

Goldie Ankrum No 1 GW(993) Well

Colonge Dis trict, Mason County, W. Va.

By Columbian Carbon Company, Charleston, W. Va.

Located .25 Mi. S of 38° 50' and 2.75 Mi. W of 81° 50' S C

Ravenswood Quadra ngle

Elevation, 671.3' L.

Permit Mas - 38

Drilling commenced Dec. 8, 1947; completed Feb. 11, 1948.

Shot Feb. 14, 1948 at 2700-3650' with 64# 80% gelatin.

Gas well; Volume 103,000 cu. ft.

Rock pressure, 800 lbs. in 42½ hours.

Fresh water 145' - hole full.

Salt water-1130' 1 bls per hour; 1480' hole full; 2122' 11 7/8 bls per hr.

13-3/8 48# casing, 126' 11"; 10-3/4 " 40#, 827' (Pulled); 8 1/4" 24# 1874' 5" (pulled); 7" 23# 2536' 1".

5-3/16" 15# 2559' 10"; 3 1/2" tubing 403', 2/38" 4# 2510 " ; coal was en-  
countered at 1182-1187'.

PERMIAN & PENNSYLVANIAN SYSTEMS, 1521 feet.

Top	Bottom	Thickness	
0	9	9	Alluvium, mostly fine to medium sand
9	14	5	Clay-shale, grayish-brown to grayish-red, lami- nated, soft, 70%; clay-shale and siltstone, light- to dark-greenish-gray, the siltstone is sandy, micaceous, and thick clay-shale, poorly laminated, calcareous
14	24	10	Sandstone, nearly white to very pale green, medium- to coarse-grained, subangular to sub- rounded, much of the quartz grains are clear and glassy, some of the larger grains are frosted, moderately calcareous
24	49	25	Clay, grayish-orange, slightly calcareous, silty slightly shaly
49	81	32	Clay-shale, grayish-red to grayish-brown, brownish-gray to greenish-gray, soft, silty, poorly laminated, small amount of yellow clay; small amount of limestone

81	105	24	Clay, grayish-brown to grayish-red, some greenish yellow, silty, micaceous, 50-60%; siltstone, medium-gray to grayish-green, coarse, highly micaceous, moderately calcareous, 30-40%; limestone, light-olive, gray, 10%
105	115	10	Clay, moderate-brown, calcareous, slightly silty
115	130	15	Sandstone, light olive-gray to greenish-gray, very fine grained, subangular, highly micaceous, with some chlorite, moderately calcareous
130	150	20	Sandstone, light-olive-gray, medium-to coarse-grained, subangular, to subrounded, highly micaceous
150	164	14	Clay-shale, soft, grayish-brown to grayish-red, greenish-gray, grayish-yellow, 90%; siltstone, grayish-green, sandy, highly micaceous
164	172	8	Clay, light-brown, highly calcareous, slightly shaly and sandy
172	174	2	No sample
174	180	6	Clay, light-brown, calcareous, 30%; clay-shale, grayish-brown to grayish red, grayish-yellow, 30%; siltstone, light-to dark-greenish-gray, very micaceous, 20%; limestone, light olive gray, 20%
180	200	20	Sandstone (very fine grained) to siltstone (coarse, medium-gray to greenish-gray, very highly micaceous (much <del>biotite</del> biotite), moderately calcareous
200	232	32	Sandstone, light-gray to light-greenish-gray, very fine, to fine-grained, moderately calcareous; with interbedded medium-gray to dark-greenish-gray, highly micaceous siltstone and shale, increasing amount of biotite toward the bottom; small amount of olive-gray limestone
232	266	34	Clay, grayish-brown, grayish-red-purple, 90%; medium-gray to light-olive-gray to grayish-olive, 10%; highly calcareous

266	290	24	Siltstone, greenish-gray, fine to coarse, highly micaceous (much green biotite) grading into a calcareous siltstone, light-greenish-gray to a very <sup>l</sup> bright-to light greenish-gray limestone with clastic texture, very silty
290	320	30	Siltstone and shale, greenish-gray, highly micaceous to a limy <del>limestone</del> siltstone grading into a light olive and brown, sideritic limestone; small amount of clay shale, light- to dark-olive-gray
320	330	10	Sandstone, light-olive-gray, fine- to medium-grained, highly micaceous, moderately, calcareous, 30%; siltstone and shale, greenish-gray, highly micaceous; limestone and limy siltstone, light-olive gray to grayish-olive, 70%
330	338	8	Clay-shale, grayish-brown to brownish-gray, 50%; siltstone and shale, brownish-gray to light-olive-gray, highly micaceous, 50%
338	365	27	Sandstone, light olive gray, fine-to very fine-grained, subangular to subrounded, calcareous, very highly micaceous, slightly chloritic, 20%; siltstone and shale, medium-gray to grayish-black, light-to dark-olive-gray, highly micaceous
365	390	25	Sandstone, light- to dark-greenish-gray, fine-to very fine-grained, subangular, very highly micaceous, slightly calcareous
390	415	25	Clay, grayish-brown to grayish-red-purple, gray to grayish-olive, 90%; limestone, medium-brown to brownish-gray, (nodules), 10%
415	430	15	Clay-shale, medium dark-gray to olive-gray to dark - greenish-gray, very silty, highly micaceous, moderately calcareous
430	440	10	Clay, grayish-brown to grayish-red-purple, gray to grayish-olive, 90%; limestone (nodules), medium-brown to brownish-gray, 10%

- 440 500 60 Clay, grayish-brown to grayish-red to dusky-red, grayish-olive to dark yellowish-brown, very silty and highly micaceous in part; limestone, light to dark olive gray to grayish-olive
- 500 523 23 Sandstone, greenish-grey very fine to coarse silt, SA to SR, very highly micaceous, slightly chloritic; the mica is concentrated in layers giving the sandstone a shaly fracture, moderately calcareous
- 523 549 26 Clay, grayish-brown to grayish-red, small <sup>amount</sup> of olive gray to grayish-olive and light olive brown, highly calcareous
- 549 590 41 Clay, dark yellowish brown, grayish-brown to grayish-red, to blackish-red; contains scattered fragments of hematite
- 590 635 45 Clay-shale; grayish to olive gray, very silty micaceous; light to dark greenish-gray, very silty in part, micaceous
- 635 645 10 Limestone, light gray to light olive gray, light to dark grayish-brown, nodular and concretionary clay, very light olive gray, dark yellowish-brown, grayish-brown
- 645 675 30 Clay, moderate to dark yellowish brown, 60%; grayish brown to grayish-red to blackish-red, 35%; brownish black, 5%; highly calcareous; samples also contain scattered fragments of hematite
- 675 700 25 Sandstone, light olive gray to light greenish-gray very fine to coarse silt, highly micaceous, somewhat chloritic, highly calcareous in part
- 700 745 45 Siltstone, medium gray, light to dark greenish-gray, sandy, sideritic (contains an abundance of siderite spherulites), moderately calcareous, highly micaceous chloritic (?); a small amount of brownish-black to black, carbonaceous shale
- 745 790 45 Sandstone, nearly white to yellowish gray, medium-to ~~coarse-grained~~ <sup>coarse-grained</sup>, moderately calcareous, ~~coarse-grained~~, subrounded, many of the larger grains are frosted, micaceous; pore spaces can be seen in many of the fragments

790	813	23	Clay, grayish-brown, moderate to dark yellowish-brown, very light olive gray to olive gray, slightly calcareous
813	849	36	Clay-shale, light to dark greenish-gray, light olive gray (small amount), siderite spherulites scattered abundantly throughout the clay-shale, slightly calcareous
849	920	71	Sandstone, yellowish to greenish-gray, very fine, Sub-angular to subrounded, highly micaceous (concentrated in layers), slightly sideritic, moderately calcareous, 80%; clay-shale, light to dark greenish-gray, dark gray to black (partly carbonaceous), dark yellowish-brown, (sideritic), 20%
920	951	31	Sandstone, yellowish to greenish-gray, fine-to coarse-grained, subrounded to rounded (moderately tight sand), micaceous, chloritic, many of the large sand grains are frosted, contains many fine-to medium-grained rock fragments (mostly shale), 80%; shale, greenish-gray; clay-shale, greenish-gray to olive gray, 20%
951	975	24	Sandstone, yellowish to light greenish-gray, fine-to coarse-grained, subrounded; this sand appears to have a fairly good porosity, slightly shaly, chloritic, slightly micaceous, very slightly calcareous
975	1000	25	Sandstone, yellowish to light olive gray with dark gray to black streaks, fine-to coarse-grained, subrounded, chloritic, micaceous, dark streaks are highly carbonaceous
<del>1000</del>	<del>1030</del>	<del>30</del>	
1000	1030	30	Sandstone, very fine and coarse siltstone, light olive gray to olive gray, highly micaceous, chloritic, 50%; shale, brownish-black to black, highly carbonaceous to coal, 10%; shale medium- to dark-gray, moderate-yellowish-brown, sideritic, light olive gray to gray, 40%
1030	1060	30	Sandstone, light olive gray, very fine- to medium-grained, subrounded to rounded, highly sideritic in part; shale, brown to black, highly carbonaceous shale, very light gray to dark gray to dark greenish-gray, abundant siderite nodules

- 1060 1082 22 Sandstone, light olive gray to medium gray, very fine- to fine-grained, subangular, highly micaceous, carbonaceous, material concentrated in black streaks and scattered specks 50%; shale, medium to dark gray, very silty, highly micaceous and carbonaceous, 50%; small amount of coal
- 1082 1100 18 Shale and siltstone, ~~light~~ medium gray to dark gray, light to dark olive gray (siderite<sup>ic</sup>) to greenish-gray, 60%; shale grayish and brownish-black to black, carbonaceous, 20%; coal, 20%
- 1100 1107 7 Sandstone, light olive gray, fine- to medium-grained, subrounded, highly micaceous, somewhat carbonaceous
- 1107 1165 58 Sandstone, yellowish-gray to light olive gray, fine- to medium-grained, subrounded to rounded, moderately porous sand, slightly micaceous, slightly shaly toward bottom
- 1165 1178 13 Clay, light olive gray to olive gray, 50%; shale, grayish black to black, carbonaceous, <sup>some</sup> coal, 30%; shale, very silty, micaceous, partly carbonaceous, medium gray, with siderite nodules and spherulites, 20%
- 1178 1214 36 Siltstone, light olive gray to olive gray, streaked black with highly carbonaceous material, small bits of of sideritic material scattered throughout, highly micaceous; shale, medium gray to black, silty toward bottom, carbonaceous; coal 1182-1187 (thickness taken from the driller's log); small amount of dark to dusky yellowish brown shale, sideritic (concretions ?)
- ~~mark~~
- 1214 1225 11 Sandstone, light olive gray, very fine- to fine-grained, subrounded to rounded, micaceous (green and brown biotite), somewhat carbonaceous
- 1225 1240 15 Sandstone, yellowish-gray, fine- to medium-grained, subrounded to rounded, slightly micaceous, slightly shaly, appears to have a moderate amount of pore space

1240	1287	47	Shale and siltstone, olive gray, medium to dark gray, partly micaceous, partly carbonaceous; shale, grayish-black to black, highly carbonaceous; trace of coal; trace of dark yellowish-brown, sideritic shale
1287	1305	18	Sandstone, light olive gray, fine-grained, subrounded to rounded, micaceous, shaly; trace of siderite
1305	1315	10	Siltstone, light olive- to medium-gray, coarse-grained, very highly micaceous, shaly structure with mica and carbonaceous material in thin layers, sideritic in parts; shale, medium dark gray, very silty, micaceous, carbonaceous
1315	1349	34	Siltstone, light olive- to olive-gray, medium- to coarse-grained, highly micaceous, carbonaceous, highly sideritic, mica and carbonaceous matter are concentrated in thin layers, the siderite <sup>(s)</sup> are nodules and spherulites, 90%; shale, medium to dark gray, micaceous, carbonaceous, 10%
1349	1378	29	Sandstone (very fine grained) and siltstone, very light to medium-gray, slightly carbonaceous, slightly micaceous, slightly sideritic (spherulites); shale medium gray to black, partly carbonaceous, partly silty; clay, dark yellowish-brown to moderate brown; clay and shale are confined to the upper two-thirds of the interval
1378	1390	12	Shale and siltstone, medium dark gray, slightly micaceous and carbonaceous, slightly pyritic, sideritic
1390	1400	10	Sandstone, light gray to light olive gray, very fine-grained, silty and shaly, slightly micaceous; slightly carbonaceous shale, medium gray to black, silty, 20%
1400	1410	10	Siltstone, light olive- to olive-gray, coarse, sandy, slightly micaceous, slightly carbonaceous, 70%; shale, medium- to dark-gray, silty, 30%
1410	1470	60	Shale, medium- to dark-gray, silty, slightly carbonaceous, highly sideritic in part
1470	1480	10	Sandstone, light olive to olive-gray, fine to very fine grained, silty, micaceous

1480	1521	41	Sandstone, white to yellowish-gray, fine- to medium-grained, subrounded to rounded, most of the quartz is clear and glassy, the sand at the top is coarser, than the sand towards the bottom; shale, medium-gray to black (carbonaceous) first 10 feet; clay-shale, greenish gray to olive gray in small amount the last 30 feet
GREENBRIER LIMESTONE, 121 feet			
1521	1550	29	Limestone, pale- to dark-yellowish brown, slightly dolomitic at top, slightly shaly, very slightly sandy
1550	1560	10	Limestone, very pale orange to pale to dark yellowish-brown, partly dolomitic, slightly sandy, slightly shaly
1560	1573	13	Limestone, very pale orange to pale yellowish-brown, partly oolitic with a clastic texture, moderately dolomitic in part from top to middle to highly dolomitic in part toward the bottom, very slightly shaly and sandy
1573	1583	10	Limestone, very pale orange to pale yellowish-brown to dark yellowish-brown, very sandy, very highly dolomitic to a calcareous sandstone in part, oolitic in part, clastic texture
1583	1593	10	Limestone, pale-to dusky-yellowish-brown, clastic texture, very sandy, partly dolomitic; shaly limestone, light- to dark-greenish gray
1593	1600	7	Limestone, very pale orange to pale yellowish-brown, very highly dolomitic in part, very sandy, very fine- to to fine-grained, subrounded to rounded, partly calcareous sandstone, slightly shaly
1600	1608	8	Limestone, very pale orange to pale yellowish-brown, very highly dolomitic in part, partly oolitic, sand very fine- to fine-grained, subrounded to rounded, slightly shaly
1608	1616	8	Limestone, very pale orange, dolomitic in part, very highly oolitic, slightly sandy

- 1616 1624 8 Limestone, very pale orange, very highly oolitic, clastic texture, oolites with crystalline matrix, slightly sandy
- 1624 1631 7 Sandy dolomite to dolomite sandstone, pale yellowish-brown to light olive gray, clastic texture, moderately calcareous; small amount of greenish-gray shale
- 1631 1642 11 Sandstone (very fine grained) to sandy dolomite, pale yellowish-brown to light olive gray, clastic texture, calcareous, 90%; siderite ( $Fe\ M_3\ K_2?$  carbonate with calcite as an impurity), moderately reddish-brown to moderately brown, sandy, 10%
- POCONO FORMATION, 484 feet
- 1642 1648 6 Siltstone, greenish-gray to medium-gray, sandy, partly sideritic 20%, 80%; clay-shale, greenish-gray to medium gray, silty, 20%
- 1648 1656 8 Clay-shale, medium- to dark<sup>K</sup>-gray to greenish-gray, silty, 60%; sandstone, medium-light-gray to greenish-gray, medium- to fine grained, subangular to subrounded, shaly, 40%
- 1656 1672 16 Sandstone, light- to medium-gray to greenish-gray, fine- to coarse-grained, subangular to subrounded, low in cementing material, much of the quartz is clear and glassy, large grains are rounded and frosted with interbedded siltstone and shale, medium-gray to greenish-gray, partly sideritic as small spherulite and cementing material
- 1672 1695 23 Shale and siltstone, medium- to medium-dark-gray, slightly calcareous; small amount of dark-yellowish-brown, sideritic shale; trace of pyrite shale; a little sandstone, fine to coarse, light to dark gray (cavings)
- 1695 1821 126 Sandstone, yellowish-gray to light-greenish-gray to light-olive-gray, fine-grained with some medium- and coarse-grained quartz at the top, many of the larger grains are frosted, subangular to subrounded, very slightly calcareous, no visible porosity, appears to be a tight sand, slightly shaly

1821	1844	23	Coarse siltstone to very fine-grained sandstone, light-olive-gray to olive-gray, micaceous at top, very slightly calcareous at top, moderately calcareous in middle, slightly calcareous at bottom
1844	1850	6	Coarse siltstone to very fine sandstone, light- to dark-olive-gray to medium-gray, slightly micaceous, slightly calcareous; small amount of moderate <del>to moderately</del> yellowish-brown clay
1850	1877	27	Siltstone, light-olive-gray with dark-olive and medium-gray streaks, the darker siltstone is micaceous and carbonaceous; slightly calcareous; small amount of medium-dark gray, silty shale; trace of sideritic brown shale
1877	1905	28	Siltstone, coarse, and silty shale, medium-light to medium-gray, darker is moderately carbonaceous; trace of moderate yellowish-brown, sideritic shale
1905	1918	13	Siltstone, light-olive to medium- to medium-dark-gray, medium to coarse, moderately calcareous in part, slightly carbonaceous, micaceous in part; trace of yellowish brown, sideritic shale
1918	2003	85	Coarse siltstone to very fine sandstone, light-olive-gray, slightly calcareous; siltstone and shale, medium- to medium-dark-gray, micaceous in part; trace of dark- to dusky-yellowish-brown, sideritic shale
2003	2070	67	Siltstone and shale, medium- to dark gray to greenish-gray, carbonaceous, micaceous; siltstone olive-gray, very slightly sideritic; small amount of limestone; small amount <del>mix</del> of dark-yellowish-brown, sideritic shale <del>2070</del>
2070	2100	30	Siltstone, medium-gray to greenish-gray to olive-gray, slightly micaceous, very slightly carbonaceous, moderately calcareous in part; shale, medium- to dark-gray; small amount of dark yellowish-brown, sideritic shale

2100	2126	26	Sandstone, white to yellowish-gray, very fine-grained, no visible porosity under high power (72 x), slightly pyritic, moderate to highly calcareous in part; shale medium-gray to black, black shale is carbonaceous, slightly fossiliferous (Berea in drillers' log 2105-2126)
DEVONIAN SHALES, 1984 feet			
2126	2246	120	Siltstone and shale, medium-to medium-dark-gray to greenish-gray, slightly calcareous and slightly dolomitic in part; small amount of olive gray siltstone, slightly sideritic
2246	2475	229	Siltstone and shale, medium-light to medium-dark-gray; highly calcareous in part from 2300 to 2430
2475	2820	345	Siltstone and shale, medium-to medium-dark-gray to olive-gray, the olive-gray is moderately sideritic; (gas at 2735-2747); slightly calcareous and dolomitic, moderately calcareous in part near the middle of the interval; siltstone and shale, olive-gray to dark-yellowish-brown, highly sideritic, present in small amount but as high as 10% at the bottom; argillaceous shale, moderate yellowish-brown to light brown 10% at at the 2704 to 2735 foot interval
2820	<del>3253</del> 3217	397	Siltstone and shale, medium- to dark-gray to olive-gray, olive gray; trace of olive-gray to dark-yellowish-brown siltstone and shale, sideritic
3217	3636	419	Shale, brownish-gray to brownish-black, silty interbedded with siltstone and shale, medium- <del>light</del> light-to medium-gray to olive-gray at top and middle and medium-light-gray to light-olive-gray at the bottom. The brown shales are about 40% at top increasing to 90% for the bottom 100 feet (highly fossiliferous (plant?)) The gray siltstones and shales are slightly to moderately calcareous (gas show at 3605)
3636	3941	306	Shale and siltstone, medium-light-gray to brownish-gray to light-olive-gray and greenish-gray, moderately dolomitic, slightly to moderately calcareous

3941	3978	37	Shale, greenish-gray to light-olive gray, partly silty, moderately calcareous, dolomitic, 50% interbedded with brownish-gray to brownish-black shale
3978	4085	107	Shale, light-olive-gray to brownish-gray, slightly calcareous; shale, brownish-black to black, moderately (brownish-black) to highly carbonaceous (black shale)
4085	4110	25	Shale, dark-brownish-gray to brownish-black to black, the brownish-gray is moderately calcareous and dolomitic, the brownish-black to black is carbonaceous HUNTERSVILLE CHERT, 6, plus, feet
4110	4116	6	Chert, nearly white to brownish-gray, dolomitic; limestone, pale yellowish-brown to grayish-brown, sandy; shale, brownish-black to black
4116			TOTAL DEPTH