Santa Barbara Channel: Rediscovering the Value of Old Seismic

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Offshore California was the focus of major exploration efforts during the 1960s through the 1980s. Billions of barrels of oil were discovered using state-of-the-art seismic acquisition, processing, and interpretation. The 1969 Santa Barbara Channel oil spill and resultant moratoria brought exploration and virtually all seismic acquisition to a grinding halt by the early 1980s. Hundreds of thousands of miles of mainly 2-D seismic data have languished since then in salt mines, costly long-term storage, and even rental trailers. Paper and film copies have deteriorated. The field and processed tapes are in formats that are difficult and expensive to read. As companies merge and go out of business and geophysicists retire, the data's existence is in jeopardy.

This talk presents examples of the tremendous current value of old seismic in the Santa Barbara Channel. Operators have successfully reprocessed old 2-D and 3-D to find new oil in old fields. Researchers have used seismic to refine the tectonics, basin evolution, and sedimentary history of the Channel. Natural oil seeps and earthquake and tsunami risks are better understood because of these 20 to 40-year-old data.

The Seismic Conservancy (TSC) is being established as a nonprofit organization to facilitate the transfer of data to public repositories where they will be available to researchers and interested parties. TSC will use in-kind services and funds to take donations of digital and hardcopy data, and to initiate or support ongoing transcription to modern media for critical data sets. The initial focus is on the extensive West Coast offshore data.

The SEG Executive Committee has conceptually endorsed the organization and asked for the establishment of an adhoc executive committee to further define the scope, methodology, and resource needs for seismic preservation. TSC is looking for individuals interested in building the organization.