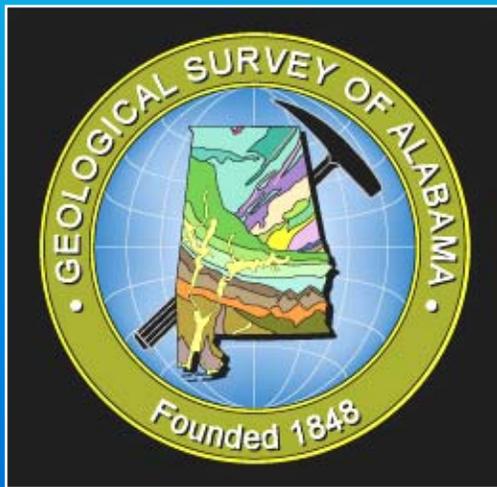


SECARB Field Test in Mature Coalbed Methane Reservoirs of the Black Warrior Basin

Jack C. Pashin

Geological Survey
of Alabama



PRINCIPAL SPONSOR

U.S. Department of Energy - NETL

PROGRAM TEAM

SSEB, Virginia Tech - **Administrative Lead**

Geol. Survey of AL - **Technical Lead, Geology**

SCGCS (University of Alabama) - **Engineering**

Southern Company/EPRI - **MMV**

Institute for Clean Energy Technology (MSU) - **MMV**

Univ. British Columbia - **Analytical**

Oak Ridge National Laboratory - **Analytical**

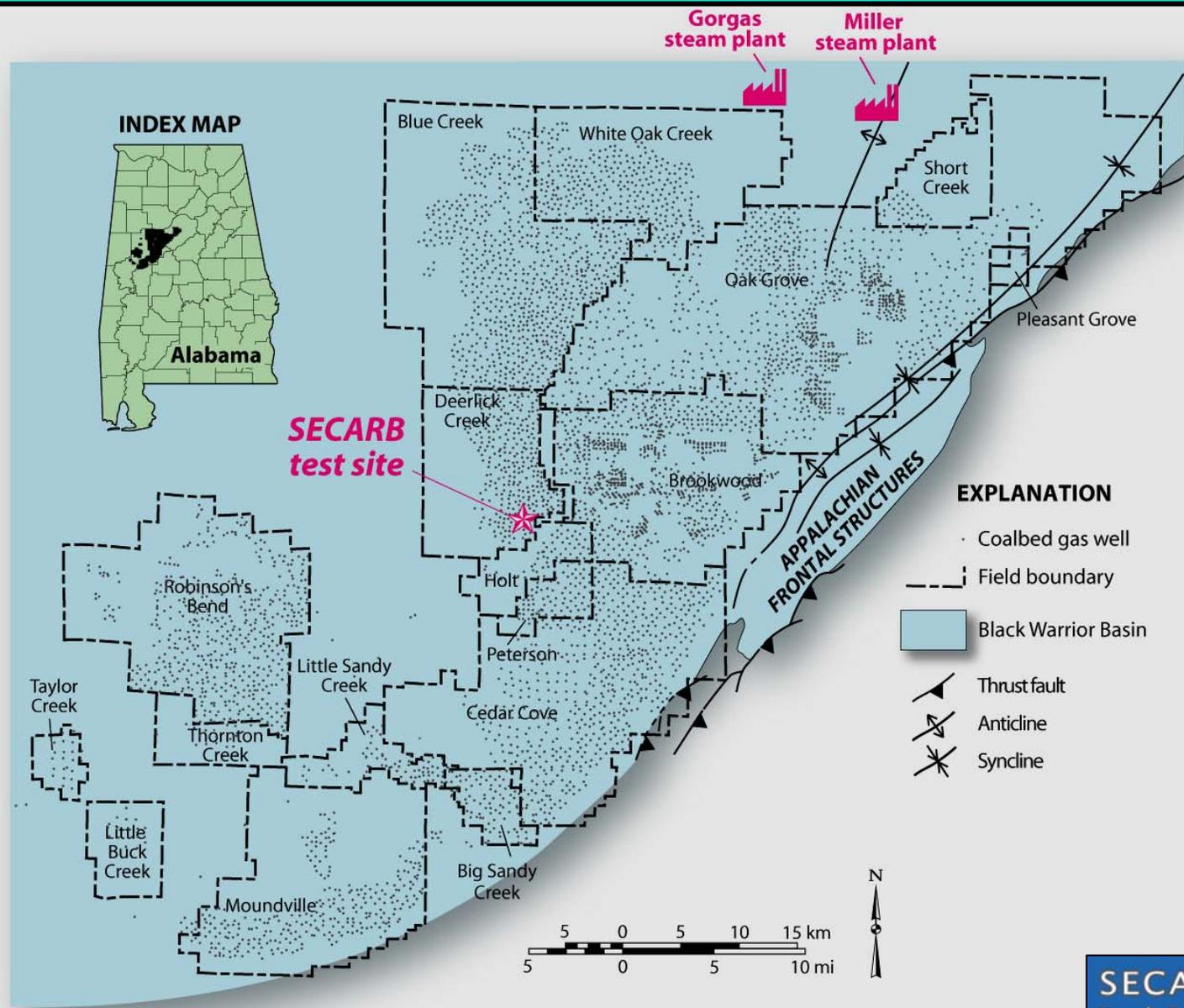
ARI - **Reservoir Simulation**

CCP2 - **Reservoir Modeling**

Denbury Resources - **CO₂**

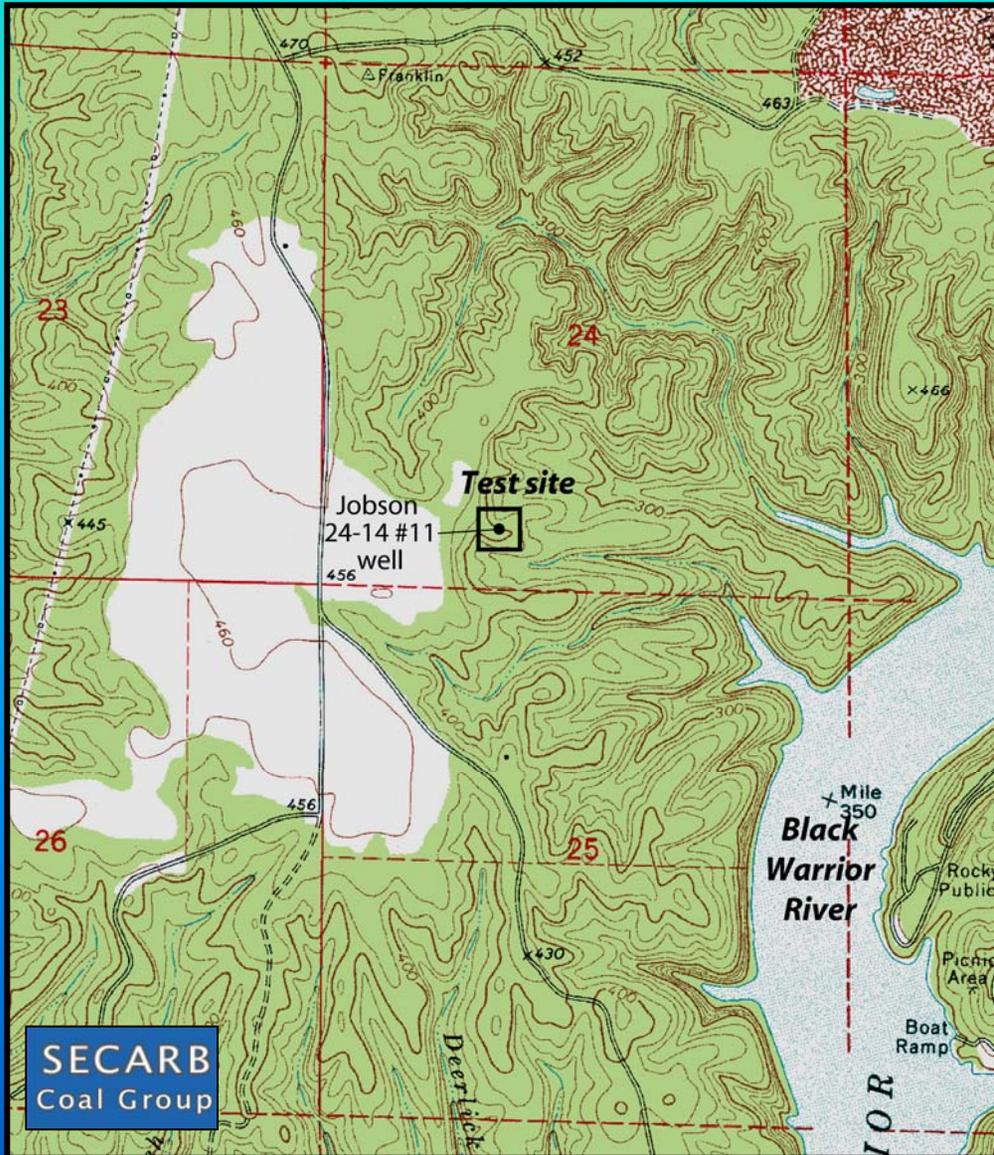
HighMount E & P - **CBM well**

BLACK WARRIOR TEST SITE

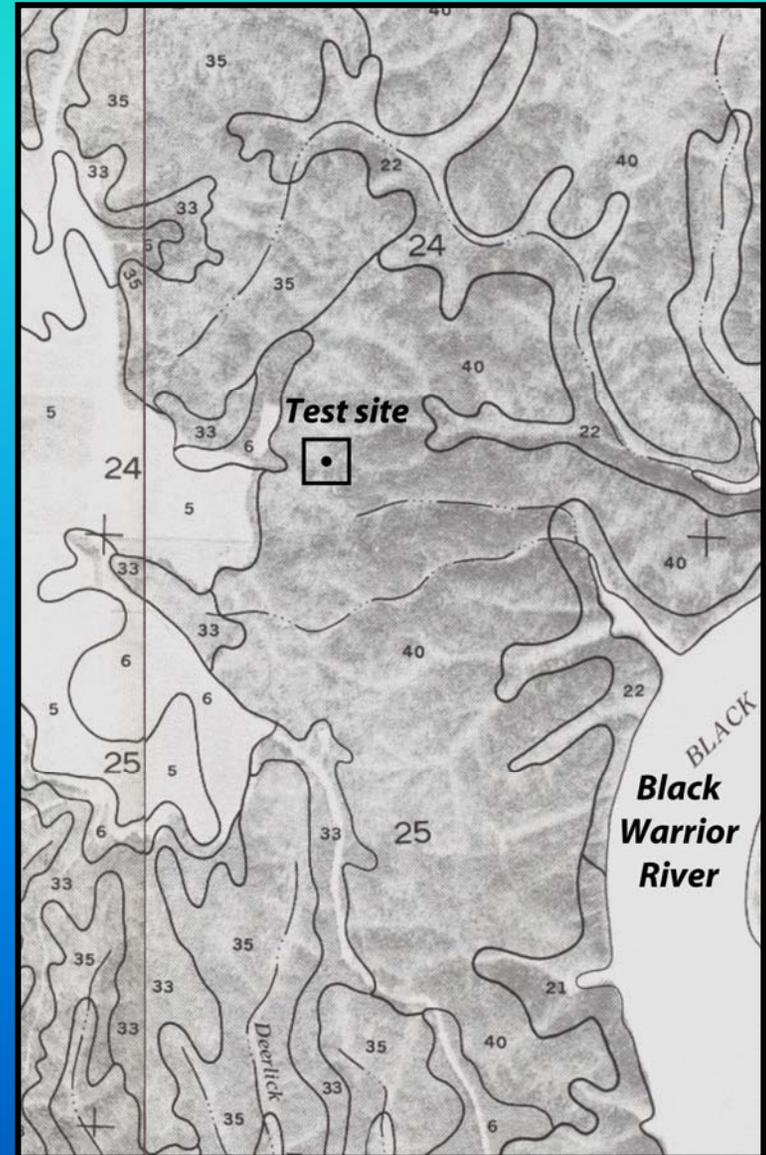


BLACK WARRIOR TEST SITE

Topography



Soil Survey

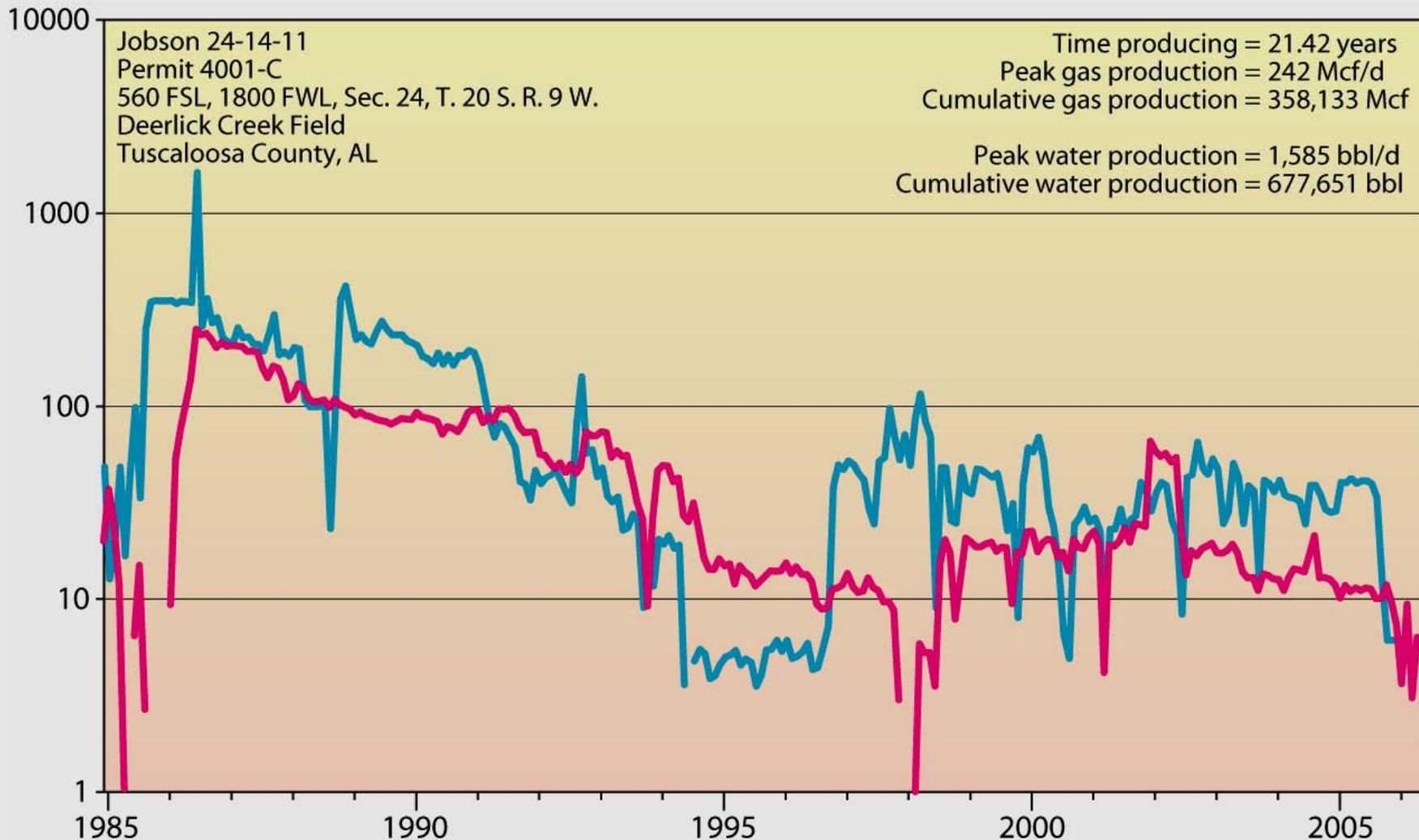


JOBSON 24-14 #11 WELL DEERLICK CREEK FIELD

SECARB
Coal Group



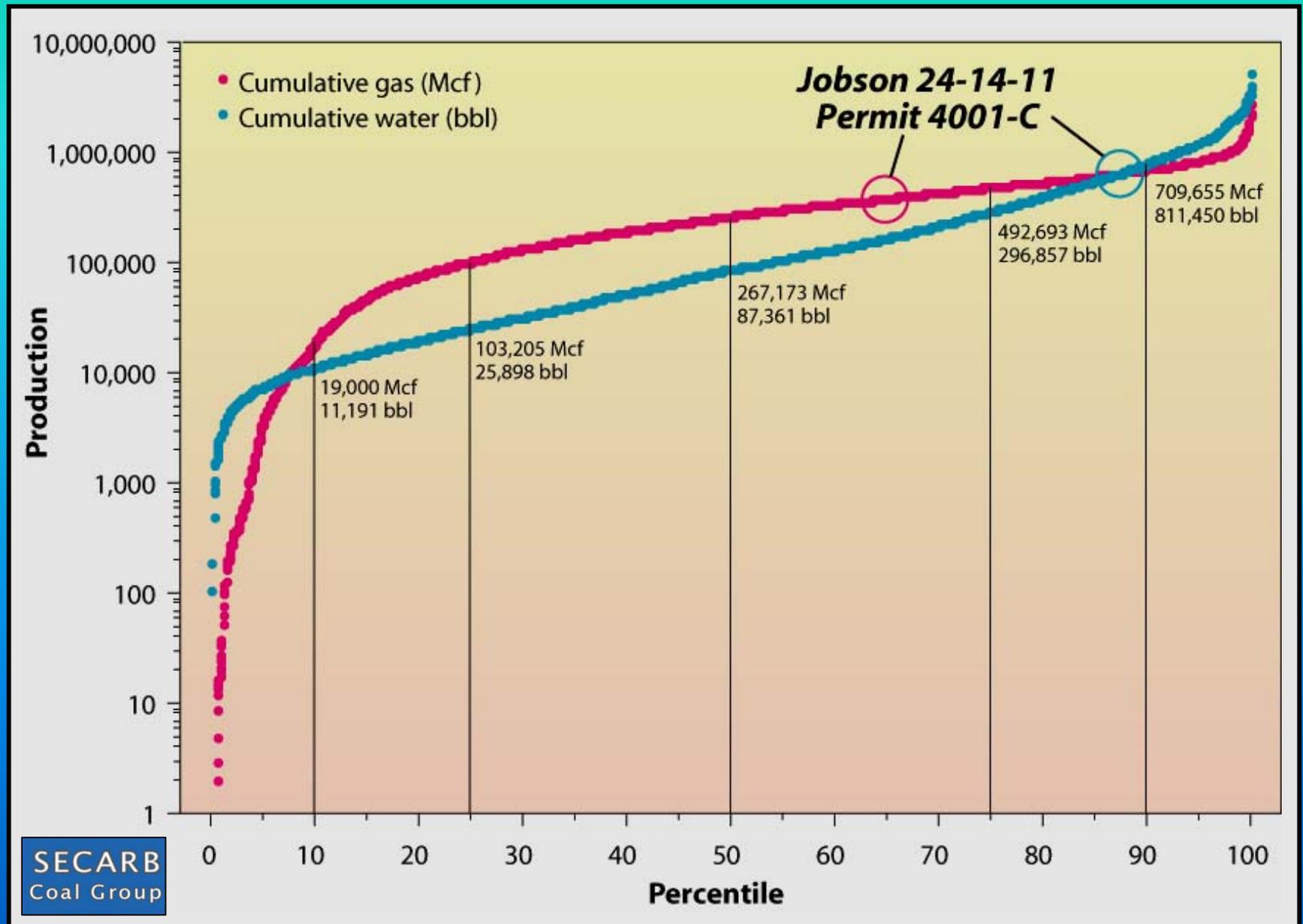
PRODUCTION HISTORY



— Gas production (Mcf/d)
— Water production (bbl/d)

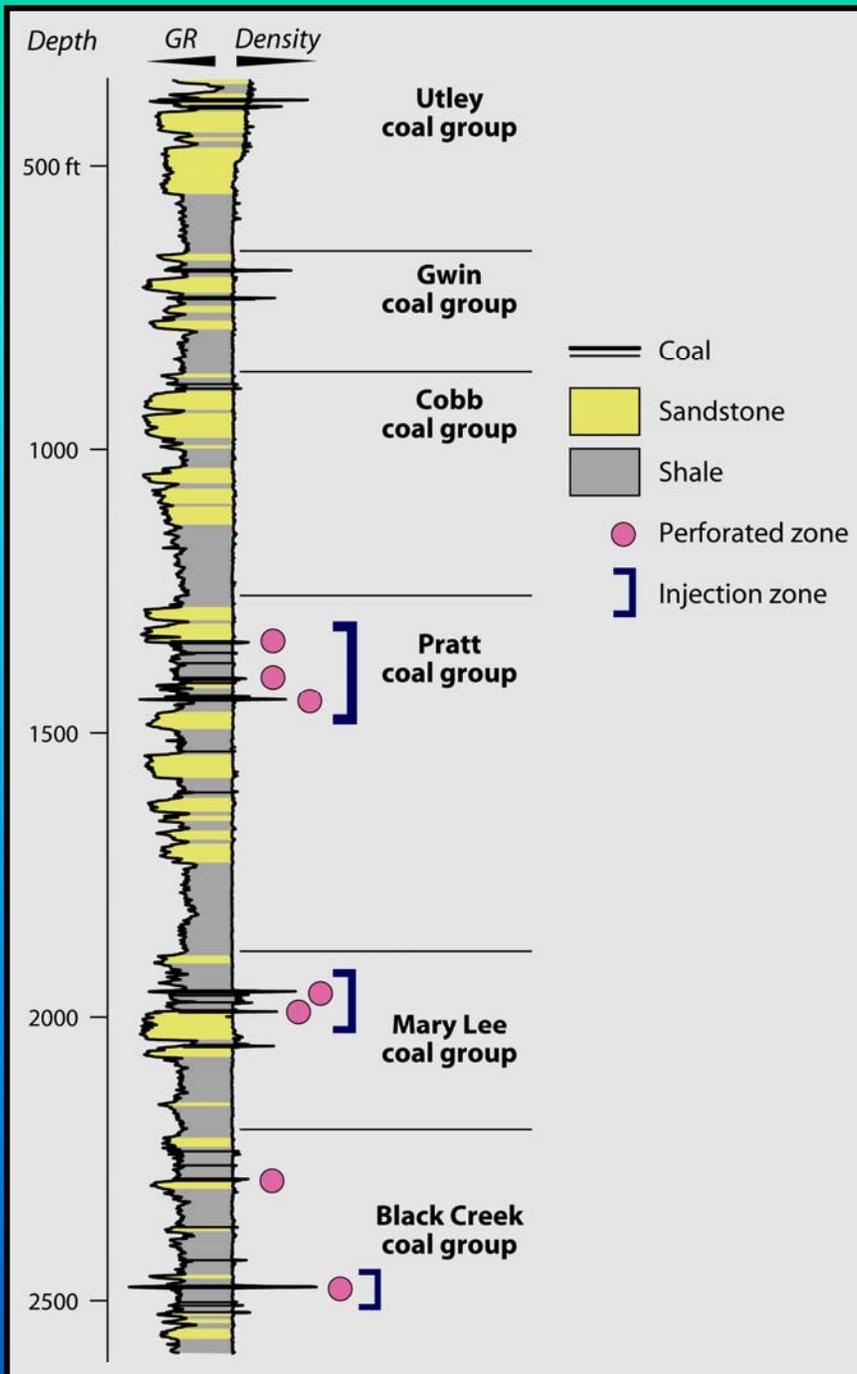


CUMULATIVE PRODUCTION

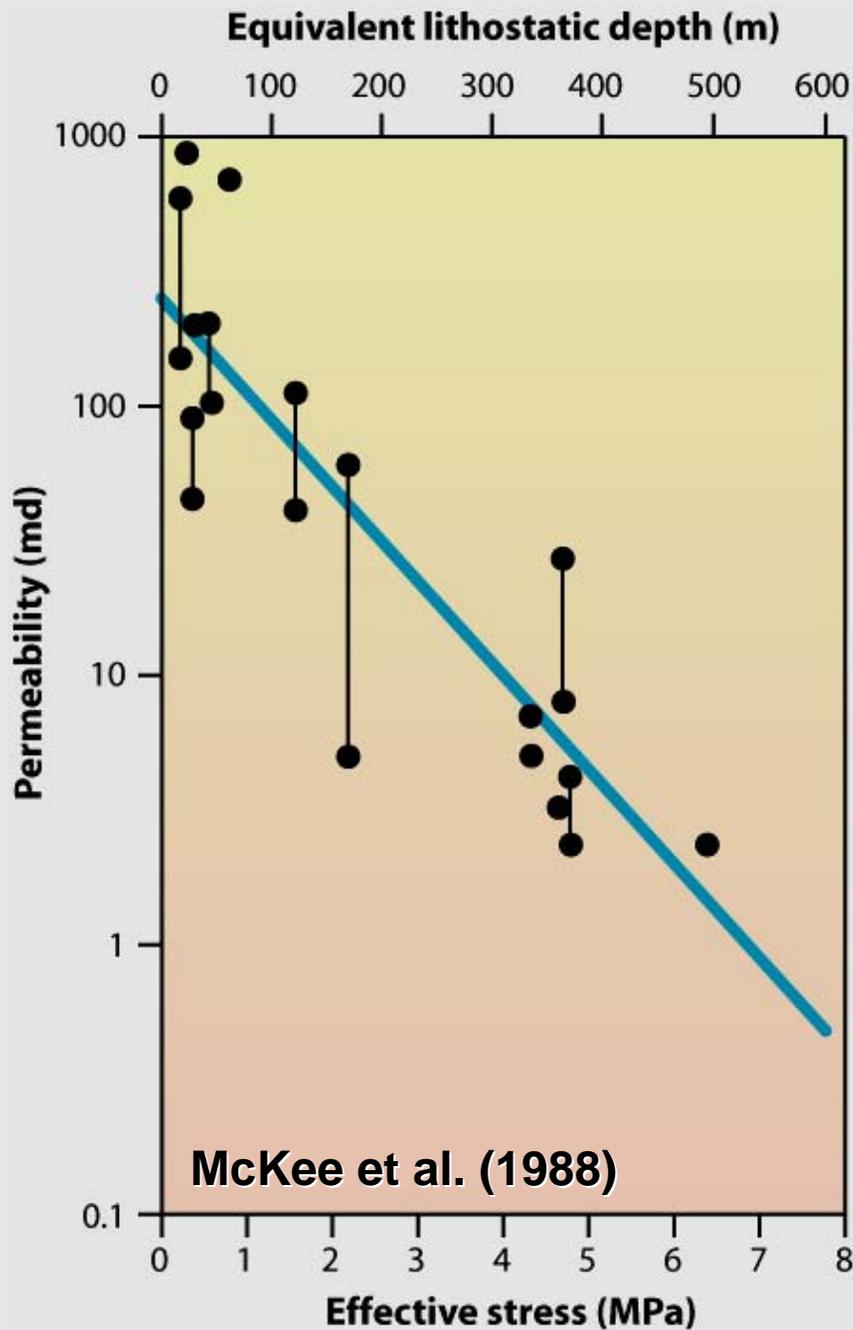


POTTSVILLE STRATIGRAPHY

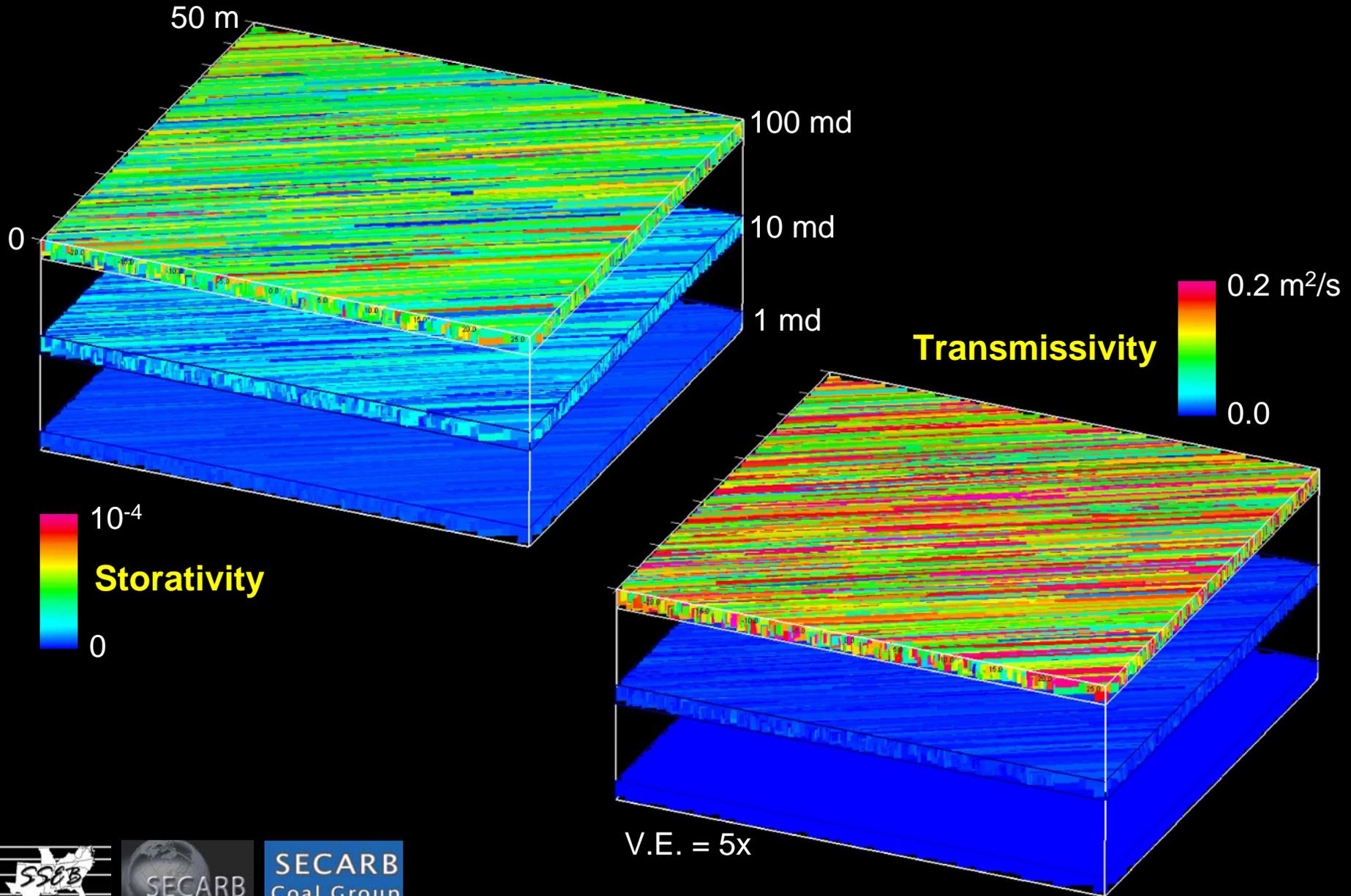
Jobson 24-14 #11
SECARB test well
Deerlick Creek Field



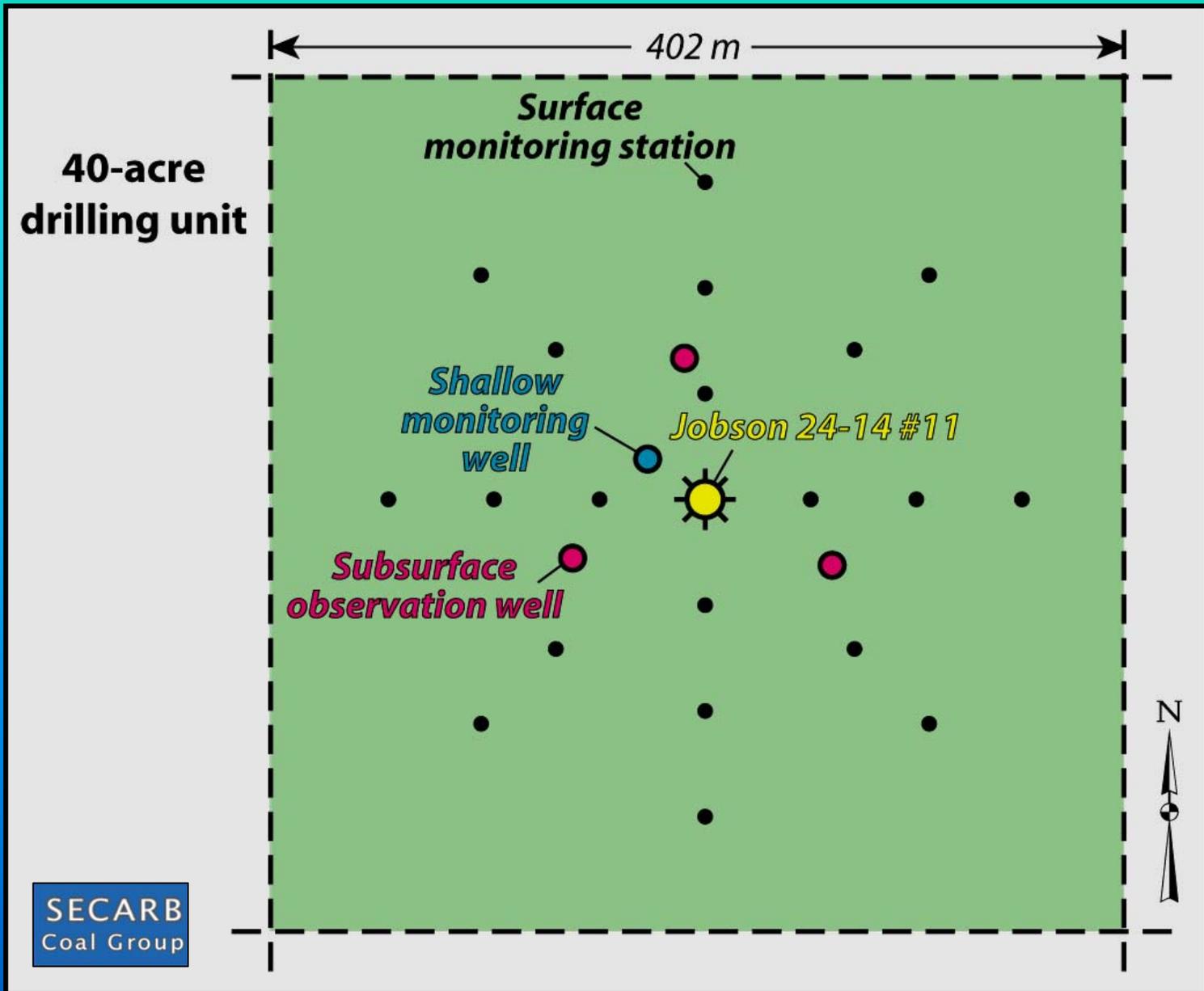
PERMEABILITY- DEPTH RELATIONSHIP POTTSVILLE FM.



STORAGE AND TRANSMISSIVITY

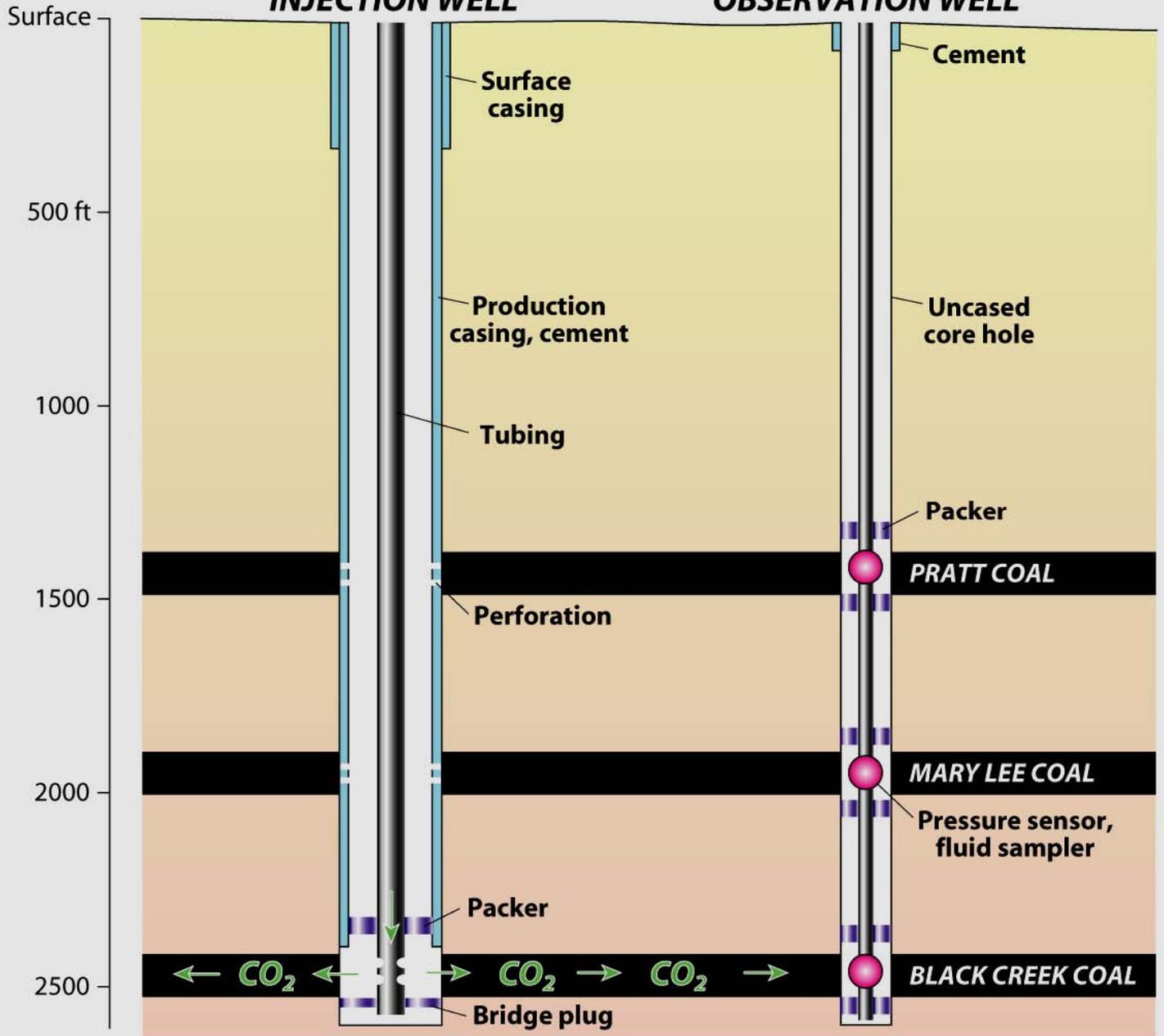


MONITORING LAYOUT



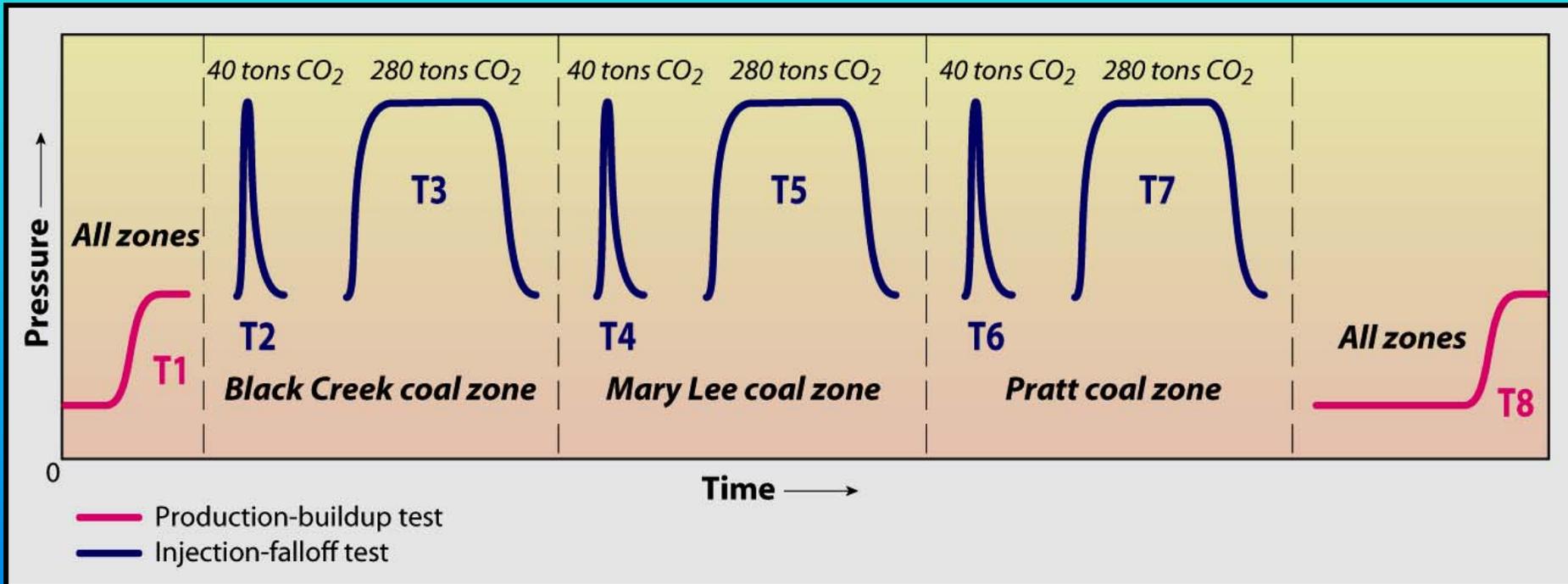
INJECTION WELL

OBSERVATION WELL



DEEP TESTING

PRODUCTION AND INJECTION TESTS



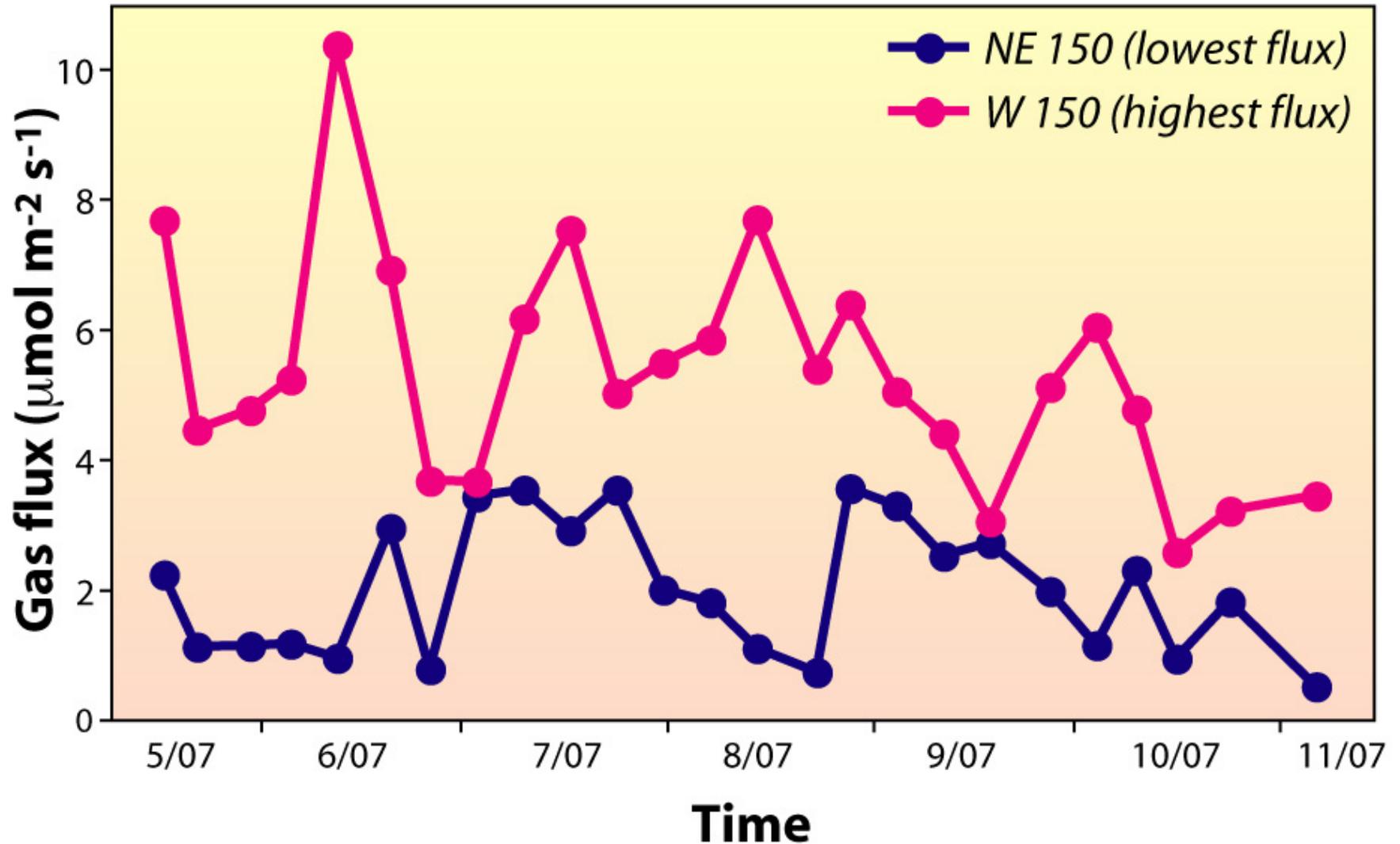


SURFACE MONITORING

Soil Gas Flux

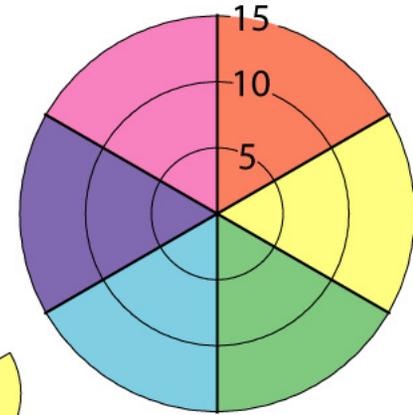
**Southern
Company**

SOIL CO₂ FLUX



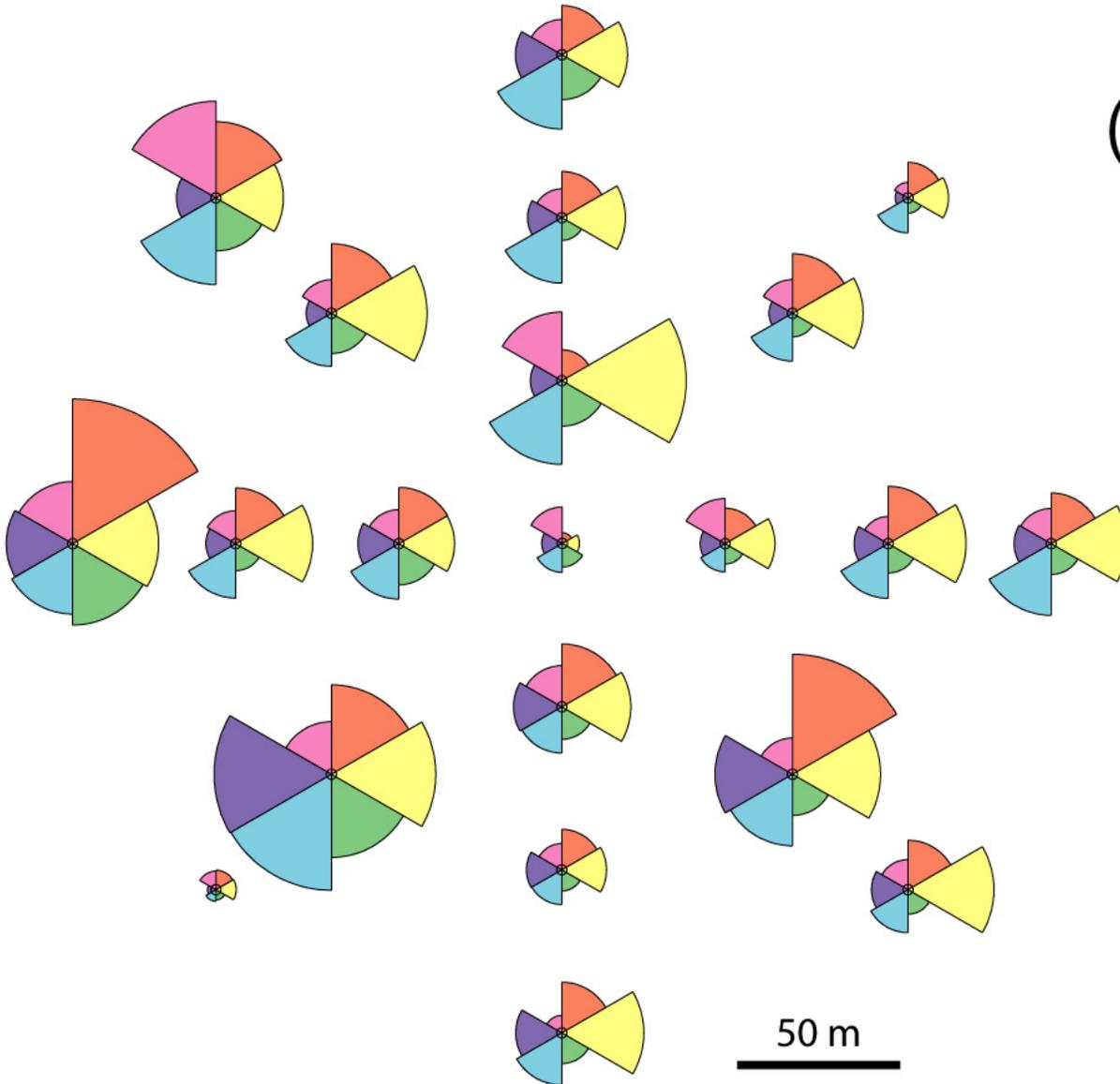
MONTHLY AVERAGE CO₂ FLUX

Gas flux
($\mu\text{mol m}^{-2} \text{s}^{-1}$)



- October 2007
- September 2007
- August 2007
- July 2007
- June 2007
- May 2007

50 m

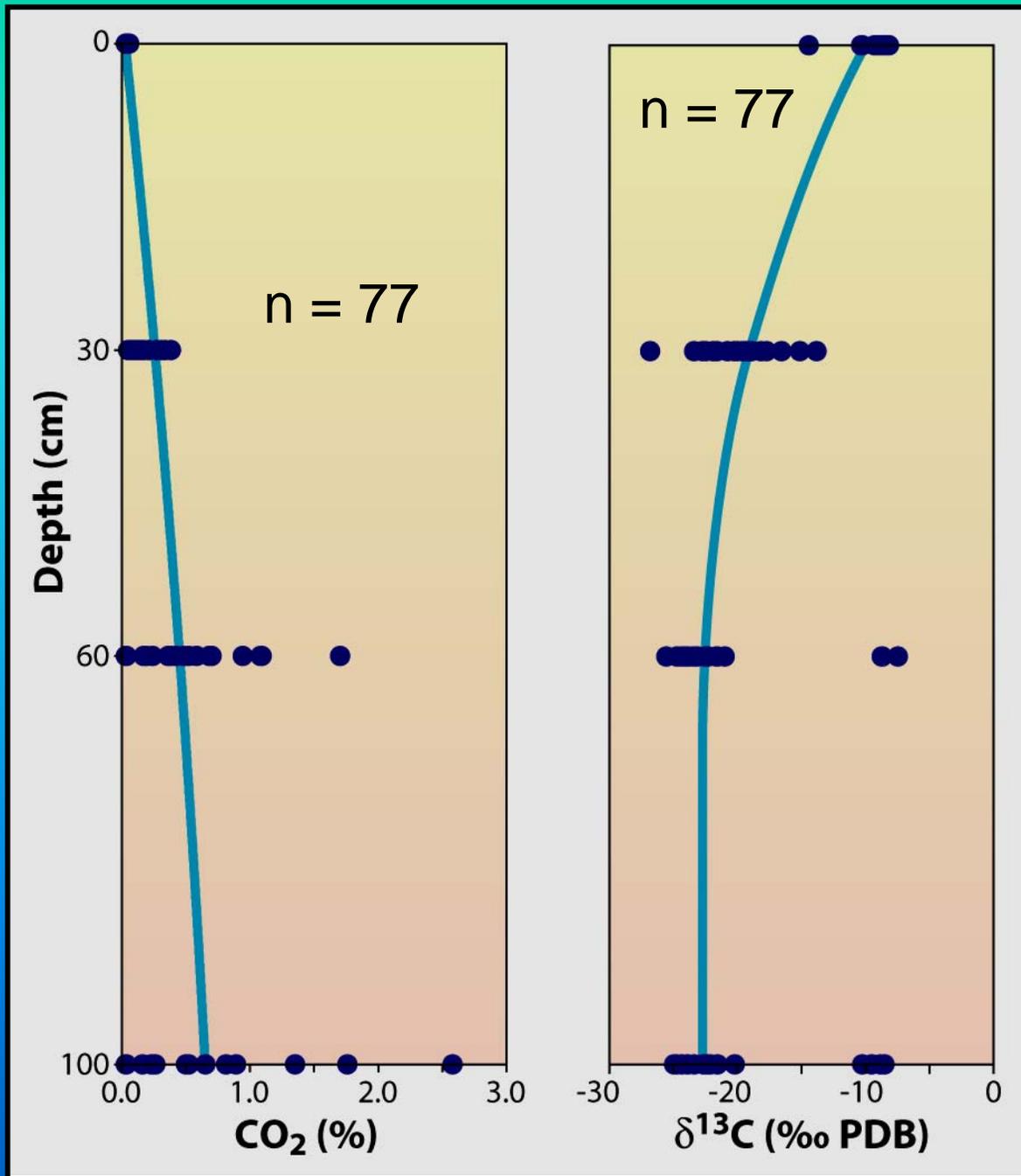




SURFACE MONITORING

Soil Gas Composition

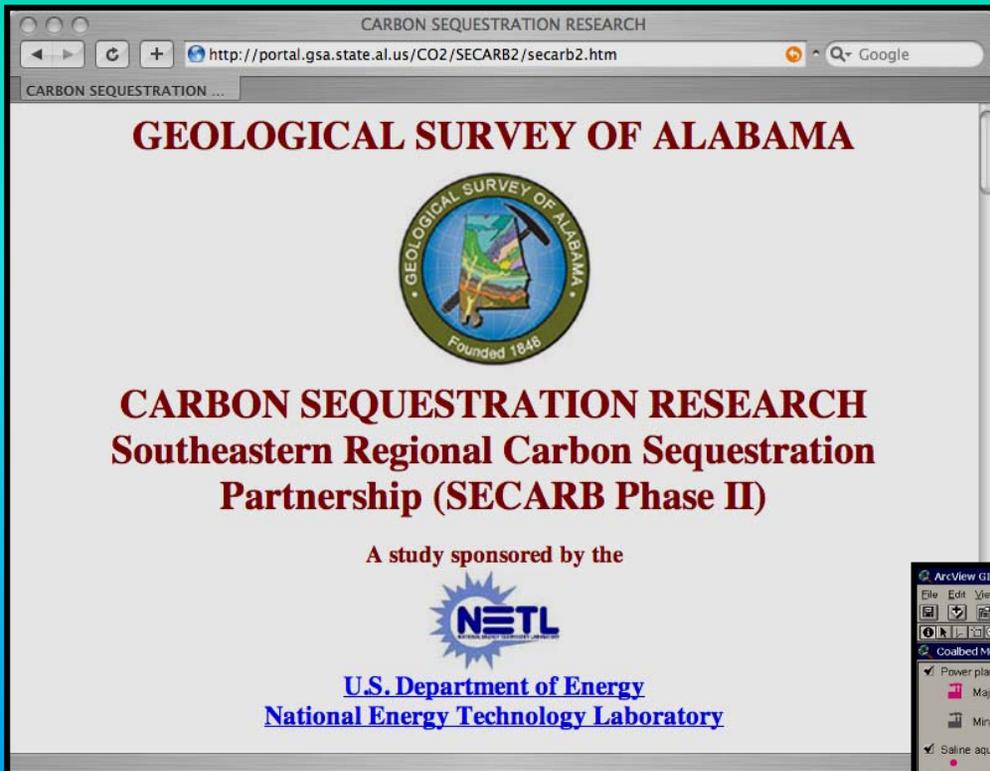
NETL



**SOIL
GAS**

CO₂

Web resources



CARBON SEQUESTRATION RESEARCH

<http://portal.gsa.state.al.us/CO2/SECARB2/secarb2.htm>

GEOLOGICAL SURVEY OF ALABAMA



CARBON SEQUESTRATION RESEARCH
Southeastern Regional Carbon Sequestration
Partnership (SECARB Phase II)

A study sponsored by the



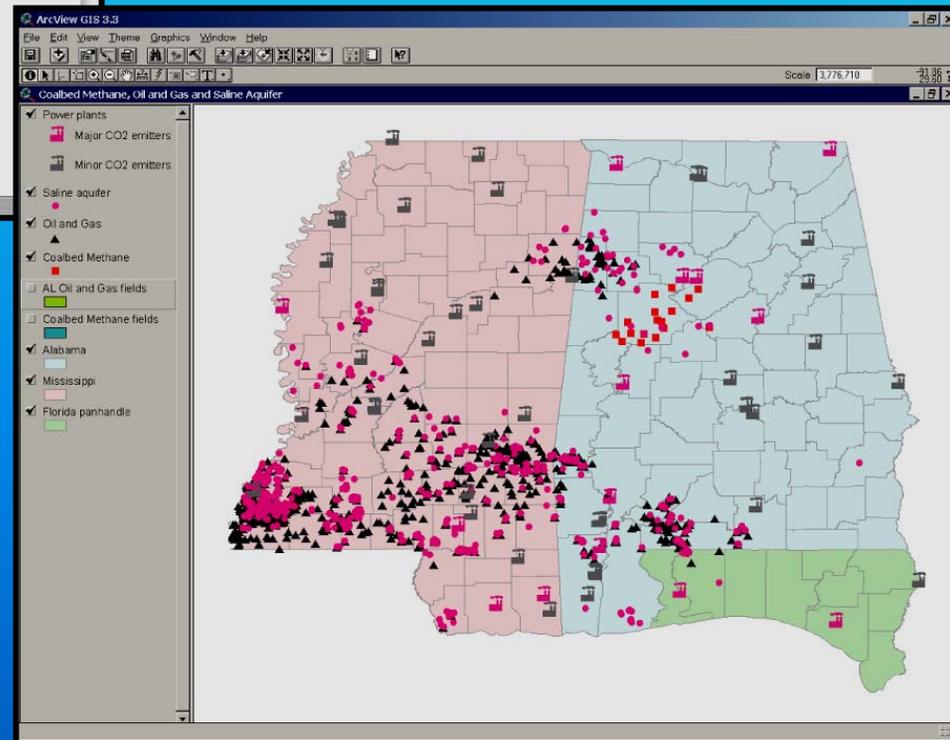
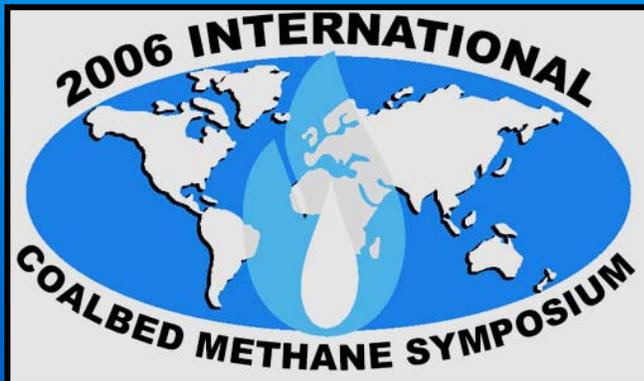
U.S. Department of Energy
National Energy Technology Laboratory

OUTREACH ACTIVITIES

Publications

<http://portal.gsa.state.al.us/CO2/CO2.htm>

Meetings



TEST SCHEDULE

Site selection - 4/06 to 9/06

Monitoring - 12/06 to 7/09

Coring - 12/07 to 2/08

Injection testing - 3/08 to 10/08

Site closure - 3/09 to 9/09

