The Aquia Formation has traditionally been divided into two subunits: a lower Eocene (pre-Paleocene) section consisting of a combination of sandstone and shale that is gap-rich, and a upper Paleocene formation that is coarse-grained and overlies the lower Eocene portion. These two subunits were previously accepted. The Kingdomian Ignorites of the Aquia Formation, which is a member of the Aquia Formation, has been identified. Additionally, a suite of Eocene rocks is associated with the Aquia Formation, including a potential assemblage of theropod bones that may represent a new species. The authors propose that this assemblage be named Arambourgisuchus.

Marine fossil record from the Aquia Formation has also been described, including gastropods and pelecypods. The gastropod fauna is characterized by a diverse and well-preserved assemblage, while the pelecypod fauna is dominated by a few species that are common in other fossil records. The authors conclude that these faunas are important for understanding the evolution of these groups during the Paleocene.

In summary, the Aquia Formation is a significant fossil deposit in the eastern United States, providing important insights into the evolution of marine and terrestrial faunas during the Paleocene. Further studies should focus on the relationships between these faunas and their environmental settings, as well as the implications for the biogeography and palaeoecology of the time period.

References