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Giant Gas Fields of Saudi Arabia

The non-associated deep gas exploration program was initiated in 1994 in order to fuel expansion in gas-based power generation, seawater desalination and petrochemical industries. In Eastern Saudi Arabia to date, the Paleozoic Gas Exploration Team has been remarkably successful, having drilled a total of 28 exploration wells with an overall exploration success rate of 57 percent resulting in 17 new gas fields and having discovered in excess of 40 TCF of non-associated sweet gas.

The gas exploration team has focused on two primary plays in the Paleozoic siliciclastics of Saudi Arabia, each with their own unique exploration challenges and geologic complexities. The two primary plays are the Devonian truncation play, where non-associated gas is trapped below an unconformity on the crest, and flanks of major structures; and the Permian (Unayzah) reservoir where gas is trapped in sandstones draped over and on the flanks of low-relief closures.

The exploration technical challenges the team faced, particularly in deep seismic imaging, are the driving force of significant research and development by Saudi Aramco and our partners in academia and Industry. The in-house development of "DETECT Coherency", new and efficient PSTM code and a pioneering seismic data-sorting program are examples of direct results.

The success of the program resulted in three IOCs consortia signing a Preparatory Agreement (PA) with the Kingdom of Saudi Arabia to explore, develop and utilize additional non-associated gas reserves throughout the Kingdom of Saudi Arabia.

Saudi Aramco's greatest asset is its people, who form a highly successful team of multinational deep gas explorers from all geoscience disciplines. Their accomplishments reflect a successful blend of technical innovation and teamwork.