

Status of Geologic Storage

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**Fundamental Understanding
Supports Secure
Long Term Storage**

**Industrial Scale CO₂ Storage
Projects Demonstrate
Feasibility**

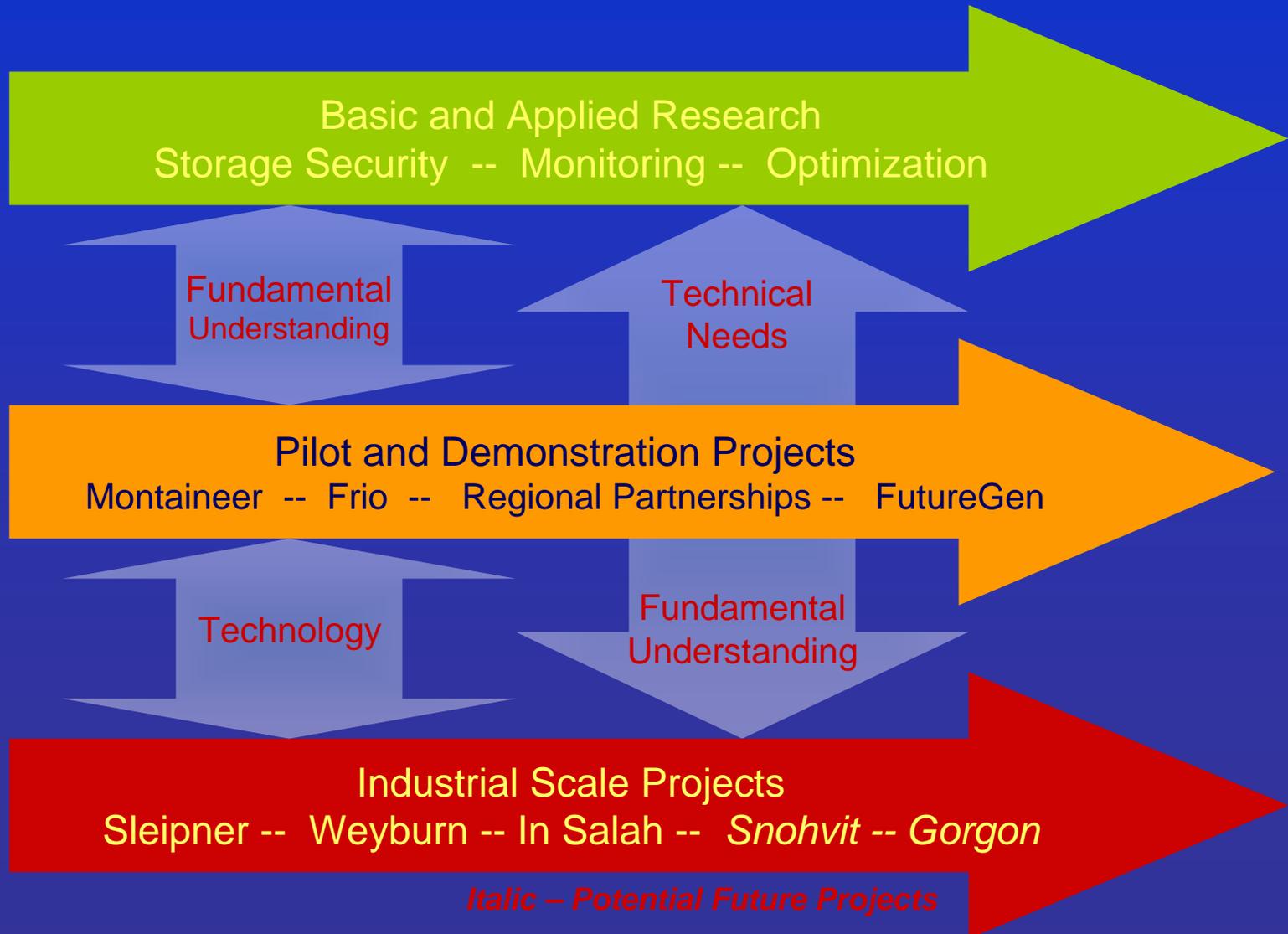
**Potentially Large
Storage Capacity**

**CO₂ Capture with Geologic Storage
is a Promising Option for
Reducing CO₂ Emissions**

**Significant Investments
In Research and Development
Are Rapidly Expanding
Knowledge and Experience**

**Existing Technology Available
Site Characterization
Risk Assessment
and Monitoring**

Technology Development and Deployment Pathways



Key Issues for Technology Development and Deployment

- Evaluating Abandoned Well Impacts On Storage Integrity
- Optimizing Sweep and Injectivity
- Demonstrating Long-Term Storage Integrity
- Developing Criteria for Site Selection
- Reconciling Top-Down and Bottom-Up Capacity Estimates
- Establishing Monitoring and Verification Protocols

Fundamental and Applied Research: Understanding and Modeling Flow of CO₂ in Geologic Formations

- Understand migration processes and geochemical interactions
- Predict long term fate of CO₂
- Demonstrate trapping mechanisms that increase storage security over time
- Build confidence in simulation models



Observation Well

Photographs from the Frio Brine Formation Pilot Test led Susan Hovorka, UT

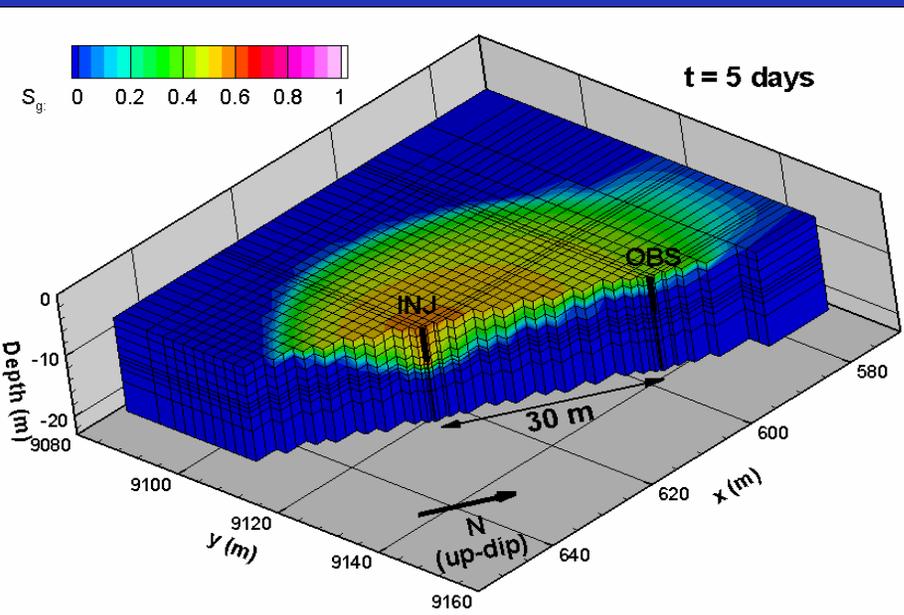


CO₂ Injection Tankers

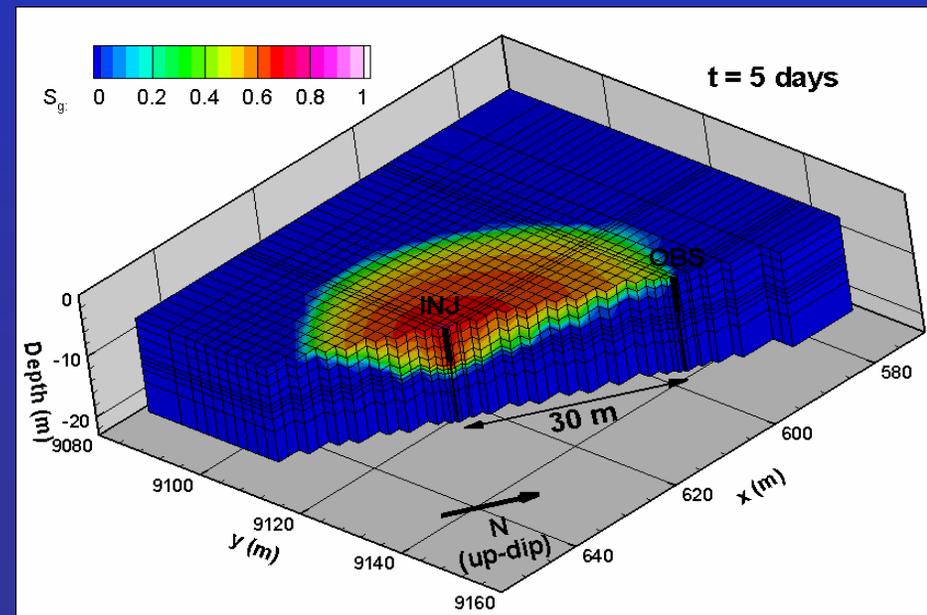
Frio Brine Pilot Test Answers

Key Question

Frio Brine
Formation
Pilot Test

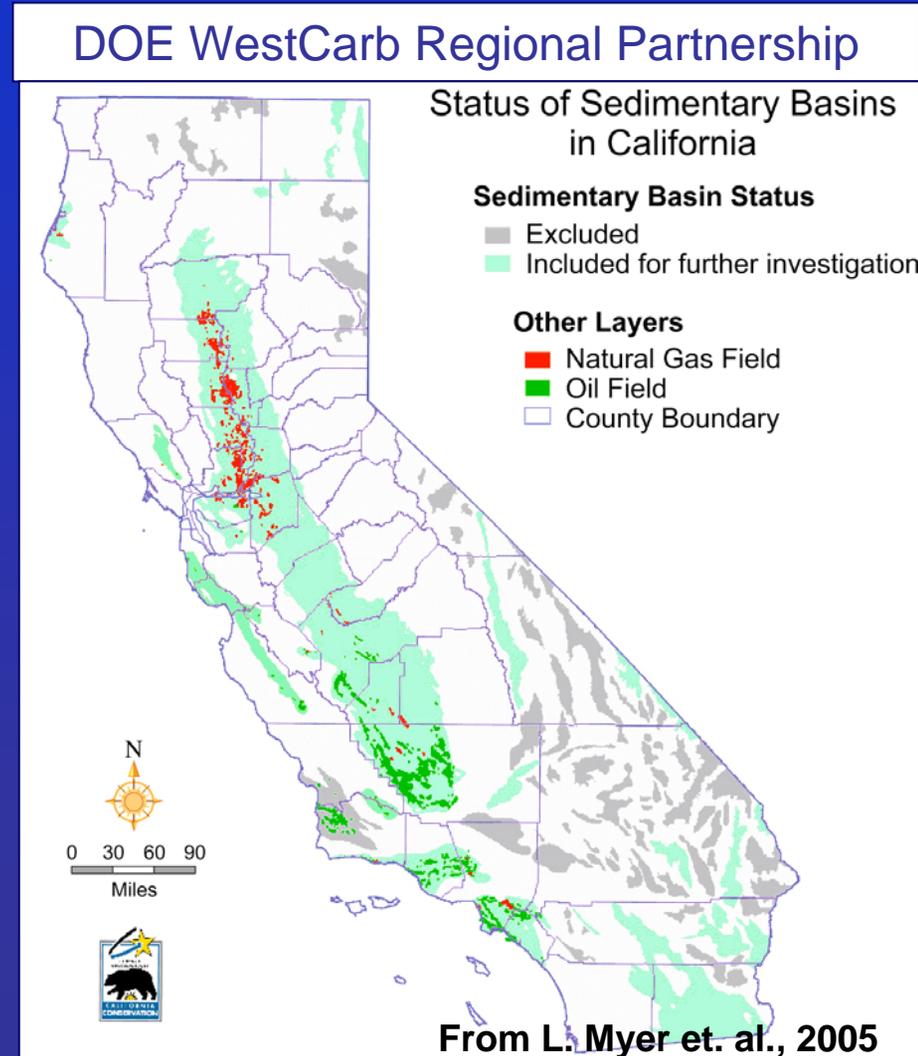
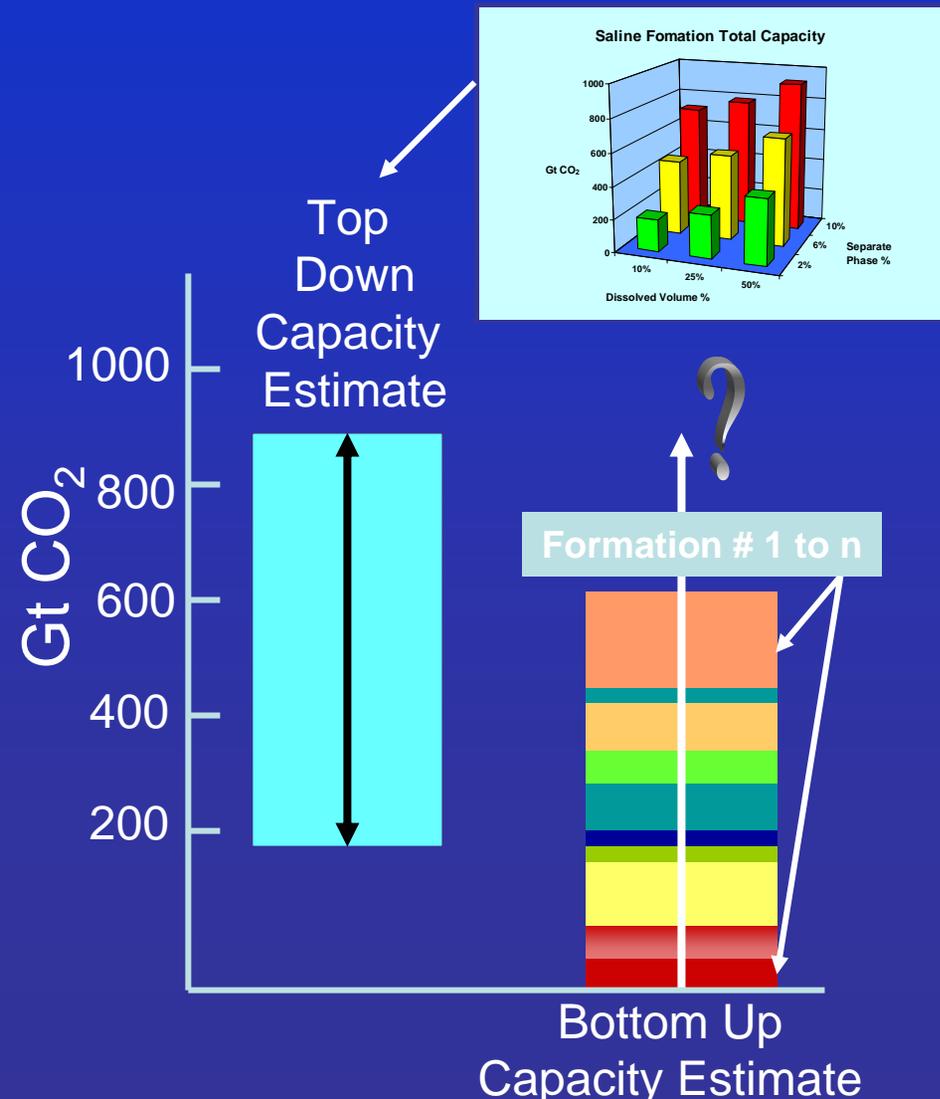


Low Residual CO₂ Saturation



High Residual CO₂ Saturation

Pilot and Demonstration Projects: Reconciling Top-Down and Bottom-Up Storage Capacity Estimates



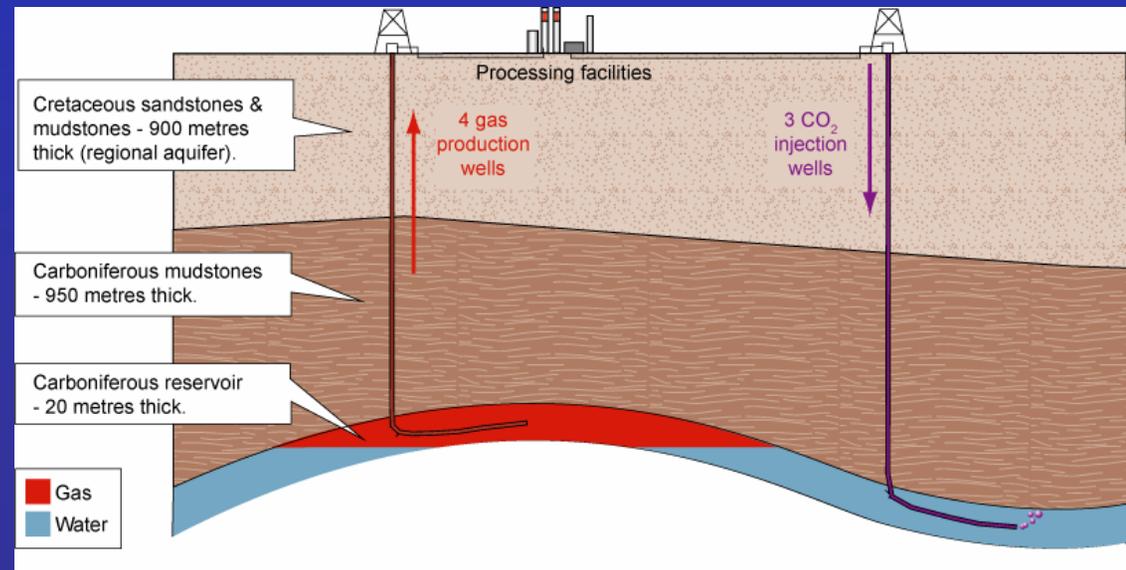
Industrial Scale Projects: Optimizing Sweep Efficiency and Injectivity

Gas Processing and CO₂ Separation Facility

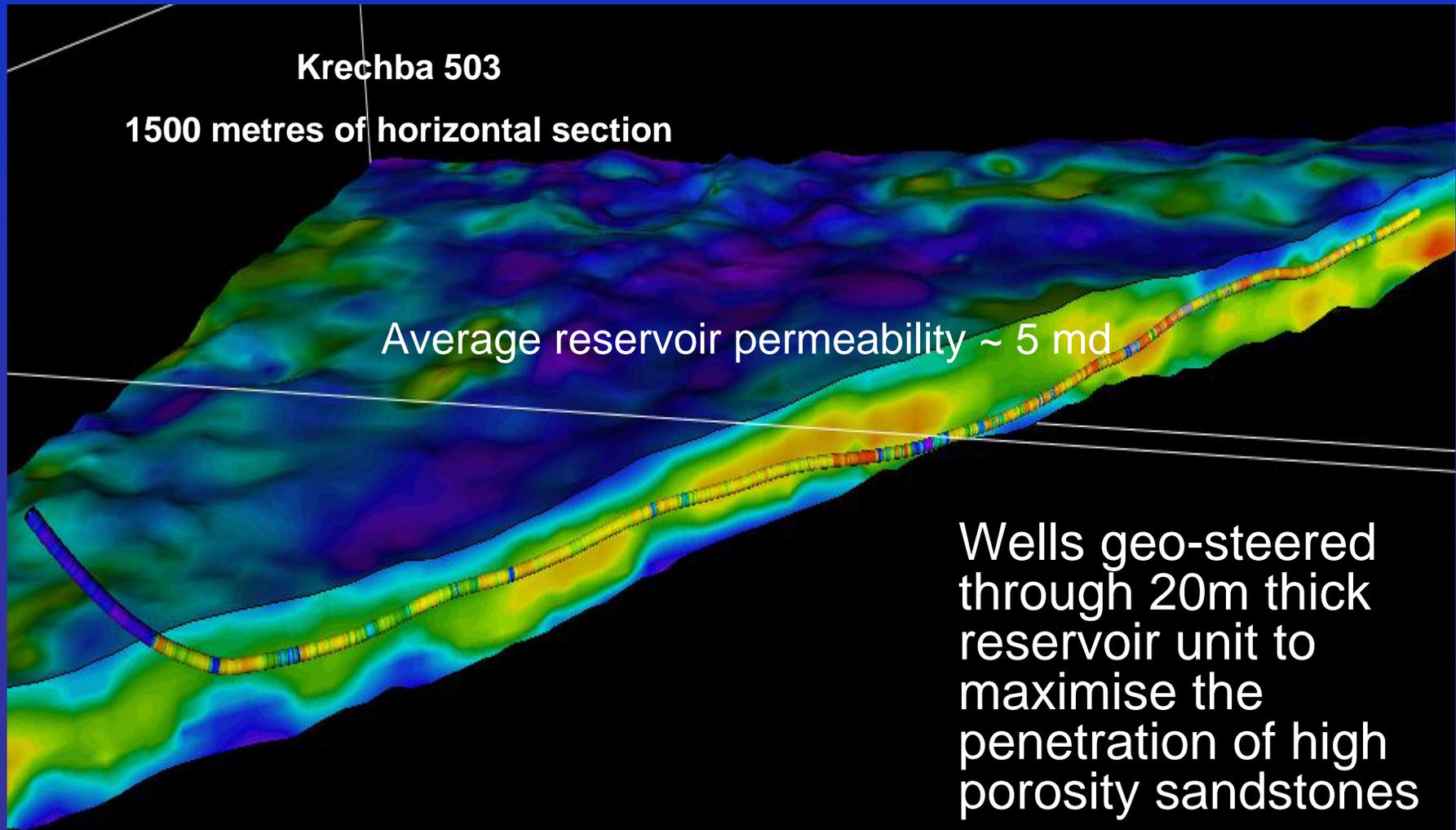


Courtesy of BP

In Salah Gas Project
- Krechba, Algeria
Gas Purification
- Amine Extraction
1 Mt/year CO₂ Injection
Operations Commence
- June, 2004



Optimizing Sweep Efficiency and Injectivity with Long Reach Horizontal Wells



Cooperation and Knowledge Sharing will Greatly Accelerate Learning and Successful Deployment

