

INTERVAL SHEET

WWCR 280

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VDMR Well No: Well No. 1455

Date 1/5/66

Sample Interval: from 0 to 1000

PROP: Town of Manassas #10

Total Depth 1000

COMP: Sydnor Pump & Well Co.

Oil Gas Water Exploratory

COUNTY: Prince William (Manassas)

Cuttings Core Other

VDMR Well No: W-1455

From-To	From-To	From-To	From-To	From-To
-	0 - 10	300 - 310	600 - 610	900 - 930 *
-	10 - 20	310 - 320	610 - 620	930 - 940
-	20 - 30	320 - 330	620 - 630	940 - 950
-	30 - 40	330 - 340	630 - 640	950 - 960
-	40 - 50	340 - 350	640 - 650	960 - 970
-	50 - 60	350 - 360	650 - 660	970 - 980
-	60 - 70	360 - 370 *	660 - 670	980 - 990
-	70 - 80	370 - 380	670 - 680	990 - 1000
-	80 - 90	380 - 390	680 - 690	-
-	90 - 100	390 - 400	690 - 700	-
-	100 - 110	400 - 410	700 - 710	-
-	110 - 120	410 - 420	710 - 720	-
-	120 - 130	420 - 430	720 - 730	-
-	130 - 140	430 - 440	730 - 740	-
-	140 - 150	440 - 450	740 - 750	-
-	150 - 160	450 - 460	750 - 760	-
-	160 - 170	460 - 470	760 - 770	-
-	170 - 180	470 - 480	770 - 780	-
-	180 - 190	480 - 490	780 - 790	-
-	190 - 200	490 - 500	790 - 800	-
-	200 - 210	500 - 510	800 - 810	-
-	210 - 220	510 - 520	810 - 820	-
-	220 - 230	520 - 530	820 - 830	-
-	230 - 240	530 - 540	830 - 840	-
-	240 - 250	540 - 550	840 - 850	-
-	250 - 260	550 - 560	850 - 860	-
-	260 - 270	560 - 570	860 - 870	-
-	270 - 280	570 - 580	870 - 880	-
-	280 - 290	580 - 590	880 - 890	-
-	290 - 300	590 - 600	890 - 900	-

* No sample

OWNER: Town of Manassas, Well #10
DRILLER: Sydnor Pump and Well Co., Inc.
COUNTY: Prince William (Manassas)

VDMR #1455
WWCR #280
TOTAL DEPTH: 1000'

GEOLOGIC LOG

Overburden (0-20')

- 0-10 Clay — grayish red with mica, silt, sand and minor greenish white clay.
- 10-20 As above.

Manassas Sandstone and Border Conglomerate undifferentiated (20-830')

- 20-30 Arkosic Sandstone — medium-grayish-orange-red; medium to coarse angular sand; lithic grains: sericitic phyllite, quartz schist, chlorite schist and shale, alkali feldspar, quartz, muscovite, trace calcite; cement: silica and iron oxides; minor arkosic micaceous shale.
- 30-40 As above — redder and finer grained.
- 40-50 Arkosic Sandstone — medium-grayish-red, medium angular sand to granule size grains; lithic grains, feldspar, mica, quartz (often blue), trace calcite; minor shaly sand.
- 50-60 Shaly Arkosic Sandstone — medium-grayish-red, fine-angular to coarse-rounded sand; thin bedded permeable, lithic, micaceous, abundant ferruginous clay cement.
- 60-70 Arkose and Shale — medium-grayish-red, porous arkose, medium to coarse angular sand; lithic and micaceous; shale: grayish-red to pink, silty, micaceous and calcareous, the lighter portion is a limestone; minor vein calcite.
- 70-80 As above — more shale; more fissile.
- 80-90 Arkosic Sandstone — medium-grayish-red, fine-angular sand to granule size grains; shaly in part; lithic, micaceous; few small white pebbles of argillaceous limestone.
- 90-100 Sandy Shale — medium-grayish-red, silty and micaceous, slightly fissile; minor arkosic sandstone as above.
- 100-110 Arkosic Sandstone — medium-grayish-red, fine to medium-coarse grained, thin bedded, slightly fissile; lithic, feldspathic and micaceous.

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- 110-120 Calcareous Shaly Sandstone — grayish-red, very fine to medium-grained, angular sand, slightly fissile, arkosic and micaceous; abundant ferruginous calcareous, clay cement laminae and clasts of pinkish white fine grained soft limestone.
- 120-130 As above.
- 130-140 As above — more calcite veins and limestone clasts; in part coarser grained.
- 140-150 Calcareous Shaly Sandstone — grayish-red, mottled with dusty pink and greenish white; very fine to granule sized angular sand grains; arkosic and micaceous with both calcareous and ferruginous clay cement; minor vein calcite.
- 150-160 As above.
- 160-170 As above.
- 170-180 As above.
- 180-190 As above — minor grayish-red silty shale.
- 190-200 As above — sandstone portion is very poorly indurated.
- 200-210 Shale and Calcareous Sandstone — medium-grayish-red, micaceous, silty shale; mottled light-gray and light-grayish-red sandstone: medium to granule size angular sand grains, weak and permeable lithic, feldspathic and micaceous; veins of calcite, minor laminae of limestone.
- 210-220 As above — poorly indurated.
- 220-230 Shale and Arkosic Sandstone — grayish-red, very micaceous, silty shale; grayish-red, fine to medium, angular sand, slightly calcareous, weak, permeable arkose; minor manganese oxide, greenish white clay, vein calcite, trace ilmenite.
- 230-240 As above — trace of limestone clasts and fragments of coarse grained biotite granite.
- 240-250 As above — more calcareous, no greenish-white clay, minor vein quartz.
- 250-260 As above — no manganese oxide.

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- 260-270 Shale and Arkosic Sandstone — grayish-red, silty, micaceous, shale and arkose with angular to rounded medium to coarse sand, weak and permeable, slightly calcareous with limestone clasts, minor light-greenish-gray clay.
- 270-280 As above — no light greenish-gray clay.
- 280-290 Calcareous Arkosic Sandstone — grayish-red, fine to very-coarse-sand, sorted, lithic, feldspathic, micaceous with ferruginous calcareous cement, minor grayish-red, micaceous shale, vein calcite.
- 290-300 As above — more shale, in part non-calcareous.
- 300-310 As above.
- 310-320 Arkosic Sandstone (Conglomerate ?) — grayish-red, extremely angular to subrounded, medium sand sized grains; poorly consolidated; lithic, very feldspathic, with abundant vein carbonates; the extremely angular material is probably due to large pebbles and/or boulders crushed by the drill.
- 320-330 As above — minor grayish-red sandy micaceous shale.
- 330-340 As above.
- 340-350 As above.
- 350-360 As above.
- 360-370 No sample.
- 370-380 Arkosic Sandstone (Conglomerate ?) — grayish-red, angular medium sized sand, poorly consolidated; lithic, feldspathic with vein carbonates; minor orange-gray, micaceous, sandy shale.
- 380-390 Conglomeratic, Arkosic Sandstone and Shale — orange-brown to gray-red, pebbles of light-gray-green felsite, pink granite, and quartzite over 15 mm (all stained red-gray); arkosic sandstone: fine to coarse angular sand, poorly consolidated, calcareous; extremely sharp angular fresh appearing fragments of quartz (probably pebbles ground by the drill); sandy, silty, fissile red-gray shale with carbonate veins and concretions.
- 390-400 As above — carbonate concretions more apparent; cleavage fragments of alkali feldspar to 8 mm across (probably from granite pebbles as mentioned above).
- 400-410 As above.

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- 410-420 Calcareous Arkosic Sandstone and Shale — grayish-red, medium-coarse, subangular sand and granules, lithic (including granite) feldspathic; calcareous, argillaceous, ferruginous cement; silty, sandy, micaceous shale, vein carbonates.
- 420-430 Arkosic Sandstone — grayish-red, interbedded very fine sandstone and very coarse pebbly sandstone, porous, the coarser material is calcareous; quartz, feldspar, and lithic sand grains, cement is mostly ferruginous.
- 430-440 As above — minor reddish-gray micaceous fine grained sandstone and dusty pink ferruginous limestone.
- 440-450 As above — minor reddish gray micaceous shale with calcareous concretions.
- 450-460 Arkosic Sandstone — light-grayish-red; poorly consolidated medium sized sand; lithic and angular, ferruginous cement, abundant vein calcite; minor red-gray and gray-red micaceous siltstone and shale.
- 460-470 Siltstone and Sandstone — brownish-red siltstone with calcareous concretions and limestone laminae; sandstone: gray-red, medium sand size grains to granules; ferruginous calcareous cement; lithic, feldspathic and quartz (some blue) grains; minor grayish red calcareous shale; trace greenish-white calcareous claystone; a few exceptionally angular fragments of quartz and granite up to 10 mm long these probably indicate the presence of pebbles or boulders that have been broken by the drill.
- 470-480 As above — no greenish white clay stone.
- 480-490 As above — more siltstone, no sharp fragments indicating pebbles.
- 490-500 As above — with abundant angular medium sand size unconsolidated material of quartz feldspar, calcite; minor extremely angular granule size fragments; probably due to the crushing of a pebbly calcareous sandstone by the drill.
- 500-510 Arkosic Sandstone (Conglomerate ?) — medium grayish-red to dusty pink; fine to very-coarse-sand, granules and small pebbles; lithic: quartzite, granite, sericite and chlorite schists, quartz (often blue) feldspar, ferruginous calcareous cement; many extremely sharp angular fragments of quartz, granite and other lithics up to 3 mm indicating pebbles crushed by the drill; minor red-gray, micaceous siltstone and shale with minor calcareous concretions.
- 510-520 As above — more siltstone.

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- 520-530 Arkosic Sandstone (Conglomerate ?) -- medium grayish-red to dusty pink; fine to very-coarse-sand, granules and small pebbles; lithic: quartzite, granite, sericite and chlorite schists, quartz (often blue) feldspar, ferruginous calcareous cement; many extremely sharp angular fragments of quartz, granite and other lithics up to 3 mm indicating pebbles crushed by the drill; minor red-gray, micaceous siltstone and shale with minor calcareous concretions.
- 530-540 As above -- less siltstone and shale.
- 540-550 As above.
- 550-560 As above -- minor lithic grains of limestone.
- 560-570 As above.
- 570-580 As above -- (more finely ground by drill).
- 580-590 As above.
- 590-600 As above.
- 600-610 Shale, Siltstone and Sandstone -- orange brown and reddish-gray, very micaceous, sandy shales and siltstones; arkosic sandstone or pebble conglomerate, light-grayish-red, medium sand up to granules or pebbles size; lithic (granite and schist), feldspar, blue quartz and many extremely angular granule-size fragments; minor pale-dusty-pink medium grained limestone; minor cleavage fragments of gypsum to 5 mm.
- 610-620 As above -- less gypsum.
- 620-630 As above.
- 630-640 Arkosic Sandstone (Pebble Conglomerate ?) -- light-grayish-red, medium sand up to granules or pebbles size; lithic (granite, schists etc.) feldspar, blue quartz and many extremely sharp granule size fragments; minor orange-brown and reddish-gray shales and siltstones; trace pale-dusty-pink limestone; minor cleavage fragments of gypsum crystals.
- 640-650 As above.
- 650-660 As above.
- 660-670 As above --slightly darker.
- 670-680 As above -- slightly more gypsum.

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- 680-690 Siltstone and Sandstone — grayish- red, micaceous, slightly- fissile siltstone; sandstone: medium-fine-grained to extremely coarse grained, lithic (granite and schist), feldspathic, many loose angular quartz and granite fragments indicating the probable presence of pebbles, trace gypsum and vein calcite; one fragment of medium-gray amphibolite: hornblende, sodic oligoclase, epidote, calcite, minor apatite, quartz and pyrrhotite.
- 690-700 As above.
- 700-710 As above — more schist fragments and amphibolite minor limestone.
- 710-720 As above — no amphibolite.
- 720-730 As above — with one large fragment of medium gray diabase; augite, andesine-labradorite, minor magnetite and pyrrhotite.
- 730-740 As above — no diabase.
- 740-750 As above.
- 750-760 As above.
- 760-770 As above.
- 770-780 As above — more micaceous.
- 780-790 As above.
- 790-800 As above.
- 800-810 As above.
- 810-820 As above.
- 820-830 As above.

Catoctin Formation ? (830-1000')

- 830-840 Phyllite — medium-gray, highly reflective, grain size: up to 2.0 mm; well foliated with fine corrugations; sericite, quartz, chlorite, minor amphibole, magnetite and hydrous iron oxides; minor contamination from above red-gray shale, sandstone and siltstone.
- 840-850 As above — less sandstone, shale and siltstone.
- 850-860 As above — still less sandstone, shale and siltstone.
- 860-870 As above.

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- 870-880 Phyllite — medium-gray, highly reflective, grain size: up to 2.0 mm; well foliated with fine corrugations; sericite, quartz, chlorite, minor amphibole, magnetite and hydrous iron oxides.
- 880-890 As above.
- 890-900 As above.
- 900-930 No sample.
- 930-940 Greenstone — medium-dark-blue-green-gray, average grain size 0.5 mm; very slightly foliated, with minor relict subophitic texture; hornblende, epidote, albite, quartz, chlorite, calcite; minor pyrite, magnetite; minor phyllite as above and trace of reddish sandstone from above.
- 940-950 As above — less phyllite.
- 950-960 As above.
- 960-970 As above.
- 970-980 As above.
- 980-990 As above.
- 990-1000 As above.

GEOLOGIC SUMMARY

	<u>ROCK UNIT</u>	<u>TIME ROCK UNIT</u>
0-20	Overburden	Recent
20-830	Manassas Sandstone and Border Conglomerate undifferentiated (Newark Group)	Triassic
830-1000	Catoctin Formation ?	Precambrian ?

Virginia Division of Mineral Resources
Hollis N. Walker, Geologist
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