ACKNOWLEDGEMENTS

At the outset, I consider it my humble and earnest duty to place on record my greatest sense of gratitude to Dr. Shadab Khurshid, Reader, Department of Geology, A.M.U., Aligarh, my supervisor, who offered his erudite and scrupulous guidance throughout the tenure of this work. He is not only savant or sapient but a munificent personality too. Without his assiduous and prudent interest, the work could have not been crystallized into reality.

I am thankful to Prof. Iqbaluddin, Chairman, Department of Geology and to Prof. S.H. Israili and Prof. S.N. Bhalla, former Chairmen, Department of Geology, for kindly providing necessary facilities that I needed during my research work.

Words are insufficient to bear the debt of gratitude of Mr. M. Sami Ahmad, Reader in Hydrogeology, his deep insight into the subject, pragmatic approach and healthy criticism were helpful. I very sincerely pay my deepest regards to him.

I am highly thankful to the Directors, Officers and Library staff of Central Groundwater Board, Ministry of Water Resources, Government of India at Faridabad and Northern region, Lucknow offices for kindly providing me relevent literature and giving productive suggestions. The Groundwater Department, Government of Uttar Pradesh, Indian Meteorology Department, State Tubewell Department, District Statistical Office, U.P. Irrigation Department, Board of Revenue Lucknow, provided me with useful data which I sincerely acknowledge. I am also thankful to the Officers, Scientists of Geological Survey of India, Lucknow for their valuable suggestions and help.

Thanks are also due to Dr. M.S. Rathi, Incharge, Geochemical Lab, WIHG, Dehradun for his keen interest in the analytical work.

Literature reconnaissance and collection were done from various libraries. I would like to mention the names of Mr. M. Furquanullah, Library Incharge, N.I.H. Roorkee and Mr. Zakir Husain, Incharge, Seminar Library, Department of Geology, A.M.U., Aligarh, who provided uptodate literature required for my work. I very sincerely appriciate their cooperation. My sincere thanks are also due to Mr. Gulzar Hasan, Assistant Engineer and Mr. Intizar Hussain, J.E., U.P. Irrigation Department, Aligarh for providing me pertaining informations.
No verbal eloquence can appreciate the help and cooperation extended by my cousin Mr. Zubair Ahmad, Hydrogeologist. His critical comments and valuable suggestions played the role of catalyst in the progress of my research. I acknowledge his contribution with deep respect.

A number of benevolent persons have helped me during the course of this work in their capacities e.g. Mr. Mujahid Ali, Dr. Sunil Chowdhry, Mr. R.C. Chauhan, Dr. M. Shamim Khan, Mr. Imteyaz Ahmad and Quthuddin Khan etc. I owe my sense of respect and regard to all of them. I am greatly beholden to the magnanimous personality of Late Prof. M. Haroon, Z.H. College of Engg. & Tech., A.M.U., Aligarh for his guidance in carrying out the mechanical analysis of soil. I am equally indebted to Prof. Nasir Ahmad for kindly going through the manuscript.

Whenever states of melancholy and despondency prevailed, my friend, Mr. Isbah Khan, saved me from falling into abyss of despair. His altruistic help and friendly advices, reanimated me and thus I could complete this uphill task of research. It is better to thank him only in silence.

It is fortunate to have friends like Messers Iftikhar Mehmood, Zillur Rahman, Zakir Hussain, Dr. Zukifile and my lab colleagues, who in their capacity always encouraged me for doing hardwork. I sincerely acknowledge their cooperation. I tender my deep sense of gratitude to Mrs. and Mr. Aslam Ali, my well wishers, who by virtue of their generous and humble behaviour, constantly encouraged me whenever I jittered in the quest of my academics.

Thanks are also due to Mr. Salimuddin Ahmed and Vinod Kumar for speedy and excellent completion of drawings and the typing job carried out by Mr. H.S. Sharma.

Financial assistance in the form of University J.R.F. and S.R.F. is highly acknowledged.

I express my sincere thanks to my parents, brother and sisters for their constant inspiration and encouragement in making my career.

Last but not least I am greatly indebted to all of them who have helped me directly or indirectly during the course of this work.

[ NURUL HASAN ]