Sand with letter

C. S. Gribble No. 8517 Well

Grant District, Harrison County, W. Va.

By Hope Natural Gas Company, Clarksburg, W. Va.

Located 4.28 mi. W. of 80°15' and 0.58 mi. S. of 39°10' -EC- Weston Quadrangle.

Elevation, 1113' L.

Permit, Har-79.-D

Drilling commenced July 4, 1940; completed April 10, 1941.

Drilling contractor - Falcon-Seaboard Drilling Company (Rotary tools).

Record based on examination of samples by J. H. C. Martens (below 645') and W. W. Mayfield (above 645')

Top	Bottom	Thickness	
0			**Conemaugh Formation, 280 feet**
0	173	173	No samples
173	205	32	Sand, gray to brown
205	280	75	Shale, gray to green, sandy
			Allegheny Formation, 225 feet
280	330	50	Shale, gray to green, sandy
330	385	55	Shale, green
385	430	45	Sand, gray
430	440	10	Lime, brown
440	505	65	Sand, shaly (contaminated samples)
			Pottsville Formation, 365 feet
505	595	90	Sand, shaly (contaminated samples)
595	645	50	Sand, very fine, gray
645	650	5	Sandstone, gray, very fine, 50%; gray shale, 30%; white, medium- to coarse-grained sandstone, 20%
650	670	20	Sandstone, white, medium- to coarse-grained, 60%; gray very fine sandstone, 30%; gray shale and siltstone, 20%
670	685	15	Siltstone, dark-gray, micaceous
685	690	5	Sandstone, gray, very fine, micaceous
690	715	25	Sandstone, light-gray, very fine
715	720	5	Shale, very light brown, 50%; light-gray fine sandstone, 50%
720	725	5	Sandstone, light-gray, fine, 70%; gray and light-brown shale, 30%
725	730	5	Siltstone, dark-gray, shaly
730	735	5	Siltstone, gray and brown, shaly, 60%; fine white sandstone, 40%

Top	Bottom	Thickness	
735	740	5	Sandstone, light-gray, fine 60%; dark-gray shale and shaly siltstone, 40%
740	745	5	Coal, 70%; gray, very fine sandstone, 20%; gray siltstone, 10%
745	755	10	Sandstone, gray, very fine, shaly
755	760	5	Sandstone, light-gray, fine
760	765	5	Shale, gray, 70%; white fine sandstone, 30%
765	770	5	Sandstone, nearly white, medium-grained; contains a little siderite
770	810	40	Siltstone, dark-gray, shaly, micaceous; slightly dolomitic, 780-790'
810	815	5	Shale, dark-gray, silty, 60%; gray siltstone, 30%; white medium-grained sandstone, 10%
815	820	5	Sandstone, gray (?), fine to very fine
820	825	5	Shale, black
825	830	5	Sandstone, white, very coarse
830	835	5	Shale and siltstone, gray
835	840	5	Shale, gray; slight traces of red and green shale
840	860	20	Shale, gray, partly silty
860	865	5	Siltstone, gray, shaly
865	870	5	Sandstone, light-gray, fine, 80%; gray shale and siltstone, 20%
			Mauch Chunk Group, 285 feet
870	875	5	Shale, gray, silty, 80%; sandstone, nearly white, fine, 20%; very small amount of green sandy shale and light-brown dolomitic limestone
875	900	25	Sandstone, light-green, very fine, calcareous; also up to about 10% of yellow limestone; much of the material classed as sandstone is so fine that it could just as well be called sandy siltstone
900	950	50	Shale, red, with varying amounts of green calcareous siltstone
950	980	30	Sandstone, light-green, very fine, 60 to 70%; red shale, 40 to 30%; both shale and sandstone are somewhat calcareous
980	985	5	Shale, red, calcareous, 70%; light-green siltstone and very fine sandstone, 30% (985' of $10\frac{3}{4}$" O.D. casing set and cemented)
985	1010	25	Shale, red, distinctly laminated

Top	Bottom	Thickness	
1010	1015	5	Shale, green, silty, slightly dolomitic
1015	1030	15	Siltstone, white to light-green, sandy, slightly calcareous
1030	1035	5	Sandstone, green, very fine, micaceous
1035	1040	5	Siltstone, grayish-green
1040	1090	50	Shale, red; with some interbedded green shale and light-green calcareous siltstone
1090	1105	15	Shale, grayish-green, silty
1105	1113	8	Shale, gray, highly calcareous
1113	1123	10	Limestone, gray, fossiliferous ("Little Lime")
1123	1150	27	Shale, gray and green, soft, fossiliferous ("Pencil Cave")
1150	1155	5	Siltstone, green, calcareous
			Greenbrier Limestone, 175 feet
1155	1165	10	Limestone, gray; considerable amount of gray and green shale from above
1165	1170	5	Limestone, light-brown, oolitic; small amount of nearly black limestone
1170	1205	35	Limestone, light-brown
1205	1210	5	Limestone, dark-brown
1210	1230	20	Limestone, brown, sandy, oolitic
1230	1240	10	Limestone, light-brown
1240	1250	10	Limestone, light-brown, sandy, oolitic
1250	1264	14	Limestone, very light brown to nearly white
1264	1268	4	Sandstone, nearly white, highly calcareous; contains some oolites
1268	1275	7	Shale, gray, red, and green
1275	1280	5	Shale, green, sandy, 60%; red shale, 40%
1280	1285	5	Limestone, light-gray, partly sandy, 60%; red, gray, and green shale with some siltstone, 40%
1285	1290	5	Shale, red, 60%; black shale, 40%
1290	1295	5	Sandstone, white, medium-grained, highly calcareous
1295	1300	5	Sandstone, nearly white, medium-grained, dolomitic
1300	1315	15	Limestone, nearly white, sandy, dolomitic; larger sand grains are rounded and frosted
1315	1330	15	Dolomite, nearly white, very sandy; many of sand grains are rounded and frosted

Top	Bottom	Thickness	
			Pecono Formation, 288 feet
1330	1335	5	Shale, green and gray, soft
1335	1355	20	Siltstone, light-green, shaly
1355	1375	20	Sandstone, light-green, very fine
1375	1395	20	Siltstone, gray, shaly
1395	1400	5	Sandstone, light-gray, very fine, slightly calcareous
1400	1415	15	Sandstone, gray, very fine, shaly, micaceous
1415	1460	45	Siltstone and silty shale, gray, micaceous
1460	1495	35	Sandstone, gray, very fine, slightly calcareous; also some gray shale and siltstone
1495	1500	5	Shale, gray, silty
1500	1515	15	Siltstone, gray, slightly calcareous, 70%; dark-gray shale, 30%
1515	1520	5	Siltstone, dark-gray, shaly, micaceous
1520	1525	5	Sandstone, light-gray, very fine, slightly calcareous
1525	1550	25	Siltstone and silty shale, dark-gray
1550	1570	20	Sandstone, light-gray to white, fine to very fine, slightly calcareous (show of gas)
1570	1586	16	Shale, gray
1586	1590	4	Sandstone, white, coarse
1590	1618	28	Sandstone, white, fine; a few very coarse grains, 1610-1618'
			Uppermost Devonian, 182 feet
1618	1638	30	Shale, gray
1638	1677	39	Sandstone, white to light-gray and light-green, fine- to medium-grained
1677	1684	7	Shale, gray and green, soft
1684	1710	26	Sandstone, white to light-green, fine
1710	1715	5	Sandstone, light-gray, very fine, shaly
1715	1720	5	Shale, gray
1720	1725	5	Sandstone, light-green and white, fine, shaly
1725	1735	10	Sandstone, white, medium-grained
1735	1740	5	Shale, gray
1740	17485	5	Sandstone, light-gray, very fine
1745	1750	5	Sandstone, light-green; mostly fine, with a few coarse grains
1750	1760	10	Shale, gray

Top	Bottom	Thickness	
1760	1780	20	Sandstone, white; fine near top and medium to coarse toward bottom
1780	1785	5	Shale, gray with some green spots, soft
1785	1790	5	Sandstone, light-green; mostly fine with a few coarse grains
1790	1800	10	Shale, gray to grayish-green
			Hampshire (Catskill) Formation, 195 feet
1800	1810	10	Shale, red with some green
1810	1815	5	Shale, gray and green, 70%; light-green fine sandstone, 20%; red shale, 10%
1815	1820	5	Shale, red, 60%; green shale, 40%
1820	1830	10	Siltstone, green; also some green and red shale
1830	1835	5	Shale, gray, green, and red
1835	1840	5	Sandstone, light-green, very fine, 60%; gray, red, and green shale, 40%
1840	1845	5	Shale, gray, sandy
1845	1860	15	Sandstone, white to light-green, fine to very fine
1860	1870	10	Shale, red, partly sandy
1870	1875	5	Sandstone, gray, very fine, slightly dolomitic
1875	1888	13	Sandstone, very light green, fine, slightly dolomitic
1888	1900	12	Sandstone, light-red, very fine, 50%; red, green and gray shale, 50%
1900	1910	10	Shale, red, sandy
1910	1920	10	Sandstone, very light green, slightly calcareous, 70%; green, red, and gray shale, 30%
1920	1925	5	Shale, red, sandy
1925	1940	15	Shale, gray to grayish-green
1940	1945	5	Sandstone, very light green, very fine, 70%; red, gray and green shale, 30%
1945	1950	5	Sandstone, light-red and light-green
1950	1955	5	Siltstone, red, micaceous
1955	1960	5	Sandstone, red, very fine
1960	1965	5	Sandstone, white and light-green, fine to very fine, 50%; green shale and siltstone, 50%

Top	Bottom	Thickness	
1965	1970	5	Shale, gray
1970	1975	5	Shale, gray, green, and red
1975	1980	5	Sandstone, red and green, 70%; red and green shale, 30%
1980	1985	5	Shale, red, silty
1985	1990	5	Siltstone, gray and green
1990	1995	5	Shale, red, silty

Chemung and Portage (not including Tully), 4785 feet

1995	2015	20	Shale, gray, with silty and sandy streaks
2015	2025	10	Shale, grayish-green, 60%; white and gray calcareous sandstone, 40%
2025	2030	5	Siltstone, gray and green, shaly
2030	2045	15	Shale, gray, silty, micaceous
2045	2055	10	Sandstone, light-gray to nearly white, very fine, 60%; gray and green shale, 40%
2055	2060	5	Shale, gray, silty
2060	2082	22	Shale, gray, 60 to 70%; gray and green very fine sandstone, grading into siltstone, 40 to 30%
2082	2105	23	Sandstone, light-brown, contains many coarse to very coarse quartz grains in fine sand matrix
2105	2110	5	Shale, gray and green, 60%; green, very fine sandstone, 40%
2110	2115	5	Sandstone, white, fine
2115	2140	25	Shale, gray to grayish-green; also some light-green siltstone and very fine sandstone
2140	2150	10	Shale, grayish-green, 50%; very fine green sandstone, 50%
2150	2155	5	Sandstone, green, very fine, 70%; gray shale, 30%
2155	2160	5	Shale, gray to grayish-green, mostly silty
2160	2170	10	Shale and siltstone, gray, 70%; very fine gray to green sandstone, 30%
2170	2195	25	Sandstone, white to light-green, very fine, 70 to 80%; gray shale, 30 to 20%
2195	2205	10	Siltstone, grayish-green, shaly
2205	2220	15	Shale, gray
2220	2235	15	Shale, gray, 70%; grayish-green siltstone, 30%

Top	Bottom	Thickness	
2235	2325	90	Siltstone, grayish-green, 60 to 80%; gray shale, 40 to 20%; some of shale is cavings
2325	2330	5	Shale, gray, with a little siltstone
2330	2545	215	Siltstone and shale, gray to grayish-green; mostly about 60 to 70% siltstone; a little very fine white sandstone, 2490-2495
2545	2557	12	Sandstone, light-gray to grayish-green, very fine, slightly dolomitic
2557	2565	8	Siltstone, dark-gray, 40%; light grayish green siltstone, 40%; gray shale, 20%
2565	2570	5	Siltstone, grayish-green
2570	2575	5	Sandstone, gray, very fine, 60%; gray shale and siltstone, 40%
2575	2580	5	Siltstone, grayish-green, shaly, micaceous
2580	2595	15	Sandstone, light-gray and light-green, very fine; also some shale and siltstone
2595	2600	5	Shale, gray, silty
2600	2605	5	Siltstone, grayish-green
2605	2700	95	Sandstone, light-green, very fine, with some fragments of fossil shells; samples contain up to about 40% of shale, much of which appears to be cavings
2700	2710	10	Sandstone, light-green, very fine, slightly calcareous
2710	2725	15	Shale, grayish-green, silty
2725	2900	175	Siltstone and silty shale, grayish-green; some of siltstone is calcareous and contains fossil shells
2900	2985	85	Siltstone, grayish-green, with a few fossil shells; also some gray shale and very fine sandstone
2985	3005	20	Sandstone, dark-brown, very fine, almost a siltstone; samples also contain much gray shale and siltstone
3005	3037	32	Siltstone, gray to grayish-green
3037	3057	20	Sandstone, gray to grayish-green, very fine; scarcely distinguishable from the siltstones above and below
3057	3415	358	Siltstone, gray, grayish-green, and brown, shaly
3415	3640	125	Siltstone and silty shale, gray to grayish-green
3640	3653	13	Siltstone, brown, shaly

Top	Bottom	Thickness	
3658	3675	22	Siltstone, gray, shaly
3675	3770	95	Siltstone and shale, gray to grayish-green; much of the shale is cavings and can be definitely recognized as being from the Mauch Chunk
3770	3775	5	Siltstone, brown and gray
3775	3800	25	Siltstone, light-gray, shaly; also a little very fine sandstone
3800	3810	10	Siltstone, brown and gray; the brown part is almost a sandstone
3810	3820	10	Siltstone and shale, gray; a little very fine white sandstone
3820	3835	15	Sandstone, light-gray to brown, very fine; also contains much shale and siltstone; amount of true sandstone is little more than in many intervals above described as siltstone
3835	3845	10	Sandstone, brown, very fine
3845	3895	50	Siltstone, gray, shaly; also much shale, probably mostly cavings
3895	3915	20	Sandstone, light-gray, very fine; also much shale and siltstone
3915	3920	5	Siltstone, brown, micaceous
3920	3930	10	Siltstone, light-gray, shaly, micaceous
3930	3975	45	Siltstone, brown and gray; almost coarse enough for sandstone
3975	3985	10	Siltstone, brown and gray
3985	4000	15	Siltstone, gray shaly
4000	4005	5	Siltstone, brown with a little white sandstone
4005	4025	20	Siltstone, gray, with a little brown
4025	4030	5	Siltstone, brown
4030	4058	28	Siltstone, mostly light-gray; alsomsome brown, dark-gray and grayish-green siltstone
4058	4072	14	Sandstone, gray, very fine, silty and shaly; samples contain much siltstone and shale and even the coarser fragments are little different from the siltstone above (Benson sand)
4072	4130	58	Siltstone, gray, shaly
4130	4135	5	Siltstone, brown
4135	4165	30	Siltstone and shale, gray
4165	4180	15	Sandstone, brown, very fine; calcareous, 4165-4170'
4180	4185	5	Siltstone, gray

Top	Bottom	Thickness	(Present)
4185	4205	20	Siltstone, brown, shaly, grading into very fine sandstone toward bottom
4205	4235	30	Siltstone, gray, shaly; up to 10% or more of very fine light-gray sandstone
4235	4240	5	Siltstone, brown
4240	4245	5	Sandstone, nearly white, very fine; also much shale and siltstone
4245	4250	5	Shale, gray, 60%; siltstone and very fine sandstone, 40%
4250	4345	95	Siltstone, gray to grayish-green; also some very fine, light-gray to nearly white sandstone; only a little shale other than cavings
4345	4485	140	Siltstone and shale; throughout most of this interval siltstone is in excess of shale, although the general appearance of the samples is shaly; texture is somewhat finer toward bottom
4485	4495	10	Shale, black, 30%; gray shale and siltstone, 70%
4495	4505	10	Siltstone and shale, gray
4505	4535	30	Siltstone, light-gray, shaly; includes also some gray shale and very fine sandstone
4535	4545	10	Sandstone, light-gray, very fine
4545	4555	10	Shale, gray, 80%; light-gray siltstone, 20%
4555	4620	65	Siltstone, gray, shaly; also some light-gray, very fine sandstone and in some samples much shale cavings
4620	5325	705	Siltstone and silty shale, gray
5325	5330	5	Shale, dark-gray, with some siltstone
5330	5495	165	Shale, gray, 50 to 70%; lighter gray, mostly shaly siltstone, 50 to 30%; a little very dark gray shale in most samples
5495	5530	35	Shale, dark-gray, 80%; lighter gray siltstone, 20%; not distinctly different from shales above, but mostly a little darker
5530	6180	650	Shale, medium- to dark-gray, 60 to 80%; gray, mostly shaly, siltstone, 40 to 20%; there is much variation in the color of individual fragments in each sample, but very little in the average color of different samples in this interval; many fragments show stratification, proving that the siltstone and shale of different colors are very thinly interbedded

(Insert)

Top	Bottom	Thickness	
6180	6450	270	Shale, dark-gray; not sharply separated from the interval above but color is mostly dark; some of shale is very dark gray to black; 10% or more of gray and brown siltstone throughout

Top	Bottom	Thickness	(Insert)
6450	6465	15	Shale, medium- to dark-gray, 60%; light-gray, very fine sandstone, 20%; gray, shaly siltstone, 20%
6465	6625	160	Shale, dark-gray; small amount of black shale and gray siltstone throughout
6625	6635	10	Shale, dark-gray to black; a few of black fragments are calcareous
6635	6755	120	Shale, dark-gray; about 10 to 30% of black shale throughout; a few calcareous fragments, 6700-6755'
6755	6780	25	Shale, dark-gray, 50%; black shale, 50%; only slight traces of calcareous material; some of black shale is slickensided, 6775-6780'

Tully Limestone, 25 feet

6780	6805	25	Limestone, light- to dark-brown, very fine textured, 30 to 40%; dark-gray shale, 60 to 50%; slickensided black shale, 10%; there is finely disseminated pyrite in the limestone and black shale; limestone gives off hydrogen sulphide when treated with acid

Hamilton Shales (including Marcellus if present), 250 feet

6805	6835	30	Shale, dark-gray; limestone like that above decreases in amount from about 20% at top to slight trace at bottom of this interval
6835	6945	110	Shale, medium- to dark-gray, with only slight traces of calcareous material; part of shale is silty and there is about 10% of gray siltstone throughout
6945	6965	20	Shale, black, with some gray; black shale contains some small calcite veins; sample from 6955 to 6960' is highly calcareous
6965	6995	30	Shale, dark-gray, with a little black
6995	7005	10	Shale, black, pyritic, partly calcareous
7005	7010	5	Limestone, light-brown, very fine textured, 40%; gray shale, 40%; black shale, 20%
7010	7035	25	Shale, black, partly calcareous
7035	7055	20	Shale, dark-gray to black, calcareous; some small calcite veins, 7040-7045'

Top	Bottom	Thickness	
			Huntersville Chert, 235 feet
7055	7065	10	Limestone, brownish-gray, shaly, fossiliferous; contains a little yellow sphalerite; no pure chert; much gray to black shale
7065	7070	5	Limestone, brown, cherty; sample contains some nearly white pure chert, some cherty dolomitic siltstone with grains of glauconite, a little brown micaceous siltstone and much gray and black shale
7070	7125	55	Chert, brown and light-gray, calcareous; contains a little silt and glauconite; many small rhombs of dolomite
7125	7150	25	Chert, brown with small amount of gray; slightly to moderately calcareous; contains some dolomite
7150	7190	40	Chert, dark-brown; contains some silt or very fine sand, many small dolomite rhombs and a little glauconite
7190	7230	40	Chert, dark-brown to nearly black, silty; contains a little dolomite
7230	7245	15	Chert, brown and gray, slightly calcareous, silty; contains a little glauconite and dolomite
7245	7285	40	Chert, brown to gray, calcareous and dolomitic
7285	7290	5	Limestone, brown, cherty
			Oriskany Sandstone, 110 feet
7290	7320	30	Sandstone, light-gray, calcareous, medium- to fine-grained; contains a very little yellow sphalerite
7320	7350	30	Sandstone, brownish-gray, fine, calcareous; contains some shell fragments
7350	7400	50	Sandstone, dark brownish gray, fine to very fine, highly calcareous; a few fragments of chert, which are probably from the chert above; samples consist largely of shale cavings; sandstone contains a little dolomite
			Helderberg Group, 585 feet
7400	7425	25	Limestone, brown, sandy and silty, fossiliferous; contains little if any chert; samples consist mostly of shale cavings
7425	7434	9	Limestone, brown, silty and cherty (samples are mostly shale)
7434	7437	3	Siltstone (?), brown, shaly, calcareous

Top	Bottom	Thickness	
7437	7455	18	Sandstone, brownish-gray, highly calcareous; could just as well be called sandy limestone
7455	7475	20	Limestone, brown, sandy; contains much silt and very fine sand; slight traces of chert, possibly from Huntersville above; much less of shale cavings than for last few hundred feet
7475	7510	35	Limestone, brown, silty; large insoluble residue consists of very porous brown fragments, perhaps partly cherty in nature but very little chert definitely recognizable as such; some of lower part of this interval could perhaps be called calcareous shale or siltstone
7510	7540	30	Shale, very dark brown, highly calcareous
7540	7585	45	Limestone, brown to light-gray, cherty and silty, slightly dolomitic, fossiliferous; slight trace of glauconite
7585	7613	28	Limestone, brown, shaly, slightly dolomitic; very little pure chert; large insoluble residue of porous brown fragments
7613	7645	32	Limestone, white to light-gray and light-brown, sandy; contains also small amount of dolomite and white to light-gray chert; sand is very fine; some fossil shells present
7645	7675	30	Limestone, light-brown, fossiliferous; contains small amount of chert and detrital quartz of silt to very fine sand size
7675	7705	30	Limestone, light-brown, fossiliferous; contains a little very fine sand
7705	7725	20	Limestone, dark-brown, very fine textured; small insoluble residues consisting of fine sand and a few very small doubly terminated quartz crystals; after acid treatment there is very fine nearly black material in suspension (probably organic matter); very small amount of dolomite
7725	7735	10	Limestone, light-to dark-brown with some gray; a few fragments have many small round objects resembling oolites; contains a little very fine sand and small amount of dolomite
7735	7740	5	Limestone, dark-brown, very fine textured, thin bedded, somewhat dolomitic; a few fossil fragments

Top	Bottom	Thickness	
			Clinton Formation, 577 feet
9170	9193	23	Shale and siltstone, gray, distinctly laminated 20%; gray to brown limestone, 80%; much of the shale and siltstone is calcareous; some shale may be cavings but shale and siltstone rather than limestone probably occupies most of this interval (Rochester Shale)
9193	9198	5	Hematite, red, oolitic ("Clinton ore"), some pyrite and white calcite is associated with the hematite; some gray shale and various kinds of limestone also in sample
9198	9207	9	Sandstone, gray, very fine; a very few fragments composed largely of glauconite; the sample really consists mostly of brown limestone, probably from above and gray calcareous and silty shale, at least part of which probably belongs in this interval, since a fragment with hematite oolites was observed (Keefer Sandstone)
9207	9235	28	Shale, light-gray to grayish-green, soft; also some nearly white to green dolomitic siltstone and very fine sandstone, and a few pieces of nearly white crystalline dolomitic limestone; a few highly glauconitic fragments are intermediate between siltstone and limestone; samples also contain much darker gray shale, brownish shaly limestone and a little oolitic hematite, which are probably cavings
9235	9345	110	Shale, light grayish-red; samples still contain all of the materials mentioned for the interval above; the gradual increase in amount of red shale in the samples from this interval indicates that it is the principal rock present
9345	9455	110	Shale, light grayish green, mostly soft and very fine textured; large amounts of grayish-red shale present in samples but believed to be from above
9455	9555	100	Shale, grayish-red and light-grayish green; the samples contain nearly equal amounts of the two colors but an increase in the amount of red at about 9455' suggests that this interval is mostly red shale

Top	Bottom	Thickness	
9555	9560	5	Sandstone, light yellowish gray, very fine; sample also contains large amounts of red and green shale
9560	9570	10	Shale, red and green (?) (color of samples changed by heating)
9570	9600	30	Shale, grayish-red
9600	9610	10	Limestone, light-gray to reddish, finely crystalline, dolomitic, fragments apparently show gradations from limestone to a rock composed mostly of hematite and bluish-green glauconite or chlorite with some carbonate; sample actually consists mostly of green and red shale
9610	9630	20	Shale, grayish-red and grayish-green
9630	9640	10	Sandstone, gray, very fine; samples are mostly red, gray and green shale
9640	9655	15	Sandstone, light-gray and light-red, fine to very fine; a few fragments are quartzitic but more have some dolomite cement and show grain structure very plainly (show of gas at 9650')
9655	9685	30	Sandstone, white and light-gray, very fine, slightly dolomitic; grain structure shows very plainly; core from 9661-9664' shows fine white sandstone interbedded with dark-gray sandy shale (show of gas, 9665-9685')
9685	9700	15	Siltstone, dark-gray, shaly, pyritic
9700	9747	47	Siltstone, light-gray to grayish-green; some fragments almost a sandstone; samples are nearly all red and green shale
			<u>Albion (White Medina) Sandstone, 249 feet</u>
9747	9951	202	Sandstone, white, fine, quartzitic; sandy shale from 9772 to 9776' according to record from Hope Natural Gas Company (samples throughout this interval are composed mostly of red and green shale with smaller amounts of other materials from above)
9951	9975	24	Shale, dark-gray, thinly interbedded with very fine lighter gray sandstone (large proportion of red and green shale from above)
9975	9996	21	Sandstone, white, fine- to medium-grained, quartzitic (samples mostly red and green shale)

Top	Bottom	Thickness	
			Queenston Shale, 22+ feet
9981	10010	14	Shale, red, silty, micaceous; only a very small proportion of this is present in the samples, but it is so different from the red shale from above that its identity is unmistakable; samples are mostly grayish-red and grayish-green shale from the Clinton Formation
	10018		Total depth