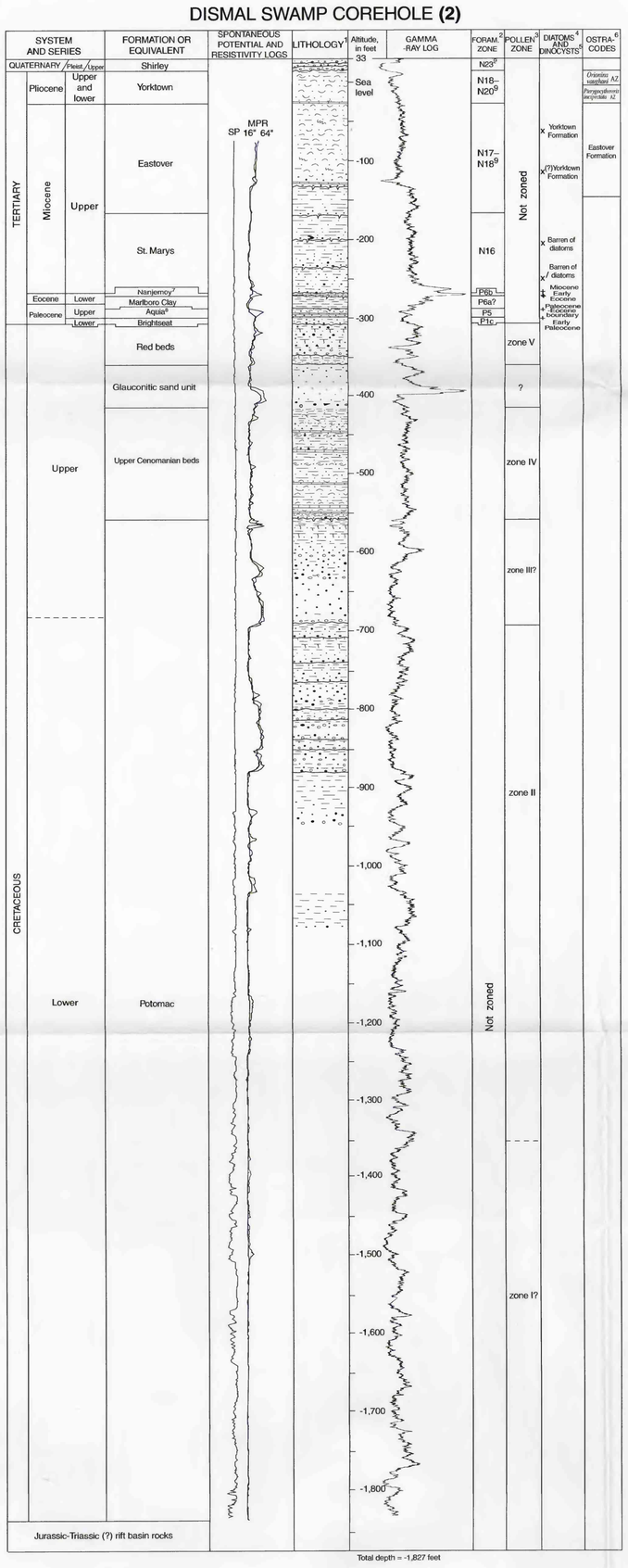
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

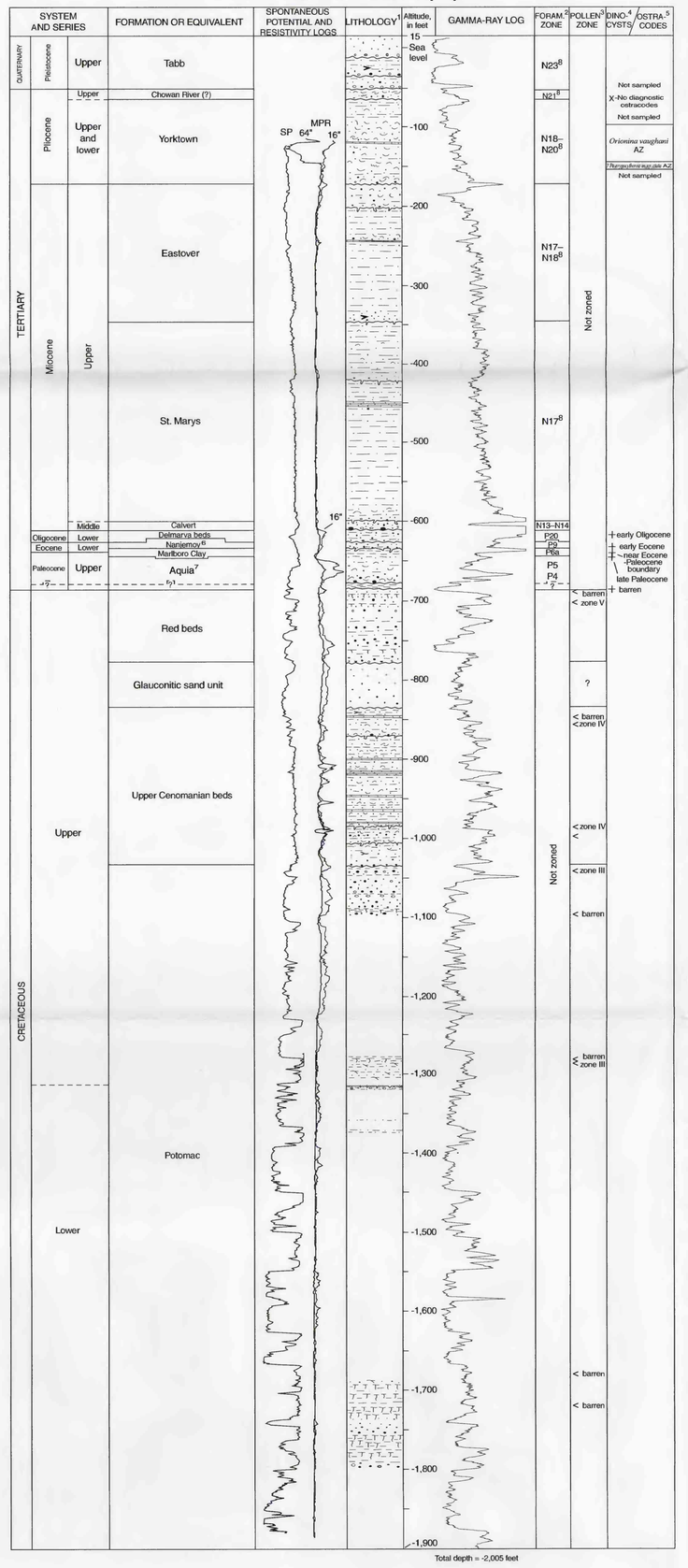
PREPARED IN COOPERATION WITH THE
HAMPTON ROADS PLANNING DISTRICT COMMISSION

PROFESSIONAL PAPER 1622
Stratigraphic columns of three key boreholes—PLATE 1
Powars, D.S., 2000, The effects of the Chesapeake Bay impact crater on the geologic framework and the correlation of hydrogeologic units of southeastern Virginia, south of the James River

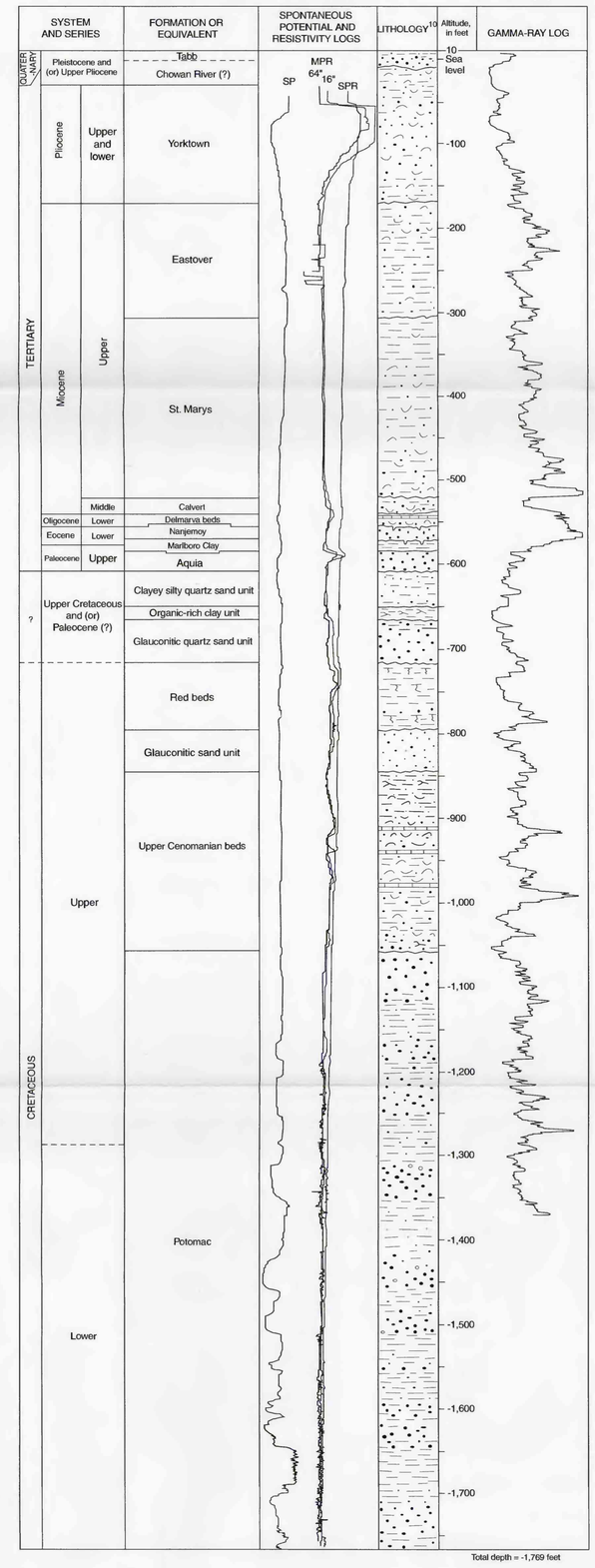
DISMAL SWAMP COREHOLE (2)

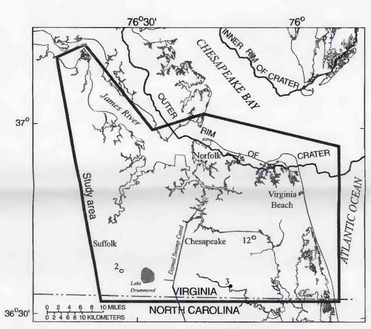


FENTRESS COREHOLE (12)



CHESAPEAKE NORTHWEST RIVER WTP BOREHOLE (3)





EXPLANATION

3• Borehole and number 2○ Continuous corehole and number

Location map of coreholes and borehole

EXPLANATION

LITHOLOGY

- CLAY
- CLAYEY SILT
- SANDY SILTY CLAY TO SANDY CLAYEY SILT
- CLAYEY SILTY SAND
- SAND: VERY FINE, FINE, MEDIUM, COARSE, VERY COARSE, GRANULES
- PEBBLES
- PALEOSOLS
- SHELLS
- *TURRITELLA*
- LIGNITIC MATERIAL
- INDURATED LAYER (GENERALLY CALCITE CEMENTED)
- BURROWED CONTACT
- SHARK TOOTH

SP	SPONTANEOUS POTENTIAL LOG—Negative to the left, positive to the right
SPR	SINGLE-POINT RESISTANCE LOG—Resistance increases to the right
MPR	MULTIPOINT RESISTIVITY LOG—16- and 64-inch multipoint resistivity log
N	FORAMINIFERA NEOGENE ZONE
P	FORAMINIFERA PALEOGENE ZONE
AZ	ASSEMBLAGE ZONE
x	DIATOM SAMPLE
+	DINOCYST SAMPLE
<	POLLEN SAMPLE

[1] Lithology shown is a generalized summary based on cored intervals. Dismal Swamp continuously cored down to -950 ft, and cored from -1,040 to -1,080 ft. Fentress continuously cored down to -1,109 ft, and cored from -1,275 to -1,375 ft and from -1,682 to -1,852 ft.

[2] Gibson, T., formerly USGS, now with Smithsonian Institution, written commun., 1990

[3] Frederiksen, N., USGS, written commun., 1999

[4] Andrews, G., USGS, written commun., 1989

[5] Edwards, L., USGS, written commun., 1989

[6] Cronin, T., USGS, written commun., 1995

[7] Potopaco Member

[8] Paspotansa Member

[9] Extrapolated from regional correlation including strontium isotope data.

[10] Lithology shown is a generalized summary based on a combination of lithic and geophysical data from several boreholes at the Northwest River Water Treatment Plant (WTP) site. Multipoint (16- and 64-inch) and spontaneous potential (SP) logs come from borehole **3** (61A15). The gamma log comes from borehole 61A18. Cuttings descriptions from borehole 61A15 and 61A18 were used from the surface down to - 990 ft. Core descriptions from borehole 61A16 were used from -990 to -1,524 ft. Drillers logs from borehole 61A2 were also used, especially for the interpretation shown for the base of the Tertiary. The geophysical logs guided a very generalized interpretation from -1,524 to -1,769 ft.

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STRATIGRAPHIC COLUMNS OF THREE KEY BOREHOLES

By
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2000