```
    Marsh Fork District, Raleigh County, W. Va.
    By Columbia Carbon Company, Charleston, W. Va.
    Located 8.8 M1. S. of 57% 60' and 3.3 M1. W. of 810 25: - 8% -
    Rcoles Quadrangle.
    Elovation, 1712.0' L. (ground).
    Pormit Ral. - 18.
    Drilling commenced July 1, 1948; completed Feb. 82, 194s.
    Dry Hole
    Fresh Water at 12 and 245'.
    Salt water at 2228, 2255, and 2695'.
    18 5/8 " casing, 45: 7"; 23 8/8, 75013" (pulled): 103/4", 1957' 8"
    (pulled); 8 5/8', 2027' 4" (Pulled).
Section based on smmplea from 55 to 3554; examined by J. H. C. Martens.
\begin{tabular}{|c|c|c|c|}
\hline 0 & 86 & 88 & "Gravel" (wator 18') \\
\hline 26 & 34 & 8 & "Sand" \\
\hline 34 & 85 & 81. & "slate" \\
\hline 55 & 65 & 8 & Shale, dark-gray to black \\
\hline 68 & 70 & 7 & Siltatone, gray, eliny \\
\hline 70 & 98 & 88 & S1ltatone, gray, haly, milcaceoum \\
\hline 98 & \[
101
\] & 9 & Shale, dark-gray, E11ty \\
\hline 101 & - 204 & 4 & ```
Shale, dark-gray, ailty, 80%; light-brown fine sandutone,
    80%
``` \\
\hline 205 & 118 & 13 & Sandstone, 1ight-gray, IIne, with brown and green speck, 50\%; dary-gray ailty shale 80\% \\
\hline
\end{tabular}
118- 123 8 Shale, dark-gray, allty
123 161 28 Sandstone, light-gray, medium-grained; containm many
                                    greem gralne (freah water, 145', 4-14" bailera per
                                    mour)
\begin{tabular}{llrl}
161 & 173 & 82 & Shale, dark-gray, silty \\
173 & 181 & 8 & siletone, black \\
181 & 205 & 84 & sandstone, gray, very fine with thin black carbenaceoas
\end{tabular}
                                    atreake
205 210 S Sandstone, light-gray, fine
```

| 210 | 218 | 8 | Sandstone, light-gray, fine 70\%; dark-gray, shaly alltatone, $30 \%$ |
| :---: | :---: | :---: | :---: |
| 218 | 276 | 88 | Sandstone, white to light-gray, very fine, with fairly high proportion of quarte |
| 276 | 289 | 13 | Sandstone, white, fine, nearly all quarts; mosiy broken into individual grains, many of whioh have crystal faces |
| 289 | 895 | 6 | Sandstone, light-gray, coarse |
| 295 | 312 | 27 | Sandetone, 1ight-gray to white, fine- to medium-grained |
| $\begin{gathered} 312 \\ -316 \end{gathered}$ | 316 | 4 | Shale, blaak, silty |
| 316 | 330 | 14 | Sandetone, white, coarae to very coarae and pebbly |
| 330 | 348 | 26 | sandstone, white with some rust ataina, medium- to coarse-mrained |
| 346 | 387 | 11 | Sandatone, gray, fine, with some very coarse graing |
| 357 | 368 | 5 | Sandatone, gray, fine |
| 362 | 373 | 11 | Sandstone, gray, medium- to coarse-grained, poorly sorted |
| 373 | 384 | 11 | Sandstone, white, medium-grained |
| 384 | 398 | 8 | Sandstone, white, very coarse, pebbly |
| 382 | 403 | 11 | Shale, dark-gray |
| 403 | 408 | 5 | Shaie, dark-gray, 70\%; gray mandy ailtatone, $30 \%$; trace or conl |
| 408 | 410 | 11 | Siltatone and silty shale, gray |
| 418 | 425 | 6 | Shale, very derk-grey, ality |
| 485 | 439 | 24 | Sandatone, 1ight-gray, vory fine |
| 439 | 445 | 6 | Shale: black, allty |
| 445 | 450 | 5 | Siltstone, gray, coarse |
| 450 | 469 | 19 | Sandetone, gray, very fine, with a little darker gray ahale and ailtstone |
| 469 | 475 | 6 | Sandetone, gray, very fine, 70\%; black thale, 308 |
| 475 | 487 | 12 | S1ltstone, gray, very anady |
| 487 | 808 | 81 | Shale, black ailty, 80 to $80 \%$ gray ailtatone, 40 to 20\% |
| 508- | 515 | 5 | Shale, dark-gray, distinotly laminated |
| 513 | 518 | 5 | Shale, dark-gray, s0\%; gray alltatone $00 \%$ |
| 518 | 635 | 17 | S11tstone and silty shale |
| 535 | 540 | 5 | siltstone, 11ght-gray, cosrse |
| 540 | 547 | 7 | Siltatone, daric-gray, shaly |


| -47 | 553 | 6 | Shale, very dark gray, silty |
| :---: | :---: | :---: | :---: |
| 553 | 560 | 7 | Shale, very dark gray, ailty, $50 \%$ gray siltatone $50 \%$ |
| 560 | 564 | 4 | siltatone, dark-gray, shaly |
| 564 | 568 | 4 | Shale, dark-gray, allty |
| 588 | 585 | 17 | Sandatone, light-gray, very fino |
| 585 | 596 | 12 | Sandstone, white, with some rust stain, fine |
| 596 | 657 | 61 | Sandatone, white, with mome rust ataln, medium-grainod, nearly all quates; mostly broken into individual graina |
| 657 | 673 | 16 | Sandstone, white with some rust atain, fine, nearly $a 11$ quarta |
| 873 | 709 | 36 | Sandstone, 11ght-gray, very fine |
| 708 | 810 | 101 | Sandstone, white, fine- to medium-grained, noarly all quarts; an rust atain throughout |
| 810 | 876 | 66 | sandstone, thite, coarse- to medium-grained, nearly all quarts |
| 876 | 888 | 6 | sandstone, whte, fine |
| 888 | 888 | 3 | 811tatone, gray, sandy |
| 885 | 906 | 21 | Shale, daric-gray, very ailty |
| 908 | 811 | 8 | Shale, dark-gray, 70\%; 11ght-gray fine sandetone, $30 \%$ |
| 911 | 919 | 8 | Sandatone, gray, fine |
| 919 | 926 | 7 | Siltstone, gray to black, with some coal and black mhale |
| 826 | 933 | 7 | Shale, dark-gray, very allty |
| 933 | 947 | 14 | Sandstone, light-gray, very fine |
| 947 | 1009 | 68 | Sandstone, white, fine, nuarly all quarts |
| 1009 | 1188 | 119 | Sandstone, white, fine to coarse, nearly all quarts; considerable amount of ruet stain throughout |
| 1128 | 1168 | 40 | Sandetone, white, fine, nearly all quarte |
| 1168 | 1174 | 6 | Sandstone, white, coarses som very coarse graina and pebblea at bottom |
| 1174 | 1177 | 8 | Shale, black, ailty |
| 1177 | 1185 | 8 | Shale, dark-gray |
| 1185 | 1198 | 11 | Shale, very dark gray, eilty |
| 1196 | 1202 | 6 | Sandatone, gray, fino |
| 1202 | 8810 | 6 | siltatone, gray, eandy |
| 1210 | 1218 | 8 | Siltatone, gray, shaly, micaceous |
| 1818 | 1885 | 7 | Shale, darix-gray, silty, mionceous |


| 1225 | 1248 | 17 | Shale, black, highly carbonaceous, with a little coal |
| :--- | :--- | :--- | :--- |
| 1248 | 1265 | 23 | Siltstone, gray with Mack stroaks, very aandy |
| 1285 | 1278 | 13 | Siltatone, very dark gray |

## Manch Chunk Group, 2160 foet




| 1388 | 1388 | 6 | Shale, darkegray, silty, miceceous |
| :---: | :---: | :---: | :---: |
| 1388 | 1398 | 7 | Sandstone, gray, very fine, silty |
| 1395 | 1407 | 12 | Sandstone, light-gray, fine |
| 1407 | 1488 | 15 | Sandstone, white, medium-grained |
| 1422 | 1425 | 3 | Slitatone, gray |
| 1425 | 1437 | 18 | Shale, daritgray, foasiliforeum |
| 1437 | 1446 | - | sandstone, white, very fine |
| 1446 | 1485 | 7 | Siltatone, gray, mandy, 70\%; dark-gray ahele $30 \%$ |
| 1455 | 1467 | 14 | Sandstone, 1ight-gray, very fine |
| 1467 | 1486 | 10 | shale, very dark gray, silty |
| 1486 | 1577 | 91 | Shale, very derix gray to blaok, distinotly laminated |
| 1577 | 1587 | 10 | Sistatone, 1ight-gray, eandy, alao large amount of |


| 1587 | 2600 | 13 | Shale, dark-gray, with mowe lighter gray ailtatone |
| :---: | :---: | :---: | :---: |
| 1600 | 1604 | 01 | Siltatone, gray |
| 1604 | 1807 | 3 | Sandstone, white to iight-brown, very Iine, 70\%; blaok male with a little coal, $30 \%$ |
| 1607 | 1612 | 5 | sandatone, brown, fine caloareous |
| 1612 | 1617 | 8 | Sandstone, gray, vory fine, oalcareous |
| 1617 | 1683 | 6 | Siltatone, gray; sandy |
| 2628 | 1636 | 28 | Sandetone, lightegray, fine |


| 1636 | 1858 | 23 | Sendstone, white, fine, nearly all quarts; some graine have oryutal faces |
| :---: | :---: | :---: | :---: |
| 1659 | 1685 | 26 | Limestone, gray to brownish, with a few fossils |
| 1685 | 1698 | 7 | Shale and ailtstone, grayish-green |
| 1698 | 1698 | 7 | Shele, red, silty, with ilmestone nedules, $60 \%$, gray and green shale, 40\% |
| 1699 | 1708 | 6 | Shale and ailtetone, red, with limestone nodules |
| 1708 | 1718 | 23 | Shale, red |
| 1718 | 1730 | 12 | Shale, red, with many small 11 mestone nodules |
| 1730 | 1765 | 36 | Shale, red with wilttle green |
| 1768 | 1769 | 4 | shale, green and red, oulcareous |
| 1789 | 1774 | 5 | Shale, red |
| 1774 | 1778 | 5 | Shale, red, very stity |
| 1779 | $\begin{aligned} & 1856 \\ & 1876 \end{aligned}$ | 77 | Shale, red |
| 1856 | 1970- | 80 | S11tetone, red, fine |
| 1876 | 1886 | 10 | Siltatone, red and groen, itine |
| 1886- | 2892 | 6 | Shale, red and groon |
| 1898 | 1928 | 36 | Shale, gray, with roanil shella |
| 1988 | 2835 | 7 | shale, red |
| 1935 | 1939 | 4 | siltstone, 11ght-greon |
| 1939 | 1950 | 11 | Sandstone, light-gray, very fine |
| 1950 | 1955 | 6 | Limestone, gray, partiy thaly |
| 1955 | 1959 | 4 | Shale, gray, calcareous and fosalliforous |
| $\begin{aligned} & 1950 \\ & 1964 \\ & 1068 \end{aligned}$ | 1964 1988 | 5 4 | Shale, red, gray, and green limy nodules Shale, red, with red limestone nodules |
| 1968 | 1978 | 12 | Siltstone and shale gray |
| 1979 | 1985 | 6 | Shale, greon and red |
| 1985 | 1996 | 12 | Shale, gray and red |
| 1996 | 2014 | 18 | Shale, red |
| 2014 | 2027 | 13 | Siltatone, red, fine |
| 2027 | 2033 | 6 | Sandstone, nearly white, fine $60 \%$ y |
| 2033 | 2048 | 28 | shale, gray |
| 2048 | 2079 | 31 | Shale and siltatone, red |
| 2078 | 2086 | 7 | Shale, red and green |
| 2086 | 2099 | 13 | Shale, grayiah-green, with a Iittle 11meatone |
| 2089 | 2106 | 7 | Shale, red and greon |


| 2108 | 2118 | 12 | Shale, gray to darim-gray, silty |
| :---: | :---: | :---: | :---: |
| 2118 | 2286 | 8 | Siltstone, light-gray, 60\%; darik-gray shale, $40 \%$ |
| 2226 | 2134 | 8 | Shale, red, 60\%; gray and green shale and ailtatone $40 \%$ |
| 2134 | 2147 | 13 | Shale, dark-gray, 70\$; light-gray and greon ailttone, $30 \%$ |
| 2147 | 2187 | 10 | Shale, red and green, aily |
| 2157 | 2166 | 9 | Shale, gray and green |
| 2166 | 2177 | 21 | Shale, grayish-red |
| 2177 | 2185 | 8 | S11tatone, red and gray |
| 2185 | 2193 | 8 | Shale, grayiah-green |
| 2193 | 2199 | 6 | Limestone, light-brom; also some shale of varioue colors |
| 2199 | 2207 | 8 | Shale and siltetone, dark-gray |
| 2207 | 2828 | 21 | Sandstone, white with black carbonaceous atreaks, very fine |
| 2228 | 2240 | 21 | Sandstone, white, fery fim |
| 2249 | 2312 | 63 | Sendetone, white, fine |
| 2318 | 2383 | 11 | Shale, dark-gray, Eilty |
| 2383 | 2339 | 13 | Shale, dark-gray, ailty and highly caleareous, foasiliferoue |
| 2339 | 2345 | 4 | Shale, gray, 60\%; gray limestone, $40 \%$ |
| 2343 | 2348 | 5 | Limastone, gray, shaly |
| 2348 | 2379 | 32 | Lisastone, gray, partiy chaly |
| 2379 | 2386 | 7 | Shale, grayish-green |
| 2386 2498 | 2388 2428 | $\begin{array}{r} 6 \\ 31 \\ -97 \end{array}$ | Shale, gray, 60\%; gray limestone, 40 Shale, gray, fossiliferous |
| 2483 | 2436 | 13 | Limestone, browniahogray, foseiliferou* |
| 2436 | 2438 | 2 | Shale, gray (top and botton from driller'a record) Greenbrier Limatione. 387 reet |
| 2438 | 2454 | 16 | Limestone, light-brown, fossiliferous |
| 2454 | 2465 | 12 | Limestone, light-brown, fossiliferous, 60\%; gray ahale, 40\% |
| 2465 | 2473 | 8 | Limestone, gray, shaly, fossiliferoue |
| 2473 | 2483 | 10 | Limestone, light-brown |
| 2483 | 2508 | 28 | Limeatone, vory light brown, oolitio; oolites aro obundant and diatinot; also containg miove foasils |
| 2505 | 2818 | 7 | Limeatone, brown, with a Sew oolites |


| 2518 | 2622 | 10 | Limestone, nearly white, oolitio |
| :---: | :---: | :---: | :---: |
| 2822 | 2571 | 49 | Limestone, brown to iightmbrown |
| 2571 | 2588 | 28 | Limestone, gray and brown, alightly aandy; contains many rounded ealoite |
| 2583 | 2684 | 42 | Himestone, very light brown |
| 2484 | 2634 | 10 | Limestone, nearly white, oolitio |
| 2634 | 2685 | 81 | Limentone, brown to light-brown; indistinct oolites, $2659-2664^{1}$ |
| 2885 | 2700 | 18 | Limestone, very 11ght brown, oolltic |
| 2700 | 2739 | 39 | Limestone, brown to Iight-brown |
| 2739 | 2749 | 10 | Limestone, nearly white, partiy oolitio |
| 2749 | 2780 | 31 | Limestone, brown |
| 2780 | 2800 | 20 | Limestone, brom; contains some silt and very fine sand |
| 2800 | 2809 | - | Limestone, gray, with fow rounded sand grains and a very little brown chert |
| 8809 | 8818 | 7 | Limestone, gray, dolomitic, with a fow rounded sand graing and about 5\% of white anhydrite |
| 2816 | 2825 | 9 | Eolcugte, gray, silty with aboat $80 \%$ of white anhydrite |
| 2025 | 2335 | 10 | Yaotrady Formation, 85 fiet |
| 2825 | 2835 | 10 | S11tstone and ahale, light-red |
| 2835 | 2980 | 1.5 | Siltetone, red; a fow rounded and graing, 2835-2845: Pocono Formation, $50 \%$ reet |
| 2850 | 2860 | 10 | siltatonc, gray, containing a mall amount of winte anhydrite |
| 2880 | 2878 | 28 | Shale, gray, very allty |
| 2872 | 2890 | 18 | Siltetone, light-gray, very mandy |
| 2890 | 8926 | 36 | Shale ma miltatone, gray |
| 2926 | 2978 | 46 | Sands tone, light-gray, vefy fime |
| 2972 | 2978 | 7 | Sandstone, light-gray, vary fine 70\%; gray ghale, $30 \%$ |
| 2979 | 2999 | 20 | Shaie, dark-gray, 60\%; very fine, light gray mandstone, 40\% |
| 2989 | 3087 | 88 | Shale, dark-gray, with thin streaks of $11 \mathrm{ght} \mathrm{g}_{\mathrm{grag}}^{\mathrm{g}}$ to light-brown very fine sandetone |
| 3087 | 3318 | 831 | Shale, gray to darix-gray, mosty ailty; mall amounte of silts tone in most samples |
| 3318 | 3388 | 10 | Shale, dark-gray |
| 3388 | 3338 | 10 | Ho mample |


| 3338 | 3350 | 28 | Shale, very dark gray (Sunbury Shale) |
| :--- | :--- | :--- | :--- |
| 3350 | 3357 | 7 | Siltstone, gray 70\%; very dark gray shale, $30 \%$ |
| Devonian Shales, 1269 foet |  |  |  |

