Grant District, Wetgel County, W. Va. By Carnegie Natural Gas Company, Pittsburgh, Pa. Located 3.24 mi. W. of 80°30' and 0.71 mi. S. of 59°35' -SE= Littleton Quadrangle. Elevation, 1245' B. Permit, Wet-253.) Drilling commenced May 14, 1941; completed, July 3, 1941. Gas well; volume 333,000 cu. ft.; rock pressure 655 lbs. in 24 hrs. Fresh water at 345 and 1458-1462'. Salt sater, 1552'. Coal at 615, 714, and 1458*. 10" casing, 372'; 84", 1238'; 6-6/8", 1943'. Section based on samples from surface to 2026' examined by J. H. C. Martens. Top Bottom Thickness Dunkard Group, 360+ feet 0 10 10 Clay, yellow 10 25 15 Sandstone 25 45 20 Shale, greyish-green, soft 68 45 28 Siltatone, gray to light-green Clay, red, calcareous 68 110 42 110 Siltatone and shale, light-green, calcareous; samples also 235 125 contain red clay cavings 235 245 10 Clay, gray, soft 245 255 10 Shale, black, with trace of coal 265 265 10 Clay, gray to dark-gray, soft 265 280 15 Sandstone, white to light-green, very fine 280 293 13 Clay, dark-gray, soft, with siderite concretions 295 321 28 Clay and soft shale, gray to green, partly sandy 321 Sandstone, white, medium- to coarse-grained 351 **3**0 351 360 9 Clay, gray, soft Konongahela Formation, 360 feet 360 307 27 Siltstone, gray, micaceous 387 404 Sandstone, nearly white, fine 17 404 418 14 Shale, green, silty

Top	Bottom	Thickness	
418	425	7	Sandstone, light-gray, fine, calcareous, micaceous
425	448	23	Shale, red and green, soft, calcareous
448	470	22	Shale, gray and red
470	480	10	Coal and gray shale
480	487	7	Shale and siltstons, light-gray; also a little light-brown
			limestons
487	511	24	Limestone, very light brown
511	555	24	Limestons, brown
555	543	8	Shale, green, silty
543	551	8	Shale, gray and green, soft
551	615	64	Limestone, light-brown; small amounts of soft green and gray
			shale
615	618	3	Coal (Sewickley Coal)
618	624	6	Limestons, brown
624	640	16	Siltstone, gray
640	714	74	Limestone, brown to light-brown; some gray and green soft
			shale throughout
714	720	6	Coal (Pittsburgh Coal)
		Co	nemaugh Formation, 596 feet
720	748	28	Siltatone, light-gray
748	760	12	Shale, gray
760	785	25	Limestone, brown to light-brown; a little sandstone near top
			of interval
785	793	8	Siltstone, light-green
793	805	12	Shale, red
805	825	20	Clay, gray, rod, green, etc., disintegrating quickly in water;
			also a little light brown limestone
825	857	32	Sandstone, white to light-green, fino; silty near top
857	880	25	Clay, red and yellow, highly calcareous
8 80	895	15	Clay, red and yellow, 50%; white limestone, 30%; green siltstone,
			20%
8 95	958	63	Clay, red, yellow and gray; interval probably contains consider-
			able limestone, since proportion of clay is increased by
			eavings

Top	Bottom	Thickness	
95 8	990	32	Shale and siltstone, green; also a little limestone and various
			kinds of clay; a few fragments of fossil marine shells
			(Ames shale and limestone, 958-1000't)
990	1000	10	Limestone, very light brown to greenish, with fossil shells;
			sample is mostly red, yellow, and gray clay
1000	1040	40	Clay, red, yellow, white, and green, with limestone nodules
1040	1054	14	Sandstone, green, fine
1054	1077	22	Siltstone and silty shale, green
1077	1085	8	Clay, red and yellow
1085	1108	28	Siltstone, light-green
1108	1126	18	Shale, gray, silty
1126	1160	34	Sandstone, white, medium-grained
1160	1167	7	Shale, dark-gray, silty
1167	1177	10	Clay, mearly white, soft
1177	1195	A STATE AND A STATE OF	Siltstone and silty shale, light-green, with siderite spherulites
1195	1218	23	Siltstone, light-gray, sandy, micaceous
1218	1226	8	Shale, dark-gray and light-gray; a little coal
1226	1293	87	Sandstone, light-gray to white, fine to medium-grained
1293	1316	23	Siltstone and shale, gray, micaceous
		<u>A11</u>	eghany and Potteville, 517 feet
1316	1329	18	Siltstone, light-gray, 60%; brown limestone, 20%; gray to
			black shale, 20%
1329	1347	18	Siltstone, light-gray, sandy; some brown limestone and light-
			gray shale near top
1347	1401	54	Sandstone, white, medium- to coarse-grained
1401	1419	18	Siltatone, gray
1419	1447	28	Sandstone, gray, very fine
1447	1458	11	Siltstons and shale, gray
1458	1462	4	Coml (gas, 1458-1462', 5,250 ou. ft.; water, 1458-1462',
			bailer per hour)
1462	1485	23	Sandstone, white, coarse, nearly all quarts; crystal faces on
			many grains; some gray siltatone mear top
1488	1522	87	Siltstone, gray, shaly; grades into sandstone at bottom

Top	Bottom	Thickness	
1522	1567	45	Sandstone, white, medium-to coarse-grained; nearly all quarts
			(hold full of salt water at 1552')
1567	1595	28	Shale, black and gray
15 95	1615	20	Siltstone, dark-gray
1615	1650	-	Sandstone, white, medium-grained
1650	1760	110	Sandstone, white, mostly coarse; large amounts of gray clay
			cavings in several samples
1760	1800	40	Sandstone, white to light-gray, very fine to fine (samples
			from this interval consist mostly of gray olay, assumed to
			be envings because it is the same as that in many samples
			from above)
			Mauch Chunk Group, 107 feet
1800	1848	48	Shale, red, soft; also includes some green shale, siltstone
			and very fine sandstone
1848	1866	18	Siltatone, green, calcareous; also some red shale
1866	1881	15	Shale, red, soft
1881	1900	19	Limestone, brown, fessiliferous; also some gray shale
1900	1907	7	Shale, gray, soft ("Pensil Cave")
			Greenbrier Limestone, 119+ fest
1,907	1940	55	Limestone, light-brown; also large amounts of gray shale cavings
1940	1970	30	Limestone, very light brown
1970	2002	32	Limestone, brown
2002	2026	24	Samistone, nearly white, highly calcareous; larger grains are
			rounded and frosted; samples also contain some limestone
2	050		Total depth

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