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### Treatment of Mill Waste with Ferric Sulfate.

**Abstract:** To treat mill waste with varying levels of Ferric Sulfate to achieve desired results.

#### Notes:

Sample 1 was collected over 2 shifts and combined to give a representative composite.

- 1000 ml of mill waste weighed 1080 grams, therefore 925 ml of solution weighed 1000 grams. All samples have 925 ml of solution for the purpose of relating to lb/ton.

Sample	pH	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> lb/ton	Avail. Fe <sup>3+</sup> lb/ton	lb As/ton after Fe(10-5)	Fe/As	ppm As after Fe
Mill Waste	9.2	0	0	1700	0	8.50
1	8.8	.2	.04	670	2.35	3.35
2	8.5	.4	.08	520	4.71	2.60
3	8.2	.6	.12	400	7.05	2.00
4	7.9	.8	.16	320	9.4	1.55
5	7.6	1.0	.20	210	11.8	1.05
6	7.3	1.2	.24	200	14.1	1.04
7	7.0	1.8	.36	100	21.2	.93
8	7.7	2.0	.40	160	23.5	.80

N.B: Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> assume 20% available Fe.

#### Conclusions:

- The sulfate addition works but at too high a ratio, this maybe due to the pH level that has to be overcome. If the pH of a solution is high enough the ferric ion will precipitate out before it has contact time with the arsenic. More tests in this area should be done.
- Also the arsenic may have a valence of 3 where if it were in a fine state the ease of precipitation is greater.