Bay Area Geophysical Society Seminar Series

John Connor and Fred Herkenhoff

Scientists Emeriti

March 13, 2018 6:00 PM

Total Wine & More in Pleasant Hill

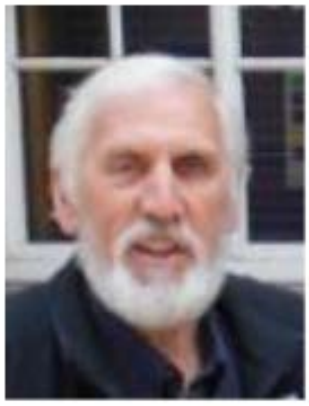
Title: **The Mother of All Geohazards - Mud Volcanoes in the South Caspian Sea**

Abstract: Exploration for, and the Producing of, oil and gas is a dangerous business, especially offshore. To mitigate the risks, various geophysical techniques are commonly used to identify, and in some cases to quantify, the geologic hazards, "Geohazards", that might be encountered while positioning drilling rigs, and in the drilling of wells to search for hydrocarbons. Where possible, some of the geophysical data is ground-truthed by sampling of the seabed sediments, but usually the nature and risk assessment of any identified geohazard is done by interpreting the geophysical data. As well as for

hydrocarbon exploration, similar techniques are used for locating other offshore structures, such as wind turbines, pipelines and seabed communication cables.

The South Caspian Sea, offshore Baku, Azerbaijan, is almost unique in having most of the world's known geohazards concentrated in one relatively small area. This presentation attempts to illustrate the various types of geohazard encountered there, to explain their origins and to describe a geophysical analysis and interpretation project over a feature known as the Absheron Mud Volcano.

Speakers Bio:



John Connor and Fred Herkenhoff are both retirees from Chevron Corporation, or Standard Oil of California, as the company was called when Fred joined in 1966 in San Francisco, and John in 1970 in Calgary. Fred completed his degrees at Stanford in 1964 & 1966; John at Cambridge & London in 1968 &1969. Their careers, while taking them to many different parts of the world, did intersect on a few occasions: in 1973 when Fred was trying to interpret mis-positioned seismic lines offshore Palawan Island, the Phillipines, from a survey that John was supposedly quality controlling; in 1982 when John was in Madrid, wrestling to apply new seismic time-to-depth software that Fred had written in San Francisco, and in 2002 when Fred and the geophysical research staff at Chevron Park in San Ramon devised a method to estimate the properties of near-seafloor sediments in the Caspian Sea, from a 3D seismic survey that John had organized in Baku, which brings us to the subject of this presentation.