

ACKNOWLEDGEMENTS

This being the third thesis to come out of the Stanford Exploration Project, I wish to thank the member sponsors not only for their financial support but in particular for their continued interest in my work. Their willingness to listen to and discuss maximum entropy spectral analysis at the Project meetings has greatly matured my thoughts on the subject. Finally, as a tribute to my many friends in the oil exploration industry who have done everything in their power to get me to write up and publish my work, the major parts of this thesis will be submitted to Geophysics.

However, the person I am most indebted to for this thesis is my friend and advisor, Jon F. Claerbout. Only my deep personal respect for his outstanding intellectual capabilities and his active encouragement could have induced me to return to college after many years in industry. It was a very fortunate decision as the last six years at Stanford has been the most stimulating period in my life.

Thanks must also be given to my office mates and fellow workers, Stephen M. Doherty, Don C. Riley and Phillip S. Schultz for their patience in listening to half developed theories. Finally, special appreciation is due Sue Erlin for her excellent typing of a most difficult manuscript.