

UNITED FUEL GAS COMPANY

2-5810 NATIONAL SHAWMUT BANK OF BOSTON WELL

Buchanan County, Virginia

Location: 1.90 miles west of $81^{\circ} 55'$,
2.94 miles south of $37^{\circ} 25'$

Ground elevation: 1263.12

Total depth: 5302

Drilling commenced: February 2, 1949

Drilling completed: August 12, 1949

Water: 22; 45, HFW

Gas: 222, show; 494, show; 917, show; 1209, show; 1350, show

Oil: None

Casing record: 13 3/8 at 19, 10 at 514, 8 1/4 at 2197, 6 5/8 at 2814

Depth corrections: None

Samples examined by David C. Bowen, 1958

POST-LEE FORMATION BEDS (PENNSYLVANIAN) UNDIVIDED

- 0 - 60 No sample
- 60 - 85 Sandstone; white, medium- to coarse-grained, subangular to subrounded, quartzose, moderate amount of green and black mineral, slightly micaceous, some quartz-pebble fragments, at 70-79 mostly medium-grained
- 85 - 95 Siltstone, light-gray, quartzose, argillaceous
- 95 - 106 Sandstone, same as lower portion of 60-85
- 106 - 138 Sandstone, same as above, but mostly medium-grained, slightly chloritic
- 138 - 150 Shale, gray, silty, micaceous; some siltstone, gray, quartzose, argillaceous
- 150 - 171 Shale, gray, very silty, micaceous
- 171 - 185 Shale, gray, micaceous, hard; laminated with siltstone, light-gray, quartzose, at 171-175 slightly calcareous
- 185 - 225 Shale, gray to dark-gray, moderately hard

TOP LEE FORMATION 228

- 225 - 235 Sandstone, white, fine- to very fine grained, angular, quartzose, chloritic, slightly micaceous; some shale, same as above

- 235 - 242 Sandstone, same as above, but light-tan; and shale, gray
- 242 - 256 Shale, gray, silty, micaceous; and siltstone, gray, quartzose
- 256 - 291 Siltstone, gray, quartzose, argillaceous, micaceous
- 291 - 304 Shale, gray, silty, micaceous
- 304 - 315 Shale, same as above; and siltstone, same as 256-291
- 315 - 325 Siltstone, same as above, but calcareous; a little sandstone, white, fine-grained, subangular, quartzose, moderate amount of accessory minerals, calcareous
- 325 - 335 Siltstone, same as 304-315
- 335 - 390 Shale, gray, silty in part, moderately hard
- 390 - 440 Sandstone, white, medium-grained, occasional coarse grains in lower half, angular to subangular, quartzose, slightly micaceous and chloritic, small amount of dark mineral; at 417-440 apparently interbedded with gray shale and siltstone
- 440 - 456 Shale, gray, silty in part in lower portion, hard
- 456 - 486 Shale, dark-gray
- 486 - 500 Sandstone, white, fine- to very fine grained, angular to subangular, quartzose; slightly feldspathic, clean, at 491-496 some coarse to very coarse grains
- 500 - 505 No sample
- 505 - 535 Sandstone, white, fine-grained, angular to subangular, quartzose, slightly feldspathic, slightly micaceous, moderately chloritic, moderate amount of green mineral, at 527-535 all accessory minerals increase in amount
- 535 - 544 Sandstone, gray, fine-grained, angular to subangular, quartzose, feldspathic, micaceous, chloritic, green mineral, sideritic, dirty, very calcareous
- 544 - 550 Shale, tan to dark-gray, coaly, plant fossils; some siltstone, gray
- 550 - 566 Siltstone, gray, quartzose, micaceous, argillaceous layers

- 566 - 575 Shale, dark-gray, very silty, carbonaceous, hard
- 575 - 598 Siltstone, tan, quartzose; laminated with shale, dark-gray, carbonaceous
- 598 - 645 Sandstone, tan to white, fine- to very fine grained, angular, quartzose, slightly feldspathic and micaceous, much coaly to argillaceous material, calcareous at the top grading downward to non-calcareous at the base
- 645 - 673 Sandstone, white, medium-grained, angular to subangular, quartzose, clean at the top, but in the lower portion slightly chloritic and sideritic
- 673 - 685 Shale, gray, micaceous, hard; some sandstone, same as above, but slightly calcareous
- 685 - 695 Shale, gray to dark-gray, silty, slightly micaceous, hard
- 695 - 705 Shale, dark-gray, very silty, slightly micaceous, hard
- 705 - 715 Shale, dark-gray, carbonaceous, slightly micaceous, hard
- 715 - 722 Shale, same as above, but silty; a little siltstone, gray, quartzose
- 722 - 750 Sandstone, tan to white, very fine grained to silt, sub-angular, quartzose, feldspathic, very slightly micaceous, slightly calcareous, nearly clean; at 730-738 apparently interbedded with a little shale, gray, micaceous
- 750 - 805 Sandstone, white but at 754-766 light tan, fine-grained with some very fine grains, subangular, quartzose, feldspathic, very slightly micaceous, nearly clean, at 762-766 a few gray argillaceous laminations
- 805 - 817 Shale, dark-gray, hard; and sandstone, same as above
- 817 - 828 Shale, dark-gray, hard
- 828 - 836 Shale, same as above; and sandstone, light-gray, coarse-grained, angular, quartzose, clean
- 836 - 850 Shale, dark-gray, hard; and siltstone, dark-gray, quartzose, both grading downward to gray
- 850 - 870 Siltstone, gray, quartzose; a little shale, gray, hard
- 870 - 881 Sandstone, light-tan, medium- to fine-grained, angular to

- subangular, quartzose, slightly calcareous, nearly clean; some siltstone, same as above
- 881 - 890 Sandstone, same as above, but grayish-tan, occasional coarse grain, dirty with an argillaceous cement, very slightly calcareous
- 890 - 905 Sandstone, light-tan, fine- to very fine grained, occasional medium grain, angular to subangular, quartzose, nearly clean
- 905 - 985 Shale, dark-gray, carbonaceous, hard
- 985 - 991 Siltstone, gray, quartzose; some shale, same as above
- 991 - 1005 Shale, gray, silty, hard, at 1000-1005 very silty
- 1005-1011 Shale, same as above, but darker; and interbedded siltstone, dark-gray, quartzose
- 1011-1030 Siltstone, light-gray to dark-gray, quartzose
- 1030-1046 Sandstone, off-white, very fine grained, quartzose, feldspathic, clean; a little interbedded shale, gray, silty
- 1046-1060 Sandstone, same as above, but very fine grained to silt; laminated with siltstone, gray, quartzose, argillaceous
- 1060-1076 Siltstone, gray, quartzose, argillaceous
- 1076-1090 Sandstone, white, medium- to coarse-grained, subangular to subrounded, quartzose, clean, many fragments of milky-white quartz pebbles at the top but decreasing in amount toward the bottom
- 1090-1095 Sandstone, same as above, but some fine grains and no pebble fragments
- 1095-1107 Sandstone, same as above, but coarse-grained with some medium and very coarse grains
- 1107-1113 Sandstone, same as above, but coarse-grained with some very coarse grains, and many fragments of milky-white quartz pebbles
- 1113-1118 Sandstone, same as above, but medium- to fine-grained, a few coarse grains, a few pebble fragments

- 1118-1136 Sandstone, same as above, but at 1118-1121 coarse-grained with some medium grains, at 1133-1136 some very coarse grains, many quartz pebble fragments throughout
- 1136-1145 Sandstone, same as above, but medium- to coarse- to very coarse grained, no pebble fragments
- 1145-1150 Conglomerate, white quartz pebble fragments, in a matrix of coarse- to very coarse grained sandstone, same as above
- 1150-1157 Sandstone, light-gray to tan, fine-grained, angular to sub-angular, quartzose, slightly micaceous and sideritic, moderate amount of coaly material
- 1157-1163 Sandstone, white, medium- to coarse-grained, subangular to subrounded, quartzose, clean, many milky-white quartz pebble fragments; at the top some sandstone, same as above
- 1163-1165 Sandstone, white, medium-grained with a few coarse grains, subangular to subrounded, quartzose, clean
- 1165-1170 Sandstone, same as above, but mostly coarse with some medium and very coarse grains, some quartz pebble fragments
- 1170-1174 Sandstone, same as above, but mostly medium-grained, a few coarse grains, a few quartz pebble fragments
- 1174-1176 Sandstone, same as above, but medium- to coarse-grained with some quartz pebble fragments
- 1176-1195 Conglomerate, white, quartz pebble fragments (the samples consist entirely of pebble fragments)
- 1195-1200 Conglomerate, white, quartz pebble fragments, in a matrix of clean coarse-grained quartz sandstone (samples consist of about 75% pebble fragments)
- 1200-1205 Sandstone, same as 1174-1176 above, but coarse- to very coarse grained, a few quartz pebble fragments
- 1205-1212 Conglomerate, same as 1176-1195 above
- 1212-1217 Shale, gray, silty, slightly micaceous, hard
- 1217-1236 Sandstone, light-tannish gray at the top otherwise light-gray, medium- to fine-grained, angular to subangular,

quartzose, very dirty with the accessory minerals mica, siderite, and dark mineral, small amount of carbonaceous material, at 1217-1220 very calcareous; at 1230-1236 a little siltstone, gray, argillaceous

- 1236-1240 Sandstone, white, coarse- to medium-grained, some fine grains, subangular to subrounded, quartzose, clean
- 1240-1250 Shale, gray, silty, hard; some siltstone, light-gray
- 1250-1258 Shale, same as above, and light-tan underclay and carbonaceous shale
- 1258-1285 Sandstone, light-gray, at the top very fine-grained to silt grading downward to fine-grained and at the bottom fine-grained with a few medium grains, angular to subangular, quartzose, slightly dirty, micaceous, chloritic, dark mineral
- 1285-1305 Sandstone, same as above, but medium- to fine-grained, subangular to subrounded, at 1285-1290 and 1295-1300 small amount of carbonaceous material
- 1305-1314 Sandstone, same as above, but mostly fine- to very fine grained
- 1314-1360 Sandstone, same as above, but white and clean, below 1331 no accessory minerals except for a little mica, below 1331 mostly fine-grained, at 1314-1331 very slightly calcareous; at 1324-1327 a little interbedded shale, dark-gray
- 1360-1371 Sandstone, same as above, but medium- to fine-grained with an occasional coarse grain, at 1360-1365 one milky-white quartz pebble fragment
- 1371-1394 Sandstone, same as above, but mostly fine-grained, no coarse, no pebble fragments, at 1371-1381 slightly calcareous, at 1390-1394 calcite cement
- 1394-1396 No sample
- 1396-1412 Sandstone, same as 1371-1394 above, but fine-grained, occasional coarse grain near the base, at 1407-1410 one pebble fragment, at 1396-1407 calcite cement, at 1407-1412 slightly calcareous
- 1412-1425 Sandstone, same as above, but medium- to fine-grained, at 1412-1418 calcite cement

- 1425-1431 Shale, gray, silty, micaceous, moderately hard
- 1431-1438 Sandstone, same as 1412-1425 above, but slightly calcareous, rather dirty with mica and dark mineral; some shale, same as above

TOP BLUESTONE FORMATION (MISSISSIPPIAN) 1438

- 1438-1456 Siltstone, light-gray to white to pale-green, quartzose, feldspathic, very slightly calcareous
- 1456-1461 Siltstone, same as above; and shale, pale-green and soft to in part light-red and calcareous
- 1461-1467 Shale, same as above, with a little maroon
- 1467-1474 Shale, light-gray to pale-maroon to dull-red, calcareous in part, soft
- 1474-1490 Shale, pale-maroon to dull-red to pale-green, soft; some siltstone, pale-green
- 1490-1497 Shale, mostly maroon with some brick-red, finely micaceous
- 1497-1529 Shale, olive-green, at 1506-1520 calcareous in part, at 1520-1529 very slightly calcareous
- 1529-1550 Shale, olive-green with some maroon, very slightly calcareous; some apparently interbedded limestone, brownish-gray, coarse- to medium-crystalline, fossiliferous in part, dirty and argillaceous
- 1550-1555 Shale, brick-red to maroon to light-gray, soft, very calcareous; some limestone, tannish-gray, medium-crystalline, finely fossiliferous, dirty
- 1555-1567 Siltstone, light-greenish gray, quartzose, much calcite cement at the top; and shale, same as above
- 1567-1579 Siltstone, light-gray, quartzose, ostracods, very calcareous; and shale, light-gray, soft
- 1579-1587 Shale, red to grayish-green, soft; some siltstone, white, quartzose, calcareous
- 1587-1635 Sandstone, white and in part with a pale-green cast, very fine grained to silt, angular, quartzose, clean, at 1587-1621 very slightly calcareous

- 1635-1658 Sandstone, same as above, but light-gray, with some gray and argillaceous beds which become carbonaceous toward the bottom, very slightly calcareous
- 1658-1665 Sandstone, same as above, but no argillaceous beds; and shale, gray, moderately hard
- 1665-1700 Shale, dark-gray, carbonaceous, calcareous, moderately hard
- 1700-1707 Shale, same as above; and sandstone, light-gray, very fine to fine-grained, angular, quartzose, calcite cement
- 1707-1714 Siltstone, gray to light-gray, quartzose
- 1714-1721 Siltstone, same as above; a little interbedded shale, gray
- 1721-1730 Siltstone, same as above; and interbedded shale, gray
- 1730-1738 Shale, gray; a little interbedded siltstone, same as above
- 1738-1747 Same as 1721-1730
- 1747-1760 Siltstone, same as above, but very slightly calcareous; a little interbedded shale, gray

TOP PRINCETON SANDSTONE 1760