

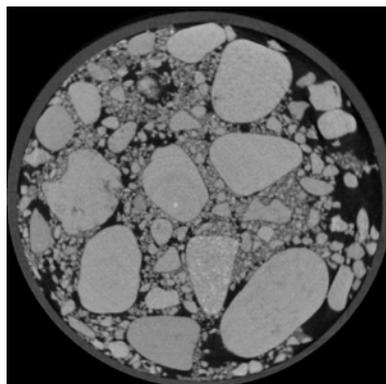
Capability/Need

- Need accurate hydrologic models of the subsurface environment
- Acquire 3D images of the pore space and connectivity of 10-cm diameter cores at 5 micron resolution
- Provides structural basis for interpretation of bulk property measurement such as hydrologic conductivity



Science/Users

- 3D visualization of sedimentary core architecture
- Grain size distribution and "composition"
- pore space and connectivity
- Correlate measured hydrologic transport properties with actual architecture
- Validate flow models



EMSL Strategy Alignment; Specifics

- Science themes: Geochemistry/Biogeochemistry and Subsurface Science; Science of Interfacial Phenomena
- Cross-cutting challenges: Static-Dynamics; Unprecedented Resolution; Design/Synthesis of Complex Materials; Linking Theory/Experiment; Bridging Scales
- EMSL capability area: Subsurface Science
- Anticipated availability: December 2010
- Technical POC: Nancy Hess