# PROJECT FACT SHEET

**CONTRACT TITLE:** Salt Caverns

**ID NUMBER:** DE-AF26-97BC15030

**B & R CODE:** AC1015000

**DOE PROGRAM MANAGER:**
**NAME:** William H. Hochheiser
**PHONE:** (202) 586-5614

**DOE PROJECT MANAGER:**
**NAME:** John K. Ford
**LOCATION:** NPTO
**PHONE:** (918) 699-2061

**PROJECT SITE**
**CITY:** Austin **STATE:** TX
**CITY:** **STATE:**
**CITY:** **STATE:**

**CONTRACTOR:** University of Texas @ Austin

**ADDR:** Bureau of Economic Geology
University Station, Box X
Austin, TX 78713

**PRINCIPAL INVESTIGATOR:**
**NAME:** Susan D. Hovorka
**PHONE:** (512) 471-1534
**FAX:** (512) 471-0140
**INTERNET ADDRESS:** hovorkas@begv.beg.utexas.edu

**CONTRACT PERFORMANCE PERIOD:**
07/15/1997 to 02/28/1998

**PROGRAM:** Environmental-Oil
**RESEARCH AREA:** Environmental

| FUNDING ($1000'S) | DOE | CONTRACTOR | TOTAL |
|---|---|---|---|
| PRIOR FISCAL YRS | 71 | 0 | 71 |
| FISCAL YR 1998 | 0 | 0 | 0 |
| FUTURE FUNDS | 0 | 0 | 0 |
| TOTAL EST'D FUNDS | 71 | 0 | 71 |

**OBJECTIVE:** Provide accurate well location data and including much more information on the quality of salt for cavern usage rather than salt thickness data only.

**PROJECT DESCRIPTION:**
**Work to be performed:** The current effort will build upon the previous work by providing accurate well location data and including much more information on the quality of salt for cavern usage rather than salt thickness data only. Additional and more detailed maps and related information specific to bedded salt that will be of interest to both industrial operators and to government regulators. In particular, the objectives are to: 1) Create and compile detailed maps and cross sections documenting the regional extent, geometry, and quality of salt resources suitable for cavern development in the Midland Basin of Texas; 2) Identify geologic factors that make specific sites more or less suitable for cavern development; and 3) Delineate geologic features of bedded salt that are of greatest significance to solution mining simulation and geotechnical modeling in support of engineering design.

**PROJECT DESCRIPTION (Continued)**

**Background:** Salt deposits containing usable existing caverns and that are suitable for development of new caverns occur in Texas and many other locations in the U.S. Caverns in bedded salt and in salt domes are important to the hydrocarbon industry for both product storage and waste disposal. Industry and the regulatory agencies, who are both responsible for safe cavern utilization, cavern decommissioning and closure, post-closure monitoring, and overall protection of human health and the environment, share common concerns. Both industry and regulatory agencies would benefit from additional data to better understand the potential for utilization of salt caverns.

**PROJECT STATUS:**

**Current Work:** Correlation of nonsalt units within the Salado salt of the Midland Basin on three regional cross-sections is in progress. These cross sections will allow quantification of salt quality in terms of salt bed thickness, distribution of nonsalt beds, and type and thickness of above-salt units used for seating seals. We have been working with staff at Sandia National Labs to provide data suitable for their solution mining modeling effort.

We are preparing several presentations to document the approaches used to characterize the quality and stability of bedded salt on a regional and site specific basis. Data evaluation and report preparation are under way.

**Scheduled Milestones:**

Compile bibliography and data file containing published & open file material

Photocopy wireline logs

Purchase API numbers

Purchase digital well location information

**Accomplishments:** Although solution mining of Midland Basin bedded salt for a variety of uses (product storage, brine producing, and more recently disposal of non-regulated waste) has a successful history, prior to our study little technical data had been compiled to support the industry. The published results of our studies should facilitate use and regulation of the resource by providing accessible regional data as well as tools to rapidly conduct and interpret site-specific assessments. Salt distribution, thickness, depth, stability, and quality of salt units, distribution of overlying nonsalt units, and mapping areas of quiescent or rapid salt dissolution are identified as factors useful in evaluating of the suitability of various salt beds for cavern use and development. This work will provide: (1) basic descriptive data for regulation of existing and new caverns, (2) a regional synthesis that allows evaluation of cavern sites in geologic context, (3) an aid to industry in siting cavern prospects for various uses, and (4) documentation of the available resource.