

INTERVAL SHEET

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VDMR Well No: 1424

Date rec'd: 11/24/65, 3/10/66, 7/1/66

Sample Interval: from 50 to 1200

PROP: U.S. Nat'l. Forest Service
Elizabeth Furnace #2

Number of samples: 116 (cuttings)

COMP: C. R. Moore

Total Depth: 1200'

COUNTY: Shenandoah (Waterlick)

Oil or Gas: Water: X Exploratory:

| From-To | From-To | From-To | From-To |
|----------|-----------|-----------|-------------|
| * 0 - 50 | | | |
| 50 - | 350 - | 640 - 650 | 940 - 950 |
| 60 - | 360 - | 650 - 660 | 950 - 960 |
| 70 - | 370 - | 660 - 670 | 960 - 970 |
| 80 - | 380 - | 670 - 680 | 970 - 980 |
| * 90 - | 390 - | 680 - 690 | 980 - 990 |
| 100 - | 400 - | 690 - 700 | 990 - 1000 |
| 110 - | 410 - | 700 - 710 | 1000 - 1010 |
| 120 - | 420 - | 710 - 720 | 1010 - 1020 |
| 130 - | 430 - | 720 - 730 | 1020 - 1030 |
| 140 - | 440 - | 730 - 740 | 1030 - 1040 |
| 150 - | 440 - 450 | 740 - 750 | 1040 - 1050 |
| 160 - | 450 - 460 | 750 - 760 | 1050 - 1060 |
| 170 - | 460 - 470 | 760 - 770 | 1060 - 1070 |
| 180 - | 470 - 480 | 770 - 780 | 1070 - 1080 |
| 190 - | 480 - 490 | 780 - 790 | 1080 - 1090 |
| 200 - | 490 - 500 | 790 - 800 | 1090 - 1100 |
| 210 - | 500 - 510 | 800 - 810 | 1100 - 1110 |
| 220 - | 510 - 520 | 810 - 820 | 1110 - 1120 |
| 230 - | 520 - 530 | 820 - 830 | 1120 - 1130 |
| 240 - | 530 - 540 | 830 - 840 | 1130 - 1140 |
| 250 - | 540 - 550 | 840 - 850 | 1140 - 1150 |
| 260 - | 550 - 560 | 850 - 860 | 1150 - 1160 |
| 270 - | 560 - 570 | 860 - 870 | 1160 - 1170 |
| 280 - | 570 - 580 | 870 - 880 | 1170 - 1180 |
| 290 - | 580 - 590 | 880 - 890 | 1180 - 1190 |
| 300 - | 590 - 600 | 890 - 900 | 1190 - 1200 |
| 310 - | 600 - 610 | 900 - 910 | - |
| 320 - | 610 - 620 | 910 - 920 | - |
| 330 - | 620 - 630 | 920 - 930 | - |
| 340 - | 630 - 640 | 930 - 940 | - |

Unwashed samples only 50-440'

* No samples

All intervals 440-1200' have both washed and unwashed samples.

OWNER: U. S. Forest Service
(Elizabeth Furnace Recreation Area, Well #2)
DRILLER: C. R. Moore Well Drilling Company
COUNTY: Shenandoah (Waterlick)

VDMR 1424
WWCR 220

TOTAL DEPTH: 1200'

GEOLOGIC LOG

- 0-50 No samples.
- Millboro Formation (50-720')
- 50 Shale — medium-gray; fissile, calcareous; many tiny veins of calcite, trace of etched, euhedral, quartz cavity fillings; one-third of this sample is a weathered, light-olive-gray, micaceous, sandy siltstone, very fissile. This weathered material is probably contamination from above.
- 60 As above — slightly darker; less weathered siltstone.
- 70 As above.
- 80 Shale — medium-dark-gray, very fissile in part, calcareous; minor pyrite, euhedral quartz and veins of calcite (hairline to 5 mm wide); trace of weathered, fissile siltstone.
- 90 No sample.
- 100 Shale — medium-dark-gray, very fissile in part, calcareous; minor pyrite, euhedral quartz and veins of calcite (hairline to 5 mm wide); trace of orange stained, weathered, fissile siltstone.
- 110 As above — more fissile.
- 120 As above — less fissile.
- 130 As above — less vein calcite.
- 140 As above.
- 150 Shale — dark-gray, fissile, calcareous.
- 160 As above.
- 170 As above — trace of pyrite and calcite vein material.
- 180 Shale — very-dark-gray, fissile; trace of pyrite and tiny veins of calcite.
- 190 As above — with minor large veins of calcite to 6 mm.
- 200 As above — less vein calcite; minor contamination with weathered siltstone.

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- 210 Shale — medium-dark-bluish-gray, fissile, slightly calcareous, trace vein calcite and pyrite.
- 220 As above.
- 230 As above.
- 240 As above.
- 250 As above.
- 260 As above.
- 270 As above — slightly more vein calcite.
- 280 Shale — medium-dark-blue-gray, fissile, slightly calcareous.
- 290 As above — trace vein calcite.
- 300 As above.
- 310 Shale — medium-blue-gray, fissile; trace vein calcite.
- 320 As above.
- 330 Shale — medium-dark-blue-gray, fissile; trace vein calcite.
- 340 As above.
- 350 Shale — medium-gray, fissile, slightly calcareous; trace vein calcite.
- 360 As above.
- 370 As above.
- 380 As above.
- 390 As above.
- 400 Shale — medium-gray, fissile; trace pyrite and vein calcite.
- 410 As above.
- 420 Shale — medium-dark-gray, fissile, trace pyrite and vein calcite.
- 430 As above — slightly lighter more vein calcite.
- 440 As above — darker.

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440-450 Shale — medium-dark-gray, fissile; trace vein calcite.

450-460 As above.

460-470 As above — trace pyrite and slickensides.

470-480 Shale — medium-gray, fissile; trace vein calcite and pyrite.

480-490 As above.

490-500 As above.

500-510 As above.

510-520 Shale — medium-dark-gray, fissile; trace slickensides, pyrite and vein calcite; trace iron oxide weathering stain.

520-530 Shale — medium-gray, fissile; minor vein calcite; trace vein chlorite and pyrite.

530-540 As above — trace of vein quartz.

540-550 Shale — medium-gray, poor fissility; trace vein calcite and quartz.

550-560 Shale — medium-gray, fissile; trace vein calcite.

560-570 Shale — medium-dark-gray, very fissile, minor pyrite; trace vein calcite.

570-580 Shale — medium-gray, very fissile, trace vein calcite.

580-590 Shale — medium-dark-gray, fissile; trace vein calcite.

590-600 As above.

600-610 As above.

610-620 Shale — medium-gray, slightly greenish, fissile; trace vein calcite.

620-630 Shale — medium-dark-gray, fissile; trace pyrite and vein calcite.

630-640 Shale — medium-dark-gray, fissile.

640-650 As above.

650-660 As above — trace pyrite nodule.

660-670 As above.

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- 670-680 Shale — medium-dark-gray, fissile.
- 680-690 As above.
- 690-700 Shale — medium-dark-gray, fissile; trace pyrite nodule.
- 700-710 Shale — medium-dark-gray, fissile; trace vein calcite and quartz.
- 710-720 As above — no quartz.

Needmore Formation (720-930')

- 720-730 Shale — medium-dark-gray, fissile; trace buff colored siltstone (meta-bentonite ?).
- 730-740 Shale — medium-dark-gray, fissile.
- 740-750 Shale — medium-dark-gray, fissile, with slickensides trace vein calcite.
- 750-760 As above.
- 760-770 Shale — medium-dark-gray, fissile.
- 770-780 As above.
- 780-790 As above.
- 790-800 As above.
- 800-810 As above — trace vein calcite.
- 810-820 As above.
- 820-830 As above.
- 830-840 As above.
- 840-850 As above.
- 850-860 As above — trace pyrite and vein calcite.
- 860-870 As above.
- 870-880 As above.
- 880-890 As above.

OWNER: U. S. Forest Service (Elizabeth Furnace Recreation Area, Well #2)

890-900 Shale — medium-dark-gray, very fissile trace pyrite.

900-910 As above — trace vein calcite.

910-920 As above.

920-930 Shale and Limestone — medium-dark-gray, fissile shale, very light-brownish gray, coarse-crystalline dolomitic limestone with trace sphalerite and pyrite.

Oriskany Formation (930-990')

930-940 Limestone — very-light-brownish-gray, coarse-crystalline dolomitic, siliceous; trace pyrite, galena and sphalerite.

940-950 Calcareous Orthoquartzite — very-light-gray, fine to coarse grained; minor argillaceous material.

950-960 Limestone — very-light-brownish-gray to medium-gray; coarse-crystalline, minor sand and argillaceous material.

960-970 Calcareous Shaly Sandstone — medium-light-gray, fine- to coarse-grained, interbedded with fissile shale and coarse-crystalline limestone.

970-980 As above — with minor hematite cement.

980-990 Calcareous Sandstone — medium-light-gray, fine to coarse-grained; trace argillaceous material and iron oxide.

Helderberg Group (990-1070')

990-1000 Sandy Limestone — light-gray, coarse crystalline, minor fine to coarse-grained sand, with some dark-gray shale.

1000-1010 As above.

1010-1020 As above.

1020-1030 Limestone — gray, light gray mottled, pink, ferruginous tints, medium-to coarse-crystalline, very sandy, sand is interdisseminated throughout the limestone. Sand is rosy to pink, ferruginous. (Pulverized)

1030-1040 As above.

1040-1050 As above.

1050-1060 As above.

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1060-1070 Limestone — gray, light gray mottled, pink, ferruginous tints, medium to coarse-crystalline, very sandy, sand is interdisseminated throughout the limestone. Sand is rosy to pink, ferruginous. (Pulverized)

Tonoloway (1070-1200')

1070-1080 Limestone, — gray, lighter gray mottled, coarse- to medium-coarse crystalline, argillaceous; thin interbedded shale, dark gray, traces of silt.

1080-1090 As above.

1090-1100 As above — with dark gray silty limestone.

1100-1110 As above.

1110-1120 Siltstone — green to dark green-gray with dark ferruginous tints, calcareous; shale, dark-green, silty.

1120-1130 Limestone — light-gray, darker gray mottled, green tinted, medium-fine crystalline, very silty to sandy, traces of green shale.

1130-1140 As above — traces of dark-gray shale.

1140-1150 As above.

1150-1160 As above — with much shale, dark reddish-brown, hard.

1160-1170 Shale — dark reddish-brown, hard, slightly silty and interbedded shale, green to bright-green, slightly silty.

1170-1180 Limestone — gray, faint reddish tint, very-fine crystalline, very argillaceous, traces of green shale.

1180-1190 As above — siliceous.

1190-1200 As above.

GEOLOGIC SUMMARY

| <u>ROCK UNIT</u> | <u>AGE</u> |
|-------------------------------|----------------------------------------|
| 0-720 Millboro Formation | Middle Devonian |
| 720-930 Needmore Formation | Middle Devonian |
| 930-990 Oriskany Formation | Middle Devonian |
| 990-1070 Helderberg Group | Lower Devonian |
| 1070-1200 Tonoloway Formation | (Lower Devonian) <i>upper Siluria.</i> |

Virginia Division of Mineral Resources
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July 15, 1966