

193 - As oxidation and retention mechanisms on hydrous Mn(IV) oxide (HMO)

Brandon Lafferty, Matthew Ginder-Vogel, Dr. Donald L. Sparks, . Delaware Environmental Institute University of Delaware Newark DE United States

Macroscopic and molecular techniques were employed to study As(III) oxidation and subsequent sorption of As(V) by a poorly-crystalline Mn(IV) oxide (HMO). Stirred-flow As(III) oxidation experiments as well as several different desorption experiments were conducted to investigate the As(III) oxidation reaction and the As(V) retention mechanism on HMO. XAS analysis of reacted HMO was also conducted to investigate As(V) retention mechanisms on the HMO surface as well as changes in Mn oxidation state in the HMO structure. Our results reveal complex, multi-phase As(III) oxidation followed by As(V) retention.

Thursday, March 25, 2010 08:25 AM

Spectroscopic Investigations of Metal Interactions at Mineral/Water/Microbial Interfaces (08:00 AM - 11:05 AM)

[Close Window](#)