April-2013

"Fracture parameters estimation from Seismic data" by Dr. Mrinal Sen, 1st April' 2013, Vadodara

As a part of technical lecture series Vadodara Chapter of SPG hosted the lecture by eminent Speaker Geoscientist Dr. Mrinal Sen, Director NGRI, on 1st April, 2013 at Officers' Club, ONGC Vadodara . The topic of the lecture was "Fracture Parameter Estimation from Seismic Data". During his talk Prof. Sen deliberated on definition of fracture, fracture modelling.He underlined the importance of fractures and their role in E&P activities of hydrocarbon exploitation particularly during production. What are the important fracture parameters needed attention during any effective study. He explained the splitting of shear wave in an anisotropic medium and consequent variance in their velocities in parallel and perpendicular directions which plays an important role for determination of fracture density and direction. He stressed upon use of AVO affect to determine the zones of high and low fracture presence and also cautioned on anomalous amplitudes (AVOA), he emphasized in such cases the removal of overburden effect can lead to better results. He explained the results of **'ratio attribute'** which are very effective in AVAO Studies.

Prof Mrinal Sen being felicitated by Basin Manager and SPG President Mr S K Das

Mr S K Das posing a question

Prof Mrinal Sen responding to a query

Mr S K Das presenting a memento to Prof Sen

Honorary Lecturer-SEG, Sri D.P. Sinha delivers lecture at Dehradun on 3rd April 2013 on- Estimation of Earth Velocity Model — Bridging the Gap between Geology and Geophysics

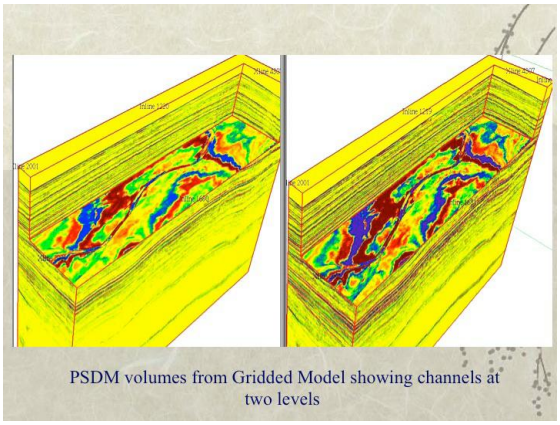
3D depth migration has created many opportunities for exploration and production. At the same time, it has brought many challenges. An essential prerequisite for accurate imaging in depth is, of course, an accurate estimation of the velocity Earth model. Depth imaging essentially consists of two processes – travel time computation and downward extrapolation of the observed wave field through a suitable algorithm. For computing travel times, we need to start with an accurate depth-velocity interval model, which in turn, requires accurate reflection geometries in depth with layer interval velocities. During the process, one can check the various geologic hypotheses which match the observed data (i.e., whether the horizons and velocities used in the depth model make geologic sense). For this purpose, we combine the pre-stack velocity analysis and model building tools to obtain the accurate initial velocity model.

Either layered or non-layered velocity models or a combination of two can yield the best possible Earth velocity model which may bridge the gap between geology and geophysics. In many geologically complex areas, especially in hilly terrain, we do not get velocity semblance that is sufficient adequate to obtain a good velocity Earth model for the area. In such areas, estimation of the Earth velocity model has a certain amount of uncertainty regarding layer velocity and layer geometries. This can be quantified with interpretation efforts and prior geologic information.

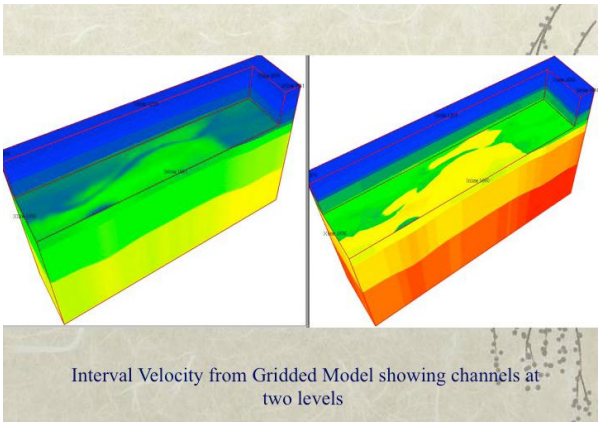
Mr. Sinha is a renowned geophysicist with over 37 years of experience in the E&P Industry. He is currently Vice President and Director at EESH Energy Enterprises and Technical Director (Processing) in EnerGeo India Ltd. He has been chosen as a HL in Indian Institute of Technology, Kharagpur, Indian School of Mines, Dhanbad and Visiting Professor in Indian Institute of Technology, Mumbai. During his 35 years of tenure with Oil and Natural Gas Corporation of India (ONGC), he has been involved in executive management of highly dynamic multi disciplinary exploration teams. He has in-depth knowledge and hands on experience on Geo-Statistical techniques for Techno-economic analysis and Project monitoring. Seismic data processing, Depth imaging, and Earth Velocity Field Modeling are his Key areas of expertise. He has a thorough understanding of various Geo-scientific application software and its use in solving complex geophysical problems especially in Time and depth domain. He has been awarded as the best Geophysicist and recognized and awarded for his Leadership, Managerial and Mentoring skills in ONGC for developing the next generation of technical leaders. He was declared outstanding coach by Right Management, USA and an ONGC. He has been awarded Gold Medal on his outstanding work and Best Technical paper ‘Pre-stack Merging and Depth Imaging’ in 2008 by SPG India. As a keen and active researcher, he has been awarded for a number of his technical publications in various National and International journals. Mr. Sinha has obtained Master of Science Technology (Exploration Geophysics) from Osmania University, India.

The lecture was delivered at KDMIPE auditorium and attended by many geoscientists including dignitaries like Sri D. Sar, HOI, GEOPIC, Dr D.K. Das Gupta, HOI, KDMIPE among others. He showed many case histories from the world over and discussed different aspects of depth imaging, computational capabilities needed to meet the rigorous computing with different depth imaging packages, the scenario of present computational capabilities at the world level vis-a vis India. He emphatically elaborated to improve upon the present status with increasing of computing capabilities. Mr Sinha demonstrated how depth imaging with

focussed approach can altogether change the seismic picture, which in turn leads to change of exploration and exploitation strategies. The exhaustive interaction of the participants with Mr Sinha was quite educative for all, particularly the young processers and interpreters who listened the talks with rapt attention.

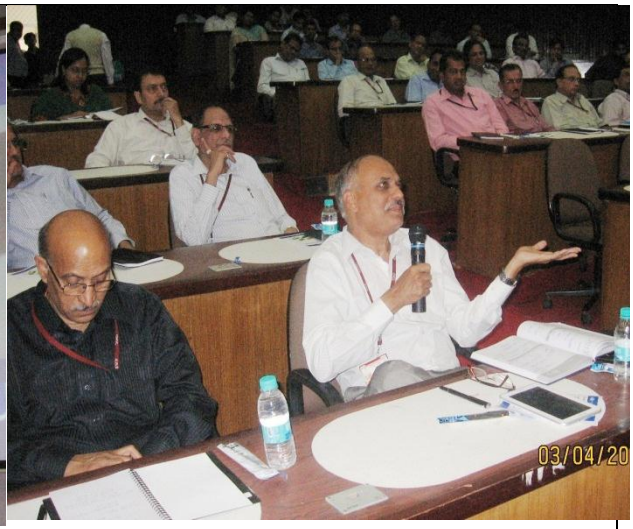


PSDM volumes from Gridded Model showing channels at two levels



Interval Velocity from Gridded Model showing channels at two levels

Sri D.P Sinha-Lecture in progress



Participation of audience

Interactive session after lecture

Vice President SPG-India Sri Vardarajan, presented a momento to Sri Sri D P Sinha as a token of love from SPG-India. Sri N S Dangwal Secretary SPG-India presented vote of thanks.

General Body Meeting held on 26.4.2013 at KDMIPE, auditorium Dehradun

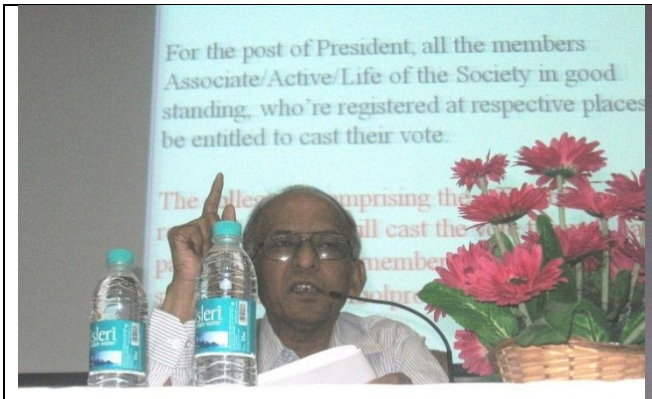
General body meeting of the society was held at KDMIPE mini auditorium, as per the notice issued on 22.03.2013. The main agenda of the meeting was discussion on suggested points by members on draft constitution & bylaws sent to them on 22.03.2013 and adoption of the new constitution & bylaws for subsequent submission to the registration authority for the replacement of earlier with the new passed one.

The meeting commenced with welcome address by secretary and brief description of foundation of SPG, its constitution and the necessity to modify the same. He appraised the house that constitution & bylaws, available at the registration authority, are the ones that were formulated at the time of inception of SPG i.e. 1992. Even though the updated constitution & bylaws were adopted in year 2000 in a meeting, they were not submitted to the registration authority, as per requirement.

The meeting was chaired by the President, SPG India Sri S. K. Das. Discussions and deliberations on the agenda points were carried out and resolutions / modification were adopted by voice vote / raising of hands to ensure 2/3rd majority.

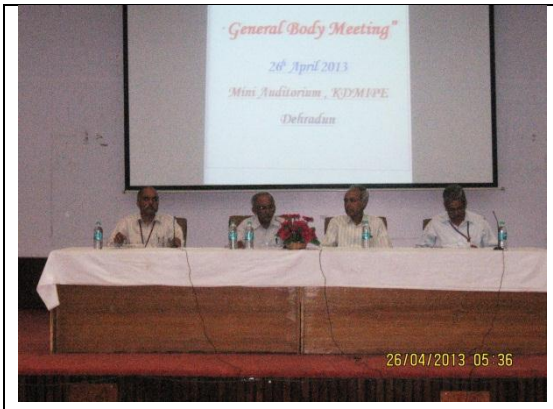
Following agenda / supplementary points were discussed:

1. Change of registered address of the society
2. Creation of Post of Senior Vice President
3. Tenure & Time frame of Executive Bodies.
4. Number of terms for the post of President, SPG India
5. Election procedure & Nomination Committee
6. Election procedure for President, SPG India
7. Fee structure
8. Student foundation
9. Increment in number of Honorary membership
10. Identity cards for Members
11. Frequency of General body meeting & Council meeting.



S.K.Das SPG President Conducting GBM

N.S.Dangwal Secretary SPG

	
GBM in Progress	Audience in GBM

Sri CB Yadav Joint Seretary SPG presented the Vote of thanks.