

Task 9: Environment and Energy – Groundwater: Site-wide Groundwater Model Review and Verification and Regulatory Environment Review

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SITE-WIDE GROUNDWATER MODEL REVIEW AND VERIFICATION AND REGULATORY REQUIREMENT REVIEW

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Overview of Task

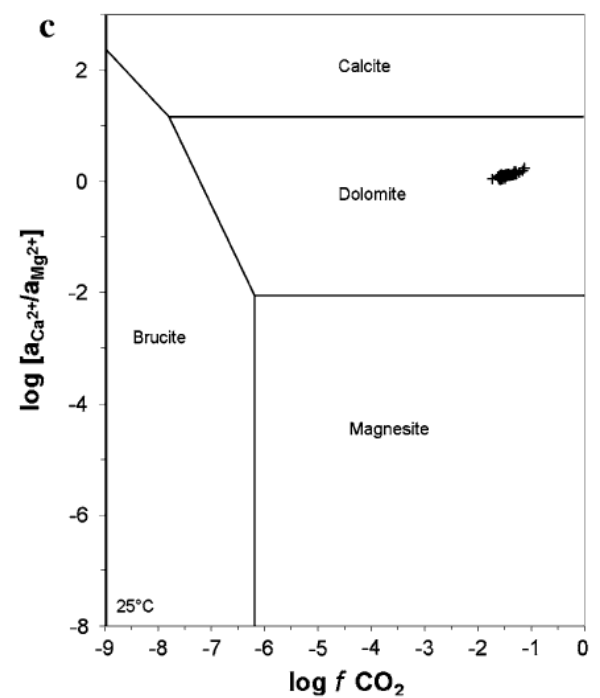
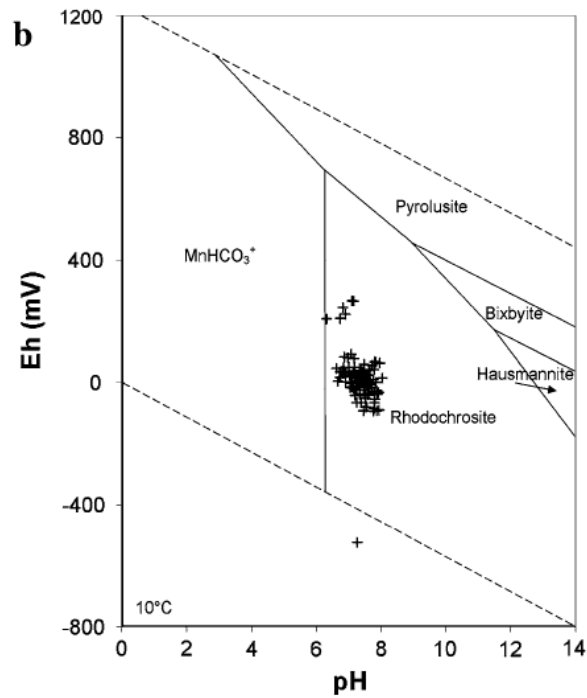
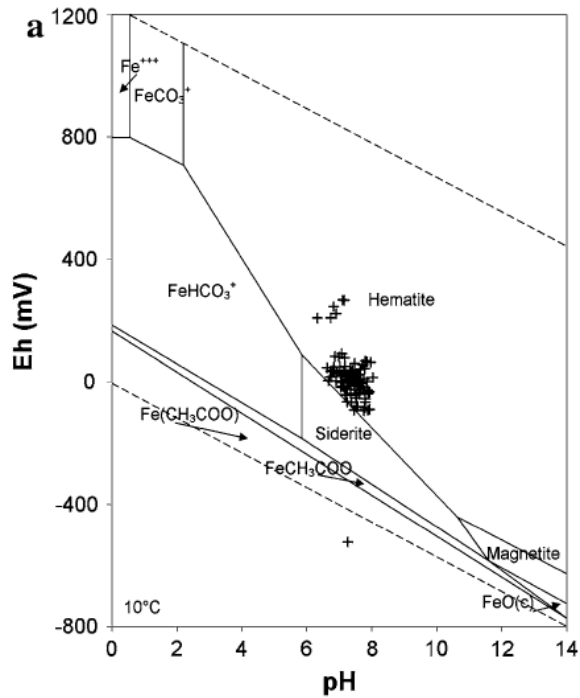
- Existing Groundwater Model Verification
- Simulations using Groundwater Model
 - Surface Water-Groundwater Interaction
 - Fate and Transport of Contaminants (not TCE)
 - Well Interaction
- Regulatory Requirement Review in State of Ohio



Relevant Work Experience

- POSSUM and PLAYING POSSUM
- CO₂MIC
- Modeling mineral phases in mines using:
 - Geochemist Workbench
 - PHREEQC
 - OTIS

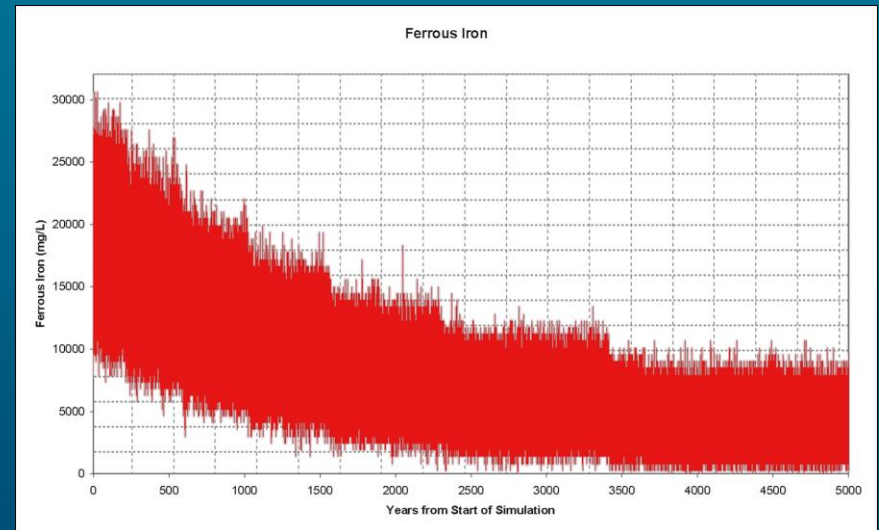
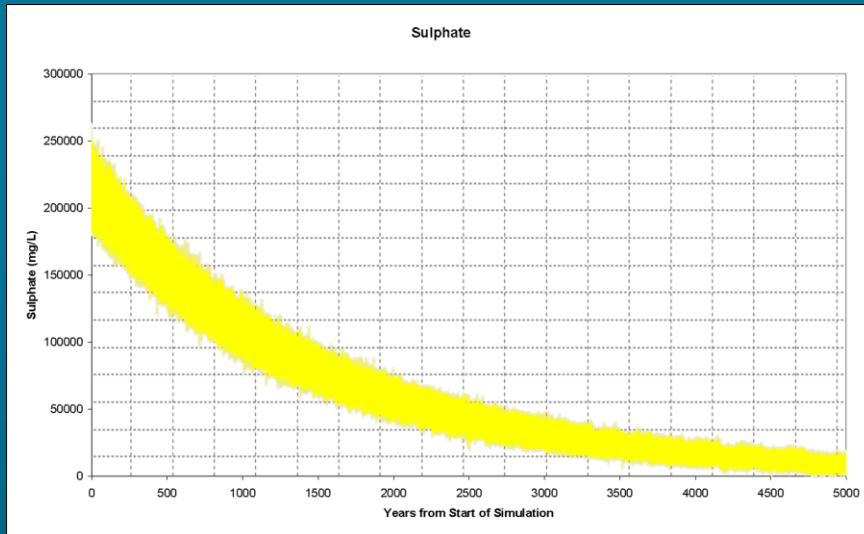
Geochemical Modeling—Coal Mine in Yorkshire



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PLAYING POSSUM Modeling Results at Iron Mountain



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Model Development and Testing

Applied Geochemistry 24 (2009) 1301–1311



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Applied Geochemistry

journal homepage: www.elsevier.com/locate/apgeochem



Development of thermodynamically-based models for simulation of hydrogeochemical processes coupled to channel flow processes in abandoned underground mines

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Deliverables

- Draft model verification report available for review – September 30, 2011
- Final verification report complete – December 31, 2011
- Draft regulatory summary available for review – December 31, 2011
- Final regulatory summary complete – March 31, 2012
- Draft report on interaction/verification activities – September 30, 2012
- Final report on interaction/verification complete – December 31, 2012

