shallow shell/platform deposits) record onshore-directed palaeocurrents, whereas palaeocurrent directions in the southern portion of the field are variable. This variety in palaeocurrents is typical of a near shore barrier/shoal complex environment in which onshore, offshore, and shore-parallel currents all may influence sedimentation.

**FUTURE DIRECTIONS OF SEISMOTECTONIC STUDIES IN THE NORTHEASTERN U.S.**

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Over 20 years of high-quality earthquake monitoring in the Northeastern U.S. and adjacent Canada is starting to reveal information about the modern seismotectonics of this part of eastern North America. While there is earthquake activity spread throughout the region as a whole, some areas have more earthquake activity than others. It is possible that some of the most active knots of seismicity are aftershocks of large earthquakes that occurred hundreds to thousands of years ago. Earthquakes in the Greenville cretaceous occur as deep as 30 km, while those in the sensors located nearest the Monticello Fault, are almost invariably less than 10 km deep. Most of the epicenters preferentially locate near structures that were formed or reactivated during the early Cretaceous, as a result of regional compression.

With the increasing interest in the modern earthquake activity throughout the region, the mapping of geologic structures in the region becomes important for earthquake hazard assessment. A new study, published in the Journal of Geophysical Research, provides detailed geologic maps of the region, showing the locations of faults, folds, and other geologic structures that could be active in the future. The study also places the modern earthquake activity in the context of the long-term geologic history of the region, providing valuable insights into the evolution of the region.

**METAMORPHIC EVOLUTION OF MAFIC ROCKS OF THE BAXTER TERRANE, BLUE MOUNTAINS PROVINCE, NORTHEASTERN OREGON**

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The Baxter terrane of the Blue Mountains Province in Northeastern Oregon is comprised of subduction zone complex rock suites including both metabasalt and related amphibolite- and gneissic paragneiss. This study examines the metamorphic evolution of mafic rocks of the Baxter terrane. The mafic rocks occur as 1 to 3 m lenses within the Elkhorn gneiss, as an extrusive sheet along the margin of the Bald Mountain batholith, and as xenoliths within the Bald Mountain batholith.

In this study, the mafic rocks exhibit varying textures and foliation depending upon their locations. Small mafic lenses in the Elkhorn gneiss often occur with ultramafic rocks and are intensely deformed. Some have a massive texture, while others exhibit a gneissic texture. Mafic rocks associated with the Bald Mountain batholith are predominantly gneissic in texture.

The mafic rocks contain large bodies of metabasalt and xenoliths, as well as small mafic lenses within the Elkhorn gneiss. This variety in textures is related to the tectonic setting and the location of the rocks.

**WHEN HYDROGEOCHEMICAL, REGULATORY AND CLIENT INTERESTS COLLIDE; WHEN HYDROGEOCHEMICAL, REGULATORY AND CLIENT INTERESTS COLLIDE; WHEN HYDROGEOCHEMICAL, REGULATORY AND CLIENT INTERESTS COLLIDE.**

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When hydrogeological, regulatory, and client interests collide, it can be challenging to strike a balance between the needs of the various stakeholders. In the study area, the hydrogeological conditions are complex, with multiple groundwater systems and a variety of regulatory requirements.

The study area is located in the Blue Mountains Province of northeastern Oregon, where groundwater supplies are developed, tested, interpreted empirically, and conditionally approved for use. The groundwater system is complex, with multiple groundwater systems and a variety of regulatory requirements.

In the study area, the hydrogeological conditions are complex, with multiple groundwater systems and a variety of regulatory requirements. The regulatory framework is designed to protect public health and the environment, but it can sometimes conflict with the needs of the clients. The study examines the challenges and opportunities that arise when hydrogeologists, regulators, and clients work together to find solutions that meet the needs of all stakeholders.

**CORRELATION OF NEUROBIOLOGICAL AND NEUROCHEMICAL EVIDENCE FOR AN INSIGNIFICANT BASALTIC CONTRIBUTION TO SHALES IN THE MESOZOIC HARTFORD BASIN, U.S.A.**

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Early Jurassic-age bedded basalt flows are deeply eroded basins in Eastern North America. There have recently been proposed to be remnants of a vast flood basalt province. This hypothesis, based on the widespread geographic extent of the igneous rocks, suggests that the basalt extended far beyond the present boundaries of the basins.

In this case, we expected to see a strong basaltic signature in the sedimentary rock within the basins. However, analyses of Nd and Sm/Nd isotopic ratios of red shales, which are remnants of the basaltic flow at the Hartford Basin show that the shales have a uniformly "continental" Nd isotopic signature, even from shales samples directly above (< 1 m) from the basalt. From this evidence, it is clear that the basalt flows at the Hartford Basin were much smaller than previously proposed.