

Company: United Fuel Gas Co.  
 Farm: National Shawmut Bank of Boston  
 Well No.: U-8916  
 Elevation: 1109.4  
 Total Depth: 4900'  
 Location: Buchanan County  
 11,600' S. of 37°30'  
 8,600' W. of 82°00'

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

Drilling Commenced:  
 Well Completed:  
 Result: Dry Hole

## GEOLOGIC LOG

Depth	Thickness	Description
0-1866	1866	No samples
1866-1907	41	Sandstone, white to clear, moderately cemented, very fine to fine grained, well sorted, subrounded to angular, siliceous, with; rare biotite, rare muscovite, common iron oxide stains. Nonporous to slightly porous. Stringers of Siltstone, locally shaly, medium to dark gray, moderately hard, brittle, no apparent bedding, to poorly fissile, argillaceous, with; rare muscovite, rare iron oxide stains
1907-1948	41	No samples
1948-1970	22	Siltstone, red, moderately hard, brittle, no apparent bedding to poorly fissile, calcareous (slightly), argillaceous, ferruginous, with; rare biotite, rare muscovite, rare carbonaceous material
1970-1995	25	Siltstone, as in 1948-1970, with medium gray
1995-2053	58	Siltstone, locally finely sandy, locally shaly, light to dark gray, red, moderately hard, brittle, no apparent bedding to poorly fissile, siliceous, argillaceous, with; rare biotite, rare muscovite, rare carbonaceous material
2053-2054		Siltstone, locally shaly, light to dark gray, brown, moderately hard, brittle, no apparent bedding to poorly fissile, calcareous (slightly), argillaceous, with; common biotite, common muscovite, rare carbonaceous material

2054-2064	10	Interbedded Siltstone, medium to dark gray, red, green, moderately hard, brittle, no apparent bedding, argillaceous, ferruginous, with; rare biotite, rare muscovite, Dolomite, light brown, moderately hard, no apparent fossil content, no apparent bedding, cryptocrystalline
2064-2071	7	Siltstone, as in 2054-2064, with Stringers of Dolomite, as in 2054-2064
2071-2081	10	Sandstone, white to clear, poorly cemented, very fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; common biotite, common muscovite, Nonporous to slightly porous. Stringers of Siltstone, locally shaly, light to medium gray, red, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; rare muscovite
2081-2111	30	Siltstone, locally finely sandy, locally shaly, light to medium gray, red (rare), moderately soft, flaky, no apparent bedding to poorly fissile, calcareous (very slightly), argillaceous, with; rare biotite, rare muscovite, rare carbonaceous material, rare iron oxide stains
2111-2125	14	Siltstone, as in 2081-2111, with Stringers of; Sandstone, white to light gray, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; rare muscovite. Nonporous to slightly porous
2125-2150	25	Siltstone, locally shaly, light to dark gray, red, moderately soft, brittle, poor to fair fissility, calcareous, argillaceous, with; rare biotite, rare muscovite, rare pyrite, common carbonaceous material
2150-2170	20	Siltstone, as in 2125-2150, with Stringers of; Sandstone, white to clear, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, calcareous, with; rare biotite, rare muscovite, Nonporous to slightly porous
2170-2205	35	Siltstone, as in 2125-2150, with Stringers of; Dolomite, green-gray, moderately hard, no apparent fossil content, no apparent bedding to platy, cryptocrystalline, common ferruginous streaks

2205-2223	18	Siltstone, locally shaly, light to medium gray, red, moderately soft, flaky, poorly fissile, argillaceous, ferruginous, with; rare muscovite, rare carbonaceous material, Stringers of Sandstone, white to clear, moderately cemented, very fine to fine grained, well sorted, subrounded to angular, siliceous, with; rare muscovite, rare iron oxide stains. Nonporous to slightly porous
2223-2229	6	Interbedded; Lithologies as in 2205-2223
2229-2250	21	Sandstone, silty, grades to a Siltstone, white to light gray, moderately cemented, very fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; rare biotite, rare muscovite, abundant silty-micaceous partings (contamination). Nonporous to slightly porous
2250-2262	12	Siltstone, red, green, moderately soft, flaky, no apparent bedding to poorly fissile, argillaceous; ferruginous, with; common muscovite, rare carbonaceous material, rare iron oxide stains
2262-2270	8	Siltstone, locally shaly, light to dark gray, red, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; rare muscovite, rare pyrite, common carbonaceous material
2270-2776		Siltstone, shaly, green, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; rare muscovite, common carbonaceous material
2776-2301	25	Shale, silty, dark gray, green, moderately soft, flaky, poorly fissile, argillaceous, with; rare muscovite, abundant pyrite, common carbonaceous material
2301-2308	7	Siltstone, locally shaly, medium to dark gray, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, with; rare muscovite, common pyrite, common carbonaceous material
2308-2322	14	Siltstone, as in 2301-2308, locally finely sandy,
2322-2330	8	Siltstone, locally shaly, light to dark gray, moderately hard, brittle, no apparent bedding to poorly fissile, calcareous, argillaceous, with; rare biotite, rare muscovite, rare pyrite

2330-2338		Shale, green-gray, moderately soft, flaky, good fissility, argillaceous, with; rare muscovite
2338-2372	34	Siltstone, locally shaly, dark gray (rare), red, green, brown, moderately hard, brittle, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; common muscovite, rare carbonaceous material
2372-2412	40	Siltstone, locally shaly, medium to dark gray, red, green, moderately soft, flaky, no apparent bedding to poorly fissile, argillaceous, ferruginous, with; rare muscovite. Stringers of Sandstone, white to clear, moderately cemented, very fine to fine grained, well sorted, subrounded to subangular, interstitially silty, siliceous, with; rare biotite, common muscovite. Slightly porous
2412-2443	31	Shale, locally silty, medium to dark gray, moderately soft, flaky, good fissility, argillaceous, with; rare muscovite, common pyrite
2443-2453	10	Siltstone, grades to a very fine grained Sandstone, locally finely sandy, light to dark gray, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, with; rare biotite, common muscovite, rare pyrite, rare carbonaceous material
2453-2478	25	Siltstone, shaly, medium to dark gray, moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite, rare pyrite. Stringers of Limestone, light to dark brown, moderately hard, fossils (crinoid stems), no apparent bedding, microcrystalline, with; rare mica, common calcite, rare iron oxide staining
2478-2492	14	Limestone, shaly, light to dark gray, dark brown, moderately hard, fragmental (brachiopod & crinoid stems) fossil content, no apparent bedding, cryptocrystalline, to microcrystalline, with; common mica, common calcite, rare carbonaceous material, Stringers of Shale, silty, medium to dark gray, moderately soft, flaky, good fissility, argillaceous, with; rare muscovite

2492-2500	8	Shale, locally silty, light to dark gray, moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite, common pyrite, rare carbonaceous material. Stringers of Limestone, as in 2478-2492
2500-2516	16	Limestone, shaly, light gray, light to dark brown, moderately hard, fragmental fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; rare mica, common calcite, rare iron oxide staining
2516-2543	27	Limestone, light gray, light brown, white, moderately hard, oolitic (rare), common fossils (crinoid), no apparent bedding, cryptocrystalline to microcrystalline, common calcite, rare iron oxide staining
2543-2560	17	Limestone, light to dark gray, light to dark brown, moderately hard, common fossils (crinoid stems), no apparent bedding, microcrystalline, with; abundant calcite
2560-2562	2	No. samples
2562-2567	5	Limestone, as in 2546-2560
2567-2592	25	Limestone, light to dark gray, white, moderately hard, oolitic (rare), fragmental fossil content, no apparent bedding, very fine crystalline, with; abundant calcite, rare iron oxide staining
2592-2628	36	Limestone, silty, light to dark gray, moderately hard, no apparent fossil content, no apparent bedding to platy, cryptocrystalline with; rare carbonaceous material, rare iron oxide staining
2628-2644	16	Limestone, light to dark gray, light to dark brown, moderately hard, no apparent fossil content, no apparent bedding to platy, cryptocrystalline to microcrystalline, with; abundant calcite (showing perfect cleavage), common carbonaceous material
2644-2681	37	Limestone, light gray, white, moderately hard, oolitic (rare), rare fragmental fossil content, no apparent bedding, cryptocrystalline to microcrystalline, with; common calcite, rare iron oxide staining

2681-2705	24	Limestone, green-gray, moderately hard, oolitic, fragmental fossil content, no apparent bedding, microcrystalline, with; rare mica, common calcite
2705-2744	39	Limestone, light gray, light to dark brown, moderately hard, oolitic (rare), fragmental fossil content, no apparent bedding, microcrystalline, with; rare calcite, rare carbonaceous material, rare iron oxide staining
2744-2771	27	Limestone, silty, light gray, moderately hard, no apparent fossil content, no apparent bedding, cryptocrystalline, with; rare calcite, rare iron oxide staining
2771-2814	43	Limestone, light gray, light brown, white, moderately hard, rare fragmental fossil content, no apparent bedding, cryptocrystalline, with; common calcite,
2814-2829	15	Limestone, silty, light to dark gray, moderately hard, no apparent fossil content, no apparent bedding to platy, cryptocrystalline, with; rare mica, rare calcite
2829-2836	7	Siltstone, red, green, tan, moderately hard, brittle, no apparent bedding, calcareous, argillaceous, ferruginous, with; common muscovite
2836-2850	14	Limestone, silty, light to dark gray, white, rare red, moderately hard, rare fragmental fossil content, microcrystalline, common calcite, rare carbonaceous material
2850-2875	25	Limestone, light gray, white, moderately hard, no apparent fossil content, no apparent bedding, cryptocrystalline, with; rare chert, rare calcite, rare carbonaceous material
2875-2969	94	Siltstone, red, moderately soft, flaky, no apparent bedding, ferruginous, with; rare biotite, common muscovite, rare carbonaceous material
2969-3000	61	Siltstone, locally finely sandy, medium to dark gray, red, moderately hard, brittle, no apparent bedding, siliceous, argillaceous, ferruginous, with; common muscovite
3000-3027	27	Siltstone, locally finely sandy, light to medium gray, moderately hard, brittle, no apparent bedding, siliceous,

		argillaceous, with; abundant muscovite, rare iron oxide stains
3027-3038	11	Siltstone, as in 3000-3027, grading locally to a very fine grained Sandstone
3038-3053	15	Siltstone, as in 3027-3038, calcareous
3053-3143	90	Siltstone, grades to a very fine grained, Sandstone, locally finely sandy, light to medium gray, hard, tough, no apparent bedding, siliceous, argillaceous, with; rare biotite, common muscovite, rare iron oxide stains
3143-3173	30	Shale, medium to dark gray, brown (common), moderately soft, flaky, fair to good fissility, argillaceous, with; rare muscovite
3173-3190	17	No samples
3190-3350	160	Shale, as in 3143-3173
3350-4900	1550	No samples

4900' - T. D.

Loc

GEOLOGIC SUMMARY *bottom*  
*Primary*

*1508*  
*1808*  
*1508*  
*1476*

Mississippian System

Hinton Formation

in  
bottom

1866  
2276

*1856*

Stony Gap Sandstone

top  
bottom

2111  
2276

Bluefield Formation

top  
bottom

2276  
2478

Greenbrier Limestone

top  
bottom

2478  
2875

Maccrady-Price Formations

top  
bottom

2875  
3143

Mississippian-Devonian Systems

Big Stone Gap Shale

top  
in

3143  
3350 (deepest  
sample)