WS-17

OPERATOR:

Penn-Virginia Resources
Penn-Virginia Resources

FARM: WELL NO.

206

LOCATION:

Wise County

14,500' N of 36°-55' 5,750' W of 82°-45'

ELEVATION:

2025' GR.

TOTAL DEPTH:

4029'

DRILLING COMMENCED:

September 9, 1957

WELL COMPLETED:

May 23, 1958

RESULT:

Gas Well

## WELL LOG

DEPTH (feet)	
0-774	No samples - strip reconstructed from driller's log.
774-784	Siltstone - medium gray (N5); firm to moderately hard; locally sandy and/or micaceous; sandstone fragments.
784-803	No samples.
803-817	Sandstone - light gray to very light gray (N7-N8); very fine to fine, subangular, moderately sorted; siliceous; hard; moderately clean, micaceous - muscovite and fuschite; siderite; rock fragments.
817-828	Sandstone - medium to dark gray (N5-N3); as 803-817; grading into a dark gray sandy siltstone, locally micaceous.
828-838	Sandstone - light gray (N7); fine to medium, subangular, moderately sorted; siliceous; micaceous; rock fragments.
838-844	Sandstone - as 828-838; coal; carbonaceous siltstone fragments.
844-854	Siltstone - dark gray (N3); hard; micaceous.
854-860	No sample.
860-868	Siltstone - as above; grading into fissile, hard, carbonaceous shale.
868-883	No sample.
883-893	Siltstone/Shale - as 860-868; coal and coal with sulfur.
893-904	No sample.
904-909	Siltstone - as $844-854$ ; sparse fragments of dark brownish gray (5YR $4/1$ ).

DEPTH (feet)	
909–917	Sandstone/Siltstone - 50% each; <u>Sandstone</u> - light gray (N7); fine to medium, subangular, poorly sorted; siliceous; feldspar; abundant micas; siderite and iron oxide stains; grading into and interbedded with <u>Siltstone</u> - dark gray (N3); hard, locally micaceous, deformed bedding and sandy; coal; rose quartz.
917-926	Sandstone/Siltstone - as 909-917.
926-935	Sandstone/Siltstone - as 909-917; coal.
935–944	Sandstone/Siltstone - as 909-917; no coal and lessening amounts of siltstone.
944-950	Sandstone/Siltstone - as 935-944.
950-960	Sandstone/Siltstone - as 909-917; (coal - sparse).
960-973	Siltstone - medium dark gray (N4); hard; massive; some local areas are sandy, micaceous and carbonaceously laminated.
973-986	No sample.
986-999	Sandstone - medium light to dark gray (N6-N3); grossly laminated and interbedded; as 909-917; greater amounts of sandstone.
999-1011	Siltstone - dark gray (N3); hard; massive; very sparsely micaceous; some dark brownish gray siltstone.
1011-1021	Siltstone, sandy - as 999-1011; carbonaceous and very finely sandy.
1021-1031	Siltstone, sandy - as above.
1031-1041	Siltstone - as 960-973.
1041-1053	No sample.
1053-1065	Siltstone - as 960-973.
1065-1077	Siltstone - as 960-973.
1077-1099	Siltstone - as 960-973; micaceous.
1099-1100	Siltstone, sandy - dark gray (N3); hard; sandy; carbonaceous; grading into dark gray shale - soft, carbonaceous; coal.
1100-1105	No sample.
1105–1115	Siltstone - medium dark gray (N4), hard; massive; moderate amounts of dark reddish brown (10R 3/2); soft.

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DEPTH <u>(feet)</u>	
1115-1122	Siltstone - as above.
1122-1130	No sample.
1130-1135	Sandstone/Shale - 50% each; <u>Sandstone</u> - very light gray (N8); very fine to medium, subangular, moderately sorted; siliceous; moderately clean; micaceous; <u>Shale</u> - dark gray (N3); soft; <u>very carbonaceous</u> ; fissile; <u>coal</u> .
1135–1145	Sandstone/Shale - as above; shale grading back into a sandy siltstone.
1145–1154	Sandstone/Siltstone, sandy - <u>Sandstone</u> , as 1130-1135; <u>Siltstone</u> - as 1099-1100.
1154-1159	No sample.
1159-1166	Sandstone/Siltstone - as 1145-1154; sandstone is iron-oxide stained and micaceous; siltstone becoming sparse.
1166-1174	No samples.
1174-1183	Sandstone - white (N9), medium grained, subangular, well sorted; siliceous; hard to brittle; clean; tightly cemented; sparse shale fragments.
1183-1193	Sandstone - as above.
1193-1196	Sandstone - as above.
1196-1199	No sample.
1199-1204	Sandstone - as above; dark gray shale fragments grading into siltstone; coal.
1204-1209	No sample.
1209–1217	Siltstone/Sandstone - dark gray (N3); hard; massive; locally micaceous; and Sandstone - light gray (N7), fine grained, subangular, moderately well sorted; siliceous; hard; micaceous; local siderite.
1217-1225	No samples.
1225-1234	Siltstone - medium gray (N5), hard; massive.
1234-1241	Siltstone/Sandstone - <u>Siltstone</u> , as above; and <u>Sandstone</u> , as 1209-1217; iron oxide stains.
1241-1248	Sandstone - white (N9); fine grained, subangular, well sorted; siliceous; hard; clean; sparse siltstone fragments.

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DEPTH (feet)	
1248-1256	Sandstone - as above.
1256-1327	No samples.
1327–1331	Sandstone - white (N9); fine to coarse with some pebble fragments and sparse very coarse fragments, subangular to subrounded, moderately poor sorting; siliceous; brittle; clean; sparse silt-stone fragments.
1331-1340	No samples.
1340-1345	Sandstone - white (N9); medium to coarse, mostly coarse; angular to subrounded, moderate sorting; siliceous; brittle; clean; 10%± siltstone; milky quartz also.
1345-1350	Sandstone - as above; fine to coarse.
1350-2362	No samples.
2357-2362	Siltstone - medium gray (N5); firm, massive; coal laminae; coal; sparse dark brownish gray siltstone and subgraywacke type sandstones.
2362-2388	No samples.
2388-2396	Sandstone - as 1340-1345.
2396-2402	No sample.
2402-2406	Sandstone - as 1340-1345; mica; 5% siltstone.
2406-2410	Sandstone - as 1340-1345.
2410-2413	Sandstone - as 1340-1345; angular milky quartz - pebble sized.
2413-2420	No sample.
2420-2425	Sandstone - as 1340-1345; angular milky pebble fragments.
2425-2429	Sandstone - as 1340-1345; medium to very coarse; angular pebble fragments.
2429-2432	Sandstone - as 1340-1345; fine to very coarse with some pebble fragments.
2432-2435	No sample.
2435-2445	Sandstone - as 1340-1345; fine to medium; sparse pebble fragments; sparse coal.
2445-2452	Sandstone - as 2435-2445.

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DEPTH (feet)	
2452-2457	No sample.
2457-2462	Sandstone - light gray (N7); fine to coarse, subangular with some angular, moderately poor sorting; siliceous; very sparse coal fragments; sparse rock fragments.
2462-2467	Sandstone - as 2457-2462; 25% dark gray sandy siltstone.
2467-2471	No sample.
2471-2478	Sandstone - as 2457-2462; sparse rock fragments.
2473-2476	Sandstone - as 2457-2462; 10% fine rock fragments; iron oxide stains.
2478-2507	No sample.
2507-2510	Sandstone - light gray (N7), fine to pebble, angular to subangular, moderately poor sorting; siliceous; brittle; relatively clean; coal.
2510-2514	No sample.
2514-2518	Sandstone - as above.
2518-2520	Sandstone - as above; fine to coarse; very sparse rock fragments.
2520-2530	No sample.
2531-253_	Sandstone - as 2518-2520.
2530-2551	No sample.
2551-2558	Sandstone - as 2518-2520.
2558-2571	No samples.
2571-2576	Sandstone - as 2518-2520.
2576-3092	No samples.
3092-3100	Sandstone - light gray (N7), fine to coarse, angular to subangular, moderately poor sorting; siliceous; brittle; rose quartz in angular coarse fragments; pyrite; with 45%± Siltstone - fine fragments of medium dark gray to medium light gray (N4-N6); soft, locally with fine mica; some local interbedding with sandstone; local carbonaceous areas; sparse grayish red (10R 4/2) siltstone fragments.

Sandstone/Siltstone - as above; 50% siltstones.

3100-3107

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DEPTH (feet)	
3107-3115	Sandstone/Siltstone - as above; increasing amount of carbon in siltstone; soft; medium dark gray to dark gray.
3115-3123	Siltstones - medium gray, medium light gray, brownish gray and grayish red (10R 4/2); moderately firm to soft; some mottled; local sandiness.
3123-3128	Siltstones - as above; local areas of calcareous siltstone, with fine, angular quartz grains; 1-3% sandstone fragments.
3128-3135	Siltstones - as above.
3135-3144	Siltstones - as above; about 50% grayish red siltstones.
3144-3151	Siltstones - 50% medium gray and grayish red (10R 4/2); light gray sandstone - fine to medium grained, subangular, moderate sorting; siliceous; hard; grading into light gray siltstones; calcareous areas in all colors of siltstones; local slickensides; very sparse, very fine coal fragments in medium gray siltstone; local mica; sparse crystalline areas.
3151-3161	Siltstones - as 3144-3151.
3161-3189	No samples.
3189-3195	Siltstone - medium gray (N5), firm, sandy and micaceous, interbedded with sandstone (as 3144-3151), about 25%; sparse, fine coal laminae; sparse grayish red siltstone.
3195-3202	Siltstone - as 3189-3195.
3202-3208	Siltstone - as 3189-3195.
3208-3215	Siltstone/Sandstone - 50% each; Siltstone - medium dark gray (N4); firm, sandy, micaceous; sparse amounts of grayish red siltstone; Sandstone - light gray (N7); fine to medium, subangular, poorly sorted; siliceous; hard; sparse rock fragments; sparse coal.
3215-3233	No sample.
3233-3243	Siltstone/Sandstone - as 3208-3215.
3243-3252	Siltstone/Sandstone - as 3208-3215.
3252-3255	No sample.
3255-3263	Sandstone - very light gray (N8); very fine to fine, subangular, moderately well sorted; siliceous; hard; clean.
3263-3270	Sandstone - as 3255-3263; 5% siltstone fragments.

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DEPTH (feet)	
3270-3278	Sandstone - as above.
3278-3285	Sandstone - as above.
3285-3291	Sandstone - as above.
3291-3297	Sandstone - as above; 25% siltstone.
3297-3306	Sandstone - as 3291-3297; very sparse pyrite granular masses.
3306-3309	Sandstone/Siltstone - 50% each; sandstone as above; medium dark gray siltstone with some grayish red siltstone, firm, locally mottled; very sparse fine mica and very sparse carbonaceous matter.
3309-3312	Siltstone - as 3306-3309; with 30% sandstone fragments.
3312-3319	Siltstone - as 3306-3309; with 30% sandstone fragments.
3319-3327	Siltstone - as 3306-3309; with 30% sandstone fragments.
3327-3334	Siltstone - as 3306-3309.
3334-3340	No samples.
3340-3346	Sandstone - as 3306-3309; 15% siltstone - medium dark gray.
3346-3361	No samples.
3361-3365	Sandstone -
3365-3369	Sandstone - as 3306-3309; 10% siltstone - most is grayish red; soft.
3369-3372	Sandstone - as above.
3372-3381	Sandstone - as above.
3381-3387	Sandstone - as above.
3387-3393	Siltstone - medium dark gray (N4); firm, locally finely micaceous; calcareous; grayish red siltstone fragments; sandstone fragments.
3393-3401	Siltstone - as 3387-3393.
3401-3411	Siltstone - as above.
3411-3420	Siltstones - medium dark gray (N4) and grayish red (10R 4/2); some greenish gray (5GY 6/1); moderately soft; locally micaceous or sandy.

8.

DEPTH - (feet)	
3420-3427	Siltstones - as above; interbedded with <u>Sandstone</u> (50%) - very light gray (N8), very fine to fine, subangular, moderately well sorted; siliceous; clean.
3427-3432	Siltstones/Sandstone - as above.
3432-3451	No sample.
3451-3458	Siltstone - medium dark gray (N4); moderately firm; 10-15% sandstone fragments.
3458-3511	No sample.
3511-3519	Siltstone - as 3451-3458.
3519-3521	Siltstone - as 3451-3458.
3521-3525	No samples.
3525-3535	Siltstone - as 3451-3458; no sandstones.
3537-3550	Siltstone - as above.
*3546-3555	Is as 3588-3593; limestone.
3555-3588	No sample.
3588-3593	Siltstone/Limestone, argillaceous and fossiliferous - medium dark gray (N4) - approximately 50% each; siltstone is calcareous and non-calcareous; limestone - micritic, argillaceous, fossiliferous -
, 7,	crinoids, punctate brachiopod, brachiopods, bryozoa; pyrite granular masses and small interconnected lense-shaped granular masses interbedded with siltstone or fossiliferous limestone, sparse crystalline (calcite) matter; sandy fragments.
3593-3595	Siltstone/Limestone - as 3588-3593; some light brownish gray limestone (5YR 6/1); fossiliferous, colitic.
3622-3628	Limestone/Siltstone - as 3588-3593; including oolitic zones, and pyrite.
3628-3668	No samples.
3668-3681	Limestone/Siltstone - as above.
3681-3696	No samples.
3696-3707	Limestone - medium light gray to medium gray (N6-N5); light brownish gray (5YR 6/1); micritic; fossiliferous; colitic; sandy and colitic in very light gray fragments.

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DEPTH (feet)	
3707-3757	No samples.
3757-3790	Limestone - light gray and medium gray (N7 and N5); micritic; no fossils; colitic in light gray limestone; local crystalline areas.
3790-3805	Limestone - as above.
3855-3865	Limestone - very light gray to light gray (N8-N7) and light brownish gray (5YR 6/1); micritic; soft; sparsely colitic.
3865-3878	Limestone - as above.
3878-4000	No samples.
4000-4015	*Siltstones - 30% grayish red (10R 4/2), 70% medium to medium dark gray (N5-N4); sandy with very fine quartz grains and rare coarse grains.  *"Sand Grains" are angular, quartz and calcium carbonate. Also, entire sample 3696-3707 might be 3696-3707.

Joan K. Polzin