

Operator: United Fuel Gas Company
 Farm: New River and Pocahontas Consolidated Coal Company
 Well No.: U-6705

Samples for this well were examined by Mr. David Bowen in preparing a Master's thesis entitled "Subsurface Study of the Lee Formation in Buchanan County, Virginia," for the Virginia Polytechnic Institute. A microfilm copy of the thesis, containing a detailed description of the Post-Princeton strata in this well, is available for reference in the Library of the Virginia Division of Mineral Resources.

Formation boundaries stated in this thesis are as follows:

System

Formation

Pennsylvanian

Post-Lee Strata, Undivided	in	0'
	bottom	800'
Lee Formation	top	800'
	bottom	2511'

Mississippian

Bluestone Formation	top	2511'
	bottom	3015'
Princeton Sandstone	top	3015'
	bottom	--

UNITED FUEL GAS COMPANY - COLUMBIA GAS TRANS.

6705 NEW RIVER AND POCAHONTAS COAL COMPANY WELL

Buchanan County, Virginia

Location: 0.59 miles west of $81^{\circ} 45'$,
2.14 miles south of $37^{\circ} 15'$

Ground elevation: 2893.51 Total depth: 6082

Drilling commenced: April 24, 1951

Drilling completed: March 21, 1952

Water: 113; 1063-1069, 1/3 BPH; 1260-1268, 1 BPH

Gas: None

Oil: None

Casing record: 13 3/8 at 38, 10 at 612, 8 5/8 at 2610, 6 5/8 at 4472

Depth corrections: 2563 = 2611

Samples examined by David G. Bowen, 1958

POST-LEE FORMATION BEDS (PENNSYLVANIAN) UNDIVIDED

- 0 - 426 No sample
- 426 - 432 Sandstone, gray, fine- to very fine grained with an occasional coarse grain, angular to subangular, quartzose, very dirty with gray argillaceous material, very slightly calcareous; a little shale, gray, micaceous
- 432 - 445 Siltstone, gray, quartzose, very argillaceous, micaceous
- 445 - 481 Shale, gray, slightly silty, at 467-476 very silty, at 462-481 very slightly calcareous
- 481 - 501 Shale, same as basal portion above; laminated with siltstone, gray, quartzose
- 501 - 507 Shale, same as above, but in part silty and micaceous
- 507 - 532 Shale, same as above, but not micaceous; and interbedded siltstone, gray, quartzose, at 512-532 micaceous, argillaceous, and very slightly calcareous
- 532 - 537 Siltstone, same as above
- 537 - 542 Sandstone, light-gray, fine- to very fine grained, subangular to angular, quartzose, micaceous, slightly chloritic and feldspathic, rather argillaceous, very slightly calcareous
- 542 - 547 Sandstone, same as above; and shale, gray, micaceous

- 547 - 555 Sandstone, same as above, but gray, in part medium-grained to silt; a little shale, same as above; a little shale, tan, underclay; a little coal
- 555 - 565 Sandstone, white, medium- to fine-grained, subangular to subrounded, quartzose, slightly micaceous, a small amount of dark to green mineral, nearly clean
- 565 - 571 Sandstone, same as above, but medium-grained
- 571 - 574 Sandstone, same as above, but medium- to coarse-grained
- 574 - 584 No sample
- 584 - 590 Sandstone, same as 571-574, but medium-grained with some coarse and fine grains
- 590 - 597 Sandstone, same as above, but medium- to coarse-grained
- 597 - 608 Shale, brownish-gray and carbonaceous to gray and micaceous; a little siltstone, grayish-brown, quartzose
- 608 - 612 No sample
- 612 - 628 Sandstone, same as 590-597 above, but medium- to fine-grained with an occasional coarse grain
- 628 - 634 Sandstone, same as above, but mostly fine-grained, no coarse grains
- 634 - 653 Sandstone, same as above, but medium- to fine-grained, at 639-653 slightly to very slightly calcareous
- 653 - 661 Sandstone, same as above, but light-gray, not calcareous; some shale, gray, silty, micaceous; some siltstone, gray, quartzose, argillaceous, micaceous
- 661 - 668 Sandstone, same as 634-653 above, but not calcareous
- 668 - 677 Shale, gray, in part silty; a little siltstone, gray, quartzose
- 677 - 682 Shale, same as above, but micaceous
- 682 - 689 Sandstone, white to gray, medium- to fine-grained, subangular to subrounded, quartzose, argillaceous; a little shale, light-gray
- 689 - 694 Sandstone, gray, fine-grained with an occasional medium

grain, subangular to subrounded, quartzose, contains interstitial argillaceous material which is gray and micaceous

- 694 - 702 Sandstone, same as above; and shale, gray, finely micaceous
- 702 - 724 Shale, same as above
- 724 - 733 Siltstone, gray, quartzose, argillaceous, very slightly calcareous
- 733 - 741 Siltstone, same as above; and shale, same as 702-724 above; both slightly calcareous and interlaminated
- 741 - 758 Shale, gray, silty, calcareous
- 758 - 785 Shale, gray, at 776-785 darker and very slightly calcareous

TOP LEE FORMATION 800

- 785 - 806 Shale, same as above, but not calcareous; and sandstone, light-gray, medium- to fine-grained, angular to subangular, quartzose, slightly argillaceous, slightly micaceous and chloritic (This interval is represented by one sample. The driller records the top of the sandstone at 806. Consequently, this interval is probably mostly shale.)
- 806 - 820 Sandstone, white, coarse- to fine-grained, subangular to subrounded, quartzose, slightly micaceous and chloritic
- 820 - 846 Sandstone, same as above, but medium- to coarse-grained with some fine grains, at 838-846 an increase in chlorite, moderate amount of green mineral
- 846 - 866 Sandstone, same as basal portion above, but mostly fine-grained with a lesser amount of medium and coarse grains
- 866 - 873 Sandstone, same as above, but medium- to coarse-grained with some fine grains
- 873 - 955 Siltstone, gray, quartzose, in part very slightly calcareous; and shale, gray, silty, micaceous
- 955 - 972 Shale, dark-gray
- 972 - 987 Sandstone, gray to light-gray, fine-grained, angular to subangular, quartzose, slightly micaceous, in part

argillaceous, slightly calcareous

- 987 - 996 Shale, gray, silty, finely micaceous
- 996 -1007 Shale, same as above, but dark-gray; a little interbedded siltstone to very fine grained sandstone, gray, quartzose
- 1007-1012 Siltstone, gray, quartzose; some shale, same as above
- 1012-1063 Siltstone, same as above, but laminated with argillaceous material which is gray and micaceous, at 1023-1063 in part calcareous
- 1063-1068 Sandstone, white, medium-grained with some coarse and fine grains, angular to subrounded, quartzose, nearly clean; a little shale, black, very carbonaceous
- 1068-1091 Sandstone, same as above, but only an occasional coarse grain, clean
- 1091-1100 Sandstone, same as above, but medium-grained with an occasional coarse grain
- 1100-1110 Sandstone, same as above, but coarse-grained
- 1110-1120 Sandstone, same as above, but medium- to coarse-grained
- 1120-1142 Sandstone, same as above, but medium-grained, at 1126-1142 angular to subangular
- 1142-1149 Siltstone, light-gray, quartzose, argillaceous, slightly micaceous
- 1149-1164 Siltstone to very fine grained sandstone, light-tannish gray, quartzose, slightly micaceous
- 1164-1178 Siltstone, light-gray, quartzose, slightly micaceous, slightly laminated
- 1178-1185 Sandstone, white, fine-grained with an occasional medium grain, angular to subangular, quartzose, nearly clean, slightly calcareous
- 1185-1212 Sandstone, light-gray, medium- to fine-grained, angular to subangular, quartzose, slightly micaceous and chloritic, small amount of brown material, slightly calcareous; a little shale, gray, micaceous

- 1212-1259 Sandstone, white, medium- to fine-grained, angular to sub-angular, quartzose, very slightly micaceous and chloritic, at 1234-1259 angular to subrounded; at 1234-1242 a little shale, gray and micaceous to black and carbonaceous
- 1259-1273 Shale, gray to dark-gray, in part micaceous
- 1273-1286 Sandstone, light-gray, very fine grained to silt, quartzose, slightly micaceous and chloritic; at 1280-1286 interbedded with shale, gray, micaceous
- 1286-1308 Siltstone, gray, quartzose, feldspathic, slightly argillaceous, slightly micaceous and chloritic, in part slightly calcareous
- 1308-1318 Shale, gray and finely micaceous to black and carbonaceous; some siltstone, same as above, but not calcareous
- 1318-1338 Shale, same as above; a very little coal
- 1338-1350 Shale, gray, in part slightly calcareous
- 1350-1397 Shale, dark-gray, somewhat carbonaceous; some interbedded sandstone, gray, fine- to very fine grained, quartzose, argillaceous, very slightly calcareous
- 1397-1437 Sandstone, white, medium- to fine-grained, angular to subrounded, quartzose, slightly micaceous, essentially clean
- 1437-1449 Sandstone, same as above; some sandstone, light-gray, very fine grained, quartzose, slightly argillaceous; some shale, black, carbonaceous
- 1449-1479 Sandstone, light-tannish gray, very fine grained with some fine grains and an occasional medium grain, angular to subangular, quartzose, slightly argillaceous; a little shale, black, carbonaceous, coaly laminations, at 1471-1474 dark-tan and seems to be an underclay, at 1474-1479 gray and micaceous
- 1479-1488 Sandstone, white, medium-grained with some fine grains, angular to subrounded, quartzose, slightly micaceous, essentially clean; and siltstone, gray, quartzose, argillaceous, micaceous
- 1488-1497 Sandstone, same as above, but in part cemented with a tan material (siderite ?)

- 1497-1515 Sandstone, light-gray, medium-grained with some fine grains, angular to subangular, quartzose, micaceous, chloritic, at 1511-1515 very calcareous
- 1515-1532 Sandstone, white, medium- to fine-grained, angular to subangular, quartzose, moderate amount of green mineral, essentially clean, at 1525-1532 very slightly calcareous
- 1532-1544 Sandstone, same as above, but not calcareous; and shale, gray, silty and micaceous to black and carbonaceous; and coal (unusually large pieces of coal in sample)
- 1544-1560 Shale, black and carbonaceous to gray and silty to tan and silty; a little coal
- 1560-1579 Sandstone, tan to light-tan, fine-grained to silt, subangular to subrounded, quartzose, in the middle slightly calcareous, clean
- 1579-1611 Shale, gray, in part micaceous and silty; some interbedded siltstone, light-gray to gray, quartzose, very slightly calcareous
- 1611-1618 Siltstone, gray, quartzose, very argillaceous, micaceous, considerable interstitial coaly material, many coaly laminations
- 1618-1621 Sandstone, white, fine- to very fine grained, angular to subangular, quartzose, very slightly calcareous
- 1621-1639 Sandstone, same as above, but medium-grained, at 1629-1639 moderate amount of green mineral
- 1639-1653 Sandstone, same as above, but some fine grains, small amount of green mineral
- 1653-1660 Shale, light-tan, pasty, some floating quartz grains, occasional siderite nodule; some sandstone, same as above
- 1660-1689 Sandstone, same as above, but not calcareous
- 1689-1699 Sandstone, same as above; and shale, gray, moderately hard
- 1699-1707 Shale, gray, very slightly silty, micaceous; a little shale, dark-gray and carbonaceous
- 1707-1729 Sandstone, same as 1689-1699 above, but angular to subrounded, at 1715-1729 calcareous

- 1729-1734 Sandstone, same as above, but fine-grained with some medium grains, angular to subangular, very slightly calcareous
- 1734-1749 Sandstone, same as above, but mostly medium-grained, at the bottom not calcareous
- 1749-1758 Siltstone, gray, quartzose, very argillaceous, finely laminated; some sandstone, same as above
- 1758-1772 Siltstone to very fine grained sandstone, brown, quartzose, micaceous, dirty; a little shale, gray, in part silty and micaceous
- 1772-1778 Siltstone to sandstone, same as above; and shale, same as above
- 1778-1794 Sandstone, white, fine-grained, angular to subangular, quartzose, slightly micaceous and chloritic, at 1785-1794 angular to subrounded, at 1789-1794 slightly calcareous
- 1794-1817 Sandstone, same as above, but medium- to fine-grained, very slightly calcareous
- 1817-1848 Sandstone, same as above, but laminated with some light-gray, very fine grained to silt laminations, all non-calcareous except at 1838-1848 very slightly calcareous
- 1848-1878 Shale, dark-gray, in part finely micaceous; at 1865-1878 a little tan underclay
- 1878-1890 Siltstone, tannish-gray, quartzose, micaceous, very slightly calcareous, occasional coaly lamination; a little shale, gray, silty, micaceous
- 1890-1898 Shale, gray to dark-tan, in part silty and micaceous, a little is black and carbonaceous
- 1898-1932 Sandstone, very light gray to tan, fine-grained with an occasional medium grain, angular to subangular, quartzose, moderate amount of green mineral, slightly micaceous and chloritic, in part cemented with tan calcite, calcareous to slightly calcareous
- 1932-1944 Shale, gray and finely micaceous to dark-gray and carbonaceous
- 1944-1953 Shale, same as above; and siltstone, brown, quartzose, dirty with a little coaly material

- 1953-1962 Sandstone, very fine grained to siltstone, same as above
- 1962-1974 Sandstone to siltstone, same as above, but gray and very slightly calcareous, laminated with gray argillaceous to coaly material
- 1974-1986 Shale, gray, in part silty and finely micaceous, coaly laminations
- 1986-2004 Shale, gray to dark-gray and carbonaceous; a little siltstone, gray, quartzose, micaceous, dirty
- 2004-2014 Sandstone, light-tan, fine-grained, subangular to subrounded, quartzose, a small amount is cemented with a tan argillaceous material; some shale, black, carbonaceous
- 2014-2017 Sandstone, same as above, but no argillaceous cement
- 2017-2032 Sandstone, same as above; a little coal; a little shale, black, carbonaceous Coal 2022-26
- 2032-2048 Sandstone, same as above, but tan, fine- to very fine grained, at 2042-2048 an occasional medium grain; a little coal; a little shale, same as above
- 2048-2056 Sandstone, same as above
- 2056-2067 Sandstone, same as above, but in part light-gray, all calcareous; some shale, gray, silty, micaceous
- 2067-2074 Sandstone, white, fine-grained with an occasional medium grain, angular to subangular, quartzose, slightly micaceous, small amount of green mineral
- 2074-2099 Sandstone, same as above, but medium- to fine-grained, only a trace of mica and green mineral
- 2099-2109 Sandstone, same as above, but mostly medium-grained with a few fine grains
- 2109-2121 Sandstone, same as above, but medium-grained with a few coarse grains, trace of chlorite
- 2121-2133 Shale, dark-gray, carbonaceous; and shale, light-gray, greasy, underclay; and coal; some sandstone, same as above
- 2133-2142 Coal; and shale, same as above; and siltstone, light-gray, quartzose

- 2142-2187 Siltstone, gray, quartzose, in the basal part micaceous; and interbedded shale, gray and in part finely micaceous to dark-gray and carbonaceous
- 2187-2195 Siltstone, light-gray, quartzose, micaceous; and sandstone, light-gray, fine- to very fine grained, quartzose, micaceous
- 2195-2207 Siltstone and sandstone, both same as above; a little shale, dark-gray, very finely micaceous
- 2207-2214 Sandstone, white, medium-grained, angular to subangular, quartzose, clean, slightly calcareous; a little shale, black, carbonaceous, nearly an earthy coal
- 2214-2225 Shale, gray and finely micaceous to dark gray and carbonaceous; some siltstone, gray, quartzose
- 2225-2232 Siltstone, same as above grading to sandstone, very fine grained, slightly feldspathic, very slightly calcareous
- 2232-2284 Shale, gray, silty, micaceous; some interbedded siltstone to sandstone, same as above
- 2284-2314 Sandstone, light-gray, very fine to fine-grained, angular to subangular, quartzose, slightly micaceous and chloritic, a small amount of dark mineral, at 2289-2298 a very little interstitial coaly material 07-12
- 2314-2322 Shale, dark-gray, carbonaceous; some coal
- 2322-2333 Shale, same as above
- 2333-2375 Sandstone, white, medium- to fine-grained, subangular to sub-rounded, quartzose, clean, at 2353-2375 few to moderate amount of coarse grains
- 2375-2380 Sandstone, same as above, but medium- to coarse-grained, some fine grains, an occasional very coarse grain
- 2380-2387 Sandstone, same as above, but medium- to fine-grained; a little siltstone, light-greenish gray, quartzose
- 2387-2411 Sandstone, light-gray, in part with a faint greenish cast, fine- to very fine grained, angular to subangular, quartzose, moderately chloritic, moderate amount of green mineral, slightly calcareous
- 2411-2419 Shale, gray, silty, finely micaceous

- 2419-2444 Sandstone, white, medium- to fine-grained, subangular to subrounded, quartzose
- 2444-2458 Sandstone, light-gray, fine- to very fine grained, an occasional medium grain, angular to subangular, quartzose, slightly micaceous, moderately chloritic, moderate amount of green mineral; at 2450-2458 a little interbedded shale, gray, finely micaceous
- 2458-2482 Sandstone, same as 2419-2444 above, but at 2474-2482 very slightly calcareous
- 2482-2488 Sandstone, white, medium-grained, angular to subangular, quartzose, clean; and shale, light-tannish gray, pasty, soft, siderite nodules
- 2488-2511 Sandstone, same as above, but with some fine grains and an occasional coarse grain

TOP BLUESTONE FORMATION (MISSISSIPPIAN) 2511

- 2511-2519 Shale, light-gray to light-yellowish gray, claystone, soft, contains floating very fine to silt-size grains of clear quartz
- 2519-2525 Shale, same as above; and shale, dull-red, in part slightly calcareous
- 2525-2544 Shale, both same as above; a little interbedded siltstone, light-green, quartzose, slightly feldspathic
- 2544-2550 Shale, same as above, but the dull-red is micaceous, both very slightly calcareous
- 2550-2563 Shale, dull-red to red, finely micaceous, in part calcareous; at 2554-2558 a little shale, pale-green
- 2563-2611 Depth correction
- 2611-2619 Siltstone, pale-green, quartzose, calcareous; some shale, red
- 2619-2649 Shale, pale-green to green and maroon to red with minor amounts of gray, all calcareous at the top grading downward to non-calcareous at the bottom
- 2649-2664 Shale, olive-gray, calcareous to slightly calcareous; a little interbedded siltstone, olive-gray, dirty, calcareous

- 2664-2672 Sandstone, white, coarse-grained with a few medium grains at the top, grading downward to medium- to fine-grained, subangular to subrounded, quartzose, clean, very calcareous
- 2672-2678 Shale, gray, in part with a maroon cast, finely micaceous; some sandstone, same as above, but in part cemented with tan calcite
- 2678-2690 Shale, variegated gray and red, with a few nodules of limestone
- 2690-2694 Siltstone, light-greenish gray, quartzose, slightly calcareous; a little shale, red
- 2694-2702 Siltstone, same as above; and shale, gray to dark-gray, calcareous, fossil fragments and ostracods
- 2702-2719 Shale, gray to dark-gray, in part carbonaceous, slightly pyritic, ostracods, calcareous; some interbedded sandstone, light-gray, fine- to very fine grained, angular to subangular, quartzose, slightly calcareous
- 2719-2729 Shale, olive-green and red, soft
- 2729-2743 Shale, pale-green and red, soft, floating fine to very fine quartz grains; a little limestone, nearly white, very argillaceous, sparsely fossiliferous
- 2743-2750 Shale, light-gray and red, soft; a very little sandstone, white to light-green, very fine grained to silt, quartzose
- 2750-2767 Shale, mostly red, a little gray, soft
- 2767-2793 Shale, light-gray, soft, at 2785-2793 an occasional siderite nodule; and interbedded siltstone to very fine grained sandstone, very pale green, quartzose, at 2778-2793 an occasional siderite nodule
- 2793-3015 Shale, dark-gray, at 3004-3015 carbonaceous and very slightly calcareous

TOP PRINCETON SANDSTONE 3015