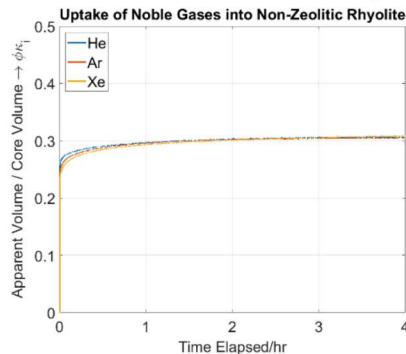


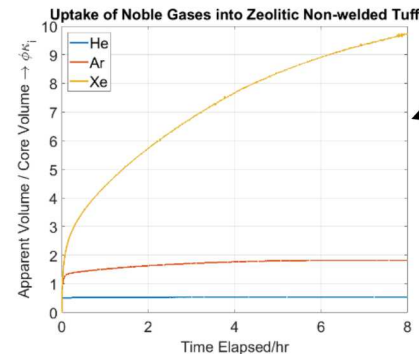


# Effect of Zeolitization on Noble Gas Transport in Natural Materials

- We are seeking to improve predictive models of noble gas flow and transport by testing the hypothesis that noble gases are differentially sorbed onto zeolites.
- To test our hypothesis, we have developed a technology to measure the sorption capacity of intact core samples. Here, two similar rocks (both tuffs), one with negligible zeolite content and one with substantial zeolite content (from the NNSS) were tested.
- The results clearly illustrate that the zeolitized core significantly and selectively adsorbs Xenon over Argon and Argon over Helium. The magnitude of this effect has the potential to significantly alter the retention and transport of radioxenon in the subsurface.



Rhyolitic  
Tuff



Zeolitic Non-  
welded Tuff

Poster # 17b

Joshua Feldman