

2-10 - CENTRAL ATLANTIC MAGMATIC PROVINCE BASALTS: CORE-LOG CORRELATION, INTEGRATION AND CO₂ STORAGE OPPORTUNITIES



Wednesday, 15 May 2024



11:15 AM - 11:35 AM



Meeting Room 2 (Davenport Grand Hotel)

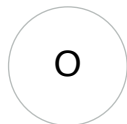
Abstract

The Central Atlantic Magmatic Province (CAMP) hosts laterally extensive basalt flows of significant thicknesses, providing potential opportunities for carbon storage to mitigate CO₂ emissions. Here, we examine a distinct basalt flow in the Newark Basin, the Orange Mountain Basalt which exhibit highly vesicular flow boundaries, but with interflow zone properties that where well-sealed, could be effective as CO₂ reservoirs. Although the flows are variably exposed in outcrops, complete sections of Orange Mountain Basalt have been drilled, cored, and logged at the Martinsville site (Newark Basin Coring Project). We leverage the data to investigate the structure of the interflows zones, and compare the petrophysical and geochemical properties to understand the relationships between their porosity, permeability, rock strength and geochemical composition across different scales. Our results will provide insight into the potential of CAMP basalts to be effective and secure reservoirs for long-term CO₂ storage, and improve the broader understanding of similar geological deposits worldwide, extending the range of this potential storage solution for mitigating CO₂ emissions.

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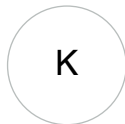
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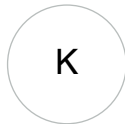


David S. Goldberg

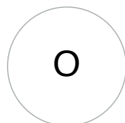
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