

## **Evaluating the effects of redox conditions on kerogen composition of the Eagleford Formation of Central Texas by $^{13}\text{C}$ Nuclear Magnetic Resonance (NMR) Spectroscopy**

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Kerogen is the organic matter preserved in sedimentary rocks that is insoluble in organic solvents. Kerogen is comprised of a mixture of organic biomolecules and tends to be dominated by the polymeric components of cell walls and cellular membranes. These organic polymers can be detected and quantified using solid-state carbon-13 Nuclear Magnetic Resonance ( $^{13}\text{C}$  NMR) spectroscopy. Samples from a number of outcropping late Cretaceous mudstones of the Eagleford Formation were chosen spanning a gradient of paleo-redox depositional conditions (oxic/suboxic to anoxic) and the bulk molecular character of kerogen was determined using  $^{13}\text{C}$  NMR. We will attempt to reconcile biomarker information obtained from gas chromatography/mass spectrometry analysis of the extractable lipids with the chemical composition of the kerogen to identify preservational biases caused by redox conditions.