragments contain sperangites
3360	3585	225	Siltstone and shale, medium dark to dark-gray; some medium-gray siltstone; some dark-gray to grayish-black, silty shale at 3419 to 3455, a large amount at 3542 to 3553, and some grayish-black, shaly siltstone at the bottom

3585	3595	10	Siltstone to shale, grayish-black, some brownish-black; some medium-gray siltstone
3595	3684	89	Siltstone, medium- to medium dark gray; a moderate to large amount of dark-gray shale
3684	3730	46	Siltstone and shale, medium dark to dark-gray, some grayish-black (shale), some medium-gray (siltstone)
3730	3810	80	Siltstone, medium- to medium dark gray, dolomitic; a moderate to large amount of dark-gray to grayish-black shale and siltstone (shaly); mostly siltstone from 3771 to 3820
3810	3917	107	Siltstone, medium dark gray (with greenish cast); some medium dark to dark-gray shale
3917	3934	17	Siltstone, medium dark gray to olive-gray and brownish-gray; some medium dark gray shale
3934	4329 4329	395	Siltstone and some shale, medium dark gray, some dark-gray, small amount is calcareous and dolomitic; some dark-gray to grayish-black shale at 4031 to 4048
4329	4627	298	Shale and siltstone, dark-gray, some streaks and specks of carbonaceous material; some medium-gray siltstone at 4473 to 4488 and at 4581 to 4627
4627	5157	530	Siltstone, medium- to medium dark gray; shale, dark-gray to grayish-black; a large amount of grayish-black shaly and medium dark gray dolomitic siltstone at 4904 to 4944 and 5040 to 5065
5157	5863	706	Siltstone and shale, medium dark to dark-gray, some grayish-black, small amounts are dolomitic, a moderate to large amount of grayish-black to black at 5402 to 5494; much of the siltstone has an olive cast
5863	5925	62	Shale and some siltstone, dark-gray to grayish-black, some grayish-black to black, some medium dark gray, some of the siltstone is slightly dolomitic
5925	6194	269	Shale and siltstone, dark-gray to medium dark gray, some grayish-black in the upper part, mostly dark-gray in the lower part, some grayish-black at the bottom
6194	6214	20	Shale, dark-gray to grayish-black, some grayish-black to black, slightly pyritic, calcareous in part
6214	6314	100	Shale, grayish-black to black (somewhat carbonaceous), some medium dark to dark-gray (Genesee?)
6314	6440	126	Shale, dark-gray and grayish-black to black, calcareous and dolomitic in part (6425 corrected to 6400; depth correction? This interval is actually 25 feet thicker than indicated by figures in the left column)
6440	6455	15	Shale, black, highly carbonaceous, locally; a very large amount of grayish-black shale, calcareous in part; traces of vein calcite at the top and trace of dark brown, metabentonite at the bottom
6455	6678	223	Shale, dark-gray to black, carbonaceous, highly slickensided (calcareous in part, somewhat pyritic; mostly grayish-black to black at 6587 to 6616, 6656 to 6678)
6678	6983	305	Shale, grayish-black to black, moderately to highly carbonaceous, calcareous in part, pyritic in part, slickensided
6983	7011	28	Limestone, olive-gray to medium dark gray, very shaly

7011	7034	23	Shale, grayish-black to black, moderately to highly carbonaceous, calcareous, pyritic in part, some of the shale is slickensided
7034	7039	5	Limestone, olive gray, shaly to a dark-gray, highly carbonaceous shale
7039	7080	41	Shale, grayish-black to black, moderately to highly carbonaceous, calcareous, pyritic in part; some medium dark to dark-gray shale (calcareous in part)
7080	7123	43	Shale, black, very highly carbonaceous, much of the shale is "coaly" and slickensided, somewhat pyritic; calcareous; a large amount of white vein calcite
<u>Huntersville Chert, 149 Feet.</u>			
7123	7136	13	Shale, black, highly calcareous to a grayish-black shaly limestone, the shaly is highly carbonaceous to coaly at the top, somewhat pyritic; a moderate amount of medium-gray to brownish-black, very highly micaceous siltstone and shale (metabentonite) at the top, some in the lower part (cavings ?)
7136	7139	3	No sample
7139	7140	1	Sandstone, very light to light-gray, somewhat calcareous, mostly chalcedonic chert grains
7140	7141	1	Chert, mottled white to light-gray and grayish-black to black (very shaly), somewhat calcareous
7141	7142	1	Sandstone, very light gray, some grayish-black, mostly chert
7142	7149	7	Chert, very light to light-gray, some grayish-black (very shaly), slightly calcareous, some medium-gray in the lower part
7149	7158	9	Chert, mottled light- to medium-gray and grayish-black (very shaly), somewhat calcareous; most of the chert is silt size (detrital ?)
7158	7167	9	Shale (highly silicified) to chert (shaly), grayish-black, some dark-gray, some light- to medium-gray in the middle to a large amount at the bottom, somewhat calcareous and dolomitic
7167	7171	4	Chert to siltstone, light-gray, calcareous, somewhat dolomitic
7171	7174	3	Chert, mottled light-gray and grayish-black (very shaly), silty (glauconitic) to a greenish-gray and medium-gray, highly glauconitic siltstone, somewhat dolomitic
7174	7210	36	Siltstone to silty shale, dark-gray to grayish-black, some black at the top, highly glauconitic, silicified in part, somewhat dolomitic, very cherty at 7199 to 7201
7210	7216	6	Siltstone to chert, medium dark gray to grayish-black, slightly dolomitic, spicular in part
7216	7238	22	Chert, medium- to dark-gray, shaly with some grayish-black silicified shale in the upper and middle parts
7238	7254	16	Chert, dark-gray to grayish-black, very shaly, slightly calcareous, highly glauconitic at 7246 to 7252, calcareous at the bottom
7254	7263	9	Chert to silicified shale, medium dark gray to dark-gray, highly calcareous

263	7266	3	Chert, light to medium dark gray, some grayish-black (very shaly to shale) in the upper part, calcareous, somewhat dolomitic
7266	7269	3	Chert to silicified shale, dark-gray to grayish-black, highly calcareous, glauconitic
7269	7271	2	Limestone (very cherty) to chert (calcareous), dark-gray, some medium-gray, shaly
7271	7272	1	Sandstone, medium- to dark-gray, very fine to medium-grained, very shaly, calcareous
7272			<u>Oriskany Sandstone, 90 Feet.</u>
7272	7273	1	Sandstone, medium-gray, fine- to medium-grained, somewhat shaly, calcareous
7273	7282	9	Sandstone, very light gray, fine- to medium-grained, subrounded to rounded, calcareous
7282	7285	3	Sandstone, very light gray, very fine to fine-grained, calcareous, very fine grained and highly calcareous at the bottom
7285	7288	3	Sandstone, very light to light-gray, very fine to medium-grained, calcareous
7288	7292	4	Sandstone, very light gray, fine- to coarse-grained, some very coarse grains in the upper part, rounded to well rounded, highly calcareous
7292	7296	4	Sandstone, very light to light-gray, very fine to fine-grained, mostly very fine at the top and bottom, subrounded to rounded, very highly calcareous
7296	7302	6	Sandstone, very light gray, very fine to medium-grained, subrounded to rounded, calcareous, very highly calcareous at the top
7302	7321	19	Sandstone, very light to light-gray, very fine to fine-grained, subrounded to rounded, fine-grained at the top, at 7306 to 7308, 7317 to 7319, very fine at 7305 to 7306, somewhat calcareous, ^{at the bottom}
7321	7323	2	Sandstone, light-gray, very fine to medium-grained, subrounded to well rounded, somewhat calcareous
7323	7354	31	Sandstone, very light to light-gray, very fine to fine-grained, some medium grains, calcareous, small amount of dark shaly material, some silty grayish-black material at the bottom
7354	7356	2	Siltstone to sandstone (very fine), medium- to dark-gray (with grayish-black, shale streaks), much interstitial material (shaly), moderately calcareous
7356	7362	6	Sandstone, light- to medium-gray, very fine to fine-grained, very fine to medium-grained at the top, very fine to medium-grained with some coarse grains at 7360 to 7361, subrounded to rounded, the larger grains are well rounded, moderately to highly calcareous, some dark (shaly) material
			<u>Halderberg Formation, 86, plus, Feet.</u>
7362	7374	12	Sandstone, light-gray, very fine grained, highly calcareous, very highly calcareous and somewhat shaly at 7362 to 7370, highly to very highly calcareous in the lower part
7374	7377	3	Limestone, medium-gray with light-gray spots, very sandy (very fine), a little dark (shaly) material

7377	7382	5	Sandstone, light- to medium-gray, very fine grained, very highly calcareous, some dark (shaly) material
7382	7384	2	Limestone, medium- to dark-gray with light-gray spots, very sandy (very fine), cherty
7384	7390	6	Sandstone, medium-gray, some dark-gray (shaly) and some chert at the top, very fine grained, silty, very highly calcareous with some sandy limestone
7390	7399	9	Limestone, dark-gray with some medium-gray, very sandy and silty to a very highly calcareous, silty sandstone at the top, shaly, cherty and lighter in color at the bottom
7399	7409	10	Limestone (very sandy and silty, very shaly) to a highly calcareous shale and silty sandstone, grayish-black with medium-gray spots, highly fossiliferous
7409	7417	8	Limestone, mottled light- and dark-gray, very sandy, very fine to medium-grained (well rounded), somewhat cherty and somewhat shaly
7417	7424	7	Limestone, grayish-black with some medium-gray in the upper part to medium- and dark-gray in the lower part, very silty, somewhat cherty and somewhat shaly, shaly at the top
7424	7427	3	Limestone, light- to medium dark gray, very sandy (fine to medium-grained, well rounded), somewhat cherty
7427	7434	7	Limestone (very sandy) to sandstone (very fine, highly calcareous), light- to medium dark gray, some shaly (dark) material at the bottom
7434	7437	3	Limestone (very silty, sandy) to calcareous chert, medium- to dark-gray, most of the sand is fine to medium- and well rounded
7437	7443	6	Limestone (sandy) to sandstone (very fine), highly calcareous, mostly medium dark gray, slightly cherty, cherty at the bottom
7443	7446	3	Limestone (very sandy, very fine) to shale (calcareous) and siltstone (highly calcareous), dark-gray to grayish-black, some medium-gray, very cherty
7446	7448	2	Limestone, medium- to dark-gray, some grayish-black (shaly), very silty and very cherty
7448			TOTAL DEPTH