

## SPG, Ahmedabad Chapter Organized Two Technical Lectures on 22<sup>nd</sup> January, 2019

Society of Petroleum geophysicists, Ahmedabad Chapter, organized special lectures on 'A feasibility study on Low Frequency Passive Seismic Survey at the Mansa and Jotana in Cambay Basin and Ashokenagar in MBA Basin' by Dr. A. P. Singh, Scientist-B, Institute of Seismological Research followed by 'Magnetotelluric study to characterize sediment thickness (including Mesozoic) and major faults in Kutch (Gujarat)' by Dr. Kapil Mohan, Scientist-C, of Institute of Seismological Research (ISR), Department of Science and Technology on 22<sup>nd</sup> January, 2019 at ISR, Gandhinagar. Talk was graced by Dr. Sumer Chopra, Director/Scientist-G and Dr. M. RaviKumar, Director General, ISR.

In last several years there is an increasing interest in phenomenon of low frequency (0.5-10Hz) anomalies over hydrocarbon reservoirs. Passive Seismic Method is a geophysical method that utilizes a spectral frequency from

seismic data to identify a subsurface fluid behaviour / direct hydrocarbon indicator. In the first talk the preliminary results of the Low Frequency Passive Seismic surveys (LFPS), which were performed in Ashokenagar#1, Jotana area and Jaguli#1 area were shown. Cityshark 24-bits recorder coupled with a Lennartz LE3d (5s) velocity sensor and Tromino 3G (10s) instruments were used for Jotana, Mansa and Ashokenagar#1, Jaguli#1 fields respectively. The results shows very distinctive V/H ratio >1.5 for Ashokenagar#1 (oil/Gas well) as compared to low value at Jaguli#1 (Dry well). Higher V/H ratios are also observed near proposed location. LFPS survey in 3D grid pattern around proposed locations may be planned for optimal positioning of location. The doublet response instead of single peak as observed in V/H ratio plots need to be critically analysed to ascertain their sources. It may lead to some additional potential zones.



In the second talk, application of Magnetotellurics method in different problems like Mesozoics sediment thickness mapping, delineation of hidden faults, deep crustal studies and geothermal source zone mapping was described. The total area of the Kachchh basin is about 71,000 sq km of which on-land area is 43,000 sq km and off shore area is 28,000 sq km up to 200m bathymetry. The basins filled up with 1550-2500 m of Mesozoic sediments and 550 m of Tertiary sediments in on land region and up-to 4500 m of Tertiary sediments in offshore region.

Mesozoic rocks are exposed in six regions viz. Kutch Mainland, Wagad Highland, islands of Pachham, Khadir, and Bela, and in Chorar Hills. Surveyed petroleum source rock

distribution in different geological time-scale suggested that more than 50% of source rocks as well as reservoir rock are found in Mesozoic sediments.

Seismological laboratory visit and live data demonstration of earthquake monitoring/ seismograms were also a new experience for all participants.

The session was very informative, interactive and feedback from the participants suggested that more such talks could be arranged in future. The meeting concluded with vote of thanks and memento to Dr. A.P. Singh, Dr. Kapil Mohan, Dr. Sumer Chopra and Dr. M. Ravi Kumar.

## SPG, India Organized a Technical Lecture on 2<sup>nd</sup> April, 2019 at Dehradun

A technical lecture was organized by SPG, India on “My fifty years of adventures of measuring gravity at sea, in the air and by astronauts on the moon” on 2<sup>nd</sup> April, 2019 at KDMIPE Mini Auditorium, Dehradun. The lecture was delivered by Prof. Manik Talwani, Professor Emeritus of Advance Studies / Research, Rice University, USA.

The lecture highlighted the research experience of more than 50 years in the area of gravity at sea, in the air and by astronauts on the moon. In his lecture, Prof Talwani narrated about his sailing on many research vessels and carrying out original research in all of the world's oceans. He also described about the Apollo 17 lunar mission where he was principal investigator for the first project to make gravity measurements on the moon's surface.

The lecture session was attended by the members of SPG,

Dehradun and other Geoscientists of KDMIPE, GEOPIC & Frontier basins. The lecture was also attended by various professionals from Wadia Institute of Himalayan Geology and other invited Professors and students from DIT University Dehradun. It was well appreciated by all the participants and praised by one and all for its contents, simplicity and thoughtful inputs provided by the presenter. During the interactive question session participants asked various questions related to gravity measurement instruments in sea as well as in moon and its progress in recent time.

Earlier, Shri Koushik Biswas, Executive Member, SPG, India, Dehradun Chapter gave the welcome speech followed by welcome of the presenter with shawl and bouquet of flowers.

The vote of thanks was given by Shri Paramjit Bhamra, Joint Secretary, SPG-India.

