





#### VOLUME 97 • NUMBER 9 • SEPTEMBER 2013

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**ON COVER -** The Chalufy outcrop in southeastern France. See related article by Bakke et al. on p. 1395 of this issue of the Bulletin. Photo by Ian A. Kane.

### **GEOHORIZON**

Seismic modeling in the analysis of deep-water sandstone termination styles Kristina Bakke, Jan A. Kane, Ole J. Martinsen, Steen A. Petersen, Tor A. Johansen, 

#### ARTICLES

Halokinetic rotating faults, salt intrusions, and seismic pitfalls in the petroleum exploration of divergent margins Carlos L. Varela and Webster U. Mohriak Sequence-stratigraphic architectures and sand-body distribution in Cenozoic rifted lacustrine basins, east China Shu Jiang, Sverre Henriksen, Hua Wang, Yongchao Lu, Jianye Ren, Dongsheng Cai, Three-dimensional structural model of composite dolomite bodies in folded area (Upper Jurassic of the Etoile massif, southeastern France) Franck Gisquet, Juliette Lamarche, Marc Floquet, Jean Borgomano, Detrital quartz sources in the Scotian Basin, eastern Canada, using hot-cathode cathodoluminescence: Availability of coarse-grained sand for reservoirs *Influence of fault rock foliation on fault zone permeability:* The case of deeply buried arkosic sandstones (Grès d'Annot,

Western Greece and Ionian Sea petroleum systems

ACKNOWLEDGMENTS-

AAPG thanks

Statoil ASA; Petrobras;

EGI (Energy and Geoscience Institute at the University of Utah; Centre Européen de Recherche et d'Enseignementdes Géosciences de l'Environnement (CEREGE);

Saint Mary's University; and the AAPG Foundation

for financial support of this issue of the Bulletin.

Thibault Cavailhes, Jean-Pierre Sizun, Pierre Labaume, Alain Chauvet,

Evaluation of sampling methods for fracture network

Martine Buatier, Roger Soliva, Leila Mezri, Delphine Charpentier, Henri Leclère,

southeastern France)

characterization using outcrops

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# PREVIEWS

An innovative seismic forward modeling technique	A seismic modeling technique has been developed using outcrop data to decrease the gap in resolution and predictability between subsurface seismic data and outcrop analog data. This study has improved our understanding of possible confined deep-water sandstone termination styles
A new model explains peculiar features	Halokinetic rotating faults are extensional fault that have been rotated along the evolution of a salt diapir. When partially filled with salt, they are often misinterpreted in seismic and well data. This appears to be the case in recent exploration in the deep-water regions of the Brazilian margin 1421
Rifting and lacustrine basins	This study addresses how tectonic activities influence sequence development and how they control reservoir distribution in lacustrine basins of East China.  The distribution of lithology can be predicted from controls on basin evolution as well as sediment supply, transport and deposition
A subsurface modeling method on outcrop	An outcrop analog was used to improve subsurface prediction for complex dolomite bodies. The goal of this study was to unravel composite dolomite bodies in a folded area and to produce a true three-dimensional geometric model using the Etoile massif complex ramp anticline
Predicting good reservoirs	The Scotian Basin, offshore eastern Canada, was used to test the hypothesis that the source of quartz in sandstones may be a predictor of the availability of medium- to coarse-grained quartz sand from plutonic sources. This study suggests that this hypothesis works in frontier basins
Foliation and veins	A combined structural and permeability analysis has been performed on normal faults formed in low-porosity arkosic sandstones under diagenetic conditions similar to those of deeply buried reservoirs. The direction of highest permeability is parallel to the fault and subhorizontal
Sampling methodologies evaluated	Sampling methods for fracture network characterization were evaluated. The windows sampling method adequately characterized the statistical properties of fracture networks with the fewest number of samples as any of the methods studied, and it was least sensitive to censoring bias
Petroleum in western Greece	Western Greece has important petroleum systems, which are also active in the Ionian Sea. The Ionian Sea also contains oil shale and shale gas reservoirs that can be unconventionally explored. Source rocks include pelagic and hemipelagic deposits, which are rich in marine organic material 1567