

C01 Direct Correlation of 4D Seismic and Well Activity for Improved Dynamic Reservoir Interpretation

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A method is proposed which identifies areas in the 4D seismic response which directly correlate with well activity, and hence are consistent with the reservoir engineer's understanding of the field. This approach makes use of the essential requirement for a causal relationship between the seismic difference signatures and the cumulative produced or injected volumes. The method relies upon the use of multiple and frequently shot seismic surveys over a common reservoir area. It is applied to data from the Schiehallion field, West of the Shetland Islands, and the resultant signals are observed to be robust, with a much reduced noise level and to enhance particularly weak 4D seismic signatures. The results may be indicative of regions of connectivity associated with each well.