Integrating Seismic Acquisition and Processing

Jack Bouska, ***2009 Spring Distinguished Lecturer***
BP, Muscat

Abstract

Years of seismic specialization among practicing geophysicists have segregated acquisition, processing, and interpretation into separate functions, which makes it difficult for any individual to treat the whole seismic process as a single integrated system.

From experience, I have developed a sometimes elegant, occasionally cumbersome, but always effective methodology, which assimilates the tasks of acquisition design, seismic processing, and interpretation into one coordinated procedure. Decisions regarding acquisition parameters, survey geometry, and processing flow must be driven by interpretation requirements. These choices are guided by analysis of acquisition and processing tests applied to existing data sets rather than the more common practice of simply replicating the parameters used on previous surveys.

This lecture will impart a concise but comprehensive introduction to the art of seismic design, data processing, and imaging with the overall goal of forging a unified system for the sole purpose of producing optimized products for pre- and poststack interpretation and attribute extraction. The lecture format will present cutting-edge case histories exposing both the philosophy underlying the whole process, as well as the specific strategy and tactical implementation of design and processing techniques used to achieve the interpretation goals.

Jack Bouska graduated with a geophysics degree from the University of Alberta (1980). He joined Seiscom Delta as a processing geophysicist in 1981, and moved to Western Geophysical's computing science department in 1983. Joining Dome Petroleum in 1985, he remained through the merger with Amoco in 1988, and again through the merger with BP a decade later.

During his tenure with Dome, Amoco, and BP, Bouska tackled a variety of roles including seismic processing and acquisition specialist duties in various incarnations of the geophysical technology groups, as well as performing seismic interpretation in Western Canada. In 1998, he moved to London and spent nearly a decade with BP's Exploration and Production technical team in Sunbury (U.K.). During this time he consulted on seismic acquisition and processing projects from around the globe and led the development and instruction of BP's internal course on seismic acquisition. Bouska currently works and resides in Muscat, managing BP's seismic acquisition and processing projects in Oman.

Bouska's innovations in acquisition design and processing have been recognized by CSEG with the Best Theme Paper award in 1995 (Sparse 3D), and Best of Session papers during the 1997 and 1998 CSEG conventions. SEG recently awarded him the Best Paper in THE LEADING EDGE 2005, and Honorable Mention in Best Paper category, 2005 SEG Annual Meeting. Bouska also served as an EAGE seismic acquisition short course instructor for 2007 and an EAGE Distinguished Lecturer in 2007-2008. Jack is an active member of EAGE, SEG, CSEG, and APEGGA.

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APRIL LUNCHEON

DATE:	April 27, 2009
TIME:	11:30 A.M. Lunch
LOCATION:	Telus Convention Centre, Calgary
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