FutureGen

Sequestration and *FutureGen* in Illinois

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Questions Regarding FutureGen and Geological Sequestration

- Where will the CO_2 go and how do we know it will stay there?
- Who is responsible for making sure it stays there?
- If it comes to the surface, what will it do?
- If it does leak, how will we know that and who will fix it?
- We have a number of abandoned industrial plants in the area already, so after this gasification plant shuts down, who takes care of the CO_2?
- How far will the CO_2 spread and where does the salt water go?
- What happens if there is an earthquake?

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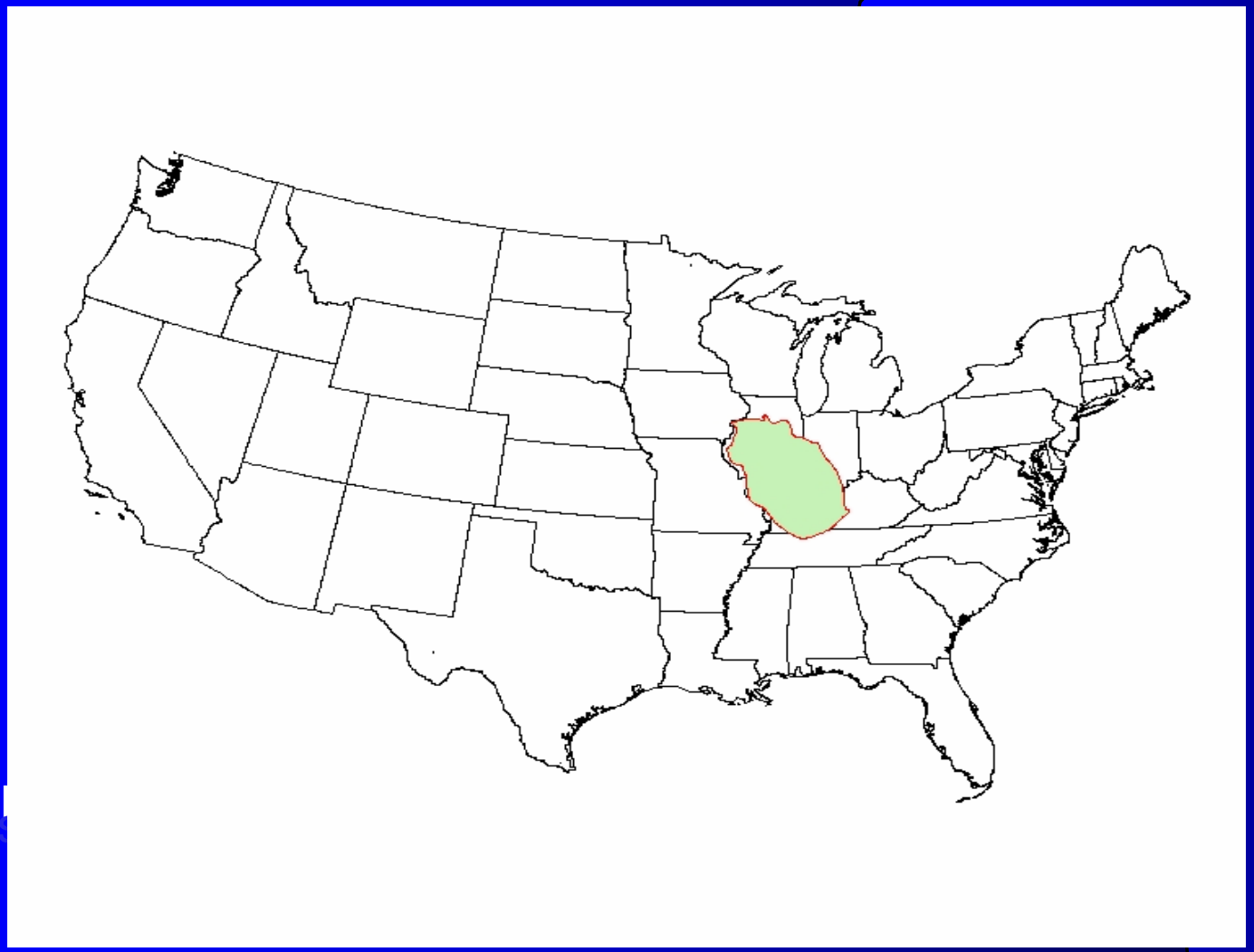
Illinois Basin Geological Focus



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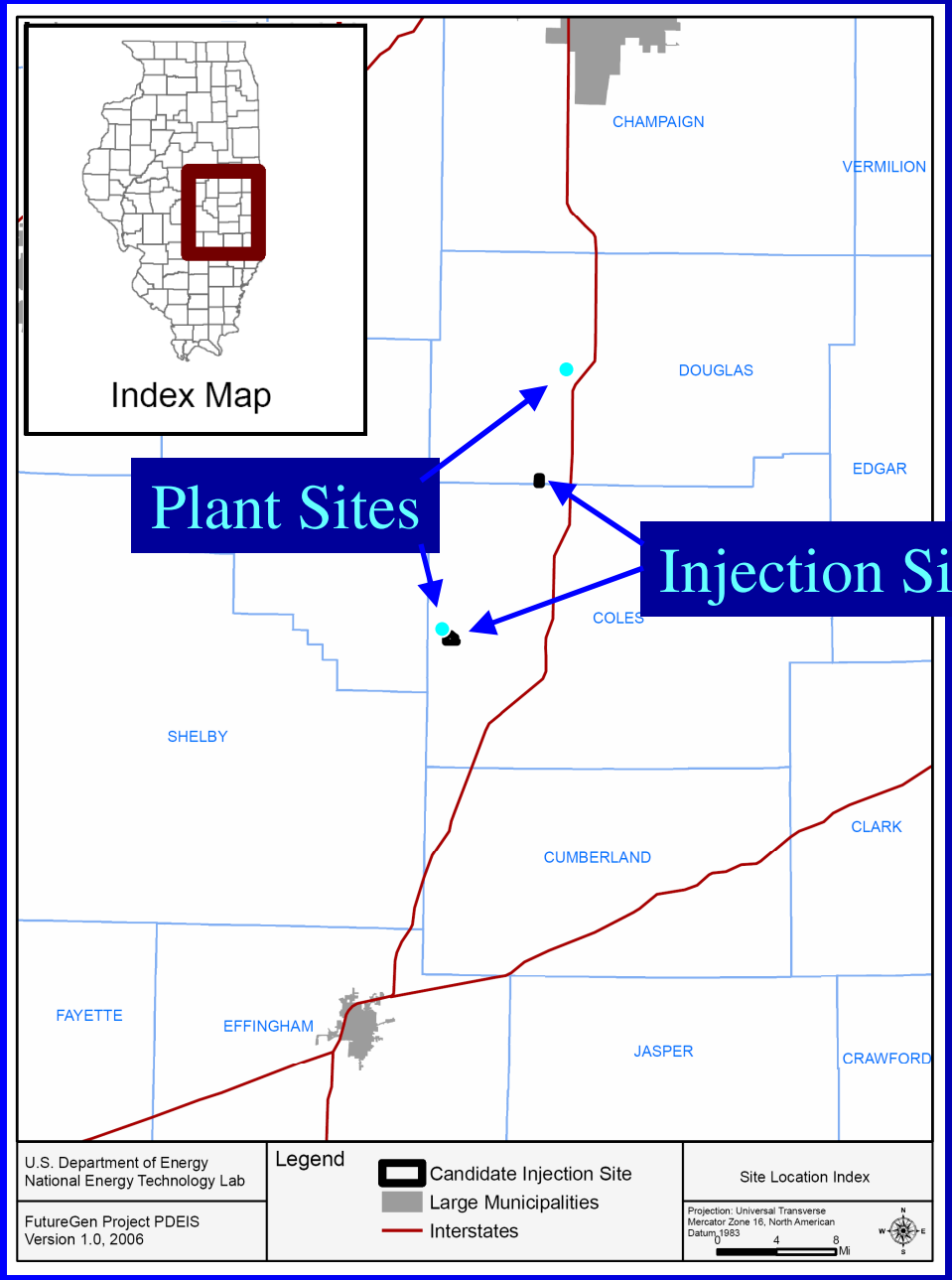
Mattoon and Tuscola FutureGen Sites



- Predominantly farm land
- Some familiarity with industrial facilities and coal mining or quarrying
- Knowledge of hydraulics related to equipment

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Sequestration at Mattoon and Tuscola

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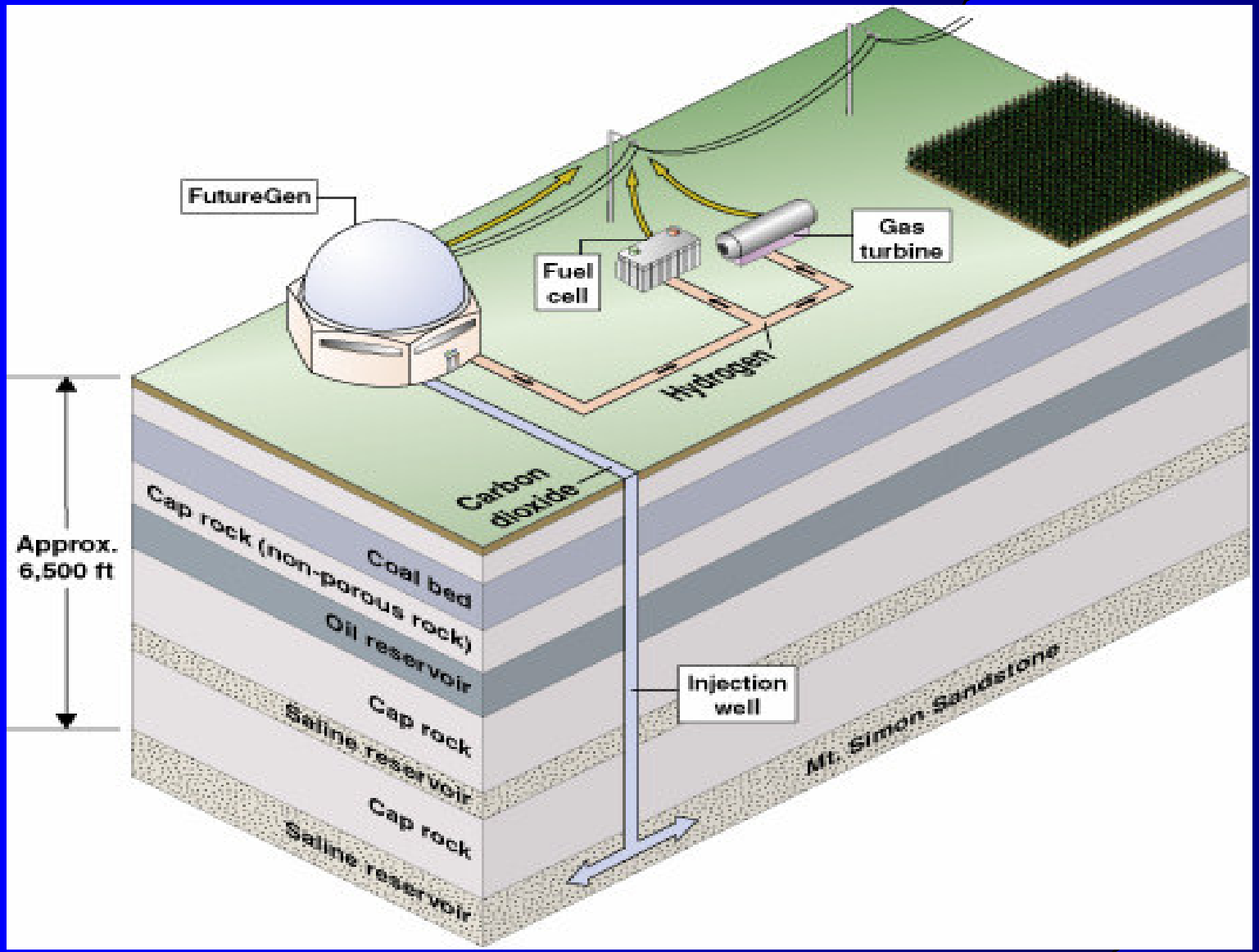

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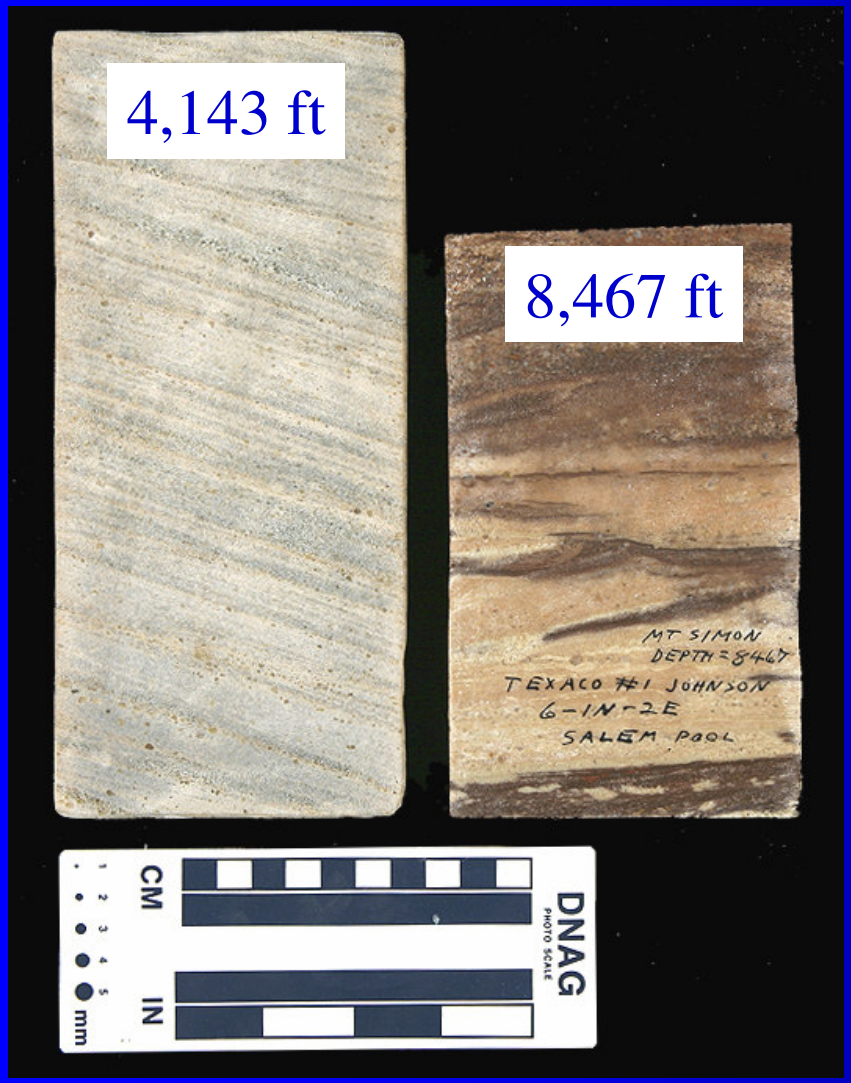
Mt. Simon Sandstone Reservoir



- Mt. Simon Sandstone is used for natural gas storage in Champaign County, IL at 4,000 to 4,200 ft
- Mt. Simon core has been recovered from a few deep exploration wells, such as this sample from near Salem, IL at 8,467 drilled in 1966

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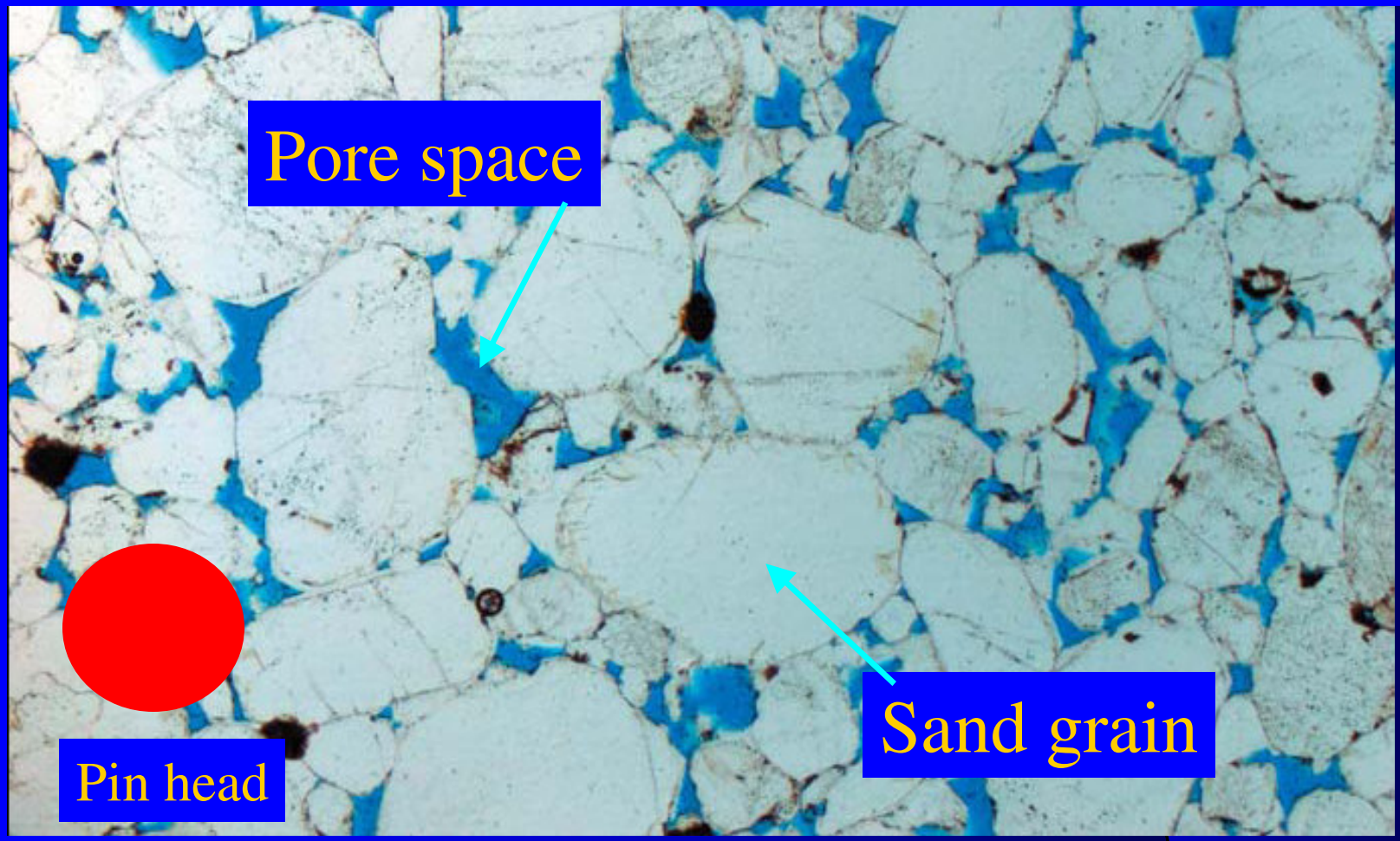
CO_2 Storage in Sandstone Reservoir Pore Space



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Shale Caprock (Reservoir Seal)

No pore space visible

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General CO_2 Injection: Caprock/Seal Integrity

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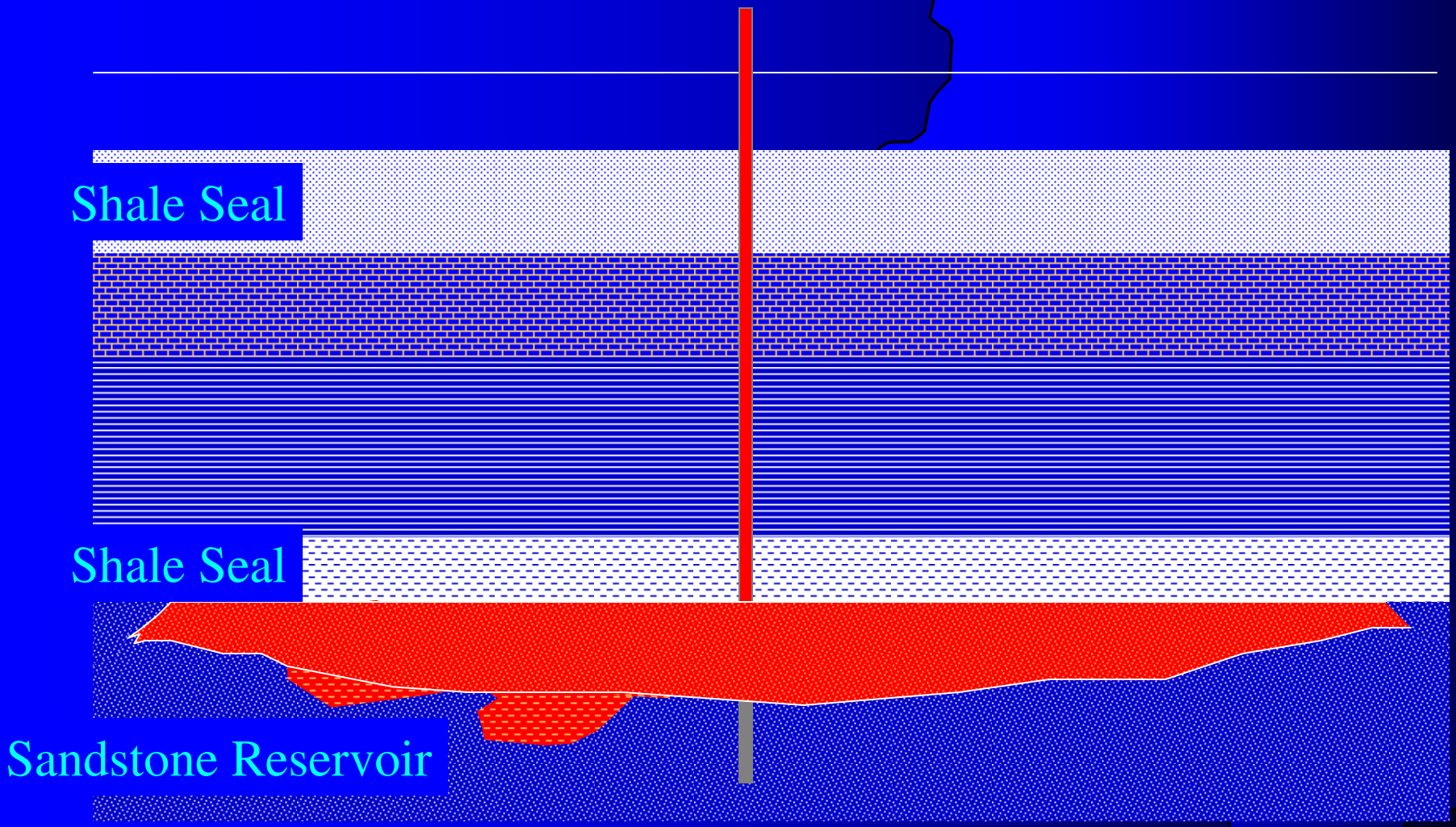

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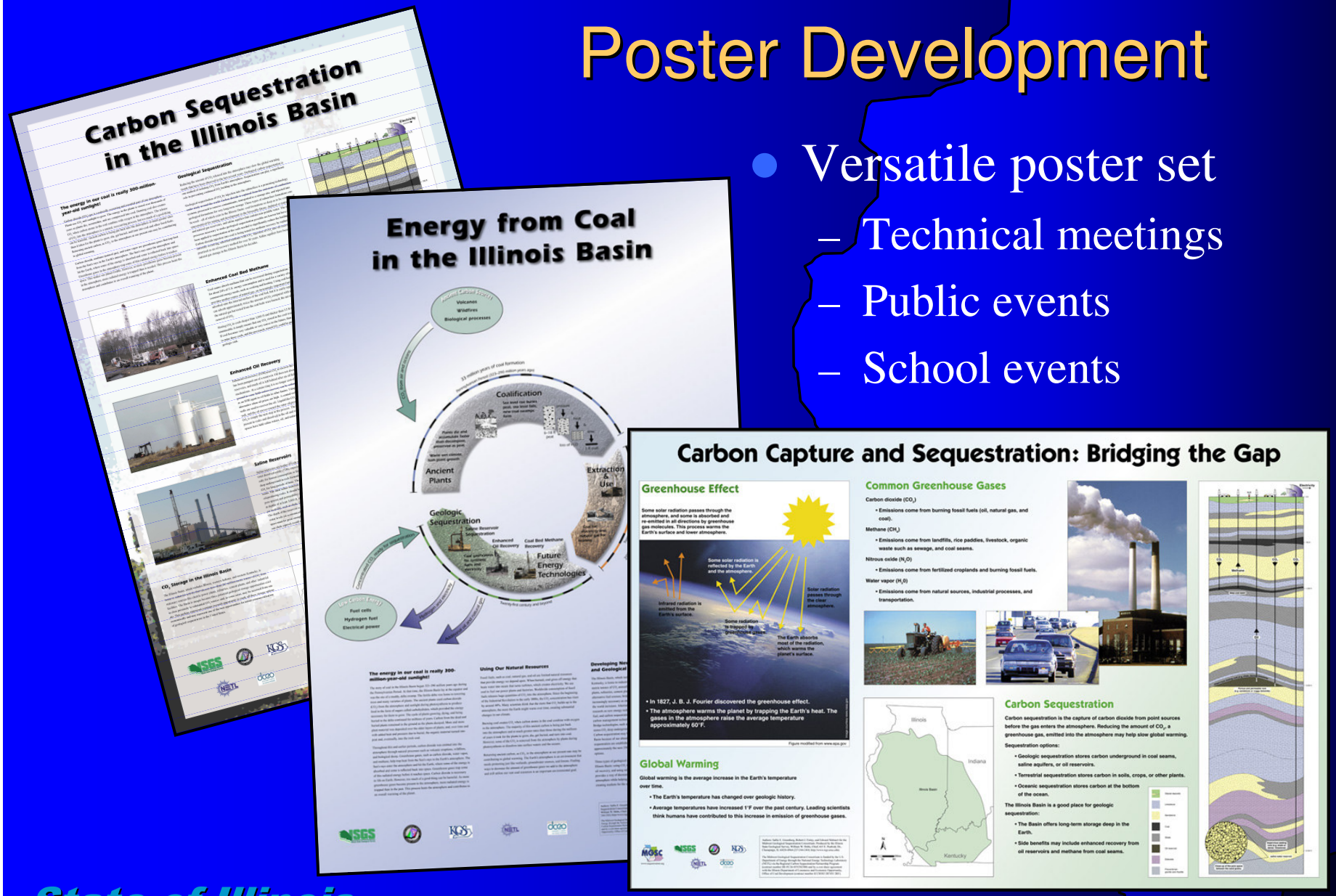
Poster Development

- Versatile poster set
  - Technical meetings
  - Public events
  - School events



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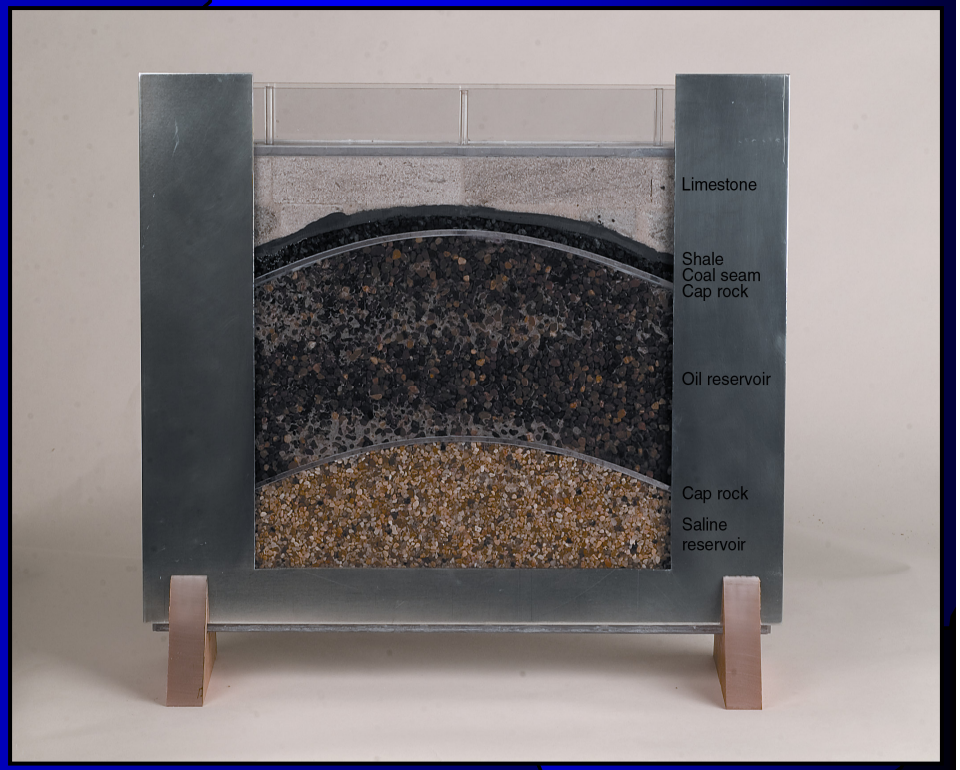
Sequestration Model

- Demonstrates
  - Illinois Basin stratigraphy
  - Sequestration in deep saline reservoir
  - Enhanced oil recovery
- Discussion Opportunities
  - Enhanced coal bed methane
  - Sedimentary rocks
  - Porosity, permeability
  - Global warming, greenhouse gases



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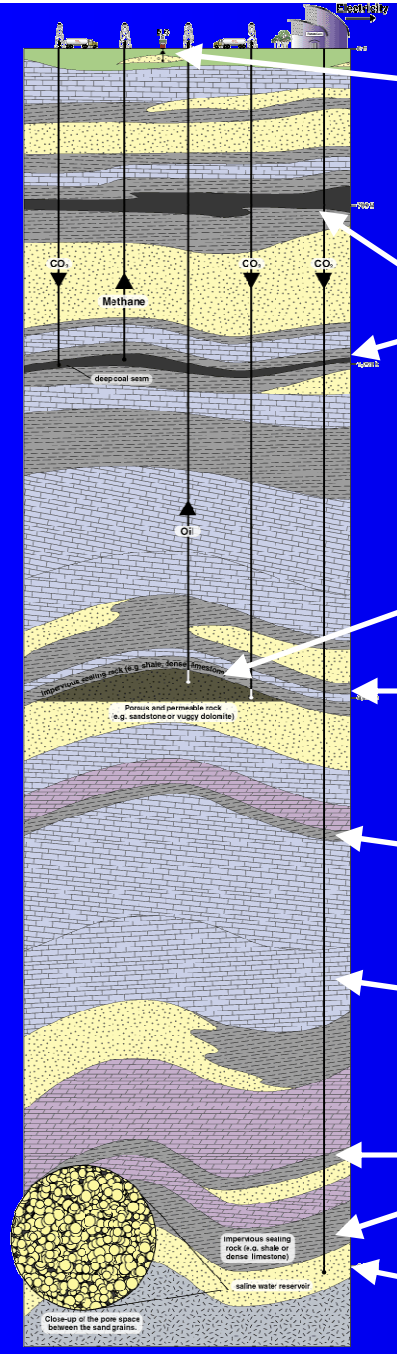

- Illinois Basin geology contains multiple seals for carbon dioxide (CO_2) above the Mt. Simon Sandstone
- Monitoring other sandstones above the Mt. Simon Sandstone can provide warning of any problems

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