

MEETINGS

HGS/GSH JOINT DINNER MEETING— MARCH 11, 1991

T. P. BULLING—Biographical Sketch



Tom Bulling joined ARCO Oil and Gas Company in Houston in 1987. He began work in the Major Fields group working High Island. Since then Tom has worked in the offshore Texas Miocene exploration group and is currently working in the offshore Louisiana exploration group. He graduated from Texas Christian University (M.S.) in 1987 and during his time there spent a summer (1986) working for

ARCO's Bakersfield office on geology of the Santa Barbara Channel area. His thesis work dealt with the Reklaw Formation in South Texas. His undergraduate degree in geology is from LaSalle University in Philadelphia, Pennsylvania.

REBECCA OLSEN—Biographical Sketch



Rebecca (Becky) Olsen joined ARCO Oil and Gas Company in Houston in 1982. During her time there, she has worked in the offshore Louisiana OCS Lease Sale, the offshore Major Fields Development and Extension (Miocene), and the onshore Texas exploration groups. Prior to ARCO, she worked two years for Cities Service Oil Company in regional mapping for future OCS Lease Sales

in the Bering Sea. Becky received her B.S. in Geophysics in 1977 and her M.S. in Geology in 1980, both from Texas A&M. She is a member of AAPG, SEG, and HGS. Her publications include "Depositional Environment of Jurassic Smackover Sandstones, Thomasville Field, Rankin, County, Mississippi" in *Gulf Coast Association of Geological Societies Transactions*, October 1982, and also in *Oil and Gas Journal*, November 14, 1983.

EXTENDING THE LIFE OF THE HIGH ISLAND 24L FIELD USING 3D SEISMIC

ARCO's High Island 24L field, located in the Texas State waters of the Gulf of Mexico, was discovered in 1967. It had produced 320 billion cubic feet of gas and 3.0 million barrels of oil by 1986. An engineering field study completed in 1986 showed the field to be declining to the point of unprofitability within 3 years. The study found the reservoir maps to have three basic problems: volumetric reserve

calculations did not equal reserves produced, hydrocarbon-water contacts were inconsistent between wells thought to be in communication, and ultimate recoveries could not be accurately calculated. Attempts to remap the field with the existing 2D seismic data base and well logs proved unsuccessful.

In 1986 a 3D seismic survey was acquired and the field was remapped in 1987, starting with the key producing horizons. Integration of detailed well log correlations tied to the dense grid of 3D seismic allowed construction of accurate reservoir maps. These helped solve the engineering problems by more accurately defining the configuration of the reservoirs, closely matching volumetrics and fluid contacts as well as defining new extension opportunities. The 3D seismic survey and its products along with engineering modifications and operations cost containment resulted in the extension of the fields economic life by at least 8 years. As more wells are drilled and current explorationists work with the data, additional reserves are being found.