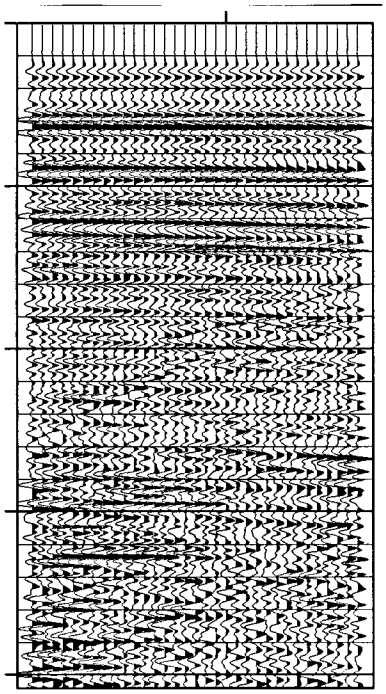
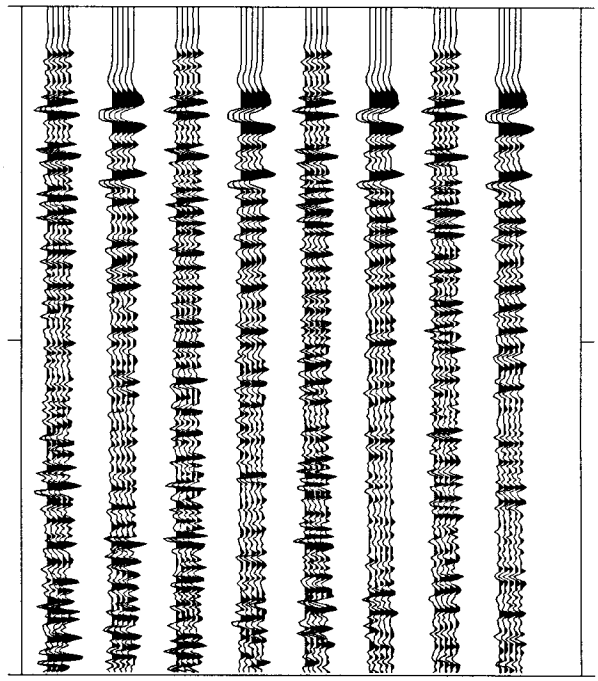
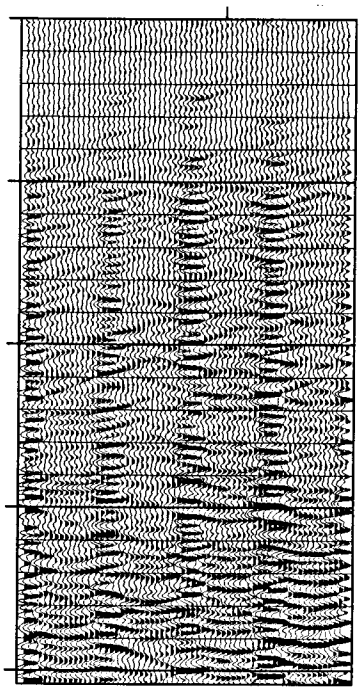




STANFORD EXPLORATION PROJECT

Report Number 44, October 1985



by

Kamal Al-Yahya,

Biondo Biondi,

Jon Claerbout,

Joe Dellinger,

Paul Fowler,

Bill Harlan,

Clement Kostov,

Stew Levin,

Zhiming Li,

Francis Muir,

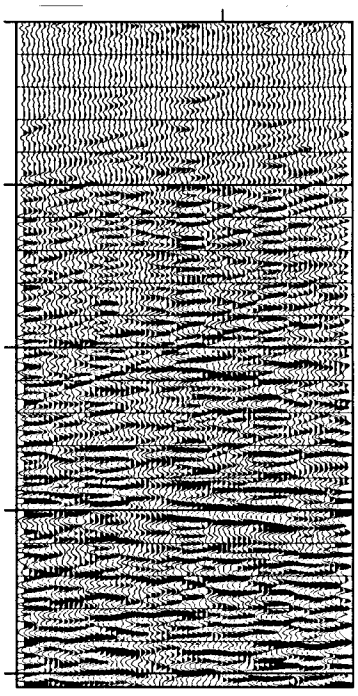
Shuki Ronen,

Dan Rothman,

Chuck Sword,

and

Marta Woodward.



Copyright © 1985

by the Board of Trustees of the Leland Stanford Junior University

Stanford, California 94305

Copying permitted for all internal purposes of the Sponsors of
the Stanford Exploration Project

SEP-44 --- TABLE OF CONTENTS

Velocity Estimation

Fowler, P. Migration velocity analysis by optimization: linear theory 1

Sword, C. Tomographic determination of interval velocities from CDR data--preliminary results 21

Rothman, D. Velocity estimation by simulated annealing: problems and prospects 47

Anisotropy

Muir, F. and Dellinger, J. A practical anisotropic system 55

Dellinger, J. Two domains of anisotropy 59

Dellinger, J. Some anisotropic modeling examples 63

Woodward, M. and Muir, F. Anisotropic NMO removal 67

NMO and Stack

Biondi, B. and Claerbout, J. Pseudounitary NMO 75

Harlan, W. Robust velocity stacks 85

Deconvolution

Kostov, C. and Claerbout, J. Choice of parameters for $t\tau$ deconvolution 107

Migration

Li, Z. A field-data example of applying LITWEQ migration 119

Ronen, S. Multi-channel inversion 133

Gain

Levin, S. Newton trace balancing II 145

Conjugate Gradient Method

Claerbout, J. Conjugate gradients for beginners 161

Claerbout, J. Decomposition by conjugate gradients 167

Computer Topics

Claerbout, J., Dellinger, J., Harlan, W., Levin, S., Ottolini, R. and Sword, C. The Convex C-1 Computer 175

Levin, S. So you went and bought a vector computer 183

Claerbout, J. Fractals and color tables 199

Erratum

Al-Yahya, K. Borehole tomography: an erratum 207

Five-year Index

Chronological cumulative contents to SEP report volumes 26 to 44 211

Cumulative permutated index of contents to SEP report volumes 26 to 44 217

Cumulative permutated index of authors in SEP report volumes 26 to 44 237

SEP Phone Directory 243

Research Personnel 245

Sponsors of the Stanford Exploration Project 1984-85 249