

# Vadodara Chapter of SPG organizes its Annual Technical Meet

Annual Technical Meet of SPG, Vadodara Chapter was held at ONGC, Vadodara on 28th December 2013, during the Meet two technical talks were delivered, followed by a cultural Program and dinner. The event was jointly organized with APG, Vadodara Chapter.

The first talk titled "*An Integrated approach for faults and fractures delineation with dip and curvature attributes and multi-attribute analysis for channels and thin sand detection*" by Mr PH Rao, Ex-GM(Geoph), ONGC & Consultant, Petroleum Research Wing, GERMI, Gandhinagar and the second talk on "*Geological Expedition & Field Workshop in Dehradun-Mandi-Leh-Nubra Valley-Kargil-Drass-Srinagar Sector*" by delivered Mr. Mukesh Palsania, Sr. Geologist, Forward Base, ONGC, Mehsana.

Mr. P.H. Rao highlighted the following facts:

Faults and natural fractures can have significant effect on the permeability of reservoirs, impact on productivity and efficiency for recovery. The characterization of fractured zones and faults within a reservoir is an important process in E&P Industry.

Fracture occurs at many scales but very often they are beyond the seismic resolution and thus are not easily visible in a standard seismic display. Although fractures come below the seismic resolution, fractures are mapped / brought out using various attributes.

Dip and Curvature are two important attributes, which can be used to extract faults and fractures information from seismic data.

The accuracy and quality of these seismic attributes are directly proportional to the Signal to Noise ratio of the seismic data. This warrants conditioning of data, to enhance the visibility of faults and fractures in it. With an aim to illuminate the geometry and location of the various major / minor faults and fractures various seismic attributes are applied on the given seismic data set.

Besides this he presented the efficacy of spectral blueing and spectral decomposition in delineating channels and thin sands. The presentation dealt with case studies from Cambay Basin.

In the second talk, Mr. Mukesh Palsania elaborated the



Mr. S.K. Das, President SPG, India welcoming Mr. P.H. Rao



Engrossed audience



Rao delivering his talk



Queries from the audience

Himalayan Orogeny which is a result of collision between India and Asian Continental plates.

He explained the subdivision of Himalayas into 5 major longitudinally continuous litho-tectonic zones from south to north encountered during traverses of the Geological Expedition along Dehradun-Mandi-Leh-Nubra Valley-Kargil-Drass-Srinagar Sector viz.

**I. Sub-Himalayan Zone (SHZ):** Tertiary molassic sediments separated from the Quaternary alluvial deposits of the Indo-Gangetic plain by the MFT.

**II. Lesser Himalaya Zone (LHZ):** composed of Proterozoic

to Palaeozoic sedimentary cover of (India)n continent, thrusting over the Sub-Himalaya zone along the MBT.

**III. High Himalayan Crystalline Zone (HHCZ):** corresponds to a metamorphic and plutonic complex, thrusting over the Lesser Himalaya Zone along the Main Central Thrust (MCT) and representing the metamorphic basement of the Tethyan zone.

**IV. Tethyan Sedimentary Zone (TSZ) or the Tethyan Himalayas (TH) or the Higher Himalayan Sedimentary Zone (HHSZ):** made up from a nearly complete stratigraphic section of Upper Precambrian to Lower Eocene sediments, deposited on the northern margin of the (India)n plate.



Mr. S.K. Das welcoming Mr. M. Palsania



Mr. Palsania delivering his talk



Query from the audience

**V. Indus-Tsangpo Suture Zone (ITSZ):** composed of ophiolites and oceanic sediments, representing the remnants of the Neo-Tethys Ocean and the collision event.

After detailed description of Himalayan stratigraphy, he concluded by suggesting the potential hydrocarbon locales

viz. Sub Himalayan zone, Tethys Himalayan sediments (Lamayuru Complex), Indus Formation and Nubra Valley (Shyok River & Nubra River).

He shared his experience of educative exposure of Geological Expedition with some beautiful photographs.



Mr. S.K. Das, President, SPG India Presenting mementoes to the speakers



Team SPG & APG with the speakers



Mr. S.K. Das being felicitated by Mr. N.K. Verma, Patron, SPG, India and Mr. G.C. Katiyar, Patron, SPG Vadodara Chapter

Shri N.K. Verma, Director (E) and Patron, SPG (India) also joined in the evening. The Meet culminated with an in-house cultural program followed by contributory dinner wherein families also

participated. During the concluding session Mr. S.K. Das, President, SPG (India) was felicitated by Mr. N.K. Verma, and Mr. G.C. Katiyar, Patron, SPG Vadodara chapter.



Glimpses of cultural program



Director (E) Shri N.K. Verma with dignitaries