

OPERATOR: Columbia Gas Transmission Corp.
FARM: Pittston Company
WELL NO. 20009
LOCATION: Buchanan County
7650' S of 37° - 15'
400' E of 82° - 12' - 30"
ELEVATION: 1565.25' GR.
TOTAL DEPTH: 4556'
DRILLING COMMENCED: April 8, 1974
WELL COMPLETED: July 5, 1974
RESULT: Gas Well

Bu 137

WELL LOG

DEPTH
(feet)

0-10	Siltstone, sandy - medium light gray (N5); coarse grained silt; hard; massive; siliceous; sandy - very fine grained - 50%; abundant mica - on planes and within; coal plant fossil impressions; local coal fragments in siltstone matrix; 10%± crushed rock fragments.
10-20	As 0-10.
20-30	As 0-10.
30-40	As 0-10; decreasing amount of local coal.
40-50	As 0-10; no coal.
50-60	As 0-10.
60-70	As 0-10.
70-80	As 0-10.
80-90	As 0-10.
90-100	As 0-10.
100-110	As 0-10.
110-130	As 0-10.
130-140	Siltstone - medium dark gray (N4), coarse, silt finely sandy; abundantly micaceous; local coal on partings.
140-150	Sandstone - light gray (N7), medium grained, moderately sorted, subangular clear quartz grains; sparsely siliceous; local feldspar; 10-15% micas, crushed/weathered rock fragments; local coal in fragments; slight porosity.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

150-160	As 140-150.
160-170	As 140-150.
170-180	As 140-150.
180-190	Siltstone - medium gray (N5); hard, disturbed bedding; very fine sand (quartz grains) locally; local mica; large areas of saprolitic feldspar.
190-200	Siltstone - as 130-140.
200-210	As 130-140.
210-220	As 130-140.
220-230	As 130-140.
230-240	Sandstone - medium light gray (N6), coarse grained, moderate sorting, subangular clear quartz grains; hard; siliceous and feldspathic; 10%+ micas - hydro-muscovite and biotite (?seems to be); local coal; disturbed bedding.
240-250	As 230-240.
250-260	As 230-240.
260-270	As 230-240.
270-280	As 230-240.
280-290	As 230-240.
290-300	Siltstone - as 130-140.
300-310	As 130-140.
310-320	As 130-140.
320-330	As 130-140.
330-340	As 130-140.
340-350	As 130-140.
350-360	As 130-140.
360-370	As 130-140.
370-380	As 130-140.
380-390	As 130-140.

OWNER: Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

390-400	As 130-140.
400-410	As 130-140; local disturbed bedding; sparse local carbon.
410-420	As 400-410.
420-430	As 400-410.
430-440	As 400-410.
440-450	Siltstone/Sandstone - 50% each; siltstone as 180-190 and sandstone as 230-240.
450-460	As 440-450.
460-470	As 440-450; local feldspar with coal film; local mica.
470-480	Shale - dark gray (N3), soft, local fissility; local mica.
480-490	As 470-480.
490-500	As 470-480.
500-510	Shale/Siltstone - as 470-480; siltstone, 1-5%.
510-520	As 470-480.
520-530	As 470-480.
530-540	As 470-480.
540-550	As 470-480; medium gray (N5) siltstone also; sparse coal.
550-560	As 540-550.
560-570	As 540-550.
570-580	As 540-550.
580-590	As 540-550.
590-600	As 540-550.
600-610	Siltstone - dark gray/medium gray.
610-620	As 600-610.
620-630	As 600-610; coal.
630-640	As 600-610.

OWNER: Colu^ola Gas Transmission Corp.

W# 20009

DEPTH
(feet)

640-650 Sandstone/Siltstone - 70%± sandstone, light gray (N7), fine to medium grained, moderate sorting, subangular with some subrounded clear quartz grains; "subgraywacke" type; loosely cemented by siliceous/feldspathic; micaceous - from sparse to abundant and both fresh and hydro-micas; and 30% siltstone grading to shale, medium gray (N5), soft, disturbed bedding, local mica; coal.

650-660 As 640-650.

660-670 Sandstone/Siltstone - as 640-650; 10% fine siltstone.

670-680 As 640-650.

680-690 Sandstone/Shale - as 640-650; except shale not siltstone; local mica.

690-700 Siltstone - medium dark gray (N4), massive, hard, micaceous; sandy - very fine grained, 1-3%.

700-710 As 690-700.

710-720 As 690-700.

720-730 Sandstone - light gray (N7), medium to coarse, moderate sorting, subangular clear quartz crystals; loosely siliceous; sparsely porous; local feldspar; large areas of mica/hydro-mica (brown, green); rock fragments - 1%.

730-740 As 720-730.

740-750 As 720-730.

750-760 As 720-730.

760-770 As 720-730; 10% rock fragments; coal.

770-780 As 760-770.

780-790 As 760-770; coal.

790-800 As 760-770.

800-810 Siltstone - medium dark gray (N4); firm, massive; local mica.

810-820 As 800-810.

820-830 As 800-810.

830-840 As 800-810.

840-850 As 800-810.

OWNER: Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

850-860	As 800-810; 1-3% sandstone - medium to coarse grained.
860-870	As 800-810; coal.
870-880	As 800-810; increasing sandstone.
880-890	As 800-810.
890-900	As 800-810.
900-910	Sandstone/Siltstone - 85% sandstone as 720-730 and 15%± siltstone as 800-810; coal.
910-920	As 900-910.
920-930	As 900-910.
930-940	As 900-910; fine to medium grained.
940-950	As 900-910.
950-960	As 900-910.
960-970	As 900-910.
970-980	As 900-910.
980-990	As 900-910.
990-1000	As 900-910.
1000-1010	As 900-910.
1010-1020	Sandstone, silty - very pale yellowish brown (10YR 7/2), fine to medium, moderately well sorted, subangular clear quartz grains; abundantly silty (not color of crushed siltstone of above); loosely siliceous; 1% finely ground, medium dark gray siltstone.
1020-1030	As 1010-1020.
1030-1040	As 1010-1020; increasing siltstone.
1040-1050	As 1010-1020; 10% siltstone.
1050-1060	As 1010-1020.
1060-1070	As 1010-1020; decreasing silt.
1070-1080	As 1010-1020; medium light gray siltstone also.
1080-1090	As 1010-1020.

OWNER: Columbia Gas Transmission Corp.

W# 20009

- 1090-1100 As 1010-1020.
- 1100-1110 As 1010-1020; coal; more than 1% rose quartz; sparse siltstone.
- 1110-1120 Sandstone - as 1100-1110; medium to coarse, very loosely cemented; porous; sparse coal.
- 1120-1130 As 1100-1110; no coal.
- 1130-1140 As 1100-1110.
- 1140-1150 As 1100-1110.
- 1150-1160 Siltstone/Sandstone - interbedded/grading into one another; coal on partings; siltstone, dark gray (N3); hard; sandy; grading to sandstone, silty; disturbed bedding, rootlet stringers; streaked and rippled; and sandstone, light brownish gray (5YR 6/1), fine grained, moderately well sorted, subangular, clear quartz grains; "dirty" or graywacke? in appearance; siliceous; local micas and weathered rock fragments; grading into siltstone coal fragments/coal on partings.
- 1160-1170 As 1150-1160.
- 1170-1180 As 1150-1160.
- 1180-1190 As 1150-1160.
- 1190-1200 As 1150-1160.
- 1200-1210 Sandstone - as 1010-1020.
- 1210-1220 As 1200-1210.
- 1220-1230 As 1200-1210.
- 1230-1240 As 1200-1210; local mica.
- 1240-1250 As 1200-1210.
- 1250-1260 As 1200-1210; 5% micas.
- 1260-1270 As ; slight porosity; micas.
- 1270-1280 As 1260-1270.
- 1280-1290 Siltstone - grayish black (N2); hard thin beds with sparse amount sandstone (as above) in between; fragments show quartz grains (fine) in streaks within siltstone; coal (sparse).
- 1290-1300 As 1280-1290.
- 1300-1310 As 1280-1290.
- 1310-1320 As 1280-1290; 20% "dirty" sandstone.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

1320-1330 As 1280-1290.

1330-1340 As 1280-1290.

1340-1350 As 1280-1290; sparse coal; 40%± sandstone; local mica.

1350-1360 Sandstone/Siltstone - as sandstone, as 1110-1120 and siltstone as 1280-1290; coal; pyrite; large muscovite fragments on bedding planes and in areas of increasing grain size of the sandstone; some brownish black (5YR 2/1) siltstone - silty, soft.

1360-1370 Sandstone/Siltstone-Shale - 70%± sandstone (medium to some coarse and some fine, moderate sorting, subangular; siliceous, slightly porous, subgraywacke in local areas): 30%± siltstone grading into shale.

1370-1380 As 1360-1370.

1380-1390 Sandstone/Shale - as 1360-1370; shale is brownish black (5YR 2/1).

1390-1400 As 1380-1390.

1400-1410 As 1380-1390; 8%± shale; local coal; local pyrite.

1410-1420 As 1400-1410.

1420-1430 Sandstone/Shale - as 1400-1410; increasingly feldspathic.

1430-1440 Siltstone - dark gray (N3); hard; sandy (fine grained).

1440-1450 As 1430-1440.

1450-1460 As 1430-1440; 1% sandstone fragments.

1460-1470 As 1430-1440.

1470-1480 As 1430-1440.

1480-1490 Siltstone, sandy - as 1430-1440; disturbed bedding and
1490-1500 increasing "sandiness"; local mica; local coal as plant fossils at 1490-1500.

1500-1530 Siltstone, sandy - sparsely interbedding with sandstone; local mica; sandstone and siltstone as 1360-1370 and 1430-1440.

1530-1540 As 1500-1530; disturbed bedding, smaller fragments.

1540-1550 As 1530-1540.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

1550-1560	As 1530-1540.
1560-1570	As 1530-1540; local carbon, coal parting (on cleavage plains); laminae of quartz grains.
1570-1580	As 1560-1570; no carbon.
1580-1590	As 1560-1570.
1590-1600	Siltstone/Sandstone - 50% each as above.
1600-1610	As 1590-1600.
1610-1620	Siltstone (80%)/Sandstone (20%) - as 1590-1600.
1620-1630	Sandstone - very light olive gray (5Y 7/1), very fine to coarse grained with some very coarse, moderate sorting, subangular and some subrounded clear quartz grains; siliceous, slight porosity with less than 1% fine, weathered siltstone fragments.
1630-1640	As 1620-1630.
1640-1650	As 1620-1630.
1650-1660	As 1620-1630.
1660-1670	As 1620-1630.
1670-1680	As 1620-1630.
1680-1690	As 1620-1630; pebble fragments; local feldspathic areas.
1690-1700	Sandstone, silty - as above; silty; less coarse grains; sparse siltstone.
1700-1710	As 1690-1700.
1710-1720	As 1690-1700.
1720-1730	As 1690-1700.
1730-1740	As 1690-1700.
1740-1750	As 1690-1700; increasing coarseness.
1750-1760	As 1690-1700; fine to coarse.
1760-1770	Sandstone, Coal - sandstone as 1620-1630; with 40% coal; sulfur; underclay.
1770-1780	As 1760-1770; 20% coal fragments.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

1780-1790	As 1760-1770.
1790-1810	Coal.
1810-1820	Siltstone - dark gray (N3); hard; some areas layered (fissile?); some coal fragments.
1820-1830	As 1810-1820.
1830-1840	As 1810-1820; local coal.
1840-1850	As 1810-1820; coarse siltstone, increasing sandstone, both as fragments and interbedded; sparse coal partings.
1850-1860	Sandstone - as 1620-1630; fine to medium, local mica; very sparse siltstone.
1860-1870	As 1850-1860.
1870-1880	As 1850-1860; 10% siltstone.
1880-1890	Siltstone, sandy - medium gray (N5); hard, sandy.
1890-1900	Siltstone/Shale - grayish red (5R 4/2) and finely interbedded with medium gray siltstone, firm to soft; not sandy; mostly shale.
1900-1910	As 1890-1900.
1910-1920	As 1890-1900.
1920-1930	As 1890-1900; 1-3% dark gray shale.
1930-1940	As 1920-1930.
1940-1950	As 1920-1930.
1950-1960	As 1920-1930.
1960-1970	As 1920-1930.
1970-1990	As 1920-1930.
1990-2000	Siltstone/Sandstone - siltstone is light brownish gray (5YR 6/1), (crushed), soft; and sandstone, greenish gray (5GY 6/1), very fine to fine, well sorted, subangular clear quartz grains; siliceous; 10% green rock fragments; mixture is calcareous; silty; probably from crushed siltstone; small sandstone fragments while siliceous are also calcareous.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(Feet)

2000-2010	As 1990-2000.
2010-2020	As 1990-2000.
2020-2030	As 1990-2000.
2030-2040	As 1990-2000; medium dark gray limestone, silty fragments and grayish red shale fragments.
2040-2050	Siltstone, sandy, calcareous - medium dark gray and dark gray (N4, N3); soft, firm, local and varying "sand" amounts.
2050-2060	As 2040-2050.
2060-2070	As 2040-2050.
2070-2080	As 2040-2050.
2080-2090	As 2040-2050.
2090-2100	As 2040-2050.
2100-2110	Siltstone - dark gray (N3); hard, local "sandiness" and carbonaceous, fragments of sandstone from 1990-2000, light gray and greenish gray; 1% grayish red shale; siltstone grading locally to a very fine grained dirty, silty sandstone.
2110-2120	As 2100-2110; ?fossil - brachiopod.
2120-2130	As 2100-2110; gray, red and light gray siltstones are inter-tonguing; local carbon.
2130-2140	As 2120-2130.
2140-2150	As 2120-2130.
2150-2160	As 2120-2130; dark and light gray siltstone only.
2160-2170	As 2120-2130.
2170-2180	As 2120-2130.
2180-2190	As 2120-2130.
2190-2200	As 2120-2130; sparse shale.
2200-2210	As 2120-2130.
2210-2220	As 2120-2130.
2220-2230	As 2120-2130.

OWNER: Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

2230-2240 Siltstone/Shale - as 2120-2130.

2240-2250 As 2120-2130.

2250-2260 As 2120-2130.

2260-2270 As 2120-2130.

2270-2280. As 2120-2130.

2280-2290 Siltstone - light gray (N7), hard; 60%±; light red (5R 6/6) feldspar cleavage fragments; greenish gray sandstone fragments; dark gray shale; greenish gray siltstone, sandy, fine to medium; yellowish brown siltstone; chert (1); sample is calcareous.

2290-2300 As 2280-2290.

2300-2310 As 2280-2290; 10% dark gray shale; 50% light gray and greenish gray; 5% grayish red; flesh colored feldspar.

2310-2320 Sandstone (crushed) - light olive gray (5Y 6/1); fine to medium, moderately well sorted; subrounded; loosely cemented - siliceous?; 1-3% limestone/calcite fragments - light yellowish brown; 10% dark gray shale, fine, weathered.

2320-2330 As 2310-2320.

2330-2340 As 2310-2320.

2340-2350 As 2310-2320; 30% shale; iron oxide staining; large feldspathic cleavages/fragments in siltstone.

2350-2360 As 2340-2350; 30% siltstone, medium gray.

2360-2370 As 2340-2350.

2370-2380 As 2340-2350.

2380-2390 As 2340-2350.

2390-2400 As 2340-2350.

2400-2410 As 2340-2350; 10% shale, dark gray; sparse feldspar fragments.

2410-2420 As 2340-2350.

2420-2430 As 2340-2350.

2430-2440 Siltstone-Shale - dark gray (N3), hard.

2440-2450 As 2430-2440.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

2450-2460	As 2430-2440.
2460-2470	As 2430-2440.
2470-2480	As 2430-2440.
2480-2490	As 2430-2440.
2490-2500	As 2430-2440; iron oxide staining.
2500-2510	Shale - grayish red (5R 4/2), soft, weathered.
2510-2520	As 2500-2510.
2520-2530	Sandstone/Shale, calcareous - 50% sandstone, as 2310-2320; and 50% shales - dark gray and grayish red; dark gray shale and some sandstones are calcareous, as 2430-2440 and 2500-2510.
2530-2540	As 2520-2530; pyrite.
2540-2550	As 2520-2530.
2550-2560	As 2520-2530.
2560-2570	As 2520-2530.
2570-2580	Siltstone/Sandstone - as 2520-2530; 80% siltstone-shales (medium and dark grays); 20% sandstone.
2580-2590	Shale - grayish red (5Y 4/2), soft, weathered.
2590-2600	Sandstone (crushed) - light olive gray (5Y 6/1), very fine to fine, moderately well sorted, subangular clear quartz grains; no cement - calcareous?; 1-3% very fine, weathered siltstone-shale fragments; local mica.
2600-2610	As 2590-2600.
2610-2620	As 2590-2600; local feldspar.
2620-2630	As 2590-2600; sparse subrounded grains.
2630-2640	As 2590-2600.
2640-2650	As 2590-2600.
2650-2660	As 2590-2600.
2660-2670	As 2590-2600.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

- 2670-2680 Sandstone, silty - as 2590-2600; silt probably from crushed siltstone/shales but no large fragments present - 1-3% very fine fragments; pyrite; increasing calcareousness.
- 2680-2690 As 2670-2680; some subrounded grains in larger grains.
- 2690-2700 As 2670-2680.
- 2700-2710 Sandstone, silty and calcareous - as 2670-2680; very fine to medium grained, medium grains are subrounded.
- 2710-2720 As 2700-2710.
- 2720-2730 As 2700-2710.
- 2730-2740 As 2700-2710.
- 2740-2750 As 2700-2710; iron oxide stained.
- 2750-2760 As 2700-2710.
- 2760-2770 As 2700-2710; local mica.
- 2770-2780 As 2700-2710.
- 2780-2790 As 2700-2710.
- 2790-2800 As 2700-2710.
- 2800-2810 Sandstone - light gray (N7), very fine to medium, moderate sorting, subrounded; no cement - possibly calcareous; 5% shales, grayish red and dark gray.
- 2810-2820 As 2800-2810.
- 2820-2830 As 2800-2810; 1% shales.
- 2830-2840 As 2800-2810.
- 2840-2850 As 2800-2810; more very fine-fine grains; decreasing medium; iron oxide stained.
- 2850-2860 As 2840-2850.
- 2860-2870 Sandstone, silty - as 2840-2850.
- 2870-2880 Shale, sandy - light gray (N7), fissile, soft, very fine to fine grains of quartz; iron oxide staining.
- 2880-2890 As 2870-2880.
- 2890-2900 Sandstone/Shale - as 2870-2880; sandstone as 2800-2810.
- 2900-2910 Sandstone, silty - as 2870-2880; silty from shale.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

2910-2920 As 2870-2880.

2920-2930 Sandstone, silty - as 2900-2910; very fine to fine grained quartz grains.

2930-2940 As 2920-2930.

2940-2950 As 2920-2930.

2950-2960 As 2920-2930; local mica.

2960-2970 As 2920-2930; iron oxide stained.

2970-2980 Shale - brownish gray (5YR 4/1); hard, local mica.

2980-2990 As 2970-2980; grayish red (10R 4/2) and dark gray (N3) also.

2990-3000 Shale - grayish black (N2), hard, worn; light yellowish brown limestone fragment.

3000-3010 As 2990-3000.

3010-3020 As 2990-3000.

3020-3030 As 2990-3000.

3030-3040 Shale/Siltstone - shale as 2990-3000, crushed with small fragments and small fragments of light gray siltstone.

3040-3050 As 3030-3040.

3050-3060 As 3030-3040.

3060-3070 As 3030-3040.

3070-3080 As 3030-3040.

3080-3090 Limestones - brownish gray (5YR 4/1); light brownish gray (5YR 6/1); fine grained; badly fragmented fossils.

3090-3100 As 3080-3090; no fossils.

3100-3110 As 3080-3090.

3110-3120 As 3080-3090.

3120-3130 As 3080-3090.

3130-3140 As 3080-3090.

3140-3150 As 3080-3090.

OWNER:

Columbia Gas Transmission Corp.

w# 20009

DEPTH
(feet)

3150-3160	As 3080-3090.
3160-3170	As 3080-3090.
3170-3180	As 3080-3090.
3180-3190	Shale, calcareous - grayish black (N2), soft, weathered, calcareous.
3190-3200	As 3180-3190.
3200-3210	As 3180-3190; limestone fragments, 1-3%.
3210-3220	Shale/Limestone - as 3180-3190; increasing limestone.
3220-3230	As 3180-3190.
3230-3240	As 3180-3190.
3240-3250	Limestone/Shale (crushed) - As 3180-3190; fragments of dark brown, light brown, white light gray limestone.
3250-3260	As 3240-3250.
3260-3270	As 3240-3250.
3270-3280	As 3240-3250.
3280-3290	As 3240-3250 (sulfur odor in acid).
3290-3300	
3300-3310	Siltstone, sandy and calcareous - dark gray (N3); soft, worn fragments with varying amounts of fine quartz grains; varying amounts calcite; calcite crystalline fragments.
3310-3320	As 3300-3310.
3320-3330	As 3300-3310.
3330-3340	As 3300-3310.
3340-3350	As 3300-3310.
3350-3360	As 3300-3310.
3360-3370	As 3300-3310.
3370-3380	Limestone - medium light gray (N6) and white (N9); fine grained.
3380-3390	As 3370-3380.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

3390-3400	As 3370-3380.
3400-3410	As 3370-3380.
3410-3420	As 3370-3380.
3420-3430	As 3370-3380; light brownish gray (5YR 6/1); 10% medium light gray.
3430-3440	As 3420-3430; 1-2 crinoids stems.
3440-3450	As 3370-3380.
3450-3460	Medium gray (N5), as 3370-3380.
3460-3470	As 3450-3460.
3470-3480	As 3450-3460.
3480-3490	As 3450-3460.
3490-3500	Medium dark gray (N4) crystalline fragments, brownish gray - limestone fine grained.
3500-3510	As 3370-3380; 10% white limestone; some crystalline fragments; fragment grayish red shale.
3510-3520	As 3500-3510; light brownish gray limestone also.
3520-3530	As 3500-3510; light brownish gray instead of medium light gray.
3530-3540	As 3500-3510.
3540-3550	As 3500-3510.
3550-3560	As 3500-3510.
3560-3570	As 3500-3510 (light brownish gray limestone with 10%± white limestone).
3570-3580	As 3500-3510.
3580-3590	As 3500-3510.
3590-3600	As 3500-3510.
3600-3610	As 3500-3510.
3610-3620	Light gray (N7), white (N8) limestone, fine grained.
3620-3630	As 3610-3620.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

3630-3640	As 3610-3620.
3640-3650	As 3610-3620.
3650-3660	As 3610-3620.
3660-3670	As 3610-3620.
3670-3680	As 3610-3620.
3680-3690	As 3610-3620.
3690-3700	As 3610-3620.
3700-3710	As 3610-3620.
3710-3720	As 3610-3620.
3720-3730	As 3610-3620.
3730-3740	As 3610-3620.
3740-3750	As 3610-3620.
3750-3760	As 3610-3620.
3760-3770	Limestone/Shale - light grayish red (10R 5/2); light gray, light brownish gray and white limestone fragments (as above); 15%± grayish red shale fragments/powder.
3770-3780	Limestone, crushed - very pale yellowish brown (10YR 7/2); crushed limestone with 1-3% each, grayish black and grayish red shales.
3780-3790	As 3770-3780.
3790-3800	As 3770-3780.
3800-3810	As 3770-3780.
3810-3820	As 3770-3780.
3820-3830	As 3770-3780.
3830-3840	As 3770-3780.
3840-3850	As 3770-3780.
3850-3860	As 3770-3780.
3860-3870	As 3770-3780.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

3870-3880	As 3770-3780.
3880-3890	As 3770-3780.
3890-3900	As 3770-3780.
3900-3910	Limestone - light gray and medium gray (N7, N5), fine grained.
3910-3920	As 3900-3910; 1% dark gray siltstone.
3920-3930	As 3900-3910; 3% siltstone.
3930-3940	As 3900-3910; 5% siltstone.
3940-3950	As 3900-3910; 5% siltstone.
3950-3960	As 3900-3910; 10% siltstone.
3960-3970	Siltstone, sandy (crushed) - medium dark gray (N4); firm; very fine quartz grains, abundant within siltstone and in crushed "background powder;" very sparse limestone fragments or show of calcareousness.
3970-3980	As 3960-3970.
3980-3990	As 3960-3970.
3990-4000	As 3960-3970.
4000-4010	As 3960-3970.
4010-4020	As 3960-3970.
4020-4030	Siltstone/Shale - siltstone, light and medium dark gray (N7, N4); no quartz/"sand" grains; moderately firm; 20% shales, mostly dark gray, 1-3% (of the 20%) is grayish red; soft, very worn.
4030-4040	As 4020-4030; increasing dark gray shale.
4040-4050	As 4020-4030.
4050-4060	As 4020-4030.
4060-4070	Shale - dark gray to grayish black (N3-N2), crushed, soft; very sparse siltstone fragments; few grayish red shale fragments.
4070-4080	As 4060-4070.
4080-4090	As 4060-4070.
4090-4100	As 4060-4070.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

4100-4110	As 4060-4070.
4110-4120	As 4060-4070.
4120-4130	As 4060-4070.
4130-4140	As 4060-4070; 3% medium light gray siltstone; sparse sand/quartz grains, very fine; local mica.
4140-4150	As 4130-4140.
4150-4160	As 4130-4140.
4160-4170	As 4130-4140.
4170-4180	As 4130-4140.
4180-4190	Shale/Siltstone - 60% shale/40% siltstone, as above.
4190-4200	As 4180-4190.
4200-4210	As 4180-4190.
4210-4220	As 4180-4190.
4220-4230	Shale - as 4060-4070.
4230-4240	As 4060-4070.
4240-4250	As 4060-4070.
4250-4260	As 4060-4070.
4260-4270	As 4060-4070.
4270-4280	As 4060-4070.
4280-4290	As 4060-4070.
4290-4300	As 4060-4070.
4300-4310	Shale - grayish black (N2), soft.
4310-4320	As 4300-4310.
4320-4330	As 4300-4310.
4330-4340	As 4300-4310.
4340-4350	As 4300-4310.
4350-4360	As 4300-4310.

OWNER:

Columbia Gas Transmission Corp.

W# 20009

DEPTH
(feet)

4360-4370	As 4300-4310; very soft.
4370-4380	As 4300-4310.
4380-4390	As 4300-4310.
4390-4400	As 4300-4310; layer of badly weathered feldspathic sandstone in one fragment.
4400-4410	Shale, sandy (or interbedded sandstone/shale?) - brownish gray (5YR 4/1), crushed shale as above and 50% very fine grained quartz grains; local mica; very sparse calcite grains.
4410-4420	As 4400-4410.
4420-4430	As 4400-4410.
4430-4440	As 4400-4410.
4400-4450	As 4400-4410.
4450-4460	As 4400-4410.
4460-4470	As 4400-4410.
4470-4480	As 4400-4410.
4480-4490	Shale/Siltstone - shale as above, medium light gray siltstone, crushed.
4490-4500	As 4480-4490.
4500-4510	As 4480-4490.
4510-4520	Siltstone - medium light gray (N6), hard; very sparse shale/limestone.
4520-4530	As 4510-4520; occasional siltstone fragment; very sandy (fine grained) and lightly calcareous.

J. K. Polzin