CHAPTER VI

CONCLUSION

From the experiments the following conclusion could be drawn up:

1. If the alkalinity of water is high enough about 400 - 500 ppm as $CaCO_3$, the removal of iron is more efficient.

2. The removal of alkalinity varies with the amount of iron removal and the maximum quantity of removal is about 40 - 50%.

3. The efficiency of iron removal by electrical means is about 98% and can be increased to 99% by increasing the energy use or decreasing the flow rate. Comparing with the iron removal by spaulding precipitator, it can remove only 95% of iron. This shows that the iron removal by electrical means is effective than the spaulding precipitator.

4. By electrical treatment process, the estimated treatment cost was more expensive than the conventional method. The treatment cost by electrical means method varied from 0.15 to 3.00 ฿/cu.m.,depending on flow rate, percentage of iron removal and energy use, while the cost of chemical use in spaulding precipitator process is 0.25 ฿/cu.m.

5. By the heat create in the electric field column, the temporary hardness of water can be removed about 5 - 13%.

6. With the same flow rate, the high energy is used if the more efficiency of iron removal is required. on the contrary, if at the same energy use, the efficiency of iron removal will be decreased by the increasing of flow rate.

7. The effluent ground water pH from the electric field column is slightly changed, so it suitable to use as water supplied.

RECOMMENDATION FOR FURTHER RESEARCH

For further research, the following studies are recommended:-

1. The study of the wave form which is generated by the wave generator and passed through liquid mass in the electric field column, and also how it affects the chemical reaction in water

2. The heat created by the electric field and its effect to the micro-organism.

3. The study of the real chemical reaction when the complex wave is supplied to the electric field column.

4. Study about the corrosiveness.