ACKNOWLEDGMENT

At the very outset I would like to express humble gratitude to my guide Dr.P.Deb for his inspiring, valuable suggestion and constant encouragement . Without his help the work done till now would not have been possible. I would like to thank my group members Barsha rani Hazarika, Debojit Bora, Abhijit Hazarika for their encouragement and help provided to me in carrying out my project work. I would also like to thank all the faculty members of our department for their kind suggestions, specially Dr. K. Baruah for his help in carrying out the XRD experiment.

At the end I would like to thank miss Ritusmita Goswami, research scholar of environmental sciences department for her help and guidance and my room-mate Somik Banerjee for his kind cooperation.

Kunal Borah

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MOTIVATION OF THE WORK

Arsenic is of great environmental concern due to its extensive contamination and carcinogenic toxicity. Till date various treatment methods have been adopted for to remove arsenic from drinking water. The normal concentration of arsenic in human hair is around 50 to 250 ppb but hair samples of some individuals from Raipur, Chhattisgarh and from Choube Chapra, Bihar were found to be 6310 and 4790 ppb respectively. This was due to regular consumption of water containing high concentration of arsenic. In India, around 62.5 million people are suffering from disorder of teeth or bones through fluorosis, which is due to consumption of fluoride-rich water By experimental results it was found that nano scale iron particles represent a new generation of remediation technology. Iron oxides have large surface areas and high surface reactivity and they are dominant solid adsorbent materials, because of their capacities to adsorb heavy metals. Nano scale iron particles are very effective for the transformation and detoxification of a wide variety of common environmental contaminants. In the present study iron oxide and titanium di oxide nano particles are used for the removal of arsenic from water