

Bull Creek Coal Land Company No. 16 (580) Well.

Peytona District, Boone County, W. Va.

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

Located 2.39 Mi. S. of 38° 15' and 1.48 Mi. W. of 81° 40'--N.W.--

Peytona Quadrangle.

Elevation, 794' L.

Permit Boo-473

Drilling commenced Sept. 9, 1940; completed Feb. 17, 1941.

Shot at 1319--1371'

Gas well; volume 53,000 Cu. Ft.

Rock pressure, 122 Lbs. in 48 Hrs.

Fresh water at 40' and salt water at 493 and 530'.

Coal was encountered at 30--35'

13" casing 29'; 8 $\frac{1}{4}$ "^m, 1158'; 6-5/8", 4397'; 2" tubing, 1378'

Section based on samples from 1129 to 5818'. Examined by Constantine N. Apsouri. Description condensed slightly by J. H. C. Martens. For the most part this record shows a close agreement with that of Bull Creek Coal Land Company No. 13 well, located two miles to the east.

(Boo-402)

Top.	Bottom.	Thickness.	<u>Greenbrier Limestone, 179 feet.</u>
1129	1132	3	Limestone, very light brown
1132	1148	16	Limestone, brown to light-brown, partly oolitic
1148	1177	29	Limestone, very light brown
1177	1183	6	Limestone, brown
1183	1208	25	No samples. (gas show, 1200')
1208	1218	10	Limestone, nearly white
1218	1227	9	Limestone, nearly white, oolitic
1227	1244	17	Limestone, nearly white, oolitic, sandy
1244	1253	9	Limestone, nearly white
1253	1262	9	Limestone, nearly white, partly dolomitic
1262	1270	8	Limestone, nearly white, partly dolomitic; a few greenish fragments

1270 1278 8 Limestone, white and reddish, dolomitic
 1278 1285 7 Limestone, nearly white
 1285 1300 15 Limestone, light-brown to reddish
 1300 1308 8 Limestone, nearly white, dolomitic

Maccrady Formation, 59 feet

1308 1344 36 Siltstone, brownish-red (gas, 1344'; 42,000 Cu.Ft.)
 1344 1367 23 Sandstone, brownish-red, very fine, silty

Pocono Formation, 429 feet

1367 1377 10 Shale, dark-gray, very silty
 1377 1387 10 Siltstone, gray
 1387 1396 9 Siltstone, dark-gray
 1396 1409 13 No samples
 1409 1444 35 Siltstone, dark-gray
 1444 1464 20 Siltstone, dark-gray, 60%; very fine, greenish
 sandstone, 40%
 1464 1475 11 Sandstone, very fine, greenish, 50%; gray shale, 30%;
 red siltstone, 20%
 1475 1561 86 Shale, gray
 1561 1778 217 No samples
 1778 1788 10 Shale, very dark brownish-gray (Sunbury Shale)
 1788 1796 8 Sandstone, white, very fine, pyritic (Berea Sandstone)

Devonian Shales, 2507 feet

1796 4303 2507 Shales and siltstones; not sampled

Huntersville Chert, 86 feet

4303 4389 86 Limestone, brown, very cherty; sandy and glauconitic
 at bottom

Oriskany Sandstone, 18 feet

4389 4392 3 Sandstone, white, medium-grained
 4392 4397 5 Sandstone, white, coarse (gas, 4397'; 24,000 Cu.Ft.)
 4397 4407 10 Sandstone, white, medium- to coarse-grained, highly
 calcareous

Helderberg Group, 146 feet

4407 4411 4 Limestone, white, cherty and sandy, with small amount
 of dolomite and glauconite
 4411 4418 7 Chert, light-gray, glauconitic and slightly calcareous

4418	4422	4	Limestone, brown to dark-brown, very cherty
4422	4451	29	Limestone, dark-brown, shaly and slightly cherty
4451	4459	8	Limestone, dark-brown, glauconitic, shaly and slightly cherty
4459	4462	3	Sandstone, white, fine, glauconitic
4462	4465	3	Limestone, light-brown, sandy, cherty, and glauconitic
4465	4468	3	Sandstone, white, cherty, calcareous, and glauconitic
4468	4470	2	Limestone, white, cherty and sandy
4470	4473	3	Sandstone, white to brown, fine, calcareous
4473	4487	14	Chert, light-gray, calcareous and glauconitic
4487	4504	17	Limestone, brown, sandy and cherty
4504	4520	16	Limestone, brown, cherty
4520	4530	10	Limestone, brown, cherty and sandy
4530	4539	9	Sandstone, very fine, highly calcareous
4539	4545	6	Limestone, brownish-gray, very impure
4545	4553	8	No sample

Salina and Lockport Formations, 697 feet

4553	4570	17	Limestone, brown, slightly dolomitic
4570	4578	8	Limestone, brown, partly oolitic
4578	4583	5	Limestone, light-brown, partly dolomitic
4583	4593	10	No sample
4593	4598	5	Limestone, dark-brown, dolomitic, with some anhydrite
4598	4611	13	Limestone, brown, containing anhydrite
4611	4641	30	Dolomite, brown with anhydrite
4641	4646	5	Dolomite, brown, slightly sandy
4646	4664	18	Dolomite, brown, with large amount of anhydrite
4664	4676	12	Dolomite, light-brown, with anhydrite in upper six feet
4676	4693	17	Dolomite, dark-brown
4693	4708	15	Limestone, dark-brown
4708	4723	15	Dolomite, dark-brown
4723	4772	49	Dolomite - anhydrite rock
4772	4779	7	Dolomite - anhydrite rock, brown, 90%; green shale, 10%
4779	4843	64	Dolomite - anhydrite rock, brown
4843	4852	9	Dolomite, brown
4852	4874	22	Dolomite, brown, with considerable anhydrite

4874	4902	28	Dolomite, brown, with a little anhydrite
4902	4907	5	Dolomite, brown; acid treatment leaves porous aggregates of pyrite
4907	4961	54	Dolomite, brown (salt water, 4919', $\frac{1}{2}$ bailer per hour)
4961	5020	59	Dolomite, brown, containing anhydrite
5020	5049	29	Dolomite, brown
5049	5053	4	No sample
5053	5072	19	Sandstone, white to light-gray, fine, dolomitic (this is the same as the sandstone occurring at a depth of 5243 to 5263' in the Bull Creek Coal Land Company; it may be the stratigraphic equivalent of the Williamsport Sandstone of Grant County, West Virginia; gas 5058 - 5062'; increase 104,000 cu. ft.)
5072	5081	9	Dolomite, brown, 60%; yellowish-green shale, 40%
5081	5089	8	Dolomite, brown, containing anhydrite
5089	5094	5	Dolomite, brown, containing anhydrite, 70%; yellowish-green shale, 30%
5094	5097	3	Dolomite, dark-brown
5097	5119	22	Dolomite, dark-brown, with a little anhydrite
5119	5143	24	Shale, brown, highly dolomitic
5143	5149	6	Dolomite, brown, shaly
5149	5156	7	Dolomite, brown, sandy
5156	5177	21	Dolomite, brown
5177	5196	19	Dolomite, brown, with rounded quartz grains
5196	5210	14	Limestone, brown, slightly dolomitic, containing some pyrite and rounded quartz grains
5210	5234	24	Limestone, brown, dolomitic and oolitic
5234	5239	5	Dolomite, brown
5239	5250	11	Dolomite, brown, sandy
<u>Clinton Formation, 423 feet</u>			
5250	5272	22	Sandstone, white, fine, 70%; dolomite, 30% (Keefe Sandstone, 5250--5280')
5272	5280	8	Sandstone, fine, dolomitic and pyritic
5280	5293	13	Shale, light-red, 50%; green shale, 50%
5293	5411	118	Shale, red

5411	5437	26	Shale, red, 50%; greenish-gray shale, 50%
5437	5469	32	Shale, green
5469	5497	28	Shale, red, 70%; green shale, 30%
5497	5557	60	Shale, red
5557	5584	27	Shale, red, 55%; green shale, 45%
5584	5628	44	Shale, gray; some red shale, cavings
5628	5636	8	Shale, red
5636	5657	21	Shale, gray
5657	5667	10	Shale, red
5667	5673	6	Shale, gray
<u>Albion Sandstone (White Medina), 137 feet</u>			
5673	5679	6	Shale, red and gray, 75%; light-gray, very fine sandstone, 25%
5679	5686	7	Sandstone, white, medium-grained, quartzitic, 60%; greenish sandy shale, 40%
5686	5706	20	Sandstone, white, fine to very fine; quartzitic (gas, 5706', increase 7,000 cu.ft.)
5706	5707	1	Shale, red and green, 80%; white, very fine sandstone, 20%
5707	5712	5	Sandstone, white, very fine, quartzitic
5712	5714	2	Shaley red and green
5714	5728	14	Sandstone, white, very fine, quartzitic (gas, 5721-5729', increase 7,000 cu. ft.)
5728	5730	2	Shale, red, 50%; green shale, 50%
5730	5739	9	Sandstone, white, very fine, quartzitic
5739	5788	49	Shale, greenish-gray
5788	5797	9	Sandstone, white, fine, quartzitic, 60%; gray shale, 40%
5797	5803	6	Sandstone, light-gray, very fine, with a few coarser grains
5803	5810	7	Sandstone, light-gray to white, mostly coarse
<u>Queenston Shale, 8 plus feet</u>			
5810	5818	8	Shale, red with some green
	5818		Total depth

5810

Masters

REPORT OF CORE ANALYSIS OF SHOT FRAGMENTS FROM HULL CREEK COAL AND LAND CO.

NO. 23, WELL (679)

BOONE COUNTY, DRILLED BY OWENS, LIBBEY-OWENS GAS DEPARTMENT

By J. S. Joseph

West Virginia Geological Survey - June 9, 1945

Piece No.	Porosity % of Bulk Vol.	Permeability Millidarcys	Mineral Specific Gravity
1	4.2	.085	2.654
2	3.7	.010	2.665
3	4.2	.113	2.668
4	3.7	.081	2.674

Oil saturation as % of pore space - 17.1%

Oil per acre foot - - - - - 52.0 barrels

The oil saturation was determined by extracting from all the pieces at once.

The tests were similar to those found for wells S41 and S42, Nellie B. Tompkins No. 1 and 2, as published in West Virginia Geological Bulletin No. 8.