



## Technical webinar organized by SPG, India on 15<sup>th</sup> September 2021 at Dehradun

A technical webinar was organized by SPG, India on "*Seismic Attribute Characterization of Fractured Basement Reservoirs*" on 15<sup>th</sup> September 2021 by **Dr. Satinder Chopra, Founder and President, SamiGeo Consulting Ltd, Calgary.**

The technical webinar highlighted the reservoir characterization of fracture basements with the help of different seismic attributes. Dr. Chopra emphasised on three methodologies to characterize fracture basement, namely, mapping of the basement marker using *voice component attribute*, *determination of faults and fractures* and their corroboration with image logs using multispectral coherence, curvature and maximum likelihood attributes and *determination of fracture porosity and brittleness* at the basement level using superior brittleness attributes. Finally, integration of the results to generate a model to understand the reservoir potential was discussed with examples from different basins around the globe.

The webinar session was attended by the members of SPG-India from all over the country including geoscientists of KDMIPE, GEOPIC, Frontier Basins and professors and students from different institutes. The lecture was well appreciated by all the participants and praised by one and all for its contents and thoughtful discussion provided by the presenter. During the webinar session participants actively participated in discussion and asked various question related to seismic data acquisition.

Earlier, Shri Shiv Kumar Sharma, President SPG-India gave the welcome speech. The vote of thanks was given by Shri C. B. Yadav, Vice President, SPG India. The entire webinar session was coordinated by Shri Shashwat Shubhra, Executive Member, SPG-India.

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### Characterization of fractured basement reservoirs

#### Edge preservation by Kuwahara filtering

Cartoon of 2D Kuwahara filtering. The input data include 25 samples centered about the red square.

The gray squares indicate voxels used in the nine laterally shifted nine-sample analysis windows, each of which contains the output location indicated by the red square.

The output is the mean of that gray window that has the smallest standard deviation.

(Qi et al., 2016)

Shi, J., K. Zhang, H. Zhou, and K. J. Marfurt, 2019, Attribute expression of fault-controlled carbonate pore throat: North Basin, TB, Interpretation, 7, 993-1012

Zoom Meeting
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### Characterization of fractured basement reservoirs

Crossplot between SED and FT for well data within the Bone Spring and Mississippian geologic markers. Different clusters of data points corresponding to different combinations of SED and FT have been picked and projected back on to the well log curves as shown in (b).

Chopra, S. K., S. Chopra, L. R. Lines, 2020, Replacing conventional brittleness indices determination with new attributes employing true hydrofracturing mechanism, 83rd Journal, September Issue, 11-17.