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CREWES NEWS

The Consortium for Research in Elastic Wave Exploration Seismology

Dr. Larry Lines to join CREWES

We are very pleased to announce that Dr. Larry Lines will be joining the University of Calgary's Department of Geology and Geophysics in September of this year as the new **Chair in Exploration Geophysics**. In addition to his role as Chair, Larry will be an associate director of CREWES.

Dr. Lines received a B.Sc. (1971) and an M.Sc. (1973) in geophysics from the University of Alberta, and a Ph.D. (1976) in geophysics from the University of British Columbia. In 1976, Larry joined Amoco Canada in Calgary where he worked in the exploration department and was involved in some "serendipity reef" gas discoveries. In 1979, he transferred to Amoco's Research Center in Tulsa where he worked in the research areas of geophysical inversion, imaging, and reservoir characterization, and attained the position of research associate.

In 1993, Dr. Lines was appointed as the NSERC/Petro-Canada Chair in Applied Seismology in the Dept. of Earth Sciences at Memorial University of Newfoundland, where he founded the MUSIC university-industry consortium. Larry shared the award for Geophysics Best Paper in 1988 and 1995, and was SEG Distinguished Lecturer in 1991. He has served the Geophysical Society of Tulsa (GST) as Editor, First Vice-President and President, and was recently granted Honorary Membership with that organization. Professor Lines has served SEG as an associate editor for Geophysics, The leading Edge, SEG slide series, translations, and special editor for IEEE. He has co-written or co-edited five books on geophysical inversion and imaging. Larry is currently the assistant editor for Geophysics, and is journal editor for CSEG. He is a member of SEG, EAEG, CSEG, GST, APEGGA, and APEGN.

New Sponsor - Union Texas Pakistan

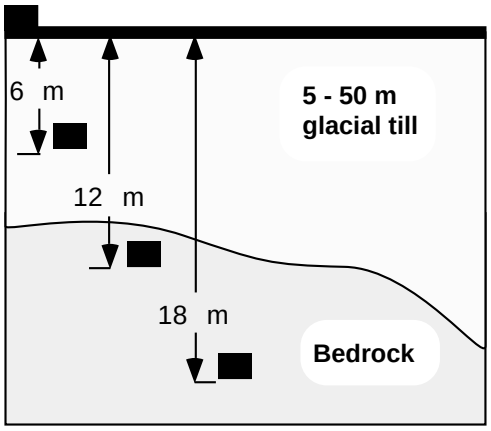
CREWES would like to welcome Union Texas Pakistan aboard as our newest sponsoring company. Union Texas Pakistan, based in Karachi, is involved in hydrocarbon exploration, development and production. We would like to thank Joe Stevens and all others at Union Texas Pakistan who were instrumental in their decision to join CREWES. We look forward to a highly successful scientific partnership!

CREWES is in contact with several companies in Pakistan, and is also in touch with the Department of Geology at the University of Karachi.

Buried 3-C phone experiment

Last month CREWES participated in an experiment in southern Alberta to test the bandwidth and quality of converted-wave data recorded on 3-C geophones at various depths. The experiment was piggy-backed onto the acquisition of a 40 km long 2D- 3C seismic line. At three locations along this line, 3-C geophones were positioned at 0 m, 6 m, 12 m and 18 m below surface. These geophones were kept live during all shots for which the geophone location was part of the active 2-D spread.

Graduate student Dan Cieslewicz, working with Don Lawton, will be analysing the results over this summer. Common receiver gathers will be created and reflection bandwidth will be assessed as a function of receiver depth, with the objective of evaluating the attenuation characteristics of the near surface for P-S data. In addition, the data should provide information about near-surface S-wave velocities.



Near surface geology in the area of the buried 3-C phone experiment

We appreciate the kind cooperation of the oil company that allowed this experiment to be undertaken.

Course Announcement: 3-C Seismic Exploration

Dr. Rob Stewart will be teaching a graduate course entitled *3-C Seismic Exploration* (GOPH 699.01) at the University of Calgary in the Fall semester. The course runs Mondays at 7:00 pm, starting on September 8th, 1997, in room ES 702. Material covered includes survey design, acquisition, processing methods, case histories and hands-on computer processing and interpretation. For registration information, please contact Marg Graham at 220-5850.

EAEG Highlights

Several members of CREWES participated in the EAGE annual meeting which was held in Geneva, Switzerland, from May 26 to May 30. The following papers were presented:

3-D borehole imaging and correlation: A field experiment - Qi Zhang, Robert R. Stewart, and Zandong Sun

Fast 3-D Kirchhoff poststack migration with migration velocity analysis - John C. Bancroft and Richard A. Wallace

Frequency domain inversion of P-S seismic data - Robert J. Ferguson and Gary F. Margrave

Identification of a sand-channel reservoir using 3C-3D seismic data - Grace Y.C. Yang, Don C. Lawton, and Robert R. Stewart

Residual statics analysis before NMO using prestack migration - Xinxiang, Li and John C. Bancroft

Using 9-C seismic data to characterize a carbonate reservoir - Grace Y.C. Yang and Robert R. Stewart

The EAEG meeting was well-attended and there was a lot of interest in marine P-S seismic data and analysis using ocean-floor instruments and bottom-tow cables. As to be expected, University of Calgary participants also evaluated cheese fondues and other culinary fare offered by the many cafes in Geneva.

CREWES presentations at the 1997 SEG meeting

Expanded abstracts of CREWES presentations at the 1997 SEG convention (November 2-7, 1997 in Dallas, Texas, U.S.A) are now available for viewing at our Web site: *www.crewes.ucalgary.ca/protected/SEG-1997*

A kinematic comparison of DMO-PSI, and equivalent offset migration (EOM) - John C. Bancroft*, Gary Margrave, The CREWES Project, The University of Calgary, and Hugh D. Geiger, Lithoprobe, The University of Calgary

Seismic exploration through high-velocity layers - Jitendra S. Gulati* and Robert R. Stewart

Using 3C-3D seismic data to delineate a sandstone reservoir, Alberta, Canada - Don C. Lawton*, Grace Y.C. Yang, Robert R. Stewart, and Colin C. Potter, The University of Calgary. J. Doug Uffen, John D. Boyd, Boyd PetroSearch

Converted wave migration and common conversion point binning by equivalent offset - Xinxiang Li* and John C. Bancroft

Integrated residual statics analysis with prestack time migration - Xinxiang Li* and John C. Bancroft

Wavefield extrapolation by nonstationary phase shift - Gary F. Margrave and Robert J. Ferguson*

Theory of nonstationary linear filtering in the Fourier domain - Gary F. Margrave

Seismic acquisition parameter considerations for a linear velocity medium - Gary F. Margrave

An approach to nonstationary deconvolution - Gary F. Margrave and A. R. Schoepp*

Seismic Characterization of meteorite impact craters - Michael J. Mazur*, Robert R. Stewart, The CREWES Project, and Hans-Henrik Westbroek, Shell Canada

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