

Lo A. Christy No. 2 (453) Well

Louden District, Kanawha County, W. Va.

By The Owens, Libbey-Owens Gas Department, Box 1575, Charleston, W. Va.

On west side of Kanawha River, 0.22 mi. W. of river bank, 0.22 mi. N. of
Garner P. O. (Malden Station).

3.67 mi. N. of 38°15' and 1.02 mi. E. of 81°55' -SE- Charleston Quadrangle.

Elevation, 603⁺.

Complete record on pp 186-187 of Deep-Well Records Report and sample descriptions

from 4392 to 4630 $\frac{1}{2}$ on pp 202-203 of Vol. XI, West Virginia Geological Survey.

Top	Bottom	Thickness	
<u>Recent Alluvium, 64 feet</u>			
0	16	16	Clay and silt, yellow
16	64	48	Sand, gray, and yellow, with a few pebbles (water at 58 feet, hole full)
<u>Pottsville Formation, 828+ feet</u>			
64	112	48	Sandstone, light-gray; grain-size increases downward from very fine at top to coarse near bottom; sandstone contains mica, kaolin and chlorite (water at 84 feet, hole full)
112	130	18	Siltstone, gray, shaly, micaceous; contains siderite in concretions and small scattered specks
130	136	6	Shale, dark-gray to black, with considerable dark-gray limestone
136	159	$\frac{2}{3}$	Shale, gray, very silty, contains siderite concretions
159	178	19	Sandstone, white, fine, soft; contains mica, chlorite and kaolin
178	184	6	Shale, gray, silty, micaceous
184	215	31	Sandstone, nearly white, fine
215	232	17	Sandstone, gray, very fine, shaly; contains mica, siderite and carbonaceous material
232	257	25	Sandstone, very light-gray, medium-grained; contains mica, chlorite and kaolin
257	262	5	Shale, gray, silty
262	267	5	Sandstone, light-gray, fine
267	273	6	Shale, gray, silty
273	291	18	Sandstone, white, medium-grained

Top	Bottom	Thickness	
291	297	6	Shale, gray, silty
297	301	4	Sandstone, light-gray, fine
301	307	6	Siltstone, gray, shaly
307	330	23	Sandstone, light-gray fine
330	335	5	Siltstone, gray, shaly; small amount of coal
335	341	6	Sandstone, light-gray, fine
341	356	15	Shale and siltstone, gray; some siderite concretions
356	496	140	Sandstone, light-gray to white, mostly medium- to fine-grained with a few coarse grains in some samples; above 390 the sandstone breaks more in chips and contains a little more of minerals other than quartz than it does below that depth (show of oil at 405; water at 470)
496	498	2	Coal, pyritic
498	501	3	Shale, dark-gray to black
501	525	24	Siltstone, gray, shaly; contains thin dark streaks with coaly material and mica
525	534	9	Sandstone, light-gray to white, fine; some coal and black shale (probably at about 526, with white sandstone starting below it)
534	693	159	Sandstone, white with small amount of rust stain, fine- to medium-grained, nearly all quartz; some coarse to very coarse grains in a few samples, especially 599 to 604
693	706	12	Sandstone, white, very coarse, pebbly
706	723	18	Sandstone, white, coarse
723	755	32	Sandstone, light-gray, fine; partly brownish from siderite occurring as spherulites and in the cement
755	764	9	Shale and siltstone, gray
764	768	4	Siltstone, brown, containing much siderite
768	774	6	Siltstone, gray
774	786	12	Shale, gray, containing siderite spherulites and concretions
786	797	11	Sandstone, white, fine
797	892	95	Sandstone, white with small amount of rust stain, medium- to coarse-grained, nearly all quartz; coarse with some pebbles near bottom

Top	Bottom	Thickness	
<u>Mauch Chunk Group, 138 feet</u>			
892	902	10	Siltstone, gray, dolomitic
902	910	7	Shale, gray, with small amount of gray, fine textured dolomite or siderite
910	915	5	Shale, red
915	922	7	Shale and siltstone, grayish-green
922	928	6	Shale, red and green; with considerable amount of light-brown fine textured dolomite
928	939	11	Shale, gray; with a little red shale and considerable amount of gray siltstone and white very fine sandstone; strongly dolomitic, 928 to 932, less so below
939	985	46	Sandstone, white, very fine, nearly all quartz
985	986	1	Shale, gray
986	990	4	Dolomite, brown
990	1025	35	Limestone, dark-gray with small white spots, fossiliferous (Little Linn)
1025	1030	5	Shale, gray, soft, fissile, fossiliferous (Pencil Cave)
<u>Greenbrier Limestone, 197 feet</u>			
1030	1051	21	Limestone, dark-gray, somewhat brownish; samples contaminated by shale from above
1051	1078	27	Limestone, gray, somewhat brownish; mostly a little lighter than interval above
1078	1088	10	Limestone, brownish, gray, with sandy streaks; less than half of the fragments show any sand
1088	1110	22	Limestone, light-gray, very fine textured
1110	1115	5	Limestone, light-gray, partly sandy
1115	1158	23	Limestone, light brownish gray, oolitic, moderately sandy; larger sand grains are rounded and frosted; below 1136 oolites are less thoroughly cemented and rock is broken finer (4 bailers water at 1136)
1158	1159	1	Shale, dark-gray, soft, very finely laminated
1159	1182	43	Limestone, light-gray, mostly slightly yellowish or brownish, oolitic and sandy; sand is poorly sorted with larger grains rounded and frosted (hole full of water at 1155; show of gas at 1155)
1182	1186	4	Limestone, light-gray, dolomitic; shows no oolites and is made up of crystals a little larger than those in the limestones above and below

Top	Bottom	Thickness	
1186	1210	24	Limestone, light-gray, oolitic; contains only a little sand
1210	1227	17	Limestone, very light gray, dolomitic, sandy; the carbonate minerals have a very fine granular texture different from that of the non-dolomitic portions of the Greenbrier Limestone; sand is poorly sorted
<u>Maccrady and Pocono Formations, 458 feet</u>			
1227	1254	27	Sandstone, grayish-red, very fine, almost a siltstone; (a little green siltstone in sample from 1250 to 1254)
1254	1272	18 ⁸	Shale and siltstone, red (gas at 1259, 3,980 cu. ft.)
1272	1594	322	Shale and siltstone, gray; most of the siltstone is lighter colored than the shale; in most of the interval there is considerably more shale than siltstone but a few near the top and bottom have about equal amounts of the two rocks (gas at 1350 to 1360, 60,000 cu. ft.; gas at 1420 to 1430, 108,000 cu. ft.; gas at 1465 to 1488, 140,000 cu. ft.; gas at 1530 to 1550, 172,000 cu. ft.; gas at 1573, 153,000 cu. ft.)
1594	1625	31	Siltstone, light-gray; with small amount of darker gray shale (gas at 1599, 463,000 cu. ft.)
1625	1649	23	Shale and siltstone, gray (gas at 1635, 517,000 cu. ft.)
1649	1662	14	Shale, black (Sunbury Shale)
1662	1663	1	Sandstone, white, very fine, with much pyrite in some fragments (Berea Sandstone; gas at 1663, 567,000 cu. ft.)
1663	1741	78	Shale and siltstone, gray to grayish-green
1741	1774	33	Shale, gray, partly silty; with 10 to 20% of grayish-red shale
1774	1788	14	Shale, gray; with some gray and green siltstone
1788	1825	37	Shale, gray to grayish-green; with about 10 to 20% of grayish-red shale and some green siltstone
1825	2845	1020	Shale, gray to grayish-green, interstratified with varying amounts of siltstone of about the same or a little lighter color; in a general way the amount of siltstone is less and the average texture finer toward the bottom of the interval
2845	2885	41	Shale, gray; about 20% is very dark
2885	3282	396	Shale, gray; about 20% of shale from 3167 to 3189 is very dark gray; most samples contain a little siltstone

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Top	Bottom	Thickness	
3232	4066	734	Shale, gray; a few samples contain up to about 50% of dark-gray and most of them have some; several samples contain small spherical pyrite concretions
4066	4296	230	Shale, mostly dark-gray to black, with some lighter gray; contains small amounts of calcareous material
4296	4392	96	Shale, dark-gray to black, partly calcareous
			<u>Huntersville Chert, 107 feet</u>
4392	4499	107	Gray calcareous chert and cherty limestone and sandstone
			<u>Oriskany Sandstone, 28 feet</u>
4499	4527	28	Sandstone, gray, calcareous except for three feet at top
			<u>Halderberg Group, 32+ feet</u>
4527	4530 $\frac{1}{2}$	3 $\frac{1}{2}$	Chert, gray, sandy, calcareous
	4530 $\frac{1}{2}$		Total depth