Page 1 of 1

Date rec'd: 4/10/67

PROP: Burchett Estates Subdivision

COMP: Mitchell's Well & Pump Co.

COUNTY: Prince George (Hopewell)

VDMR Well No: 1850

Sample Interval: from 0 to 193

Number of samples: 19

Total Depth: 193

Oil or Gas: Water: Exploratory:

From-To	From-To	From-To	From-To
0 - 10	=	_	-
10 - 20	·	_	_
20 - 30	_	=	-
30 - 40	=	=	_
40 - 50		_	_
40 50			
50 - 60	_	_	_
60 - 70	=	=	_
70 - 80	_	_	_
80 - 90	_	-	_
90 - 100	> _	_	_
70 100			
100 -110	=	=	-
110 -120	_	-	-
120 - 130	9 -4	-	-
130 - 140	=	-	_
140 - 150	-	-	
150 - 160	_	_	_
160 - 170	-	_	_
170 - 175	-	-	<u></u>
175 - 193	-	=	- .
- 1/3	_	-	_
-		5.50	.=
-	-	-	-
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_	_	_	_

OWNER: J. J. Mitchell, Jr. (Birchett Estates)
DRILLER: Mitchell's Well & Pump Company

COUNTY: Prince George (Hopewell)

VDMR: 1850 WWCR: 162 TOTAL DEPTH: 193

GEOLOGIC LOG

De	pth	in	fe	et

COLUMBIA GROUP (01 - 301)

0-10	Clay - orange-brown, mottled red, moderately sandy; sand is fine- to
	medium-grained, well-sorted, subangular to subrounded; small
	amount decomposed feldspar; traces of magnetite and muscovite.

- Sand brown, very clayey; fine- to medium-grained, fairly well-sorted, angular to subrounded; traces of feldspar, magnetite, muscovite and goethite.
- Sand brownish-orange, clayey, a few small pebbles (up to 10 mm); fineto coarse-grained, moderately sorted (skewed fine), subangular; minor amounts feldspar, goethite, and magnetite.

CHESAPEAKE GROUP (301 - 601)

- 30-40 Sand bluish-gray, moderately clayey; fine- to medium-grained, fairly well-sorted, angular to subangular; traces of fine-grained phosphorite and glauconite.
- 40-50 Clay bluish-gray, sandy; sand is fine, angular; traces of pyrite, glauconite, and phosphorite.
- Sand dark greenish-gray, moderately clayey; fine-grained, very well-sorted, angular to subangular; traces of phosphorite, glauconite, magnetite, muscovite, and epidote.

AQUIA FORMATION (601 - 1001)

- Sand black, clayey; very fine- to medium-grained, moderately sorted; 60% fresh glauconite, 40% clear to greenish, angular quartz; a few nodules of brown phosphorite; a few shell fragments and Aquia foraminifers.
- 70-80 Sand black, clayey; fine- to very fine-grained, well-sorted; 70% fresh glauconite, 30% clear angular quartz; a few shell fragments; trace of phosphorite.

80-90

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Sand - dark-gray, very clayey; medium- to very fine-grained, rather poorly sorted; 50% fresh glauconite, 30% clear to greenish, angular quartz, and 20% molluscan shell fragments; trace amounts of muscovite, phosphorite and pyrite; a few bone fragments; ostracods moderately abundant, a few foraminifers.

PATUXENT FORMATION (100' - 193')

100-110	Sand - gray, moderately clayey, about 10% fine-grained gravel; very
	fine- to very coarse-grained, poorly sorted, variably rounded;
	15-20% very fine- to medium-grained fresh glauconite, feldspathic
	in coarser grades; minor muscovite and pyrite; a few ostracods
	and molluscan shell fragments.
	15-20% very fine- to medium-grained fresh glauconite, feldspathic in coarser grades; minor muscovite and pyrite; a few ostracods

110-120 "

- 120-130 Clay dull greenish-yellow, sandy, 10% fine-grained gravel (up to 20 mm); sand is fine- to very coarse-grained, poorly sorted, variably rounded; clear quartz, moderately feldspathic, slightly glauconitic.
- Sand white, clean, 15% fine-grained gravel; coarse- to very coarsegrained, fairly well-sorted, subangular; clear quartz, moderately feldspathic; traces of glauconite, garnet, brown epidote and pyrite.
- 140-150 " iron-oxide staining common; very feldspathic.
- Sand white, clean, about 5% fine-grained gravel; coarse to very coarse-grained, well-sorted, subrounded; very feldspathic; trace of brown epidote.
- 160-170 Clay brown, slightly to moderately sandy, a few small pebbles; sand is fine, slightly feldspathic, micaceous (muscovite and biotite); trace of glauconite.
- 170-175 Clay dark-gray, abundant silt and fine-grained sand; micaceous.
- 175-193 Sand white, clean; medium- to very coarse-grained, moderately sorted, angular to subrounded; very feldspathic; traces of garnet and brown epidote.

GEOLOGIC SUMMARY

Rock Name	Age
0 ^t - 30 ^t Columbia Group	Pleistocene
30 ^t - 60 ^t Chesapeake Group	Miocene
60 ^t - 100 ^t Aquia Formation	Eocene
100 ^t - 193 ^t Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources - Robert H. Teifke, Geologist June 5, 1967

MINERAL RESOURCES

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT DIVISION OF MINERAL RESOURCES

Box 3667, University Station, Charlottesville, Virginia WATER WELL COMPLETION REPORT WNER: J. J. MITCHELL, JR. Mailing Address: Route 1, Box 110, Colonial Heights TENANT Birchett Estates Subdivision Moiling Address DRILLER Mitchell's Well & Pump Co. Mailing Address Rt 1, Box 110, Colonial Heights, Va WELL LOCATION: County Prince George South (direction) of Hopewell city limits-WATER CONDITIONS DEPTH STATIC WATER LEVEL ____ WATER ZONES (fissures or formations supplying water) (to) (from) (to) QUANTITY OF WATER WELL PUMPED (or bailed) at 75 Gal. per Min. with 96 feet DRAWDOWN after 30 HOURS PUMPING.

FLOW (natural) G.P.M. HEAD ft. (above ground) W REMARKS:___ QUALITY OF WATER COLOR Clear TASTE good ODOR none OTHER ____ VALYSIS: AVAILABLE- Yes | No | ATTACHED Yes | No | (salt, brackish, iron, sulfur, acid, other) WATER (from) ft. (10) USE OF WATER: Domestic | Town | Industry | Farm | Public | CONSTRUCTION HOLE SIZE CASING SIZE RIG TYPE (or method) Cable tool (rotory, coble, bored, driven, etc..) DATE: Started Feb 66; Completed Feb 66
TOTAL DEPTH 193 ft. SCREEN (or perforations) (diam.) in 1(183 11 193 n #20 (opening size) BEDROCK at hone ft GROUTING INFORMATION PUMP (installed) METHOD USED____ TYPE submersible Cap. (gpm) 75 gpm @ 50# GROUTING MATERIAL cement & water DEPTH OF GROUTING 50 H.P. $\frac{7\frac{1}{3}}{2}$ Depth of intake 170° of $2\frac{1}{2}$ ft. REMARKS:_ VIRGINIA DIVISION OF ADD 7 1087

OUNCE : J. V. Mitchell, Vr. (Birchett Estates) vous : 1850
Deiner: Mitchell's Well & Pump Co. wwce: 162
COUNTY: Prince George (Hopewell) TOTAL DEPTH: 193'
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Dopth in ft.
COLUMBIA GROUP (0'-30')
0-10 Clay - ownge- brown, mottled red, moderately
sandy ; soud is fine - to medicine - grained
well-sorted; subougular to subrounded;
small amount decomposed feldapor: tracer
of magnetite or museovete.
that I do to the
10-10 Sand - known, very clayer; fine - to medium-
graned, facely well-sorted, angular to subrounded; haves of feldspoe, magnetite,
muscouite, goethite.
muscoull, goeshile.
20-30 fand - brownish - orange; clayey; a few
small pebbles (up to 10 mm); fine- to conse
gramed, moderately sorted (showed fine)
subanguelas; mucos amounts feldegas, goethite
magnetile.
211-12-111- 12-11
CHESAPEAKE GROUP (30-60')
30-40 land - bluib-gray, moderately clayey; fine
to medium-grained, fairly well-souted,
angular to suborgelor; traces of fine-
grand phosphorele , glaceconite.

Clay - blush-gray, soudy; sand is fine, 40-50 angular; traces of pyrite, glowcourte, and phosphoute. hand - dark greenish gray, moderately clay-50-60 ey; fine-graned, very well-sorted, angular to subangular; have of phosphorite, glaviconite, magnetite, museonite, and AGUIA FORMATION (60'-100') Sand - black, slayey; very fine to mediumgrained, moderately sorted : 60% fresh glancourte, 40% clear to greensh, orgalar quarte ; a few nodules of brown show phointe; a few shell fragments and ague forammefers. fand - black , dayey; fine to very fine 10-80 gramed, well-sorted; 70% fresh glaves mete, 30% clear angular quarte ; a few shell pagments; Trace of phasphorite. 80-90 90-100 Sand - dash-gray, very clayey; medium to very frie grained, rather poorly-rocted; 50% fresh glowowite, 30% slear to greensh, augular quarty, and 20% molluscon shell pagments; trace amounts of muscoute, phosphorite " pepite; a few bone fragmente; estracedes moderately abundant, a few foramenfers.

PATUXENT FORMATION (100'-193')

Sand - gray, moderately clayey, about 10 % fine- grand groull; very fineto very coarse grand, poorly routed, variably rounded; 15-20% very fine - to medium- grained fush glacionite, feldspathic in coarser grades; minor museowile and pyrite; a few ostracods and mollusean shell frogments. 110-120 Clay - dull greensh-yellow, sandy, 10% ful-grand grovel (up to 20 mm); sand is fine - to very coarse- granned, poorly sorted, vouibly sounded; clear greaty, molerately feldspathic, slightly glaves -Sand - white , clean , 15% fine - grained gravel; coarse- to very coarse-grainel,
facily well-sorted, subangular; clear
greaty, moderately felds pathic; traces of
glocconite, garnet, brown epidote of iron staining common; very feldspothic. 140-150 Sand - white, clean, about 5% fine-150-160 grained grovel; warse to very warse- grained, well-sorted, subsounded; very feldspathie; have of from epidote. Clay - brown, slightly to moderately sandy, 160-170 a few small pebbles; soud is fine, slightly feldspathie, museous (museovite and

		biotite); hace	of glomonite.	
	170-175	Clay - dack-gra	y, alundant silt a	ud fine -
		mained sand	; micaciones.	0
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	175-193		lean; medium - to	
			, moderately sorted	
		las to subrou	uded; very feldspath	ic; traces
		of garnet or brown	on epidote.	
		66-106-1		
		96010416	SUMMARY	
		Rock Name	Age	
	0'-30'	Columbia Group	Bustoune	· Pleistocene
	30'-60'	Cheropeole Group	Mucine	Miocene
		aguia Function	Eocene	
		Potrylent Formation		
	100 - 173	Janjen Jomania	Early Cuta	aceous
		VDUR		
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