Acknowledgements

I gratefully acknowledge the unstinted help and guidance given by Dr. A. Sreerama Rao, Professor of Civil Engineering, JNTU College of Engineering, Kakinada throughout the course of this thesis work which helped me to present this thesis in its present form.

I am thankful to Dr. G. Yesuratnam, Head & Professor of Civil Engineering Department, JNTU College of Engineering, Kakinada for his support and encouragement during the course of my study.

I gratefully acknowledge the kind help given by Dr. P. Udaya Bhaskar, former Head & Professor of Civil Engineering, JNTU College of Engineering, Kakinada.

I am very grateful to Dr. K. Satya Prasad, Principal, JNTU College of Engineering, Kakinada for his support and encouragement during the course of my study.

I am thankful to Dr. E. V. Prasad, Vice-Principal, JNTU College of Engineering, Kakinada for his support and encouragement during the course of my study.

I thank the Indian National Committee of Geo-technical Engineering (INCGE) and Ministry of Water Resources, Govt. of India, New Delhi for sanctioning the project under which this study has been carried out.

I had many useful discussions with Dr. B. R. Phani Kumar, Professor of Civil Engineering, Vellore Institute of Technology, Vellore, during the course of this work, for which I feel very much obliged.

I am thankful to Sri K. Purmanandam, Dr. G. V. R. Prasada Raju and Dr. K. Ramu, Faculty of Geotechnical Engineering, for their constant encouragement during the course of the research work.
I am thankful to Dr.V.Ravindra, Dr.K.V.S.G.Murali Krishna, Sri.V.Srinivasulu, Sri P.Subba Rao, Smt. K.Padma Kumari and Smt.V.Lakshmi, Faculty of Civil Engineering, for their moral support.

I am also grateful to Sri K.Suresh, Senior Research Fellow and Sri K.V.Narasimha Rao, Research Scholar for their valuable suggestions and the useful discussions I had with them.

I am very thankful to all the M.Tech students for their cooperation throughout my course of study.

I am also thankful to the Supporting Staff of Soil Mechanics Laboratory and the College and Department Office for their cooperation during the research work.

Lastly, I gratefully record my obligation to all the members of my family and friends for the strength and moral support they gave me during periods of hardship in this endeavour.

R.Dayakar Babu