

## II. TREATMENT OF MINE DRAINAGE

The principal methods studied for the treatment of mine drainage are designed primarily to neutralize the acidity and to remove the iron to satisfactory levels. The recent summary by Barthauer, 1966 (27) lists the methods which have been evaluated experimentally. Application of any of the methods as economically and technically practical processes has yet to be achieved. Table 4 lists the methods described by Barthauer.

TABLE 4. LIST OF PROCESS FOR THE TREATMENT OF MINE DRAINAGE

- A. Lime neutralization.
- B. Limestone and dolomite neutralization.
- C. Potassium permanganate process.
- D. Sodium hydroxide neutralization.
- E. Ammonium hydroxide neutralization.
- F. Sodium sulfide treatment.
- G. Ozone treatment.
- H. Bacteriophage process.
- I. Demineralization processes.

A. Hydrated Lime System:--The neutralization of mine water by  $\text{Ca}(\text{OH})_2$  involves the following chemical equilibria:

