ACKNOWLEDGEMENTS

Firstly, I would like to express my sincere gratitude to my guide, Prof. Dr. Krishan Kant Sharma, Department of Applied Geology, University of Madras, for the continuous support of my research work, for his patience, motivation and immense knowledge. It has been an honor to be his scholar. I deeply thank for all his contributions of time, ideas to make my research experience productive and stimulating. His guidance helped me in all the time of research and writing of this thesis.

I wish to express my sincere thanks and gratitude to Dr. R. R. Krishnamurthy, Professor and Head, Department of Applied Geology, University of Madras, for providing me with all the necessary facilities for the research.

I would like to thank the my doctoral committee members, Prof. Dr. S. Srinivasalu, Director, Institute for Ocean Management, Anna University and Prof. Dr. R. Stella Maragatham, Assistant Professor, Department of Mathematics, Queen Marry’s Colleges, Chennai, for their insightful comments and encouragement, but also for the hard question which incented me to widen my research from various perspectives.

My sincere thanks goes to Dr. M. Jayaprakash, Associate Professor, Department of Applied Geology, University of Madras, who provided me an opportunity to join this research activity at University of Madras, who has access to the laboratory and research facilities. Without his precious support it would not be possible to conduct and complete my research.

I express my earnest appreciation to Dr. S.G.D. Sridhar and Dr. N. Rajeshwararao, Associate Professors, Department of Applied Geology, University of Madras, with whom I had fruitful discussions whose unparalleled research experience and suggestions proved to be the essence of this endeavor.
I wish to record my deep sense of gratitude to my good friend Dr. S. Muthusamy for helping me in various occasions by providing his valuable suggestions. I would extend my deep sense of thanks to Dr. V. Gopal, Mr. R. Kalaivanan, Mr. S. Nethaji and Mr. A. Shanmugasundharam for their invaluable help in various capacities during my tenure as a research scholar.

I wish to record my deep sense of gratitude to Mr. William, Support Executive, Weather Underground (WU), The Weather Company, San Francisco, California, United States for sharing the data for the research activity. Weather Underground (WU) was founded in 1995 as an offshoot of the University of Michigan’s, provides weather reports for most major cities across the world, as well as local weather reports for newspapers at United States.

I also thank my brother-in-law, Dr. M. Arunprakash and my sister G. Charulatha, my nephew Prithiv and my niece Pranitha for their continuous support and encouragement provided to me which made me to reach the destination.

I extend my sincere thanks to my father-in-law, Mr. T. Mohanrajan, AGM, Syndicate Bank, Coimbatore and mother-in-law, S. Sheela, for their continuous support and encouragement.

My utmost dedication of this research goes to my adorable parents Mr. K. Gopinathan and Mrs. Vimalarani Gopinathan for unwavering love and unstinted support and their wish, which made to complete this research activity.

I would also extend this dedication to my beloved wife Mrs. Cynthia Vimal Raja and my son Kavin Vimal Raja and my daughter Vivilya Vimal Raja for all the sacrifices that they have made on my behalf for completing this research. I also thank my son for sacrificing my presence
during all the weekends and putting me on the track to complete this research.

I also wish to place on record my sincere thanks to all the Geoscientists and other researchers who have rendered great help, which were of considerable utility for my research work.

Finally, I wish to express my grateful to the authorities of University of Madras for permitting me to do this research and for providing necessary laboratory facilities in the Department of Applied Geology, University of Madras, Chennai, India.

Above all, I owe it all to almighty for granting me the wisdom, health and strength to undertake this research task and enabling me to its completion.

Vimal Raja G