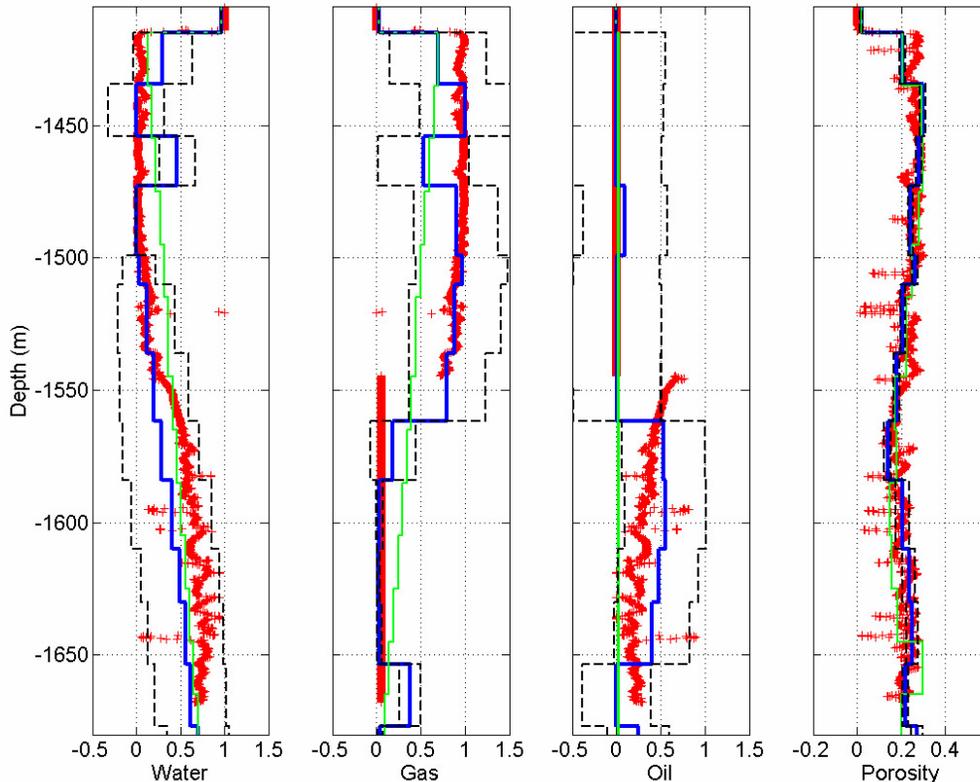


Joint Geophysical Imaging & Logging



Objectives of the Project:

- Focuses on seismic, gravity and EM data acquired in marine environments
- Objective of algorithm development is to provide general codes incorporating appropriate petrophysical properties and models necessary to estimate reservoir fluid properties

Results of Inversion of Field
Data over an Oil and Gas
Field in the North Sea

Lawrence Berkeley National Lab
and Sandia National Lab
P-300/ESD02-006

Source: Sandia National Lab



Joint Geophysical Imaging & Logging

Results of the Project:

- Developed and demonstrated the first successful joint inversion algorithms for simultaneously modeling electromagnetic and seismic field data to produce a single consistent reservoir model of fluid saturations, pressure, and formation porosity.
- Project continues on industrial funds from an number of major energy companies

Caption



Source: Sandia National Lab

Edition 200512

Joint Geophysical Imaging & Logging

Publications:

- Hoversten, G.M., F. Cassassuce, E. Gasperikova, G.A. Newman, J. Chen J., Y. Rubin, Z. Hou, and D. Vasco. “Direct Reservoir Parameter Estimation Using Joint Inversion of Marine Seismic AVA & CSEM Data”, Presented at 74 SEG International Conference, October 10-15, 2004 and accepted for publication in Geophysics, 2006.
- Hoversten, G.M., P. Milligan, J. Byun, J. Washbourne, L.C. Knauer, and P. Harness. “Crosswell Electromagnetic and Seismic Imaging: An Examination of Coincident Surveys at a Steamflood project”, Geophysics, 2003, 69, pp. 406-414.
- Hoversten, G. M., R. Gritto, J. Washbourne, and T.M. Daley. “Pressure and Fluid Saturation Prediction in a Multicomponent Reservoir, using Combined Seismic and Electromagnetic Imaging”, Geophysics, 2003, 68, pp. 580-1591.

