

| INTERVAL (METERS) | FORMATION-AGE | DESCRIPTION | COMMENTS | RATIO | | PERCENT FINES |
|----------------------|---------------|---|---------------------------|----------------|--------------|------------------|
| | | | | SAMPLES SIEVED | COARSE/FINES | |
| 0-42.7 | | | No samples | | | |
| 42.7-67.1 | | Fine sand | | | | |
| 67.1-73.2 | | Fine-medium well rounded sand. Some very coarse sand and gravel | Shells | | | |
| 73.2-137.2 | | Very fine-fine sand | Minor shells | | | |
| 137.2-140.2 | | Fine-medium sand with organic mud | Shells | | | |
| 140.2-143.3 | | Fine-medium sand | Shells | | | |
| 143.3-158.5 | | Fine-medium sand with organic mud | Shells | | | |
| 158.5-164.6 | | Medium-coarse sand | Shells | | | |
| 164.6-183.0 | | Cored | Recovery from 178.9-182.0 | | | |
| 183.0-189.0 | | Clay | | | | |
| 189.0-192.0 | | Muddy fine-medium sand | | | | |
| 192.0-213.4 | | Clay | Shells | | | |
| 213.4-268.2 | | Silty clay with some sand and gravel | Shells | | | |
| 268.2-289.6 | | Clay and silt | Shells | | | |
| 289.6-295.7 | | Sandy clay | Shells | | | |
| 295.7-301.1 | | Cored | Recovery from 299.3-301.1 | | | |

Ri15-1

Assawoman Wildlife Area
Geothermal drilling project hole

9/1-9/2/78

DESCRIPTIVE LOG

(Depths measured from K.B. elevation of 8 feet above ground)

KDW:

| <u>Depths</u> | <u>Description</u> | <u>Collected by</u> |
|---------------|--|---------------------|
| 140-150 | Sand, gray, fine well sorted | driller |
| 150-160 | Sand, gray, fine well sorted | driller |
| 160-170 | Sand, gray, med., well sorted | driller |
| 170-180 | Sand, med. to fine, gray | driller |
| 180-190 | Sand, med. to fine, gray | driller |
| 190-200 | Sand, gray, fine, well sorted | driller |
| 200-210 | Sand, gray, fine, well sorted | driller |
| 210-220 | Sand, gray, fine, well sorted | driller |
| 220-230 | Sand, gray, med. to some coarse, clean | driller |
| 230-240 | Sand, gray, mostly coarse, clean | driller |
| 469 | Clayey, glauconitic, probably becoming silty. Samples coming very fast (unreliable?); Sand may be from offside of hole, eroded due to high mud velocity. | |
| 500-511 | No sand in returns, probably silt (St. Mary's?), drilling slower, lignite rare. | |
| ~ 525 | Drills like sand for a few feet; little or no sand in returns. | |
| ~ 530 | Drilling slower, no sand in returns, probably silty. | |
| 542 | Same as above | |

DESCRIPTIVE LOG

Ri-15-1

Page 2

Assawoman Wildlife Area

Geothermal drilling project hole

9/1-9/2/78

| <u>Depth</u> | <u>Description</u> |
|--------------|---|
| 542-555 | Silt, no sand in returns, drilling slow. |
| ~ 572 | Silt, gray (?) Cored interval 574-599, recovered approximately 13'. DGS sample from core catcher at 599': top is gray silt, bottom is gray sand. |
| RNB: | Core catcher sample, 599': Forams common, typical Chesapeake Group benthic assemblage (Calvert (?), Choptank (?)), middle to outer neritic paleoenvironment -; a few pyritized diatoms; rare ostracodes; shell fragments (bivalves mostly); fine to med. grained glauconite (?) or phosphate (?) pellets, some coarse. |
| 600-630 | Shell fragments, coarse sand. |
| 660 | Same plus gray silt, lignite in returns. |
| 670-690 | Same, increase in sand and lignite; shell fragments mostly of bivalves and barnacles. |
| 690-720 | Same, increase in shell fragments. |
| 750 | Same. |
| 780 | Gravelly sand, with shell, silt. |
| JHT: | |
| 890-924 | Sand, med. to very coarse with small gravel, shell, lignite. Easy drilling. |
| 924-954 | Silica-cemented sandstone containing shell fragments (20 minutes to drill 30': 934-944' - drill string chattering; 946-952 string bouncing). |
| 952-984 | Sand, med. to very coarse, lignite, shell fragments. (Drilled 20' in 9-10 minutes). |
| | Cored interval: 982-988': Cored only 6' because of hardness of rock; recovered ~10" of hard ss. |

DESCRIPTIVE LOG

Ri15-1
 Assawoman Wildlife Area
 Geothermal drilling project hole

Page 3

9/1-9/2/78

| <u>Depth</u> | <u>Description</u> |
|---------------------|--|
| RNB: | |
| 988' (core catcher) | - sandstone, hard, silica - cemented, medium to coarse; (mostly breaks around grains; shelly (bivalves, barnacles); vuggy; black grains, med. to coarse, of phosphate (?), bone (?), chert (?). <i>chert</i> |
| 982' (?) | Sand at top of core, fine to med. grained, silty, with some large shell fragments; large bone fragment. |
| 987-988 (?) | Sand above hard ss at 988': medium grained, fairly well sorted; w/ black phosphate (?) grains, some bone phosphate, barnacle and bivalve fragments. |
| | Cored interval 988-1007': only recovery was approximately 1' of hard ss as above, in core catcher. |