COMMONWEALTH DEPARTMENT OF CONSERVATION	OF VIRGINIA	W-2354 C- 168
MAILING ADDRESS: DIVISION OF MIN B 3667 JAMES L. CALVE C lottesville, VA 22903 WATER WELL C	VERAL RESOURCES OFFICER, COMMISSIONER McCCC	CE ADDRESS: prmick Road lottesville, Virginia
OWNER: City of Portsmouth	Mailing Address Portsmouth, Va.	OT NORT
TENANT: Piners Point Sewage Disposal Plant	Mailing Address.	81 0
DRILLER Layne-Atlanite Company	Mailing Address Norfolk, Va.	22 23
WELL LOCATION County Norfolk	feet Approx. miles	28 25 (direction) of
at northern city limits	feet S. Shore (direction) of El	izabeth River
(GIVE DIRECTION AND DISTANCE IN FEET OR MILES FROM T	WO REFERENCE POINTS - ROADS, TOWNS, RI	VERS, ETC ON
COUNTY HIGHWAY OR OTHER MAP.)	DATE COMPLETED S July 25, 19	220 239
TYPE OF DRUL RICUSED hydraulic rota	ary TOTAL DEPTH	855 feet
WATER LEVEL RIG USED.	(pilot hole	to 1459')
WATER LEVEL. Stands <u>22 1/2</u> feet below	Fine send, shell and clay	669 500 500 500
has <u>NATURAL</u> flow of_	gallons per (minute).	002 005
YIELD TEST: Method pumped	HOLE SIZE. <u>24</u> inches from <u>0</u>	to <u>855</u> feret
Drawdown <u>71 1/3</u> feet	soor is short inches from 655	feet
Rate <u>750</u> gal. per min.	buse bus liada , yais brail	tofeet
Duration <u>24</u> hrs., <u>0</u> min.	SCREEN SIZE: 8 inches from 750	to <u>850</u> _feet
WATER ZONES: from 750 to 850 feet	inches from	feet
fromtofeet	inches from	tofeet
fromtofeet	CASE SIZE: <u>18</u> inches from <u>0</u>	to <u>745</u> feet
WATER: ColorTaste	<u> </u>	1_to_750_feet
OdorTemp°F	<u> </u>	to <u>855</u> feet
WELL TO SUPPLY: (check one) Home	GROUTING: Method base base	1080 1106
FarmTown_XSchool	Material <u>cement</u> Depth	745feet
IndustryOther	PUMP: Type 100 H. P. turbi	1233 1285 <u>an</u>
WATER ANALYSIS AVAILABLE Yes No	Capacity 750	gal per min
DRILL CUTTINGS SAVED: Yes 54 No	velo bread activerula , brusa bristi Depth of intake	130 feet
(DRILL CUTTINGS SHOULD BE COLLECTED AT 10 FOOT OFFICE EXPRESS COLLECT. SAMPLE BAGS ARE FURNISH	INTERVALS. THESE SAMPLES MAY BE SH ED FREE OF CHARGE UPON REQUEST.)	IIPPED TO THIS
RARKS: Hole gravel-packed from 706 to 855	, and plugged at 855'	
of neoussary)	(LOG OF WELL) OVER	

ALMIARIN REOGHTLASWHOMMOD

FURNISHED BY: Layne-Atlantic Co.

_____DATE: December 1968

(feet)		TYPE OF ROCK OR SOIL PENETRAT	ED REMARKS
FROM	то	(gravel, clay, etc., hardness, color, etc.) (water, caving, shot, screen, sample, etc.)
0	18	Sand and clay	
18	22	Hard clay	ENANT, Finers Point Sewage Displeal Plant
22	28	Sand States States	The main and a dimetria dama t
28	35	Clay and sand	Construction of the real field was filled
35	96	Sand, shell and clay	ALGING COUNT NOT DOLL
96	140	Shell and clay	
140	185	Hard clay with little shell	st notthern oity limits
185	220	Clay and shell	AVE DEBECTION AND DISTANCE IN FEFT DR MULES FROM
220	239	Shell and clay	USAM REHTO RO YAWHER YTHUO
2.39	242	Bock, no sample	Sdel . Sant
2.42	261	Shell and clay	200 COLOR DALLO DI DALLO DI DALLO DI P
261	315	Hard clay	YPE OF DRULL RIG USED
315	469	Clay and shell hard	
469	500	Fine sand shell and clay	ATER LEVEL Stands22 12 rate ballo
500	503	Hard rock no sample	
500	525	Clay shall and rock	e wolf ARUTAN and
505	525	Cand alar shall and real	Descention and the start of the
545	540	Sand, Clay, shell and rock	
540	500	Soit Clay, rock, shell and sand	Didwabwo J. 1. 3 test
566	621	Sand with streaks of rock	
621	640	Clay and shell	Rote 750 gat bar sh
640	660	Hard clay, shell and sand	NS NS
660	760	Sand and clay	n n n manage () n n management () n n ()
760	865	Sand	Area 200000 000 750 00 850 00
865	906	Hard clay	
906	921	Loose sand	est
921	938	Harder sand	
938	975	Loose sand	e e 1
975	1008	Hard sand and clay	
1008	1033	Loose sand	
1033	1064	Hard sand and clay	amel. teb0
1064	1080	Sand, hard sandstone, cut good	
1080	1106	Hard sand and clay	ELL TO SUPPLY (chuck one) Home
1106	1210	Coarse sand, streaks hard sand	
1210	1233	Sand and clay, hard	100%72T0%0T#1103
1233	1285	Coarse sand, loose	(FID) Introduct
1285	1322	Hard clay	
1322	1372	Hard rock and sand	ATER ANALYSIS AVAILABLE WALLAND
1372	1459	Hard sand, streaks hard clay	
		Utplin of non-	HLL OUTTINGS SAVED: NOTTINGS
STHE	DT 0399INE		RAL CUITINGS SHOULD & COLLECTED AT 10 FO03 FRICE EXPRESS COLLECT. SAMPLE DAGS ARE FURN
		ist, and plugged at 8851	ARKS Bole gravel-packed trop, 20t. to 31

VIRGINIA DIVISION OF MINERAL RESOURCES INTERVAL SHEET

Oge 1	of l		Well Repository	C- 168 No: W-2354	
Date rec'd:	12/19/68		Sample Interval:	from 35 to: 1372	
PROP:	City of Portsm	outh	Number of samp	les: 27	
COMP.	(Pinners Pt. Disposal Plant) Layne-Atlantic Co.		Total Depth: 1459'		
COUNTY:	Norfolk (Ports	mouth)	Oil or Gas: Wa	ter: XExploratory:	
	From-To	From-To	From-To	From-To	
		1322 - 1372	-	-	
	35 - 96	-	— :	-	
	96 - 140	- v			
	140 - 185	-	<u> </u>	-	
	185 _ 220	-	-	-	
	220 - 239		=	Ξ.	
	1999 - 19		_1	-	
	242 -261	-	-	—	
	261 - 315	-	-	1 .	
\bigcirc	315 - 469	-	Ξ.	× <u>–</u>	
	469 -500	-	-	-	
	500 - 525			2000 2000	
	525 -540		-	-	
	540 -566	-	_	-	
	566 -621	-	-	-	
	621 640			_	
	640 660				
	640 965		-	_	
	000 - 005	-	<u> </u>	-	
	004 021	-	-		
	900 -921	-		-	
	921 -975	-	-	-	
	-		-	2 	
	1008 - 1033	-	-	-	
	 :	- ,	<u></u>	<u>-</u>	
	1064 -1080	3	÷	-	
	1080 - 1106	-	-	-	
	1106 - 1210	-		-	
	1210 - 1233			-	
	1233 - 1285	_		-	
	1285 - 1322	_	-	-	
	1005 - 1500	, mpa			

All intervals have both washed and unwashed samples.

OWNER:	City of Portsmouth
	(Piners Pt. disposal plant)
DRILLER	: Layne-Atlantic Company
COUNTY:	Norfolk (Portsmouth)

W-2354 C- 168 TOTAL DEPTH:1459'

GEOLOGIC LOG

Depth in feet

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0-35	No sample
YORKTOWN FO	ORMATION (35-315')
35-96	Shell and sand — gray, slightly clayey; 60% predominantly molluscan shell fragments, and 40% fine to coarse, moderately sorted, subangular to subrounded quartz sand
96-140	Sand and shell — greenish-gray, moderately clayey; 60% fine to coarse, moderately sorted, slightly glau- conitic quartz sand, and 40% pelecypod and gastro- pod shells and shell fragments; locally a greenish- gray calcitic sandstone
140-185	Clay — gray, slightly sandy (15%), 25% molluscan shells and shell fragments; sand is fine to coarse, rather poorly sorted, angular to subangular; trace of glauconite
185-220	Sand — greenish-gray, moderately clayey (20%), 10% shell fragments; fine to medium, fairly well- sorted, angular; slightly glauconitic
220-239	н
239-242	No sample
242-261	Sand — greenish-gray, moderately clayey (15%), a few shell fragments; fine to coarse, rather poorly sorted, angular to subrounded; very slightly glauconitic
261-315	" with 10% shell fragments and 5% fragments of greenish-gray, fine-grained limestone

OWNER: City of Portsmouth (Piners Pt. disposal plant) W-2354

YORKTOWN AND CALVERT FORMATIONS (315-469')

315-469 Sand — dark brownish-gray, moderately clayey (20%), 5-10% shell fragments; fine to very coarse, poorly sorted, angular to well-rounded; glauconitic in finer grades; basal Calvert-foraminifers common

CALVERT AND MATTAPONI FORMATIONS (469-500')

469-500 Sand - grayish-brown, moderately clayey (15%), 5% shell fragments; fine to very coarse, moderately sorted (skewed fine); moderately glauconitic; a few foraminifers

MATTAPONI FORMATION (500-660')

- 500-525 Sand gray, clayey (30%), 5% shell fragments, 5% fragments of sandy glauconitic limestone; fine to very coarse, poorly sorted, angular to wellrounded; moderately glauconitic
- 525-540 Sand gray, slightly clayey (10%), a few shell fragments; fine to very coarse, moderately sorted (skewed coarse), angular to rounded; moderately glauconitic, pyrite common, trace of garnet
- 540-566 " fine to very coarse, poorly sorted
- 566-621 Sand gray, with abundant matrix of silty micaceous clay (40%), 10% fragments of shell and limestone; fine to very coarse, poorly sorted, angular to well-rounded; moderately glauconitic; pyrite common

621-640

640-660 " moderately sorted (skewed fine)

MATTAPONI AND PATUXENT FORMATIONS (660-865')

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660-865 Sand — gray, 5% granule gravel, a few shell fragments; fine to very coarse, poorly sorted, angular to rounded; glauconitic in finer grades, feldspathic in coarser grades; minor garnet

W-2354

PATUXENT FORMATION (865-1372')

- 865-906 Clay gray, moderately sandy; sand is fine, well-sorted, angular, moderately feldspathic; carbonaceous fragments common, muscovite and biotite common
- 906-921 Sand gray, trace of clay; medium to very coarse, fairly well-sorted, subangular to subrounded; moderately feldspathic, slightly glauconitic

921-975 "

975-1008 No sample

1008-1033 Sand — gray, trace of clay; medium to very coarse, fairly well-sorted, subangular to subrounded; moderately feldspathic, slightly glauconitic, minor garnet and pyrite

1033-1064 No sample

- 1064-1080 Sand tan, clean; fine to very coarse, poorly sorted, angular to subangular; iron-stained in part, slightly feldspathic, slightly glauconitic; minor garnet, muscovite, and magnetite
- 1080-1106 Sand tan, clean; medium to coarse, fairly well-sorted, angular to subangular; slightly feldspathic, very slightly glauconitic; minor garnet and pyrite
- 1106-1210 Sand and gravel brown, very slightly clayey; sand (60%) is medium to very coarse, moderately sorted, subrounded; gravel (40%) is fine (2-10 mm), subrounded; both fractions are feldspathic
- 1210-1233 Sand gray, moderately clayey (20%), 5% fine gravel; fine to very coarse, poorly sorted, subangular; moderately feldspathic, very slightly glauconitic; minor garnet
- 1233-1285 Sand gray, trace of clay; fine to coarse, moderately sorted, angular to subangular; moderately feldspathic; very slightly glauconitic; minor garnet

1285-1322 " with 5% fine gravel

OWNER: City of Portsmouth (Piners Pt. disposal plant) W-2354

1322-1372 Sand and gravel — tan, clean; 80% fine to very coarse, poorly sorted, moderately feldspathic sand; 20% fine (2-10 mm) feldspathic and lithic gravel

1372-1459 No samples

GEOLOGIC SUMMARY

	Rock Unit	Age
0-35t	No sample	_
35-315"	Yorktown Formation	Late Miocene
315-4691	Yorktown and Calvert formations	Late and Middle Miocene
469-500	Calvert and Mattaponi formations	Middle Miocene and
		Paleocene
500-660 ¹	Mattaponi Formation	Paleocene
660-865'	Mattaponi and Patuxent formations	Paleocene and Early
		Cretaceous
865-1372 ¹	Patuxent Formation	Early Cretaceous
1372-1459'	No samples	

Virginia Division of Mineral Resources Robert H. Teifke, Geologist January 16, 1969