

STATE: Virginia

COUNTY: Wise

CARTER COORDINATE: 6-E-84 (Est.)

OPERATOR: Columbia Gas Transmission Corporation

WELL NO: 20118-T

FARM: Penn-Va. Corp.

LOCATION: 1625' FNL X 2150' FWL

ELEVATION: 1533 KB

DRLG COMMENCED: 07/11/74

DRLG COMPLETED: 12/27/74

RESULT: Gas

DRLR TD: 8357'

OTHER DATA AVAILABLE:

Driller's Log

Schl FDC/GR 9/18/78 0-8009 DTD = 8357'

PARTIAL SAMPLE DESCRIPTION by Jaffrey S. Zafar, Petroleum Geologist, KGS, 6/28/78

NOTE: Sample tops are estimated within the sample intervals, not corrected to FDC/GR log depths. Sample quality good. Lithology percentages are estimated.

INTERVAL      LITHOLOGY

Price = Borden (KY), Grainger (TN), Pocono (WVA)

- 3000 - 47      Shale, medium gray, silty, micaceous; 15% interbedded siltstone, light to medium gray, sandy, argillaceous; trace of siderite.
- 3047 - 90      Shale, dark gray, silty; 15% interbedded siltstone, as above; 30% interbedded shale, grayish black, slightly silty.

Big Stone Gap = Sunbury (KY, OH, WVA), Chattanooga (TN)

- 3090 - 3130      Shale, grayish black to black, slightly silty, pyritic.
- 3130 - 3153      Shale, black, slightly silty, carbonaceous.

Berea

- 3153 - 3163      Siltstone, light to medium gray, sandy, argillaceous; 50% interbedded shale, medium gray, silty, micaceous.
- 3163 - 92      Shale, black, slightly silty, carbonaceous; 10% interbedded medium gray shale; 15% interbedded siltstone, as above.
- 3192 - 3230      Shale, medium gray, silty, micaceous; 15% interbedded shale, black, silty; 20% interbedded siltstone, medium gray, sandy, argillaceous, trace of pyrite at 3193'.

Devonian Cleveland

- 3230 - 3308      Shale, black, very silty, micaceous, pyritic.

Chagrin

- 3308 - 12      Sandstone, light gray, very fine grained to silty, argillaceous, slightly calcareous; 30% siltstone, medium gray, argillaceous, sandy.
- 3312 - 3328      Shale, medium gray, silty; 50% shale, black, silty, micaceous, pyritic.
- 3328 - 3404      Shale, medium gray, silty, micaceous; 25% sandstone, light gray, very fine grained to silty, argillaceous, slightly calcareous; 25% interbedded siltstone, medium gray, sandy, argillaceous; trace of pyrite at 3375'.

Upper Huron

- 3404 - 83      Shale, black, silty, micaceous; 15% interbedded siltstone, light to medium gray, sandy, slightly calcareous.

Middle Huron

- 3483 - 3560      Shale, medium gray, silty; 20% interbedded shale, as above; 15% siltstone, medium gray, argillaceous.

<u>INTERVAL</u>	<u>LITHOLOGY</u>
3560 - 3600	Missing.
3600 - 21	Shale, medium gray, silty; 10% interbedded shale, grayish black, silty; trace of pyrite at 3550'.

Millboro

3621 - 3708	Shale, grayish black, slightly silty to silty, micaceous; trace of pyrite at 3675'.
3708 - 20	Shale, medium gray, silty; 33% interbedded shale, grayish black, slightly silty.
3720 - 60	Shale, grayish black, slightly silty, pyritic.
3760 - 93	Shale, brownish black, slightly silty, carbonaceous.
3793 - 3820	Shale, medium gray, slightly silty; 20% shale, as above.
3820 - 3900	Shale, grayish black to black, slightly silty, pyritic; 5% interbedded shale, brownish gray, slightly silty, pyritic.

Needmore

3900 - 34	Shale, greenish gray to medium gray, slightly silty, slightly calcareous, 5% interbedded shale, brownish black, silty; trace of spores at 3915'.
3934 - 35	Metabentonite, light gray, non-micaceous.
3935 - 4031	Shale, as above; spores, metabentonite at 3970' and 4010', as above.
4031 - 80	Shale, greenish gray to medium gray, silty, slightly calcareous.
4080 - 4104	Shale, brownish black, silty, micaceous, spores; 50% medium gray to greenish gray shale, as above.
4104 - 05	Metabentonite, light gray, micaceous.
4105 - 72	Shale, medium gray to greenish gray, silty, slightly calcareous, micaceous, spores; 30% shale, brownish black, silty; trace of pyrite at 4170'.
4172 - 4223	Shale, as above; 5% interbedded shale, brownish black, silty; limestone nodules at 4195'; trace of metabentonite, as above at 4210'.
4223 - 60	Shale, brownish black, slightly silty, pyritic; 40% interbedded shale, medium gray to greenish gray, silty, slightly calcareous; scattered limestone, nodules.
4260 - 80	Missing.

INTERVAL      LITHOLOGY

Beaver Dam?

4280 - 4319      Shale, brownish black to black, pyritic, spores.

4319 - 20      Metabentonite, light gray, micaceous.

Onondaga

4320 - 45      Limestone, light gray to grayish yellow, crypto to micro crystalline, argillaceous, cherty, glauconitic, fossiliferous; 40% chert, white, translucent to transparent.

Oriskany

4345 - 50      Grading to sandstone, light to medium gray, very fine to fine grained, subangular to subround, fairly sorted, fairly cemented, highly calcareous, argillaceous, glauconitic, cherty.

4350 - 50      Missing.

4370 - 4410      Sandstone, light to medium gray, very fine grained to fine grained, subangular to subround, fairly sorted, fairly cemented, highly calcareous, argillaceous, cherty, silty, glauconitic; brachiopods, ostracod, crinoids, corals; stringer limestone, light gray, micro crystalline, argillaceous, fossiliferous; streaks of shale, medium gray, silty.

4410 - 30      Missing.

Helderberg?

4430 - 70      Limestone, pale brown, crypto crystalline, argillaceous, partly dolomitic, fossiliferous; stringer dolomite, pale brown, micro crystalline, argillaceous.

4470 - 4500      Missing.

Silurian Salina?

4500 - 92      Dolomite, yellowish gray to medium gray to pale brown, crypto crystalline, argillaceous, anhydritic; 50% interbedded anhydrite, white, crystalline.

4592 - 4610      Dolomite, as above; stringer anhydrite, as above.

Lockport

4610 - 40      Dolomite, light gray to brownish gray to grayish yellow, micro to very fine crystalline, argillaceous.

INTERVALLITHOLOGY

- 4640 - 78 Dolomite, light gray to brownish gray to grayish yellow, micro to very fine crystalline, argillaceous, calcareous; stringer shale, medium gray, micaceous; stringer limestone, pale brown, micro crystalline, argillaceous, fossiliferous.
- 4678 - 4700 Sandstone, clear, fair to medium grained, subangular to subround, loose to fairly cemented, poorly sorted, argillaceous, calcareous; scattered coarse grained; 50% interbedded dolomite, as above.

Keefer

- 4700 - 37 Sandstone, as above.

Estill Shale

- 4737 - 4800 Shale, greenish gray, silty, micaceous; stringer siltstone, medium gray, argillaceous, dolomitic.