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Date rec'd: June 23, 1966

PROP: Union Camp Company, well #10

COMP: Layne Atlantic Company

COUNTY: Isle of Wight

VDMR Well No: 1634

Sample Interval: from 156 to 918

Number of samples: 25

Total Depth: 925

Oil or Gas: Water: X Exploratory:

| From-To | From-To | From-To | From-To |
|--|---------------|---------|---------|
| No - Samples 156 - 187 | - | = | - |
| | _ | _ | _ |
| 187 - 217 | _ | _ | _ |
| 217 - 246 | _ | _ | _ |
| 246 - 277 | | | |
| | | | |
| 277 - 308 | - | H | ₩. |
| 308 - 338 | _ | - | - |
| 338 - 369 | s | - | - |
| 369 400 | - | - | - |
| 400 428 | _ | - | - |
| 100 120 | | | |
| 428 - 459 | | | |
| | - | - | - |
| 459 - 489 | _ | _ | _ |
| 489 - 520 | - | _ | _ |
| 520 - 550 | <u>-</u> | = | _ |
| 550 - 581 | | | |
| | | | |
| 581 - 612 | _ | _ | - |
| 612 - 643 | - | - | _ |
| 643 - 673 | - | - | - |
| 673 - 704 | - | - | - |
| 704 - 734 | <u>-</u> | _ | - |
| The second secon | | | |
| 734 _ 755 | _ | | |
| 755 - 786 | _ | = | |
| 786 - 826 | _ | _ | _ |
| 826 - 857 | - | - | _ |
| 857 - 888 | _ | _ | _ |
| 000 | | | |
| | | | |
| 888 - 918 | - | - | - |
| - | - | - | - |
| _ | - | - | - |
| - | - | - | - |
| - | - | - | _ |

All intervals have both washed and unwashed samples.

OWNER: Union Camp Company, well #10

DRILLER: Layne Atlantic Company COUNTY: Isle of Wight (Franklin)

VDMR 1634 WWCR 199 TOTAL DEPTH 925

GEOLOGIC LOG

0 - 156 No samples

PAMUNKEY GROUP (156 - 217)

156 - 187 Sand — gray ("salt-and-pepper"), silty; very-fine to medium-grained; very-fine to fine-grained angular quartz (75%), and fine-to medium-grained glauconite (25%)

187 - 217

POTOMAC GROUP (217 - 918)

- 217 246 Sand brownish-gray ("salt-and-pepper"), silty, slightly argillaceous; 75% quartz and 25% glauconite; slightly micaceous
- 246 277 Sand gray, slightly argillaceous; very-fine to medium-grained, moderately sorted; micaceous and slightly glauconitic; moderately arkosic (weathered white feldspar)
- 277 308 " brownish-gray ("salt-and-pepper"); moderately glauconitic and very slightly micaceous
- 308 338 " brownish-gray; slightly glauconitic and micaceous
- 338 369 " gray; very slightly glauconitic
- 369 400 Sand gray, clean; medium to coarse-grained, well sorted; slightly to moderately arkosic; very slightly glauconitic
- 400 428
- 428 459 Clay and Gravel mottled dark-gray and yellowish-brown clay, slightly sandy; gravel (50%) of sample consists of granules and small pebbles of clay, very sandy (glauconitic) limestone, goethite, phosphorite, quartz, and some feldspar (limestone is most abundant)
- 459 489 Sand speckled brown and white, clean; coarse grained, well sorted, subangular to subrounded; arkosic; locally cemented by iron(manganese?) oxides; trace of glauconite
- 489 520 "

| 520 - 550 | Clay and Gravel — slightly sandy gray clay; gravel (50% of sample) consists of granules and small pebbles of very sandy (glauconitic) limestone, quartz, feldspar, and fewer granules and small pebbles of phosphorite and goethite; scattered shell fragments and fish teeth; small amount of garnet |
|-----------|---|
| 550 - 581 | Sand — gray, slightly silty and argillaceous; fine to coarse grained; moderately sorted; moderately arkosic; slightly glauconitic; minor amount of garnet |
| 581 - 612 | ii. |
| 612 - 643 | Sand — gray, clean; very coarse grained, very well-sorted, subangular to subrounded; moderately arkosic; traces of glauconite, phosphorite, garnet, and pyrite |
| 643 - 673 | п |
| 673 - 704 | 50% very coarse-grained sand, 50% granules |
| 704 - 734 | Sand — gray, trace of clay; medium to very coarse-grained, moderately sorted; moderately arkosic; trace of glauconite |
| 734 - 755 | but rather poorly sorted, and with slight increase in glauconite |
| 755 - 786 | п |
| 786 - 826 | п |
| 826 - 857 | Sand — brownish-gray, slightly argillaceous, about 10% granule gravel; fine to very coarse grained, rather poorly sorted; arkosic; slightly glauconitic |
| 857 - 888 | 'n |
| 888 - 918 | Sand and decomposed crystalline rock — gray; fine to very coarse grained; arkosic and micaceous (muscovite and biotite); decomposed rock fragments; slightly glauconitic |
| 918 - 925 | No samples |

GEOLOGIC SUMMARY

| | ROCK UNIT | AGE |
|-----------|----------------|------------------|
| 0 - 156 | No samples | |
| 156 - 217 | Pamunkey Group | Eocene |
| 217 - 918 | Potomac Group | Lower Cretaceous |
| 918 - 925 | No samples | |

Note: Presence of decomposed rock fragments in 888 - 918 interval suggests the granitic basement may occur just below this depth (driller reported granite encountered at 923)

Virginia Division of Mineral Resources Robert H. Teifke, Geologist July 28, 1966