

To H.E. Pearson; R.J. Tucker;
From C.C. Olsen
Subject Arsenic Suppression

Date July 23/75
Ref.

ABSTRACT: To establish that the arsenic in the tailings pond is reversing.

SAMPLING POINTS

- 1) North East corner of #1 pond (mud)
- 2) 300 yards west of #1 sample (mud)
- 3) North East leak (liquid)
- 4) #1 tailings pond at decant (liquid)
- 5) #1 tailings pond after decant (liquid)
- 6) #1 tailings pond after decant (mud)
- 7) #2 tailings pond at decant (liquid)
- 8) #2 tailings pond at decant (mud)
- 9) #2 tailings pond after decant (liquid)
- 10) #2 tailings pond after decant (mud)
- 11) #1 tailings pond at decant (mud)

From the #1 tailings pond at the decant (sample P), a set of dilutions were carried out on the tailings. The object was to dilute the mud, filter and dilute again. The original volume of the mud was 3 inches in a container 7 inches in diameter. (note: samples agitated slightly)

Dilutions	pH	ppm As
1 1/2" of water	9.3	13.5
1 5/8" of water	9.3	13.5
2 1/8" of water	9.3	15.0

Another sample from #1 tailings pond was diluted 2:1 (2 parts mud to 1 part water) with tap water, and was allowed to sit for a period of 3 days without agitation, just in complete stillness. The following readings were obtained: pH of 8.3 and a ppm As of 12.0.

From the mud samples 2, 6, 8, 10 a dilution of 1:1 was carried out, using tap water and then filtered. A 2:1 dilution on the mud was performed again also using tap water as the dilutant.

Sample	Dilution	pH	ppm As
2	1-1	8.3	67.5
2	2-1	8.3	50.0
6	1-1	8.3	28.2
6	2-1	8.3	25.4
8	1-1	8.3	37.0
8	2-1	8.3	45.0
10	1-1	8.3	33.3
10	2-1	9.0	24.0

MEMORANDUM

To M.E. Pawson; R.J. Tucker;

Date July 28/75

From C.O. Olesen

Ref. _____

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From the liquid samples 3, 4, 5, 7, and 9 a pH and ppm As readings were attained for reference purposes.

<u>Sample</u>	<u>pH</u>	<u>ppm As</u>
3	8.2	27.3
4	9.2	12.5
5	9.3	13.0
7	9.3	15.3
9	9.6	14.7

TEST RESULTS:

- a definite reversal is shown upon the dilution of the tailings samples. Therefore if the level of Arsenic from the mill was treated to Oppm a reversal in the pond would be shown, due to its diluting ability. Since this would be happening, we would be emitting arsenic at the same level that we are emitting now.