

Company: United Producing Co., Inc.
 Farm: W. H. Matney
 Well No.: 2-1725
 Elevation: 1501.8' Gnd
 Total Depth: 6081'
 Location: Buchanan County
 8350' S. of 37°20'
 5950' E. of 82°00'
 Drilling Commenced: 10/12/50
 Well Completed: 2/2/51
 Result: Dry hole, P&A

Geologic Log
 Samples studied and
 described by:
 John M. Wilson
 Virginia Division of
 Mineral Resources
 May, 1963

GEOLOGIC LOG

Depth	Thickness	Description
0-1710	1710	No samples
1710-1759	49	Siltstone, locally finely sandy, light gray, red, green, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; common biotite, common muscovite, rare carbonaceous material
1759-1775	16	Siltstone, locally shaly, light to medium gray, moderately soft, flaky, no apparent bedding, to poorly fissile, argillaceous, with; common biotite, abundant muscovite, stringers of Sandstone, white, moderately cemented, very fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, calcareous, with; common biotite, rare muscovite, common chlorite. Slightly porous
1775-1799	24	Siltstone, variegated, locally shaly, light gray, red, green, tan, moderately hard, brittle, no apparent bedding, calcareous, argillaceous, with; common biotite, common muscovite
1799-1803	4	Siltstone, locally finely sandy, green, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; rare biotite, rare muscovite
1803-1859	56	Siltstone, locally finely sandy, light to dark gray, red (rare), green, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; abundant biotite, common muscovite, common carbonaceous material

1859-1909	50	Sandstone, white, light gray, well cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; abundant biotite, common muscovite, rare pyrite, common carbonaceous material stringers of. Nonporous to slight porous Siltstone, locally finely sandy, locally shaly, medium to dark gray, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; rare biotite, rare muscovite
1909-1955	46	Shale, carbonaceous, black, moderately hard, brittle, good fissility, argillaceous, with; rare muscovite, abundant carbonaceous material, rare iron oxide stains
1955-1970	15	Interbedded Limestone, light to dark gray, moderately hard, fragmental (abundant) fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; rare mica, abundant calcite, Siltstone, locally shaly, medium to dark gray, moderately hard, brittle, poorly fissile, argillaceous, with; rare muscovite, abundant carbonaceous material
1970-1973	3	Interbedded Sandstone, white, clear, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; common biotite, common muscovite. Nonporous to slightly porous. Shale, carbonaceous, locally silty black, moderately hard, brittle, fair to good fissility, argillaceous, with; rare muscovite, rare iron oxide stains
1973-1987	14	Sandstone, white, clear, well cemented, very fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; common biotite, common muscovite, common iron oxide stains, common silty-micaceous partings. Nonporous to slightly porous
1987-2000	13	Sandstone, as in 1973-1987, with; minor stringers of; Siltstone, locally shaly, light to dark gray, moderately soft, flaky, no apparent bedding to poorly fissile, argillaceous with; common biotite, common muscovite, rare iron oxide stains
2000-2023	23	Sandstone, white, clear, well cemented, very fine to fine grained, well sorted, subangular to angular, siliceous, with; rare biotite, rare muscovite, common iron oxide stains, Slightly porous
2023-2048	25	Siltstone, shaly, dark gray, hard, tough, fair to good fissility, argillaceous, with; rare muscovite, common carbonaceous material, abundant iron oxide stains

2048-2073	25	Sandstone, silty, white, light gray, moderately cemented, very fine grained, well sorted, subrounded to angular, interstitially silty, siliceous, with; common biotite, common muscovite, rare carbonaceous material abundant iron oxide stains, stringers of. Nonporous Siltstone, as in 2023-2048
2073-2083	10	Interbedded; Sandstone, as in 2048-2073, with; Siltstone, carbonaceous, dark gray, black, moderately hard, brittle, poorly fissile, argillaceous, with; common muscovite, rare pyrite, abundant carbonaceous material
2083-2130	47	Siltstone, locally finely sandy, locally shaly, light to dark gray, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; rare biotite, common muscovite, rare carbonaceous material, common iron oxide stains
2130-2168	38	Sandstone, white, clear, moderately cemented, very fine to fine grained, well sorted, subangular to angular, interstitially silty, siliceous, with; rare biotite, rare muscovite, common carbonaceous material, abundant iron oxide stains, abundant silty-micaceous partings. Slightly porous
2168-2178	10	Interbedded; Sandstone, as in 2130-2168, with; Siltstone, locally shaly, light to medium gray, moderately soft, flaky, no apparent bedding, to poorly fissile, argillaceous, with; rare biotite, abundant muscovite, rare iron oxide stains
2178-2210	32	Siltstone, locally shaly, light to dark gray, moderately hard, brittle, poor to fair fissility, argillaceous, with; common biotite, common muscovite, rare carbonaceous material
2210-2270	60	Limestone, shaly, light gray, dark gray, moderately hard, fossils (crinoid stems, brachiopod fragments) fossil content, no apparent bedding to platy, cryptocrystalline, with; rare mica, abundant calcite, rare iron iron oxide staining
2270-2307	37	Siltstone, locally finely sandy, red, moderately hard, brittle, no apparent bedding, argillaceous, ferruginous, with; rare biotite, common muscovite, common iron oxide stains
2307-2324	17	Siltstone, medium gray, red (common), moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; rare muscovite

- 2324-2350 26 Siltstone, gray grades locally to a very fine grained Sandstone, locally finely sandy, light to medium gray, red, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; rare biotite, rare muscovite, abundant iron oxide stains
- 2350-2375 25 Sandstone, silty, white, light gray, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; abundant biotite, common muscovite, common chlorite, abundant iron oxide stains, stringers of. Nonporous to slightly porous Siltstone, as in 2324-2350
- 2375-2387 12 Siltstone, shaly, dark gray, green, moderately hard, brittle, poorly fissile, calcareous, argillaceous, with; common biotite, rare muscovite, common carbonaceous material, rare iron oxide stains
- 2387-2421 34 Siltstone, dark gray, red, green, moderately hard, brittle, no apparent bedding, (very slightly) calcareous, argillaceous, with; rare biotite, abundant muscovite
- 2421-2445 26 Interbedded; Siltstone, as in 2387-2421, with, Limestone, dolomitic, light gray, green, moderately hard, fragmental (rare) fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; rare calcite
- 2445-2467 22 Sandstone, silty, white, light gray, moderately cemented, very fine grained, well sorted, subrounded, to angular, interstitially silty, siliceous, with; common biotite, abundant muscovite, common iron oxide stains, stringers of. Nonporous Siltstone, locally finely sandy, medium gray, red, moderately hard, brittle, no apparent bedding, argillaceous, with; common biotite, abundant muscovite
- 2467-2477 10 Siltstone, locally shaly, light to medium gray, red, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; rare biotite, rare muscovite, rare iron oxide stains, stringers of Sandstone, white, clear, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; rare biotite, rare muscovite. Nonporous, slightly porous
- 2477-2524 47 Siltstone, locally finely sandy, light gray to dark gray, moderately hard, brittle, no apparent bedding, argillaceous, with; common biotite, common muscovite, rare carbonaceous material, rare iron oxide stains

2524-2564	40	Sandstone, white, clear, well cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, abundant iron oxide stains, stringers of. Nonporous to slightly porous Siltstone, as in 2477-2524
2564-2573	9	Siltstone, locally shaly, light to dark gray, green-gray, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; common biotite, rare muscovite, common carbonaceous material
2573-2580	7	Siltstone, finely sandy, light to medium gray, green-gray, moderately hard, tough, no apparent bedding, siliceous, argillaceous, with; abundant biotite, abundant muscovite, rare pyrite, common iron oxide stains
2580-2615	35	Shale, silty, light to medium gray, moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite, rare iron oxide stains
2615-2670	55	Siltstone, locally finely sandy, locally shaly, light to dark gray, moderately soft, flaky, no apparent bedding to poorly fissile, argillaceous, with; common biotite, common muscovite, abundant pyrite, abundant carbonaceous material, common iron oxide stains
2670-2721	51	Sandstone, white, clear, moderately cemented, fine to medium grained, well sorted, subrounded to angular, siliceous, with; rare biotite, rare muscovite, abundant iron oxide stains, common silty micaceous partings. Slightly porous
2721-2725	4	Sandstone, as in 2670-2721, with stringers of Siltstone, shaly, light to medium gray, moderately soft, flaky, poorly fissile, argillaceous, with rare muscovite, abundant, iron oxide stains
2725-2738	13	Sandstone, as in 2670-2721
2738-2765	27	Siltstone, locally shaly, light to dark gray, moderately hard, brittle, poorly fissile, argillaceous, with; common biotite, common muscovite, rare pyrite, abundant carbonaceous material, abundant iron oxide stains

2765-2783	18	Siltstone, locally shaly, maroon-drab, moderately soft, flaky, no apparent bedding, to poorly fissile with; rare biotite, abundant muscovite, rare iron oxide stains
2783-2795	12	Siltstone, locally shaly, light to dark gray, maroon-drab, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, feruuginous, with; rare biotite, abundant muscovite, rare carbonaceous material, rare iron oxide stains
2795-2821	26	Siltstone, as in 2783-2795, with stringers of Sandstone, white, clear, poorly cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; rare biotite, rare muscovite, rare pyrite, common iron oxide stains. Nonporous to slightly porous
2821-2850	29	Siltstone, locally shaly, medium to dark gray, moderately hard, tough, poorly fissile, argillaceous, with; rare muscovite, common carbonaceous material rare iron oxide stains
2850-2868	18	Siltstone, as in 2821-2850, with stringers of Sandstone, white, light gray, well cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; common biotite, common muscovite, abundant iron oxide stains. Nonporous to slightly porous
2868-2900	32	Shale, locally silty, light to medium gray, moderately hard, brittle, fair to good fissility, calcareous (locally slightly), argillaceous, with; common biotite, rare muscovite, rare carbonaceous material, rare iron oxide stains
2900-2941	41	Limestone, shaly (locally), light to dark gray, moderately hard, oolitic, fragmental (abundant) fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; rare mica, abundant calcite, rare carbonaceous material, rare iron oxide staining
2941-3050	109	Interbedded Siltstone, shaly, medium to dark gray, moderately hard, brittle, poor to fair fissility, argillaceous, with; common muscovite, common iron oxide stains, Sandstone, stilty, white, clear, well cemented, very fine grained, well sorted, subangular to angular, interstitially silty, siliceous, with; rare biotite, rare muscovite, common iron oxide stains. Nonporous
3050-3296	246	Limestone, shaly, light to dark gray, moderately gray, moderately hard, oolitic, fragmental (rare) fossil content, no apparent bedding, microcrystalline, with; common calcite
3296-3335	39	Limestone, dark gray, tan, white, moderately hard, fragmental (rare) fossil content, no apparent

bedding, cryptocrystalline to microcrystalline with; abundant calcite

3335-3359	24	Limestone, light gray, moderately hard, no apparent fossil content, no apparent bedding, cryptocrystalline, with; common calcite
3359-3441	82	Limestone, light gray to dark gray, moderately hard, fragmental fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; rare mica, common calcite, rare iron oxide staining
3441-3553	112	Limestone, dolomitic (?), light gray, light brown, tan, white, moderately soft, fragmental fossil content, no apparent bedding, cryptocrystalline, with; rare chert, abundant calcite
3553-3635	82	Limestone, light gray-green, white, moderately hard, no apparent fossil content, no apparent bedding, cryptocrystalline, with; abundant calcite, rare iron oxide staining
3635-3682	47	Siltstone, locally finely sandy, red, green, moderately soft, flaky, no apparent bedding, argillaceous, ferruginous, with; common biotite, abundant muscovite, common iron oxide stains
3682-3828	146	Siltstone, locally finely sandy, light gray, green, moderately hard, brittle, no apparent bedding, argillaceous, with; abundant biotite, abundant muscovite, rare carbonaceous material rare iron oxide stains
3828-3875	47	Siltstone, locally finely sandy, locally shaly, light to dark gray, moderately hard, brittle, no apparent bedding, calcareous (locally), argillaceous, with; common biotite, common muscovite, abundant granule to pebble size quartz grains, rare carbonaceous material, rare iron oxide stains
3875-3928	53	Siltstone, locally finely sandy, locally shaly, light to dark gray, moderately hard, brittle, no apparent bedding, argillaceous, with; abundant biotite, abundant muscovite, abundant pyrite, rare iron oxide stains
3928-3946	18	Siltstone, shaly, medium to dark gray, moderately soft, flaky, poor to fair fissility, argillaceous, with; common biotite, common muscovite, abundant pyrite
3946-3975	29	Shale, silty, medium to dark gray, moderately soft, flaky, fair to good fissility, argillaceous, with; rare biotite, common muscovite, common pyrite, rare carbonaceous material

3975-4055	80	Shale, locally silty, medium to dark gray, brown (rare) moderately soft, flaky, good fissility, argillaceous, with; rare muscovite, common pyrite, rare carbonaceous material
4055-4065	10	No samples
4065-4282	217	Shale, dark gray, brown (rare), moderately soft, flaky, fair to good fissility, argillaceous, with; common muscovite, common pyrite
4282-4341	59	Interbedded Shale, carbonaceous, black, moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite, rare pyrite, abundant carbonaceous material Siltstone, locally finely sandy, light gray, moderately hard, brittle, no apparent bedding, argillaceous, with; common biotite, common muscovite, rare carbonaceous material
4341-4365	24	Shale, carbonaceous, black, moderately soft, flaky, fair to good fissility, argillaceous, with; common muscovite, rare iron oxide stains, stringers of Shale, silty, light to medium gray, brown, moderately hard, brittle, poor to fair fissility, argillaceous, with; rare biotite, rare muscovite
4365-4641	276	Interbedded Shale, locally silty, medium to dark gray, moderately hard, brittle, fair to good fissility, argillaceous, ; with; rare muscovite, common carbonaceous material, rare iron oxide stains Siltstone, locally finely sandy, light to medium gray, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; common biotite, common muscovite, rare carbonaceous material
4641-5050	409	Siltstone, locally finely sandy, light gray, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; common biotite, common muscovite, rare iron oxide stains, stringers of Shale, as in 4365-4641
5050-5095	45	Lithologies as in 4641-5050, with rare pyrite,
5095-5376	281	Lithologies as in 4641-5050
5376-5384	8	Interbedded Shale, carbonaceous, black, moderately soft, flaky, fair to good fissility, argillaceous, with; rare biotite, rare muscovite, rare pyrite, abundant carbonaceous material Shale, light to medium gray, moderately soft, flaky, good fissility, argillaceous, with; common biotite, common muscovite, abundant pyrite
5384-5407	23	No samples
5407-5415	8	Siltstone, locally carbonaceous, locally shaly, light to dark gray, moderately soft, flaky, no apparent bedding to poorly fissile, argillaceous, with; common biotite, common

5415-5440	25	No samples
5440-5488	48	Interbedded Shale, carbonaceous, black, moderately soft, brittle, fair to good fissility, argillaceous, with; rare biotite, rare muscovite, rare pyrite, abundant carbonaceous material, Shale, light gray, moderately soft, flaky, good fissility, argillaceous, with; rare biotite, rare muscovite, rare pyrite
5488-5510	22	No samples
5510-5520	10	Siltstone, carbonaceous, dark gray, black, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; common biotite, common muscovite, rare pyrite, abundant carbonaceous material
5520-5530	10	No samples
5530-5590	60	Carbonaceous Siltstone, as in 5510-5520, with stringers of Shale, light to medium gray, moderately soft, flaky, fair to good fissility, argillaceous, with; rare biotite, rare muscovite, common pyrite
5590-5610	20	No samples
5610-5685	75	Lithologies as in 5530-5590
5685-5697	12	Shale, carbonaceous (locally), light to dark gray, moderately soft, flaky, fair to good fissility, argillaceous, with; common muscovite, rare iron oxide stains
5697-5710	13	No samples
5710-5855	145	Shale, as in 5685-5697
5855-5870	15	No samples
5870-5998	128	Shale, carbonaceous (locally), light to dark gray, moderately hard, brittle, good fissility, argillaceous, with; rare muscovite, common pyrite
5998-6034	36	Shale, carbonaceous, black, moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite, common pyrite, abundant carbonaceous material (grading to coal) stringers of Shale, light to medium gray, moderately soft, flaky, poorly fissile to fair fissility, argillaceous, common muscovite, rare pyrite
6034-6081	47	Lithologies as in 5998-6034, with abundant pyrite
6081'	-	Total depth

GEOLOGIC SUMMARY

Mississippian System

Bluestone Formation	in	1710
	bottom	1970
Princeton Sandstone	top	1970
	bottom	2210
Hinton Formation	top	2210
	bottom	2821
Stony Gap Sandstone	top	2670
	bottom	2821
Bluefield Formation	top	2821
	bottom	3050
Greenbrier Limestone	top	3050
	bottom	3635
Maccrady-Price Formations	top	3635
	bottom	3946

Mississippian-Devonian Systems

Big Stone Gap Shale	top	3946
	bottom	4365

Devonian - Pre-Devonian Systems

Devonian - Pre-Devonian undivided	top	4365
	(deepest sample	6081)

Correlations by: J. M. Wilson and R. C. Milici

September 1963