Project Status Update to DOE – Sep 10, 2010

DE-FE0002056

- **Regional 17+ County Study Area**
  - **90 Super-type well logs (post 1980, > 400' Arbuckle penetration)**
    - **Acquired, scanned, 70% digitized**
  - **1400 Type wells (< 400' Arbuckle penetration)**
    - **Acquired, scanned, and to be digitized**
  - **Key wells (good sample descriptions)**
    - **Sample descriptions acquired & being digitized (LAS 3.0)**
  - **Cross sections constructed**
    - **Using well log data, insoluble residue logs, and sample descriptions**
  - **Mississippian & Arbuckle formation top correlated and mapped**
    - **Maps - Structure isopach, 3rd order trend residual**
  - **Selection of candidate sites for CO2 sequestration – in progress**
    - **1st Simulation Exercise in Progress - Oxy-Chem Disposal well #2 site has been selected for geomodeling & simulation**
      - **Built flow-unit based geomodel**
      - **Started reservoir simulation studies – to evaluate CO2 sequestration potential**
  - **Gravity/Magnetic Analysis**
    - **Reprocessed existing data**
    - **Characterize basement fault/fracture systems – in progress**
  - **Remote sensing Analysis – Landsat Imagery analysis**
    - **Interpretation completed**
    - **Interpreted data have been uploaded – available as layers at Project's web-based interactive map**
  - **Inventory of Class 1 disposal wells in Arbuckle**
    - **Well data scanned**
    - **Digital data archiving in progress**
  - **Arbuckle DST data**
    - **Acquired available data**
    - **Mapped pressure distribution in Arbuckle – demonstrated underpressurization**
    - **Analysis consistent with USGS publication**
  - **Arbuckle salinity data**
    - **Available data collected**
    - **Salinity vs depth plots generated**

- **Wellington Field Area**
  - **Geologic data collection – completed**
    - Logs – acquired, scanned, and digitized
    - Anson-Bates field (adjoining Wellington to the north, location of donated 3D seismic) – logs acquired, scanned, digitized
    - Mississippian core analysis – digitized for callibration
  - **Geologic Modeling**
    - Initial mapping of Mississippian reservoir – underway
    - Structural mapping of underlying Arbuckle aquifer – underway
    - Cross-section and flow-unit indentification – underway
  - **Multi-component 3D seismic survey (12 sq miles)**
    - Acquisition and P-wave processing – completed
    - Merged Wellington 3D volume with donated 3D volume from Anson-Bates field to the north
    - Interpretation of merged P-wave seismic volume – underway
    - Volumetric coherency attribute analysis - started
  - **Gravity/Magnetic survey**
    - Gravity acquisition & interpretation – completed
    - Magnetic survey – to start
  - **Engineering data collection**
    - Scout card, well completion details, field oil production history – completed
    - Well plugging history – collected
    - Well-level data collection (water injection, water production, oil production) – to start
  - **Technology Transfer**
    - Presented project details and progress to various stake holders – public, legislators, regulators, O&G industry professionals
    - Project web site – created
      - Interactive tools for display of maps, well data, cross-sections, remote sensing data, gravity/magnetic – prototypes developed
  - **Integrated wireline log analysis tool – WELLPROFILE**
    - WELLPROFILE tool developed and in use in the project
    - Data archiving in LAS 3 (ASCII) format – developed and in use
      - Archive original log and computed data (including flow-units)
      - Archive formation tops and sample descriptions