INTRODUCTION

The Igneous aquifer system is the primary source of groundwater in a region that encompasses major parts of Jeff Davis and Presidio Counties and the western portion of Brewster County. The communities of Alpine, Fort Davis and Marfa rely on the aquifer system as their sole source of drinking water. In the development of the Far West Texas Regional Water Plan, it was recognized that insufficient data existed to fully assess the water supply potential from this important aquifer. The Regional Planning Group thus sought to develop a more complete picture of the area's groundwater resource by expanding the database of well locations and water-level measurements. The primary goal of the project was to gather sufficient data to better illustrate the areal extent of the aquifer system and its water supply potential. The Texas Water Development Board (TWDB) then funded the resulting proposed project. In pursuing the project, LBG-Guyton Associates, with assistance from Water Prospecting and Resource Consulting, and Sul Ross State University, gathered the necessary field data and produced the resulting report.

The results of the study suggest a marked change from the commonly held viewpoint that there is a single Igneous aquifer in this region. Rather, groundwater is stored in a complex system of aquifers that are in varying degrees of hydrogeologic communication. For this reason, this report refers to the aquifer as the "Igneous aquifer system". Also, this study recognizes a significantly larger extent of the aquifer system than is currently designated by the TWDB. The objective of this report is to present a basic description of the geology and hydrogeology of the Igneous aquifer system.