### INTERVAL SHEET

Pa 1 of 1

Date rec'd: 5/8/67

PROP: Va. Agricultural Products #2

COMP: Layne-Atlantic Co.

COUNTY: Northampton (Eastville) VDMR Well No: 1872

Sample Interval: from 0 to: 311

Number of samples: 29

Total Depth: 311

Oil or Gas: Water:XExploratory:

| From-To   | From-To                               | From-To                | From-To  |
|-----------|---------------------------------------|------------------------|--|
| 0 _ 8     | 299 311                               |                        | and Annual A |
| 8 -18     |                                       |                        |  |
| 18 _ 28   | -                                     | _                      |  |
| 28 - 38   | -                                     | -                      |  |
| 38 - 55   | -                                     | -                      | -  |
| 55 -66    | -                                     | _                      | -  |
| 66 - 76   |                                       | -                      | -  |
| 76 -86    | -                                     | -                      | -  |
| 86 -100   | -                                     | · _                    | -  |
| 100 - 107 | -                                     | · -                    |  |
| 107 - 117 | а.<br>Эл                              | -                      | i <del>ii</del> aa a   |
| 117-128   | -                                     | -                      |  |
| 128 - 138 | -                                     | -                      | -  |
| 138-150   | -                                     | -                      | -  |
| 150-160   |                                       | -                      | en en en prime.  |
| 160-178   |                                       |                        |  |
| 173-183   |                                       |                        | States - Shake   |
| 183-190   | -                                     |                        | -  |
| 190-200   | -                                     | . · · · · · · · ·      | ÷  |
| 200 - 210 | -                                     | -                      | -  |
| 210-218   | _                                     |                        |  |
| 218-224   | -                                     | 1 <u></u>              | 1  |
| Hard Clay | mix up of sample by dri               | ller - no sample saved | h na sain e thai   |
| 237 - 247 | -                                     | -                      |  |
| 247-257   | - ,                                   | -                      | -  |
| 257-267   | · · · · · · · · · · · · · · · · · · · |                        | an a   |
| 267-271   | -                                     | -                      | -  |
| 271 - 290 | -                                     |                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| 290-297   | -                                     | -                      | · •  |
| No sampl  | e saved Hard Rock                     | ÷ .                    | -  |
|           |                                       |                        |  |

All intervals have both washed and unwashed samples

OWNER: Virginia Agricultural Products, Well #2 DRILLER: Layne-Atlantic Company COUNTY: Northampton (Eastville) VDMR: 1872 WWCR: 231 TOTAL DEPTH: 305<sup>1</sup>

#### GEOLOGIC LOG

Depth in feet

COLUMBIA GROUP (0-100<sup>1</sup>)

- 0-8 Sand orange-brown, trace of clay, a few granules; medium- to coarse-grained, fairly well-sorted, subrounded to rounded; a few grains of decomposed feldspar; quartz is stained orange.
- 8-18 Sand orange-brown, trace of clay, 10% granule gravel; mediumto very coarse-grained, moderately sorted, subrounded to rounded; a few grains of decomposed feldspar; quartz is stained orange.
- 18-28 Sand tan, very slightly clayey, 5-10% granule gravel, and a few very small pebbles (4-10 mm.); medium- to very coarsegrained, rather poorly-sorted, subrounded to rounded; partially decomposed feldpar common.

11

28-38 "

11

11

38-55 Sand - light-tan, trace of clay, 5-10% granule gravel, and a few small pebbles; medium- to very coarse-grained, fairly wellsorted (skewed fine), subangular to subrounded; clear quartz, with minor amount of partially-decomposed feldspar; trace of magnetite.

11

- 55-66
- 66-76

- fresh feldspar common.
- 76-86 Sand light-brown, trace of clay, trace of granule gravel; mediumto coarse-grained, fairly well-sorted, subangular to subrounded; minor feldspar.

86-100 " fine- to coarse-grained, moderately sorted.

YORKTOWN FORMATION (100-190<sup>1</sup>)

100-107 Clay medium-gray, very sandy; sand is fine-grained, fairly wellsorted, angular; clear quartz, with minor feldspar (coarser grains), muscovite, magnetite; trace of garnet; a few shell fragments; a very few echinoid spines, and foraminifers. OWNER: Virginia Agricultural Products, Well #2

- 107-117 Clay medium-gray, very sandy; sand is fine-grained, fairly wellsorted, angular; clear quartz, with minor feldspar (coarser grains), muscovite, magnetite; trace of garnet; a few shell fragments; a very few echinoid spines, and foraminifers.
- 117-128 "
- 128-138 "
- 138-150 Sand medium-gray, with greenish cast, moderately clayey; finegrained, well-sorted, angular; clear quartz, with minor amounts of magnetite, muscovite, and medium- to coarse-grained feldspar; traces of glauconite and garnet; 10% coarse shell fragments.

11

11

- 150-160 " moderately clayey.
- 160-173 Sand and Shell medium-gray, slightly to moderately clayey; fineto medium-grained, fairly well-sorted, subangular to subrounded; about 30% pelecypod shells and shell fragments, and a few gastropods and corals.

11

- 173-183
- 183-190 Sand and Shell brownish-gray, very slightly clayey; fine- to coarsegrained, moderately sorted, angular to rounded; slightly feldspathic; 15-20% pelecypod shell fragments.

#### CALVERT FORMATION (190-311<sup>t</sup>)

11

11

11

190-200 Sand - medium greenish-gray, clayey; fine- to medium-grained, fairly well-sorted, angular to subangular; clear to greenish quartz, with 5% fresh glauconite, and small amounts of magnetite and muscovite; trace of phosphorite; 2-5% shell fragments, and a very few foraminifers.

200-210

210-218

218-224 Sand - light-brown, very slightly clayey (locally limonitic); mediumgrained, well-sorted, subangular; about 5% glauconite, mostly in the form of coarse (1-3 mm) light-green, decomposed grains and balls of glauconitic clay; a few shell fragments.

11

11

| OWNER:  | Virginia Agricultural Products, Well #2 #1872   |  |  |
|---------|---|--|--|
| 237-247 | Sand and Shell - brownish-gray, slightly clayey; 50% fine- to<br>medium-grained, well-sorted, slightly glauconitic sand;<br>50% coarse pelecypod shell debris.  |  |  |
| 247-257 | Sand - brownish-gray, slightly clayey; fine- to medium-grained,<br>well-sorted, angular to subangular; clear to greenish quartz,<br>with about 2% fresh glauconite; 10% pelecypod shell fragments<br>and a few echinoid spines.                   |  |  |
| 257-267 | п   |  |  |
| 267-271 | п   |  |  |
| 271-290 | Sand and Shell - brownish-gray, slightly clayey; fine- to coarse-<br>grained, moderately sorted, subangular to subrounded; very<br>slightly glauconitic; minor magnetite; trace of garnet; 20%<br>pelecypod shell fragments and a few gastropods. |  |  |
| 290-297 | п   |  |  |
| 297-299 | No sample.  |  |  |
| 299-311 | Sand and Shell - brownish-gray, slightly clayey; 70% fine- to medium-<br>grained, fairly well-sorted, very slightly glauconitic sand;<br>30% coarse pelecypod shell fragments.  |  |  |

# GEOLOGIC SUMMARY

Rock Unit

## Age

| 0-100   | Columbia Group     | Pleistocene    |
|---------|--------------------|----------------|
| 100-190 | Yorktown Formation | Late Miocene   |
| 190-311 | Calvert Formation  | Middle Miocene |

Virginia Division of Mineral Resources Robert H. Teifke, Geologist September 25, 1967

-3-