

To A.K. Campbell; File  
From M.E. Lane  
Subject ROASTER STACK FILTRATION TESTS

Date June 22, 1970  
Ref.

The stack sampling worksheet (see enclosure) contains a printing error which appears to have been present since 1956. On early reports, this mistake was recognised and accounted for, but in recent years has led to inaccurate calculations.

The equation for the stack volume calculation should read:

$$\text{NOT } \frac{V.A. (60)}{144} = C.F.M.$$

The following table illustrates the effect of this error on the final results.

DATE	REPORTED RESULTS		CORRECT RESULTS	
	STACK VOLUME (C.F.M.)	BAGHOUSE EFFICIENCY (%)	STACK VOLUME (C.F.M.)	BAGHOUSE EFFICIENCY (%)
August 29, 1969	26,257	98.64	37,811	98.05
August 4, 1969	33,592	97.87	48,372	96.94
July 25, 1969	29,172	98.66	42,008	98.05
July 24, 1968	26,442	98.76 *	38,076	98.51
June 11, 1968	28,730	99.56	41,371	99.10
September 14, 1967)	CORRECT RESULTS REPORTED			
August 18, 1967 )				
July 21, 1967 )				
June 29, 1967	25,220	99.90 *	36,317	99.29

\* Additional mistakes were made on these two occasions.

Encl.  
MEL/mw

M.E. Lane  
Mill Engineer

GIANT YELLOWKNIFE MINES LIMITED

STACK SAMPLING WORKSHEET

SAMPLING POINT:

DATE:

METER NUMBER:

WEATHER:

Average H:

Gas Temp. (Ts)

°F  
°A

$$Vs = 2.46 \sqrt{H Ts} \times 0.83 =$$

ft./sec.

Diameter Stack: inches

Area:

ft.<sup>2</sup>

$$\text{Stack Volume} = \frac{V A (60)}{144} =$$

C.F.M.

Meter Volume (Vm): ft.<sup>3</sup>

Average Meter Temp. (Tm): °F

Vacuum: in. Hg

Bar. Press.

in. Hg.

$$\begin{aligned} \text{Volume at Stack Conditions} &= \frac{Vm (Ts)}{(Tm)} \times \frac{(Pm)}{(Ps)} = \\ &= \text{ft.}^3 \end{aligned}$$

Condensate: cc.

$$= \frac{20}{18} \times 0.79 \times \frac{(Ts)}{(Tm)} = \text{ft.}^3$$

Corrected Meter Volume

ft.<sup>3</sup>

Standard Thimble Wt. 1. gm.

Sampling Thimble Wt. gm.

Standard Thimble Wt. 2. gm.

Correction gm.

Difference gm.

Corrected Wt. gm.

Weight Thimble & Dust gm.

Weight Thimble gm.

Weight Dust gm.

Dust Concentration

gm./ft.<sup>3</sup>

Dust Loss =

lb./ 24 hour

Analysis:

Remarks: