

GR 9-1

Operator: Pipe Line Construction
And Drilling Company

Farm: F. H. Curtis, et. al.

Well No.: 1-B

Location: Buchanan County
400' N of 37° 15'
10,950' W of 82° 05'

Elevation: 1209' D. F.

Total depth: 5751' (in Huntersville chert)

Commenced:

Completed:

Result: Gas Well

Geologic log

Samples studied by R. J. Voigtsberger
Virginia Division of Mineral Resources

November, 1959

Pottsville group - Thickness 1431' (+) - Depth Interval 80' - 1511'

DEPTH		
80' - 118'	38'	Shale, medium gray with some silt in upper 6' of interval.
118' - 157'	39'	Sandstone, light gray, fine-grained, quartzose, micaceous and chloritic with dark inclusions and some shale, medium gray. Trace of coal from 138' - 157'.
157' - 206'	49'	Shale, medium gray with siltstone, medium gray and shale, dark gray at base of interval.
206' - 227'	21'	Sandstone, light gray, ^{m-c} fine-grained, quartzose, micaceous and chloritic and some shale, dark gray.
227' - 245'	18'	Shale, medium gray, silty with siltstone, light gray and abundant coal in lower half of interval.
245' - 253'	8'	Sandstone, light gray, fine-grained, quartzose, micaceous and chloritic, and shale, medium gray, silty.
253' - 301'	48'	Sandstone, white to light gray, medium to coarse-grained, quartzose, micaceous and chloritic with some green quartz grains, and a trace of shale, dark gray. Coaly partings and conglomerate at base of interval. No samples 275' - 286'.
301' - 317'	16'	Sandstone, light green-brown, fine-grained, quartzose, micaceous, and shale, medium gray.
317' - 374'	57'	Siltstone, medium gray to gray-brown, very micaceous, and sandstone, light gray, fine-grained, quartzose, micaceous.

DEPTH			
374' - 384'	10'		Shale, medium gray and a trace of shale, dark brown.
384' - 395'	11'		As above, but with sandstone, white to light gray, fine-grained, quartzose.
395' - 402'	* 7'		Siltstone, medium gray, and sandstone, light gray, fine-grained, quartzose.
402' - 424'	22'		Shale, dark gray, silty.
424' - 442'	* 18'		Sandstone, light gray, fine-grained, quartzose, and shale, medium gray.
442' - 465'	23'		No samples.
465' - 511'	* 46'		Sandstone, white, fine-grained, quartzose clean, conglomeratic in basal 14' of interval, and shale, dark gray.
511' - 548'	* 37'		Sandstone, as above, conglomeratic.
548' - 576'	28'		No samples.
576' - 586'	* 10'		Sandstone, white, medium-grained, quartzose, with abundant coal and conglomerate.
586' - 595'	9'		No samples.
595' - 604'	* 9'		Sandstone, same as 576' - 586'.
604' - 657'	53'		No samples.
657' - 697'	40'		Sandstone, light gray-brown, fine-grained, quartzose, coaly partings, and micaceous.
697' - 772'	75'		Sandstone, as above, and with siltstone, dark gray, micaceous. No samples 710' - 732'.
772' - 795'	23'		No samples.
795' - 810'	15'		Sandstone, white to light gray, fine-grained, quartzose, micaceous and chloritic, and with coal.
810' - 816'	6'		Shale, dark gray.
816' - 847'	31'		No samples.

DEPTH		
847' - 857'	10'	Sandstone, light gray-brown, fine-grained, very micaceous, brown variety is calcareous, and shale, medium gray.
857' - 875'	18'	Siltstone, dark gray, very micaceous, coaly partings.
875' - 900'	25'	No samples.
900' - 924'	24'	Shale, dark gray.
924' - 946'	22'	No samples.
946' - 986'	40'	Shale, black.
986' - 1090'	104'	No samples.
1090' - 1153'	63'	Sandstone, white, fine-grained, quartzose, micaceous, with shale, dark gray, silty in upper 30' of interval.
1153' - 1276'	123'	Sandstone, white, medium to coarse-grained, quartzose, conglomeratic. No samples from 1161' - 1186' and from 1245' - 1252'.
1276' - 1295'	19'	Sandstone, light gray, fine-grained, quartzose, very micaceous, chloritic, and shale medium gray, and coal.
1295' - 1303'	8'	No samples.
1303' - 1308'	5'	Sandstone, same as 1276' - 1295', but with siltstone, medium gray, very micaceous.
1308' - 1343'	35'	Shale, medium gray with coal from 1313' - 1330'.
1343' - 1420'	77'	Siltstone, medium gray, micaceous with some sandstone, light to medium gray, very fine-grained, quartzose, from 1361' - 1420'.
1420' - 1467'	47'	Sandstone, white, fine-grained, quartzose.
1467' - 1481'	14'	No samples.
1481' - 1496'	15'	Siltstone, medium gray, and sandstone, light gray to brown, fine-grained, quartzose.
1496' - 1504'	8'	Sandstone, light gray fine-grained, quartzose, micaceous and chloritic, and siltstone, medium gray.

DEPTH		
1504' - 1511'	7'	Shale, light to medium gray with spherulitic inclusions.
Bluestone formation - Top 1511'		
1511' - 1546'	35'	Shale, dark red-brown-green, and green-gray, and medium gray with (spherulitic inclusions) With some sandstone, light to medium gray, very fine-grained, silty from 1525' - 1546'. No samples from 1520' - 1524'.
1546' - 1558'	12'	Shale, medium gray, green-gray, and red.
1558' - 1600'	42'	Shale, red, and green, silty.
1600' - 1631'	31'	No samples.
1631' - 1640'	9'	Sandstone, light gray-green, fine-grained, quartzose, micaceous and chloritic, and shale, medium gray and red.
1640' - 1650'	10'	Shale, red, and medium gray.
1650' - 1700'	50'	Sandstone, white to light gray, very fine-grained, quartzose, and shale, medium gray.
1700' - 1710'	10'	Shale, dark gray to black.
1710' - 1773'	63'	Shale, dark gray with numerous (spherulitic inclusions) from 1735' - 1745'. No samples from 1720' - 1735', 1745' - 1750', 1759' - 1773'.
1773' - 1817'	44'	Shale, medium gray, and sandstone, light gray, very fine-grained, quartzose, silty.
1817' - 1934'	117'	Shale, dark gray. No samples from 1823' - 1845', 1898' - 1914'.
Princeton sandstone - Top 1934'		
1934' - 1992'	58'	Shale, as above, with sandstone, light gray, very fine-grained, quartzose.
1992' - 2050'	58'	Sandstone, light gray, fine-grained, quartzose, micaceous, and some shale, medium gray. No samples 2043' - 2048'.

Avis limestone - Top 2050'

DEPTH		
2050' - 2075'	25'	Shale, medium gray, calcareous, and a trace of limestone, medium gray, very argillaceous.
2075' - 2097'	22'	No samples.
2097' - 2109'	12'	Limestone, medium gray-brown, argillaceous, and shale, medium gray, calcareous.

Hinton formation (proper) - Top 2109'

2109' - 2133'	24'	Shale, dusky red, green, and gray.
2133' - 2137'	4'	No samples.
2137' - 2173'	36'	Sandstone, light gray-green, very fine-grained, quartzose, micaceous, silty, and shale, medium gray, silty, and shale, red.
2173' - 2189'	16'	Sandstone, white, fine-grained, quartzose, chloritic, and a trace of shale, medium gray.
2189' - 2197'	8'	Sandstone, white to light green-gray, fine-grained, quartzose, micaceous, and shale, medium gray.
2197' - 2206'	9'	As above, but with shale, red.
2206' - 2267'	61'	Siltstone and shale, red, green, and medium gray. Slightly calcareous at top of interval and becoming sandy at bottom of interval.
2267' - 2273'	6'	Sandstone, light gray-pink, and siltstone, gray-pink, and shale, medium gray.
2273' - 2320'	47'	Sandstone, light gray-green, and siltstone, medium gray.
2320' - 2332'	12'	No samples.
2332' - 2344'	12'	Shale, red, green-gray, and gray, silty.
2344' - 2395'	51'	Sandstone, light gray, very fine-grained, silty with shale, medium gray. Some siltstone, red and medium gray at top of interval.
2395' - 2467'	72'	Sandstone, white, fine-grained, quartzose, clean with a trace of shale, dark gray. No samples 2403' - 2409' and 2426' - 2436'.

DEPTH			
2467' - 2504'	37'	<i>Major</i>	Sandstone, light gray, fine-grained, quartzose, micaceous, and siltstone, dark gray. Pyrite and medium gray sandstone at base of interval.
2504' - 2535'	31'		Shale, medium gray, tan-gray, and green-gray, dolomitic with sandstone as above. Pyrite at 2522' - 2529'.
2535' - 2550'	15'		Shale, medium to dark gray, silty in part.
2550' - 2560'	10'		Sandstone, light green-gray, fine-grained, quartzose, and shale, medium gray.
2560' - 2580'	20'		Sandstone, white to light gray, very fine-grained, quartzose, micaceous, and siltstone and shale, medium gray.
2580' - 2588'	8'		No samples.
2588' - 2591'	3'		Sandstone, white, fine-grained, quartzose, and shale, dark gray.
2591' - 2606'	15'		Shale, red, green-gray, medium gray, and a trace of sandstone, light green-gray, fine-grained, quartzose.
2606' - 2636'	30'		Shale, medium to dark gray.
2636' - 2666'	30'		No samples.
2666' - 2701'	35'		Sandstone, white, fine-grained, quartzose, and shale, medium gray, and green-gray. No samples 2669' - 2673' and 2682' - 2690'.
Bluefield formation - Top 2701'			
2701' - 2718'	17'		Shale, dark gray, and green-gray, calcareous.
2718' - 2739'	21'		Shale, medium to dark gray.
2739' - 2753'	14'		Limestone, medium gray-brown, argillaceous, slightly oolitic, and a trace of shale, dark gray.
2753' - 2800'	47'		Sandstone, light gray, very fine-grained, quartzose, and siltstone and shale, medium gray. Pyrite from 2753' - 2768'.
2800' - 2817'	17'		Sandstone, white, fine-grained, quartzose, and shale, dark gray.

DEPTH		
2817' - 2852'	35'	Shale, dark gray with pyrite 2830' - 2842' and brach fragments at base of interval.
2852' - 2856'	4'	No samples.
2856' - 2876'	20'	Shale, same as 2817' - 2852', and some limestone, medium gray, argillaceous with crinoid stems.
2876' - 2890'	14'	No samples.
2890' - 2958'	68'	Limestone, medium gray, argillaceous, and shale, medium gray. Pyrite 2900' - 2917'. Slightly oolitic 2923' - 2934'.
2958' - 3024'	66'	Limestone, tan-gray, argillaceous, and shale, medium gray. Pyrite 2994' - 2997'. Oolitic 3009' - 3024'.
3024' - 3038'	14'	No samples.
Greenbriar limestone - Top 3050'		
3038' - 3060'	22'	Shale, and limestone, same as 2958' - 3024' with pyrite in lower half of interval.
3060' - 3143'	83'	Limestone, ^{LT. GRAY OCCASIONALLY LT. BR. GR.} (tan-gray) argillaceous. Very oolitic at top of interval. Less oolitic 3114' - 3133'.
3143' - 3153'	10'	No samples.
3153' - 3404'	251'	Limestone, tan-gray, argillaceous. Oolitic 3182' - 3200' and 3244' - 3254'.
Maccrady shale - Top 3404'		
3404' - 3422'	18'	Shale, red-green-gray, brown, and varigated red and green.
3422' - 3426'	4'	No samples.
3426' - 3435'	9'	Siltstone, red, light green-gray, medium gray, micaceous, sandy.
3435' - 3439'	4'	No samples.
3439' - 3492'	53'	Siltstone, same as 3426' - 3435'.
3492' - 3515'	23'	Siltstone, red.
3515' - 3522'	7'	Siltstone, and shale, red, green-gray, and medium gray.

DEPTH			
3522'	- 3528'	6'	Siltstone, light to medium gray, red, and green-gray.
3528'	- 3563'	35'	Siltstone, light to medium gray.
3563'	- 3579'	16'	Shale, medium to dark gray, silty, with isolated quartz grains, clear.
3579'	- 3594'	15'	As above, but siltstone.
Price sandstone - Top 3594'			
3594'	- 3612'	18'	Sandstone, medium gray-brown to medium gray, very fine-grained, silty and with pyrite.
3612'	- 3642'	30'	Sandstone, light to medium gray, very fine-grained, with some shale, dark gray.
3642'	- 3714'	72'	Shale, dark gray with sandstone, as above. Pyrite at top of interval. Some shale, brown beginning at 3655' and continuing throughout interval.
Big Stone Gap shale - Top 3714'			
3714'	- 3980'	266'	Shale, dark gray with some shale, brown 3770' - 3910' and 3923' - 3980'.
3980'	- 4003'	23'	No samples.
4003'	- 4070'	67'	Shale, dark gray.
4070'	- 4084'	14'	No samples.
4084'	- 4163'	79'	Shale, dark gray, with shale, light tan 4109' - 4141'. Isolated crystals of dolomite, cream-white 4132' - 4141'.
4163'	- 4178'	15'	No samples.
4178'	- 4193'	15'	Shale, dark gray to black, silty.
4193'	- 4209'	16'	Siltstone, dark gray to black.
4209'	- 4309'	100'	Siltstone, light to medium gray, micaceous. Pyrite 4209' - 4229'. No samples 4271' - 4282'.
4309'	- 4412'	103'	Shale, light to medium gray, micaceous, silty. No samples 4327' - 4349'.

DEPTH			
4412' - 4430'	18'	No samples.	
4430' - 4659'	229'	Siltstone, and shale, light to medium gray, micaceous with pyritic spherulites 4619' - 4630'.	
4659' - 4742'	83'	Siltstone, and shale, medium to dark gray.	
4742' - 5050'	308'	Shale, medium gray, silty. No samples 4805' - 4820', 4840' - 4858', 4910' - 4922', 4934' - 4939', 4996' - 5016', and 5030' - 5050'.	
5050' - 5067'	17'	Shale, dark gray to black with pyrite.	
5067' - 5104'	37'	Siltstone and shale, medium to dark gray.	
5104' - 5114'	10'	Siltstone and shale, light to dark gray, pyritic.	
5114' - 5125'	11'	Shale, medium gray to black, pyritic.	
5125' - 5168'	43'	No samples.	
5168' - 5226'	58'	Shale, medium to dark gray, pyritic.	
5226' - 5247'	21'	No samples.	
5247' - 5306'	59'	Shale, black, pyritic.	
5306' - 5323'	17'	Shale, light gray to black, pyritic.	
5323' - 5331'	8'	Shale, medium gray, pyritic.	
5331' - 5600'	269'	Shale, light to medium gray with a few thin stringers of calcite at 5366' - 5378'. Pyrite 5388' - 5449'. No samples 5472' - 5485' and 5571' - 5600'.	
5600' - 5639'	39'	Shale, dark gray to black, pyrite in lower half of interval.	
5639' - 5678'	39'	Shale, black, pyritic.	
5678' - 5735'	57'	Shale, dark gray, pyritic.	
Huntersville chert - Top 5735'			
5735' - 5751'	16'	Shale, as above and pyritic, but with chert, white and black, and limestone, white to tan-gray.	
			T. D. 5751'.

Summary

Pennsylvanian	in bottom	80' 1510'
Bluestone formation	top bottom	1510' 1935'
Princeton sandstone	top bottom	1935' 2050'
Avis limestone	top bottom	2050' 2109'
Hinton formation (proper)	top bottom	2109' 2550' ?
Stony Gap sandstone member	top bottom	2550' ? 2700'
Bluefield formation	top bottom	2700' 3050'
Greenbrier limestone	top bottom	3050' 3403'
Maccrady shale	top bottom	3403' 3594'
Price sandstone	top bottom	3594' . 3714'
Big Stone Gap shale & Devonian shale undifferentiated	top bottom	3714' 5734'
Huntersville chert in Huntersville chert at	top T. D.	5734' 5751'