Gulf Coast Carbon Center
Progress Update, April 2004

The Gulf Coast Carbon Center (GCCC) is applying its technical and educational resources to implement geologic sequestration of anthropogenic carbon dioxide on an aggressive time scale. Our focus is in the Gulf Coast of Texas, Louisiana, and Mississippi, an area where opportunities for early implementation are numerous, diverse and have a high potential of being economically viable. The GCCC will develop and distribute information needed to inform and engage all critical contributors to the system, and seek a competitive next-stage field demonstration at an appropriate scale to demonstrate competence in measurement, monitoring, and verification (MMV) as well as project economic viability.

April accomplishments include:

- An economic analysis of CO_2 –EOR resource potential in Texas was completed. Utilizing a previous report, *Reduction of greenhouse gas emissions through underground CO_2 sequestration in Texas oil and gas reservoirs* (Holtz and others, 1999), approximately 1,730 Texas reservoirs satisfied the screening criteria for CO2-EOR. These candidate reservoirs represent 80 billion bbls of original oil in place, of which 31 billion bbls is residual oil (target of CO_2-EOR). Assuming that only 10% of the CO_2-EOR Target is converted into production in the future, the wellhead and economic value is approximately $78 and $226 billion dollars, respectively, according to the Texas Railroad Commission's "General Model of Oil and Gas Impact on the Texas Economy" derived from the Texas Comptroller's Input-Output model of the Texas economy. This converts into the creation of close to 1.5 million jobs for the citizens of Texas.
- More detailed reservoir screening is being carried out by refining our Texas reservoir databases. The minimum miscibility pressure, temperature, and initial reservoir pressure are being calculated through play analysis. Cluster analysis of the candidate reservoirs with the updated anthropogenic source inventory is underway in GIS.
- Presented at 2004 AAPG annual meeting in Dallas on April 18-21, "Developing a business plan for carbon sequestration in the Gulf Coast" and "Modeling of CO_2 saline aquifer sequestration and the effects of residual phase saturation.
- Texas geologic sink characterization GIS data for the DOE-NETL southwest and southeast regional partnerships are being compiled. Data include the oil and gas reservoirs from the *Atlas of major Texas oil reservoirs*, *Atlas of major Texas gas reservoirs*; *DOE brine formation database*, and the recently completed *Play Analysis and Digital Portfolio of Major Oil Reservoirs in the Permian Basin.*
- Discussed GCCC goals with members and staffers from the US and Texas legislature during "Decision–makers field trip". Initiated contacts with Entergy and other utilities through Mike Moore (Falcon Energy), currently a consultant of the GCCC.
- Frio brine pilot field work is underway. Following weather delays, a gravel well pad, mud pit, loop road to provide one way access for CO_2 tankers, make-up water well, and electricity installation has been competed. A trailer has been moved onsite. Recompletion of the monitoring well to squeeze cement into annular space to isolate the injection zone is underway. Research team met in Houston to finalize responsibilities and schedule.

May goals include:

- Paper, poster, and booth presentation at the NETL Third Annual Conference on Carbon Sequestration (May 3-6) in Alexandria, VA.
- Drill new injection well for Frio Brine pilot, waiting on rig availability.
- Visit and meet with anthropogenic CO_2 producers in the Gulf Coast (Valero and other refineries).
- Active stakeholder recruitment and public outreach.

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