

Hanson Quarry

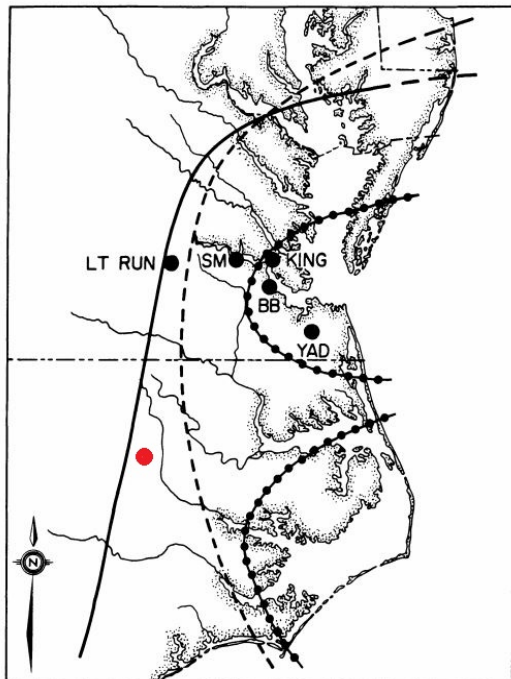


FIGURE 1—Depositional basins and collection localities for lower and middle Pliocene marine units of the Yorktown Formation. Approximate up-dip limits of marine sediments are designated for the Sunken Meadow Member (dashed line), Rushmere and Morgarts Beach Members (solid line), and the Moore House Member (dotted line) (Ward and Blackwelder, 1980; Ward and Strickland, 1985; Bailey, 1987). Locality abbreviations: SM, Sunken Meadow, Va.; KING, Kingsmill, Va.; BB, Burwells Bay, Va.; LTRUN, Lieutenant Run, Petersburg, Va.; YAD, Yadkin, Va.

| Series | VIRGINIA | | NORTHEASTERN NORTH CAROLINA | | |
|-------------|--------------------|---------------------------------|---|---|--|
| Pleistocene | | | Flanner Beach Formation | | |
| | | | James City Formation | | |
| Pliocene | Yorktown Formation | Chowan River Formation | | | |
| | | Moore House Member | | | |
| | | Morgarts Beach Member | | | |
| | | Rushmere Member | | | |
| | | Sunken Meadow Member | | | |
| Miocene | upper | Eastover Formation | Cobham Bay Member Claremont Manor Member | Eastover Formation | |
| | | St. Marys Formation | | | |
| | | Choptank Formation | | | |
| | middle | Calvert Formation | Plum Point Member | Pungo River Formation (upper offshore sequences) | |
| | | | Fairhaven Member | Pungo River Formation (middle offshore sequences - units C and D of Lee Creek Mine) | |
| | lower (part) | Calvert Formation -Dunkirk Beds | | Pungo River Formation (lower offshore sequences - units A and B of Lee Creek Mine) | |

Sedimentary layers present at Hanson Quarry

Hanson Quarry's main product is granite aggregate. On top of the granite is a fine grained shelly sand from the Pliocene Yorktown Formation. This overburden is removed by the quarry operators and placed into piles away from the active quarry. These piles of Yorktown Formation are what we get to look through when we visit the quarry on our club trips.

In these piles we find *Ecphora quadricostata* along with one or two species of *Chesapecten*. In North Carolina, this combination of fossils occurs only in the Pliocene Yorktown Formation. On the map above are the three marine transgressions that deposited the members of the Yorktown Formation. The red dot is the approximate position of Hanson Quarry. Note that the Tar River is not accurately drawn on this map. According to this map, only the transgression that deposited the Rushmere and Morgarts Beach Members of the Yorktown Formation made it far enough west to cover the region around Hanson Quarry.

The Rushmere Member is considered to have formed in an open shelf marine environment and the mollusks found imply a warm temperate to marginally subtropical climate. The overlying Morgarts Beach Member formed in a protected embayment. It is difficult to determine if the Morgarts Beach Member is found at Hanson Quarry, but one hint that it is, is the large masses of the clam *Mulinia congesta* found there. *Mulinia congesta* is found throughout the Yorktown Formation but at some localities, large concentrations are found in the Morgarts Beach Member.

There have been some very worn specimens of megalodon teeth found in the piles. Megalodon went extinct after the Sunken Meadow deposits were formed but before the Rushmere Member was deposited. This suggests that the Sunken Meadow Member may have been deposited at Hanson and then later eroded away leaving some teeth and bones behind.

Mollusk shells are the main fossils found at Hanson. Fish bones are somewhat common along with occasional whale bone and shark teeth including nice specimens from the Great White Shark *Carcharodon carcharias*.