

## **ANALYSIS OF A SOLIDIFIED-WASTES DISPOSAL CAVERN IN A GULF COAST SALT DOME**

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### **INTRODUCTION**

Projects involving solidified hazardous waste (SHW) disposal in solution mined caverns in U.S. Gulf Coast salt domes got underway in the early '80's. These projects involved the disposal of hazardous, but non-nuclear wastes generated by industries located mainly in the Gulf Coast. Prior to this time, salt caverns had also been mentioned as potential containers for nuclear wastes; but, dry mined openings were preferred for that purpose by the U.S. Department of Energy (D.O.E.), as evidenced by the amount of research in that area. The U.S. Congress subsequently eliminated all salt deposits as candidates for commercially generated nuclear wastes in the mid '80's.

Two potential projects involving SHW caverns in salt domes were presented and discussed at SMRI meetings in the 80's (Brassow, 1987; and Funderburk, 1985). About this same time the project "Texstor" was also underway.

The Texstor Project was to be located in the Palestine dome in East Texas, within easy range of the Houston area. Texstor was abandoned after some study, but a new project was formed which drew largely upon its technical information and personnel bases. This project was the "Hunter Industrial Facility, Inc.", or "HIFI", and it was to be located in the north Dayton salt dome, around 30 mi (48 km) east of Houston. (See Fig. 1.) Details of the HIFI Project were presented during the '91 Fall Meeting of the SMRI in Las Vegas (Price, 1991).

The HIFI Project was a large, multi-faceted effort, involving many specialities, e.g., legal aspects, engineering, geology, environmental concerns, transportation, economics, sociology, etc.

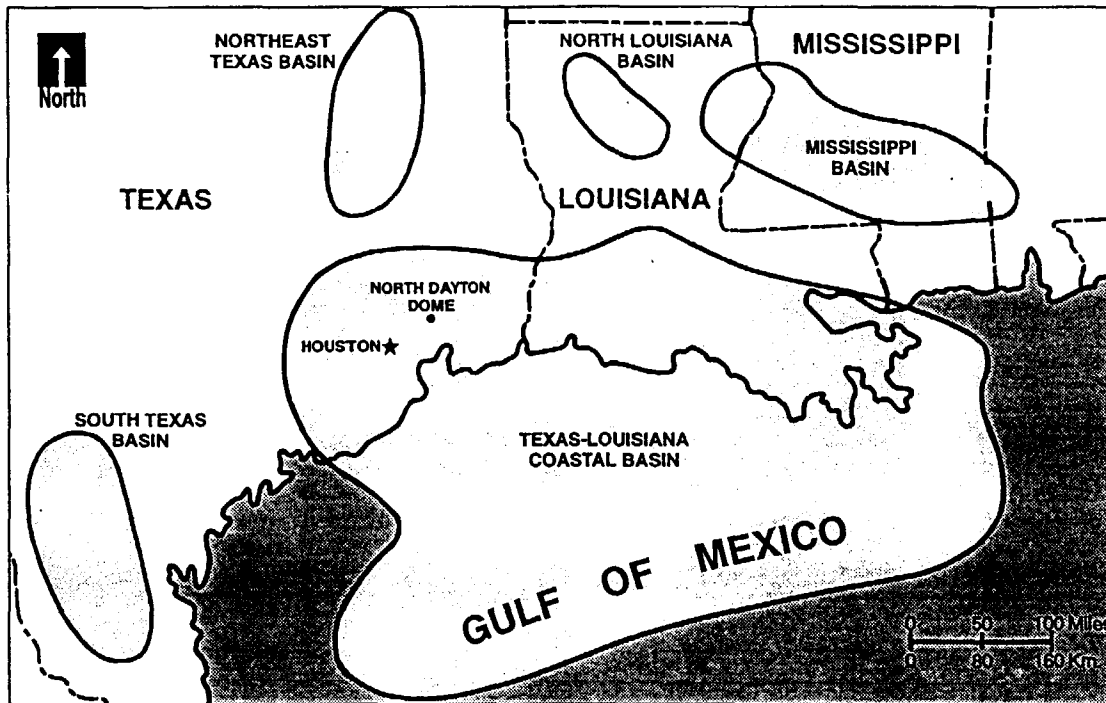


FIG. 1. Site Location

Only one facet of the total project is described here, i.e., an analysis related to the containment characteristics of the North Dayton salt stock. The authors were deeply involved in the HIFI Project for around two years. This paper describes the methodology used to respond to relevant regulatory requirements of the State of Texas, with an emphasis on the methods employed to present technical findings during associated hearings held by the State.