showing the percent composition versus pH. Table 2 gives the distribution at equilibrium of the various forms in which Fe^{+3} occurs at various pH levels.

TABLE 2. EQUILIBRIUM COMPOSITION FOR THE SYSTEM Fe^{+3} - $Fe(OH)_3$ AT VARIOUS pH VALUES, EXPRESSED AS FRACTION OF TOTAL Fe^{+3} PRESENT

pH	Fe^{+3}	$FeOH^{+2}$	$FeOH^{+2} + 2OH^- \rightarrow Fe(OH)_{3\ a}$	$Fe^{+3} + 3\ OH^- \rightarrow Fe(OH)_{3\ s}$
1.00	.8677	.0321	.0134	.0868
1.25	.1947	.4049	.0535	.3466
1.50	.0979	.1144	.4784	.3092
1.75	.0213	.0140	.5859	.3787
2.00	.0085	.0031	.1324	.8558
3.00	.000008	.00003	.1339	.8659

In addition to the above, $Fe(OH)^{+2}$ and $Fe(OH)_{3a}$ are also reported. The overall solubility of Fe^{+2} and Fe^{+3} in mine water is determined by many factors, none of which can be evaluated as an isolated variable, however, for both Fe^{+2} and Fe^{+3} the limiting solubility at any pH is the solubility satisfying the equations:

$$K_{sol}\ Fe(OH)_2 = \left[Fe^{+2}\right]\left[OH^-\right]^2 \quad \text{and}$$

$$K_{sol\,Fe(OH)_3} = \left[Fe^{+3}\right]\left[OH^-\right]^3$$

as shown in Table 3.