

Looking for mode-converted reflections

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Abstract

The strong contrast in elastic parameters at the boundary between high velocity rocks, such as basalt, and lower velocity rocks, such as Tertiary sediments, leads to considerable seismic imaging difficulties. The problems associated with such environments, such as transmission, refraction, attenuation and mode conversion are examined. An examination of energy that spends some of its life as mode-converted sv-waves shows that promising levels of reflected energy are possible. However, in the NE Atlantic, mode-converted waves often have travel-times that are hard to distinguish from multiple energy. Two approaches will be described to enhance the interpretation of such waves. The first models likely multiple travel-times and compares them to candidate mode-converted events (Longshaw *et al.*, 1998). The second uses the dip and offset characteristics that might be expected of such waves to design a method of enhancing them (Hampson, 1997).

References

- Hampson, G., 1997. Imaging mode-converted waves, BGS Sub-basalt imaging workshop, Edinburgh.
Longshaw, S. K., Sunderland, J. and Horn, I. W., 1998. Mode conversion and multiples, *68th Ann. Internat. Mtg: Soc. of Expl. Geophys.*, 1340-1342