TABLE 3. SOLUBILITY OF $Fe(OH)_2$ AND $Fe(OH)_3$ FROM K_{sol} AT 25 C

K_{sol} $Fe(OH)_2$ = 5.25 x 10^{-14}; K_{sol} $Fe(OH)_3$ = 1 x 10^{-38} (Also 10^{-40} is reported.)

pH	Fe^{+2}, ppm	Fe^{+3}, ppm
1		56000
2		560
3		0.56
4		0.00056
5		
6	29400	
7	294	
8	2.94	
9	0.0294	

b. Oxidation of Ferrous Iron - Weiss studied the mechanism of the ferrous oxidation and concluded that the reaction proceeded according to the following mechanism:

$$Fe^{+2} + O_2 \rightleftarrows Fe^{+3} + HO_2$$

$$Fe^{+2} + HO_2 \rightarrow Fe^{+3} + H_2O_2$$

$$Fe^{+2} + H_2O_2 \rightarrow Fe^{+3} + HO + H_2O$$

$$Fe^{+2} + HO \rightarrow Fe^{+3} + H_2O$$

The above reactions are not balanced with respect to H^+ and, therefore, do not show the possible dependence of reaction rate on this variable.

Huffman and Davidson, 1956 (23) found that "the reaction

$$4\ Fe^{II} + O_2 \rightarrow 4\ Fe^{III} + 2\ H_2O,$$ at 140-180° in 1 F H_2SO_4,