

MEMORANDUM

To H.E. Pawson

Date December 5, 1973

From A. Cheng

Ref.

Subject 1. PH of the solutions in CN Circuit, 2. Arsenic Content of Mill Waste Effluents

(1) PH of CN Circuit at:

(a) #7 Agitator	11.4
(b) #8 Thickener	11.6
(c) #7 Thickener	11.6
(d) #9 Agitator	11.4
(e) Calcine Residue to tailing box	11.4
(f) O'flow at barren weir box	11.6
(g) Barren Bleed box	11.5
(h) Pregnant Solution	11.4

The pH of those above solutions were taken at 8 a.m., November 27, 1973.

(11) The arsenic contents of waste effluents on November 26th and 27th were tabulated as in following:

Samples of November 26th, 1973

(a) #5 Agitator Discharge	38.8	p.p.m.
(b) Carbon Plant thickener O'Flow	824.6	p.p.m.

Samples of November 27, 1973

(c) Barren Bleed	6.92	p.p.m.
(d) Calcine Residue Solution	8.0	p.p.m.
(e) Mill Wash Thickener O'Flow	39.58	p.p.m.
(f) Dorco wash thickener O'Flow	103.8	p.p.m.
(g) Concentrate thickener O'Flow	4.26	p.p.m.
(h) #14 Agitator Discharge	1117.2	p.p.m.

P.S.

(a) The arsenic content of Carbon Plant Thickener O'Flow varies and is decreasing with time on each day. The sample listed above was sampling half at 12 a.m. and the other half at 3 p.m. Therefore, the actual average arsenic content of that O'flow to #5 Agitator for a whole day period should be less than 824.6 p.p.m.

(b) The arsenic content of D.T.B.(i.e. item A) from assay office is 1079.4

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(111) Some data on the above samples is available in the file on Arsenic Determinations in 1973. They were presented for your reference. The item number of each solution is the same as that of (11).

(a) #5 Agitator Discharge:

<u>Date</u>	<u>As. (p.p.m.)</u>
August	36.16
August 24, 1973	19.02
August 25, 1973	43.62
September 4, 1973	14.36
September 7, 1973	3.72
September 11, 1973	15.83
September 12, 1973	1.86
September 13, 1973	2.93
September 14, 1973	4.36
September 15, 1973	5.27

The average of these results is 14.73 p.p.m.

(b) Carbon Plant Thickener O'Flow - not available in 1973

(c) Barren Bleed

<u>Date</u>	<u>As (p.p.m.)</u>
August	10.50
August 10, 1973	1.60
August 11, 1973	11.06
August 12, 1973	1.06
August 13, 1973	3.09
August 14, 1973	8.51
August 15, 1973	10.64

The average of these results is 5.21 p.p.m.

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(d) Calcine Residue Solution

It has been determined every day. The average arsenic content in November (1-25) is 28.51 p.p.m.

(e) Mill Wash Thickener O'Flow

<u>Date</u>	<u>As. (p.p.m.)</u>
August	763.84
October 31, 1973	29.26

(f) Dorrco Wash Thickener O'flow

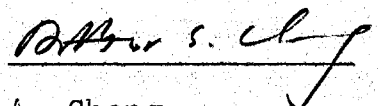
<u>Date</u>	<u>As. (p.p.m.)</u>
August	145
October 31, 1973	130

(g) Concentrate Thickener O'Flow - not available

(h) #14 Agitator Discharge

It is run on a daily basis by assay office. Average arsenic content from November 1st to November 22nd is 993.75 p.p.m.

(i) The average arsenic content of Mill Waste and #8 Agitator Discharge from November 1st to November 25th is presented for your reference
Mill Waste = 11.43 p.p.m. #8 Agitator Discharge = 17.42 p.p.m.


A. Cheng
Mill Engineer