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## **Tomographic Inversion Solutions in Foothills Areas**

Ali Karagül and Todd Mojesky  
CGGVeritas, Calgary, AB, Canada  
[Ali.Karagul@cggveritas.com](mailto:Ali.Karagul@cggveritas.com)

### Abstract/Excerpt

Land surveys may suffer heavily from the effects of near surface anomalies. In particular, in the foothills areas, weathering, limestone outcrops, and rapid changes in elevation may cause virtually all the problems associated with the data. Here we present a methodology to address statics problems on 2D and 3D projects coming from near surface anomalies: a tomographic solution which incorporates turning-ray tomography into its inversion engine.

Recently several 2D lines and a 3D survey were re-processed with the aim of achieving a good quality statics solution to produce a better image with respect to previous processing attempts. These data had known problems due to foothills areas such as rapid changes of elevation and surface conditions. The elevations vary by 200 to 300m. At the start of the project it was clear that one of the major challenges and keys to success would be to have a good statics solution. What would make a good statics solution for these data sets? A homogenous statics solution for all the areas of the surveys was desirable if possible.

There are various ways to address this challenge. In the 2006 CSPG-CSEG-CWLS Joint convention, Todd Mojesky's poster session discussed Weathering (Refraction, Tomographic and Surface Modeling Methods) and Reflection solutions from an algorithmical and methodological point of view.