

# **A Multi Isotope Approach to Understanding the Ocean Anoxic Event 2 Recorded in the Eagle Ford Formation of West Texas**

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## **ABSTRACT**

Ocean anoxic events (OAEs) are periods in the geologic past where the Earth's global ocean becomes depleted in oxygen. These events resulted in strong biogeochemical changes within the ocean basins and are amongst the largest climatic perturbations in the Phanerozoic. The OAEs resulted in increased ocean productivity, although the mechanisms that sustained such long periods of anoxia (~100- 900 kyr) remains poorly understood. This study will focus on the Cenomanian – Turonian Ocean Anoxic event (OAE2), one of the most documented and studied OAEs in order to understand the biogeochemical mechanisms that were governing the global ocean during this period of anoxia. This study through the isotopic analysis of Sr, Ca, and Cr of the carbonate fractions of core samples from the Late Cretaceous Eagle Ford Group and Buda Limestone of West Texas will seek to understand the weathering cycle as well as changing anoxic conditions of the ocean during this time. Results will provide an improvement in understanding the biogeochemical cycles as well as nutrient drivers that sustained the prolonged productivity during OAE2.