Southeast Offshore Storage Resource Assessment (SOSRA)
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GO/NO-GO DECISION POINT: The data collected and analyzed in Phase I is sufficient to perform a quality prospective storage resource assessment and the project should proceed to Phase II.

Note: Task 1.0, Project Management and Planning, extends throughout the entire program period.
Location – SOSRA
EGOM Study Area and Subregions

DCSB  DeSoto Canyon Salt Basin
MGA  Middle Ground Arch
TE  Tampa Embayment
SA  Sarasota Arch
SFB  South Florida Basin
DCSB Destin Dome
DepthConverted Structural Cross Sections, DeSoto Canyon Salt Basin

**Destin Dome**

Sea floor (0 Ma)

- QT
- Top, TKpu
- Klb
- Kla
- KJcv
- Jhs, Jn
- Jl
- Bsmt

No vertical exaggeration

Extensional strain = 1.4%

**Salt Roller Province**

Seabed (0 Ma) Tilt block

- Top
- QT
- Klu
- TKpu
- KI
- KJcv
- Jhs
- Jl
- Bsmt

No vertical exaggeration

Extensional strain = 52.0%
West Florida Shelf-Escarpment

VE ~4x

Roberts and Erickson (2009)
Prospective EGOM Sinks

Well G02468, Desoto Canyon Salt Basin

Paluxy Formation

Major prospects in sandstone of Tuscaloosa Group and Paluxy Fm.

Topseal

Reservoir

Porosity locally >20%

Well G3912, West Florida Shelf

Punta Gorda Anhydrite

Topseal

Reservoir

Porosity locally >15%

Major prospects in porous dolomite associated with anhydrite intervals

Shale

Sandstone

Limestone

Dolomite

Anhydrite
South and Mid-Atlantic planning areas

- Total of six exploration wells, on Georgia/Florida shelf
- Major depocenters in Carolina Trough and Blake Plateau Basin
**Prospective Mesozoic Section**

- **Reservoir Properties**
  - **Positive Indicators**
    - Depth >800 m, <2500 m
    - Reservoir thickness >50 m
    - Porosity >20%
    - Permeability >500 mD
    - Salinity >100 gl-1
  - **Cautionary Indicators**
    - Depth <800 m, >2500 m
    - Reservoir thickness <20 m
    - Porosity <10%
    - Permeability <200 mD
    - Salinity <30 gl-1
- **Stratigraphy**
  - Uniform
  - Complex lateral variation and complex connectivity of reservoir facies
- **Capacity**
  - Estimated effective capacity much larger than total amount of CO2 to be injected
  - Estimated effective capacity similar to total amount of CO2 to be injected
- **Caprock Properties**
  - **Lateral continuity**
    - Stratigraphically uniform, small or no faults
    - Lateral variations, medium to large faults
  - **Thickness**
    - >100 m
    - <20 m

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Scholle (1979)

Chadwick et al (2008)
Data Coverage

Over 1,000 lines and 34 wells (only 5 offshore) were selected for the study of the Mid-Atlantic Region.

Areal Coverage Method:

- Line/grid Spacing: Regional, Semi-Regional, Exploration scale
- Location of offshore wells outside the study area. Presence of 5 exploration wells at the North of the region.

Results:

Unlike the sparse distribution of well data, the seismic data collected on the Mid-Atlantic margin is of sufficient density to perform the interpretation task.
Quality Analysis

Over 1,000 lines and 34 wells (only 5 offshore) were selected for the study of the Mid-Atlantic Region.

Quality Assessment Method:

- Resolution: frequency analysis, data stacked or migrated
- Survey Design: source volume and cable length
- Benefit of reprocessing: identify lines of poor quality and potentially reprocess if needed

Results:
The quality varies from fair to poor and is better for more recent data. Offshore wells were QC’d to improve their quality.