OWNER: Lone Star Cement Corporation
DRILLER: R. L. Magette Well Drilling Corp.
COUNTY: Norfolk (S. Norfolk)

W: 2111
C: 165
TOTAL DEPTH: 800'

GEOLOGIC LOG

Depth in feet	
0-40	No Samples
YORKTOWN FORMATION (40-360')	
40	Shell - small (1-5 mm), rounded pelecypod (-gastropod -bryozoan -echinoid) shell fragments; less than 5 percent quartz, silt and sand; larger quartz grains are well-rounded and frosted
60	"
80	" with 30 percent fine- to medium-grained; well-sorted quartz sand
100	" with 50 percent fine- to medium-grained, well-sorted quartz sand, a trace of glauconite, and a few foraminifers
120	Sand - gray, slightly clayey, 10 percent shell fragments; fine- to medium-grained, well-sorted, angular; 10 percent glauconite
140	Sand and Shell - gray, slightly clayey; 60 percent fine- to medium-grained, well-sorted quartz sand; 5 percent glauconite; 35 percent pelecypod (-gastropod -echinoid -bryozoans) shell debris; a very few foraminifers
160	" 80 percent slightly glauconitic sand, 20 percent shell
180	" 50 percent sand, 50 percent shell; trace of glauconite
200	Shell and Sand - gray, trace of clay; 60 percent generally coarse pelecypod shell fragments, and a few gastropods and echinoid spines; 40 percent fine-grained, well-sorted, angular sand; very slightly glauconitic
220	Sand and Shell - gray, slightly clayey; 20 percent coarse pelecypod shell fragments; 80 percent fine- to medium-grained, fairly well-sorted sand; angular quartz with 5 percent each of glauconite and bioclasts; traces of mucovite and garnet; foraminifers common

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240 Sand and Shell - gray, slightly clayey; 20 percent coarse pelecypod shell fragments; 80 percent fine- to medium-grained, fairly well-sorted sand; angular quartz with 5-10 percent medium- to coarse-grained green glauconite and 5 percent bioclasts; traces of muscovite and garnet; foraminifers common

260 Sand - gray, slightly clayey, 10 percent shell fragments; fine-grained, fairly well-sorted, angular; clear quartz with 5 percent glauconite; a few foraminifers

280 Sand and Shell - greenish-gray, slightly to moderately clayey; 50 percent pelecypod (-gastropod -bryozoan) shell debris, mostly coarse; 50 percent fine, angular, slightly glauconitic quartz sand; a few foraminifers

300 Sand and Shell - gray, slightly to moderately clayey; 40 percent rounded pelecypod shell fragments of both sand and gravel size; 60 percent fine- to coarse-grained, moderately sorted, angular to subangular quartz sand; less than 5 percent green glauconite; foraminifers common; a few gastropods, echinoid spines, and ostracods

320 "

340 " 60 percent shell, 40 percent sand; bryozoans and gastropods relatively abundant

CALVERT FORMATION (360-530')

360 Shell, Sand and Clay - abundant greenish-gray, silty clay (30 percent); 45 percent pelecypod-gastropod-bryozoan-scaphopod shell debris; 25 percent fine-grained, well-sorted, angular, very slightly glauconitic, clear, quartz sand; a few foraminifers

380 " 40 percent silty clay, 40 percent sand, 20 percent shell

400 " 50 percent silty clay, 35 percent sand, 15 percent shell

420 Clay - greenish-gray, moderately sandy, 10 percent shell fragments; sand is fine, well-sorted, angular, and very slightly glauconitic; a few foraminifers; mostly lenticulinids

440 "

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460 Clay - greenish-gray, silty, slightly sandy, 5 percent shell fragments, a few small quartz pebbles; sand is fine- to very fine-grained, well-sorted, angular; trace of glauconite; numerous large foraminifera lenticulinids, textularids, and Nonion

480 " with 20 percent abraded shell fragments

500 Clay - greenish-gray, silty, slightly sandy, 5 - 10 percent shell fragments, and a few small pebbles; sand is fine- to coarse-grained, fairly well-sorted (skewed fine), angular; clear quartz, with 5 percent bone and pelletal phosphorite and 2-3 percent glauconite; abundant and varied foraminiferal assemblage with Siphogenrina dominant

520 Sand - moderately-abundant matrix of brownish-gray clay, less than 5 percent shell fragments; 70 percent coarse- to very coarse-grained, well-sorted, subrounded to rounded clear quartz sand with 5 percent bone phosphorite and numerous large, broken foraminifers; 30 percent fine- to medium-grained, well-sorted sand composed of 50 percent angular quartz, 25 percent phosphorite, 15 percent glauconite and 10 percent foraminifers including many of Jackson age

MATTAPONI FORMATION (530-619') Top of formation defined on basis of other information.

540 Sand - sparse matrix of greenish-gray clay, 5 percent shell fragments; medium- to very coarse-grained, moderately sorted; 60 percent clear, subangular to subrounded quartz; 40 percent dark- and light-green glauconite; minor phosphorite and pyrite; numerous fragments of glauconitic limestone

560 " 5-10 percent fragments of white, weathered glauconitic limestone

580 Sand - sparse matrix of gray clay, a few shell fragments, numerous fragments of white, weathered, glauconitic limestone; medium- to very coarse-grained, rather poorly sorted; subequal amounts of clear quartz and light- to dark-green glauconite; minor phosphorite, feldspar, and pyrite; a few shark teeth and large foraminifers (Robulus, Dentalina)

600 Sand - slightly clayey, a few shell fragments; fine- to coarse-grained, poorly sorted; clear quartz and dark- to light-green glauconite; 5 percent pyrite, 5 percent phosphorite; foraminifers moderately abundant

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TRANSITIONAL BEDS (619-744') Top of formation defined on basis of other information.

620 Clay - gray, sandy, 10 percent shell fragments, numerous fragments of white, weathered, glauconitic limestone; sand is very fine- to coarse-grained, poorly sorted; quartz and dark- to light-green glauconite, and subordinate amounts of bioclasts and phosphorite fragments; pyrite common; accessory garnet; foraminifers common, but not abundant

640 "

660 "

680 "

700 Clay - gray, sandy, 10 percent shell fragments, 5 percent granule gravel, a few fragments of glauconitic limestone; sand is very fine- to very coarse-grained, poorly sorted, poorly rounded; quartz, shell fragments, and dark- to light-green glauconite; pyrite common; minor phosphorite

720 Sand - gray, clayey, 10 percent shell debris, a few rock fragments, mostly glauconitic limestone; fine- to coarse-grained, rather poorly sorted; angular quartz, with 15 percent glauconite; very slightly feldspathic; pyrite common; small amounts of phosphorite and muscovite

PATUXENT FORMATION (744-800') Top of formation defined on basis of other information.

740 Sand - gray, very slightly clayey; coarse- to very coarse-grained, fairly well-sorted, subangular to subrounded; feldspathic; very slightly glauconitic

760 " medium- to very coarse-grained, moderately sorted

780 " medium- to coarse-grained, fairly well-sorted

800 " coarse- to very coarse-grained, well-sorted; very slightly glauconitic

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GEOLOGIC SUMMARY

	Rock Unit	Age
0-40'	No Samples	Miocene
40-360'	Yorktown Formation	Miocene
360-530'	Calvert Formation	Miocene
530-619'	Mattaponi Formation	Paleocene - Late Cretaceous
619-744'	Transitional Beds	Late Cretaceous
744-800'	Patuxent Formation	Early Cretaceous

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
March 22, 1968

Robert H. Teifke
March 6, 1972